



**ALMANAQUE NÁUTICO
PERSEIS
2025**

ALMANAQUE NÁUTICO PERSEIS 2025

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

Imagen de portada: *Quartermaster 3rd Class Mamie Anne Randall uses a sextant aboard USS George Washington. US Navy, 2004.*

Índice

Introducción	1
Fenómenos relevantes	2
Eclipse total de Luna viernes 14 de marzo	4
Eclipse parcial de Sol sábado 29 de marzo	5
Eclipse total de Luna domingo 7 de septiembre	6
Eclipse parcial de Sol domingo 21 de septiembre	7
Mapas estelares	8
Efemérides Diarias	10
Estrellas, posiciones aparentes	376
Estrellas, paso por el meridiano	380
Determinación de la latitud por observación de la Polar	382
Azimuts de la Polar	385
Corrección por retardo y longitud	386
Correcciones para obtener la altura verdadera	387
Altura del Sol, planetas y estrellas	387
Altura de la Luna	388

Introducción

El Almanaque Náutico Perseis es un libro de validez anual que proporciona datos, efemérides astronómicas y tablas para la reducción de observaciones en la práctica de la navegación astronómica. La información se presenta 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.

En la sección *Fenómenos relevantes* se presenta información sobre fenómenos astronómicos del año que pueden ser de interés que incluyen los eclipses del año.

Para facilitar la identificación de las estrellas de interés náutico se incluyen unos diagramas en la sección *Mapas estelares*.

Se mantiene el orden y numeración idénticos al Almanaque Náutico del R.O.A. para aquellas páginas que contienen tablas ya que 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.*

FENÓMENOS ASTRONÓMICOS RELEVANTES, 2025

Estaciones			
<i>Hemisferio N</i>	<i>Inicio (hora UT)</i>	<i>Duración (días)</i>	<i>Hemisferio S</i>
Primavera	20 de marzo a las 09 ^h 01 ^m	92.74	Otono
Verano	21 de junio a las 02 ^h 42 ^m	93.65	Invierno
Otono	22 de septiembre a las 18 ^h 19 ^m	89.86	Primavera
Invierno	21 de diciembre a las 15 ^h 03 ^m	88.99	Verano

Órbita terrestre		
<i>Ápside</i>	<i>Fecha (hora UT)</i>	<i>Distancia (ua)</i>
Perihelio	1 de enero a las 23 ^h 59 ^m	0.983312
Afelio	3 de julio a las 19 ^h 55 ^m	1.016644

Fases de la Luna (hora UT)							
Luna Nueva		Cuarto Creciente		Luna Llena		Cuarto Menguante	
		06 ene	23:56	13 ene	22:27	21 ene	20:31
29 ene	12:36	05 feb	08:02	12 feb	13:53	20 feb	17:33
28 feb	00:45	06 mar	16:32	14 mar	06:55	22 mar	11:29
29 mar	10:58	05 abr	02:15	13 abr	00:22	21 abr	01:36
27 abr	19:31	04 may	13:52	12 may	16:56	20 may	11:59
27 may	03:02	03 jun	03:41	11 jun	07:44	18 jun	19:19
25 jun	10:32	02 jul	19:30	10 jul	20:37	18 jul	00:38
24 jul	19:11	01 ago	12:41	09 ago	07:55	16 ago	05:12
23 ago	06:07	31 ago	06:25	07 sep	18:09	14 sep	10:33
21 sep	19:54	29 sep	23:54	07 oct	03:48	13 oct	18:13
21 oct	12:25	29 oct	16:21	05 nov	13:19	12 nov	05:28
20 nov	06:47	28 nov	06:59	04 dic	23:14	11 dic	20:52
20 dic	01:43	27 dic	19:10				

Eclipses

- I Eclipse total de Luna, el viernes 14 de marzo.
- II Eclipse parcial de Sol, el sábado 29 de marzo.
- III Eclipse total de Luna, el domingo 7 de septiembre.
- IV Eclipse parcial de Sol, el domingo 21 de septiembre.

FENÓMENOS ASTRONÓMICOS RELEVANTES, 2025

Inicio de las estaciones

El inicio de las estaciones astronómicas se produce cuando el Sol alcanza su altura máxima, solsticio de verano, mínima, solsticio de invierno o cuando la declinación del Sol es cero y la duración del día y la noche son iguales, equinoccios de primavera y de otoño. En la tabla de la página anterior muestra el nombre de las estaciones del hemisferio norte y del hemisferio sur. En el siglo XXI, la fecha más tardía de comienzo de las estaciones se produjo en 2003, la fecha más temprana será en 2096.

Órbita terrestre

Los puntos extremos de la órbita terrestre en función de su distancia al Sol reciben el nombre de Ápsides. El punto de mayor acercamiento anual de la Tierra al Sol se denomina perihelio y tiene lugar en los primeros días del año. El mayor acercamiento al Sol del siglo XXI fue el 5 de enero de 2020. El punto de mayor alejamiento anual es el apogeo y se produce en los primeros días de julio. El mayor alejamiento al Sol de este siglo fue el 4 de julio de 2019. Las distancias al Sol se miden en unidades astronómicas (ua). $1 \text{ ua} = 149\,597\,870.7 \text{ km}$.

Fases de la Luna

Los puntos culminantes de las fases de la Luna se producen cuando la longitud eclíptica geocéntrica del Sol y la Luna forman ángulos de 0° para la luna nueva, 90° para el cuarto creciente, 180° para la luna llena y de 270° para el cuarto menguante.

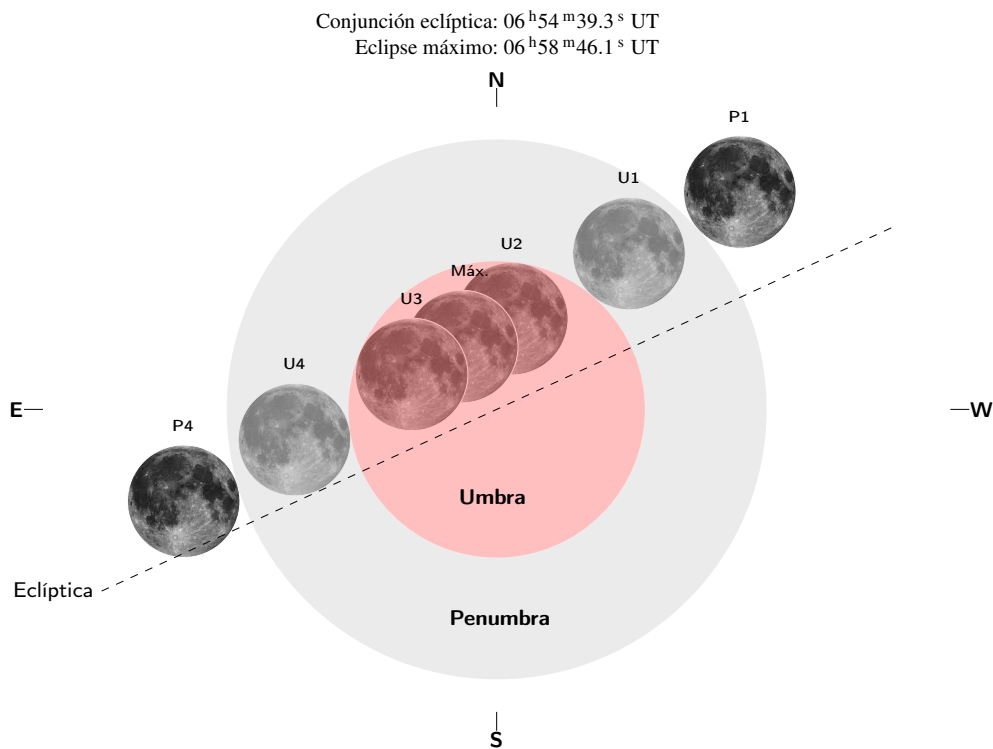
Eclipses

En astronomía, el término eclipse puede aplicarse a cualquier oscurecimiento, total o parcial, de la luz de un cuerpo celeste por otro. Pero el término está habitualmente restringido a un eclipse del Sol por la Luna (eclipse solar) o de la Luna por la Tierra (eclipse lunar), mientras que un eclipse del Sol por uno de los planetas interiores se denomina tránsito del planeta y un eclipse de una estrella o un planeta por la Luna, ocultación. En un año pueden suceder hasta siete eclipses.

Los eclipses de Sol suceden cuando, en Luna nueva, esta se interpone entre el Sol y la Tierra. Pueden ser de tres tipos principales: eclipse total, cuando la Luna tapa toda la superficie del Sol, para lo que es necesario que el diámetro aparente de la Luna sea igual o mayor que el del Sol y el observador se encuentre en la zona de sombra producida por la Luna; eclipse anular, cuando se produce la situación anterior pero el diámetro aparente de la Luna es menor que el del Sol, por lo que queda visible el borde exterior de este; eclipse parcial, cuando la Luna tapa una parte del Sol al estar la sombra de la Luna fuera de la superficie terrestre. Los eclipses totales o anulares solo es posible verlos en una franja de terreno muy estrecha aunque muy larga y durante unos pocos minutos. Hacia el norte y hacia el sur de esa franja, el eclipse se ve como parcial en una gran zona denominada zona de penumbra, fuera de esa zona no se ve.

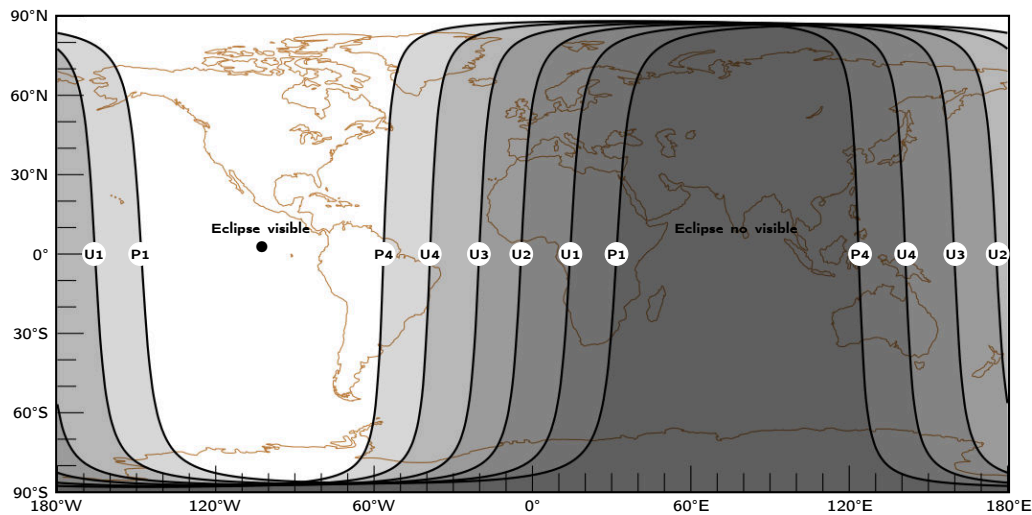
Los eclipses de Luna se producen cuando, en Luna llena, esta pasa por la sombra que produce la Tierra. Se distinguen tres tipos de eclipses de Luna: eclipse total, cuando toda la superficie de la Luna pasa por la *umbra* (sombra) de la Tierra; eclipse parcial, cuando solo una parte del disco lunar pasa por la umbra de la Tierra; eclipse penumbral, cuando la Luna penetra en la zona de penumbra creada por la Tierra, pero no llega a entrar en la umbra. La zona de penumbra es un círculo concéntrico con la umbra y de mayor tamaño que esta. Los eclipses totales de Luna son visibles desde cualquier parte de la Tierra en la que sea visible la Luna. Durante un eclipse total, la Luna adquiere un tono rojo oscuro debido a la luz que le llega difractada por la atmósfera terrestre.

Eclipse total de Luna del 14 de marzo de 2025



Duración fases	
Penumbral:	06 ^h 02.7 ^m
Parcial:	03 ^h 38.1 ^m
Total:	01 ^h 05.3 ^m

Contactos	
P1:	03 ^h 57.5 ^m UT
U1:	05 ^h 09.7 ^m UT
U2:	06 ^h 26.1 ^m UT
U3:	07 ^h 31.4 ^m UT
U4:	08 ^h 47.9 ^m UT
P4:	10 ^h 00.2 ^m UT



Eclipse parcial de Sol del 29 de marzo de 2025

Conjunción eclíptica: $10^{\text{h}}57^{\text{m}}50.4^{\text{s}}$ UT

Eclipse máximo: $10^{\text{h}}47^{\text{m}}09.6^{\text{s}}$ UT

Magnitud: 0.9376



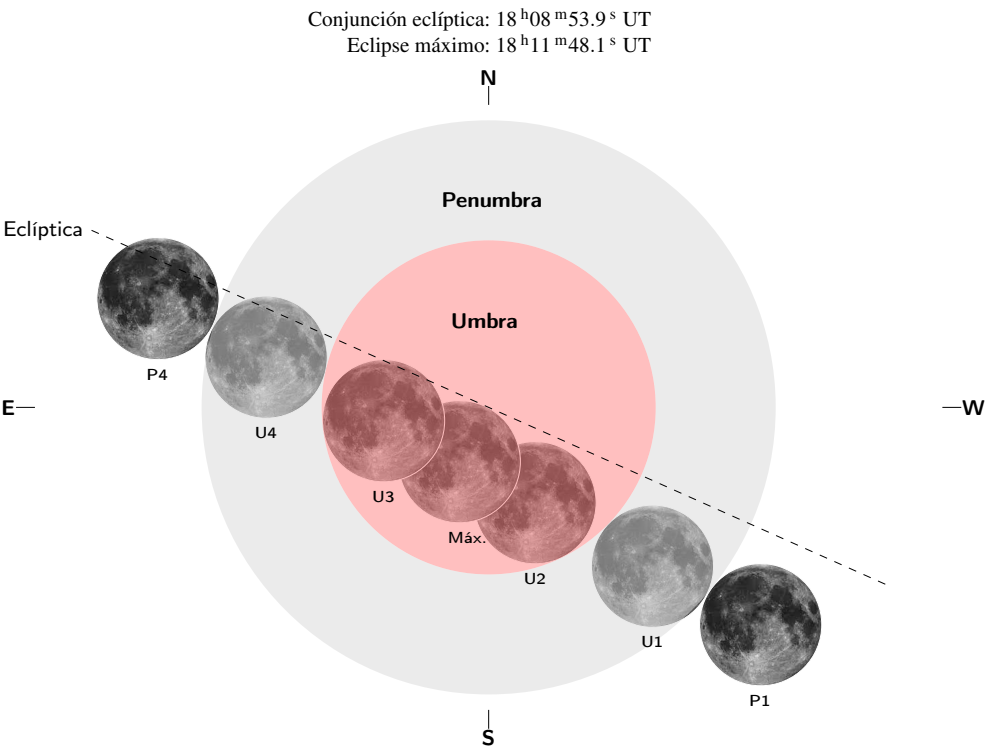
Contactos penumbra

P1: $08^{\text{h}}50.7^{\text{m}}$ UT
P4: $12^{\text{h}}43.7^{\text{m}}$ UT

Eclipse máximo

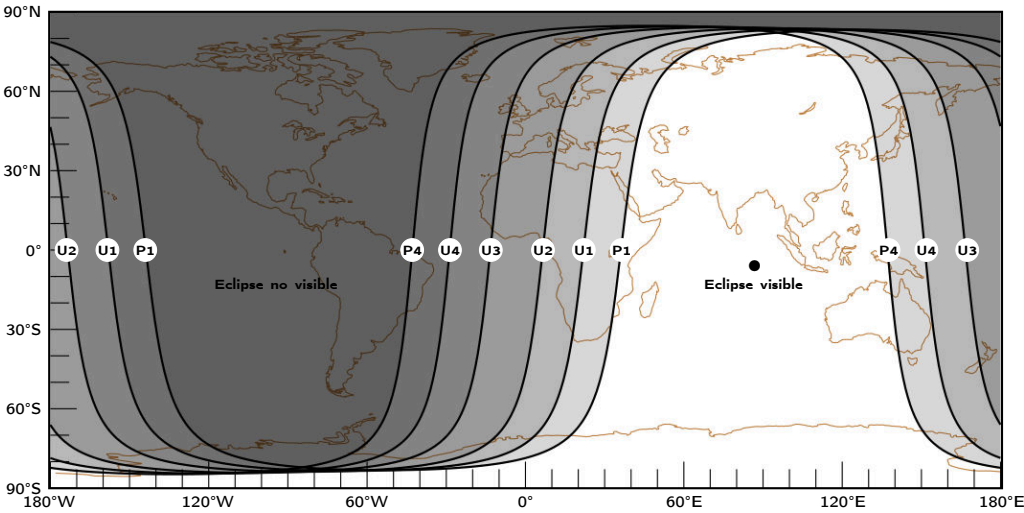
Latitud: $61^{\circ} 6' 1''$ N
Longitud: $77^{\circ} 5' 8''$ W

Eclipse total de Luna del 7 de septiembre de 2025



Duración fases	
Penumbral:	05 ^h 26.7 ^m
Parcial:	03 ^h 29.4 ^m
Total:	01 ^h 22.1 ^m

Contactos	
P1:	15 ^h 28.2 ^m UT
U1:	16 ^h 27.0 ^m UT
U2:	17 ^h 30.7 ^m UT
U3:	18 ^h 52.8 ^m UT
U4:	19 ^h 56.4 ^m UT
P4:	20 ^h 54.9 ^m UT

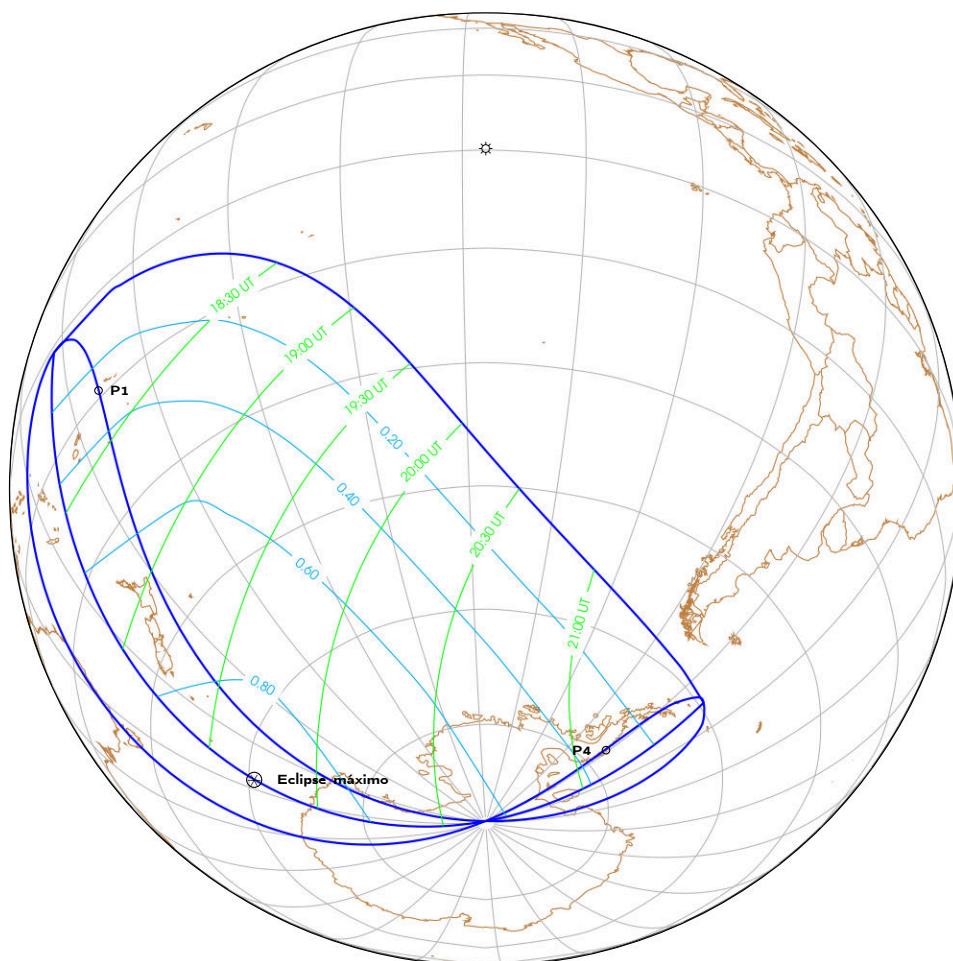


Eclipse parcial de Sol del 21 de septiembre de 2025

Conjunción eclíptica: $19^{\text{h}}54^{\text{m}}08.4^{\text{s}}$ UT

Eclipse máximo: $19^{\text{h}}41^{\text{m}}35.4^{\text{s}}$ UT

Magnitud: 0.8550

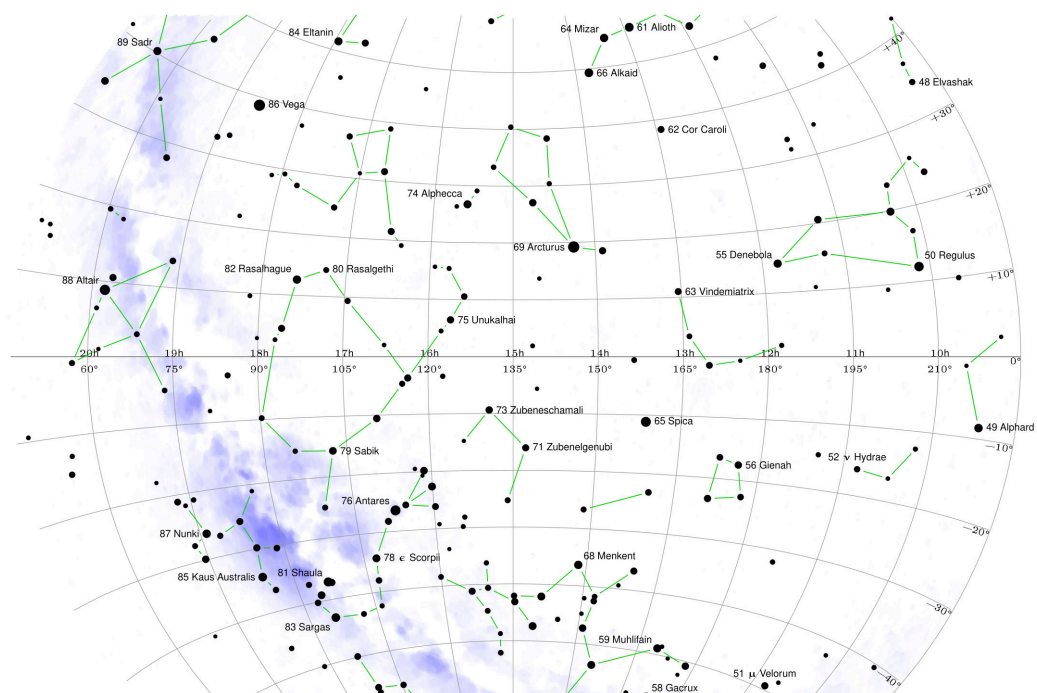


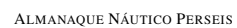
Contactos penumbra

P1: $17^{\text{h}}29.7^{\text{m}}$ UT
P4: $21^{\text{h}}53.7^{\text{m}}$ UT

Eclipse máximo

Latitud: $60^{\circ} 54' 3''$ S
Longitud: $153^{\circ} 29' 1''$ E





UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 03.7 ^m				Edad: 1.1 ^d SD: 15'6 PMG: 13 ^h 33 ^m					PHE { 4 ^h : 57'5 12 ^h : 57'7 20 ^h : 57'8 R°: 54 ^m			Hora R°			Hora R°		
	hG ☉		Dec		hG ☾		Dif			Dec			Dif					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	m	h	m	m
0	179	08.4	-22	59.9	164	13.2	-25	51.6	60 N	7	09	8	05	9	02	10	57	3
1	194	08.1		59.7	178	39.2		44.4	58	7	02	7	54	8	45	35	11	42
2	209	07.8		59.5	193	05.4		37.1	56	6	56	44	31		18	15	16	59
3	224	07.5		59.3	207	31.6		29.5	54	50	35		19	10	03	19	17	14
4	239	07.2		59.1	221	57.8		21.9	52	44	28	8	08	9	50	23	26	87
5	254	06.9	-22	58.8	236	24.1	-25	14.0	50	6	39	7	20	7	58	9	38	26
6	269	06.6	-22	58.6	250	50.4	-25	06.1	45	6	28	7	05	7	38	9	14	32
7	284	06.3		58.4	265	16.8	-24	57.9	40	18	6	51	22	8	55	36	19	73
8	299	06.0		58.2	279	43.3		49.7	35	08	40	7	08	39	39	34	70	
9	314	05.7		58.0	294	09.8		41.2	30	6	00	30	6	56	25	42	18	47
10	329	05.4		57.8	308	36.4		32.6	20	5	44	6	11	35	8	01	46	19
11	344	05.1	-22	57.6	323	03.0	-24	23.9	10 N	5	28	5	54	6	17	7	40	50
12	359	04.8	-22	57.4	337	29.7	-24	15.0	0	5	11	5	37	6	00	7	20	55
13	14	04.5		57.1	351	56.5	-24	06.0	10 S	4	53	20	5	43	7	01	58	20
14	29	04.2		56.9	6	23.3	-23	56.9	20	31	5	00	24	6	40	62	23	45
15	44	03.9		56.7	20	50.1		47.6	30	4	02	4	35	5	03	15	67	45
16	59	03.7		56.5	35	17.1		38.1	35	3	44	20	4	50	6	01	69	20
17	74	03.4	-22	56.3	49	44.1	-23	28.5	40	3	21	4	02	4	35	5	44	73
18	89	03.1	-22	56.0	64	11.2	-23	18.8	45	2	51	3	40	4	17	5	24	77
19	104	02.8		55.8	78	38.3	-23	08.9	50	2	08	3	11	3	55	4	59	82
20	119	02.5		55.6	93	05.5	-22	58.9	52	1	41	2	57	45	46	86	22	00
21	134	02.2		55.4	107	32.8		48.8	54	1	01	40	33	32	90	11	17	
22	149	01.9		55.2	122	00.1		38.5	56	** ** *	2	18	19	4	16	94	24	12
23	164	01.6		54.9	136	27.5		28.1	58	** ** *	1	50	3	03	3	56	100	38
24	179	01.3	-22	54.7	150	55.0	-22	17.6	60 S	** ** *	1	07	2	43	3	31	108	22

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO				
	PMG 17 ^h 13.6 ^m			Mag: -4.4 PMG: 15 ^h 18 ^m			Mag: -1.2 PMG: 1 ^h 37 ^m			Mag: -2.7 PMG: 22 ^h 00 ^m			Mag: +1.1 PMG: 16 ^h 20 ^m				
	hG ♈			hG ♀			hG ♂			hG ♃			hG ♄				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	100	54.0	130	30.3	-13	35.2	335	46.4	+23	32.7	29	01.0	+21	47.2	114	23.0	
1	115	56.4	145	30.2		34.1	350	49.7		33.0	44	03.8		47.2	129	25.3	
2	130	58.9	160	30.2		33.0	5	53.1		33.3	59	06.5		47.2	144	27.6	
3	146	01.4	175	30.1		31.9	20	56.4		33.5	74	09.3		47.2	159	29.9	
4	161	03.8	190	30.0		30.8	35	59.7		33.8	89	12.0		47.1	174	32.2	
5	176	06.3	205	30.0	-13	29.7	51	03.0	+23	34.1	104	14.8	+21	47.1	189	34.4	
6	191	08.8	220	29.9	-13	28.6	66	06.3	+23	34.4	119	17.5	+21	47.1	204	36.7	
7	206	11.2	235	29.9		27.5	81	09.6		34.6	134	20.3		47.1	219	39.0	
8	221	13.7	250	29.8		26.4	96	13.0		34.9	149	23.0		47.0	234	41.3	
9	236	16.2	265	29.7		25.4	111	16.3		35.2	164	25.8		47.0	249	43.6	
10	251	18.6	280	29.7		24.3	126	19.6		35.5	179	28.5		47.0	264	45.9	
11	266	21.1	295	29.6	-13	23.2	141	22.9	+23	35.7	194	31.3	+21	47.0	279	48.2	
12	281	23.5	310	29.6	-13	22.1	156	26.2	+23	36.0	209	34.0	+21	46.9	294	50.5	
13	296	26.0	325	29.5		21.0	171	29.6		36.3	224	36.8		46.9	309	52.8	
14	311	28.5	340	29.5		19.9	186	32.9		36.6	239	39.5		46.9	324	55.0	
15	326	30.9	355	29.4		18.8	201	36.2		36.8	254	42.3		46.9	339	57.3	
16	341	33.4	10	29.4		17.7	216	39.5		37.1	269	45.0		46.9	354	59.6	
17	356	35.9	25	29.3	-13	16.6	231	42.9	+23	37.4	284	47.7	+21	46.8	10	01.9	
18	11	38.3	40	29.3	-13	15.5	246	46.2	+23	37.7	299	50.5	+21	46.8	25	04.2	
19	26	40.8	55	29.2		14.4	261	49.5		37.9	314	53.2		46.8	40	06.5	
20	41	43.3	70	29.2		13.3	276	52.9		38.2	329	56.0		46.8	55	08.8	
21	56	45.7	85	29.1		12.2	291	56.2		38.5	344	58.7		46.7	70	11.1	
22	71	48.2	100	29.1		11.1	306	59.5		38.8	0	01.5		46.7	85	13.4	
23	86	50.7	115	29.1		10.0	322	02.9		39.0	15	04.2		46.7	100	15.6	
24	101	53.1	130	29.0	-13	08.9	337	06.2	+23	39.3	30	07.0	+21	46.7	115	17.9	
Dif	—			-1	+11		+33	+3		+3	+27			0		+23	+3

UT	SOL		● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h /3 PMG:12 ^h 04.1 ^m		Edad: 2.1 ^d PHE { 4 ^h : 58'0 12 ^h : 58'1 20 ^h : 58'3 R°: 52 ^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	h m m	h m m	h m m	
0	179 01.3	-22 54.7	150 55.0		-22 17.6		60 N	15 07	16 03	17 00	11 00 2	18 09 106					
1	194 01.0	54.5	165 22.5	85	-22 06.9	107	58	24	15	07	10 46 7	23 100					
2	209 00.7	54.3	179 50.1	86	-21 56.1	108	56	38	24	13	33 12	34 96					
3	224 00.4	54.0	194 17.8	87	45.1	110	54	15 50	33	19	22 16	44 92					
4	239 00.1	53.8	208 45.5	87	34.1	110	52	16 01	41	24	13 18	18 53 89					
5	253 59.9	-22 53.6	223 13.3	88	-21 22.9	112	50	16 10	16 48	17 29	10 04 21	19 01 86					
6	268 59.6	-22 53.3	237 41.2	89	-21 11.6	113	45	16 30	17 04	17 41	9 46 27	19 18 79					
7	283 59.3	53.1	252 09.2	90	-21 00.2	114	40	16 46	17	17 51	31 31	32 74					
8	298 59.0	52.9	266 37.2	90	-20 48.6	116	35	17 00	28	18 00	18 35	44 70					
9	313 58.7	52.6	281 05.3	91	36.9	117	30	12	38	08	9 07 38	19 54 67					
10	328 58.4	52.4	295 33.4	91	25.1	118	20	33	17 57	24	8 47 44	20 11 61					
11	343 58.1	-22 52.2	310 01.7	93	-20 13.2	119	10 N	17 51	18 14	18 40	8 30 49	20 26 56					
12	358 57.8	-22 51.9	324 30.0	93	-20 01.2	120	0	18 08	18 30	18 56	8 15 52	20 40 51					
13	13 57.5	51.7	338 58.3	93	-19 49.0	122	10 S	25	18 48	19 15	7 59 57	20 53 47					
14	28 57.2	51.5	353 26.8	95	36.8	122	20	18 43	19 08	19 37	42 62	21 08 42					
15	43 56.9	51.2	7 55.3	95	24.4	124	30	19 05	32	20 05	22 67	24 37					
16	58 56.7	51.0	22 23.9	96	-19 11.9	125	35	18	19 47	23	7 10 71	34 33					
17	73 56.4	-22 50.8	36 52.5	96	-18 59.3	126	40	19 32	20 05	20 46	6 57 75	21 45 29					
18	88 56.1	-22 50.5	51 21.3	98	-18 46.6	127	45	19 50	20 27	21 15	6 41 79	21 57 25					
19	103 55.8	50.3	65 50.0	97	33.8	128	50	20 11	20 55	21 58	21 86	22 13 19					
20	118 55.5	50.0	80 18.9	99	20.9	129	52	22	21 10	22 24	12 89	20 16					
21	133 55.2	49.8	94 47.8	99	-18 07.8	131	54	34	27	23 02	6 02 91	28 13					
22	148 54.9	49.5	109 16.8	100	-17 54.7	131	56	20 47	21 47	** **	5 50 96	36 10					
23	163 54.6	49.3	123 45.9	101	41.5	132	58	21 03	22 15	** **	36 101	46 6					
24	178 54.3	-22 49.1	138 15.0	101	-17 28.2	133	60 S	21 22	22 56	** **	5 19 107	22 58 1					
UT	ARIES PMG 17 ^h 09.6 ^m		VENUS Mag: -4.4 PMG: 15 ^h 18 ^m		MARTE Mag: -1.2 PMG: 1 ^h 31 ^m		JÚPITER Mag: -2.7 PMG: 21 ^h 56 ^m		SATURNO Mag: +1.1 PMG: 16 ^h 16 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	101 53.1	130 29.0	-13 08.9		337 06.2	+23 39.3	30 07.0	+21 46.7	115 17.9	-7 53.1							
1	116 55.6	145 29.0	07.8		352 09.6	39.6	45 09.7	46.6	130 20.2	53.0							
2	131 58.0	160 28.9	06.7		7 12.9	39.9	60 12.4	46.6	145 22.5	53.0							
3	147 00.5	175 28.9	05.6		22 16.2	40.1	75 15.2	46.6	160 24.8	52.9							
4	162 03.0	190 28.9	04.5		37 19.6	40.4	90 17.9	46.6	175 27.1	52.8							
5	177 05.4	205 28.8	-13 03.4		52 22.9	+23 40.7	105 20.7	+21 46.5	190 29.4	-7 52.7							
6	192 07.9	220 28.8	-13 02.3		67 26.3	+23 41.0	120 23.4	+21 46.5	205 31.6	-7 52.6							
7	207 10.4	235 28.7	01.2		82 29.6	41.3	135 26.2	46.5	220 33.9	52.6							
8	222 12.8	250 28.7	-13 00.1		97 33.0	41.5	150 28.9	46.5	235 36.2	52.5							
9	237 15.3	265 28.7	-12 59.0		112 36.3	41.8	165 31.6	46.4	250 38.5	52.4							
10	252 17.8	280 28.6	57.9		127 39.7	42.1	180 34.4	46.4	265 40.8	52.3							
11	267 20.2	295 28.6	-12 56.8		142 43.0	+23 42.4	195 37.1	+21 46.4	280 43.1	-7 52.2							
12	282 22.7	310 28.6	-12 55.7		157 46.4	+23 42.6	210 39.9	+21 46.4	295 45.4	-7 52.2							
13	297 25.2	325 28.6	54.5		172 49.7	42.9	225 42.6	46.3	310 47.7	52.1							
14	312 27.6	340 28.5	53.4		187 53.1	43.2	240 45.3	46.3	325 49.9	52.0							
15	327 30.1	355 28.5	52.3		202 56.4	43.5	255 48.1	46.3	340 52.2	51.9							
16	342 32.5	10 28.5	51.2		217 59.8	43.7	270 50.8	46.3	355 54.5	51.8							
17	357 35.0	25 28.4	-12 50.1		233 03.1	+23 44.0	285 53.6	+21 46.3	10 56.8	-7 51.8							
18	12 37.5	40 28.4	-12 49.0		248 06.5	+23 44.3	300 56.3	+21 46.2	25 59.1	-7 51.7							
19	27 39.9	55 28.4	47.9		263 09.8	44.6	315 59.0	46.2	41 01.4	51.6							
20	42 42.4	70 28.4	46.8		278 13.2	44.8	331 01.8	46.2	56 03.6	51.5							
21	57 44.9	85 28.3	45.7		293 16.6	45.1	346 04.5	46.2	71 05.9	51.4							
22	72 47.3	100 28.3	44.6		308 19.9	45.4	1 07.2	46.1	86 08.2	51.4							
23	87 49.8	115 28.3	43.5		323 23.3	45.7	16 10.0	46.1	101 10.5	51.3							
24	102 52.3	130 28.3	-12 42.4		338 26.6	+23 45.9	31 12.7	+21 46.1	116 12.8	-7 51.2							
Dif	—	0	+11		+34	+3	+27	0	+23	+							

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16 ^h 3 PMG:12 ^h 04.6 ^m			Edad: 3.1 ^d SD: 15 ^h 9 PMG: 15 ^h 18 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	
0	178	54.3	-22	49.1	138	15.0	102	-17	28.2	135	60 N	7 09	8 05	9 01	11 01	**
1	193	54.1		48.8	152	44.2	102		14.7	135	58	7 02	7 54	8 44	10 52	3
2	208	53.8		48.6	167	13.5	103	-17	01.2	135	56	6 55	44	30	43	8
3	223	53.5		48.3	181	42.8	103	-16	47.6	136	54	49	35	18	36	11
4	238	53.2		48.1	196	12.2	104		33.9	137	52	44	27	8 08	30	13
5	253	52.9	-22	47.8	210	41.7	105	-16	20.1	138	50	6 39	7 20	7 58	10 24	16
6	268	52.6	-22	47.6	225	11.2	105	-16	06.2	139	45	6 28	7 05	7 38	10 11	22
7	283	52.3		47.3	239	40.8	106	-15	52.2	140	40	18	6 52	22	10 01	26
8	298	52.0		47.1	254	10.4	106		38.1	141	35	09	40	7 08	9 52	30
9	313	51.8		46.8	268	40.1	107		24.0	141	30	6 00	30	6 56	44	33
10	328	51.5		46.6	283	09.9	108	-15	09.7	143	20	5 45	6 12	36	30	39
11	343	51.2	-22	46.3	297	39.8	109	-14	55.4	143	10 N	5 29	5 55	6 18	9 18	44
12	358	50.9	-22	46.1	312	09.6	108	-14	41.0	144	0	5 12	5 38	6 01	9 06	49
13	13	50.6		45.8	326	39.6	110		26.5	145	10 S	4 54	21	5 44	8 55	53
14	28	50.3		45.6	341	09.6	110	-14	11.9	146	20	32	5 01	25	42	59
15	43	50.0		45.3	355	39.7	111	-13	57.2	147	30	4 04	4 37	5 04	28	65
16	58	49.7		45.0	10	09.8	111		42.5	147	35	3 46	22	4 51	20	68
17	73	49.5	-22	44.8	24	40.0	112	-13	27.7	148	40	3 23	4 04	4 37	8 10	73
18	88	49.2	-22	44.5	39	10.2	112	-13	12.8	149	45	2 54	3 42	4 19	7 59	77
19	103	48.9		44.3	53	40.5	113	-12	57.8	150	50	2 11	3 14	3 58	46	83
20	118	48.6		44.0	68	10.9	114		42.8	150	52	1 45	2 59	47	39	86
21	133	48.3		43.7	82	41.3	114		27.7	151	54	1 07	42	35	32	89
22	148	48.0		43.5	97	11.7	114	-12	12.5	152	56	** **	2 22	22	24	93
23	163	47.8		43.2	111	42.2	115	-11	57.3	152	58	** **	1 54	3 06	15	97
24	178	47.5	-22	43.0	126	12.8	116	-11	42.0	153	60 S	** **	1 13	2 47	7 05	102

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 05.7 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m		Mag: -1.2 PMG: 1 ^h 26 ^m		Mag: -2.7 PMG: 21 ^h 51 ^m		Mag: +1.1 PMG: 16 ^h 13 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	102	52.3	130	28.3	-12	42.4	338	26.6	+23	45.9
1	117	54.7	145	28.3		41.2	353	30.0		46.2
2	132	57.2	160	28.3		40.1	8	33.4		46.5
3	147	59.6	175	28.2		39.0	23	36.7		46.8
4	163	02.1	190	28.2		37.9	38	40.1		47.1
5	178	04.6	205	28.2	-12	36.8	53	43.5	+23	47.3
6	193	07.0	220	28.2	-12	35.7	68	46.8	+23	47.6
7	208	09.5	235	28.2		34.6	83	50.2		47.9
8	223	12.0	250	28.2		33.5	98	53.6		48.2
9	238	14.4	265	28.2		32.3	113	57.0		48.4
10	253	16.9	280	28.1		31.2	129	00.3		48.7
11	268	19.4	295	28.1	-12	30.1	144	03.7	+23	49.0
12	283	21.8	310	28.1	-12	29.0	159	07.1	+23	49.3
13	298	24.3	325	28.1		27.9	174	10.5		49.5
14	313	26.8	340	28.1		26.8	189	13.8		49.8
15	328	29.2	355	28.1		25.7	204	17.2		50.1
16	343	31.7	10	28.1		24.5	219	20.6		50.4
17	358	34.1	25	28.1	-12	23.4	234	24.0	+23	50.6
18	13	36.6	40	28.1	-12	22.3	249	27.4	+23	50.9
19	28	39.1	55	28.1		21.2	264	30.8		51.2
20	43	41.5	70	28.1		20.1	279	34.1		51.5
21	58	44.0	85	28.1		19.0	294	37.5		51.7
22	73	46.5	100	28.1		17.8	309	40.9		52.0
23	88	48.9	115	28.1		16.7	324	44.3		52.3
24	103	51.4	130	28.1	-12	15.6	339	47.7	+23	52.6
Dif	—		0	+11			+34		+3	
									+27	0
										+23
										+

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna								
	SD: 16/3 PMG:12 ^h 05.1 ^m			Edad: 4.1 ^d SD: 16/0 PMG: 16 ^h 06 ^m						Civil			Náutico		Hora R°		Hora R°						
	hG ☉	Dec		hG ☾	Dif	Dec	Dif																
h	°	/	°	/	°	/	°	/	°	h	m	h	m	h	m	m	h	m	m				
0	178	47.5	-22	43.0	126	12.8	-11	42.0	60 N	15	10	16	06	17	02		11	00	1	21	34	100	
1	193	47.2		42.7	140	43.4		26.6	58		27		17		09		10	55	4		37	96	
2	208	46.9		42.4	155	14.0	-11	11.2	56		40		27		15			51	7		40	92	
3	223	46.6		42.2	169	44.7	-10	55.7	54	15	52		35		21		47	10			43	89	
4	238	46.3		41.9	184	15.4		40.2	52	16	03		43		27		43	13			46	86	
5	253	46.0	-22	41.6	198	46.2	-10	24.6	50	16	12	16	50	17	31	10	40	15		21	48	83	
6	268	45.8	-22	41.4	213	17.0	-10	08.9	45	16	32	17	06	17	43	10	33	21		21	53	77	
7	283	45.5		41.1	227	47.9	-9	53.2	40	16	48		19	17	52		27	25		21	57	73	
8	298	45.2		40.8	242	18.8		37.4	35	17	02		30	18	01		22	29		22	00	69	
9	313	44.9		40.6	256	49.8		21.6	30		14		40		10		17	32			04	65	
10	328	44.6		40.3	271	20.7	-9	05.7	20		34		17	58	25		09	38			09	59	
11	343	44.4	-22	40.0	285	51.8	-8	49.8	10 N	17	52	18	15	18	41	10	02	43		22	13	54	
12	358	44.1	-22	39.7	300	22.8	-8	33.8	0	18	09	18	31	18	57		9	55	49		22	18	48
13	13	43.8		39.5	314	53.9		17.8	10 S		26	18	49	19	16		48	54			22	43	
14	28	43.5		39.2	329	25.0	-8	01.8	20	18	44	19	08	19	37		41	59			26	38	
15	43	43.2		38.9	343	56.2	-7	45.6	30	19	05	32	20	05	33	65		33	65			31	32
16	58	42.9		38.6	358	27.4		29.5	35		18	19	47		23		28	69			34	29	
17	73	42.7	-22	38.4	12	58.6	-7	13.3	40	19	32	20	05	20	45		9	23	73		22	37	25
18	88	42.4	-22	38.1	27	29.9	-6	57.1	45	19	49	20	26	21	15		9	16	78		22	41	20
19	103	42.1		37.8	42	01.2		40.8	50	20	11	20	54	21	57			09	83		45	15	
20	118	41.8		37.5	56	32.5		24.5	52		21	21	09	22	21			05	86		47	13	
21	133	41.5		37.3	71	03.8	-6	08.1	54		33		25	22	57		9	01	89		49	10	
22	148	41.3		37.0	85	35.2	-5	51.8	56	20	46	21	46	**	**		8	57	92		52	7	
23	163	41.0		36.7	100	06.5		35.3	58	21	02	22	12	**	**			52	96		54	4	
24	178	40.7	-22	36.4	114	37.9	-5	18.9	60 S	21	21	22	51	**	**		8	47	100		22	57	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 17 ^h 01.8 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m		Mag: -1.3 PMG: 1 ^h 21 ^m		Mag: -2.7 PMG: 21 ^h 47 ^m		Mag: +1.1 PMG: 16 ^h 09 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	/	°	/	°	/	°	/	°	/								
0	103	51.4	130	28.1	-12	15.6	339	47.7	+23	52.6	32	18.3	+21	45.5	117	07.6	-7	49.2
1	118	53.9	145	28.1		14.5	354	51.1		52.8	47	21.1		45.5	132	09.9		49.2
2	133	56.3	160	28.1		13.4	9	54.5		53.1	62	23.8		45.5	147	12.1		49.1
3	148	58.8	175	28.1		12.2	24	57.9		53.4	77	26.5		45.5	162	14.4		49.0
4	164	01.3	190	28.1		11.1	40	01.2		53.7	92	29.2		45.4	177	16.7		48.9
5	179	03.7	205	28.1	-12	10.0	55	04.6	+23	53.9	107	32.0	+21	45.4	192	19.0	-7	48.8
6	194	06.2	220	28.2	-12	08.9	70	08.0	+23	54.2	122	34.7	+21	45.4	207	21.3	-7	48.7
7	209	08.6	235	28.2		07.8	85	11.4		54.5	137	37.4		45.4	222	23.5		48.7
8	224	11.1	250	28.2		06.6	100	14.8		54.8	152	40.2		45.3	237	25.8		48.6
9	239	13.6	265	28.2		05.5	115	18.2		55.1	167	42.9		45.3	252	28.1		48.5
10	254	16.0	280	28.2		04.4	130	21.6		55.3	182	45.6		45.3	267	30.4		48.4
11	269	18.5	295	28.2	-12	03.3	145	25.0	+23	55.6	197	48.3	+21	45.3	282	32.7	-7	48.3
12	284	21.0	310	28.2	-12	02.1	160	28.4	+23	55.9	212	51.1	+21	45.3	297	34.9	-7	48.3
13	299	23.4	325	28.3	-12	01.0	175	31.8		56.2	227	53.8		45.2	312	37.2		48.2
14	314	25.9	340	28.3	-11	59.9	190	35.2		56.4	242	56.5		45.2	327	39.5		48.1
15	329	28.4	355	28.3		58.8	205	38.6		56.7	257	59.2		45.2	342	41.8		48.0
16	344	30.8	10	28.3		57.6	220	42.0		57.0	273	02.0		45.2	357	44.1		47.9
17	359	33.3	25	28.3	-11	56.5	235	45.4	+23	57.3	288	04.7	+21	45.1	12	46.3	-7	47.8
18	14	35.7	40	28.3	-11	55.4	250	48.8	+23	57.5	303	07.4	+21	45.1	27	48.6	-7	47.8
19	29	38.2	55	28.4		54.3	265	52.2		57.8	318	10.1		45.1	42	50.9		47.7
20	44	40.7	70	28.4		53.1	280	55.7		58.1	333	12.9		45.1	57	53.2		47.6
21	59	43.1	85	28.4		52.0	295	59.1		58.4	348	15.6		45.1	72	55.5		47.5
22	74	45.6	100	28.4		50.9	311	02.5		58.6	3	18.3		45.0	87	57.7		47.4
23	89	48.1	115	28.5		49.8	326	05.9		58.9	18	21.0		45.0	103	00.0		47.3
24	104	50.5	130	28.5	-11	48.6	341	09.3	+23	59.2	33	23.8	+21	45.0	118	02.3	-7	47.3
Dif	—		0	+11		+34		+3		+27		0		+23		+1		

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 3 PMG:12 ^h 05.5 ^m				Edad: 5.1 ^d PHE { 4 ^h : 58'9 12 ^h : 59'0 20 ^h : 59'1 PMG: 16 ^h 54 ^m R°: 47 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	40.7	-22	36.4	114	37.9	-5	18.9	165	60 N	7 08	8 04	8 59	10 59	**	23 12	99			
1	193	40.4		36.1	129	09.4	-5	02.4	165	58	7 01	7 53	43	58	3	12	95			
2	208	40.1		35.8	143	40.8	-4	45.9	165	56	6 55	43	29	57	6	11	92			
3	223	39.9		35.6	158	12.3		29.4	165	54	49	35	18	56	9	11	88			
4	238	39.6		35.3	172	43.7	-4	12.8	166	52	44	27	8 07	55	11	10	85			
5	253	39.3	-22	35.0	187	15.2	-3	56.3	165	50	6 39	7 20	7 58	10 54	14	23 10	82			
6	268	39.0	-22	34.7	201	46.7	-3	39.7	166	45	6 28	7 05	7 38	10 52	19	23 09	77			
7	283	38.8		34.4	216	18.2		23.0	167	40	18	6 52	22	51	23	08	72			
8	298	38.5		34.1	230	49.8	-3	06.4	166	35	09	41	7 09	49	28	08	68			
9	313	38.2		33.8	245	21.3	-2	49.7	167	30	6 01	31	6 57	48	31	07	64			
10	328	37.9		33.5	259	52.9		33.0	167	20	5 45	6 12	36	46	37	06	58			
11	343	37.6	-22	33.3	274	24.4	-2	16.3	167	10 N	5 30	5 56	6 19	10 44	42	23 05	53			
12	358	37.4	-22	33.0	288	56.0	-1	59.6	167	0	5 13	5 39	6 02	10 42	48	23 05	47			
13	13	37.1		32.7	303	27.5		42.9	167	10 S	4 55	22	5 45	41	52	04	42			
14	28	36.8		32.4	317	59.1		26.2	167	20	33	5 02	27	39	57	03	37			
15	43	36.5		32.1	332	30.7	-1	09.4	168	30	4 05	4 38	5 06	37	64	02	31			
16	58	36.3		31.8	347	02.2	-0	52.7	167	35	3 47	24	4 53	36	67	01	28			
17	73	36.0	-22	31.5	1	33.8	-0	35.9	168	40	3 25	4 06	4 39	10 34	72	23 01	24			
18	88	35.7	-22	31.2	16	05.4	-0	19.1	168	45	2 56	3 45	4 21	10 33	76	23 00	19			
19	103	35.4		30.9	30	36.9	-0	02.4	167	50	2 14	16	4 00	31	82	22 59	14			
20	118	35.2		30.6	45	08.5	+0	14.4	168	52	1 49	3 02	3 50	30	85	59	11			
21	133	34.9		30.3	59	40.0		31.2	168	54	1 13	2 46	38	29	88	58	9			
22	148	34.6		30.0	74	11.5	+0	48.0	168	56	** **	2 25	25	28	91	58	6			
23	163	34.3		29.7	88	43.1	+1	04.7	167	58	** **	1 59	3 09	27	94	57	3			
24	178	34.1	-22	29.4	103	14.6	+1	21.5	168	60 S	** **	1 20	2 50	10 26	98	22 56	0			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 16 ^h 57.8 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m			Mag: -1.3 PMG: 1 ^h 15 ^m			Mag: -2.7 PMG: 21 ^h 42 ^m			Mag: +1.1 PMG: 16 ^h 05 ^m								
	hG ♈		hG ♀			hG ♂			hG ♃			hG ♄								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	104	50.5	130	28.5	-11	48.6	341	09.3	+23	59.2	33	23.8	+21	45.0	118	02.3	-7	47.3		
1	119	53.0	145	28.5		47.5	356	12.7		59.5	48	26.5		45.0	133	04.6		47.2		
2	134	55.5	160	28.6		46.4	11	16.1	+23	59.7	63	29.2		44.9	148	06.8		47.1		
3	149	57.9	175	28.6		45.2	26	19.5	+24	00.0	78	31.9		44.9	163	09.1		47.0		
4	165	00.4	190	28.6		44.1	41	22.9	+24	00.3	93	34.7		44.9	178	11.4		46.9		
5	180	02.9	205	28.6	-11	43.0	56	26.4	+24	00.5	108	37.4	+21	44.9	193	13.7	-7	46.8		
6	195	05.3	220	28.7	-11	41.9	71	29.8	+24	00.8	123	40.1	+21	44.9	208	16.0	-7	46.8		
7	210	07.8	235	28.7		40.7	86	33.2		01.1	138	42.8		44.8	223	18.2		46.7		
8	225	10.2	250	28.7		39.6	101	36.6		01.4	153	45.5		44.8	238	20.5		46.6		
9	240	12.7	265	28.8		38.5	116	40.0		01.6	168	48.3		44.8	253	22.8		46.5		
10	255	15.2	280	28.8		37.3	131	43.5		01.9	183	51.0		44.8	268	25.1		46.4		
11	270	17.6	295	28.9	-11	36.2	146	46.9	+24	02.2	198	53.7	+21	44.8	283	27.3	-7	46.3		
12	285	20.1	310	28.9	-11	35.1	161	50.3	+24	02.5	213	56.4	+21	44.7	298	29.6	-7	46.3		
13	300	22.6	325	28.9		33.9	176	53.7		02.7	228	59.1		44.7	313	31.9		46.2		
14	315	25.0	340	29.0		32.8	191	57.1		03.0	244	01.9		44.7	328	34.2		46.1		
15	330	27.5	355	29.0		31.7	207	00.6		03.3	259	04.6		44.7	343	36.4		46.0		
16	345	30.0	10	29.1		30.5	222	04.0		03.6	274	07.3		44.6	358	38.7		45.9		
17	0	32.4	25	29.1	-11	29.4	237	07.4	+24	03.8	289	10.0	+21	44.6	13	41.0	-7	45.8		
18	15	34.9	40	29.2	-11	28.3	252	10.8	+24	04.1	304	12.7	+21	44.6	28	43.3	-7	45.8		
19	30	37.4	55	29.2		27.1	267	14.3		04.4	319	15.5		44.6	43	45.6		45.7		
20	45	39.8	70	29.2		26.0	282	17.7		04.7	334	18.2		44.6	58	47.8		45.6		
21	60	42.3	85	29.3		24.9	297	21.1		04.9	349	20.9		44.5	73	50.1		45.5		
22	75	44.7	100	29.3		23.7	312	24.6		05.2	4	23.6		44.5	88	52.4		45.4		
23	90	47.2	115	29.4		22.6	327	28.0		05.5	19	26.3		44.5	103	54.7		45.3		
24	105	49.7	130	29.4	-11	21.5	342	31.4	+24	05.8	34	29.0	+21	44.5	118	56.9	-7	45.2		
Dif	—		0			+11	+34			+3	+27			0			+23			+

UT	SOL			☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/3 PMG:12 ^h 06.0 ^m			Edad: 6.1 ^d PHE { 4 ^h : 59/1 12 ^h : 59/2 20 ^h : 59/2 R°: 50 ^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	178 34.1	-22 29.4	103 14.6	125	+1	21.5	168	60 N	15 14	16 09	17 05	10 58 1	** ** *	** ** *	
1	193 33.8	29.1	117 46.1	125		38.3	168	58	30	20	12	11 01 4	** ** *	** ** *	
2	208 33.5	28.8	132 17.6	125	+1	55.1	167	56	43	29	18	03 8	** ** *	** ** *	
3	223 33.2	28.5	146 49.1	124	+2	11.8	167	54	15 55	38	23	05 10	** ** *	** ** *	
4	238 33.0	28.2	161 20.5	124		28.6	168	52	16 05	46	29	06 14	** ** *	** ** *	
5	253 32.7	-22 27.9	175 52.0	125	+2	45.3	167	50	16 15	16 52	17 34	11 08 16	** ** *	** ** *	
6	268 32.4	-22 27.6	190 23.4	124	+3	02.1	168	45	16 34	17 08	17 44	11 11 22	** ** *	** ** *	
7	283 32.1	27.3	204 54.8	124		18.8	167	40	16 50	20	17 54	14 26	** ** *	** ** *	
8	298 31.9	27.0	219 26.2	124		35.5	167	35	17 04	31	18 03	17 30	** ** *	** ** *	
9	313 31.6	26.7	233 57.5	123	+3	52.2	167	30	15	41	11	19 33	** ** *	** ** *	
10	328 31.3	26.4	248 28.9	124	+4	08.9	167	20	35	17 59	27	23 39	** ** *	** ** *	
11	343 31.0	-22 26.1	263 00.2	123	+4	25.5	166	10 N	17 53	18 16	18 42	11 26 45	23 58 56		
12	358 30.8	-22 25.7	277 31.5	123	+4	42.1	166	0	18 10	18 32	18 58	11 30 49	23 52 51		
13	13 30.5	25.4	292 02.7	122	+4	58.8	167	10 S	26	18 49	19 16	33 55	46 46		
14	28 30.2	25.1	306 33.9	122	+5	15.4	166	20	18 44	19 09	19 38	36 61	40 41		
15	43 30.0	24.8	321 05.1	122		31.9	165	30	19 05	33	20 05	41 66	33 35		
16	58 29.7	24.5	335 36.3	122	+5	48.5	166	35	18	19 47	23	43 70	29 31		
17	73 29.4	-22 24.2	350 07.4	121	+6	05.0	165	40	19 32	20 04	20 45	11 46 74	23 25 27		
18	88 29.1	-22 23.9	4 38.5	121	+6	21.5	165	45	19 49	20 26	21 14	11 49 79	23 19 23		
19	103 28.9	23.6	19 09.5	120		38.0	165	50	20 10	20 53	21 55	53 85	13 17		
20	118 28.6	23.2	33 40.5	120	+6	54.4	164	52	20	21 07	22 19	55 87	10 15		
21	133 28.3	22.9	48 11.5	120	+7	10.8	164	54	32	24	22 53	57 90	07 12		
22	148 28.1	22.6	62 42.4	119		27.1	164	56	20 45	21 44	** ** *	11 59 94	04 8		
23	163 27.8	22.3	77 13.3	119		43.5	164	58	21 00	22 09	** ** *	12 01 98	23 00 5		
24	178 27.5	-22 22.0	91 44.1	118	+7	59.8	163	60 S	21 19	22 46	** ** *	12 04 103	22 56 0		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 16 ^h 53.9 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m		Mag: -1.3 PMG: 1 ^h 10 ^m		Mag: -2.7 PMG: 21 ^h 38 ^m		Mag: +1.1 PMG: 16 ^h 02 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	105 49.7	130 29.4	-11 21.5	342 31.4	+24 05.8	34 29.0	+21 44.5	118 56.9	-7 45.2						
1	120 52.1	145 29.5	20.3	357 34.9	06.0	49 31.8	44.4	133 59.2	45.2						
2	135 54.6	160 29.5	19.2	12 38.3	06.3	64 34.5	44.4	149 01.5	45.1						
3	150 57.1	175 29.6	18.1	27 41.7	06.6	79 37.2	44.4	164 03.8	45.0						
4	165 59.5	190 29.7	16.9	42 45.2	06.8	94 39.9	44.4	179 06.0	44.9						
5	181 02.0	205 29.7	-11 15.8	57 48.6	+24 07.1	109 42.6	+21 44.4	194 08.3	-7 44.8						
6	196 04.5	220 29.8	-11 14.6	72 52.0	+24 07.4	124 45.3	+21 44.3	209 10.6	-7 44.7						
7	211 06.9	235 29.8	13.5	87 55.5	07.7	139 48.0	44.3	224 12.9	44.7						
8	226 09.4	250 29.9	12.4	102 58.9	07.9	154 50.8	44.3	239 15.1	44.6						
9	241 11.8	265 29.9	11.2	118 02.4	08.2	169 53.5	44.3	254 17.4	44.5						
10	256 14.3	280 30.0	10.1	133 05.8	08.5	184 56.2	44.3	269 19.7	44.4						
11	271 16.8	295 30.1	-11 08.9	148 09.2	+24 08.7	199 58.9	+21 44.2	284 22.0	-7 44.3						
12	286 19.2	310 30.1	-11 07.8	163 12.7	+24 09.0	215 01.6	+21 44.2	299 24.2	-7 44.2						
13	301 21.7	325 30.2	06.7	178 16.1	09.3	230 04.3	44.2	314 26.5	44.1						
14	316 24.2	340 30.3	05.5	193 19.6	09.6	245 07.0	44.2	329 28.8	44.1						
15	331 26.6	355 30.3	04.4	208 23.0	09.8	260 09.7	44.2	344 31.0	44.0						
16	346 29.1	10 30.4	03.2	223 26.5	10.1	275 12.5	44.1	359 33.3	43.9						
17	1 31.6	25 30.5	-11 02.1	238 29.9	+24 10.4	290 15.2	+21 44.1	14 35.6	-7 43.8						
18	16 34.0	40 30.5	-11 01.0	253 33.4	+24 10.6	305 17.9	+21 44.1	29 37.9	-7 43.7						
19	31 36.5	55 30.6	-10 59.8	268 36.8	10.9	320 20.6	44.1	44 40.1	43.6						
20	46 39.0	70 30.7	58.7	283 40.2	11.2	335 23.3	44.0	59 42.4	43.6						
21	61 41.4	85 30.7	57.5	298 43.7	11.5	350 26.0	44.0	74 44.7	43.5						
22	76 43.9	100 30.8	56.4	313 47.1	11.7	5 28.7	44.0	89 47.0	43.4						
23	91 46.3	115 30.9	55.3	328 50.6	12.0	20 31.4	44.0	104 49.2	43.3						
24	106 48.8	130 31.0	-10 54.1	343 54.1	+24 12.3	35 34.1	+21 44.0	119 51.5	-7 43.2						
Dif	—	+1	+11	+34	+3	+27	0	+23	+						

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16°3 PMG:12 ^h 06.4 ^m				Edad: 7.1 ^d SD: 16°1 PMG: 18 ^h 30 ^m																	
	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	27.5	-22	22.0	91	44.1	+7	59.8	162	60 N	7	07	8	02	8	58	10	58	0	0	51	103
1	193	27.3		21.6	106	14.9	+8	16.0	162	58	7	00	7	52	42		11	04	5	47	98	
2	208	27.0		21.3	120	45.7		32.2	162	56	6	54		42	28		09	9	43	94		
3	223	26.7		21.0	135	16.4	+8	48.4	162	54		48		34	17		14	12	39	90		
4	238	26.4		20.7	149	47.0	+9	04.5	161	52		43		26	8	06	19	14	35	88		
5	253	26.2	-22	20.4	164	17.6	+9	20.6	161	50	6	38	7	19	7	57	11	23	17	0	32	85
6	268	25.9	-22	20.0	178	48.2	+9	36.7	161	45	6	28	7	04	7	38	11	31	24	0	26	78
7	283	25.6		19.7	193	18.7	+9	52.7	160	40		18	6	52	22		39	28	20	74		
8	298	25.4		19.4	207	49.1	+10	08.6	159	35		09		41	7	09	45	32	16	69		
9	313	25.1		19.1	222	19.5		24.5	159	30	6	01		31	6	57	11	51	35	11	66	
10	328	24.8		18.7	236	49.8		40.3	158	20	5	46	6	13	37		12	01	41	0	04	60
11	343	24.6	-22	18.4	251	20.1	+10	56.1	158	10 N	5	30	5	57	6	19	12	10	46	**	**	**
12	358	24.3	-22	18.1	265	50.3	+11	11.8	157	0	5	14	5	40	6	03	12	18	51	**	**	**
13	13	24.0		17.8	280	20.4		27.5	157	10 S	4	56		23	5	46		26	56	**	**	**
14	28	23.8		17.4	294	50.5		43.1	156	20		35		5	04	28		35	61	**	**	**
15	43	23.5		17.1	309	20.5	+11	58.7	156	30	4	07	4	40	5	07		46	67	**	**	**
16	58	23.2		16.8	323	50.5	+12	14.2	155	35	3	49		25	4	55		52	70	23	59	34
17	73	23.0	-22	16.4	338	20.4	+12	29.6	154	40	3	28	4	08	4	41	12	59	74	23	51	30
18	88	22.7	-22	16.1	352	50.2	+12	45.0	154	45	2	59	3	47	4	24	13	07	79	23	41	25
19	103	22.4		15.8	7	20.0	+13	00.3	153	50	2	18		19	4	02		16	86		29	19
20	118	22.2		15.4	21	49.7		15.5	152	52	1	54	3	05	3	52		21	89		23	17
21	133	21.9		15.1	36	19.3		30.7	152	54	1	20	2	49	41		26	92		17	14	
22	148	21.7		14.8	50	48.8	+13	45.8	151	56	**	**		29	28		32	96		11	10	
23	163	21.4		14.4	65	18.3	+14	00.8	150	58	**	**	2	04	3	12		38	101	23	03	6
24	178	21.1	-22	14.1	79	47.7	+14	15.8	150	60 S	**	**	1	27	2	54	13	45	106	22	55	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 ^h 50.0 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m		Mag: -1.3 PMG: 1 ^h 04 ^m		Mag: -2.7 PMG: 21 ^h 34 ^m		Mag: +1.1 PMG: 15 ^h 58 ^m	
	hG ♂ Dec		hG ♀ Dec		hG ♂ Dec		hG ♀ Dec		hG ♀ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	106	48.8	130	31.0	-10	54.1	343	54.1	+24	12.3
1	121	51.3	145	31.0		53.0	358	57.5		12.5
2	136	53.7	160	31.1		51.8	14	01.0		12.8
3	151	56.2	175	31.2		50.7	29	04.4		13.1
4	166	58.7	190	31.3		49.5	44	07.9		13.4
5	182	01.1	205	31.3	-10	48.4	59	11.3	+24	13.6
6	197	03.6	220	31.4	-10	47.3	74	14.8	+24	13.9
7	212	06.1	235	31.5		46.1	89	18.2		14.2
8	227	08.5	250	31.6		45.0	104	21.7		14.4
9	242	11.0	265	31.7		43.8	119	25.2		14.7
10	257	13.5	280	31.7		42.7	134	28.6		15.0
11	272	15.9	295	31.8	-10	41.5	149	32.1	+24	15.2
12	287	18.4	310	31.9	-10	40.4	164	35.5	+24	15.5
13	302	20.8	325	32.0		39.2	179	39.0		15.8
14	317	23.3	340	32.1		38.1	194	42.5		16.1
15	332	25.8	355	32.2		36.9	209	45.9		16.3
16	347	28.2	10	32.3		35.8	224	49.4		16.6
17	2	30.7	25	32.4	-10	34.6	239	52.8	+24	16.9
18	17	33.2	40	32.5	-10	33.5	254	56.3	+24	17.1
19	32	35.6	55	32.6		32.3	269	59.8		17.4
20	47	38.1	70	32.6		31.2	285	03.2		17.7
21	62	40.6	85	32.7		30.0	300	06.7		17.9
22	77	43.0	100	32.8		28.9	315	10.2		18.2
23	92	45.5	115	32.9		27.7	330	13.6		18.5
24	107	47.9	130	33.0	-10	26.6	345	17.1	+24	18.7
Dif	—		+1		+11		+35		+3	
							+27		0	
									+23	
									+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 06.8 ^m				Edad: 8.1 ^d SD: 16'1 PMG: 19 ^h 21 ^m PHE { 4 ^h : 59/2 12 ^h : 59/2 20 ^h : 59/2 R°: 57 ^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	178 21.1	-22 14.1	79 47.7	+14 15.8	103 48	148	60 N	15 17	16 12	17 08	10 58	3	2 34 110						
1	193 20.9	13.8	94 17.0	30.6	103 148	58	58	33	23 14	11 09	9	25 104							
2	208 20.6	13.4	108 46.3	45.4	102 147	56	56	46	32 20	18 14	17 98								
3	223 20.3	13.1	123 15.5	00.1	101 147	54	54	15 58	41 26	26 18	09 95								
4	238 20.1	12.7	137 44.6	14.8	100 145	52	52	16 08	48 31	33 22	2 03 91								
5	253 19.8	-22 12.4	152 13.6	29.3	99 145	50	50	16 17	16 55	17 36	11 40 24	1 57 88							
6	268 19.5	-22 12.0	166 42.5	43.8	99 144	45	45	16 36	17 10	17 46	11 55 30	1 44 82							
7	283 19.3	11.7	181 11.4	58.2	98 144	40	40	16 52	22 17	56 12	07 34 77								
8	298 19.0	11.4	195 40.2	12.5	97 143	35	35	17 05	33 18	04 17 38	25 73								
9	313 18.8	11.0	210 08.9	26.7	96 142	30	30	17	17 43	12 26	42 70								
10	328 18.5	10.7	224 37.5	40.8	95 141	20	20	37	18 00	28 42	47 1 04 63								
11	343 18.2	-22 10.3	239 06.0	54.8	94 140	10 N	10 N	17 54	18 17	18 43	12 56 51	0 52 59							
12	358 18.0	-22 10.0	253 34.5	08.8	93 140	0	0	18 11	18 33	18 59	13 09 56	0 42 54							
13	13 17.7	09.6	268 02.9	22.6	92 138	10 S	10 S	27	18 50	19 17	22 60	31 49							
14	28 17.5	09.3	282 31.1	36.3	92 137	20	20	18 45	19 09	19 38	36 65	19 45							
15	43 17.2	08.9	296 59.3	50.0	91 137	30	30	19 06	33 20	05 13 53	70 0 06 39								
16	58 16.9	08.6	311 27.4	03.5	91 135	35	35	18	19 47	23 14	02 74	** ** *							
17	73 16.7	-22 08.2	325 55.5	17.0	91 135	40	40	19 32	20 04	20 44	14 13 78	** ** *							
18	88 16.4	-22 07.9	340 23.4	30.3	89 133	45	45	19 48	20 25	21 12	14 26 83	** ** *							
19	103 16.2	07.5	354 51.2	43.5	88 131	50	50	20 09	20 52	21 53	42 89	23 48 28							
20	118 15.9	07.2	9 19.0	56.6	88 131	52	52	19	21 06	22 16	50 92	40 25							
21	133 15.6	06.8	23 46.7	09.7	87 131	54	54	30	22	22 48	14 58 96	31 21							
22	148 15.4	06.5	38 14.2	22.6	85 129	56	56	43	21 41	** ** *	15 08 100	21 16							
23	163 15.1	06.1	52 41.7	35.4	85 128	58	58	20 58	22 06	** ** *	19 105	23 09 11							
24	178 14.9	-22 05.8	67 09.1	48.0	84 126	60 S	60 S	21 16	22 40	** ** *	15 31 114	22 55 4							

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 46.0 ^m	Mag: -4.5 PMG: 15 ^h 18 ^m	Mag: -1.4 PMG: 0 ^h 59 ^m	Mag: -2.7 PMG: 21 ^h 30 ^m	Mag: +1.1 PMG: 15 ^h 55 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	107 47.9	130 33.0	-10 26.6	345 17.1	+24 18.7	36 39.1	+21 43.5	120 46.0	-7 41.1	
1	122 50.4	145 33.1	25.4	0 20.6	19.0	51 41.8	43.5	135 48.3	41.1	
2	137 52.9	160 33.2	24.3	15 24.1	19.3	66 44.5	43.4	150 50.5	41.0	
3	152 55.3	175 33.3	23.1	30 27.5	19.5	81 47.2	43.4	165 52.8	40.9	
4	167 57.8	190 33.4	22.0	45 31.0	19.8	96 49.9	43.4	180 55.1	40.8	
5	183 00.3	205 33.5	-10 20.8	60 34.5	+24 20.1	111 52.6	+21 43.4	195 57.4	-7 40.7	
6	198 02.7	220 33.6	-10 19.7	75 37.9	+24 20.3	126 55.3	+21 43.4	210 59.6	-7 40.6	
7	213 05.2	235 33.7	18.5	90 41.4	20.6	141 58.0	43.3	226 01.9	40.5	
8	228 07.7	250 33.9	17.4	105 44.9	20.9	157 00.7	43.3	241 04.2	40.5	
9	243 10.1	265 34.0	16.2	120 48.4	21.1	172 03.4	43.3	256 06.4	40.4	
10	258 12.6	280 34.1	15.1	135 51.8	21.4	187 06.1	43.3	271 08.7	40.3	
11	273 15.1	295 34.2	-10 13.9	150 55.3	+24 21.7	202 08.8	+21 43.3	286 11.0	-7 40.2	
12	288 17.5	310 34.3	-10 12.8	165 58.8	+24 21.9	217 11.5	+21 43.2	301 13.2	-7 40.1	
13	303 20.0	325 34.4	11.6	181 02.3	22.2	232 14.2	43.2	316 15.5	40.0	
14	318 22.4	340 34.5	10.5	196 05.8	22.5	247 16.8	43.2	331 17.8	39.9	
15	333 24.9	355 34.6	09.3	211 09.2	22.7	262 19.5	43.2	346 20.0	39.8	
16	348 27.4	10 34.7	08.2	226 12.7	23.0	277 22.2	43.2	1 22.3	39.8	
17	3 29.8	25 34.9	-10 07.0	241 16.2	+24 23.3	292 24.9	+21 43.1	16 24.6	-7 39.7	
18	18 32.3	40 35.0	-10 05.9	256 19.7	+24 23.5	307 27.6	+21 43.1	31 26.8	-7 39.6	
19	33 34.8	55 35.1	04.7	271 23.2	23.8	322 30.3	43.1	46 29.1	39.5	
20	48 37.2	70 35.2	03.6	286 26.6	24.1	337 33.0	43.1	61 31.4	39.4	
21	63 39.7	85 35.3	02.4	301 30.1	24.3	352 35.7	43.1	76 33.6	39.3	
22	78 42.2	100 35.4	01.2	316 33.6	24.6	7 38.4	43.1	91 35.9	39.2	
23	93 44.6	115 35.6	-10 00.1	331 37.1	24.9	22 41.1	43.0	106 38.2	39.1	
24	108 47.1	130 35.7	-9 58.9	346 40.6	+24 25.1	37 43.8	+21 43.0	121 40.4	-7 39.1	
Dif	—	+1	+12	+35	+3	+27	0	+23	+	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 07.2 ^m				Edad: 9.1 ^d PHE { 4 ^h : 59'2 12 ^h : 59'1 20 ^h : 59'1 R°: 59 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	14.9	-22	05.8	67	09.1	+19	48.0	126	60 N	7 06	8 01	8 55	11 00	6		4 23	113		
1	193	14.6		05.4	81	36.4	+20	00.6	125	58	6 59	7 50	40	16	15		4 07	104		
2	208	14.3		05.1	96	03.7		13.1	123	56	53	41	27	30	21		3 54	98		
3	223	14.1		04.7	110	30.8		25.4	123	54	48	33	15	42	25		43	93		
4	238	13.8		04.3	124	57.8		37.6	122	52	43	25	8 05	11 53	29		33	89		
5	253	13.6	-22	04.0	139	24.8	+20	49.7	121	50	6 38	7 19	7 56	12 03	31		3 24	86		
6	268	13.3	-22	03.6	153	51.6	+21	01.6	119	45	6 27	7 04	7 37	12 23	37		3 05	80		
7	283	13.1		03.3	168	18.4		13.5	119	40	18	6 52	22	40	41		2 49	76		
8	298	12.8		02.9	182	45.0		25.2	117	35	09	41	7 08	12 54	44		36	73		
9	313	12.5		02.5	197	11.6		36.8	116	30	6 01	31	6 57	13 06	47		25	70		
10	328	12.3		02.2	211	38.1		48.2	114	20	5 46	6 13	37	27	52		2 06	65		
11	343	12.0	-22	01.8	226	04.5	+21	59.5	113	10 N	5 31	5 57	6 20	13 46	55		1 50	60		
12	358	11.8	-22	01.5	240	30.8	+22	10.7	112	0	5 15	5 41	6 04	14 03	59		1 34	57		
13	13	11.5		01.1	254	57.0		21.8	111	10 S	4 57	24	5 47	21	61		19	52		
14	28	11.3		00.7	269	23.1		32.7	109	20	36	5 05	29	14	40	65	1 02	49		
15	43	11.0	-22	00.4	283	49.1		43.5	108	30	4 09	4 42	5 09	15 02	69		0 44	43		
16	58	10.8	-22	00.0	298	15.0	+22	54.1	106	35	3 51	27	4 57	14	73		33	40		
17	73	10.5	-21	59.6	312	40.9	+23	04.6	105	40	3 30	4 10	4 43	15 29	76		0 21	36		
18	88	10.2	-21	59.2	327	06.6	+23	15.0	104	45	3 02	3 49	4 26	15 47	80		0 06	32		
19	103	10.0		58.9	341	32.3		25.2	102	50	2 22	22	4 05	16 10	85	**	**	**		
20	118	09.7		58.5	355	57.9		35.2	100	52	1 59	3 09	3 55	20	88	**	**	**		
21	133	09.5		58.1	10	23.4		45.2	100	54	1 27	2 53	44	33	91		23	51	30	
22	148	09.2		57.8	24	48.8	+23	54.9	97	56	**	**	33	31	16	47	96	36	26	
23	163	09.0		57.4	39	14.1	+24	04.5	96	58	**	**	2 09	3 16	17	03	103	23	19	20
24	178	08.7	-21	57.0	53	39.3	+24	14.0	95	60 S	**	**	1 34	2 58	17	23	114	22	58	9
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 16 ^h 42.1 ^m		Mag: -4.5 PMG: 15 ^h 17 ^m		Mag: -1.4 PMG: 0 ^h 53 ^m		Mag: -2.7 PMG: 21 ^h 25 ^m		Mag: +1.1 PMG: 15 ^h 51 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	108	47.1	130	35.7	-9	58.9	346	40.6	+24	25.1	37	43.8	+21	43.0	121	40.4	-7	39.1		
1	123	49.6	145	35.8		57.8	1	44.1		25.4	52	46.5		43.0	136	42.7		39.0		
2	138	52.0	160	35.9		56.6	16	47.5		25.6	67	49.2		43.0	151	45.0		38.9		
3	153	54.5	175	36.1		55.5	31	51.0		25.9	82	51.9		43.0	166	47.2		38.8		
4	168	56.9	190	36.2		54.3	46	54.5		26.2	97	54.6		42.9	181	49.5		38.7		
5	183	59.4	205	36.3	-9	53.2	61	58.0	+24	26.4	112	57.3	+21	42.9	196	51.8	-7	38.6		
6	199	01.9	220	36.4	-9	52.0	77	01.5	+24	26.7	128	00.0	+21	42.9	211	54.0	-7	38.5		
7	214	04.3	235	36.6		50.8	92	05.0		27.0	143	02.7		42.9	226	56.3		38.4		
8	229	06.8	250	36.7		49.7	107	08.5		27.2	158	05.3		42.9	241	58.6		38.4		
9	244	09.3	265	36.8		48.5	122	12.0		27.5	173	08.0		42.8	257	00.8		38.3		
10	259	11.7	280	37.0		47.4	137	15.5		27.7	188	10.7		42.8	272	03.1		38.2		
11	274	14.2	295	37.1	-9	46.2	152	18.9	+24	28.0	203	13.4	+21	42.8	287	05.4	-7	38.1		
12	289	16.7	310	37.2	-9	45.0	167	22.4	+24	28.3	218	16.1	+21	42.8	302	07.6	-7	38.0		
13	304	19.1	325	37.4		43.9	182	25.9		28.5	233	18.8		42.8	317	09.9		37.9		
14	319	21.6	340	37.5		42.7	197	29.4		28.8	248	21.5		42.7	332	12.2		37.8		
15	334	24.1	355	37.6		41.6	212	32.9		29.1	263	24.2		42.7	347	14.4		37.7		
16	349	26.5	10	37.8		40.4	227	36.4		29.3	278	26.9		42.7	2	16.7		37.6		
17	4	29.0	25	37.9	-9	39.3	242	39.9	+24	29.6	293	29.6	+21	42.7	17	19.0	-7	37.6		
18	19	31.4	40	38.1	-9	38.1	257	43.4	+24	29.8	308	32.2	+21	42.7	32	21.2	-7	37.5		
19	34	33.9	55	38.2		36.9	272	46.9		30.1	323	34.9		42.7	47	23.5		37.4		
20	49	36.4	70	38.4		35.8	287	50.4		30.4	338	37.6		42.6	62	25.8		37.3		
21	64	38.8	85	38.5		34.6	302	53.9		30.6	353	40.3		42.6	77	28.0		37.2		
22	79	41.3	100	38.6		33.5	317	57.4		30.9	8	43.0		42.6	92	30.3		37.1		
23	94	43.8	115	38.8		32.3	333	00.9		31.1	23	45.7		42.6	107	32.5		37.0		
24	109	46.2	130	38.9	-9	31.1	348	04.4	+24	31.4	38	48.4	+21	42.6	122	34.8	-7	36.9		
Dif	—		+1		+12		+35		+3		+27		0		+23		+1			

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 07.6 ^m			Edad: 10.1 ^d SD: 16'1 PMG: 21 ^h 16 ^m PHE { 4 ^h : 59'0 12 ^h : 59'0 20 ^h : 58'9 R°: 63 ^m														
	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	178	08.7	-21	57.0	53	39.3	62	+24	14.0	93	60 N	15 21	16 16	17 11	11 06	20	6 16 109	
1	193	08.5		56.6	68	04.5	60		23.3	92	58	37	26	17	31 31		5 51 99	
2	208	08.2		56.3	82	29.5	60		32.5	90	56	15 50	35	23	11 51 36		32 92	
3	223	08.0		55.9	96	54.5	59		41.5	88	54	16 01	43	28	12 07 41		16 88	
4	238	07.7		55.5	111	19.4	58		50.3	87	52	11	51	33	22 43		5 02 85	
5	253	07.5	-21	55.1	125	44.2	58	+24	59.0	87	50	16 20	16 57	17 38	12 34 46		4 50 83	
6	268	07.2	-21	54.8	140	09.0	58	+25	07.5	85	45	16 39	17 12	17 48	13 00 49		4 25 78	
7	283	07.0		54.4	154	33.6	56		15.9	84	40	16 54	24	17 58	21 52		4 05 75	
8	298	06.7		54.0	168	58.2	56		24.1	82	35	17 07	35	18 06	38 54		3 49 72	
9	313	06.5		53.6	183	22.7	55		32.1	80	30	18	17 44	14	13 53 56		35 70	
10	328	06.2		53.3	197	47.1	54		40.0	79	20	38	18 02	29	14 19 58		3 11 66	
11	343	06.0	-21	52.9	212	11.5	54	+25	47.7	77	10 N	17 55	18 18	18 44	14 41 60		2 50 64	
12	358	05.7	-21	52.5	226	35.8	53	+25	55.2	75	0	18 11	18 34	19 00	15 02 62		2 31 61	
13	13	05.5		52.1	241	00.0	52	+26	02.6	74	10 S	28	18 50	17	22 65		2 11 59	
14	28	05.2		51.7	255	24.1	51		09.8	72	20	18 45	19 09	19 38	15 45 66		1 51 55	
15	43	05.0		51.3	269	48.2	51		16.8	70	30	19 05	32	20 05	16 11 68		27 52	
16	58	04.7		51.0	284	12.2	50		23.7	69	35	17	19 47	22	27 69		1 13 50	
17	73	04.5	-21	50.6	298	36.1	49	+26	30.4	67	40	19 31	20 03	20 43	16 45 71		0 57 47	
18	88	04.2	-21	50.2	313	00.0	49	+26	36.9	65	45	19 48	20 24	21 11	17 07 73		0 38 44	
19	103	04.0		49.8	327	23.8	48		43.2	63	50	20 08	20 51	21 50	35 76		15 38	
20	118	03.7		49.4	341	47.6	48		49.3	61	52	18	21 04	22 12	17 48 79		0 03 36	
21	133	03.5		49.0	356	11.3	47	+26	55.3	60	54	29	20	22 43	18 04 81	** ** *	** ** *	
22	148	03.2		48.6	10	35.0	47	+27	01.1	58	56	41	21 38	** **	23 84	** ** *	** ** *	
23	163	03.0		48.2	24	58.6	46		06.7	56	58	20 56	22 02	** **	18 46 89	23 39 42	** ** *	
24	178	02.8	-21	47.8	39	22.1	45	+27	12.1	54	60 S	21 14	22 34	** **	19 17 100	23 07 32	** ** *	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 16 ^h 38.2 ^m		Mag: -4.5 PMG: 15 ^h 17 ^m			Mag: -1.4 PMG: 0 ^h 48 ^m			Mag: -2.7 PMG: 21 ^h 21 ^m			Mag: +1.1 PMG: 15 ^h 47 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	109	46.2	130	38.9	-9	31.1	348	04.4	+24	31.4	38	48.4	+21	42.6	122	34.8	-7	36.9
1	124	48.7	145	39.1		30.0	3	07.9		31.7	53	51.1		42.5	137	37.1		36.8
2	139	51.2	160	39.2		28.8	18	11.4		31.9	68	53.7		42.5	152	39.3		36.8
3	154	53.6	175	39.4		27.6	33	14.9		32.2	83	56.4		42.5	167	41.6		36.7
4	169	56.1	190	39.5		26.5	48	18.4		32.4	98	59.1		42.5	182	43.9		36.6
5	184	58.5	205	39.7	-9	25.3	63	21.9	+24	32.7	114	01.8	+21	42.5	197	46.1	-7	36.5
6	200	01.0	220	39.8	-9	24.2	78	25.4	+24	33.0	129	04.5	+21	42.5	212	48.4	-7	36.4
7	215	03.5	235	40.0		23.0	93	28.9		33.2	144	07.2		42.4	227	50.7		36.3
8	230	05.9	250	40.1		21.8	108	32.4		33.5	159	09.8		42.4	242	52.9		36.2
9	245	08.4	265	40.3		20.7	123	35.9		33.7	174	12.5		42.4	257	55.2		36.1
10	260	10.9	280	40.5		19.5	138	39.4		34.0	189	15.2		42.4	272	57.4		36.0
11	275	13.3	295	40.6	-9	18.3	153	42.9	+24	34.2	204	17.9	+21	42.4	287	59.7	-7	36.0
12	290	15.8	310	40.8	-9	17.2	168	46.4	+24	34.5	219	20.6	+21	42.3	303	02.0	-7	35.9
13	305	18.3	325	40.9		16.0	183	49.9		34.8	234	23.3		42.3	318	04.2		35.8
14	320	20.7	340	41.1		14.9	198	53.4		35.0	249	25.9		42.3	333	06.5		35.7
15	335	23.2	355	41.3		13.7	213	56.9		35.3	264	28.6		42.3	348	08.8		35.6
16	350	25.7	10	41.4		12.5	229	00.4		35.5	279	31.3		42.3	3	11.0		35.5
17	5	28.1	25	41.6	-9	11.4	244	03.9	+24	35.8	294	34.0	+21	42.3	18	13.3	-7	35.4
18	20	30.6	40	41.8	-9	10.2	259	07.4	+24	36.0	309	36.7	+21	42.2	33	15.5	-7	35.3
19	35	33.0	55	41.9		09.0	274	11.0		36.3	324	39.3		42.2	48	17.8		35.2
20	50	35.5	70	42.1		07.9	289	14.5		36.6	339	42.0		42.2	63	20.1		35.2
21	65	38.0	85	42.3		06.7	304	18.0		36.8	354	44.7		42.2	78	22.3		35.1
22	80	40.4	100	42.4		05.5	319	21.5		37.1	9	47.4		42.2	93	24.6		35.0
23	95	42.9	115	42.6		04.4	334	25.0		37.3	24	50.1		42.2	108	26.9		34.9
24	110	45.4	130	42.8	-9	03.2	349	28.5	+24	37.6	39	52.7	+21	42.1	123	29.1	-7	34.8
Dif	—		+2		+12		+35		+3		+27		0		+23		+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 08.0 ^m			Edad: 11.1 ^d PHE { 4 ^h : 58'8 12 ^h : 58'7 20 ^h : 58'5 R°: 61 ^m														
	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	02.8	-21	47.8	39	22.1	45	+27	12.1	53	60 N	7 04	7 59	8 53	11 25	53	8 03	77
1	193	02.5		47.5	53	45.6	45		17.4	51	58	6 58	49	38	12 00	57	7 28	73
2	208	02.3		47.1	68	09.1	44		22.5	48	56	52	40	25	26	58	7 03	71
3	223	02.0		46.7	82	32.5	44		27.3	47	54	47	32	14	12 46	59	6 43	69
4	238	01.8		46.3	96	55.8	43		32.0	46	52	42	24	8 04	13 03	60	26	68
5	253	01.5	-21	45.9	111	19.2	44	+27	36.6	47	50	6 37	7 18	7 55	13 18	60	6 11	68
6	268	01.3	-21	45.5	125	42.4	42	+27	40.9	43	45	6 27	7 03	7 36	13 48	61	5 42	66
7	283	01.0		45.1	140	05.7	43		45.0	41	40	18	6 51	21	14 12	60	19	66
8	298	00.8		44.7	154	28.9	42		49.0	40	35	09	41	7 08	31	61	5 00	65
9	313	00.5		44.3	168	52.1	42		52.8	38	30	6 01	31	6 57	14 47	62	4 43	65
10	328	00.3		43.9	183	15.3	42		56.4	36	20	5 47	6 14	37	15 16	61	4 16	63
11	343	00.1	-21	43.5	197	38.4	41	+27	59.8	34	10 N	5 32	5 58	6 20	15 40	61	3 52	63
12	357	59.8	-21	43.1	212	01.5	41	+28	03.0	32	0	5 16	5 42	6 04	16 03	61	3 30	62
13	12	59.6		42.7	226	24.6	41		06.0	30	10 S	4 59	25	5 48	25	62	3 08	61
14	27	59.3		42.3	240	47.7	40		08.8	28	20	38	5 06	31	16 50	61	2 45	59
15	42	59.1		41.9	255	10.7	40		11.5	27	30	4 11	4 43	5 10	17 18	61	18	58
16	57	58.8		41.5	269	33.8	41		13.9	24	35	3 54	29	4 58	35	61	2 02	57
17	72	58.6	-21	41.1	283	56.8	40	+28	16.2	23	40	3 32	4 13	4 45	17 55	60	1 43	56
18	87	58.4	-21	40.7	298	19.8	40	+28	18.2	20	45	3 05	3 52	4 28	18 19	60	1 20	55
19	102	58.1		40.3	312	42.8	40		20.1	19	50	2 26	25	4 08	18 50	59	0 52	51
20	117	57.9		39.9	327	05.8	40		21.8	17	52	2 04	3 12	3 58	19 05	59	38	50
21	132	57.6		39.5	341	28.8	40		23.3	15	54	1 33	2 56	47	24	58	21	49
22	147	57.4		39.1	355	51.9	41		24.6	13	56	0 35	38	35	19 46	57	0 02	46
23	162	57.2		38.7	10	14.9	40		25.7	11	58	** **	2 14	20	20 14	55	** **	**
24	177	56.9	-21	38.2	24	37.9	40	+28	26.7	10	60 S	** **	1 42	3 03	20 55	51	23 38	20
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 16 ^h 34.3 ^m		Mag: -4.5 PMG: 15 ^h 17 ^m			Mag: -1.5 PMG: 0 ^h 42 ^m			Mag: -2.7 PMG: 21 ^h 17 ^m			Mag: +1.1 PMG: 15 ^h 44 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	110	45.4	130	42.8	-9	03.2	349	28.5	+24	37.6	39	52.7	+21	42.1	123	29.1	-7	34.8
1	125	47.8	145	42.9		02.0	4	32.0		37.8	54	55.4		42.1	138	31.4		34.7
2	140	50.3	160	43.1	-9	00.9	19	35.5		38.1	69	58.1		42.1	153	33.6		34.6
3	155	52.8	175	43.3	-8	59.7	34	39.0		38.3	85	00.8		42.1	168	35.9		34.5
4	170	55.2	190	43.5		58.5	49	42.5		38.6	100	03.5		42.1	183	38.2		34.4
5	185	57.7	205	43.6	-8	57.4	64	46.1	+24	38.9	115	06.1	+21	42.1	198	40.4	-7	34.3
6	201	00.2	220	43.8	-8	56.2	79	49.6	+24	39.1	130	08.8	+21	42.0	213	42.7	-7	34.3
7	216	02.6	235	44.0		55.0	94	53.1		39.4	145	11.5		42.0	228	44.9		34.2
8	231	05.1	250	44.2		53.9	109	56.6		39.6	160	14.2		42.0	243	47.2		34.1
9	246	07.5	265	44.4		52.7	125	00.1		39.9	175	16.8		42.0	258	49.5		34.0
10	261	10.0	280	44.5		51.5	140	03.6		40.1	190	19.5		42.0	273	51.7		33.9
11	276	12.5	295	44.7	-8	50.4	155	07.1	+24	40.4	205	22.2	+21	42.0	288	54.0	-7	33.8
12	291	14.9	310	44.9	-8	49.2	170	10.7	+24	40.6	220	24.9	+21	41.9	303	56.2	-7	33.7
13	306	17.4	325	45.1		48.0	185	14.2		40.9	235	27.5		41.9	318	58.5		33.6
14	321	19.9	340	45.3		46.9	200	17.7		41.1	250	30.2		41.9	334	00.8		33.5
15	336	22.3	355	45.5		45.7	215	21.2		41.4	265	32.9		41.9	349	03.0		33.4
16	351	24.8	10	45.6		44.5	230	24.7		41.6	280	35.6		41.9	4	05.3		33.3
17	6	27.3	25	45.8	-8	43.4	245	28.2	+24	41.9	295	38.2	+21	41.9	19	07.5	-7	33.3
18	21	29.7	40	46.0	-8	42.2	260	31.8	+24	42.1	310	40.9	+21	41.8	34	09.8	-7	33.2
19	36	32.2	55	46.2		41.0	275	35.3		42.4	325	43.6		41.8	49	12.1		33.1
20	51	34.7	70	46.4		39.8	290	38.8		42.6	340	46.2		41.8	64	14.3		33.0
21	66	37.1	85	46.6		38.7	305	42.3		42.9	355	48.9		41.8	79	16.6		32.9
22	81	39.6	100	46.8		37.5	320	45.8		43.1	10	51.6		41.8	94	18.8		32.8
23	96	42.0	115	47.0		36.3	335	49.3		43.4	25	54.3		41.8	109	21.1		32.7
24	111	44.5	130	47.2	-8	35.2	350	52.9	+24	43.6	40	56.9	+21	41.7	124	23.4	-7	32.6
Dif	—		+2		+12		+35		+3		+27		0		+23		+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 3 PMG: 12 ^h 08.4 ^m		Edad: 12.1 ^d SD: 15 ^h 9 PMG: 23 ^h 18 ^m						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	h m
0	177 56.9	-21 38.2	24 37.9	+28 26.7	7 40	60 N	15 26	16 19	17 14	12 18	95	9 20	33		
1	192 56.7	37.8	39 00.9	40 27.4	5 41	58	40	29	20	12 57	85	8 41	42		
2	207 56.4	37.4	53 24.0	41 27.9	4 41	56	15 53	38	26	13 24	81	8 14	46		
3	222 56.2	37.0	67 47.1	41 28.3	4 41	54	16 04	46	31	13 45	78	7 52	49		
4	237 56.0	36.6	82 10.1	40 28.5	2 40	52	14	16 53	36	14 03	76	34	51		
5	252 55.7	-21 36.2	96 33.3	+28 28.5	0 42	50	16 23	17 00	17 40	14 18	75	7 19	52		
6	267 55.5	-21 35.8	110 56.4	+28 28.2	3 41	45	16 41	17 14	17 51	14 49	71	6 48	55		
7	282 55.3	35.4	125 19.5	41 27.8	4 41	40	16 56	26	18 00	15 12	70	25	56		
8	297 55.0	35.0	139 42.7	42 27.3	5 42	35	17 09	37	08	32	68	6 05	57		
9	312 54.8	34.5	154 05.9	42 26.5	8 42	30	20	17 46	15	15 49	66	5 48	58		
10	327 54.5	34.1	168 29.2	43 25.5	10 43	20	39	18 03	30	16 17	64	5 19	60		
11	342 54.3	-21 33.7	182 52.5	+28 24.4	11 43	10 N	17 56	18 19	18 45	16 41	63	4 55	61		
12	357 54.1	-21 33.3	197 15.8	+28 23.0	14 44	0	18 12	18 34	19 00	17 04	60	4 32	62		
13	12 53.8	32.9	211 39.2	15 21.5	15 44	10 S	28	18 51	17	27 58	4	4 09	63		
14	27 53.6	32.5	226 02.6	17 19.8	17 44	20	18 45	19 09	19 38	17 51	56	3 44	64		
15	42 53.4	32.0	240 26.0	19 17.9	19 44	30	19 05	32	20 05	18 19	54	3 16	65		
16	57 53.1	31.6	254 49.5	21 15.8	21 45	35	17	19 46	22	36 52	2	2 59	65		
17	72 52.9	-21 31.2	269 13.1	+28 13.6	22 46	40	19 31	20 03	20 42	18 55	51	2 39	66		
18	87 52.7	-21 30.8	283 36.7	+28 11.1	25 47	45	19 47	20 23	21 09	19 19	48	2 15	67		
19	102 52.4	30.4	298 00.4	26 08.5	26 47	50	20 07	20 49	21 48	19 49	44	1 43	69		
20	117 52.2	29.9	312 24.1	28 05.7	28 47	52	16	21 02	22 09	20 04	42	28	69		
21	132 51.9	29.5	326 47.9	+28 02.7	30 48	54	27	17	22 37	22 39	1	10 70			
22	147 51.7	29.1	341 11.7	+27 59.6	31 48	56	39	35	23 26	20 43	35	0 48	71		
23	162 51.5	28.7	355 35.7	34 56.2	34 50	58	20 54	21 58	** **	21 09	29	0 19	74		
24	177 51.2	-21 28.2	9 59.6	+27 52.7	35 49	60 S	21 11	22 29	** **	21 46	18	23 58	**		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 30.3 ^m		Mag: -4.5 PMG: 15 ^h 17 ^m		Mag: -1.5 PMG: 0 ^h 36 ^m		Mag: -2.7 PMG: 21 ^h 12 ^m		Mag: +1.1 PMG: 15 ^h 40 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	111 44.5	130 47.2	-8 35.2	350 52.9	+24 43.6	40 56.9	+21 41.7	124 23.4	-7 32.6	
1	126 47.0	145 47.4	34.0	5 56.4	43.9	55 59.6	41.7	139 25.6	32.5	
2	141 49.4	160 47.6	32.8	20 59.9	44.1	71 02.3	41.7	154 27.9	32.4	
3	156 51.9	175 47.8	31.7	36 03.4	44.4	86 04.9	41.7	169 30.1	32.3	
4	171 54.4	190 48.0	30.5	51 06.9	44.6	101 07.6	41.7	184 32.4	32.3	
5	186 56.8	205 48.2	-8 29.3	66 10.5	+24 44.9	116 10.3	+21 41.7	199 34.6	-7 32.2	
6	201 59.3	220 48.4	-8 28.1	81 14.0	+24 45.1	131 12.9	+21 41.6	214 36.9	-7 32.1	
7	217 01.8	235 48.6	27.0	96 17.5	45.4	146 15.6	41.6	229 39.2	32.0	
8	232 04.2	250 48.8	25.8	111 21.0	45.6	161 18.3	41.6	244 41.4	31.9	
9	247 06.7	265 49.0	24.6	126 24.6	45.9	176 21.0	41.6	259 43.7	31.8	
10	262 09.2	280 49.2	23.5	141 28.1	46.1	191 23.6	41.6	274 45.9	31.7	
11	277 11.6	295 49.4	-8 22.3	156 31.6	+24 46.4	206 26.3	+21 41.6	289 48.2	-7 31.6	
12	292 14.1	310 49.6	-8 21.1	171 35.1	+24 46.6	221 29.0	+21 41.5	304 50.4	-7 31.5	
13	307 16.5	325 49.8	19.9	186 38.7	46.9	236 31.6	41.5	319 52.7	31.4	
14	322 19.0	340 50.0	18.8	201 42.2	47.1	251 34.3	41.5	334 55.0	31.3	
15	337 21.5	355 50.3	17.6	216 45.7	47.4	266 37.0	41.5	349 57.2	31.3	
16	352 23.9	10 50.5	16.4	231 49.2	47.6	281 39.6	41.5	4 59.5	31.2	
17	7 26.4	25 50.7	-8 15.3	246 52.8	+24 47.8	296 42.3	+21 41.5	20 01.7	-7 31.1	
18	22 28.9	40 50.9	-8 14.1	261 56.3	+24 48.1	311 44.9	+21 41.4	35 04.0	-7 31.0	
19	37 31.3	55 51.1	12.9	276 59.8	48.3	326 47.6	41.4	50 06.2	30.9	
20	52 33.8	70 51.3	11.7	292 03.3	48.6	341 50.3	41.4	65 08.5	30.8	
21	67 36.3	85 51.6	10.6	307 06.9	48.8	356 52.9	41.4	80 10.8	30.7	
22	82 38.7	100 51.8	09.4	322 10.4	49.1	11 55.6	41.4	95 13.0	30.6	
23	97 41.2	115 52.0	08.2	337 13.9	49.3	26 58.3	41.4	110 15.3	30.5	
24	112 43.7	130 52.2	-8 07.0	352 17.4	+24 49.6	42 00.9	+21 41.4	125 17.5	-7 30.4	
Dif	—	+2	+12	+35	+2	+27	0	+23	+1	

UT	SOL				☾ LUNA								Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h 3 PMG: 12 ^h 08.8 ^m				Edad: 13.1 ^d PHE { 4 ^h : 57/9 12 ^h : 57/7 20 ^h : 57/5 PMG: **h **m R°: **m																	
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	177	51.2	-21	28.2	9	59.6	51		+27	52.7	37		60 N	7 03	7 57	8 50	13 52	105	9 51	11		
1	192	51.0		27.8	24	23.7	51			49.0	38		58	6 56	47	36	14 21	96	9 22	19		
2	207	50.8		27.4	38	47.8	52			45.2	41		56	51	38	23	14 44	90	8 59	25		
3	222	50.5		27.0	53	12.0	53			41.1	42		54	46	30	12	15 02	86	40	30		
4	237	50.3		26.5	67	36.3	53			36.9	44		52	41	23	8 03	18 82		24	33		
5	252	50.1	-21	26.1	82	00.6	53			+27	32.5	45	50	6 36	7 17	7 54	15 31	80	8 10	36		
6	267	49.9	-21	25.7	96	25.1	55			+27	28.0	45	45	6 26	7 03	7 36	15 59	74	7 42	40		
7	282	49.6		25.2	110	49.6	55			23.3	47		40	17	6 51	21	16 20	71	20	43		
8	297	49.4		24.8	125	14.2	56			18.4	49		35	09	40	7 08	38 68		7 01	46		
9	312	49.2		24.4	139	38.9	57			13.3	51		30	6 01	31	6 57	16 54	65	6 45	49		
10	327	48.9		23.9	154	03.6	57			08.1	52		20	5 47	6 14	38	17 20	61	6 18	52		
11	342	48.7	-21	23.5	168	28.5	59			+27	02.7	54	10 N	5 32	5 58	6 21	17 42	58	5 55	54		
12	357	48.5	-21	23.1	182	53.4	59			+26	57.2	55	0	5 17	5 43	6 05	18 03	55	5 33	57		
13	12	48.2		22.6	197	18.5	61			51.5	57		10 S	5 00	26	5 49	24 52		5 11	59		
14	27	48.0		22.2	211	43.6	61			45.6	59		20	4 39	5 08	32	18 46	48	4 47	63		
15	42	47.8		21.8	226	08.8	62			39.6	60		30	4 13	4 45	12	19 12	44	19	66		
16	57	47.6		21.3	240	34.2	64			33.4	62		35	3 56	31	5 00	27 42		4 03	68		
17	72	47.3	-21	20.9	254	59.6	64			+26	27.1	63	40	3 35	4 15	4 47	19 44	39	3 44	70		
18	87	47.1	-21	20.5	269	25.1	65			+26	20.6	65	45	3 08	3 55	4 31	20 05	35	3 21	73		
19	102	46.9		20.0	283	50.7	66			13.9	67		50	2 30	29	11	32 29		2 51	77		
20	117	46.6		19.6	298	16.4	67			07.2	67		52	2 09	16	4 01	45 26		36	80		
21	132	46.4		19.1	312	42.3	69			+26	00.2	70	54	1 40	3 00	3 50	20 59	23	2 19	83		
22	147	46.2		18.7	327	08.2	69			+25	53.1	71	56	0 52	2 42	38	21 16	19	1 58	87		
23	162	46.0		18.2	341	34.2	70			45.9	72		58	** **	2 20	24	21 37	13	1 32	93		
24	177	45.7	-21	17.8	356	00.4	72			+25	38.5	74	60 S	** **	1 49	3 07	22 02	5	0 55	105		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 ^h 26.4 ^m		Mag: -4.6 PMG: 15 ^h 16 ^m		Mag: -1.5 PMG: 0 ^h 31 ^m		Mag: -2.7 PMG: 21 ^h 08 ^m		Mag: +1.1 PMG: 15 ^h 36 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	112	43.7	130	52.2	-8	07.0	352	17.4	+24	49.6
1	127	46.1	145	52.4		05.9	7	21.0		49.8
2	142	48.6	160	52.7		04.7	22	24.5		50.0
3	157	51.0	175	52.9		03.5	37	28.0		50.3
4	172	53.5	190	53.1		02.3	52	31.6		50.5
5	187	56.0	205	53.3	-8	01.2	67	35.1	+24	50.8
6	202	58.4	220	53.6	-8	00.0	82	38.6	+24	51.0
7	218	00.9	235	53.8	-7	58.8	97	42.1		51.3
8	233	03.4	250	54.0		57.7	112	45.7		51.5
9	248	05.8	265	54.3		56.5	127	49.2		51.7
10	263	08.3	280	54.5		55.3	142	52.7		52.0
11	278	10.8	295	54.7	-7	54.1	157	56.3	+24	52.2
12	293	13.2	310	55.0	-7	53.0	172	59.8	+24	52.5
13	308	15.7	325	55.2		51.8	188	03.3		52.7
14	323	18.2	340	55.4		50.6	203	06.8		52.9
15	338	20.6	355	55.7		49.4	218	10.4		53.2
16	353	23.1	10	55.9		48.2	233	13.9		53.4
17	8	25.5	25	56.1	-7	47.1	248	17.4	+24	53.7
18	23	28.0	40	56.4	-7	45.9	263	21.0	+24	53.9
19	38	30.5	55	56.6		44.7	278	24.5		54.1
20	53	32.9	70	56.9		43.5	293	28.0		54.4
21	68	35.4	85	57.1		42.4	308	31.6		54.6
22	83	37.9	100	57.4		41.2	323	35.1		54.9
23	98	40.3	115	57.6		40.0	338	38.6		55.1
24	113	42.8	130	57.8	-7	38.8	353	42.2	+24	55.3
Dif	—		+2		+12		+35		+2	
							+27		0	
									+23	
									+1	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna											
	SD: 16'3 PMG: 12 ^h 09.1 ^m			Edad: 14.1 ^d PHE { 4 ^h : 57/4 12 ^h : 57/2 20 ^h : 56/9 PMG: 0 ^h 17 ^m R°: 55 ^m																							
	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	177	45.7	-21	17.8	356	00.4	72	+25	38.5	75	60 N	15 30	16 23	17 17	15 37	104	10 02	5									
1	192	45.5		17.4	10	26.6	74		31.0	77	58	44	33	23	15 57	97	9 41	12									
2	207	45.3		16.9	24	53.0	74		23.3	78	56	15 57	41	29	16 14	91	24	17									
3	222	45.1		16.5	39	19.4	76		15.5	79	54	16 07	49	34	28	87	9 10	20									
4	237	44.8		16.0	53	46.0	77	+25	07.6	81	52	17	16 56	39	40	84	8 57	24									
5	252	44.6	-21	15.6	68	12.7	77	+24	59.5	81	50	16 25	17 02	17 43	16 51	81	8 46	26									
6	267	44.4	-21	15.1	82	39.5	78	+24	51.3	82	45	16 44	17 16	17 53	17 13	76	8 22	32									
7	282	44.2		14.7	97	06.4	80		42.9	84	40	16 58	28	18 01	31	71	8 03	36									
8	297	43.9		14.2	111	33.4	81		34.4	85	35	17 11	38	09	46	68	7 47	40									
9	312	43.7		13.8	126	00.5	81		25.8	86	30	22	17 48	17	17 59	65	34	41									
10	327	43.5		13.3	140	27.7	82		17.1	87	20	41	18 04	31	18 21	60	7 10	46									
11	342	43.3	-21	12.9	154	55.1	84	+24	08.2	89	10 N	17 57	18 20	18 46	18 40	55	6 49	51									
12	357	43.0	-21	12.4	169	22.6	85	+23	59.2	90	0	18 13	18 35	19 01	18 58	51	6 30	54									
13	12	42.8		12.0	183	50.1	85		50.1	91	10 S	29	18 51	18	19 16	47	6 10	58									
14	27	42.6		11.5	198	17.8	87		40.8	93	20	18 45	19 10	19 38	34	44	5 50	61									
15	42	42.4		11.1	212	45.7	89		31.5	93	30	19 05	32	20 04	19 56	38	25	66									
16	57	42.1		10.6	227	13.6	89		22.0	95	35	17	19 45	21	20 09	35	5 11	68									
17	72	41.9	-21	10.2	241	41.6	90	+23	12.4	96	40	19 30	20 02	20 41	20 23	32	4 54	72									
18	87	41.7	-21	09.7	256	09.8	92	+23	02.7	97	45	19 46	20 21	21 08	20 40	28	4 34	76									
19	102	41.5		09.3	270	38.0	92	+22	52.8	99	50	20 05	20 47	21 45	21 01	23	4 08	82									
20	117	41.3		08.8	285	06.4	94		42.9	99	52	15	21 00	22 05	11	20	3 56	85									
21	132	41.0		08.3	299	34.9	95		32.8	101	54	25	14	22 32	22	17	42	88									
22	147	40.8		07.9	314	03.5	96		22.7	101	56	37	32	23 14	35	13	25	93									
23	162	40.6		07.4	328	32.3	98		12.4	103	58	20 51	21 54	** **	21 50	8	3 05	99									
24	177	40.4	-21	07.0	343	01.1	98	+22	02.0	104	60 S	21 07	22 23	** **	22 07	3	2 40	108									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG 16 ^h 22.5 ^m			Mag: -4.6 PMG: 15 ^h 16 ^m			Mag: -1.5 PMG: 0 ^h 25 ^m			Mag: -2.7 PMG: 21 ^h 04 ^m			Mag: +1.1 PMG: 15 ^h 33 ^m														
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec												
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /												
0	113	42.8	130	57.8	-7	38.8	353	42.2	+24	55.3	43	04.7	+21	41.0	126	11.6	-7	28.2									
1	128	45.3	145	58.1		37.7	8	45.7		55.6	58	07.4		41.0	141	13.9		28.1									
2	143	47.7	160	58.3		36.5	23	49.2		55.8	73	10.0		41.0	156	16.1		28.0									
3	158	50.2	175	58.6		35.3	38	52.8		56.0	88	12.7		40.9	171	18.4		27.9									
4	173	52.7	190	58.8		34.1	53	56.3		56.3	103	15.4		40.9	186	20.7		27.8									
5	188	55.1	205	59.1	-7	33.0	68	59.8	+24	56.5	118	18.0	+21	40.9	201	22.9	-7	27.7									
6	203	57.6	220	59.4	-7	31.8	84	03.4	+24	56.8	133	20.7	+21	40.9	216	25.2	-7	27.6									
7	219	00.0	235	59.6		30.6	99	06.9		57.0	148	23.3		40.9	231	27.4		27.6									
8	234	02.5	250	59.9		29.4	114	10.4		57.2	163	26.0		40.9	246	29.7		27.5									
9	249	05.0	266	00.1		28.2	129	14.0		57.5	178	28.6		40.9	261	31.9		27.4									
10	264	07.4	281	00.4		27.1	144	17.5		57.7	193	31.3		40.8	276	34.2		27.3									
11	279	09.9	296	00.6	-7	25.9	159	21.0	+24	57.9	208	33.9	+21	40.8	291	36.4	-7	27.2									
12	294	12.4	311	00.9	-7	24.7	174	24.6	+24	58.2	223	36.6	+21	40.8	306	38.7	-7	27.1									
13	309	14.8	326	01.2		23.5	189	28.1		58.4	238	39.2		40.8	321	40.9		27.0									
14	324	17.3	341	01.4		22.4	204	31.6		58.6	253	41.9		40.8	336	43.2		26.9									
15	339	19.8	356	01.7		21.2	219	35.2		58.9	268	44.5		40.8	351	45.4		26.8									
16	354	22.2	11	01.9		20.0	234	38.7		59.1	283	47.2		40.8	6	47.7		26.7									
17	9	24.7	26	02.2	-7	18.8	249	42.3	+24	59.3	298	49.8	+21	40.7	21	49.9	-7	26.6									
18	24	27.1	41	02.5	-7	17.6	264	45.8	+24	59.6	313	52.5	+21	40.7	36	52.2	-7	26.5									
19	39	29.6	56	02.7		16.5	279	49.3	+24	59.8	328	55.1		40.7	51	54.4		26.4									
20	54	32.1	71	03.0		15.3	294	52.9	+25	00.0	343	57.8		40.7	66	56.7		26.3									
21	69	34.5	86	03.3		14.1	309	56.4	+25	00.3	359	00.4		40.7	81	58.9		26.2									
22	84	37.0	101	03.5		12.9	324	59.9		00.5	14	03.1		40.7	97	01.2		26.1									
23	99	39.5	116	03.8		11.8	340	03.5		00.7	29	05.7		40.7	112	03.4		26.1									
24	114	41.9	131	04.1	-7	10.6	355	07.0	+25	01.0	44	08.3	+21	40.7	127	05.7	-7	26.0									
Dif	—			+3			+12			+35			+2			+27			0			+23			+1		

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16'3 PMG: 12 ^h 09.5 ^m				Edad: 15.1 ^d PHE { 4 ^h : 56'7 12 ^h : 56'5 20 ^h : 56'3 PMG: 1 ^h 10 ^m R°: 49 ^m																	
	hG ☉	Dec			hG ☾	Dif			Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	
0	177	40.4	-21	07.0	343	01.1	+22	02.0	105	60 N	7	01	7	55	8	47	17	20	95	10	05	1
1	192	40.2		06.5	357	30.1	+21	51.5	106	58	6	55	45	33	33	90	9	51	6			6
2	207	39.9		06.0	11	59.1		40.9	106	56	49	36	21	44	86		39	10				10
3	222	39.7		05.6	26	28.3		30.3	106	54	44	29	10	17	54	82	29	13				13
4	237	39.5		05.1	40	57.6		19.5	108	52	40	22	8	01	18	03	79	19	16			16
5	252	39.3	-21	04.7	55	27.0	+21	08.6	109	50	6	35	7	16	7	52	18	11	76	9	11	18
6	267	39.1	-21	04.2	69	56.6	+20	57.6	110	45	6	25	7	02	7	35	18	27	71	8	53	23
7	282	38.8		03.7	84	26.2		46.5	111	40	17	6	50	20	41	66	38	28				28
8	297	38.6		03.3	98	56.0		35.4	111	35	09	40	7	07	18	52	63	25	32			32
9	312	38.4		02.8	113	25.8		24.1	113	30	6	01	31	6	57	19	02	60	8	14	34	34
10	327	38.2		02.3	127	55.8		12.8	113	20	5	47	6	14	38	19	55	7	55	39		39
11	342	38.0	-21	01.9	142	25.9	+20	01.3	115	10 N	5	33	5	59	6	21	19	34	50	7	38	44
12	357	37.8	-21	01.4	156	56.1	+19	49.8	115	0	5	18	5	44	6	06	19	48	46	7	22	48
13	12	37.5		00.9	171	26.4		38.2	116	10 S	5	01	28	5	50	20	02	41	7	07	52	
14	27	37.3	-21	00.5	185	56.8		26.5	117	20	4	41	5	09	33	16	37	6	50	56		
15	42	37.1	-21	00.0	200	27.4		14.7	118	30	4	15	4	47	14	33	32	30	61			
16	57	36.9	-20	59.5	214	58.0	+19	02.9	118	35	3	58	33	5	02	43	29	18	65			
17	72	36.7	-20	59.0	229	28.7	+18	50.9	120	40	3	38	4	17	4	49	20	54	25	6	05	68
18	87	36.5	-20	58.6	243	59.6	+18	38.9	120	45	3	11	3	58	4	33	21	07	21	5	49	73
19	102	36.3		58.1	258	30.6		26.8	121	50	2	34	32	14	22	16	29	79				
20	117	36.0		57.6	273	01.6		14.7	121	52	2	14	19	4	04	30	13	20	81			
21	132	35.8		57.2	287	32.8	+18	02.4	123	54	1	47	3	05	3	54	38	10	5	09	85	
22	147	35.6		56.7	302	04.1	+17	50.1	123	56	1	05	2	47	42	47	7	4	57	89		
23	162	35.4		56.2	316	35.4		37.7	124	58	**	**	2	25	28	21	57	4	43	93		
24	177	35.2	-20	55.7	331	06.9	+17	25.3	124	60 S	**	**	1	57	3	12	22	08	0	4	26	100

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 16 ^h 18.5 ^m		Mag: -4.6 PMG: 15 ^h 15 ^m		Mag: -1.5 PMG: 0 ^h 19 ^m		Mag: -2.6 PMG: 21 ^h 00 ^m		Mag: +1.1 PMG: 15 ^h 29 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	114	41.9	131	04.1	-7	10.6	355	07.0	+25	01.0	44	08.3	+21	40.7	127	05.7	-7	26.0
1	129	44.4	146	04.4		09.4	10	10.5		01.2	59	11.0		40.6	142	07.9		25.9
2	144	46.9	161	04.6		08.2	25	14.1		01.4	74	13.6		40.6	157	10.2		25.8
3	159	49.3	176	04.9		07.0	40	17.6		01.6	89	16.3		40.6	172	12.4		25.7
4	174	51.8	191	05.2		05.9	55	21.1		01.9	104	18.9		40.6	187	14.7		25.6
5	189	54.3	206	05.5	-7	04.7	70	24.7	+25	02.1	119	21.6	+21	40.6	202	16.9	-7	25.5
6	204	56.7	221	05.8	-7	03.5	85	28.2	+25	02.3	134	24.2	+21	40.6	217	19.2	-7	25.4
7	219	59.2	236	06.0		02.3	100	31.8		02.6	149	26.9		40.6	232	21.4		25.3
8	235	01.6	251	06.3	-7	01.1	115	35.3		02.8	164	29.5		40.5	247	23.7		25.2
9	250	04.1	266	06.6	-7	00.0	130	38.8		03.0	179	32.2		40.5	262	25.9		25.1
10	265	06.6	281	06.9	-6	58.8	145	42.4		03.2	194	34.8		40.5	277	28.2		25.0
11	280	09.0	296	07.2	-6	57.6	160	45.9	+25	03.5	209	37.4	+21	40.5	292	30.4	-7	24.9
12	295	11.5	311	07.4	-6	56.4	175	49.4	+25	03.7	224	40.1	+21	40.5	307	32.7	-7	24.8
13	310	14.0	326	07.7		55.2	190	53.0		03.9	239	42.7		40.5	322	34.9		24.7
14	325	16.4	341	08.0		54.1	205	56.5		04.2	254	45.4		40.5	337	37.2		24.6
15	340	18.9	356	08.3		52.9	221	00.1		04.4	269	48.0		40.5	352	39.4		24.5
16	355	21.4	11	08.6		51.7	236	03.6		04.6	284	50.6		40.4	7	41.7		24.5
17	10	23.8	26	08.9	-6	50.5	251	07.1	+25	04.8	299	53.3	+21	40.4	22	43.9	-7	24.4
18	25	26.3	41	09.2	-6	49.3	266	10.7	+25	05.1	314	55.9	+21	40.4	37	46.2	-7	24.3
19	40	28.8	56	09.5		48.2	281	14.2		05.3	329	58.6		40.4	52	48.4		24.2
20	55	31.2	71	09.8		47.0	296	17.7		05.5	345	01.2		40.4	67	50.7		24.1
21	70	33.7	86	10.1		45.8	311	21.3		05.7	0	03.8		40.4	82	52.9		24.0
22	85	36.1	101	10.4		44.6	326	24.8		06.0	15	06.5		40.4	97	55.2		23.9
23	100	38.6	116	10.7		43.4	341	28.4		06.2	30	09.1		40.4	112	57.4		23.8
24	115	41.1	131	11.0	-6	42.3	356	31.9	+25	06.4	45	11.8	+21	40.3	127	59.7	-7	23.7
Dif	—		+3		+12		+35		+2		+26		0		+22		+	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 16/3 PMG:12 ^h 09.8 ^m			Edad: 16.1 ^d SD: 15/3 PMG: 1 ^h 59 ^m PHE 4^h: 56/1 12^h: 55/9 20^h: 55/7 Rº: 46^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº					
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m			
0	177	35.2	-20	55.7	331	06.9	+17	25.3	60 N	15	35	16	27	17	21	18	55	89	10	06	1	
1	192	35.0		55.3	345	38.5		12.8	58	15	48		36	27	19	03	86	9	57	5		
2	207	34.8		54.8	0	10.2	+17	00.2	56	16	00		45	32	10	82		49	8			
3	222	34.6		54.3	14	41.9	+16	47.6	54		11		52	37	16	80		42	10			
4	237	34.3		53.8	29	13.8		34.8	52		20		16	59	41	22	77		35	13		
5	252	34.1	-20	53.3	43	45.8	+16	22.1	50	16	28	17	05	17	45	19	27	74	9	29	16	
6	267	33.9	-20	52.9	58	17.9	+16	09.2	45	16	46	17	19	17	55	19	38	69	9	16	21	
7	282	33.7		52.4	72	50.0	+15	56.4	40	17	00		30	18	03	47	65		9	06	24	
8	297	33.5		51.9	87	22.3		43.4	35		13		40	11	19	55	61		8	57	28	
9	312	33.3		51.4	101	54.6		30.4	30	23	17	49	19	20	02	58		48	32			
10	327	33.1		50.9	116	27.1		17.3	20	42	18	06	33	14	52	34	37					
11	342	32.9	-20	50.4	130	59.6	+15	04.2	10 N	17	58	18	21	18	46	20	24	48	8	22	41	
12	357	32.7	-20	50.0	145	32.3	+14	51.1	0	18	13	18	36	19	01	20	34	43	8	10	46	
13	12	32.5		49.5	160	05.0		37.8	10 S	29	18	51	18		43	40		7	59	49		
14	27	32.2		49.0	174	37.8		24.6	20	18	45	19	09	19	38	20	53	35		46	54	
15	42	32.0		48.5	189	10.7	+14	11.2	30	19	05	31	20	04	21	05	29		31	60		
16	57	31.8		48.0	203	43.7	+13	57.9	35		16	19	45	20		12	26		23	63		
17	72	31.6	-20	47.5	218	16.8	+13	44.5	40	19	29	20	01	20	40	21	19	23	7	13	67	
18	87	31.4	-20	47.0	232	49.9	+13	31.0	45	19	45	20	20	21	06	21	28	19	7	02	70	
19	102	31.2		46.5	247	23.1		17.5	50	20	04		45	21	42	38	14		6	48	76	
20	117	31.0		46.1	261	56.5	+13	04.0	52		13	20	57	22	01	43	12		41	79		
21	132	30.8		45.6	276	29.9	+12	50.4	54	23	21	11	22	26	48	10		34	81			
22	147	30.6		45.1	291	03.4		36.8	56		35		28	23	04	21	54	7		26	85	
23	162	30.4		44.6	305	36.9		23.1	58	20	48	21	49	** **	** **	22	01	3		16	89	
24	177	30.2	-20	44.1	320	10.6	+12	09.4	60 S	21	04	22	16	** **	** **	22	08	0		6	06	93

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 16 ^h 14.6 ^m		Mag: -4.6 PMG: 15 ^h 15 ^m		Mag: -1.5 PMG: 0 ^h 14 ^m		Mag: -2.6 PMG: 20 ^h 56 ^m		Mag: +1.1 PMG: 15 ^h 26 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	115	41.1	131	11.0	-6	42.3	356	31.9	+25	06.4	45	11.8	+21	40.3	127	59.7	-7	23.7
1	130	43.5	146	11.3		41.1	11	35.4		06.6	60	14.4		40.3	143	01.9		23.6
2	145	46.0	161	11.6		39.9	26	39.0		06.8	75	17.0		40.3	158	04.2		23.5
3	160	48.5	176	11.9		38.7	41	42.5		07.1	90	19.7		40.3	173	06.4		23.4
4	175	50.9	191	12.2		37.5	56	46.0		07.3	105	22.3		40.3	188	08.7		23.3
5	190	53.4	206	12.5	-6	36.3	71	49.6	+25	07.5	120	24.9	+21	40.3	203	10.9	-7	23.2
6	205	55.9	221	12.8	-6	35.2	86	53.1	+25	07.7	135	27.6	+21	40.3	218	13.2	-7	23.1
7	220	58.3	236	13.1		34.0	101	56.7		08.0	150	30.2		40.3	233	15.4		23.0
8	236	00.8	251	13.4		32.8	117	00.2		08.2	165	32.9		40.2	248	17.7		22.9
9	251	03.3	266	13.7		31.6	132	03.7		08.4	180	35.5		40.2	263	19.9		22.8
10	266	05.7	281	14.0		30.4	147	07.3		08.6	195	38.1		40.2	278	22.2		22.7
11	281	08.2	296	14.3	-6	29.3	162	10.8	+25	08.8	210	40.8	+21	40.2	293	24.4	-7	22.6
12	296	10.6	311	14.6	-6	28.1	177	14.3	+25	09.1	225	43.4	+21	40.2	308	26.7	-7	22.5
13	311	13.1	326	14.9		26.9	192	17.9		09.3	240	46.0		40.2	323	28.9		22.5
14	326	15.6	341	15.3		25.7	207	21.4		09.5	255	48.7		40.2	338	31.1		22.4
15	341	18.0	356	15.6		24.5	222	25.0		09.7	270	51.3		40.2	353	33.4		22.3
16	356	20.5	11	15.9		23.4	237	28.5		09.9	285	53.9		40.1	8	35.6		22.2
17	11	23.0	26	16.2	-6	22.2	252	32.0	+25	10.2	300	56.6	+21	40.1	23	37.9	-7	22.1
18	26	25.4	41	16.5	-6	21.0	267	35.6	+25	10.4	315	59.2	+21	40.1	38	40.1	-7	22.0
19	41	27.9	56	16.8		19.8	282	39.1		10.6	331	01.8		40.1	53	42.4		21.9
20	56	30.4	71	17.2		18.6	297	42.6		10.8	346	04.5		40.1	68	44.6		21.8
21	71	32.8	86	17.5		17.4	312	46.2		11.0	1	07.1		40.1	83	46.9		21.7
22	86	35.3	101	17.8		16.3	327	49.7		11.2	16	09.7		40.1	98	49.1		21.6
23	101	37.7	116	18.1		15.1	342	53.3		11.5	31	12.3		40.1	113	51.4		21.5
24	116	40.2	131	18.5	-6	13.9	357	56.8	+25	11.7	46	15.0	+21	40.0	128	53.6	-7	21.4
Dif	—		+3		+12		+35		+2		+26		0		+22		+	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h /3 PMG: 12 ^h 10.2 ^m				Edad: 17.1 ^d SD: 15 ^h /1 PMG: 2 ^h 44 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	177	30.2	-20	44.1	320	10.6	+12	09.4	137	60 N	6	58	7	52	8	44	20	23	84
1	192	30.0		43.6	334	44.3	+11	55.7	137	58	53	43		30		27	81	10	00
2	207	29.8		43.1	349	18.1		41.9	138	56	47	34		19		31	78	9	55
3	222	29.6		42.6	3	51.9		28.1	138	54	43	27	8	08		34	75	51	8
4	237	29.4		42.1	18	25.9		14.2	139	52	38	20	7	59		37	73	47	10
5	252	29.1	-20	41.6	32	59.9	+11	00.3	139	50	6	34	7	14	7	51	20	40	70
6	267	28.9	-20	41.1	47	34.0	+10	46.4	139	45	6	25	7	01	7	33	20	46	65
7	282	28.7		40.6	62	08.1		32.5	139	40	16	6	49	19	51	61	29	21	
8	297	28.5		40.1	76	42.4		18.5	140	35	08	39	7	07	55	58	23	24	
9	312	28.3		39.6	91	16.7	+10	04.5	140	30	6	01	30	6	56	20	59	54	18
10	327	28.1		39.1	105	51.0	+9	50.5	140	20	5	47	6	14	38	21	05	49	09
11	342	27.9	-20	38.6	120	25.4	+9	36.5	140	10 N	5	33	5	59	6	22	21	11	44
12	357	27.7	-20	38.1	134	59.9	+9	22.4	141	0	5	19	5	44	6	07	21	16	40
13	12	27.5		37.6	149	34.5	+9	08.3	141	10 S	5	02	29	5	51	21	36	47	45
14	27	27.3		37.1	164	09.1	+8	54.2	141	20	4	42	5	11	35	27	31	39	50
15	42	27.1		36.6	178	43.8		40.0	142	30	17	4	49	15	33	26	30	55	
16	57	26.9		36.1	193	18.5		25.9	141	35	4	00	35	5	04	37	23	24	59
17	72	26.7	-20	35.6	207	53.3	+8	11.7	142	40	3	40	4	20	4	51	21	41	20
18	87	26.5	-20	35.1	222	28.1	+7	57.5	142	45	3	15	4	00	4	36	21	45	16
19	102	26.3		34.6	237	03.0		43.3	142	50	2	39	3	36	17	51	11	8	03
20	117	26.1		34.1	251	38.0		29.0	143	52	2	19	23	4	08	54	9	7	59
21	132	25.9		33.6	266	13.0		14.8	142	54	1	54	3	09	3	58	21	56	7
22	147	25.7		33.1	280	48.1	+7	00.5	143	56	1	16	2	52	46	22	00	4	49
23	162	25.5		32.6	295	23.2	+6	46.2	143	58	**	**	31	33	03	2	44	82	
24	177	25.3	-20	32.1	309	58.4	+6	31.9	143	60 S	**	**	2	04	3	17	22	07	**
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 16 ^h 10.7 ^m		Mag: -4.6 PMG: 15 ^h 14 ^m				Mag: -1.5 PMG: 0 ^h 08 ^m				Mag: -2.6 PMG: 20 ^h 51 ^m				Mag: +1.1 PMG: 15 ^h 22 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°
0	116	40.2	131	18.5	-6	13.9	357	56.8	+25	11.7	46	15.0	+21	40.0	128	53.6	-7	21.4	
1	131	42.7	146	18.8		12.7	13	00.3		11.9	61	17.6		40.0	143	55.9		21.3	
2	146	45.1	161	19.1		11.5	28	03.9		12.1	76	20.2		40.0	158	58.1		21.2	
3	161	47.6	176	19.4		10.4	43	07.4		12.3	91	22.9		40.0	174	00.3		21.1	
4	176	50.1	191	19.8		09.2	58	10.9		12.5	106	25.5		40.0	189	02.6		21.0	
5	191	52.5	206	20.1	-6	08.0	73	14.5	+25	12.7	121	28.1	+21	40.0	204	04.8	-7	20.9	
6	206	55.0	221	20.4	-6	06.8	88	18.0	+25	13.0	136	30.7	+21	40.0	219	07.1	-7	20.8	
7	221	57.5	236	20.8		05.6	103	21.5		13.2	151	33.4		40.0	234	09.3		20.7	
8	236	59.9	251	21.1		04.4	118	25.1		13.4	166	36.0		40.0	249	11.6		20.6	
9	252	02.4	266	21.4		03.3	133	28.6		13.6	181	38.6		39.9	264	13.8		20.5	
10	267	04.9	281	21.8		02.1	148	32.2		13.8	196	41.3		39.9	279	16.1		20.4	
11	282	07.3	296	22.1	-6	00.9	163	35.7	+25	14.0	211	43.9	+21	39.9	294	18.3	-7	20.3	
12	297	09.8	311	22.4	-5	59.7	178	39.2	+25	14.2	226	46.5	+21	39.9	309	20.6	-7	20.2	
13	312	12.2	326	22.8		58.5	193	42.8		14.5	241	49.1		39.9	324	22.8		20.2	
14	327	14.7	341	23.1		57.3	208	46.3		14.7	256	51.8		39.9	339	25.0		20.1	
15	342	17.2	356	23.5		56.2	223	49.8		14.9	271	54.4		39.9	354	27.3		20.0	
16	357	19.6	11	23.8		55.0	238	53.4		15.1	286	57.0		39.9	9	29.5		19.9	
17	12	22.1	26	24.1	-5	53.8	253	56.9	+25	15.3	301	59.6	+21	39.9	24	31.8	-7	19.8	
18	27	24.6	41	24.5	-5	52.6	269	00.4	+25	15.5	317	02.3	+21	39.8	39	34.0	-7	19.7	
19	42	27.0	56	24.8		51.4	284	04.0		15.7	332	04.9		39.8	54	36.3		19.6	
20	57	29.5	71	25.2		50.2	299	07.5		15.9	347	07.5		39.8	69	38.5		19.5	
21	72	32.0	86	25.5		49.1	314	11.0		16.1	2	10.1		39.8	84	40.7		19.4	
22	87	34.4	101	25.9		47.9	329	14.6		16.3	17	12.7		39.8	99	43.0		19.3	
23	102	36.9	116	26.2		46.7	344	18.1		16.5	32	15.4		39.8	114	45.2		19.2	
24	117	39.4	131	26.6	-5	45.5	359	21.6	+25	16.8	47	18.0	+21	39.8	129	47.5	-7	19.1	
Dif	—		+3		+12		+35		+2		+26		0		+22		+		

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 3 PMG:12 ^h 10.5 ^m		Edad: 18.1 ^d SD: 15 ^h 0 PMG: 3 ^h 26 ^m		PHE { 4 ^h : 55 ^h 0 12 ^h : 54 ^h 8 20 ^h : 54 ^h 7 Rº: 41 ^m											
	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	h m m	h m m	h m m
0	177 25.3	-20 32.1	309 58.4	162	+6 31.9	143	60 N	15 39	16 31	17 24	21 47 84	10 04 0	10 04 0	10 04 0	10 04 0	10 04 0
1	192 25.1	31.5	324 33.6	162	17.6	143	58	15 53	40	30	48 80	02 3	02 3	02 3	02 3	02 3
2	207 24.9	31.0	339 08.8	163	+6 03.3	143	56	16 04	48	35	49 77	10 00 6	10 00 6	10 00 6	10 00 6	10 00 6
3	222 24.7	30.5	353 44.1	163	+5 48.9	144	54	14	16 55	40	49 75	9 59 8	9 59 8	9 59 8	9 59 8	9 59 8
4	237 24.5	30.0	8 19.5	164	34.6	143	52	23	17 02	44	50 72	57 10	57 10	57 10	57 10	57 10
5	252 24.3	-20 29.5	22 54.9	164	+5 20.2	144	50	16 31	17 08	17 48	21 50 70	9 56 12	9 56 12	9 56 12	9 56 12	9 56 12
6	267 24.1	-20 29.0	37 30.3	164	+5 05.8	144	45	16 49	17 21	17 57	21 51 65	9 52 17	9 52 17	9 52 17	9 52 17	9 52 17
7	282 23.9	28.5	52 05.8	165	+4 51.5	143	40	17 03	32	18 05	52 61	50 21	50 21	50 21	50 21	50 21
8	297 23.8	28.0	66 41.3	165	37.1	144	35	15	42	13	53 57	47 24	47 24	47 24	47 24	47 24
9	312 23.6	27.4	81 16.9	166	22.7	144	30	25	17 51	20	53 55	45 27	45 27	45 27	45 27	45 27
10	327 23.4	26.9	95 52.5	166	+4 08.3	144	20	43	18 07	34	54 50	42 32	42 32	42 32	42 32	42 32
11	342 23.2	-20 26.4	110 28.1	166	+3 53.9	144	10 N	17 59	18 21	18 47	21 55 45	9 39 36	9 39 36	9 39 36	9 39 36	9 39 36
12	357 23.0	-20 25.9	125 03.8	167	+3 39.5	144	0	18 14	18 36	19 02	21 56 41	9 35 41	9 35 41	9 35 41	9 35 41	9 35 41
13	12 22.8	25.4	139 39.5	167	25.1	144	10 S	29	18 52	18	57 36	32 46	32 46	32 46	32 46	32 46
14	27 22.6	24.9	154 15.2	167	+3 10.7	144	20	18 45	19 09	19 38	58 32	29 50	29 50	29 50	29 50	29 50
15	42 22.4	24.3	168 51.0	168	+2 56.3	144	30	19 04	31	20 03	21 59 27	25 55	25 55	25 55	25 55	25 55
16	57 22.2	23.8	183 26.8	168	41.9	144	35	15	44	19	22 00 24	23 58	23 58	23 58	23 58	23 58
17	72 22.0	-20 23.3	198 02.6	168	+2 27.5	144	40	19 28	19 59	20 38	22 01 20	9 20 62	9 20 62	9 20 62	9 20 62	9 20 62
18	87 21.8	-20 22.8	212 38.5	169	+2 13.1	144	45	19 43	20 18	21 03	22 01 17	9 18 65	9 18 65	9 18 65	9 18 65	9 18 65
19	102 21.6	22.3	227 14.4	169	+1 58.7	144	50	20 02	43	38	02 13	14 70	14 70	14 70	14 70	14 70
20	117 21.4	21.7	241 50.3	169	44.3	144	52	11	20 55	21 57	03 10	12 73	12 73	12 73	12 73	12 73
21	132 21.2	21.2	256 26.2	169	29.9	144	54	21	21 08	22 21	03 8	11 75	11 75	11 75	11 75	11 75
22	147 21.0	20.7	271 02.1	169	15.5	144	56	32	25	22 55	04 6	09 77	09 77	09 77	09 77	09 77
23	162 20.9	20.2	285 38.1	170	+1 01.1	144	58	20 45	21 45	** **	05 2	06 81	06 81	06 81	06 81	06 81
24	177 20.7	-20 19.6	300 14.1	170	+0 46.7	144	60 S	21 00	22 10	** **	22 05 0	9 04 84	9 04 84	9 04 84	9 04 84	9 04 84

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 ^h 06.7 ^m		Mag: -4.6 PMG: 15 ^h 14 ^m		Mag: -1.5 PMG: 0 ^h 03 ^m		Mag: -2.6 PMG: 20 ^h 47 ^m		Mag: +1.1 PMG: 15 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	117 39.4	131 26.6	-5 45.5	359 21.6	+25 16.8	47 18.0	+21 39.8	129 47.5	-7 19.1	19.1
1	132 41.8	146 26.9	44.3	14 25.2	17.0	62 20.6	39.8	144 49.7	19.0	19.0
2	147 44.3	161 27.3	43.2	29 28.7	17.2	77 23.2	39.8	159 52.0	18.9	18.9
3	162 46.7	176 27.6	42.0	44 32.2	17.4	92 25.9	39.7	174 54.2	18.8	18.8
4	177 49.2	191 28.0	40.8	59 35.8	17.6	107 28.5	39.7	189 56.5	18.7	18.7
5	192 51.7	206 28.4	-5 39.6	74 39.3	+25 17.8	122 31.1	+21 39.7	204 58.7	-7 18.6	18.6
6	207 54.1	221 28.7	-5 38.4	89 42.8	+25 18.0	137 33.7	+21 39.7	220 00.9	-7 18.5	18.5
7	222 56.6	236 29.1	37.2	104 46.4	18.2	152 36.3	39.7	235 03.2	18.4	18.4
8	237 59.1	251 29.4	36.1	119 49.9	18.4	167 38.9	39.7	250 05.4	18.3	18.3
9	253 01.5	266 29.8	34.9	134 53.4	18.6	182 41.6	39.7	265 07.7	18.2	18.2
10	268 04.0	281 30.2	33.7	149 57.0	18.8	197 44.2	39.7	280 09.9	18.1	18.1
11	283 06.5	296 30.5	-5 32.5	165 00.5	+25 19.0	212 46.8	+21 39.7	295 12.2	-7 18.0	18.0
12	298 08.9	311 30.9	-5 31.3	180 04.0	+25 19.2	227 49.4	+21 39.7	310 14.4	-7 17.9	17.9
13	313 11.4	326 31.3	30.1	195 07.6	19.4	242 52.0	39.6	325 16.6	17.8	17.8
14	328 13.8	341 31.6	29.0	210 11.1	19.6	257 54.7	39.6	340 18.9	17.7	17.7
15	343 16.3	356 32.0	27.8	225 14.6	19.8	272 57.3	39.6	355 21.1	17.6	17.6
16	358 18.8	11 32.4	26.6	240 18.2	20.0	287 59.9	39.6	10 23.4	17.5	17.5
17	13 21.2	26 32.7	-5 25.4	255 21.7	+25 20.2	303 02.5	+21 39.6	25 25.6	-7 17.4	17.4
18	28 23.7	41 33.1	-5 24.2	270 25.2	+25 20.4	318 05.1	+21 39.6	40 27.8	-7 17.3	17.3
19	43 26.2	56 33.5	23.0	285 28.7	20.6	333 07.7	39.6	55 30.1	17.2	17.2
20	58 28.6	71 33.9	21.9	300 32.3	20.8	348 10.3	39.6	70 32.3	17.1	17.1
21	73 31.1	86 34.2	20.7	315 35.8	21.0	3 13.0	39.6	85 34.6	17.0	17.0
22	88 33.6	101 34.6	19.5	330 39.3	21.2	18 15.6	39.6	100 36.8	16.9	16.9
23	103 36.0	116 35.0	18.3	345 42.9	21.4	33 18.2	39.5	115 39.1	16.8	16.8
24	118 38.5	131 35.4	-5 17.1	0 46.4	+25 21.6	48 20.8	+21 39.5	130 41.3	-7 16.7	16.7
Dif	—	+4	+12	-8965	+2	+26	0	+22	+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16'3 PMG:12 ^h 10.8 ^m				Edad: 19.1 ^d SD: 14'9 PMG: 4 ^h 06 ^m															
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	177	20.7	-20	19.6	300	14.1	+0	46.7	60 N	6	56	7	49	8	41	23	10	82	10 03 **	
1	192	20.5		19.1	314	50.1		32.3	58	50		40	27	07	79		04	2		
2	207	20.3		18.6	329	26.2		18.0	56	45		32	16	04	77		05	4		
3	222	20.1		18.1	344	02.2	+0	03.6	54	41		25	8	06	02	74		06	6	
4	237	19.9		17.5	358	38.3	-0	10.8	52	37		19	7	57	23	00	71		06	9
5	252	19.7	-20	17.0	13	14.4	-0	25.1	50	6	33	7	13	7	49	22	59	68	10 07 11	
6	267	19.5	-20	16.5	27	50.5	-0	39.4	45	6	24	7	00	7	32	22	55	64	10 08 16	
7	282	19.3		15.9	42	26.6	-0	53.8	40	15		6	49	18	52	59		09	20	
8	297	19.1		15.4	57	02.7	-1	08.1	35	08		39	7	06	49	56		10	23	
9	312	19.0		14.9	71	38.9		22.4	30	6	01	30	6	56	46	54		11	26	
10	327	18.8		14.3	86	15.0		36.7	20	5	47	14	38	42	49		13	30		
11	342	18.6	-20	13.8	100	51.2	-1	51.0	10 N	5	34	6	00	6	22	22	39	43	10 14 35	
12	357	18.4	-20	13.3	115	27.3	-2	05.2	0	5	19	5	45	6	07	22	35	40	10 15 39	
13	12	18.2		12.7	130	03.5		19.5	10 S	5	03	30	5	52	32	35		16	44	
14	27	18.0		12.2	144	39.6		33.7	20	4	44	5	12	36	29	31		18	48	
15	42	17.8		11.7	159	15.8	-2	47.9	30	19		4	51	17	25	26		19	53	
16	57	17.6		11.1	173	52.0	-3	02.1	35	4	03	38	5	06	22	23		20	56	
17	72	17.5	-20	10.6	188	28.2	-3	16.3	40	3	43	4	22	4	54	22	20	20	10 21 59	
18	87	17.3	-20	10.1	203	04.3	-3	30.5	45	3	18	4	03	4	38	22	17	16	10 22 63	
19	102	17.1		09.5	217	40.5		44.6	50	2	43	3	39	20	13	12		23	69	
20	117	16.9		09.0	232	16.7	-3	58.8	52	25		27	11	12	9		24	70		
21	132	16.7		08.4	246	52.8	-4	12.9	54	2	01	3	13	4	01	10	7		24	74
22	147	16.5		07.9	261	29.0		27.0	56	1	27	2	57	3	50	08	5		25	76
23	162	16.4		07.4	276	05.1		41.1	58	** **		37	37	06	2		26	79		
24	177	16.2	-20	06.8	290	41.3	-4	55.1	60 S	** **		2	12	3	22	22	04	**	10 27 82	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 16 ^h 02.8 ^m		Mag: -4.6 PMG: 15 ^h 13 ^m		Mag: -1.5 PMG: 23 ^h 51 ^m		Mag: -2.6 PMG: 20 ^h 43 ^m		Mag: +1.1 PMG: 15 ^h 15 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	118	38.5	131	35.4	-5	17.1	0	46.4	+25	21.6	48	20.8	+21	39.5	130	41.3	-7	16.7
1	133	41.0	146	35.7		16.0	15	49.9		21.8	63	23.4		39.5	145	43.5		16.7
2	148	43.4	161	36.1		14.8	30	53.4		22.0	78	26.0		39.5	160	45.8		16.6
3	163	45.9	176	36.5		13.6	45	57.0		22.2	93	28.6		39.5	175	48.0		16.5
4	178	48.3	191	36.9		12.4	61	00.5		22.4	108	31.2		39.5	190	50.3		16.4
5	193	50.8	206	37.3	-5	11.2	76	04.0	+25	22.6	123	33.9	+21	39.5	205	52.5	-7	16.3
6	208	53.3	221	37.7	-5	10.0	91	07.6	+25	22.8	138	36.5	+21	39.5	220	54.7	-7	16.2
7	223	55.7	236	38.0		08.9	106	11.1		23.0	153	39.1		39.5	235	57.0		16.1
8	238	58.2	251	38.4		07.7	121	14.6		23.2	168	41.7		39.5	250	59.2		16.0
9	254	00.7	266	38.8		06.5	136	18.1		23.4	183	44.3		39.5	266	01.5		15.9
10	269	03.1	281	39.2		05.3	151	21.7		23.6	198	46.9		39.4	281	03.7		15.8
11	284	05.6	296	39.6	-5	04.1	166	25.2	+25	23.8	213	49.5	+21	39.4	296	05.9	-7	15.7
12	299	08.1	311	40.0	-5	02.9	181	28.7	+25	24.0	228	52.1	+21	39.4	311	08.2	-7	15.6
13	314	10.5	326	40.4		01.8	196	32.2		24.2	243	54.7		39.4	326	10.4		15.5
14	329	13.0	341	40.8	-5	00.6	211	35.8		24.4	258	57.3		39.4	341	12.7		15.4
15	344	15.4	356	41.2	-4	59.4	226	39.3		24.6	274	00.0		39.4	356	14.9		15.3
16	359	17.9	11	41.6		58.2	241	42.8		24.8	289	02.6		39.4	11	17.1		15.2
17	14	20.4	26	42.0	-4	57.0	256	46.3	+25	25.0	304	05.2	+21	39.4	26	19.4	-7	15.1
18	29	22.8	41	42.4	-4	55.8	271	49.9	+25	25.2	319	07.8	+21	39.4	41	21.6	-7	15.0
19	44	25.3	56	42.8		54.7	286	53.4		25.4	334	10.4		39.4	56	23.9		14.9
20	59	27.8	71	43.2		53.5	301	56.9		25.6	349	13.0		39.4	71	26.1		14.8
21	74	30.2	86	43.6		52.3	317	00.4		25.8	4	15.6		39.3	86	28.3		14.7
22	89	32.7	101	44.0		51.1	332	03.9		25.9	19	18.2		39.3	101	30.6		14.6
23	104	35.2	116	44.4		49.9	347	07.5		26.1	34	20.8		39.3	116	32.8		14.5
24	119	37.6	131	44.8	-4	48.8	2	11.0	+25	26.3	49	23.4	+21	39.3	131	35.1	-7	14.4
Dif	—		+4		+12		+35		+2		+26		0		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16 ^h 3 PMG:12 ^h 11.1 ^m			Edad: 20.1 ^d SD: 14 ^h 8 PMG: 4 ^h 45 ^m								PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 3 20 ^h : 54 ^h 2 Rº: 41 ^m							
	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	h m m			
0	177	16.2	-20	06.8		290	41.3	171	-4	55.1	140	15	44	16	35	17	28		
1	192	16.0		06.3		305	17.4	171	-5	09.1	140	15	57	15	44	33	33		
2	207	15.8		05.7		319	53.6	172		23.1	140	16	08	52	38	38	33		
3	222	15.6		05.2		334	29.7	171		37.1	140	18	16	59	43	43	33		
4	237	15.4		04.7		349	05.8	171	-5	51.1	140	27	17	05	47	47	33		
5	252	15.3	-20	04.1		3	41.9	171	-6	05.0	139	16	35	17	11	17	51		
6	267	15.1	-20	03.6		18	17.9	170	-6	18.9	139	16	51	17	24	18	00		
7	282	14.9		03.0		32	54.0	171		32.8	139	17	05	34	08	51	63		
8	297	14.7		02.5		47	30.0	170	-6	46.6	138	17		44	15	45	59		
9	312	14.5		01.9		62	06.1	171	-7	00.5	139	27	17	53	22	40	56		
10	327	14.4		01.4		76	42.1	170		14.2	137	17	45	18	08	35	50		
11	342	14.2	-20	00.8		91	18.1	170	-7	28.0	138	18	00	18	22	23	47		
12	357	14.0	-20	00.3		105	54.0	169	-7	41.8	138	18	15	18	37	19	02		
13	12	13.8	-19	59.7		120	30.0	170	-7	55.5	137	29	18	52	18	07	39		
14	27	13.6		59.2		135	05.9	169	-8	09.1	136	18	45	19	09	19	37		
15	42	13.5		58.6		149	41.8	169		22.8	137	19	04	30	20	22	51		
16	57	13.3		58.1		164	17.7	169		36.4	136	14	43	18	45	27	16		
17	72	13.1	-19	57.5		178	53.5	168	-8	50.0	136	19	27	19	58	20	37		
18	87	12.9	-19	57.0		193	29.3	168	-9	03.5	135	19	42	20	16	21	01		
19	102	12.7		56.4		208	05.1	168		17.0	135	20	00	40	35	25	14		
20	117	12.6		55.9		222	40.9	168		30.5	135	08	20	52	21	53	21		
21	132	12.4		55.3		237	16.6	167		43.9	134	18	21	05	22	15	17		
22	147	12.2		54.8		251	52.3	167	-9	57.4	135	29	21	22	46	13	7		
23	162	12.0		54.2		266	27.9	166	-10	10.7	133	41	21	40	**	**	08		
24	177	11.9	-19	53.6		281	03.6	167	-10	24.0	133	20	56	22	04	**	**		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 58.9 ^m		Mag: -4.6 PMG: 15 ^h 13 ^m		Mag: -1.4 PMG: 23 ^h 46 ^m		Mag: -2.6 PMG: 20 ^h 39 ^m		Mag: +1.1 PMG: 15 ^h 11 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	119	37.6	131	44.8	-4	48.8	2	11.0	+25	26.3
1	134	40.1	146	45.2		47.6	17	14.5		26.5
2	149	42.6	161	45.6		46.4	32	18.0		26.7
3	164	45.0	176	46.0		45.2	47	21.6		26.9
4	179	47.5	191	46.4		44.0	62	25.1		27.1
5	194	49.9	206	46.8	-4	42.8	77	28.6	+25	27.3
6	209	52.4	221	47.3	-4	41.7	92	32.1	+25	27.5
7	224	54.9	236	47.7		40.5	107	35.6		27.7
8	239	57.3	251	48.1		39.3	122	39.1		27.8
9	254	59.8	266	48.5		38.1	137	42.7		28.0
10	270	02.3	281	48.9		36.9	152	46.2		28.2
11	285	04.7	296	49.3	-4	35.8	167	49.7	+25	28.4
12	300	07.2	311	49.8	-4	34.6	182	53.2	+25	28.6
13	315	09.7	326	50.2		33.4	197	56.7		28.8
14	330	12.1	341	50.6		32.2	213	00.3		29.0
15	345	14.6	356	51.0		31.0	228	03.8		29.1
16	0	17.1	11	51.5		29.8	243	07.3		29.3
17	15	19.5	26	51.9	-4	28.7	258	10.8	+25	29.5
18	30	22.0	41	52.3	-4	27.5	273	14.3	+25	29.7
19	45	24.4	56	52.7		26.3	288	17.8		29.9
20	60	26.9	71	53.2		25.1	303	21.3		30.1
21	75	29.4	86	53.6		23.9	318	24.9		30.3
22	90	31.8	101	54.0		22.8	333	28.4		30.4
23	105	34.3	116	54.5		21.6	348	31.9		30.6
24	120	36.8	131	54.9	-4	20.4	3	35.4	+25	30.8
Dif	—		+4		+12		+35		+2	
							+26		0	
									+22	
									+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna											
	SD: 16'3 PMG:12 ^h 11.3 ^m				Edad: 21.1 ^d SD: 14'8 PMG: 5 ^h 25 ^m																						
	PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'3 Rº: 41 ^m																										
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Náutico	Civil		Hora	Rº	Hora	Rº										
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m										
0	177	11.9	-19	53.6	281	03.6	-10	24.0	133	60 N	6 53	7 46	8 37	0 32	86	10 00	0										
1	192	11.7		53.1	295	39.2		37.3	133	58	48	37	24	26	82	08	3										
2	207	11.5		52.5	310	14.7	-10	50.6	133	56	43	30	13	21	78	14	7										
3	222	11.3		52.0	324	50.2	-11	03.8	132	54	39	23	8 03	16	75	20	10										
4	237	11.2		51.4	339	25.7		17.0	132	52	35	17	7 55	11	73	25	12										
5	252	11.0	-19	50.8	354	01.1	-11	30.1	131	50	6 31	7 11	7 47	0 07	70	10 30	14										
6	267	10.8	-19	50.3	8	36.5	-11	43.2	131	45	6 22	6 58	7 30	** ** *	**	10 41	19										
7	282	10.6		49.7	23	11.9	-11	56.2	130	40	15	48	17	** ** *	**	49	23										
8	297	10.5		49.2	37	47.2	-12	09.3	131	35	07	38	7 05	** ** *	**	10 57	26										
9	312	10.3		48.6	52	22.4		22.2	129	30	6 01	30	6 55	** ** *	**	11 03	29										
10	327	10.1		48.0	66	57.7		35.1	129	20	5 47	14	38	** ** *	**	15	34										
11	342	10.0	-19	47.5	81	32.8	-12	48.0	129	10 N	5 34	6 00	6 22	** ** *	**	11 25	38										
12	357	09.8	-19	46.9	96	07.9	-13	00.8	128	0	5 20	5 46	6 08	23	56	43	43										
13	12	09.6		46.3	110	43.0		13.6	128	10 S	5 04	31	5 53	44	40	44	46										
14	27	09.4		45.8	125	18.0		26.3	127	20	4 45	5 13	37	32	36	11	54										
15	42	09.3		45.2	139	53.0		39.0	127	30	21	4 53	19	18	31	12	06										
16	57	09.1		44.6	154	27.9	-13	51.6	126	35	4 05	40	5 08	10	29	13	58										
17	72	08.9	-19	44.1	169	02.8	-14	04.2	126	40	3 46	4 25	4 56	23	01	25	61										
18	87	08.8	-19	43.5	183	37.6	-14	16.7	125	45	3 22	4 06	4 41	22	51	21	65										
19	102	08.6		42.9	198	12.4		29.2	125	50	2 48	3 43	23	38	16	41	70										
20	117	08.4		42.4	212	47.1		41.7	125	52	30	31	15	32	14	46	73										
21	132	08.3		41.8	227	21.7	-14	54.0	123	54	2 08	18	4 05	26	11	52	76										
22	147	08.1		41.2	241	56.3	-15	06.4	124	56	1 37	3 02	3 54	19	8	12	58										
23	162	07.9		40.7	256	30.8		18.6	122	58	0 31	2 43	42	11	4	13	05										
24	177	07.7	-19	40.1	271	05.3	-15	30.8	122	60 S	** ** *	2 19	3 27	22	02	0	88										
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 15 ^h 54.9 ^m			Mag: -4.6 PMG: 15 ^h 12 ^m			Mag: -1.4 PMG: 23 ^h 40 ^m			Mag: -2.6 PMG: 20 ^h 35 ^m			Mag: +1.1 PMG: 15 ^h 08 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	120	36.8	131	54.9	-4	20.4	3	35.4	+25	30.8	50	25.8	+21	39.1	132	28.8	-7	12.0									
1	135	39.2	146	55.3		19.2	18	38.9		31.0	65	28.4		39.1	147	31.0		11.9									
2	150	41.7	161	55.8		18.0	33	42.4		31.2	80	31.0		39.1	162	33.2		11.8									
3	165	44.2	176	56.2		16.9	48	45.9		31.3	95	33.6		39.1	177	35.5		11.7									
4	180	46.6	191	56.6		15.7	63	49.4		31.5	110	36.2		39.1	192	37.7		11.6									
5	195	49.1	206	57.1	-4	14.5	78	52.9	+25	31.7	125	38.8	+21	39.1	207	39.9	-7	11.5									
6	210	51.5	221	57.5	-4	13.3	93	56.5	+25	31.9	140	41.4	+21	39.1	222	42.2	-7	11.4									
7	225	54.0	236	58.0		12.1	109	00.0		32.1	155	44.0		39.1	237	44.4		11.3									
8	240	56.5	251	58.4		10.9	124	03.5		32.2	170	46.6		39.1	252	46.6		11.2									
9	255	58.9	266	58.9		09.8	139	07.0		32.4	185	49.1		39.1	267	48.9		11.1									
10	271	01.4	281	59.3		08.6	154	10.5		32.6	200	51.7		39.0	282	51.1		11.0									
11	286	03.9	296	59.7	-4	07.4	169	14.0	+25	32.8	215	54.3	+21	39.0	297	53.3	-7	10.9									
12	301	06.3	312	00.2	-4	06.2	184	17.5	+25	33.0	230	56.9	+21	39.0	312	55.6	-7	10.8									
13	316	08.8	327	00.6		05.0	199	21.0		33.1	245	59.5		39.0	327	57.8		10.7									
14	331	11.3	342	01.1		03.9	214	24.5		33.3	261	02.1		39.0	343	00.1		10.6									
15	346	13.7	357	01.5		02.7	229	28.0		33.5	276	04.7		39.0	358	02.3		10.5									
16	1	16.2	12	02.0		01.5	244	31.5		33.7	291	07.3		39.0	13	04.5		10.4									
17	16	18.7	27	02.5	-4	00.3	259	35.0	+25	33.8	306	09.9	+21	39.0	28	06.8	-7	10.3									
18	31	21.1	42	02.9	-3	59.1	274	38.5	+25	34.0	321	12.5	+21	39.0	43	09.0	-7	10.2									
19	46	23.6	57	03.4		58.0	289	42.0		34.2	336	15.0		39.0	58	11.2		10.1									
20	61	26.0	72	03.8		56.8	304	45.5		34.4	351	17.6		39.0	73	13.5		10.0									
21	76	28.5	87	04.3		55.6	319	49.0		34.5	6	20.2		39.0	88	15.7		09.9									
22	91	31.0	102	04.7		54.4	334	52.5		34.7	21	22.8		39.0	103	17.9		09.8									
23	106	33.4	117	05.2		53.3	349	56.0		34.9	36	25.4		39.0	118	20.2		09.7									
24	121	35.9	132	05.7	-3	52.1	4	59.5	+25	35.1	51	28.0	+21	39.0	133	22.4	-7	09.6									
Dif	—			+4			+12			+35			+2			+26			0			+22			+1		

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 11.6 ^m				Edad: 22.1 ^d SD: 14'8 PMG: 6 ^h 06 ^m						PHE { 4 ^h : 54'3 12 ^h : 54'4 20 ^h : 54'5 Rº: 46 ^m							
	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	h m m		
0	177	07.7	-19	40.1	271	05.3	-15	30.8	60 N	15 49	16 39	17 32	1 58 92	10 00 1				
1	192	07.6		39.5	285	39.7	154	43.0	58	16 01	48	37	48 86	11 7				
2	207	07.4		38.9	300	14.0	153	55.1	56	12	16 55	42	39 82	21 11				
3	222	07.2		38.4	314	48.3	153	07.1	54	22	17 02	46	31 79	30 14				
4	237	07.1		37.8	329	22.5	152	19.1	52	30	08	50	24 75	37 17				
5	252	06.9	-19	37.2	343	56.7	152	31.0	50	16 38	17 14	17 54	1 17 73	10 44 20				
6	267	06.7	-19	36.6	358	30.8	151	42.9	45	16 54	17 26	18 02	1 03 68	11 00 24				
7	282	06.6		36.1	13	04.8	150	54.7	40	17 07	37	10	0 52 64	12 29				
8	297	06.4		35.5	27	38.7	149	06.4	35	19	46	17	43 60	23 32				
9	312	06.2		34.9	42	12.6	149	18.1	30	29	17 54	23	34 58	32 35				
10	327	06.1		34.3	56	46.4	148	29.7	20	17 46	18 09	36	20 53	11 49 39				
11	342	05.9	-19	33.7	71	20.1	147	41.2	10 N	18 01	18 23	18 49	0 07 49	12 03 43				
12	357	05.8	-19	33.2	85	53.8	147	52.7	0	18 15	18 37	19 03	** ** *	12 17 46				
13	12	05.6		32.6	100	27.4	146	04.1	10 S	30	18 52	18	** ** *	30 50				
14	27	05.4		32.0	115	00.9	145	15.5	20	18 45	19 09	19 37	** ** *	12 44 55				
15	42	05.3		31.4	129	34.4	145	26.8	30	19 03	29	20 01	23 49 37	13 01 59				
16	57	05.1		30.8	144	07.7	143	38.0	35	14	42	16	39 34	11 61				
17	72	04.9	-19	30.3	158	41.0	143	49.1	40	19 26	19 56	20 35	23 26 32	13 22 65				
18	87	04.8	-19	29.7	173	14.2	142	00.2	45	19 40	20 14	20 59	23 12 28	13 35 69				
19	102	04.6		29.1	187	47.4	142	11.2	50	19 58	37	21 31	22 54 23	51 74				
20	117	04.5		28.5	202	20.4	140	22.1	52	20 06	20 49	21 48	46 20	13 59 77				
21	132	04.3		27.9	216	53.4	140	33.0	54	15	21 02	22 10	37 17	14 08 79				
22	147	04.1		27.3	231	26.3	139	43.7	56	26	17	22 38	27 13	17 84				
23	162	04.0		26.7	245	59.1	138	54.4	58	38	35	23 27	15 9	28 88				
24	177	03.8	-19	26.2	260	31.9	138	05.0	60 S	20 52	21 58	** ** *	22 02 3	14 41 94				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 15 ^h 51.0 ^m		Mag: -4.7 PMG: 15 ^h 11 ^m			Mag: -1.4 PMG: 23 ^h 35 ^m			Mag: -2.6 PMG: 20 ^h 31 ^m			Mag: +1.1 PMG: 15 ^h 04 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♏	Dec		hG ♏	Dec		hG ♏	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	121	35.9	132	05.7	-3	52.1	4	59.5	+25	35.1	51	28.0	+21	39.0	133	22.4	-7	09.6
1	136	38.4	147	06.1		50.9	20	03.0		35.2	66	30.6		38.9	148	24.6		09.5
2	151	40.8	162	06.6		49.7	35	06.5		35.4	81	33.2		38.9	163	26.9		09.4
3	166	43.3	177	07.1		48.5	50	10.0		35.6	96	35.7		38.9	178	29.1		09.3
4	181	45.8	192	07.5		47.4	65	13.5		35.7	111	38.3		38.9	193	31.3		09.2
5	196	48.2	207	08.0	-3	46.2	80	17.0	+25	35.9	126	40.9	+21	38.9	208	33.6	-7	09.1
6	211	50.7	222	08.5	-3	45.0	95	20.5	+25	36.1	141	43.5	+21	38.9	223	35.8	-7	09.0
7	226	53.2	237	08.9		43.8	110	24.0		36.3	156	46.1		38.9	238	38.0		08.9
8	241	55.6	252	09.4		42.6	125	27.5		36.4	171	48.7		38.9	253	40.3		08.8
9	256	58.1	267	09.9		41.5	140	31.0		36.6	186	51.2		38.9	268	42.5		08.7
10	272	00.5	282	10.4		40.3	155	34.5		36.8	201	53.8		38.9	283	44.7		08.6
11	287	03.0	297	10.8	-3	39.1	170	38.0	+25	36.9	216	56.4	+21	38.9	298	47.0	-7	08.5
12	302	05.5	312	11.3	-3	37.9	185	41.5	+25	37.1	231	59.0	+21	38.9	313	49.2	-7	08.4
13	317	07.9	327	11.8		36.7	200	45.0		37.3	247	01.6		38.9	328	51.4		08.3
14	332	10.4	342	12.3		35.6	215	48.5		37.4	262	04.2		38.9	343	53.7		08.2
15	347	12.9	357	12.8		34.4	230	52.0		37.6	277	06.7		38.9	358	55.9		08.1
16	2	15.3	12	13.2		33.2	245	55.5		37.8	292	09.3		38.9	13	58.1		08.0
17	17	17.8	27	13.7	-3	32.0	260	59.0	+25	37.9	307	11.9	+21	38.9	29	00.4	-7	07.9
18	32	20.3	42	14.2	-3	30.9	276	02.5	+25	38.1	322	14.5	+21	38.8	44	02.6	-7	07.8
19	47	22.7	57	14.7		29.7	291	05.9		38.3	337	17.1		38.8	59	04.8		07.7
20	62	25.2	72	15.2		28.5	306	09.4		38.4	352	19.6		38.8	74	07.1		07.6
21	77	27.6	87	15.7		27.3	321	12.9		38.6	7	22.2		38.8	89	09.3		07.5
22	92	30.1	102	16.2		26.2	336	16.4		38.8	22	24.8		38.8	104	11.5		07.4
23	107	32.6	117	16.6		25.0	351	19.9		38.9	37	27.4		38.8	119	13.8		07.3
24	122	35.0	132	17.1	-3	23.8	6	23.4	+25	39.1	52	30.0	+21	38.8	134	16.0	-7	07.2
Dif	—		+5		+12	+35		+2	+26		0		+22		+			

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16 ^h /2 PMG: 12 ^h 11.9 ^m				Edad: 23.1 ^d SD: 14 ^h /9 PMG: 6 ^h 50 ^m																
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	177	03.8	-19	26.2	260	31.9	-20	05.0	106	60 N	6	51	7	43	8	33	3	29	96		
1	192	03.7		25.6	275	04.5		15.6	105	58	46	35		21		13	89	16	10		
2	207	03.5		25.0	289	37.1		26.1	103	56	41	27		10		3	00	83	30	15	
3	222	03.3		24.4	304	09.6		36.4	103	54	37	21		8	01	2	48	79	42	19	
4	237	03.2		23.8	318	42.0		46.7	103	52	33	14		7	52		38	76	10	53	
5	252	03.0	-19	23.2	333	14.3	-20	57.0	103	50	6	29	7	09	7	45	2	29	73	11	03
6	267	02.9	-19	22.6	347	46.5	-21	07.1	101	45	6	21	6	57	7	29	2	10	68	11	23
7	282	02.7		22.0	2	18.7		17.2	101	40	14	46		16		1	55	64	39	34	
8	297	02.5		21.4	16	50.7		27.1	99	35	07	37		7	04		42	61	11	53	
9	312	02.4		20.8	31	22.7		37.0	98	30	6	00	29	6	54		31	58	12	06	
10	327	02.2		20.3	45	54.6		46.8	98	20	5	47	14	37		1	11	54	26	43	
11	342	02.1	-19	19.7	60	26.4	-21	56.5	97	10 N	5	35	6	00	6	22	0	55	50	12	45
12	357	01.9	-19	19.1	74	58.1	-22	06.2	97	0	5	21	5	46	6	08	0	39	48	13	02
13	12	01.8		18.5	89	29.7		15.7	95	10 S	5	05	32	5	54		24	44		19	52
14	27	01.6		17.9	104	01.2		25.1	94	20	4	47	5	15	39		0	08	40		37
15	42	01.5		17.3	118	32.6		34.5	94	30	23	4	54	21	**	**	**	**		13	58
16	57	01.3		16.7	133	04.0		43.7	92	35	4	08	42	5	10	**	**	**	**	14	11
17	72	01.1	-19	16.1	147	35.2	-22	52.9	92	40	3	49	4	27	4	58	23	56	38	14	25
18	87	01.0	-19	15.5	162	06.4	-23	02.0	91	45	3	25	4	09	4	44	23	38	34	14	43
19	102	00.8		14.9	176	37.4		10.9	89	50	2	53	3	47		26	16	29	15	04	
20	117	00.7		14.3	191	08.4		19.8	89	52	36	35		18		23	05	27	14	76	
21	132	00.5		13.7	205	39.3		28.6	88	54	2	14	22	4	09	22	53	24		26	79
22	147	00.4		13.1	220	10.1		37.3	87	56	1	46	3	07	3	58	39	20		39	83
23	162	00.2		12.5	234	40.8		45.8	85	58	0	57	2	49		46	23	15		15	55
24	177	00.1	-19	11.9	249	11.4	-23	54.3	85	60 S	**	**	2	27	3	32	22	04	6	16	13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 47.1 ^m		Mag: -4.7 PMG: 15 ^h 10 ^m		Mag: -1.3 PMG: 23 ^h 29 ^m		Mag: -2.6 PMG: 20 ^h 26 ^m		Mag: +1.1 PMG: 15 ^h 01 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	122	35.0	132	17.1	-3	23.8	6	23.4	+25	39.1
1	137	37.5	147	17.6		22.6	21	26.9		39.3
2	152	40.0	162	18.1		21.4	36	30.4		39.4
3	167	42.4	177	18.6		20.3	51	33.8		39.6
4	182	44.9	192	19.1		19.1	66	37.3		39.8
5	197	47.4	207	19.6	-3	17.9	81	40.8	+25	39.9
6	212	49.8	222	20.1	-3	16.7	96	44.3	+25	40.1
7	227	52.3	237	20.6		15.6	111	47.8		40.2
8	242	54.8	252	21.1		14.4	126	51.3		40.4
9	257	57.2	267	21.6		13.2	141	54.7		40.6
10	272	59.7	282	22.1		12.0	156	58.2		40.7
11	288	02.1	297	22.6	-3	10.9	172	01.7	+25	40.9
12	303	04.6	312	23.1	-3	09.7	187	05.2	+25	41.0
13	318	07.1	327	23.6		08.5	202	08.7		41.2
14	333	09.5	342	24.2		07.3	217	12.1		41.4
15	348	12.0	357	24.7		06.2	232	15.6		41.5
16	3	14.5	12	25.2		05.0	247	19.1		41.7
17	18	16.9	27	25.7	-3	03.8	262	22.6	+25	41.8
18	33	19.4	42	26.2	-3	02.6	277	26.0	+25	42.0
19	48	21.9	57	26.7		01.5	292	29.5		42.1
20	63	24.3	72	27.2	-3	00.3	307	33.0		42.3
21	78	26.8	87	27.8	-2	59.1	322	36.5		42.5
22	93	29.3	102	28.3		57.9	337	39.9		42.6
23	108	31.7	117	28.8		56.8	352	43.4		42.8
24	123	34.2	132	29.3	-2	55.6	7	46.9	+25	42.9
Dif	—		+5		+12		+35		+2	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 12.1 ^m				Edad: 24.1 ^d SD: 15/0 PMG: 7 ^h 38 ^m PHE { 4 ^h : 55/0 12 ^h : 55/2 20 ^h : 55/4 Rº: 54 ^m													
	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	177	00.1	-19	11.9	249	11.4	-23	54.3	84	60 N	15 54	16 44	17 36	5 05	99	10 03	11	
1	191	59.9		11.3	263	41.9	-24	02.7	82	58	16 06		52	41	4 42	89	26 22	
2	206	59.8		10.7	278	12.3		10.9	82	56	16	16 59	45		23	83	10 45 27	
3	221	59.6		10.1	292	42.6		19.1	80	54	26	17 06	49	4	07	79	11 01 31	
4	236	59.5		09.5	307	12.8		27.1	80	52	34	11	53	3	54	76	15 34	
5	251	59.3	-19	08.9	321	42.9	-24	35.1	80	50	16 41	17 17	17 56	3	42	74	11 27 36	
6	266	59.2	-19	08.2	336	12.9	-24	42.9	78	45	16 57	17 29	18 04	3	18	69	11 53 40	
7	281	59.0		07.6	350	42.9		50.6	77	40	17 10	39	12	2	59	66	12 13 43	
8	296	58.9		07.0	5	12.7	-24	58.2	76	35	21	48	18	43	63		30 45	
9	311	58.7		06.4	19	42.5	-25	05.7	75	30	30	17 56	25	29	61	12	44 47	
10	326	58.6		05.8	34	12.1		13.1	74	20	17 47	18 10	37	2	05	58	13 09 50	
11	341	58.4	-19	05.2	48	41.7	-25	20.4	73	10 N	18 02	18 24	18 50	1	45	55	13 30 53	
12	356	58.3	-19	04.6	63	11.1	-25	27.5	71	0	18 16	18 38	19 03	1	27	52	13 51 54	
13	11	58.1		04.0	77	40.5		34.6	69	10 S	30	18 52	18	1	08	50	14 11 56	
14	26	58.0		03.4	92	09.7		41.5	68	20	18 45	19 08	19 36	0	48	47	32 59	
15	41	57.8		02.8	106	38.9		48.3	68	30	19 02	28	20 00		25	44	14 58 61	
16	56	57.7		02.2	121	08.0	-25	55.0	67	35	12	41	15	0	12	41	15 12 63	
17	71	57.5	-19	01.5	135	37.0	-26	01.5	65	40	19 24	19 55	20 33	**	**	**	15 30 64	
18	86	57.4	-19	00.9	150	05.9	-26	08.0	63	45	19 38	20 12	20 56	**	**	**	15 51 67	
19	101	57.2	-19	00.3	164	34.7		14.3	65	50	19 55	35	21 27	23	45	43	16 17 71	
20	116	57.1	-18	59.7	179	03.4		20.5	62	52	20 03	45	21 44	32	41		30 72	
21	131	57.0		59.1	193	32.0		26.5	60	54	12	20 58	22 04	23	17	39	16 45 75	
22	146	56.8		58.5	208	00.5		32.4	59	56	22	21 12	22 30	22	59	36	17 02 79	
23	161	56.7		57.9	222	29.0		38.2	58	58	34	30	23 11	38	30		23 84	
24	176	56.5	-18	57.2	236	57.3	-26	43.9	57	60 S	20 47	21 51	**	**	22 10	21	17 50 94	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 15 ^h 43.1 ^m		Mag: -4.7 PMG: 15 ^h 10 ^m		Mag: -1.3 PMG: 23 ^h 23 ^m		Mag: -2.6 PMG: 20 ^h 22 ^m		Mag: +1.1 PMG: 14 ^h 57 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	123	34.2	132	29.3	-2	55.6	7	46.9	+25	42.9	53	31.7	+21	38.7	135	09.5	-7	04.7
1	138	36.6	147	29.8		54.4	22	50.3		43.1	68	34.3		38.7	150	11.8		04.6
2	153	39.1	162	30.4		53.2	37	53.8		43.2	83	36.9		38.7	165	14.0		04.5
3	168	41.6	177	30.9		52.1	52	57.3		43.4	98	39.4		38.7	180	16.2		04.4
4	183	44.0	192	31.4		50.9	68	00.8		43.5	113	42.0		38.7	195	18.4		04.3
5	198	46.5	207	31.9	-2	49.7	83	04.2	+25	43.7	128	44.6	+21	38.7	210	20.7	-7	04.2
6	213	49.0	222	32.5	-2	48.5	98	07.7	+25	43.8	143	47.1	+21	38.7	225	22.9	-7	04.1
7	228	51.4	237	33.0		47.4	113	11.2		44.0	158	49.7		38.7	240	25.1		04.0
8	243	53.9	252	33.5		46.2	128	14.6		44.1	173	52.3		38.7	255	27.4		03.9
9	258	56.4	267	34.1		45.0	143	18.1		44.3	188	54.8		38.7	270	29.6		03.8
10	273	58.8	282	34.6		43.9	158	21.6		44.4	203	57.4		38.7	285	31.8		03.7
11	289	01.3	297	35.1	-2	42.7	173	25.0	+25	44.6	219	00.0	+21	38.7	300	34.1	-7	03.6
12	304	03.8	312	35.7	-2	41.5	188	28.5	+25	44.7	234	02.5	+21	38.6	315	36.3	-7	03.5
13	319	06.2	327	36.2		40.3	203	31.9		44.9	249	05.1		38.6	330	38.5		03.4
14	334	08.7	342	36.7		39.2	218	35.4		45.0	264	07.7		38.6	345	40.7		03.3
15	349	11.1	357	37.3		38.0	233	38.9		45.2	279	10.2		38.6	0	43.0		03.2
16	4	13.6	12	37.8		36.8	248	42.3		45.3	294	12.8		38.6	15	45.2		03.1
17	19	16.1	27	38.4	-2	35.7	263	45.8	+25	45.5	309	15.3	+21	38.6	30	47.4	-7	03.0
18	34	18.5	42	38.9	-2	34.5	278	49.2	+25	45.6	324	17.9	+21	38.6	45	49.6	-7	02.9
19	49	21.0	57	39.5		33.3	293	52.7		45.8	339	20.5		38.6	60	51.9		02.8
20	64	23.5	72	40.0		32.1	308	56.2		45.9	354	23.0		38.6	75	54.1		02.7
21	79	25.9	87	40.6		31.0	323	59.6		46.1	9	25.6		38.6	90	56.3		02.6
22	94	28.4	102	41.1		29.8	339	03.1		46.2	24	28.2		38.6	105	58.6		02.5
23	109	30.9	117	41.7		28.6	354	06.5		46.4	39	30.7		38.6	121	00.8		02.4
24	124	33.3	132	42.2	-2	27.5	9	10.0	+25	46.5	54	33.3	+21	38.6	136	03.0	-7	02.3
Dif	—		+5		+12		+35		+1		+26		0		+22		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'2 PMG:12 ^h 12.3 ^m				Edad: 25.1 ^d SD: 15'1 PMG: 8 ^h 30 ^m													
	PHE { 4 ^h : 55'6 12 ^h : 55'8 20 ^h : 56'0 Rº: 56 ^m																	
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	176	56.5	-18	57.2	236	57.3	92	-26	43.9	56	60 N	6 47	7 39	8 29	6 42	85	10 13 31	
1	191	56.4		56.6	251	25.5	92		49.5	54	58	43	31	17	6 09	75	10 46 40	
2	206	56.2		56.0	265	53.7	91	-26	54.9	52	56	39	24	8 07	5 45	71	11 11 44	
3	221	56.1		55.4	280	21.8	90	-27	00.1	50	54	35	18	7 58	25	69	31 46	
4	236	55.9		54.8	294	49.8	89		05.3	50	52	31	12	50	5 09	67	11 48 47	
5	251	55.8	-18	54.1	309	17.7	88	-27	10.3	50	50	6 27	7 07	7 43	4 54	66	12 02 49	
6	266	55.7	-18	53.5	323	45.5	87	-27	15.1	48	45	6 19	6 55	7 27	4 26	63	12 31 51	
7	281	55.5		52.9	338	13.2	86		19.9	48	40	12	45	14	4 03	62	12 54 52	
8	296	55.4		52.3	352	40.8	86		24.5	46	35	6 06	36	7 03	3 45	60	13 13 53	
9	311	55.2		51.7	7	08.4	85		28.9	44	30	5 59	28	6 54	29	59	30 53	
10	326	55.1		51.0	21	35.9	84		33.2	43	20	47	14	37	3 02	57	13 57 55	
11	341	55.0	-18	50.4	36	03.3	83	-27	37.4	42	10 N	5 35	6 00	6 23	2 39	56	14 21 56	
12	356	54.8	-18	49.8	50	30.6	82	-27	41.4	40	0	5 22	5 47	6 09	2 18	54	14 43 57	
13	11	54.7		49.2	64	57.8	82		45.3	39	10 S	5 06	33	5 55	1 56	54	15 06 56	
14	26	54.5		48.5	79	25.0	80		49.0	36	20	4 48	5 16	40	33	52	30 57	
15	41	54.4		47.9	93	52.0	80		52.6	35	30	25	4 56	23	1 07	50	15 57 58	
16	56	54.3		47.3	108	19.0	80		56.1	35	35	4 10	44	12	0 52	48	16 14 58	
17	71	54.1	-18	46.7	122	45.9	79	-27	59.4	33	40	3 52	4 30	5 01	0 34	47	16 33 59	
18	86	54.0	-18	46.0	137	12.8	79	-28	02.5	31	45	3 29	4 13	4 47	0 12	45	16 56 60	
19	101	53.8		45.4	151	39.6	78		05.5	30	50	2 58	3 50	30	** ** *	**	17 26 61	
20	116	53.7		44.8	166	06.3	77		08.3	28	52	41	40	22	** ** *	**	41 61	
21	131	53.6		44.1	180	32.9	76		11.0	26	54	2 21	27	13	23 54	57	17 58 62	
22	146	53.4		43.5	194	59.5	76		13.6	23	56	1 55	3 13	4 03	33	56	18 19 62	
23	161	53.3		42.9	209	26.0	75		15.9	23	58	1 14	2 55	3 51	23 07	55	18 45 64	
24	176	53.2	-18	42.2	223	52.4	74	-28	18.2	23	60 S	** ** *	2 34	3 38	22 30	53	19 22 66	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 15 ^h 39.2 ^m		Mag: -4.7 PMG: 15 ^h 09 ^m		Mag: -1.3 PMG: 23 ^h 18 ^m		Mag: -2.6 PMG: 20 ^h 18 ^m		Mag: +1.1 PMG: 14 ^h 54 ^m									
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	124	33.3	132	42.2	-2	27.5	9	10.0	+25	46.5	54	33.3	+21	38.6	136	03.0	-7	02.3
1	139	35.8	147	42.8		26.3	24	13.4		46.6	69	35.8		38.6	151	05.2		02.2
2	154	38.2	162	43.3		25.1	39	16.9		46.8	84	38.4		38.6	166	07.5		02.1
3	169	40.7	177	43.9		23.9	54	20.3		46.9	99	41.0		38.6	181	09.7		02.0
4	184	43.2	192	44.4		22.8	69	23.8		47.1	114	43.5		38.6	196	11.9		01.9
5	199	45.6	207	45.0	-2	21.6	84	27.2	+25	47.2	129	46.1	+21	38.6	211	14.2	-7	01.7
6	214	48.1	222	45.5	-2	20.4	99	30.7	+25	47.4	144	48.6	+21	38.6	226	16.4	-7	01.6
7	229	50.6	237	46.1		19.3	114	34.1		47.5	159	51.2		38.6	241	18.6		01.5
8	244	53.0	252	46.7		18.1	129	37.6		47.6	174	53.7		38.6	256	20.8		01.4
9	259	55.5	267	47.2		16.9	144	41.0		47.8	189	56.3		38.6	271	23.1		01.3
10	274	58.0	282	47.8		15.8	159	44.5		47.9	204	58.9		38.6	286	25.3		01.2
11	290	00.4	297	48.4	-2	14.6	174	47.9	+25	48.1	220	01.4	+21	38.6	301	27.5	-7	01.1
12	305	02.9	312	48.9	-2	13.4	189	51.4	+25	48.2	235	04.0	+21	38.6	316	29.7	-7	01.0
13	320	05.4	327	49.5		12.3	204	54.8		48.4	250	06.5		38.6	331	32.0		00.9
14	335	07.8	342	50.1		11.1	219	58.2		48.5	265	09.1		38.6	346	34.2		00.8
15	350	10.3	357	50.6		09.9	235	01.7		48.6	280	11.6		38.6	1	36.4		00.7
16	5	12.7	12	51.2		08.8	250	05.1		48.8	295	14.2		38.6	16	38.6		00.6
17	20	15.2	27	51.8	-2	07.6	265	08.6	+25	48.9	310	16.7	+21	38.6	31	40.9	-7	00.5
18	35	17.7	42	52.4	-2	06.4	280	12.0	+25	49.0	325	19.3	+21	38.6	46	43.1	-7	00.4
19	50	20.1	57	52.9		05.3	295	15.4		49.2	340	21.8		38.6	61	45.3		00.3
20	65	22.6	72	53.5		04.1	310	18.9		49.3	355	24.4		38.6	76	47.6		00.2
21	80	25.1	87	54.1		02.9	325	22.3		49.5	10	27.0		38.6	91	49.8	-7	00.1
22	95	27.5	102	54.7		01.8	340	25.8		49.6	25	29.5		38.6	106	52.0	-7	00.0
23	110	30.0	117	55.3	-2	00.6	355	29.2		49.7	40	32.1		38.5	121	54.2	-6	59.9
24	125	32.5	132	55.8	-1	59.4	10	32.6	+25	49.9	55	34.6	+21	38.5	136	56.5	-6	59.8
Dif	—		+6	+12			+34	+1			+26	0			+22		+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG:12 ^h 12.6 ^m		Edad: 26.1 ^d SD: 15/3 PMG: 9 ^h 26 ^m PHE { 4 ^h : 56/2 12 ^h : 56/5 20 ^h : 56/7 Rº: 59 ^m												
	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	176 53.2	-18 42.2	223 52.4		-28 18.2	73	60 N	15 59	16 48	17 40	8 07	46	10 44	77	
1	191 53.0		238 18.7	73	20.2	20	58	16 11	16 56	45	7 24	52	11 26	72	
2	206 52.9		252 45.0	73	22.2	20	56	21	17 03	49	6 56	53	11 55	69	
3	221 52.8		267 11.3	73	23.9	17	54	29	09	52	34	54	12 17	68	
4	236 52.6		281 37.5	72	25.5	16	52	37	15	56	16	55	35	67	
5	251 52.5	-18 39.1	296 03.6	71	-28 26.9	14	50	16 44	17 20	17 59	6 00	56	12 51	66	
6	266 52.4	-18 38.4	310 29.6	70	-28 28.2	13	45	17 00	17 31	18 07	5 29	57	13 22	65	
7	281 52.2		324 55.7	71	29.3	11	40	12	41	14	5 05	57	13 46	64	
8	296 52.1		339 21.6	69	30.3	10	35	23	50	20	4 45	58	14 06	63	
9	311 52.0		353 47.5	69	31.1	8	30	32	17 57	26	4 28	58	23	62	
10	326 51.8		8 13.4	69	31.7	6	20	17 48	18 12	38	3 59	59	14 52	61	
11	341 51.7	-18 35.3	22 39.2	68	-28 32.2	5	10 N	18 03	18 25	18 50	3 35	58	15 17	60	
12	356 51.6	-18 34.6	37 04.9	67	-28 32.5	3	0	18 16	18 38	19 03	3 12	59	15 40	59	
13	11 51.4		51 30.6	67	32.6	1	10 S	30	18 52	18	2 50	58	16 02	58	
14	26 51.3		65 56.3	67	32.6	0	20	18 44	19 08	36	2 25	59	27	57	
15	41 51.2		80 21.9	66	32.4	2	30	19 01	27	19 59	1 57	59	16 55	56	
16	56 51.0		94 47.5	66	32.1	3	35	11	39	20 13	40	59	17 12	55	
17	71 50.9	-18 31.4	109 13.1	66	-28 31.5	6	40	19 23	19 53	20 31	1 21	58	17 32	53	
18	86 50.8	-18 30.8	123 38.6	65	-28 30.8	7	45	19 36	20 10	20 53	0 57	58	17 56	52	
19	101 50.6		138 04.1	65	30.0	8	50	19 53	32	21 23	27	58	18 27	49	
20	116 50.5		152 29.5	64	29.0	10	52	20 00	42	39	0 12	58	18 42	48	
21	131 50.4		166 54.9	64	27.8	12	54	09	20 54	21 58	** ** *	**	19 00	45	
22	146 50.3		181 20.3	64	26.4	14	56	19	21 08	22 23	** ** *	**	21	43	
23	161 50.1		195 45.7	64	24.9	15	58	30	24	22 58	** ** *	**	19 49	38	
24	176 50.0	-18 26.9	210 11.0	63	-28 23.2	17	60 S	20 43	21 45	** ** *	23 23	94	20 28	29	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 15 ^h 35.3 ^m		Mag: -4.7 PMG: 15 ^h 08 ^m		Mag: -1.2 PMG: 23 ^h 13 ^m		Mag: -2.6 PMG: 20 ^h 14 ^m		Mag: +1.1 PMG: 14 ^h 50 ^m		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♅	Dec	
h	° /	° /	° /		° /		° /		° /		
0	125 32.5	132 55.8	-1 59.4		10 32.6	+25 49.9	55 34.6	+21 38.5	136 56.5	-6 59.8	
1	140 34.9	147 56.4	58.3		25 36.1	50.0	70 37.2	38.5	151 58.7	59.7	
2	155 37.4	162 57.0	57.1		40 39.5	50.1	85 39.7	38.5	167 00.9	59.6	
3	170 39.9	177 57.6	55.9		55 42.9	50.3	100 42.3	38.5	182 03.1	59.5	
4	185 42.3	192 58.2	54.8		70 46.4	50.4	115 44.8	38.5	197 05.4	59.4	
5	200 44.8	207 58.8	-1 53.6		85 49.8	+25 50.5	130 47.4	+21 38.5	212 07.6	-6 59.3	
6	215 47.2	222 59.4	-1 52.4		100 53.2	+25 50.7	145 49.9	+21 38.5	227 09.8	-6 59.2	
7	230 49.7	238 00.0	51.3		115 56.6	50.8	160 52.5	38.5	242 12.0	59.0	
8	245 52.2	253 00.6	50.1		131 00.1	50.9	175 55.0	38.5	257 14.3	58.9	
9	260 54.6	268 01.2	48.9		146 03.5	51.1	190 57.6	38.5	272 16.5	58.8	
10	275 57.1	283 01.7	47.8		161 06.9	51.2	206 00.1	38.5	287 18.7	58.7	
11	290 59.6	298 02.3	-1 46.6		176 10.3	+25 51.3	221 02.6	+21 38.5	302 20.9	-6 58.6	
12	306 02.0	313 02.9	-1 45.4		191 13.8	+25 51.5	236 05.2	+21 38.5	317 23.2	-6 58.5	
13	321 04.5	328 03.5	44.3		206 17.2	51.6	251 07.7	38.5	332 25.4	58.4	
14	336 07.0	343 04.1	43.1		221 20.6	51.7	266 10.3	38.5	347 27.6	58.3	
15	351 09.4	358 04.7	42.0		236 24.0	51.9	281 12.8	38.5	2 29.8	58.2	
16	6 11.9	13 05.4	40.8		251 27.5	52.0	296 15.4	38.5	17 32.0	58.1	
17	21 14.4	28 06.0	-1 39.6		266 30.9	+25 52.1	311 17.9	+21 38.5	32 34.3	-6 58.0	
18	36 16.8	43 06.6	-1 38.5		281 34.3	+25 52.2	326 20.5	+21 38.5	47 36.5	-6 57.9	
19	51 19.3	58 07.2	37.3		296 37.7	52.4	341 23.0	38.5	62 38.7	57.8	
20	66 21.7	73 07.8	36.1		311 41.1	52.5	356 25.6	38.5	77 40.9	57.7	
21	81 24.2	88 08.4	35.0		326 44.5	52.6	11 28.1	38.5	92 43.2	57.6	
22	96 26.7	103 09.0	33.8		341 48.0	52.7	26 30.6	38.5	107 45.4	57.5	
23	111 29.1	118 09.6	32.7		356 51.4	52.9	41 33.2	38.5	122 47.6	57.4	
24	126 31.6	133 10.2	-1 31.5		11 54.8	+25 53.0	56 35.7	+21 38.5	137 49.8	-6 57.3	
Dif	—		+6	+12	+34		+1	+25	0	+22	+

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'2 PMG:12 ^h 12.8 ^m				Edad: 27.1 ^d PHE { 4 ^h : 57/0 12 ^h : 57/2 20 ^h : 57/4 R°: 58 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	176	50.0	-18	26.9	210	11.0			-28	23.2	19	60 N	6	44	7	36	8	25	8	51
1	191	49.9		26.3	224	36.3	63			21.3	21	58	40		28	13		8	14	27
2	206	49.8		25.6	239	01.6	63			19.2	22	56	36	21		8	03	7	48	32
3	221	49.6		25.0	253	26.9	63			17.0	24	54	32	15		7	55	27	36	23
4	236	49.5		24.3	267	52.2	63			14.6	25	52	29	10		47		7	10	39
5	251	49.4	-18	23.7	282	17.4	62		-28	12.1	24	50	6	25	7	05	7	40	6	55
6	266	49.2	-18	23.0	296	42.7	63		-28	09.3	28	45	6	18	6	53	7	25	6	24
7	281	49.1		22.4	311	07.9	62			06.4	29	40	11		44	13		6	01	48
8	296	49.0		21.7	325	33.1	62			03.4	30	35	6	05		35	7	02	5	41
9	311	48.9		21.1	339	58.3	62		-28	00.1	33	30	5	59		28	6	53	5	25
10	326	48.8		20.4	354	23.5	62		-27	56.7	34	20	47		14	37		4	56	54
11	341	48.6	-18	19.8	8	48.7	62		-27	53.1	36	10 N	5	35	6	01	6	23	4	32
12	356	48.5	-18	19.1	23	13.9	62		-27	49.3	38	0	5	22	5	47	6	09	4	09
13	11	48.4		18.5	37	39.2	63			45.4	39	10 S	5	07		33	5	56	3	47
14	26	48.3		17.8	52	04.4	62			41.3	41	20	4	50	5	18	41	3	23	61
15	41	48.1		17.2	66	29.6	62			37.0	43	30	27		4	58	24	2	54	64
16	56	48.0		16.5	80	54.8	62			32.6	44	35	4	13		46	14		37	66
17	71	47.9	-18	15.9	95	20.0	62		-27	28.0	46	40	3	55	4	33	5	03	2	18
18	86	47.8	-18	15.2	109	45.3	63		-27	23.2	48	45	3	33	4	16	4	50	1	54
19	101	47.6		14.5	124	10.5	62			18.2	50	50	3	03	3	54	33	24	72	19
20	116	47.5		13.9	138	35.8	63			13.1	51	52	2	47		44	26	1	08	74
21	131	47.4		13.2	153	01.1	63			07.8	53	54		28		32	17	0	51	76
22	146	47.3		12.6	167	26.4	63		-27	02.3	55	56		2	03		18	4	07	29
23	161	47.2		11.9	181	51.7	63		-26	56.7	56	58	1	28	3	02	3	56	0	02
24	176	47.0	-18	11.3	196	17.1	64		-26	50.9	58	60 S	**	**	2	41	3	43	**	**
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 15 ^h 31.3 ^m		Mag: -4.7 PMG: 15 ^h 07 ^m				Mag: -1.2 PMG: 23 ^h 07 ^m				Mag: -2.6 PMG: 20 ^h 10 ^m				Mag: +1.1 PMG: 14 ^h 46 ^m					
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	126	31.6	133	10.2	-1	31.5	11	54.8	+25	53.0	56	35.7	+21	38.5	137	49.8	-6	57.3		
1	141	34.1	148	10.9		30.3	26	58.2		53.1	71	38.3		38.5	152	52.1		57.2		
2	156	36.5	163	11.5		29.2	42	01.6		53.2	86	40.8		38.5	167	54.3		57.1		
3	171	39.0	178	12.1		28.0	57	05.0		53.4	101	43.3		38.5	182	56.5		57.0		
4	186	41.5	193	12.7		26.9	72	08.4		53.5	116	45.9		38.5	197	58.7		56.9		
5	201	43.9	208	13.3	-1	25.7	87	11.8	+25	53.6	131	48.4	+21	38.5	213	01.0	-6	56.7		
6	216	46.4	223	14.0	-1	24.5	102	15.2	+25	53.7	146	51.0	+21	38.5	228	03.2	-6	56.6		
7	231	48.9	238	14.6		23.4	117	18.6		53.9	161	53.5		38.5	243	05.4		56.5		
8	246	51.3	253	15.2		22.2	132	22.1		54.0	176	56.0		38.5	258	07.6		56.4		
9	261	53.8	268	15.8		21.1	147	25.5		54.1	191	58.6		38.5	273	09.8		56.3		
10	276	56.2	283	16.5		19.9	162	28.9		54.2	207	01.1		38.5	288	12.1		56.2		
11	291	58.7	298	17.1	-1	18.7	177	32.3	+25	54.4	222	03.7	+21	38.5	303	14.3	-6	56.1		
12	307	01.2	313	17.7	-1	17.6	192	35.7	+25	54.5	237	06.2	+21	38.5	318	16.5	-6	56.0		
13	322	03.6	328	18.4		16.4	207	39.1		54.6	252	08.7		38.5	333	18.7		55.9		
14	337	06.1	343	19.0		15.3	222	42.5		54.7	267	11.3		38.5	348	21.0		55.8		
15	352	08.6	358	19.6		14.1	237	45.9		54.8	282	13.8		38.5	3	23.2		55.7		
16	7	11.0	13	20.3		13.0	252	49.3		55.0	297	16.3		38.5	18	25.4		55.6		
17	22	13.5	28	20.9	-1	11.8	267	52.7	+25	55.1	312	18.9	+21	38.5	33	27.6	-6	55.5		
18	37	16.0	43	21.5	-1	10.6	282	56.1	+25	55.2	327	21.4	+21	38.5	48	29.8	-6	55.4		
19	52	18.4	58	22.2		09.5	297	59.5		55.3	342	24.0		38.5	63	32.1		55.3		
20	67	20.9	73	22.8		08.3	313	02.8		55.4	357	26.5		38.5	78	34.3		55.2		
21	82	23.4	88	23.5		07.2	328	06.2		55.6	12	29.0		38.5	93	36.5		55.1		
22	97	25.8	103	24.1		06.0	343	09.6		55.7	27	31.6		38.5	108	38.7		55.0		
23	112	28.3	118	24.8		04.9	358	13.0		55.8	42	34.1		38.5	123	41.0		54.9		
24	127	30.7	133	25.4	-1	03.7	13	16.4	+25	55.9	57	36.6	+21	38.5	138	43.2	-6	54.7		
Dif	—		+6		+12		+34		+1		+25		0		+22		+			

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 16 ^h /2 PMG: 12 ^h 13.0 ^m				Edad: 28.1 ^d SD: 15 ^h /7 PMG: 11 ^h 21 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico		Hora		R°		Hora	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	h	m	h	m
0	176	47.0	-18	11.3	196	17.1	-26	50.9	60	58	60 N	16	04	16	53	17	44	9	06	6	13	45	113	
1	191	46.9		10.6	210	42.4		44.9	61	56		15		17	00		48	8	41	14	14	10	105	
2	206	46.8		09.9	225	07.8		38.8	63	54		25		07	52		56	20	21		30	98		
3	221	46.7		09.3	239	33.3		32.5	65	52		33		13		56	8	03	25	14	47	93		
4	236	46.6		08.6	253	58.7		26.0	65	52		41		18	17	59	7	49	28	15	01	89		
5	251	46.5	-18	08.0	268	24.2	-26	19.4	66	50		16	48	17	23	18	02	7	36	31	15	13	87	
6	266	46.3	-18	07.3	282	49.7	-26	12.6	68	45		17	02	17	34	18	09	7	10	36	15	39	80	
7	281	46.2		06.6	297	15.2	-26	05.6	70	40		14		43	16		6	49	40	15	59	76		
8	296	46.1		06.0	311	40.8	-25	58.5	71	35		25		52	22			31	44	16	16	72		
9	311	46.0		05.3	326	06.4		51.2	73	30		34		17	59	28		6	16	47		30	69	
10	326	45.9		04.6	340	32.1		43.7	75	20		17	50	18	13	39		5	50	51	16	54	65	
11	341	45.8	-18	04.0	354	57.8	-25	36.1	76	10 N		18	03	18	25	18	51	5	28	55	17	15	61	
12	356	45.6	-18	03.3	9	23.5	-25	28.3	78	0		18	17	18	38	19	04	5	07	58	17	35	56	
13	11	45.5		02.6	23	49.3		20.4	79	10 S		30		18	52	18		4	46	61	17	54	53	
14	26	45.4		02.0	38	15.1		12.3	81	20		18	44	19	07	35		4	24	65	18	14	49	
15	41	45.3		01.3	52	41.0	-25	04.0	83	30		19	00		26	19	57	3	58	69	38	44		
16	56	45.2	-18	00.6	67	06.9	-24	55.6	84	35		10		38	20	11		43	71	18	52	41		
17	71	45.1	-18	00.0	81	32.9	-24	47.0	86	40		19	21	19	51	20	28	3	25	74	19	08	37	
18	86	45.0	-17	59.3	95	58.9	-24	38.3	87	45		19	34	20	08	20	50	3	03	78	19	26	33	
19	101	44.9		58.6	110	24.9		29.4	89	50		50		28	21	19		2	36	83	19	50	27	
20	116	44.7		58.0	124	51.0		20.3	91	52		19	57		39	34		22	86		20	01	24	
21	131	44.6		57.3	139	17.2		11.1	92	54		20	06	20	50	21	52	2	07	89		14	20	
22	146	44.5		56.6	153	43.4	-24	01.8	93	56		15		21	03	22	15	1	48	95		28	17	
23	161	44.4		55.9	168	09.7	-23	52.3	95	58		26		19		22	47	1	26	100	20	45	11	
24	176	44.3	-17	55.3	182	36.0	-23	42.6	97	60 S		20	38	21	38	** **		0	56	111	21	05	5	
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 15 ^h 27.4 ^m				Mag: -4.7 PMG: 15 ^h 06 ^m				Mag: -1.2 PMG: 23 ^h 02 ^m				Mag: -2.5 PMG: 20 ^h 06 ^m				Mag: +1.1 PMG: 14 ^h 43 ^m							
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	127	30.7	133	25.4	-1	03.7	13	16.4	+25	55.9	57	36.6	+21	38.5	138	43.2	-6	54.7						
1	142	33.2	148	26.1		02.6	28	19.8		56.0	72	39.2		38.5	153	45.4		54.6						
2	157	35.7	163	26.7		01.4	43	23.2		56.1	87	41.7		38.5	168	47.6		54.5						
3	172	38.1	178	27.4	-1	00.2	58	26.6		56.2	102	44.2		38.5	183	49.8		54.4						
4	187	40.6	193	28.0	-0	59.1	73	30.0		56.4	117	46.8		38.5	198	52.1		54.3						
5	202	43.1	208	28.7	-0	57.9	88	33.3	+25	56.5	132	49.3	+21	38.5	213	54.3	-6	54.2						
6	217	45.5	223	29.3	-0	56.8	103	36.7	+25	56.6	147	51.8	+21	38.5	228	56.5	-6	54.1						
7	232	48.0	238	30.0		55.6	118	40.1		56.7	162	54.3		38.5	243	58.7		54.0						
8	247	50.5	253	30.6		54.5	133	43.5		56.8	177	56.9		38.5	259	00.9		53.9						
9	262	52.9	268	31.3		53.3	148	46.9		56.9	192	59.4		38.5	274	03.2		53.8						
10	277	55.4	283	32.0		52.2	163	50.3		57.0	208	01.9		38.5	289	05.4		53.7						
11	292	57.9	298	32.6	-0	51.0	178	53.6	+25	57.2	223	04.5	+21	38.5	304	07.6	-6	53.6						
12	308	00.3	313	33.3	-0	49.9	193	57.0	+25	57.3	238	07.0	+21	38.5	319	09.8	-6	53.5						
13	323	02.8	328	33.9		48.7	209	00.4		57.4	253	09.5		38.5	334	12.0		53.4						
14	338	05.2	343	34.6		47.6	224	03.8		57.5	268	12.1		38.5	349	14.3		53.3						
15	353	07.7	358	35.3		46.4	239	07.1		57.6	283	14.6		38.5	4	16.5		53.2						
16	8	10.2	13	36.0		45.3	254	10.5		57.7	298	17.1		38.5	19	18.7		53.1						
17	23	12.6	28	36.6	-0	44.1	269	13.9	+25	57.8	313	19.6	+21	38.5	34	20.9	-6	52.9						
18	38	15.1	43	37.3	-0	43.0	284	17.3	+25	57.9	328	22.2	+21	38.5	49	23.2	-6	52.8						
19	53	17.6	58	38.0		41.8	299	20.6		58.0	343	24.7		38.5	64	25.4		52.7						
20	68	20.0	73	38.7		40.7	314	24.0		58.1	358	27.2		38.5	79	27.6		52.6						
21	83	22.5	88	39.3		39.5	329	27.4		58.3	13	29.7		38.5	94	29.8		52.5						
22	98	25.0	103	40.0		38.4	344	30.7		58.4	28	32.3		38.5	109	32.0		52.4						
23	113	27.4	118	40.7		37.2	359	34.1		58.5	43	34.8		38.5	124	34.2		52.3						
24	128	29.9	133	41.4	-0	36.1	14	37.5	+25	58.6	58	37.3	+21	38.5	139	36.5	-6	52.2						
Dif	—				+7 +12				+34 +1				+25 0				+22 +1							

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.1 ^m				Edad: 29.1 ^d SD: 15'9 PMG: 12 ^h 17 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	176	44.3	-17	55.3	182	36.0	-23	42.6	98	60 N	6 41	7 32	8 20	9 11	1	15 37 109
1	191	44.2		54.6	197	02.4		32.8	98	58	37	25	09	8 54	7	15 53 103
2	206	44.1		53.9	211	28.8		22.9	99	56	33	18	8 00	39	12	16 07 98
3	221	44.0		53.2	225	55.3		12.8	101	54	30	12	7 52	27	16	19 93
4	236	43.9		52.6	240	21.9	-23	02.5	103	52	26	07	44	16	19	29 90
5	251	43.7	-17	51.9	254	48.5	-22	52.1	104	50	6 23	7 02	7 37	8 06	22	16 38 87
6	266	43.6	-17	51.2	269	15.1	-22	41.6	105	45	6 16	6 51	7 23	7 45	28	16 58 80
7	281	43.5		50.5	283	41.9		30.9	107	40	10	42	11	28	33	17 13 76
8	296	43.4		49.9	298	08.6		20.1	108	35	6 04	34	7 01	14	36	27 71
9	311	43.3		49.2	312	35.5	-22	09.1	110	30	5 58	27	6 52	7 01	40	38 68
10	326	43.2		48.5	327	02.4	-21	58.0	111	20	47	13	36	6 40	45	17 57 63
11	341	43.1	-17	47.8	341	29.4	-21	46.8	112	10 N	5 35	6 01	6 23	6 21	50	18 14 57
12	356	43.0	-17	47.1	355	56.4	-21	35.5	113	0	5 23	5 48	6 10	6 04	54	18 30 52
13	11	42.9		46.5	10	23.5		23.9	116	10 S	5 08	34	5 57	5 46	58	18 45 48
14	26	42.8		45.8	24	50.7		12.3	116	20	4 51	19	42	27	63	19 02 43
15	41	42.7		45.1	39	17.9	-21	00.5	118	30	29	5 00	26	5 05	69	20 38
16	56	42.6		44.4	53	45.2	-20	48.6	119	35	4 15	4 49	17	4 52	72	31 34
17	71	42.5	-17	43.7	68	12.6	-20	36.6	120	40	3 58	4 35	5 06	4 38	75	19 44 30
18	86	42.4	-17	43.1	82	40.0	-20	24.5	121	45	3 36	4 19	4 53	4 20	80	19 58 26
19	101	42.3		42.4	97	07.5	-20	12.2	123	50	3 07	3 58	37	3 58	86	20 16 19
20	116	42.2		41.7	111	35.0	-19	59.8	124	52	2 52	48	29	47	89	24 17
21	131	42.0		41.0	126	02.6		47.2	126	54	34	37	21	35	93	33 14
22	146	41.9		40.3	140	30.3		34.6	126	56	2 11	23	12	21	98	43 10
23	161	41.8		39.6	154	58.1		21.8	128	58	1 40	3 08	4 01	3 05	103	20 55 6
24	176	41.7	-17	38.9	169	25.9	-19	08.9	129	60 S	0 31	2 48	3 49	2 45	110	21 08 1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 15 ^h 23.5 ^m		Mag: -4.7 PMG: 15 ^h 05 ^m		Mag: -1.1 PMG: 22 ^h 56 ^m		Mag: -2.5 PMG: 20 ^h 02 ^m		Mag: +1.1 PMG: 14 ^h 39 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	128	29.9	133	41.4	-0	36.1	14	37.5	+25	58.6	58	37.3	+21	38.5	139	36.5	-6	52.2
1	143	32.3	148	42.1		34.9	29	40.8		58.7	73	39.8		38.5	154	38.7		52.1
2	158	34.8	163	42.7		33.8	44	44.2		58.8	88	42.4		38.5	169	40.9		52.0
3	173	37.3	178	43.4		32.6	59	47.6		58.9	103	44.9		38.5	184	43.1		51.9
4	188	39.7	193	44.1		31.5	74	50.9		59.0	118	47.4		38.5	199	45.3		51.8
5	203	42.2	208	44.8	-0	30.3	89	54.3	+25	59.1	133	49.9	+21	38.5	214	47.6	-6	51.7
6	218	44.7	223	45.5	-0	29.2	104	57.6	+25	59.2	148	52.4	+21	38.5	229	49.8	-6	51.6
7	233	47.1	238	46.2		28.0	120	01.0		59.3	163	55.0		38.5	244	52.0		51.5
8	248	49.6	253	46.9		26.9	135	04.3		59.4	178	57.5		38.5	259	54.2		51.3
9	263	52.1	268	47.6		25.7	150	07.7		59.5	194	00.0		38.5	274	56.4		51.2
10	278	54.5	283	48.3		24.6	165	11.1		59.6	209	02.5		38.5	289	58.7		51.1
11	293	57.0	298	49.0	-0	23.4	180	14.4	+25	59.7	224	05.1	+21	38.5	305	00.9	-6	51.0
12	308	59.5	313	49.7	-0	22.3	195	17.8	+25	59.8	239	07.6	+21	38.5	320	03.1	-6	50.9
13	324	01.9	328	50.4		21.1	210	21.1	+25	59.9	254	10.1		38.6	335	05.3		50.8
14	339	04.4	343	51.1		20.0	225	24.5	+26	00.0	269	12.6		38.6	350	07.5		50.7
15	354	06.8	358	51.8		18.9	240	27.8	+26	00.1	284	15.1		38.6	5	09.8		50.6
16	9	09.3	13	52.5		17.7	255	31.2		00.2	299	17.6		38.6	20	12.0		50.5
17	24	11.8	28	53.2	-0	16.6	270	34.5	+26	00.3	314	20.2	+21	38.6	35	14.2	-6	50.4
18	39	14.2	43	53.9	-0	15.4	285	37.9	+26	00.4	329	22.7	+21	38.6	50	16.4	-6	50.3
19	54	16.7	58	54.6		14.3	300	41.2		00.5	344	25.2		38.6	65	18.6		50.2
20	69	19.2	73	55.3		13.1	315	44.5		00.6	359	27.7		38.6	80	20.8		50.1
21	84	21.6	88	56.0		12.0	330	47.9		00.7	14	30.2		38.6	95	23.1		50.0
22	99	24.1	103	56.7		10.9	345	51.2		00.8	29	32.7		38.6	110	25.3		49.9
23	114	26.6	118	57.4		09.7	0	54.6		00.9	44	35.3		38.6	125	27.5		49.7
24	129	29.0	133	58.2	-0	08.6	15	57.9	+26	01.0	59	37.8	+21	38.6	140	29.7	-6	49.6
Dif	—		+7		+11		+34		+1		+25		0		+22		+1	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG:12 ^h 13.3 ^m				Edad: 30.1 ^d SD: 16/0 PMG: 13 ^h 10 ^m												
	hG ☉		Dec		hG ☾		Dif										
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m	
0	176	41.7	-17	38.9	169	25.9			89	-19	08.9	60 N	16 09	16 57	17 48	9 12	1 17 26 106
1	191	41.6		38.3	183	53.8			89	-18	55.9	58	20	17 04	52	9 01	6 36 101
2	206	41.5		37.6	198	21.7			90		42.8	56	29	11	56	8 51	10 45 97
3	221	41.4		36.9	212	49.7			90		29.6	54	37	16	17 59	43 13	52 94
4	236	41.3		36.2	227	17.8			91		16.2	52	45	21	18 02	35 16	17 59 90
5	251	41.2	-17	35.5	241	46.0			92	-18	02.7	50	16 51	17 26	18 05	8 28	19 18 05 87
6	266	41.1	-17	34.8	256	14.2			92	-17	49.2	45	17 05	17 37	18 12	8 13	25 18 18 81
7	281	41.0		34.1	270	42.4			92		35.5	40	17	46	18	8 01	29 29 76
8	296	40.9		33.4	285	10.8			94		21.7	35	27	17 54	24	7 50	34 38 72
9	311	40.8		32.8	299	39.2			94	-17	07.8	30	36	18 01	29	41 37	18 46 68
10	326	40.7		32.1	314	07.6			94	-16	53.8	20	17 51	14	40	25 43	19 00 61
11	341	40.6	-17	31.4	328	36.2			96	-16	39.7	10 N	18 04	18 26	18 52	7 11	48 19 11 57
12	356	40.5	-17	30.7	343	04.8			96	-16	25.5	0	18 17	18 38	19 04	6 58	52 19 22 52
13	11	40.4		30.0	357	33.4			96	-16	11.2	10 S	30	18 52	18	44 58	33 47
14	26	40.3		29.3	12	02.1			97	-15	56.8	20	43	19 07	34	30 63	45 41
15	41	40.2		28.6	26	30.9			98		42.3	30	18 59	25	19 56	14 68	19 58 35
16	56	40.1		27.9	40	59.8			99		27.7	35	19 09	36	20 10	6 04	72 20 05 32
17	71	40.1	-17	27.2	55	28.7			99	-15	13.0	40	19 19	19 49	20 26	5 53	76 20 14 27
18	86	40.0	-17	26.5	69	57.6			99	-14	58.2	45	19 32	20 05	20 47	5 40	81 20 24 23
19	101	39.9		25.8	84	26.6			100		43.4	50	47	25	21 15	24 88	35 18
20	116	39.8		25.1	98	55.7			101		28.4	52	19 54	35	29	16 91	41 15
21	131	39.7		24.4	113	24.9			102	-14	13.4	54	20 02	46	21 47	5 08	94 47 12
22	146	39.6		23.7	127	54.1			102	-13	58.2	56	11	20 59	22 08	4 59	98 20 53 9
23	161	39.5		23.0	142	23.3			102		43.0	58	22	21 14	22 37	48 102	21 01 5
24	176	39.4	-17	22.3	156	52.6			103	-13	27.7	60 S	20 33	21 32	23 25	4 35	108 21 09 1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 15 ^h 19.5 ^m		Mag: -4.7 PMG: 15 ^h 03 ^m		Mag: -1.1 PMG: 22 ^h 51 ^m		Mag: -2.5 PMG: 19 ^h 58 ^m		Mag: +1.1 PMG: 14 ^h 36 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	129	29.0	133	58.2	-0	08.6	15	57.9	+26	01.0	59	37.8	+21	38.6	140	29.7	-6	49.6
1	144	31.5	148	58.9		07.4	31	01.2		01.1	74	40.3		38.6	155	31.9		49.5
2	159	34.0	163	59.6		06.3	46	04.6		01.2	89	42.8		38.6	170	34.1		49.4
3	174	36.4	179	00.3		05.1	61	07.9		01.3	104	45.3		38.6	185	36.4		49.3
4	189	38.9	194	01.0		04.0	76	11.2		01.4	119	47.8		38.6	200	38.6		49.2
5	204	41.3	209	01.8	-0	02.9	91	14.6	+26	01.5	134	50.3	+21	38.6	215	40.8	-6	49.1
6	219	43.8	224	02.5	-0	01.7	106	17.9	+26	01.6	149	52.9	+21	38.6	230	43.0	-6	49.0
7	234	46.3	239	03.2	-0	00.6	121	21.2		01.7	164	55.4		38.6	245	45.2		48.9
8	249	48.7	254	03.9	+0	00.5	136	24.6		01.8	179	57.9		38.6	260	47.5		48.8
9	264	51.2	269	04.7		01.7	151	27.9		01.9	195	00.4		38.6	275	49.7		48.7
10	279	53.7	284	05.4		02.8	166	31.2		02.0	210	02.9		38.6	290	51.9		48.6
11	294	56.1	299	06.1	+0	04.0	181	34.6	+26	02.1	225	05.4	+21	38.6	305	54.1	-6	48.5
12	309	58.6	314	06.9	+0	05.1	196	37.9	+26	02.2	240	07.9	+21	38.6	320	56.3	-6	48.4
13	325	01.1	329	07.6		06.2	211	41.2		02.3	255	10.4		38.6	335	58.5		48.2
14	340	03.5	344	08.3		07.4	226	44.5		02.3	270	12.9		38.6	351	00.8		48.1
15	355	06.0	359	09.1		08.5	241	47.9		02.4	285	15.5		38.6	6	03.0		48.0
16	10	08.5	14	09.8		09.7	256	51.2		02.5	300	18.0		38.6	21	05.2		47.9
17	25	10.9	29	10.6	+0	10.8	271	54.5	+26	02.6	315	20.5	+21	38.6	36	07.4	-6	47.8
18	40	13.4	44	11.3	+0	11.9	286	57.8	+26	02.7	330	23.0	+21	38.6	51	09.6	-6	47.7
19	55	15.8	59	12.0		13.1	302	01.1		02.8	345	25.5		38.6	66	11.8		47.6
20	70	18.3	74	12.8		14.2	317	04.4		02.9	0	28.0		38.6	81	14.0		47.5
21	85	20.8	89	13.5		15.3	332	07.8		03.0	15	30.5		38.6	96	16.3		47.4
22	100	23.2	104	14.3		16.5	347	11.1		03.1	30	33.0		38.6	111	18.5		47.3
23	115	25.7	119	15.0		17.6	2	14.4		03.2	45	35.5		38.7	126	20.7		47.2
24	130	28.2	134	15.8	+0	18.7	17	17.7	+26	03.2	60	38.0	+21	38.7	141	22.9	-6	47.1
Dif	—		+7		+11		+33		+1		+25		0		+22		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16'2 PMG:12 ^h 13.4 ^m				Edad: 1.5 ^d PHE { 4 ^h : 59'4 12 ^h : 59'5 20 ^h : 59'5 R°: 49 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	39.4	-17	22.3	156	52.6	-13	27.7	153	60 N	6 37	7 28	8 16	9 12	**	19 11	102		
1	191	39.3		21.6	171	52.0	-13	12.4	155	58	33	21	8 05	05	3	16	97		
2	206	39.2		20.9	185	51.4	-12	56.9	155	56	30	15	7 56	9 00	6	20	94		
3	221	39.1		20.2	200	20.9		41.4	155	54	27	09	48	8 55	9	24	99		
4	236	39.0		19.5	214	50.4		25.8	156	52	24	04	41	50	12	28	87		
5	251	38.9	-17	18.8	229	20.0	-12	10.1	157	50	6 21	7 00	7 35	8 46	15	19 31	84		
6	266	38.8	-17	18.1	243	49.6	-11	54.4	157	45	6 14	6 49	7 21	8 37	20	19 38	78		
7	281	38.7		17.4	258	19.3		38.6	158	40	08	41	7 09	29 25	44	73			
8	296	38.7		16.7	272	49.0		22.7	159	35	6 02	33	6 59	22 29	48	70			
9	311	38.6		16.0	287	18.8	-11	06.8	159	30	5 57	26	51	17 32	19 53	65			
10	326	38.5		15.3	301	48.6	-10	50.8	160	20	46	13	36	8 06 39	20 00	59			
11	341	38.4	-17	14.6	316	18.5	-10	34.7	161	10 N	5 35	6 01	6 22	7 57 45	20 07	53			
12	356	38.3	-17	13.9	330	48.4	-10	18.6	161	0	5 23	5 48	6 10	7 49 49	20 12	49			
13	11	38.2		13.2	345	18.4	-10	02.4	162	10 S	5 09	35	5 57	41 54	18	44			
14	26	38.1		12.5	359	48.4	-9	46.1	163	20	4 53	20	44	31 60	25	38			
15	41	38.0		11.8	14	18.5		29.8	163	30	31	5 02	28	21 66	32	31			
16	56	37.9		11.1	28	48.6	-9	13.4	164	35	18	4 51	19	15 70	36	28			
17	71	37.9	-17	10.4	43	18.7	-8	57.0	164	40	4 01	4 38	5 08	7 08 74	20 40	24			
18	86	37.8	-17	09.6	57	48.9	-8	40.6	164	45	3 40	4 22	4 56	7 00 79	20 45	20			
19	101	37.7		08.9	72	19.1		24.0	166	50	3 12	4 02	40	6 50 85	51	15			
20	116	37.6		08.2	86	49.4	-8	07.5	165	52	2 58	3 52	33	46 88	54	12			
21	131	37.5		07.5	101	19.7	-7	50.9	166	54	41	41	25	41 91	20 57	9			
22	146	37.4		06.8	115	50.0		34.2	167	56	2 19	29	16	35 95	21 01	6			
23	161	37.3		06.1	130	20.3		17.5	167	58	1 51	3 14	4 06	29 98	04	3			
24	176	37.2	-17	05.4	144	50.7	-7	00.8	167	60 S	1 02	2 56	3 54	6 22 103	21 09	**			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 15 ^h 15.6 ^m		Mag: -4.7 PMG: 15 ^h 02 ^m		Mag: -1.1 PMG: 22 ^h 46 ^m		Mag: -2.5 PMG: 19 ^h 54 ^m		Mag: +1.1 PMG: 14 ^h 32 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	130	28.2	134	15.8	+0	18.7	17	17.7	+21	38.7									
1	145	30.6	149	16.5		19.9	32	21.0		38.7									
2	160	33.1	164	17.3		21.0	47	24.3		38.7									
3	175	35.6	179	18.0		22.1	62	27.6		38.7									
4	190	38.0	194	18.8		23.3	77	30.9		38.7									
5	205	40.5	209	19.6	+0	24.4	92	34.2	+21	38.7									
6	220	42.9	224	20.3	+0	25.5	107	37.5	+21	38.7									
7	235	45.4	239	21.1		26.7	122	40.8		38.7									
8	250	47.9	254	21.9		27.8	137	44.1		38.7									
9	265	50.3	269	22.6		28.9	152	47.4		38.7									
10	280	52.8	284	23.4		30.1	167	50.7		38.7									
11	295	55.3	299	24.2	+0	31.2	182	54.0	+21	38.7									
12	310	57.7	314	24.9	+0	32.3	197	57.3	+21	38.7									
13	326	00.2	329	25.7		33.4	213	00.6		38.7									
14	341	02.7	344	26.5		34.6	228	03.9		38.7									
15	356	05.1	359	27.2		35.7	243	07.2		38.7									
16	11	07.6	14	28.0		36.8	258	10.5		38.7									
17	26	10.1	29	28.8	+0	38.0	273	13.8	+21	38.7									
18	41	12.5	44	29.6	+0	39.1	288	17.1	+21	38.7									
19	56	15.0	59	30.4		40.2	303	20.4		38.7									
20	71	17.4	74	31.1		41.3	318	23.7		38.7									
21	86	19.9	89	31.9		42.5	333	27.0		38.7									
22	101	22.4	104	32.7		43.6	348	30.2		38.7									
23	116	24.8	119	33.5		44.7	3	33.5		38.8									
24	131	27.3	134	34.3	+0	45.8	18	36.8	+21	38.8									
Dif	—		+8		+11		+33		+1										
							+25		0										
									+22										
									+1										

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:12 ^h 13.6 ^m				Edad: 2.5 ^d PHE { 4 ^h : 59'6 12 ^h : 59'6 20 ^h : 59'7 SD: 16'2 PMG: 14 ^h 50 ^m R°: 49 ^m																	
	hG ☉	Dec			hG ☾	Dif								Civil	Náutico		Hora	R°		Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	h	m	m
0	176	37.2	-17	05.4	144	50.7	-7	00.8	60 N	16	15	17	02	17	53	9	11	0	20	53	102	
1	191	37.2		04.7	159	21.2	-6	44.0	58	25	09	17	56		08	4		53	99			
2	206	37.1		04.0	173	51.6		27.2	56	33	15	18	00		06	7		54	95			
3	221	37.0		03.2	188	22.1	-6	10.3	54	41	20	03		04	10		55	91				
4	236	36.9		02.5	202	52.6	-5	53.4	52	48	25	06		02	13		55	88				
5	251	36.8	-17	01.8	217	23.2	-5	36.5	50	16	55	17	29	18	08	9	01	15	20	55	86	
6	266	36.7	-17	01.1	231	53.8	-5	19.6	45	17	08	17	39	18	15	8	57	21	20	56	80	
7	281	36.7	-17	00.4	246	24.4	-5	02.6	40	19		48		20	54	25		57	75			
8	296	36.6	-16	59.7	260	55.0	-4	45.6	35	29		17	55	26		51	30		58	70		
9	311	36.5		59.0	275	25.6		28.5	30	37		18	02	31		49	33		58	67		
10	326	36.4		58.2	289	56.3	-4	11.5	20	17	52	15		41		45	39	20	59	61		
11	341	36.3	-16	57.5	304	27.0	-3	54.4	10 N	18	05	18	27	18	52	8	42	44	21	00	55	
12	356	36.3	-16	56.8	318	57.7	-3	37.3	0	18	17	18	39	19	04	8	38	50	21	01	50	
13	11	36.2		56.1	333	28.4		20.1	10 S	29		18	51		17	35	55		02	44		
14	26	36.1		55.4	347	59.2	-3	03.0	20	43		19	06		33	31	61		03	39		
15	41	36.0		54.6	2	29.9	-2	45.8	30	18	58	24	19	54		27	67		03	33		
16	56	35.9		53.9	17	00.7		28.7	35	19	07	34	20	08		25	70		04	29		
17	71	35.9	-16	53.2	31	31.5	-2	11.5	40	19	17	19	47	20	24	8	22	75	21	04	26	
18	86	35.8	-16	52.5	46	02.3	-1	54.3	45	19	29	20	02	20	44	8	19	80	21	05	21	
19	101	35.7		51.8	60	33.1		37.1	50		44	22	21	11		15	86		06	15		
20	116	35.6		51.0	75	03.9		19.8	52		51	31		25		14	88		06	13		
21	131	35.5		50.3	89	34.7	-1	02.6	54	19	59	42	21	41		12	91		06	11		
22	146	35.5		49.6	104	05.6	-0	45.4	56	20	07	20	54	22	01	10	94		07	7		
23	161	35.4		48.9	118	36.4		28.2	58		17	21	08	22	27	07	99		07	4		
24	176	35.3	-16	48.2	133	07.3	-0	10.9	60 S	20	28	21	25	23	07	8	05	102	21	08	0	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 15 ^h 11.7 ^m			Mag: -4.8 PMG: 15 ^h 01 ^m			Mag: -1.0 PMG: 22 ^h 41 ^m			Mag: -2.5 PMG: 19 ^h 50 ^m			Mag: +1.1 PMG: 14 ^h 29 ^m									
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	131	27.3	134	34.3	+0	45.8	18	36.8	+26	05.2	61	38.0	+21	38.8	142	16.1	-6	44.5				
1	146	29.8	149	35.1		47.0	33	40.1		05.3	76	40.5		38.8	157	18.3		44.4				
2	161	32.2	164	35.9		48.1	48	43.4		05.4	91	43.0		38.8	172	20.5		44.2				
3	176	34.7	179	36.7		49.2	63	46.6		05.5	106	45.5		38.8	187	22.7		44.1				
4	191	37.2	194	37.5		50.3	78	49.9		05.6	121	48.0		38.8	202	24.9		44.0				
5	206	39.6	209	38.3	+0	51.5	93	53.2	+26	05.6	136	50.5	+21	38.8	217	27.1	-6	43.9				
6	221	42.1	224	39.1	+0	52.6	108	56.5	+26	05.7	151	53.0	+21	38.8	232	29.4	-6	43.8				
7	236	44.5	239	39.9		53.7	123	59.7		05.8	166	55.5		38.8	247	31.6		43.7				
8	251	47.0	254	40.7		54.8	139	03.0		05.9	181	58.0		38.8	262	33.8		43.6				
9	266	49.5	269	41.5		55.9	154	06.3		05.9	197	00.5		38.8	277	36.0		43.5				
10	281	51.9	284	42.3		57.1	169	09.6		06.0	212	03.0		38.8	292	38.2		43.4				
11	296	54.4	299	43.1	+0	58.2	184	12.8	+26	06.1	227	05.5	+21	38.8	307	40.4	-6	43.3				
12	311	56.9	314	43.9	+0	59.3	199	16.1	+26	06.2	242	08.0	+21	38.8	322	42.6	-6	43.2				
13	326	59.3	329	44.7	+1	00.4	214	19.4		06.2	257	10.5		38.8	337	44.8		43.1				
14	342	01.8	344	45.5		01.6	229	22.6		06.3	272	13.0		38.8	352	47.1		42.9				
15	357	04.3	359	46.3		02.7	244	25.9		06.4	287	15.5		38.8	7	49.3		42.8				
16	12	06.7	14	47.1		03.8	259	29.1		06.5	302	17.9		38.8	22	51.5		42.7				
17	27	09.2	29	47.9	+1	04.9	274	32.4	+26	06.5	317	20.4	+21	38.8	37	53.7	-6	42.6				
18	42	11.7	44	48.8	+1	06.0	289	35.7	+26	06.6	332	22.9	+21	38.9	52	55.9	-6	42.5				
19	57	14.1	59	49.6		07.1	304	38.9		06.7	347	25.4		38.9	67	58.1		42.4				
20	72	16.6	74	50.4		08.3	319	42.2		06.7	2	27.9		38.9	83	00.3		42.3				
21	87	19.0	89	51.2		09.4	334	45.4		06.8	17	30.4		38.9	98	02.5		42.2				
22	102	21.5	104	52.0		10.5	349	48.7		06.9	32	32.9		38.9	113	04.8		42.1				
23	117	24.0	119	52.9		11.6	4	51.9		07.0	47	35.4		38.9	128	07.0		42.0				
24	132	26.4	134	53.7	+1	12.7	19	55.2	+26	07.0	62	37.9	+21	38.9	143	09.2	-6	41.9				
Dif	—			+8	+11		+33	+1		+25	0			+22			+					

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16 ^h /2 PMG:12 ^h 13.7 ^m				Edad: 3.5 ^d PHE { 4 ^h : 59/7 12 ^h : 59/7 20 ^h : 59/6 R°: 49 ^m															
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°						
h	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	176	35.3	-16	48.2	133	07.3	-0	6	33	7	24	8	11	9	10	**	22	34	103	
1	191	35.2		47.4	147	38.1	+0	30	17	8	01	11	3				30	99		
2	206	35.2		46.7	162	08.9		27	12	7	52	12	6				27	95		
3	221	35.1		46.0	176	39.8		24	06		45	13	9				25	99		
4	236	35.0		45.2	191	10.6	+0	21	7	02	38	14	12				22	88		
5	251	34.9	-16	44.5	205	41.5	+1	6	18	6	57	7	32	9	15	14	22	20	85	
6	266	34.9	-16	43.8	220	12.3	+1	6	12	6	47	7	18	9	17	19	22	15	79	
7	281	34.8		43.1	234	43.2	+1	07	39	7	07	18	25	11	74					
8	296	34.7		42.3	249	14.0	+2	6	01	31	6	58	19	29			07	70		
9	311	34.6		41.6	263	44.8		5	56	25	50	21	32	22	04	66				
10	326	34.6		40.9	278	15.6		46	12		35	23	38	21	59	60				
11	341	34.5	-16	40.2	292	46.4	+2	5	35	6	00	6	22	9	25	43	21	54	54	
12	356	34.4	-16	39.4	307	17.2	+3	5	24	5	49	6	10	9	27	48	21	49	50	
13	11	34.3		38.7	321	48.0		5	10	36	5	58	28	54			45	44		
14	26	34.3		38.0	336	18.7	+3	4	54		45	30	60				40	39		
15	41	34.2		37.2	350	49.5	+4	33	5	04	30	33	65				35	33		
16	56	34.1		36.5	5	20.2		20	4	53	21	34	70				32	29		
17	71	34.1	-16	35.8	19	50.9	+4	4	04	4	41	5	10	9	36	73	21	28	26	
18	86	34.0	-16	35.0	34	21.6	+4	3	44	4	25	4	58	9	37	79	21	25	20	
19	101	33.9		34.3	48	52.3	+5	14	8	06	44	40	84				20	15		
20	116	33.9		33.6	63	22.9		3	03	3	57	37	41	87			18	12		
21	131	33.8		32.8	77	53.6	+5	2	47		46	29	42	90			15	10		
22	146	33.7		32.1	92	24.2	+6	05	5		34	21	43	94			13	6		
23	161	33.7		31.4	106	54.7		2	01	20	11	44	98				10	3		
24	176	33.6	-16	30.6	121	25.3	+6	39	1	21	3	03	4	00	9	46	102	21	07	**
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 15 ^h 07.8 ^m		Mag: -4.8 PMG: 15 ^h 00 ^m		Mag: -1.0 PMG: 22 ^h 35 ^m		Mag: -2.5 PMG: 19 ^h 46 ^m		Mag: +1.1 PMG: 14 ^h 25 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	132	26.4	134	53.7	19	55.2	62	37.9	143	09.2										
1	147	28.9	149	54.5	34	58.4	77	40.3	158	11.4										
2	162	31.4	164	55.4	50	01.7	92	42.8	173	13.6										
3	177	33.8	179	56.2	65	04.9	107	45.3	188	15.8										
4	192	36.3	194	57.0	80	08.2	122	47.8	203	18.0										
5	207	38.8	209	57.9	95	11.4	137	50.3	218	20.2										
6	222	41.2	224	58.7	110	14.7	152	52.8	233	22.5										
7	237	43.7	239	59.5	125	17.9	167	55.3	248	24.7										
8	252	46.2	255	00.4	140	21.2	182	57.7	263	26.9										
9	267	48.6	270	01.2	155	24.4	198	00.2	278	29.1										
10	282	51.1	285	02.1	170	27.6	213	02.7	293	31.3										
11	297	53.5	300	02.9	185	30.9	228	05.2	308	33.5										
12	312	56.0	315	03.7	200	34.1	243	07.7	323	35.7										
13	327	58.5	330	04.6	215	37.3	258	10.2	338	37.9										
14	343	00.9	345	05.4	230	40.6	273	12.6	353	40.1										
15	358	03.4	0	06.3	245	43.8	288	15.1	8	42.4										
16	13	05.9	15	07.2	260	47.0	303	17.6	23	44.6										
17	28	08.3	30	08.0	275	50.3	318	20.1	38	46.8										
18	43	10.8	45	08.9	290	53.5	333	22.6	53	49.0										
19	58	13.3	60	09.7	305	56.7	348	25.0	68	51.2										
20	73	15.7	75	10.6	321	00.0	3	27.5	83	53.4										
21	88	18.2	90	11.4	336	03.2	18	30.0	98	55.6										
22	103	20.6	105	12.3	351	06.4	33	32.5	113	57.8										
23	118	23.1	120	13.2	6	09.6	48	35.0	129	00.0										
24	133	25.6	135	14.0	21	12.8	63	37.4	144	02.3										
Dif	—		+8	+11	+32	+1	+25	0	+22	+1										

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h /2 PMG:12 ^h 13.8 ^m				Edad: 4.5 ^d PHE { 4 ^h : 59 ^h /6 12 ^h : 59 ^h /5 20 ^h : 59 ^h /5 R°: 52 ^m													
	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	33.6	-16	30.6	121	25.3		+6	39.1	168	60 N	16 20	17 07	17 57	9 09	1	**	**
1	191	33.5		29.9	135	55.8	115	+6	55.9	167	58	30	13	18 00	14 5		**	**
2	206	33.4		29.1	150	26.3	115	+7	12.6	167	56	38	19	03	18 9		**	**
3	221	33.4		28.4	164	56.7	114		29.3	167	54	45	24	06	22 12		23 56	94
4	236	33.3		27.7	179	27.2	115	+7	45.9	166	52	52	28	09	26 15		50 91	
5	251	33.3	-16	26.9	193	57.6	114	+8	02.5	166	50	16 58	17 33	18 11	9 29	18	23 45	88
6	266	33.2	-16	26.2	208	27.9	113	+8	19.1	166	45	17 11	17 42	18 17	9 36	24	23 34	81
7	281	33.1		25.5	222	58.2	113		35.6	165	40	22	50	22	43 28		25 76	
8	296	33.1		24.7	237	28.5	113	+8	52.0	164	35	31	17 57	28	48 32		17 72	
9	311	33.0		24.0	251	58.8	113	+9	08.4	164	30	39	18 04	33	9 53	35	23 10	69
10	326	32.9		23.2	266	29.0	112		24.8	164	20	17 53	16	42	10 01	42	22 59	62
11	341	32.9	-16	22.5	280	59.1	111	+9	41.1	163	10 N	18 06	18 27	18 53	10 08	47	22 48	58
12	356	32.8	-16	21.7	295	29.3	112	+9	57.3	162	0	18 17	18 39	19 04	10 15	52	22 39	53
13	11	32.7		21.0	309	59.3	110	+10	13.5	162	10 S	29	18 51	17	22 57		29 49	
14	26	32.7		20.3	324	29.4	111		29.6	161	20	42	19 05	33	30 62		19 44	
15	41	32.6		19.5	338	59.4	110	+10	45.7	161	30	18 57	22	19 53	38 69		08 37	
16	56	32.5		18.8	353	29.3	109	+11	01.7	160	35	19 05	33	20 06	44 71		22 01	34
17	71	32.5	-16	18.0	7	59.2	109	+11	17.6	159	40	19 15	19 45	20 21	10 49	76	21 54	30
18	86	32.4	-16	17.3	22	29.1	109	+11	33.5	159	45	19 27	20 00	20 41	10 56	81	21 45	26
19	101	32.4		16.5	36	58.8	107	+11	49.3	158	50	41	18	21 07	11 04	88	35 20	
20	116	32.3		15.8	51	28.6	108	+12	05.1	158	52	48	27	20	08 90		30 17	
21	131	32.2		15.0	65	58.3	107		20.7	156	54	19 55	37	35	12 94		25 14	
22	146	32.2		14.3	80	27.9	106		36.3	156	56	20 03	20 49	21 54	17 97		19 10	
23	161	32.1		13.6	94	57.5	106	+12	51.9	156	58	13	21 03	22 18	22 102		13 6	
24	176	32.1	-16	12.8	109	27.0	105	+13	07.3	154	60 S	20 23	21 19	22 52	11 28	107	21 06	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 03.8 ^m		Mag: -4.8 PMG: 14 ^h 58 ^m		Mag: -1.0 PMG: 22 ^h 30 ^m		Mag: -2.5 PMG: 19 ^h 42 ^m		Mag: +1.1 PMG: 14 ^h 22 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /	° /	° /	° /	° /	° /
0	133	25.6	135	14.0	+1	39.4	21	12.8	+26	08.6
1	148	28.0	150	14.9		40.5	36	16.1		08.7
2	163	30.5	165	15.8		41.6	51	19.3		08.7
3	178	33.0	180	16.6		42.7	66	22.5		08.8
4	193	35.4	195	17.5		43.8	81	25.7		08.8
5	208	37.9	210	18.4	+1	44.9	96	28.9	+26	08.9
6	223	40.4	225	19.3	+1	46.0	111	32.1	+26	09.0
7	238	42.8	240	20.2		47.1	126	35.3		09.0
8	253	45.3	255	21.0		48.2	141	38.6		09.1
9	268	47.8	270	21.9		49.3	156	41.8		09.1
10	283	50.2	285	22.8		50.4	171	45.0		09.2
11	298	52.7	300	23.7	+1	51.5	186	48.2	+26	09.2
12	313	55.1	315	24.6	+1	52.6	201	51.4	+26	09.3
13	328	57.6	330	25.5		53.7	216	54.6		09.4
14	344	00.1	345	26.3		54.8	231	57.8		09.4
15	359	02.5	0	27.2		55.9	247	01.0		09.5
16	14	05.0	15	28.1		57.0	262	04.2		09.5
17	29	07.5	30	29.0	+1	58.1	277	07.4	+26	09.6
18	44	09.9	45	29.9	+1	59.2	292	10.6	+26	09.6
19	59	12.4	60	30.8	+2	00.3	307	13.8		09.7
20	74	14.9	75	31.7		01.4	322	17.0		09.7
21	89	17.3	90	32.6		02.5	337	20.2		09.8
22	104	19.8	105	33.5		03.6	352	23.3		09.8
23	119	22.2	120	34.4		04.7	7	26.5		09.9
24	134	24.7	135	35.3	+2	05.8	22	29.7	+26	09.9
Dif	—		+9	+11		+32	+1	+25		0
										+22
										+1

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.9 ^m				Edad: 5.5 ^d SD: 16'2 PMG: 17 ^h 18 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	32.1	-16	12.8	109	27.0	+13	07.3	154	58	60 N	6 30	7 20	8 06	9 08	1	0 17	108	
1	191	32.0		12.1	123	56.5		22.7	153	58		26	14	7 57	18	6	09	102	
2	206	31.9		11.3	138	25.9		38.0	153	56		23	08	49	26	11	0 02	97	
3	221	31.9		10.6	152	55.3	+13	53.2	152	54		21	7 03	41	33	15	**	**	
4	236	31.8		09.8	167	24.6	+14	08.4	152	52		18	6 58	35	40	18	**	**	
5	251	31.8	-16	09.1	181	53.8	+14	23.4	150	50		6 16	6 54	7 29	9 46	20	**	**	
6	266	31.7	-16	08.3	196	23.0	+14	38.4	150	45		6 10	6 45	7 16	9 59	26	**	**	
7	281	31.7		07.6	210	52.1	+14	53.3	149	40		05	37	7 05	10 09	32	**	**	
8	296	31.6		06.8	225	21.1	+15	08.1	148	35		6 00	30	6 56	19	35	**	**	
9	311	31.5		06.1	239	50.1		22.8	147	30		5 55	23	48	27	38	**	**	
10	326	31.5		05.3	254	19.1		37.4	146	20		45	11	34	41	44	**	**	
11	341	31.4	-16	04.5	268	47.9	+15	52.0	146	10 N		5 35	6 00	6 22	10 54	49	23	45	
12	356	31.4	-16	03.8	283	16.7	+16	06.4	144	0		5 24	5 49	6 10	11 06	53	23	31	
13	11	31.3		03.0	297	45.4		20.8	144	10 S		5 11	37	5 59	18	57	16	51	
14	26	31.3		02.3	312	14.1		35.0	142	20		4 55	23	46	30	63	23	01	
15	41	31.2		01.5	326	42.7	+16	49.2	142	30		35	5 06	31	45	69	22	44	
16	56	31.2	-16	00.8	341	11.2	+17	03.3	141	35		22	4 55	23	11 54	72	34	38	
17	71	31.1	-16	00.0	355	39.6	+17	17.2	139	40		4 07	4 43	5 13	12 04	76	22	23	
18	86	31.1	-15	59.3	10	08.0	+17	31.1	139	45		3 48	4 29	5 01	12 16	80	22	09	
19	101	31.0		58.5	24	36.3		44.8	137	50		22	10	4 47	30	87	21	53	
20	116	31.0		57.7	39	04.5	+17	58.5	137	52		3 09	4 01	41	37	90	46	20	
21	131	30.9		57.0	53	32.7	+18	12.0	135	54		2 53	3 51	33	44	94	37	18	
22	146	30.9		56.2	68	00.8		25.5	135	56		35	39	25	12 53	98	28	13	
23	161	30.8		55.5	82	28.8		38.8	133	58		2 11	26	16	13 02	104	17	8	
24	176	30.8	-15	54.7	96	56.7	+18	52.0	132	60 S		1 36	3 10	4 05	13 14	110	21	05	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 ^h 59.9 ^m		Mag: -4.8 PMG: 14 ^h 57 ^m		Mag: -1.0 PMG: 22 ^h 25 ^m		Mag: -2.5 PMG: 19 ^h 38 ^m		Mag: +1.1 PMG: 14 ^h 18 ^m									
	hG ♀		Dec		hG ♂		Dec		hG ♀		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	134	24.7	135	35.3	+2	05.8	22	29.7	+26	09.9	64	36.8	+21	39.2	144	55.3	-6	36.6
1	149	27.2	150	36.3		06.9	37	32.9		10.0	79	39.3		39.2	159	57.5		36.5
2	164	29.6	165	37.2		08.0	52	36.1		10.1	94	41.7		39.3	174	59.7		36.4
3	179	32.1	180	38.1		09.1	67	39.3		10.1	109	44.2		39.3	190	01.9		36.2
4	194	34.6	195	39.0		10.1	82	42.5		10.2	124	46.7		39.3	205	04.1		36.1
5	209	37.0	210	39.9	+2	11.2	97	45.6	+26	10.2	139	49.2	+21	39.3	220	06.3	-6	36.0
6	224	39.5	225	40.8	+2	12.3	112	48.8	+26	10.3	154	51.6	+21	39.3	235	08.5	-6	35.9
7	239	42.0	240	41.7		13.4	127	52.0		10.3	169	54.1		39.3	250	10.7		35.8
8	254	44.4	255	42.7		14.5	142	55.2		10.4	184	56.6		39.3	265	13.0		35.7
9	269	46.9	270	43.6		15.6	157	58.3		10.4	199	59.0		39.3	280	15.2		35.6
10	284	49.4	285	44.5		16.7	173	01.5		10.4	215	01.5		39.3	295	17.4		35.5
11	299	51.8	300	45.4	+2	17.8	188	04.7	+26	10.5	230	03.9	+21	39.3	310	19.6	-6	35.4
12	314	54.3	315	46.4	+2	18.9	203	07.9	+26	10.5	245	06.4	+21	39.3	325	21.8	-6	35.3
13	329	56.7	330	47.3		20.0	218	11.0		10.6	260	08.9		39.3	340	24.0		35.1
14	344	59.2	345	48.2		21.0	233	14.2		10.6	275	11.3		39.4	355	26.2		35.0
15	0	01.7	0	49.2		22.1	248	17.4		10.7	290	13.8		39.4	10	28.4		34.9
16	15	04.1	15	50.1		23.2	263	20.5		10.7	305	16.3		39.4	25	30.6		34.8
17	30	06.6	30	51.0	+2	24.3	278	23.7	+26	10.8	320	18.7	+21	39.4	40	32.8	-6	34.7
18	45	09.1	45	52.0	+2	25.4	293	26.9	+26	10.8	335	21.2	+21	39.4	55	35.0	-6	34.6
19	60	11.5	60	52.9		26.5	308	30.0		10.9	350	23.7		39.4	70	37.2		34.5
20	75	14.0	75	53.9		27.6	323	33.2		10.9	5	26.1		39.4	85	39.4		34.4
21	90	16.5	90	54.8		28.6	338	36.3		11.0	20	28.6		39.4	100	41.7		34.3
22	105	18.9	105	55.8		29.7	353	39.5		11.0	35	31.0		39.4	115	43.9		34.1
23	120	21.4	120	56.7		30.8	8	42.7		11.0	50	33.5		39.4	130	46.1		34.0
24	135	23.9	135	57.7	+2	31.9	23	45.8	+26	11.1	65	36.0	+21	39.5	145	48.3	-6	33.9
Dif	—		+9		+11		+32		0		+25		0		+22		+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 14.0 ^m		Edad: 6.5 ^d SD: 16/1 PMG: 18 ^h 12 ^m		PHE { 4 ^h : 59/1 12 ^h : 59/0 20 ^h : 58/9 R°: 59 ^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 30.8	-15 54.7	96 56.7	89	+18 52.0	131	60 N	16 25	17 11	18 02	9 09 5	2 05 112		
1	191 30.7		111 24.6	87	+19 05.1	130	58	34	17	04	24 13	1 51 105		
2	206 30.7		125 52.3	88		18.1	56	42	23	07	37 18	39 99		
3	221 30.6		140 20.1	86		31.0	54	49	27	10	48 22	29 94		
4	236 30.6		154 47.7	85		43.7	52	16 56	32	12	9 58 26	19 91		
5	251 30.5	-15 50.9	169 15.2		+19 56.4	127	50	17 01	17 36	18 14	10 06 30	1 11 88		
6	266 30.5	-15 50.1	183 42.7	85	+20 08.9	125	45	17 14	17 45	18 20	10 25 35	0 54 82		
7	281 30.4		198 10.1	84		21.3	40	24	52	25	41 39	40 77		
8	296 30.4		212 37.5	84		33.6	35	33	17 59	29	10 54 42	28 73		
9	311 30.3		227 04.7	82		45.7	30	41	18 06	34	11 05 46	18 70		
10	326 30.3		241 31.9	82	+20 57.7	120	20	17 54	17	43	25 50	0 00 65		
11	341 30.2	-15 46.3	255 59.0	81	+21 09.6	119	10 N	18 06	18 28	18 53	11 43 54	** ** *		
12	356 30.2	-15 45.6	270 26.0	80	+21 21.4	118	0	18 17	18 39	19 04	11 59 58	** ** *		
13	11 30.1		284 52.9	79		33.0	10 S	29	18 51	16	12 15 62	** ** *		
14	26 30.1		299 19.8	79		44.5	20	41	19 04	32	33 65	23 47 53		
15	41 30.0		313 46.6	78	+21 55.9	115	30	18 55	21	19 51	12 54 70	25 49		
16	56 30.0		328 13.3	77	+22 07.2	113	35	19 04	31	20 04	13 06 73	23 12 46		
17	71 29.9	-15 41.7	342 39.9	76	+22 18.3	111	40	19 13	19 43	20 19	13 20 76	22 57 43		
18	86 29.9	-15 41.0	357 06.5	76	+22 29.2	109	45	19 24	19 57	20 37	13 36 81	22 39 39		
19	101 29.9		40.2 11 33.0	75		40.1	50	38	20 15	21 02	13 57 87	17 34		
20	116 29.8		39.4 25 59.4	74	+22 50.8	107	52	44	23	15	14 07 90	22 06 31		
21	131 29.8		38.7 40 25.7	73	+23 01.3	105	54	51	33	29	18 94	21 55 27		
22	146 29.7		37.9 54 51.9	72		11.7	56	19 59	44	21 47	31 98	41 23		
23	161 29.7		37.1 69 18.1	72		22.0	58	20 08	20 57	22 09	14 46 105	25 17		
24	176 29.6	-15 36.3	83 44.2	71	+23 32.1	101	60 S	20 18	21 12	22 39	15 04 115	21 07 7		
UT	ARIES PMG 14 ^h 56.0 ^m		VENUS Mag: -4.8 PMG: 14 ^h 55 ^m		MARTE Mag: -0.9 PMG: 22 ^h 20 ^m		JÚPITER Mag: -2.5 PMG: 19 ^h 34 ^m		SATURNO Mag: +1.1 PMG: 14 ^h 15 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	° /	° /	° /		° /		° /		° /					
0	135 23.9	135 57.7	+2 31.9	23 45.8	+26 11.1	65 36.0	+21 39.5	145 48.3	-6 33.9					
1	150 26.3	150 58.6		38 49.0	11.1	80 38.4	39.5	160 50.5	33.8					
2	165 28.8	165 59.6		53 52.1	11.2	95 40.9	39.5	175 52.7	33.7					
3	180 31.2	181 00.5		68 55.3	11.2	110 43.3	39.5	190 54.9	33.6					
4	195 33.7	196 01.5		83 58.4	11.3	125 45.8	39.5	205 57.1	33.5					
5	210 36.2	211 02.4	+2 37.3	99 01.6	+26 11.3	140 48.3	+21 39.5	220 59.3	-6 33.4					
6	225 38.6	226 03.4	+2 38.4	114 04.7	+26 11.3	155 50.7	+21 39.5	236 01.5	-6 33.3					
7	240 41.1	241 04.4		129 07.9	11.4	170 53.2	39.5	251 03.7	33.1					
8	255 43.6	256 05.3		144 11.0	11.4	185 55.6	39.5	266 05.9	33.0					
9	270 46.0	271 06.3		159 14.1	11.5	200 58.1	39.5	281 08.1	32.9					
10	285 48.5	286 07.3		174 17.3	11.5	216 00.5	39.5	296 10.3	32.8					
11	300 51.0	301 08.2	+2 43.8	189 20.4	+26 11.6	231 03.0	+21 39.6	311 12.6	-6 32.7					
12	315 53.4	316 09.2	+2 44.8	204 23.6	+26 11.6	246 05.5	+21 39.6	326 14.8	-6 32.6					
13	330 55.9	331 10.2		219 26.7	11.6	261 07.9	39.6	341 17.0	32.5					
14	345 58.4	346 11.1		234 29.8	11.7	276 10.4	39.6	356 19.2	32.4					
15	1 00.8	1 12.1		249 33.0	11.7	291 12.8	39.6	11 21.4	32.3					
16	16 03.3	16 13.1		264 36.1	11.7	306 15.3	39.6	26 23.6	32.1					
17	31 05.7	31 14.1	+2 50.2	279 39.2	+26 11.8	321 17.7	+21 39.6	41 25.8	-6 32.0					
18	46 08.2	46 15.1	+2 51.3	294 42.3	+26 11.8	336 20.2	+21 39.6	56 28.0	-6 31.9					
19	61 10.7	61 16.1		309 45.5	11.9	351 22.6	39.6	71 30.2	31.8					
20	76 13.1	76 17.0		324 48.6	11.9	6 25.1	39.7	86 32.4	31.7					
21	91 15.6	91 18.0		339 51.7	11.9	21 27.5	39.7	101 34.6	31.6					
22	106 18.1	106 19.0		354 54.8	12.0	36 30.0	39.7	116 36.8	31.5					
23	121 20.5	121 20.0		9 58.0	12.0	51 32.4	39.7	131 39.0	31.4					
24	136 23.0	136 21.0	+2 57.7	25 01.1	+26 12.0	66 34.9	+21 39.7	146 41.2	-6 31.2					
Dif	—	+10	+11	+31	0	+25	0	+22	+1					

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:12 ^h 14.1 ^m				Edad: 7.5 ^d PHE { 4 ^h : 58'8 12 ^h : 58'6 20 ^h : 58'5 SD: 16'0 PMG: 19 ^h 09 ^m R°: 60 ^m																		
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m				
0	176	29.6	-15	36.3	83	44.2	70	+23	32.1	100	60 N	6	25	7	15	8	01	9	13	12	3	56	110
1	191	29.6		35.6	98	10.2	70		42.1	98	58	23	09	7	52		35	23			34	100	
2	206	29.6		34.8	112	36.2	69	+23	51.9	97	56	20	04	44	9	54	28			17	93		
3	221	29.5		34.0	127	02.1	68	+24	01.6	95	54	18	7 00	38	10	09	33			3	02	88	
4	236	29.5		33.3	141	27.9	67		11.1	94	52	15	6 55	31	22	37			2	49	85		
5	251	29.4	-15	32.5	155	53.6	66	+24	20.5	94	50	6	13	6 51	7	26	10	34	39		2	38	82
6	266	29.4	-15	31.7	170	19.2	66	+24	29.7	92	45	6	08	6 43	7	13	10	59	43		2	14	77
7	281	29.4		30.9	184	44.8	66		38.8	91	40	6	03	35	7	03	11	19	46		1	56	73
8	296	29.3		30.2	199	10.4	66		47.7	89	35	5	58	28	6	55		35	49		40	71	
9	311	29.3		29.4	213	35.8	64	+24	56.5	88	30	54	22	47	11	49	51			26	69		
10	326	29.2		28.6	228	01.2	64	+25	05.1	86	20	45	11	34	12	14	54			1	04	64	
11	341	29.2	-15	27.8	242	26.5	63	+25	13.5	84	10 N	5	35	6 00	6	22	12	35	57		0	44	61
12	356	29.2	-15	27.1	256	51.7	62	+25	21.8	83	0	5	24	5 49	6	11	12	55	59		0	25	58
13	11	29.1		26.3	271	16.9	62		29.9	81	10 S	5	12	37	5	59	13	15	62		0	07	55
14	26	29.1		25.5	285	42.0	61		37.9	80	20	4	57	24	47	13	37	64		**	**	**	
15	41	29.1		24.7	300	07.1	61		45.7	78	30	37	5 08	33	14	02	67			**	**	**	
16	56	29.0		24.0	314	32.1	60	+25	53.3	76	35	25	4 58	25		17	69			23	57	53	
17	71	29.0	-15	23.2	328	57.0	59	+26	00.8	75	40	4	10	4 46	5	15	14	35	71		23	39	51
18	86	29.0	-15	22.4	343	21.9	59	+26	08.1	73	45	3	51	4 32	5	04	14	56	73		23	17	49
19	101	28.9		21.6	357	46.7	58		15.3	72	50	26	14	4	51	15	22	78		22	49	46	
20	116	28.9		20.8	12	11.5	58		22.2	69	52	3	14	4 05	45		35	80		36	44		
21	131	28.9		20.1	26	36.2	57		29.0	68	54	2	59	3 56	38		15	50	83		21	41	
22	146	28.8		19.3	41	00.8	56		35.7	67	56	42	45	30	16	08	87			22	03	37	
23	161	28.8		18.5	55	25.4	56		42.1	64	58	2	20	32	21	30	92			21	41	31	
24	176	28.7	-15	17.7	69	49.9	55	+26	48.4	63	60 S	1	49	3 17	4	11	16	57	105		21	13	19

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 52.0 ^m		Mag: -4.8 PMG: 14 ^h 54 ^m		Mag: -0.9 PMG: 22 ^h 15 ^m		Mag: -2.5 PMG: 19 ^h 30 ^m		Mag: +1.1 PMG: 14 ^h 11 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	136	23.0	136	21.0	+2	57.7	66	34.9	+21	39.7	146	41.2	-6	31.2				
1	151	25.5	151	22.0		58.8	81	37.3		39.7	161	43.4		31.1				
2	166	27.9	166	23.0	+2	59.8	96	39.8		39.7	176	45.6		31.0				
3	181	30.4	181	24.0	+3	00.9	70	10.4		39.7	191	47.8		30.9				
4	196	32.8	196	25.0		02.0	85	13.6		39.7	206	50.1		30.8				
5	211	35.3	211	26.0	+3	03.0	100	16.7	+26	12.2	221	52.3	-6	30.7				
6	226	37.8	226	27.0	+3	04.1	115	19.8	+26	12.2	236	54.5	-6	30.6				
7	241	40.2	241	28.0		05.2	130	22.9		12.3	251	56.7		30.5				
8	256	42.7	256	29.0		06.2	145	26.0		12.3	266	58.9		30.4				
9	271	45.2	271	30.0		07.3	160	29.1		12.3	282	01.1		30.2				
10	286	47.6	286	31.0		08.4	175	32.2		12.4	297	03.3		30.1				
11	301	50.1	301	32.1	+3	09.4	190	35.3	+26	12.4	312	05.5	-6	30.0				
12	316	52.6	316	33.1	+3	10.5	205	38.4	+26	12.4	327	07.7	-6	29.9				
13	331	55.0	331	34.1		11.5	220	41.5		12.5	342	09.9		29.8				
14	346	57.5	346	35.1		12.6	235	44.6		12.5	357	12.1		29.7				
15	2	00.0	1	36.1		13.7	250	47.7		12.5	292	11.6		29.6				
16	17	02.4	16	37.2		14.7	265	50.8		12.6	307	14.1		29.5				
17	32	04.9	31	38.2	+3	15.8	280	53.9	+26	12.6	322	16.5	+21	29.3				
18	47	07.3	46	39.2	+3	16.8	295	57.0	+26	12.6	337	18.9	+21	29.2				
19	62	09.8	61	40.2		17.9	311	00.1		12.6	352	21.4		29.1				
20	77	12.3	76	41.3		19.0	326	03.2		12.7	7	23.8		29.0				
21	92	14.7	91	42.3		20.0	341	06.3		12.7	22	26.3		28.9				
22	107	17.2	106	43.3		21.1	356	09.4		12.7	37	28.7		28.8				
23	122	19.7	121	44.4		22.1	11	12.5		12.8	52	31.2		28.7				
24	137	22.1	136	45.4	+3	23.2	26	15.5	+26	12.8	67	33.6	+21	28.6				
Dif	—		+10		+11		+31		0		+24		0		+22		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 14.1 ^m				Edad: 8.5 ^d PHE { 4 ^h : 58/4 12 ^h : 58/2 20 ^h : 58/1 Rº: 61 ^m PMG: 20 ^h 09 ^m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'		°	'		°	h	m	h	m	h	m	m
0	176	28.7	-15	17.7	69	49.9	55	+26	48.4	62	60 N	16	31	17	16	18	06	9 25 39
1	191	28.7		16.9	84	14.4	55	+26	54.6	62	58		39		22	09	9 58	46 5 14 82
2	206	28.7		16.2	98	38.9	55	+27	00.5	59	56		47		27	11	10 22	50 4 50 78
3	221	28.7		15.4	113	03.3	54		06.3	58	54		53		31	13	42	52 30 76
4	236	28.6		14.6	127	27.6	53		11.9	56	52	16	59		35	15	10 59	53 14 74
5	251	28.6	-15	13.8	141	52.0	54	+27	17.3	54	50	17	05	17	39	18	17	11 13 55
6	266	28.6	-15	13.0	156	16.2	52	+27	22.6	53	45	17	17	17	47	18	22	11 42 57
7	281	28.5		12.2	170	40.5	53		27.6	50	40	27	17	55	27	12	05	58 3 09 68
8	296	28.5		11.4	185	04.6	51		32.5	49	35	35		18	01	31	24	59 2 51 67
9	311	28.5		10.7	199	28.8	52		37.3	48	30	42		07	36	12	40	60 35 66
10	326	28.4		09.9	213	52.9	51		41.8	45	20	17	55	18	44	13	08	60 2 08 64
11	341	28.4	-15	09.1	228	17.0	51	+27	46.2	44	10 N	18	07	18	28	18	54	13 32 61
12	356	28.4	-15	08.3	242	41.1	51	+27	50.3	41	0	18	18	18	39	19	04	13 54 62
13	11	28.3		07.5	257	05.1	50		54.3	40	10 S	28		18	50	16	14	17 62 1 02 60
14	26	28.3		06.7	271	29.1	50	+27	58.2	39	20	40		19	03	30	14	41 63 0 39 58
15	41	28.3		05.9	285	53.1	50	+28	01.8	36	30	18	54	19	19	49	15	09 63 0 12 56
16	56	28.3		05.2	300	17.1	50		05.3	35	35	19	02		29	20	01	26 63 ** ** *
17	71	28.2	-15	04.4	314	41.0	49	+28	08.6	33	40	19	11	19	40	20	16	15 46 63 ** ** *
18	86	28.2	-15	03.6	329	04.9	49	+28	11.7	31	45	19	22	19	54	20	34	16 09 65 ** ** *
19	101	28.2		02.8	343	28.9	50		14.6	29	50	35		20	11	20	58	40 65 23 35 62
20	116	28.2		02.0	357	52.7	48		17.3	27	52	41		19	21	10	16	55 65 20 62
21	131	28.1		01.2	12	16.6	49		19.9	26	54	47		29		23	17	13 66 23 02 62
22	146	28.1	-15	00.4	26	40.5	49		22.2	23	56	19	55	39	21	40	17	35 66 22 40 62
23	161	28.1	-14	59.6	41	04.4	49		24.4	22	58	20	03	20	51	22	01	18 02 67 22 12 62
24	176	28.1	-14	58.8	55	28.2	48	+28	26.4	20	60 S	20	13	21	06	22	28	18 42 69 21 32 60

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 48.1 ^m		Mag: -4.8 PMG: 14 ^h 52 ^m		Mag: -0.9 PMG: 22 ^h 10 ^m		Mag: -2.5 PMG: 19 ^h 27 ^m		Mag: +1.1 PMG: 14 ^h 08 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	137	22.1	136	45.4	+3	23.2	26	15.5	+26	12.8
1	152	24.6	151	46.5		24.2	41	18.6		12.8
2	167	27.1	166	47.5		25.3	56	21.7		12.8
3	182	29.5	181	48.6		26.3	71	24.8		12.9
4	197	32.0	196	49.6		27.4	86	27.9		12.9
5	212	34.5	211	50.7	+3	28.5	101	31.0	+26	12.9
6	227	36.9	226	51.7	+3	29.5	116	34.0	+26	12.9
7	242	39.4	241	52.8		30.6	131	37.1		13.0
8	257	41.8	256	53.8		31.6	146	40.2		13.0
9	272	44.3	271	54.9		32.7	161	43.3		13.0
10	287	46.8	286	55.9		33.7	176	46.3		13.0
11	302	49.2	301	57.0	+3	34.8	191	49.4	+26	13.1
12	317	51.7	316	58.1	+3	35.8	206	52.5	+26	13.1
13	332	54.2	331	59.1		36.8	221	55.5		13.1
14	347	56.6	347	00.2		37.9	236	58.6		13.1
15	2	59.1	2	01.3		38.9	252	01.7		13.2
16	18	01.6	17	02.3		40.0	267	04.7		13.2
17	33	04.0	32	03.4	+3	41.0	282	07.8	+26	13.2
18	48	06.5	47	04.5	+3	42.1	297	10.8	+26	13.2
19	63	09.0	62	05.5		43.1	312	13.9		13.2
20	78	11.4	77	06.6		44.2	327	17.0		13.3
21	93	13.9	92	07.7		45.2	342	20.0		13.3
22	108	16.3	107	08.8		46.2	357	23.1		13.3
23	123	18.8	122	09.9		47.3	12	26.1		13.3
24	138	21.3	137	11.0	+3	48.3	27	29.2	+26	13.3
Dif	—		+11		+10		+31		0	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'2 PMG:12 ^h 14.1 ^m				Edad: 9.5 ^d PHE { 4 ^h : 57'9 12 ^h : 57'8 20 ^h : 57'6 R°: 58 ^m PMG: 21 ^h 09 ^m														
	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	-14	58.8	55	28.2	49	+28	26.4	19	60 N	6	21	7	11	7	56	10	03
1	191	28.0		58.0	69	52.1	49		28.3	16	58	19	05	48	10	43	75	6	34
2	206	28.0		57.2	84	16.0	48		29.9	15	56	16	7	00	40	11	11	72	5
3	221	28.0		56.4	98	39.8	48		31.4	14	54	14	6	56	34	33	70	6	45
4	236	28.0		55.7	113	03.7	49		32.6	12	52	12	52	28	11	51	69	5	27
5	251	27.9	-14	54.9	127	27.6	49	+28	33.7	11	50	6	10	6	48	7	22	12	06
6	266	27.9	-14	54.1	141	51.5	49	+28	34.7	10	45	6	05	6	40	7	11	12	37
7	281	27.9		53.3	156	15.4	49		35.4	7	40	6	01	33	7	01	13	01	65
8	296	27.9		52.5	170	39.3	49		35.9	5	35	5	57	27	6	53	21	64	3
9	311	27.8		51.7	185	03.2	49		36.3	4	30	52	21	45	13	38	63	39	59
10	326	27.8		50.9	199	27.1	49		36.5	2	20	44	10	33	14	07	61	3	11
11	341	27.8	-14	50.1	213	51.1	50	+28	36.5	0	10 N	5	35	6	00	6	21	14	32
12	356	27.8	-14	49.3	228	15.1	50	+28	36.3	2	0	5	24	5	49	6	11	14	55
13	11	27.8		48.5	242	39.1	50		35.9	4	10 S	5	13	38	6	00	15	18	57
14	26	27.7		47.7	257	03.1	50		35.4	5	20	4	58	25	5	48	15	42	56
15	41	27.7		46.9	271	27.2	51		34.7	7	30	39	09	35	16	11	54	1	07
16	56	27.7		46.1	285	51.3	51		33.8	9	35	27	5	00	27	28	53	0	50
17	71	27.7	-14	45.3	300	15.4	51	+28	32.7	11	40	4	13	4	49	5	18	16	48
18	86	27.7	-14	44.5	314	39.6	52	+28	31.4	13	45	3	55	4	35	5	07	17	12
19	101	27.6		43.7	329	03.8	52		30.0	14	50	31	18	4	54	43	47	**	**
20	116	27.6		42.9	343	28.0	52		28.4	16	52	19	10	48	17	59	45	**	**
21	131	27.6		42.1	357	52.3	53		26.6	18	54	3	05	4	00	42	18	17	43
22	146	27.6		41.3	12	16.7	54		24.6	20	56	2	49	3	50	34	18	39	40
23	161	27.6		40.5	26	41.0	53		22.5	21	58	28	38	26	19	08	34	23	12
24	176	27.6	-14	39.7	41	05.5	55	+28	20.1	24	60 S	2	01	3	23	4	16	19	49

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 14 ^h 44.2 ^m		Mag: -4.8 PMG: 14 ^h 50 ^m		Mag: -0.8 PMG: 22 ^h 06 ^m		Mag: -2.5 PMG: 19 ^h 23 ^m		Mag: +1.1 PMG: 14 ^h 04 ^m										
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	138	21.3	137	11.0	+3	48.3	27	29.2	+26	13.3	68	32.1	+21	40.3	148	27.0	-6	25.9	
1	153	23.7	152	12.1		49.4	42	32.2		13.4	83	34.5		40.3	163	29.2		25.7	
2	168	26.2	167	13.1		50.4	57	35.3		13.4	98	37.0		40.3	178	31.4		25.6	
3	183	28.7	182	14.2		51.4	72	38.3		13.4	113	39.4		40.3	193	33.6		25.5	
4	198	31.1	197	15.3		52.5	87	41.3		13.4	128	41.8		40.3	208	35.8		25.4	
5	213	33.6	212	16.4	+3	53.5	102	44.4	+26	13.4	143	44.3	+21	40.3	223	38.0	-6	25.3	
6	228	36.1	227	17.5	+3	54.6	117	47.4	+26	13.5	158	46.7	+21	40.3	238	40.2	-6	25.2	
7	243	38.5	242	18.6		55.6	132	50.5		13.5	173	49.1		40.4	253	42.5		25.1	
8	258	41.0	257	19.7		56.6	147	53.5		13.5	188	51.5		40.4	268	44.7		25.0	
9	273	43.5	272	20.8		57.7	162	56.6		13.5	203	54.0		40.4	283	46.9		24.8	
10	288	45.9	287	21.9		58.7	177	59.6		13.5	218	56.4		40.4	298	49.1		24.7	
11	303	48.4	302	23.1	+3	59.7	193	02.6	+26	13.5	233	58.8	+21	40.4	313	51.3	-6	24.6	
12	318	50.8	317	24.2	+4	00.8	208	05.7	+26	13.6	249	01.3	+21	40.4	328	53.5	-6	24.5	
13	333	53.3	332	25.3		01.8	223	08.7		13.6	264	03.7		40.4	343	55.7		24.4	
14	348	55.8	347	26.4		02.8	238	11.7		13.6	279	06.1		40.4	358	57.9		24.3	
15	3	58.2	2	27.5		03.9	253	14.7		13.6	294	08.5		40.5	14	00.1		24.2	
16	19	00.7	17	28.6		04.9	268	17.8		13.6	309	11.0		40.5	29	02.3		24.0	
17	34	03.2	32	29.7	+4	05.9	283	20.8	+26	13.6	324	13.4	+21	40.5	44	04.5	-6	23.9	
18	49	05.6	47	30.9	+4	06.9	298	23.8	+26	13.6	339	15.8	+21	40.5	59	06.7	-6	23.8	
19	64	08.1	62	32.0		08.0	313	26.8		13.7	354	18.3		40.5	74	08.9		23.7	
20	79	10.6	77	33.1		09.0	328	29.9		13.7	9	20.7		40.5	89	11.1		23.6	
21	94	13.0	92	34.3		10.0	343	32.9		13.7	24	23.1		40.5	104	13.3		23.5	
22	109	15.5	107	35.4		11.0	358	35.9		13.7	39	25.5		40.6	119	15.5		23.4	
23	124	17.9	122	36.5		12.1	13	38.9		13.7	54	28.0		40.6	134	17.7		23.3	
24	139	20.4	137	37.7	+4	13.1	28	41.9	+26	13.7	69	30.4	+21	40.6	149	19.9	-6	23.1	
Dif	—		+11		+10		+30		0		+24		0		+22		+		1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG:12 ^h 14.2 ^m			Edad: 10.5 ^d PHE { 4 ^h : 57/5 12 ^h : 57/3 20 ^h : 57/2 R°: 56 ^m								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	h m	h m	
0	176	27.6	-14	39.7	41	05.5	54	+28	20.1	25	60 N	16 36	17 21	18 11	11 24	104	7 58	16	
1	191	27.5		38.9	55	29.9	56		17.6	26	58	44	26	13	11 58	94	7 24	26	
2	206	27.5		38.1	69	54.5	55		15.0	29	56	51	31	15	12 23	88	6 58	32	
3	221	27.5		37.3	84	19.0	57		12.1	30	54	16 57	35	17	12 43	84	38 36		
4	236	27.5		36.5	98	43.7	57		09.1	30	52	17 03	39	19	13 00	80	21 39		
5	251	27.5	-14	35.7	113	08.4	57	+28	05.9	32	50	17 08	17 42	18 21	13 14	78	6 06	41	
6	266	27.5	-14	34.9	127	33.1	57	+28	02.6	33	45	17 20	17 50	18 25	13 43	74	5 37	45	
7	281	27.5		34.1	141	58.0	59	+27	59.1	35	40	29	17 57	29	14 06	70	5 14	47	
8	296	27.4		33.3	156	22.9	59		55.4	37	35	37	18 03	33	25 68		4 54	50	
9	311	27.4		32.4	170	47.8	59		51.5	39	30	44	09	37	14 41	66	38 51		
10	326	27.4		31.6	185	12.8	60		47.5	40	20	17 56	19	45	15 08	62	4 10	54	
11	341	27.4	-14	30.8	199	37.9	61	+27	43.3	42	10 N	18 07	18 29	18 54	15 32	59	3 46	56	
12	356	27.4	-14	30.0	214	03.1	62	+27	38.9	44	0	18 18	18 39	19 04	15 53	57	3 23	59	
13	11	27.4		29.2	228	28.3	62		34.4	45	10 S	28	18 50	15	16 15	54	3 00	61	
14	26	27.4		28.4	242	53.6	63		29.7	47	20	39	19 02	29	16 38	52	2 36	63	
15	41	27.4		27.6	257	19.0	64		24.9	48	30	18 52	18	48	17 05	48	2 08	65	
16	56	27.3		26.8	271	44.5	65		19.9	50	35	19 00	27	19 59	21 46		1 51	67	
17	71	27.3	-14	26.0	286	10.0	65	+27	14.7	52	40	19 09	19 38	20 13	17 40	42	1 31	69	
18	86	27.3	-14	25.2	300	35.6	66	+27	09.4	53	45	19 19	19 51	20 30	18 02	39	1 07	71	
19	101	27.3		24.4	315	01.3	67	+27	03.9	55	50	31	20 07	20 53	30 34		0 36	75	
20	116	27.3		23.6	329	27.1	68	+26	58.2	57	52	37	15	21 05	18 44	32	21 76		
21	131	27.3		22.7	343	53.0	69		52.5	57	54	43	24	18	19 00	28	0 03	79	
22	146	27.3		21.9	358	18.9	69		46.5	60	56	50	34	33	19 24		** ** *	** *	
23	161	27.3		21.1	12	45.0	71		40.4	61	58	19 58	46	21 52	19 42	18	** ** *	** *	
24	176	27.3	-14	20.3	27	11.1	71	+26	34.2	62	60 S	20 07	20 59	22 17	20 12	8	** ** *	** *	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 ^h 40.2 ^m		Mag: -4.8 PMG: 14 ^h 48 ^m		Mag: -0.8 PMG: 22 ^h 01 ^m		Mag: -2.4 PMG: 19 ^h 19 ^m		Mag: +1.1 PMG: 14 ^h 01 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	139	20.4	137	37.7	+4	13.1	28	41.9	+26	13.7	69	30.4	+21	40.6	149	19.9	-6	23.1
1	154	22.9	152	38.8		14.1	43	44.9		13.7	84	32.8		40.6	164	22.1		23.0
2	169	25.3	167	39.9		15.1	58	48.0		13.7	99	35.2		40.6	179	24.3		22.9
3	184	27.8	182	41.1		16.2	73	51.0		13.8	114	37.6		40.6	194	26.5		22.8
4	199	30.3	197	42.2		17.2	88	54.0		13.8	129	40.1		40.6	209	28.7		22.7
5	214	32.7	212	43.4	+4	18.2	103	57.0	+26	13.8	144	42.5	+21	40.7	224	30.9	-6	22.6
6	229	35.2	227	44.5	+4	19.2	119	00.0	+26	13.8	159	44.9	+21	40.7	239	33.1	-6	22.5
7	244	37.7	242	45.7		20.3	134	03.0		13.8	174	47.3		40.7	254	35.3		22.3
8	259	40.1	257	46.8		21.3	149	06.0		13.8	189	49.8		40.7	269	37.5		22.2
9	274	42.6	272	48.0		22.3	164	09.0		13.8	204	52.2		40.7	284	39.7		22.1
10	289	45.1	287	49.1		23.3	179	12.0		13.8	219	54.6		40.7	299	41.9		22.0
11	304	47.5	302	50.3	+4	24.3	194	15.0	+26	13.8	234	57.0	+21	40.7	314	44.1	-6	21.9
12	319	50.0	317	51.4	+4	25.3	209	18.0	+26	13.8	249	59.4	+21	40.8	329	46.3	-6	21.8
13	334	52.4	332	52.6		26.4	224	21.0		13.9	265	01.9		40.8	344	48.5		21.7
14	349	54.9	347	53.8		27.4	239	24.0		13.9	280	04.3		40.8	359	50.7		21.6
15	4	57.4	2	54.9		28.4	254	27.0		13.9	295	06.7		40.8	14	52.9		21.4
16	19	59.8	17	56.1		29.4	269	30.0		13.9	310	09.1		40.8	29	55.1		21.3
17	35	02.3	32	57.3	+4	30.4	284	33.0	+26	13.9	325	11.5	+21	40.8	44	57.3	-6	21.2
18	50	04.8	47	58.5	+4	31.4	299	35.9	+26	13.9	340	13.9	+21	40.8	59	59.5	-6	21.1
19	65	07.2	62	59.6		32.4	314	38.9		13.9	355	16.4		40.9	75	01.7		21.0
20	80	09.7	78	00.8		33.4	329	41.9		13.9	10	18.8		40.9	90	03.9		20.9
21	95	12.2	93	02.0		34.5	344	44.9		13.9	25	21.2		40.9	105	06.1		20.8
22	110	14.6	108	03.2		35.5	359	47.9		13.9	40	23.6		40.9	120	08.3		20.6
23	125	17.1	123	04.4		36.5	14	50.9		13.9	55	26.0		40.9	135	10.5		20.5
24	140	19.6	138	05.5	+4	37.5	29	53.8	+26	13.9	70	28.4	+21	40.9	150	12.7	-6	20.4
Dif	—		+12		+10		+30		0		+24		0		+22		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:12 ^h 14.2 ^m				Edad: 11.5 ^d PHE { 4 ^h : 57'0 12 ^h : 56'9 20 ^h : 56'7 R°: 51 ^m PMG: 23 ^h 01 ^m																		
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m			
0	176	27.3	-14	20.3	27	11.1	72	+26	34.2	64	60 N	6	17	7	06	7	51	13	07	103	8	12	5
1	191	27.3		19.5	41	37.3	73		27.8	66	58	15	7	01	43		31	95	7	48	12		
2	206	27.2		18.7	56	03.6	74		21.2	67	56	13	6	56	36		13	49	90	29	17		
3	221	27.2		17.9	70	30.0	75		14.5	68	54	11		52	30		14	05	86	7	12	22	
4	236	27.2		17.1	84	56.5	76		07.7	70	52	09		49	24		19	82	6	58	26		
5	251	27.2	-14	16.2	99	23.1	77	+26	00.7	71	50	6	07	6	45	7	19	14	31	79	6	46	28
6	266	27.2	-14	15.4	113	49.8	77	+25	53.6	73	45	6	03	6	37	7	08	14	55	74	6	20	34
7	281	27.2		14.6	128	16.5	77		46.3	74	40	5	59	31	6	59	15	15	69	6	00	37	
8	296	27.2		13.8	142	43.4	79		38.9	75	35		55	25	51		31	66	5	43	40		
9	311	27.2		13.0	157	10.4	80		31.4	77	30		51	19	44		15	45	64	28	43		
10	326	27.2		12.2	171	37.5	81		23.7	75	20		43	6	09	32	16	09	59	5	03	47	
11	341	27.2	-14	11.3	186	04.6	81	+25	15.9	78	10 N	5	34	5	59	6	21	16	30	55	4	41	50
12	356	27.2	-14	10.5	200	31.9	83	+25	07.9	80	0	5	25	5	49	6	11	16	49	51	4	20	54
13	11	27.2		09.7	214	59.2	83	+24	59.8	81	10 S	5	13		39	6	00	17	08	47	4	00	56
14	26	27.2		08.9	229	26.7	85		51.6	82	20	4	59	26	5	49		28	44	3	38	60	
15	41	27.2		08.1	243	54.3	86		43.2	84	30		41	11	36	17	52	39	3	12	64		
16	56	27.2		07.3	258	21.9	86		34.8	84	35		30	5	02	29	18	05	37	2	56	67	
17	71	27.2	-14	06.4	272	49.7	88	+24	26.2	86	40	4	16	4	51	5	20	18	21	33	2	38	70
18	86	27.2	-14	05.6	287	17.6	89	+24	17.4	88	45	3	59	4	38	5	10	18	40	29	2	17	74
19	101	27.2		04.8	301	45.5	89	+24	08.6	88	50		36	22	4	58	19	03	23	1	49	79	
20	116	27.2		04.0	316	13.6	91	+23	59.6	90	52		25	14	52		14	21		36	82		
21	131	27.2		03.1	330	41.8	92		50.5	92	54	3	11	4	05	46	27	17		20	86		
22	146	27.2		02.3	345	10.1	93		41.3	91	56	2	56	3	55	39	41	14		1	02	90	
23	161	27.2		01.5	359	38.5	94		31.9	94	58		37	44	31	19	58	8	0	39	97		
24	176	27.2	-14	00.7	14	06.9	94	+23	22.5	94	60 S	2	12	3	30	4	22	20	19	1	0	10	106

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 36.3 ^m		Mag: -4.8 PMG: 14 ^h 46 ^m		Mag: -0.8 PMG: 21 ^h 56 ^m		Mag: -2.4 PMG: 19 ^h 15 ^m		Mag: +1.1 PMG: 13 ^h 57 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	140	19.6	138	05.5	+4	37.5	29	53.8	+26	13.9
1	155	22.0	153	06.7		38.5	44	56.8		13.9
2	170	24.5	168	07.9		39.5	59	59.8		13.9
3	185	26.9	183	09.1		40.5	75	02.8		13.9
4	200	29.4	198	10.3		41.5	90	05.7		13.9
5	215	31.9	213	11.5	+4	42.5	105	08.7	+26	13.9
6	230	34.3	228	12.7	+4	43.5	120	11.7	+26	13.9
7	245	36.8	243	13.9		44.5	135	14.7		14.0
8	260	39.3	258	15.1		45.5	150	17.6		14.0
9	275	41.7	273	16.3		46.5	165	20.6		14.0
10	290	44.2	288	17.5		47.5	180	23.6		14.0
11	305	46.7	303	18.7	+4	48.5	195	26.5	+26	14.0
12	320	49.1	318	19.9	+4	49.5	210	29.5	+26	14.0
13	335	51.6	333	21.2		50.5	225	32.4		14.0
14	350	54.1	348	22.4		51.5	240	35.4		14.0
15	5	56.5	3	23.6		52.5	255	38.3		14.0
16	20	59.0	18	24.8		53.5	270	41.3		14.0
17	36	01.4	33	26.0	+4	54.5	285	44.3	+26	14.0
18	51	03.9	48	27.3	+4	55.5	300	47.2	+26	14.0
19	66	06.4	63	28.5		56.5	315	50.2		14.0
20	81	08.8	78	29.7		57.5	330	53.1		14.0
21	96	11.3	93	31.0		58.5	345	56.1		14.0
22	111	13.8	108	32.2	+4	59.5	0	59.0		14.0
23	126	16.2	123	33.4	+5	00.4	16	01.9		14.0
24	141	18.7	138	34.7	+5	01.4	31	04.9	+26	14.0
Dif	—		+12		+10		+30		0	
							+24		0	
									+22	
									+1	

UT	SOL		☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:12 ^h 14.2 ^m		Edad: 12.5 ^d PHE { 4 ^h : 56'5 12 ^h : 56'4 20 ^h : 56'2 PMG: 23 ^h 52 ^m R°: 47 ^m								Civil		Náutico		Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif												
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m
0	176	27.2	-14	00.7	14	06.9	+23	22.5	60 N	16	41	17	26	18	15	14	50	99
1	191	27.2	-13	59.9	28	35.5	96	12.9	58	49	31	17	15	06	93	8	00	8
2	206	27.2		59.0	43	04.2	97	03.2	56	16	55	35	19	19	89	7	46	13
3	221	27.2		58.2	57	33.0	98	+22	54	17	01	39	20	31	85	34	16	18
4	236	27.2		57.4	72	01.9	99	43.5	52	07	42	22	41	82	24	18		
5	251	27.2	-13	56.6	86	31.0	101	+22	50	17	12	17	46	18	24	15	50	79
6	266	27.2	-13	55.7	101	00.1	102	+22	45	17	22	17	53	18	27	16	09	73
7	281	27.2		54.9	115	29.3	102	13.1	40	31	17	59	31	24	69	37	31	26
8	296	27.2		54.1	129	58.6	103	+22	35	39	18	05	35	37	66	23	34	
9	311	27.2		53.3	144	28.0	104	+21	30	46	10	38	16	49	62	6	11	37
10	326	27.2		52.4	158	57.6	106	41.7	20	17	57	20	46	17	08	57	5	50
11	341	27.2	-13	51.6	173	27.2	106	+21	10 N	18	08	18	29	18	54	17	25	52
12	356	27.2	-13	50.8	187	56.9	107	+21	0	18	18	18	39	19	04	17	40	48
13	11	27.2		50.0	202	26.8	109	+21	10 S	28	18	49	15	17	55	45	4	56
14	26	27.2		49.1	216	56.7	109	+20	20	38	19	01	28	18	12	40	38	58
15	41	27.2		48.3	231	26.7	110	47.5	30	51	16	46	31	34	16	64		
16	56	27.2		47.5	245	56.9	112	36.4	35	18	58	25	19	57	42	31	4	03
17	71	27.2	-13	46.6	260	27.1	112	+20	40	19	06	19	35	20	10	18	54	28
18	86	27.2	-13	45.8	274	57.5	114	+20	45	19	16	19	48	20	27	19	09	23
19	101	27.2		45.0	289	27.9	114	+20	50	28	20	03	49	26	19	3	08	74
20	116	27.2		44.2	303	58.5	116	+19	52	33	11	20	59	35	16	2	58	83
21	131	27.2		43.3	318	29.1	116	39.3	54	39	19	21	12	44	13	46	87	
22	146	27.2		42.5	332	59.9	118	27.7	56	46	29	27	19	55	9	32	91	
23	161	27.2		41.7	347	30.7	118	15.9	58	19	53	40	21	45	20	06	6	2
24	176	27.3	-13	40.8	2	01.7	120	+19	60 S	20	02	20	53	22	07	20	20	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 32.4 ^m		Mag: -4.8 PMG: 14 ^h 44 ^m		Mag: -0.8 PMG: 21 ^h 51 ^m		Mag: -2.4 PMG: 19 ^h 11 ^m		Mag: +1.1 PMG: 13 ^h 54 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	141	18.7	138	34.7	+5	01.4	31	04.9	+26	14.0	71	26.3	+21	41.3	151	05.5	-6	17.7
1	156	21.2	153	35.9		02.4	46	07.8		14.0	86	28.7		41.3	166	07.7		17.6
2	171	23.6	168	37.2		03.4	61	10.8		14.0	101	31.1		41.3	181	09.9		17.4
3	186	26.1	183	38.4		04.4	76	13.7		13.9	116	33.5		41.4	196	12.1		17.3
4	201	28.6	198	39.7		05.4	91	16.6		13.9	131	35.9		41.4	211	14.3		17.2
5	216	31.0	213	40.9	+5	06.4	106	19.6	+26	13.9	146	38.3	+21	41.4	226	16.5	-6	17.1
6	231	33.5	228	42.2	+5	07.4	121	22.5	+26	13.9	161	40.7	+21	41.4	241	18.7	-6	17.0
7	246	35.9	243	43.4		08.3	136	25.5		13.9	176	43.1		41.4	256	20.9		16.9
8	261	38.4	258	44.7		09.3	151	28.4		13.9	191	45.5		41.4	271	23.1		16.8
9	276	40.9	273	45.9		10.3	166	31.3		13.9	206	47.9		41.5	286	25.3		16.6
10	291	43.3	288	47.2		11.3	181	34.2		13.9	221	50.3		41.5	301	27.5		16.5
11	306	45.8	303	48.4	+5	12.3	196	37.2	+26	13.9	236	52.7	+21	41.5	316	29.7	-6	16.4
12	321	48.3	318	49.7	+5	13.3	211	40.1	+26	13.9	251	55.1	+21	41.5	331	31.9	-6	16.3
13	336	50.7	333	51.0		14.2	226	43.0		13.9	266	57.5		41.5	346	34.1		16.2
14	351	53.2	348	52.3		15.2	241	45.9		13.9	281	59.9		41.5	1	36.3		16.1
15	6	55.7	3	53.5		16.2	256	48.9		13.9	297	02.3		41.6	16	38.5		16.0
16	21	58.1	18	54.8		17.2	271	51.8		13.9	312	04.7		41.6	31	40.6		15.8
17	37	00.6	33	56.1	+5	18.1	286	54.7	+26	13.9	327	07.1	+21	41.6	46	42.8	-6	15.7
18	52	03.0	48	57.4	+5	19.1	301	57.6	+26	13.9	342	09.5	+21	41.6	61	45.0	-6	15.6
19	67	05.5	63	58.6		20.1	317	00.5		13.9	357	11.9		41.6	76	47.2		15.5
20	82	08.0	78	59.9		21.1	332	03.4		13.9	12	14.3		41.6	91	49.4		15.4
21	97	10.4	94	01.2		22.0	347	06.3		13.8	27	16.7		41.7	106	51.6		15.3
22	112	12.9	109	02.5		23.0	2	09.3		13.8	42	19.1		41.7	121	53.8		15.2
23	127	15.4	124	03.8		24.0	17	12.2		13.8	57	21.5		41.7	136	56.0		15.0
24	142	17.8	139	05.1	+5	25.0	32	15.1	+26	13.8	72	23.9	+21	41.7	151	58.2	-6	14.9
Dif	—		+13		+10		+29		0		+24		0		+22		+	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:12 ^h 14.2 ^m				Edad: 13.5 ^d PHE { 4 ^h : 56'0 12 ^h : 55'9 20 ^h : 55'7 R°: **m PMG: **h **m																		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil	Hora	R°		Hora	R°										
h	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	m						
0	176	27.3	-13	40.8	2	01.7	+19	04.1	119	60 N	6	12	7	01	7	46	16	28	91	8	18	**	
1	191	27.3		40.0	16	32.7	+18	52.2	119	58	10	6	57		38		38	87		8	07	4	
2	206	27.3		39.2	31	03.8		40.2	120	56	09	52		32	47	83		7	57		7	07	4
3	221	27.3		38.3	45	35.1		28.1	121	54	07	49		26	16	54	80		49		10		
4	236	27.3		37.5	60	06.4		16.0	121	52	05	45		20	17	01	77		41		13		
5	251	27.3	-13	36.7	74	37.8	+18	03.7	123	50	6	04	6	42	7	16	17	08	74		7	34	15
6	266	27.3	-13	35.8	89	09.3	+17	51.4	123	45	6	00	6	35	7	05	17	21	69		7	19	21
7	281	27.3		35.0	103	41.0		39.1	123	40	5	57	29	6	56		32	65		7	07	24	
8	296	27.3		34.2	118	12.7		26.6	125	35	53	23		49		41	61		6	56	28		
9	311	27.3		33.3	132	44.5		14.1	125	30	50	18		42	17	49	58		47		31		
10	326	27.3		32.5	147	16.3	+17	01.5	126	20	42	6	08	31	18	03	53		31		36		
11	341	27.4	-13	31.7	161	48.3	+16	48.9	126	10 N	5	34	5	59	6	20	18	16	47		6	16	41
12	356	27.4	-13	30.8	176	20.4	+16	36.2	127	0	5	25	5	49	6	11	18	27	43		6	03	45
13	11	27.4		30.0	190	52.6		23.4	128	10 S	14	39		6	01		38	39		5	50	49	
14	26	27.4		29.2	205	24.8	+16	10.6	128	20	5	01	27	5	50		18	50	35		35	54	
15	41	27.4		28.3	219	57.1	+15	57.7	129	30	4	43	13	38	19	04	29		18		60		
16	56	27.4		27.5	234	29.6		44.7	130	35	32	5	04	31		12	26		5	08	63		
17	71	27.4	-13	26.6	249	02.1	+15	31.7	130	40	4	19	4	54	5	23	19	21	23		4	57	66
18	86	27.4	-13	25.8	263	34.7	+15	18.6	131	45	4	02	4	41	5	13	19	31	19		4	44	71
19	101	27.5		25.0	278	07.3	+15	05.5	131	50	3	40	26	5	02		44	13		28	76		
20	116	27.5		24.1	292	40.1	+14	52.3	132	52	30	18		4	56		49	12		20	79		
21	131	27.5		23.3	307	12.9		39.0	133	54	17	10		50	19	56	9		11		82		
22	146	27.5		22.4	321	45.9		25.8	132	56	3	02	4	00	43	20	03	6		4	02	85	
23	161	27.5		21.6	336	18.9	+14	12.4	134	58	2	45	3	49	36		11	3		3	50	90	
24	176	27.5	-13	20.8	350	52.0	+13	59.0	134	60 S	2	22	3	36	4	27	20	20	**		3	38	94

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 ^h 28.4 ^m		Mag: -4.8 PMG: 14 ^h 42 ^m		Mag: -0.7 PMG: 21 ^h 47 ^m		Mag: -2.4 PMG: 19 ^h 07 ^m		Mag: +1.1 PMG: 13 ^h 50 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	142	17.8	139	05.1	+5	25.0	32	15.1	+26	13.8	72	23.9	+21	41.7	151	58.2	-6	14.9
1	157	20.3	154	06.4		25.9	47	18.0		13.8	87	26.3		41.7	167	00.4		14.8
2	172	22.8	169	07.7		26.9	62	20.9		13.8	102	28.7		41.8	182	02.6		14.7
3	187	25.2	184	09.0		27.9	77	23.8		13.8	117	31.1		41.8	197	04.8		14.6
4	202	27.7	199	10.3		28.8	92	26.7		13.8	132	33.5		41.8	212	07.0		14.5
5	217	30.2	214	11.6	+5	29.8	107	29.6	+26	13.8	147	35.9	+21	41.8	227	09.2	-6	14.3
6	232	32.6	229	12.9	+5	30.8	122	32.5	+26	13.8	162	38.3	+21	41.8	242	11.4	-6	14.2
7	247	35.1	244	14.2		31.7	137	35.4		13.8	177	40.7		41.8	257	13.6		14.1
8	262	37.5	259	15.5		32.7	152	38.3		13.7	192	43.1		41.9	272	15.8		14.0
9	277	40.0	274	16.8		33.7	167	41.2		13.7	207	45.5		41.9	287	18.0		13.9
10	292	42.5	289	18.1		34.6	182	44.1		13.7	222	47.9		41.9	302	20.2		13.8
11	307	44.9	304	19.5	+5	35.6	197	46.9	+26	13.7	237	50.3	+21	41.9	317	22.4	-6	13.7
12	322	47.4	319	20.8	+5	36.5	212	49.8	+26	13.7	252	52.7	+21	41.9	332	24.6	-6	13.5
13	337	49.9	334	22.1		37.5	227	52.7		13.7	267	55.1		41.9	347	26.8		13.4
14	352	52.3	349	23.4		38.5	242	55.6		13.7	282	57.5		42.0	2	29.0		13.3
15	7	54.8	4	24.8		39.4	257	58.5		13.7	297	59.9		42.0	17	31.2		13.2
16	22	57.3	19	26.1		40.4	273	01.4		13.6	313	02.2		42.0	32	33.4		13.1
17	37	59.7	34	27.4	+5	41.3	288	04.3	+26	13.6	328	04.6	+21	42.0	47	35.6	-6	13.0
18	53	02.2	49	28.8	+5	42.3	303	07.1	+26	13.6	343	07.0	+21	42.0	62	37.8	-6	12.9
19	68	04.7	64	30.1		43.2	318	10.0		13.6	358	09.4		42.1	77	40.0		12.7
20	83	07.1	79	31.4		44.2	333	12.9		13.6	13	11.8		42.1	92	42.2		12.6
21	98	09.6	94	32.8		45.1	348	15.8		13.6	28	14.2		42.1	107	44.4		12.5
22	113	12.0	109	34.1		46.1	3	18.6		13.6	43	16.6		42.1	122	46.6		12.4
23	128	14.5	124	35.5		47.0	18	21.5		13.5	58	19.0		42.1	137	48.8		12.3
24	143	17.0	139	36.8	+5	48.0	33	24.4	+26	13.5	73	21.4	+21	42.1	152	50.9	-6	12.2
Dif	—		+13		+10		+29		0		+24		0		+22		+	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 14.1 ^m				Edad: 14.5 ^d SD: 15/2 PMG: 0 ^h 38 ^m PHE { 4 ^h : 55/6 12 ^h : 55/4 20 ^h : 55/3 Rº: 44 ^m													
	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	h m m	h m m	
0	176	27.5	-13	20.8	350	52.0	+13	59.0	134	60 N	16 46	17 31	18 20	17 59 87	8 17 1			
1	191	27.6		19.9	5	25.1		45.6	135	58	16 54	35	21	18 05 83	11 3			
2	206	27.6		19.1	19	58.4		32.1	136	56	17 00	39	23	10 80	8 04 7			
3	221	27.6		18.2	34	31.7		18.5	136	54	06	42	24	14 78	7 59			
4	236	27.6		17.4	49	05.1	+13	04.9	136	52	11	46	25	18 75	54 12			
5	251	27.6	-13	16.6	63	38.5	+12	51.3	136	50	17 15	17 49	18 27	18 22 73	7 49 14			
6	266	27.6	-13	15.7	78	12.1	+12	37.6	137	45	17 25	17 56	18 30	18 30 68	7 40 18			
7	281	27.7		14.9	92	45.7		23.9	137	40	34	18 02	33	37 63	31 23			
8	296	27.7		14.0	107	19.4	+12	10.1	138	35	41	07	37	42 60	24 27			
9	311	27.7		13.2	121	53.1	+11	56.3	138	30	47	12	40	47 57	18 29			
10	326	27.7		12.3	136	26.9		42.5	138	20	17 58	21	47	18 56 51	7 07 35			
11	341	27.7	-13	11.5	151	00.8	+11	28.6	139	10 N	18 08	18 30	18 55	19 03 47	6 57 39			
12	356	27.7	-13	10.6	165	34.8	+11	14.7	139	0	18 18	18 39	19 03	19 10 43	6 48 44			
13	11	27.8		09.8	180	08.8	+11	00.8	139	10 S	27	18 49	14	17 38	39 48			
14	26	27.8		08.9	194	42.9	+10	46.8	140	20	37	19 00	27	25 33	29 53			
15	41	27.8		08.1	209	17.1		32.8	140	30	49	14	44	33 28	18 58			
16	56	27.8		07.3	223	51.3		18.7	141	35	18 56	22	19 54	38 25	11 61			
17	71	27.8	-13	06.4	238	25.6	+10	04.7	140	40	19 04	19 32	20 07	19 44 21	6 03 65			
18	86	27.9	-13	05.6	252	59.9	+9	50.6	142	45	19 13	19 44	20 23	19 50 18	5 55 69			
19	101	27.9		04.7	267	34.3		36.4	142	50	24	19 59	44	19 57 14	44 74			
20	116	27.9		03.9	282	08.8		22.3	141	52	29	20 07	20 54	20 01 11	39 76			
21	131	27.9		03.0	296	43.3	+9	08.1	142	54	35	15	21 06	05 8	33 80			
22	146	28.0		02.2	311	17.9	+8	53.8	143	56	41	24	20	09 6	27 82			
23	161	28.0		01.3	325	52.5		39.6	142	58	48	34	37	14 3	20 86			
24	176	28.0	-13	00.5	340	27.2	+8	25.3	143	60 S	19 56	20 46	21 58	20 19 **	5 12 90			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 14 ^h 24.5 ^m		Mag: -4.9 PMG: 14 ^h 40 ^m			Mag: -0.7 PMG: 21 ^h 42 ^m			Mag: -2.4 PMG: 19 ^h 04 ^m			Mag: +1.1 PMG: 13 ^h 47 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /		° /	° /		° /	° /		° /	° /		° /	° /					
0	143	17.0	139	36.8	+5	48.0	33	24.4	+26	13.5	73	21.4	+21	42.1	152	50.9	-6	12.2
1	158	19.4	154	38.2		48.9	48	27.3		13.5	88	23.7		42.2	167	53.1		12.0
2	173	21.9	169	39.5		49.9	63	30.1		13.5	103	26.1		42.2	182	55.3		11.9
3	188	24.4	184	40.9		50.8	78	33.0		13.5	118	28.5		42.2	197	57.5		11.8
4	203	26.8	199	42.3		51.8	93	35.8		13.5	133	30.9		42.2	212	59.7		11.7
5	218	29.3	214	43.6	+5	52.7	108	38.7	+26	13.4	148	33.3	+21	42.2	228	01.9	-6	11.6
6	233	31.8	229	45.0	+5	53.7	123	41.6	+26	13.4	163	35.7	+21	42.3	243	04.1	-6	11.5
7	248	34.2	244	46.3		54.6	138	44.4		13.4	178	38.1		42.3	258	06.3		11.4
8	263	36.7	259	47.7		55.6	153	47.3		13.4	193	40.5		42.3	273	08.5		11.2
9	278	39.1	274	49.1		56.5	168	50.1		13.4	208	42.8		42.3	288	10.7		11.1
10	293	41.6	289	50.5		57.5	183	53.0		13.4	223	45.2		42.3	303	12.9		11.0
11	308	44.1	304	51.8	+5	58.4	198	55.9	+26	13.3	238	47.6	+21	42.4	318	15.1	-6	10.9
12	323	46.5	319	53.2	+5	59.3	213	58.7	+26	13.3	253	50.0	+21	42.4	333	17.3	-6	10.8
13	338	49.0	334	54.6	+6	00.3	229	01.6		13.3	268	52.4		42.4	348	19.5		10.7
14	353	51.5	349	56.0		01.2	244	04.4		13.3	283	54.8		42.4	3	21.7		10.5
15	8	53.9	4	57.4		02.2	259	07.3		13.3	298	57.1		42.4	18	23.9		10.4
16	23	56.4	19	58.8		03.1	274	10.1		13.2	313	59.5		42.4	33	26.1		10.3
17	38	58.9	35	00.1	+6	04.0	289	12.9	+26	13.2	329	01.9	+21	42.5	48	28.3	-6	10.2
18	54	01.3	50	01.5	+6	05.0	304	15.8	+26	13.2	344	04.3	+21	42.5	63	30.5	-6	10.1
19	69	03.8	65	02.9		05.9	319	18.6		13.2	359	06.7		42.5	78	32.7		10.0
20	84	06.3	80	04.3		06.8	334	21.5		13.2	14	09.1		42.5	93	34.9		09.9
21	99	08.7	95	05.7		07.8	349	24.3		13.1	29	11.4		42.5	108	37.1		09.7
22	114	11.2	110	07.1		08.7	4	27.1		13.1	44	13.8		42.6	123	39.2		09.6
23	129	13.6	125	08.5		09.6	19	30.0		13.1	59	16.2		42.6	138	41.4		09.5
24	144	16.1	140	09.9	+6	10.5	34	32.8	+26	13.1	74	18.6	+21	42.6	153	43.6	-6	09.4
Dif	—		+14		+9		+29		0		+24		0		+22		+	

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 12 ^h 14.1 ^m			Edad: 15.5 ^d PHE { 4 ^h : 55/1 12 ^h : 55/0 20 ^h : 54/8 R°: 41 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	
0	176	28.0	-13	00.5		340	27.2	+8 25.3	60 N	6 07	6 56	7 40	19 25	83	8 16	**
1	191	28.0	-12	59.6		355	02.0	+8 11.1	58	06	52	33	27 80		13	1
2	206	28.1		58.8		9	36.8	+7 56.8	56	05	48	27	29 77		10	4
3	221	28.1		57.9		24	11.6	42.4	54	03	45	22	31 74		07	
4	236	28.1		57.1		38	46.5	28.1	52	02	42	17	32 72		05	9
5	251	28.1	-12	56.2		53	21.5	+7 13.7	50	6 01	6 39	7 12	19 33	70	8 02	12
6	266	28.1	-12	55.4		67	56.5	+6 59.3	45	5 58	6 32	7 02	19 36	65	7 57	16
7	281	28.2		54.5		82	31.5	44.9	40	54	26	6 54	39 60		53	20
8	296	28.2		53.7		97	06.6	30.5	35	51	21	47	41 57		49	23
9	311	28.2		52.8		111	41.7	16.1	30	48	16	41	43 54		46	26
10	326	28.3		51.9		126	16.9	+6 01.6	20	41	6 07	30	46 49		40	32
11	341	28.3	-12	51.1		140	52.1	+5 47.2	10 N	5 34	5 58	6 20	19 49	44	7 35	36
12	356	28.3	-12	50.2		155	27.4	+5 32.7	0	5 25	5 49	6 11	19 51	40	7 30	41
13	11	28.3		49.4		170	02.7	18.2	10 S	15	40	6 01	54 35		25	45
14	26	28.4		48.5		184	38.1	+5 03.7	20	5 02	29	5 51	19 57	31	20	50
15	41	28.4		47.7		199	13.4	+4 49.2	30	4 45	15	40	20 00	26	14	55
16	56	28.4		46.8		213	48.9	34.7	35	34	5 06	33	02 23		11	58
17	71	28.4	-12	46.0		228	24.3	+4 20.2	40	4 22	4 56	5 25	20 04	19	7 07	61
18	86	28.5	-12	45.1		242	59.8	+4 05.7	45	4 06	4 44	5 16	20 06	16	7 02	66
19	101	28.5		44.3		257	35.3	+3 51.2	50	3 45	30	05	09 11		6 57	70
20	116	28.5		43.4		272	10.9	36.6	52	35	22	5 00	11 8		54	73
21	131	28.6		42.5		286	46.5	22.1	54	23	14	4 54	12 7		51	75
22	146	28.6		41.7		301	22.1	+3 07.5	56	3 09	4 05	48	13 5		45	78
23	161	28.6		40.8		315	57.8	+2 53.0	58	2 52	3 55	41	15 2		48	81
24	176	28.7	-12	40.0		330	33.5	+2 38.5	60 S	2 31	3 43	4 33	20 17	**	6 41	84
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 14 ^h 20.6 ^m		Mag: -4.9 PMG: 14 ^h 38 ^m		Mag: -0.7 PMG: 21 ^h 38 ^m		Mag: -2.4 PMG: 19 ^h 00 ^m		Mag: +1.1 PMG: 13 ^h 43 ^m							
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	144	16.1	140	09.9	+6	10.5	34	32.8	+26	13.1						
1	159	18.6	155	11.4		11.5	49	35.7		13.1						
2	174	21.0	170	12.8		12.4	64	38.5		13.0						
3	189	23.5	185	14.2		13.3	79	41.3		13.0						
4	204	26.0	200	15.6		14.3	94	44.1		13.0						
5	219	28.4	215	17.0	+6	15.2	109	47.0	+26	13.0						
6	234	30.9	230	18.4	+6	16.1	124	49.8	+26	12.9						
7	249	33.4	245	19.9		17.0	139	52.6		12.9						
8	264	35.8	260	21.3		17.9	154	55.4		12.9						
9	279	38.3	275	22.7		18.9	169	58.3		12.9						
10	294	40.8	290	24.2		19.8	185	01.1		12.8						
11	309	43.2	305	25.6	+6	20.7	200	03.9	+26	12.8						
12	324	45.7	320	27.0	+6	21.6	215	06.7	+26	12.8						
13	339	48.1	335	28.5		22.5	230	09.5		12.8						
14	354	50.6	350	29.9		23.5	245	12.3		12.7						
15	9	53.1	5	31.4		24.4	260	15.2		12.7						
16	24	55.5	20	32.8		25.3	275	18.0		12.7						
17	39	58.0	35	34.3	+6	26.2	290	20.8	+26	12.7						
18	55	00.5	50	35.7	+6	27.1	305	23.6	+26	12.6						
19	70	02.9	65	37.2		28.0	320	26.4		12.6						
20	85	05.4	80	38.6		28.9	335	29.2		12.6						
21	100	07.9	95	40.1		29.8	350	32.0		12.6						
22	115	10.3	110	41.6		30.8	5	34.8		12.5						
23	130	12.8	125	43.0		31.7	20	37.6		12.5						
24	145	15.2	140	44.5	+6	32.6	35	40.4	+26	12.5						
Dif	—		+14		+9		+28		0							
									+24							
									0							
									+22							
									+1							

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:12 ^h 14.1 ^m				Edad: 16.5 ^d SD: 14'9 PMG: 2 ^h 01 ^m															
					PHE { 4 ^h : 54'7 12 ^h : 54'6 20 ^h : 54'5 Rº: 41 ^m															
	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	h m m		
0	176	28.7	-12	40.0	330	33.5	+2	38.5	146	60 N	16 52	17 36	18 24	20 48 85	8 15 **					
1	191	28.7		39.1	345	09.2		23.9	146	58	16 58	39	25	47 81	14 3					
2	206	28.7		38.2	359	44.9	+2	09.4	145	56	17 04	43	27	46 78	14 6					
3	221	28.7		37.4	14	20.7	+1	54.8	146	54	10	46	28	45 75	14 8					
4	236	28.8		36.5	28	56.4		40.3	145	52	14	49	29	44 72	14 10					
5	251	28.8	-12	35.7	43	32.3	+1	25.7	146	50	17 19	17 52	18 30	20 43 70	8 14 12					
6	266	28.8	-12	34.8	58	08.1	+1	11.2	145	45	17 28	17 58	18 33	20 41 65	8 13 17					
7	281	28.9		33.9	72	43.9	+0	56.7	145	40	36	18 04	35	39 62	13 20					
8	296	28.9		33.1	87	19.8		42.2	145	35	43	09	38	38 58	12 24					
9	311	28.9		32.2	101	55.7		27.6	146	30	49	13	41	37 55	12 27					
10	326	29.0		31.4	116	31.6	+0	13.1	145	20	17 59	22	48	35 49	12 32					
11	341	29.0	-12	30.5	131	07.5	-0	01.4	145	10 N	18 09	18 30	18 55	20 33 45	8 11 37					
12	356	29.0	-12	29.6	145	43.5	-0	15.9	145	0	18 17	18 39	19 03	20 31 41	8 11 40					
13	11	29.1		28.8	160	19.4		30.4	145	10 S	26	48	13	29 37	10 45					
14	26	29.1		27.9	174	55.4		44.8	144	20	36	18 59	25	28 32	10 49					
15	41	29.2		27.0	189	31.4	-0	59.3	145	30	47	19 12	42	26 27	09 55					
16	56	29.2		26.2	204	07.4	-1	13.8	145	35	18 54	20	19 52	25 24	09 58					
17	71	29.2	-12	25.3	218	43.4	-1	28.2	144	40	19 01	19 30	20 04	20 23 21	8 08 62					
18	86	29.3	-12	24.5	233	19.4	-1	42.6	144	45	19 10	19 41	20 19	20 22 17	8 08 65					
19	101	29.3		23.6	247	55.4	-1	57.0	144	50	20	19 55	39	20 13	07 70					
20	116	29.3		22.7	262	31.4	-2	11.4	144	52	25	20 02	20 49	19 11	07 72					
21	131	29.4		21.9	277	07.5		25.8	144	54	31	10	21 00	19 8	06 76					
22	146	29.4		21.0	291	43.5		40.2	144	56	37	18	14	18 5	06 78					
23	161	29.4		20.1	306	19.5	-2	54.6	144	58	43	28	29	17 2	06 81					
24	176	29.5	-12	19.3	320	55.6	-3	08.9	143	60 S	19 51	20 40	21 48	20 15 0	8 05 85					
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG 14 ^h 16.6 ^m				Mag: -4.9 PMG: 14 ^h 36 ^m				Mag: -0.7 PMG: 21 ^h 33 ^m				Mag: -2.4 PMG: 18 ^h 56 ^m				Mag: +1.1 PMG: 13 ^h 40 ^m			
	hG ♈				hG ♀				hG ♂				hG ♃				hG ♄			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	145	15.2	140	44.5	+6	32.6	35	40.4	+26	12.5	75	15.6	+21	43.1	154	36.3	-6	06.6		
1	160	17.7	155	46.0		33.5	50	43.2		12.5	90	18.0		43.1	169	38.5		06.5		
2	175	20.2	170	47.4		34.4	65	46.0		12.4	105	20.3		43.1	184	40.7		06.4		
3	190	22.6	185	48.9		35.3	80	48.8		12.4	120	22.7		43.1	199	42.9		06.3		
4	205	25.1	200	50.4		36.2	95	51.6		12.4	135	25.1		43.2	214	45.1		06.1		
5	220	27.6	215	51.9	+6	37.1	110	54.4	+26	12.3	150	27.4	+21	43.2	229	47.3	-6	06.0		
6	235	30.0	230	53.4	+6	38.0	125	57.1	+26	12.3	165	29.8	+21	43.2	244	49.5	-6	05.9		
7	250	32.5	245	54.8		38.9	140	59.9		12.3	180	32.2		43.2	259	51.7		05.8		
8	265	35.0	260	56.3		39.8	156	02.7		12.2	195	34.5		43.2	274	53.9		05.7		
9	280	37.4	275	57.8		40.7	171	05.5		12.2	210	36.9		43.3	289	56.0		05.6		
10	295	39.9	290	59.3		41.6	186	08.3		12.2	225	39.3		43.3	304	58.2		05.4		
11	310	42.4	306	00.8	+6	42.5	201	11.1	+26	12.2	240	41.6	+21	43.3	320	00.4	-6	05.3		
12	325	44.8	321	02.3	+6	43.4	216	13.8	+26	12.1	255	44.0	+21	43.3	335	02.6	-6	05.2		
13	340	47.3	336	03.8		44.3	231	16.6		12.1	270	46.4		43.4	350	04.8		05.1		
14	355	49.7	351	05.3		45.2	246	19.4		12.1	285	48.7		43.4	5	07.0		05.0		
15	10	52.2	6	06.8		46.1	261	22.2		12.0	300	51.1		43.4	20	09.2		04.9		
16	25	54.7	21	08.3		46.9	276	24.9		12.0	315	53.5		43.4	35	11.4		04.7		
17	40	57.1	36	09.9	+6	47.8	291	27.7	+26	12.0	330	55.8	+21	43.4	50	13.6	-6	04.6		
18	55	59.6	51	11.4	+6	48.7	306	30.5	+26	11.9	345	58.2	+21	43.5	65	15.8	-6	04.5		
19	71	02.1	66	12.9		49.6	321	33.3		11.9	1	00.6		43.5	80	18.0		04.4		
20	86	04.5	81	14.4		50.5	336	36.0		11.9	16	02.9		43.5	95	20.2		04.3		
21	101	07.0	96	15.9		51.4	351	38.8		11.8	31	05.3		43.5	110	22.4		04.2		
22	116	09.5	111	17.5		52.3	6	41.6		11.8	46	07.7		43.5	125	24.6		04.0		
23	131	11.9	126	19.0		53.2	21	44.3		11.8	61	10.0		43.6	140	26.7		03.9		
24	146	14.4	141	20.5	+6	54.0	36	47.1	+26	11.7	76	12.4	+21	43.6	155	28.9	-6	03.8		
Dif	—				+15				+9				+28				0			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16 ^h /2 PMG:12 ^h 14.0 ^m				Edad: 17.5 ^d PHE { 4 ^h : 54/4 12 ^h : 54/3 20 ^h : 54/3 PMG: 2 ^h 41 ^m R°: 39 ^m																			
	hG ☉	Dec			hG ☾	Dif			Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	176	29.5	-12	19.3	320	55.6		-3	08.9		60 N	6	03	6	51	7	35	22	12	84	8	13	**	
1	191	29.5		18.4	335	31.6			23.2		58		02		47	28		07	80		16	2		
2	206	29.6		17.5	350	07.7			37.5		56	6	00		44	22		22	02	78		18	5	
3	221	29.6		16.7	4	43.7		-3	51.8		54	5	59		41	17		21	58	75		21		
4	236	29.6		15.8	19	19.8		-4	06.0		52		58		38	13		55	72		23	9		
5	251	29.7	-12	14.9	33	55.8		-4	20.3		50	5	57	6	35	7	08	21	52	69	8	25	11	
6	266	29.7	-12	14.0	48	31.8		-4	34.5		45	5	55	6	29	6	59	21	45	65	8	29	16	
7	281	29.8		13.2	63	07.9		-4	48.7		40		52		24	51		39	61		32	20		
8	296	29.8		12.3	77	43.9		-5	02.9		35		49		19	45		34	58		35	23		
9	311	29.8		11.4	92	19.9			17.0		30		46		14	39		30	54		38	26		
10	326	29.9		10.6	106	55.9			31.1		20		40	6	06	28		23	49		42	31		
11	341	29.9	-12	09.7	121	31.9		-5	45.2		10 N	5	33	5	58	6	19	21	17	44	8	46	36	
12	356	30.0	-12	08.8	136	07.9		-5	59.3		0	5	25	5	49	6	11	21	11	40	8	50	40	
13	11	30.0		08.0	150	43.9		-6	13.3		10 S		15		40	6	02	21	05	36		54	44	
14	26	30.0		07.1	165	19.8			27.3		20	5	03		30	5	52	20	58	32	8	58	48	
15	41	30.1		06.2	179	55.8			41.3		30	4	47		16	41		51	27		9	03	53	
16	56	30.1		05.3	194	31.7		-6	55.3		35		37	5	08	35		47	24		05	57		
17	71	30.2	-12	04.5	209	07.6		-7	09.2		40	4	24	4	59	5	28	20	43	21	9	08	60	
18	86	30.2	-12	03.6	223	43.6		-7	23.1		45	4	09	4	48	5	19	20	38	16	9	12	64	
19	101	30.3		02.7	238	19.4			37.0		50	3	49		33	09		31	13		16	69		
20	116	30.3		01.8	252	55.3		-7	50.8		52		40		27	5	04	28	11		18	71		
21	131	30.4		01.0	267	31.2		-8	04.6		54		28		19	4	58	25	8		20	74		
22	146	30.4	-12	00.1	282	07.0			18.4		56		15		10	52		22	5		23	76		
23	161	30.4	-11	59.2	296	42.8			32.1		58	3	00	4	01	46		18	2		25	80		
24	176	30.5	-11	58.3	311	18.6		-8	45.8		60 S	2	40		3	49	4	38	20	14	**	9	28	84

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: -4.9 14 ^h 12.7 ^m		Mag: -4.9 PMG: 14 ^h 33 ^m		Mag: -0.7 PMG: 21 ^h 29 ^m		Mag: -2.4 PMG: 18 ^h 52 ^m		Mag: +1.1 PMG: 13 ^h 36 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	146	14.4	141	20.5	+6	54.0	36	47.1	+26	11.7	76	12.4	+21	43.6	155	28.9	-6	03.8
1	161	16.8	156	22.1		54.9	51	49.8		11.7	91	14.7		43.6	170	31.1		03.7
2	176	19.3	171	23.6		55.8	66	52.6		11.7	106	17.1		43.6	185	33.3		03.6
3	191	21.8	186	25.1		56.7	81	55.4		11.6	121	19.5		43.7	200	35.5		03.5
4	206	24.2	201	26.7		57.6	96	58.1		11.6	136	21.8		43.7	215	37.7		03.3
5	221	26.7	216	28.2	+6	58.4	112	00.9	+26	11.6	151	24.2	+21	43.7	230	39.9	-6	03.2
6	236	29.2	231	29.8	+6	59.3	127	03.6	+26	11.5	166	26.5	+21	43.7	245	42.1	-6	03.1
7	251	31.6	246	31.3	+7	00.2	142	06.4		11.5	181	28.9		43.7	260	44.3		03.0
8	266	34.1	261	32.9		01.1	157	09.1		11.5	196	31.3		43.8	275	46.5		02.9
9	281	36.6	276	34.4		01.9	172	11.9		11.4	211	33.6		43.8	290	48.7		02.8
10	296	39.0	291	36.0		02.8	187	14.6		11.4	226	36.0		43.8	305	50.9		02.6
11	311	41.5	306	37.5	+7	03.7	202	17.4	+26	11.4	241	38.3	+21	43.8	320	53.1	-6	02.5
12	326	44.0	321	39.1	+7	04.6	217	20.1	+26	11.3	256	40.7	+21	43.8	335	55.2	-6	02.4
13	341	46.4	336	40.7		05.4	232	22.8		11.3	271	43.1		43.9	350	57.4		02.3
14	356	48.9	351	42.2		06.3	247	25.6		11.2	286	45.4		43.9	5	59.6		02.2
15	11	51.3	6	43.8		07.2	262	28.3		11.2	301	47.8		43.9	21	01.8		02.1
16	26	53.8	21	45.4		08.0	277	31.1		11.2	316	50.1		43.9	36	04.0		01.9
17	41	56.3	36	47.0	+7	08.9	292	33.8	+26	11.1	331	52.5	+21	44.0	51	06.2	-6	01.8
18	56	58.7	51	48.5	+7	09.8	307	36.5	+26	11.1	346	54.8	+21	44.0	66	08.4	-6	01.7
19	72	01.2	66	50.1		10.6	322	39.3		11.1	1	57.2		44.0	81	10.6		01.6
20	87	03.7	81	51.7		11.5	337	42.0		11.0	16	59.6		44.0	96	12.8		01.5
21	102	06.1	96	53.3		12.3	352	44.7		11.0	32	01.9		44.0	111	15.0		01.4
22	117	08.6	111	54.9		13.2	7	47.5		10.9	47	04.3		44.1	126	17.2		01.2
23	132	11.1	126	56.5		14.1	22	50.2		10.9	62	06.6		44.1	141	19.4		01.1
24	147	13.5	141	58.1	+7	14.9	37	52.9	+26	10.9	77	09.0	+21	44.1	156	21.5	-6	01.0
Dif	—		+16		+9		+27		0		+24		0		+22		+1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 16/2 PMG:12 ^h 13.9 ^m		Edad: 18.5 ^d SD: 14/8 PMG: 3 ^h 20 ^m PHE 4^h: 54/2 12^h: 54/2 20^h: 54/2 R°: 42^m																		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°							
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m					
0	176	30.5	-11	58.3	311	18.6	-8	45.8	60 N	16	57	17	40	18	29	23	36	90	8	12	0
1	191	30.5		57.5	325	54.3	-8	59.5	58	17	03		44		30		27	85		18	3
2	206	30.6		56.6	340	30.1	-9	13.1	56		09		47		31		20	81		23	7
3	221	30.6		55.7	355	05.8		26.7	54		14		50		31		13	78		28	9
4	236	30.7		54.8	9	41.4		40.2	52		18		53		32		07	75		32	12
5	251	30.7	-11	54.0	24	17.1	-9	53.7	50	17	22	17	55	18	33	23	01	73	8	36	15
6	266	30.8	-11	53.1	38	52.7	-10	07.2	45	17	31	18	01	18	35	22	50	67	8	45	19
7	281	30.8		52.2	53	28.3		20.6	40		38		06		38		40	63		52	23
8	296	30.9		51.3	68	03.9		34.0	35		45		11		40		32	59	8	58	27
9	311	30.9		50.5	82	39.4	-10	47.4	30	17	50		15		43		24	57	9	04	29
10	326	31.0		49.6	97	14.9	-11	00.7	20	18	00		23		49		12	52		13	35
11	341	31.0	-11	48.7	111	50.4	-11	14.0	10 N	18	09	18	30	18	55	22	01	48	9	22	38
12	356	31.1	-11	47.8	126	25.8	-11	27.2	0	18	17	18	38	19	03	21	51	44	9	30	42
13	11	31.1		46.9	141	01.2		40.4	10 S		26		47		12		41	40		38	46
14	26	31.2		46.1	155	36.5	-11	53.5	20		35	18	57	24		30	36		46	51	
15	41	31.2		45.2	170	11.9	-12	06.6	30		45	19	10	39		18	31		9	56	56
16	56	31.3		44.3	184	47.1		19.6	35		51		18	19	49	11	28		10	02	59
17	71	31.3	-11	43.4	199	22.4	-12	32.6	40	18	58	19	27	20	01	21	04	24	10	08	63
18	86	31.4	-11	42.5	213	57.6	-12	45.6	45	19	07	19	38	20	16	20	54	21	10	16	66
19	101	31.4		41.7	228	32.7	-12	58.5	50		16		51		35		44	16		25	72
20	116	31.5		40.8	243	07.8	-13	11.3	52		21	19	58	44		39	13		29	74	
21	131	31.5		39.9	257	42.9		24.1	54		26	20	05	20	55	33	11		34	77	
22	146	31.6		39.0	272	17.9		36.9	56		32		13	21	07	27	8		39	80	
23	161	31.6		38.1	286	52.9	-13	49.6	58		38		22		22	20	5		45	84	
24	176	31.7	-11	37.3	301	27.8	-14	02.2	60 S	19	45	20	33	21	40	20	12	1	10	52	87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 08.8 ^m		Mag: -4.9 PMG: 14 ^h 31 ^m		Mag: -0.7 PMG: 21 ^h 25 ^m		Mag: -2.4 PMG: 18 ^h 48 ^m		Mag: +1.1 PMG: 13 ^h 33 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	147	13.5	141	58.1	+7	14.9	37	52.9	+21	44.1	156	21.5	-6	01.0				
1	162	16.0	156	59.7		15.8	52	55.6		10.8	92	11.3		00.9				
2	177	18.4	172	01.3		16.6	67	58.4		10.8	107	13.7		00.8				
3	192	20.9	187	02.9		17.5	83	01.1		10.7	122	16.0		00.7				
4	207	23.4	202	04.5		18.3	98	03.8		10.7	137	18.4		00.5				
5	222	25.8	217	06.1	+7	19.2	113	06.5	+26	10.7	152	20.7	+21	00.4				
6	237	28.3	232	07.7	+7	20.0	128	09.2	+26	10.6	167	23.1	+21	00.3				
7	252	30.8	247	09.3		20.9	143	11.9		10.6	182	25.4		00.2				
8	267	33.2	262	10.9		21.7	158	14.7		10.5	197	27.8		00.1				
9	282	35.7	277	12.6		22.6	173	17.4		10.5	212	30.1		00.0				
10	297	38.2	292	14.2		23.4	188	20.1		10.5	227	32.5		59.8				
11	312	40.6	307	15.8	+7	24.3	203	22.8	+26	10.4	242	34.8	+21	59.7				
12	327	43.1	322	17.4	+7	25.1	218	25.5	+26	10.4	257	37.2	+21	59.6				
13	342	45.6	337	19.1		26.0	233	28.2		10.3	272	39.5		59.5				
14	357	48.0	352	20.7		26.8	248	30.9		10.3	287	41.9		59.4				
15	12	50.5	7	22.3		27.7	263	33.6		10.2	302	44.2		59.3				
16	27	52.9	22	24.0		28.5	278	36.3		10.2	317	46.6		59.1				
17	42	55.4	37	25.6	+7	29.3	293	39.0	+26	10.2	332	48.9	+21	59.0				
18	57	57.9	52	27.3	+7	30.2	308	41.7	+26	10.1	347	51.3	+21	58.9				
19	73	00.3	67	28.9		31.0	323	44.4		10.1	2	53.6		58.8				
20	88	02.8	82	30.6		31.8	338	47.1		10.0	17	56.0		58.7				
21	103	05.3	97	32.2		32.7	353	49.8		10.0	32	58.3		58.6				
22	118	07.7	112	33.9		33.5	8	52.5		09.9	48	00.7		58.4				
23	133	10.2	127	35.5		34.3	23	55.2		09.9	63	03.0		58.3				
24	148	12.7	142	37.2	+7	35.2	38	57.9	+26	09.9	78	05.4	+21	58.2				
Dif	—		+16		+8		+27		0		+23		0		+22		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h /2 PMG: 12 ^h 13.8 ^m				Edad: 19.5 ^d SD: 14 ^h 8 PMG: 4 ^h 01 ^m														
	PHE { 4 ^h : 54 ^h /2 12 ^h : 54 ^h /2 20 ^h : 54 ^h /2 Rº: 43 ^m																		
	hG ☉	Dec			hG ☾	Dif				Náutico	Civil		Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	176	31.7	-11	37.3	301	27.8	-14	02.2	60 N	5 58	6 46	7 29	** ** *		8 10	0			
1	191	31.7		36.4	316	02.7		14.8	58	57	43	23	** ** *		20	4			
2	206	31.8		35.5	330	37.5		27.4	56	56	39	18	** ** *		29	7			
3	221	31.8		34.6	345	12.3		39.9	54	55	37	13	** ** *		36	1			
4	236	31.9		33.7	359	47.0	-14	52.3	52	55	34	09	** ** *		43	14			
5	251	31.9	-11	32.8	14	21.7	-15	04.7	50	5 54	6 32	7 05	** ** *		8 49	16			
6	266	32.0	-11	31.9	28	56.3	-15	17.0	45	5 52	6 26	6 56	23 55	67	9 03	21			
7	281	32.0		31.1	43	30.9		29.2	40	50	21	49	42	63	14	25			
8	296	32.1		30.2	58	05.4		41.4	35	47	17	43	30	60	23	29			
9	311	32.1		29.3	72	39.9	-15	53.6	30	45	13	37	20	57	32	31			
10	326	32.2		28.4	87	14.3	-16	05.7	20	39	6 05	27	23	02	53	46	36		
11	341	32.3	-11	27.5	101	48.6	-16	17.7	10 N	5 33	5 57	6 19	22 47	49	9 59	40			
12	356	32.3	-11	26.6	116	22.9	-16	29.6	0	5 25	5 49	6 10	22 33	45	10 11	44			
13	11	32.4		25.7	130	57.1		41.5	10 S	16	41	6 02		19 42	23	47			
14	26	32.4		24.9	145	31.3	-16	53.4	20	5 04	31	5 53	22 04	38	36	51			
15	41	32.5		24.0	160	05.4	-17	05.1	30	4 49	18	43	21 48	33	10 51	56			
16	56	32.5		23.1	174	39.5		16.8	35	39	10	37	38	31	11 00	59			
17	71	32.6	-11	22.2	189	13.5	-17	28.5	40	4 27	5 01	5 30	21 27	27	11 09	63			
18	86	32.7	-11	21.3	203	47.4	-17	40.0	45	4 13	4 51	5 22	21 14	23	11 21	66			
19	101	32.7		20.4	218	21.2	-17	51.5	50	3 54	37	12	20 58	19	35	72			
20	116	32.8		19.5	232	55.0	-18	03.0	52	44	31	07	51	16	42	74			
21	131	32.8		18.6	247	28.7		14.3	54	34	24	5 02	43	13	49	78			
22	146	32.9		17.7	262	02.4		25.6	56	22	15	4 57	34	10	11 58	80			
23	161	32.9		16.9	276	36.0		36.9	58	3 07	4 06	51	23	6	12 07	85			
24	176	33.0	-11	16.0	291	09.5	-18	48.0	60 S	2 49	3 55	4 44	20 12	0	12 18	90			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 04.8 ^m		Mag: -4.9 PMG: 14 ^h 28 ^m		Mag: -0.6 PMG: 21 ^h 20 ^m		Mag: -2.4 PMG: 18 ^h 45 ^m		Mag: +1.1 PMG: 13 ^h 29 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	148	12.7	142	37.2	+7	35.2	38	57.9	+21	44.7
1	163	15.1	157	38.9		36.0	54	00.6		44.7
2	178	17.6	172	40.5		36.8	69	03.2		44.7
3	193	20.1	187	42.2		37.7	84	05.9		44.7
4	208	22.5	202	43.9		38.5	99	08.6		44.8
5	223	25.0	217	45.6	+7	39.3	114	11.3	+26	44.8
6	238	27.4	232	47.2	+7	40.1	129	14.0	+26	44.8
7	253	29.9	247	48.9		41.0	144	16.6		44.8
8	268	32.4	262	50.6		41.8	159	19.3		44.9
9	283	34.8	277	52.3		42.6	174	22.0		44.9
10	298	37.3	292	54.0		43.4	189	24.7		44.9
11	313	39.8	307	55.7	+7	44.3	204	27.3	+26	44.9
12	328	42.2	322	57.4	+7	45.1	219	30.0	+26	45.0
13	343	44.7	337	59.1		45.9	234	32.7		45.0
14	358	47.2	353	00.8		46.7	249	35.4		45.0
15	13	49.6	8	02.5		47.5	264	38.0		45.0
16	28	52.1	23	04.2		48.3	279	40.7		45.1
17	43	54.5	38	05.9	+7	49.1	294	43.4	+26	45.1
18	58	57.0	53	07.6	+7	50.0	309	46.0	+26	45.1
19	73	59.5	68	09.3		50.8	324	48.7		45.1
20	89	01.9	83	11.0		51.6	339	51.3		45.2
21	104	04.4	98	12.8		52.4	354	54.0		45.2
22	119	06.9	113	14.5		53.2	9	56.7		45.2
23	134	09.3	128	16.2		54.0	24	59.3		45.2
24	149	11.8	143	18.0	+7	54.8	40	02.0	+26	45.2
Dif	—		+17		+8		+27		0	
							+23		0	
									+22	
									+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo				Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 13.8 ^m				Edad: 20.5 ^d SD: 14/8 PMG: 4 ^h 44 ^m						PHE { 4 ^h : 54/3 12 ^h : 54/3 20 ^h : 54/4 R°: 47 ^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	33.0	-11	16.0	291	09.5	-18	48.0	60 N	17 02	17 45	18 34	1 05	94	8 10	2		
1	191	33.1		15.1	305	43.0 ¹⁴⁵	-18	59.1 ¹¹¹	58	08	48	34	0 51	88	24	9		
2	206	33.1		14.2	320	16.4 ¹⁴⁴	-19	10.1 ¹¹⁰	56	13	51	35	40	83	36	14		
3	221	33.2		13.3	334	49.7 ¹⁴³		21.1 ¹¹⁰	54	18	54	35	29	80	47	17		
4	236	33.2		12.4	349	22.9 ¹⁴²		31.9 ¹⁰⁸	52	22	56	36	20	77	8 57	20		
5	251	33.3	-11	11.5	3	56.1 ¹⁴²	-19	42.7 ¹⁰⁸	50	17 26	17 59	18 36	0 12	74	9 05	23		
6	266	33.4	-11	10.6	18	29.2 ¹⁴¹	-19	53.4 ¹⁰⁷	45	17 34	18 04	18 38	** ** *		9 24	27		
7	281	33.4		09.7	33	02.2 ¹⁴⁰	-20	04.0 ¹⁰⁶	40	41	08	40	** ** *		39	31		
8	296	33.5		08.8	47	35.2 ¹⁴⁰		14.6 ¹⁰⁶	35	47	12	42	** ** *		9 52	34		
9	311	33.5		07.9	62	08.0 ¹³⁸		25.1 ¹⁰⁵	30	17 52	16	44	** ** *		10 03	37		
10	326	33.6		07.0	76	40.8 ¹³⁸		35.4 ¹⁰³	20	18 01	23	49	23 55	56	22	41		
11	341	33.7	-11	06.2	91	13.6 ¹³⁸	-20	45.8 ¹⁰⁴	10 N	18 09	18 31	18 55	23 36	53	10 39	45		
12	356	33.7	-11	05.3	105	46.2 ¹³⁶	-20	56.0 ¹⁰²	0	18 17	18 38	19 03	23 18	50	10 55	48		
13	11	33.8		04.4	120	18.8 ¹³⁶	-21	06.1 ¹⁰¹	10 S	25	46	11	23 01	47	11 10	52		
14	26	33.9		03.5	134	51.3 ¹³⁵		16.2 ¹⁰¹	20	34	18 56	23	22 42	44	27	55		
15	41	33.9		02.6	149	23.7 ¹³⁴		26.2 ¹⁰⁰	30	43	19 08	37	21	40	47	59		
16	56	34.0		01.7	163	56.0 ¹³³		36.1 ⁹⁹	35	49	15	47	22 09	37	11 59	61		
17	71	34.1	-11	00.8	178	28.3 ¹³³	-21	45.9 ⁹⁸	40	18 56	19 24	19 58	21 54	35	12 12	64		
18	86	34.1	-10	59.9	193	00.5 ¹³²	-21	55.6 ⁹⁷	45	19 03	19 34	20 12	21 37	32	12 27	69		
19	101	34.2		59.0	207	32.6 ¹³¹	-22	05.2 ⁹⁶	50	13	47	30	17 26		47	74		
20	116	34.2		58.1	222	04.6 ¹³⁰		14.7 ⁹⁵	52	17	19 53	39	21 07	24	12 56	77		
21	131	34.3		57.2	236	36.5 ¹²⁹		24.2 ⁹⁵	54	22	20 00	20 49	20 56	21	13 07	79		
22	146	34.4		56.3	251	08.4 ¹²⁹		33.5 ⁹³	56	27	08	21 01	44	17	18	84		
23	161	34.4		55.4	265	40.1 ¹²⁷		42.8 ⁹³	58	33	17	14	29	12	32	89		
24	176	34.5	-10	54.5	280	11.8 ¹²⁷	-22	52.0 ⁹²	60 S	19 39	20 27	21 31	20 12	5	13 48	96		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 14 ^h 00.9 ^m		Mag: -4.9 PMG: 14 ^h 25 ^m			Mag: -0.6 PMG: 21 ^h 16 ^m			Mag: -2.4 PMG: 18 ^h 41 ^m			Mag: +1.1 PMG: 13 ^h 26 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	/	°	/	°	/	°	/	°	/	°	/						
0	149	11.8	143	18.0	+7	54.8	40	02.0	+26	08.7	79	01.5	+21	45.2	158	06.7	-5	55.4
1	164	14.3	158	19.7		55.6	55	04.6		08.7	94	03.9		45.3	173	08.9		55.3
2	179	16.7	173	21.4		56.4	70	07.3		08.6	109	06.2		45.3	188	11.1		55.1
3	194	19.2	188	23.2		57.2	85	09.9		08.6	124	08.5		45.3	203	13.3		55.0
4	209	21.7	203	24.9		58.0	100	12.6		08.5	139	10.9		45.3	218	15.4		54.9
5	224	24.1	218	26.7	+7	58.8	115	15.2	+26	08.5	154	13.2	+21	45.4	233	17.6	-5	54.8
6	239	26.6	233	28.4	+7	59.6	130	17.8	+26	08.4	169	15.5	+21	45.4	248	19.8	-5	54.7
7	254	29.0	248	30.2	+8	00.4	145	20.5		08.4	184	17.9		45.4	263	22.0		54.6
8	269	31.5	263	31.9		01.2	160	23.1		08.3	199	20.2		45.4	278	24.2		54.4
9	284	34.0	278	33.7		02.0	175	25.8		08.3	214	22.5		45.5	293	26.4		54.3
10	299	36.4	293	35.4		02.8	190	28.4		08.2	229	24.9		45.5	308	28.6		54.2
11	314	38.9	308	37.2	+8	03.6	205	31.0	+26	08.1	244	27.2	+21	45.5	323	30.8	-5	54.1
12	329	41.4	323	39.0	+8	04.3	220	33.7	+26	08.1	259	29.5	+21	45.5	338	33.0	-5	54.0
13	344	43.8	338	40.7		05.1	235	36.3		08.0	274	31.9		45.6	353	35.1		53.8
14	359	46.3	353	42.5		05.9	250	39.0		08.0	289	34.2		45.6	8	37.3		53.7
15	14	48.8	8	44.3		06.7	265	41.6		07.9	304	36.5		45.6	23	39.5		53.6
16	29	51.2	23	46.1		07.5	280	44.2		07.9	319	38.9		45.6	38	41.7		53.5
17	44	53.7	38	47.8	+8	08.3	295	46.8	+26	07.8	334	41.2	+21	45.7	53	43.9	-5	53.4
18	59	56.2	53	49.6	+8	09.1	310	49.5	+26	07.8	349	43.5	+21	45.7	68	46.1	-5	53.3
19	74	58.6	68	51.4		09.8	325	52.1		07.7	4	45.9		45.7	83	48.3		53.1
20	90	01.1	83	53.2		10.6	340	54.7		07.7	19	48.2		45.7	98	50.5		53.0
21	105	03.5	98	55.0		11.4	355	57.3		07.6	34	50.5		45.8	113	52.7		52.9
22	120	06.0	113	56.8		12.2	11	00.0		07.6	49	52.9		45.8	128	54.8		52.8
23	135	08.5	128	58.6		12.9	26	02.6		07.5	64	55.2		45.8	143	57.0		52.7
24	150	10.9	144	00.4	+8	13.7	41	05.2	+26	07.4	79	57.5	+21	45.9	158	59.2	-5	52.6
Dif	—		+18		+8		+26		-1		+23		0		+22		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16'2 PMG:12 ^h 13.6 ^m				Edad: 21.5 ^d PHE { 4 ^h : 54'5 12 ^h : 54'7 20 ^h : 54'8 Rº: 49 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	Rº	Hora	Rº					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m		
0	176	34.5	-10	54.5	280	11.8	-22	52.0	90	52.0	90	60 N	5	52	6	41	7	24	2	38	97	8	11	5
1	191	34.6		53.6	294	43.4	-23	01.0	90	52.0	90	58		52		38	18		18	88		31	15	
2	206	34.6		52.7	309	14.9		10.0	89	52.0	90	56		52		35	13		2	02	82	8	48	20
3	221	34.7		51.8	323	46.4		18.9	89	52.0	90	54		51		32	09		1	48	77	9	03	24
4	236	34.8		50.9	338	17.7		27.7	88	52.0	90	52		51		30	05		35	75		16	26	
5	251	34.8	-10	50.0	352	49.0	-23	36.4	87	52.0	90	50	5	50	6	28	7	01	1	25	72	9	27	29
6	266	34.9	-10	49.1	7	20.1	-23	44.9	85	52.0	90	45	5	49	6	23	6	53	1	02	68	9	50	34
7	281	35.0		48.2	21	51.2	-23	53.4	85	52.0	90	40		47		19	46	0	45	63	10	09	37	
8	296	35.0		47.3	36	22.2	-24	01.8	84	52.0	90	35		45		15	40		30	60		25	39	
9	311	35.1		46.4	50	53.2		10.1	83	52.0	90	30		43		11	35	0	17	58	10	38	42	
10	326	35.2		45.5	65	24.0		18.3	82	52.0	90	20		38	6	04	26	**	**	**	11	02	45	
11	341	35.3	-10	44.6	79	54.7	-24	26.3	80	52.0	90	10 N	5	32	5	57	6	18	**	**	**	11	22	48
12	356	35.3	-10	43.7	94	25.4	-24	34.3	80	52.0	90	0	5	25	5	49	6	10	**	**	**	11	41	51
13	11	35.4		42.8	108	56.0		42.2	79	52.0	90	10 S		16		41	6	02	23	46	51	12	00	53
14	26	35.5		41.9	123	26.5		49.9	77	52.0	90	20	5	05	32	5	54		25	48		21	55	
15	41	35.5		41.0	137	56.9	-24	57.6	77	52.0	90	30	4	51	20	44	23	00	45		45	58		
16	56	35.6		40.1	152	27.2	-25	05.1	75	52.0	90	35		41		12	39	22	45	44	12	59	60	
17	71	35.7	-10	39.2	166	57.4	-25	12.5	74	52.0	90	40	4	30	5	04	5	32	22	28	41	13	15	63
18	86	35.7	-10	38.3	181	27.5	-25	19.8	73	52.0	90	45	4	16	4	54	5	25	22	07	39	13	35	66
19	101	35.8		37.4	195	57.6		27.0	72	52.0	90	50	3	58		41	16	21	42	35	13	59	71	
20	116	35.9		36.5	210	27.5		34.1	71	52.0	90	52		49	35	11		30	33		14	11	73	
21	131	36.0		35.6	224	57.4		41.1	70	52.0	90	54		39	28	07		21	16	30		25	75	
22	146	36.0		34.7	239	27.2		47.9	68	52.0	90	56		28	20	5	01	20	59	27	14	41	79	
23	161	36.1		33.8	253	56.9	-25	54.7	68	52.0	90	58	3	14	12	4	56		40	21	15	00	85	
24	176	36.2	-10	32.9	268	26.5	-26	01.3	66	52.0	90	60 S	2	57	4	02	4	49	20	16	11	15	23	95
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 13 ^h 57.0 ^m			Mag: -4.9 PMG: 14 ^h 22 ^m			Mag: -0.6 PMG: 21 ^h 12 ^m			Mag: -2.4 PMG: 18 ^h 37 ^m			Mag: +1.1 PMG: 13 ^h 22 ^m											
	hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	150	10.9	144	00.4	+8	13.7	41	05.2	+26	07.4	79	57.5	+21	45.9	158	59.2	-5	52.6						
1	165	13.4	159	02.2		14.5	56	07.8		07.4	94	59.8		45.9	174	01.4		52.4						
2	180	15.9	174	04.0		15.3	71	10.4		07.3	110	02.2		45.9	189	03.6		52.3						
3	195	18.3	189	05.8		16.0	86	13.0		07.3	125	04.5		45.9	204	05.8		52.2						
4	210	20.8	204	07.6		16.8	101	15.7		07.2	140	06.8		46.0	219	08.0		52.1						
5	225	23.3	219	09.5	+8	17.6	116	18.3	+26	07.2	155	09.1	+21	46.0	234	10.2	-5	52.0						
6	240	25.7	234	11.3	+8	18.3	131	20.9	+26	07.1	170	11.5	+21	46.0	249	12.4	-5	51.8						
7	255	28.2	249	13.1		19.1	146	23.5		07.1	185	13.8		46.0	264	14.5		51.7						
8	270	30.6	264	14.9		19.9	161	26.1		07.0	200	16.1		46.1	279	16.7		51.6						
9	285	33.1	279	16.8		20.6	176	28.7		06.9	215	18.4		46.1	294	18.9		51.5						
10	300	35.6	294	18.6		21.4	191	31.3		06.9	230	20.8		46.1	309	21.1		51.4						
11	315	38.0	309	20.4	+8	22.2	206	33.9	+26	06.8	245	23.1	+21	46.1	324	23.3	-5	51.3						
12	330	40.5	324	22.3	+8	22.9	221	36.5	+26	06.8	260	25.4	+21	46.2	339	25.5	-5	51.1						
13	345	43.0	339	24.1		23.7	236	39.1		06.7	275	27.7		46.2	354	27.7		51.0						
14	0	45.4	354	26.0		24.4	251	41.7		06.7	290	30.1		46.2	9	29.9		50.9						
15	15	47.9	9	27.8		25.2	266	44.3		06.6	305	32.4		46.2	24	32.0		50.8						
16	30	50.4	24	29.7		25.9	281	46.9		06.5	320	34.7		46.3	39	34.2		50.7						
17	45	52.8	39	31.5	+8	26.7	296	49.5	+26	06.5	335	37.0	+21	46.3	54	36.4	-5	50.5						
18	60	55.3	54	33.4	+8	27.4	311	52.1	+26	06.4	350	39.4	+21	46.3	69	38.6	-5	50.4						
19	75	57.8	69	35.2		28.2	326	54.7		06.4	5	41.7		46.3	84	40.8		50.3						
20	91	00.2	84	37.1		28.9	341	57.2		06.3	20	44.0		46.4	99	43.0		50.2						
21	106	02.7	99	39.0		29.7	356	59.8		06.2	35	46.3		46.4	114	45.2		50.1						
22	121	05.1	114	40.8		30.4	12	02.4		06.2	50	48.6		46.4	129	47.4		50.0						
23	136	07.6	129	42.7		31.2	27	05.0		06.1	65	51.0		46.5	144	49.6		49.8						
24	151	10.1	144	44.6	+8	31.9	42	07.6	+26	06.1	80	53.3	+21	46.5	159	51.7	-5	49.7						
Dif	—		+18		+8		+26		-1		+23		0		+22		+							

UT	SOL				☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16 ^h /2 PMG:12 ^h 13.5 ^m				Edad: 22.5 ^d SD: 14 ^h /9 PMG: 6 ^h 19 ^m																	
	hG ☉		Dec		hG ☾		Dif				Dec		Dif		Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	176	36.2	-10	32.9	268	26.5	-26	01.3	65	60 N	17 07	17 50	18 38	4 15	94	8 16	19					
1	191	36.2		32.0	282	56.1		07.8	64	58	13	53	38	3 46	83	8 46	29					
2	206	36.3		31.1	297	25.5		14.2	64	56	17	55	39	24	77	9 08	35					
3	221	36.4		30.2	311	54.9		20.4	62	54	22	58	39	3 05	74	27	38					
4	236	36.5		29.2	326	24.1		26.6	60	52	25	00	39	2 50	71	42	41					
5	251	36.5	-10	28.3	340	53.3	-26	32.6	59	50	17 29	18 02	18 39	2 37	69	9 56	43					
6	266	36.6	-10	27.4	355	22.4	-26	38.5	57	45	17 37	18 06	18 41	2 10	65	10 24	46					
7	281	36.7		26.5	9	51.5		44.2	57	40	43	10	42	1 48	64	10 46	48					
8	296	36.8		25.6	24	20.4		49.9	57	35	48	14	44	30	62	11 04	50					
9	311	36.8		24.7	38	49.2	-26	55.4	54	30	17 53	18	46	1 15	60	20	51					
10	326	36.9		23.8	53	18.0	-27	00.8	52	20	18 02	24	50	0 49	58	11 47	52					
11	341	37.0	-10	22.9	67	46.7	-27	06.0	51	10 N	18 10	18 31	18 56	0 27	56	12 10	54					
12	356	37.1	-10	22.0	82	15.3	-27	11.1	50	0	18 17	18 38	19 02	0 07	53	12 32	55					
13	11	37.1		21.1	96	43.8		16.1	49	10 S	24	46	11	**	**	**	12 53	57				
14	26	37.2		20.2	111	12.3		21.0	47	20	32	18 55	21	**	**	**	13 16	58				
15	41	37.3		19.3	125	40.6		25.7	46	30	41	19 06	35	23	45	54	43	60				
16	56	37.4		18.4	140	08.9		30.3	44	35	47	13	44	29	53	13 59	61					
17	71	37.4	-10	17.4	154	37.1	-27	34.7	44	40	18 53	19 21	19 55	23 09	53	14 18	62					
18	86	37.5	-10	16.5	169	05.2	-27	39.1	41	45	19 00	19 31	20 08	22 46	52	14 41	63					
19	101	37.6		15.6	183	33.3		43.2	41	50	09	43	25	17	50	15 10	65					
20	116	37.7		14.7	198	01.2		47.3	39	52	13	49	34	22	03	49	24	66				
21	131	37.8		13.8	212	29.1		51.2	38	54	17	19 55	43	21	46	47	15 40	68				
22	146	37.8		12.9	226	57.0		55.0	36	56	22	20 02	20 54	26	46	16 00	70					
23	161	37.9		12.0	241	24.7	-27	58.6	35	58	28	11	21 07	21 01	42	25	73					
24	176	38.0	-10	11.1	255	52.4	-28	02.1	35	60 S	19 34	20 20	21 23	20 27	35	16 58	82					
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 13 ^h 53.0 ^m		Mag: -4.9 PMG: 14 ^h 19 ^m				Mag: -0.6 PMG: 21 ^h 08 ^m				Mag: -2.4 PMG: 18 ^h 34 ^m				Mag: +1.1 PMG: 13 ^h 19 ^m							
	hG ♈		hG ♊		Dec		hG ♈		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	151	10.1	144	44.6	+8	31.9	42	07.6	+26	06.1	80	53.3	+21	46.5	159	51.7	-5	49.7				
1	166	12.5	159	46.5		32.7	57	10.2		06.0	95	55.6		46.5	174	53.9		49.6				
2	181	15.0	174	48.3		33.4	72	12.7		05.9	110	57.9		46.5	189	56.1		49.5				
3	196	17.5	189	50.2		34.2	87	15.3		05.9	126	00.2		46.6	204	58.3		49.4				
4	211	19.9	204	52.1		34.9	102	17.9		05.8	141	02.6		46.6	220	00.5		49.2				
5	226	22.4	219	54.0	+8	35.6	117	20.5	+26	05.8	156	04.9	+21	46.6	235	02.7	-5	49.1				
6	241	24.9	234	55.9	+8	36.4	132	23.1	+26	05.7	171	07.2	+21	46.6	250	04.9	-5	49.0				
7	256	27.3	249	57.8		37.1	147	25.6		05.6	186	09.5		46.7	265	07.1		48.9				
8	271	29.8	264	59.7		37.8	162	28.2		05.6	201	11.8		46.7	280	09.2		48.8				
9	286	32.3	280	01.6		38.6	177	30.8		05.5	216	14.1		46.7	295	11.4		48.6				
10	301	34.7	295	03.5		39.3	192	33.3		05.5	231	16.5		46.7	310	13.6		48.5				
11	316	37.2	310	05.4	+8	40.0	207	35.9	+26	05.4	246	18.8	+21	46.8	325	15.8	-5	48.4				
12	331	39.6	325	07.3	+8	40.8	222	38.5	+26	05.3	261	21.1	+21	46.8	340	18.0	-5	48.3				
13	346	42.1	340	09.3		41.5	237	41.0		05.3	276	23.4		46.8	355	20.2		48.2				
14	1	44.6	355	11.2		42.2	252	43.6		05.2	291	25.7		46.9	10	22.4		48.1				
15	16	47.0	10	13.1		42.9	267	46.2		05.1	306	28.0		46.9	25	24.5		47.9				
16	31	49.5	25	15.0		43.6	282	48.7		05.1	321	30.3		46.9	40	26.7		47.8				
17	46	52.0	40	17.0	+8	44.4	297	51.3	+26	05.0	336	32.7	+21	46.9	55	28.9	-5	47.7				
18	61	54.4	55	18.9	+8	45.1	312	53.8	+26	05.0	351	35.0	+21	47.0	70	31.1	-5	47.6				
19	76	56.9	70	20.8		45.8	327	56.4		04.9	6	37.3		47.0	85	33.3		47.5				
20	91	59.4	85	22.8		46.5	342	58.9		04.8	21	39.6		47.0	100	35.5		47.3				
21	107	01.8	100	24.7		47.2	358	01.5		04.8	36	41.9		47.0	115	37.7		47.2				
22	122	04.3	115	26.7		48.0	13	04.0		04.7	51	44.2		47.1	130	39.9		47.1				
23	137	06.7	130	28.6		48.7	28	06.6		04.6	66	46.5		47.1	145	42.0		47.0				
24	152	09.2	145	30.6	+8	49.4	43	09.1	+26	04.6	81	48.8	+21	47.1	160	44.2	-5	46.9				
Dif	—		+19		+7		+26		-1		+23		0		+22		+1					

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG: 12 ^h 13.4 ^m				Edad: 23.5 ^d SD: 15 ^h /1 PMG: 7 ^h 12 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	176	38.0	-10	11.1	255	52.4	-28	02.1	33	60 N	5	47	6	35	7	18	5	48	63	
1	191	38.1		10.2	270	20.0		05.4	32	58	47		33	13		5	07	61		
2	206	38.2		09.2	284	47.5		08.6	30	56	47		30	08		4	40	60		
3	221	38.2		08.3	299	14.9		11.6	29	54	47		28	04			18	60		
4	236	38.3		07.4	313	42.3		14.5	28	52	47		26	7 00		4	00	59		
5	251	38.4	-10	06.5	328	09.6	-28	17.3	26	50	5	47	6	24	6	57	3	45	59	
6	266	38.5	-10	05.6	342	36.9	-28	19.9	25	45	5	46	6	20	6	50	3	14	58	
7	281	38.6		04.7	357	04.1		22.4	23	40	44		16	43		2	50	58		
8	296	38.6		03.8	11	31.2		24.7	21	35	43		12	38			31	57		
9	311	38.7		02.9	25	58.3		26.8	20	30	41		09	33		2	14	57		
10	326	38.8		01.9	40	25.3		28.8	19	20	37		6	02	25	1	46	56		
11	341	38.9	-10	01.0	54	52.2	-28	30.7	17	10 N	5	31	5	56	6	17	1	22	55	
12	356	39.0	-10	00.1	69	19.1	-28	32.4	16	0	5	25	5	49	6	10	0	59	55	
13	11	39.0	-9	59.2	83	45.9		34.0	14	10 S	17		41	6	03		37	54		
14	26	39.1		58.3	98	12.6		35.4	12	20	5	06	32	5	55		0	13	54	
15	41	39.2		57.4	112	39.3		36.6	11	30	4	52	21	46	**	**	**	**	41	
16	56	39.3		56.5	127	06.0		37.7	9	35	43		14	41	**	**	**	**	14	
17	71	39.4	-9	55.5	141	32.6	-28	38.6	8	40	4	33	5	06	5	35	**	**	**	
18	86	39.5	-9	54.6	155	59.1	-28	39.4	6	45	4	19	4	57	5	28	23	37	63	
19	101	39.5		53.7	170	25.6		40.0	5	50	4	02	45	19	23	06	64	16	13	
20	116	39.6		52.8	184	52.0		40.5	3	52	3	54	39	15	22	50	65		29	
21	131	39.7		51.9	199	18.4		40.8	1	54	44		33	11		32	66	16	47	
22	146	39.8		51.0	213	44.8		40.9	0	56	34		25	06		22	10	68	17	
23	161	39.9		50.0	228	11.1		40.9	2	58	21		17	5	00	21	42	70	17	
24	176	40.0	-9	49.1	242	37.3	-28	40.7		60 S	3	05	4	08	4	54	21	01	76	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 49.1 ^m		Mag: -4.9 PMG: 14 ^h 16 ^m		Mag: -0.5 PMG: 21 ^h 04 ^m		Mag: -2.3 PMG: 18 ^h 30 ^m		Mag: +1.1 PMG: 13 ^h 15 ^m	
h	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♄	Dec
0	152	09.2	145	30.6	43	09.1	81	48.8	160	44.2
1	167	11.7	160	32.5	58	11.7	96	51.2	175	46.4
2	182	14.1	175	34.5	73	14.2	111	53.5	190	48.6
3	197	16.6	190	36.4	88	16.8	126	55.8	205	50.8
4	212	19.1	205	38.4	103	19.3	141	58.1	220	53.0
5	227	21.5	220	40.4	118	21.8	157	00.4	235	55.2
6	242	24.0	235	42.3	133	24.4	172	02.7	250	57.4
7	257	26.5	250	44.3	148	26.9	187	05.0	265	59.5
8	272	28.9	265	46.3	163	29.5	202	07.3	281	01.7
9	287	31.4	280	48.3	178	32.0	217	09.6	296	03.9
10	302	33.9	295	50.3	193	34.5	232	11.9	311	06.1
11	317	36.3	310	52.2	208	37.1	247	14.3	326	08.3
12	332	38.8	325	54.2	223	39.6	262	16.6	341	10.5
13	347	41.2	340	56.2	238	42.1	277	18.9	356	12.7
14	2	43.7	355	58.2	253	44.6	292	21.2	11	14.8
15	17	46.2	11	00.2	268	47.2	307	23.5	26	17.0
16	32	48.6	26	02.2	283	49.7	322	25.8	41	19.2
17	47	51.1	41	04.2	298	52.2	337	28.1	56	21.4
18	62	53.6	56	06.2	313	54.7	352	30.4	71	23.6
19	77	56.0	71	08.3	328	57.3	7	32.7	86	25.8
20	92	58.5	86	10.3	343	59.8	22	35.0	101	28.0
21	108	01.0	101	12.3	359	02.3	37	37.3	116	30.1
22	123	03.4	116	14.3	14	04.8	52	39.6	131	32.3
23	138	05.9	131	16.3	29	07.3	67	41.9	146	34.5
24	153	08.4	146	18.4	44	09.8	82	44.2	161	36.7
Dif	—		+20	+7	+25	-1	+23	0	+22	+1

UT	SOL		LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG:12 ^h 13.3 ^m		Edad: 24.5 ^d SD: 15/3 PMG: 8 ^h 08 ^m							PHE { 4 ^h : 56/3 12 ^h : 56/6 20 ^h : 56/9 Rº: 58 ^m							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	/	°	/	°	/	°	/	°	h	m	h	m	h	m	h	m
0	176	40.0	-9	49.1	242	37.3	-28	40.7	60 N	17	12	17	55	18	43	6	51
1	191	40.1		48.2	257	03.6	73	40.4	58	17		17	57		43	6	08
2	206	40.1		47.3	271	29.7	72	39.9	56	22		18	00		43	5	40
3	221	40.2		46.4	285	55.9	72	39.2	54	26		02			43	5	18
4	236	40.3		45.4	300	22.0	71	38.4	52	29		03			43	4	59
5	251	40.4	-9	44.5	314	48.0	70	-28	50	17	32	18	05	18	43	4	44
6	266	40.5	-9	43.6	329	14.1	71	-28	45	17	39	18	09	18	43	4	12
7	281	40.6		42.7	343	40.1	70	35.0	40	45		13			44	3	48
8	296	40.7		41.8	358	06.1	70	33.5	35	50		16			45	28	53
9	311	40.7		40.8	12	32.0	69	31.8	30	17	55	19			47	3	11
10	326	40.8		39.9	26	57.9	69	30.0	20	18	03	25			51	2	42
11	341	40.9	-9	39.0	41	23.8	69	-28	10 N	18	10	18	31	18	56	2	17
12	356	41.0	-9	38.1	55	49.7	69	-28	0	18	17	18	38	19	02	1	54
13	11	41.1		37.2	70	15.5	68	23.6	10 S	23		45			10	31	60
14	26	41.2		36.2	84	41.4	69	21.1	20	31		18	53	20		1	07
15	41	41.3		35.3	99	07.2	68	18.5	30	39		19	04	33		0	38
16	56	41.4		34.4	113	33.0	68	15.7	35	44		10		41		21	62
17	71	41.5	-9	33.5	127	58.7	67	-28	40	18	50	19	18	19	51	0	01
18	86	41.5	-9	32.5	142	24.5	68	-28	45	18	57	19	27	20	04	**	**
19	101	41.6		31.6	156	50.2	67	06.3	50	19	05	39		21		**	**
20	116	41.7		30.7	171	16.0	68	-28	52	08		44		29		23	55
21	131	41.8		29.8	185	41.7	67	-27	54	13		50		38		38	85
22	146	41.9		28.9	200	07.5	68	55.3	56	17		19	57	20	48	23	18
23	161	42.0		27.9	214	33.2	67	51.3	58	22		20	05	21	00	22	52
24	176	42.1	-9	27.0	228	58.9	67	-27	60 S	19	28	20	14	21	15	22	17

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 45.2 ^m		Mag: -4.9 PMG: 14 ^h 13 ^m		Mag: -0.5 PMG: 21 ^h 00 ^m		Mag: -2.3 PMG: 18 ^h 26 ^m		Mag: +1.1 PMG: 13 ^h 12 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	/	°	/	°	/	°	/	°	/
0	153	08.4	146	18.4	+9	06.0	44	09.8	82	44.2
1	168	10.8	161	20.4		06.7	59	12.3	97	46.5
2	183	13.3	176	22.4		07.4	74	14.9	112	48.8
3	198	15.7	191	24.5		08.0	89	17.4	127	51.1
4	213	18.2	206	26.5		08.7	104	19.9	142	53.4
5	228	20.7	221	28.6	+9	09.4	119	22.4	157	55.7
6	243	23.1	236	30.6	+9	10.1	134	24.9	172	58.0
7	258	25.6	251	32.7		10.7	149	27.4	188	00.3
8	273	28.1	266	34.7		11.4	164	29.9	203	02.6
9	288	30.5	281	36.8		12.1	179	32.4	218	04.9
10	303	33.0	296	38.9		12.7	194	34.9	233	07.2
11	318	35.5	311	40.9	+9	13.4	209	37.4	248	09.5
12	333	37.9	326	43.0	+9	14.0	224	39.9	263	11.8
13	348	40.4	341	45.1		14.7	239	42.4	278	14.1
14	3	42.9	356	47.1		15.3	254	44.9	293	16.4
15	18	45.3	11	49.2		16.0	269	47.4	308	18.7
16	33	47.8	26	51.3		16.7	284	49.8	323	21.0
17	48	50.2	41	53.4	+9	17.3	299	52.3	338	23.3
18	63	52.7	56	55.5	+9	18.0	314	54.8	353	25.6
19	78	55.2	71	57.6		18.6	329	57.3	8	27.9
20	93	57.6	86	59.7		19.3	344	59.8	23	30.2
21	109	00.1	102	01.8		19.9	0	02.3	38	32.5
22	124	02.6	117	03.9		20.5	15	04.8	53	34.8
23	139	05.0	132	06.0		21.2	30	07.2	68	37.1
24	154	07.5	147	08.1	+9	21.8	45	09.7	83	39.4
Dif	—		+21		+7		+25		+23	
									0	
										+22
										+1

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG:12 ^h 13.1 ^m			Edad: 25.5 ^d PHE { 4 ^h : 57/1 12 ^h : 57/4 20 ^h : 57/7 PMG: 9 ^h 05 ^m R°: 56 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	176	42.1	-9	228	58.9	-27	47.2	60 N	5	42	6	30	7	15	7	11	02	111
1	191	42.2		243	24.6		42.9	58		42		28	08	6	43		33	100
2	206	42.3		257	50.3		38.4	56		43		26	03	20	24	11	56	94
3	221	42.4		272	16.0		33.7	54		43		24	7 00	6	00	29	12	15
4	236	42.5		286	41.8		28.9	52		43		22	6 56	5	44	32	31	85
5	251	42.6	-9	301	07.5	-27	23.9	50	5	43	6	20	6 53	5	30	35	12	45
6	266	42.6	-9	315	33.2	-27	18.8	45	5	43	6	17	6 46	5	01	40	13	13
7	281	42.7		329	59.0		13.5	40		42		13	40	4	39	43	35	73
8	296	42.8		344	24.7		08.0	35		41		10	35		20	46	13	53
9	311	42.9		358	50.5	-27	02.3	30		39		07	31	4	04	48	14	09
10	326	43.0		373	16.2	-26	56.5	20		35	6	01	23	3	37	51	35	63
11	341	43.1	-9	387	27.4	-26	50.5	10 N	5	31	5	55	6 16	3	13	54	14	58
12	356	43.2	-9	402	07.8	-26	44.3	0	5	25	5	49	6 10	2	51	57	15	18
13	371	43.3		417	33.7		38.0	10 S		17		42	6 03		29	59	15	39
14	386	43.4		432	59.5		31.5	20	5	07		33	5 56	2	06	62	16	01
15	401	43.5		447	25.4		24.9	30	4	54		23	47	1	38	65	27	45
16	416	43.6		462	51.2		18.1	35		46		16	42		22	67	42	42
17	431	43.7	-9	477	17.1	-26	11.1	40	4	35	5	09	5 37	1	03	69	16	59
18	446	43.8	-9	492	43.1	-26	04.0	45	4	23	5	00	5 30	0	40	73	17	20
19	461	43.9		507	09.0	-25	56.7	50	4	07	4	48	22	0	10	77	46	30
20	476	44.0		522	35.0		49.2	52	3	59		43	19	**	**	**	17	59
21	491	44.1		537	01.0		41.6	54		50		37	15	**	**	**	18	13
22	506	44.2		552	27.0		33.8	56		39		30	10	**	**	**	30	19
23	521	44.3		567	53.1		25.8	58		27		22	05	**	**	**	18	50
24	536	44.4	-9	582	19.2	-25	17.7	60 S	3	13	4	14	5 00	**	**	**	19	15

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 41.3 ^m		Mag: -4.9 PMG: 14 ^h 09 ^m		Mag: -0.5 PMG: 20 ^h 56 ^m		Mag: -2.3 PMG: 18 ^h 23 ^m		Mag: +1.1 PMG: 13 ^h 08 ^m	
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	154	07.5	147	08.1	45	09.7	83	39.4	162	29.2
1	169	10.0	162	10.2	60	12.2	98	41.7	177	31.3
2	184	12.4	177	12.3	75	14.7	113	44.0	192	33.5
3	199	14.9	192	14.4	90	17.1	128	46.3	207	35.7
4	214	17.4	207	16.6	105	19.6	143	48.6	222	37.9
5	229	19.8	222	18.7	120	22.1	158	50.9	237	40.1
6	244	22.3	237	20.8	135	24.6	173	53.1	252	42.3
7	259	24.7	252	23.0	150	27.0	188	55.4	267	44.5
8	274	27.2	267	25.1	165	29.5	203	57.7	282	46.6
9	289	29.7	282	27.2	180	32.0	219	00.0	297	48.8
10	304	32.1	297	29.4	195	34.4	234	02.3	312	51.0
11	319	34.6	312	31.5	210	36.9	249	04.6	327	53.2
12	334	37.1	327	33.7	225	39.3	264	06.9	342	55.4
13	349	39.5	342	35.8	240	41.8	279	09.2	357	57.6
14	4	42.0	357	38.0	255	44.3	294	11.5	12	59.7
15	19	44.5	12	40.1	270	46.7	309	13.8	28	01.9
16	34	46.9	27	42.3	285	49.2	324	16.1	43	04.1
17	49	49.4	42	44.5	300	51.6	339	18.3	58	06.3
18	64	51.8	57	46.7	315	54.1	354	20.6	73	08.5
19	79	54.3	72	48.8	330	56.5	9	22.9	88	10.7
20	94	56.8	87	51.0	345	59.0	24	25.2	103	12.9
21	109	59.2	102	53.2	1	01.4	39	27.5	118	15.0
22	125	01.7	117	55.4	16	03.9	54	29.8	133	17.2
23	140	04.2	132	57.6	31	06.3	69	32.1	148	19.4
24	155	06.6	147	59.8	46	08.8	84	34.4	163	21.6
Dif	—		+22	+6	+25	-1	+23	0	+22	+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna									
	SD: 16'2 PMG:12 ^h 13.0 ^m			Edad: 26.5 ^d SD: 15'8 PMG: 10 ^h 01 ^m								Civil			Náutico			Hora R°									
	hG ☉	Dec		hG ☾	Dif	Dec	Dif																				
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	h m	h m	h m	h m										
0	176	44.4	-9	04.8	215	19.2	71	-25	17.7	83	60 N	17 18	18 00	18 48	7 22	3	12 53 113										
1	191	44.5		03.8	229	45.3	72		09.4	84	58	22	02	47	7 01	10	13 13 105										
2	206	44.6		02.9	244	11.5	72	-25	01.0	86	56	26	04	47	6 44	15	30 99										
3	221	44.7		02.0	258	37.7	72	-24	52.4	87	54	30	05	46	29	20	44 95										
4	236	44.8		01.0	273	03.9	72		43.7	87	52	33	07	46	16	24	13 56 92										
5	251	44.9	-9	00.1	287	30.2	73	-24	34.8	89	50	17 36	18 08	18 46	6 05	26	14 07 88										
6	266	45.0	-8	59.2	301	56.5	73	-24	25.7	91	45	17 42	18 12	18 46	5 41	32	14 30 81										
7	281	45.0		58.2	316	22.9	74		16.5	92	40	47	15	46	22	37	14 48 77										
8	296	45.1		57.3	330	49.3	74	-24	07.1	94	35	52	18	47	5 06	40	15 03 73										
9	311	45.2		56.4	345	15.7	74	-23	57.6	95	30	17 56	20	48	4 52	43	16 70										
10	326	45.3		55.4	359	42.2	75		47.9	97	20	18 04	26	52	28	48	38 64										
11	341	45.4	-8	54.5	14	08.7	75	-23	38.1	98	10 N	18 10	18 31	18 56	4 07	53	15 57 60										
12	356	45.5	-8	53.6	28	35.2	75	-23	28.1	100	0	18 16	18 37	19 01	3 48	56	16 14 56										
13	11	45.6		52.6	43	01.8	76		18.0	101	10 S	23	44	09	28	61	32 51										
14	26	45.7		51.7	57	28.5	77	-23	07.7	103	20	29	18 52	18	3 08	64	16 51 46										
15	41	45.9		50.8	71	55.2	77	-22	57.3	104	30	37	19 02	30	2 43	70	17 12 41										
16	56	46.0		49.8	86	21.9	77		46.7	106	35	42	08	39	29	72	24 38										
17	71	46.1	-8	48.9	100	48.7	78	-22	36.0	107	40	18 47	19 15	19 48	2 12	76	17 39 34										
18	86	46.2	-8	48.0	115	15.5	78	-22	25.1	109	45	18 53	19 24	20 00	1 53	80	17 55 30										
19	101	46.3		47.0	129	42.4	79		14.1	110	50	19 01	34	16	27	87	18 16 23										
20	116	46.4		46.1	144	09.3	79	-22	02.9	112	52	04	40	23	15	90	26 20										
21	131	46.5		45.2	158	36.3	80	-21	51.6	113	54	08	45	32	1 01	93	37 17										
22	146	46.6		44.2	173	03.3	80		40.2	114	56	12	52	42	0 45	98	18 49 13										
23	161	46.7		43.3	187	30.4	81		28.6	116	58	17	19 59	20 53	26	103	19 03 9										
24	176	46.8	-8	42.4	201	57.6	82	-21	16.9	117	60 S	19 22	20 07	21 07	0 01	113	19 20 2										
UT	ARIES PMG 13 ^h 37.3 ^m			VENUS Mag: -4.8 PMG: 14 ^h 06 ^m			MARTE Mag: -0.5 PMG: 20 ^h 52 ^m			JÚPITER Mag: -2.3 PMG: 18 ^h 19 ^m			SATURNO Mag: +1.1 PMG: 13 ^h 05 ^m														
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec														
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /														
0	155	06.6	147	59.8	+9	36.8	46	08.8	+25	59.4	84	34.4	+21	49.2	163	21.6	-5	38.3									
1	170	09.1	163	01.9		37.4	61	11.2		59.3	99	36.6		49.2	178	23.8		38.2									
2	185	11.6	178	04.1		38.0	76	13.7		59.3	114	38.9		49.3	193	26.0		38.1									
3	200	14.0	193	06.3		38.6	91	16.1		59.2	129	41.2		49.3	208	28.1		37.9									
4	215	16.5	208	08.6		39.1	106	18.5		59.1	144	43.5		49.3	223	30.3		37.8									
5	230	19.0	223	10.8	+9	39.7	121	21.0	+25	59.0	159	45.8	+21	49.4	238	32.5	-5	37.7									
6	245	21.4	238	13.0	+9	40.3	136	23.4	+25	58.9	174	48.1	+21	49.4	253	34.7	-5	37.6									
7	260	23.9	253	15.2		40.9	151	25.8		58.9	189	50.4		49.4	268	36.9		37.5									
8	275	26.3	268	17.4		41.5	166	28.3		58.8	204	52.6		49.5	283	39.1		37.3									
9	290	28.8	283	19.6		42.1	181	30.7		58.7	219	54.9		49.5	298	41.2		37.2									
10	305	31.3	298	21.9		42.7	196	33.1		58.6	234	57.2		49.5	313	43.4		37.1									
11	320	33.7	313	24.1	+9	43.3	211	35.6	+25	58.6	249	59.5	+21	49.5	328	45.6	-5	37.0									
12	335	36.2	328	26.3	+9	43.9	226	38.0	+25	58.5	265	01.8	+21	49.6	343	47.8	-5	36.9									
13	350	38.7	343	28.6		44.4	241	40.4		58.4	280	04.1		49.6	358	50.0		36.7									
14	5	41.1	358	30.8		45.0	256	42.9		58.3	295	06.3		49.6	13	52.2		36.6									
15	20	43.6	13	33.0		45.6	271	45.3		58.2	310	08.6		49.7	28	54.4		36.5									
16	35	46.1	28	35.3		46.2	286	47.7		58.1	325	10.9		49.7	43	56.5		36.4									
17	50	48.5	43	37.5	+9	46.8	301	50.1	+25	58.1	340	13.2	+21	49.7	58	58.7	-5	36.3									
18	65	51.0	58	39.8	+9	47.3	316	52.5	+25	58.0	355	15.5	+21	49.8	74	00.9	-5	36.1									
19	80	53.5	73	42.1		47.9	331	55.0		57.9	10	17.7		49.8	89	03.1		36.0									
20	95	55.9	88	44.3		48.5	346	57.4		57.8	25	20.0		49.8	104	05.3		35.9									
21	110	58.4	103	46.6		49.0	1	59.8		57.7	40	22.3		49.9	119	07.5		35.8									
22	126	00.8	118	48.9		49.6	17	02.2		57.7	55	24.6		49.9	134	09.6		35.7									
23	141	03.3	133	51.1		50.2	32	04.6		57.6	70	26.9		49.9	149	11.8		35.5									
24	156	05.8	148	53.4	+9	50.7	47	07.0	+25	57.5	85	29.1	+21	50.0	164	14.0	-5	35.4									
Dif	—			+22			+6			+24			-1			+23			0			+22			+		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16'2 PMG:12 ^h 12.8 ^m				Edad: 27.5 ^d PHE { 4 ^h : 58'9 12 ^h : 59'1 20 ^h : 59'4 Rº: 52 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	176	46.8	-8	42.4	201	57.6			-21	16.9			60 N	5	36	6	24	7	07	7	24	0
1	191	46.9		41.4	216	24.7			-21	05.1	118		58		37	23	7	02	7	10	5	
2	206	47.0		40.5	230	52.0			-20	53.1	120		56		38	21	6	58	6	58	10	
3	221	47.1		39.6	245	19.2				40.9	122		54		39	19	55	48	13	18	9	
4	236	47.2		38.6	259	46.6				28.7	122		52		39	18	52	38	17	26	9	
5	251	47.3	-8	37.7	274	14.0			-20	16.3	124		50	5	39	6	16	6	49	6	30	
6	266	47.4	-8	36.7	288	41.4			-20	03.8	125		45	5	39	6	13	6	43	6	12	
7	281	47.5		35.8	303	08.9			-19	51.1	127		40		39	10	38	5	57	31	16	
8	296	47.6		34.9	317	36.4				38.3	128		35		38	08	33	45	34	14	73	
9	311	47.7		33.9	332	04.0				25.4	129		30		37	05	29	34	38	24	69	
10	326	47.8		33.0	346	31.6			-19	12.4	130		20		34	6	00	5	15	44	41	
11	341	47.9	-8	32.1	0	59.3			-18	59.2	132	10 N	5	30	5	54	6	16	4	59	48	
12	356	48.0	-8	31.1	15	27.1			-18	46.0	132	0	5	24	5	49	6	09	4	43	53	
13	11	48.1		30.2	29	54.9				32.6	134	10 S		17		42	6	03	28	57	22	
14	26	48.2		29.2	44	22.7				19.0	136	20	5	08	34		5	57	4	11	63	
15	41	48.3		28.3	58	50.6			-18	05.4	136	30	4	56	24		49	3	51	69	17	
16	56	48.5		27.4	73	18.6			-17	51.6	138	35		48	18		44	40	72	18		
17	71	48.6	-8	26.4	87	46.6			-17	37.8	138	40	4	38	5	11	5	39	3	27	76	
18	86	48.7	-8	25.5	102	14.7			-17	23.8	140	45	4	26	5	03	5	33	3	12	81	
19	101	48.8		24.5	116	42.8			-17	09.7	141	50		11	4	52	26	2	52	88	38	
20	116	48.9		23.6	131	10.9			-16	55.4	143	52	4	03	47		22	43	91	45	15	
21	131	49.0		22.7	145	39.1				41.1	143	54	3	55	41		19	33	94	18		
22	146	49.1		21.7	160	07.4				26.7	144	56		45	35		15	21	99	19		
23	161	49.2		20.8	174	35.7			-16	12.1	146	58		34	28		10	2	08	104	10	
24	176	49.3	-8	19.8	189	04.1			-15	57.5	146	60 S	3	20	4	20	5	05	1	52	110	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 13 ^h 33.4 ^m		Mag: -4.8 PMG: 14 ^h 02 ^m		Mag: -0.4 PMG: 20 ^h 48 ^m		Mag: -2.3 PMG: 18 ^h 15 ^m		Mag: +1.1 PMG: 13 ^h 01 ^m					
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'				
0	156	05.8	148	53.4	+9	50.7	85	29.1	+21	50.0				
1	171	08.2	163	55.7		51.3	100	31.4		50.0				
2	186	10.7	178	58.0		51.9	115	33.7		50.0				
3	201	13.2	194	00.3		52.4	130	36.0		50.0				
4	216	15.6	209	02.5		53.0	145	38.2		50.1				
5	231	18.1	224	04.8	+9	53.5	160	40.5	+21	50.1				
6	246	20.6	239	07.1	+9	54.1	175	42.8	+21	50.1				
7	261	23.0	254	09.4		54.6	190	45.1		50.2				
8	276	25.5	269	11.7		55.2	205	47.3		50.2				
9	291	28.0	284	14.1		55.7	220	49.6		50.2				
10	306	30.4	299	16.4		56.3	235	51.9		50.3				
11	321	32.9	314	18.7	+9	56.8	250	54.2	+21	50.3				
12	336	35.3	329	21.0	+9	57.4	265	56.4	+21	50.3				
13	351	37.8	344	23.3		57.9	280	58.7		50.4				
14	6	40.3	359	25.6		58.5	296	01.0		50.4				
15	21	42.7	14	28.0		59.0	311	03.3		50.4				
16	36	45.2	29	30.3	+9	59.5	326	05.5		50.5				
17	51	47.7	44	32.6	+10	00.1	341	07.8	+21	50.5				
18	66	50.1	59	35.0	+10	00.6	356	10.1	+21	50.5				
19	81	52.6	74	37.3		01.1	11	12.4		50.6				
20	96	55.1	89	39.7		01.7	26	14.6		50.6				
21	111	57.5	104	42.0		02.2	41	16.9		50.6				
22	127	00.0	119	44.4		02.7	56	19.2		50.6				
23	142	02.4	134	46.7		03.2	71	21.4		50.7				
24	157	04.9	149	49.1	+10	03.8	86	23.7	+21	50.7				
Dif	—		+23		+5		+23		0		+22		+1	

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 12.6 ^m			Edad: 28.5 ^d PHE { 4 ^h : 59'6 12 ^h : 59'8 20 ^h : 60'0 R°: 52 ^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	176 49.3	-8 19.8	189 04.1	94	-15	57.5	148	60 N	17 23	18 05	18 53	7 24	0	16 33	107		
1	191 49.4		203 32.5	94		42.7	148	58	27	06	52	15	5	40	103		
2	206 49.5		218 00.9	95		27.9	150	56	30	08	51	08	8	46	99		
3	221 49.6		232 29.4	96	-15	12.9	150	54	33	09	50	7 01	12	52	95		
4	236 49.8		246 58.0	96	-14	57.9	150	52	36	10	49	6 55	15	16 57	92		
5	251 49.9	-8 15.1	261 26.6	96	-14	42.7	152	50	17 39	18 12	18 49	6 50	17	17 02	88		
6	266 50.0	-8 14.2	275 55.2	96	-14	27.5	152	45	17 45	18 14	18 48	6 38	23	17 12	82		
7	281 50.1		290 23.9	97	-14	12.1	154	40	50	17	48	28	28	20	77		
8	296 50.2		304 52.7	98	-13	56.7	154	35	54	19	49	19	32	27	73		
9	311 50.3		319 21.5	98		41.1	156	30	17 58	22	50	6 12	35	33	69		
10	326 50.4		333 50.3	98		25.5	156	20	18 04	27	52	5 59	41	43	63		
11	341 50.5	-8 09.5	348 19.2	99	-13	09.8	157	10 N	18 10	18 31	18 56	5 47	47	17 52	57		
12	356 50.6	-8 08.5	2 48.1	99	-12	54.0	158	0	18 16	18 37	19 01	5 36	53	18 01	51		
13	11 50.8		07.6	100		38.1	159	10 S	22	43	08	25	58	09	46		
14	26 50.9		06.7	31	46.0	22.2	159	20	28	18 50	16	14	63	18	41		
15	41 51.0		05.7	46	15.1	-12	161	30	35	19 00	28	5 00	70	28	34		
16	56 51.1		04.8	60	44.1	-11	161	35	39	05	36	4 52	74	33	31		
17	71 51.2	-8 03.8	75 13.3	102	-11	33.8	162	40	18 44	19 12	19 45	4 43	78	18 40	27		
18	86 51.3	-8 02.9	89 42.4	101	-11	17.5	163	45	18 50	19 20	19 56	4 33	83	18 47	22		
19	101 51.4		104 11.6	102	-11	01.2	163	50	18 57	30	20 11	20	89	18 56	16		
20	116 51.5	-8 01.0	118 40.8	102	-10	44.7	165	52	19 00	35	18	14	92	19 00	14		
21	131 51.7	-8 00.0	133 10.1	103		28.2	165	54	03	40	26	07	96	04	11		
22	146 51.8	-7 59.1	147 39.4	103	-10	11.7	165	56	07	46	35	4 00	99	09	8		
23	161 51.9		162 08.8	104	-9	55.0	167	58	11	19 53	46	3 52	103	15	4		
24	176 52.0	-7 57.2	176 38.1	103	-9	38.3	167	60 S	19 16	20 01	20 59	3 42	108	19 21	0		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 13 ^h 29.5 ^m		Mag: -4.8 PMG: 13 ^h 59 ^m			Mag: -0.4 PMG: 20 ^h 44 ^m			Mag: -2.3 PMG: 18 ^h 12 ^m			Mag: +1.1 PMG: 12 ^h 58 ^m					
	hG ♈	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	157 04.9	149 49.1	+10 03.8		48 04.5	+25 55.5		86 23.7	+21 50.7		165 06.4	-5 32.5					
1	172 07.4	164 51.5	04.3		63 06.8	55.4		101 26.0	50.7		180 08.6	32.4					
2	187 09.8	179 53.8	04.8		78 09.2	55.3		116 28.3	50.8		195 10.8	32.3					
3	202 12.3	194 56.2	05.3		93 11.6	55.2		131 30.5	50.8		210 13.0	32.2					
4	217 14.8	209 58.6	05.8		108 14.0	55.1		146 32.8	50.8		225 15.1	32.1					
5	232 17.2	225 01.0	+10 06.3		123 16.3	+25 55.0		161 35.1	+21 50.9		240 17.3	-5 31.9					
6	247 19.7	240 03.3	+10 06.9		138 18.7	+25 55.0		176 37.3	+21 50.9		255 19.5	-5 31.8					
7	262 22.2	255 05.7	07.4		153 21.1	54.9		191 39.6	50.9		270 21.7	31.7					
8	277 24.6	270 08.1	07.9		168 23.4	54.8		206 41.9	51.0		285 23.9	31.6					
9	292 27.1	285 10.5	08.4		183 25.8	54.7		221 44.1	51.0		300 26.1	31.5					
10	307 29.6	300 12.9	08.9		198 28.2	54.6		236 46.4	51.0		315 28.2	31.3					
11	322 32.0	315 15.3	+10 09.4		213 30.5	+25 54.5		251 48.7	+21 51.1		330 30.4	-5 31.2					
12	337 34.5	330 17.7	+10 09.9		228 32.9	+25 54.4		266 50.9	+21 51.1		345 32.6	-5 31.1					
13	352 36.9	345 20.1	10.4		243 35.3	54.3		281 53.2	51.1		0 34.8	31.0					
14	7 39.4	0 22.6	10.9		258 37.6	54.2		296 55.5	51.2		15 37.0	30.9					
15	22 41.9	15 25.0	11.4		273 40.0	54.2		311 57.7	51.2		30 39.2	30.7					
16	37 44.3	30 27.4	11.9		288 42.3	54.1		327 00.0	51.2		45 41.3	30.6					
17	52 46.8	45 29.8	+10 12.4		303 44.7	+25 54.0		342 02.3	+21 51.3		60 43.5	-5 30.5					
18	67 49.3	60 32.2	+10 12.9		318 47.0	+25 53.9		357 04.5	+21 51.3		75 45.7	-5 30.4					
19	82 51.7	75 34.7	13.3		333 49.4	53.8		12 06.8	51.3		90 47.9	30.3					
20	97 54.2	90 37.1	13.8		348 51.7	53.7		27 09.0	51.4		105 50.1	30.1					
21	112 56.7	105 39.5	14.3		3 54.1	53.6		42 11.3	51.4		120 52.2	30.0					
22	127 59.1	120 42.0	14.8		18 56.4	53.5		57 13.6	51.4		135 54.4	29.9					
23	143 01.6	135 44.4	15.3		33 58.8	53.4		72 15.8	51.5		150 56.6	29.8					
24	158 04.1	150 46.9	+10 15.8		49 01.1	+25 53.3		87 18.1	+21 51.5		165 58.8	-5 29.7					
Dif	—	+24	+5		+24	-1		+23	0		+22	+1					

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 12.4 ^m			Edad: 29.5 ^d SD: 16'4 PMG: 12 ^h 39 ^m												
				PHE { 4 ^h : 60'2 12 ^h : 60'3 20 ^h : 60'4 R°: 50 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	
0	176	52.0	-7	176	38.1	-9	38.3	60 N	5	31	6	19	7	01	18 19 105	
1	191	52.1		191	07.5		21.6	58		32	17	6	57	19	2	
2	206	52.2		205	37.0	-9	04.8	56		33	16	53	15	6	24 96	
3	221	52.3		220	06.4	-8	47.9	54		34	15	50	12	9	26 93	
4	236	52.5		234	35.9		30.9	52		35	14	48	09	12	27 91	
5	251	52.6	-7	249	05.4	-8	13.9	50	5	35	6	13	6	45	7 06 14	
6	266	52.7	-7	263	35.0	-7	56.9	45	5	36	6	10	6	39	7 00 20	
7	281	52.8		278	04.6		39.8	40		36	07	35	6	54	25	
8	296	52.9		292	34.2		22.6	35		36	05	31	50	29	36 76	
9	311	53.0		307	03.8	-7	05.4	30		35	6	03	27	46	33	
10	326	53.2		321	33.4	-6	48.1	20		33	5	58	20	39	39	
11	341	53.3	-7	336	03.1	-6	30.8	10 N	5	29	5	53	6	15	44 62	
12	356	53.4	-7	350	32.8	-6	13.5	0	5	24	5	48	6	09	18 48 55	
13	11	53.5		5	02.5	-5	56.1	10 S		18	42	6	03	21	50	
14	26	53.6		19	32.2		38.6	20	5	09	35	5	57	15	61	
15	41	53.7		34	02.0		21.2	30	4	57	26	50	08	68	18 57 39	
16	56	53.9		48	31.8	-5	03.7	35		50	20	46	04	72	19 01 32	
17	71	54.0	-7	63	01.5	-4	46.1	40	4	41	5	14	5	41	03 29	
18	86	54.1	-7	77	31.3	-4	28.6	45	4	29	5	06	5	54	76 19 05 25	
19	101	54.2		92	01.2	-4	10.9	50		15	4	56	29	48	81	
20	116	54.3		106	31.0	-3	53.3	52		08	51	26	45	87	11 14	
21	131	54.5		121	00.8		35.6	54	4	00	46	23	26	90	12 12	
22	146	54.6		135	30.7		18.0	56	4	00	46	23	41	94	14 9	
23	161	54.7		150	00.5	-3	00.2	58	3	50	40	19	38	96	16 6	
24	176	54.8	-7	164	30.4	-2	42.5	60 S	3	27	4	25	15	34	100	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 25.5 ^m		Mag: -4.8 PMG: 13 ^h 55 ^m		Mag: -0.4 PMG: 20 ^h 41 ^m		Mag: -2.3 PMG: 18 ^h 08 ^m		Mag: +1.1 PMG: 12 ^h 54 ^m	
	hG ♂		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	158	04.1	150	46.9	+10	15.8	87	18.1	+21	51.5
1	173	06.5	165	49.3		16.2	102	20.4		51.5
2	188	09.0	180	51.8		16.7	117	22.6		51.6
3	203	11.4	195	54.3		17.2	132	24.9		51.6
4	218	13.9	210	56.7		17.7	147	27.1		51.6
5	233	16.4	225	59.2	+10	18.1	162	29.4	+21	51.7
6	248	18.8	241	01.7	+10	18.6	177	31.7	+21	51.7
7	263	21.3	256	04.1		19.1	192	33.9		51.7
8	278	23.8	271	06.6		19.5	207	36.2		51.8
9	293	26.2	286	09.1		20.0	222	38.4		51.8
10	308	28.7	301	11.6		20.4	237	40.7		51.8
11	323	31.2	316	14.1	+10	20.9	252	43.0	+21	51.9
12	338	33.6	331	16.6	+10	21.4	267	45.2	+21	51.9
13	353	36.1	346	19.1		21.8	282	47.5		51.9
14	8	38.5	1	21.6		22.3	297	49.7		52.0
15	23	41.0	16	24.1		22.7	312	52.0		52.0
16	38	43.5	31	26.6		23.2	327	54.2		52.0
17	53	45.9	46	29.1	+10	23.6	342	56.5	+21	52.1
18	68	48.4	61	31.6	+10	24.1	357	58.8	+21	52.1
19	83	50.9	76	34.1		24.5	13	01.0		52.1
20	98	53.3	91	36.6		24.9	28	03.3		52.2
21	113	55.8	106	39.2		25.4	43	05.5		52.2
22	128	58.3	121	41.7		25.8	58	07.8		52.2
23	144	00.7	136	44.2		26.3	73	10.0		52.3
24	159	03.2	151	46.8	+10	26.7	88	12.3	+21	52.3
Dif	—		+25		+5		+23		0	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 12.2 ^m		Edad: 30.5 ^d SD: 16'5 PMG: 13 ^h 29 ^m						PHE { 4 ^h : 60'5 12 ^h : 60'6 20 ^h : 60'6 R°: 52 ^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	176 54.8	-7 34.4	164 30.4		-2 42.5		60 N	17 28	18 10	18 58	7 22 0		20 04 107	
1	191 54.9		33.5	179 00.2		24.8	58	31	11	56	21 4		02 103	
2	206 55.1		32.5	193 30.1		07.0	56	35	12	55	21 7		20 00 99	
3	221 55.2		31.6	208 00.0		49.2	54	37	13	54	21 10		19 59 95	
4	236 55.3		30.6	222 29.9		31.4	52	40	14	53	21 13		58 92	
5	251 55.4	-7 29.7	236 59.7		-1 13.6		50	17 42	18 15	18 52	7 20 16		19 56 90	
6	266 55.5	-7 28.7	251 29.6		-0 55.8		45	17 48	18 17	18 51	7 20 21		19 54 83	
7	281 55.7		27.8	265 59.5		37.9	40	52	19	51	19 27		52 78	
8	296 55.8		26.8	280 29.4		20.1	35	56	21	51	19 30		50 73	
9	311 55.9		25.9	294 59.3		02.2	30	17 59	23	51	19 34		48 70	
10	326 56.0		24.9	309 29.1		+0 15.6	20	18 05	27	53	18 41		46 63	
11	341 56.1	-7 24.0	323 59.0		+0 33.5		10 N	18 10	18 32	18 56	7 18 46		19 43 57	
12	356 56.3	-7 23.0	338 28.9		+0 51.3		0	18 16	18 36	19 01	7 17 52		19 41 52	
13	11 56.4		22.1	352 58.7		09.1	10 S	21	42	07	17 57		39 46	
14	26 56.5		21.1	7 28.6		27.0	20	26	49	15	16 63		36 41	
15	41 56.6		20.2	21 58.4		+1 44.8	30	33	18 57	26	16 69		33 35	
16	56 56.8		19.2	36 28.2		+2 02.6	35	37	19 03	33	16 73		32 31	
17	71 56.9	-7 18.3	50 58.0		+2 20.5		40	18 41	19 09	19 42	7 16 77		19 30 27	
18	86 57.0	-7 17.3	65 27.8		+2 38.3		45	18 46	19 16	19 52	7 15 83		19 28 22	
19	101 57.1		16.3	79 57.6		+2 56.0	50	52	26	20 06	15 89		25 17	
20	116 57.3		15.4	94 27.3		+3 13.8	52	55	30	13	15 92		24 14	
21	131 57.4		14.4	108 57.1		31.6	54	18 58	35	21	15 94		23 11	
22	146 57.5		13.5	123 26.8		+3 49.3	56	19 02	41	29	14 99		22 7	
23	161 57.6		12.5	137 56.5		+4 07.0	58	06	47	39	14 102		20 4	
24	176 57.8	-7 11.6	152 26.2		+4 24.7		60 S	19 10	19 54	20 51	7 14 107		19 18 1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 21.6 ^m		Mag: -4.8 PMG: 13 ^h 51 ^m		Mag: -0.3 PMG: 20 ^h 37 ^m		Mag: -2.3 PMG: 18 ^h 04 ^m		Mag: +1.1 PMG: 12 ^h 51 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /	° /	° /	° /	° /	° /
0	159 03.2		151 46.8	+10 26.7	49 57.0	+25 51.1	88 12.3	+21 52.3	166 51.2	-5 26.8
1	174 05.7		166 49.3	27.1	64 59.3	51.0	103 14.5	52.3	181 53.4	26.7
2	189 08.1		181 51.9	27.5	80 01.6	50.9	118 16.8	52.4	196 55.5	26.5
3	204 10.6		196 54.4	28.0	95 03.9	50.8	133 19.1	52.4	211 57.7	26.4
4	219 13.0		211 57.0	28.4	110 06.2	50.8	148 21.3	52.4	226 59.9	26.3
5	234 15.5		226 59.5	+10 28.8	125 08.5	+25 50.7	163 23.6	+21 52.5	242 02.1	-5 26.2
6	249 18.0		242 02.1	+10 29.2	140 10.9	+25 50.6	178 25.8	+21 52.5	257 04.3	-5 26.1
7	264 20.4		257 04.7	29.7	155 13.2	50.5	193 28.1	52.5	272 06.4	25.9
8	279 22.9		272 07.2	30.1	170 15.5	50.4	208 30.3	52.6	287 08.6	25.8
9	294 25.4		287 09.8	30.5	185 17.8	50.3	223 32.6	52.6	302 10.8	25.7
10	309 27.8		302 12.4	30.9	200 20.1	50.2	238 34.8	52.6	317 13.0	25.6
11	324 30.3		317 14.9	+10 31.3	215 22.4	+25 50.1	253 37.1	+21 52.7	332 15.2	-5 25.5
12	339 32.8		332 17.5	+10 31.7	230 24.7	+25 50.0	268 39.3	+21 52.7	347 17.4	-5 25.3
13	354 35.2		347 20.1	32.1	245 26.9	49.9	283 41.6	52.7	2 19.5	25.2
14	9 37.7		2 22.7	32.5	260 29.2	49.8	298 43.8	52.8	17 21.7	25.1
15	24 40.1		17 25.3	32.9	275 31.5	49.7	313 46.1	52.8	32 23.9	25.0
16	39 42.6		32 27.9	33.3	290 33.8	49.6	328 48.3	52.8	47 26.1	24.9
17	54 45.1		47 30.5	+10 33.7	305 36.1	+25 49.5	343 50.6	+21 52.9	62 28.3	-5 24.7
18	69 47.5		62 33.1	+10 34.1	320 38.4	+25 49.4	358 52.8	+21 52.9	77 30.4	-5 24.6
19	84 50.0		77 35.7	34.5	335 40.7	49.3	13 55.1	52.9	92 32.6	24.5
20	99 52.5		92 38.3	34.9	350 43.0	49.2	28 57.3	53.0	107 34.8	24.4
21	114 54.9		107 41.0	35.3	5 45.3	49.1	43 59.6	53.0	122 37.0	24.3
22	129 57.4		122 43.6	35.7	20 47.5	49.0	59 01.8	53.0	137 39.2	24.1
23	144 59.9		137 46.2	36.1	35 49.8	48.9	74 04.1	53.1	152 41.4	24.0
24	160 02.3		152 48.8	+10 36.5	50 52.1	+25 48.8	89 06.3	+21 53.1	167 43.5	-5 23.9
Dif	—		+26	+4	+23	-1	+23	0	+22	+

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna									
	SD: 16'1 PMG:12 ^h 12.0 ^m				Edad: 2.0 ^d PHE { 4 ^h : 60'6 12 ^h : 60'5 20 ^h : 60'5 Rº: 52 ^m																				
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico		Civil		Hora		Rº		Hora		Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	h	m	m
0	176	57.8	-7	11.6	152	26.2		+4	24.7		177	60 N	5	25	6	13	6	55		7	21	**	21	50	110
1	191	57.9		10.6	166	55.9		+4	42.4		176	58	27		12		52		24	3			43	105	
2	206	58.0		09.7	181	25.5		+5	00.0		176	56	28		11		48		27	7			38	100	
3	221	58.1		08.7	195	55.1		+5	17.6		176	54	29		10		46		30	10			33	96	
4	236	58.3		07.8	210	24.7			35.2		176	52	30		09		43		32	14			28	93	
5	251	58.4	-7	06.8	224	54.2		+5	52.7		175	50	5	31	6	09	6	41	7	35	16		21	24	90
6	266	58.5	-7	05.8	239	23.8		+6	10.2		175	45	5	33	6	06	6	36	7	40	22		21	16	82
7	281	58.6		04.9	253	53.3			27.7		175	40	33		05		32		44	27			08	78	
8	296	58.8		03.9	268	22.7		+6	45.1		174	35	33		03		28		48	31			21	02	73
9	311	58.9		03.0	282	52.2		+7	02.5		174	30	33		6	01	25		51	35			20	57	69
10	326	59.0		02.0	297	21.6			19.9		174	20	31		5	57	19		7	57	41		47	64	
11	341	59.1	-7	01.1	311	50.9		+7	37.2		173	10 N	5	28	5	53	6	14	8	02	47		20	39	58
12	356	59.3	-7	00.1	326	20.3		+7	54.4		172	0	5	24	5	48	6	09	8	07	52		20	32	52
13	11	59.4	-6	59.1	340	49.6		+8	11.6		172	10 S	18		42		6	04	12	57			24	47	
14	26	59.5		58.2	355	18.8			28.8		172	20	5	10	36		5	58	18	62			16	42	
15	41	59.7		57.2	9	48.0		+8	45.9		171	30	4	59	27		52		24	69			07	36	
16	56	59.8		56.3	24	17.2		+9	02.9		170	35		52	22		48		28	72			20	01	33
17	71	59.9	-6	55.3	38	46.3		+9	19.9		170	40	4	43	5	16	5	44	8	32	77		19	55	29
18	87	00.0	-6	54.4	53	15.4		+9	36.9		170	45	4	32	5	09	5	39	8	37	82		19	49	23
19	102	00.2		53.4	67	44.5		+9	53.8		169	50		19	4	59	33		42	89			40	18	
20	117	00.3		52.4	82	13.5		+10	10.6		168	52		12	55	30		45	92			37	14		
21	132	00.4		51.5	96	42.4			27.3		167	54	4	04	50		27		48	95			33	11	
22	147	00.6		50.5	111	11.4		+10	44.0		167	56	3	56	44		23		51	99			28	8	
23	162	00.7		49.6	125	40.2		+11	00.6		166	58		46	38		20		55	103			23	4	
24	177	00.8	-6	48.6	140	09.0		+11	17.2		166	60 S	3	34	4	31	5	15	8	59	108		19	17	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 13 ^h 17.7 ^m		Mag: -4.8 PMG: 13 ^h 46 ^m		Mag: -0.3 PMG: 20 ^h 33 ^m		Mag: -2.3 PMG: 18 ^h 01 ^m		Mag: +1.1 PMG: 12 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	160	02.3	152	48.8	+10	36.5	50	52.1	+25	48.8	89	06.3	+21	53.1	167	43.5	-5	23.9
1	175	04.8	167	51.5		36.9	65	54.4		48.7	104	08.5		53.1	182	45.7		23.8
2	190	07.3	182	54.1		37.3	80	56.7		48.6	119	10.8		53.2	197	47.9		23.7
3	205	09.7	197	56.7		37.6	95	58.9		48.5	134	13.0		53.2	212	50.1		23.5
4	220	12.2	212	59.4		38.0	111	01.2		48.4	149	15.3		53.2	227	52.3		23.4
5	235	14.6	228	02.0	+10	38.4	126	03.5	+25	48.3	164	17.5	+21	53.3	242	54.4	-5	23.3
6	250	17.1	243	04.7	+10	38.8	141	05.8	+25	48.2	179	19.8	+21	53.3	257	56.6	-5	23.2
7	265	19.6	258	07.3		39.1	156	08.0		48.1	194	22.0		53.4	272	58.8		23.1
8	280	22.0	273	10.0		39.5	171	10.3		48.0	209	24.3		53.4	288	01.0		22.9
9	295	24.5	288	12.7		39.9	186	12.6		47.9	224	26.5		53.4	303	03.2		22.8
10	310	27.0	303	15.3		40.2	201	14.9		47.8	239	28.7		53.5	318	05.3		22.7
11	325	29.4	318	18.0	+10	40.6	216	17.1	+25	47.7	254	31.0	+21	53.5	333	07.5	-5	22.6
12	340	31.9	333	20.7	+10	41.0	231	19.4	+25	47.6	269	33.2	+21	53.5	348	09.7	-5	22.5
13	355	34.4	348	23.3		41.3	246	21.6		47.5	284	35.5		53.6	3	11.9		22.3
14	10	36.8	3	26.0		41.7	261	23.9		47.4	299	37.7		53.6	18	14.1		22.2
15	25	39.3	18	28.7		42.0	276	26.2		47.3	314	40.0		53.6	33	16.3		22.1
16	40	41.7	33	31.4		42.4	291	28.4		47.2	329	42.2		53.7	48	18.4		22.0
17	55	44.2	48	34.1	+10	42.7	306	30.7	+25	47.1	344	44.4	+21	53.7	63	20.6	-5	21.9
18	70	46.7	63	36.8	+10	43.1	321	32.9	+25	47.0	359	46.7	+21	53.7	78	22.8	-5	21.7
19	85	49.1	78	39.5		43.4	336	35.2		46.9	14	48.9		53.8	93	25.0		21.6
20	100	51.6	93	42.2		43.8	351	37.5		46.8	29	51.2		53.8	108	27.2		21.5
21	115	54.1	108	44.9		44.1	6	39.7		46.7	44	53.4		53.8	123	29.3		21.4
22	130	56.5	123	47.6		44.5	21	42.0		46.6	59	55.6		53.9	138	31.5		21.3
23	145	59.0	138	50.3		44.8	36	44.2		46.5	74	57.9		53.9	153	33.7		21.1
24	161	01.5	153	53.1	+10	45.1	51	46.5	+25	46.4	90	00.1	+21	53.9	168	35.9	-5	21.0
Dif	—		+27		+4		+23		-1		+22		0		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16 ^h 1 PMG:12 ^h 11.8 ^m			Edad: 3.0 ^d SD: 16 ^h 5 PMG: 15 ^h 11 ^m			PHE { 4 ^h : 60 ^h 4 12 ^h : 60 ^h 3 20 ^h : 60 ^h 1 R°: 56 ^m													
	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	00.8	-6	48.6	140	09.0	98	+11	17.2	60 N	17	33	18	15	19	03	7	20	1	23
1	192	00.9		47.6	154	37.8	97		33.7	58	36	15	19	01	27	7		28	108	
2	207	01.1		46.7	169	06.5	97	+11	50.1	56	39	16	18	59	34	11		18	102	
3	222	01.2		45.7	183	35.2	97	+12	06.4	54	41	17	58	40	15		09	98		
4	237	01.3		44.8	198	03.8	96		22.7	52	44	17	56	46	18		23	01	94	
5	252	01.5	-6	43.8	212	32.4	96	+12	38.9	50	17	46	18	18	18	55	7	51	21	22
6	267	01.6	-6	42.8	227	00.9	95	+12	55.0	45	17	50	18	20	18	54	8	02	27	22
7	282	01.7		41.9	241	29.3	94	+13	11.0	40	54	21	53	11	32		26	79	85	
8	297	01.9		40.9	255	57.7	94		26.9	35	17	58	23	52	19	36		15	76	
9	312	02.0		40.0	270	26.0	93		42.8	30	18	01	25	52	26	39		22	06	72
10	327	02.1		39.0	284	54.3	93	+13	58.5	20	06	28	54	38	45	21	51	61	66	
11	342	02.3	-6	38.0	299	22.5	92	+14	14.2	10 N	18	11	18	32	18	56	8	49	50	21
12	357	02.4	-6	37.1	313	50.7	92	+14	29.8	0	18	15	18	36	19	00	8	59	55	21
13	12	02.5		36.1	328	18.8	91	+14	45.3	10 S	20	41	06	9	09	60	21	11	53	
14	27	02.7		35.2	342	46.8	90	+15	00.7	20	25	47	13	20	66	20	58	47		
15	42	02.8		34.2	357	14.8	90		16.0	30	31	18	55	23	33	71	43	41		
16	57	02.9		33.2	11	42.7	89		31.2	35	34	19	00	30	40	76	34	38		
17	72	03.1	-6	32.3	26	10.6	89	+15	46.3	40	18	38	19	06	19	38	9	49	79	20
18	87	03.2	-6	31.3	40	38.4	88	+16	01.3	45	18	43	19	13	19	49	9	59	85	20
19	102	03.3		30.4	55	06.1	87		16.3	50	48	21	20	02	10	11	91	19	58	29
20	117	03.5		29.4	69	33.7	86		31.1	52	51	26	08	17	94	51	21	21		
21	132	03.6		28.4	84	01.3	86	+16	45.8	54	54	30	15	23	98	44	17			
22	147	03.7		27.5	98	28.9	86	+17	00.3	56	18	57	35	23	30	103	36	13		
23	162	03.9		26.5	112	56.3	84		14.8	58	19	00	41	33	38	108	27	8		
24	177	04.0	-6	25.5	127	23.7	84	+17	29.2	60 S	19	04	19	48	20	44	10	47	114	19

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 13 ^h 13.7 ^m		Mag: -4.8 PMG: 13 ^h 42 ^m		Mag: -0.2 PMG: 20 ^h 30 ^m		Mag: -2.3 PMG: 17 ^h 57 ^m		Mag: +1.1 PMG: 12 ^h 44 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	161	01.5	153	53.1	+10	45.1	51	46.5	+25	46.4	90	00.1	+21	53.9	168	35.9	-5	21.0	
1	176	03.9	168	55.8		45.5	66	48.7		46.3	105	02.4		54.0	183	38.1		20.9	
2	191	06.4	183	58.5		45.8	81	51.0		46.2	120	04.6		54.0	198	40.2		20.8	
3	206	08.9	199	01.2		46.1	96	53.2		46.1	135	06.8		54.1	213	42.4		20.6	
4	221	11.3	214	04.0		46.4	111	55.5		46.0	150	09.1		54.1	228	44.6		20.5	
5	236	13.8	229	06.7	+10	46.8	126	57.7	+25	45.9	165	11.3	+21	54.1	243	46.8	-5	20.4	
6	251	16.2	244	09.5	+10	47.1	141	59.9	+25	45.8	180	13.5	+21	54.2	258	49.0	-5	20.3	
7	266	18.7	259	12.2		47.4	157	02.2		45.7	195	15.8		54.2	273	51.1		20.2	
8	281	21.2	274	15.0		47.7	172	04.4		45.6	210	18.0		54.2	288	53.3		20.0	
9	296	23.6	289	17.7		48.1	187	06.7		45.5	225	20.2		54.3	303	55.5		19.9	
10	311	26.1	304	20.5		48.4	202	08.9		45.4	240	22.5		54.3	318	57.7		19.8	
11	326	28.6	319	23.2	+10	48.7	217	11.1	+25	45.3	255	24.7	+21	54.3	333	59.9	-5	19.7	
12	341	31.0	334	26.0	+10	49.0	232	13.4	+25	45.2	270	27.0	+21	54.4	349	02.1	-5	19.6	
13	356	33.5	349	28.8		49.3	247	15.6		45.1	285	29.2		54.4	4	04.2		19.4	
14	11	36.0	4	31.5		49.6	262	17.8		45.0	300	31.4		54.4	19	06.4		19.3	
15	26	38.4	19	34.3		49.9	277	20.1		44.9	315	33.7		54.5	34	08.6		19.2	
16	41	40.9	34	37.1		50.2	292	22.3		44.8	330	35.9		54.5	49	10.8		19.1	
17	56	43.4	49	39.9	+10	50.5	307	24.5	+25	44.7	345	38.1	+21	54.5	64	13.0	-5	19.0	
18	71	45.8	64	42.7	+10	50.8	322	26.7	+25	44.6	0	40.4	+21	54.6	79	15.1	-5	18.8	
19	86	48.3	79	45.5		51.1	337	29.0		44.4	15	42.6		54.6	94	17.3		18.7	
20	101	50.7	94	48.3		51.4	352	31.2		44.3	30	44.8		54.7	109	19.5		18.6	
21	116	53.2	109	51.1		51.7	7	33.4		44.2	45	47.0		54.7	124	21.7		18.5	
22	131	55.7	124	53.9		52.0	22	35.6		44.1	60	49.3		54.7	139	23.9		18.4	
23	146	58.1	139	56.7		52.3	37	37.9		44.0	75	51.5		54.8	154	26.0		18.2	
24	162	00.6	154	59.5	+10	52.5	52	40.1	+25	43.9	90	53.7	+21	54.8	169	28.2	-5	18.1	
Dif	—		+28		+3		+22		-1		+22		0		+22			+	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 11.6 ^m				Edad: 4.0 ^d PHE { 4 ^h : 60'0 12 ^h : 59'8 20 ^h : 59'6 Rº: 58 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	177	04.0	-6	25.5	127	23.7	83	+17	29.2	142	60 N	5 19	6 07	6 49	7 20	2
1	192	04.1		24.6	141	51.0	83		43.4	142	58	22	07	46	33	9
2	207	04.3		23.6	156	18.3	83	+17	57.6	142	56	23	06	43	44	15
3	222	04.4		22.7	170	45.5	82	+18	11.6	140	54	25	06	41	7 54	19
4	237	04.5		21.7	185	12.6	81		25.5	139	52	26	05	39	8 02	23
5	252	04.7	-6	20.7	199	39.7	81	+18	39.3	138	50	5 27	6 04	6 37	8 10	26
6	267	04.8	-6	19.8	214	06.6	79	+18	53.0	137	45	5 29	6 03	6 32	8 27	32
7	282	05.0		18.8	228	33.6	80	+19	06.5	135	40	30	02	29	41	37
8	297	05.1		17.8	243	00.4	78		19.9	134	35	31	6 00	25	8 53	40
9	312	05.2		16.9	257	27.2	78		33.2	133	30	31	5 59	22	9 04	43
10	327	05.4		15.9	271	53.9	77		46.4	132	20	30	55	17	22	48
11	342	05.5	-6	14.9	286	20.5	76	+19	59.4	130	10 N	5 27	5 52	6 13	9 38	53
12	357	05.6	-6	14.0	300	47.1	76	+20	12.3	129	0	5 23	5 48	6 08	9 53	57
13	12	05.8		13.0	315	13.6	75		25.1	128	10 S	18	43	6 04	10 08	61
14	27	05.9		12.0	329	40.0	74		37.8	127	20	11	37	5 59	24	66
15	42	06.1		11.1	344	06.4	74	+20	50.3	125	30	5 00	29	53	43	71
16	57	06.2		10.1	358	32.6	72	+21	02.6	123	35	4 54	24	50	10 54	74
17	72	06.3	-6	09.2	12	58.9	73	+21	14.9	123	40	4 46	5 18	5 46	11 07	78
18	87	06.5	-6	08.2	27	25.0	71	+21	27.0	121	45	4 36	5 11	5 41	11 22	82
19	102	06.6		07.2	41	51.1	70		38.9	119	50	23	5 03	36	41	89
20	117	06.8		06.3	56	17.1	69	+21	50.7	118	52	16	4 59	33	11 50	92
21	132	06.9		05.3	70	43.0	69	+22	02.4	117	54	09	54	31	12 00	96
22	147	07.0		04.3	85	08.9	69		13.9	115	56	4 01	49	28	11 101	19
23	162	07.2		03.4	99	34.7	68		25.3	114	58	3 52	43	24	24 108	33
24	177	07.3	-6	02.4	114	00.4	67	+22	36.5	112	60 S	3 41	4 37	5 20	12 40 116	19 17 3
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 13 ^h 09.8 ^m		Mag: -4.7 PMG: 13 ^h 37 ^m		Mag: -0.2 PMG: 20 ^h 26 ^m		Mag: -2.3 PMG: 17 ^h 54 ^m		Mag: +1.1 PMG: 12 ^h 40 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	162	00.6	154	59.5	+10	52.5	52	40.1	+25	43.9						
1	177	03.1	170	02.3		52.8	67	42.3		43.8						
2	192	05.5	185	05.1		53.1	82	44.5		43.7						
3	207	08.0	200	07.9		53.4	97	46.7		43.6						
4	222	10.5	215	10.8		53.7	112	48.9		43.5						
5	237	12.9	230	13.6	+10	53.9	127	51.2	+25	43.4						
6	252	15.4	245	16.4	+10	54.2	142	53.4	+25	43.3						
7	267	17.8	260	19.3		54.5	157	55.6		43.2						
8	282	20.3	275	22.1		54.7	172	57.8		43.1						
9	297	22.8	290	25.0		55.0	188	00.0		43.0						
10	312	25.2	305	27.8		55.3	203	02.2		42.9						
11	327	27.7	320	30.7	+10	55.5	218	04.4	+25	42.7						
12	342	30.2	335	33.5	+10	55.8	233	06.6	+25	42.6						
13	357	32.6	350	36.4		56.0	248	08.8		42.5						
14	12	35.1	5	39.2		56.3	263	11.0		42.4						
15	27	37.6	20	42.1		56.5	278	13.2		42.3						
16	42	40.0	35	45.0		56.8	293	15.4		42.2						
17	57	42.5	50	47.9	+10	57.0	308	17.6	+25	42.1						
18	72	45.0	65	50.7	+10	57.3	323	19.8	+25	42.0						
19	87	47.4	80	53.6		57.5	338	22.0		41.9						
20	102	49.9	95	56.5		57.7	353	24.2		41.8						
21	117	52.3	110	59.4		58.0	8	26.4		41.7						
22	132	54.8	126	02.3		58.2	23	28.6		41.6						
23	147	57.3	141	05.2		58.5	38	30.8		41.4						
24	162	59.7	156	08.1	+10	58.7	53	33.0	+25	41.3						
Dif	—		+29		+3		+22		-1							
							+22		0							
									+22							
									+1							

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16'1 PMG:12 ^h 11.4 ^m			Edad: 5.0 ^d SD: 16'2 PMG: 17 ^h 04 ^m PHE { 4 ^h : 59'4 12 ^h : 59'2 20 ^h : 59'0 R°: 61 ^m																			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m						
0	177	07.3	-6	02.4	114	00.4	67	+22	36.5	60 N	17	38	18	20	19	08	7	22	10	1	34	116	
1	192	07.4		01.4	128	26.1	66		47.6	58	41		20		05		42	20		1	15	105	
2	207	07.6	-6	00.5	142	51.7	66	+22	58.5	56	43		20		03		7	59	25	0	59	99	
3	222	07.7	-5	59.5	157	17.2	65	+23	09.3	54	45		21		02		8	13	30		45	94	
4	237	07.9		58.5	171	42.7	65		19.9	52	47		21	19	00		25	34		34	90		
5	252	08.0	-5	57.6	186	08.1	64	+23	30.4	50	17	49	18	21	18	59	8	36	37	0	23	87	
6	267	08.2	-5	56.6	200	33.4	63	+23	40.7	45	17	53	18	22	18	56	8	59	42	0	01	82	
7	282	08.3		55.6	214	58.7	63	+23	50.9	40		56		23		55	9	18	45	**	**	**	
8	297	08.4		54.7	229	23.9	62	+24	00.9	35	17	59		25		54		33	49	**	**	**	
9	312	08.6		53.7	243	49.0	61		10.7	30	18	02		26		54		9	47	51	**	**	**
10	327	08.7		52.7	258	14.1	61		20.4	20		07		29		54		10	10	55	**	**	**
11	342	08.9	-5	51.8	272	39.1	60	+24	29.9	10 N	18	11	18	32	18	56		10	31	57	23	38	64
12	357	09.0	-5	50.8	287	04.1	60	+24	39.3	0	18	15	18	35	19	00		10	50	60	23	18	61
13	12	09.1		49.8	301	29.0	59		48.5	0 S		19		40		04		11	09	63	22	57	59
14	27	09.3		48.8	315	53.8	58	+24	57.5	20		23		45		11		30	66		35	57	
15	42	09.4		47.9	330	18.6	58	+25	06.3	30		29		53		21		11	54	70	22	09	55
16	57	09.6		46.9	344	43.4	58		15.0	35		32	18	57		27		12	08	72	21	54	53
17	72	09.7	-5	45.9	359	08.0	56	+25	23.6	40	18	35	19	02	19	35		12	25	74	21	37	50
18	87	09.9	-5	45.0	13	32.7	57	+25	31.9	45	18	39	19	09	19	45		12	44	79	21	16	47
19	102	10.0		44.0	27	57.2	55		40.1	50		44		17	19	57		13	10	83	20	50	43
20	117	10.1		43.0	42	21.8	56		48.1	52		46		21	20	03		22	86		37	41	
21	132	10.3		42.1	56	46.2	54	+25	56.0	54		49		25		10		36	89		23	37	
22	147	10.4		41.1	71	10.7	55	+26	03.6	56		52		30		17		13	52	94	20	06	33
23	162	10.6		40.1	85	35.0	53		11.1	58		55		35		26		14	12	101	19	46	26
24	177	10.7	-5	39.2	99	59.4	54	+26	18.5	60 S	18	58	19	42	20	36		14	36	114	19	20	14
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO											
	PMG 13 ^h 05.9 ^m		Mag: -4.7 PMG: 13 ^h 33 ^m			Mag: -0.2 PMG: 20 ^h 23 ^m			Mag: -2.3 PMG: 17 ^h 50 ^m			Mag: +1.1 PMG: 12 ^h 37 ^m											
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	162	59.7	156	08.1	+10	58.7	53	33.0	+25	41.3	91	47.2	+21	55.7	170	20.6	-5	15.2					
1	178	02.2	171	11.0		58.9	68	35.2		41.2	106	49.4		55.7	185	22.7		15.1					
2	193	04.7	186	13.9		59.1	83	37.3		41.1	121	51.6		55.7	200	24.9		15.0					
3	208	07.1	201	16.8		59.4	98	39.5		41.0	136	53.9		55.8	215	27.1		14.9					
4	223	09.6	216	19.8		59.6	113	41.7		40.9	151	56.1		55.8	230	29.3		14.7					
5	238	12.1	231	22.7	+10	59.8	128	43.9	+25	40.8	166	58.3	+21	55.9	245	31.5	-5	14.6					
6	253	14.5	246	25.6	+11	00.0	143	46.1	+25	40.7	182	00.5	+21	55.9	260	33.6	-5	14.5					
7	268	17.0	261	28.5	+11	00.2	158	48.3		40.6	197	02.7		55.9	275	35.8		14.4					
8	283	19.5	276	31.5		00.4	173	50.4		40.5	212	05.0		56.0	290	38.0		14.3					
9	298	21.9	291	34.4		00.6	188	52.6		40.3	227	07.2		56.0	305	40.2		14.1					
10	313	24.4	306	37.4		00.9	203	54.8		40.2	242	09.4		56.0	320	42.4		14.0					
11	328	26.8	321	40.3	+11	01.1	218	57.0	+25	40.1	257	11.6	+21	56.1	335	44.5	-5	13.9					
12	343	29.3	336	43.2	+11	01.3	233	59.1	+25	40.0	272	13.8	+21	56.1	350	46.7	-5	13.8					
13	358	31.8	351	46.2		01.5	249	01.3		39.9	287	16.1		56.2	5	48.9		13.7					
14	13	34.2	6	49.2		01.7	264	03.5		39.8	302	18.3		56.2	20	51.1		13.5					
15	28	36.7	21	52.1		01.9	279	05.7		39.7	317	20.5		56.2	35	53.3		13.4					
16	43	39.2	36	55.1		02.0	294	07.8		39.6	332	22.7		56.3	50	55.4		13.3					
17	58	41.6	51	58.1	+11	02.2	309	10.0	+25	39.5	347	24.9	+21	56.3	65	57.6	-5	13.2					
18	73	44.1	67	01.0	+11	02.4	324	12.2	+25	39.3	2	27.2	+21	56.3	80	59.8	-5	13.1					
19	88	46.6	82	04.0		02.6	339	14.3		39.2	17	29.4		56.4	96	02.0		12.9					
20	103	49.0	97	07.0		02.8	354	16.5		39.1	32	31.6		56.4	111	04.2		12.8					
21	118	51.5	112	10.0		03.0	9	18.7		39.0	47	33.8		56.4	126	06.3		12.7					
22	133	53.9	127	12.9		03.2	24	20.8		38.9	62	36.0		56.5	141	08.5		12.6					
23	148	56.4	142	15.9		03.3	39	23.0		38.8	77	38.2		56.5	156	10.7		12.4					
24	163	58.9	157	18.9	+11	03.5	54	25.1	+25	38.7	92	40.5	+21	56.6	171	12.9	-5	12.3					
Dif	—		+30		+2		+22		-1		+22		0		+22		+1						

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'1 PMG:12 ^h 11.2 ^m			Edad: 6.0 ^d PHE { 4 ^h : 58'8 12 ^h : 58'6 20 ^h : 58'4 SD: 16'0 PMG: 18 ^h 03 ^m R°: 61 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	177	10.7	-5	39.2	99	59.4	52	+26	18.5	71	60 N	5 14	6 02	6 43	7 31	26	3 28	100	
1	192	10.9		38.2	114	23.6	53		25.6	70	58	16	01	41	8 00	37	2 59	89	
2	207	11.0		37.2	128	47.9	52		32.6	68	56	18	01	38	23	42	36	84	
3	222	11.2		36.2	143	12.1	52		39.4	66	54	20	01	36	42	45	18	80	
4	237	11.3		35.3	157	36.3	52		46.0	66	52	22	01	34	8 58	47	2 03	77	
5	252	11.4	-5	34.3	172	00.4	51	+26	52.4	64	50	5 23	6 00	6 33	9 12	49	1 49	76	
6	267	11.6	-5	33.3	186	24.5	51	+26	58.7	63	45	5 26	5 59	6 29	9 40	52	1 22	72	
7	282	11.7		32.4	200	48.5	50	+27	04.8	61	40	27	59	26	10 02	54	1 00	70	
8	297	11.9		31.4	215	12.6	51		10.7	59	35	28	57	23	21	55	0 42	68	
9	312	12.0		30.4	229	36.6	50		16.4	57	30	29	56	20	10 36	57	27	67	
10	327	12.2		29.5	244	00.5	49		22.0	56	20	28	54	16	11 04	57	0 01	64	
11	342	12.3	-5	28.5	258	24.5	50	+27	27.3	53	10 N	5 26	5 51	6 12	11 27	59	**	**	**
12	357	12.5	-5	27.5	272	48.4	49	+27	32.5	52	0	5 23	5 47	6 08	11 49	60	**	**	**
13	12	12.6		26.5	287	12.3	49		37.5	50	10 S	18	43	04	12 11	61	23	55	60
14	27	12.8		25.6	301	36.2	49		42.3	48	20	11	37	6 00	12 35	62	31	59	
15	42	12.9		24.6	316	00.0	48		47.0	47	30	5 02	30	5 54	13 02	64	23	02	59
16	57	13.1		23.6	330	23.8	48		51.4	44	35	4 56	26	51	19	64	22	45	59
17	72	13.2	-5	22.7	344	47.6	48	+27	55.7	43	40	4 48	5 21	5 48	13 38	66	22	26	58
18	87	13.4	-5	21.7	359	11.5	49	+27	59.8	41	45	4 39	5 14	5 44	14 01	67	22	02	58
19	102	13.5		20.7	13	35.2	47	+28	03.7	39	50	26	06	39	31	69	21	31	57
20	117	13.7		19.7	27	59.0	48		07.4	37	52	21	5 03	37	14 46	70	21	16	56
21	132	13.8		18.8	42	22.8	48		10.9	34	54	14	4 58	35	15 04	70	20	59	55
22	147	14.0		17.8	56	46.6	48		14.3	34	56	4 06	54	32	25	72	38	53	
23	162	14.1		16.8	71	10.3	47		17.4	31	58	3 58	48	29	15 51	75	20	11	51
24	177	14.2	-5	15.9	85	34.1	48	+28	20.4	30	60 S	3 47	4 42	5 26	16 29	82	19	33	44
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG		Mag: -4.7				Mag: -0.1				Mag: -2.3				Mag: +1.1				
	13 ^h 01.9 ^m		PMG: 13 ^h 28 ^m				PMG: 20 ^h 19 ^m				PMG: 17 ^h 47 ^m				PMG: 12 ^h 33 ^m				
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	163	58.9	157	18.9	+11	03.5	54	25.1	+25	38.7	92	40.5	+21	56.6	171	12.9	-5	12.3	
1	179	01.3	172	21.9		03.7	69	27.3		38.6	107	42.7		56.6	186	15.1		12.2	
2	194	03.8	187	24.9		03.8	84	29.5		38.4	122	44.9		56.6	201	17.2		12.1	
3	209	06.3	202	27.9		04.0	99	31.6		38.3	137	47.1		56.7	216	19.4		12.0	
4	224	08.7	217	31.0		04.2	114	33.8		38.2	152	49.3		56.7	231	21.6		11.8	
5	239	11.2	232	34.0	+11	04.3	129	35.9	+25	38.1	167	51.5	+21	56.7	246	23.8	-5	11.7	
6	254	13.7	247	37.0	+11	04.5	144	38.1	+25	38.0	182	53.7	+21	56.8	261	26.0	-5	11.6	
7	269	16.1	262	40.0		04.7	159	40.2		37.9	197	56.0		56.8	276	28.1		11.5	
8	284	18.6	277	43.0		04.8	174	42.4		37.8	212	58.2		56.9	291	30.3		11.4	
9	299	21.1	292	46.1		05.0	189	44.5		37.6	228	00.4		56.9	306	32.5		11.2	
10	314	23.5	307	49.1		05.1	204	46.7		37.5	243	02.6		56.9	321	34.7		11.1	
11	329	26.0	322	52.1	+11	05.3	219	48.8	+25	37.4	258	04.8	+21	57.0	336	36.9	-5	11.0	
12	344	28.4	337	55.2	+11	05.4	234	51.0	+25	37.3	273	07.0	+21	57.0	351	39.0	-5	10.9	
13	359	30.9	352	58.2		05.6	249	53.1		37.2	288	09.2		57.0	6	41.2		10.8	
14	14	33.4	8	01.3		05.7	264	55.2		37.1	303	11.4		57.1	21	43.4		10.6	
15	29	35.8	23	04.3		05.8	279	57.4		37.0	318	13.6		57.1	36	45.6		10.5	
16	44	38.3	38	07.4		06.0	294	59.5		36.8	333	15.9		57.2	51	47.8		10.4	
17	59	40.8	53	10.4	+11	06.1	310	01.7	+25	36.7	348	18.1	+21	57.2	66	49.9	-5	10.3	
18	74	43.2	68	13.5	+11	06.2	325	03.8	+25	36.6	3	20.3	+21	57.2	81	52.1	-5	10.2	
19	89	45.7	83	16.6		06.4	340	05.9		36.5	18	22.5		57.3	96	54.3		10.0	
20	104	48.2	98	19.6		06.5	355	08.1		36.4	33	24.7		57.3	111	56.5		09.9	
21	119	50.6	113	22.7		06.6	10	10.2		36.3	48	26.9		57.4	126	58.7		09.8	
22	134	53.1	128	25.8		06.7	25	12.4		36.1	63	29.1		57.4	142	00.8		09.7	
23	149	55.6	143	28.9		06.9	40	14.5		36.0	78	31.3		57.4	157	03.0		09.6	
24	164	58.0	158	31.9	+11	07.0	55	16.6	+25	35.9	93	33.5	+21	57.5	172	05.2	-5	09.4	
Dif	—		+30		+1		+21		-1		+22		0		+22		+1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16 ^h 1 PMG:12 ^h 10.9 ^m			Edad: 7.0 ^d PHE { 4 ^h : 58/2 12 ^h : 57/9 20 ^h : 57/7 R°: 59 ^m								Civil			Náutico			Hora R°		Hora R°	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif														
h	° /	° /	° /	° /		° /		°		h m	h m	h m	h m	h m	m	h m	m	h m	m		
0	177	14.2	-5	15.9	85	34.1	48	+28	20.4	28	60 N	17 43	18 24	19 13	7 57	70	5 08	58			
1	192	14.4		14.9	99	57.9	47		23.2	26	58	45	24	10	8 37	68	4 28	60			
2	207	14.5		13.9	114	21.6	48		25.8	24	56	47	24	08	9 05	67	4 00	61			
3	222	14.7		12.9	128	45.4	48		28.2	24	54	49	24	05	27	66	3 38	61			
4	237	14.8		12.0	143	09.2	48		30.5	23	52	51	24	04	9 45	65	20	62			
5	252	15.0	-5	11.0	157	33.0	48	+28	32.5	20	50	17 52	18 25	19 02	10 01	64	3 05	61			
6	267	15.1	-5	10.0	171	56.8	48	+28	34.4	19	45	17 56	18 25	18 59	10 32	64	2 34	62			
7	282	15.3		09.0	186	20.6	48		36.1	17	40	17 58	26	57	10 56	63	2 10	62			
8	297	15.4		08.1	200	44.4	48		37.6	15	35	18 01	26	56	11 16	63	1 50	62			
9	312	15.6		07.1	215	08.3	49		38.9	13	30	03	27	55	11 33	62	34	61			
10	327	15.7		06.1	229	32.1	48		40.0	11	20	07	29	55	12 01	62	1 05	62			
11	342	15.9	-5	05.1	243	56.0	49	+28	41.0	10	10 N	18 11	18 32	18 56	12 26	61	0 41	61			
12	357	16.0	-5	04.2	258	19.9	49	+28	41.7	7	0	18 14	18 35	18 59	12 49	61	0 18	61			
13	12	16.2		03.2	272	43.9	50		42.3	6	10 S	18	39	19 03	13 12	60	** ** *	**			
14	27	16.4		02.2	287	07.9	50		42.7	4	20	22	44	10	13 37	59	** ** *	**			
15	42	16.5		01.2	301	31.9	50		43.0	3	30	26	50	19	14 06	58	** ** *	**			
16	57	16.7	-5	00.3	315	55.9	50		43.0	0	35	29	54	24	23	57	23 44	65			
17	72	16.8	-4	59.3	330	20.0	51	+28	42.9	1	40	18 32	18 59	19 32	14 44	56	23 24	67			
18	87	17.0	-4	58.3	344	44.1	51	+28	42.5	4	45	18 36	19 05	19 41	15 08	55	23 00	68			
19	102	17.1		57.4	359	08.2	51		42.0	5	50	40	13	52	40	52	22 28	71			
20	117	17.3		56.4	13	32.4	52		41.4	6	52	42	16	19 58	15 56	51	22 12	73			
21	132	17.4		55.4	27	56.6	52		40.5	9	54	44	20	20 04	16 14	50	21 54	74			
22	147	17.6		54.4	42	20.9	53		39.5	10	56	46	25	11	16 37	47	31	77			
23	162	17.7		53.5	56	45.2	53		38.2	13	58	49	30	19	17 06	43	21 02	81			
24	177	17.9	-4	52.5	71	09.6	54	+28	36.9	13	60 S	18 52	19 35	20 29	17 51	33	20 17	92			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 12 ^h 58.0 ^m			Mag: -4.6 PMG: 13 ^h 23 ^m			Mag: -0.1 PMG: 20 ^h 16 ^m			Mag: -2.3 PMG: 17 ^h 43 ^m			Mag: +1.1 PMG: 12 ^h 30 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	164	58.0	158	31.9	+11	07.0	55	16.6	+25	35.9	93	33.5	+21	57.5	172	05.2	-5	09.4			
1	180	00.5	173	35.0		07.1	70	18.7		35.8	108	35.7		57.5	187	07.4		09.3			
2	195	02.9	188	38.1		07.2	85	20.9		35.7	123	38.0		57.5	202	09.6		09.2			
3	210	05.4	203	41.2		07.3	100	23.0		35.6	138	40.2		57.6	217	11.7		09.1			
4	225	07.9	218	44.3		07.4	115	25.1		35.4	153	42.4		57.6	232	13.9		08.9			
5	240	10.3	233	47.4	+11	07.5	130	27.3	+25	35.3	168	44.6	+21	57.7	247	16.1	-5	08.8			
6	255	12.8	248	50.5	+11	07.6	145	29.4	+25	35.2	183	46.8	+21	57.7	262	18.3	-5	08.7			
7	270	15.3	263	53.6		07.7	160	31.5		35.1	198	49.0		57.7	277	20.5		08.6			
8	285	17.7	278	56.8		07.8	175	33.6		35.0	213	51.2		57.8	292	22.6		08.5			
9	300	20.2	293	59.9		07.9	190	35.7		34.9	228	53.4		57.8	307	24.8		08.3			
10	315	22.7	309	03.0		08.0	205	37.9		34.7	243	55.6		57.8	322	27.0		08.2			
11	330	25.1	324	06.1	+11	08.1	220	40.0	+25	34.6	258	57.8	+21	57.9	337	29.2	-5	08.1			
12	345	27.6	339	09.3	+11	08.2	235	42.1	+25	34.5	274	00.0	+21	57.9	352	31.4	-5	08.0			
13	0	30.1	354	12.4		08.3	250	44.2		34.4	289	02.2		58.0	7	33.5		07.9			
14	15	32.5	9	15.5		08.3	265	46.3		34.3	304	04.4		58.0	22	35.7		07.7			
15	30	35.0	24	18.7		08.4	280	48.4		34.1	319	06.6		58.0	37	37.9		07.6			
16	45	37.4	39	21.8		08.5	295	50.6		34.0	334	08.8		58.1	52	40.1		07.5			
17	60	39.9	54	25.0	+11	08.6	310	52.7	+25	33.9	349	11.0	+21	58.1	67	42.2	-5	07.4			
18	75	42.4	69	28.1	+11	08.7	325	54.8	+25	33.8	4	13.2	+21	58.2	82	44.4	-5	07.3			
19	90	44.8	84	31.3		08.7	340	56.9		33.7	19	15.4		58.2	97	46.6		07.1			
20	105	47.3	99	34.4		08.8	355	59.0		33.5	34	17.6		58.2	112	48.8		07.0			
21	120	49.8	114	37.6		08.9	11	01.1		33.4	49	19.8		58.3	127	51.0		06.9			
22	135	52.2	129	40.8		08.9	26	03.2		33.3	64	22.0		58.3	142	53.1		06.8			
23	150	54.7	144	43.9		09.0	41	05.3		33.2	79	24.2		58.3	157	55.3		06.7			
24	165	57.2	159	47.1	+11	09.0	56	07.4	+25	33.1	94	26.4	+21	58.4	172	57.5	-5	06.5			
Dif	—			+31			+1			+21			-1			+22			+1		

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h 1 PMG: 12 ^h 10.7 ^m			Edad: 8.0 ^d PHE { 4 ^h : 57/5 12 ^h : 57/3 20 ^h : 57/1 PMG: 20 ^h 02 ^m R°: 55 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	177	17.9	-4	52.5	71	09.6	54	+28	36.9	16	60 N	5 08	5 56	6 37	9 05	100	6 05	19	
1	192	18.0		51.5	85	34.0	55		35.3	18	58	11	56	35	9 43	89	5 26	30	
2	207	18.2		50.5	99	58.5	55		33.5	19	56	13	56	33	10 10	83	4 59	36	
3	222	18.3		49.6	114	23.0	55		31.6	21	54	15	56	31	31	79	38	39	
4	237	18.5		48.6	128	47.6	56		29.5	22	52	17	56	30	10 49	76	20	42	
5	252	18.6	-4	47.6	143	12.2	56	+28	27.3	22	50	5 19	5 56	6 28	11 04	74	4 05	43	
6	267	18.8	-4	46.6	157	37.0	58	+28	24.8	25	45	5 22	5 56	6 25	11 34	70	3 34	47	
7	282	19.0		45.6	172	01.7	57		22.2	26	40	24	55	22	11 58	67	3 11	49	
8	297	19.1		44.7	186	26.6	59		19.5	27	35	26	55	20	12 17	65	2 51	51	
9	312	19.3		43.7	200	51.4	58		16.5	30	30	26	54	18	12 34	63	34	52	
10	327	19.4		42.7	215	16.4	60		13.4	31	20	27	52	14	13 02	60	2 05	55	
11	342	19.6	-4	41.7	229	41.4	60	+28	10.1	33	10 N	5 25	5 50	6 11	13 26	58	1 41	56	
12	357	19.7	-4	40.8	244	06.6	62	+28	06.7	34	0	5 23	5 47	6 07	13 48	56	1 18	58	
13	12	19.9		39.8	258	31.7	61	+28	03.1	36	10 S	18	43	04	14 11	53	0 55	59	
14	27	20.0		38.8	272	57.0	63	+27	59.3	38	20	12	38	6 00	14 35	51	30	61	
15	42	20.2		37.8	287	22.3	63		55.3	40	30	5 03	32	5 56	15 03	48	0 01	63	
16	57	20.3		36.9	301	47.7	64		51.2	41	35	4 58	28	53	19	46	***	***	
17	72	20.5	-4	35.9	316	13.2	65	+27	47.0	42	40	4 51	5 23	5 50	15 38	44	***	***	
18	87	20.7	-4	34.9	330	38.7	65	+27	42.5	45	45	4 42	5 17	5 47	16 01	41	***	***	
19	102	20.8		33.9	345	04.4	67		38.0	45	50	30	10	43	31	36	23	38	
20	117	21.0		33.0	359	30.1	67		33.2	48	52	25	06	41	16	46	33	23	
21	132	21.1		32.0	13	55.9	68		28.3	49	54	18	5 02	39	17 03	30	23	07	
22	147	21.3		31.0	28	21.8	69		23.3	50	56	11	4 58	36	23	26	22	47	
23	162	21.4		30.0	42	47.8	70		18.0	53	58	4 03	53	34	17	48	20	22	
24	177	21.6	-4	29.0	57	13.8	70	+27	12.7	53	60 S	3 54	4 48	5 31	18 22	9	21	48	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 12 ^h 54.1 ^m		Mag: -4.6 PMG: 13 ^h 18 ^m		Mag: -0.1 PMG: 20 ^h 13 ^m		Mag: -2.2 PMG: 17 ^h 40 ^m		Mag: +1.1 PMG: 12 ^h 26 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	165	57.2	159	47.1	+11	09.0	56	07.4	+25	33.1	94	26.4	+21	58.4	172	57.5	-5	06.5
1	180	59.6	174	50.3		09.1	71	09.5		32.9	109	28.6		58.4	187	59.7		06.4
2	196	02.1	189	53.5		09.1	86	11.6		32.8	124	30.8		58.5	203	01.9		06.3
3	211	04.6	204	56.6		09.2	101	13.7		32.7	139	33.0		58.5	218	04.0		06.2
4	226	07.0	219	59.8		09.2	116	15.8		32.6	154	35.2		58.5	233	06.2		06.1
5	241	09.5	235	03.0	+11	09.3	131	17.9	+25	32.5	169	37.4	+21	58.6	248	08.4	-5	05.9
6	256	11.9	250	06.2	+11	09.3	146	20.0	+25	32.3	184	39.6	+21	58.6	263	10.6	-5	05.8
7	271	14.4	265	09.4		09.4	161	22.1		32.2	199	41.8		58.7	278	12.8		05.7
8	286	16.9	280	12.6		09.4	176	24.2		32.1	214	44.0		58.7	293	14.9		05.6
9	301	19.3	295	15.8		09.4	191	26.3		32.0	229	46.2		58.7	308	17.1		05.4
10	316	21.8	310	19.0		09.5	206	28.4		31.9	244	48.4		58.8	323	19.3		05.3
11	331	24.3	325	22.3	+11	09.5	221	30.5	+25	31.7	259	50.6	+21	58.8	338	21.5	-5	05.2
12	346	26.7	340	25.5	+11	09.5	236	32.6	+25	31.6	274	52.8	+21	58.9	353	23.7	-5	05.1
13	1	29.2	355	28.7		09.6	251	34.6		31.5	289	55.0		58.9	8	25.8		05.0
14	16	31.7	10	31.9		09.6	266	36.7		31.4	304	57.2		58.9	23	28.0		04.8
15	31	34.1	25	35.1		09.6	281	38.8		31.3	319	59.4		59.0	38	30.2		04.7
16	46	36.6	40	38.4		09.6	296	40.9		31.1	335	01.6		59.0	53	32.4		04.6
17	61	39.0	55	41.6	+11	09.6	311	43.0	+25	31.0	350	03.8	+21	59.1	68	34.6	-5	04.5
18	76	41.5	70	44.8	+11	09.6	326	45.1	+25	30.9	5	06.0	+21	59.1	83	36.7	-5	04.4
19	91	44.0	85	48.1		09.6	341	47.1		30.8	20	08.2		59.1	98	38.9		04.2
20	106	46.4	100	51.3		09.7	356	49.2		30.6	35	10.4		59.2	113	41.1		04.1
21	121	48.9	115	54.6		09.7	11	51.3		30.5	50	12.6		59.2	128	43.3		04.0
22	136	51.4	130	57.8		09.7	26	53.4		30.4	65	14.8		59.2	143	45.5		03.9
23	151	53.8	146	01.1		09.7	41	55.5		30.3	80	17.0		59.3	158	47.6		03.8
24	166	56.3	161	04.4	+11	09.7	56	57.5	+25	30.1	95	19.2	+21	59.3	173	49.8	-5	03.6
Dif	—		+32		0		+21		-1		+22		0		+22		+1	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG:12 ^h 10.4 ^m			Edad: 9.0 ^d PHE { 4 ^h : 56 ^m 9 12 ^h : 56 ^m 7 20 ^h : 56 ^m 5 R°: 52 ^m															
	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	177	21.6	-4	29.0	57	13.8	72	+27	12.7	55	60 N	17 48	18 29	19 18	10 45	105	6 24	7	
1	192	21.8		28.1	71	40.0	72		07.2	57	58	50	29	15	11 12	96	5 56	16	
2	207	21.9		27.1	86	06.2	74	+27	01.5	58	56	51	28	12	33	90	35	21	
3	222	22.1		26.1	100	32.6	74	+26	55.7	60	54	53	28	09	11 50	86	17	26	
4	237	22.2		25.1	114	59.0	74		49.7	61	52	54	28	07	12 05	82	5 02	29	
5	252	22.4	-4	24.2	129	25.5	75	+26	43.6	61	50	17 56	18 28	19 05	12 18	79	4 48	32	
6	267	22.5	-4	23.2	143	52.1	76	+26	37.4	62	45	17 58	18 28	19 02	12 44	74	4 21	37	
7	282	22.7		22.2	158	18.8	77		31.0	64	40	18 01	28	18 59	13 05	70	4 00	40	
8	297	22.9		21.2	172	45.6	78		24.4	66	35	03	28	57	22	67	3 42	43	
9	312	23.0		20.2	187	12.5	79		17.7	67	30	05	28	56	13 37	65	26	46	
10	327	23.2		19.3	201	39.5	80		10.9	68	20	08	30	55	14 02	60	3 00	49	
11	342	23.3	-4	18.3	216	06.6	81	+26	03.9	70	10 N	18 11	18 32	18 56	14 24	56	2 37	52	
12	357	23.5	-4	17.3	230	33.7	81	+25	56.8	71	0	18 14	18 34	18 58	14 44	53	2 16	55	
13	12	23.7		16.3	245	01.0	83		49.6	72	10 S	17	38	19 02	15 04	50	1 54	58	
14	27	23.8		15.3	259	28.4	84		42.2	74	20	20	42	08	26	46	31	61	
15	42	24.0		14.4	273	55.9	85		34.7	75	30	24	48	16	15 51	41	1 04	65	
16	57	24.1		13.4	288	23.5	86		27.1	76	35	26	52	22	16 05	39	0 48	67	
17	72	24.3	-4	12.4	302	51.1	86	+25	19.3	78	40	18 29	18 56	19 28	16 22	36	0 29	70	
18	87	24.5	-4	11.4	317	18.9	88	+25	11.4	79	45	18 32	19 01	19 37	16 42	32	0 07	73	
19	102	24.6		10.4	331	46.8	89	+25	03.3	81	50	36	08	47	17 07	27	**	**	**
20	117	24.8		09.5	346	14.8	90	+24	55.2	81	52	37	11	53	19 24		**	**	**
21	132	24.9		08.5	0	42.9	91		46.9	83	54	39	15	19 59	33	20	**	**	**
22	147	25.1		07.5	15	11.0	91		38.5	84	56	41	19	20 05	17 49	16	**	**	**
23	162	25.3		06.5	29	39.3	93		30.0	85	58	44	24	13	18 08	11	23	56	96
24	177	25.4	-4	05.6	44	07.7	94	+24	21.3	87	60 S	18 46	19 29	20 22	18 31	3	23	33	104

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 12 ^h 50.1 ^m		Mag: -4.6 PMG: 13 ^h 13 ^m		Mag: 0.0 PMG: 20 ^h 09 ^m		Mag: -2.2 PMG: 17 ^h 36 ^m		Mag: +1.1 PMG: 12 ^h 23 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	166	56.3	161	04.4	+11	09.7	56	57.5	+25	30.1	95	19.2	+21	59.3	173	49.8	-5	03.6
1	181	58.8	176	07.6		09.7	71	59.6		30.0	110	21.4		59.4	188	52.0		03.5
2	197	01.2	191	10.9		09.6	87	01.7		29.9	125	23.6		59.4	203	54.2		03.4
3	212	03.7	206	14.2		09.6	102	03.8		29.8	140	25.7		59.4	218	56.4		03.3
4	227	06.2	221	17.4		09.6	117	05.8		29.7	155	27.9		59.5	233	58.5		03.2
5	242	08.6	236	20.7	+11	09.6	132	07.9	+25	29.5	170	30.1	+21	59.5	249	00.7	-5	03.0
6	257	11.1	251	24.0	+11	09.6	147	10.0	+25	29.4	185	32.3	+21	59.6	264	02.9	-5	02.9
7	272	13.5	266	27.3		09.6	162	12.0		29.3	200	34.5		59.6	279	05.1		02.8
8	287	16.0	281	30.6		09.5	177	14.1		29.2	215	36.7		59.6	294	07.2		02.7
9	302	18.5	296	33.9		09.5	192	16.2		29.0	230	38.9		59.7	309	09.4		02.6
10	317	20.9	311	37.2		09.5	207	18.2		28.9	245	41.1		59.7	324	11.6		02.4
11	332	23.4	326	40.4	+11	09.5	222	20.3	+25	28.8	260	43.3	+21	59.8	339	13.8	-5	02.3
12	347	25.9	341	43.8	+11	09.4	237	22.4	+25	28.7	275	45.5	+21	59.8	354	16.0	-5	02.2
13	2	28.3	356	47.1		09.4	252	24.4		28.5	290	47.7		59.8	9	18.1		02.1
14	17	30.8	11	50.4		09.3	267	26.5		28.4	305	49.8		59.9	24	20.3		01.9
15	32	33.3	26	53.7		09.3	282	28.5		28.3	320	52.0	+21	59.9	39	22.5		01.8
16	47	35.7	41	57.0		09.3	297	30.6		28.2	335	54.2	+22	00.0	54	24.7		01.7
17	62	38.2	57	00.3	+11	09.2	312	32.7	+25	28.0	350	56.4	+22	00.0	69	26.9	-5	01.6
18	77	40.7	72	03.6	+11	09.2	327	34.7	+25	27.9	5	58.6	+22	00.0	84	29.0	-5	01.5
19	92	43.1	87	07.0		09.1	342	36.8		27.8	21	00.8	+22	00.1	99	31.2		01.3
20	107	45.6	102	10.3		09.1	357	38.8		27.6	36	03.0		00.1	114	33.4		01.2
21	122	48.0	117	13.6		09.0	12	40.9		27.5	51	05.2		00.2	129	35.6		01.1
22	137	50.5	132	17.0		08.9	27	42.9		27.4	66	07.4		00.2	144	37.8		01.0
23	152	53.0	147	20.3		08.9	42	45.0		27.3	81	09.5		00.2	159	39.9		00.9
24	167	55.4	162	23.6	+11	08.8	57	47.0	+25	27.1	96	11.7	+22	00.3	174	42.1	-5	00.7
Dif	—		+33		0		+21		-1		+22		0		+22		+1	

UT	SOL		LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 10.2 ^m		Edad: 10.0 ^d SD: 15'4 PMG: 21 ^h 48 ^m PHE { 4 ^h : 56'4 12 ^h : 56'2 20 ^h : 56'0 R°: 46 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	177	25.4	-4	05.6	44	07.7	+24	21.3	60 N	5 02	5 50	6 31	12 29	98	6 29	2
1	192	25.6		04.6	58	36.2		12.5	58	05	51	30	12 47	92	6 11	7
2	207	25.7		03.6	73	04.8	+24	03.6	56	08	51	28	13 02	87	5 55	12
3	222	25.9		02.6	87	33.5	+23	54.6	54	10	51	27	15 83		41	16
4	237	26.1		01.6	102	02.3		45.5	52	13	52	25	26 80		29	19
5	252	26.2	-4	00.7	116	31.2	+23	36.2	50	5 15	5 52	6 24	13 36	77	5 19	22
6	267	26.4	-3	59.7	131	00.2	+23	26.9	45	5 18	5 52	6 21	13 57	72	4 57	27
7	282	26.5		58.7	145	29.3		17.4	40	21	52	19	14 14	67	39	31
8	297	26.7		57.7	159	58.5	+23	07.8	35	23	52	17	28 64		24	34
9	312	26.9		56.7	174	27.8	+22	58.2	30	24	52	16	14 40	61	4 10	38
10	327	27.0		55.7	188	57.2		48.4	20	25	50	13	15 01	56	3 48	42
11	342	27.2	-3	54.8	203	26.8	+22	38.5	10 N	5 24	5 49	6 10	15 19	52	3 28	46
12	357	27.4	-3	53.8	217	56.4	+22	28.4	0	5 22	5 46	6 07	15 36	47	3 10	49
13	12	27.5		52.8	232	26.1		18.3	10 S	18	43	04	15 53	43	2 51	53
14	27	27.7		51.8	246	55.9	+22	08.1	20	13	39	6 01	16 11	39	31	57
15	42	27.8		50.8	261	25.8	+21	57.8	30	05	33	5 57	31 34		2 08	62
16	57	28.0		49.9	275	55.9		47.4	35	5 00	29	55	43 31		1 54	65
17	72	28.2	-3	48.9	290	26.0	+21	36.9	40	4 53	5 25	5 52	16 57	28	1 38	68
18	87	28.3	-3	47.9	304	56.2	+21	26.3	45	4 45	5 20	5 49	17 13	23	1 19	72
19	102	28.5		46.9	319	26.5		15.6	50	34	13	46	32 19		0 55	78
20	117	28.7		45.9	333	57.0	+21	04.8	52	29	10	44	42 15		43	81
21	132	28.8		45.0	348	27.5	+20	53.9	54	23	06	42	17 52	13	30	85
22	147	29.0		44.0	2	58.1		42.9	56	16	5 03	40	18 04	9	0 15	89
23	162	29.2		43.0	17	28.8		31.8	58	09	4 58	38	17 5		** ** *	**
24	177	29.3	-3	42.0	31	59.6	+20	20.7	60 S	4 00	4 53	5 36	18 33	0	** ** *	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 46.2 ^m		Mag: -4.5 PMG: 13 ^h 07 ^m		Mag: 0.0 PMG: 20 ^h 06 ^m		Mag: -2.2 PMG: 17 ^h 33 ^m		Mag: +1.1 PMG: 12 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	167	55.4	162	23.6	57	47.0	96	11.7	174	42.1
1	182	57.9	177	27.0	72	49.1	111	13.9	189	44.3
2	198	00.4	192	30.3	87	51.1	126	16.1	204	46.5
3	213	02.8	207	33.7	102	53.2	141	18.3	219	48.7
4	228	05.3	222	37.1	117	55.2	156	20.5	234	50.8
5	243	07.8	237	40.4	132	57.2	171	22.7	249	53.0
6	258	10.2	252	43.8	147	59.3	186	24.8	264	55.2
7	273	12.7	267	47.1	163	01.3	201	27.0	279	57.4
8	288	15.2	282	50.5	178	03.4	216	29.2	294	59.5
9	303	17.6	297	53.9	193	05.4	231	31.4	310	01.7
10	318	20.1	312	57.3	208	07.4	246	33.6	325	03.9
11	333	22.5	328	00.6	223	09.5	261	35.8	340	06.1
12	348	25.0	343	04.0	238	11.5	276	37.9	355	08.3
13	3	27.5	358	07.4	253	13.6	291	40.1	10	10.4
14	18	29.9	13	10.8	268	15.6	306	42.3	25	12.6
15	33	32.4	28	14.2	283	17.6	321	44.5	40	14.8
16	48	34.9	43	17.6	298	19.6	336	46.7	55	17.0
17	63	37.3	58	21.0	313	21.7	351	48.9	70	19.2
18	78	39.8	73	24.4	328	23.7	6	51.0	85	21.3
19	93	42.3	88	27.8	343	25.7	21	53.2	100	23.5
20	108	44.7	103	31.2	358	27.8	36	55.4	115	25.7
21	123	47.2	118	34.6	13	29.8	51	57.6	130	27.9
22	138	49.6	133	38.1	28	31.8	66	59.8	145	30.1
23	153	52.1	148	41.5	43	33.8	82	01.9	160	32.2
24	168	54.6	163	44.9	58	35.9	97	04.1	175	34.4
Dif	—		+34	-1	+20	-1	+22	0	+22	+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:12 ^h 09.9 ^m			Edad: 11.0 ^d SD: 15 ^h 2 PMG: 22 ^h 34 ^m PHE { 4 ^h : 55 ^h 8 12 ^h : 55 ^h 7 20 ^h : 55 ^h 5 R°: 45 ^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	177 29.3	-3 42.0	31 59.6	119	+20	20.7	113	60 N	17 53	18 34	19 23	14 07	93	6 31	1		
1	192 29.5		46 30.5	121	+20	09.4	113	58	54	33	19	19 88		18	5		
2	207 29.6		61 01.6	121	+19	58.1	115	56	56	33	16	29 85		6 07	9		
3	222 29.8		75 32.7	122		46.6	115	54	57	32	13	38 81		5 57	13		
4	237 30.0		90 03.9	122		35.1	115	52	58	31	11	46 79		48	16		
5	252 30.1	-3 37.1	104 35.2	123	+19	23.6	117	50	17 59	18 31	19 09	14 53	76	5 41	17		
6	267 30.3	-3 36.1	119 06.5	123	+19	11.9	117	45	18 01	18 30	19 04	15 09	70	5 24	23		
7	282 30.5		133 38.0	125	+19	00.1	118	40	03	30	19 01	21 66	5	10 27			
8	297 30.6		148 09.6	126	+18	48.3	118	35	04	30	18 59	32 62		4 58	31		
9	312 30.8		162 41.3	127		36.4	119	30	06	30	57	41 59		48	33		
10	327 31.0		177 13.0	127		24.4	120	20	08	30	56	15 57	54	30	38		
11	342 31.1	-3 31.2	191 44.9	129	+18	12.4	120	10 N	18 11	18 32	18 56	16 11	49	4 14	43		
12	357 31.3	-3 30.2	206 16.8	129	+18	00.3	121	0	18 13	18 34	18 58	16 23	46	3 59	47		
13	12 31.5		220 48.8	130	+17	48.1	122	10 S	16	37	19 01	36 41		44	52		
14	27 31.6		235 20.9	131		35.8	123	20	18	40	06	16 50	36	28	56		
15	42 31.8		249 53.1	132		23.4	124	30	22	46	14	17 05	32	3 10	61		
16	57 32.0		264 25.4	133	+17	11.0	124	35	23	49	19	14 29		2 59	64		
17	72 32.1	-3 25.3	278 57.8	134	+16	58.6	124	40	18 26	18 53	19 25	17 25	24	2 46	68		
18	87 32.3	-3 24.3	293 30.2	134	+16	46.0	126	45	18 28	18 58	19 33	17 36	21	2 31	72		
19	102 32.5		308 02.8	136		33.4	126	50	31	19 04	43	51 16		13	78		
20	117 32.6		322 35.4	136		20.8	126	52	33	07	48	17 57	14	2 04	81		
21	132 32.8		337 08.1	137	+16	08.0	128	54	34	10	53	18 05	11	1 55	83		
22	147 33.0		351 40.9	138	+15	55.2	128	56	36	14	19 59	13 8		44	87		
23	162 33.1		6 13.8	139		42.4	128	58	38	18	20 06	22 4		31	91		
24	177 33.3	-3 18.4	20 46.7	139	+15	29.5	129	60 S	18 40	19 23	20 15	18 33	0	1 16	97		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 12 ^h 42.3 ^m		Mag: -4.5 PMG: 13 ^h 02 ^m			Mag: 0.0 PMG: 20 ^h 03 ^m			Mag: -2.2 PMG: 17 ^h 29 ^m			Mag: +1.1 PMG: 12 ^h 16 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	168 54.6	163 44.9	+11 06.5	58 35.9	+25 24.1	97 04.1	+22 01.2	175 34.4	-4 57.8								
1	183 57.0	178 48.3	06.3	73 37.9	23.9	112 06.3	01.3	190 36.6	57.7								
2	198 59.5	193 51.7	06.2	88 39.9	23.8	127 08.5	01.3	205 38.8	57.6								
3	214 02.0	208 55.2	06.1	103 41.9	23.7	142 10.6	01.4	220 41.0	57.5								
4	229 04.4	223 58.6	05.9	118 43.9	23.5	157 12.8	01.4	235 43.1	57.4								
5	244 06.9	239 02.1	+11 05.8	133 46.0	+25 23.4	172 15.0	+22 01.4	250 45.3	-4 57.2								
6	259 09.4	254 05.5	+11 05.6	148 48.0	+25 23.3	187 17.2	+22 01.5	265 47.5	-4 57.1								
7	274 11.8	269 08.9	05.5	163 50.0	23.1	202 19.4	01.5	280 49.7	57.0								
8	289 14.3	284 12.4	05.4	178 52.0	23.0	217 21.5	01.6	295 51.8	56.9								
9	304 16.8	299 15.8	05.2	193 54.0	22.9	232 23.7	01.6	310 54.0	56.8								
10	319 19.2	314 19.3	05.0	208 56.0	22.7	247 25.9	01.7	325 56.2	56.6								
11	334 21.7	329 22.8	+11 04.9	223 58.0	+25 22.6	262 28.1	+22 01.7	340 58.4	-4 56.5								
12	349 24.1	344 26.2	+11 04.7	239 00.0	+25 22.5	277 30.2	+22 01.7	356 00.6	-4 56.4								
13	4 26.6	359 29.7	04.6	254 02.1	22.3	292 32.4	01.8	11 02.7	56.3								
14	19 29.1	14 33.2	04.4	269 04.1	22.2	307 34.6	01.8	26 04.9	56.2								
15	34 31.5	29 36.6	04.2	284 06.1	22.1	322 36.8	01.9	41 07.1	56.0								
16	49 34.0	44 40.1	04.1	299 08.1	21.9	337 38.9	01.9	56 09.3	55.9								
17	64 36.5	59 43.6	+11 03.9	314 10.1	+25 21.8	352 41.1	+22 01.9	71 11.5	-4 55.8								
18	79 38.9	74 47.1	+11 03.7	329 12.1	+25 21.7	7 43.3	+22 02.0	86 13.6	-4 55.7								
19	94 41.4	89 50.5	03.5	344 14.1	21.5	22 45.5	02.0	101 15.8	55.6								
20	109 43.9	104 54.0	03.4	359 16.1	21.4	37 47.6	02.1	116 18.0	55.4								
21	124 46.3	119 57.5	03.2	14 18.1	21.3	52 49.8	02.1	131 20.2	55.3								
22	139 48.8	135 01.0	03.0	29 20.1	21.1	67 52.0	02.1	146 22.4	55.2								
23	154 51.3	150 04.5	02.8	44 22.1	21.0	82 54.2	02.2	161 24.5	55.1								
24	169 53.7	165 08.0	+11 02.6	59 24.1	+25 20.9	97 56.3	+22 02.2	176 26.7	-4 55.0								
Dif	—	+35	-2	+20	-1	+22	0	+22	+1								

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16 ^h 1 PMG: 12 ^h 09.6 ^m			Edad: 12.0 ^d PHE { 4 ^h : 55 ^h /4 12 ^h : 55 ^h /3 20 ^h : 55 ^h /1 PMG: 23 ^h 18 ^m R°: 40 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	177	33.3	-3	18.4	20	46.7	+15	29.5	60 N	4	55	5	44	6	25	15	39	87	6	30	**
1	192	33.5		17.4	35	19.7		16.5	58	4	59		45	24	46	83		22	3		
2	207	33.6		16.5	49	52.8	+15	03.5	56	5	03		46	23	52	80		15	5		
3	222	33.8		15.5	64	26.0	+14	50.4	54		05		47	22	15	58	77		08	9	
4	237	34.0		14.5	78	59.3		37.3	52		08		47	21	16	03	74		6	02	11
5	252	34.1	-3	13.5	93	32.6	+14	24.1	50	5	10	5	48	6	20	16	08	72	5	57	13
6	267	34.3	-3	12.5	108	06.0	+14	10.8	45	5	15	5	49	6	18	16	18	66	5	45	18
7	282	34.5		11.5	122	39.5	+13	57.5	40		18		49	16	26	62		36	22		
8	297	34.6		10.6	137	13.1		44.2	35		20		49	15	33	59		27	26		
9	312	34.8		09.6	151	46.7		30.8	30		22		49	13	39	56		20	28		
10	327	35.0		08.6	166	20.4		17.4	20		23		49	11	50	50		5	07	34	
11	342	35.1	-3	07.6	180	54.1	+13	03.9	10 N	5	23	5	48	6	09	16	59	46	4	56	38
12	357	35.3	-3	06.6	195	28.0	+12	50.4	0	5	22	5	46	6	06	17	07	42	4	45	43
13	12	35.5		05.6	210	01.9		36.8	10 S		19		43		04	16	37		34	47	
14	27	35.7		04.7	224	35.8		23.2	20		14		39	6	01	25	33		23	51	
15	42	35.8		03.7	239	09.9	+12	09.5	30		06		34	5	58	35	28		09	57	
16	57	36.0		02.7	253	44.0	+11	55.9	35		01		31	57	41	25	4	01	61		
17	72	36.2	-3	01.7	268	18.1	+11	42.1	40		4	55	5	57	17	48	21	3	53	63	
18	87	36.3	-3	00.7	282	52.3	+11	28.3	45	4	48	5	23	5	52	17	56	17	3	42	68
19	102	36.5	-2	59.7	297	26.6		14.5	50		38		17	49	18	05	12	29	74		
20	117	36.7		58.8	312	01.0	+11	00.7	52		33		14	48	10	9	23	76			
21	132	36.8		57.8	326	35.4	+10	46.8	54		27		10	46	14	8	17	78			
22	147	37.0		56.8	341	09.8		32.9	56		21		07	45	19	5	09	82			
23	162	37.2		55.8	355	44.3		18.9	58		14	5	03	43	25	2	3	01	85		
24	177	37.4	-2	54.8	10	18.9	+10	05.0	60 S	4	06	4	58	5	41	18	32	**	2	52	89
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 12 ^h 38.3 ^m			Mag: -4.4 PMG: 12 ^h 56 ^m			Mag: 0.0 PMG: 20 ^h 00 ^m			Mag: -2.2 PMG: 17 ^h 26 ^m			Mag: +1.1 PMG: 12 ^h 12 ^m								
	hG ♊			hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	169	53.7	165	08.0	+11	02.6	59	24.1	+25	20.9	97	56.3	+22	02.2	176	26.7	-4	55.0			
1	184	56.2	180	11.5		02.4	74	26.1		20.7	112	58.5		02.3	191	28.9		54.8			
2	199	58.6	195	15.0		02.2	89	28.1		20.6	128	00.7		02.3	206	31.1		54.7			
3	215	01.1	210	18.5		02.0	104	30.1		20.5	143	02.8		02.3	221	33.3		54.6			
4	230	03.6	225	22.0		01.8	119	32.1		20.3	158	05.0		02.4	236	35.4		54.5			
5	245	06.0	240	25.5	+11	01.6	134	34.1	+25	20.2	173	07.2	+22	02.4	251	37.6	-4	54.4			
6	260	08.5	255	29.0	+11	01.4	149	36.0	+25	20.1	188	09.4	+22	02.5	266	39.8	-4	54.2			
7	275	11.0	270	32.6		01.2	164	38.0		19.9	203	11.5		02.5	281	42.0		54.1			
8	290	13.4	285	36.1		01.0	179	40.0		19.8	218	13.7		02.6	296	44.1		54.0			
9	305	15.9	300	39.6		00.8	194	42.0		19.7	233	15.9		02.6	311	46.3		53.9			
10	320	18.4	315	43.1		00.6	209	44.0		19.5	248	18.0		02.6	326	48.5		53.7			
11	335	20.8	330	46.7	+11	00.3	224	46.0	+25	19.4	263	20.2	+22	02.7	341	50.7	-4	53.6			
12	350	23.3	345	50.2	+11	00.1	239	48.0	+25	19.3	278	22.4	+22	02.7	356	52.9	-4	53.5			
13	5	25.7	0	53.7	+10	59.9	254	50.0		19.1	293	24.5		02.8	11	55.0		53.4			
14	20	28.2	15	57.3		59.7	269	51.9		19.0	308	26.7		02.8	26	57.2		53.3			
15	35	30.7	31	00.8		59.4	284	53.9		18.9	323	28.9		02.8	41	59.4		53.1			
16	50	33.1	46	04.4		59.2	299	55.9		18.7	338	31.0		02.9	57	01.6		53.0			
17	65	35.6	61	07.9	+10	59.0	314	57.9	+25	18.6	353	33.2	+22	02.9	72	03.8	-4	52.9			
18	80	38.1	76	11.5	+10	58.7	329	59.9	+25	18.4	8	35.4	+22	03.0	87	05.9	-4	52.8			
19	95	40.5	91	15.0		58.5	345	01.8		18.3	23	37.5		03.0	102	08.1		52.7			
20	110	43.0	106	18.6		58.3	0	03.8		18.2	38	39.7		03.1	117	10.3		52.5			
21	125	45.5	121	22.1		58.0	15	05.8		18.0	53	41.9		03.1	132	12.5		52.4			
22	140	47.9	136	25.7		57.8	30	07.8		17.9	68	44.0		03.1	147	14.7		52.3			
23	155	50.4	151	29.3		57.5	45	09.7		17.8	83	46.2		03.2	162	16.8		52.2			
24	170	52.9	166	32.8	+10	57.3	60	11.7	+25	17.6	98	48.4	+22	03.2	177	19.0	-4	52.1			
Dif	—			+35	-2		+20	-1		+22	0			+22	+1						

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:12 ^h 09.4 ^m			Edad: 13.0 ^d PHE { 4 ^h : 55/0 12 ^h : 54/9 20 ^h : 54/8 SD: 15/0 PMG: 23 ^h 58 ^m Rº: 41 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	° /	° /		° /		° /		°		h m	h m	h m	h m	h m	h m	h m	h m
0	177 37.4	-2 54.8		10 18.9		+ 10 05.0		60 N		17 58	18 39	19 28	17 06 85	6 29 0			
1	192 37.5		53.8	24 53.5	156	+9 50.9	141	58		17 59	38	24	09 82	25 3			
2	207 37.7		52.8	39 28.2	157		36.9	56		18 00	37	20	12 79	20 6			
3	222 37.9		51.9	54 03.0	158		22.8	54		01	36	17	15 76	17 8			
4	237 38.0		50.9	68 37.8	158	+9 08.7	141	52		01	35	14	17 74	13 11			
5	252 38.2	-2 49.9		83 12.6	158	+8 54.6	141	50		18 02	18 34	19 12	17 20 71	6 10 13			
6	267 38.4	-2 48.9		97 47.5	159	+8 40.4	142	45		18 04	18 33	19 07	17 24 67	6 03 18			
7	282 38.6		47.9	112 22.4	159		26.2	40		05	32	03	28 62	5 58 21			
8	297 38.7		46.9	126 57.4	160	+8 12.0	142	35		06	31	19 01	32 58	53 24			
9	312 38.9		45.9	141 32.4	160	+7 57.8	142	30		07	31	18 59	35 55	48 28			
10	327 39.1		45.0	156 07.5	161		43.5	20		09	31	57	40 50	41 33			
11	342 39.2	-2 44.0		170 42.6	161	+7 29.3	142	10 N		18 11	18 32	18 56	17 45 45	5 34 37			
12	357 39.4	-2 43.0		185 17.8	162	+7 15.0	143	0		18 13	18 33	18 57	17 49 41	5 28 41			
13	12 39.6		42.0	199 53.0	162	+7 00.7	143	10 S		15	36	19 00	53 37	21 46			
14	27 39.8		41.0	214 28.3	163	+6 46.3	144	20		17	39	04	17 58 32	14 51			
15	42 39.9		40.0	229 03.6	163		32.0	30		19	43	11	18 03 27	06 56			
16	57 40.1		39.0	243 38.9	163		17.6	35		21	46	16	06 24	5 02 59			
17	72 40.3	-2 38.1		258 14.3	164	+6 03.2	144	40		18 22	18 50	19 21	18 09 21	4 56 63			
18	87 40.4	-2 37.1		272 49.7	164	+5 48.8	144	45		18 24	18 54	19 29	18 13 17	4 50 67			
19	102 40.6		36.1	287 25.1	164		34.4	50		27	18 59	38	17 13	43 72			
20	117 40.8		35.1	302 00.6	165		20.0	52		28	19 02	43	19 11	39 75			
21	132 41.0		34.1	316 36.1	165	+5 05.5	145	54		29	05	48	22 8	35 77			
22	147 41.1		33.1	331 11.7	166	+4 51.1	144	56		31	08	19 53	24 6	31 80			
23	162 41.3		32.1	345 47.3	166		36.6	58		32	12	20 00	27 3	26 83			
24	177 41.5	-2 31.2		0 22.9	166	+4 22.1	145	60 S		18 34	19 16	20 08	18 30 0	4 21 87			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 12 ^h 34.4 ^m		Mag: -4.3 PMG: 12 ^h 51 ^m			Mag: 0.0 PMG: 19 ^h 57 ^m			Mag: -2.2 PMG: 17 ^h 22 ^m			Mag: +1.1 PMG: 12 ^h 09 ^m					
	hG ♈		hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec			
h	° /	° /	° /	° /		° /	° /		° /	° /		° /	° /				
0	170 52.9	166 32.8	+10 57.3	60 11.7	+25 17.6	98 48.4	+22 03.2	177 19.0	-4 52.1								
1	185 55.3	181 36.4	57.0	75 13.7	17.5	113 50.5	03.3	192 21.2	51.9								
2	200 57.8	196 40.0	56.7	90 15.6	17.4	128 52.7	03.3	207 23.4	51.8								
3	216 00.2	211 43.5	56.5	105 17.6	17.2	143 54.9	03.3	222 25.6	51.7								
4	231 02.7	226 47.1	56.2	120 19.6	17.1	158 57.0	03.4	237 27.7	51.6								
5	246 05.2	241 50.7	+10 55.9	135 21.6	+25 16.9	173 59.2	+22 03.4	252 29.9	-4 51.5								
6	261 07.6	256 54.3	+10 55.7	150 23.5	+25 16.8	189 01.4	+22 03.5	267 32.1	-4 51.3								
7	276 10.1	271 57.9	55.4	165 25.5	16.7	204 03.5	03.5	282 34.3	51.2								
8	291 12.6	287 01.5	55.1	180 27.4	16.5	219 05.7	03.5	297 36.4	51.1								
9	306 15.0	302 05.1	54.9	195 29.4	16.4	234 07.9	03.6	312 38.6	51.0								
10	321 17.5	317 08.7	54.6	210 31.4	16.2	249 10.0	03.6	327 40.8	50.9								
11	336 20.0	332 12.3	+10 54.3	225 33.3	+25 16.1	264 12.2	+22 03.7	342 43.0	-4 50.7								
12	351 22.4	347 15.9	+10 54.0	240 35.3	+25 16.0	279 14.3	+22 03.7	357 45.2	-4 50.6								
13	6 24.9	2 19.5	53.7	255 37.3	15.8	294 16.5	03.8	12 47.3	50.5								
14	21 27.3	17 23.1	53.4	270 39.2	15.7	309 18.7	03.8	27 49.5	50.4								
15	36 29.8	32 26.7	53.1	285 41.2	15.6	324 20.8	03.8	42 51.7	50.3								
16	51 32.3	47 30.3	52.8	300 43.1	15.4	339 23.0	03.9	57 53.9	50.1								
17	66 34.7	62 33.9	+10 52.5	315 45.1	+25 15.3	354 25.1	+22 03.9	72 56.1	-4 50.0								
18	81 37.2	77 37.5	+10 52.2	330 47.0	+25 15.1	9 27.3	+22 04.0	87 58.2	-4 49.9								
19	96 39.7	92 41.1	51.9	345 49.0	15.0	24 29.5	04.0	103 00.4	49.8								
20	111 42.1	107 44.7	51.6	0 50.9	14.9	39 31.6	04.1	118 02.6	49.7								
21	126 44.6	122 48.4	51.3	15 52.9	14.7	54 33.8	04.1	133 04.8	49.5								
22	141 47.1	137 52.0	51.0	30 54.8	14.6	69 35.9	04.1	148 07.0	49.4								
23	156 49.5	152 55.6	50.7	45 56.8	14.4	84 38.1	04.2	163 09.1	49.3								
24	171 52.0	167 59.3	+10 50.4	60 58.7	+25 14.3	99 40.3	+22 04.2	178 11.3	-4 49.2								
Dif	—		+36	-3	+20	-1	+22	0	+22	+							

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'1 PMG:12 ^h 09.1 ^m				Edad: 14.0 ^d PHE { 4 ^h : 54'7 12 ^h : 54'6 20 ^h : 54'5 R°: **m																
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil	Hora	R°		Hora	R°								
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m			
0	177	41.5	-2	31.2	0	22.9	+4	22.1	60 N	4	49	5	38	6	19	18	30	83	6	28	**
1	192	41.7		30.2	14	58.5	+4	07.7	58		53	39	18		30	79		26	2		
2	207	41.8		29.2	29	34.2	+3	53.2	56	4	57	41	18		30	76		25	4		
3	222	42.0		28.2	44	09.9		38.7	54	5	00	42	17		29	74		24	6		
4	237	42.2		27.2	58	45.6		24.2	52		03	43	16		29	72		23	8		
5	252	42.4	-2	26.2	73	21.4	+3	09.6	50	5	06	5	43	6	15	18	29	69	6	22	11
6	267	42.5	-2	25.2	87	57.1	+2	55.1	45	5	11	5	45	6	14	18	29	64	6	20	15
7	282	42.7		24.3	102	32.9		40.6	40		15	46	13		29	60		18	19		
8	297	42.9		23.3	117	08.8		26.1	35		17	47	12		29	57		16	23		
9	312	43.0		22.3	131	44.6	+2	11.6	30		19	47	11		29	53		15	25		
10	327	43.2		21.3	146	20.5	+1	57.0	20		22	47	09		29	48		12	31		
11	342	43.4	-2	20.3	160	56.4	+1	42.5	10 N	5	22	5	46	6	07	18	29	43	6	10	35
12	357	43.6	-2	19.3	175	32.3	+1	28.0	0	5	21	5	45	6	06	18	29	39	6	08	40
13	12	43.7		18.3	190	08.2	+1	13.5	10 S		19	43	04		29	35		06	44		
14	27	43.9		17.4	204	44.1	+0	59.0	20		14	40	02		28	31		04	48		
15	42	44.1		16.4	219	20.1		44.4	30		08	36	6	00	28	26		01	54		
16	57	44.3		15.4	233	56.1		29.9	35	5	03	33	5	58	28	23		6	00	56	
17	72	44.4	-2	14.4	248	32.1	+0	15.4	40	4	58	5	30	5	57	18	28	20	5	58	60
18	87	44.6	-2	13.4	263	08.1	+0	00.9	45	4	50	5	25	5	55	18	28	16	5	56	64
19	102	44.8		12.4	277	44.1	-0	13.6	50		41	20	52		28	11		53	70		
20	117	45.0		11.4	292	20.1		28.1	52		37	17	51		28	9		52	72		
21	132	45.1		10.4	306	56.1		42.6	54		32	14	50		28	7		51	74		
22	147	45.3		09.5	321	32.2	-0	57.0	56		26	11	49		28	4		50	76		
23	162	45.5		08.5	336	08.2	-1	11.5	58		19	08	47		28	2		48	80		
24	177	45.7	-2	07.5	350	44.3	-1	26.0	60 S	4	12	5	03	5	46	18	28	**	5	46	84
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 12 ^h 30.5 ^m		Mag: -4.3 PMG: 12 ^h 45 ^m				Mag: +0.1 PMG: 19 ^h 54 ^m				Mag: -2.2 PMG: 17 ^h 19 ^m				Mag: +1.1 PMG: 12 ^h 05 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	171	52.0	167	59.3	+10	50.4	60	58.7	+25	14.3	99	40.3	+22	04.2	178	11.3	-4	49.2			
1	186	54.5	183	02.9		50.1	76	00.7		14.2	114	42.4		04.3	193	13.5		49.1			
2	201	56.9	198	06.5		49.7	91	02.6		14.0	129	44.6		04.3	208	15.7		48.9			
3	216	59.4	213	10.2		49.4	106	04.6		13.9	144	46.7		04.3	223	17.9		48.8			
4	232	01.8	228	13.8		49.1	121	06.5		13.7	159	48.9		04.4	238	20.0		48.7			
5	247	04.3	243	17.5	+10	48.8	136	08.5	+25	13.6	174	51.0	+22	04.4	253	22.2	-4	48.6			
6	262	06.8	258	21.1	+10	48.4	151	10.4	+25	13.5	189	53.2	+22	04.5	268	24.4	-4	48.4			
7	277	09.2	273	24.7		48.1	166	12.3		13.3	204	55.4		04.5	283	26.6		48.3			
8	292	11.7	288	28.4		47.8	181	14.3		13.2	219	57.5		04.6	298	28.7		48.2			
9	307	14.2	303	32.1		47.4	196	16.2		13.0	234	59.7		04.6	313	30.9		48.1			
10	322	16.6	318	35.7		47.1	211	18.2		12.9	250	01.8		04.6	328	33.1		48.0			
11	337	19.1	333	39.4	+10	46.7	226	20.1	+25	12.7	265	04.0	+22	04.7	343	35.3	-4	47.8			
12	352	21.6	348	43.0	+10	46.4	241	22.0	+25	12.6	280	06.1	+22	04.7	358	37.5	-4	47.7			
13	7	24.0	3	46.7		46.0	256	24.0		12.5	295	08.3		04.8	13	39.6		47.6			
14	22	26.5	18	50.4		45.7	271	25.9		12.3	310	10.5		04.8	28	41.8		47.5			
15	37	28.9	33	54.0		45.3	286	27.8		12.2	325	12.6		04.9	43	44.0		47.4			
16	52	31.4	48	57.7		45.0	301	29.8		12.0	340	14.8		04.9	58	46.2		47.2			
17	67	33.9	64	01.4	+10	44.6	316	31.7	+25	11.9	355	16.9	+22	04.9	73	48.4	-4	47.1			
18	82	36.3	79	05.0	+10	44.2	331	33.6	+25	11.7	10	19.1	+22	05.0	88	50.5	-4	47.0			
19	97	38.8	94	08.7		43.9	346	35.6		11.6	25	21.2		05.0	103	52.7		46.9			
20	112	41.3	109	12.4		43.5	1	37.5		11.5	40	23.4		05.1	118	54.9		46.8			
21	127	43.7	124	16.1		43.1	16	39.4		11.3	55	25.5		05.1	133	57.1		46.6			
22	142	46.2	139	19.8		42.8	31	41.3		11.2	70	27.7		05.2	148	59.3		46.5			
23	157	48.7	154	23.4		42.4	46	43.3		11.0	85	29.8		05.2	164	01.4		46.4			
24	172	51.1	169	27.1	+10	42.0	61	45.2	+25	10.9	100	32.0	+22	05.2	179	03.6	-4	46.3			
Dif	—		+37		-3		+19		-1		+22		0		+22		+1				

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna						
	SD: 16 ^h 1 PMG: 12 ^h 08.8 ^m			Edad: 15.0 ^d SD: 14'8 PMG: 0 ^h 38 ^m			PHE { 4 ^h : 54'4 12 ^h : 54'3 20 ^h : 54'2 Rº: 41 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº					
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m			
0	177	45.7	-2	07.5	350	44.3	170	-1	26.0	144	60 N	18 03	18 44	19 33	19 53	85		6 26	**				
1	192	45.9		06.5	5	20.3	171		40.4	144	58	03	42	29	49	82		28	2				
2	207	46.0		05.5	19	56.4	170	-1	54.8	144	56	04	41	25	46	78		29	6				
3	222	46.2		04.5	34	32.4	170	-2	09.3	145	54	04	40	21	43	76		30	8				
4	237	46.4		03.5	49	08.5	171		23.7	144	52	05	38	18	41	73		31	11				
5	252	46.6	-2	02.6	63	44.6	171	-2	38.1	144	50	18 05	18 37	19 15	19 38	71		6 33	12				
6	267	46.7	-2	01.6	78	20.6	170	-2	52.4	143	45	18 06	18 35	19 10	19 33	66		6 35	17				
7	282	46.9	-2	00.6	92	56.7	171	-3	06.8	144	40	07	34	05	29	62		37	21				
8	297	47.1	-1	59.6	107	32.8	171		21.1	143	35	08	33	02	26	58		39	24				
9	312	47.3		58.6	122	08.8	170		35.5	144	30	08	32	19 00	22	56		40	27				
10	327	47.4		57.6	136	44.9	171	-3	49.8	143	20	10	32	18 57	17	50		43	32				
11	342	47.6	-1	56.6	151	21.0	171	-4	04.1	143	10 N	18 11	18 32	18 56	19 12	46		6 45	37				
12	357	47.8	-1	55.6	165	57.0	170	-4	18.3	142	0	18 12	18 33	18 57	19 08	41		6 48	40				
13	12	48.0		54.7	180	33.1	171		32.6	143	10 S	13	34	18 59	19 04	37		50	45				
14	27	48.1		53.7	195	09.1	170	-4	46.8	142	20	15	37	19 03	18 59	33		52	50				
15	42	48.3		52.7	209	45.1	170	-5	01.0	142	30	17	41	09	54	27		55	55				
16	57	48.5		51.7	224	21.1	170		15.2	142	35	18	43	13	51	25		56	58				
17	72	48.7	-1	50.7	238	57.1	170	-5	29.4	142	40	18 19	18 46	19 18	18 48	21		6 58	62				
18	87	48.9	-1	49.7	253	33.1	170	-5	43.5	141	45	18 21	18 50	19 25	18 44	17		7 00	66				
19	102	49.0		48.7	268	09.1	170	-5	57.6	141	50	23	55	33	39	13		03	70				
20	117	49.2		47.7	282	45.1	170	-6	11.7	141	52	23	18 57	38	37	11		04	72				
21	132	49.4		46.8	297	21.0	169		25.7	140	54	24	19 00	42	35	8		05	75				
22	147	49.6		45.8	311	57.0	170		39.8	141	56	26	03	48	32	6		06	78				
23	162	49.7		44.8	326	32.9	169	-6	53.8	140	58	27	06	19 54	30	3		08	81				
24	177	49.9	-1	43.8	341	08.8	169	-7	07.8	140	60 S	18 28	19 10	20 01	18 27	**		7 10	84				
UT	ARIES PMG 12 ^h 26.5 ^m			VENUS Mag: -4.2 PMG: 12 ^h 39 ^m			MARTE Mag: +0.1 PMG: 19 ^h 50 ^m			JÚPITER Mag: -2.2 PMG: 17 ^h 15 ^m			SATURNO Mag: +1.1 PMG: 12 ^h 02 ^m										
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	172	51.1	169	27.1	+10	42.0	61	45.2	+25	10.9	100	32.0	+22	05.2	179	03.6	-4	46.3					
1	187	53.6	184	30.8		41.6	76	47.1		10.7	115	34.1		05.3	194	05.8		46.2					
2	202	56.1	199	34.5		41.2	91	49.0		10.6	130	36.3		05.3	209	08.0		46.0					
3	217	58.5	214	38.2		40.9	106	51.0		10.4	145	38.4		05.4	224	10.2		45.9					
4	233	01.0	229	41.9		40.5	121	52.9		10.3	160	40.6		05.4	239	12.3		45.8					
5	248	03.4	244	45.6	+10	40.1	136	54.8	+25	10.2	175	42.7	+22	05.4	254	14.5	-4	45.7					
6	263	05.9	259	49.3	+10	39.7	151	56.7	+25	10.0	190	44.9	+22	05.5	269	16.7	-4	45.6					
7	278	08.4	274	53.0		39.3	166	58.6		09.9	205	47.0		05.5	284	18.9		45.4					
8	293	10.8	289	56.7		38.9	182	00.5		09.7	220	49.2		05.6	299	21.1		45.3					
9	308	13.3	305	00.4		38.5	197	02.5		09.6	235	51.3		05.6	314	23.2		45.2					
10	323	15.8	320	04.1		38.1	212	04.4		09.4	250	53.5		05.7	329	25.4		45.1					
11	338	18.2	335	07.8	+10	37.7	227	06.3	+25	09.3	265	55.6	+22	05.7	344	27.6	-4	45.0					
12	353	20.7	350	11.6	+10	37.3	242	08.2	+25	09.1	280	57.8	+22	05.7	359	29.8	-4	44.8					
13	8	23.2	5	15.3		36.9	257	10.1		09.0	295	59.9		05.8	14	31.9		44.7					
14	23	25.6	20	19.0		36.4	272	12.0		08.9	311	02.1		05.8	29	34.1		44.6					
15	38	28.1	35	22.7		36.0	287	13.9		08.7	326	04.2		05.9	44	36.3		44.5					
16	53	30.5	50	26.4		35.6	302	15.8		08.6	341	06.4		05.9	59	38.5		44.4					
17	68	33.0	65	30.2	+10	35.2	317	17.8	+25	08.4	356	08.5	+22	06.0	74	40.7	-4	44.2					
18	83	35.5	80	33.9	+10	34.8	332	19.7	+25	08.3	11	10.7	+22	06.0	89	42.8	-4	44.1					
19	98	37.9	95	37.6		34.3	347	21.6		08.1	26	12.8		06.0	104	45.0		44.0					
20	113	40.4	110	41.3		33.9	2	23.5		08.0	41	15.0		06.1	119	47.2		43.9					
21	128	42.9	125	45.1		33.5	17	25.4		07.8	56	17.1		06.1	134	49.4		43.8					
22	143	45.3	140	48.8		33.0	32	27.3		07.7	71	19.2		06.2	149	51.6		43.6					
23	158	47.8	155	52.5		32.6	47	29.2		07.5	86	21.4		06.2	164	53.7		43.5					
24	173	50.3	170	56.3	+10	32.2	62	31.1	+25	07.4	101	23.5	+22	06.3	179	55.9	-4	43.4					
Dif	—			+37			-4			+19			-1			+21		0		+22		+	

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG:12 ^h 08.5 ^m		Edad: 16.0 ^d SD: 14 ^h 8 PMG: 1 ^h 17 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora	Rº	Hora	Rº				
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	h	m
0	177	49.9	-1	43.8	341	08.8	-7	07.8	60 N	4	43	5	32	6	13	21	17
1	192	50.1		42.8	355	44.7 ¹⁶⁹		21.7 ¹³⁹	58	48		34	13		09	83	
2	207	50.3		41.8	10	20.6 ¹⁶⁹		35.6 ¹³⁹	56	52		35	12		21	03	
3	222	50.5		40.8	24	56.4 ¹⁶⁸	-7	49.5 ¹³⁹	54	55		37	12		20	57	
4	237	50.6		39.8	39	32.2 ¹⁶⁸	-8	03.3 ¹³⁸	52	4	59	38	12		52	73	
5	252	50.8	-1	38.9	54	08.0 ¹⁶⁸	-8	17.2 ¹³⁹	50	5	01	5	39	6	11	20	48
6	267	51.0	-1	37.9	68	43.8 ¹⁶⁸	-8	30.9 ¹³⁷	45	5	07	5	41	6	10	20	38
7	282	51.2		36.9	83	19.6 ¹⁶⁸		44.7 ¹³⁸	40	11		43	10		29	62	
8	297	51.4		35.9	97	55.3 ¹⁶⁷	-8	58.4 ¹³⁷	35	15		44	09		22	58	
9	312	51.5		34.9	112	31.0 ¹⁶⁷	-9	12.1 ¹³⁷	30	17		45	09		16	55	
10	327	51.7		33.9	127	06.7 ¹⁶⁷		25.7 ¹³⁶	20	20		45	07		20	06	
11	342	51.9	-1	32.9	141	42.4 ¹⁶⁷	-9	39.3 ¹³⁶	10 N	5	21	5	45	6	06	19	56
12	357	52.1	-1	31.9	156	18.0 ¹⁶⁶	-9	52.9 ¹³⁶	0	5	21	5	45	6	05	19	48
13	12	52.2		31.0	170	53.6 ¹⁶⁶	-10	06.4 ¹³⁵	10 S	19		43	04		39	38	
14	27	52.4		30.0	185	29.1 ¹⁶⁵		19.9 ¹³⁵	20	15		41	03		30	34	
15	42	52.6		29.0	200	04.7 ¹⁶⁶		33.3 ¹³⁴	30	09		37	01		20	28	
16	57	52.8		28.0	214	40.2 ¹⁶⁵	-10	46.7 ¹³⁴	35	05		35	6	00	14	26	
17	72	53.0	-1	27.0	229	15.6 ¹⁶⁴	-11	00.1 ¹³⁴	40	5	00	5	32	5	59	19	08
18	87	53.1	-1	26.0	243	51.1 ¹⁶⁵	-11	13.4 ¹³³	45	4	53	5	28	5	57	19	00
19	102	53.3		25.0	258	26.5 ¹⁶⁴		26.7 ¹³³	50	45		23	56		18	51	
20	117	53.5		24.0	273	01.8 ¹⁶³		39.9 ¹³²	52	41		21	55		47	11	
21	132	53.7		23.0	287	37.1 ¹⁶³	-11	53.1 ¹³²	54	36		18	54		42	9	
22	147	53.9		22.1	302	12.4 ¹⁶³	-12	06.2 ¹³¹	56	31		16	53		37	6	
23	162	54.0		21.1	316	47.7 ¹⁶³		19.3 ¹³¹	58	25		12	52		31	3	
24	177	54.2	-1	20.1	331	22.9 ¹⁶²	-12	32.4 ¹³¹	60 S	4	17	5	09	5	51	18	25

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 22.6 ^m		Mag: -4.2 PMG: 12 ^h 33 ^m		Mag: +0.1 PMG: 19 ^h 47 ^m		Mag: -2.2 PMG: 17 ^h 12 ^m		Mag: +1.1 PMG: 11 ^h 59 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	173	50.3	170	56.3	+10	32.2	62	31.1	+25	07.4
1	188	52.7	186	00.0		31.7	77	33.0		07.2
2	203	55.2	201	03.8		31.3	92	34.9		07.1
3	218	57.7	216	07.5		30.8	107	36.8		06.9
4	234	00.1	231	11.3		30.4	122	38.7		06.8
5	249	02.6	246	15.0	+10	29.9	137	40.6	+25	06.6
6	264	05.0	261	18.7	+10	29.5	152	42.5	+25	06.5
7	279	07.5	276	22.5		29.0	167	44.4		06.4
8	294	10.0	291	26.3		28.6	182	46.3		06.2
9	309	12.4	306	30.0		28.1	197	48.1		06.1
10	324	14.9	321	33.8		27.6	212	50.0		05.9
11	339	17.4	336	37.5	+10	27.2	227	51.9	+25	05.8
12	354	19.8	351	41.3	+10	26.7	242	53.8	+25	05.6
13	9	22.3	6	45.0		26.2	257	55.7		05.5
14	24	24.8	21	48.8		25.8	272	57.6		05.3
15	39	27.2	36	52.6		25.3	287	59.5		05.2
16	54	29.7	51	56.3		24.8	303	01.4		05.0
17	69	32.2	67	00.1	+10	24.3	318	03.3	+25	04.9
18	84	34.6	82	03.9	+10	23.8	333	05.1	+25	04.7
19	99	37.1	97	07.6		23.4	348	07.0		04.6
20	114	39.5	112	11.4		22.9	3	08.9		04.4
21	129	42.0	127	15.2		22.4	18	10.8		04.3
22	144	44.5	142	19.0		21.9	33	12.7		04.1
23	159	46.9	157	22.7		21.4	48	14.5		04.0
24	174	49.4	172	26.5	+10	20.9	63	16.4	+25	03.8
Dif	—		+38		-5		+19		-1	

h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	173	50.3	170	56.3	+10	32.2	62	31.1	+25	07.4	101	23.5	+22	06.3	179	55.9
1	188	52.7	186	00.0		31.7	77	33.0		07.2	116	25.7		06.3	194	58.1
2	203	55.2	201	03.8		31.3	92	34.9		07.1	131	27.8		06.3	210	00.3
3	218	57.7	216	07.5		30.8	107	36.8		06.9	146	30.0		06.4	225	02.5
4	234	00.1	231	11.3		30.4	122	38.7		06.8	161	32.1		06.4	240	04.6
5	249	02.6	246	15.0	+10	29.9	137	40.6	+25	06.6	176	34.3	+22	06.5	255	06.8
6	264	05.0	261	18.7	+10	29.5	152	42.5	+25	06.5	191	36.4	+22	06.5	270	09.0
7	279	07.5	276	22.5		29.0	167	44.4		06.4	206	38.5		06.6	285	11.2
8	294	10.0	291	26.3		28.6	182	46.3		06.2	221	40.7		06.6	300	13.4
9	309	12.4	306	30.0		28.1	197	48.1		06.1	236	42.8		06.6	315	15.5
10	324	14.9	321	33.8		27.6	212	50.0		05.9	251	45.0		06.7	330	17.7
11	339	17.4	336	37.5	+10	27.2	227	51.9	+25	05.8	266	47.1	+22	06.7	345	19.9
12	354	19.8	351	41.3	+10	26.7	242	53.8	+25	05.6	281	49.3	+22	06.8	0	22.1
13	9	22.3	6	45.0		26.2	257	55.7		05.5	296	51.4		06.8	15	24.3
14	24	24.8	21	48.8		25.8	272	57.6		05.3	311	53.5		06.9	30	26.4
15	39	27.2	36	52.6		25.3	287	59.5		05.2	326	55.7		06.9	45	28.6
16	54	29.7	51	56.3		24.8	303	01.4		05.0	341	57.8		07.0	60	30.8
17	69	32.2	67	00.1	+10	24.3	318	03.3	+25	04.9	357	00.0	+22	07.0	75	33.0
18	84	34.6	82	03.9	+10	23.8	333	05.1	+25	04.7	12	02.1	+22	07.0	90	35.1
19	99	37.1	97	07.6		23.4	348	07.0		04.6	27	04.2		07.1	105	37.3
20	114	39.5	112	11.4		22.9	3	08.9		04.4	42	06.4		07.1	120	39.5
21	129	42.0	127	15.2		22.4	18	10.8		04.3	57	08.5		07.2	135	41.7
22	144	44.5	142	19.0		21.9	33	12.7		04.1	72	10.7		07.2	150	43.9
23	159	46.9	157	22.7		21.4	48	14.5		04.0	87	12.8		07.3	165	46.0
24	174	49.4	172	26.5	+10	20.9	63	16.4	+25	03.8	102	14.9	+22	07.3	180	48.2
Dif	—		+38		-5		+19		-1		+21		0		+22	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16 ^h 1 PMG:12 ^h 08.2 ^m				Edad: 17.0 ^d PHE { 4 ^h : 54 ^h 1 12 ^h : 54 ^h 0 20 ^h : 54 ^h 0 Rº: 43 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico		Hora Rº		Hora Rº	
h	º	'	º	'	º	'	º	'	º	'	º	'	h	m	h	m	h	m	m	h	m	m
0	177	54.2	-1	20.1	331	22.9	161	-12	32.4	130	60 N	18 08	18 49	19 39	22 44	92	6 23	0				
1	192	54.4		19.1	345	58.0	161		45.4	129	58	08	47	34	32	87	31	5				
2	207	54.6		18.1	0	33.2	162	-12	58.3	129	56	08	45	29	22	83	38	8				
3	222	54.8		17.1	15	08.3	161	-13	11.2	129	54	08	43	25	13	79	45	11				
4	237	54.9		16.1	29	43.3	160		24.1	129	52	08	42	22	22	05	76	51	14			
5	252	55.1	-1	15.1	44	18.3	160	-13	36.9	128	50	18 08	18 41	19 19	21 58	73	6 56	16				
6	267	55.3	-1	14.2	58	53.2	159	-13	49.6	127	45	18 09	18 38	19 12	21 43	68	7 08	21				
7	282	55.5		13.2	73	28.1	159	-14	02.3	127	40	09	36	08	31	64	17	25				
8	297	55.7		12.2	88	03.0	159		14.9	126	35	09	35	04	20	61	26	28				
9	312	55.8		11.2	102	37.8	158		27.5	126	30	10	34	19 01	21 11	58	33	31				
10	327	56.0		10.2	117	12.6	158		40.0	125	20	10	32	18 58	20 56	52	46	36				
11	342	56.2	-1	09.2	131	47.3	157	-14	52.5	125	10 N	18 11	18 32	18 56	20 42	49	7 57	40				
12	357	56.4	-1	08.2	146	21.9	156	-15	04.9	124	0	18 11	18 32	18 56	20 29	46	8 08	44				
13	12	56.6		07.2	160	56.6	157		17.3	124	10 S	12	33	18 58	17 41		18	48				
14	27	56.8		06.2	175	31.1	155		29.5	122	20	13	35	19 01	20 04	37	30	52				
15	42	56.9		05.3	190	05.6	155		41.8	123	30	14	38	06	19 48	33	43	57				
16	57	57.1		04.3	204	40.1	155	-15	54.0	122	35	15	40	10	40	30	50	60				
17	72	57.3	-1	03.3	219	14.5	154	-16	06.1	121	40	18 16	18 43	19 15	19 30	27	8 59	63				
18	87	57.5	-1	02.3	233	48.8	153	-16	18.1	120	45	18 17	18 46	19 21	19 18	23	9 09	67				
19	102	57.7		01.3	248	23.1	153		30.1	119	50	18	51	29	19 04	19	21	73				
20	117	57.8	-1	00.3	262	57.4	153		42.0	119	52	19	53	33	18 58	16	27	75				
21	132	58.0	-0	59.3	277	31.5	151	-16	53.9	119	54	20	55	37	51	13	34	78				
22	147	58.2		58.3	292	05.7	152	-17	05.7	118	56	20	18 57	42	43	10	41	81				
23	162	58.4		57.4	306	39.7	150		17.4	117	58	21	19 00	48	34	6	49	85				
24	177	58.6	-0	56.4	321	13.7	150	-17	29.1	117	60 S	18 22	19 04	19 54	18 24	1	9 58	90				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 12 ^h 18.7 ^m			Mag: -4.1 PMG: 12 ^h 27 ^m			Mag: +0.1 PMG: 19 ^h 44 ^m			Mag: -2.2 PMG: 17 ^h 09 ^m			Mag: +1.1 PMG: 11 ^h 55 ^m									
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec							
h	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'
0	174	49.4	172	26.5	+10	20.9	63	16.4	+25	03.8	102	14.9	+22	07.3	180	48.2	-4	40.5				
1	189	51.9	187	30.3		20.4	78	18.3		03.7	117	17.1		07.3	195	50.4		40.4				
2	204	54.3	202	34.1		19.9	93	20.2		03.5	132	19.2		07.4	210	52.6		40.3				
3	219	56.8	217	37.9		19.4	108	22.1		03.4	147	21.4		07.4	225	54.8		40.2				
4	234	59.3	232	41.7		18.9	123	23.9		03.2	162	23.5		07.5	240	56.9		40.0				
5	250	01.7	247	45.4	+10	18.4	138	25.8	+25	03.1	177	25.6	+22	07.5	255	59.1	-4	39.9				
6	265	04.2	262	49.2	+10	17.9	153	27.7	+25	02.9	192	27.8	+22	07.6	271	01.3	-4	39.8				
7	280	06.6	277	53.0		17.3	168	29.5		02.8	207	29.9		07.6	286	03.5		39.7				
8	295	09.1	292	56.8		16.8	183	31.4		02.6	222	32.0		07.6	301	05.7		39.6				
9	310	11.6	308	00.6		16.3	198	33.3		02.4	237	34.2		07.7	316	07.8		39.4				
10	325	14.0	323	04.4		15.8	213	35.2		02.3	252	36.3		07.7	331	10.0		39.3				
11	340	16.5	338	08.2	+10	15.3	228	37.0	+25	02.1	267	38.4	+22	07.8	346	12.2	-4	39.2				
12	355	19.0	353	12.0	+10	14.7	243	38.9	+25	02.0	282	40.6	+22	07.8	1	14.4	-4	39.1				
13	10	21.4	8	15.8		14.2	258	40.8		01.8	297	42.7		07.9	16	16.6		39.0				
14	25	23.9	23	19.6		13.7	273	42.6		01.7	312	44.8		07.9	31	18.7		38.8				
15	40	26.4	38	23.4		13.1	288	44.5		01.5	327	47.0		07.9	46	20.9		38.7				
16	55	28.8	53	27.2		12.6	303	46.4		01.4	342	49.1		08.0	61	23.1		38.6				
17	70	31.3	68	31.0	+10	12.1	318	48.2	+25	01.2	357	51.3	+22	08.0	76	25.3	-4	38.5				
18	85	33.8	83	34.8	+10	11.5	333	50.1	+25	01.1	12	53.4	+22	08.1	91	27.5	-4	38.4				
19	100	36.2	98	38.6		11.0	348	51.9		00.9	27	55.5		08.1	106	29.6		38.2				
20	115	38.7	113	42.4		10.4	3	53.8		00.8	42	57.7		08.2	121	31.8		38.1				
21	130	41.1	128	46.2		09.9	18	55.7		00.6	57	59.8		08.2	136	34.0		38.0				
22	145	43.6	143	50.0		09.3	33	57.5		00.5	73	01.9		08.3	151	36.2		37.9				
23	160	46.1	158	53.8		08.8	48	59.4		00.3	88	04.0		08.3	166	38.4		37.8				
24	175	48.5	173	57.6	+10	08.2	64	01.2	+25	00.2	103	06.2	+22	08.3	181	40.5	-4	37.6				
Dif	—		+38		-5		+19		-2		+21		0		+22		+1					

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16 ^h 1 PMG:12 ^h 07.9 ^m			Edad: 18.0 ^d PHE { 4 ^h : 54 ^h 1 12 ^h : 54 ^h 1 20 ^h : 54 ^h 1 SD: 14 ^h 7 PMG: 2 ^h 40 ^m R°: 44 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m		
0	177	58.6	-0	56.4	321	13.7	150	-17	29.1	115	4	36	5	26	6	07	**	**	**		
1	192	58.8		55.4	335	47.7	149		40.6	116	42	28	07	23	58	87	34	6	0		
2	207	58.9		54.4	350	21.6	148	-17	52.2	114	46	30	07	43	82	45	10				
3	222	59.1		53.4	4	55.4	148	-18	03.6	114	50	32	07	31	78	6	55	13			
4	237	59.3		52.4	19	29.1	147		15.0	114	54	33	07	20	74	7	03	17			
5	252	59.5	-0	51.4	34	02.8	147	-18	26.3	113	4	57	5	35	6	07	23	10	19		
6	267	59.7	-0	50.4	48	36.5	147	-18	37.5	112	5	03	5	37	6	07	22	50	66		
7	282	59.8		49.4	63	10.0	145		48.7	112	08	40	06	33	63	41	28				
8	298	00.0		48.5	77	43.5	145	-18	59.8	111	12	41	06	19	61	7	53	31			
9	313	00.2		47.5	92	17.0	145	-19	10.8	110	14	42	06	22	07	58	8	03	33		
10	328	00.4		46.5	106	50.4	144		21.8	110	18	44	06	21	47	54	20	38			
11	343	00.6	-0	45.5	121	23.7	143	-19	32.6	108	5	20	5	44	6	05	21	30	50		
12	358	00.8	-0	44.5	135	56.9	142	-19	43.4	108	5	20	5	44	6	05	21	13	47		
13	13	00.9		43.5	150	30.1	142	-19	54.1	107	19	43	04	20	57	44	9	05	48		
14	28	01.1		42.5	165	03.2	141	-20	04.7	106	16	41	03	40	40	20	53				
15	43	01.3		41.5	179	36.2	140		15.3	106	10	38	02	20	36	38	57				
16	58	01.5		40.6	194	09.2	140		25.8	105	07	36	02	20	09	33	9	49	59		
17	73	01.7	-0	39.6	208	42.1	139	-20	36.1	103	5	02	5	34	6	01	19	55	63		
18	88	01.9	-0	38.6	223	14.9	138	-20	46.4	103	4	56	5	31	6	00	19	40	27		
19	103	02.0		37.6	237	47.7	138	-20	56.7	103	48	26	5	59	21	22	33	72			
20	118	02.2		36.6	252	20.4	137	-21	06.8	101	44	24	58	12	20	41	75				
21	133	02.4		35.6	266	53.0	136		16.8	100	40	22	58	19	02	17	10	50	78		
22	148	02.6		34.6	281	25.5	135		26.8	100	35	20	57	18	51	13	11	01	81		
23	163	02.8		33.6	295	58.0	135		36.7	99	30	17	56	39	8	13	86				
24	178	03.0	-0	32.6	310	30.4	134	-21	46.5	98	4	23	5	14	5	56	18	24	93		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 12 ^h 14.8 ^m			Mag: -4.1 PMG: 12 ^h 21 ^m			Mag: +0.2 PMG: 19 ^h 41 ^m			Mag: -2.2 PMG: 17 ^h 05 ^m			Mag: +1.1 PMG: 11 ^h 52 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	°	'	°	°	'	°	'	°	'	°	'	°	'					
0	175	48.5	173	57.6	+10	08.2	64	01.2	+25	00.2	103	06.2	+22	08.3	181	40.5					
1	190	51.0	189	01.5		07.7	79	03.1	+25	00.0	118	08.3		08.4	196	42.7					
2	205	53.5	204	05.3		07.1	94	04.9	+24	59.8	133	10.4		08.4	211	44.9					
3	220	55.9	219	09.1		06.6	109	06.8		59.7	148	12.6		08.5	226	47.1					
4	235	58.4	234	12.9		06.0	124	08.6		59.5	163	14.7		08.5	241	49.3					
5	251	00.9	249	16.7	+10	05.4	139	10.5	+24	59.4	178	16.8	+22	08.6	256	51.4					
6	266	03.3	264	20.5	+10	04.9	154	12.3	+24	59.2	193	19.0	+22	08.6	271	53.6					
7	281	05.8	279	24.4		04.3	169	14.2		59.1	208	21.1		08.6	286	55.8					
8	296	08.2	294	28.2		03.7	184	16.0		58.9	223	23.2		08.7	301	58.0					
9	311	10.7	309	32.0		03.1	199	17.9		58.8	238	25.4		08.7	317	00.2					
10	326	13.2	324	35.8		02.6	214	19.7		58.6	253	27.5		08.8	332	02.3					
11	341	15.6	339	39.7	+10	02.0	229	21.6	+24	58.4	268	29.6	+22	08.8	347	04.5					
12	356	18.1	354	43.5	+10	01.4	244	23.4	+24	58.3	283	31.7	+22	08.9	2	06.7					
13	11	20.6	9	47.3		00.8	259	25.3		58.1	298	33.9		08.9	17	08.9					
14	26	23.0	24	51.1	+10	00.2	274	27.1		58.0	313	36.0		09.0	32	11.1					
15	41	25.5	39	55.0	+9	59.7	289	29.0		57.8	328	38.1		09.0	47	13.2					
16	56	28.0	54	58.8		59.1	304	30.8		57.7	343	40.3		09.0	62	15.4					
17	71	30.4	70	02.6	+9	58.5	319	32.6	+24	57.5	358	42.4	+22	09.1	77	17.6					
18	86	32.9	85	06.5	+9	57.9	334	34.5	+24	57.4	13	44.5	+22	09.1	92	19.8					
19	101	35.4	100	10.3		57.3	349	36.3		57.2	28	46.6		09.2	107	21.9					
20	116	37.8	115	14.1		56.7	4	38.2		57.0	43	48.8		09.2	122	24.1					
21	131	40.3	130	17.9		56.1	19	40.0		56.9	58	50.9		09.3	137	26.3					
22	146	42.7	145	21.8		55.5	34	41.8		56.7	73	53.0		09.3	152	28.5					
23	161	45.2	160	25.6		54.9	49	43.7		56.6	88	55.1		09.4	167	30.7					
24	176	47.7	175	29.5	+9	54.3	64	45.5	+24	56.4	103	57.3	+22	09.4	182	32.8					
Dif	—			+38			-6			+18			-2			+21			0		
																+22			+1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:12 ^h 07.7 ^m			Edad: 19.0 ^d SD: 14 ^h 7 PMG: 3 ^h 24 ^m PHE { 4 ^h : 54/2 12 ^h : 54/3 20 ^h : 54/3 Rº: 49 ^m													
	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	h m m		
0	178 03.0	-0 32.6	310 30.4	133	-21	46.5	97	60 N	18 13	18 54	19 44	0 15 97	6 22 4				
1	193 03.1	31.7	325 02.7	133	-21	56.2	96	58	12	52	38	** ** *	40 12				
2	208 03.3	30.7	339 35.0	131	-22	05.8	95	56	12	49	33	** ** *	6 55 17				
3	223 03.5	29.7	354 07.1	130		15.3	94	54	12	47	29	** ** *	7 08 21				
4	238 03.7	28.7	8 39.3	132		24.7	94	52	12	45	25	** ** *	20 24				
5	253 03.9	-0 27.7	23 11.3	130	-22	34.1	94	50	18 12	18 44	19 22	** ** *	7 30 27				
6	268 04.1	-0 26.7	37 43.2	129	-22	43.3	92	45	18 11	18 41	19 15	23 56 67	7 51 32				
7	283 04.2	25.7	52 15.1	129	-22	52.4	91	40	11	38	10	36 64	8 09 35				
8	298 04.4	24.7	66 46.9	128	-23	01.5	91	35	11	36	06	20 61	24 38				
9	313 04.6	23.8	81 18.6	127		10.4	89	30	11	35	19 03	23 05 59	36 41				
10	328 04.8	22.8	95 50.3	127		19.3	89	20	11	33	18 58	22 41 56	8 58 44				
11	343 05.0	-0 21.8	110 21.8	125	-23	28.0	87	10 N	18 11	18 32	18 56	22 20 53	9 18 47				
12	358 05.2	-0 20.8	124 53.3	125	-23	36.7	87	0	18 11	18 32	18 56	22 00 52	9 35 50				
13	13 05.3	19.8	139 24.8	123		45.3	86	10 S	11	32	56	21 41 49	9 53 53				
14	28 05.5	18.8	153 56.1	123	-23	53.7	84	20	11	33	18 59	21 20 47	10 13 55				
15	43 05.7	17.8	168 27.4	123	-24	02.1	84	30	12	36	19 04	20 56 44	35 59				
16	58 05.9	16.8	182 58.5	121		10.3	82	35	12	38	07	42 42	10 48 62				
17	73 06.1	-0 15.8	197 29.7	122	-24	18.5	82	40	18 13	18 40	19 11	20 26 39	11 04 64				
18	88 06.3	-0 14.9	212 00.7	120	-24	26.5	80	45	18 13	18 43	19 17	20 07 36	11 22 67				
19	103 06.5	13.9	226 31.6	119		34.4	79	50	14	46	24	19 43 32	45 72				
20	118 06.6	12.9	241 02.5	119		42.3	79	52	14	48	28	32 29	11 56 74				
21	133 06.8	11.9	255 33.3	118		50.0	77	54	15	50	32	19 26	12 08 78				
22	148 07.0	10.9	270 04.0	117	-24	57.6	76	56	15	52	36	19 04 23	22 82				
23	163 07.2	09.9	284 34.7	117	-25	05.1	75	58	15	55	41	18 47 17	12 39 88				
24	178 07.4	-0 08.9	299 05.2	115	-25	12.5	74	60 S	18 16	18 57	19 48	18 26 8	13 00 96				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 12 ^h 10.8 ^m		Mag: -4.2 PMG: 12 ^h 15 ^m			Mag: +0.2 PMG: 19 ^h 39 ^m			Mag: -2.2 PMG: 17 ^h 02 ^m			Mag: +1.1 PMG: 11 ^h 48 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	176 47.7	175 29.5	+9 54.3	64 45.5	+24 56.4	103 57.3	+22 09.4	182 32.8	-4 34.8								
1	191 50.1	190 33.3	53.7	79 47.3	56.3	118 59.4	09.4	197 35.0	34.6								
2	206 52.6	205 37.1	53.0	94 49.2	56.1	134 01.5	09.5	212 37.2	34.5								
3	221 55.1	220 41.0	52.4	109 51.0	55.9	149 03.6	09.5	227 39.4	34.4								
4	236 57.5	235 44.8	51.8	124 52.8	55.8	164 05.8	09.6	242 41.6	34.3								
5	252 00.0	250 48.6	+9 51.2	139 54.7	+24 55.6	179 07.9	+22 09.6	257 43.7	-4 34.2								
6	267 02.5	265 52.5	+9 50.6	154 56.5	+24 55.5	194 10.0	+22 09.7	272 45.9	-4 34.0								
7	282 04.9	280 56.3	50.0	169 58.3	55.3	209 12.1	09.7	287 48.1	33.9								
8	297 07.4	296 00.2	49.3	185 00.2	55.1	224 14.3	09.8	302 50.3	33.8								
9	312 09.9	311 04.0	48.7	200 02.0	55.0	239 16.4	09.8	317 52.5	33.7								
10	327 12.3	326 07.9	48.1	215 03.8	54.8	254 18.5	09.8	332 54.6	33.6								
11	342 14.8	341 11.7	+9 47.4	230 05.6	+24 54.7	269 20.6	+22 09.9	347 56.8	-4 33.4								
12	357 17.2	356 15.5	+9 46.8	245 07.5	+24 54.5	284 22.8	+22 09.9	2 59.0	-4 33.3								
13	12 19.7	11 19.4	46.2	260 09.3	54.4	299 24.9	10.0	18 01.2	33.2								
14	27 22.2	26 23.2	45.5	275 11.1	54.2	314 27.0	10.0	33 03.4	33.1								
15	42 24.6	41 27.1	44.9	290 12.9	54.0	329 29.1	10.1	48 05.5	33.0								
16	57 27.1	56 30.9	44.3	305 14.7	53.9	344 31.2	10.1	63 07.7	32.8								
17	72 29.6	71 34.8	+9 43.6	320 16.6	+24 53.7	359 33.4	+22 10.2	78 09.9	-4 32.7								
18	87 32.0	86 38.6	+9 43.0	335 18.4	+24 53.6	14 35.5	+22 10.2	93 12.1	-4 32.6								
19	102 34.5	101 42.5	42.3	350 20.2	53.4	29 37.6	10.2	108 14.3	32.5								
20	117 37.0	116 46.3	41.7	5 22.0	53.2	44 39.7	10.3	123 16.4	32.4								
21	132 39.4	131 50.2	41.0	20 23.8	53.1	59 41.8	10.3	138 18.6	32.3								
22	147 41.9	146 54.0	40.4	35 25.7	52.9	74 44.0	10.4	153 20.8	32.1								
23	162 44.3	161 57.9	39.7	50 27.5	52.8	89 46.1	10.4	168 23.0	32.0								
24	177 46.8	177 01.7	+9 39.1	65 29.3	+24 52.6	104 48.2	+22 10.5	183 25.2	-4 31.9								
Dif	—	+38	-6	+18	-2	+21	0	+22	+								

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h 1 PMG: 12 ^h 07.4 ^m			Edad: 20.0 ^d PHE { 4 ^h : 54 ^h /4 12 ^h : 54 ^h /6 20 ^h : 54 ^h /7 Rº: 51 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº		
h	°	'	°	°	'	°	'	°	°	h	m	h	m	h	m	h	m	m
0	178	07.4	-0	08.9	299	05.2	115	-25	12.5	73	60 N	4	30	5	20	6	01	1
1	193	07.6		07.9	313	35.7	114		19.8	72	58	36	22	01		25	84	6
2	208	07.7		07.0	328	06.1	114		27.0	70	56	41	25	02	1	05	78	7
3	223	07.9		06.0	342	36.5	114		34.0	70	54	45	27	02	0	49	74	28
4	238	08.1		05.0	357	06.7	112		41.0	70	52	49	29	02	34	72		43
5	253	08.3	-0	04.0	11	36.9	112	-25	47.8	68	50	4	52	5	30	6	02	0
6	268	08.5	-0	03.0	26	07.0	111	-25	54.5	67	45	4	59	5	34	6	03	**
7	283	08.7		02.0	40	37.0	110	-26	01.1	66	40	5	05	36	03	**	**	**
8	298	08.9	-0	01.0	55	07.0	110		07.6	65	35	09	38	04	**	**	**	9
9	313	09.0	+0	00.0	69	36.9	109		13.9	63	30	12	40	04	**	**	**	15
10	328	09.2	+0	01.0	84	06.7	108		20.2	63	20	16	42	04	23	36	55	9
11	343	09.4	+0	01.9	98	36.4	107	-26	26.3	61	10 N	5	19	5	43	6	04	23
12	358	09.6	+0	02.9	113	06.0	106	-26	32.3	60	0	5	19	5	43	6	04	22
13	13	09.8		03.9	127	35.6	106		38.2	59	10 S	19	43	04		29	51	10
14	28	10.0		04.9	142	05.1	105		43.9	57	20	16	42	04	22	05	51	11
15	43	10.2		05.9	156	34.5	104		49.5	56	30	12	40	03	21	38	49	33
16	58	10.3		06.9	171	03.9	104	-26	55.0	55	35	08	38	03		22	48	11
17	73	10.5	+0	07.9	185	33.2	103	-27	00.4	54	40	5	04	5	36	6	03	21
18	88	10.7	+0	08.9	200	02.4	102	-27	05.7	53	45	4	59	5	33	6	03	20
19	103	10.9		09.8	214	31.5	101		10.8	51	50	52	30	02		14	42	12
20	118	11.1		10.8	229	00.6	101		15.8	50	52	48	28	02	20	00	40	13
21	133	11.3		11.8	243	29.6	100		20.7	49	54	44	26	01	19	44	38	24
22	148	11.5		12.8	257	58.5	99		25.4	47	56	40	24	01		25	36	13
23	163	11.6		13.8	272	27.3	98		30.0	46	58	35	22	01	19	02	31	14
24	178	11.8	+0	14.8	286	56.1	98	-27	34.5	45	60 S	4	29	5	19	6	00	18

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 ^h 06.9 ^m		Mag: -4.2 PMG: 12 ^h 09 ^m		Mag: +0.2 PMG: 19 ^h 36 ^m		Mag: -2.2 PMG: 16 ^h 58 ^m		Mag: +1.1 PMG: 11 ^h 45 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	177	46.8	177	01.7	+9	39.1	65	29.3	+24	52.6
1	192	49.3	192	05.6		38.4	80	31.1		52.4
2	207	51.7	207	09.4		37.7	95	32.9		52.3
3	222	54.2	222	13.3		37.1	110	34.7		52.1
4	237	56.7	237	17.1		36.4	125	36.5		51.9
5	252	59.1	252	21.0	+9	35.7	140	38.3	+24	51.8
6	268	01.6	267	24.8	+9	35.1	155	40.1	+24	51.6
7	283	04.1	282	28.7		34.4	170	42.0		51.5
8	298	06.5	297	32.5		33.7	185	43.8		51.3
9	313	09.0	312	36.4		33.0	200	45.6		51.1
10	328	11.5	327	40.2		32.4	215	47.4		51.0
11	343	13.9	342	44.1	+9	31.7	230	49.2	+24	50.8
12	358	16.4	357	48.0	+9	31.0	245	51.0	+24	50.7
13	13	18.8	12	51.8		30.3	260	52.8		50.5
14	28	21.3	27	55.7		29.6	275	54.6		50.3
15	43	23.8	42	59.5		29.0	290	56.4		50.2
16	58	26.2	58	03.4		28.3	305	58.2		50.0
17	73	28.7	73	07.2	+9	27.6	321	00.0	+24	49.8
18	88	31.2	88	11.1	+9	26.9	336	01.8	+24	49.7
19	103	33.6	103	14.9		26.2	351	03.6		49.5
20	118	36.1	118	18.8		25.5	6	05.4		49.3
21	133	38.6	133	22.7		24.8	21	07.2		49.2
22	148	41.0	148	26.5		24.1	36	09.0		49.0
23	163	43.5	163	30.4		23.4	51	10.8		48.9
24	178	46.0	178	34.2	+9	22.7	66	12.6	+24	48.7
Dif	—		+39	-7			+18	-2		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16 ^l PMG:12 ^h 07.1 ^m			Edad: 21.0 ^d SD: 14 ^l PMG: 5 ^h 03 ^m			PHE { 4 ^h : 54 ^l 12 ^h : 55 ^l 20 ^h : 55 ^l Rº: 55 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	′	°	′	°	′	°	′	°		h	m	h	m	h	m	m	h	m	m
0	178	11.8	+0	14.8	286	56.1	97	-27	34.5	43	60 N	18 17	18 59	19 50	3 26	79		6 35	36	
1	193	12.0		15.8	301	24.8			38.8	42	58	17	56	43	2 49	71		7 12	43	
2	208	12.2		16.8	315	53.5	96		43.0	41	56	16	53	38		23 68		38	46	
3	223	12.4		17.7	330	22.1	95		47.1	39	54	16	51	33	2 03	66		7 59	48	
4	238	12.6		18.7	344	50.6	94		51.0	38	52	15	49	29	1 46	64		8 16	49	
5	253	12.8	+0	19.7	359	19.0		-27	54.8	37	50	18 15	18 47	19 25	1 31	63		8 31	50	
6	268	12.9	+0	20.7	13	47.4	94	-27	58.5	35	45	18 14	18 43	19 18	1 01	62		9 01	52	
7	283	13.1		21.7	28	15.8	94	-28	02.0	34	40	13	40	12	0 38	60		25	52	
8	298	13.3		22.7	42	44.0	92		05.4	32	35	13	38	07		19 59		9 44	53	
9	313	13.5		23.7	57	12.2	92		08.6	32	30	12	36	19 04	0 03	58		10 01	53	
10	328	13.7		24.7	71	40.4	92		11.8	32	20	11	33	18 59	**	**	**	29	54	
11	343	13.9	+0	25.6	86	08.5	91	-28	14.7	29	10 N	18 11	18 32	18 56	**	**	**	10	53	55
12	358	14.1	+0	26.6	100	36.5	90	-28	17.5	28	0	18 10	18 31	18 55	23 43	57		11 16	55	
13	13	14.2		27.6	115	04.4	89		20.2	27	10 S	10	31	55	23 20	57		11 38	56	
14	28	14.4		28.6	129	32.4	90		22.8	26	20	10	32	18 57	22 56	57		12 02	57	
15	43	14.6		29.6	144	00.2	88		25.2	24	30	10	33	19 01	27 57			31	56	
16	58	14.8		30.6	158	28.0	88		27.4	22	35	10	35	04	22 10	57		12 47	57	
17	73	15.0	+0	31.6	172	55.8	88	-28	29.5	21	40	18 10	18 36	19 08	21 50	58		13 07	57	
18	88	15.2	+0	32.6	187	23.4	86	-28	31.5	20	45	18 10	18 39	19 13	21 26	58		13 31	57	
19	103	15.4		33.5	201	51.1	87		33.3	18	50	10	42	20	20 56	57		14 01	58	
20	118	15.6		34.5	216	18.7	86		35.0	17	52	10	43	23	40 58			16	58	
21	133	15.7		35.5	230	46.2	85		36.5	15	54	10	45	27	22 58			34	58	
22	148	15.9		36.5	245	13.7	85		37.9	14	56	10	47	31	20 01	57		14 56	58	
23	163	16.1		37.5	259	41.2	85		39.1	12	58	10	49	35	19 33	58		15 23	59	
24	178	16.3	+0	38.5	274	08.6	84	-28	40.2	11	60 S	18 10	18 51	19 41	18 53	58		16 03	59	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 12 ^h 03.0 ^m		Mag: -4.2 PMG: 12 ^h 03 ^m		Mag: +0.2 PMG: 19 ^h 33 ^m		Mag: -2.2 PMG: 16 ^h 55 ^m		Mag: +1.1 PMG: 11 ^h 41 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	′	°	′	°	′	°	′	°	′								
0	178	46.0	178	34.2	+9	22.7	66	12.6	+22	11.5	184	17.5	-4	29.0				
1	193	48.4	193	38.1		22.0	81	14.3		11.6	199	19.7		28.9				
2	208	50.9	208	41.9		21.3	96	16.1		11.6	214	21.9		28.8				
3	223	53.3	223	45.8		20.6	111	17.9		11.7	229	24.0		28.7				
4	238	55.8	238	49.6		19.9	126	19.7		11.7	244	26.2		28.6				
5	253	58.3	253	53.5	+9	19.1	141	21.5	+24	11.8	259	28.4	-4	28.4				
6	269	00.7	268	57.4	+9	18.4	156	23.3	+24	11.8	274	30.6	-4	28.3				
7	284	03.2	284	01.2		17.7	171	25.1		11.8	289	32.8		28.2				
8	299	05.7	299	05.1		17.0	186	26.9		11.9	304	34.9		28.1				
9	314	08.1	314	08.9		16.3	201	28.7		11.9	319	37.1		28.0				
10	329	10.6	329	12.8		15.5	216	30.4		12.0	334	39.3		27.8				
11	344	13.1	344	16.6	+9	14.8	231	32.2	+24	12.0	349	41.5	-4	27.7				
12	359	15.5	359	20.5	+9	14.1	246	34.0	+24	12.1	4	43.7	-4	27.6				
13	14	18.0	14	24.3		13.4	261	35.8		12.1	19	45.8		27.5				
14	29	20.5	29	28.2		12.6	276	37.6		12.2	34	48.0		27.4				
15	44	22.9	44	32.1		11.9	291	39.3		12.2	49	50.2		27.2				
16	59	25.4	59	35.9		11.2	306	41.1		12.3	64	52.4		27.1				
17	74	27.8	74	39.8	+9	10.4	321	42.9	+24	12.3	79	54.6	-4	27.0				
18	89	30.3	89	43.6	+9	09.7	336	44.7	+24	12.3	94	56.7	-4	26.9				
19	104	32.8	104	47.5		09.0	351	46.5		12.4	109	58.9		26.8				
20	119	35.2	119	51.3		08.2	6	48.2		12.4	125	01.1		26.6				
21	134	37.7	134	55.2		07.5	21	50.0		12.5	140	03.3		26.5				
22	149	40.2	149	59.0		06.8	36	51.8		12.5	155	05.5		26.4				
23	164	42.6	165	02.9		06.0	51	53.6		12.6	170	07.7		26.3				
24	179	45.1	180	06.7	+9	05.3	66	55.3	+24	12.6	185	09.8	-4	26.2				
Dif	—		+39		-7		+18		-2		+21		0		+22		+	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG: 12 ^h 06.8 ^m			Edad: 22.0 ^d PHE { 4 ^h : 55 ^h 5 12 ^h : 55 ^h 7 20 ^h : 55 ^h 9 Rº: 55 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	178	16.3	+0	38.5	274	08.6	83	-28	40.2	9	4	23	5	55	4	43	37		
1	193	16.5		39.5	288	35.9	84		41.1	8	29	17	56	3	59	44	7		
2	208	16.7		40.4	303	03.3	82		41.9	6	35	19	56	30	47	8	23		
3	223	16.9		41.4	317	30.5	82		42.5	5	40	22	57	3	07	49	8		
4	238	17.0		42.4	331	57.8	83		43.0	4	44	24	58	2	49	49	9		
5	253	17.2	+0	43.4	346	25.0	82	-28	43.3	3	4	48	5	58	2	33	50		
6	268	17.4	+0	44.4	0	52.1	81	-28	43.5	2	4	55	5	59	2	01	52		
7	283	17.6		45.4	15	19.2	81		43.5	1	5	01	6	00	1	37	53		
8	298	17.8		46.4	29	46.3	81		43.4	0	06	35	01	17	53	36	59		
9	313	18.0		47.4	44	13.4	81		43.1	0	10	37	01	1	00	53	10		
10	328	18.2		48.3	58	40.4	80		42.7	0	15	40	02	0	31	54	11		
11	343	18.4	+0	49.3	73	07.4	80	-28	42.1	6	5	18	5	42	0	06	55		
12	358	18.5	+0	50.3	87	34.3	79	-28	41.3	8	5	19	5	43	0	06	55		
13	13	18.7		51.3	102	01.3	80		40.4	9	19	43	04	**	**	**	33		
14	28	18.9		52.3	116	28.2	79		39.3	11	17	42	04	23	51	59	12		
15	43	19.1		53.3	130	55.1	79		38.1	12	13	41	05	23	61	13	26		
16	58	19.3		54.3	145	21.9	78		36.8	13	10	40	05	23	06	63	13		
17	73	19.5	+0	55.2	159	48.8	79	-28	35.2	16	5	06	5	38	22	46	65		
18	88	19.7	+0	56.2	174	15.6	78	-28	33.5	17	5	01	5	36	22	23	66		
19	103	19.9		57.2	188	42.4	77		31.7	18	4	55	05	21	52	70	14		
20	118	20.0		58.2	203	09.1	77		29.7	20	52	32	05	37	72	15	13		
21	133	20.2	+0	59.2	217	35.9	78		27.5	22	48	30	05	21	19	74	31		
22	148	20.4	+1	00.2	232	02.6	77		25.2	23	44	28	05	20	57	78	15		
23	163	20.6		01.2	246	29.3	77		22.7	25	39	26	05	20	29	83	16		
24	178	20.8	+1	02.1	260	56.1	78	-28	20.1	26	4	34	5	24	19	49	93		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 11 ^h 59.0 ^m			Mag: -4.2 PMG: 11 ^h 56 ^m			Mag: +0.2 PMG: 19 ^h 30 ^m			Mag: -2.2 PMG: 16 ^h 52 ^m			Mag: +1.1 PMG: 11 ^h 38 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°				
0	179	45.1	180	06.7	+9	05.3	66	55.3	+24	44.7	106	29.6	+22	12.6	185	09.8			
1	194	47.6	195	10.6		04.5	81	57.1		44.5	121	31.7		12.7	200	12.0			
2	209	50.0	210	14.4		03.8	96	58.9		44.4	136	33.8		12.7	215	14.2			
3	224	52.5	225	18.3		03.0	112	00.7		44.2	151	35.9		12.7	230	16.4			
4	239	54.9	240	22.1		02.3	127	02.4		44.0	166	38.0		12.8	245	18.6			
5	254	57.4	255	26.0	+9	01.5	142	04.2	+24	43.9	181	40.1	+22	12.8	260	20.7			
6	269	59.9	270	29.8	+9	00.8	157	06.0	+24	43.7	196	42.2	+22	12.9	275	22.9			
7	285	02.3	285	33.7	+9	00.0	172	07.7		43.5	211	44.3		12.9	290	25.1			
8	300	04.8	300	37.5	+8	59.2	187	09.5		43.4	226	46.4		13.0	305	27.3			
9	315	07.3	315	41.4		58.5	202	11.3		43.2	241	48.6		13.0	320	29.5			
10	330	09.7	330	45.2		57.7	217	13.0		43.0	256	50.7		13.1	335	31.6			
11	345	12.2	345	49.1	+8	57.0	232	14.8	+24	42.8	271	52.8	+22	13.1	350	33.8			
12	0	14.7	0	52.9	+8	56.2	247	16.5	+24	42.7	286	54.9	+22	13.2	5	36.0			
13	15	17.1	15	56.8		55.4	262	18.3		42.5	301	57.0		13.2	20	38.2			
14	30	19.6	31	00.6		54.7	277	20.1		42.3	316	59.1		13.2	35	40.4			
15	45	22.1	46	04.4		53.9	292	21.8		42.2	332	01.2		13.3	50	42.5			
16	60	24.5	61	08.3		53.1	307	23.6		42.0	347	03.3		13.3	65	44.7			
17	75	27.0	76	12.1	+8	52.3	322	25.4	+24	41.8	2	05.4	+22	13.4	80	46.9			
18	90	29.4	91	16.0	+8	51.6	337	27.1	+24	41.7	17	07.5	+22	13.4	95	49.1			
19	105	31.9	106	19.8		50.8	352	28.9		41.5	32	09.6		13.5	110	51.3			
20	120	34.4	121	23.7		50.0	7	30.6		41.3	47	11.7		13.5	125	53.5			
21	135	36.8	136	27.5		49.2	22	32.4		41.1	62	13.8		13.6	140	55.6			
22	150	39.3	151	31.3		48.5	37	34.1		41.0	77	15.9		13.6	155	57.8			
23	165	41.8	166	35.2		47.7	52	35.9		40.8	92	18.0		13.7	171	00.0			
24	180	44.2	181	39.0	+8	46.9	67	37.6	+24	40.6	107	20.1	+22	13.7	186	02.2			
Dif	—		+38	-8			+18	-2			+21	0			+22	+1			

UT	SOL			☾ LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'0 PMG: 12 ^h 06.5 ^m			Edad: 23.0 ^d SD: 15'3 PMG: 6 ^h 51 ^m PHE { 4 ^h : 56'2 12 ^h : 56'5 20 ^h : 56'7 R°: 57 ^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	178	20.8	+1	02.1	260	56.1	77	-28	20.1	28	60 N	18 22	19 04	19 55	5 20 13	8 27 105		
1	193	21.0		03.1	275	22.8	77		17.3	30	58	21	19 01	48	4 43 25	9 04 93		
2	208	21.2		04.1	289	49.5	77		14.3	31	56	20	18 58	42	4 17 30	30 87		
3	223	21.4		05.1	304	16.1	76		11.2	33	54	19	55	37	3 56 34	9 51 83		
4	238	21.5		06.1	318	42.8	77		07.9	33	52	19	53	33	38 38	10 08 80		
5	253	21.7	+1	07.1	333	09.5	77	-28	04.5	34	50	18 18	18 50	19 29	3 23 40	10 23 77		
6	268	21.9	+1	08.1	347	36.1	76	-28	00.9	36	45	18 16	18 46	19 20	2 53 44	10 53 72		
7	283	22.1		09.0	2	02.8	77	-27	57.2	37	40	15	42	14	30 46	11 16 70		
8	298	22.3		10.0	16	29.5	77		53.3	39	35	14	40	09	2 10 49	35 67		
9	313	22.5		11.0	30	56.1	76		49.2	41	30	13	37	05	1 53 50	11 52 65		
10	328	22.7		12.0	45	22.8	77		45.0	42	20	12	34	19 00	25 53	12 19 62		
11	343	22.9	+1	13.0	59	49.4	76	-27	40.6	44	10 N	18 11	18 32	18 56	1 01 55	12 43 59		
12	358	23.0	+1	14.0	74	16.1	77	-27	36.0	46	0	18 10	18 30	18 54	0 38 57	13 05 56		
13	13	23.2		15.0	88	42.8	77		31.3	47	10 S	09	30	54	0 16 58	27 53		
14	28	23.4		15.9	103	09.4	76		26.5	48	20	08	30	56	** ** *	13 50 51		
15	43	23.6		16.9	117	36.1	77		21.5	50	30	07	31	18 59	** ** *	14 17 48		
16	58	23.8		17.9	132	02.8	77		16.3	52	35	07	32	19 01	** ** *	33 45		
17	73	24.0	+1	18.9	146	29.5	77	-27	10.9	54	40	18 06	18 33	19 05	23 51 72	14 51 43		
18	88	24.2	+1	19.9	160	56.2	77	-27	05.4	55	45	18 06	18 35	19 09	23 29 76	15 14 39		
19	103	24.4		20.9	175	23.0	78	-26	59.8	56	50	05	37	15	23 02 81	42 34		
20	118	24.5		21.9	189	49.7	77		54.0	58	52	05	39	18	22 49 84	15 56 31		
21	133	24.7		22.8	204	16.5	78		48.0	60	54	05	40	21	33 88	16 12 28		
22	148	24.9		23.8	218	43.2	77		41.9	61	56	04	41	25	22 15 92	30 25		
23	163	25.1		24.8	233	10.0	78		35.6	63	58	04	43	29	21 52 98	16 53 18		
24	178	25.3	+1	25.8	247	36.8	78	-26	29.2	64	60 S	18 04	18 45	19 34	21 22 109	17 23 9		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 11 ^h 55.1 ^m		Mag: -4.2 PMG: 11 ^h 50 ^m			Mag: +0.3 PMG: 19 ^h 27 ^m			Mag: -2.2 PMG: 16 ^h 48 ^m			Mag: +1.1 PMG: 11 ^h 34 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	180	44.2	181	39.0	+8	46.9	67	37.6	+24	40.6	107	20.1	+22	13.7	186	02.2	-4	23.3
1	195	46.7	196	42.9		46.1	82	39.4		40.5	122	22.2		13.7	201	04.4		23.2
2	210	49.2	211	46.7		45.3	97	41.1		40.3	137	24.3		13.8	216	06.5		23.1
3	225	51.6	226	50.5		44.5	112	42.9		40.1	152	26.4		13.8	231	08.7		23.0
4	240	54.1	241	54.4		43.7	127	44.6		39.9	167	28.5		13.9	246	10.9		22.8
5	255	56.6	256	58.2	+8	43.0	142	46.4	+24	39.8	182	30.6	+22	13.9	261	13.1	-4	22.7
6	270	59.0	272	02.0	+8	42.2	157	48.1	+24	39.6	197	32.7	+22	14.0	276	15.3	-4	22.6
7	286	01.5	287	05.9		41.4	172	49.9		39.4	212	34.8		14.0	291	17.4		22.5
8	301	03.9	302	09.7		40.6	187	51.6		39.3	227	36.9		14.1	306	19.6		22.4
9	316	06.4	317	13.5		39.8	202	53.4		39.1	242	39.0		14.1	321	21.8		22.2
10	331	08.9	332	17.3		39.0	217	55.1		38.9	257	41.1		14.2	336	24.0		22.1
11	346	11.3	347	21.2	+8	38.2	232	56.9	+24	38.7	272	43.2	+22	14.2	351	26.2	-4	22.0
12	1	13.8	2	25.0	+8	37.4	247	58.6	+24	38.6	287	45.3	+22	14.2	6	28.4	-4	21.9
13	16	16.3	17	28.8		36.6	263	00.4		38.4	302	47.4		14.3	21	30.5		21.8
14	31	18.7	32	32.7		35.8	278	02.1		38.2	317	49.5		14.3	36	32.7		21.7
15	46	21.2	47	36.5		35.0	293	03.8		38.0	332	51.6		14.4	51	34.9		21.5
16	61	23.7	62	40.3		34.2	308	05.6		37.9	347	53.7		14.4	66	37.1		21.4
17	76	26.1	77	44.1	+8	33.4	323	07.3	+24	37.7	2	55.8	+22	14.5	81	39.3	-4	21.3
18	91	28.6	92	47.9	+8	32.6	338	09.1	+24	37.5	17	57.8	+22	14.5	96	41.4	-4	21.2
19	106	31.1	107	51.8		31.7	353	10.8		37.3	32	59.9		14.6	111	43.6		21.1
20	121	33.5	122	55.6		30.9	8	12.5		37.2	48	02.0		14.6	126	45.8		20.9
21	136	36.0	137	59.4		30.1	23	14.3		37.0	63	04.1		14.7	141	48.0		20.8
22	151	38.4	153	03.2		29.3	38	16.0		36.8	78	06.2		14.7	156	50.2		20.7
23	166	40.9	168	07.0		28.5	53	17.8		36.7	93	08.3		14.7	171	52.3		20.6
24	181	43.4	183	10.9	+8	27.7	68	19.5	+24	36.5	108	10.4	+22	14.8	186	54.5	-4	20.5
Dif	—		+38		-8		+17		-2		+21		0		+22		+	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h 0 PMG: 12 ^h 06.2 ^m			Edad: 24.0 ^d PHE { 4 ^h : 57'0 12 ^h : 57'4 20 ^h : 57'7 Rº: 54 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº				
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m
0	178	25.3	+1	25.8	247	36.8	78	-26	29.2	66	60 N	4 16	5 07	5 49	5 32	3	10 11	109		
1	193	25.5		26.8	262	03.6	79		22.6	68	58	23	11	50	5 06	12	36	100		
2	208	25.7		27.8	276	30.5	78		15.8	69	56	29	14	51	4 46	18	10 56	94		
3	223	25.9		28.7	290	57.3	78		08.9	69	54	34	17	52	29	22	11 12	90		
4	238	26.1		29.7	305	24.2	79	-26	01.8	71	52	39	19	53	15	25	26	86		
5	253	26.2	+1	30.7	319	51.1	79	-25	54.6	72	50	4 43	5 21	5 54	4 02	28	11 39	83		
6	268	26.4	+1	31.7	334	18.1	80	-25	47.2	74	45	4 51	5 26	5 55	3 36	34	12 04	77		
7	283	26.6		32.7	348	45.0	79		39.7	75	40	4 58	30	57	3 15	38	24	73		
8	298	26.8		33.7	3	12.0	80		32.0	77	35	5 03	33	58	2 57	41	41	69		
9	313	27.0		34.7	17	39.0	80		24.2	78	30	07	35	5 59	42	44	12 55	67		
10	328	27.2		35.6	32	06.1	81		16.2	80	20	13	38	6 00	2 17	47	13 20	61		
11	343	27.4	+1	36.6	46	33.1	80	-25	08.1	81	10 N	5 16	5 41	6 02	1 54	52	13 40	58		
12	358	27.6	+1	37.6	61	00.2	81	-24	59.8	83	0	5 18	5 42	6 03	1 34	54	14 00	53		
13	13	27.7		38.6	75	27.4	82		51.3	85	10 S	19	43	04	1 13	57	19	50		
14	28	27.9		39.6	89	54.5	81		42.7	86	20	17	43	05	0 50	62	14 40	45		
15	43	28.1		40.6	104	21.7	82		34.0	87	30	14	42	06	24	66	15 03	41		
16	58	28.3		41.5	118	48.9	82		25.1	89	35	12	41	06	0 09	68	17	38		
17	73	28.5	+1	42.5	133	16.2	83	-24	16.1	90	40	5 08	5 40	6 07	** ** *	** ** *	15 33	34		
18	88	28.7	+1	43.5	147	43.5	83	-24	06.9	92	45	5 04	5 38	6 08	** ** *	** ** *	15 52	30		
19	103	28.9		44.5	162	10.8	83	-23	57.6	93	50	4 58	36	08	** ** *	** ** *	16 15	25		
20	118	29.1		45.5	176	38.2	84		48.1	95	52	55	35	09	** ** *	** ** *	26	22		
21	133	29.2		46.5	191	05.5	83		38.4	97	54	52	34	09	23 59	92	39	18		
22	148	29.4		47.4	205	33.0	85		28.7	97	56	48	32	09	45	96	16 53	15		
23	163	29.6		48.4	220	00.4	84		18.8	99	58	44	31	10	29 101	17 10	9			
24	178	29.8	+1	49.4	234	27.9	85	-23	08.7	101	60 S	4 39	5 29	6 10	23 09	109	17 31	2		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 11 ^h 51.2 ^m		Mag: -4.2 PMG: 11 ^h 44 ^m			Mag: +0.3 PMG: 19 ^h 24 ^m			Mag: -2.1 PMG: 16 ^h 45 ^m			Mag: +1.2 PMG: 11 ^h 31 ^m								
	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec						
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'						
0	181	43.4	183	10.9	+8	27.7	68	19.5	+24	36.5	108	10.4	+22	14.8	186	54.5	-4	20.5		
1	196	45.8	198	14.7		26.9	83	21.2		36.3	123	12.5		14.8	201	56.7		20.3		
2	211	48.3	213	18.5		26.0	98	23.0		36.1	138	14.6		14.9	216	58.9		20.2		
3	226	50.8	228	22.3		25.2	113	24.7		36.0	153	16.7		14.9	232	01.1		20.1		
4	241	53.2	243	26.1		24.4	128	26.4		35.8	168	18.8		15.0	247	03.3		20.0		
5	256	55.7	258	29.9	+8	23.6	143	28.1	+24	35.6	183	20.9	+22	15.0	262	05.4	-4	19.9		
6	271	58.2	273	33.7	+8	22.8	158	29.9	+24	35.4	198	23.0	+22	15.1	277	07.6	-4	19.8		
7	287	00.6	288	37.5		21.9	173	31.6		35.2	213	25.1		15.1	292	09.8		19.6		
8	302	03.1	303	41.3		21.1	188	33.3		35.1	228	27.2		15.2	307	12.0		19.5		
9	317	05.5	318	45.1		20.3	203	35.1		34.9	243	29.3		15.2	322	14.2		19.4		
10	332	08.0	333	48.9		19.5	218	36.8		34.7	258	31.3		15.3	337	16.3		19.3		
11	347	10.5	348	52.7	+8	18.6	233	38.5	+24	34.5	273	33.4	+22	15.3	352	18.5	-4	19.2		
12	2	12.9	3	56.5	+8	17.8	248	40.2	+24	34.4	288	35.5	+22	15.3	7	20.7	-4	19.0		
13	17	15.4	19	00.3		17.0	263	42.0		34.2	303	37.6		15.4	22	22.9		18.9		
14	32	17.9	34	04.1		16.1	278	43.7		34.0	318	39.7		15.4	37	25.1		18.8		
15	47	20.3	49	07.9		15.3	293	45.4		33.8	333	41.8		15.5	52	27.3		18.7		
16	62	22.8	64	11.7		14.5	308	47.1		33.7	348	43.9		15.5	67	29.4		18.6		
17	77	25.3	79	15.5	+8	13.6	323	48.9	+24	33.5	3	46.0	+22	15.6	82	31.6	-4	18.5		
18	92	27.7	94	19.3	+8	12.8	338	50.6	+24	33.3	18	48.1	+22	15.6	97	33.8	-4	18.3		
19	107	30.2	109	23.1		12.0	353	52.3		33.1	33	50.2		15.7	112	36.0		18.2		
20	122	32.7	124	26.9		11.1	8	54.0		32.9	48	52.2		15.7	127	38.2		18.1		
21	137	35.1	139	30.7		10.3	23	55.7		32.8	63	54.3		15.8	142	40.3		18.0		
22	152	37.6	154	34.5		09.4	38	57.4		32.6	78	56.4		15.8	157	42.5		17.9		
23	167	40.0	169	38.2		08.6	53	59.2		32.4	93	58.5		15.8	172	44.7		17.7		
24	182	42.5	184	42.0	+8	07.8	69	00.9	+24	32.2	109	00.6	+22	15.9	187	46.9	-4	17.6		
Dif	—		+38	-8	+17		-2	+21		0	+22		+1							

ALMANAQUE NÁUTICO PERSEIS

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16'0 PMG:12 ^h 05.6 ^m			Edad: 26.0 ^d SD: 16'0 PMG: 9 ^h 33 ^m															
	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	34.3	+2	13.0	221	39.9	95	-18	26.3	60 N	4	10	5	01	5	43	5	36	**
1	193	34.5		14.0	236	08.4	95	-18	13.0	58	17	05	45	25	4	13	58	102	
2	208	34.7		14.9	250	36.9	96	-17	59.5	56	23	09	46	15	8	14	07	97	
3	223	34.9		15.9	265	05.5	96		45.9	54	29	12	47	5	07	11	15	90	
4	238	35.1		16.9	279	34.1	97		32.2	52	34	14	48	4	59	15	22	90	
5	253	35.3	+2	17.9	294	02.8	97	-17	18.4	50	4	38	5	17	5	49	4	52	17
6	268	35.5	+2	18.9	308	31.4	96	-17	04.4	45	4	48	5	22	5	52	4	37	23
7	283	35.6		19.9	323	00.2	98	-16	50.4	40	4	55	26	54	25	27	14	52	75
8	298	35.8		20.8	337	28.9	97		36.2	35	5	00	30	55	14	32	15	01	71
9	313	36.0		21.8	351	57.7	98		21.9	30	05	33	56	4	05	35	09	68	
10	328	36.2		22.8	6	26.6	99	-16	07.5	20	11	37	5	59	3	48	42	23	61
11	343	36.4	+2	23.8	20	55.5	99	-15	53.0	10 N	5	15	5	40	6	01	3	34	47
12	358	36.6	+2	24.8	35	24.4	99	-15	38.4	0	5	18	5	42	6	02	3	21	51
13	13	36.8		25.7	49	53.3	99		23.7	10 S	19	43	04	3	08	56	15	56	46
14	28	37.0		26.7	64	22.3	100	-15	08.9	20	18	43	05	2	53	62	16	08	40
15	43	37.2		27.7	78	51.3	100	-14	54.0	30	16	43	07	37	67	21	34		
16	58	37.3		28.7	93	20.3	100		39.0	35	13	43	08	27	71	29	30		
17	73	37.5	+2	29.7	107	49.4	101	-14	23.9	40	5	11	5	42	6	09	2	16	75
18	88	37.7	+2	30.6	122	18.5	101	-14	08.7	45	5	07	5	41	6	10	2	03	80
19	103	37.9		31.6	136	47.7	102	-13	53.4	50	5	02	39	11	1	47	86	16	59
20	118	38.1		32.6	151	16.8	101		38.0	52	4	59	38	12	39	90	17	04	14
21	133	38.3		33.6	165	46.0	102		22.5	54	56	37	13	31	93	10	11		
22	148	38.5		34.6	180	15.2	102	-13	06.9	56	53	36	13	21	97	17	7		
23	163	38.7		35.5	194	44.5	103	-12	51.2	58	49	35	14	1	10	102	24		
24	178	38.8	+2	36.5	209	13.8	103	-12	35.5	60 S	4	44	5	34	6	15	0	58	107

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 11 ^h 43.3 ^m		Mag: -4.2 PMG: 11 ^h 32 ^m			Mag: +0.3 PMG: 19 ^h 19 ^m			Mag: -2.1 PMG: 16 ^h 38 ^m			Mag: +1.2 PMG: 11 ^h 24 ^m				
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	183	41.7	186	12.3	+7	47.3	69	41.8	+24	27.9	109	50.6	+22	17.0	188	39.3
1	198	44.1	201	16.1		46.4	84	43.5		27.7	124	52.7		17.0	203	41.5
2	213	46.6	216	19.8		45.5	99	45.2		27.5	139	54.8		17.1	218	43.6
3	228	49.0	231	23.5		44.7	114	46.9		27.4	154	56.9		17.1	233	45.8
4	243	51.5	246	27.3		43.8	129	48.6		27.2	169	59.0		17.2	248	48.0
5	258	54.0	261	31.0	+7	42.9	144	50.3	+24	27.0	185	01.1	+22	17.2	263	50.2
6	273	56.4	276	34.7	+7	42.1	159	52.0	+24	26.8	200	03.1	+22	17.3	278	52.4
7	288	58.9	291	38.5		41.2	174	53.7		26.6	215	05.2		17.3	293	54.5
8	304	01.4	306	42.2		40.3	189	55.4		26.4	230	07.3		17.4	308	56.7
9	319	03.8	321	45.9		39.4	204	57.1		26.3	245	09.4		17.4	323	58.9
10	334	06.3	336	49.6		38.6	219	58.8		26.1	260	11.5		17.5	339	01.1
11	349	08.8	351	53.3	+7	37.7	235	00.4	+24	25.9	275	13.5	+22	17.5	354	03.3
12	4	11.2	6	57.1	+7	36.8	250	02.1	+24	25.7	290	15.6	+22	17.6	9	05.5
13	19	13.7	22	00.8		36.0	265	03.8		25.5	305	17.7		17.6	24	07.6
14	34	16.1	37	04.5		35.1	280	05.5		25.3	320	19.8		17.6	39	09.8
15	49	18.6	52	08.2		34.2	295	07.2		25.2	335	21.9		17.7	54	12.0
16	64	21.1	67	11.9		33.3	310	08.9		25.0	350	23.9		17.7	69	14.2
17	79	23.5	82	15.6	+7	32.5	325	10.6	+24	24.8	5	26.0	+22	17.8	84	16.4
18	94	26.0	97	19.3	+7	31.6	340	12.2	+24	24.6	20	28.1	+22	17.8	99	18.6
19	109	28.5	112	23.0		30.7	355	13.9		24.4	35	30.2		17.9	114	20.7
20	124	30.9	127	26.7		29.8	10	15.6		24.2	50	32.2		17.9	129	22.9
21	139	33.4	142	30.4		28.9	25	17.3		24.1	65	34.3		18.0	144	25.1
22	154	35.9	157	34.1		28.1	40	19.0		23.9	80	36.4		18.0	159	27.3
23	169	38.3	172	37.8		27.2	55	20.7		23.7	95	38.5		18.1	174	29.5
24	184	40.8	187	41.5	+7	26.3	70	22.3	+24	23.5	110	40.6	+22	18.1	189	31.7
Dif	—		+37	-9			+17	-2			+21	0			+22	+

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG: 12 ^h 05.3 ^m			Edad: 27.0 ^d SD: 16'3 PMG: 10 ^h 24 ^m PHE { 4 ^h : 59'8 12 ^h : 60'1 20 ^h : 60'3 R°: 52 ^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	178 38.8	+2 36.5		209 13.8	103	-12 35.5	159	60 N	18 32	19 14	20 07	5 35 0		15 35 107				
1	193 39.0			223 43.1			19.6	58	30	10	19 59	29 4		40 102				
2	208 39.2			238 12.4		-12 03.7	159	56	28	06	52	23 8		44 99				
3	223 39.4			252 41.8		-11 47.7	160	54	27	03	46	18 11		48 95				
4	238 39.6			267 11.2			31.5	52	26	19 00	40	14 13		52 91				
5	253 39.8	+2 41.4		281 40.6		-11 15.4	161	50	18 24	18 57	19 36	5 09 17		15 55 89				
6	268 40.0	+2 42.4		296 10.0		-10 59.1	163	45	18 22	18 51	19 26	5 00 22		16 02 82				
7	283 40.2			310 39.4			42.7	40	19	47	19	4 52 27		07 78				
8	298 40.3			325 08.9			26.3	35	17	43	13	46 31		12 74				
9	313 40.5			339 38.4		-10 09.8	165	30	16	40	08	40 35		17 69				
10	328 40.7			354 07.9		-9 53.2	166	20	13	35	19 01	30 41		24 63				
11	343 40.9	+2 47.3		8 37.4		-9 36.6	166	10 N	18 11	18 32	18 56	4 21 46		16 30 57				
12	358 41.1	+2 48.3		23 07.0		-9 19.9	167	0	18 09	18 29	18 53	4 12 52		16 36 52				
13	13 41.3			37 36.5		-9 03.1	168	10 S	07	28	52	4 04 57		42 46				
14	28 41.5			52 06.1		-8 46.2	169	20	05	26	52	3 55 62		48 41				
15	43 41.7			66 35.7			29.3	30	02	26	54	44 69		55 34				
16	58 41.9			81 05.3		-8 12.3	170	35	01	26	56	38 73		16 59 31				
17	73 42.0	+2 53.1		95 34.9		-7 55.3	170	40	18 00	18 27	18 58	3 31 78		17 04 26				
18	88 42.2	+2 54.1		110 04.5		-7 38.2	171	45	17 58	18 27	19 02	3 23 83		17 09 21				
19	103 42.4			124 34.1			21.0	50	57	29	06	13 89		15 16				
20	118 42.6			139 03.8		-7 03.8	172	52	56	29	09	09 91		18 13				
21	133 42.8			153 33.4		-6 46.5	173	54	55	30	11	3 04 95		21 10				
22	148 43.0			168 03.1			29.1	56	54	31	14	2 58 99		24 8				
23	163 43.2	+2 59.0		182 32.7		-6 11.8	173	58	53	32	18	52 102		28 4				
24	178 43.4	+3 00.0		197 02.4		-5 54.3	175	60 S	17 52	18 33	19 22	2 45 107		17 32 0				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 11 ^h 39.4 ^m		Mag: -4.1 PMG: 11 ^h 26 ^m			Mag: +0.3 PMG: 19 ^h 16 ^m			Mag: -2.1 PMG: 16 ^h 35 ^m			Mag: +1.2 PMG: 11 ^h 20 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	184 40.8		187 41.5	+7 26.3	70 22.3	+24 23.5	110 40.6	+22 18.1	189 31.7	-4 12.0								
1	199 43.3		202 45.2		85 24.0		125 42.6		204 33.8									
2	214 45.7		217 48.9		100 25.7		140 44.7		219 36.0									
3	229 48.2		232 52.6		115 27.4		155 46.8		234 38.2									
4	244 50.6		247 56.3		130 29.0		170 48.9		249 40.4									
5	259 53.1		263 00.0	+7 21.9	145 30.7	+24 22.6	185 50.9	+22 18.3	264 42.6	-4 11.4								
6	274 55.6		278 03.6	+7 21.0	160 32.4	+24 22.4	200 53.0	+22 18.4	279 44.8	-4 11.3								
7	289 58.0		293 07.3		175 34.1		215 55.1		294 46.9									
8	305 00.5		308 11.0		190 35.7		230 57.2		309 49.1									
9	320 03.0		323 14.7		205 37.4		245 59.2		324 51.3									
10	335 05.4		338 18.3		220 39.1		261 01.3		339 53.5									
11	350 07.9		353 22.0	+7 16.6	235 40.8	+24 21.4	276 03.4	+22 18.6	354 55.7	-4 10.7								
12	5 10.4		8 25.7	+7 15.7	250 42.4	+24 21.3	291 05.4	+22 18.7	9 57.9	-4 10.6								
13	20 12.8		23 29.3		265 44.1		306 07.5		25 00.0									
14	35 15.3		38 33.0		280 45.8		321 09.6		40 02.2									
15	50 17.7		53 36.6		295 47.4		336 11.7		55 04.4									
16	65 20.2		68 40.3		310 49.1		351 13.7		70 06.6									
17	80 22.7		83 44.0	+7 11.2	325 50.8	+24 20.3	6 15.8	+22 18.9	85 08.8	-4 10.0								
18	95 25.1		98 47.6	+7 10.4	340 52.4	+24 20.1	21 17.9	+22 18.9	100 11.0	-4 09.9								
19	110 27.6		113 51.3		355 54.1		36 20.0		115 13.1									
20	125 30.1		128 54.9		10 55.8		51 22.0		130 15.3									
21	140 32.5		143 58.6		25 57.4		66 24.1		145 17.5									
22	155 35.0		159 02.2		40 59.1		81 26.2		160 19.7									
23	170 37.5		174 05.8		56 00.8		96 28.2		175 21.9									
24	185 39.9		189 09.5	+7 05.0	71 02.4	+24 19.0	111 30.3	+22 19.2	190 24.1	-4 09.2								
Dif	—		+37		-9		+17		-2		+21		0		+22		+	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna										
	SD: 16'0 PMG:12 ^h 05.0 ^m			Edad: 28.0 ^d PHE { 4 ^h : 60'6 12 ^h : 60'8 20 ^h : 60'9 R°: 50 ^m																							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°											
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m										
0	178	43.4	+3	00.0	197	02.4	-5	54.3	60 N	4	03	4	55	5	37	5	34 **										
1	193	43.5	+3	01.0	211	32.1		36.8	58	11	4	59	39	32	2	21	102										
2	208	43.7		01.9	226	01.7		19.3	56	18	5	03	41	30	6	21	99										
3	223	43.9		02.9	240	31.4	-5	01.7	54	24	07	42	28	9	22	95											
4	238	44.1		03.9	255	01.0	-4	44.1	52	29	10	44	26	12	22	92											
5	253	44.3	+3	04.9	269	30.7	-4	26.4	50	4	34	5	13	5	45	5	24 15										
6	268	44.5	+3	05.8	284	00.4	-4	08.7	45	4	44	5	18	5	48	5	21 20										
7	283	44.7		06.8	298	30.0	-3	51.0	40	51	23	50	18	25	24	77	83										
8	298	44.9		07.8	312	59.7		33.2	35	4	57	27	52	16	29	24	73										
9	313	45.0		08.8	327	29.3	-3	15.4	30	5	02	30	54	13	33	25	69										
10	328	45.2		09.8	341	59.0	-2	57.6	20	09	35	57	09	40	25	63											
11	343	45.4	+3	10.7	356	28.6	-2	39.7	10 N	5	14	5	38	5	59	5	06 45										
12	358	45.6	+3	11.7	10	58.2	-2	21.8	0	5	17	5	41	6	02	5	03 50										
13	13	45.8		12.7	25	27.8	-2	03.9	10 S	18	43	04	4	59	56	27	46										
14	28	46.0		13.7	39	57.4	-1	45.9	20	18	44	06	56	62	28	39											
15	43	46.2		14.6	54	27.0		27.9	30	17	44	08	52	69	28	33											
16	58	46.4		15.6	68	56.6	-1	09.9	35	15	44	10	50	72	28	30											
17	73	46.5	+3	16.6	83	26.1	-0	51.9	40	5	13	5	44	6	11	4	47 77										
18	88	46.7	+3	17.6	97	55.7	-0	33.9	45	5	09	5	43	6	13	4	44 82										
19	103	46.9		18.5	112	25.2	-0	15.8	50	05	42	15	41	88	30	14											
20	118	47.1		19.5	126	54.7	+0	02.2	52	03	42	16	39	91	30	12											
21	133	47.3		20.5	141	24.2		20.3	54	5	00	41	16	37	95	30	9										
22	148	47.5		21.5	155	53.6		38.4	56	4	57	40	17	35	98	30	6										
23	163	47.7		22.4	170	23.0	+0	56.5	58	54	40	19	33	102	31	2											
24	178	47.9	+3	23.4	184	52.5	+1	14.6	60 S	4	50	5	38	6	20	4	30 107										
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: -4.0 11 ^h 35.4 ^m			Mag: -4.0 PMG: 11 ^h 21 ^m			Mag: +0.3 PMG: 19 ^h 14 ^m			Mag: -2.1 PMG: 16 ^h 32 ^m			Mag: +1.2 PMG: 11 ^h 17 ^m														
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec												
h	°	'	°	'	°	'	°	'	°	°	'	°	'	°	'	°	'										
0	185	39.9		189	09.5	+7	71	02.4	+24	111	30.3	+22	19.2	190	24.1	-4	09.2										
1	200	42.4		204	13.1		86	04.1		126	32.4		19.3	205	26.2		09.0										
2	215	44.9		219	16.7		101	05.7		141	34.5		19.3	220	28.4		08.9										
3	230	47.3		234	20.4		116	07.4		156	36.5		19.4	235	30.6		08.8										
4	245	49.8		249	24.0		131	09.1		171	38.6		19.4	250	32.8		08.7										
5	260	52.2		264	27.6	+7	146	10.7	+24	186	40.7	+22	19.5	265	35.0	-4	08.6										
6	275	54.7		279	31.2	+6	161	12.4	+24	201	42.7	+22	19.5	280	37.2	-4	08.5										
7	290	57.2		294	34.9		176	14.0		216	44.8		19.5	295	39.3		08.3										
8	305	59.6		309	38.5		191	15.7		231	46.9		19.6	310	41.5		08.2										
9	321	02.1		324	42.1		206	17.3		246	48.9		19.6	325	43.7		08.1										
10	336	04.6		339	45.7		221	19.0		261	51.0		19.7	340	45.9		08.0										
11	351	07.0		354	49.3	+6	236	20.7	+24	276	53.1	+22	19.7	355	48.1	-4	07.9										
12	6	09.5		9	52.9	+6	251	22.3	+24	291	55.1	+22	19.8	10	50.3	-4	07.7										
13	21	12.0		24	56.5		266	24.0		306	57.2		19.8	25	52.5		07.6										
14	36	14.4		40	00.1		281	25.6		321	59.3		19.9	40	54.6		07.5										
15	51	16.9		55	03.7		296	27.3		337	01.3		19.9	55	56.8		07.4										
16	66	19.3		70	07.3		311	28.9		352	03.4		20.0	70	59.0		07.3										
17	81	21.8		85	10.9	+6	326	30.6	+24	7	05.5	+22	20.0	86	01.2	-4	07.2										
18	96	24.3		100	14.5	+6	341	32.2	+24	22	07.5	+22	20.1	101	03.4	-4	07.0										
19	111	26.7		115	18.1		356	33.9		37	09.6		20.1	116	05.6		06.9										
20	126	29.2		130	21.7		11	35.5		52	11.7		20.2	131	07.7		06.8										
21	141	31.7		145	25.2		26	37.2		67	13.7		20.2	146	09.9		06.7										
22	156	34.1		160	28.8		41	38.8		82	15.8		20.2	161	12.1		06.6										
23	171	36.6		175	32.4		56	40.4		97	17.9		20.3	176	14.3		06.5										
24	186	39.1		190	36.0	+6	71	42.1	+24	112	19.9	+22	20.3	191	16.5	-4	06.3										
Dif	—			+36			-9			+17			-2			+21			0			+22			+1		

UT	SOL			● LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 12 ^h 04.7 ^m			Edad: 29.0 ^d SD: 16'6 PMG: 12 ^h 05 ^m PHE { 4 ^h : 61'0 12 ^h : 61'1 20 ^h : 61'2 R°: 54 ^m										
	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 47.9	+3 23.4	184 52.5	103	+1 14.6	181	60 N	18 37	19 20	20 12	5 33 0	19 07 113		
1	193 48.0	24.4	199 21.8	103	32.7	181	58	35	15	20 04	34 5	03 108		
2	208 48.2	25.4	213 51.2	104	+1 50.8	181	56	33	10	19 56	36 8	19 00 103		
3	223 48.4	26.3	228 20.5	103	+2 08.9	181	54	31	07	50	37 11	18 57 99		
4	238 48.6	27.3	242 49.8	103	26.9	180	52	29	03	44	38 14	54 96		
5	253 48.8	+3 28.3	257 19.1	103	+2 45.0	181	50	18 27	19 00	19 39	5 39 17	18 51 93		
6	268 49.0	+3 29.3	271 48.3	102	+3 03.1	181	45	18 24	18 54	19 29	5 41 23	18 46 86		
7	283 49.2	30.2	286 17.5	102	21.2	181	40	21	49	21	43 28	41 81		
8	298 49.4	31.2	300 46.7	102	39.2	180	35	19	44	14	45 32	37 77		
9	313 49.5	32.2	315 15.8	101	+3 57.3	181	30	17	41	09	46 36	34 72		
10	328 49.7	33.1	329 44.9	101	+4 15.3	180	20	14	36	19 01	49 42	28 65		
11	343 49.9	+3 34.1	344 14.0	101	+4 33.3	180	10 N	18 11	18 32	18 56	5 51 48	18 22 60		
12	358 50.1	+3 35.1	358 43.0	100	+4 51.3	180	0	18 08	18 29	18 53	5 53 54	18 17 55		
13	13 50.3	36.1	13 12.0	100	+5 09.3	180	10 S	05	26	51	55 59	13 49		
14	28 50.5	37.0	27 40.9	99	27.2	179	20	03	25	50	5 58 65	07 44		
15	43 50.7	38.0	42 09.8	99	+5 45.2	180	30	18 00	24	51	6 01 71	18 01 37		
16	58 50.8	39.0	56 38.6	98	+6 03.1	179	35	17 58	24	53	02 76	17 58 33		
17	73 51.0	+3 40.0	71 07.4	98	+6 20.9	178	40	17 57	18 24	18 55	6 04 80	17 54 29		
18	88 51.2	+3 40.9	85 36.2	98	+6 38.8	178	45	17 55	18 24	18 58	6 06 86	17 50 23		
19	103 51.4	41.9	100 04.9	97	+6 56.6	177	50	52	24	19 02	09 92	44 18		
20	118 51.6	42.9	114 33.6	97	+7 14.3	177	52	51	25	04	10 95	42 15		
21	133 51.8	43.8	129 02.2	96	32.0	177	54	50	25	06	12 97	39 12		
22	148 52.0	44.8	143 30.7	95	+7 49.7	177	56	49	26	09	13 102	36 9		
23	163 52.2	45.8	157 59.2	95	+8 07.3	176	58	47	26	12	15 105	33 5		
24	178 52.3	+3 46.8	172 27.7	95	+8 24.9	176	60 S	17 46	18 27	19 16	6 17 110	17 30 0		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG 11 ^h 31.5 ^m	Mag: -4.1 PMG: 11 ^h 15 ^m	Mag: +0.3 PMG: 19 ^h 11 ^m	Mag: -2.1 PMG: 16 ^h 28 ^m	Mag: +1.2 PMG: 11 ^h 13 ^m									
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	186 39.1	190 36.0	+6 43.5	71 42.1	+24 14.4	112 19.9	+22 20.3	191 16.5	-4 06.3					
1	201 41.5	205 39.5	42.6	86 43.7	14.2	127 22.0	20.4	206 18.7	06.2					
2	216 44.0	220 43.1	41.7	101 45.4	14.0	142 24.1	20.4	221 20.9	06.1					
3	231 46.5	235 46.7	40.8	116 47.0	13.8	157 26.1	20.5	236 23.0	06.0					
4	246 48.9	250 50.2	39.9	131 48.7	13.6	172 28.2	20.5	251 25.2	05.9					
5	261 51.4	265 53.8	+6 39.0	146 50.3	+24 13.4	187 30.3	+22 20.6	266 27.4	-4 05.8					
6	276 53.8	280 57.4	+6 38.1	161 51.9	+24 13.2	202 32.3	+22 20.6	281 29.6	-4 05.6					
7	291 56.3	296 00.9	37.2	176 53.6	13.0	217 34.4	20.7	296 31.8	05.5					
8	306 58.8	311 04.5	36.3	191 55.2	12.9	232 36.4	20.7	311 34.0	05.4					
9	322 01.2	326 08.0	35.4	206 56.9	12.7	247 38.5	20.8	326 36.1	05.3					
10	337 03.7	341 11.6	34.5	221 58.5	12.5	262 40.6	20.8	341 38.3	05.2					
11	352 06.2	356 15.1	+6 33.6	237 00.1	+24 12.3	277 42.6	+22 20.9	356 40.5	-4 05.1					
12	7 08.6	11 18.6	+6 32.8	252 01.8	+24 12.1	292 44.7	+22 20.9	11 42.7	-4 04.9					
13	22 11.1	26 22.2	31.9	267 03.4	11.9	307 46.8	20.9	26 44.9	04.8					
14	37 13.6	41 25.7	31.0	282 05.1	11.7	322 48.8	21.0	41 47.1	04.7					
15	52 16.0	56 29.2	30.1	297 06.7	11.5	337 50.9	21.0	56 49.3	04.6					
16	67 18.5	71 32.8	29.2	312 08.3	11.3	352 52.9	21.1	71 51.4	04.5					
17	82 21.0	86 36.3	+6 28.3	327 10.0	+24 11.1	7 55.0	+22 21.1	86 53.6	-4 04.4					
18	97 23.4	101 39.8	+6 27.4	342 11.6	+24 10.9	22 57.1	+22 21.2	101 55.8	-4 04.2					
19	112 25.9	116 43.3	26.5	357 13.2	10.7	37 59.1	21.2	116 58.0	04.1					
20	127 28.3	131 46.9	25.6	12 14.8	10.5	53 01.2	21.3	132 00.2	04.0					
21	142 30.8	146 50.4	24.7	27 16.5	10.3	68 03.2	21.3	147 02.4	03.9					
22	157 33.3	161 53.9	23.8	42 18.1	10.1	83 05.3	21.4	162 04.5	03.8					
23	172 35.7	176 57.4	22.9	57 19.7	09.9	98 07.4	21.4	177 06.7	03.7					
24	187 38.2	192 00.9	+6 22.0	72 21.4	+24 09.7	113 09.4	+22 21.5	192 08.9	-4 03.5					
Dif	—	+35	-9	+16	-2	+21	0	+22	+					

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16'0 PMG: 12 ^h 04.4 ^m			Edad: 0.5 ^d PHE { 4 ^h : 61'2 12 ^h : 61'2 20 ^h : 61'2 R°: 55 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°							
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	m					
0	178	52.3	+3	46.8	172	27.7	+8	24.9	176	60 N	3	56	4	48	5	31	5	32	0	20	59	116
1	193	52.5		47.7	186	56.1	+8	42.5	175	58	4	04	53	33	38	4				50	110	
2	208	52.7		48.7	201	24.4	+9	00.0	174	56	12	4	58	35	42	9				42	104	
3	223	52.9		49.7	215	52.7	+9	17.4	174	54	18	5	02	37	47	12				35	100	
4	238	53.1		50.6	230	20.9		34.8	174	52	24		05	39	51	15				28	97	
5	253	53.3	+3	51.6	244	49.1	+9	52.1	173	50	4	29	5	08	5	41	5	55	18	20	23	93
6	268	53.5	+3	52.6	259	17.2	+10	09.4	173	45	4	40	5	15	5	44	6	03	24	20	11	86
7	283	53.6		53.6	273	45.3		26.6	172	40	48		20	47	09	30				20	01	81
8	298	53.8		54.5	288	13.3	+10	43.8	172	35	4	54	24	49	15	34				19	52	77
9	313	54.0		55.5	302	41.2	+11	00.9	171	30	5	00	28	52	20	38				45	73	
10	328	54.2		56.5	317	09.1		17.9	170	20	07		33	55	29	44				32	67	
11	343	54.4	+3	57.4	331	36.9	+11	34.8	169	10 N	5	13	5	37	5	58	6	38	49	19	21	61
12	358	54.6	+3	58.4	346	04.6	+11	51.7	169	0	5	16	5	40	6	01	6	45	55	19	11	56
13	13	54.8	+3	59.4	0	32.3	+12	08.5	168	10 S	18		43	04	6	53	60			19	00	51
14	28	55.0	+4	00.4	14	59.9		25.2	167	20	19		45	07	7	01	66			18	49	46
15	43	55.1		01.3	29	27.4		41.9	167	30	18		46	10	11	72				37	39	
16	58	55.3		02.3	43	54.9	+12	58.5	166	35	17		46	11	16	76				30	36	
17	73	55.5	+4	03.3	58	22.3	+13	15.0	165	40	5	15	5	46	6	13	7	23	80	18	22	31
18	88	55.7	+4	04.2	72	49.6	+13	31.4	164	45	5	12	5	46	6	15	7	30	86	18	12	27
19	103	55.9		05.2	87	16.8	+13	47.7	163	50	08		46	18	39	93				18	01	20
20	118	56.1		06.2	101	44.0	+14	03.9	162	52	06		45	19	43	96				17	56	17
21	133	56.3		07.1	116	11.1		20.1	162	54	04		45	20	48	100				50	14	
22	148	56.4		08.1	130	38.2		36.1	160	56	5	01	44	22	53	104				44	10	
23	163	56.6		09.1	145	05.1	+14	52.1	160	58	4	58	44	23	7	59	109				37	5
24	178	56.8	+4	10.0	159	32.0	+15	07.9	158	60 S	4	55	5	43	6	25	8	06	114	17	29	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 11 ^h 27.6 ^m		Mag: -4.2 PMG: 11 ^h 09 ^m		Mag: +0.4 PMG: 19 ^h 09 ^m		Mag: -2.1 PMG: 16 ^h 25 ^m		Mag: +1.2 PMG: 11 ^h 10 ^m		
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	
0	187	38.2	192	00.9	+6	22.0	113	09.4	+22	21.5	
1	202	40.7	207	04.4		21.1	128	11.5		21.5	
2	217	43.1	222	07.9		20.2	143	13.5		21.6	
3	232	45.6	237	11.4		19.3	158	15.6		21.6	
4	247	48.1	252	14.9		18.4	173	17.7		21.6	
5	262	50.5	267	18.4	+6	17.5	188	19.7	+22	21.7	
6	277	53.0	282	21.9	+6	16.6	203	21.8	+22	21.7	
7	292	55.4	297	25.3		15.7	218	23.8		21.8	
8	307	57.9	312	28.8		14.8	233	25.9		21.8	
9	323	00.4	327	32.3		13.9	248	28.0		21.9	
10	338	02.8	342	35.8		13.0	263	30.0		21.9	
11	353	05.3	357	39.2	+6	12.1	278	32.1	+22	22.0	
12	8	07.8	12	42.7	+6	11.2	293	34.1	+22	22.0	
13	23	10.2	27	46.2		10.3	308	36.2		22.1	
14	38	12.7	42	49.6		09.4	323	38.2		22.1	
15	53	15.2	57	53.1		08.5	338	40.3		22.2	
16	68	17.6	72	56.6		07.6	353	42.3		22.2	
17	83	20.1	88	00.0	+6	06.7	8	44.4	+22	22.3	
18	98	22.6	103	03.5	+6	05.8	23	46.5	+22	22.3	
19	113	25.0	118	06.9		04.9	38	48.5		22.3	
20	128	27.5	133	10.3		04.0	53	50.6		22.4	
21	143	29.9	148	13.8		03.1	68	52.6		22.4	
22	158	32.4	163	17.2		02.3	83	54.7		22.5	
23	173	34.9	178	20.6		01.4	98	56.7		22.5	
24	188	37.3	193	24.1	+6	00.5	113	58.8	+22	22.6	
Dif	—		+35	-9		+16	-2	+21	0	+22	+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16'0 PMG:12 ^h 04.1 ^m			Edad: 1.5 ^d PHE { 4 ^h : 61'1 12 ^h : 61'0 20 ^h : 60'8 R°: 60 ^m																			
	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	56.8	+4	10.0	159	32.0	78	+15	07.9	158	60 N	18	42	19	25	20	18	5	32	3	22	55	121
1	193	57.0		11.0	173	58.8	78		23.7	156	58	39	19	09			42	9			40	112	
2	208	57.2		12.0	188	25.6	76		39.3	156	56	37	15	20	01		51	14			26	106	
3	223	57.4		13.0	202	52.2	76	+15	54.9	154	54	34	10	19	54		5	59	18		15	101	
4	238	57.6		13.9	217	18.8	76	+16	10.3	154	52	32	07	48		6	06	22		22	05	96	
5	253	57.7	+4	14.9	231	45.3	75	+16	25.7	154	50	18	31	19	03	19	43	6	13	25	21	56	93
6	268	57.9	+4	15.9	246	11.8	75	+16	40.9	152	45	18	27	18	56	19	32	6	27	31	21	37	87
7	283	58.1		16.8	260	38.1	73	+16	56.0	151	40	23		51	23		39	36		22	81		
8	298	58.3		17.8	275	04.4	73	+17	11.0	150	35	21		46	16		49	40		21	09	78	
9	313	58.5		18.8	289	30.6	72		25.9	149	30	18		42	10		6	58	43	20	58	74	
10	328	58.7		19.7	303	56.7	71		40.7	148	20	14		36	19	02	7	13	50	39	69		
11	343	58.9	+4	20.7	318	22.7	70	+17	55.3	146	10 N	18	11	18	32	18	56	7	27	54	20	22	65
12	358	59.0	+4	21.7	332	48.7	70	+18	09.8	145	0	18	07	18	28	18	52	7	40	59	20	07	60
13	13	59.2		22.6	347	14.6	69		24.3	145	10 S	04		25	50		7	53	63	19	51	57	
14	28	59.4		23.6	1	40.4	68		38.5	142	20	18	01	23	49		8	07	68		35	52	
15	43	59.6		24.6	16	06.1	67	+18	52.7	142	30	17	58	21	49		23	75		16	47		
16	58	59.8		25.5	30	31.7	66	+19	06.7	140	35	56		21	50		32	79		19	06	43	
17	74	00.0	+4	26.5	44	57.3	66	+19	20.6	139	40	17	53	18	20	18	52	8	43	83	18	53	40
18	89	00.2	+4	27.5	59	22.8	65	+19	34.4	138	45	17	51	18	20	18	54	8	56	88	18	39	35
19	104	00.3		28.4	73	48.2	64	+19	48.0	136	50	48		20	57		9	12	94		21	29	
20	119	00.5		29.4	88	13.5	63	+20	01.5	135	52	47		20	18	59	19	98		13	25		
21	134	00.7		30.4	102	38.7	62		14.8	133	54	45		20	19	01	28	102		18	04	21	
22	149	00.9		31.3	117	03.9	62		28.0	132	56	43		20	04		37	107		17	54	17	
23	164	01.1		32.3	131	29.0	61		41.1	131	58	42		21	06		9	48	113		42	11	
24	179	01.3	+4	33.3	145	54.0	60	+20	54.0	129	60 S	17	40	18	21	19	09	10	00	121	17	29	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 11 ^h 23.6 ^m		Mag: -4.2 PMG: 11 ^h 04 ^m		Mag: +0.4 PMG: 19 ^h 06 ^m		Mag: -2.1 PMG: 16 ^h 22 ^m		Mag: +1.2 PMG: 11 ^h 06 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	188	37.3	193	24.1	+6	00.5	73	00.2	+24	04.9	113	58.8	+22	22.6	193	01.4	-4	00.8	
1	203	39.8	208	27.5	+5	59.6	88	01.9		04.7	129	00.8		22.6	208	03.6		00.6	
2	218	42.3	223	30.9		58.7	103	03.5		04.5	144	02.9		22.7	223	05.7		00.5	
3	233	44.7	238	34.3		57.8	118	05.1		04.3	159	04.9		22.7	238	07.9		00.4	
4	248	47.2	253	37.8		56.9	133	06.7		04.1	174	07.0		22.8	253	10.1		00.3	
5	263	49.7	268	41.2	+5	56.0	148	08.3	+24	03.9	189	09.0	+22	22.8	268	12.3	-4	00.2	
6	278	52.1	283	44.6	+5	55.1	163	09.9	+24	03.7	204	11.1	+22	22.9	283	14.5	-4	00.1	
7	293	54.6	298	48.0		54.2	178	11.5		03.5	219	13.2		22.9	298	16.7	-3	59.9	
8	308	57.0	313	51.4		53.3	193	13.1		03.3	234	15.2		23.0	313	18.9		59.8	
9	323	59.5	328	54.8		52.4	208	14.7		03.1	249	17.3		23.0	328	21.0		59.7	
10	339	02.0	343	58.2		51.5	223	16.3		02.9	264	19.3		23.0	343	23.2		59.6	
11	354	04.4	359	01.6	+5	50.7	238	17.9	+24	02.7	279	21.4	+22	23.1	358	25.4	-3	59.5	
12	9	06.9	14	05.0	+5	49.8	253	19.5	+24	02.5	294	23.4	+22	23.1	13	27.6	-3	59.4	
13	24	09.4	29	08.4		48.9	268	21.1		02.3	309	25.5		23.2	28	29.8		59.3	
14	39	11.8	44	11.8		48.0	283	22.7		02.1	324	27.5		23.2	43	32.0		59.1	
15	54	14.3	59	15.1		47.1	298	24.3		01.9	339	29.6		23.3	58	34.2		59.0	
16	69	16.8	74	18.5		46.2	313	25.9		01.7	354	31.6		23.3	73	36.3		58.9	
17	84	19.2	89	21.9	+5	45.3	328	27.6	+24	01.5	9	33.7	+22	23.4	88	38.5	-3	58.8	
18	99	21.7	104	25.3	+5	44.4	343	29.2	+24	01.3	24	35.7	+22	23.4	103	40.7	-3	58.7	
19	114	24.2	119	28.6		43.5	358	30.8		01.1	39	37.8		23.5	118	42.9		58.6	
20	129	26.6	134	32.0		42.7	13	32.4		00.9	54	39.8		23.5	133	45.1		58.4	
21	144	29.1	149	35.3		41.8	28	33.9		00.7	69	41.9		23.6	148	47.3		58.3	
22	159	31.5	164	38.7		40.9	43	35.5		00.5	84	43.9		23.6	163	49.5		58.2	
23	174	34.0	179	42.1		40.0	58	37.1		00.3	99	46.0		23.7	178	51.7		58.1	
24	189	36.5	194	45.4	+5	39.1	73	38.7	+24	00.1	114	48.0	+22	23.7	193	53.8	-3	58.0	
Dif	—		+34		-9		+16		-2		+21		0		+22		+1		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16'0 PMG:12 ^h 03.8 ^m			Edad: 2.5 ^d PHE { 4 ^h : 60'7 12 ^h : 60'5 20 ^h : 60'2 PMG: 14 ^h 52 ^m R°: 61 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m					
0	179	01.3	+4	33.3	145	54.0	+20	54.0	60 N	3	48	4	42	5	25	5	33	6	**	**	**
1	194	01.4		34.2	160	18.9	+21	06.8	58	3	58		47	28	5	50	14	**	**	**	
2	209	01.6		35.2	174	43.8		19.4	56	4	06		52	30	6	04	20	**	**	**	
3	224	01.8		36.1	189	08.6		31.9	54		13	4	56	32		16	25	23	54	89	
4	239	02.0		37.1	203	33.3		44.2	52	19	5	00		35		27	29		40	86	
5	254	02.2	+4	38.1	217	57.9	+21	56.4	50	4	24	5	04	5	36	6	36	33	23	28	83
6	269	02.4	+4	39.0	232	22.4	+22	08.4	45	4	36	5	11	5	40	6	57	38	23	02	79
7	284	02.6		40.0	246	46.9		20.2	40		44		17	44	7	14	42	22	42	76	
8	299	02.7		41.0	261	11.3		31.9	35		51		21	47		28	46		25	73	
9	314	02.9		41.9	275	35.7		43.5	30	4	57		25	49	7	40	49	22	11	71	
10	329	03.1		42.9	289	59.9	+22	54.8	20	5	06		31	53	8	01	54	21	47	67	
11	344	03.3	+4	43.9	304	24.1	+23	06.1	10 N	5	12	5	36	5	57	8	20	57	21	26	64
12	359	03.5	+4	44.8	318	48.2	+23	17.1	0	5	16	5	40	6	00	8	37	61	21	06	62
13	14	03.7		45.8	333	12.3		28.0	10 S		18		43	04	8	55	64	20	47	59	
14	29	03.8		46.8	347	36.2		38.7	20	19		45	07	9	14	68		26	56		
15	44	04.0		47.7	2	00.1		49.2	30	19		47	11	36	73	20	02	52			
16	59	04.2		48.7	16	24.0	+23	59.6	35	18		48	13	9	49	76	19	48	50		
17	74	04.4	+4	49.6	30	47.8	+24	09.8	40	5	17	5	48	6	15	10	04	79	19	32	47
18	89	04.6	+4	50.6	45	11.5	+24	19.9	45	5	14	5	48	6	18	10	22	83	19	12	44
19	104	04.8		51.6	59	35.1		29.7	50	11		49	21	45	89	18	49	38			
20	119	05.0		52.5	73	58.7		39.4	52	09		49	22	10	56	92	37	35			
21	134	05.1		53.5	88	22.2		48.9	54	08		49	24	11	08	96	24	32			
22	149	05.3		54.5	102	45.7	+24	58.2	56	05		48	26	23	101	18	09	27			
23	164	05.5		55.4	117	09.1	+25	07.4	58	03		48	27	11	39	109	17	52	19		
24	179	05.7	+4	56.4	131	32.5	+25	16.4	60 S	5	00	5	48	6	30	12	00	120	17	31	8

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 11 ^h 19.7 ^m		Mag: -4.3 PMG: 10 ^h 59 ^m		Mag: +0.4 PMG: 19 ^h 03 ^m		Mag: -2.1 PMG: 16 ^h 19 ^m		Mag: +1.2 PMG: 11 ^h 03 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	189	36.5	194	45.4	+5	39.1	73	38.7	+24	00.1	114	48.0	+22	23.7	193	53.8	-3	58.0
1	204	38.9	209	48.8		38.2	88	40.3	+23	59.9	129	50.1		23.7	208	56.0		57.9
2	219	41.4	224	52.1		37.4	103	41.9		59.7	144	52.1		23.8	223	58.2		57.8
3	234	43.9	239	55.4		36.5	118	43.5		59.5	159	54.1		23.8	239	00.4		57.6
4	249	46.3	254	58.8		35.6	133	45.1		59.3	174	56.2		23.9	254	02.6		57.5
5	264	48.8	270	02.1	+5	34.7	148	46.7	+23	59.1	189	58.2	+22	23.9	269	04.8	-3	57.4
6	279	51.3	285	05.4	+5	33.8	163	48.3	+23	58.8	205	00.3	+22	24.0	284	07.0	-3	57.3
7	294	53.7	300	08.8		32.9	178	49.9		58.6	220	02.3		24.0	299	09.1		57.2
8	309	56.2	315	12.1		32.1	193	51.5		58.4	235	04.4		24.1	314	11.3		57.1
9	324	58.7	330	15.4		31.2	208	53.1		58.2	250	06.4		24.1	329	13.5		56.9
10	340	01.1	345	18.7		30.3	223	54.7		58.0	265	08.5		24.2	344	15.7		56.8
11	355	03.6	0	22.0	+5	29.4	238	56.3	+23	57.8	280	10.5	+22	24.2	359	17.9	-3	56.7
12	10	06.0	15	25.3	+5	28.5	253	57.8	+23	57.6	295	12.6	+22	24.3	14	20.1	-3	56.6
13	25	08.5	30	28.6		27.7	268	59.4		57.4	310	14.6		24.3	29	22.3		56.5
14	40	11.0	45	32.0		26.8	284	01.0		57.2	325	16.7		24.4	44	24.5		56.4
15	55	13.4	60	35.2		25.9	299	02.6		57.0	340	18.7		24.4	59	26.6		56.2
16	70	15.9	75	38.5		25.0	314	04.2		56.8	355	20.7		24.4	74	28.8		56.1
17	85	18.4	90	41.8	+5	24.2	329	05.8	+23	56.6	10	22.8	+22	24.5	89	31.0	-3	56.0
18	100	20.8	105	45.1	+5	23.3	344	07.4	+23	56.4	25	24.8	+22	24.5	104	33.2	-3	55.9
19	115	23.3	120	48.4		22.4	359	09.0		56.2	40	26.9		24.6	119	35.4		55.8
20	130	25.8	135	51.7		21.5	14	10.5		55.9	55	28.9		24.6	134	37.6		55.7
21	145	28.2	150	55.0		20.7	29	12.1		55.7	70	31.0		24.7	149	39.8		55.6
22	160	30.7	165	58.2		19.8	44	13.7		55.5	85	33.0		24.7	164	42.0		55.4
23	175	33.1	181	01.5		18.9	59	15.3		55.3	100	35.1		24.8	179	44.1		55.3
24	190	35.6	196	04.8	+5	18.1	74	16.9	+23	55.1	115	37.1	+22	24.8	194	46.3	-3	55.2
Dif	—		+33		-9		+16		-2		+20		0		+22		+	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16'0 PMG:12 ^h 03.5 ^m			Edad: 3.5 ^d PHE { 4 ^h : 60'0 12 ^h : 59'7 20 ^h : 59'5 R°: 64 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m			
0	179	05.7	+4	56.4	131	32.5	43	+25	16.4	87	60 N	18 47	19 30	20 24	5 39	19	0 55	114			
1	194	05.9		57.3	145	55.8	42		25.1	86	58	44	24	15	6 04	31	30	102			
2	209	06.1		58.3	160	19.0	42		33.7	85	56	41	19	20 06	24	38	0 10	96			
3	224	06.2	+4	59.3	174	42.2	42		42.2	82	54	38	14	19 59	41	42	**	**			
4	239	06.4	+5	00.2	189	05.4	42		50.4	81	52	36	10	52	6 56	44	**	**			
5	254	06.6	+5	01.2	203	28.5	41	+25	58.5	82	50	18 34	19 07	19 46	7 09	46	**	**			
6	269	06.8	+5	02.1	217	51.6	41	+26	06.3	78	45	18 29	18 59	19 35	7 35	51	**	**			
7	284	07.0		03.1	232	14.6	40		14.0	77	40	25	53	25	7 56	54	23	58			
8	299	07.2		04.1	246	37.6	40		21.5	75	35	22	48	18	8 14	55	38	67			
9	314	07.3		05.0	261	00.5	39		28.8	73	30	19	44	12	29 57		23	22			
10	329	07.5		06.0	275	23.4	39		35.9	71	20	15	37	19 03	8 55	59	22	54			
11	344	07.7	+5	06.9	289	46.3	39	+26	42.8	69	10 N	18 10	18 32	18 56	9 17	62	22	30			
12	359	07.9	+5	07.9	304	09.1	38	+26	49.5	67	0	18 07	18 27	18 52	9 38	64	22	08			
13	14	08.1		08.9	318	31.9	38	+26	56.1	66	10 S	18 03	24	49	9 59	66	21	46			
14	29	08.3		09.8	332	54.7	37	+27	02.4	63	20	17 59	21	47	10 22	68	21	22			
15	44	08.4		10.8	347	17.4	37		08.6	62	30	55	19	47	10 49	69	20	54			
16	59	08.6		11.7	1	40.1	37		14.5	59	35	53	18	47	11 05	71	38	59			
17	74	08.8	+5	12.7	16	02.8	37	+27	20.3	58	40	17 50	18 17	18 49	11 23	73	20	19			
18	89	09.0	+5	13.7	30	25.5	37	+27	25.9	56	45	17 47	18 16	18 50	11 45	75	19	56			
19	104	09.2		14.6	44	48.2	37		31.2	53	50	44	16	53	12 14	78	27	54			
20	119	09.4		15.6	59	10.8	36		36.4	52	52	42	16	55	28 79		19	12			
21	134	09.5		16.5	73	33.4	36		41.4	50	54	40	15	56	12 44	82	18	56			
22	149	09.7		17.5	87	56.0	36		46.2	48	56	38	15	58	13 04	85	36	48			
23	164	09.9		18.5	102	18.6	36		50.8	46	58	36	15	01	13 28	90	18	11			
24	179	10.1	+5	19.4	116	41.2	36	+27	55.2	44	60 S	17 34	18 15	19 03	14 00	102	17	39			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 11 ^h 15.8 ^m			Mag: -4.3 PMG: 10 ^h 53 ^m			Mag: +0.4 PMG: 19 ^h 01 ^m			Mag: -2.1 PMG: 16 ^h 15 ^m			Mag: +1.2 PMG: 10 ^h 59 ^m								
	hG ♈		Dec	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	190	35.6	196	04.8	+5	18.1	74	16.9	+23	55.1	115	37.1	+22	24.8	194	46.3	-3	55.2			
1	205	38.1	211	08.0		17.2	89	18.4		54.9	130	39.1		24.9	209	48.5		55.1			
2	220	40.5	226	11.3		16.3	104	20.0		54.7	145	41.2		24.9	224	50.7		55.0			
3	235	43.0	241	14.6		15.5	119	21.6		54.5	160	43.2		25.0	239	52.9		54.9			
4	250	45.5	256	17.8		14.6	134	23.2		54.3	175	45.3		25.0	254	55.1		54.8			
5	265	47.9	271	21.1	+5	13.7	149	24.8	+23	54.1	190	47.3	+22	25.1	269	57.3	-3	54.6			
6	280	50.4	286	24.3	+5	12.8	164	26.3	+23	53.9	205	49.4	+22	25.1	284	59.5	-3	54.5			
7	295	52.9	301	27.5		12.0	179	27.9		53.7	220	51.4		25.1	300	01.6		54.4			
8	310	55.3	316	30.8		11.1	194	29.5		53.4	235	53.4		25.2	315	03.8		54.3			
9	325	57.8	331	34.0		10.3	209	31.1		53.2	250	55.5		25.2	330	06.0		54.2			
10	341	00.3	346	37.2		09.4	224	32.6		53.0	265	57.5		25.3	345	08.2		54.1			
11	356	02.7	1	40.5	+5	08.5	239	34.2	+23	52.8	280	59.6	+22	25.3	0	10.4	-3	53.9			
12	11	05.2	16	43.7	+5	07.7	254	35.8	+23	52.6	296	01.6	+22	25.4	15	12.6	-3	53.8			
13	26	07.6	31	46.9		06.8	269	37.4		52.4	311	03.6		25.4	30	14.8		53.7			
14	41	10.1	46	50.1		05.9	284	38.9		52.2	326	05.7		25.5	45	17.0		53.6			
15	56	12.6	61	53.3		05.1	299	40.5		52.0	341	07.7		25.5	60	19.1		53.5			
16	71	15.0	76	56.6		04.2	314	42.1		51.8	356	09.8		25.6	75	21.3		53.4			
17	86	17.5	91	59.8	+5	03.4	329	43.7	+23	51.5	11	11.8	+22	25.6	90	23.5	-3	53.3			
18	101	20.0	107	03.0	+5	02.5	344	45.2	+23	51.3	26	13.8	+22	25.7	105	25.7	-3	53.1			
19	116	22.4	122	06.2		01.7	359	46.8		51.1	41	15.9		25.7	120	27.9		53.0			
20	131	24.9	137	09.4	+5	00.8	14	48.4		50.9	56	17.9		25.8	135	30.1		52.9			
21	146	27.4	152	12.5	+4	59.9	29	49.9		50.7	71	19.9		25.8	150	32.3		52.8			
22	161	29.8	167	15.7		59.1	44	51.5		50.5	86	22.0		25.8	165	34.5		52.7			
23	176	32.3	182	18.9		58.2	59	53.1		50.3	101	24.0		25.9	180	36.7		52.6			
24	191	34.8	197	22.1	+4	57.4	74	54.6	+23	50.1	116	26.1	+22	25.9	195	38.8	-3	52.5			
Dif	—			+32			-9			+16			-2			+20			0		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:12 ^h 03.2 ^m			Edad: 4.5 ^d PHE { 4 ^h : 59'2 12 ^h : 58'9 20 ^h : 58'6 R°: 61 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	179	10.1	+5	19.4	116	41.2	36	+27	55.2	41	60 N	3 41	4 36	5 19	5 57	54	2 47	76
1	194	10.3		20.4	131	03.8	36	+27	59.3	40	58	3 51	41	22	6 34	57	2 10	73
2	209	10.4		21.3	145	26.4	36	+28	03.3	38	56	4 00	47	25	7 00	59	1 44	71
3	224	10.6		22.3	159	49.0	36		07.1	37	54	07	51	28	21	60	23	70
4	239	10.8		23.2	174	11.6	36		10.8	37	52	14	55	30	39	60	1 06	69
5	254	11.0	+5	24.2	188	34.2	36	+28	14.2	34	50	4 20	4 59	5 32	7 54	60	0 51	68
6	269	11.2	+5	25.2	202	56.8	36	+28	17.4	32	45	4 32	5 07	5 37	8 24	61	0 21	67
7	284	11.4		26.1	217	19.5	37		20.4	30	40	41	13	41	8 48	61	** ** *	**
8	299	11.5		27.1	231	42.1	36		23.2	28	35	48	18	44	9 08	61	** ** *	**
9	314	11.7		28.0	246	04.8	37		25.8	26	30	4 54	23	47	25	61	** ** *	**
10	329	11.9		29.0	260	27.4	36		28.3	25	20	5 04	30	52	9 53	62	23 58	59
11	344	12.1	+5	29.9	274	50.1	37	+28	30.5	22	10 N	5 10	5 35	5 56	10 18	61	23 33	58
12	359	12.3	+5	30.9	289	12.8	37	+28	32.5	20	0	5 15	5 39	6 00	10 41	61	23 10	60
13	14	12.5		31.8	303	35.6	38		34.4	19	10 S	18	43	04	11 03	62	22 47	61
14	29	12.6		32.8	317	58.3	37		36.0	16	20	20	46	08	28	61	22 22	62
15	44	12.8		33.8	332	21.1	38		37.5	15	30	20	48	12	11 57	61	21 53	63
16	59	13.0		34.7	346	44.0	39		38.7	12	35	20	49	14	12 14	61	36	64
17	74	13.2	+5	35.7	1	06.8	38	+28	39.8	11	40	5 19	5 50	6 17	12 34	60	21 16	65
18	89	13.4	+5	36.6	15	29.7	39	+28	40.7	9	45	5 17	5 51	6 20	12 59	59	20 51	66
19	104	13.5		37.6	29	52.7	40		41.3	6	50	14	52	24	13 30	59	20	67
20	119	13.7		38.5	44	15.7	40		41.8	5	52	13	52	26	13 46	58	20 04	68
21	134	13.9		39.5	58	38.7	40		42.1	3	54	11	52	28	14 05	57	19 45	69
22	149	14.1		40.4	73	01.8	41		42.2	1	56	09	52	30	27	56	19	22
23	164	14.3		41.4	87	24.9	41		42.1	1	58	07	53	32	14	56	18	53
24	179	14.4	+5	42.3	101	48.1	42	+28	41.9	2	60 S	5 04	5 53	6 34	15 41	48	18 09	79
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: -4.4 11 ^h 11.8 ^m		Mag: -4.4 PMG: 10 ^h 48 ^m			Mag: +0.4 PMG: 18 ^h 58 ^m			Mag: -2.1 PMG: 16 ^h 12 ^m			Mag: +1.2 PMG: 10 ^h 56 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	191	34.8	197	22.1	+4	57.4	74	54.6	+23	50.1	116	26.1	+22	25.9	195	38.8	-3	52.5
1	206	37.2	212	25.3		56.5	89	56.2		49.8	131	28.1		26.0	210	41.0		52.3
2	221	39.7	227	28.4		55.7	104	57.8		49.6	146	30.1		26.0	225	43.2		52.2
3	236	42.1	242	31.6		54.8	119	59.3		49.4	161	32.2		26.1	240	45.4		52.1
4	251	44.6	257	34.8		54.0	135	00.9		49.2	176	34.2		26.1	255	47.6		52.0
5	266	47.1	272	37.9	+4	53.1	150	02.5	+23	49.0	191	36.2	+22	26.2	270	49.8	-3	51.9
6	281	49.5	287	41.1	+4	52.3	165	04.0	+23	48.8	206	38.3	+22	26.2	285	52.0	-3	51.8
7	296	52.0	302	44.2		51.4	180	05.6		48.6	221	40.3		26.3	300	54.2		51.7
8	311	54.5	317	47.4		50.6	195	07.1		48.4	236	42.4		26.3	315	56.4		51.5
9	326	56.9	332	50.5		49.7	210	08.7		48.1	251	44.4		26.4	330	58.5		51.4
10	341	59.4	347	53.7		48.9	225	10.3		47.9	266	46.4		26.4	346	00.7		51.3
11	357	01.9	2	56.8	+4	48.1	240	11.8	+23	47.7	281	48.5	+22	26.5	1	02.9	-3	51.2
12	12	04.3	18	00.0	+4	47.2	255	13.4	+23	47.5	296	50.5	+22	26.5	16	05.1	-3	51.1
13	27	06.8	33	03.1		46.4	270	14.9		47.3	311	52.5		26.6	31	07.3		51.0
14	42	09.3	48	06.2		45.5	285	16.5		47.1	326	54.6		26.6	46	09.5		50.9
15	57	11.7	63	09.3		44.7	300	18.1		46.9	341	56.6		26.6	61	11.7		50.7
16	72	14.2	78	12.5		43.9	315	19.6		46.6	356	58.6		26.7	76	13.9		50.6
17	87	16.6	93	15.6	+4	43.0	330	21.2	+23	46.4	12	00.7	+22	26.7	91	16.1	-3	50.5
18	102	19.1	108	18.7	+4	42.2	345	22.7	+23	46.2	27	02.7	+22	26.8	106	18.2	-3	50.4
19	117	21.6	123	21.8		41.3	0	24.3		46.0	42	04.7		26.8	121	20.4		50.3
20	132	24.0	138	24.9		40.5	15	25.8		45.8	57	06.8		26.9	136	22.6		50.2
21	147	26.5	153	28.0		39.7	30	27.4		45.6	72	08.8		26.9	151	24.8		50.1
22	162	29.0	168	31.1		38.8	45	28.9		45.3	87	10.8		27.0	166	27.0		49.9
23	177	31.4	183	34.2		38.0	60	30.5		45.1	102	12.9		27.0	181	29.2		49.8
24	192	33.9	198	37.3	+4	37.2	75	32.0	+23	44.9	117	14.9	+22	27.1	196	31.4	-3	49.7
Dif	—		+31		-8		+16		-2		+20		0		+22		+	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 16 ^h 0 PMG: 12 ^h 02.9 ^m			Edad: 5.5 ^d PHE { 4 ^h : 58 ^h 4 12 ^h : 58 ^h 1 20 ^h : 57 ^h 8 PMG: 17 ^h 56 ^m R°: 58 ^m								Civil			Náutico		Hora R°		Hora R°				
	hG ☉	Dec		hG ☾	Dif		Dec		Dif														
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	179	14.4	+5	42.3	101	48.1		+28	41.9	5	60 N	18	52	19	35	20	31	6	51	96	4	03	30
1	194	14.6		43.3	116	11.3	42		41.4	7	58		48		29		20	7	31	86	3	23	40
2	209	14.8		44.3	130	34.6	43		40.7	8	56		45		23	11		7	59	81	2	55	44
3	224	15.0		45.2	144	57.9	43		39.9	10	54		42		18	20	03	8	21	78		33	47
4	239	15.2		46.2	159	21.3	44		38.9	12	52		39		14	19	56		39	76	2	15	49
5	254	15.4	+5	47.1	173	44.8	45	+28	37.7	14	50	18	37	19	10	19	50	8	54	74	1	59	51
6	269	15.5	+5	48.1	188	08.4	46	+28	36.3	16	45	18	32	19	02	19	37	9	25	71	1	28	54
7	284	15.7		49.0	202	32.0	46		34.7	18	40	27		18	55	28	9	49	69	1	04	55	
8	299	15.9		50.0	216	55.6	46		32.9	19	35		24		49	20		10	09	67	0	44	56
9	314	16.1		50.9	231	19.4	48		31.0	21	30		21		45	13		26	65	0	27	57	
10	329	16.3		51.9	245	43.2	48		28.9	23	20		15		37	19	03	10	55	63	**	**	**
11	344	16.4	+5	52.8	260	07.1	49	+28	26.6	25	10 N	18	10	18	32	18	56	11	19	61	**	**	**
12	359	16.6	+5	53.8	274	31.0	49	+28	24.1	27	0	18	06	18	27	18	51	11	42	59	**	**	**
13	14	16.8		54.7	288	55.1	51		21.4	28	10 S	18	02		23	47		12	05	57	23	48	60
14	29	17.0		55.7	303	19.2	51		18.6	30	20	17	58		20	45		29	56		23	24	63
15	44	17.2		56.6	317	43.4	52		15.6	32	30		53		17	44		12	58	52	22	56	66
16	59	17.3		57.6	332	07.7	53		12.4	33	35		50		15	45		13	15	51		40	68
17	74	17.5	+5	58.5	346	32.1	54	+28	09.1	35	40	17	47	18	14	18	45	13	34	49	22	21	70
18	89	17.7	+5	59.5	0	56.6	55	+28	05.6	37	45	17	44	18	13	18	47	13	58	46	21	57	73
19	104	17.9	+6	00.4	15	21.1	55	+28	01.9	39	50		39		12	49		14	29	42		27	78
20	119	18.1		01.4	29	45.8	57	+27	58.0	40	52		37		11	50		14	44	40	21	12	80
21	134	18.2		02.3	44	10.5	57		54.0	42	54		35		11	52		15	02	37	20	54	84
22	149	18.4		03.3	58	35.3	58		49.8	44	56		33		10	53		23	33		33	88	
23	164	18.6		04.2	73	00.3	60		45.4	45	58		31		10	55		15	50	27	20	06	95
24	179	18.8	+6	05.2	87	25.3	60	+27	40.9	45	60 S	17	28	18	09	18	57	16	29	14	19	28	107

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG 11 ^h 07.9 ^m		Mag: -4.4 PMG: 10 ^h 43 ^m		Mag: +0.4 PMG: 18 ^h 56 ^m		Mag: -2.1 PMG: 16 ^h 09 ^m		Mag: +1.2 PMG: 10 ^h 52 ^m						
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'					
0	192	33.9	198	37.3	+4	37.2	75	32.0	+22	27.1	196	31.4	-3	49.7	
1	207	36.4	213	40.4		36.3	90	33.6		44.7	211	33.6		49.6	
2	222	38.8	228	43.5		35.5	105	35.1		44.5	226	35.8		49.5	
3	237	41.3	243	46.5		34.7	120	36.7		44.3	241	37.9		49.4	
4	252	43.8	258	49.6		33.9	135	38.2		44.0	256	40.1		49.3	
5	267	46.2	273	52.7	+4	33.0	150	39.8	+23	43.8	271	42.3	-3	49.1	
6	282	48.7	288	55.7	+4	32.2	165	41.3	+23	43.6	286	44.5	-3	49.0	
7	297	51.1	303	58.8		31.4	180	42.9		43.4	301	46.7		48.9	
8	312	53.6	319	01.9		30.6	195	44.4		43.2	316	48.9		48.8	
9	327	56.1	334	04.9		29.7	210	46.0		43.0	331	51.1		48.7	
10	342	58.5	349	08.0		28.9	225	47.5		42.7	346	53.3		48.6	
11	358	01.0	4	11.0	+4	28.1	240	49.1	+23	42.5	1	55.5	-3	48.5	
12	13	03.5	19	14.1	+4	27.3	255	50.6	+23	42.3	16	57.7	-3	48.3	
13	28	05.9	34	17.1		26.5	270	52.2		42.1	31	59.8		48.2	
14	43	08.4	49	20.1		25.6	285	53.7		41.9	47	02.0		48.1	
15	58	10.9	64	23.2		24.8	300	55.3		41.6	62	04.2		48.0	
16	73	13.3	79	26.2		24.0	315	56.8		41.4	77	06.4		47.9	
17	88	15.8	94	29.2	+4	23.2	330	58.3	+23	41.2	92	08.6	-3	47.8	
18	103	18.3	109	32.2	+4	22.4	345	59.9	+23	41.0	107	10.8	-3	47.7	
19	118	20.7	124	35.3		21.6	1	01.4		40.8	122	13.0		47.5	
20	133	23.2	139	38.3		20.8	16	03.0		40.6	137	15.2		47.4	
21	148	25.6	154	41.3		20.0	31	04.5		40.3	152	17.4		47.3	
22	163	28.1	169	44.3		19.2	46	06.0		40.1	167	19.6		47.2	
23	178	30.6	184	47.3		18.3	61	07.6		39.9	182	21.7		47.1	
24	193	33.0	199	50.3	+4	17.5	76	09.1	+23	39.7	197	23.9	-3	47.0	
Dif	—		+30		-8		+15		-2		+20		0		+1

UT	SOL		 LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna												
	SD: 16'0 PMG:12 ^h 02.6 ^m		Edad: 6.5 ^d SD: 15'7 PMG: 18 ^h 53 ^m																						
	PHE { 4 ^h : 57/5 12 ^h : 57/2 20 ^h : 57/0 R°: 52 ^m																								
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°											
h	°	'	°	'	°	'	°	h	m	h	m		h	m	m										
0	179	18.8	+6	05.2	87	25.3	+27	40.9	60	N	3	34	4	29	5	13	8	25	105	4	32	9			
1	194	19.0		06.1	101	50.4	61	36.2	47	58		45		36	16		8	56	94	4	01	19			
2	209	19.1		07.1	116	15.6	62	31.4	50	56		54		41	20		9	19	88	3	38	24			
3	224	19.3		08.0	130	40.9	63	26.4	50	54		02		46	23		37	84	19		19	28			
4	239	19.5		09.0	145	06.3	64	21.2	52	52		09		51	25		9	53	81	3	03	31			
5	254	19.7	+6	09.9	159	31.9	66	+27	15.9	50		15		4	55	5	28	10	07	78	2	49	34		
6	269	19.8	+6	10.9	173	57.5	66	+27	10.5	45		27		5	03	5	33	10	35	72	2	20	39		
7	284	20.0		11.8	188	23.2	67	+27	04.8	40		37		10	37	10	37	10	56	70	1	58	42		
8	299	20.2		12.8	202	49.0	68	+26	59.1	35		45		16	41		11	15	66			39	45		
9	314	20.4		13.7	217	15.0	70		53.1	30		52		20	44			30	64	1	23	47			
10	329	20.6		14.7	231	41.0	70		47.1	60		02		28	50		11	56	60	0	56	50			
11	344	20.7	+6	15.6	246	07.2	72	+26	40.8	10	N	5	09	5	34	5	55	12	19	56	0	32	54		
12	359	20.9	+6	16.6	260	33.4	72	+26	34.5	0		14		5	39	5	59	12	40	53	0	10	56		
13	14	21.1		17.5	274	59.8	74		28.0	65		18		43	6	04	13	01	50	***	***	***			
14	29	21.3		18.5	289	26.3	75		21.3	67		20		46	08			23	47	***	***	***			
15	44	21.5		19.4	303	52.9	76		14.5	68		30		21	49	13		49	43	***	***	***			
16	59	21.6		20.3	318	19.6	77		07.6	69		35		21	51	16		14	04	41	23	46	66		
17	74	21.8	+6	21.3	332	46.4	78	+26	00.5	71		40		5	52	6	19	14	22	37	23	29	69		
18	89	22.0	+6	22.2	347	13.3	79	+25	53.3	72		45		5	19	5	53	6	23	14	43	34	23	09	73
19	104	22.2		23.2	1	40.3	80		45.9	74		50		17	55	27		15	10	28	22	43	79		
20	119	22.3		24.1	16	07.5	82		38.4	75		52		16	55	29			23	25		31	81		
21	134	22.5		25.1	30	34.8	83		30.8	76		54		15	56	31			37	22		16	86		
22	149	22.7		26.0	45	02.1	83		23.1	77		56		13	56	34		15	55	17	22	00	89		
23	164	22.9		27.0	59	29.6	85		15.2	79		58		11	57	36		16	15	12	21	39	96		
24	179	23.1	+6	27.9	73	57.2	86	+25	07.2	80	S	5	09	5	57	6	39	16	42	3	21	14	104		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 11 ^h 04.0 ^m		Mag: -4.5 PMG: 10 ^h 39 ^m		Mag: +0.4 PMG: 18 ^h 53 ^m		Mag: -2.1 PMG: 16 ^h 06 ^m		Mag: +1.2 PMG: 10 ^h 49 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	193	33.0	199	50.3	+4	17.5	76	09.1	+23	39.7	118	03.6	+22	28.2	197	23.9	-3	47.0
1	208	35.5	214	53.3		16.7	91	10.7		39.5	133	05.6		28.2	212	26.1		46.9
2	223	38.0	229	56.3		15.9	106	12.2		39.2	148	07.7		28.3	227	28.3		46.7
3	238	40.4	244	59.3		15.1	121	13.7		39.0	163	09.7		28.3	242	30.5		46.6
4	253	42.9	260	02.2		14.3	136	15.3		38.8	178	11.7		28.4	257	32.7		46.5
5	268	45.4	275	05.2	+4	13.5	151	16.8	+23	38.6	193	13.8	+22	28.4	272	34.9	-3	46.4
6	283	47.8	290	08.2	+4	12.7	166	18.3	+23	38.3	208	15.8	+22	28.5	287	37.1	-3	46.3
7	298	50.3	305	11.2		11.9	181	19.9		38.1	223	17.8		28.5	302	39.3		46.2
8	313	52.7	320	14.1		11.1	196	21.4		37.9	238	19.8		28.6	317	41.5		46.1
9	328	55.2	335	17.1		10.3	211	22.9		37.7	253	21.9		28.6	332	43.6		46.0
10	343	57.7	350	20.1		09.5	226	24.5		37.5	268	23.9		28.7	347	45.8		45.8
11	359	00.1	5	23.0	+4	08.8	241	26.0	+23	37.2	283	25.9	+22	28.7	2	48.0	-3	45.7
12	14	02.6	20	26.0	+4	08.0	256	27.5	+23	37.0	298	27.9	+22	28.7	17	50.2	-3	45.6
13	29	05.1	35	28.9		07.2	271	29.1		36.8	313	30.0		28.8	32	52.4		45.5
14	44	07.5	50	31.8		06.4	286	30.6		36.6	328	32.0		28.8	47	54.6		45.4
15	59	10.0	65	34.8		05.6	301	32.1		36.3	343	34.0		28.9	62	56.8		45.3
16	74	12.5	80	37.7		04.8	316	33.7		36.1	358	36.0		28.9	77	59.0		45.2
17	89	14.9	95	40.7	+4	04.0	331	35.2	+23	35.9	13	38.1	+22	29.0	93	01.2	-3	45.0
18	104	17.4	110	43.6	+4	03.2	346	36.7	+23	35.7	28	40.1	+22	29.0	108	03.4	-3	44.9
19	119	19.9	125	46.5		02.4	1	38.2		35.5	43	42.1		29.1	123	05.6		44.8
20	134	22.3	140	49.4		01.7	16	39.8		35.2	58	44.1		29.1	138	07.7		44.7
21	149	24.8	155	52.3		00.9	31	41.3		35.0	73	46.2		29.2	153	09.9		44.6
22	164	27.2	170	55.3	+4	00.1	46	42.8		34.8	88	48.2		29.2	168	12.1		44.5
23	179	29.7	185	58.2	+3	59.3	61	44.3		34.6	103	50.2		29.3	183	14.3		44.4
24	194	32.2	201	01.1	+3	58.6	76	45.9	+23	34.3	118	52.2	+22	29.3	198	16.5	-3	44.3
Dif	—		+29		-8		+15		-2		+20			0	+22		+3	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 0 PMG: 12 ^h 02.3 ^m			Edad: 7.5 ^d SD: 15 ^h 5 PMG: 19 ^h 45 ^m PHE { 4 ^h : 56 ^h 7 12 ^h : 56 ^h 5 20 ^h : 56 ^h 3 R°: 49 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	179	23.1	+6	27.9	73	57.2	87	+25	07.2	81	60 N	18	57	19	41	20	37	
1	194	23.2		28.9	88	24.9	89	+24	59.1	83	58	52	34	26	30	95	20	
2	209	23.4		29.8	102	52.8	89		50.8	84	56	49	28	16	10	47	90	
3	224	23.6		30.7	117	20.7	91		42.4	85	54	46	22	08	11	01	86	
4	239	23.8		31.7	131	48.8	92		33.9	86	52	43	18	20	14	82	34	
5	254	23.9	+6	32.6	146	17.0	92	+24	25.3	87	50	18	40	19	13	19	54	
6	269	24.1	+6	33.6	160	45.2	92	+24	16.6	87	45	18	34	19	04	11	47	
7	284	24.3		34.5	175	13.6	94	+24	07.7	89	40	29	18	57	30	12	06	
8	299	24.5		35.5	189	42.2	96	+23	58.7	90	35	25	51	21	21	65	24	
9	314	24.7		36.4	204	10.8	96		49.6	91	30	22	46	15	34	63	2	
10	329	24.8		37.3	218	39.5	97		40.4	92	20	16	38	19	04	12	56	
11	344	25.0	+6	38.3	233	08.4	99	+23	31.1	93	10 N	18	10	18	32	18	56	
12	359	25.2	+6	39.2	247	37.4	100	+23	21.7	94	0	18	06	18	26	18	51	
13	14	25.4		40.2	262	06.5	101		12.1	96	10 S	18	01	22	46	13	51	
14	29	25.5		41.1	276	35.7	102	+23	02.5	96	20	17	56	18	44	14	10	
15	44	25.7		42.1	291	05.0	103	+22	52.7	98	30	50	14	42	32	37	0	
16	59	25.9		43.0	305	34.4	104		42.9	98	35	47	13	42	45	34	**	
17	74	26.1	+6	43.9	320	03.9	105	+22	32.9	100	40	17	44	18	11	18	42	**
18	89	26.2	+6	44.9	334	33.6	107	+22	22.9	100	45	17	40	18	09	18	43	**
19	104	26.4		45.8	349	03.3	107		12.7	102	50	35	07	45	38	21	**	
20	119	26.6		46.8	3	33.2	109	+22	02.4	103	52	33	07	46	48	19	23	
21	134	26.8		47.7	18	03.2	110	+21	52.1	103	54	31	06	47	15	59	16	42
22	149	26.9		48.6	32	33.2	110		41.6	105	56	28	05	48	16	12	12	29
23	164	27.1		49.6	47	03.4	112		31.1	105	58	25	04	50	27	8	23	
24	179	27.3	+6	50.5	61	33.7	113	+21	20.4	107	60 S	17	22	18	04	18	52	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 ^h 00.0 ^m		Mag: -4.5 PMG: 10 ^h 34 ^m		Mag: +0.5 PMG: 18 ^h 51 ^m		Mag: -2.1 PMG: 16 ^h 02 ^m		Mag: +1.2 PMG: 10 ^h 45 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	194	32.2	201	01.1	+3	58.6	76	45.9	+23	34.3
1	209	34.6	216	04.0		57.8	91	47.4		34.1
2	224	37.1	231	06.9		57.0	106	48.9		33.9
3	239	39.6	246	09.8		56.2	121	50.4		33.7
4	254	42.0	261	12.6		55.5	136	52.0		33.4
5	269	44.5	276	15.5	+3	54.7	151	53.5	+23	33.2
6	284	47.0	291	18.4	+3	53.9	166	55.0	+23	33.0
7	299	49.4	306	21.3		53.1	181	56.5		32.8
8	314	51.9	321	24.2		52.4	196	58.0		32.5
9	329	54.4	336	27.0		51.6	211	59.6		32.3
10	344	56.8	351	29.9		50.8	227	01.1		32.1
11	359	59.3	6	32.8	+3	50.1	242	02.6	+23	31.9
12	15	01.7	21	35.6	+3	49.3	257	04.1	+23	31.6
13	30	04.2	36	38.5		48.6	272	05.6		31.4
14	45	06.7	51	41.3		47.8	287	07.2		31.2
15	60	09.1	66	44.2		47.0	302	08.7		31.0
16	75	11.6	81	47.0		46.3	317	10.2		30.7
17	90	14.1	96	49.8	+3	45.5	332	11.7	+23	30.5
18	105	16.5	111	52.7	+3	44.8	347	13.2	+23	30.3
19	120	19.0	126	55.5		44.0	2	14.7		30.0
20	135	21.5	141	58.3		43.3	17	16.2		29.8
21	150	23.9	157	01.1		42.5	32	17.8		29.6
22	165	26.4	172	04.0		41.8	47	19.3		29.4
23	180	28.9	187	06.8		41.0	62	20.8		29.1
24	195	31.3	202	09.6	+3	40.3	77	22.3	+23	28.9
Dif	—		+29		-8		+15		-2	
									+20	0
									+22	+1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'0 PMG:12 ^h 02.0 ^m			Edad: 8.5 ^d PHE { 4 ^h : 56'0 12 ^h : 55'8 20 ^h : 55'6 R°: 44 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m		
0	179	27.3	+6	50.5	61	33.7	+21	20.4	60 N	3	26	4	23	5	07	11	50	4	43	
1	194	27.5		51.5	76	04.1	+21	09.7	58	38		30	11	12	04	88		29	5	
2	209	27.6		52.4	90	34.7	+20	58.9	56	48		36	15	15	84		16	9		
3	224	27.8		53.3	105	05.3		48.0	54	3	56	41	18	25	81		4	05	13	
4	239	28.0		54.3	119	36.0		37.0	52	4	03	46	21	34	78		3	56	15	
5	254	28.2	+6	55.2	134	06.8	+20	25.9	50	4	10	4	50	5	24	12	42	75	3	47
6	269	28.3	+6	56.2	148	37.8	+20	14.7	45	4	23	4	59	5	29	12	59	70	3	29
7	284	28.5		57.1	163	08.8	+20	03.5	40	34		5	07	34	13	13	65		14	27
8	299	28.7		58.0	177	39.9	+19	52.1	35	42		13	38	25	62		3	01	30	
9	314	28.9		59.0	192	11.2		40.7	30	4	49	18	42	35	59		2	49	34	
10	329	29.0	+6	59.9	206	42.5		29.2	20	5	00	26	48	13	53	53		30	38	
11	344	29.2	+7	00.9	221	14.0	+19	17.7	10 N	5	08	5	33	5	54	14	08	49	2	13
12	359	29.4	+7	01.8	235	45.5	+19	06.0	0	5	14	5	38	5	59	14	22	45	1	57
13	14	29.6		02.7	250	17.2	+18	54.3	10 S	18		42	6	04	36	40		41	51	
14	29	29.7		03.7	264	48.9		42.5	20	21		47	09	14	51	36		24	55	
15	44	29.9		04.6	279	20.7		30.6	30	23		50	14	15	08	31		1	04	
16	59	30.1		05.5	293	52.7		18.6	35	23		52	18	18	28		0	52	63	
17	74	30.3	+7	06.5	308	24.7	+18	06.6	40	5	23	5	54	6	21	15	29	25	0	38
18	89	30.4	+7	07.4	322	56.8	+17	54.5	45	5	22	5	56	6	25	15	42	21	0	22
19	104	30.6		08.3	337	29.0		42.4	50	20		58	30	15	58	16		0	02	
20	119	30.8		09.3	352	01.3		30.1	52	20		59	32	16	06	13		**	**	
21	134	31.0		10.2	6	33.7		17.9	54	19		5	59	35	14	10		**	**	
22	149	31.1		11.2	21	06.2	+17	05.5	56	17		6	00	38	23	7		**	**	
23	164	31.3		12.1	35	38.8	+16	53.1	58	16		01	41	34	3			**	**	
24	179	31.5	+7	13.0	50	11.4	+16	40.6	60 S	5	14	6	02	6	44	16	45	0	**	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 10 ^h 56.1 ^m		Mag: -4.6 PMG: 10 ^h 29 ^m		Mag: +0.5 PMG: 18 ^h 49 ^m		Mag: -2.1 PMG: 15 ^h 59 ^m		Mag: +1.2 PMG: 10 ^h 42 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	195	31.3	202	09.6	+3	40.3	77	22.3	+23	28.9	119	40.7	+22	30.4	199	09.1	-3	41.5
1	210	33.8	217	12.4		39.5	92	23.8		28.7	134	42.7		30.5	214	11.3		41.4
2	225	36.2	232	15.2		38.8	107	25.3		28.4	149	44.7		30.5	229	13.5		41.3
3	240	38.7	247	18.0		38.1	122	26.8		28.2	164	46.7		30.6	244	15.7		41.2
4	255	41.2	262	20.8		37.3	137	28.3		28.0	179	48.8		30.6	259	17.9		41.1
5	270	43.6	277	23.6	+3	36.6	152	29.8	+23	27.8	194	50.8	+22	30.7	274	20.1	-3	41.1
6	285	46.1	292	26.4	+3	35.8	167	31.4	+23	27.5	209	52.8	+22	30.7	289	22.3	-3	40.9
7	300	48.6	307	29.1		35.1	182	32.9		27.3	224	54.8		30.8	304	24.5		40.8
8	315	51.0	322	31.9		34.4	197	34.4		27.1	239	56.8		30.8	319	26.7		40.6
9	330	53.5	337	34.7		33.6	212	35.9		26.8	254	58.8		30.8	334	28.8		40.5
10	345	56.0	352	37.5		32.9	227	37.4		26.6	270	00.9		30.9	349	31.0		40.4
11	0	58.4	7	40.2	+3	32.2	242	38.9	+23	26.4	285	02.9	+22	30.9	4	33.2	-3	40.3
12	16	00.9	22	43.0	+3	31.4	257	40.4	+23	26.2	300	04.9	+22	31.0	19	35.4	-3	40.2
13	31	03.3	37	45.7		30.7	272	41.9		25.9	315	06.9		31.0	34	37.6		40.1
14	46	05.8	52	48.5		30.0	287	43.4		25.7	330	08.9		31.1	49	39.8		40.0
15	61	08.3	67	51.2		29.3	302	44.9		25.5	345	10.9		31.1	64	42.0		39.9
16	76	10.7	82	54.0		28.5	317	46.4		25.2	0	13.0		31.2	79	44.2		39.8
17	91	13.2	97	56.7	+3	27.8	332	47.9	+23	25.0	15	15.0	+22	31.2	94	46.4	-3	39.6
18	106	15.7	112	59.5	+3	27.1	347	49.4	+23	24.8	30	17.0	+22	31.3	109	48.6	-3	39.5
19	121	18.1	128	02.2		26.4	2	50.9		24.5	45	19.0		31.3	124	50.8		39.4
20	136	20.6	143	04.9		25.7	17	52.4		24.3	60	21.0		31.4	139	53.0		39.3
21	151	23.1	158	07.7		24.9	32	53.9		24.1	75	23.0		31.4	154	55.2		39.2
22	166	25.5	173	10.4		24.2	47	55.4		23.8	90	25.0		31.4	169	57.4		39.1
23	181	28.0	188	13.1		23.5	62	56.9		23.6	105	27.0		31.5	184	59.6		39.0
24	196	30.5	203	15.8	+3	22.8	77	58.4	+23	23.4	120	29.1	+22	31.5	200	01.7	-3	38.9
Dif	—		+28		-7		+15		-2		+20		0		+22		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16 ^h 0 PMG:12 ^h 01.8 ^m				Edad: 9.5 ^d SD: 15 ^h 1 PMG: 21 ^h 17 ^m																	
	PHE { 4 ^h : 55 ^h /5 12 ^h : 55 ^h /3 20 ^h : 55 ^h /1 R°: 42 ^m				hG ☾		Dif		Dec				Dif		Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	179	31.5	+7	13.0	50	11.4	+16	40.6			60 N	19 01	19 46	20 43	13 23	89	4 43	0				
1	194	31.7		14.0	64	44.2		28.1	125		58	18 57	39	31	32	85	34	4				
2	209	31.8		14.9	79	17.0		15.5	126		56	53	32	21	39	82	25	8				
3	224	32.0		15.8	93	50.0	+16	02.8	127		54	49	26	12	46	78	18	10				
4	239	32.2		16.8	108	23.0	+15	50.1	127		52	46	21	20 04	52	76	11	13				
5	254	32.3	+7	17.7	122	56.0	+15	37.3	128		50	18 43	19 17	19 57	13 57	74	4 05	15				
6	269	32.5	+7	18.6	137	29.2	+15	24.5	128		45	18 37	19 07	19 43	14 09	68	3 52	20				
7	284	32.7		19.6	152	02.5	+15	11.6	129		40	31	18 59	32	18	64	41	24				
8	299	32.9		20.5	166	35.8	+14	58.6	130		35	27	53	23	27	60	31	28				
9	314	33.0		21.4	181	09.2		45.6	130		30	23	47	16	34	57	23	30				
10	329	33.2		22.4	195	42.7		32.6	130		20	16	39	19 05	46	52	3 08	36				
11	344	33.4	+7	23.3	210	16.3	+14	19.5	131		10 N	18 10	18 32	18 56	14 57	47	2 56	40				
12	359	33.6	+7	24.2	224	49.9	+14	06.4	131		0	18 05	18 26	18 50	15 07	43	2 44	44				
13	14	33.7		25.2	239	23.6	+13	53.2	132		10 S	18 00	21	45	16	39	32	48				
14	29	33.9		26.1	253	57.4		39.9	133		20	17 54	16	42	27	34	19	53				
15	44	34.1		27.0	268	31.3		26.6	133		30	48	12	40	39	29	2 04	58				
16	59	34.2		27.9	283	05.2	+13	13.3	133		35	45	10	39	46	26	1 55	62				
17	74	34.4	+7	28.9	297	39.2	+12	59.9	134		40	17 41	18 08	18 39	15 54	22	1 45	65				
18	89	34.6	+7	29.8	312	13.3	+12	46.5	134		45	17 36	18 06	18 40	16 03	18	1 33	70				
19	104	34.8		30.7	326	47.4		33.1	134		50	31	03	41	14	13	19	75				
20	119	34.9		31.7	341	21.6		19.6	135		52	28	02	41	19	11	12	77				
21	134	35.1		32.6	355	55.9	+12	06.0	136		54	26	01	42	24	9	1 04	81				
22	149	35.3		33.5	10	30.2	+11	52.4	136		56	23	18 00	43	30	7	0 56	84				
23	164	35.4		34.5	25	04.6		38.8	136		58	20	17 59	44	37	3	46	88				
24	179	35.6	+7	35.4	39	39.1	+11	25.2	136		60 S	17 16	17 58	18 46	16 45	**	0 35	92				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 10 ^h 52.2 ^m			Mag: -4.6 PMG: 10 ^h 25 ^m			Mag: +0.5 PMG: 18 ^h 46 ^m			Mag: -2.1 PMG: 15 ^h 56 ^m			Mag: +1.2 PMG: 10 ^h 38 ^m									
h	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	196	30.5	203	15.8	+3	22.8	77	58.4	+23	23.4	120	29.1	+22	31.5	200	01.7	-3	38.9				
1	211	32.9	218	18.5		22.1	92	59.9		23.1	135	31.1		31.6	215	03.9		38.7				
2	226	35.4	233	21.2		21.4	108	01.4		22.9	150	33.1		31.6	230	06.1		38.6				
3	241	37.8	248	23.9		20.7	123	02.9		22.7	165	35.1		31.7	245	08.3		38.5				
4	256	40.3	263	26.6		20.0	138	04.4		22.4	180	37.1		31.7	260	10.5		38.4				
5	271	42.8	278	29.3	+3	19.3	153	05.9	+23	22.2	195	39.1	+22	31.8	275	12.7	-3	38.3				
6	286	45.2	293	32.0	+3	18.6	168	07.4	+23	22.0	210	41.1	+22	31.8	290	14.9	-3	38.2				
7	301	47.7	308	34.7		17.9	183	08.9		21.7	225	43.1		31.9	305	17.1		38.1				
8	316	50.2	323	37.4		17.2	198	10.4		21.5	240	45.2		31.9	320	19.3		38.0				
9	331	52.6	338	40.1		16.5	213	11.9		21.3	255	47.2		32.0	335	21.5		37.8				
10	346	55.1	353	42.7		15.8	228	13.4		21.0	270	49.2		32.0	350	23.7		37.7				
11	1	57.6	8	45.4	+3	15.1	243	14.9	+23	20.8	285	51.2	+22	32.1	5	25.9	-3	37.6				
12	17	00.0	23	48.1	+3	14.4	258	16.4	+23	20.6	300	53.2	+22	32.1	20	28.1	-3	37.5				
13	32	02.5	38	50.7		13.7	273	17.9		20.3	315	55.2		32.1	35	30.3		37.4				
14	47	04.9	53	53.4		13.0	288	19.3		20.1	330	57.2		32.2	50	32.5		37.3				
15	62	07.4	68	56.1		12.3	303	20.8		19.9	345	59.2		32.2	65	34.7		37.2				
16	77	09.9	83	58.7		11.6	318	22.3		19.6	1	01.2		32.3	80	36.8		37.1				
17	92	12.3	99	01.4	+3	10.9	333	23.8	+23	19.4	16	03.2	+22	32.3	95	39.0	-3	37.0				
18	107	14.8	114	04.0	+3	10.2	348	25.3	+23	19.2	31	05.3	+22	32.4	110	41.2	-3	36.8				
19	122	17.3	129	06.6		09.6	3	26.8		18.9	46	07.3		32.4	125	43.4		36.7				
20	137	19.7	144	09.3		08.9	18	28.3		18.7	61	09.3		32.5	140	45.6		36.6				
21	152	22.2	159	11.9		08.2	33	29.8		18.5	76	11.3		32.5	155	47.8		36.5				
22	167	24.7	174	14.5		07.5	48	31.3		18.2	91	13.3		32.6	170	50.0		36.4				
23	182	27.1	189	17.1		06.8	63	32.7		18.0	106	15.3		32.6	185	52.2		36.3				
24	197	29.6	204	19.8	+3	06.2	78	34.2	+23	17.7	121	17.3	+22	32.7	200	54.4	-3	36.2				
Dif	—		+27		-7		+15		-2		+20		0		+22		+					

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 01.5 ^m			Edad: 10.5 ^d PHE { 4 ^h : 55'0 12 ^h : 54'8 20 ^h : 54'7 SD: 15'0 PMG: 21 ^h 58 ^m R°: 39 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	35.6	+7	35.4	39	39.1	+11	25.2	60 N	3	19	4	16	5	01	14	51
1	194	35.8		36.3	54	13.6	+11	11.5	58	31		24	05		55	81	36
2	209	36.0		37.3	68	48.2	+10	57.8	56	41		30	09		14	59	78
3	224	36.1		38.2	83	22.9		44.0	54	50		36	13		15	03	74
4	239	36.3		39.1	97	57.6		30.2	52	3	58	41	16		06	72	23
5	254	36.5	+7	40.0	112	32.3	+10	16.4	50	4	05	4	46	5	19	15	09
6	269	36.6	+7	41.0	127	07.1	+10	02.5	45	4	19	4	56	5	26	15	16
7	284	36.8		41.9	141	42.0	+9	48.6	40	31		5	04	31	21	61	4
8	299	37.0		42.8	156	16.9		34.7	35	40		10	36		26	57	3
9	314	37.1		43.7	170	51.9		20.8	30	47		16	40		30	54	2
10	329	37.3		44.7	185	26.9	+9	06.8	20	4	58	24	47		36	49	43
11	344	37.5	+7	45.6	200	02.0	+8	52.8	10 N	5	07	5	31	5	53	15	43
12	359	37.7	+7	46.5	214	37.1	+8	38.8	0	5	13	5	37	5	58	15	48
13	14	37.8		47.5	229	12.3		24.7	10 S	18		42	6	04	15	54	35
14	29	38.0		48.4	243	47.5	+8	10.7	20	21		47	09		16	00	31
15	44	38.2		49.3	258	22.8	+7	56.6	30	24		51	16		07	26	3
16	59	38.3		50.2	272	58.1		42.5	35	24		54	19		11	22	2
17	74	38.5	+7	51.2	287	33.5	+7	28.3	40	5	25	5	56	6	23	16	15
18	89	38.7	+7	52.1	302	08.9	+7	14.2	45	5	24	5	58	6	28	16	20
19	104	38.8		53.0	316	44.3	+7	00.0	50	23		6	01	33	26	11	32
20	119	39.0		53.9	331	19.8	+6	45.8	52	23		02	36		29	9	28
21	134	39.2		54.9	345	55.3		31.6	54	22		03	39		32	7	23
22	149	39.3		55.8	0	30.9		17.3	56	21		04	42		35	4	18
23	164	39.5		56.7	15	06.4	+6	03.1	58	20		05	45		39	1	12
24	179	39.7	+7	57.6	29	42.1	+5	48.8	60 S	5	19	6	07	6	49	16	43

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag: -4.6		Mag: +0.6		Mag: -2.1		Mag: +1.2	
	10 ^h 48.3 ^m		PMG: 10 ^h 21 ^m		PMG: 18 ^h 44 ^m		PMG: 15 ^h 53 ^m		PMG: 10 ^h 35 ^m	
h	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	197	29.6	204	19.8	+3	06.2	78	34.2	+23	17.7
1	212	32.1	219	22.4		05.5	93	35.7		17.5
2	227	34.5	234	25.0		04.8	108	37.2		17.3
3	242	37.0	249	27.6		04.1	123	38.7		17.0
4	257	39.4	264	30.2		03.5	138	40.2		16.8
5	272	41.9	279	32.8	+3	02.8	153	41.7	+23	16.6
6	287	44.4	294	35.4	+3	02.1	168	43.1	+23	16.3
7	302	46.8	309	38.0		01.5	183	44.6		16.1
8	317	49.3	324	40.6		00.8	198	46.1		15.9
9	332	51.8	339	43.2	+3	00.1	213	47.6		15.6
10	347	54.2	354	45.7	+2	59.5	228	49.1		15.4
11	2	56.7	9	48.3	+2	58.8	243	50.6	+23	15.1
12	17	59.2	24	50.9	+2	58.2	258	52.0	+23	14.9
13	33	01.6	39	53.5		57.5	273	53.5		14.7
14	48	04.1	54	56.0		56.9	288	55.0		14.4
15	63	06.6	69	58.6		56.2	303	56.5		14.2
16	78	09.0	85	01.1		55.5	318	58.0		13.9
17	93	11.5	100	03.7	+2	54.9	333	59.4	+23	13.7
18	108	13.9	115	06.2	+2	54.3	349	00.9	+23	13.5
19	123	16.4	130	08.8		53.6	4	02.4		13.2
20	138	18.9	145	11.3		53.0	19	03.9		13.0
21	153	21.3	160	13.9		52.3	34	05.3		12.7
22	168	23.8	175	16.4		51.7	49	06.8		12.5
23	183	26.3	190	18.9		51.0	64	08.3		12.3
24	198	28.7	205	21.4	+2	50.4	79	09.8	+23	12.0
Dif	—		+26		-7		+15		-2	
								+20		0
									+22	
										+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 0 PMG: 12 ^h 01.2 ^m			Edad: 11.5 ^d PHE { 4 ^h : 54 ^m 6 12 ^h : 54 ^m 5 20 ^h : 54 ^m 4 Rº: 41 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	179	39.7	+7	57.6	29	42.1	+5	48.8	60 N	19	06	19	51	20	50	16	15	
1	194	39.9		58.6	44	17.7		34.5	58	19	01	43	37	16	80	4	41	
2	209	40.0	+7	59.5	58	53.4		20.3	56	18	57	36	26	17	77	36	5	
3	224	40.2	+8	00.4	73	29.2	+5	05.9	54	53	30	17	17	75	34	8		
4	239	40.4		01.3	88	04.9	+4	51.6	52	50	25	08	18	72	32	10		
5	254	40.5	+8	02.2	102	40.7	+4	37.3	50	18	46	19	20	20	01	16	19	
6	269	40.7	+8	03.2	117	16.5	+4	23.0	45	18	39	19	10	19	46	16	20	
7	284	40.9		04.1	131	52.4	+4	08.6	40	34	19	01	34	22	61	24	17	
8	299	41.0		05.0	146	28.3	+3	54.3	35	29	18	54	25	23	57	21	24	
9	314	41.2		05.9	161	04.2		39.9	30	24	49	17	24	54	19	27		
10	329	41.4		06.9	175	40.1		25.5	20	17	39	19	05	25	50	15	32	
11	344	41.5	+8	07.8	190	16.0	+3	11.1	10 N	18	10	18	32	18	56	16	27	
12	359	41.7	+8	08.7	204	52.0	+2	56.8	0	18	05	18	25	18	50	16	28	
13	14	41.9		09.6	219	28.0		42.4	10 S	17	59	20	44	29	37	4	07	
14	29	42.0		10.5	234	04.0		28.0	20	53	15	40	31	32	4	00	45	
15	44	42.2		11.5	248	40.1	+2	13.6	30	46	10	38	33	26	3	56	55	
16	59	42.4		12.4	263	16.1	+1	59.2	35	42	07	37	33	24	53	58		
17	74	42.5	+8	13.3	277	52.2	+1	44.8	40	17	38	18	05	18	36	16	35	
18	89	42.7	+8	14.2	292	28.3	+1	30.4	45	17	33	18	02	18	36	16	36	
19	104	42.9		15.1	307	04.4		16.0	50	27	17	59	37	37	12	43	70	
20	119	43.0		16.1	321	40.5	+1	01.6	52	24	58	37	38	10	41	73		
21	134	43.2		17.0	336	16.6	+0	47.2	54	21	57	37	39	7	39	75		
22	149	43.4		17.9	350	52.8		32.8	56	18	55	38	39	6	37	78		
23	164	43.5		18.8	5	28.9		18.4	58	14	54	39	40	3	34	81		
24	179	43.7	+8	19.7	20	05.1	+0	04.0	60 S	17	10	17	52	18	40	16	41	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 10 ^h 44.3 ^m		Mag: -4.7 PMG: 10 ^h 17 ^m			Mag: +0.6 PMG: 18 ^h 42 ^m			Mag: -2.1 PMG: 15 ^h 50 ^m			Mag: +1.2 PMG: 10 ^h 31 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	198	28.7	205	21.4	+2	50.4	79	09.8	+23	12.0	122	05.4	+22	33.8	201	47.1	-3	33.5
1	213	31.2	220	24.0		49.8	94	11.2		11.8	137	07.4		33.8	216	49.3		33.4
2	228	33.7	235	26.5		49.1	109	12.7		11.5	152	09.4		33.9	231	51.5		33.3
3	243	36.1	250	29.0		48.5	124	14.2		11.3	167	11.5		33.9	246	53.7		33.2
4	258	38.6	265	31.5		47.9	139	15.7		11.1	182	13.5		33.9	261	55.9		33.1
5	273	41.0	280	34.0	+2	47.2	154	17.1	+23	10.8	197	15.5	+22	34.0	276	58.1	-3	33.6
6	288	43.5	295	36.5	+2	46.6	169	18.6	+23	10.6	212	17.5	+22	34.0	292	00.3	-3	32.8
7	303	46.0	310	39.0		46.0	184	20.1		10.3	227	19.5		34.1	307	02.5		32.7
8	318	48.4	325	41.5		45.3	199	21.5		10.1	242	21.5		34.1	322	04.7		32.6
9	333	50.9	340	44.0		44.7	214	23.0		09.9	257	23.5		34.2	337	06.8		32.5
10	348	53.4	355	46.5		44.1	229	24.5		09.6	272	25.5		34.2	352	09.0		32.4
11	3	55.8	10	49.0	+2	43.5	244	26.0	+23	09.4	287	27.5	+22	34.3	7	11.2	-3	32.3
12	18	58.3	25	51.4	+2	42.9	259	27.4	+23	09.1	302	29.5	+22	34.3	22	13.4	-3	32.2
13	34	00.8	40	53.9		42.2	274	28.9		08.9	317	31.5		34.4	37	15.6		32.1
14	49	03.2	55	56.4		41.6	289	30.4		08.6	332	33.5		34.4	52	17.8		32.0
15	64	05.7	70	58.8		41.0	304	31.8		08.4	347	35.5		34.4	67	20.0		31.9
16	79	08.2	86	01.3		40.4	319	33.3		08.2	2	37.5		34.5	82	22.2		31.7
17	94	10.6	101	03.8	+2	39.8	334	34.8	+23	07.9	17	39.5	+22	34.5	97	24.4	-3	31.6
18	109	13.1	116	06.2	+2	39.2	349	36.2	+23	07.7	32	41.5	+22	34.6	112	26.6	-3	31.5
19	124	15.5	131	08.7		38.6	4	37.7		07.4	47	43.5		34.6	127	28.8		31.4
20	139	18.0	146	11.1		38.0	19	39.2		07.2	62	45.5		34.7	142	31.0		31.3
21	154	20.5	161	13.6		37.4	34	40.6		06.9	77	47.5		34.7	157	33.2		31.2
22	169	22.9	176	16.0		36.8	49	42.1		06.7	92	49.5		34.8	172	35.4		31.1
23	184	25.4	191	18.4		36.2	64	43.6		06.5	107	51.5		34.8	187	37.6		31.0
24	199	27.9	206	20.9	+2	35.6	79	45.0	+23	06.2	122	53.5	+22	34.9	202	39.8	-3	30.9
Dif	—		+25		-6		+15		-2		+20		0		+22		+	

ALMANAQUE NÁUTICO PERSEIS

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 16 ^h 0 PMG: 12 ^h 00.7 ^m			Edad: 13.5 ^d PHE { 4 ^h : 54.1 12 ^h : 54.1 20 ^h : 54.0 PMG: 23 ^h 56 ^m R°: 43 ^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 47.6	+8 41.7	10 33.2	171	-5 38.1	141		60 N	19 11	19 57	20 57	19 00	87	4 37	0			
1	194 47.8		25 09.3	171	-5 52.2	140		58	06	48	43	18 54	83	41 3				
2	209 47.9		39 45.4	170	-6 06.2	140		56	19 01	41	31	49 80		44 6				
3	224 48.1		54 21.4	170		20.2	140	54	18 57	34	21	44 77		47 9				
4	239 48.3		68 57.4	170		34.2	139	52		53	29	40 74		50 11				
5	254 48.4	+8 46.3	83 33.4	170	-6 48.1			50	18 49	19 23	20 05	18 36	72	4 52	14			
6	269 48.6	+8 47.2	98 09.4	170	-7 02.0	139		45	18 42	19 12	19 49	18 28	66	4 58	18			
7	284 48.8		112 45.4	169		15.9	139	40	36	19 03	37	21 62		5 02	22			
8	299 48.9		127 21.3	170		29.8	139	35	30	18 56	27	15 59		06 25				
9	314 49.1		141 57.3	168		43.6	138	30	25	50	19	10 56		10 28				
10	329 49.2		156 33.1	168	-7 57.4	138		20	17	40	19 06	18 02	50	16 33				
11	344 49.4	+8 51.7	171 09.0	169	-8 11.2	138		10 N	18 10	18 32	18 57	17 54	46	5 21	37			
12	359 49.6	+8 52.6	185 44.9	169	-8 24.9	137		0	18 04	18 25	18 49	17 47	42	5 26	42			
13	14 49.7		200 20.7	168		38.6	137	10 S	17 58	19	43	40 38		31 46				
14	29 49.9		214 56.5	168	-8 52.3	137		20	51	13	39	32 34		37 50				
15	44 50.0		229 32.2	167	-9 05.9	136		30	44	08	36	24 28		43 55				
16	59 50.2		244 08.0	168		19.5	136	35	39	05	34	19 26		46 58				
17	74 50.4	+8 57.2	258 43.7	167	-9 33.1	136		40	17 35	18 02	18 33	17 13	23	5 50	62			
18	89 50.5	+8 58.1	273 19.3	166	-9 46.6	135		45	17 29	17 59	18 33	17 07	19	5 55	66			
19	104 50.7		287 55.0	167	-10 00.1	135		50	23	55	33	16 59	15	6 01	70			
20	119 50.8	+8 59.9	302 30.6	166		13.5	134	52	20	54	33	56 12		03 73				
21	134 51.0	+9 00.8	317 06.1	165		27.0	135	54	16	52	33	52 10		06 76				
22	149 51.2		331 41.7	166		40.3	133	56	13	50	33	48 7		09 79				
23	164 51.3		346 17.2	165	-10 53.7	134		58	09	49	34	43 4		13 82				
24	179 51.5	+9 03.5	0 52.6	164	-11 07.0	133		60 S	17 04	17 47	18 35	16 38	0	6 17	85			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 10 ^h 36.5 ^m		Mag: -4.7 PMG: 10 ^h 09 ^m			Mag: +0.6 PMG: 18 ^h 37 ^m			Mag: -2.1 PMG: 15 ^h 43 ^m			Mag: +1.2 PMG: 10 ^h 24 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /			
0	200 27.0	207 18.0	+2 21.7	80 20.0	+23 00.3	123 41.4	+22 36.0	203 32.5	-3 28.2									
1	215 29.5	222 20.4	21.1	95 21.4	+23 00.0	138 43.4	36.0	218 34.7	28.1									
2	230 31.9	237 22.7	20.6	110 22.9	+22 59.8	153 45.4	36.1	233 36.9	28.0									
3	245 34.4	252 25.0	20.0	125 24.4	59.5	168 47.4	36.1	248 39.1	27.9									
4	260 36.9	267 27.4	19.5	140 25.8	59.3	183 49.4	36.1	263 41.3	27.8									
5	275 39.3	282 29.7	+2 18.9	155 27.3	+22 59.0	198 51.3	+22 36.2	278 43.5	-3 27.7									
6	290 41.8	297 32.0	+2 18.4	170 28.7	+22 58.8	213 53.3	+22 36.2	293 45.7	-3 27.6									
7	305 44.2	312 34.3	17.8	185 30.1	58.5	228 55.3	36.3	308 47.9	27.5									
8	320 46.7	327 36.6	17.3	200 31.6	58.3	243 57.3	36.3	323 50.1	27.3									
9	335 49.2	342 38.9	16.7	215 33.0	58.0	258 59.3	36.4	338 52.3	27.2									
10	350 51.6	357 41.2	16.2	230 34.5	57.8	274 01.3	36.4	353 54.5	27.1									
11	5 54.1	12 43.5	+2 15.7	245 35.9	+22 57.5	289 03.3	+22 36.5	8 56.7	-3 27.0									
12	20 56.6	27 45.8	+2 15.1	260 37.4	+22 57.3	304 05.3	+22 36.5	23 58.9	-3 26.9									
13	35 59.0	42 48.1	14.6	275 38.8	57.0	319 07.3	36.6	39 01.1	26.8									
14	51 01.5	57 50.4	14.0	290 40.3	56.8	334 09.3	36.6	54 03.3	26.7									
15	66 04.0	72 52.7	13.5	305 41.7	56.5	349 11.3	36.6	69 05.5	26.6									
16	81 06.4	87 54.9	13.0	320 43.2	56.3	4 13.3	36.7	84 07.7	26.5									
17	96 08.9	102 57.2	+2 12.5	335 44.6	+22 56.0	19 15.3	+22 36.7	99 09.9	-3 26.4									
18	111 11.4	117 59.5	+2 11.9	350 46.1	+22 55.8	34 17.2	+22 36.8	114 12.1	-3 26.3									
19	126 13.8	133 01.8	11.4	5 47.5	55.5	49 19.2	36.8	129 14.3	26.1									
20	141 16.3	148 04.0	10.9	20 48.9	55.3	64 21.2	36.9	144 16.5	26.0									
21	156 18.7	163 06.3	10.4	35 50.4	55.0	79 23.2	36.9	159 18.7	25.9									
22	171 21.2	178 08.5	09.8	50 51.8	54.8	94 25.2	37.0	174 20.9	25.8									
23	186 23.7	193 10.8	09.3	65 53.3	54.5	109 27.2	37.0	189 23.1	25.7									
24	201 26.1	208 13.0	+2 08.8	80 54.7	+22 54.3	124 29.2	+22 37.1	204 25.3	-3 25.6									
Dif	—	+23	-5	+14	-3	+20	0	+22	+1									

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:12 ^h 00.4 ^m			Edad: 14.5 ^d PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 PMG: **h **m R°: **m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	179	51.5	+9	03.5	0	52.6	164	-11	07.0	132	60 N	3 03	4 03	4 49	20 26	90	4 36 **	
1	194	51.6		04.4	15	28.0	164		20.2	132	58	17	12	54	16	84	43 3	
2	209	51.8		05.3	30	03.4	164		33.4	132	56	29	19	4 59	20 07	81	49 6	
3	224	52.0		06.2	44	38.8	164		46.6	132	54	39	26	5 03	19 59	77	4 55 9	
4	239	52.1		07.1	59	14.1	163	-11	59.7	131	52	48	32	07	53	74	5 00 11	
5	254	52.3	+9	08.1	73	49.3	162	-12	12.8	131	50	3 56	4 37	5 11	19 46	72	5 04 14	
6	269	52.4	+9	09.0	88	24.6	163	-12	25.8	130	45	4 11	4 48	5 19	19 33	66	5 14 19	
7	284	52.6		09.9	102	59.7	161		38.8	130	40	24	4 57	25	22	62	23 22	
8	299	52.7		10.8	117	34.9	162	-12	51.7	129	35	34	5 05	30	13	59	30 26	
9	314	52.9		11.7	132	10.0	161	-13	04.6	129	30	42	11	35	19 05	56	36 29	
10	329	53.1		12.6	146	45.0	160		17.4	128	20	4 55	21	43	18 51	51	47 34	
11	344	53.2	+9	13.5	161	20.0	160	-13	30.2	128	10 N	5 04	5 29	5 51	18 39	47	5 57 38	
12	359	53.4	+9	14.4	175	55.0	160	-13	43.0	128	0	5 12	5 36	5 57	18 28	43	6 06 42	
13	14	53.5		15.3	190	29.9	159	-13	55.6	126	10 S	18	42	6 04	16	40	15 46	
14	29	53.7		16.2	205	04.7	158	-14	08.3	127	20	22	48	10	18 05	35	25 50	
15	44	53.9		17.1	219	39.5	158		20.8	125	30	26	54	18	17 51	31	37 55	
16	59	54.0		18.0	234	14.3	158		33.4	126	35	27	5 57	22	43	28	43 58	
17	74	54.2	+9	18.9	248	49.0	157	-14	45.8	124	40	5 28	6 00	6 27	17 35	24	6 51 61	
18	89	54.3	+9	19.8	263	23.7	157	-14	58.2	124	45	5 29	6 03	6 33	17 24	21	6 59 66	
19	104	54.5		20.7	277	58.3	156	-15	10.6	123	50	29	07	39	12	16	7 10 71	
20	119	54.6		21.6	292	32.8	155		22.9	123	52	29	08	43	07	13	15 73	
21	134	54.8		22.5	307	07.3	155		35.1	122	54	29	10	46	17 00	11	20 76	
22	149	54.9		23.4	321	41.8	155		47.3	122	56	29	12	50	16 53	8	26 80	
23	164	55.1		24.3	336	16.1	153	-15	59.4	121	58	28	14	54	46	4	33 83	
24	179	55.3	+9	25.2	350	50.5	154	-16	11.5	121	60 S	5 28	6 16	6 58	16 37	0	7 41 87	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 10 ^h 32.5 ^m		Mag: -4.7 PMG: 10 ^h 06 ^m			Mag: +0.6 PMG: 18 ^h 35 ^m			Mag: -2.0 PMG: 15 ^h 40 ^m			Mag: +1.2 PMG: 10 ^h 21 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	201	26.1	208	13.0	+2	08.8	80	54.7	+22	54.3	124	29.2	+22	37.1	204	25.3	-3	25.6
1	216	28.6	223	15.3		08.3	95	56.2		54.0	139	31.2		37.1	219	27.5		25.5
2	231	31.1	238	17.5		07.8	110	57.6		53.8	154	33.2		37.1	234	29.7		25.4
3	246	33.5	253	19.7		07.3	125	59.0		53.5	169	35.2		37.2	249	31.9		25.3
4	261	36.0	268	22.0		06.7	141	00.5		53.3	184	37.1		37.2	264	34.1		25.2
5	276	38.5	283	24.2	+2	06.2	156	01.9	+22	53.0	199	39.1	+22	37.3	279	36.3	-3	25.1
6	291	40.9	298	26.4	+2	05.7	171	03.4	+22	52.7	214	41.1	+22	37.3	294	38.5	-3	25.0
7	306	43.4	313	28.7		05.2	186	04.8		52.5	229	43.1		37.4	309	40.7		24.8
8	321	45.9	328	30.9		04.7	201	06.2		52.2	244	45.1		37.4	324	42.9		24.7
9	336	48.3	343	33.1		04.2	216	07.7		52.0	259	47.1		37.5	339	45.1		24.6
10	351	50.8	358	35.3		03.7	231	09.1		51.7	274	49.1		37.5	354	47.3		24.5
11	6	53.2	13	37.5	+2	03.2	246	10.5	+22	51.5	289	51.1	+22	37.5	9	49.5	-3	24.4
12	21	55.7	28	39.7	+2	02.7	261	12.0	+22	51.2	304	53.1	+22	37.6	24	51.7	-3	24.3
13	36	58.2	43	41.9		02.2	276	13.4		51.0	319	55.0		37.6	39	53.9		24.2
14	52	00.6	58	44.1		01.7	291	14.8		50.7	334	57.0		37.7	54	56.1		24.1
15	67	03.1	73	46.3		01.2	306	16.3		50.5	349	59.0		37.7	69	58.3		24.0
16	82	05.6	88	48.5		00.8	321	17.7		50.2	5	01.0		37.8	85	00.5		23.9
17	97	08.0	103	50.7	+2	00.3	336	19.1	+22	49.9	20	03.0	+22	37.8	100	02.7	-3	23.8
18	112	10.5	118	52.8	+1	59.8	351	20.6	+22	49.7	35	05.0	+22	37.9	115	04.9	-3	23.6
19	127	13.0	133	55.0		59.3	6	22.0		49.4	50	07.0		37.9	130	07.1		23.5
20	142	15.4	148	57.2		58.8	21	23.4		49.2	65	08.9		38.0	145	09.3		23.4
21	157	17.9	163	59.4		58.3	36	24.9		48.9	80	10.9		38.0	160	11.5		23.3
22	172	20.3	179	01.5		57.9	51	26.3		48.7	95	12.9		38.0	175	13.7		23.2
23	187	22.8	194	03.7		57.4	66	27.7		48.4	110	14.9		38.1	190	15.9		23.1
24	202	25.3	209	05.9	+1	56.9	81	29.2	+22	48.2	125	16.9	+22	38.1	205	18.1	-3	23.0
Dif	—		+22		-5		+14		-3		+20		0		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:12 ^h 00.2 ^m			Edad: 15.5 ^d PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 PMG: 0 ^h 38 ^m Rº: 45 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	55.3	+9	25.2	350	50.5	-16	11.5	60 N	19	16	20	02	21	04	21	56
1	194	55.4		26.1	5	24.7		23.5	58	10	19	53	20	49	40	89	46
2	209	55.6		27.0	19	59.0		35.4	56	05	45	37	28	83	4	55	11
3	224	55.7		27.9	34	33.1		47.3	54	19	01	38	26	16	80	5	04
4	239	55.9		28.8	49	07.2	-16	59.1	52	18	56	32	17	21	07	76	11
5	254	56.0	+9	29.7	63	41.3	-17	10.8	50	18	53	19	27	20	09	20	58
6	269	56.2	+9	30.6	78	15.3	-17	22.5	45	18	44	19	15	19	52	20	39
7	284	56.3		31.5	92	49.2		34.1	40	38	19	06	39	24	65	45	28
8	299	56.5		32.4	107	23.0		45.6	35	32	18	58	29	12	61	5	56
9	314	56.7		33.3	121	56.8	-17	57.1	30	27	51	20	20	01	58	6	05
10	329	56.8		34.2	136	30.6	-18	08.4	20	18	40	19	07	19	42	54	21
11	344	57.0	+9	35.1	151	04.2	-18	19.8	10 N	18	10	18	32	18	57	19	26
12	359	57.1	+9	36.0	165	37.9	-18	31.0	0	18	04	18	24	18	49	19	11
13	14	57.3		36.9	180	11.4		42.2	10 S	17	57	18	43	18	56	43	7
14	29	57.4		37.8	194	44.9	-18	53.3	20	49	12	37	40	40		15	54
15	44	57.6		38.7	209	18.3	-19	04.3	30	41	06	33	22	35		32	58
16	59	57.7		39.6	223	51.6		15.3	35	37	18	02	32	18	11	33	41
17	74	57.9	+9	40.5	238	24.9	-19	26.1	40	17	32	17	59	18	30	17	59
18	89	58.0	+9	41.3	252	58.1	-19	36.9	45	17	26	17	55	18	29	17	45
19	104	58.2		42.2	267	31.3		47.7	50	19	51	29	28	21		21	73
20	119	58.3		43.1	282	04.4	-19	58.3	52	15	50	29	20	19		28	76
21	134	58.5		44.0	296	37.4	-20	08.9	54	12	48	29	11	16		36	79
22	149	58.6		44.9	311	10.3		19.3	56	08	46	29	17	01	12	46	82
23	164	58.8		45.8	325	43.2		29.7	58	17	03	43	29	16	50	8	56
24	179	59.0	+9	46.7	340	16.0	-20	40.0	60 S	16	58	17	41	18	29	16	37

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 28.6 ^m		Mag: -4.7 PMG: 10 ^h 02 ^m		Mag: +0.7 PMG: 18 ^h 32 ^m		Mag: -2.0 PMG: 15 ^h 37 ^m		Mag: +1.2 PMG: 10 ^h 17 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	202	25.3	209	05.9	+1	56.9	81	29.2	+22	48.2
1	217	27.7	224	08.0		56.4	96	30.6		47.9
2	232	30.2	239	10.2		56.0	111	32.0		47.6
3	247	32.7	254	12.3		55.5	126	33.5		47.4
4	262	35.1	269	14.4		55.0	141	34.9		47.1
5	277	37.6	284	16.6	+1	54.6	156	36.3	+22	46.9
6	292	40.1	299	18.7	+1	54.1	171	37.7	+22	46.6
7	307	42.5	314	20.9		53.6	186	39.2		46.3
8	322	45.0	329	23.0		53.2	201	40.6		46.1
9	337	47.5	344	25.1		52.7	216	42.0		45.8
10	352	49.9	359	27.2		52.2	231	43.5		45.6
11	7	52.4	14	29.4	+1	51.8	246	44.9	+22	45.3
12	22	54.8	29	31.5	+1	51.3	261	46.3	+22	45.1
13	37	57.3	44	33.6		50.9	276	47.7		44.8
14	52	59.8	59	35.7		50.4	291	49.2		44.5
15	68	02.2	74	37.8		50.0	306	50.6		44.3
16	83	04.7	89	39.9		49.5	321	52.0		44.0
17	98	07.2	104	42.0	+1	49.1	336	53.4	+22	43.8
18	113	09.6	119	44.1	+1	48.6	351	54.8	+22	43.5
19	128	12.1	134	46.2		48.2	6	56.3		43.2
20	143	14.6	149	48.3		47.8	21	57.7		43.0
21	158	17.0	164	50.3		47.3	36	59.1		42.7
22	173	19.5	179	52.4		46.9	52	00.5		42.5
23	188	21.9	194	54.5		46.5	67	02.0		42.2
24	203	24.4	209	56.6	+1	46.0	82	03.4	+22	41.9
Dif	—		+21		-5		+14		-3	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 59.9 ^m			Edad: 16.5 ^d PHE { 4 ^h : 54'0 12 ^h : 54'1 20 ^h : 54'1 PMG: 1 ^h 21 ^m R°: 47 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	179	59.0	+9	46.7	340	16.0	-20	40.0	103	60 N	2 55	3 57	4 43	23 30	95	4 35 2	
1	194	59.1		47.6	354	48.8	-20	50.3	101	58	3 10	4 06	49	23 07	86	4 51 9	
2	209	59.3		48.5	9	21.4	-21	00.4	101	56	23	14	54	22 49	80	5 04 14	
3	224	59.4		49.4	23	54.0		10.5	99	54	33	21	4 59	34 76		16 18	
4	239	59.6		50.3	38	26.6		20.4	99	52	43	27	5 03	21 73		27 20	
5	254	59.7	+9	51.2	52	59.0	-21	30.3	98	50	3 51	4 33	5 07	22 10	70	5 36 23	
6	269	59.9	+9	52.1	67	31.4	-21	40.1	97	45	4 07	4 44	5 15	21 46	66	5 56 28	
7	285	00.0		53.0	82	03.7		49.8	96	40	20	4 54	22	27 63		6 12 31	
8	300	00.2		53.8	96	36.0	-21	59.4	96	35	31	5 02	28	21 11	60	25 35	
9	315	00.3		54.7	111	08.1	-22	09.0	94	30	40	09	33	20 58	58	37 37	
10	330	00.5		55.6	125	40.2		18.4	93	20	4 53	19	42	35 54		6 58 41	
11	345	00.6	+9	56.5	140	12.2	-22	27.7	93	10 N	5 03	5 28	5 50	20 15	52	7 16 44	
12	0	00.8	+9	57.4	154	44.2	-22	37.0	91	0	5 11	5 36	5 57	19 56	49	7 32 48	
13	15	00.9		58.3	169	16.1		46.1	91	10 S	18	42	6 04	38 46		7 49 51	
14	30	01.1	+9	59.2	183	47.9	-22	55.2	89	20	23	49	11	19 19	43	8 07 54	
15	45	01.2	+10	00.1	198	19.6	-23	04.1	89	30	27	55	19	18 56	40	28 58	
16	60	01.4		01.0	212	51.3		13.0	89	35	29	5 58	24	43 38		40 60	
17	75	01.5	+10	01.9	227	22.8	-23	21.8	88	40	5 30	6 02	6 29	18 28	35	8 55 62	
18	90	01.7	+10	02.7	241	54.4	-23	30.4	86	45	5 31	6 05	6 35	18 10	32	9 11 67	
19	105	01.8		03.6	256	25.8		39.0	86	50	32	10	43	17 48	27	32 72	
20	120	02.0		04.5	270	57.2		47.4	84	52	32	12	46	37 25		42 74	
21	135	02.1		05.4	285	28.4	-23	55.8	84	54	32	14	50	26 21		9 54 77	
22	150	02.3		06.3	299	59.7	-24	04.0	82	56	33	16	54	17 12	18	10 07 81	
23	165	02.4		07.2	314	30.8		12.2	82	58	32	18	6 58	16 57	12	22 86	
24	180	02.6	+10	08.1	329	01.9	-24	20.2	80	60 S	5 32	6 20	7 03	16 38	5	10 40 94	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 10 ^h 24.7 ^m		Mag: -4.7 PMG: 9 ^h 59 ^m		Mag: +0.7 PMG: 18 ^h 30 ^m		Mag: -2.0 PMG: 15 ^h 34 ^m		Mag: +1.2 PMG: 10 ^h 14 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	203	24.4	209	56.6	82	03.4	+22	41.9	126	04.5	+22	39.2	206	10.9	-3	20.4		
1	218	26.9	224	58.6	97	04.8		41.7	141	06.5		39.3	221	13.1		20.3		
2	233	29.3	240	00.7	112	06.2		41.4	156	08.4		39.3	236	15.3		20.2		
3	248	31.8	255	02.8	127	07.6		41.1	171	10.4		39.3	251	17.5		20.1		
4	263	34.3	270	04.8	142	09.1		40.9	186	12.4		39.4	266	19.7		20.0		
5	278	36.7	285	06.9	157	10.5	+22	40.6	201	14.4	+22	39.4	281	21.9	-3	19.9		
6	293	39.2	300	08.9	172	11.9	+22	40.4	216	16.4	+22	39.5	296	24.2	-3	19.8		
7	308	41.7	315	11.0	187	13.3		40.1	231	18.3		39.5	311	26.4		19.7		
8	323	44.1	330	13.0	202	14.7		39.8	246	20.3		39.6	326	28.6		19.5		
9	338	46.6	345	15.0	217	16.1		39.6	261	22.3		39.6	341	30.8		19.4		
10	353	49.1	0	17.1	232	17.6		39.3	276	24.3		39.7	356	33.0		19.3		
11	8	51.5	15	19.1	247	19.0	+22	39.0	291	26.3	+22	39.7	11	35.2	-3	19.2		
12	23	54.0	30	21.1	262	20.4	+22	38.8	306	28.2	+22	39.8	26	37.4	-3	19.1		
13	38	56.4	45	23.2	277	21.8		38.5	321	30.2		39.8	41	39.6		19.0		
14	53	58.9	60	25.2	292	23.2		38.3	336	32.2		39.8	56	41.8		18.9		
15	69	01.4	75	27.2	307	24.6		38.0	351	34.2		39.9	71	44.0		18.8		
16	84	03.8	90	29.2	322	26.0		37.7	6	36.2		39.9	86	46.2		18.7		
17	99	06.3	105	31.2	337	27.5	+22	37.5	21	38.1	+22	40.0	101	48.4	-3	18.6		
18	114	08.8	120	33.2	352	28.9	+22	37.2	36	40.1	+22	40.0	116	50.6	-3	18.5		
19	129	11.2	135	35.2	7	30.3		36.9	51	42.1		40.1	131	52.8		18.4		
20	144	13.7	150	37.2	22	31.7		36.7	66	44.1		40.1	146	55.0		18.3		
21	159	16.2	165	39.2	37	33.1		36.4	81	46.1		40.2	161	57.2		18.2		
22	174	18.6	180	41.2	52	34.5		36.1	96	48.0		40.2	176	59.4		18.1		
23	189	21.1	195	43.2	67	35.9		35.9	111	50.0		40.2	192	01.6		17.9		
24	204	23.6	210	45.2	82	37.3	+22	35.6	126	52.0	+22	40.3	207	03.8	-3	17.8		
Dif	—		+20		-4		+14		-3		+20		0		+22		+1	

UT	SOL		☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 59.7 ^m		Edad: 17.5 ^d SD: 14'8 PMG: 2 ^h 08 ^m		PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'4 Rº: 51 ^m											
	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	180 02.6	+10 08.1	329 01.9		-24 20.2		60 N	19 21	20 08	21 11	** ** *	** ** *	4 37	9		
1	195 02.7	09.0	343 32.9	120	28.2	80	58	15	19 58	20 55	** ** *	** ** *	5 00	18		
2	210 02.8	09.8	358 03.8	119	36.0	78	56	09	50	42	** ** *	** ** *	18 24			
3	225 03.0	10.7	12 34.6	118	43.7	77	54	04	43	31	23 50	69	34	27		
4	240 03.1	11.6	27 05.4	118	51.3	76	52	19 00	36	21	34 67		47	31		
5	255 03.3	+10 12.5	41 36.1	117	-24 58.8	75	50	18 56	19 30	20 13	23 20	66	5 59	33		
6	270 03.4	+10 13.4	56 06.8	117	-25 06.2	74	45	18 47	19 18	19 55	22 52	63	6 24	37		
7	285 03.6	14.3	70 37.3	115	13.5	73	40	40	08	42	30 61		6 43	41		
8	300 03.7	15.1	85 07.8	115	20.7	72	35	33	19 00	31	22 11	60	7 00	42		
9	315 03.9	16.0	99 38.2	114	27.7	70	30	28	18 53	22	21 56	58	14	44		
10	330 04.0	16.9	114 08.6	114	34.7	70	20	19	41	19 08	29 57		7 39	47		
11	345 04.2	+10 17.8	128 38.8	112	-25 41.5	68	10 N	18 11	18 32	18 57	21 07	54	8 00	49		
12	0 04.3	+10 18.7	143 09.0	112	-25 48.2	67	0	18 03	18 24	18 48	20 45	53	8 20	51		
13	15 04.5	19.6	157 39.2	112	-25 54.8	66	10 S	17 56	17	42	24 52		8 40	53		
14	30 04.6	20.4	172 09.2	110	-26 01.3	65	20	48	10	36	20 02	50	9 01	56		
15	45 04.8	21.3	186 39.2	110	07.6	63	30	39	03	31	19 36	47	26	59		
16	60 04.9	22.2	201 09.1	109	13.8	62	35	34	18 00	29	21 46		40	61		
17	75 05.0	+10 23.1	215 39.0	109	-26 20.0	62	40	17 29	17 56	18 28	19 03	44	9 57	63		
18	90 05.2	+10 24.0	230 08.8	108	-26 25.9	59	45	17 22	17 52	18 26	18 42	42	10 18	65		
19	105 05.3	24.9	244 38.5	107	31.8	59	50	15	47	25	15 39		44	69		
20	120 05.5	25.7	259 08.1	106	37.6	58	52	11	45	25	18 02	37	10 56	71		
21	135 05.6	26.6	273 37.7	106	43.2	56	54	07	43	24	17 47	35	11 11	74		
22	150 05.8	27.5	288 07.2	105	48.7	55	56	17 03	41	24	30 31		28	77		
23	165 05.9	28.4	302 36.7	105	54.1	54	58	16 58	38	24	17 09	26	11 48	83		
24	180 06.1	+10 29.3	317 06.1	104	-26 59.3	52	60 S	16 53	17 36	18 24	16 43	16	12 14	93		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 10 ^h 20.7 ^m		Mag: -4.8 PMG: 9 ^h 56 ^m		Mag: +0.7 PMG: 18 ^h 28 ^m		Mag: -2.0 PMG: 15 ^h 30 ^m		Mag: +1.2 PMG: 10 ^h 10 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec				
h	° /	° /	° /		° /		° /		° /		° /		° /		° /	
0	204 23.6	210 45.2	+1 36.2		82 37.3	+22 35.6	126 52.0	+22 40.3	207 03.8	-3 17.8						
1	219 26.0	225 47.2	35.8		97 38.8	35.3	141 54.0	40.3	222 06.0	17.7						
2	234 28.5	240 49.2	35.4		112 40.2	35.1	156 55.9	40.4	237 08.2	17.6						
3	249 30.9	255 51.1	35.0		127 41.6	34.8	171 57.9	40.4	252 10.4	17.5						
4	264 33.4	270 53.1	34.6		142 43.0	34.5	186 59.9	40.5	267 12.6	17.4						
5	279 35.9	285 55.1	+1 34.2		157 44.4	+22 34.3	202 01.9	+22 40.5	282 14.8	-3 17.3						
6	294 38.3	300 57.0	+1 33.9		172 45.8	+22 34.0	217 03.8	+22 40.6	297 17.0	-3 17.2						
7	309 40.8	315 59.0	33.5		187 47.2	33.8	232 05.8	40.6	312 19.2	17.1						
8	324 43.3	331 01.0	33.1		202 48.6	33.5	247 07.8	40.6	327 21.4	17.0						
9	339 45.7	346 02.9	32.7		217 50.0	33.2	262 09.8	40.7	342 23.6	16.9						
10	354 48.2	1 04.9	32.3		232 51.4	33.0	277 11.7	40.7	357 25.8	16.8						
11	9 50.7	16 06.8	+1 32.0		247 52.8	+22 32.7	292 13.7	+22 40.8	12 28.0	-3 16.7						
12	24 53.1	31 08.8	+1 31.6		262 54.2	+22 32.4	307 15.7	+22 40.8	27 30.2	-3 16.6						
13	39 55.6	46 10.7	31.2		277 55.6	32.1	322 17.7	40.9	42 32.5	16.4						
14	54 58.1	61 12.6	30.9		292 57.0	31.9	337 19.6	40.9	57 34.7	16.3						
15	70 00.5	76 14.6	30.5		307 58.5	31.6	352 21.6	41.0	72 36.9	16.2						
16	85 03.0	91 16.5	30.1		322 59.9	31.3	7 23.6	41.0	87 39.1	16.1						
17	100 05.4	106 18.4	+1 29.8		338 01.3	+22 31.1	22 25.6	+22 41.0	102 41.3	-3 16.0						
18	115 07.9	121 20.4	+1 29.4		353 02.7	+22 30.8	37 27.5	+22 41.1	117 43.5	-3 15.9						
19	130 10.4	136 22.3	29.1		8 04.1	30.5	52 29.5	41.1	132 45.7	15.8						
20	145 12.8	151 24.2	28.7		23 05.5	30.3	67 31.5	41.2	147 47.9	15.7						
21	160 15.3	166 26.1	28.4		38 06.9	30.0	82 33.5	41.2	162 50.1	15.6						
22	175 17.8	181 28.0	28.0		53 08.3	29.7	97 35.4	41.3	177 52.3	15.5						
23	190 20.2	196 29.9	27.7		68 09.7	29.5	112 37.4	41.3	192 54.5	15.4						
24	205 22.7	211 31.8	+1 27.3		83 11.1	+22 29.2	127 39.4	+22 41.4	207 56.7	-3 15.3						
Dif	—	+19	-4		+14	-3	+20	0	+22	+1						

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 59.5 ^m			Edad: 18.5 ^d PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 52 ^m PMG: 2 ^h 58 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m
0	180	06.1	+10	29.3	317	06.1	103	-26	59.3	51	60 N	2 47	3 50	4 37	1 05	85	4 44 24
1	195	06.2		30.1	331	35.4	102	-27	04.4	50	58	3 03	4 00	43	0 33	75	5 17 33
2	210	06.3		31.0	346	04.6	102		09.4	49	56	16	08	49	0 09	71	5 41 37
3	225	06.5		31.9	0	33.8	102		14.3	49	54	28	16	54	**	**	6 00 40
4	240	06.6		32.8	15	03.0	102		19.0	47	52	37	22	4 59	**	**	17 42
5	255	06.8	+10	33.6	29	32.0	100	-27	23.6	46	50	3 46	4 28	5 03	**	**	6 31 43
6	270	06.9	+10	34.5	44	01.0	100	-27	28.1	45	45	4 03	4 41	5 12	23 53	54	7 00 45
7	285	07.1		35.4	58	30.0	100		32.4	43	40	17	51	19	29	54	22 48
8	300	07.2		36.3	72	58.9	99		36.6	42	35	28	4 59	25	23 10	54	41 48
9	315	07.4		37.2	87	27.7	98		40.7	41	30	37	5 06	31	22 53	54	7 57 50
10	330	07.5		38.0	101	56.5	98		44.7	40	20	4 51	18	40	24	54	8 25 50
11	345	07.6	+10	38.9	116	25.2	97	-27	48.5	38	10 N	5 02	5 27	5 49	22 00	54	8 48 52
12	0	07.8	+10	39.8	130	53.9	97	-27	52.1	36	0	5 11	5 35	5 56	21 37	54	9 10 53
13	15	07.9		40.7	145	22.5	96		55.7	36	10 S	18	42	6 04	21 15	53	32 54
14	30	08.1		41.5	159	51.1	96	-27	59.1	34	20	23	49	12	20 50	53	9 56 54
15	45	08.2		42.4	174	19.6	95	-28	02.3	32	30	28	5 56	20	22	53	10 23 56
16	60	08.3		43.3	188	48.0	94		05.5	32	35	30	6 00	25	20 05	53	40 56
17	75	08.5	+10	44.2	203	16.4	94	-28	08.4	29	40	5 32	6 04	6 31	19 46	52	10 59 57
18	90	08.6	+10	45.0	217	44.8	94	-28	11.3	27	45	5 34	6 08	6 38	19 23	51	11 22 58
19	105	08.8		45.9	232	13.1	93		14.0	26	50	35	13	46	18 53	50	11 51 60
20	120	08.9		46.8	246	41.4	93		16.6	26	52	36	15	49	38	50	12 06 60
21	135	09.1		47.7	261	09.6	92		19.0	24	54	36	17	53	21	49	23 61
22	150	09.2		48.5	275	37.7	91		21.3	23	56	36	19	6 58	18 00	48	12 44 62
23	165	09.3		49.4	290	05.9	92		23.4	21	58	36	22	7 02	17 34	46	13 10 64
24	180	09.5	+10	50.3	304	34.0	91	-28	25.4	20	60 S	5 37	6 25	7 08	16 58	41	13 45 70

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 10 ^h 16.8 ^m		Mag: -4.8 PMG: 9 ^h 53 ^m		Mag: +0.7 PMG: 18 ^h 26 ^m		Mag: -2.0 PMG: 15 ^h 27 ^m		Mag: +1.2 PMG: 10 ^h 07 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	205	22.7	211	31.8	+1	27.3	83	11.1	+22	29.2	127	39.4	+22	41.4	207	56.7	-3	15.3
1	220	25.2	226	33.7		27.0	98	12.5		28.9	142	41.3		41.4	222	58.9		15.2
2	235	27.6	241	35.6		26.6	113	13.9		28.7	157	43.3		41.4	238	01.1		15.1
3	250	30.1	256	37.5		26.3	128	15.3		28.4	172	45.3		41.5	253	03.3		15.0
4	265	32.5	271	39.4		25.9	143	16.7		28.1	187	47.3		41.5	268	05.5		14.9
5	280	35.0	286	41.3	+1	25.6	158	18.1	+22	27.8	202	49.2	+22	41.6	283	07.7	-3	14.7
6	295	37.5	301	43.2	+1	25.3	173	19.5	+22	27.6	217	51.2	+22	41.6	298	09.9	-3	14.6
7	310	39.9	316	45.1		24.9	188	20.9		27.3	232	53.2		41.7	313	12.1		14.5
8	325	42.4	331	46.9		24.6	203	22.3		27.0	247	55.2		41.7	328	14.3		14.4
9	340	44.9	346	48.8		24.3	218	23.7		26.8	262	57.1		41.7	343	16.5		14.3
10	355	47.3	1	50.7		23.9	233	25.1		26.5	277	59.1		41.8	358	18.8		14.2
11	10	49.8	16	52.6	+1	23.6	248	26.5	+22	26.2	293	01.1	+22	41.8	13	21.0	-3	14.1
12	25	52.3	31	54.4	+1	23.3	263	27.9	+22	25.9	308	03.0	+22	41.9	28	23.2	-3	14.0
13	40	54.7	46	56.3		23.0	278	29.2		25.7	323	05.0		41.9	43	25.4		13.9
14	55	57.2	61	58.1		22.6	293	30.6		25.4	338	07.0		42.0	58	27.6		13.8
15	70	59.7	77	00.0		22.3	308	32.0		25.1	353	08.9		42.0	73	29.8		13.7
16	86	02.1	92	01.8		22.0	323	33.4		24.9	8	10.9		42.1	88	32.0		13.6
17	101	04.6	107	03.7	+1	21.7	338	34.8	+22	24.6	23	12.9	+22	42.1	103	34.2	-3	13.5
18	116	07.0	122	05.5	+1	21.4	353	36.2	+22	24.3	38	14.9	+22	42.1	118	36.4	-3	13.4
19	131	09.5	137	07.4		21.0	8	37.6		24.0	53	16.8		42.2	133	38.6		13.3
20	146	12.0	152	09.2		20.7	23	39.0		23.8	68	18.8		42.2	148	40.8		13.2
21	161	14.4	167	11.0		20.4	38	40.4		23.5	83	20.8		42.3	163	43.0		13.1
22	176	16.9	182	12.9		20.1	53	41.8		23.2	98	22.7		42.3	178	45.2		13.0
23	191	19.4	197	14.7		19.8	68	43.2		22.9	113	24.7		42.4	193	47.4		12.8
24	206	21.8	212	16.5	+1	19.5	83	44.6	+22	22.7	128	26.7	+22	42.4	208	49.6	-3	12.7
Dif	—		+19		-3		+14		-3		+20		0		+22		+1	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 59.3 ^m			Edad: 19.5 ^d SD: 14'9 PMG: 3 ^h 50 ^m PHE { 4 ^h : 54'9 12 ^h : 55'0 20 ^h : 55'2 R°: 55 ^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	180 09.5	+10 50.3		304 34.0		-28 25.4		60 N	19 26	20 14	21 19	2 30	52	5 08	63	
1	195 09.6		51.1	319 02.0	90		27.3	58	19	20 03	21 02	1 48	54	5 50	61	
2	210 09.8		52.0	333 30.0	90		29.0	56	13	19 54	20 48	1 20	54	6 18	60	
3	225 09.9		52.9	347 58.0	90		30.5	54	08		47	36	0 58	55	40 60	
4	240 10.0		53.8	2 25.9	89		32.0	52	19 03		40	26	40 55	6 59	59	
5	255 10.2	+10 54.6		16 53.8	89	-28 33.3		50	18 59	19 34	20 17	0 24	55	7 14	59	
6	270 10.3	+10 55.5		31 21.6	88	-28 34.4	11	45	18 49	19 20	19 58	** ** *	**	7 45	58	
7	285 10.4		56.4	45 49.5	89		35.4	40	42	10	44	** ** *	**	8 10	57	
8	300 10.6		57.2	60 17.2	87		36.2	35	35	19 01	33	** ** *	**	29	58	
9	315 10.7		58.1	74 45.0	88		36.9	30	29	18 54	23	23 47	50	8 47	56	
10	330 10.9		59.0	89 12.7	87		37.5	20	19	42	19 08	23 18	53	9 15	57	
11	345 11.0	+10 59.8		103 40.4	87	-28 37.9	4	10 N	18 11	18 32	18 57	22 54	54	9 40	56	
12	0 11.1	+11 00.7		118 08.1	87	-28 38.1	2	0	18 03	18 24	18 48	22 31	55	10 03	55	
13	15 11.3		01.6	132 35.7	86		38.2	10 S	17 55		16	41	22 08	57	26 54	
14	30 11.4		02.5	147 03.3	86		38.2	20	46	09	35	21 43	58	10 50	54	
15	45 11.6		03.3	161 30.9	86		38.0	30	37	18 01	29	21 15	59	11 19	53	
16	60 11.7		04.2	175 58.5	86		37.6	35	32	17 58	27	20 58	60	36	52	
17	75 11.8	+11 05.1		190 26.1	86	-28 37.1	5	40	17 26	17 53	18 25	20 38	62	11 56	52	
18	90 12.0	+11 05.9		204 53.6	85	-28 36.5	6	45	17 19	17 49	18 23	20 14	63	12 20	51	
19	105 12.1		06.8	219 21.1	85		35.7	50	11	44	21	19 43	65	12 51	49	
20	120 12.2		07.7	233 48.6	85		34.8	52	07	41	21	28 66		13 06	48	
21	135 12.4		08.5	248 16.1	85		33.7	54	17 03	39	20	19 10	68	24	47	
22	150 12.5		09.4	262 43.5	85		32.4	56	16 58	36	19	18 48	70	13 46	45	
23	165 12.6		10.2	277 11.0	84		31.0	58	53	33	19	18 20	74	14 14	42	
24	180 12.8	+11 11.1		291 38.4	84	-28 29.5	15	60 S	16 47	17 30	18 18	17 39	81	14 55	34	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 12.9 ^m		Mag: -4.8 PMG: 9 ^h 50 ^m		Mag: +0.8 PMG: 18 ^h 23 ^m		Mag: -2.0 PMG: 15 ^h 24 ^m		Mag: +1.2 PMG: 10 ^h 03 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /		° /		° /	° /
0	206 21.8		212 16.5	+1 19.5	83 44.6	+22 22.7	128 26.7	+22 42.4	208 49.6	-3 12.7
1	221 24.3		227 18.3	19.2	98 46.0		22.4		223 51.8	12.6
2	236 26.8		242 20.2	18.9	113 47.4		22.1		238 54.0	12.5
3	251 29.2		257 22.0	18.6	128 48.7		21.8		253 56.3	12.4
4	266 31.7		272 23.8	18.3	143 50.1		21.6		268 58.5	12.3
5	281 34.2		287 25.6	+1 18.0	158 51.5	+22 21.3	203 36.5	+22 42.6	284 00.7	-3 12.2
6	296 36.6		302 27.4	+1 17.7	173 52.9	+22 21.0	218 38.5	+22 42.7	299 02.9	-3 12.1
7	311 39.1		317 29.2	17.4	188 54.3		20.7		314 05.1	12.0
8	326 41.5		332 31.0	17.1	203 55.7		20.5		329 07.3	11.9
9	341 44.0		347 32.8	16.8	218 57.1		20.2		344 09.5	11.8
10	356 46.5		2 34.6	16.5	233 58.5		19.9		359 11.7	11.7
11	11 48.9		17 36.4	+1 16.2	248 59.9	+22 19.6	293 48.3	+22 42.9	14 13.9	-3 11.6
12	26 51.4		32 38.2	+1 16.0	264 01.2	+22 19.4	308 50.3	+22 42.9	29 16.1	-3 11.5
13	41 53.9		47 39.9	15.7	279 02.6		19.1		44 18.3	11.4
14	56 56.3		62 41.7	15.4	294 04.0		18.8		59 20.5	11.3
15	71 58.8		77 43.5	15.1	309 05.4		18.5		74 22.7	11.2
16	87 01.3		92 45.3	14.8	324 06.8		18.3		89 24.9	11.1
17	102 03.7		107 47.0	+1 14.6	339 08.2	+22 18.0	24 00.1	+22 43.2	104 27.1	-3 11.0
18	117 06.2		122 48.8	+1 14.3	354 09.6	+22 17.7	39 02.1	+22 43.2	119 29.4	-3 10.8
19	132 08.7		137 50.6	14.0	9 10.9		17.4		134 31.6	10.7
20	147 11.1		152 52.3	13.7	24 12.3		17.2		149 33.8	10.6
21	162 13.6		167 54.1	13.5	39 13.7		16.9		164 36.0	10.5
22	177 16.0		182 55.8	13.2	54 15.1		16.6		179 38.2	10.4
23	192 18.5		197 57.6	12.9	69 16.5		16.3		194 40.4	10.3
24	207 21.0		212 59.3	+1 12.7	84 17.9	+22 16.0	129 13.9	+22 43.5	209 42.6	-3 10.2
Dif	—		+18	-3	+14	-3	+20	0	+22	+

UT	SOL				LUNA							Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'9 PMG:11 ^h 59.0 ^m				Edad: 20.5 ^d PHE { 4 ^h : 55'4 12 ^h : 55'6 20 ^h : 55'8 PMG: 4 ^h 44 ^m R°: 54 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec				Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	180	12.8	+11	11.1	291	38.4	85	-28	29.5	17	60 N	2 39	3 44	4 31	3 21	18	6 09	95		
1	195	12.9		12.0	306	05.9	84		27.8	19	58	2 56	3 54	38	2 41	29	6 49	83		
2	210	13.1		12.8	320	33.3	84		25.9	20	56	3 10	4 03	44	2 13	35	7 17	77		
3	225	13.2		13.7	335	00.7	84		23.9	21	54	22	11	49	1 51	38	38	75		
4	240	13.3		14.6	349	28.1	84		21.8	23	52	32	18	54	33	41	7 56	72		
5	255	13.5	+11	15.4	3	55.5	84	-28	19.5	25	50	3 41	4 24	4 59	1 18	42	8 11	70		
6	270	13.6	+11	16.3	18	22.9	84	-28	17.0	26	45	3 59	4 37	5 08	0 47	45	8 42	66		
7	285	13.7		17.2	32	50.3	84		14.4	27	40	4 14	48	16	23	47	9 06	64		
8	300	13.9		18.0	47	17.7	84		11.7	29	35	25	4 57	23	0 04	48	25	62		
9	315	14.0		18.9	61	45.1	84		08.8	31	30	35	5 04	29	** ** *	**	9 42	60		
10	330	14.1		19.7	76	12.5	84		05.7	32	20	4 50	16	39	** ** *	**	10 10	58		
11	345	14.3	+11	20.6	90	39.9	84	-28	02.5	34	10 N	5 01	5 26	5 48	23 46	51	10 34	56		
12	0	14.4	+11	21.5	105	07.3	84	-27	59.1	35	0	5 10	5 35	5 56	23 25	53	10 57	54		
13	15	14.5		22.3	119	34.7	84		55.6	36	10 S	18	42	6 04	23 03	56	11 19	52		
14	30	14.7		23.2	134	02.1	84		52.0	38	20	24	50	12	22 40	59	11 43	50		
15	45	14.8		24.0	148	29.5	84		48.2	40	30	29	5 57	22	22 13	62	12 11	47		
16	60	14.9		24.9	162	57.0	85		44.2	41	35	32	6 01	27	21 57	64	27	45		
17	75	15.1	+11	25.8	177	24.4	84	-27	40.1	43	40	5 34	6 06	6 33	21 38	67	12 46	43		
18	90	15.2	+11	26.6	191	51.9	85	-27	35.8	44	45	5 36	6 10	6 40	21 16	70	13 09	40		
19	105	15.3		27.5	206	19.3	84		31.4	46	50	38	16	49	20 47	74	39	36		
20	120	15.5		28.3	220	46.8	85		26.8	47	52	39	18	53	33	77	13 53	34		
21	135	15.6		29.2	235	14.3	85		22.1	49	54	39	20	6 57	20 16	80	14 10	31		
22	150	15.7		30.1	249	41.8	85		17.2	50	56	40	23	7 02	19 57	84	30	27		
23	165	15.8		30.9	264	09.3	85		12.2	52	58	40	26	07	19 32	90	14 54	22		
24	180	16.0	+11	31.8	278	36.9	86	-27	07.0	52	60 S	5 41	6 29	7 13	18 59	100	15 28	11		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 10 ^h 08.9 ^m				Mag: -4.8 PMG: 9 ^h 47 ^m				Mag: +0.8 PMG: 18 ^h 21 ^m				Mag: -2.0 PMG: 15 ^h 21 ^m				Mag: +1.2 PMG: 10 ^h 00 ^m			
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♂		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	207	21.0	212	59.3	+1	12.7	84	17.9	+22	16.0	129	13.9	+22	43.5	209	42.6	-3	10.2		
1	222	23.4	228	01.1		12.4	99	19.2		15.8	144	15.8		43.5	224	44.8		10.1		
2	237	25.9	243	02.8		12.2	114	20.6		15.5	159	17.8		43.5	239	47.0		10.0		
3	252	28.4	258	04.5		11.9	129	22.0		15.2	174	19.8		43.6	254	49.2		09.9		
4	267	30.8	273	06.3		11.6	144	23.4		14.9	189	21.7		43.6	269	51.4		09.8		
5	282	33.3	288	08.0	+1	11.4	159	24.8	+22	14.7	204	23.7	+22	43.7	284	53.6	-3	09.7		
6	297	35.8	303	09.7	+1	11.1	174	26.1	+22	14.4	219	25.7	+22	43.7	299	55.8	-3	09.6		
7	312	38.2	318	11.5		10.9	189	27.5		14.1	234	27.6		43.8	314	58.1		09.5		
8	327	40.7	333	13.2		10.6	204	28.9		13.8	249	29.6		43.8	330	00.3		09.4		
9	342	43.1	348	14.9		10.4	219	30.3		13.5	264	31.5		43.8	345	02.5		09.3		
10	357	45.6	3	16.6		10.1	234	31.7		13.3	279	33.5		43.9	0	04.7		09.2		
11	12	48.1	18	18.3	+1	09.9	249	33.0	+22	13.0	294	35.5	+22	43.9	15	06.9	-3	09.1		
12	27	50.5	33	20.0	+1	09.6	264	34.4	+22	12.7	309	37.4	+22	44.0	30	09.1	-3	09.0		
13	42	53.0	48	21.7		09.4	279	35.8		12.4	324	39.4		44.0	45	11.3		08.9		
14	57	55.5	63	23.4		09.2	294	37.2		12.1	339	41.4		44.1	60	13.5		08.8		
15	72	57.9	78	25.1		08.9	309	38.5		11.9	354	43.3		44.1	75	15.7		08.7		
16	88	00.4	93	26.8		08.7	324	39.9		11.6	9	45.3		44.2	90	17.9		08.5		
17	103	02.9	108	28.5	+1	08.5	339	41.3	+22	11.3	24	47.2	+22	44.2	105	20.1	-3	08.4		
18	118	05.3	123	30.2	+1	08.2	354	42.7	+22	11.0	39	49.2	+22	44.2	120	22.4	-3	08.3		
19	133	07.8	138	31.9		08.0	9	44.0		10.7	54	51.2		44.3	135	24.6		08.2		
20	148	10.3	153	33.6		07.8	24	45.4		10.4	69	53.1		44.3	150	26.8		08.1		
21	163	12.7	168	35.3		07.5	39	46.8		10.2	84	55.1		44.4	165	29.0		08.0		
22	178	15.2	183	36.9		07.3	54	48.2		09.9	99	57.0		44.4	180	31.2		07.9		
23	193	17.6	198	38.6		07.1	69	49.5		09.6	114	59.0		44.5	195	33.4		07.8		
24	208	20.1	213	40.3	+1	06.9	84	50.9	+22	09.3	130	01.0	+22	44.5	210	35.6	-3	07.7		
Dif	—		+17		-2		+14		-3		+20		0		+22		+			

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 58.8 ^m			Edad: 21.5 ^d SD: 15'2 PMG: 5 ^h 38 ^m													
				PHE { 4 ^h : 56'1 12 ^h : 56'3 20 ^h : 56'6 R°: 54 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico		R°		R°	
h	°	'	°	°	'	°	'	°	'	°	h	m	h	m	h	m	
0	180	16.0	+11	31.8		278	36.9	-27	07.0	53	19	31	20	19	21	27	
1	195	16.1		32.6		293	04.4	-27	01.7	55	24		20	08	21	08	
2	210	16.2		33.5		307	32.0	-26	56.2	56	17	59	59	20	53	2	
3	225	16.4		34.3		321	59.6		50.6	56	12	51	41	29	27	8	
4	240	16.5		35.2		336	27.3		44.9	57	07	43	30	14	29	9	
5	255	16.6	+11	36.1		350	54.9	-26	39.0	59	19	02	19	37	20	21	
6	270	16.8	+11	36.9	5	22.6	87	-26	32.9	61	18	52	19	23	20	01	
7	285	16.9		37.8	19	50.3	87		26.7	62	44		12	19	46	1	
8	300	17.0		38.6	34	18.0	87		20.3	64	37	19	03	35	0	52	
9	315	17.2		39.5	48	45.7	87		13.8	65	30	18	55	25	36	46	
10	330	17.3		40.3	63	13.5	88		07.2	66	20	43	19	09	0	09	
11	345	17.4	+11	41.2	77	41.3	88	-26	00.4	68	18	11	18	32	18	57	
12	0	17.5	+11	42.0	92	09.2	89	-25	53.5	69	18	02	18	23	18	48	
13	15	17.7		42.9	106	37.0	88		46.4	71	17	54	15		40	23	
14	30	17.8		43.7	121	04.9	89		39.1	73	45		18	07	33	39	
15	45	17.9		44.6	135	32.8	89		31.8	73	35	17	59	27	15	66	
16	60	18.1		45.4	150	00.8	90		24.3	75	29		55	25	23	01	
17	75	18.2	+11	46.3	164	28.8	90	-25	16.6	77	17	23	17	51	18	22	
18	90	18.3	+11	47.1	178	56.8	91	-25	08.8	78	17	16	17	46	18	20	
19	105	18.4		48.0	193	24.9	91	-25	00.9	79		07	40	18	22	01	
20	120	18.6		48.8	207	53.0	91	-24	52.8	81	17	03	37	17	21	50	
21	135	18.7		49.7	222	21.1	91		44.6	82	16	58	35	16	36	89	
22	150	18.8		50.5	236	49.3	92		36.2	84		53	32	15	21	92	
23	165	18.9		51.4	251	17.5	92		27.7	85		48	28	14	21	02	
24	180	19.1	+11	52.2	265	45.7	92	-24	19.1	86	16	41	17	25	18	13	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 10 ^h 05.0 ^m		Mag: -4.8 PMG: 9 ^h 44 ^m			Mag: +0.8 PMG: 18 ^h 19 ^m			Mag: -2.0 PMG: 15 ^h 18 ^m			Mag: +1.2 PMG: 9 ^h 56 ^m				
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°	'	
0	208	20.1	213	40.3	+1	06.9	84	50.9	+22	09.3	130	01.0	+22	44.5	210	35.6
1	223	22.6	228	42.0		06.6	99	52.3		09.0	145	02.9		44.5	225	37.8
2	238	25.0	243	43.6		06.4	114	53.7		08.8	160	04.9		44.6	240	40.0
3	253	27.5	258	45.3		06.2	129	55.0		08.5	175	06.9		44.6	255	42.2
4	268	30.0	273	46.9		06.0	144	56.4		08.2	190	08.8		44.7	270	44.4
5	283	32.4	288	48.6	+1	05.8	159	57.8	+22	07.9	205	10.8	+22	44.7	285	46.7
6	298	34.9	303	50.3	+1	05.6	174	59.1	+22	07.6	220	12.7	+22	44.8	300	48.9
7	313	37.4	318	51.9		05.4	190	00.5		07.3	235	14.7		44.8	315	51.1
8	328	39.8	333	53.6		05.1	205	01.9		07.1	250	16.7		44.8	330	53.3
9	343	42.3	348	55.2		04.9	220	03.3		06.8	265	18.6		44.9	345	55.5
10	358	44.8		56.8		04.7	235	04.6		06.5	280	20.6		44.9	0	57.7
11	13	47.2	18	58.5	+1	04.5	250	06.0	+22	06.2	295	22.5	+22	45.0	15	59.9
12	28	49.7	34	00.1	+1	04.3	265	07.4	+22	05.9	310	24.5	+22	45.0	31	02.1
13	43	52.1	49	01.7		04.1	280	08.7		05.6	325	26.4		45.1	46	04.3
14	58	54.6	64	03.4		03.9	295	10.1		05.3	340	28.4		45.1	61	06.5
15	73	57.1	79	05.0		03.7	310	11.5		05.1	355	30.4		45.1	76	08.8
16	88	59.5	94	06.6		03.5	325	12.8		04.8	10	32.3		45.2	91	11.0
17	104	02.0	109	08.2	+1	03.3	340	14.2	+22	04.5	25	34.3	+22	45.2	106	13.2
18	119	04.5	124	09.9	+1	03.2	355	15.6	+22	04.2	40	36.2	+22	45.3	121	15.4
19	134	06.9	139	11.5		03.0	10	16.9		03.9	55	38.2		45.3	136	17.6
20	149	09.4	154	13.1		02.8	25	18.3		03.6	70	40.2		45.4	151	19.8
21	164	11.9	169	14.7		02.6	40	19.7		03.3	85	42.1		45.4	166	22.0
22	179	14.3	184	16.3		02.4	55	21.0		03.1	100	44.1		45.4	181	24.2
23	194	16.8	199	17.9		02.2	70	22.4		02.8	115	46.0		45.5	196	26.4
24	209	19.3	214	19.5	+1	02.0	85	23.8	+22	02.5	130	48.0	+22	45.5	211	28.6
Dif	—		+16		-2		+14		-3		+20		0		+22	

UT	SOL			☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna											
	SD: 15°9 PMG: 11 ^h 58.6 ^m			Edad: 22.5 ^d SD: 15°5 PMG: 6 ^h 31 ^m																					
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°										
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m										
0	180	19.1	+11	52.2	265	45.7	93	-24	19.1	88	60 N	2 30	3 37	4 25	3 45 2	9 28 105									
1	195	19.2		53.1	280	14.0	93		10.3	88	58	2 48	48	33	25 9	9 47 98									
2	210	19.3		53.9	294	42.3	93	-24	01.4	89	56	3 03	3 58	39	3 09 13	10 03 93									
3	225	19.5		54.8	309	10.6	93	-23	52.3	91	54	16	4 06	45	2 54 18	17 88									
4	240	19.6		55.6	323	39.0	94		43.1	92	52	27	13	50	42 21	29 85									
5	255	19.7	+11	56.5	338	07.4	94	-23	33.8	93	50	3 36	4 20	4 55	2 31 23	10 39 82									
6	270	19.8	+11	57.3	352	35.9	95	-23	24.3	95	45	3 56	4 34	5 05	2 08 29	11 01 76									
7	285	20.0		58.2	7	04.4	95		14.7	96	40	4 11	45	13	1 50 33	18 72									
8	300	20.1		59.0	21	32.9	95	-23	05.0	97	35	23	4 54	20	34 36	33 68									
9	315	20.2	+11	59.9	36	01.5	96	-22	55.1	99	30	32	5 02	27	1 20 40	11 46 65									
10	330	20.3	+12	00.7	50	30.1	96		45.2	102	20	4 48	15	37	0 57 44	12 07 60									
11	345	20.5	+12	01.6	64	58.8	97	-22	35.0	102	10 N	5 00	5 25	5 47	0 37 48	12 26 55									
12	0	20.6	+12	02.4	79	27.5	97	-22	24.8	102	0	5 10	5 34	5 55	0 18 52	12 43 51									
13	15	20.7		03.3	93	56.2	97		14.4	104	10 S	18	42	6 04	** ** *	13 00 47									
14	30	20.8		04.1	108	25.0	98	-22	03.9	105	20	24	50	13	** ** *	18 43									
15	45	20.9		04.9	122	53.9	99	-21	53.2	107	30	30	5 58	23	** ** *	39 38									
16	60	21.1		05.8	137	22.7	98		42.5	107	35	33	6 03	29	** ** *	13 51 35									
17	75	21.2	+12	06.6	151	51.6	99	-21	31.6	109	40	5 36	6 07	6 35	23 56 72	14 05 31									
18	90	21.3	+12	07.5	166	20.6	100	-21	20.5	111	45	5 38	6 13	6 43	23 41 77	14 22 26									
19	105	21.4		08.3	180	49.5	99	-21	09.4	111	50	41	18	52	22 83	42 20									
20	120	21.6		09.2	195	18.6	101	-20	58.1	113	52	42	21	6 56	13 86	14 51 18									
21	135	21.7		10.0	209	47.6	100		46.7	114	54	43	24	7 00	23 03 89	15 02 14									
22	150	21.8		10.8	224	16.7	101		35.2	115	56	43	27	06	22 52 93	14 10									
23	165	21.9		11.7	238	45.9	102		23.5	117	58	44	30	11	39 98	27 7									
24	180	22.0	+12	12.5	253	15.1	102	-20	11.8	117	60 S	5 45	6 34	7 18	22 24 103	15 43 1									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO												
	PMG: -4.8 10 ^h 01.1 ^m			Mag: -4.8 PMG: 9 ^h 42 ^m			Mag: +0.8 PMG: 18 ^h 17 ^m			Mag: -2.0 PMG: 15 ^h 15 ^m			Mag: +1.2 PMG: 9 ^h 53 ^m												
	hG ♂	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec											
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'											
0	209	19.3	214	19.5	+1	02.0	85	23.8	+22	02.5	130	48.0	+22	45.5	211	28.6	-3	05.2							
1	224	21.7	229	21.1		01.9	100	25.1		02.2	145	49.9		45.6	226	30.9		05.1							
2	239	24.2	244	22.7		01.7	115	26.5		01.9	160	51.9		45.6	241	33.1		05.0							
3	254	26.6	259	24.3		01.5	130	27.9		01.6	175	53.8		45.7	256	35.3		04.9							
4	269	29.1	274	25.9		01.3	145	29.2		01.3	190	55.8		45.7	271	37.5		04.8							
5	284	31.6	289	27.4	+1	01.2	160	30.6	+22	01.1	205	57.8	+22	45.7	286	39.7	-3	04.7							
6	299	34.0	304	29.0	+1	01.0	175	31.9	+22	00.8	220	59.7	+22	45.8	301	41.9	-3	04.6							
7	314	36.5	319	30.6		00.8	190	33.3		00.5	236	01.7		45.8	316	44.1		04.5							
8	329	39.0	334	32.2		00.7	205	34.7	+22	00.2	251	03.6		45.9	331	46.3		04.4							
9	344	41.4	349	33.8		00.5	220	36.0	+21	59.9	266	05.6		45.9	346	48.5		04.3							
10	359	43.9	4	35.3		00.3	235	37.4		59.6	281	07.5		46.0	1	50.8		04.2							
11	14	46.4	19	36.9	+1	00.2	250	38.8	+21	59.3	296	09.5	+22	46.0	16	53.0	-3	04.1							
12	29	48.8	34	38.5	+1	00.0	265	40.1	+21	59.0	311	11.4	+22	46.0	31	55.2	-3	04.0							
13	44	51.3	49	40.0	+0	59.8	280	41.5		58.7	326	13.4		46.1	46	57.4		03.9							
14	59	53.7	64	41.6		59.7	295	42.8		58.5	341	15.4		46.1	61	59.6		03.8							
15	74	56.2	79	43.1		59.5	310	44.2		58.2	356	17.3		46.2	77	01.8		03.7							
16	89	58.7	94	44.7		59.4	325	45.5		57.9	11	19.3		46.2	92	04.0		03.6							
17	105	01.1	109	46.2	+0	59.2	340	46.9	+21	57.6	26	21.2	+22	46.3	107	06.2	-3	03.5							
18	120	03.6	124	47.8	+0	59.1	355	48.3	+21	57.3	41	23.2	+22	46.3	122	08.5	-3	03.4							
19	135	06.1	139	49.3		58.9	10	49.6		57.0	56	25.1		46.3	137	10.7		03.3							
20	150	08.5	154	50.9		58.8	25	51.0		56.7	71	27.1		46.4	152	12.9		03.2							
21	165	11.0	169	52.4		58.6	40	52.3		56.4	86	29.0		46.4	167	15.1		03.1							
22	180	13.5	184	53.9		58.5	55	53.7		56.1	101	31.0		46.5	182	17.3		03.0							
23	195	15.9	199	55.5		58.3	70	55.1		55.8	116	32.9		46.5	197	19.5		02.9							
24	210	18.4	214	57.0	+0	58.2	85	56.4	+21	55.6	131	34.9	+22	46.6	212	21.7	-3	02.8							
Dif	—			+16	-2			+14			-3			+20			0			+22			+1		

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG: 11 ^h 58.4 ^m				Edad: 23.5 ^d SD: 15'7 PMG: 7 ^h 22 ^m PHE { 4 ^h : 57'8 12 ^h : 58'1 20 ^h : 58'4 R°: 51 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	22.0	+12	12.5	253	15.1	-20	11.8	60 N	19	36	20	25	21	35	3	47	1	11 13 104
1	195	22.2		13.4	267	44.3	-19	59.9	58	28		21	15	34	6				25 100
2	210	22.3		14.2	282	13.5		47.9	56	21	20	04	20	59	22	10			36 95
3	225	22.4		15.0	296	42.8		35.8	54	15	19	55	46	12	14				45 92
4	240	22.5		15.9	311	12.2		23.5	52	10		47	34	3	03	17	11	54	88
5	255	22.7	+12	16.7	325	41.6	-19	11.2	50	19	05	19	40	20	25	2	54	20	12 01 85
6	270	22.8	+12	17.6	340	11.0	-18	58.7	45	18	54	19	26	20	04	2	37	25	12 17 79
7	285	22.9		18.4	354	40.4		46.1	40	46		14	19	49	23	30			30 74
8	300	23.0		19.2	9	09.9		33.4	35	38	19	05	36	10	34				41 70
9	315	23.1		20.1	23	39.5		20.6	30	32	18	57	26	2	00	37	12	51	66
10	330	23.3		20.9	38	09.0	-18	07.7	20	20		43	19	10	1	41	43	13	07 60
11	345	23.4	+12	21.7	52	38.6	-17	54.7	10 N	18	11	18	32	18	58	1	25	47	13 21 56
12	0	23.5	+12	22.6	67	08.3	-17	41.5	0	18	02	18	23	18	48	1	10	52	13 34 51
13	15	23.6		23.4	81	37.9		28.3	10 S	17	53		14	39	0	55	56	13	47 46
14	30	23.7		24.3	96	07.6		14.9	20	44		18	06	32	38	61	14	01	41
15	45	23.9		25.1	110	37.4	-17	01.4	30	33	17	57	26	19	67				17 35
16	60	24.0		25.9	125	07.1	-16	47.9	35	27		53	23	0	08	70	26	32	
17	75	24.1	+12	26.8	139	37.0	-16	34.2	40	17	20	17	48	18	20	**	**	**	14 36 28
18	90	24.2	+12	27.6	154	06.8	-16	20.4	45	17	12	17	42	18	17	**	**	**	14 48 23
19	105	24.3		28.4	168	36.7	-16	06.5	50	17	03		36	14	**	**	**		15 02 18
20	120	24.4		29.3	183	06.6	-15	52.5	52	16	59	33	13		**	**	**		09 15
21	135	24.6		30.1	197	36.5		38.5	54		54	30	12		**	**	**		16 13
22	150	24.7		30.9	212	06.5		24.3	56	48		27	11		**	**	**		24 10
23	165	24.8		31.8	226	36.4	-15	10.0	58	43		24	09		**	**	**		34 5
24	180	24.9	+12	32.6	241	06.5	-14	55.6	60 S	16	36	17	20	18	08	**	**	**	15 44 1

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 9 ^h 57.1 ^m			Mag: -4.8 PMG: 9 ^h 39 ^m			Mag: +0.8 PMG: 18 ^h 15 ^m			Mag: -2.0 PMG: 15 ^h 12 ^m			Mag: +1.2 PMG: 9 ^h 49 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	210	18.4	214	57.0	+0	58.2	85	56.4	+21	55.6	131	34.9	+22	46.6	212	21.7		
1	225	20.9	229	58.5		58.1	100	57.8		55.3	146	36.8		46.6	227	23.9		
2	240	23.3	245	00.0		57.9	115	59.1		55.0	161	38.8		46.6	242	26.1		
3	255	25.8	260	01.6		57.8	131	00.5		54.7	176	40.8		46.7	257	28.4		
4	270	28.2	275	03.1		57.6	146	01.8		54.4	191	42.7		46.7	272	30.6		
5	285	30.7	290	04.6	+0	57.5	161	03.2	+21	54.1	206	44.7	+22	46.8	287	32.8		
6	300	33.2	305	06.1	+0	57.4	176	04.5	+21	53.8	221	46.6	+22	46.8	302	35.0		
7	315	35.6	320	07.6		57.3	191	05.9		53.5	236	48.6		46.8	317	37.2		
8	330	38.1	335	09.1		57.1	206	07.2		53.2	251	50.5		46.9	332	39.4		
9	345	40.6	350	10.6		57.0	221	08.6		52.9	266	52.5		46.9	347	41.6		
10	0	43.0	5	12.1		56.9	236	10.0		52.6	281	54.4		47.0	2	43.9		
11	15	45.5	20	13.6	+0	56.7	251	11.3	+21	52.3	296	56.4	+22	47.0	17	46.1		
12	30	48.0	35	15.1	+0	56.6	266	12.7	+21	52.0	311	58.3	+22	47.1	32	48.3		
13	45	50.4	50	16.6		56.5	281	14.0		51.8	327	00.3		47.1	47	50.5		
14	60	52.9	65	18.1		56.4	296	15.4		51.5	342	02.2		47.1	62	52.7		
15	75	55.4	80	19.6		56.3	311	16.7		51.2	357	04.2		47.2	77	54.9		
16	90	57.8	95	21.1		56.2	326	18.1		50.9	12	06.1		47.2	92	57.1		
17	106	00.3	110	22.6	+0	56.0	341	19.4	+21	50.6	27	08.1	+22	47.3	107	59.3		
18	121	02.7	125	24.0	+0	55.9	356	20.8	+21	50.3	42	10.0	+22	47.3	123	01.6		
19	136	05.2	140	25.5		55.8	11	22.1		50.0	57	12.0		47.4	138	03.8		
20	151	07.7	155	27.0		55.7	26	23.5		49.7	72	13.9		47.4	153	06.0		
21	166	10.1	170	28.5		55.6	41	24.8		49.4	87	15.9		47.4	168	08.2		
22	181	12.6	185	29.9		55.5	56	26.2		49.1	102	17.8		47.5	183	10.4		
23	196	15.1	200	31.4		55.4	71	27.5		48.8	117	19.8		47.5	198	12.6		
24	211	17.5	215	32.9	+0	55.3	86	28.9	+21	48.5	132	21.7	+22	47.6	213	14.8		
Dif	—			+15			-1			+14			-3			+20		

UT	SOL				LUNA							Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna								
	SD: 15°9 PMG:11 ^h 58.2 ^m				Edad: 24.5 ^d PHE { 4 ^h : 58'7 12 ^h : 59'0 20 ^h : 59'3 R°: 49 ^m																						
	hG ☉		Dec		hG ☾		Dif		Dec		Dif		Náutico	Civil		Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m								
0	180	24.9	+12	32.6	241	06.5	110	−14	55.6	145	60 N	2 21	3 31	4 20	3 47	**	12 56	102									
1	195	25.0		33.4	255	36.5	111		41.1	145	58	41	42	27	38	4	13 03	98									
2	210	25.1		34.3	270	06.6	111		26.6	147	56	2 57	3 52	34	31	7	10	94									
3	225	25.3		35.1	284	36.7	111	−14	11.9	147	54	3 10	4 01	40	24	10	15	91									
4	240	25.4		35.9	299	06.8	111	−13	57.1	148	52	22	09	46	18	13	20	88									
5	255	25.5	+12	36.8	313	36.9	111	−13	42.3	148	50	3 32	4 16	4 51	3 13	15	13 25	84									
6	270	25.6	+12	37.6	328	07.1	112	−13	27.3	150	45	3 52	4 30	5 02	3 01	21	13 35	78									
7	285	25.7		38.4	342	37.3	112	−13	12.3	150	40	4 07	42	10	2 51	26	43	73									
8	300	25.8		39.2	357	07.5	112	−12	57.2	151	35	20	4 51	18	43	29	50	69									
9	315	26.0		40.1	11	37.8	113		42.0	152	30	30	5 00	25	35	33	13 56	66									
10	330	26.1		40.9	26	08.0	112		26.7	153	20	47	13	36	22	39	14 06	60									
11	345	26.2	+12	41.7	40	38.3	113	−12	11.3	154	10 N	4 59	5 24	5 46	2 11	44	14 15	54									
12	0	26.3	+12	42.6	55	08.6	113	−11	55.9	154	0	5 09	5 34	5 55	2 00	49	14 24	48									
13	15	26.4		43.4	69	38.9	113		40.3	156	10 S	18	42	6 04	1 49	54	32	44									
14	30	26.5		44.2	84	09.2	113		24.7	156	20	25	5 51	13	38	59	41	38									
15	45	26.6		45.0	98	39.6	114	−11	09.0	157	30	31	6 00	24	25	65	51	32									
16	60	26.7		45.9	113	09.9	113	−10	53.2	158	35	35	04	30	17	69	14 56	29									
17	75	26.9	+12	46.7	127	40.3	114	−10	37.4	158	40	5 38	6 09	6 37	1 08	73	15 03	25									
18	90	27.0	+12	47.5	142	10.7	114	−10	21.4	160	45	5 41	6 15	6 45	0 58	78	15 10	20									
19	105	27.1		48.3	156	41.0	113	−10	05.4	160	50	43	21	55	45	84	19	15									
20	120	27.2		49.2	171	11.4	114	−9	49.4	160	52	45	24	6 59	39	87	23	12									
21	135	27.3		50.0	185	41.9	115		33.2	162	54	46	27	7 04	32	91	27	10									
22	150	27.4		50.8	200	12.3	114		17.0	162	56	47	31	10	25	94	32	7									
23	165	27.5		51.6	214	42.7	114	−9	00.7	163	58	48	34	16	17	98	38	3									
24	180	27.6	+12	52.5	229	13.1	114	−8	44.3	164	60 S	5 50	6 38	7 22	0 07	103	15 44	**									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 9 ^h 53.2 ^m			Mag: −4.8 PMG: 9 ^h 37 ^m			Mag: +0.8 PMG: 18 ^h 12 ^m			Mag: −2.0 PMG: 15 ^h 09 ^m			Mag: +1.2 PMG: 9 ^h 46 ^m														
	hG ♈			hG ♀			hG ♂			hG ♃			hG ♄														
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'									
0	211	17.5	215	32.9	+0	55.3	86	28.9	+21	48.5	132	21.7	+22	47.6	213	14.8	−3	00.3									
1	226	20.0	230	34.3		55.2	101	30.2		48.2	147	23.7		47.6	228	17.1		00.2									
2	241	22.5	245	35.8		55.1	116	31.5		47.9	162	25.6		47.6	243	19.3	−3	00.1									
3	256	24.9	260	37.2		55.0	131	32.9		47.6	177	27.6		47.7	258	21.5	−3	00.0									
4	271	27.4	275	38.7		54.9	146	34.2		47.3	192	29.5		47.7	273	23.7	−2	59.9									
5	286	29.9	290	40.1	+0	54.8	161	35.6	+21	47.0	207	31.5	+22	47.8	288	25.9	−2	59.8									
6	301	32.3	305	41.6	+0	54.7	176	36.9	+21	46.7	222	33.4	+22	47.8	303	28.1	−2	59.7									
7	316	34.8	320	43.0		54.6	191	38.3		46.4	237	35.4		47.9	318	30.3		59.6									
8	331	37.2	335	44.5		54.5	206	39.6		46.1	252	37.3		47.9	333	32.6		59.5									
9	346	39.7	350	45.9		54.5	221	41.0		45.8	267	39.3		47.9	348	34.8		59.4									
10	1	42.2	5	47.3		54.4	236	42.3		45.6	282	41.2		48.0	3	37.0		59.3									
11	16	44.6	20	48.8	+0	54.3	251	43.7	+21	45.3	297	43.1	+22	48.0	18	39.2	−2	59.2									
12	31	47.1	35	50.2	+0	54.2	266	45.0	+21	45.0	312	45.1	+22	48.1	33	41.4	−2	59.1									
13	46	49.6	50	51.6		54.1	281	46.3		44.7	327	47.0		48.1	48	43.6		59.0									
14	61	52.0	65	53.0		54.0	296	47.7		44.4	342	49.0		48.1	63	45.8		58.9									
15	76	54.5	80	54.5		54.0	311	49.0		44.1	357	50.9		48.2	78	48.1		58.8									
16	91	57.0	95	55.9		53.9	326	50.4		43.8	12	52.9		48.2	93	50.3		58.7									
17	106	59.4	110	57.3	+0	53.8	341	51.7	+21	43.5	27	54.8	+22	48.3	108	52.5	−2	58.6									
18	122	01.9	125	58.7	+0	53.7	356	53.1	+21	43.2	42	56.8	+22	48.3	123	54.7	−2	58.5									
19	137	04.3	141	00.1		53.7	11	54.4		42.9	57	58.7		48.4	138	56.9		58.4									
20	152	06.8	156	01.5		53.6	26	55.7		42.6	73	00.7		48.4	153	59.1		58.3									
21	167	09.3	171	02.9		53.5	41	57.1		42.3	88	02.6		48.4	169	01.4		58.2									
22	182	11.7	186	04.3		53.5	56	58.4		42.0	103	04.6		48.5	184	03.6		58.1									
23	197	14.2	201	05.7		53.4	71	59.8		41.7	118	06.5		48.5	199	05.8		58.0									
24	212	16.7	216	07.1	+0	53.3	87	01.1	+21	41.4	133	08.5	+22	48.6	214	08.0	−2	57.9									
Dif	—			+14			−1			+13			−3			+19			0			+22			+1		

UT	SOL			☾ LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 58.1 ^m			Edad: 25.5 ^d SD: 16'2 PMG: 9 ^h 01 ^m PHE { 4 ^h : 59'6 12 ^h : 59'9 20 ^h : 60'2 R°: 51 ^m										
	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	27.6	+12	52.5	229	13.1	-8 44.3	60 N	19 41	20 31	21 43	3 46 0	14 38 106	
1	195	27.8		53.3	243	43.6	27.9	58	33	19	22	42 4	41 101	
2	210	27.9		54.1	258	14.0	-8 11.4	56	26	20 08	21 05	38 7	44 97	
3	225	28.0		54.9	272	44.4	-7 54.9	54	19	19 59	20 51	34 11	46 93	
4	240	28.1		55.8	287	14.9	38.2	52	13	51	39	31 14	48 90	
5	255	28.2	+12	56.6	301	45.3	-7 21.6	50	19 08	19 44	20 29	3 28 16	14 49 88	
6	270	28.3	+12	57.4	316	15.8	-7 04.8	45	18 57	19 29	20 08	3 22 21	14 53 82	
7	285	28.4		58.2	330	46.2	-6 48.0	40	48	17	19 51	17 26	56 77	
8	300	28.5		59.0	345	16.6	31.2	35	40	19 07	38	12 30	14 59 72	
9	315	28.6	+12	59.9	359	47.1	-6 14.3	30	33	18 58	28	08 34	15 02 68	
10	330	28.8	+13	00.7	14	17.5	-5 57.3	20	21	44	19 11	3 01 40	06 62	
11	345	28.9	+13	01.5	28	47.9	-5 40.3	10 N	18 11	18 33	18 58	2 55 45	15 09 56	
12	0	29.0	+13	02.3	43	18.3	-5 23.3	0	18 01	18 23	18 47	2 49 51	15 12 51	
13	15	29.1		03.1	57	48.7	-5 06.2	10 S	17 52	14	38	43 56	16 45	
14	30	29.2		04.0	72	19.1	-4 49.0	20	42	18 05	31	37 62	19 40	
15	45	29.3		04.8	86	49.5	31.8	30	31	17 56	24	30 68	23 34	
16	60	29.4		05.6	101	19.8	-4 14.5	35	25	51	20	26 71	25 30	
17	75	29.5	+13	06.4	115	50.2	-3 57.3	40	17 17	17 45	18 17	2 21 76	15 28 25	
18	90	29.6	+13	07.2	130	20.5	-3 39.9	45	17 09	17 39	18 14	2 16 81	15 30 22	
19	105	29.7		08.1	144	50.8	22.6	50	16 59	33	10	09 87	34 15	
20	120	29.8		08.9	159	21.1	-3 05.2	52	54	30	09	06 90	35 13	
21	135	29.9		09.7	173	51.4	-2 47.7	54	49	26	08	2 03 92	37 10	
22	150	30.1		10.5	188	21.6	30.2	56	44	23	06	1 59 96	39 7	
23	165	30.2		11.3	202	51.9	-2 12.7	58	37	19	05	55 100	41 4	
24	180	30.3	+13	12.1	217	22.1	-1 55.2	60 S	16 30	17 15	18 03	1 50 104	15 43 0	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG: 9 ^h 49.3 ^m		Mag: -4.8 PMG: 9 ^h 35 ^m			Mag: +0.8 PMG: 18 ^h 10 ^m			Mag: -2.0 PMG: 15 ^h 05 ^m			Mag: +1.2 PMG: 9 ^h 42 ^m		
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	° /		° /		° /	° /		° /	° /		° /	° /		° /
0	212	16.7	216	07.1	+0	53.3	87 01.1	+21 41.4	133 08.5	+22 48.6	214 08.0	-2 57.9		
1	227	19.1	231	08.5		53.3	102 02.4	41.1	148 10.4	48.6	229 10.2	57.8		
2	242	21.6	246	09.9		53.2	117 03.8	40.8	163 12.3	48.6	244 12.4	57.7		
3	257	24.1	261	11.3		53.2	132 05.1	40.5	178 14.3	48.7	259 14.6	57.6		
4	272	26.5	276	12.7		53.1	147 06.5	40.2	193 16.2	48.7	274 16.9	57.5		
5	287	29.0	291	14.1	+0	53.1	162 07.8	+21 39.9	208 18.2	+22 48.8	289 19.1	-2 57.4		
6	302	31.5	306	15.5	+0	53.0	177 09.1	+21 39.6	223 20.1	+22 48.8	304 21.3	-2 57.3		
7	317	33.9	321	16.9		52.9	192 10.5	39.3	238 22.1	48.9	319 23.5	57.2		
8	332	36.4	336	18.2		52.9	207 11.8	39.0	253 24.0	48.9	334 25.7	57.1		
9	347	38.8	351	19.6		52.8	222 13.1	38.7	268 26.0	48.9	349 27.9	57.0		
10	2	41.3	6	21.0		52.8	237 14.5	38.4	283 27.9	49.0	4	30.2	56.9	
11	17	43.8	21	22.3	+0	52.8	252 15.8	+21 38.1	298 29.8	+22 49.0	19	32.4	-2 56.8	
12	32	46.2	36	23.7	+0	52.7	267 17.2	+21 37.8	313 31.8	+22 49.1	34	34.6	-2 56.7	
13	47	48.7	51	25.1		52.7	282 18.5	37.5	328 33.7	49.1	49	36.8	56.6	
14	62	51.2	66	26.4		52.6	297 19.8	37.2	343 35.7	49.1	64	39.0	56.5	
15	77	53.6	81	27.8		52.6	312 21.2	36.9	358 37.6	49.2	79	41.2	56.4	
16	92	56.1	96	29.2		52.6	327 22.5	36.5	13 39.6	49.2	94	43.5	56.3	
17	107	58.6	111	30.5	+0	52.5	342 23.8	+21 36.2	28 41.5	+22 49.3	109	45.7	-2 56.2	
18	123	01.0	126	31.9	+0	52.5	357 25.2	+21 35.9	43 43.4	+22 49.3	124	47.9	-2 56.1	
19	138	03.5	141	33.2		52.4	12 26.5	35.6	58 45.4	49.3	139	50.1	56.0	
20	153	05.9	156	34.6		52.4	27 27.8	35.3	73 47.3	49.4	154	52.3	55.9	
21	168	08.4	171	35.9		52.4	42 29.2	35.0	88 49.3	49.4	169	54.5	55.8	
22	183	10.9	186	37.2		52.4	57 30.5	34.7	103 51.2	49.5	184	56.8	55.7	
23	198	13.3	201	38.6		52.3	72 31.8	34.4	118 53.2	49.5	199	59.0	55.6	
24	213	15.8	216	39.9	+0	52.3	87 33.2	+21 34.1	133 55.1	+22 49.6	215	01.2	-2 55.5	
Dif	—		+14		0		+13 -3		+19 0		+22		+	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 57.9 ^m				Edad: 26.5 ^d PHE { 4 ^h : 60'4 12 ^h : 60'6 20 ^h : 60'8 R°: 51 ^m											
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	180	30.3	+13	12.1	217	22.1	-1	55.2	60 N	2	12	3	24	4	14	
1	195	30.4		12.9	231	52.2		37.6	58		33	36	22	44	3	
2	210	30.5		13.8	246	22.4		20.0	56	2	50	47	30	44	6	
3	225	30.6		14.6	260	52.5	-1	02.4	54	3	04	3	56	36	44	9
4	240	30.7		15.4	275	22.6	-0	44.7	52		16	4	04	42	43	12
5	255	30.8	+13	16.2	289	52.7	-0	27.1	50	3	27	4	12	4	47	
6	270	30.9	+13	17.0	304	22.7	-0	09.4	45	3	48	4	27	4	58	
7	285	31.0		17.8	318	52.7	+0	08.4	40	4	04	39	5	08	42	25
8	300	31.1		18.6	333	22.7		26.1	35		17	49	16	41	29	
9	315	31.2		19.5	347	52.6	+0	43.8	30		28	4	58	23	41	33
10	330	31.3		20.3	2	22.5	+1	01.6	20		45	5	12	35	40	39
11	345	31.4	+13	21.1	16	52.4	+1	19.4	10 N	4	58	5	23	5	45	
12	0	31.5	+13	21.9	31	22.2	+1	37.1	0	5	09	5	33	5	55	
13	15	31.6		22.7	45	52.0	+1	54.9	10 S		18	42	6	04	38	56
14	30	31.7		23.5	60	21.7	+2	12.7	20		25	5	51	14	37	62
15	45	31.8		24.3	74	51.4		30.5	30		33	6	01	25	36	69
16	60	31.9		25.1	89	21.0	+2	48.3	35		36	06	32	36	72	
17	75	32.0	+13	25.9	103	50.6	+3	06.1	40	5	39	6	11	6	39	
18	90	32.1	+13	26.7	118	20.2	+3	23.9	45	5	43	6	17	6	48	
19	105	32.3		27.5	132	49.7		41.7	50		46	24	6	58	35	87
20	120	32.4		28.4	147	19.1	+3	59.5	52		48	27	7	03	34	91
21	135	32.5		29.2	161	48.5	+4	17.3	54		49	31	08	34	94	
22	150	32.6		30.0	176	17.9		35.1	56		51	34	13	34	97	
23	165	32.7		30.8	190	47.2	+4	52.9	58		52	38	20	33	102	
24	180	32.8	+13	31.6	205	16.4	+5	10.6	60 S	5	54	6	43	7	27	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 45.3 ^m		Mag: -4.8 PMG: 9 ^h 32 ^m		Mag: +0.9 PMG: 18 ^h 08 ^m		Mag: -2.0 PMG: 15 ^h 02 ^m		Mag: +1.2 PMG: 9 ^h 38 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	213	15.8	216	39.9	+0	52.3	133	55.1	+22	49.6
1	228	18.3	231	41.3		52.3	148	57.0		49.6
2	243	20.7	246	42.6		52.3	163	59.0		49.6
3	258	23.2	261	43.9		52.2	179	00.9		49.7
4	273	25.7	276	45.2		52.2	194	02.9		49.7
5	288	28.1	291	46.6	+0	52.2	209	04.8	+22	49.8
6	303	30.6	306	47.9	+0	52.2	224	06.7	+22	49.8
7	318	33.1	321	49.2		52.2	239	08.7		49.8
8	333	35.5	336	50.5		52.2	254	10.6		49.9
9	348	38.0	351	51.8		52.1	269	12.6		49.9
10	3	40.4	6	53.1		52.1	284	14.5		50.0
11	18	42.9	21	54.5	+0	52.1	299	16.5	+22	50.0
12	33	45.4	36	55.8	+0	52.1	314	18.4	+22	50.0
13	48	47.8	51	57.1		52.1	329	20.3		50.1
14	63	50.3	66	58.4		52.1	344	22.3		50.1
15	78	52.8	81	59.7		52.1	359	24.2		50.2
16	93	55.2	97	01.0		52.1	14	26.1		50.2
17	108	57.7	112	02.3	+0	52.1	29	28.1	+22	50.2
18	124	00.2	127	03.5	+0	52.1	44	30.0	+22	50.3
19	139	02.6	142	04.8		52.1	59	32.0		50.3
20	154	05.1	157	06.1		52.1	74	33.9		50.4
21	169	07.5	172	07.4		52.1	89	35.8		50.4
22	184	10.0	187	08.7		52.1	104	37.8		50.4
23	199	12.5	202	10.0		52.2	119	39.7		50.5
24	214	14.9	217	11.2	+0	52.2	134	41.7	+22	50.5
Dif	—		+13		0		+13		-3	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 57.7 ^m				Edad: 27.5 ^d SD: 16'6 PMG: 10 ^h 41 ^m PHE { 4 ^h : 61'0 12 ^h : 61'2 20 ^h : 61'3 Rº: 55 ^m											
	hG ☉	Dec			hG ☾	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180 32.8	+13 31.6	205 16.4	102	+5 10.6	178	60 N	19 46	20 37	21 52	3 44	1	18 10	116		
1	195 32.9	32.4	219 45.6	101	+5 28.4	177	58	37	24	29	47	6	18 04	110		
2	210 33.0	33.2	234 14.7	101	+5 46.1	177	56	30	13	21 11	50	9	17 58	106		
3	225 33.1	34.0	248 43.8	100	+6 03.8	177	54	23	20 03	20 56	53	12	54 10			
4	240 33.2	34.8	263 12.7	99	+6 21.5	177	52	17	19 55	44	55	16	49 98			
5	255 33.3	+13 35.6	277 41.7	99	+6 39.1	176	50	19 11	19 47	20 33	3 58	18	17 45	94		
6	270 33.4	+13 36.4	292 10.6	98	+6 56.7	176	45	19 00	19 31	20 11	4 03	24	17 37	87		
7	285 33.5	37.2	306 39.4	97	+7 14.3	176	40	18 50	19	19 54	07	29	30 82			
8	300 33.6	38.0	321 08.1	97	+7 31.9	176	35	41	19 08	40	10	33	23 78			
9	315 33.7	38.8	335 36.8	96	+7 49.5	175	30	34	18 59	29	14	36	18 74			
10	330 33.8	39.6	350 05.4	95	+8 07.0	174	20	22	45	19 12	19	43	09 67			
11	345 33.9	+13 40.4	4 33.9	95	+8 24.4	174	10 N	18 11	18 33	18 58	4 24	49	17 01	61		
12	0 34.0	+13 41.2	19 02.4	94	+8 41.9	175	0	18 01	18 22	18 47	4 29	54	16 53	57		
13	15 34.1	42.0	33 30.8	93	+8 59.2	173	10 S	17 51	13	38	34	59	46 51			
14	30 34.2	42.8	47 59.1	92	+9 16.6	174	20	41	18 04	30	39	65	38 45			
15	45 34.3	43.6	62 27.3	92	+9 33.9	173	30	29	17 54	22	45	72	29 39			
16	60 34.4	44.4	76 55.5	91	+9 51.2	173	35	22	48	18	48	77	24 35			
17	75 34.5	+13 45.2	91 23.6	90	+10 08.4	172	40	17 15	17 43	18 15	4 52	81	16 18	31		
18	90 34.5	+13 46.0	105 51.6	89	+10 25.5	171	45	17 06	17 36	18 11	4 57	86	16 11	26		
19	105 34.6	46.8	120 19.5	89	+10 42.6	171	50	16 55	29	07	5 02	93	03 20			
20	120 34.7	47.6	134 47.4	89	+10 59.7	171	52	51	26	06	05	96	16 00	16		
21	135 34.8	48.4	149 15.2	88	+11 16.6	169	54	45	22	04	08	99	15 56	13		
22	150 34.9	49.2	163 42.9	87	+11 33.6	170	56	39	18	02	11	103	51 10			
23	165 35.0	50.0	178 10.5	86	+11 50.4	168	58	33	14	18 00	15	107	46 6			
24	180 35.1	+13 50.8	192 38.0	85	+12 07.2	168	60 S	16 25	17 10	17 59	5 19	112	15 41	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 41.4 ^m		Mag: -4.8 PMG: 9 ^h 30 ^m		Mag: +0.9 PMG: 18 ^h 06 ^m		Mag: -2.0 PMG: 14 ^h 59 ^m		Mag: +1.2 PMG: 9 ^h 35 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	214 14.9	217 11.2	+0 52.2	88 05.0	+21 26.8	134 41.7	+22 50.5	215 54.4	-2 53.1	
1	229 17.4	232 12.5	52.2	103 06.4	26.5	149 43.6	50.6	230 56.7	53.0	
2	244 19.9	247 13.8	52.2	118 07.7	26.1	164 45.5	50.6	245 58.9	52.9	
3	259 22.3	262 15.1	52.2	133 09.0	25.8	179 47.5	50.6	261 01.1	52.8	
4	274 24.8	277 16.3	52.2	148 10.3	25.5	194 49.4	50.7	276 03.3	52.7	
5	289 27.3	292 17.6	+0 52.2	163 11.7	+21 25.2	209 51.3	+22 50.7	291 05.5	-2 52.6	
6	304 29.7	307 18.9	+0 52.3	178 13.0	+21 24.9	224 53.3	+22 50.8	306 07.8	-2 52.5	
7	319 32.2	322 20.1	52.3	193 14.3	24.6	239 55.2	50.8	321 10.0	52.4	
8	334 34.7	337 21.4	52.3	208 15.6	24.3	254 57.2	50.9	336 12.2	52.3	
9	349 37.1	352 22.6	52.3	223 16.9	24.0	269 59.1	50.9	351 14.4	52.2	
10	4 39.6	7 23.9	52.4	238 18.3	23.7	285 01.0	50.9	6 16.6	52.1	
11	19 42.0	22 25.1	+0 52.4	253 19.6	+21 23.4	300 03.0	+22 51.0	21 18.9	-2 52.0	
12	34 44.5	37 26.4	+0 52.4	268 20.9	+21 23.0	315 04.9	+22 51.0	36 21.1	-2 51.9	
13	49 47.0	52 27.6	52.5	283 22.2	22.7	330 06.8	51.1	51 23.3	51.8	
14	64 49.4	67 28.9	52.5	298 23.5	22.4	345 08.8	51.1	66 25.5	51.7	
15	79 51.9	82 30.1	52.5	313 24.9	22.1	0 10.7	51.1	81 27.7	51.6	
16	94 54.4	97 31.4	52.6	328 26.2	21.8	15 12.7	51.2	96 30.0	51.5	
17	109 56.8	112 32.6	+0 52.6	343 27.5	+21 21.5	30 14.6	+22 51.2	111 32.2	-2 51.4	
18	124 59.3	127 33.8	+0 52.6	358 28.8	+21 21.2	45 16.5	+22 51.3	126 34.4	-2 51.3	
19	140 01.8	142 35.1	52.7	13 30.1	20.9	60 18.5	51.3	141 36.6	51.2	
20	155 04.2	157 36.3	52.7	28 31.5	20.5	75 20.4	51.3	156 38.8	51.1	
21	170 06.7	172 37.5	52.8	43 32.8	20.2	90 22.3	51.4	171 41.1	51.0	
22	185 09.2	187 38.7	52.8	58 34.1	19.9	105 24.3	51.4	186 43.3	50.9	
23	200 11.6	202 40.0	52.8	73 35.4	19.6	120 26.2	51.5	201 45.5	50.8	
24	215 14.1	217 41.2	+0 52.9	88 36.7	+21 19.3	135 28.1	+22 51.5	216 47.7	-2 50.7	
Dif	—	+12	0	+13	-3	+19	0	+22	+1	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG:11 ^h 57.6 ^m			Edad: 28.5 ^d SD: 16'7 PMG: 11 ^h 35 ^m															
	PHE { 4 ^h : 61'4 12 ^h : 61'4 20 ^h : 61'4 R°: 58 ^m			hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	35.1	+13	50.8	192	38.0	+12	07.2	167	60 N	2 02	3 17	4 08	3 44	0	20 04	121		
1	195	35.2		51.6	207	05.4		23.9	167	58	25	30	17	51	6	19 53	113		
2	210	35.3		52.4	221	32.8		40.6	166	56	43	42	25	3 58	11	42	107		
3	225	35.4		53.2	236	00.1	+12	57.2	166	54	2 58	3 51	32	4 04	15	33	102		
4	240	35.5		54.0	250	27.2	+13	13.7	165	52	3 11	4 00	38	09	18	25	98		
5	255	35.6	+13	54.8	264	54.3	+13	30.1	164	50	3 22	4 07	4 43	4 14	21	19 18	95		
6	270	35.7	+13	55.6	279	21.3	+13	46.5	164	45	3 44	4 23	4 55	4 25	27	19 03	88		
7	285	35.8		56.4	293	48.2	+14	02.8	163	40	4 01	36	5 05	34	33	18 50	83		
8	300	35.9		57.2	308	15.0		18.9	161	35	15	47	13	42	37	40	78		
9	315	36.0		58.0	322	41.8		35.0	161	30	26	4 56	21	4 49	40	31	74		
10	330	36.1		58.7	337	08.4	+14	51.1	161	20	43	5 10	33	5 01	47	15	69		
11	345	36.2	+13	59.5	351	34.9	+15	07.0	159	10 N	4 57	5 22	5 44	5 12	52	18 01	64		
12	0	36.3	+14	00.3	6	01.4	+15	22.8	158	0	5 08	5 33	5 54	5 22	57	17 48	59		
13	15	36.4		01.1	20	27.7		38.5	157	10 S	18	43	6 04	32	62	36	54		
14	30	36.4		01.9	34	54.0	+15	54.2	157	20	26	5 52	15	43	68	22	49		
15	45	36.5		02.7	49	20.2	+16	09.7	155	30	34	6 02	27	5 56	74	17 07	43		
16	60	36.6		03.5	63	46.2		25.2	155	35	37	07	33	6 03	78	16 58	39		
17	75	36.7	+14	04.3	78	12.2	+16	40.5	153	40	5 41	6 13	6 41	6 12	82	16 48	35		
18	90	36.8	+14	05.1	92	38.1	+16	55.7	152	45	5 45	6 20	6 50	6 22	87	16 36	30		
19	105	36.9		05.9	107	03.8	+17	10.8	151	50	49	27	7 01	34	94	22	24		
20	120	37.0		06.6	121	29.5		25.8	150	52	51	30	06	39	98	15	21		
21	135	37.1		07.4	135	55.1		40.7	149	54	52	34	11	46	102	08	17		
22	150	37.2		08.2	150	20.6	+17	55.5	148	56	54	38	17	6 53	106	16	00	13	
23	165	37.3		09.0	164	45.9	+18	10.1	146	58	56	42	24	7 01	112	15	51	7	
24	180	37.4	+14	09.8	179	11.2	+18	24.6	145	60 S	5 58	6 47	7 32	7 10	118	15	40	2	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 9 ^h 37.5 ^m		Mag: -4.8 PMG: 9 ^h 28 ^m		Mag: +0.9 PMG: 18 ^h 04 ^m		Mag: -2.0 PMG: 14 ^h 56 ^m		Mag: +1.2 PMG: 9 ^h 31 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	215	14.1	217	41.2	+0	52.9	88	36.7	+21	19.3	135	28.1	+22	51.5	216	47.7	-2	50.7	
1	230	16.5	232	42.4		52.9	103	38.0		19.0	150	30.1		51.5	231	49.9		50.6	
2	245	19.0	247	43.6		53.0	118	39.4		18.7	165	32.0		51.6	246	52.2		50.5	
3	260	21.5	262	44.8		53.0	133	40.7		18.4	180	33.9		51.6	261	54.4		50.4	
4	275	23.9	277	46.0		53.1	148	42.0		18.0	195	35.9		51.7	276	56.6		50.3	
5	290	26.4	292	47.3	+0	53.2	163	43.3	+21	17.7	210	37.8	+22	51.7	291	58.8	-2	50.2	
6	305	28.9	307	48.5	+0	53.2	178	44.6	+21	17.4	225	39.7	+22	51.7	307	01.1	-2	50.2	
7	320	31.3	322	49.7		53.3	193	45.9		17.1	240	41.7		51.8	322	03.3		50.1	
8	335	33.8	337	50.9		53.3	208	47.3		16.8	255	43.6		51.8	337	05.5		50.0	
9	350	36.3	352	52.1		53.4	223	48.6		16.5	270	45.5		51.9	352	07.7		49.9	
10	5	38.7	7	53.3		53.4	238	49.9		16.2	285	47.5		51.9	7	09.9		49.8	
11	20	41.2	22	54.5	+0	53.5	253	51.2	+21	15.8	300	49.4	+22	51.9	22	12.2	-2	49.7	
12	35	43.6	37	55.7	+0	53.6	268	52.5	+21	15.5	315	51.3	+22	52.0	37	14.4	-2	49.6	
13	50	46.1	52	56.8		53.6	283	53.8		15.2	330	53.3		52.0	52	16.6		49.5	
14	65	48.6	67	58.0		53.7	298	55.1		14.9	345	55.2		52.0	67	18.8		49.4	
15	80	51.0	82	59.2		53.8	313	56.4		14.6	0	57.1		52.1	82	21.0		49.3	
16	95	53.5	98	00.4		53.9	328	57.8		14.3	15	59.1		52.1	97	23.3		49.2	
17	110	56.0	113	01.6	+0	53.9	343	59.1	+21	13.9	31	01.0	+22	52.2	112	25.5	-2	49.1	
18	125	58.4	128	02.8	+0	54.0	359	00.4	+21	13.6	46	02.9	+22	52.2	127	27.7	-2	49.0	
19	141	00.9	143	03.9		54.1	14	01.7		13.3	61	04.9		52.2	142	29.9		48.9	
20	156	03.4	158	05.1		54.2	29	03.0		13.0	76	06.8		52.3	157	32.2		48.8	
21	171	05.8	173	06.3		54.2	44	04.3		12.7	91	08.7		52.3	172	34.4		48.7	
22	186	08.3	188	07.5		54.3	59	05.6		12.4	106	10.7		52.4	187	36.6		48.6	
23	201	10.8	203	08.6		54.4	74	06.9		12.0	121	12.6		52.4	202	38.8		48.5	
24	216	13.2	218	09.8	+0	54.5	89	08.2	+21	11.7	136	14.5	+22	52.4	217	41.1	-2	48.4	
Dif	—		+12		+1		+13		-3		+19		0		+22		+1		

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 57.4 ^m				Edad: 29.5 ^d PHE { 4 ^h : 61'4 12 ^h : 61'3 20 ^h : 61'2 Rº: 63 ^m																
	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	h m m			
0	180	37.4	+14	09.8	179	11.2	62	+18	24.6	145	60 N	19 51	20 43	22 02	3 44	5	22 05	123			
1	195	37.5		10.6	193	36.4	61		39.1	145	58	42	29	21 37	3 57	13	21 46	111			
2	210	37.5		11.4	208	01.5	60	+18	53.3	142	56	34	18	17	4 09	18	29 105				
3	225	37.6		12.2	222	26.5	59	+19	07.5	142	54	27	20 07	21 01	19 22		15 100				
4	240	37.7		12.9	236	51.4	58		21.5	139	52	20	19 59	20 48	27 27	21 03	96				
5	255	37.8	+14	13.7	251	16.2	56	+19	35.4	138	50	19 14	19 51	20 37	4 35	30	20 53	92			
6	270	37.9	+14	14.5	265	40.8	56	+19	49.2	136	45	19 02	19 34	20 14	4 52	37	20 31	86			
7	285	38.0		15.3	280	05.4	55	+20	02.8	135	40	18 52	21	19 56	5 07	40	20 13	82			
8	300	38.1		16.1	294	29.9	54		16.3	133	35	43	10	42	19 44	19 58	79				
9	315	38.2		16.9	308	54.3	53		29.6	132	30	36	19 01	31	29 48	45	76				
10	330	38.3		17.6	323	18.6	52		42.8	130	20	23	18 46	19 13	5 48	53	24 71				
11	345	38.4	+14	18.4	337	42.8	51	+20	55.8	129	10 N	18 11	18 33	18 58	6 04	58	19 05	67			
12	0	38.4	+14	19.2	352	06.9	51	+21	08.7	128	0	18 01	18 22	18 47	6 19	62	18 47	64			
13	15	38.5		20.0	6	31.0	49		21.5	126	10 S	17 51	12	37	34	67	30	60			
14	30	38.6		20.8	20	54.9	48		34.1	124	20	40	18 02	28	6 51	71	18 11	57			
15	45	38.7		21.6	35	18.7	47		46.5	123	30	27	17 52	20	7 10	76	17 50	52			
16	60	38.8		22.3	49	42.4	47	+21	58.8	122	35	20	46	16	21	80	37	49			
17	75	38.9	+14	23.1	64	06.1	47	+22	11.0	119	40	17 12	17 40	18 12	7 34	84	17 23	45			
18	90	39.0	+14	23.9	78	29.6	45	+22	22.9	118	45	17 03	17 34	18 08	7 49	89	17 06	41			
19	105	39.0		24.7	92	53.1	43		34.7	117	50	16 52	26	04	8 08	96	16 46	34			
20	120	39.1		25.4	107	16.4	43		46.4	117	52	47	22	02	17 99		36 31				
21	135	39.2		26.2	121	39.7	43	+22	57.9	115	54	41	18	18 00	28 103	25 28					
22	150	39.3		27.0	136	02.9	42	+23	09.2	113	56	35	14	17 58	39 109	16 13	22				
23	165	39.4		27.8	150	26.0	41		20.3	111	58	28	10	56	8 53	115	15 58	16			
24	180	39.5	+14	28.6	164	49.0	40	+23	31.3	110	60 S	16 20	17 05	17 54	9 08	126	15 42	6			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 9 ^h 33.5 ^m			Mag: -4.8 PMG: 9 ^h 27 ^m			Mag: +0.9 PMG: 18 ^h 02 ^m			Mag: -2.0 PMG: 14 ^h 53 ^m			Mag: +1.2 PMG: 9 ^h 28 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	°	'	°	°	'	°	'	°	'	°	'	°						
0	216	13.2	218	09.8	+0	54.5	89	08.2	+21	11.7	136	14.5	+22	52.4	217	41.1	-2	48.4			
1	231	15.7	233	11.0		54.6	104	09.6		11.4	151	16.5		52.5	232	43.3		48.3			
2	246	18.1	248	12.1		54.6	119	10.9		11.1	166	18.4		52.5	247	45.5		48.2			
3	261	20.6	263	13.3		54.7	134	12.2		10.8	181	20.3		52.6	262	47.7		48.1			
4	276	23.1	278	14.4		54.8	149	13.5		10.5	196	22.3		52.6	277	49.9		48.0			
5	291	25.5	293	15.6	+0	54.9	164	14.8	+21	10.1	211	24.2	+22	52.6	292	52.2	-2	47.9			
6	306	28.0	308	16.7	+0	55.0	179	16.1	+21	09.8	226	26.1	+22	52.7	307	54.4	-2	47.8			
7	321	30.5	323	17.9		55.1	194	17.4		09.5	241	28.0		52.7	322	56.6		47.7			
8	336	32.9	338	19.0		55.2	209	18.7		09.2	256	30.0		52.8	337	58.8		47.6			
9	351	35.4	353	20.2		55.3	224	20.0		08.9	271	31.9		52.8	353	01.1		47.5			
10	6	37.9	8	21.3		55.4	239	21.3		08.5	286	33.8		52.8	8	03.3		47.4			
11	21	40.3	23	22.5	+0	55.5	254	22.6	+21	08.2	301	35.8	+22	52.9	23	05.5	-2	47.3			
12	36	42.8	38	23.6	+0	55.6	269	23.9	+21	07.9	316	37.7	+22	52.9	38	07.7	-2	47.2			
13	51	45.3	53	24.8		55.7	284	25.2		07.6	331	39.6		53.0	53	10.0		47.1			
14	66	47.7	68	25.9		55.8	299	26.6		07.3	346	41.6		53.0	68	12.2		47.0			
15	81	50.2	83	27.0		55.9	314	27.9		06.9	1	43.5		53.0	83	14.4		46.9			
16	96	52.6	98	28.2		56.0	329	29.2		06.6	16	45.4		53.1	98	16.6		46.8			
17	111	55.1	113	29.3	+0	56.1	344	30.5	+21	06.3	31	47.3	+22	53.1	113	18.9	-2	46.7			
18	126	57.6	128	30.4	+0	56.2	359	31.8	+21	06.0	46	49.3	+22	53.1	128	21.1	-2	46.7			
19	142	00.0	143	31.5		56.3	14	33.1		05.7	61	51.2		53.2	143	23.3		46.6			
20	157	02.5	158	32.7		56.4	29	34.4		05.3	76	53.1		53.2	158	25.5		46.5			
21	172	05.0	173	33.8		56.5	44	35.7		05.0	91	55.1		53.3	173	27.8		46.4			
22	187	07.4	188	34.9		56.6	59	37.0		04.7	106	57.0		53.3	188	30.0		46.3			
23	202	09.9	203	36.0		56.8	74	38.3		04.4	121	58.9		53.3	203	32.2		46.2			
24	217	12.4	218	37.1	+0	56.9	89	39.6	+21	04.0	137	00.8	+22	53.4	218	34.4	-2	46.1			
Dif	—		+11		+1		+13		-3		+19		0		+22		+				

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG:11 ^h 57.3 ^m				Edad: 1.2 ^d PHE { 4 ^h : 61'0 12 ^h : 60'9 20 ^h : 60'7 SD: 16'6 PMG: 13 ^h 35 ^m R°: 64 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	39.5	+14	28.6	164	49.0	+23	31.3	108	58	60 N	1 52	3 11	4 03	3 48	12	**	**	**	
1	195	39.6		29.3	179	11.9		42.1	106	58		2 17	25	12	4 09	22	23	36	89	
2	210	39.6		30.1	193	34.8	+23	52.7	105	56		37	36	20	25	29	23	12	85	
3	225	39.7		30.9	207	57.5	+24	03.2	102	54		2 53	47	27	40	34	22	54	82	
4	240	39.8		31.7	222	20.2		13.4	101	52		3 06	3 55	34	4 53	37	38	80		
5	255	39.9	+14	32.4	236	42.8	+24	23.5	99	50		3 17	4 03	4 40	5 04	40	22	24	78	
6	270	40.0	+14	33.2	251	05.3	+24	33.4	98	45		3 40	4 20	4 52	5 27	46	21	56	75	
7	285	40.1		34.0	265	27.8		43.2	95	40		3 58	33	5 02	5 46	49	34	73		
8	300	40.2		34.8	279	50.2	+24	52.7	94	35		4 12	44	11	6 02	52	16	72		
9	315	40.2		35.5	294	12.5	+25	02.1	91	30		24	4 54	19	16	54	21	00	71	
10	330	40.3		36.3	308	34.7		11.2	90	20		42	5 09	32	6 40	58	20	34	68	
11	345	40.4	+14	37.1	322	56.9	+25	20.2	88	10 N		4 56	5 22	5 43	7 00	61	20	11	66	
12	0	40.5	+14	37.9	337	19.0	+25	29.0	86	0		5 08	5 33	5 54	7 20	64	19	50	65	
13	15	40.6		38.6	351	41.1		37.6	84	10 S		18	43	6 04	7 39	67	29	63		
14	30	40.7		39.4	6	03.0		46.0	82	20		27	5 53	15	8 00	70	19	06	61	
15	45	40.7		40.2	20	25.0	+25	54.2	80	30		35	6 03	28	25	73	18	40	58	
16	60	40.8		40.9	34	46.8	+26	02.2	78	35		39	09	35	39	76	25	56		
17	75	40.9	+14	41.7	49	08.6	+26	10.0	76	40		5 43	6 15	6 43	8 56	78	18	07	55	
18	90	41.0	+14	42.5	63	30.4	+26	17.6	74	45		5 47	6 22	6 53	9 17	81	17	46	52	
19	105	41.1		43.2	77	52.1		25.0	73	50		52	30	7 04	42	86	19	48		
20	120	41.1		44.0	92	13.8		32.3	70	52		54	33	09	9 55	89	17	06	45	
21	135	41.2		44.8	106	35.4		39.3	68	54		55	37	15	10 09	92	16	51	42	
22	150	41.3		45.5	120	56.9		46.1	66	56		5 58	42	21	26	97	34	38		
23	165	41.4		46.3	135	18.5		52.7	64	58		6 00	46	29	10 46	104	16	13	31	
24	180	41.5	+14	47.1	149	40.0	+26	59.1	64	60 S		6 02	6 51	7 37	11 12	117	15	47	18	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 29.6 ^m		Mag: -4.8 PMG: 9 ^h 25 ^m		Mag: +0.9 PMG: 18 ^h 00 ^m		Mag: -2.0 PMG: 14 ^h 50 ^m		Mag: +1.2 PMG: 9 ^h 24 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	217	12.4	218	37.1	+0	56.9	137	00.8	+22	53.4
1	232	14.8	233	38.2		57.0	152	02.8		53.4
2	247	17.3	248	39.3		57.1	167	04.7		53.5
3	262	19.7	263	40.5		57.2	182	06.6		53.5
4	277	22.2	278	41.6		57.4	197	08.5		53.5
5	292	24.7	293	42.7	+0	57.5	212	10.5	+22	53.6
6	307	27.1	308	43.8	+0	57.6	227	12.4	+22	53.6
7	322	29.6	323	44.9		57.7	242	14.3		53.7
8	337	32.1	338	46.0		57.9	257	16.3		53.7
9	352	34.5	353	47.1		58.0	272	18.2		53.7
10	7	37.0	8	48.2		58.1	287	20.1		53.8
11	22	39.5	23	49.2	+0	58.2	302	22.0	+22	53.8
12	37	41.9	38	50.3	+0	58.4	317	24.0	+22	53.8
13	52	44.4	53	51.4		58.5	332	25.9		53.9
14	67	46.9	68	52.5		58.7	347	27.8		53.9
15	82	49.3	83	53.6		58.8	314	59.1		59.2
16	97	51.8	98	54.7		58.9	330	00.4		58.9
17	112	54.2	113	55.7	+0	59.1	345	01.7	+20	58.5
18	127	56.7	128	56.8	+0	59.2	0	03.0	+20	58.2
19	142	59.2	143	57.9		59.4	15	04.3		57.9
20	158	01.6	158	59.0		59.5	30	05.6		57.6
21	173	04.1	174	00.0		59.6	45	06.9		57.2
22	188	06.6	189	01.1		59.8	60	08.2		56.9
23	203	09.0	204	02.2	+0	59.9	75	09.5		56.6
24	218	11.5	219	03.2	+1	00.1	90	10.8	+20	56.3
Dif	—		+11		+1		+13		-3	
									+19	
									0	
									+22	
									+1	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 57.2 ^m				Edad: 2.2 ^d SD: 16'5 PMG: 14 ^h 39 ^m						PHE { 4 ^h : 60'4 12 ^h : 60'2 20 ^h : 59'9 R°: 66 ^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	180	41.5	+14	47.1	149	40.0	+26	59.1	60 N	19 56	20 49	22 12	4 00	38	0 06	101
1	195	41.5		47.8	164	01.4	+27	05.3	58	46	35	21 44	31	47	**	**
2	210	41.6		48.6	178	22.9		11.3	56	38	22	24	54	52	**	**
3	225	41.7		49.4	192	44.3		17.1	54	30	12	21 07	5	14	54	**
4	240	41.8		50.1	207	05.6		22.7	52	24	20 02	20 53	30	56	23 58	60
5	255	41.9	+14	50.9	221	27.0	+27	28.1	50	19 17	19 54	20 41	5	44	57	23 42
6	270	41.9	+14	51.7	235	48.3	+27	33.3	45	19 05	19 37	20 17	6	13	59	23 11
7	285	42.0		52.4	250	09.6		38.2	40	18 54	23	19 59	35	61	22	47
8	300	42.1		53.2	264	30.9		43.0	35	45	12	44	6	54	62	28
9	315	42.2		54.0	278	52.2		47.5	30	37	19 02	32	7	10	63	22
10	330	42.2		54.7	293	13.4		51.9	20	23	18 46	19 13	7	38	64	21
11	345	42.3	+14	55.5	307	34.7	+27	56.0	10 N	18 11	18 33	18 59	8	01	65	21
12	0	42.4	+14	56.3	321	56.0	+27	59.9	0	18 01	18 22	18 47	8	24	65	20
13	15	42.5		57.0	336	17.2	+28	03.6	10 S	17 50	11	37	8	46	66	32
14	30	42.6		57.8	350	38.5		07.1	20	38	18 01	27	9	10	67	20
15	45	42.6		58.5	4	59.8		10.4	30	26	17 50	19	38	68	19	38
16	60	42.7	+14	59.3	19	21.0		13.5	35	18	44	14	9	55	68	21
17	75	42.8	+15	00.1	33	42.3	+28	16.4	40	17 10	17 38	18 10	10	14	69	19
18	90	42.9	+15	00.8	48	03.6	+28	19.1	45	17 00	17 31	18 05	10	38	69	18
19	105	42.9		01.6	62	24.9		21.5	50	16 48	22	18 01	11	08	71	18
20	120	43.0		02.3	76	46.3		23.8	52	43	19	17 59	24	70	17	51
21	135	43.1		03.1	91	07.6		25.8	54	37	15	56	11	41	72	33
22	150	43.2		03.8	105	29.0		27.6	56	30	10	54	12	03	72	17
23	165	43.2		04.6	119	50.4		29.2	58	23	05	52	12	30	73	16
24	180	43.3	+15	05.4	134	11.9	+28	30.7	60 S	16 14	17 00	17 49	13	09	76	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 25.7 ^m		Mag: -4.7 PMG: 9 ^h 23 ^m		Mag: +0.9 PMG: 17 ^h 58 ^m		Mag: -2.0 PMG: 14 ^h 47 ^m		Mag: +1.2 PMG: 9 ^h 21 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /		° /		° /		° /									
0	218	11.5	219	03.2	+1	00.1	90	10.8	+20	56.3	137	47.1	+22	54.3	219	27.8	-2	43.8
1	233	14.0	234	04.3		00.2	105	12.1		55.9	152	49.0		54.3	234	30.1		43.7
2	248	16.4	249	05.4		00.4	120	13.4		55.6	167	50.9		54.4	249	32.3		43.6
3	263	18.9	264	06.4		00.5	135	14.7		55.3	182	52.8		54.4	264	34.5		43.5
4	278	21.4	279	07.5		00.7	150	16.0		54.9	197	54.8		54.5	279	36.8		43.4
5	293	23.8	294	08.5	+1	00.9	165	17.3	+20	54.6	212	56.7	+22	54.5	294	39.0	-2	43.3
6	308	26.3	309	09.6	+1	01.0	180	18.5	+20	54.3	227	58.6	+22	54.5	309	41.2	-2	43.2
7	323	28.7	324	10.6		01.2	195	19.8		54.0	243	00.5		54.6	324	43.4		43.1
8	338	31.2	339	11.7		01.3	210	21.1		53.6	258	02.5		54.6	339	45.7		43.0
9	353	33.7	354	12.7		01.5	225	22.4		53.3	273	04.4		54.6	354	47.9		42.9
10	8	36.1	9	13.8		01.7	240	23.7		53.0	288	06.3		54.7	9	50.1		42.8
11	23	38.6	24	14.8	+1	01.8	255	25.0	+20	52.6	303	08.2	+22	54.7	24	52.3	-2	42.7
12	38	41.1	39	15.9	+1	02.0	270	26.3	+20	52.3	318	10.2	+22	54.8	39	54.6	-2	42.6
13	53	43.5	54	16.9		02.1	285	27.6		52.0	333	12.1		54.8	54	56.8		42.5
14	68	46.0	69	17.9		02.3	300	28.9		51.7	348	14.0		54.8	69	59.0		42.4
15	83	48.5	84	19.0		02.5	315	30.2		51.3	3	15.9		54.9	85	01.3		42.4
16	98	50.9	99	20.0		02.7	330	31.5		51.0	18	17.8		54.9	100	03.5		42.3
17	113	53.4	114	21.0	+1	02.8	345	32.8	+20	50.7	33	19.8	+22	55.0	115	05.7	-2	42.2
18	128	55.9	129	22.1	+1	03.0	0	34.1	+20	50.3	48	21.7	+22	55.0	130	07.9	-2	42.1
19	143	58.3	144	23.1		03.2	15	35.3		50.0	63	23.6		55.0	145	10.2		42.0
20	159	00.8	159	24.1		03.4	30	36.6		49.7	78	25.5		55.1	160	12.4		41.9
21	174	03.2	174	25.1		03.5	45	37.9		49.3	93	27.5		55.1	175	14.6		41.8
22	189	05.7	189	26.2		03.7	60	39.2		49.0	108	29.4		55.1	190	16.9		41.7
23	204	08.2	204	27.2		03.9	75	40.5		48.7	123	31.3		55.2	205	19.1		41.6
24	219	10.6	219	28.2	+1	04.1	90	41.8	+20	48.4	138	33.2	+22	55.2	220	21.3	-2	41.5
Dif	—		+10		+2		+13		-3		+19		0		+22		+1	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 9 PMG:11 ^h 57.1 ^m			Edad: 3.2 ^d PHE { 4 ^h : 59/6 12 ^h : 59/3 20 ^h : 59/0 PMG: 15 ^h 43 ^m R°: 61 ^m														
	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	180	43.3	+15	05.4	134	11.9	+28	30.7	12	60 N	1 41	3 04	3 57	4 37 83	1 45 48			
1	195	43.4		06.1	148	33.4		31.9	10	58	2 09	19	4 07	5 17 77	1 05 54			
2	210	43.5		06.9	162	54.9		32.9	8	56	30	31	16	5 45 74	0 37 57			
3	225	43.5		07.6	177	16.5		33.7	6	54	2 47	42	23	6 06 73	0 16 57			
4	240	43.6		08.4	191	38.1		34.3	3	52	3 01	51	30	24 72	** ** *			
5	255	43.7	+15	09.1	205	59.7	+28	34.6	6	50	3 13	3 59	4 36	6 40 70	** ** *			
6	270	43.8	+15	09.9	220	21.5	+28	34.8	2	45	3 37	4 17	4 49	7 11 69	** ** *			
7	285	43.8		10.6	234	43.2		34.8	0	40	3 55	31	5 00	35 67	23 49 48			
8	300	43.9		11.4	249	05.0		34.6	2	35	4 09	42	09	7 55 66	29 51			
9	315	44.0		12.1	263	26.9		34.2	4	30	22	4 52	17	8 12 65	23 13 52			
10	330	44.0		12.9	277	48.9		33.5	7	20	41	5 08	31	8 40 65	22 45 55			
11	345	44.1	+15	13.7	292	10.9	+28	32.7	8	10 N	4 55	5 21	5 43	9 05 63	22 21 57			
12	0	44.2	+15	14.4	306	32.9	+28	31.7	10	0	5 07	5 32	5 54	9 28 62	21 58 60			
13	15	44.3		15.2	320	55.1		30.5	12	10 S	18	43	6 05	9 51 61	35 62			
14	30	44.3		15.9	335	17.3		29.0	15	20	27	5 53	16	10 16 59	21 11 64			
15	45	44.4		16.7	349	39.6		27.4	16	30	36	6 04	29	10 45 57	20 43 66			
16	60	44.5		17.4	4	01.9		25.6	18	35	40	10	37	11 02 56	26 68			
17	75	44.5	+15	18.2	18	24.4	+28	23.6	20	40	5 45	6 17	6 45	11 22 54	20 06 70			
18	90	44.6	+15	18.9	32	46.9	+28	21.4	22	45	5 49	6 24	6 55	11 46 53	19 42 72			
19	105	44.7		19.6	47	09.5		19.1	23	50	54	33	7 07	12 17 50	19 11 76			
20	120	44.8		20.4	61	32.2		16.5	26	52	56	37	12	33 48	18 55 78			
21	135	44.8		21.1	75	55.0		13.7	28	54	5 59	41	18	12 51 45	37 81			
22	150	44.9		21.9	90	17.8		10.8	29	56	6 01	45	25	13 13 42	18 15 85			
23	165	45.0		22.6	104	40.8		07.6	32	58	03	50	33	13 42 36	17 47 90			
24	180	45.0	+15	23.4	119	03.9	+28	04.3	33	60 S	6 06	6 56	7 41	14 24 24	17 05 102			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 21.8 ^m		Mag: -4.7 PMG: 9 ^h 21 ^m			Mag: +0.9 PMG: 17 ^h 56 ^m			Mag: -2.0 PMG: 14 ^h 44 ^m			Mag: +1.2 PMG: 9 ^h 17 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	219	10.6	219	28.2	+1	04.1	90	41.8	+20	48.4	138	33.2	+22	55.2	220	21.3	-2	41.5
1	234	13.1	234	29.2		04.3	105	43.1		48.0	153	35.1		55.3	235	23.5		41.4
2	249	15.6	249	30.2		04.4	120	44.4		47.7	168	37.1		55.3	250	25.8		41.3
3	264	18.0	264	31.2		04.6	135	45.7		47.4	183	39.0		55.3	265	28.0		41.2
4	279	20.5	279	32.2		04.8	150	47.0		47.0	198	40.9		55.4	280	30.2		41.1
5	294	23.0	294	33.2	+1	05.0	165	48.2	+20	46.7	213	42.8	+22	55.4	295	32.5	-2	41.0
6	309	25.4	309	34.3	+1	05.2	180	49.5	+20	46.4	228	44.8	+22	55.4	310	34.7	-2	40.9
7	324	27.9	324	35.3		05.4	195	50.8		46.0	243	46.7		55.5	325	36.9		40.8
8	339	30.4	339	36.3		05.6	210	52.1		45.7	258	48.6		55.5	340	39.1		40.7
9	354	32.8	354	37.3		05.8	225	53.4		45.4	273	50.5		55.6	355	41.4		40.7
10	9	35.3	9	38.3		06.0	240	54.7		45.0	288	52.4		55.6	10	43.6		40.6
11	24	37.7	24	39.2	+1	06.2	255	56.0	+20	44.7	303	54.4	+22	55.6	25	45.8	-2	40.5
12	39	40.2	39	40.2	+1	06.3	270	57.3	+20	44.4	318	56.3	+22	55.7	40	48.1	-2	40.4
13	54	42.7	54	41.2		06.5	285	58.5		44.0	333	58.2		55.7	55	50.3		40.3
14	69	45.1	69	42.2		06.7	300	59.8		43.7	349	00.1		55.7	70	52.5		40.2
15	84	47.6	84	43.2		06.9	316	01.1		43.4	4	02.0		55.8	85	54.8		40.1
16	99	50.1	99	44.2		07.1	331	02.4		43.0	19	04.0		55.8	100	57.0		40.0
17	114	52.5	114	45.2	+1	07.4	346	03.7	+20	42.7	34	05.9	+22	55.9	115	59.2	-2	39.9
18	129	55.0	129	46.2	+1	07.6	1	05.0	+20	42.4	49	07.8	+22	55.9	131	01.4	-2	39.8
19	144	57.5	144	47.1		07.8	16	06.3		42.0	64	09.7		55.9	146	03.7		39.7
20	159	59.9	159	48.1		08.0	31	07.5		41.7	79	11.6		56.0	161	05.9		39.6
21	175	02.4	174	49.1		08.2	46	08.8		41.4	94	13.5		56.0	176	08.1		39.5
22	190	04.9	189	50.1		08.4	61	10.1		41.0	109	15.5		56.0	191	10.4		39.4
23	205	07.3	204	51.0		08.6	76	11.4		40.7	124	17.4		56.1	206	12.6		39.3
24	220	09.8	219	52.0	+1	08.8	91	12.7	+20	40.4	139	19.3	+22	56.1	221	14.8	-2	39.2
Dif	—		+10		+2		+13		-3		+19		0		+22		+	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 56.9 ^m				Edad: 4.2 ^d PHE { 4 ^h : 58'7 12 ^h : 58'4 20 ^h : 58'0 R°: 57 ^m											
	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	45.0	+15	23.4	119	03.9	41	+28	04.3	35	60 N	20 01	20 55	22 23	6 00	108
1	195	45.1		24.1	133	27.0	43	+28	00.8	35	58	19 51	40	21 52	34	97
2	210	45.2		24.9	147	50.3	43	+27	57.2	36	56	42	27	30	6 59	91
3	225	45.2		25.6	162	13.6	45		53.3	40	54	34	16	21 12	7 19	86
4	240	45.3		26.4	176	37.1	45		49.3	43	52	27	20 06	20 58	36	83
5	255	45.4	+15	27.1	191	00.6	45	+27	45.0	43	50	19 21	19 58	20 45	7 50	81
6	270	45.4	+15	27.8	205	24.3	47	+27	40.7	43	45	19 07	19 40	20 20	8 20	75
7	285	45.5		28.6	219	48.1	48		36.1	46	40	18 56	25	20 01	8 42	73
8	300	45.6		29.3	234	12.0	49		31.4	47	35	46	14	19 46	9 01	70
9	315	45.6		30.1	248	36.0	50		26.5	49	30	38	19 04	34	17	68
10	330	45.7		30.8	263	00.1	51		21.4	51	20	24	18 47	19 14	9 45	64
11	345	45.8	+15	31.6	277	24.3	52	+27	16.1	53	10 N	18 12	18 34	18 59	10 08	61
12	0	45.8	+15	32.3	291	48.7	54	+27	10.7	54	0	18 00	18 22	18 47	10 30	58
13	15	45.9		33.0	306	13.1	54	+27	05.2	55	10 S	17 49	11	36	10 52	55
14	30	46.0		33.8	320	37.7	56	+26	59.4	58	20	37	18 00	26	11 15	52
15	45	46.0		34.5	335	02.4	57		53.6	58	30	24	17 49	17	42	49
16	60	46.1		35.3	349	27.2	58		47.5	61	35	16	42	12	11 58	46
17	75	46.2	+15	36.0	3	52.1	59	+26	41.3	62	40	17 07	17 36	18 08	12 16	44
18	90	46.2	+15	36.7	18	17.2	61	+26	34.9	64	45	16 57	17 28	18 03	12 39	40
19	105	46.3		37.5	32	42.4	62		28.4	65	50	45	19	17 58	13 07	35
20	120	46.4		38.2	47	07.7	63		21.8	66	52	39	15	55	21	32
21	135	46.4		38.9	61	33.1	64		15.0	68	54	33	11	53	36	29
22	150	46.5		39.7	75	58.6	65		08.0	70	56	26	06	50	13 55	24
23	165	46.6		40.4	90	24.3	67	+26	00.9	71	58	18	17 01	48	14 18	18
24	180	46.6	+15	41.2	104	50.1	68	+25	53.6	73	60 S	16 09	16 55	17 45	14 48	8
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 9 ^h 17.8 ^m		Mag: -4.7 PMG: 9 ^h 20 ^m		Mag: +0.9 PMG: 17 ^h 54 ^m		Mag: -2.0 PMG: 14 ^h 41 ^m		Mag: +1.2 PMG: 9 ^h 14 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /		° /		° /		° /							
0	220	09.8	219	52.0	+1	08.8	91	12.7	+20	40.4						
1	235	12.2	234	53.0		09.0	106	14.0		40.0						
2	250	14.7	249	54.0		09.2	121	15.2		39.7						
3	265	17.2	264	54.9		09.5	136	16.5		39.3						
4	280	19.6	279	55.9		09.7	151	17.8		39.0						
5	295	22.1	294	56.8	+1	09.9	166	19.1	+20	38.7						
6	310	24.6	309	57.8	+1	10.1	181	20.4	+20	38.3						
7	325	27.0	324	58.8		10.3	196	21.6		38.0						
8	340	29.5	339	59.7		10.6	211	22.9		37.7						
9	355	32.0	355	00.7		10.8	226	24.2		37.3						
10	10	34.4	10	01.6		11.0	241	25.5		37.0						
11	25	36.9	25	02.6	+1	11.2	256	26.8	+20	36.6						
12	40	39.4	40	03.5	+1	11.5	271	28.0	+20	36.3						
13	55	41.8	55	04.5		11.7	286	29.3		36.0						
14	70	44.3	70	05.4		11.9	301	30.6		35.6						
15	85	46.7	85	06.4		12.2	316	31.9		35.3						
16	100	49.2	100	07.3		12.4	331	33.2		35.0						
17	115	51.7	115	08.2	+1	12.6	346	34.4	+20	34.6						
18	130	54.1	130	09.2	+1	12.9	1	35.7	+20	34.3						
19	145	56.6	145	10.1		13.1	16	37.0		33.9						
20	160	59.1	160	11.1		13.3	31	38.3		33.6						
21	176	01.5	175	12.0		13.6	46	39.6		33.3						
22	191	04.0	190	12.9		13.8	61	40.8		32.9						
23	206	06.5	205	13.8		14.0	76	42.1		32.6						
24	221	08.9	220	14.8	+1	14.3	91	43.4	+20	32.2						
Dif	—		+9		+2		+13		-3							
							+19		0							
									+22							
									+1							

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 56.8 ^m			Edad: 5.2 ^d PHE { 4 ^h : 57'7 12 ^h : 57'4 20 ^h : 57'1 R°: 51 ^m													
	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	180	46.6	+15	41.2	104	50.1	70	+25	53.6	74	1 30	2 58	3 52	7 46	105	2 48 5	
1	195	46.7		41.9	119	16.1	70		46.2	75	2 01	3 13	4 02	8 10	96	25 12	
2	210	46.7		42.6	133	42.1	72		38.7	77	23	26	11	28	91	2 05 18	
3	225	46.8		43.4	148	08.3	73		31.0	78	41	37	19	44	86	1 49 22	
4	240	46.9		44.1	162	34.6	73		23.2	80	2 56	47	26	8 58	82	35 25	
5	255	46.9	+15	44.8	177	01.1	75	+25	15.2	80	3 08	3 56	4 33	9 09	80	1 23 28	
6	270	47.0	+15	45.6	191	27.6	75	+25	07.2	80	3 33	4 14	4 46	9 34	74	0 57 34	
7	285	47.1		46.3	205	54.3	77	+24	58.9	83	3 52	28	4 57	9 53	70	37 37	
8	300	47.1		47.0	220	21.2	79		50.6	85	4 07	40	5 07	10 10	66	20 41	
9	315	47.2		47.7	234	48.1	79		42.1	86	20	4 50	15	24	63	0 05 43	
10	330	47.2		48.5	249	15.2	81		33.5	86	39	5 06	30	10 47	59	** ** *	
11	345	47.3	+15	49.2	263	42.4	82	+24	24.8	87	4 54	5 20	5 42	11 08	55	** ** *	
12	0	47.4	+15	49.9	278	09.8	84	+24	15.9	89	5 07	5 32	5 53	11 27	51	23 52 49	
13	15	47.4		50.7	292	37.3	85	+24	07.0	89	18	43	6 05	11 46	47	35 53	
14	30	47.5		51.4	307	04.9	86	+23	57.9	91	28	5 54	17	12 06	44	23 16 57	
15	45	47.5		52.1	321	32.6	87		48.6	93	37	6 05	30	29 39	29	22 54 63	
16	60	47.6		52.9	336	00.5	89		39.3	93	42	12	38	43	36	42 65	
17	75	47.7	+15	53.6	350	28.5	90	+23	29.9	94	5 46	6 19	6 47	12 59	32	22 27 69	
18	90	47.7	+15	54.3	4	56.6	91	+23	20.3	96	5 52	6 26	6 57	13 17	29	22 09 74	
19	105	47.8		55.0	19	24.9	93		10.6	97	57	35	7 10	40	24	21 48 79	
20	120	47.8		55.8	33	53.3	94	+23	00.9	97	5 59	40	16	13 51	21	37 82	
21	135	47.9		56.5	48	21.8	95	+22	51.0	99	6 02	44	22	14 04	17	25 85	
22	150	48.0		57.2	62	50.4	96		41.0	100	04	49	29	18 13		21 11 90	
23	165	48.0		57.9	77	19.2	98		30.9	101	07	6 54	37	35 8		20 55 95	
24	180	48.1	+15	58.7	91	48.1	99	+22	20.7	102	6 10	7 00	7 46	14 55	2	20 36 101	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 13.9 ^m		Mag: -4.7 PMG: 9 ^h 18 ^m		Mag: +0.9 PMG: 17 ^h 52 ^m		Mag: -2.0 PMG: 14 ^h 38 ^m		Mag: +1.2 PMG: 9 ^h 10 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	221	08.9	220	14.8	+1	14.3	140	05.3	+22	57.0
1	236	11.4	235	15.7		14.5	155	07.2		57.0
2	251	13.8	250	16.6		14.8	170	09.1		57.1
3	266	16.3	265	17.5		15.0	185	11.1		57.1
4	281	18.8	280	18.5		15.3	200	13.0		57.1
5	296	21.2	295	19.4	+1	15.5	215	14.9	+22	57.2
6	311	23.7	310	20.3	+1	15.8	230	16.8	+22	57.2
7	326	26.2	325	21.2		16.0	245	18.7		57.2
8	341	28.6	340	22.1		16.3	260	20.6		57.3
9	356	31.1	355	23.0		16.5	275	22.5		57.3
10	11	33.6	10	24.0		16.8	290	24.5		57.4
11	26	36.0	25	24.9	+1	17.0	305	26.4	+22	57.4
12	41	38.5	40	25.8	+1	17.3	320	28.3	+22	57.4
13	56	41.0	55	26.7		17.6	335	30.2		57.5
14	71	43.4	70	27.6		17.8	350	32.1		57.5
15	86	45.9	85	28.5		18.1	5	34.0		57.5
16	101	48.3	100	29.4		18.3	20	35.9		57.6
17	116	50.8	115	30.3	+1	18.6	35	37.9	+22	57.6
18	131	53.3	130	31.2	+1	18.9	50	39.8	+22	57.6
19	146	55.7	145	32.1		19.1	65	41.7		57.7
20	161	58.2	160	33.0		19.4	80	43.6		57.7
21	177	00.7	175	33.8		19.7	95	45.5		57.8
22	192	03.1	190	34.7		19.9	110	47.4		57.8
23	207	05.6	205	35.6		20.2	125	49.3		57.8
24	222	08.1	220	36.5	+1	20.5	140	51.2	+22	57.9
Dif	—		+9		+3		+19		0	
									+22	
									+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG:11 ^h 56.7 ^m				Edad: 6.2 ^d SD: 15'5 PMG: 18 ^h 30 ^m PHE { 4 ^h : 56'8 12 ^h : 56'5 20 ^h : 56'3 R°: 47 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil	Náutico	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	48.1	+15	58.7	91	48.1	+22	20.7	100	20.7	103	60 N	20 06	21 02	22 36	9 31	97	2 53	3
1	195	48.1	+15	59.4	106	17.1	+22	10.4	101	10.4	104	58	19 55	20 45	22 01	46 92	37 8		
2	210	48.2	+16	00.1	120	46.2	+22	00.0	103	00.0	105	56	46	32	21 37	9 59 88	23 12		
3	225	48.3		00.8	135	15.5	+21	49.5	104	49.5	106	54	38	20	18	10 10 85	11 16		
4	240	48.3		01.6	149	44.9		38.9	105	38.9	107	52	30	10	21 02	20 82	2 00 19		
5	255	48.4	+16	02.3	164	14.4	+21	28.2	106	28.2	108	50	19 24	20 01	20 49	10 29 79	1 51 21		
6	270	48.4	+16	03.0	178	44.0	+21	17.4	107	17.4	108	45	19 09	19 42	20 23	10 48 73	1 31 27		
7	285	48.5		03.7	193	13.8	+21	06.5	108	06.5	109	40	18 58	28 20	20 04	11 03 69	14 31		
8	300	48.5		04.4	207	43.7	+20	55.5	109	55.5	110	35	48	15	19 48	16 65	1 01 34		
9	315	48.6		05.2	222	13.7		44.5	110	44.5	112	30	39	19 05	36	27 62	0 48 38		
10	330	48.6		05.9	236	43.8		33.3	111	33.3	112	20	25	18 48	15	11 46 57	27 43		
11	345	48.7	+16	06.6	251	14.0	+20	22.1	112	22.1	113	10 N	18 12	18 34	19 00	12 03 52	0 09 47		
12	0	48.8	+16	07.3	265	44.4	+20	10.8	113	10.8	114	0	18 00	18 22	18 47	12 18 48	** ** *		
13	15	48.8		08.0	280	14.8	+19	59.4	114	59.4	115	10 S	17 49	18 10	36	33 44	** ** *		
14	30	48.9		08.7	294	45.4		47.9	115	47.9	116	20	36	17 59	25	12 50 39	** ** *		
15	45	48.9		09.5	309	16.1		36.3	116	36.3	117	30	22	47	16	13 08 35	23 57 60		
16	60	49.0		10.2	323	46.9		24.7	117	24.7	118	35	14	41	11	19 31	47 63		
17	75	49.0	+16	10.9	338	17.9	+19	13.0	118	13.0	119	40	17 05	17 33	18 06	13 31 28	23 36 67		
18	90	49.1	+16	11.6	352	48.9	+19	01.2	119	01.2	120	45	16 54	17 25	18 00	13 46 24	23 23 71		
19	105	49.1		12.3	7	20.1	+18	49.3	120	49.3	121	50	42	16	17 55	14 04 18	23 07 76		
20	120	49.2		13.0	21	51.3		37.4	121	37.4	122	52	36	12	52	12 16	22 59 79		
21	135	49.2		13.8	36	22.7		25.4	122	25.4	123	54	29	07	50	21 13	50 83		
22	150	49.3		14.5	50	54.2		13.3	123	13.3	124	56	22	17 02	47	31 10	41 86		
23	165	49.4		15.2	65	25.7	+18	01.1	124	01.1	125	58	13	16 57	44	43 6	30 90		
24	180	49.4	+16	15.9	79	57.4	+17	48.9	125	48.9	126	60 S	16 04	16 51	17 41	14 57 1	22 17 95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 10.0 ^m		Mag: -4.7 PMG: 9 ^h 17 ^m		Mag: +0.9 PMG: 17 ^h 50 ^m		Mag: -2.0 PMG: 14 ^h 35 ^m		Mag: +1.2 PMG: 9 ^h 07 ^m									
h	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
h	°	'	°	'	°	'	°	'	°	'								
0	222	08.1	220	36.5	+1	20.5	92	14.0	+20	24.0	140	51.2	+22	57.9	223	02.0	-2	34.8
1	237	10.5	235	37.4		20.7	107	15.2		23.7	155	53.2		57.9	238	04.2		34.7
2	252	13.0	250	38.3		21.0	122	16.5		23.3	170	55.1		57.9	253	06.5		34.6
3	267	15.5	265	39.1		21.3	137	17.8		23.0	185	57.0		58.0	268	08.7		34.5
4	282	17.9	280	40.0		21.6	152	19.1		22.6	200	58.9		58.0	283	11.0		34.5
5	297	20.4	295	40.9	+1	21.9	167	20.3	+20	22.3	216	00.8	+22	58.0	298	13.2	-2	34.4
6	312	22.8	310	41.8	+1	22.1	182	21.6	+20	21.9	231	02.7	+22	58.1	313	15.4	-2	34.3
7	327	25.3	325	42.7		22.4	197	22.9		21.6	246	04.6		58.1	328	17.7		34.2
8	342	27.8	340	43.5		22.7	212	24.1		21.3	261	06.5		58.1	343	19.9		34.1
9	357	30.2	355	44.4		23.0	227	25.4		20.9	276	08.5		58.2	358	22.1		34.0
10	12	32.7	10	45.3		23.3	242	26.7		20.6	291	10.4		58.2	13	24.4		33.9
11	27	35.2	25	46.1	+1	23.5	257	27.9	+20	20.2	306	12.3	+22	58.3	28	26.6	-2	33.8
12	42	37.6	40	47.0	+1	23.8	272	29.2	+20	19.9	321	14.2	+22	58.3	43	28.8	-2	33.7
13	57	40.1	55	47.9		24.1	287	30.5		19.5	336	16.1		58.3	58	31.1		33.6
14	72	42.6	70	48.7		24.4	302	31.8		19.2	351	18.0		58.4	73	33.3		33.5
15	87	45.0	85	49.6		24.7	317	33.0		18.8	6	19.9		58.4	88	35.5		33.5
16	102	47.5	100	50.4		25.0	332	34.3		18.5	21	21.8		58.4	103	37.8		33.4
17	117	50.0	115	51.3	+1	25.3	347	35.6	+20	18.1	36	23.7	+22	58.5	118	40.0	-2	33.3
18	132	52.4	130	52.1	+1	25.6	2	36.8	+20	17.8	51	25.7	+22	58.5	133	42.3	-2	33.2
19	147	54.9	145	53.0		25.9	17	38.1		17.4	66	27.6		58.5	148	44.5		33.1
20	162	57.3	160	53.9		26.2	32	39.4		17.1	81	29.5		58.6	163	46.7		33.0
21	177	59.8	175	54.7		26.5	47	40.6		16.7	96	31.4		58.6	178	49.0		32.9
22	193	02.3	190	55.5		26.8	62	41.9		16.4	111	33.3		58.6	193	51.2		32.8
23	208	04.7	205	56.4		27.1	77	43.2		16.0	126	35.2		58.7	208	53.4		32.7
24	223	07.2	220	57.2	+1	27.4	92	44.4	+20	15.7	141	37.1	+22	58.7	223	55.7	-2	32.6
Dif	—		+9		+3		+13		-3		+19		0		+22		+1	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15 ^h 9 PMG: 11 ^h 56.7 ^m				Edad: 7.2 ^d PHE { 4 ^h : 56'0 12 ^h : 55'8 20 ^h : 55'6 R°: 42 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	49.4	+16	15.9	79	57.4	+17	48.9	123	36.6	123	60 N	1 17	2 51	3 47	11 07	90	2 54	0
1	195	49.5		16.6	94	29.2		36.6	123	36.6	123	58	1 52	3 07	3 58	17 85	43	4	4
2	210	49.5		17.3	109	01.1		24.3	124	24.3	124	56	2 16	21	4 07	26 81	34	7	7
3	225	49.6		18.0	123	33.1	+17	11.9	125	11.9	125	54	35	33	15	33 79	25	11	11
4	240	49.6		18.7	138	05.2	+16	59.4	125	59.4	125	52	2 50	43	23	40 76	18	13	13
5	255	49.7	+16	19.5	152	37.4	+16	46.9	126	46.9	126	50	3 04	3 52	4 29	11 46	74	2 11	15
6	270	49.7	+16	20.2	167	09.7	+16	34.3	127	34.3	127	45	3 30	4 11	4 43	11 59	68	1 56	21
7	285	49.8		20.9	181	42.1		21.6	127	21.6	127	40	3 49	25	4 55	12 10	64	44	24
8	300	49.8		21.6	196	14.6	+16	08.9	127	08.9	127	35	4 05	38	5 05	20 60	34	27	27
9	315	49.9		22.3	210	47.2	+15	56.1	128	56.1	128	30	18	4 48	14	28 57	24	31	31
10	330	49.9		23.0	225	19.9		43.3	128	43.3	128	20	38	5 05	28	41 52	1 08	36	36
11	345	50.0	+16	23.7	239	52.7	+15	30.4	129	30.4	129	10 N	4 54	5 19	5 41	12 53	48	0 54	41
12	0	50.0	+16	24.4	254	25.6	+15	17.5	129	17.5	129	0	5 07	5 32	5 53	13 05	43	0 41	45
13	15	50.1		25.1	268	58.5	+15	04.5	130	04.5	130	10 S	18	43	6 05	16 38	28	48	48
14	30	50.1		25.8	283	31.6	+14	51.5	131	51.5	131	20	28	5 55	17	28 34	0 13	54	54
15	45	50.2		26.5	298	04.7		38.4	131	38.4	131	30	38	6 07	32	41 29	**	**	**
16	60	50.2		27.2	312	37.9		25.3	131	25.3	131	35	43	13	40	49 26	**	**	**
17	75	50.3	+16	27.9	327	11.2	+14	12.1	132	12.1	132	40	5 48	6 21	6 49	13 58	22	**	**
18	90	50.3	+16	28.6	341	44.6	+13	58.9	132	58.9	132	45	5 54	6 29	7 00	14 08	19	**	**
19	105	50.4		29.4	356	18.1		45.6	133	45.6	133	50	5 59	38	13	21 13	**	**	**
20	120	50.4		30.1	10	51.7		32.3	133	32.3	133	52	6 02	42	19	26 12	**	**	**
21	135	50.4		30.8	25	25.3		18.9	134	18.9	134	54	05	47	26	33 8	**	**	**
22	150	50.5		31.5	39	59.1	+13	05.5	134	05.5	134	56	07	52	33	40 5	**	**	**
23	165	50.5		32.2	54	32.9	+12	52.1	134	52.1	134	58	11	6 58	41	47 3	23 58	84	84
24	180	50.6	+16	32.9	69	06.7	+12	38.6	135	38.6	135	60 S	6 14	7 04	7 51	14 56	**	23 51	87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 9 ^h 06.0 ^m		Mag: -4.7 PMG: 9 ^h 16 ^m		Mag: +1.0 PMG: 17 ^h 48 ^m		Mag: -2.0 PMG: 14 ^h 32 ^m		Mag: +1.2 PMG: 9 ^h 03 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	223	07.2	220	57.2	+1	27.4	92	44.4	+20	15.7	141	37.1	+22	58.7	223	55.7	-2	32.6
1	238	09.7	235	58.1		27.7	107	45.7		15.3	156	39.0		58.7	238	57.9		32.6
2	253	12.1	250	58.9		28.0	122	47.0		15.0	171	40.9		58.8	254	00.2		32.5
3	268	14.6	265	59.8		28.3	137	48.2		14.6	186	42.8		58.8	269	02.4		32.4
4	283	17.1	281	00.6		28.6	152	49.5		14.3	201	44.8		58.9	284	04.6		32.3
5	298	19.5	296	01.4	+1	28.9	167	50.7	+20	13.9	216	46.7	+22	58.9	299	06.9	-2	32.2
6	313	22.0	311	02.3	+1	29.2	182	52.0	+20	13.6	231	48.6	+22	58.9	314	09.1	-2	32.1
7	328	24.4	326	03.1		29.5	197	53.3		13.2	246	50.5		59.0	329	11.3		32.0
8	343	26.9	341	03.9		29.8	212	54.5		12.9	261	52.4		59.0	344	13.6		31.9
9	358	29.4	356	04.8		30.1	227	55.8		12.5	276	54.3		59.0	359	15.8		31.8
10	13	31.8	11	05.6		30.4	242	57.1		12.2	291	56.2		59.1	14	18.1		31.7
11	28	34.3	26	06.4	+1	30.7	257	58.3	+20	11.8	306	58.1	+22	59.1	29	20.3	-2	31.7
12	43	36.8	41	07.3	+1	31.0	272	59.6	+20	11.5	322	00.0	+22	59.1	44	22.5	-2	31.6
13	58	39.2	56	08.1		31.4	288	00.9		11.1	337	01.9		59.2	59	24.8		31.5
14	73	41.7	71	08.9		31.7	303	02.1		10.8	352	03.8		59.2	74	27.0		31.4
15	88	44.2	86	09.7		32.0	318	03.4		10.4	7	05.7		59.2	89	29.2		31.3
16	103	46.6	101	10.5		32.3	333	04.6		10.1	22	07.7		59.3	104	31.5		31.2
17	118	49.1	116	11.4	+1	32.6	348	05.9	+20	09.7	37	09.6	+22	59.3	119	33.7	-2	31.1
18	133	51.6	131	12.2	+1	33.0	3	07.2	+20	09.4	52	11.5	+22	59.3	134	36.0	-2	31.0
19	148	54.0	146	13.0		33.3	18	08.4		09.0	67	13.4		59.4	149	38.2		30.9
20	163	56.5	161	13.8		33.6	33	09.7		08.7	82	15.3		59.4	164	40.4		30.8
21	178	58.9	176	14.6		33.9	48	11.0		08.3	97	17.2		59.4	179	42.7		30.8
22	194	01.4	191	15.4		34.2	63	12.2		08.0	112	19.1		59.5	194	44.9		30.7
23	209	03.9	206	16.2		34.6	78	13.5		07.6	127	21.0		59.5	209	47.2		30.6
24	224	06.3	221	17.0	+1	34.9	93	14.7	+20	07.3	142	22.9	+22	59.5	224	49.4	-2	30.5
Dif	—		+8		+3		+13		-4		+19		0		+22		+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG:11 ^h 56.6 ^m				Edad: 8.2 ^d SD: 15'1 PMG: 19 ^h 57 ^m													
	hG ☉		Dec		hG ☾		Dif											
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m			
0	180	50.6	+16	32.9	69	06.7	+12	38.6	60 N	20 11	21 08	22 50	12 37 86	2 54 0				
1	195	50.6		33.6	83	40.7		25.1	58	20 00	20 51	22 10	42 83	47 4				
2	210	50.7		34.3	98	14.7	+12	11.6	56	19 50	36	21 43	47 80	41 7				
3	225	50.7		35.0	112	48.8	+11	58.0	54	41	24	23	52 76	36 9				
4	240	50.8		35.7	127	23.0		44.4	52	34	14	21 07	12 56 74	31 11				
5	255	50.8	+16	36.4	141	57.2	+11	30.7	50	19 27	20 04	20 53	13 00 71	2 26 14				
6	270	50.9	+16	37.1	156	31.6	+11	17.0	45	19 12	19 45	20 27	13 07 67	2 17 18				
7	285	50.9		37.8	171	05.9	+11	03.3	40	19 00	30	20 06	14 62	08 23				
8	300	51.0		38.5	185	40.4	+10	49.5	35	18 50	17	19 50	20 59	2 01 26				
9	315	51.0		39.2	200	14.9		35.8	30	41	19 06	37	25 55	1 55 29				
10	330	51.0		39.9	214	49.5		21.9	20	25	18 49	16	33 51	44 34				
11	345	51.1	+16	40.6	229	24.1	+10	08.1	10 N	18 12	18 34	19 00	13 41 46	1 35 38				
12	0	51.1	+16	41.2	243	58.9	+9	54.2	0	18 00	18 22	18 47	13 48 41	1 26 42				
13	15	51.2		41.9	258	33.6		40.3	10 S	17 48	18 10	35	13 54 38	16 48				
14	30	51.2		42.6	273	08.4		26.4	20	35	17 58	24	14 02 33	1 07 51				
15	45	51.3		43.3	287	43.3	+9	12.5	30	21	46	14	10 28	0 55 57				
16	60	51.3		44.0	302	18.3	+8	58.5	35	12	39	09	15 25	49 60				
17	75	51.3	+16	44.7	316	53.3	+8	44.5	40	17 03	17 31	18 04	14 20 22	0 41 64				
18	90	51.4	+16	45.4	331	28.3	+8	30.5	45	16 52	17 23	17 58	14 27 17	0 33 67				
19	105	51.4		46.1	346	03.4		16.4	50	38	13	52	34 13	22 73				
20	120	51.5		46.8	0	38.6	+8	02.4	52	32	09	49	38 10	17 75				
21	135	51.5		47.5	15	13.8	+7	48.3	54	25	17 04	46	41 9	11 79				
22	150	51.6		48.2	29	49.1		34.2	56	18	16 58	43	45 6	0 05 81				
23	165	51.6		48.9	44	24.4		20.1	58	16 09	53	40	50 3	** ** *				
24	180	51.6	+16	49.6	58	59.7	+7	05.9	60 S	15 59	16 46	17 37	14 55 0	** ** *				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 02.1 ^m		Mag: -4.7 PMG: 9 ^h 14 ^m		Mag: +1.0 PMG: 17 ^h 46 ^m		Mag: -2.0 PMG: 14 ^h 29 ^m		Mag: +1.2 PMG: 8 ^h 59 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	224	06.3	221	17.0	+1	34.9	93	14.7	+20	07.3	142	22.9	+22	59.5	224	49.4	-2	30.5
1	239	08.8	236	17.8		35.2	108	16.0		06.9	157	24.8		59.6	239	51.6		30.4
2	254	11.3	251	18.6		35.6	123	17.3		06.6	172	26.7		59.6	254	53.9		30.3
3	269	13.7	266	19.4		35.9	138	18.5		06.2	187	28.6		59.7	269	56.1		30.2
4	284	16.2	281	20.2		36.2	153	19.8		05.8	202	30.5		59.7	284	58.4		30.1
5	299	18.7	296	21.0	+1	36.6	168	21.0	+20	05.5	217	32.4	+22	59.7	300	00.6	-2	30.0
6	314	21.1	311	21.8	+1	36.9	183	22.3	+20	05.1	232	34.4	+22	59.8	315	02.8	-2	30.0
7	329	23.6	326	22.6		37.2	198	23.6		04.8	247	36.3		59.8	330	05.1		29.9
8	344	26.1	341	23.4		37.6	213	24.8		04.4	262	38.2		59.8	345	07.3		29.8
9	359	28.5	356	24.2		37.9	228	26.1		04.1	277	40.1		59.9	0	09.6		29.7
10	14	31.0	11	25.0		38.2	243	27.3		03.7	292	42.0		59.9	15	11.8		29.6
11	29	33.4	26	25.8	+1	38.6	258	28.6	+20	03.4	307	43.9	+22	59.9	30	14.0	-2	29.5
12	44	35.9	41	26.6	+1	38.9	273	29.8	+20	03.0	322	45.8	+23	00.0	45	16.3	-2	29.4
13	59	38.4	56	27.4		39.3	288	31.1		02.6	337	47.7		00.0	60	18.5		29.3
14	74	40.8	71	28.2		39.6	303	32.4		02.3	352	49.6	+23	00.0	75	20.8		29.2
15	89	43.3	86	28.9		39.9	318	33.6		01.9	7	51.5	+23	00.1	90	23.0		29.2
16	104	45.8	101	29.7		40.3	333	34.9		01.6	22	53.4		00.1	105	25.2		29.1
17	119	48.2	116	30.5	+1	40.6	348	36.1	+20	01.2	37	55.3	+23	00.1	120	27.5	-2	29.0
18	134	50.7	131	31.3	+1	41.0	3	37.4	+20	00.9	52	57.2	+23	00.2	135	29.7	-2	28.9
19	149	53.2	146	32.0		41.3	18	38.6		00.5	67	59.1		00.2	150	32.0		28.8
20	164	55.6	161	32.8		41.7	33	39.9	+20	00.2	83	01.0		00.2	165	34.2		28.7
21	179	58.1	176	33.6		42.0	48	41.2	+19	59.8	98	02.9		00.3	180	36.4		28.6
22	195	00.5	191	34.4		42.4	63	42.4		59.4	113	04.8		00.3	195	38.7		28.5
23	210	03.0	206	35.1		42.7	78	43.7		59.1	128	06.7		00.3	210	40.9		28.4
24	225	05.5	221	35.9	+1	43.1	93	44.9	+19	58.7	143	08.6	+23	00.4	225	43.2	-2	28.4
Dif	—		+8		+3		+13		-4		+19		0		+22		+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 56.5 ^m			Edad: 9.2 ^d PHE { 4 ^h : 54'8 12 ^h : 54'7 20 ^h : 54'5 R°: 39 ^m													
	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	180	51.6	+16	49.6	58	59.7	+7	05.9	60 N	1 03	2 45	3 42	14 01 83	2 53 **			
1	195	51.7		50.2	73	35.1	+6	51.8	58	1 43	3 02	3 53	03 79	49 2			
2	210	51.7		50.9	88	10.6		37.6	56	2 09	16	4 03	05 76	46 5			
3	225	51.8		51.6	102	46.1		23.4	54	29	28	11	07 73	44 7			
4	240	51.8		52.3	117	21.6	+6	09.2	52	45	39	19	08 71	41 9			
5	255	51.8	+16	53.0	131	57.2	+5	55.0	50	2 59	3 48	4 26	14 10 68	2 39 11			
6	270	51.9	+16	53.7	146	32.8	+5	40.8	45	3 26	4 08	4 41	14 13 63	2 34 16			
7	285	51.9		54.4	161	08.4		26.6	40	3 46	23	4 53	15 60	30 19			
8	300	52.0		55.1	175	44.1	+5	12.3	35	4 02	36	5 03	17 57	26 23			
9	315	52.0		55.7	190	19.8	+4	58.1	30	16	4 46	12	19 53	23 25			
10	330	52.0		56.4	204	55.6		43.8	20	37	5 04	27	22 48	17 31			
11	345	52.1	+16	57.1	219	31.4	+4	29.5	10 N	4 53	5 19	5 41	14 25 44	2 12 35			
12	0	52.1	+16	57.8	234	07.2	+4	15.3	0	5 06	5 31	5 53	14 28 39	2 07 40			
13	15	52.2		58.5	248	43.1	+4	01.0	10 S	18	43	6 05	31 34	2 02 44			
14	30	52.2		59.2	263	18.9	+3	46.7	20	29	5 55	18	33 31	1 57 49			
15	45	52.2	+16	59.8	277	54.9		32.4	30	39	6 08	33	37 25	51 54			
16	60	52.3	+17	00.5	292	30.8		18.1	35	44	15	41	38 23	48 57			
17	75	52.3	+17	01.2	307	06.8	+3	03.8	40	5 50	6 22	6 51	14 40 20	1 44 60			
18	90	52.3	+17	01.9	321	42.8	+2	49.5	45	5 56	6 31	7 02	14 43 15	1 39 65			
19	105	52.4		02.6	336	18.8		35.1	50	6 02	41	16	46 11	34 69			
20	120	52.4		03.2	350	54.8		20.8	52	05	45	22	47 9	31 72			
21	135	52.4		03.9	5	30.9	+2	06.5	54	08	50	29	48 7	28 74			
22	150	52.5		04.6	20	07.0	+1	52.2	56	11	6 56	37	50 4	25 77			
23	165	52.5		05.3	34	43.1		37.9	58	14	7 02	46	52 1	22 79			
24	180	52.6	+17	06.0	49	19.2	+1	23.6	60 S	6 18	7 08	7 56	14 54 **	1 18 83			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO				
	PMG 8 ^h 58.2 ^m			Mag: -4.7 PMG: 9 ^h 13 ^m			Mag: +1.0 PMG: 17 ^h 44 ^m			Mag: -2.0 PMG: 14 ^h 26 ^m			Mag: +1.2 PMG: 8 ^h 56 ^m				
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°	°	'	°	'	°	'	°	
0	225	05.5	221 35.9	+1 43.1	93 44.9	+19 58.7	143 08.6	+23 00.4	225 43.2	-2 28.4							
1	240	07.9	236 36.7	43.4	108 46.2	58.4	158 10.5	00.4	240 45.4	28.3							
2	255	10.4	251 37.4	43.8	123 47.4	58.0	173 12.5	00.4	255 47.6	28.2							
3	270	12.9	266 38.2	44.2	138 48.7	57.6	188 14.4	00.5	270 49.9	28.1							
4	285	15.3	281 39.0	44.5	153 49.9	57.3	203 16.3	00.5	285 52.1	28.0							
5	300	17.8	296 39.7	+1 44.9	168 51.2	+19 56.9	218 18.2	+23 00.5	300 54.4	-2 27.9							
6	315	20.3	311 40.5	+1 45.2	183 52.4	+19 56.6	233 20.1	+23 00.6	315 56.6	-2 27.8							
7	330	22.7	326 41.2	45.6	198 53.7	56.2	248 22.0	00.6	330 58.9	27.7							
8	345	25.2	341 42.0	46.0	213 55.0	55.9	263 23.9	00.6	346 01.1	27.7							
9	0	27.7	356 42.8	46.3	228 56.2	55.5	278 25.8	00.7	1 03.3	27.6							
10	15	30.1	11 43.5	46.7	243 57.5	55.1	293 27.7	00.7	16 05.6	27.5							
11	30	32.6	26 44.3	+1 47.1	258 58.7	+19 54.8	308 29.6	+23 00.7	31 07.8	-2 27.4							
12	45	35.0	41 45.0	+1 47.4	274 00.0	+19 54.4	323 31.5	+23 00.8	46 10.1	-2 27.3							
13	60	37.5	56 45.8	47.8	289 01.2	54.1	338 33.4	00.8	61 12.3	27.2							
14	75	40.0	71 46.5	48.2	304 02.5	53.7	353 35.3	00.8	76 14.6	27.1							
15	90	42.4	86 47.3	48.5	319 03.7	53.3	8 37.2	00.9	91 16.8	27.0							
16	105	44.9	101 48.0	48.9	334 05.0	53.0	23 39.1	00.9	106 19.0	27.0							
17	120	47.4	116 48.7	+1 49.3	349 06.2	+19 52.6	38 41.0	+23 00.9	121 21.3	-2 26.9							
18	135	49.8	131 49.5	+1 49.6	4 07.5	+19 52.2	53 42.9	+23 01.0	136 23.5	-2 26.8							
19	150	52.3	146 50.2	50.0	19 08.7	51.9	68 44.8	01.0	151 25.8	26.7							
20	165	54.8	161 51.0	50.4	34 10.0	51.5	83 46.7	01.0	166 28.0	26.6							
21	180	57.2	176 51.7	50.8	49 11.2	51.2	98 48.6	01.1	181 30.3	26.5							
22	195	59.7	191 52.4	51.2	64 12.5	50.8	113 50.5	01.1	196 32.5	26.4							
23	211	02.1	206 53.2	51.5	79 13.7	50.4	128 52.4	01.1	211 34.7	26.3							
24	226	04.6	221 53.9	+1 51.9	94 15.0	+19 50.1	143 54.3	+23 01.2	226 37.0	-2 26.3							
Dif	—		+8	+4	+13	-4	+19	0	+22	+							

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.5 ^m			Edad: 10.2 ^d SD: 14'8 PMG: 21 ^h 16 ^m											
	PHE { 4 ^h : 54'4 12 ^h : 54'3 20 ^h : 54'2 R°: 41 ^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	180	52.6	+17 06.0	49	19.2	+1 23.6	144	60 N	20 16	21 14	23 07	15 24	83	2 51	0
1	195	52.6	06.6	63	55.3	+1 09.2	143	58	20 04	20 56	22 19	22 80		51	3
2	210	52.6	07.3	78	31.5	+0 54.9	143	56	19 54	41	21 50	21 77		51	5
3	225	52.7	08.0	93	07.7	40.6	143	54	45	28	29	20 74		51	8
4	240	52.7	08.7	107	43.8	26.3	143	52	37	17	21 12	19 72		50	11
5	255	52.7	+17 09.3	122	20.0	+0 12.0	143	50	19 30	20 08	20 58	15 18	70	2 50	12
6	270	52.8	+17 10.0	136	56.2	-0 02.3	143	45	19 14	19 48	20 30	15 16	65	2 50	16
7	285	52.8	10.7	151	32.5	16.6	143	40	19 02	32	20 09	15 61		49	21
8	300	52.8	11.4	166	08.7	30.9	143	35	18 51	19	19 52	14 57		49	24
9	315	52.9	12.0	180	44.9	45.1	142	30	42	19 08	39	12 55		48	27
10	330	52.9	12.7	195	21.2	-0 59.4	143	20	26	18 50	17	10 50		48	32
11	345	52.9	+17 13.4	209	57.4	-1 13.7	143	10 N	18 13	18 35	19 01	15 09	44	2 47	36
12	0	53.0	+17 14.1	224	33.7	-1 27.9	142	0	18 00	18 22	18 47	15 07	41	2 47	40
13	15	53.0	14.7	239	09.9	42.1	142	10 S	17 47	18 09	35	05 37		46	45
14	30	53.0	15.4	253	46.2	-1 56.4	143	20	34	17 57	24	04 32		46	49
15	45	53.1	16.1	268	22.4	-2 10.6	142	30	19	44	13	02 27		45	54
16	60	53.1	16.7	282	58.7	24.8	142	35	10	37	07	01 24		45	57
17	75	53.1	+17 17.4	297	34.9	-2 39.0	142	40	17 01	17 29	18 02	15 00	20	2 44	61
18	90	53.1	+17 18.1	312	11.2	-2 53.1	141	45	16 49	17 20	17 56	14 58	17	2 44	64
19	105	53.2	18.8	326	47.5	-3 07.3	142	50	35	10	49	57 12		43	70
20	120	53.2	19.4	341	23.7	21.5	142	52	29	05	46	56 10		43	71
21	135	53.2	20.1	355	59.9	35.6	141	54	22	17 00	43	55 8		42	75
22	150	53.3	20.8	10	36.2	-3 49.7	141	56	14	16 55	40	54 6		42	77
23	165	53.3	21.4	25	12.4	-4 03.8	141	58	16 05	49	36	53 3		41	81
24	180	53.3	+17 22.1	39	48.6	-4 17.9	141	60 S	15 54	16 42	17 33	14 52	0	2 41	83

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 ^h 54.2 ^m		Mag: -4.7 PMG: 9 ^h 12 ^m		Mag: +1.0 PMG: 17 ^h 42 ^m		Mag: -2.0 PMG: 14 ^h 23 ^m		Mag: +1.2 PMG: 8 ^h 52 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	226	04.6	221 53.9	+1 51.9	94 15.0	+19 50.1	143 54.3	+23 01.2	226 37.0	-2 26.3
1	241	07.1	236 54.6	52.3	109 16.2	49.7	158 56.2	01.2	241 39.2	26.2
2	256	09.5	251 55.4	52.7	124 17.5	49.4	173 58.1	01.2	256 41.5	26.1
3	271	12.0	266 56.1	53.1	139 18.7	49.0	189 00.0	01.3	271 43.7	26.0
4	286	14.5	281 56.8	53.4	154 20.0	48.6	204 01.9	01.3	286 46.0	25.9
5	301	16.9	296 57.6	+1 53.8	169 21.2	+19 48.3	219 03.8	+23 01.3	301 48.2	-2 25.8
6	316	19.4	311 58.3	+1 54.2	184 22.5	+19 47.9	234 05.7	+23 01.4	316 50.5	-2 25.7
7	331	21.9	326 59.0	54.6	199 23.7	47.5	249 07.6	01.4	331 52.7	25.6
8	346	24.3	341 59.7	55.0	214 25.0	47.2	264 09.5	01.4	346 54.9	25.6
9	1	26.8	357 00.4	55.4	229 26.2	46.8	279 11.4	01.5	1 57.2	25.5
10	16	29.3	12 01.2	55.8	244 27.5	46.4	294 13.3	01.5	16 59.4	25.4
11	31	31.7	27 01.9	+1 56.2	259 28.7	+19 46.1	309 15.2	+23 01.5	32 01.7	-2 25.3
12	46	34.2	42 02.6	+1 56.5	274 30.0	+19 45.7	324 17.1	+23 01.6	47 03.9	-2 25.2
13	61	36.6	57 03.3	56.9	289 31.2	45.3	339 19.0	01.6	62 06.2	25.1
14	76	39.1	72 04.0	57.3	304 32.5	45.0	354 20.9	01.6	77 08.4	25.0
15	91	41.6	87 04.7	57.7	319 33.7	44.6	9 22.8	01.7	92 10.7	25.0
16	106	44.0	102 05.4	58.1	334 35.0	44.3	24 24.7	01.7	107 12.9	24.9
17	121	46.5	117 06.2	+1 58.5	349 36.2	+19 43.9	39 26.6	+23 01.7	122 15.1	-2 24.8
18	136	49.0	132 06.9	+1 58.9	4 37.5	+19 43.5	54 28.5	+23 01.8	137 17.4	-2 24.7
19	151	51.4	147 07.6	59.3	19 38.7	43.2	69 30.4	01.8	152 19.6	24.6
20	166	53.9	162 08.3	+1 59.7	34 40.0	42.8	84 32.3	01.8	167 21.9	24.5
21	181	56.4	177 09.0	+2 00.1	49 41.2	42.4	99 34.2	01.9	182 24.1	24.4
22	196	58.8	192 09.7	00.5	64 42.4	42.1	114 36.1	01.9	197 26.4	24.4
23	212	01.3	207 10.4	00.9	79 43.7	41.7	129 38.0	01.9	212 28.6	24.3
24	227	03.8	222 11.1	+2 01.3	94 44.9	+19 41.3	144 39.9	+23 02.0	227 30.9	-2 24.2
Dif	—		+7	+4	+12	-4	+19	0	+22	+1

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:11 ^h 56.4 ^m			Edad: 11.2 ^d PHE { 4 ^h : 54'2 12 ^h : 54'1 20 ^h : 54'0 R°: 40 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m		
0	180	53.3	+17	22.1	39	48.6	173	-4	17.9	60 N	0 45	2 38	3 36	16 46	84	2 50	**		
1	195	53.4		22.8	54	24.9	173		31.9	58	1 33	2 56	48	41	81		53	1	
2	210	53.4		23.4	69	01.1	172	-4	46.0	56	2 02	3 11	3 58	37	77		55	5	
3	225	53.4		24.1	83	37.2	171	-5	00.0	54	23	24	4 08	33	74		57	7	
4	240	53.4		24.7	98	13.4	172	-5	14.0	52	40	35	16	30	71	2 59	10		
5	255	53.5	+17	25.4	112	49.6	172	-5	28.0	50	2 55	3 45	4 23	16 27	69	3 01	12		
6	270	53.5	+17	26.1	127	25.7	171	-5	41.9	45	3 23	4 05	4 38	16 20	64	3 05	16		
7	285	53.5		26.7	142	01.9	172	-5	55.8	40	3 44	21	4 51	14	61		08	20	
8	300	53.6		27.4	156	38.0	171	-6	09.7	35	4 00	34	5 01	10	57		11	23	
9	315	53.6		28.1	171	14.1	171		23.6	30	14	4 45	11	16	05	54	14	26	
10	330	53.6		28.7	185	50.2	171		37.5	20	35	5 03	26	15	58	49	18	31	
11	345	53.6	+17	29.4	200	26.2	170	-6	51.3	10 N	4 52	5 18	5 40	15 52	44	3 22	36		
12	0	53.7	+17	30.0	215	02.3	171	-7	05.1	0	5 06	5 31	5 53	15 46	41	3 26	39		
13	15	53.7		30.7	229	38.3	170		18.9	10 S	18	44	6 06	40	37	30	43		
14	30	53.7		31.4	244	14.3	170		32.6	20	29	5 56	19	34	32	34	48		
15	45	53.7		32.0	258	50.2	169	-7	46.4	30	40	6 09	34	27	27	38	53		
16	60	53.8		32.7	273	26.2	170	-8	00.1	35	46	16	43	24	24	41	56		
17	75	53.8	+17	33.3	288	02.1	169	-8	13.7	40	5 52	6 24	6 53	15 19	21	3 44	59		
18	90	53.8	+17	34.0	302	38.0	169	-8	27.3	45	5 58	6 33	7 05	15 14	17	3 47	64		
19	105	53.8		34.6	317	13.8	168		40.9	50	6 05	44	19	08	12	51	69		
20	120	53.9		35.3	331	49.7	169	-8	54.5	52	07	48	25	05	10	53	71		
21	135	53.9		36.0	346	25.5	168	-9	08.0	54	11	53	32	15	02	8	55	74	
22	150	53.9		36.6	1	01.3	168		21.5	56	14	6 59	41	14	59	5	3	58	76
23	165	53.9		37.3	15	37.0	167		35.0	58	17	7 05	7 50	55	2	4	00	80	
24	180	54.0	+17	37.9	30	12.7	167	-9	48.4	60 S	6 21	7 12	8 00	14 51	**	4 03	83		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 50.3 ^m		Mag: -4.7 PMG: 9 ^h 11 ^m		Mag: +1.0 PMG: 17 ^h 40 ^m		Mag: -2.0 PMG: 14 ^h 20 ^m		Mag: +1.1 PMG: 8 ^h 49 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	227	03.8	222	11.1	+2	01.3	94	44.9	+19	41.3	144	39.9	+23	02.0	227	30.9	-2	24.2
1	242	06.2	237	11.8		01.7	109	46.2		41.0	159	41.8		02.0	242	33.1		24.1
2	257	08.7	252	12.5		02.1	124	47.4		40.6	174	43.7		02.0	257	35.4		24.0
3	272	11.1	267	13.2		02.6	139	48.7		40.2	189	45.6		02.1	272	37.6		23.9
4	287	13.6	282	13.9		03.0	154	49.9		39.9	204	47.5		02.1	287	39.9		23.8
5	302	16.1	297	14.5	+2	03.4	169	51.2	+19	39.5	219	49.4	+23	02.1	302	42.1	-2	23.8
6	317	18.5	312	15.2	+2	03.8	184	52.4	+19	39.1	234	51.3	+23	02.1	317	44.3	-2	23.7
7	332	21.0	327	15.9		04.2	199	53.6		38.8	249	53.2		02.2	332	46.6		23.6
8	347	23.5	342	16.6		04.6	214	54.9		38.4	264	55.1		02.2	347	48.8		23.5
9	2	25.9	357	17.3		05.0	229	56.1		38.0	279	57.0		02.2	2	51.1		23.4
10	17	28.4	12	18.0		05.4	244	57.4		37.6	294	58.9		02.3	17	53.3		23.3
11	32	30.9	27	18.7	+2	05.8	259	58.6	+19	37.3	310	00.8	+23	02.3	32	55.6	-2	23.2
12	47	33.3	42	19.3	+2	06.3	274	59.9	+19	36.9	325	02.7	+23	02.3	47	57.8	-2	23.2
13	62	35.8	57	20.0		06.7	290	01.1		36.5	340	04.6		02.4	63	00.1		23.1
14	77	38.2	72	20.7		07.1	305	02.4		36.2	355	06.5		02.4	78	02.3		23.0
15	92	40.7	87	21.4		07.5	320	03.6		35.8	10	08.4		02.4	93	04.6		22.9
16	107	43.2	102	22.1		07.9	335	04.8		35.4	25	10.3		02.5	108	06.8		22.8
17	122	45.6	117	22.7	+2	08.4	350	06.1	+19	35.1	40	12.2	+23	02.5	123	09.1	-2	22.7
18	137	48.1	132	23.4	+2	08.8	5	07.3	+19	34.7	55	14.1	+23	02.5	138	11.3	-2	22.6
19	152	50.6	147	24.1		09.2	20	08.6		34.3	70	16.0		02.6	153	13.6		22.6
20	167	53.0	162	24.8		09.6	35	09.8		33.9	85	17.9		02.6	168	15.8		22.5
21	182	55.5	177	25.4		10.1	50	11.0		33.6	100	19.8		02.6	183	18.1		22.4
22	197	58.0	192	26.1		10.5	65	12.3		33.2	115	21.7		02.7	198	20.3		22.3
23	213	00.4	207	26.8		10.9	80	13.5		32.8	130	23.6		02.7	213	22.6		22.2
24	228	02.9	222	27.4	+2	11.3	95	14.8	+19	32.5	145	25.5	+23	02.7	228	24.8	-2	22.1
Dif	—		+7		+4		+12		-4		+19		0		+22		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 15'8 PMG: 11 ^h 56.4 ^m				Edad: 12.2 ^d SD: 14'7 PMG: 22 ^h 36 ^m PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 R°: 45 ^m																	
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	
0	180	54.0	+17	37.9	30	12.7		-9	48.4	167	60 N	20 21	21 21	23 36	18 10	90		2	49	0		
1	195	54.0		38.6	44	48.4		-10	01.8	134	58	20 08	21 02	22 29	18 02	84		2	54	4		
2	210	54.0		39.2	59	24.0			15.2	133	56	19 58	20 46	21 58	17 54	81		3	00	7		
3	225	54.0		39.9	73	59.6			28.5	133	54		48	33	35	47	78		04	10		
4	240	54.1		40.5	88	35.2			41.7	132	52		40	21	17	41	75		09	12		
5	255	54.1	+17	41.2	103	10.7		-10	55.0	133	50	19 33	20 11	21 02	17 36	72		3	13	14		
6	270	54.1	+17	41.8	117	46.2		-11	08.2	132	45	19 17	19 50	20 33	17 24	67		3	21	19		
7	285	54.1		42.5	132	21.7			21.3	131	40	19 04		34	20 11	15	63		28	23		
8	300	54.1		43.1	146	57.1			34.4	131	35	18 53		21	19 54	17 07	59		34	27		
9	315	54.2		43.8	161	32.4		-11	47.5	131	30		43	19 09	40	16 59	57		40	29		
10	330	54.2		44.4	176	07.8		-12	00.5	130	20		27	18 51	18	47	52		49	34		
11	345	54.2	+17	45.1	190	43.1		-12	13.5	130	10 N	18 13	18 35	19 01	16 36	48		3	58	38		
12	0	54.2	+17	45.7	205	18.3		-12	26.4	129	0	18 00	18 22	18 47	16 27	43		4	05	43		
13	15	54.2		46.4	219	53.5			39.3	129	10 S	17 47	18 09		34	17	39		13	47		
14	30	54.3		47.0	234	28.6		-12	52.2	129	20		33	17 56	23	16 06	36		22	51		
15	45	54.3		47.7	249	03.7		-13	05.0	128	30		18		43	12	15 54	31		31	56	
16	60	54.3		48.3	263	38.8			17.7	127	35		17 09		35	06	48	28		37	59	
17	75	54.3	+17	49.0	278	13.8		-13	30.4	127	40	16 59	17 27	18 00	15 40	25		4	43	63		
18	90	54.3	+17	49.6	292	48.8		-13	43.1	127	45	16 47	17 18	17 53	15 31	21		4	51	66		
19	105	54.4		50.2	307	23.7		-13	55.7	126	50		32		07	46	20	16		5	00	71
20	120	54.4		50.9	321	58.5		-14	08.2	125	52		25	17 02	43	15	14		04	74		
21	135	54.4		51.5	336	33.3			20.7	125	54		18	16 57	40	10	11		09	76		
22	150	54.4		52.2	351	08.1			33.1	124	56		10	51	37	15	04		8	14	79	
23	165	54.4		52.8	5	42.8			45.5	124	58	16 00		45	33	14	57		5	20	83	
24	180	54.5	+17	53.5	20	17.5		-14	57.8	123	60 S	15 50	16 38	17 29	14 50	1		5	26	87		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 8 ^h 46.4 ^m			Mag: -4.7 PMG: 9 ^h 10 ^m			Mag: +1.0 PMG: 17 ^h 38 ^m			Mag: -2.0 PMG: 14 ^h 16 ^m			Mag: +1.1 PMG: 8 ^h 45 ^m									
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec							
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'					
0	228	02.9	222	27.4	+2	11.3	95	14.8	+19	32.5	145	25.5	+23	02.7	228	24.8	-2	22.1				
1	243	05.4	237	28.1		11.8	110	16.0		32.1	160	27.4		02.8	243	27.0		22.0				
2	258	07.8	252	28.8		12.2	125	17.3		31.7	175	29.2		02.8	258	29.3		22.0				
3	273	10.3	267	29.4		12.6	140	18.5		31.3	190	31.1		02.8	273	31.5		21.9				
4	288	12.7	282	30.1		13.1	155	19.7		31.0	205	33.0		02.8	288	33.8		21.8				
5	303	15.2	297	30.7	+2	13.5	170	21.0	+19	30.6	220	34.9	+23	02.9	303	36.0	-2	21.7				
6	318	17.7	312	31.4	+2	13.9	185	22.2	+19	30.2	235	36.8	+23	02.9	318	38.3	-2	21.6				
7	333	20.1	327	32.0		14.4	200	23.4		29.9	250	38.7		02.9	333	40.5		21.5				
8	348	22.6	342	32.7		14.8	215	24.7		29.5	265	40.6		03.0	348	42.8		21.5				
9	3	25.1	357	33.4		15.2	230	25.9		29.1	280	42.5		03.0	3	45.0		21.4				
10	18	27.5	12	34.0		15.7	245	27.2		28.7	295	44.4		03.0	18	47.3		21.3				
11	33	30.0	27	34.7	+2	16.1	260	28.4	+19	28.4	310	46.3	+23	03.1	33	49.5	-2	21.2				
12	48	32.5	42	35.3	+2	16.6	275	29.6	+19	28.0	325	48.2	+23	03.1	48	51.8	-2	21.1				
13	63	34.9	57	36.0		17.0	290	30.9		27.6	340	50.1		03.1	63	54.0		21.0				
14	78	37.4	72	36.6		17.4	305	32.1		27.2	355	52.0		03.2	78	56.3		20.9				
15	93	39.8	87	37.2		17.9	320	33.4		26.9	10	53.9		03.2	93	58.5		20.9				
16	108	42.3	102	37.9		18.3	335	34.6		26.5	25	55.8		03.2	109	00.8		20.8				
17	123	44.8	117	38.5	+2	18.8	350	35.8	+19	26.1	40	57.7	+23	03.3	124	03.0	-2	20.7				
18	138	47.2	132	39.2	+2	19.2	5	37.1	+19	25.8	55	59.6	+23	03.3	139	05.3	-2	20.6				
19	153	49.7	147	39.8		19.7	20	38.3		25.4	71	01.5		03.3	154	07.5		20.5				
20	168	52.2	162	40.5		20.1	35	39.5		25.0	86	03.4		03.3	169	09.8		20.4				
21	183	54.6	177	41.1		20.6	50	40.8		24.6	101	05.3		03.4	184	12.0		20.4				
22	198	57.1	192	41.7		21.0	65	42.0		24.3	116	07.2		03.4	199	14.3		20.3				
23	213	59.6	207	42.4		21.5	80	43.3		23.9	131	09.0		03.4	214	16.5		20.2				
24	229	02.0	222	43.0	+2	21.9	95	44.5	+19	23.5	146	10.9	+23	03.5	229	18.8	-2	20.1				
Dif	—			+6	+4		+12			-4	+19			0	+22			+				

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 15/8 PMG:11 ^h 56.4 ^m				Edad: 13.2 ^d PHE { 4 ^h : 54/0 12 ^h : 54/0 20 ^h : 54/0 PMG: 23 ^h 19 ^m R°: 46 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m					
0	180	54.5	+17	53.5	20	17.5	-14	57.8	123			60 N	0	16	2	31	3	31	19	38	93	2	48	0
1	195	54.5		54.1	34	52.0	-15	10.1	122			58	1	23	2	51		44		25	86	2	57	5
2	210	54.5		54.7	49	26.6		22.3	122			56	1	55	3	06	3	54		13	82	3	06	8
3	225	54.5		55.4	64	01.1		34.5	122			54	2	17		20	4	04	19	03	78	13	11	
4	240	54.5		56.0	78	35.5		46.6	121			52		35		31	12		18	55	74		20	14
5	255	54.5	+17	56.6	93	09.9	-15	58.6	120			50	2	50	3	41	4	20	18	47	72	3	26	16
6	270	54.6	+17	57.3	107	44.2	-16	10.6	120			45	3	19	4	02	4	36	18	30	67	3	39	21
7	285	54.6		57.9	122	18.4		22.5	119			40		41		18	4	49		16	63	3	50	25
8	300	54.6		58.6	136	52.6		34.4	119			35	3	58		32	5	00	18	05	59	4	00	28
9	315	54.6		59.2	151	26.7		46.2	118			30	4	12	4	43		09	17	55	57		08	31
10	330	54.6	+17	59.8	166	00.8	-16	57.9	117			20		34	5	02	26		38	52		22	36	
11	345	54.6	+18	00.5	180	34.8	-17	09.6	117			10 N	4	52	5	18	5	40	17	23	48	4	35	40
12	0	54.6	+18	01.1	195	08.7	-17	21.2	116			0	5	06	5	31	5	53	17	09	45	4	47	43
13	15	54.7		01.7	209	42.6		32.7	115			10 S		18		44	6	06	16	55	42	4	58	48
14	30	54.7		02.4	224	16.4		44.2	115			20		30	5	57	20		40	38		5	11	52
15	45	54.7		03.0	238	50.2	-17	55.6	114			30		41	6	10	35		24	33		26	56	
16	60	54.7		03.6	253	23.9	-18	06.9	113			35		47		18	44		14	31		34	59	
17	75	54.7	+18	04.3	267	57.5	-18	18.2	113			40	5	53	6	26	6	55	16	03	28	5	44	63
18	90	54.7	+18	04.9	282	31.1	-18	29.3	111			45	6	00	6	35	7	07	15	50	24	5	56	66
19	105	54.7		05.5	297	04.5		40.5	112			50		07		46	21		35	19		6	10	71
20	120	54.8		06.2	311	38.0	-18	51.5	110			52		10		51	28		28	16		16	74	
21	135	54.8		06.8	326	11.3	-19	02.5	110			54		13	6	56	36		20	13		24	77	
22	150	54.8		07.4	340	44.6		13.4	109			56		17	7	02	44		11	10		32	80	
23	165	54.8		08.1	355	17.8		24.2	108			58		21		09	7	54	15	01	6	41	85	
24	180	54.8	+18	08.7	9	51.0	-19	34.9	107			60 S	6	25	7	16	8	05	14	49	1	6	52	90

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 42.4 ^m		Mag: -4.6 PMG: 9 ^h 09 ^m		Mag: +1.0 PMG: 17 ^h 36 ^m		Mag: -2.0 PMG: 14 ^h 13 ^m		Mag: +1.1 PMG: 8 ^h 41 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	229	02.0	222	43.0	+2	21.9	95	44.5	+19	23.5	146	10.9	+23	03.5	229	18.8	-2	20.1
1	244	04.5	237	43.6		22.4	110	45.7		23.1	161	12.8		03.5	244	21.0		20.0
2	259	07.0	252	44.3		22.8	125	47.0		22.7	176	14.7		03.5	259	23.3		19.9
3	274	09.4	267	44.9		23.3	140	48.2		22.4	191	16.6		03.6	274	25.5		19.9
4	289	11.9	282	45.5		23.7	155	49.4		22.0	206	18.5		03.6	289	27.8		19.8
5	304	14.3	297	46.1	+2	24.2	170	50.7	+19	21.6	221	20.4	+23	03.6	304	30.0	-2	19.7
6	319	16.8	312	46.8	+2	24.6	185	51.9	+19	21.2	236	22.3	+23	03.7	319	32.3	-2	19.6
7	334	19.3	327	47.4		25.1	200	53.1		20.9	251	24.2		03.7	334	34.5		19.5
8	349	21.7	342	48.0		25.6	215	54.4		20.5	266	26.1		03.7	349	36.8		19.4
9	4	24.2	357	48.6		26.0	230	55.6		20.1	281	28.0		03.7	4	39.0		19.4
10	19	26.7	12	49.3		26.5	245	56.8		19.7	296	29.9		03.8	19	41.3		19.3
11	34	29.1	27	49.9	+2	26.9	260	58.1	+19	19.4	311	31.8	+23	03.8	34	43.6	-2	19.2
12	49	31.6	42	50.5	+2	27.4	275	59.3	+19	19.0	326	33.7	+23	03.8	49	45.8	-2	19.1
13	64	34.1	57	51.1		27.9	291	00.5		18.6	341	35.6		03.9	64	48.1		19.0
14	79	36.5	72	51.7		28.3	306	01.8		18.2	356	37.4		03.9	79	50.3		18.9
15	94	39.0	87	52.3		28.8	321	03.0		17.8	11	39.3		03.9	94	52.6		18.9
16	109	41.5	102	53.0		29.3	336	04.3		17.5	26	41.2		04.0	109	54.8		18.8
17	124	43.9	117	53.6	+2	29.7	351	05.5	+19	17.1	41	43.1	+23	04.0	124	57.1	-2	18.7
18	139	46.4	132	54.2	+2	30.2	6	06.7	+19	16.7	56	45.0	+23	04.0	139	59.3	-2	18.6
19	154	48.8	147	54.8		30.7	21	07.9		16.3	71	46.9		04.1	155	01.6		18.5
20	169	51.3	162	55.4		31.1	36	09.2		15.9	86	48.8		04.1	170	03.8		18.4
21	184	53.8	177	56.0		31.6	51	10.4		15.6	101	50.7		04.1	185	06.1		18.4
22	199	56.2	192	56.6		32.1	66	11.6		15.2	116	52.6		04.1	200	08.3		18.3
23	214	58.7	207	57.2		32.5	81	12.9		14.8	131	54.5		04.2	215	10.6		18.2
24	230	01.2	222	57.8	+2	33.0	96	14.1	+19	14.4	146	56.4	+23	04.2	230	12.8	-2	18.1
Dif	—		+6		+5		+12		-4		+19		0		+23		+1	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.3 ^m			Edad: 14.2 ^d SD: 14'7 PMG: **h **m PHE { 4 ^h : 54'0 12 ^h : 54'1 20 ^h : 54'1 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	180 54.8	+18 08.7		9 51.0	-19 34.9			60 N	20 25	21 27	** **	21 11 96		2 48 3				
1	195 54.8	09.3		24 24.0		45.6		58	13	21 07	22 40	20 51 88		3 02 9				
2	210 54.8	09.9		38 57.0	-19 56.2			56	20 01	20 51	22 05	35 82		14 13				
3	225 54.8	10.6		53 30.0	-20 06.7			54	19 52	37	21 41	21 79		24 18				
4	240 54.8	11.2		68 02.8		17.1		52	43	25	22	20 09 75		34 20				
5	255 54.9	+18 11.8		82 35.6	-20 27.4			50	19 35	20 14	21 06	19 59 72		3 42 23				
6	270 54.9	+18 12.4		97 08.4	-20 37.7			45	19 19	19 53	20 36	19 37 68		4 00 28				
7	285 54.9	13.1		111 41.0		47.8		40	19 06	36	20 14	19 64		15 32				
8	300 54.9	13.7		126 13.6	-20 57.9			35	18 54	22	19 56	19 04 62		28 34				
9	315 54.9	14.3		140 46.1	-21 07.9			30	45	19 11	42	18 52 59		39 37				
10	330 54.9	14.9		155 18.5		17.9		20	28	18 51	19	30 55		4 58 41				
11	345 54.9	+18 15.6		169 50.9	-21 27.7			10 N	18 13	18 36	19 02	18 11 53		5 15 44				
12	0 54.9	+18 16.2		184 23.1	-21 37.4			0	18 00	18 22	18 47	17 54 49		5 30 48				
13	15 54.9	16.8		198 55.4		47.1		10 S	17 47	18 09	34	37 46		5 46 51				
14	30 54.9	17.4		213 27.5	-21 56.7			20	32	17 56	22	17 18 44		6 03 54				
15	45 55.0	18.1		227 59.5	-22 06.1			30	16	42	10	16 57 40		22 59				
16	60 55.0	18.7		242 31.5		15.5		35	17 07	34	18 04	45 37		33 62				
17	75 55.0	+18 19.3		257 03.4	-22 24.8			40	16 57	17 25	17 58	16 31 34		6 47 64				
18	90 55.0	+18 19.9		271 35.3	-22 34.0			45	16 44	17 16	17 51	16 14 31		7 02 68				
19	105 55.0	20.5		286 07.0		43.1		50	29	05	44	15 54 26		21 73				
20	120 55.0	21.1		300 38.7	-22 52.1			52	22	17 00	41	44 24		30 76				
21	135 55.0	21.8		315 10.3	-23 01.0			54	15	16 54	37	33 21		41 79				
22	150 55.0	22.4		329 41.9		09.8		56	16 06	48	34	21 17		7 52 83				
23	165 55.0	23.0		344 13.3		18.5		58	15 56	41	30	15 07 12		8 06 88				
24	180 55.0	+18 23.6		358 44.7	-23 27.1			60 S	15 45	16 34	17 25	14 50 6		8 22 95				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 8 ^h 38.5 ^m		Mag: -4.6 PMG: 9 ^h 08 ^m			Mag: +1.0 PMG: 17 ^h 34 ^m			Mag: -2.0 PMG: 14 ^h 10 ^m			Mag: +1.1 PMG: 8 ^h 38 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	° /	° /		° /	° /		° /	° /		° /	° /		° /	° /				
0	230 01.2	222 57.8	+2 33.0	96 14.1	+19 14.4		146 56.4	+23 04.2		230 12.8	-2 18.1		245 15.1	18.0				
1	245 03.6	237 58.4	33.5	111 15.3	14.0		161 58.3	04.2		245 15.1	18.0		260 17.3	17.9				
2	260 06.1	252 59.0	34.0	126 16.6	13.7		177 00.1	04.3		260 17.3	17.9		275 19.6	17.9				
3	275 08.6	267 59.6	34.4	141 17.8	13.3		192 02.0	04.3		275 19.6	17.9		290 21.8	17.8				
4	290 11.0	283 00.2	34.9	156 19.0	12.9		207 03.9	04.3		290 21.8	17.8		305 24.1	-2 17.7				
5	305 13.5	298 00.8	+2 35.4	171 20.3	+19 12.5		222 05.8	+23 04.4		305 24.1	-2 17.7		320 26.4	-2 17.6				
6	320 15.9	313 01.4	+2 35.9	186 21.5	+19 12.1		237 07.7	+23 04.4		320 26.4	-2 17.6		335 28.6	17.5				
7	335 18.4	328 02.0	36.4	201 22.7	11.8		252 09.6	04.4		335 28.6	17.5		350 30.9	17.5				
8	350 20.9	343 02.6	36.8	216 24.0	11.4		267 11.5	04.4		350 30.9	17.5		5 33.1	17.4				
9	5 23.3	358 03.2	37.3	231 25.2	11.0		282 13.4	04.5		5 33.1	17.4		20 35.4	17.3				
10	20 25.8	13 03.8	37.8	246 26.4	10.6		297 15.3	04.5		20 35.4	17.3		35 37.6	-2 17.2				
11	35 28.3	28 04.4	+2 38.3	261 27.7	+19 10.2		312 17.2	+23 04.5		35 37.6	-2 17.2		50 39.9	-2 17.1				
12	50 30.7	43 05.0	+2 38.8	276 28.9	+19 09.9		327 19.1	+23 04.6		50 39.9	-2 17.1		65 42.1	17.0				
13	65 33.2	58 05.5	39.3	291 30.1	09.5		342 20.9	04.6		65 42.1	17.0		80 44.4	17.0				
14	80 35.7	73 06.1	39.7	306 31.3	09.1		357 22.8	04.6		80 44.4	17.0		95 46.6	16.9				
15	95 38.1	88 06.7	40.2	321 32.6	08.7		12 24.7	04.7		95 46.6	16.9		110 48.9	16.8				
16	110 40.6	103 07.3	40.7	336 33.8	08.3		27 26.6	04.7		110 48.9	16.8		125 51.1	-2 16.7				
17	125 43.1	118 07.9	+2 41.2	351 35.0	+19 07.9		42 28.5	+23 04.7		125 51.1	-2 16.7		140 53.4	-2 16.6				
18	140 45.5	133 08.5	+2 41.7	6 36.3	+19 07.6		57 30.4	+23 04.7		140 53.4	-2 16.6		155 55.7	16.6				
19	155 48.0	148 09.0	42.2	21 37.5	07.2		72 32.3	04.8		155 55.7	16.6		170 57.9	16.5				
20	170 50.4	163 09.6	42.7	36 38.7	06.8		87 34.2	04.8		170 57.9	16.5		186 00.2	16.4				
21	185 52.9	178 10.2	43.2	51 39.9	06.4		102 36.1	04.8		186 00.2	16.4		201 02.4	16.3				
22	200 55.4	193 10.8	43.7	66 41.2	06.0		117 38.0	04.9		201 02.4	16.3		216 04.7	16.2				
23	215 57.8	208 11.4	44.2	81 42.4	05.6		132 39.8	04.9		216 04.7	16.2		231 06.9	-2 16.1				
24	231 00.3	223 11.9	+2 44.7	96 43.6	+19 05.3		147 41.7	+23 04.9		231 06.9	-2 16.1			+1				
Dif	—		+6	+5		+12	-4		+19	0		+23		+1				

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15/8 PMG:11 ^h 56.3 ^m				Edad: 15.2 ^d PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/3 PMG: 0 ^h 05 ^m R°: 49 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	55.0	+18	23.6	358	44.7	-23	27.1	85	60 N	**	**	2	25	3	27	22	46	**	
1	195	55.0		24.2	13	16.0		35.6	84	58	1	12	2	45	39	22	18	79	3	
2	210	55.0		24.8	27	47.2		44.0	83	56	1	47	3	02	3	51	21	56	74	
3	225	55.0		25.5	42	18.4		52.3	83	54	2	11	15	4	00	38	71		40	
4	240	55.0		26.1	56	49.5		00.5	82	52		30	27	09		23	69		3	
5	255	55.0	+18	26.7	71	20.5		08.6	81	50	2	46	3	38	4	17	21	10	67	
6	270	55.0	+18	27.3	85	51.4		16.6	80	45	3	16	3	59	4	33	20	43	63	
7	285	55.0		27.9	100	22.3		24.5	79	40		39	4	16	47	22	61		4	
8	300	55.1		28.5	114	53.1		32.2	77	35	3	56	30	4	58	20	05	59	5	
9	315	55.1		29.1	129	23.8		39.9	76	30	4	11	4	42	5	08	19	50	57	
10	330	55.1		29.7	143	54.4		47.5	76	20		33	5	01	25	24	55		15	
11	345	55.1	+18	30.4	158	25.0		54.9	74	10 N	4	51	5	17	5	39	19	02	53	
12	0	55.1	+18	31.0	172	55.4		02.2	73	0	5	06	5	31	5	53	18	42	51	
13	15	55.1		31.6	187	25.9		09.4	72	10 S	19		44	6	06		22	49		
14	30	55.1		32.2	201	56.2		16.5	71	20	31	5	57	20	18	00	47		6	
15	45	55.1		32.8	216	26.5		23.5	70	30	42	6	11	37	17	35	45		7	
16	60	55.1		33.4	230	56.7		30.4	69	35	49	19		46		21	43		33	
17	75	55.1	+18	34.0	245	26.8		37.2	68	40	5	55	6	28	6	57	17	04	41	
18	90	55.1	+18	34.6	259	56.8		43.8	66	45	6	02	6	37	7	09	16	44	38	
19	105	55.1		35.2	274	26.8		50.3	65	50	09	49		24		19	34		33	
20	120	55.1		35.8	288	56.7		56.7	64	52	13	54	31	16	07	32			45	
21	135	55.1		36.4	303	26.6		03.0	63	54	16	6	59	39	15	53	29		8	
22	150	55.1		37.0	317	56.4		09.2	62	56	20	7	06	48		37	26		9	
23	165	55.1		37.6	332	26.1		15.2	60	58	24	13	7	58	15	18	20		32	
24	180	55.1	+18	38.2	346	55.7		21.2	60	60 S	6	28	7	20	8	09	14	54	12	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 ^h 34.6 ^m		Mag: -4.6 PMG: 9 ^h 07 ^m		Mag: +1.0 PMG: 17 ^h 32 ^m		Mag: -1.9 PMG: 14 ^h 07 ^m		Mag: +1.1 PMG: 8 ^h 34 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	231	00.3	223	11.9	+2	44.7	96	43.6	+19	05.3
1	246	02.8	238	12.5		45.2	111	44.9		04.9
2	261	05.2	253	13.1		45.7	126	46.1		04.5
3	276	07.7	268	13.6		46.1	141	47.3		04.1
4	291	10.2	283	14.2		46.6	156	48.5		03.7
5	306	12.6	298	14.8	+2	47.1	171	49.8	+19	03.3
6	321	15.1	313	15.3	+2	47.6	186	51.0	+19	02.9
7	336	17.6	328	15.9		48.1	201	52.2		02.6
8	351	20.0	343	16.5		48.6	216	53.4		02.2
9	6	22.5	358	17.0		49.2	231	54.7		01.8
10	21	24.9	13	17.6		49.7	246	55.9		01.4
11	36	27.4	28	18.2	+2	50.2	261	57.1	+19	01.0
12	51	29.9	43	18.7	+2	50.7	276	58.3	+19	00.6
13	66	32.3	58	19.3		51.2	291	59.6	+19	00.2
14	81	34.8	73	19.8		51.7	307	00.8	+18	59.9
15	96	37.3	88	20.4		52.2	322	02.0		59.5
16	111	39.7	103	20.9		52.7	337	03.2		59.1
17	126	42.2	118	21.5	+2	53.2	352	04.5	+18	58.7
18	141	44.7	133	22.0	+2	53.7	7	05.7	+18	58.3
19	156	47.1	148	22.6		54.2	22	06.9		57.9
20	171	49.6	163	23.1		54.7	37	08.1		57.5
21	186	52.1	178	23.7		55.3	52	09.4		57.1
22	201	54.5	193	24.2		55.8	67	10.6		56.8
23	216	57.0	208	24.8		56.3	82	11.8		56.4
24	231	59.4	223	25.3	+2	56.8	97	13.0	+18	56.0
Dif	—		+6		+5		+12		-4	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 56.3 ^m			Edad: 16.2 ^d SD: 14'8 PMG: 0 ^h 54 ^m PHE { 4 ^h : 54'4 12 ^h : 54'5 20 ^h : 54'6 R°: 53 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	55.1	+18	38.2	346	55.7	-26	21.2	60 N	20	30	21	34	**	**	0	03
1	195	55.1		38.8	1	25.3	106	27.0	58	17		21	12	22	52	23	37
2	210	55.1		39.4	15	54.8	105	32.6	56	20	05	20	55	22	13	23	10
3	225	55.1		40.0	30	24.2	104	38.2	54	19	55	41	21	47	22	49	60
4	240	55.1		40.6	44	53.6	104	43.6	54	46		28		27	32	59	
5	255	55.1	+18	41.2	59	22.9	103	-26	50	19	38	20	18	21	10	22	17
6	270	55.1	+18	41.8	73	52.1	102	-26	45	19	21	19	56	20	39	21	46
7	285	55.1		42.4	88	21.3	102	-26	40	19	08	38		20	16	23	57
8	300	55.1		43.0	102	50.4	101	-27	35	18	56	24		19	58	21	04
9	315	55.1		43.6	117	19.5	101	08.8	30	46		19	12	43		20	47
10	330	55.1		44.2	131	48.5	100	13.5	20	29		18	52	20		20	19
11	345	55.1	+18	44.8	146	17.4	99	-27	10 N	18	14	18	36	19	02	19	55
12	0	55.1	+18	45.4	160	46.3	99	-27	0	18	00	18	22	18	47	19	33
13	15	55.1		46.0	175	15.1	98	26.6	10 S	17	46	18	08	34		19	11
14	30	55.0		46.6	189	43.9	98	30.7	20	32		17	55	22		18	47
15	45	55.0		47.2	204	12.6	97	34.7	30	15		40		09		20	52
16	60	55.0		47.8	218	41.3	97	38.6	35	17	06	33		18	03	18	04
17	75	55.0	+18	48.4	233	09.9	96	-27	40	16	55	17	24	17	57	17	45
18	90	55.0	+18	49.0	247	38.4	95	-27	45	16	42	17	14	17	49	17	22
19	105	55.0		49.6	262	06.9	95	49.3	50	27		17	02	42		16	53
20	120	55.0		50.2	276	35.4	95	52.6	52	19		16	57	38		39	47
21	135	55.0		50.8	291	03.8	94	55.8	54	11		51		34		22	46
22	150	55.0		51.4	305	32.2	94	-27	56	16	02	45		31		16	03
23	165	55.0		52.0	320	00.5	93	-28	58	15	52	38		26		15	38
24	180	55.0	+18	52.5	334	28.7	92	-28	60 S	15	40	16	30	17	22	15	06

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 ^h 30.6 ^m		Mag: -4.6 PMG: 9 ^h 06 ^m		Mag: +1.0 PMG: 17 ^h 30 ^m		Mag: -1.9 PMG: 14 ^h 04 ^m		Mag: +1.1 PMG: 8 ^h 31 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	231	59.4	223	25.3	+2	56.8	97	13.0	+18	56.0
1	247	01.9	238	25.9		57.3	112	14.3		55.6
2	262	04.4	253	26.4		57.8	127	15.5		55.2
3	277	06.8	268	27.0		58.3	142	16.7		54.8
4	292	09.3	283	27.5		58.9	157	17.9		54.4
5	307	11.8	298	28.0	+2	59.4	172	19.2	+18	54.0
6	322	14.2	313	28.6	+2	59.9	187	20.4	+18	53.6
7	337	16.7	328	29.1	+3	00.4	202	21.6		53.2
8	352	19.2	343	29.6		00.9	217	22.8		52.9
9	7	21.6	358	30.2		01.5	232	24.0		52.5
10	22	24.1	13	30.7		02.0	247	25.3		52.1
11	37	26.5	28	31.2	+3	02.5	262	26.5	+18	51.7
12	52	29.0	43	31.8	+3	03.0	277	27.7	+18	51.3
13	67	31.5	58	32.3		03.6	292	28.9		50.9
14	82	33.9	73	32.8		04.1	307	30.2		50.5
15	97	36.4	88	33.4		04.6	322	31.4		50.1
16	112	38.9	103	33.9		05.2	337	32.6		49.7
17	127	41.3	118	34.4	+3	05.7	352	33.8	+18	49.3
18	142	43.8	133	34.9	+3	06.2	7	35.0	+18	48.9
19	157	46.3	148	35.5		06.7	22	36.3		48.6
20	172	48.7	163	36.0		07.3	37	37.5		48.2
21	187	51.2	178	36.5		07.8	52	38.7		47.8
22	202	53.7	193	37.0		08.3	67	39.9		47.4
23	217	56.1	208	37.5		08.9	82	41.1		47.0
24	232	58.6	223	38.1	+3	09.4	97	42.4	+18	46.6
Dif	—		+5		+5		+12		-4	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:11 ^h 56.3 ^m				Edad: 17.2 ^d PHE { 4 ^h : 54'7 12 ^h : 54'8 20 ^h : 55'0 SD: 14'9 PMG: 1 ^h 46 ^m R°: 53 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	55.0	+18	52.5	334	28.7	93	-28	04.5	26	60 N	**	**	2 18	3 22	0 15	63	3 13	49	
1	195	55.0		53.1	348	57.0	91		07.1	25	58	1 00	40	35	**	**	**	3 52	51	
2	210	55.0		53.7	3	25.1	92		09.6	23	56	1 40	2 57	47	**	**	**	4 19	52	
3	225	55.0		54.3	17	53.3	92		11.9	22	54	2 06	3 11	3 57	23	47	42	40	53	
4	240	55.0		54.9	32	21.4	91		14.1	20	52	26	24	4 06	29	44	4 58	53		
5	255	55.0	+18	55.5	46	49.4	90	-28	16.1	19	50	2 42	3 34	4 14	23	14	45	5 13	53	
6	270	55.0	+18	56.1	61	17.4	90	-28	18.0	18	45	3 13	3 57	4 31	22	43	47	5 43	54	
7	285	55.0		56.7	75	45.4	90		19.8	18	40	36	4 14	45	22	19	49	6 07	54	
8	300	54.9		57.2	90	13.4	90		21.4	16	35	3 54	28	4 56	21	59	50	27	53	
9	315	54.9		57.8	104	41.3	89		22.8	14	30	4 09	4 40	5 07	42	51	6 43	54		
10	330	54.9		58.4	119	09.2	89		24.2	14	20	32	5 00	24	21	14	52	7 12	53	
11	345	54.9	+18	59.0	133	37.0	88	-28	25.3	11	10 N	4 50	5 17	5 39	20	49	53	7 36	54	
12	0	54.9	+18	59.6	148	04.8	88	-28	26.4	11	0	5 06	5 31	5 53	20	26	54	7 59	53	
13	15	54.9	+19	00.2	162	32.6	88		27.3	9	10 S	19	44	6 07	20	04	54	8 21	54	
14	30	54.9		00.7	177	00.4	88		28.0	6	20	31	5 58	21	19	39	56	8 46	53	
15	45	54.9		01.3	191	28.1	87		28.6	6	30	44	6 13	38	19	11	56	9 14	53	
16	60	54.9		01.9	205	55.9	88		29.0	4	35	50	21	48	18	54	57	31	53	
17	75	54.9	+19	02.5	220	23.5	86	-28	29.3	3	40	5 57	6 29	6 59	18	34	58	9 50	53	
18	90	54.8	+19	03.1	234	51.2	87	-28	29.5	2	45	6 04	6 39	7 11	18	10	59	10 14	52	
19	105	54.8		03.6	249	18.9	87		29.5	2	50	12	51	27	17	40	59	10 45	51	
20	120	54.8		04.2	263	46.5	86		29.3	2	52	15	6 57	34	24	61	11 00	51		
21	135	54.8		04.8	278	14.1	86		29.0	3	54	19	7 02	42	17	06	62	18	50	
22	150	54.8		05.4	292	41.7	86		28.6	4	56	23	09	7 52	16	45	63	11 39	49	
23	165	54.8		06.0	307	09.3	86		28.0	6	58	27	16	8 02	16	18	64	12 07	47	
24	180	54.8	+19	06.5	321	36.9	86	-28	27.2	8	60 S	6 32	7 24	8 14	15	38	69	12 46	44	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 26.7 ^m		Mag: -4.6 PMG: 9 ^h 05 ^m		Mag: +1.1 PMG: 17 ^h 28 ^m		Mag: -1.9 PMG: 14 ^h 01 ^m		Mag: +1.1 PMG: 8 ^h 27 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	232	58.6	223	38.1	+3	09.4	97	42.4	+18	46.6	149	12.3	+23	06.3	232	55.3	-2	12.3
1	248	01.0	238	38.6		10.0	112	43.6		46.2	164	14.2		06.3	247	57.6		12.2
2	263	03.5	253	39.1		10.5	127	44.8		45.8	179	16.1		06.3	262	59.8		12.1
3	278	06.0	268	39.6		11.0	142	46.0		45.4	194	17.9		06.4	278	02.1		12.0
4	293	08.4	283	40.1		11.6	157	47.2		45.0	209	19.8		06.4	293	04.4		12.0
5	308	10.9	298	40.6	+3	12.1	172	48.5	+18	44.6	224	21.7	+23	06.4	308	06.6	-2	11.9
6	323	13.4	313	41.1	+3	12.6	187	49.7	+18	44.2	239	23.6	+23	06.5	323	08.9	-2	11.8
7	338	15.8	328	41.7		13.2	202	50.9		43.8	254	25.5		06.5	338	11.1		11.7
8	353	18.3	343	42.2		13.7	217	52.1		43.4	269	27.4		06.5	353	13.4		11.7
9	8	20.8	358	42.7		14.3	232	53.3		43.0	284	29.3		06.5	8	15.7		11.6
10	23	23.2	13	43.2		14.8	247	54.5		42.6	299	31.1		06.6	23	17.9		11.5
11	38	25.7	28	43.7	+3	15.4	262	55.8	+18	42.3	314	33.0	+23	06.6	38	20.2	-2	11.4
12	53	28.2	43	44.2	+3	15.9	277	57.0	+18	41.9	329	34.9	+23	06.6	53	22.4	-2	11.3
13	68	30.6	58	44.7		16.4	292	58.2		41.5	344	36.8		06.6	68	24.7		11.3
14	83	33.1	73	45.2		17.0	307	59.4		41.1	359	38.7		06.7	83	27.0		11.2
15	98	35.5	88	45.7		17.5	323	00.6		40.7	14	40.6		06.7	98	29.2		11.1
16	113	38.0	103	46.2		18.1	338	01.9		40.3	29	42.4		06.7	113	31.5		11.0
17	128	40.5	118	46.7	+3	18.6	353	03.1	+18	39.9	44	44.3	+23	06.8	128	33.8	-2	10.9
18	143	42.9	133	47.2	+3	19.2	8	04.3	+18	39.5	59	46.2	+23	06.8	143	36.0	-2	10.9
19	158	45.4	148	47.7		19.7	23	05.5		39.1	74	48.1		06.8	158	38.3		10.8
20	173	47.9	163	48.2		20.3	38	06.7		38.7	89	50.0		06.8	173	40.5		10.7
21	188	50.3	178	48.7		20.8	53	07.9		38.3	104	51.8		06.9	188	42.8		10.6
22	203	52.8	193	49.2		21.4	68	09.2		37.9	119	53.7		06.9	203	45.1		10.6
23	218	55.3	208	49.7		21.9	83	10.4		37.5	134	55.6		06.9	218	47.3		10.5
24	233	57.7	223	50.2	+3	22.5	98	11.6	+18	37.1	149	57.5	+23	06.9	233	49.6	-2	10.4
Dif	—		+5		+5		+12		-4		+19		0		+23		+1	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:11 ^h 56.4 ^m			Edad: 18.2 ^d SD: 15'0 PMG: 2 ^h 39 ^m							PHE { 4 ^h : 55'1 12 ^h : 55'3 20 ^h : 55'4 R°: 55 ^m						
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	54.8	+19 06.5	321	36.9	86	-28 27.2	9	60 N	20 35	21 40	** **	** **	1 18 28	4 02 87		
1	195	54.8	07.1	336	04.5	86	26.3	10	58	21	18	23 07	0 37 37	4 43 78			
2	210	54.8	07.7	350	32.0	85	25.3	12	56	20 09	21 00	22 21	0 09 41	5 11 73			
3	225	54.7	08.3	4	59.6	86	24.1	13	54	19 59	20 45	21 52	** ** *	33 70			
4	240	54.7	08.8	19	27.1	85	22.8	15	52	49	32	31	** ** *	5 51 68			
5	255	54.7	+19 09.4	33	54.7	86	-28 21.3	17	50	19 41	20 21	21 14	23 59 **	6 06 67			
6	270	54.7	+19 10.0	48	22.2	85	-28 19.6	17	45	19 24	19 58	20 42	23 30 40	6 37 64			
7	285	54.7	10.6	62	49.7	85	17.9	20	40	19 10	40	19	23 08 42	7 01 62			
8	300	54.7	11.1	77	17.3	86	15.9	21	35	18 58	26	20 00	22 49 45	20 61			
9	315	54.7	11.7	91	44.8	85	13.8	21	30	47	19 13	19 45	33 47	7 37 60			
10	330	54.6	12.3	106	12.3	85	11.6	22	20	29	18 53	21	22 06 49	8 05 59			
11	345	54.6	+19 12.8	120	39.9	86	-28 09.2	24	10 N	18 14	18 36	19 03	21 42 52	8 30 56			
12	0	54.6	+19 13.4	135	07.4	85	-28 06.7	25	0	18 00	18 22	18 47	21 20 55	8 52 55			
13	15	54.6	14.0	149	35.0	86	04.0	27	10 S	17 46	18 08	34	20 58 57	9 15 53			
14	30	54.6	14.5	164	02.5	85	-28 01.2	28	20	31	17 54	21	35 59	9 39 52			
15	45	54.6	15.1	178	30.1	86	-27 58.2	30	30	14	39	08	20 07 62	10 07 49			
16	60	54.6	15.7	192	57.7	86	55.0	32	35	17 04	31	18 02	19 51 63	24 48			
17	75	54.5	+19 16.2	207	25.3	86	-27 51.8	32	40	16 53	17 22	17 55	19 32 66	10 43 46			
18	90	54.5	+19 16.8	221	52.9	86	-27 48.3	35	45	16 40	17 12	17 48	19 09 68	11 06 44			
19	105	54.5	17.4	236	20.5	86	44.7	36	50	24	17 00	39	18 39 73	36 41			
20	120	54.5	17.9	250	48.1	86	41.0	37	52	16	16 54	36	25 74	11 51 38			
21	135	54.5	18.5	265	15.8	87	37.1	39	54	16 08	48	32	18 08 77	12 08 36			
22	150	54.5	19.1	279	43.4	86	33.1	40	56	15 59	42	28	17 48 80	28 33			
23	165	54.4	19.6	294	11.1	87	29.0	41	58	48	34	23	17 22 86	12 54 28			
24	180	54.4	+19 20.2	308	38.8	87	-27 24.6	44	60 S	15 36	16 26	17 18	16 47 95	13 30 18			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG 8 ^h 22.8 ^m		Mag: -4.6 PMG: 9 ^h 04 ^m		Mag: +1.1 PMG: 17 ^h 26 ^m		Mag: -1.9 PMG: 13 ^h 58 ^m		Mag: +1.1 PMG: 8 ^h 23 ^m		
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	
0	233	57.7	223	50.2	+3 22.5	98 11.6	+18 37.1	149 57.5	+23 06.9	233 49.6	-2 10.4
1	249	00.2	238	50.6	23.1	113 12.8	36.7	164 59.4	07.0	248 51.9	10.3
2	264	02.7	253	51.1	23.6	128 14.0	36.3	180 01.3	07.0	263 54.1	10.2
3	279	05.1	268	51.6	24.2	143 15.2	35.9	195 03.1	07.0	278 56.4	10.2
4	294	07.6	283	52.1	24.7	158 16.4	35.5	210 05.0	07.1	293 58.6	10.1
5	309	10.0	298	52.6	+3 25.3	173 17.7	+18 35.1	225 06.9	+23 07.1	309 00.9	-2 10.0
6	324	12.5	313	53.1	+3 25.8	188 18.9	+18 34.7	240 08.8	+23 07.1	324 03.2	-2 09.9
7	339	15.0	328	53.6	26.4	203 20.1	34.3	255 10.7	07.1	339 05.4	09.9
8	354	17.4	343	54.0	27.0	218 21.3	33.9	270 12.6	07.2	354 07.7	09.8
9	9	19.9	358	54.5	27.5	233 22.5	33.5	285 14.4	07.2	9 10.0	09.7
10	24	22.4	13	55.0	28.1	248 23.7	33.1	300 16.3	07.2	24 12.2	09.6
11	39	24.8	28	55.5	+3 28.6	263 25.0	+18 32.7	315 18.2	+23 07.2	39 14.5	-2 09.5
12	54	27.3	43	56.0	+3 29.2	278 26.2	+18 32.3	330 20.1	+23 07.3	54 16.8	-2 09.5
13	69	29.8	58	56.4	29.8	293 27.4	31.9	345 22.0	07.3	69 19.0	09.4
14	84	32.2	73	56.9	30.3	308 28.6	31.5	0 23.8	07.3	84 21.3	09.3
15	99	34.7	88	57.4	30.9	323 29.8	31.1	15 25.7	07.3	99 23.5	09.2
16	114	37.2	103	57.9	31.5	338 31.0	30.7	30 27.6	07.4	114 25.8	09.2
17	129	39.6	118	58.3	+3 32.0	353 32.2	+18 30.3	45 29.5	+23 07.4	129 28.1	-2 09.1
18	144	42.1	133	58.8	+3 32.6	8 33.4	+18 29.9	60 31.4	+23 07.4	144 30.3	-2 09.0
19	159	44.5	148	59.3	33.2	23 34.7	29.5	75 33.2	07.5	159 32.6	08.9
20	174	47.0	163	59.7	33.7	38 35.9	29.1	90 35.1	07.5	174 34.9	08.9
21	189	49.5	179	00.2	34.3	53 37.1	28.7	105 37.0	07.5	189 37.1	08.8
22	204	51.9	194	00.7	34.9	68 38.3	28.3	120 38.9	07.5	204 39.4	08.7
23	219	54.4	209	01.2	35.5	83 39.5	27.9	135 40.8	07.6	219 41.7	08.6
24	234	56.9	224	01.6	+3 36.0	98 40.7	+18 27.5	150 42.6	+23 07.6	234 43.9	-2 08.5
Dif	—		+5	+6		+12	-4	+19	0	+23	+1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15 ^h 8 PMG:11 ^h 56.4 ^m			Edad: 19.2 ^d SD: 15 ^h 1 PMG: 3 ^h 33 ^m		PHE { 4 ^h : 55 ^h 6 12 ^h : 55 ^h 8 20 ^h : 56 ^h 0 R°: 53 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°			
h	°	'	°	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	180	54.4	+19	20.2	308	38.8	87	-27	24.6	44	60 N	2 12	3 17	1 44	10	5 28	100	
1	195	54.4		20.8	323	06.5			20.2		58	0 45	34	31	1 13	18	5 59	
2	210	54.4		21.3	337	34.3	88		15.6	46	56	1 32	2 52	43	0 49	24	6 23	
3	225	54.4		21.9	352	02.1	88		10.8	48	54	2 00	3 07	3 54	29	29	42	
4	240	54.3		22.4	6	29.9	88		05.9	49	52	21	20	4 03	0 13	32	6 58	
5	255	54.3	+19	23.0	20	57.7	88	-27	00.9	50	50	2 38	3 31	4 11	** ** *	7 12	74	
6	270	54.3	+19	23.6	35	25.6	89	-26	55.7	52	45	3 10	3 54	4 29	** ** *	7 40	70	
7	285	54.3		24.1	49	53.4	88		50.3	54	40	34	4 12	43	23 49	34	8 02	
8	300	54.3		24.7	64	21.4	90		44.8	55	35	3 52	27	4 55	32	38	20	
9	315	54.2		25.2	78	49.3	89		39.2	56	30	4 07	39	5 05	23 18	40	8 36	
10	330	54.2		25.8	93	17.3	90		33.4	58	20	31	4 59	23	22 54	44	9 02	
11	345	54.2	+19	26.4	107	45.3	90	-26	27.5	59	10 N	4 50	5 16	5 39	22 33	48	9 25	
12	0	54.2	+19	26.9	122	13.3	90	-26	21.5	60	0	5 05	5 31	5 53	22 13	52	9 46	
13	15	54.2		27.5	136	41.4	91		15.3	62	10 S	19	45	6 07	21 53	55	10 07	
14	30	54.1		28.0	151	09.5	91		08.9	64	20	32	5 59	22	32	59	29	
15	45	54.1		28.6	165	37.7	92	-26	02.5	64	30	45	6 14	39	21 08	62	10 55	
16	60	54.1		29.1	180	05.8	91	-25	55.9	66	35	51	22	6 49	20 53	65	11 10	
17	75	54.1	+19	29.7	194	34.1	93	-25	49.1	68	40	5 58	6 31	7 00	20 36	68	11 28	
18	90	54.0	+19	30.2	209	02.3	92	-25	42.2	69	45	6 06	6 41	7 14	20 16	72	11 49	
19	105	54.0		30.8	223	30.6	93		35.2	70	50	14	54	30	19 50	78	12 15	
20	120	54.0		31.3	237	59.0	94		28.0	72	52	18	6 59	37	38	80	28	
21	135	54.0		31.9	252	27.3	93		20.7	73	54	22	7 05	46	23	84	12	
22	150	54.0		32.4	266	55.8	95		13.2	75	56	26	12	7 55	19 07	87	13 00	
23	165	53.9		33.0	281	24.2	94	-25	05.6	76	58	30	19	8 06	18 47	93	21	
24	180	53.9	+19	33.5	295	52.7	95	-24	57.9	77	60 S	6 35	7 28	8 18	18 21	102	13 46	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 18.8 ^m		Mag: -4.6 PMG: 9 ^h 04 ^m		Mag: +1.1 PMG: 17 ^h 24 ^m		Mag: -1.9 PMG: 13 ^h 55 ^m		Mag: +1.1 PMG: 8 ^h 20 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	234	56.9	224	01.6	+3	36.0	98	40.7	+18	27.5	150	42.6	+23	07.6	234	43.9	-2	08.5
1	249	59.3	239	02.1		36.6	113	41.9		27.1	165	44.5		07.6	249	46.2		08.5
2	265	01.8	254	02.5		37.2	128	43.1		26.7	180	46.4		07.6	264	48.5		08.4
3	280	04.3	269	03.0		37.7	143	44.4		26.3	195	48.3		07.7	279	50.7		08.3
4	295	06.7	284	03.5		38.3	158	45.6		25.9	210	50.2		07.7	294	53.0		08.2
5	310	09.2	299	03.9	+3	38.9	173	46.8	+18	25.5	225	52.0	+23	07.7	309	55.3	-2	08.2
6	325	11.7	314	04.4	+3	39.5	188	48.0	+18	25.1	240	53.9	+23	07.7	324	57.5	-2	08.1
7	340	14.1	329	04.8		40.0	203	49.2		24.7	255	55.8		07.8	339	59.8		08.0
8	355	16.6	344	05.3		40.6	218	50.4		24.3	270	57.7		07.8	355	02.1		07.9
9	10	19.0	359	05.8		41.2	233	51.6		23.9	285	59.6		07.8	10	04.3		07.9
10	25	21.5	14	06.2		41.8	248	52.8		23.5	301	01.4		07.8	25	06.6		07.8
11	40	24.0	29	06.7	+3	42.4	263	54.0	+18	23.1	316	03.3	+23	07.9	40	08.9	-2	07.7
12	55	26.4	44	07.1	+3	42.9	278	55.3	+18	22.7	331	05.2	+23	07.9	55	11.1	-2	07.6
13	70	28.9	59	07.6		43.5	293	56.5		22.3	346	07.1		07.9	70	13.4		07.5
14	85	31.4	74	08.0		44.1	308	57.7		21.9	1	09.0		07.9	85	15.7		07.5
15	100	33.8	89	08.5		44.7	323	58.9		21.5	16	10.8		08.0	100	17.9		07.4
16	115	36.3	104	08.9		45.3	339	00.1		21.1	31	12.7		08.0	115	20.2		07.3
17	130	38.8	119	09.4	+3	45.9	354	01.3	+18	20.6	46	14.6	+23	08.0	130	22.5	-2	07.2
18	145	41.2	134	09.8	+3	46.4	9	02.5	+18	20.2	61	16.5	+23	08.0	145	24.7	-2	07.2
19	160	43.7	149	10.3		47.0	24	03.7		19.8	76	18.4		08.1	160	27.0		07.1
20	175	46.1	164	10.7		47.6	39	04.9		19.4	91	20.2		08.1	175	29.3		07.0
21	190	48.6	179	11.1		48.2	54	06.1		19.0	106	22.1		08.1	190	31.5		06.9
22	205	51.1	194	11.6		48.8	69	07.4		18.6	121	24.0		08.2	205	33.8		06.9
23	220	53.5	209	12.0		49.4	84	08.6		18.2	136	25.9		08.2	220	36.1		06.8
24	235	56.0	224	12.5	+3	50.0	99	09.8	+18	17.8	151	27.7	+23	08.2	235	38.3	-2	06.7
Dif	—		+5		+6		+12		-4		+19		0		+23		+1	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15/8 PMG: 11 ^h 56.4 ^m			Edad: 20.2 ^d SD: 15/3 PMG: 4 ^h 26 ^m PHE { 4 ^h : 56/2 12 ^h : 56/4 20 ^h : 56/6 R°: 52 ^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	180	53.9	+19	33.5	295	52.7	96	-24	57.9	78	60 N	20 39	21 47	** **	1 54	4
1	195	53.9		34.1	310	21.3	96		50.1	80	58	25	23	23 28	31	12
2	210	53.9		34.6	324	49.9	96		42.1	82	56	13	21 04	22 29	1 13	17
3	225	53.8		35.2	339	18.5	96		33.9	82	54	20 02	20 49	21 58	0 58	20
4	240	53.8		35.7	353	47.2	97		25.7	82	52	19 52	36	36	45	23
5	255	53.8	+19	36.3	8	15.9	97	-24	17.3	84	50	19 44	20 24	21 18	0 33	26
6	270	53.8	+19	36.8	22	44.7	98	-24	08.8	85	45	19 26	20 01	20 45	0 08	32
7	285	53.7		37.4	37	13.5	98	-24	00.1	87	40	19 11	19 42	21	** **	**
8	300	53.7		37.9	51	42.4	99	-23	51.4	87	35	18 59	27	20 02	** **	**
9	315	53.7		38.5	66	11.3	99		42.4	90	30	48	19 15	19 47	23 58	**
10	330	53.7		39.0	80	40.3	100		33.4	90	20	30	18 54	22	38	43
11	345	53.6	+19	39.5	95	09.3	100	-23	24.2	92	10 N	18 15	18 37	19 03	23 21	47
12	0	53.6	+19	40.1	109	38.3	100	-23	14.9	93	0	18 00	18 22	18 47	23 05	50
13	15	53.6		40.6	124	07.4	101	-23	05.5	94	10 S	17 46	18 08	34	22 48	55
14	30	53.5		41.2	138	36.6	102	-22	56.0	95	20	30	17 54	20	31	59
15	45	53.5		41.7	153	05.8	102		46.3	97	30	13	38	07	22 10	65
16	60	53.5		42.3	167	35.0	102		36.5	98	35	17 03	30	18 01	21 58	68
17	75	53.5	+19	42.8	182	04.3	103	-22	26.6	99	40	16 51	17 21	17 54	21 44	72
18	90	53.4	+19	43.3	196	33.6	103	-22	16.6	100	45	16 38	17 10	17 46	21 28	76
19	105	53.4		43.9	211	03.0	104	-22	06.4	102	50	21	16 58	37	21 08	81
20	120	53.4		44.4	225	32.5	105	-21	56.1	103	52	14	52	33	20 58	84
21	135	53.3		44.9	240	02.0	105		45.7	104	54	16 05	46	29	47	87
22	150	53.3		45.5	254	31.5	105		35.2	106	56	15 56	39	25	34	92
23	165	53.3		46.0	269	01.1	106		24.6	106	58	45	31	20	20	96
24	180	53.3	+19	46.5	283	30.7	106	-21	13.8	108	60 S	15 32	16 23	17 15	20 03	102

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 ^h 14.9 ^m		Mag: -4.6 PMG: 9 ^h 03 ^m		Mag: +1.1 PMG: 17 ^h 22 ^m		Mag: -1.9 PMG: 13 ^h 52 ^m		Mag: +1.1 PMG: 8 ^h 16 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	235	56.0	224	12.5	+3	50.0	99	09.8	+18	17.8
1	250	58.5	239	12.9		50.6	114	11.0		17.4
2	266	00.9	254	13.4		51.2	129	12.2		17.0
3	281	03.4	269	13.8		51.7	144	13.4		16.6
4	296	05.9	284	14.2		52.3	159	14.6		16.2
5	311	08.3	299	14.7	+3	52.9	174	15.8	+18	15.8
6	326	10.8	314	15.1	+3	53.5	189	17.0	+18	15.4
7	341	13.3	329	15.5		54.1	204	18.2		15.0
8	356	15.7	344	16.0		54.7	219	19.4		14.6
9	11	18.2	359	16.4		55.3	234	20.6		14.1
10	26	20.6	14	16.8		55.9	249	21.8		13.7
11	41	23.1	29	17.3	+3	56.5	264	23.1	+18	13.3
12	56	25.6	44	17.7	+3	57.1	279	24.3	+18	12.9
13	71	28.0	59	18.1		57.7	294	25.5		12.5
14	86	30.5	74	18.5		58.3	309	26.7		12.1
15	101	33.0	89	19.0		58.9	324	27.9		11.7
16	116	35.4	104	19.4	+3	59.5	339	29.1		11.3
17	131	37.9	119	19.8	+4	00.1	354	30.3	+18	10.9
18	146	40.4	134	20.2	+4	00.7	9	31.5	+18	10.5
19	161	42.8	149	20.7		01.3	24	32.7		10.1
20	176	45.3	164	21.1		01.9	39	33.9		09.6
21	191	47.8	179	21.5		02.5	54	35.1		09.2
22	206	50.2	194	21.9		03.1	69	36.3		08.8
23	221	52.7	209	22.3		03.7	84	37.5		08.4
24	236	55.1	224	22.8	+4	04.3	99	38.7	+18	08.0
Dif	—		+4		+6		+12		-4	
							+19		0	
									+23	
										+1

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna										
	SD: 15'8 PMG: 11 ^h 56.5 ^m				Edad: 22.2 ^d SD: 15'7 PMG: 6 ^h 05 ^m PHE { 4 ^h : 57'6 12 ^h : 57'9 20 ^h : 58'1 Rº: 49 ^m																						
	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	180	52.5	+19	59.2	271	35.6	118	-16	22.8	134	60 N	20 44	21 53	** **	1 57	1	10 31	100									
1	195	52.4	+19	59.7	286	06.4	117	-16	09.4	135	58	29	28	** **	47	5	40	95									
2	210	52.4	+20	00.3	300	37.1	118	-15	55.9	135	56	16	21 09	22 37	39	8	47	92									
3	225	52.4		00.8	315	07.9	118		42.4	135	54	20 05	20 53	22 04	31	12	10 54	89									
4	240	52.3		01.3	329	38.8	119		28.7	137	52	19 55	39	21 41	24	15	11 01	85									
5	255	52.3	+20	01.8	344	09.6	118	-15	14.9	138	50	19 47	20 27	21 22	1 17	18	11 06	83									
6	270	52.2	+20	02.3	358	40.5	119	-15	01.1	138	45	19 28	20 03	20 48	1 04	22	11 18	77									
7	285	52.2		02.9	13	11.5	120	-14	47.1	140	40	13	19 44	23	0 52	28	72										
8	300	52.2		03.4	27	42.5	120		33.1	140	35	19 01	29	20 04	43	31	36	68									
9	315	52.1		03.9	42	13.5	120		19.0	141	30	18 50	19 16	19 48	34	34	43	65									
10	330	52.1		04.4	56	44.5	120	-14	04.8	142	20	31	18 55	23	19 40	11 56	59										
11	345	52.1	+20	04.9	71	15.6	121	-13	50.5	143	10 N	18 15	18 38	19 04	0 06	45	12 07	53									
12	0	52.0	+20	05.4	85	46.7	121	-13	36.2	143	0	18 00	18 22	18 48	** **	**	12 17	49									
13	15	52.0		05.9	100	17.8	121		21.7	145	10 S	17 45	18 08	33	** **	**	27	44									
14	30	51.9		06.5	114	48.9	121	-13	07.2	145	20	30	17 53	20	** **	**	37	39									
15	45	51.9		07.0	129	20.1	122	-12	52.6	146	30	12	37	07	** **	**	49	34									
16	60	51.9		07.5	143	51.3	122		37.9	147	35	17 02	29	18 00	** **	**	12 56	30									
17	75	51.8	+20	08.0	158	22.5	122	-12	23.2	147	40	16 50	17 19	17 52	** **	**	13 04	26									
18	90	51.8	+20	08.5	172	53.8	123	-12	08.3	149	45	16 36	17 08	17 44	23 57	78	13 13	22									
19	105	51.7		09.0	187	25.0	122	-11	53.4	149	50	19	16 55	35	48 83	24	16										
20	120	51.7		09.5	201	56.3	123		38.4	150	52	11	50	31	44 86	29	14										
21	135	51.7		10.0	216	27.6	123		23.4	150	54	16 02	43	27	40 89	34	11										
22	150	51.6		10.5	230	58.9	123	-11	08.3	151	56	15 52	36	23	35 92	40	8										
23	165	51.6		11.0	245	30.3	124	-10	53.1	152	58	41	28	18	29 96	47	5										
24	180	51.5	+20	11.6	260	01.6	123	-10	37.8	153	60 S	15 28	16 19	17 12	23 23	100	13 55	0									
UT	ARIES PMG 8 ^h 07.0 ^m			VENUS Mag: -4.5 PMG: 9 ^h 02 ^m			MARTE Mag: +1.2 PMG: 17 ^h 18 ^m			JÚPITER Mag: -1.9 PMG: 13 ^h 46 ^m			SATURNO Mag: +1.1 PMG: 8 ^h 09 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♎	Dec		hG ♏	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	237	54.3	224	32.5	+4	19.1	100	07.6	+17	58.1	152	57.8	+23	09.4	237	27.3	-2	03.1									
1	252	56.7	239	32.9		19.7	115	08.8		57.7	167	59.7		09.4	252	29.6		03.1									
2	267	59.2	254	33.2		20.3	130	10.0		57.3	183	01.5		09.4	267	31.9		03.0									
3	283	01.7	269	33.6		20.9	145	11.2		56.9	198	03.4		09.5	282	34.1		02.9									
4	298	04.1	284	34.0		21.5	160	12.4		56.4	213	05.3		09.5	297	36.4		02.9									
5	313	06.6	299	34.4	+4	22.2	175	13.6	+17	56.0	228	07.2	+23	09.5	312	38.7	-2	02.8									
6	328	09.1	314	34.8	+4	22.8	190	14.8	+17	55.6	243	09.0	+23	09.5	327	41.0	-2	02.7									
7	343	11.5	329	35.2		23.4	205	16.0		55.2	258	10.9		09.5	342	43.2		02.6									
8	358	14.0	344	35.6		24.0	220	17.2		54.8	273	12.8		09.6	357	45.5		02.6									
9	13	16.5	359	36.0		24.7	235	18.4		54.4	288	14.7		09.6	12	47.8		02.5									
10	28	18.9	14	36.3		25.3	250	19.6		53.9	303	16.5		09.6	27	50.1		02.4									
11	43	21.4	29	36.7	+4	25.9	265	20.8	+17	53.5	318	18.4	+23	09.6	42	52.3	-2	02.3									
12	58	23.9	44	37.1	+4	26.6	280	22.0	+17	53.1	333	20.3	+23	09.7	57	54.6	-2	02.3									
13	73	26.3	59	37.5		27.2	295	23.2		52.7	348	22.2		09.7	72	56.9		02.2									
14	88	28.8	74	37.9		27.8	310	24.4		52.3	3	24.0		09.7	87	59.2		02.1									
15	103	31.2	89	38.3		28.5	325	25.6		51.9	18	25.9		09.7	103	01.4		02.1									
16	118	33.7	104	38.6		29.1	340	26.8		51.4	33	27.8		09.8	118	03.7		02.0									
17	133	36.2	119	39.0	+4	29.7	355	28.0	+17	51.0	48	29.6	+23	09.8	133	06.0	-2	01.9									
18	148	38.6	134	39.4	+4	30.3	10	29.2	+17	50.6	63	31.5	+23	09.8	148	08.3	-2	01.8									
19	163	41.1	149	39.8		31.0	25	30.4		50.2	78	33.4		09.8	163	10.5		01.8									
20	178	43.6	164	40.1		31.6	40	31.6		49.8	93	35.3		09.8	178	12.8		01.7									
21	193	46.0	179	40.5		32.2	55	32.8		49.3	108	37.1		09.9	193	15.1		01.6									
22	208	48.5	194	40.9		32.9	70	34.0		48.9	123	39.0		09.9	208	17.4		01.6									
23	223	51.0	209	41.3		33.5	85	35.2		48.5	138	40.9		09.9	223	19.6		01.5									
24	238	53.4	224	41.6	+4	34.2	100	36.4	+17	48.1	153	42.8	+23	09.9	238	21.9	-2	01.4									
Dif	—			+4			+6			+12			-4			+19			0			+23			+1		

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:11 ^h 56.6 ^m				Edad: 23.2 ^d SD: 15'9 PMG: 6 ^h 53 ^m											
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	180	51.5	+20	11.6	260	01.6	-10	37.8	60 N	**	**	1 59	3 09	1 57	**	12 09 99
1	195	51.5		12.1	274	33.0		22.4	58	**	**	2 24	24	51	3	14 95
2	210	51.5		12.6	289	04.4	-10	07.0	56	1	15	2 44	36	46	6	18 91
3	225	51.4		13.1	303	35.8	-9	51.6	54	1	48	3 00	48	41	10	21 88
4	240	51.4		13.6	318	07.2		36.0	52	2	12	14	3 57	37	12	24 85
5	255	51.3	+20	14.1	332	38.7	-9	20.4	50	2	30	3 26	4 06	1 33	15	12 27 82
6	270	51.3	+20	14.6	347	10.1	-9	04.7	45	3	05	3 50	4 25	1 25	20	12 33 77
7	285	51.2		15.1	1	41.5	-8	49.0	40	30	4 08	40		18	24	38 72
8	300	51.2		15.6	16	13.0		33.2	35	3	49	24	4 52	12	28	43 67
9	315	51.2		16.1	30	44.5		17.4	30	4	05	37	5 03	1	07	31 47 64
10	330	51.1		16.6	45	15.9	-8	01.5	20	30	4 58	22		0 58	37	53 58
11	345	51.1	+20	17.1	59	47.4	-7	45.5	10 N	4	49	5 16	5 38	0 49	43	12 59 52
12	0	51.0	+20	17.6	74	18.9	-7	29.5	0	5	05	5 31	5 53	0 42	47	13 04 48
13	15	51.0		18.1	88	50.3	-7	13.4	10 S	20	5 46	6 08	6 08	34	52	09 43
14	30	50.9		18.6	103	21.8	-6	57.3	20	33	6 00	24		26	57	15 37
15	45	50.9		19.1	117	53.3		41.1	30	47	16	42		16	64	21 31
16	60	50.8		19.6	132	24.7		24.8	35	5	54	25	6 52	11	67	25 27
17	75	50.8	+20	20.1	146	56.2	-6	08.6	40	6	01	6 34	7 04	0 05	71	13 29 23
18	90	50.7	+20	20.6	161	27.7	-5	52.2	45	6	09	6 45	7 18	**	**	** 13 33 20
19	105	50.7		21.1	175	59.1		35.8	50	18	6 58	35		**	**	** 39 14
20	120	50.7		21.6	190	30.6		19.4	52	22	7 04	43		**	**	** 41 12
21	135	50.6		22.1	205	02.0	-5	02.9	54	27	11	7 52		**	**	** 44 9
22	150	50.6		22.6	219	33.4	-4	46.4	56	31	18	8 02		**	**	** 47 6
23	165	50.5		23.1	234	04.9		29.9	58	36	26	13		**	**	** 50 3
24	180	50.5	+20	23.5	248	36.3	-4	13.3	60 S	6	42	7 35	8 26	**	**	** 13 54 **

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 03.1 ^m		Mag: -4.5 PMG: 9 ^h 01 ^m		Mag: +1.2 PMG: 17 ^h 16 ^m		Mag: -1.9 PMG: 13 ^h 43 ^m		Mag: +1.1 PMG: 8 ^h 05 ^m									
	hG ♈ Dec		hG ♀ Dec		hG ♂ Dec		hG ♃ Dec		hG ♄ Dec									
h	°	'	°	'	°	'	°	'	°	'								
0	238	53.4	224	41.6	+4	34.2	100	36.4	+17	48.1	153	42.8	+23	09.9	238	21.9	-2	01.4
1	253	55.9	239	42.0		34.8	115	37.6		47.7	168	44.6		10.0	253	24.2		01.3
2	268	58.4	254	42.4		35.4	130	38.8		47.3	183	46.5		10.0	268	26.5		01.3
3	284	00.8	269	42.7		36.1	145	40.0		46.8	198	48.4		10.0	283	28.7		01.2
4	299	03.3	284	43.1		36.7	160	41.2		46.4	213	50.2		10.0	298	31.0		01.1
5	314	05.7	299	43.5	+4	37.3	175	42.4	+17	46.0	228	52.1	+23	10.1	313	33.3	-2	01.0
6	329	08.2	314	43.8	+4	38.0	190	43.6	+17	45.6	243	54.0	+23	10.1	328	35.6	-2	01.0
7	344	10.7	329	44.2		38.6	205	44.8		45.2	258	55.9		10.1	343	37.8		00.9
8	359	13.1	344	44.6		39.3	220	46.0		44.7	273	57.7		10.1	358	40.1		00.8
9	14	15.6	359	44.9		39.9	235	47.2		44.3	288	59.6		10.1	13	42.4		00.8
10	29	18.1	14	45.3		40.5	250	48.4		43.9	304	01.5		10.2	28	44.7		00.7
11	44	20.5	29	45.6	+4	41.2	265	49.6	+17	43.5	319	03.3	+23	10.2	43	47.0	-2	00.6
12	59	23.0	44	46.0	+4	41.8	280	50.8	+17	43.0	334	05.2	+23	10.2	58	49.2	-2	00.5
13	74	25.5	59	46.4		42.5	295	52.0		42.6	349	07.1		10.2	73	51.5		00.5
14	89	27.9	74	46.7		43.1	310	53.2		42.2	4	09.0		10.3	88	53.8		00.4
15	104	30.4	89	47.1		43.8	325	54.4		41.8	19	10.8		10.3	103	56.1		00.3
16	119	32.8	104	47.4		44.4	340	55.5		41.4	34	12.7		10.3	118	58.3		00.3
17	134	35.3	119	47.8	+4	45.1	355	56.7	+17	40.9	49	14.6	+23	10.3	134	00.6	-2	00.2
18	149	37.8	134	48.2	+4	45.7	10	57.9	+17	40.5	64	16.4	+23	10.3	149	02.9	-2	00.1
19	164	40.2	149	48.5		46.4	25	59.1		40.1	79	18.3		10.4	164	05.2	-2	00.1
20	179	42.7	164	48.9		47.0	41	00.3		39.7	94	20.2		10.4	179	07.5	-2	00.0
21	194	45.2	179	49.2		47.7	56	01.5		39.2	109	22.1		10.4	194	09.7	-1	59.9
22	209	47.6	194	49.6		48.3	71	02.7		38.8	124	23.9		10.4	209	12.0		59.8
23	224	50.1	209	49.9		48.9	86	03.9		38.4	139	25.8		10.5	224	14.3		59.8
24	239	52.6	224	50.3	+4	49.6	101	05.1	+17	38.0	154	27.7	+23	10.5	239	16.6	-1	59.7
Dif	—		+4		+6		+12		-4		+19		0		+23		+1	

UT	SOL			LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.7 ^m			Edad: 24.2 ^d SD: 16'1 PMG: 7 ^h 40 ^m										
	PHE { 4 ^h : 59'2 12 ^h : 59'5 20 ^h : 59'7 R°: 50 ^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	180 50.5	+20 23.5	248 36.3		-4 13.3		60 N	20 48	22 00	** **	1 56 1		13 48 104	
1	195 50.4	24.0	263 07.7	124	-3 56.6	167	58	33	21 34	** **	54 4		49 99	
2	210 50.4	24.5	277 39.0	123	40.0	166	56	20	21 13	22 47	52 8		49 95	
3	225 50.3	25.0	292 10.4	124	23.2	168	54	20 08	20 56	22 10	51 10		49 92	
4	240 50.3	25.5	306 41.7	123	-3 06.5	167	52	19 58	42	21 46	49 13		49 89	
5	255 50.2	+20 26.0	321 13.1	124	-2 49.7	168	50	19 49	20 30	21 26	1 48 15		13 49 87	
6	270 50.2	+20 26.5	335 44.4	123	-2 32.9	168	45	19 30	20 06	20 51	1 45 20		13 50 80	
7	285 50.1	27.0	350 15.6	122	-2 16.0	169	40	15	19 46	25	42 25		50 75	
8	300 50.1	27.5	4 46.9	123	-1 59.1	169	35	19 02	31	20 06	40 29		50 71	
9	315 50.0	28.0	19 18.1	122	42.2	169	30	18 51	19 18	19 50	38 33		51 67	
10	330 50.0	28.4	33 49.3	122	25.3	169	20	32	18 56	24	35 38		51 61	
11	345 49.9	+20 28.9	48 20.5	122	-1 08.3	170	10 N	18 15	18 38	19 05	1 32 44		13 51 56	
12	0 49.9	+20 29.4	62 51.7	122	-0 51.3	170	0	18 00	18 22	18 48	1 29 49		13 52 50	
13	15 49.8	29.9	77 22.8	121	34.3	170	10 S	17 45	18 08	33	26 55		52 45	
14	30 49.8	30.4	91 53.9	121	17.3	170	20	29	17 53	20	23 60		52 39	
15	45 49.7	30.9	106 24.9	120	-0 00.3	170	30	11	37	18 06	20 66		52 33	
16	60 49.7	31.3	120 55.9	120	+0 16.8	171	35	17 00	28	17 59	18 70		52 30	
17	75 49.6	+20 31.8	135 26.9	120	+0 33.9	171	40	16 48	17 18	17 51	1 16 74		13 52 26	
18	90 49.6	+20 32.3	149 57.8	119	+0 51.0	171	45	16 34	17 07	17 43	1 13 79		13 53 21	
19	105 49.5	32.8	164 28.7	119	+1 08.1	171	50	17	16 53	34	10 85		53 15	
20	120 49.5	33.3	178 59.6	119	25.3	172	52	09	47	29	09 87		53 13	
21	135 49.4	33.7	193 30.4	118	42.4	171	54	16 00	41	25	07 91		53 10	
22	150 49.4	34.2	208 01.2	118	+1 59.6	172	56	15 49	33	20	05 94		53 7	
23	165 49.3	34.7	222 31.9	117	+2 16.7	171	58	38	25	15	04 97		53 4	
24	180 49.3	+20 35.2	237 02.6	117	+2 33.9	172	60 S	15 24	16 16	17 09	1 01 102		13 53 1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 7 ^h 59.2 ^m		Mag: -4.5 PMG: 9 ^h 00 ^m		Mag: +1.2 PMG: 17 ^h 14 ^m		Mag: -1.9 PMG: 13 ^h 40 ^m		Mag: +1.1 PMG: 8 ^h 02 ^m	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	239 52.6	224 50.3	+4 49.6	101 05.1	+17 38.0	154 27.7	+23 10.5	239 16.6	-1 59.7	
1	254 55.0	239 50.6	50.3	116 06.3	37.6	169 29.5	10.5	254 18.9	59.6	
2	269 57.5	254 51.0	50.9	131 07.5	37.1	184 31.4	10.5	269 21.1	59.6	
3	285 00.0	269 51.3	51.6	146 08.7	36.7	199 33.3	10.5	284 23.4	59.5	
4	300 02.4	284 51.6	52.2	161 09.9	36.3	214 35.1	10.6	299 25.7	59.4	
5	315 04.9	299 52.0	+4 52.9	176 11.1	+17 35.9	229 37.0	+23 10.6	314 28.0	-1 59.3	
6	330 07.3	314 52.3	+4 53.5	191 12.3	+17 35.4	244 38.9	+23 10.6	329 30.2	-1 59.3	
7	345 09.8	329 52.7	54.2	206 13.5	35.0	259 40.8	10.6	344 32.5	59.2	
8	0 12.3	344 53.0	54.8	221 14.7	34.6	274 42.6	10.7	359 34.8	59.1	
9	15 14.7	359 53.4	55.5	236 15.9	34.2	289 44.5	10.7	14 37.1	59.1	
10	30 17.2	14 53.7	56.1	251 17.1	33.7	304 46.4	10.7	29 39.4	59.0	
11	45 19.7	29 54.0	+4 56.8	266 18.2	+17 33.3	319 48.2	+23 10.7	44 41.6	-1 58.9	
12	60 22.1	44 54.4	+4 57.4	281 19.4	+17 32.9	334 50.1	+23 10.7	59 43.9	-1 58.9	
13	75 24.6	59 54.7	58.1	296 20.6	32.5	349 52.0	10.8	74 46.2	58.8	
14	90 27.1	74 55.1	58.8	311 21.8	32.0	4 53.8	10.8	89 48.5	58.7	
15	105 29.5	89 55.4	+4 59.4	326 23.0	31.6	19 55.7	10.8	104 50.8	58.6	
16	120 32.0	104 55.7	+5 00.1	341 24.2	31.2	34 57.6	10.8	119 53.0	58.6	
17	135 34.5	119 56.1	+5 00.7	356 25.4	+17 30.8	49 59.5	+23 10.8	134 55.3	-1 58.5	
18	150 36.9	134 56.4	+5 01.4	11 26.6	+17 30.3	65 01.3	+23 10.9	149 57.6	-1 58.4	
19	165 39.4	149 56.7	02.1	26 27.8	29.9	80 03.2	10.9	164 59.9	58.4	
20	180 41.8	164 57.1	02.7	41 29.0	29.5	95 05.1	10.9	180 02.2	58.3	
21	195 44.3	179 57.4	03.4	56 30.2	29.0	110 06.9	10.9	195 04.4	58.2	
22	210 46.8	194 57.7	04.0	71 31.4	28.6	125 08.8	11.0	210 06.7	58.2	
23	225 49.2	209 58.1	04.7	86 32.6	28.2	140 10.7	11.0	225 09.0	58.1	
24	240 51.7	224 58.4	+5 05.4	101 33.7	+17 27.8	155 12.5	+23 11.0	240 11.3	-1 58.0	
Dif	—	+3	+7	+12	-4	+19	0	+23	+1	

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG:11 ^h 56.8 ^m				Edad: 25.2 ^d SD: 16'3 PMG: 8 ^h 29 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	49.3	+20	35.2	237	02.6	+2	33.9	60 N	1 53	3 05	1 55	0	15 30	108				
1	195	49.2		35.7	251	33.3	+2	51.1	58	2 19	20	57	3	26 103					
2	210	49.2		36.1	266	03.9	+3	08.2	56	1 06	40	33	1 58	7	23 98				
3	225	49.1		36.6	280	34.4		25.4	54	1 43	2 57	45	2 00	9	20 95				
4	240	49.0		37.1	295	04.9		42.6	52	2 07	3 11	3 55	01	12	17 99				
5	255	49.0	+20	37.6	309	35.3	+3	59.8	50	2 27	3 23	4 04	2 02	15	15 14 89				
6	270	48.9	+20	38.0	324	05.7	+4	16.9	45	3 02	3 48	4 23	2 04	21	15 09 82				
7	285	48.9		38.5	338	36.0		34.1	40	28	4 07	38	06	26	04 77				
8	300	48.8		39.0	353	06.3	+4	51.2	35	3 47	22	4 51	08	29	15 00 73				
9	315	48.8		39.5	7	36.5	+5	08.4	30	4 04	36	5 02	09	34	14 57 69				
10	330	48.7		39.9	22	06.6		25.5	20	29	4 57	21	12	40	51 62				
11	345	48.7	+20	40.4	36	36.7	+5	42.7	10 N	4 49	5 15	5 38	2 15	44	14 45 57				
12	0	48.6	+20	40.9	51	06.7	+5	59.8	0	5 05	5 31	5 53	2 17	50	14 40 52				
13	15	48.6		41.3	65	36.7	+6	16.9	10 S	20	5 46	6 08	19	56	35 47				
14	30	48.5		41.8	80	06.5		33.9	20	34	6 01	24	22	61	30 41				
15	45	48.4		42.3	94	36.4	+6	51.0	30	48	17	43	25	67	24 35				
16	60	48.4		42.7	109	06.1	+7	08.0	35	5 55	26	6 53	27	71	21 31				
17	75	48.3	+20	43.2	123	35.8	+7	25.1	40	6 03	6 36	7 06	2 29	75	14 17 27				
18	90	48.3	+20	43.7	138	05.4	+7	42.1	45	6 11	6 47	7 20	2 31	80	14 12 22				
19	105	48.2		44.1	152	34.9	+7	59.0	50	20	7 01	37	34	86	07 16				
20	120	48.2		44.6	167	04.4	+8	15.9	52	25	07	46	35	90	05 13				
21	135	48.1		45.1	181	33.8		32.9	54	29	13	7 55	36	93	14 02 11				
22	150	48.0		45.5	196	03.1	+8	49.7	56	34	21	8 05	38	96	13 59 7				
23	165	48.0		46.0	210	32.3	+9	06.6	58	39	29	17	40	100	56 3				
24	180	47.9	+20	46.5	225	01.4	+9	23.4	60 S	6 45	7 38	8 31	2 42	104	13 52 0				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 7 ^h 55.3 ^m		Mag: -4.5 PMG: 9 ^h 00 ^m		Mag: +1.2 PMG: 17 ^h 12 ^m		Mag: -1.9 PMG: 13 ^h 37 ^m		Mag: +1.1 PMG: 7 ^h 58 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	240	51.7	224	58.4	+5	05.4	101	33.7	+17	27.8	155	12.5	+23	11.0	240	11.3	-1	58.0	
1	255	54.2	239	58.7		06.0	116	34.9		27.3	170	14.4		11.0	255	13.6		58.0	
2	270	56.6	254	59.0		06.7	131	36.1		26.9	185	16.3		11.0	270	15.9		57.9	
3	285	59.1	269	59.4		07.4	146	37.3		26.5	200	18.1		11.1	285	18.1		57.8	
4	301	01.6	284	59.7		08.0	161	38.5		26.1	215	20.0		11.1	300	20.4		57.7	
5	316	04.0	300	00.0	+5	08.7	176	39.7	+17	25.6	230	21.9	+23	11.1	315	22.7	-1	57.7	
6	331	06.5	315	00.3	+5	09.4	191	40.9	+17	25.2	245	23.7	+23	11.1	330	25.0	-1	57.6	
7	346	08.9	330	00.7		10.0	206	42.1		24.8	260	25.6		11.1	345	27.3		57.5	
8	1	11.4	345	01.0		10.7	221	43.3		24.3	275	27.5		11.2	0	29.5		57.5	
9	16	13.9	0	01.3		11.4	236	44.5		23.9	290	29.3		11.2	15	31.8		57.4	
10	31	16.3	15	01.6		12.0	251	45.7		23.5	305	31.2		11.2	30	34.1		57.3	
11	46	18.8	30	01.9	+5	12.7	266	46.8	+17	23.0	320	33.1	+23	11.2	45	36.4	-1	57.3	
12	61	21.3	45	02.3	+5	13.4	281	48.0	+17	22.6	335	35.0	+23	11.2	60	38.7	-1	57.2	
13	76	23.7	60	02.6		14.0	296	49.2		22.2	350	36.8		11.3	75	41.0		57.1	
14	91	26.2	75	02.9		14.7	311	50.4		21.8	5	38.7		11.3	90	43.2		57.1	
15	106	28.7	90	03.2		15.4	326	51.6		21.3	20	40.6		11.3	105	45.5		57.0	
16	121	31.1	105	03.5		16.1	341	52.8		20.9	35	42.4		11.3	120	47.8		56.9	
17	136	33.6	120	03.8	+5	16.7	356	54.0	+17	20.5	50	44.3	+23	11.3	135	50.1	-1	56.9	
18	151	36.1	135	04.1	+5	17.4	11	55.2	+17	20.0	65	46.2	+23	11.4	150	52.4	-1	56.8	
19	166	38.5	150	04.5		18.1	26	56.4		19.6	80	48.0		11.4	165	54.7		56.7	
20	181	41.0	165	04.8		18.7	41	57.5		19.2	95	49.9		11.4	180	56.9		56.7	
21	196	43.4	180	05.1		19.4	56	58.7		18.7	110	51.8		11.4	195	59.2		56.6	
22	211	45.9	195	05.4		20.1	71	59.9		18.3	125	53.6		11.5	211	01.5		56.5	
23	226	48.4	210	05.7		20.8	87	01.1		17.9	140	55.5		11.5	226	03.8		56.4	
24	241	50.8	225	06.0	+5	21.4	102	02.3	+17	17.4	155	57.4	+23	11.5	241	06.1	-1	56.4	
Dif	—		+3		+7		+12		-4		+19		0		+23		+1		

UT	SOL		● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.9 ^m		Edad: 26.2 ^d SD: 16'5 PMG: 9 ^h 19 ^m PHE { 4 ^h : 60'6 12 ^h : 60'7 20 ^h : 60'9 Rº: 56 ^m												
	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	180 47.9	+20 46.5	225 01.4		+9 23.4		60 N	20 53	22 07	** **		1 55 1		17 18 117	
1	195 47.9		239 30.5	101		167	58	37	21 39	** **		2 00 6		09 111	
2	210 47.8		253 59.5	100	+9 56.8	167	56	23	17	22 57		05 10		17 01 106	
3	225 47.7		268 28.4	99	+10 13.5	167	54	11	21 00	22 16		09 14		16 55 100	
4	240 47.7		282 57.2	98		167	52	20 01	20 46	21 50		13 17		48 98	
5	255 47.6	+20 48.8	297 25.9	97	+10 46.7	165	50	19 52	20 33	21 30		2 17 20		16 43 94	
6	270 47.6	+20 49.2	311 54.6	97	+11 03.3	166	45	19 32	20 08	20 54		2 25 26		16 31 87	
7	285 47.5		326 23.1	95		165	40	17	19 48	28		32 30		21 82	
8	300 47.4		340 51.6	93		164	35	19 04	32	20 07		37 35		13 77	
9	315 47.4		355 19.9	93	+11 52.6	164	30	18 52	19 19	19 51		43 38		16 06 73	
10	330 47.3		9 48.2	93	+12 08.9	163	20	33	18 57	25		52 44		15 53 68	
11	345 47.3	+20 51.5	24 16.4	92	+12 25.2	163	10 N	18 16	18 39	19 05		2 59 50		15 42 62	
12	0 47.2	+20 52.0	38 44.5	91	+12 41.4	162	0	18 00	18 23	18 48		3 07 55		15 32 57	
13	15 47.1		53 12.5	90	+12 57.5	161	10 S	17 45	18 07	33		15 60		22 52	
14	30 47.1		67 40.3	88	+13 13.6	161	20	29	17 52	19		23 66		15 11 47	
15	45 47.0		82 08.1	88		160	30	17 10	36	18 05		32 73		14 59 41	
16	60 47.0		96 35.8	87	+13 45.5	159	35	16 59	27	17 58		38 76		52 37	
17	75 46.9	+20 54.2	111 03.4	86	+14 01.4	159	40	16 47	17 17	17 50		3 44 81		14 44 33	
18	90 46.8	+20 54.7	125 30.9	85	+14 17.2	158	45	16 33	17 05	17 41		3 51 86		14 34 29	
19	105 46.8		139 58.3	84		157	50	15	16 52	32		4 00 93		23 22	
20	120 46.7		154 25.6	83	+14 48.5	156	52	16 06	45	28		05 95		18 19	
21	135 46.6		168 52.8	82	+15 04.1	156	54	15 57	39	23		09 99		13 15	
22	150 46.6		183 19.9	81		154	56	47	31	18		14 103		14 06 12	
23	165 46.5		197 46.8	79		154	58	35	23	13		20 108		13 59 8	
24	180 46.5	+20 57.4	212 13.7	79	+15 50.2	153	60 S	15 21	16 13	17 07		4 26 114		13 52 2	
UT	ARIES PMG 7 ^h 51.3 ^m		VENUS Mag: -4.5 PMG: 8 ^h 59 ^m		MARTE Mag: +1.2 PMG: 17 ^h 10 ^m		JÚPITER Mag: -1.9 PMG: 13 ^h 34 ^m		SATURNO Mag: +1.1 PMG: 7 ^h 54 ^m						
	hG ♈	hG ♀ Dec	hG ♂ Dec	hG ♃ Dec	hG ♄ Dec	hG ♅ Dec									
h	° /	° /	° /	° /	° /	° /									
0	241 50.8	225 06.0	+5 21.4		102 02.3	+17 17.4									
1	256 53.3	240 06.3		22.1	117 03.5	17.0									
2	271 55.8	255 06.6		22.8	132 04.7	16.6									
3	286 58.2	270 06.9		23.5	147 05.9	16.1									
4	302 00.7	285 07.2		24.2	162 07.1	15.7									
5	317 03.2	300 07.5	+5 24.8		177 08.2	+17 15.3									
6	332 05.6	315 07.8	+5 25.5		192 09.4	+17 14.8									
7	347 08.1	330 08.1		26.2	207 10.6	14.4									
8	2 10.5	345 08.4		26.9	222 11.8	14.0									
9	17 13.0	0 08.7		27.6	237 13.0	13.5									
10	32 15.5	15 09.0		28.2	252 14.2	13.1									
11	47 17.9	30 09.3	+5 28.9		267 15.4	+17 12.7									
12	62 20.4	45 09.6	+5 29.6		282 16.6	+17 12.2									
13	77 22.9	60 09.9		30.3	297 17.7	11.8									
14	92 25.3	75 10.2		31.0	312 18.9	11.4									
15	107 27.8	90 10.5		31.6	327 20.1	10.9									
16	122 30.3	105 10.8		32.3	342 21.3	10.5									
17	137 32.7	120 11.1	+5 33.0		357 22.5	+17 10.1									
18	152 35.2	135 11.4	+5 33.7		12 23.7	+17 09.6									
19	167 37.7	150 11.7		34.4	27 24.9	09.2									
20	182 40.1	165 12.0		35.1	42 26.0	08.8									
21	197 42.6	180 12.3		35.8	57 27.2	08.3									
22	212 45.0	195 12.6		36.4	72 28.4	07.9									
23	227 47.5	210 12.9		37.1	87 29.6	07.5									
24	242 50.0	225 13.2	+5 37.8		102 30.8	+17 07.0									
Dif	—	+3	+7		+12	-4									

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'8 PMG:11 ^h 57.0 ^m			Edad: 27.2 ^d PHE { 4 ^h : 61'0 12 ^h : 61'0 20 ^h : 61'1 SD: 16'6 PMG: 10 ^h 14 ^m R°: 60 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	46.5	+20	57.4	212	13.7	+15	50.2	152	60 N	** **	1 47	3 01	1 55	2	19 13	122	
1	195	46.4		57.8	226	40.5	+16	05.4	151	58	** **	2 15	17	2 05	9	18 58	112	
2	210	46.3		58.3	241	07.1		20.5	151	56	0 57	36	30	14	13	45	106	
3	225	46.3		58.7	255	33.7		35.6	149	54	1 37	2 53	42	22	17	34	101	
4	240	46.2		59.2	270	00.1	+16	50.5	148	52	2 03	3 08	3 53	29	21	24	97	
5	255	46.1	+20	59.6	284	26.4	+17	05.3	147	50	2 23	3 20	4 02	2 35	25	18 15	94	
6	270	46.1	+21	00.1	298	52.6	+17	20.0	146	45	3 00	3 46	4 21	2 49	31	17 57	87	
7	285	46.0		00.5	313	18.7		34.6	146	40	26	4 05	37	3 01	35	42	82	
8	300	45.9		01.0	327	44.7	+17	49.2	146	35	3 46	21	4 50	11	39	29	78	
9	315	45.9		01.4	342	10.6	+18	03.6	144	30	4 03	35	5 01	19	43	17 18	75	
10	330	45.8		01.8	356	36.4		17.9	143	20	28	4 57	21	35	48	16 59	70	
11	345	45.7	+21	02.3	11	02.0	+18	32.0	141	10 N	4 49	5 15	5 38	3 48	54	16 43	65	
12	0	45.7	+21	02.7	25	27.6	+18	46.1	141	0	5 05	5 31	5 53	4 01	58	16 28	60	
13	15	45.6		03.2	39	53.0	+19	00.0	139	10 S	20	5 46	6 09	14	63	16 13	56	
14	30	45.5		03.6	54	18.3	+19	13.9	139	20	35	6 02	25	27	68	15 57	51	
15	45	45.5		04.0	68	43.5		27.6	137	30	49	18	44	43	74	38	47	
16	60	45.4		04.5	83	08.6		41.2	136	35	5 56	27	6 55	4 52	78	28	43	
17	75	45.3	+21	04.9	97	33.6	+19	54.6	134	40	6 04	6 37	7 07	5 03	82	15 15	40	
18	90	45.3	+21	05.4	111	58.5	+20	07.9	133	45	6 13	6 49	7 22	5 16	87	15 01	35	
19	105	45.2		05.8	126	23.2		21.1	132	50	22	7 03	40	31	94	14 44	28	
20	120	45.1		06.2	140	47.9		34.2	131	52	27	09	48	39	97	36	25	
21	135	45.1		06.7	155	12.4		47.1	129	54	31	16	7 58	47	101	27	21	
22	150	45.0		07.1	169	36.8	+20	59.9	128	56	36	24	8 08	5 56	106	17	16	
23	165	44.9		07.5	184	01.1	+21	12.5	126	58	42	32	20	6 06	113	14	05	
24	180	44.9	+21	08.0	198	25.3	+21	25.1	126	60 S	6 48	7 42	8 34	6 18	121	13 52	3	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 47.4 ^m		Mag: -4.5 PMG: 8 ^h 59 ^m		Mag: +1.2 PMG: 17 ^h 09 ^m		Mag: -1.9 PMG: 13 ^h 32 ^m		Mag: +1.1 PMG: 7 ^h 51 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	242	50.0	225	13.2	+5	37.8	102	30.8	+17	07.0	156	42.1	+23	12.0	242	00.9	-1	54.8
1	257	52.4	240	13.4		38.5	117	32.0		06.6	171	44.0		12.0	257	03.2		54.7
2	272	54.9	255	13.7		39.2	132	33.2		06.1	186	45.9		12.0	272	05.5		54.6
3	287	57.4	270	14.0		39.9	147	34.3		05.7	201	47.7		12.0	287	07.8		54.6
4	302	59.8	285	14.3		40.6	162	35.5		05.3	216	49.6		12.0	302	10.1		54.5
5	318	02.3	300	14.6	+5	41.3	177	36.7	+17	04.8	231	51.5	+23	12.1	317	12.4	-1	54.4
6	333	04.8	315	14.9	+5	41.9	192	37.9	+17	04.4	246	53.3	+23	12.1	332	14.7	-1	54.4
7	348	07.2	330	15.1		42.6	207	39.1		04.0	261	55.2		12.1	347	17.0		54.3
8	3	09.7	345	15.4		43.3	222	40.3		03.5	276	57.1		12.1	2	19.2		54.2
9	18	12.2	0	15.7		44.0	237	41.5		03.1	291	58.9		12.1	17	21.5		54.2
10	33	14.6	15	16.0		44.7	252	42.6		02.6	307	00.8		12.2	32	23.8		54.1
11	48	17.1	30	16.3	+5	45.4	267	43.8	+17	02.2	322	02.7	+23	12.2	47	26.1	-1	54.0
12	63	19.5	45	16.5	+5	46.1	282	45.0	+17	01.8	337	04.5	+23	12.2	62	28.4	-1	54.0
13	78	22.0	60	16.8		46.8	297	46.2		01.3	352	06.4		12.2	77	30.7		53.9
14	93	24.5	75	17.1		47.5	312	47.4		00.9	7	08.2		12.2	92	33.0		53.8
15	108	26.9	90	17.4		48.2	327	48.6	+17	00.5	22	10.1		12.2	107	35.3		53.8
16	123	29.4	105	17.7		48.9	342	49.7	+17	00.0	37	12.0		12.3	122	37.6		53.7
17	138	31.9	120	17.9	+5	49.6	357	50.9	+16	59.6	52	13.8	+23	12.3	137	39.8	-1	53.6
18	153	34.3	135	18.2	+5	50.3	12	52.1	+16	59.1	67	15.7	+23	12.3	152	42.1	-1	53.6
19	168	36.8	150	18.5		51.0	27	53.3		58.7	82	17.6		12.3	167	44.4		53.5
20	183	39.3	165	18.7		51.7	42	54.5		58.3	97	19.4		12.3	182	46.7		53.4
21	198	41.7	180	19.0		52.4	57	55.7		57.8	112	21.3		12.4	197	49.0		53.4
22	213	44.2	195	19.3		53.1	72	56.8		57.4	127	23.2		12.4	212	51.3		53.3
23	228	46.7	210	19.6		53.8	87	58.0		56.9	142	25.0		12.4	227	53.6		53.2
24	243	49.1	225	19.8	+5	54.5	102	59.2	+16	56.5	157	26.9	+23	12.4	242	55.9	-1	53.2
Dif	—		+3		+7		+12		-4		+19		0		+23		+	

UT	SOL			● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG: 11 ^h 57.1 ^m			Edad: 28.2 ^d SD: 16'6 PMG: 11 ^h 14 ^m PHE { 4 ^h : 61'1 12 ^h : 61'0 20 ^h : 61'0 R°: 65 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	44.9	+21	08.0	198	25.3	+21	25.1	60 N	20 57	22 13	** **	1 57	9	21 15	115			
1	195	44.8		08.4	212	49.4		37.4	58	40	21 44	** **	2 14	17	20 50	105			
2	210	44.7		08.8	227	13.3	+21	49.6	56	26	21	23 08	27 24		31	98			
3	225	44.6		09.3	241	37.2	+22	01.7	54	14	21 04	22 23	39 29		15	93			
4	240	44.6		09.7	256	00.9		13.6	52	20 03	20 49	21 55	2 50	32	20 01	90			
5	255	44.5	+21	10.1	270	24.6	+22	25.3	50	19 54	20 36	21 34	3 00	35	19 49	88			
6	270	44.4	+21	10.6	284	48.1	+22	36.9	45	19 34	20 10	20 56	3 20	41	19 24	83			
7	285	44.4		11.0	299	11.5		48.4	40	18	19 50	30	36 46		19 04	80			
8	300	44.3		11.4	313	34.8	+22	59.7	35	19 05	34	20 09	3 50	49	18 47	77			
9	315	44.2		11.8	327	58.1	+23	10.8	30	18 53	19 20	19 52	4 02	52		33	75		
10	330	44.2		12.3	342	21.2		21.7	20	34	18 58	26	23 57		18 09	71			
11	345	44.1	+21	12.7	356	44.2	+23	32.5	10 N	18 16	18 39	19 06	4 42	60	17 48	68			
12	0	44.0	+21	13.1	11	07.1	+23	43.2	0	18 01	18 23	18 49	4 59	64	17 28	66			
13	15	43.9		13.5	25	29.9	+23	53.6	10 S	17 45	18 07	33	5 17	67	17 09	63			
14	30	43.9		14.0	39	52.6	+24	03.9	20	28	17 52	19	35	72	16 48	60			
15	45	43.8		14.4	54	15.2		14.0	30	17 09	35	18 05	5 57	76	25	56			
16	60	43.7		14.8	68	37.7		23.9	35	16 58	26	17 57	6 10	79	16 11	54			
17	75	43.7	+21	15.2	83	00.1	+24	33.7	40	16 46	17 16	17 49	6 25	82	15 55	51			
18	90	43.6	+21	15.7	97	22.5	+24	43.2	45	16 31	17 04	17 40	6 43	87	15 36	47			
19	105	43.5		16.1	111	44.7	+24	52.6	50	13	16 50	30	7 05	93		12	42		
20	120	43.4		16.5	126	06.8	+25	01.8	52	16 04	43	26	16 96		15 01	39			
21	135	43.4		16.9	140	28.9		10.9	54	15 55	36	21	28 100		14 48	35			
22	150	43.3		17.3	154	50.9		19.7	56	44	29	16	42 105		33	31			
23	165	43.2		17.8	169	12.7		28.4	58	32	20	11	7 59 112		14	16	23		
24	180	43.1	+21	18.2	183	34.5	+25	36.8	60 S	15 17	16 10	17 04	8 19	124	13 55	12			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG 7 ^h 43.5 ^m			Mag: -4.5 PMG: 8 ^h 59 ^m			Mag: +1.2 PMG: 17 ^h 07 ^m			Mag: -1.9 PMG: 13 ^h 29 ^m			Mag: +1.1 PMG: 7 ^h 47 ^m						
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	243	49.1	225	19.8	+5	54.5	102	59.2	+16	56.5	157	26.9	+23	12.4	242	55.9	-1	53.2	
1	258	51.6	240	20.1		55.2	118	00.4		56.1	172	28.7		12.4	257	58.2		53.1	
2	273	54.0	255	20.4		55.9	133	01.6		55.6	187	30.6		12.5	273	00.4		53.1	
3	288	56.5	270	20.6		56.6	148	02.7		55.2	202	32.5		12.5	288	02.7		53.0	
4	303	59.0	285	20.9		57.3	163	03.9		54.7	217	34.3		12.5	303	05.0		52.9	
5	319	01.4	300	21.2	+5	58.0	178	05.1	+16	54.3	232	36.2	+23	12.5	318	07.3	-1	52.9	
6	334	03.9	315	21.4	+5	58.7	193	06.3	+16	53.8	247	38.1	+23	12.5	333	09.6	-1	52.8	
7	349	06.4	330	21.7	+5	59.4	208	07.5		53.4	262	39.9		12.5	348	11.9		52.7	
8	4	08.8	345	22.0	+6	00.1	223	08.7		53.0	277	41.8		12.6	3	14.2		52.7	
9	19	11.3	0	22.2		00.8	238	09.8		52.5	292	43.7		12.6	18	16.5		52.6	
10	34	13.8	15	22.5		01.5	253	11.0		52.1	307	45.5		12.6	33	18.8		52.5	
11	49	16.2	30	22.7	+6	02.2	268	12.2	+16	51.6	322	47.4	+23	12.6	48	21.1	-1	52.5	
12	64	18.7	45	23.0	+6	02.9	283	13.4	+16	51.2	337	49.2	+23	12.6	63	23.4	-1	52.4	
13	79	21.1	60	23.3		03.6	298	14.6		50.7	352	51.1		12.7	78	25.6		52.3	
14	94	23.6	75	23.5		04.3	313	15.7		50.3	7	53.0		12.7	93	27.9		52.3	
15	109	26.1	90	23.8		05.0	328	16.9		49.9	22	54.8		12.7	108	30.2		52.2	
16	124	28.5	105	24.0		05.7	343	18.1		49.4	37	56.7		12.7	123	32.5		52.1	
17	139	31.0	120	24.3	+6	06.4	358	19.3	+16	49.0	52	58.6	+23	12.7	138	34.8	-1	52.1	
18	154	33.5	135	24.5	+6	07.1	13	20.5	+16	48.5	68	00.4	+23	12.7	153	37.1	-1	52.0	
19	169	35.9	150	24.8		07.8	28	21.6		48.1	83	02.3		12.8	168	39.4		52.0	
20	184	38.4	165	25.0		08.5	43	22.8		47.6	98	04.1		12.8	183	41.7		51.9	
21	199	40.9	180	25.3		09.2	58	24.0		47.2	113	06.0		12.8	198	44.0		51.8	
22	214	43.3	195	25.6		09.9	73	25.2		46.8	128	07.9		12.8	213	46.3		51.8	
23	229	45.8	210	25.8		10.6	88	26.4		46.3	143	09.7		12.8	228	48.6		51.7	
24	244	48.3	225	26.1	+6	11.3	103	27.5	+16	45.9	158	11.6	+23	12.8	243	50.9	-1	51.6	
Dif	—			+3	+7		+12	-4			+19	0			+23		+1		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15/8 PMG:11 ^h 57.2 ^m				Edad: 29.2 ^d PHE { SD: 16/6 PMG: 12 ^h 17 ^m														
					R°: 66 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	180	43.1	+21	18.2	183	34.5	+25	36.8	83	60 N	**	**	1 40	2 57	2 05	22	23 09	75	
1	195	43.1		18.6	197	56.3		45.1	80	58	**	**	2 10	3 14	30	33	22 33	73	
2	210	43.0		19.0	212	17.9	+25	53.1	79	56	0	46	32	28	2 50	39	22 07	72	
3	225	42.9		19.4	226	39.5	+26	01.0	77	54	1	31	2 50	40	3 06	44	21 47	71	
4	240	42.8		19.8	241	01.0		08.7	75	52	1	59	3 05	3 50	21	46	30	70	
5	255	42.8	+21	20.2	255	22.4	+26	16.2	73	50	2	20	3 18	4 00	3 33	49	21 15	70	
6	270	42.7	+21	20.7	269	43.8	+26	23.5	71	45	2	57	3 44	4 20	4 00	52	20 45	70	
7	285	42.6		21.1	284	05.1		30.6	69	40	3	24	4 04	36	20	56	22	69	
8	300	42.5		21.5	298	26.3		37.5	66	35	3	45	20	4 49	38	57	20 03	68	
9	315	42.5		21.9	312	47.5		44.1	65	30	4	02	34	5 01	4 53	59	19 47	68	
10	330	42.4		22.3	327	08.6		50.6	63	20		28	4 56	21	5 19	61	19 19	67	
11	345	42.3	+21	22.7	341	29.7	+26	56.9	61	10 N	4	48	5 15	5 38	5 41	64	18 55	67	
12	0	42.2	+21	23.1	355	50.7	+27	03.0	58	0	5	06	5 31	5 54	6 02	65	18 33	66	
13	15	42.2		23.5	10	11.7		08.8	57	10 S	21	5	47	6 09	23	67	18 11	65	
14	30	42.1		24.0	24	32.6		14.5	54	20		35	6 02	26	6 46	69	17 47	64	
15	45	42.0		24.4	38	53.5		19.9	53	30		50	19	45	7 12	72	20	62	
16	60	41.9		24.8	53	14.3		25.2	50	35	5	57	29	6 56	28	73	17 03	62	
17	75	41.8	+21	25.2	67	35.1	+27	30.2	48	40	6	06	6 39	7 09	7 46	74	16 44	61	
18	90	41.8	+21	25.6	81	55.9	+27	35.0	46	45	6	14	6 51	7 24	8 08	77	16 22	59	
19	105	41.7		26.0	96	16.6		39.6	44	50		24	7 05	42	37	79	15 53	57	
20	120	41.6		26.4	110	37.3		44.0	42	52		29	11	7 51	8 50	82	38	56	
21	135	41.5		26.8	124	58.0		48.2	39	54		34	18	8 00	9 07	83	22	54	
22	150	41.5		27.2	139	18.7		52.1	38	56		39	26	11	26	86	15	02	52
23	165	41.4		27.6	153	39.4		55.9	35	58		44	35	24	9 50	90	14 38	47	
24	180	41.3	+21	28.0	168	00.0	+27	59.4	35	60 S	6	50	7 45	8 38	10 21	101	14 06	37	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 7 ^h 39.5 ^m		Mag: -4.5 PMG: 8 ^h 58 ^m		Mag: +1.2 PMG: 17 ^h 05 ^m		Mag: -1.9 PMG: 13 ^h 26 ^m		Mag: +1.1 PMG: 7 ^h 43 ^m										
	hG ♈	Dec			hG ♀	Dec			hG ♃	Dec			hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	244	48.3	225	26.1	+6	11.3	103	27.5	+16	45.9	158	11.6	+23	12.8	243	50.9			
1	259	50.7	240	26.3		12.1	118	28.7		45.4	173	13.4		12.9	258	53.2			
2	274	53.2	255	26.6		12.8	133	29.9		45.0	188	15.3		12.9	273	55.4			
3	289	55.6	270	26.8		13.5	148	31.1		44.5	203	17.2		12.9	288	57.7			
4	304	58.1	285	27.0		14.2	163	32.3		44.1	218	19.0		12.9	304	00.0			
5	320	00.6	300	27.3	+6	14.9	178	33.4	+16	43.6	233	20.9	+23	12.9	319	02.3			
6	335	03.0	315	27.5	+6	15.6	193	34.6	+16	43.2	248	22.8	+23	12.9	334	04.6			
7	350	05.5	330	27.8		16.3	208	35.8		42.7	263	24.6		13.0	349	06.9			
8	5	08.0	345	28.0		17.0	223	37.0		42.3	278	26.5		13.0	4	09.2			
9	20	10.4	0	28.3		17.7	238	38.2		41.9	293	28.3		13.0	19	11.5			
10	35	12.9	15	28.5		18.5	253	39.3		41.4	308	30.2		13.0	34	13.8			
11	50	15.4	30	28.8	+6	19.2	268	40.5	+16	41.0	323	32.1	+23	13.0	49	16.1			
12	65	17.8	45	29.0	+6	19.9	283	41.7	+16	40.5	338	33.9	+23	13.1	64	18.4			
13	80	20.3	60	29.2		20.6	298	42.9		40.1	353	35.8		13.1	79	20.7			
14	95	22.8	75	29.5		21.3	313	44.0		39.6	8	37.6		13.1	94	23.0			
15	110	25.2	90	29.7		22.0	328	45.2		39.2	23	39.5		13.1	109	25.3			
16	125	27.7	105	30.0		22.7	343	46.4		38.7	38	41.4		13.1	124	27.6			
17	140	30.1	120	30.2	+6	23.5	358	47.6	+16	38.3	53	43.2	+23	13.1	139	29.9			
18	155	32.6	135	30.4	+6	24.2	13	48.8	+16	37.8	68	45.1	+23	13.2	154	32.2			
19	170	35.1	150	30.7		24.9	28	49.9		37.4	83	47.0		13.2	169	34.5			
20	185	37.5	165	30.9		25.6	43	51.1		36.9	98	48.8		13.2	184	36.7			
21	200	40.0	180	31.1		26.3	58	52.3		36.5	113	50.7		13.2	199	39.0			
22	215	42.5	195	31.4		27.0	73	53.5		36.0	128	52.5		13.2	214	41.3			
23	230	44.9	210	31.6		27.8	88	54.6		35.6	143	54.4		13.2	229	43.6			
24	245	47.4	225	31.8	+6	28.5	103	55.8	+16	35.1	158	56.3	+23	13.3	244	45.9			
Dif	—		+2		+7		+12		-4		+19		0		+23		+1		

UT	SOL			● LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 57.3 ^m			Edad: 30.2 ^d SD: 16'5 PMG: 13 ^h 23 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec			Dif	Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	41.3	+21	28.0	168	00.0	+27 59.4	60 N	21 01	22 20	** **	2 27 64	** **	23 46 40	
1	195	41.2		28.4	182	20.6	+28 02.8	58	20 44	21 49	** **	3 03 66	23 46 40	23 19 45	
2	210	41.1		28.8	196	41.2	05.9	56	29	25	23 21	29 67	23 19 45	22 58 48	
3	225	41.1		29.2	211	01.8	08.8	54	17	21 07	22 29	3 50 67	22 58 48	41 50	
4	240	41.0		29.6	225	22.5	11.5	52	20 06	20 52	21 59	4 07 67	41 50	22 25 52	
5	255	40.9	+21	30.0	239	43.1	+28 13.9	50	19 56	20 39	21 38	4 22 67	22 25 52	21 55 55	
6	270	40.8	+21	30.4	254	03.7	+28 16.2	45	19 36	20 12	20 59	4 52 67	21 55 55	31 57	
7	285	40.7		30.8	268	24.3	18.2	40	20	19 52	32	5 16 67	31 57	21 11 59	
8	300	40.7		31.2	282	45.0	20.0	35	19 06	35	20 11	5 52 67	20 55 60	26 62	
9	315	40.6		31.6	297	05.6	21.6	30	18 54	19 21	19 54	6 20 67	20 55 60	19 39 64	
10	330	40.5		32.0	311	26.3	23.0	20	34	18 59	27	7 07 67	19 16 66	18 51 68	
11	345	40.4	+21	32.4	325	47.0	+28 24.2	10 N	18 17	18 40	19 06	8 24 64	20 02 63	18 05 70	
12	0	40.3	+21	32.8	340	07.7	+28 25.2	0	18 01	18 23	18 49	9 00 64	17 45 72	17 21 73	
13	15	40.3		33.2	354	28.5	25.9	10 S	17 45	18 08	34	9 56 61	16 50 74	34 76	
14	30	40.2		33.6	8 49.3	18	26.5	20	28	17 52	19	10 12 60	16 16 77	15 54 79	
15	45	40.1		34.0	23 10.1	18	26.8	30	17 09	35	18 04	11 20 55	15 25 83	14 43 90	
16	60	40.0		34.4	37 31.0	19	26.9	35	16 58	25	17 56	8 24 64	18 05 70		
17	75	39.9	+21	34.7	51 51.9	19	+28 26.8	40	16 45	17 15	17 48	9 00 64	17 45 72		
18	90	39.9	+21	35.1	66 12.9	20	+28 26.5	45	16 30	17 03	17 39	9 25 63	17 21 73		
19	105	39.8		35.5	80 33.9	20	26.0	50	11	16 48	29	9 56 61	16 50 74		
20	120	39.7		35.9	94 54.9	20	25.3	52	16 02	42	24	10 12 60	34 76		
21	135	39.6		36.3	109 16.0	21	24.4	54	15 53	35	20	30 59	16 16 77		
22	150	39.5		36.7	123 37.2	22	23.2	56	42	27	14	10 52 58	15 54 79		
23	165	39.4		37.1	137 58.5	23	21.9	58	29	18	09	11 20 55	15 25 83		
24	180	39.4	+21	37.5	152 19.8	23	+28 20.3	60 S	15 14	16 08	17 02	12 02 48	14 43 90		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG 7 ^h 35.6 ^m		Mag: -4.4 PMG: 8 ^h 58 ^m		Mag: +1.2 PMG: 17 ^h 03 ^m		Mag: -1.9 PMG: 13 ^h 23 ^m		Mag: +1.1 PMG: 7 ^h 40 ^m		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	
0	245	47.4	225	31.8	+6 28.5	103 55.8	+16 35.1	158 56.3	+23 13.3	244 45.9	-1 50.1
1	260	49.9	240	32.1	29.2	118 57.0	34.7	173 58.1	13.3	259 48.2	50.1
2	275	52.3	255	32.3	29.9	133 58.2	34.2	189 00.0	13.3	274 50.5	50.0
3	290	54.8	270	32.5	30.6	148 59.3	33.8	204 01.8	13.3	289 52.8	49.9
4	305	57.3	285	32.8	31.3	164 00.5	33.3	219 03.7	13.3	304 55.1	49.9
5	320	59.7	300	33.0	+6 32.1	179 01.7	+16 32.9	234 05.6	+23 13.3	319 57.4	-1 49.8
6	336	02.2	315	33.2	+6 32.8	194 02.9	+16 32.4	249 07.4	+23 13.4	334 59.7	-1 49.7
7	351	04.6	330	33.4	33.5	209 04.0	32.0	264 09.3	13.4	350 02.0	49.7
8	6	07.1	345	33.7	34.2	224 05.2	31.5	279 11.1	13.4	5 04.3	49.6
9	21	09.6	0	33.9	35.0	239 06.4	31.1	294 13.0	13.4	20 06.6	49.6
10	36	12.0	15	34.1	35.7	254 07.6	30.6	309 14.9	13.4	35 08.9	49.5
11	51	14.5	30	34.3	+6 36.4	269 08.7	+16 30.2	324 16.7	+23 13.4	50 11.2	-1 49.4
12	66	17.0	45	34.6	+6 37.1	284 09.9	+16 29.7	339 18.6	+23 13.4	65 13.5	-1 49.4
13	81	19.4	60	34.8	37.8	299 11.1	29.3	354 20.4	13.5	80 15.8	49.3
14	96	21.9	75	35.0	38.6	314 12.3	28.8	9 22.3	13.5	95 18.1	49.2
15	111	24.4	90	35.2	39.3	329 13.4	28.4	24 24.2	13.5	110 20.4	49.2
16	126	26.8	105	35.4	40.0	344 14.6	27.9	39 26.0	13.5	125 22.7	49.1
17	141	29.3	120	35.7	+6 40.7	359 15.8	+16 27.5	54 27.9	+23 13.5	140 25.0	-1 49.1
18	156	31.8	135	35.9	+6 41.5	14 17.0	+16 27.0	69 29.7	+23 13.5	155 27.3	-1 49.0
19	171	34.2	150	36.1	42.2	29 18.1	26.6	84 31.6	13.6	170 29.6	48.9
20	186	36.7	165	36.3	42.9	44 19.3	26.1	99 33.5	13.6	185 31.9	48.9
21	201	39.1	180	36.5	43.6	59 20.5	25.7	114 35.3	13.6	200 34.2	48.8
22	216	41.6	195	36.7	44.4	74 21.7	25.2	129 37.2	13.6	215 36.5	48.8
23	231	44.1	210	37.0	45.1	89 22.8	24.8	144 39.0	13.6	230 38.8	48.7
24	246	46.5	225	37.2	+6 45.8	104 24.0	+16 24.3	159 40.9	+23 13.6	245 41.1	-1 48.6
Dif	—		+2	+7		+12	-5	+19	0	+23	+1

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15 ^h 8 PMG:11 ^h 57.4 ^m			Edad: 1.9 ^d PHE { 4 ^h : 59 ^h 7 12 ^h : 59 ^h 4 20 ^h : 59 ^h 1 R°: 60 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	180	39.4	+21	37.5	152	19.8	23	+28	20.3	17	60 N	1 34	2 54	3 30	102	0 24 28
1	195	39.3		37.9	166	41.1	25		18.6	20	58	2 06	3 11	4 08	92	** ** *
2	210	39.2		38.2	181	02.6	25		16.6	21	56	0 33	29	34	87	** ** *
3	225	39.1		38.6	195	24.1	25		14.5	21	54	1 26	2 47	38	4 55	83
4	240	39.0		39.0	209	45.7	26		12.1	24	52	1 55	3 03	48	5 13	80
5	255	38.9	+21	39.4	224	07.3	26	+28	09.6	25	50	2 17	3 16	3 58	5 28	78
6	270	38.8	+21	39.8	238	29.1	28	+28	06.8	28	45	2 55	3 42	4 18	5 58	75
7	285	38.8		40.2	252	50.9	30		03.8	30	40	3 23	4 03	35	6 22	72
8	300	38.7		40.5	267	12.9	30	+28	00.7	31	35	3 44	19	4 48	41	70
9	315	38.6		40.9	281	34.9	30	+27	57.4	33	30	4 01	33	5 00	6 58	68
10	330	38.5		41.3	295	57.0	31		53.8	36	20	27	4 56	20	7 26	65
11	345	38.4	+21	41.7	310	19.2	32	+27	50.1	37	10 N	4 48	5 15	5 38	7 50	63
12	0	38.3	+21	42.1	324	41.5	33	+27	46.2	39	0	5 06	5 32	5 54	8 12	61
13	15	38.3		42.4	339	03.9	34		42.1	41	10 S	21	5 47	6 10	35	59
14	30	38.2		42.8	353	26.4	35		37.8	43	20	36	6 03	27	8 59	56
15	45	38.1		43.2	7	49.0	36		33.3	45	30	51	20	46	9 27	53
16	60	38.0		43.6	22	11.7	37		28.6	47	35	5 59	30	6 57	9 44	51
17	75	37.9	+21	43.9	36	34.5	38	+27	23.8	48	40	6 07	6 40	7 10	10 03	49
18	90	37.8	+21	44.3	50	57.5	40	+27	18.8	50	45	6 16	6 53	7 26	10 26	46
19	105	37.7		44.7	65	20.5	40		13.6	52	50	26	7 07	44	10 56	41
20	120	37.6		45.1	79	43.7	42		08.2	54	52	31	13	7 53	11 11	39
21	135	37.6		45.4	94	06.9	42	+27	02.6	56	54	36	21	8 03	28	35
22	150	37.5		45.8	108	30.3	44	+26	56.9	57	56	41	29	14	11 48	31
23	165	37.4		46.2	122	53.8	45		51.0	59	58	47	38	27	12 14	25
24	180	37.3	+21	46.6	137	17.5	47	+26	45.0	60	60 S	6 53	7 48	8 42	12 49	13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 ^h 31.7 ^m		Mag: -4.4 PMG: 8 ^h 57 ^m		Mag: +1.2 PMG: 17 ^h 01 ^m		Mag: -1.9 PMG: 13 ^h 20 ^m		Mag: +1.1 PMG: 7 ^h 36 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec
h	°	'	°	'	°	'	°	'	°	'
0	246	46.5	225	37.2	+6	45.8	104	24.0	+16	24.3
1	261	49.0	240	37.4		46.5	119	25.2		23.8
2	276	51.5	255	37.6		47.3	134	26.4		23.4
3	291	53.9	270	37.8		48.0	149	27.5		22.9
4	306	56.4	285	38.0		48.7	164	28.7		22.5
5	321	58.9	300	38.2	+6	49.5	179	29.9	+16	22.0
6	337	01.3	315	38.4	+6	50.2	194	31.1	+16	21.6
7	352	03.8	330	38.7		50.9	209	32.2		21.1
8	7	06.3	345	38.9		51.6	224	33.4		20.7
9	22	08.7	0	39.1		52.4	239	34.6		20.2
10	37	11.2	15	39.3		53.1	254	35.8		19.8
11	52	13.6	30	39.5	+6	53.8	269	36.9	+16	19.3
12	67	16.1	45	39.7	+6	54.6	284	38.1	+16	18.8
13	82	18.6	60	39.9		55.3	299	39.3		18.4
14	97	21.0	75	40.1		56.0	314	40.4		17.9
15	112	23.5	90	40.3		56.8	329	41.6		17.5
16	127	26.0	105	40.5		57.5	344	42.8		17.0
17	142	28.4	120	40.7	+6	58.2	359	44.0	+16	16.6
18	157	30.9	135	40.9	+6	59.0	14	45.1	+16	16.1
19	172	33.4	150	41.1	+6	59.7	29	46.3		15.7
20	187	35.8	165	41.3	+7	00.4	44	47.5		15.2
21	202	38.3	180	41.5		01.2	59	48.6		14.7
22	217	40.8	195	41.7		01.9	74	49.8		14.3
23	232	43.2	210	41.9		02.6	89	51.0		13.8
24	247	45.7	225	42.1	+7	03.4	104	52.2	+16	13.4
Dif	—		+2		+7		+12		-5	
							+19		0	
									+23	+1

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15 ^h 8 PMG: 11 ^h 57.6 ^m		Edad: 2.9 ^d SD: 16'1 PMG: 15 ^h 27 ^m		PHE { 4 ^h : 58'8 12 ^h : 58'5 20 ^h : 58'2 R°: 56 ^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	180 37.3	+21 46.6	137 17.5		+26 45.0	63	60 N	21 04	22 27	** **	5 12 11	0 52 10		
1	195 37.2		46.9	151 41.2	47 38.7	64	58	20 47	21 53	** **	5 40 10	24 20		
2	210 37.1		47.3	166 05.1	50 32.3	65	56		32 29	23 41	6 01 95	0 03 25		
3	225 37.0		47.7	180 29.1	51 25.8	66	54		19 21	10 22 35	18 91	** ** *		
4	240 36.9		48.0	194 53.2	51 19.0	68	52	20 08	20 55	22 04	33 87	** ** *		
5	255 36.9	+21	48.4	209 17.5	53 +26 12.1	69	50	19 59	20 41	21 41	6 46 84	23 50 25		
6	270 36.8	+21	48.8	223 41.9	54 +26 05.1	70	45	19 38	20 14	21 02	7 13 78	23 28 31		
7	285 36.7		49.1	238 06.4	55 +25 57.9	72	40		21 19	54 20 34	34 74	23 10 35		
8	300 36.6		49.5	252 31.0	56 50.5	74	35	19 08		37 20 12	7 51 71	22 55 38		
9	315 36.5		49.9	266 55.8	58 43.0	75	30	18 56	19 23	19 55	8 06 68	42 41		
10	330 36.4		50.2	281 20.7	59 35.4	76	20		35 18 59	28	31 64	22 19 46		
11	345 36.3	+21	50.6	295 45.8	61 +25 27.6	78	10 N	18 18	18 40	19 07	8 53 60	21 59 50		
12	0 36.2	+21	51.0	310 10.9	61 +25 19.6	80	0	18 01	18 23	18 49	9 13 57	21 41 54		
13	15 36.1		51.3	324 36.2	63 11.5	81	10 S	17 45	18 08		34 53	22 58		
14	30 36.0		51.7	339 01.7	65 +25 03.3	82	20		28 17 52	19	9 55 50	21 02 62		
15	45 36.0		52.0	353 27.3	66 +24 54.9	84	30	17 08		34 18 04	10 20 45	20 38 67		
16	60 35.9		52.4	7 53.0	67 46.3	86	35	16 57		25 17 56	35 42	25 70		
17	75 35.8	+21	52.8	22 18.8	68 +24 37.7	86	40	16 44	17 14	17 47	10 52 39	20 09 73		
18	90 35.7	+21	53.1	36 44.8	70 +24 28.9	88	45	16 28	17 02	17 38	11 12 35	19 49 78		
19	105 35.6		53.5	51 10.9	71 20.0	89	50		10 16 47	28	37 30	25 84		
20	120 35.5		53.8	65 37.2	73 10.9	91	52	16 01		40 23	11 50 26	13 87		
21	135 35.4		54.2	80 03.6	74 +24 01.7	92	54	15 51		33 18	12 03 23	19 00 91		
22	150 35.3		54.5	94 30.2	76 +23 52.4	93	56		39 25	13	19 19	18 44 96		
23	165 35.2		54.9	108 56.8	76 43.0	94	58		26 16	07	12 39 13	26 101		
24	180 35.1	+21	55.3	123 23.6	78 +23 33.4	96	60 S	15 11	16 05	17 00	13 02 5	18 03 109		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 ^h 27.7 ^m		Mag: -4.4 PMG: 8 ^h 57 ^m		Mag: +1.3 PMG: 16 ^h 59 ^m		Mag: -1.9 PMG: 13 ^h 17 ^m		Mag: +1.1 PMG: 7 ^h 32 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /		° /		° /	
0	247 45.7		225 42.1	+7 03.4	104 52.2	+16 13.4	160 25.5	+23 14.0	246 36.3	-1 47.2
1	262 48.1		240 42.3	04.1	119 53.3	12.9	175 27.4	14.0	261 38.6	47.1
2	277 50.6		255 42.5	04.8	134 54.5	12.5	190 29.2	14.0	276 40.9	47.1
3	292 53.1		270 42.7	05.6	149 55.7	12.0	205 31.1	14.0	291 43.2	47.0
4	307 55.5		285 42.9	06.3	164 56.8	11.5	220 32.9	14.1	306 45.5	46.9
5	322 58.0		300 43.1	+7 07.0	179 58.0	+16 11.1	235 34.8	+23 14.1	321 47.8	-1 46.9
6	338 00.5		315 43.3	+7 07.8	194 59.2	+16 10.6	250 36.6	+23 14.1	336 50.1	-1 46.8
7	353 02.9		330 43.5	08.5	210 00.4	10.2	265 38.5	14.1	351 52.4	46.8
8	8 05.4		345 43.6	09.3	225 01.5	09.7	280 40.4	14.1	6 54.7	46.7
9	23 07.9		0 43.8	10.0	240 02.7	09.2	295 42.2	14.1	21 57.0	46.6
10	38 10.3		15 44.0	10.7	255 03.9	08.8	310 44.1	14.1	36 59.3	46.6
11	53 12.8		30 44.2	+7 11.5	270 05.0	+16 08.3	325 45.9	+23 14.2	52 01.6	-1 46.5
12	68 15.3		45 44.4	+7 12.2	285 06.2	+16 07.9	340 47.8	+23 14.2	67 03.9	-1 46.5
13	83 17.7		60 44.6	12.9	300 07.4	07.4	355 49.6	14.2	82 06.2	46.4
14	98 20.2		75 44.8	13.7	315 08.5	06.9	10 51.5	14.2	97 08.5	46.3
15	113 22.6		90 45.0	14.4	330 09.7	06.5	25 53.4	14.2	112 10.8	46.3
16	128 25.1		105 45.2	15.2	345 10.9	06.0	40 55.2	14.2	127 13.1	46.2
17	143 27.6		120 45.3	+7 15.9	0 12.1	+16 05.6	55 57.1	+23 14.2	142 15.4	-1 46.2
18	158 30.0		135 45.5	+7 16.6	15 13.2	+16 05.1	70 58.9	+23 14.3	157 17.7	-1 46.1
19	173 32.5		150 45.7	17.4	30 14.4	04.6	86 00.8	14.3	172 20.0	46.1
20	188 35.0		165 45.9	18.1	45 15.6	04.2	101 02.6	14.3	187 22.3	46.0
21	203 37.4		180 46.1	18.9	60 16.7	03.7	116 04.5	14.3	202 24.6	45.9
22	218 39.9		195 46.2	19.6	75 17.9	03.3	131 06.3	14.3	217 27.0	45.9
23	233 42.4		210 46.4	20.4	90 19.1	02.8	146 08.2	14.3	232 29.3	45.8
24	248 44.8		225 46.6	+7 21.1	105 20.2	+16 02.3	161 10.1	+23 14.3	247 31.6	-1 45.8
Dif	—		+2	+7	+12	-5	+19	0	+23	+1

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:11 ^h 57.7 ^m				Edad: 3.9 ^d PHE { 4 ^h : 57'9 12 ^h : 57'6 20 ^h : 57'3 R°: 49 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	35.1	+21	55.3	123	23.6			+23	33.4			60 N	** **	1 28	2 50	7 01	103	1 01 3	
1	195	35.0		55.6	137	50.6	80			23.7	97		58	** **	2 02	3 08	19 96	0 42	9	
2	210	34.9		56.0	152	17.7	81			13.9	98		56	** **	26	23	35 91	26	14	
3	225	34.9		56.3	166	44.9	82		+23	04.0	99		54	1 20	2 45	36	48 86	13	18	
4	240	34.8		56.7	181	12.3	84		+22	53.9	101		52	1 51	3 00	47	7 59 83	0 01	2	
5	255	34.7	+21	57.0	195	39.8	85		+22	43.8	101		50	2 14	3 14	3 56	8 09 80	** ** *		
6	270	34.6	+21	57.4	210	07.4	86		+22	33.5	103		45	2 54	3 41	4 17	8 30 75	23 57	23	
7	285	34.5		57.7	224	35.2	88			23.1	104		40	3 21	4 02	34	8 47 70	44	27	
8	300	34.4		58.1	239	03.1	89			12.7	104		35	3 43	18	4 48	9 01 66	32	30	
9	315	34.3		58.4	253	31.1	90		+22	02.1	106		30	4 00	33	5 00	13 64	22	33	
10	330	34.2		58.8	267	59.3	92		+21	51.4	107		20	27	4 56	20	34 58	23 04	39	
11	345	34.1	+21	59.1	282	27.6	93		+21	40.6	108		10 N	4 48	5 15	5 38	9 52 54	22 48	43	
12	0	34.0	+21	59.5	296	56.1	95		+21	29.7	109		0	5 06	5 32	5 54	10 09 50	22 33	48	
13	15	33.9	+21	59.8	311	24.7	96			18.7	110		10 S	22	5 48	6 10	26 45	19	51	
14	30	33.8	+22	00.2	325	53.4	97		+21	07.6	111		20	37	6 04	28	10 44 41	22 03	56	
15	45	33.7		00.5	340	22.2	98		+20	56.4	112		30	5 52	21	47	11 04 36	21 44	62	
16	60	33.6		00.8	354	51.2	100			45.1	113		35	6 00	31	6 59	16 33	33	65	
17	75	33.5	+22	01.2	9	20.3	101		+20	33.7	114		40	6 08	6 42	7 12	11 30 29	21 21	68	
18	90	33.4	+22	01.5	23	49.5	102		+20	22.3	114		45	6 17	6 54	7 27	11 46 25	21 06	73	
19	105	33.4		01.9	38	18.9	104		+20	10.7	116		50	28	7 09	46	12 05 20	20 48	79	
20	120	33.3		02.2	52	48.4	105		+19	59.1	116		52	33	16	7 55	15 17	39	82	
21	135	33.2		02.6	67	18.0	106			47.4	117		54	38	23	8 05	25 14	29	85	
22	150	33.1		02.9	81	47.8	108			35.5	119		56	43	31	17	37 10	18	89	
23	165	33.0		03.2	96	17.6	108			23.7	118		58	49	40	30	12 50 6	20 06	93	
24	180	32.9	+22	03.6	110	47.6	110		+19	11.7	120		60 S	6 56	7 51	8 45	13 06 1	19 51	98	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 7 ^h 23.8 ^m		Mag: -4.4 PMG: 8 ^h 57 ^m		Mag: +1.3 PMG: 16 ^h 57 ^m		Mag: -1.9 PMG: 13 ^h 14 ^m		Mag: +1.1 PMG: 7 ^h 29 ^m											
	hG ♊		hG ♀		hG ♂		hG ♃		hG ♄											
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	248	44.8	225	46.6	+7	21.1	105	20.2	+16	02.3	161	10.1	+23	14.3	247	31.6	-1	45.8		
1	263	47.3	240	46.8		21.8	120	21.4		01.9	176	11.9		14.4	262	33.9		45.7		
2	278	49.8	255	47.0		22.6	135	22.6		01.4	191	13.8		14.4	277	36.2		45.6		
3	293	52.2	270	47.1		23.3	150	23.7		01.0	206	15.6		14.4	292	38.5		45.6		
4	308	54.7	285	47.3		24.1	165	24.9	+16	00.5	221	17.5		14.4	307	40.8		45.5		
5	323	57.1	300	47.5	+7	24.8	180	26.1	+16	00.0	236	19.3	+23	14.4	322	43.1	-1	45.5		
6	338	59.6	315	47.7	+7	25.6	195	27.3	+15	59.6	251	21.2	+23	14.4	337	45.4	-1	45.4		
7	354	02.1	330	47.8		26.3	210	28.4		59.1	266	23.1		14.4	352	47.7		45.4		
8	9	04.5	345	48.0		27.0	225	29.6		58.6	281	24.9		14.5	7	50.0		45.3		
9	24	07.0	0	48.2		27.8	240	30.8		58.2	296	26.8		14.5	22	52.3		45.2		
10	39	09.5	15	48.4		28.5	255	31.9		57.7	311	28.6		14.5	37	54.6		45.2		
11	54	11.9	30	48.5	+7	29.3	270	33.1	+15	57.3	326	30.5	+23	14.5	52	56.9	-1	45.1		
12	69	14.4	45	48.7	+7	30.0	285	34.3	+15	56.8	341	32.3	+23	14.5	67	59.2	-1	45.1		
13	84	16.9	60	48.9		30.8	300	35.4		56.3	356	34.2		14.5	83	01.5		45.0		
14	99	19.3	75	49.0		31.5	315	36.6		55.9	11	36.0		14.5	98	03.8		45.0		
15	114	21.8	90	49.2		32.3	330	37.8		55.4	26	37.9		14.5	113	06.2		44.9		
16	129	24.2	105	49.4		33.0	345	38.9		54.9	41	39.8		14.6	128	08.5		44.8		
17	144	26.7	120	49.6	+7	33.8	0	40.1	+15	54.5	56	41.6	+23	14.6	143	10.8	-1	44.8		
18	159	29.2	135	49.7	+7	34.5	15	41.3	+15	54.0	71	43.5	+23	14.6	158	13.1	-1	44.7		
19	174	31.6	150	49.9		35.3	30	42.4		53.5	86	45.3		14.6	173	15.4		44.7		
20	189	34.1	165	50.1		36.0	45	43.6		53.1	101	47.2		14.6	188	17.7		44.6		
21	204	36.6	180	50.2		36.8	60	44.8		52.6	116	49.0		14.6	203	20.0		44.6		
22	219	39.0	195	50.4		37.5	75	45.9		52.1	131	50.9		14.6	218	22.3		44.5		
23	234	41.5	210	50.5		38.2	90	47.1		51.7	146	52.7		14.7	233	24.6		44.4		
24	249	44.0	225	50.7	+7	39.0	105	48.3	+15	51.2	161	54.6	+23	14.7	248	26.9	-1	44.4		
Dif	—		+2		+7		+12		-5		+19		0		+23		+1			

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 57.9 ^m				Edad: 4.9 ^d SD: 15'6 PMG: 17 ^h 10 ^m PHE { 4 ^h : 57'0 12 ^h : 56'7 20 ^h : 56'4 R°: 46 ^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	180	32.9	+22	03.6	110	47.6	+19	11.7	60 N	21 08	22 33	** **	8 44	95	1 04	2
1	195	32.8		03.9	125	17.8 ¹¹²	+18	59.6 ¹²¹	58	20 50	21 58	** **	8 55	91	0 51	7
2	210	32.7		04.3	139	48.0 ¹¹²		47.5 ¹²¹	56	35	33	** **	9 06	86	40	10
3	225	32.6		04.6	154	18.4 ¹¹⁴		35.3 ¹²²	54	22	21 13	22 40	14	84	31	13
4	240	32.5		04.9	168	48.8 ¹¹⁴		23.0 ¹²³	52	11	20 57	22 08	22	81	22	16
5	255	32.4	+22	05.3	183	19.5 ¹¹⁷	+18	10.7 ¹²³	50	20 01	20 44	21 44	9 29	78	0 14	19
6	270	32.3	+22	05.6	197	50.2 ¹¹⁷	+17	58.3 ¹²⁴	45	19 40	20 16	21 04	9 45	72	** **	** **
7	285	32.2		05.9	212	21.0 ¹¹⁸		45.8 ¹²⁵	40	23	19 55	20 36	9 57	68	** **	** **
8	300	32.1		06.3	226	52.0 ¹²⁰		33.2 ¹²⁶	35	19 09	38	20 14	10 07	65	** **	** **
9	315	32.0		06.6	241	23.0 ¹²⁰		20.6 ¹²⁶	30	18 57	24	19 56	17 61	61	23 55	31
10	330	31.9		06.9	255	54.2 ¹²²	+17	07.9 ¹²⁷	20	36	19 00	29	32	56	43	35
11	345	31.8	+22	07.3	270	25.5 ¹²³	+16	55.2 ¹²⁷	10 N	18 18	18 41	19 08	10 46	51	23 31	41
12	0	31.7	+22	07.6	284	56.9 ¹²⁴	+16	42.4 ¹²⁸	0	18 02	18 24	18 50	10 59	46	23 21	45
13	15	31.6		07.9	299	28.5 ¹²⁶		29.5 ¹²⁹	10 S	17 45	18 08	34	11 11	43	23 10	49
14	30	31.5		08.3	314	00.1 ¹²⁶		16.6 ¹²⁹	20	28	17 51	19	25	38	22 59	54
15	45	31.4		08.6	328	31.8 ¹²⁷	+16	03.6 ¹³⁰	30	17 08	34	18 03	40	33	46	59
16	60	31.3		08.9	343	03.7 ¹²⁹	+15	50.5 ¹³¹	35	16 56	24	17 55	49	29	38	63
17	75	31.2	+22	09.2	357	35.6 ¹²⁹	+15	37.4 ¹³¹	40	16 43	17 13	17 47	11 59	26	22 29	66
18	90	31.1	+22	09.6	12	07.7 ¹³¹	+15	24.3 ¹³¹	45	16 27	17 01	17 37	12 11	22	22 19	70
19	105	31.0		09.9	26	39.8 ¹³¹	+15	11.1 ¹³²	50	16 08	16 46	27	25	17	07	75
20	120	30.9		10.2	41	12.1 ¹³³	+14	57.8 ¹³³	52	15 59	39	22	32	14	22 01	78
21	135	30.8		10.5	55	44.4 ¹³³		44.5 ¹³³	54	49	31	17	39	11	21 54	81
22	150	30.7		10.9	70	16.9 ¹³⁵		31.2 ¹³³	56	37	23	11	47	8	47	84
23	165	30.6		11.2	84	49.4 ¹³⁵		17.8 ¹³⁴	58	24	14	17 05	12 56	5	39	88
24	180	30.5	+22	11.5	99	22.1 ¹³⁷	+14	04.3 ¹³⁵	60 S	15 09	16 03	16 59	13 07	0	21 29	93

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 7 ^h 19.9 ^m		Mag: -4.4 PMG: 8 ^h 57 ^m		Mag: +1.3 PMG: 16 ^h 55 ^m		Mag: -1.9 PMG: 13 ^h 11 ^m		Mag: +1.1 PMG: 7 ^h 25 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	249	44.0	225	50.7	+7	39.0	105	48.3	+15	51.2	161	54.6	+23	14.7	248	26.9	-1	44.4
1	264	46.4	240	50.9		39.7	120	49.4		50.7	176	56.5		14.7	263	29.2		44.3
2	279	48.9	255	51.0		40.5	135	50.6		50.3	191	58.3		14.7	278	31.5		44.3
3	294	51.4	270	51.2		41.2	150	51.8		49.8	207	00.2		14.7	293	33.8		44.2
4	309	53.8	285	51.3		42.0	165	52.9		49.3	222	02.0		14.7	308	36.2		44.2
5	324	56.3	300	51.5	+7	42.7	180	54.1	+15	48.9	237	03.9	+23	14.7	323	38.5	-1	44.1
6	339	58.7	315	51.7	+7	43.5	195	55.3	+15	48.4	252	05.7	+23	14.7	338	40.8	-1	44.0
7	355	01.2	330	51.8		44.2	210	56.4		47.9	267	07.6		14.8	353	43.1		44.0
8	10	03.7	345	52.0		45.0	225	57.6		47.5	282	09.4		14.8	8	45.4		43.9
9	25	06.1	0	52.1		45.8	240	58.8		47.0	297	11.3		14.8	23	47.7		43.9
10	40	08.6	15	52.3		46.5	255	59.9		46.5	312	13.2		14.8	38	50.0		43.8
11	55	11.1	30	52.4	+7	47.3	271	01.1	+15	46.1	327	15.0	+23	14.8	53	52.3	-1	43.8
12	70	13.5	45	52.6	+7	48.0	286	02.3	+15	45.6	342	16.9	+23	14.8	68	54.6	-1	43.7
13	85	16.0	60	52.8		48.8	301	03.4		45.1	357	18.7		14.8	83	56.9		43.6
14	100	18.5	75	52.9		49.5	316	04.6		44.7	12	20.6		14.8	98	59.2		43.6
15	115	20.9	90	53.1		50.3	331	05.8		44.2	27	22.4		14.9	114	01.6		43.5
16	130	23.4	105	53.2		51.0	346	06.9		43.7	42	24.3		14.9	129	03.9		43.5
17	145	25.9	120	53.4	+7	51.8	1	08.1	+15	43.3	57	26.1	+23	14.9	144	06.2	-1	43.4
18	160	28.3	135	53.5	+7	52.5	16	09.2	+15	42.8	72	28.0	+23	14.9	159	08.5	-1	43.4
19	175	30.8	150	53.7		53.3	31	10.4		42.3	87	29.8		14.9	174	10.8		43.3
20	190	33.2	165	53.8		54.0	46	11.6		41.9	102	31.7		14.9	189	13.1		43.3
21	205	35.7	180	54.0		54.8	61	12.7		41.4	117	33.6		14.9	204	15.4		43.2
22	220	38.2	195	54.1		55.5	76	13.9		40.9	132	35.4		14.9	219	17.7		43.1
23	235	40.6	210	54.3		56.3	91	15.1		40.5	147	37.3		15.0	234	20.0		43.1
24	250	43.1	225	54.4	+7	57.1	106	16.2	+15	40.0	162	39.1	+23	15.0	249	22.4	-1	43.0
Dif	—		+2		+8		+12		-5		+19		0		+23		+	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'8 PMG:11 ^h 58.0 ^m				Edad: 5.9 ^d SD: 15'3 PMG: 17 ^h 54 ^m														
	hG ☉ Dec				hG ☾ Dif Dec Dif							Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	180	30.5	+22	11.5	99	22.1	+14	04.3	137	58	60 N	**	**	1	23	2	48	10 18 87	
1	195	30.4		11.8	113	54.8	+13	50.8	135	58	58	**	**	1	58	3	06	25 83	
2	210	30.3		12.2	128	27.7		37.3	135	56	56	**	**	2	23	21		31 80	
3	225	30.2		12.5	143	00.6		23.7	136	54	54	1	15		42	34	36	78	
4	240	30.1		12.8	157	33.6	+13	10.1	136	52	52	1	48	2	58	45	41	75	
5	255	30.0	+22	13.1	172	06.8	+12	56.5	136	50	50	2	11	3	12	3	55	10 46 72	
6	270	29.9	+22	13.4	186	40.0	+12	42.8	137	45	45	2	52	3	40	4	16	10 55 68	
7	285	29.8		13.8	201	13.2		29.1	137	40	40	3	20	4	01	33	11	03	
8	300	29.7		14.1	215	46.6		15.3	138	35	35		42		18	47	10	60	
9	315	29.6		14.4	230	20.1	+12	01.5	138	30	30	3	59		32	4	59	16 56	
10	330	29.5		14.7	244	53.6	+11	47.7	138	20	20	4	27	4	56	5	20	27 50	
11	345	29.4	+22	15.0	259	27.2	+11	33.8	139	10 N	10 N	4	48	5	15	5	38	11 36 46	
12	0	29.3	+22	15.3	274	01.0	+11	19.9	139	0	0	5	06	5	32	5	54	11 44 42	
13	15	29.2		15.7	288	34.7	+11	06.0	139	10 S	10 S		22		5	48	6	11	
14	30	29.1		16.0	303	08.6	+10	52.0	140	20	20		37		6	05	28	12 01 33	
15	45	29.0		16.3	317	42.5		38.0	140	30	30	5	53		22		6	48	
16	60	28.9		16.6	332	16.5		24.0	140	35	35	6	01		32	7	00	17 25	
17	75	28.8	+22	16.9	346	50.6	+10	10.0	140	40	40	6	09	6	43	7	13	12 24 21	
18	90	28.7	+22	17.2	1	24.8	+9	55.9	141	45	45	6	19	6	56	7	29	12 31 18	
19	105	28.6		17.5	15	59.0		41.8	141	50	50		30		7	11		48	
20	120	28.5		17.8	30	33.3		27.7	141	52	52		34		17		7	57	
21	135	28.4		18.1	45	07.7	+9	13.6	141	54	54		40		25	8	08	49 8	
22	150	28.3		18.5	59	42.1	+8	59.4	142	56	56		45		33	19	12	54	
23	165	28.2		18.8	74	16.6		45.2	142	58	58		51		43	33	13	00	
24	180	28.1	+22	19.1	88	51.2	+8	31.0	142	60 S	60 S	6	58	7	53	8	48	13 06 **	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 7 ^h 15.9 ^m		Mag: -4.4 PMG: 8 ^h 56 ^m		Mag: +1.3 PMG: 16 ^h 54 ^m		Mag: -1.9 PMG: 13 ^h 08 ^m		Mag: +1.1 PMG: 7 ^h 21 ^m	
	hG ♂ Dec		hG ♀ Dec		hG ♂ Dec		hG ♀ Dec		hG ♀ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	250	43.1	225	54.4	+7	57.1	106	16.2	+15	40.0
1	265	45.6	240	54.5		57.8	121	17.4		39.5
2	280	48.0	255	54.7		58.6	136	18.6		39.0
3	295	50.5	270	54.8	+7	59.3	151	19.7		38.6
4	310	53.0	285	55.0	+8	00.1	166	20.9		38.1
5	325	55.4	300	55.1	+8	00.8	181	22.1	+15	37.6
6	340	57.9	315	55.3	+8	01.6	196	23.2	+15	37.2
7	356	00.3	330	55.4		02.3	211	24.4		36.7
8	11	02.8	345	55.5		03.1	226	25.5		36.2
9	26	05.3	0	55.7		03.9	241	26.7		35.8
10	41	07.7	15	55.8		04.6	256	27.9		35.3
11	56	10.2	30	56.0	+8	05.4	271	29.0	+15	34.8
12	71	12.7	45	56.1	+8	06.1	286	30.2	+15	34.3
13	86	15.1	60	56.2		06.9	301	31.4		33.9
14	101	17.6	75	56.4		07.6	316	32.5		33.4
15	116	20.1	90	56.5		08.4	331	33.7		32.9
16	131	22.5	105	56.6		09.2	346	34.9		32.5
17	146	25.0	120	56.8	+8	09.9	1	36.0	+15	32.0
18	161	27.5	135	56.9	+8	10.7	16	37.2	+15	31.5
19	176	29.9	150	57.0		11.4	31	38.3		31.0
20	191	32.4	165	57.2		12.2	46	39.5		30.6
21	206	34.8	180	57.3		13.0	61	40.7		30.1
22	221	37.3	195	57.4		13.7	76	41.8		29.6
23	236	39.8	210	57.6		14.5	91	43.0		29.1
24	251	42.2	225	57.7	+8	15.2	106	44.1	+15	28.7
Dif	—		+1		+8		+12		-5	
									+19	
									0	
									+23	
									+	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 15/8 PMG: 11 ^h 58.2 ^m			Edad: 6.9 ^d SD: 15/1 PMG: 18 ^h 35 ^m			PHE { 4 ^h : 55/4 12 ^h : 55/2 20 ^h : 55/0 R°: 41 ^m																
	hG ☉	Dec		hG ☾	Dif		Dec	Dif							Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	28.1	+22	19.1	88	51.2	+8	31.0	142	60 N	21	11	22	39	**	**	11	45	85	1	04	0	
1	195	28.0		19.4	103	25.8		16.8	142	58	20	53	22	02	**	**	48	82		0	59	4	
2	210	27.9		19.7	118	00.5	+8	02.6	142	56	37	21	36	**	**	51	79		55	7	7		
3	225	27.8		20.0	132	35.2	+7	48.3	143	54	24		16	22	46	54	75		52	8	8		
4	240	27.7		20.3	147	10.1		34.1	142	52	13	21	00	22	12	56	73		48	12	12		
5	255	27.6	+22	20.6	161	44.9	+7	19.8	143	50	20	03	20	46	21	48	11	58	71	0	45	14	
6	270	27.4	+22	20.9	176	19.8	+7	05.5	143	45	19	41	20	18	21	06	12	03	66	0	39	18	
7	285	27.3		21.2	190	54.8	+6	51.2	143	40	24	19	57	20	37	06	62		33	22	22		
8	300	27.2		21.5	205	29.8		36.9	143	35	19	10	39	20	15	10	58		29	25	25		
9	315	27.1		21.8	220	04.9		22.5	144	30	18	58	25	19	58	12	56		24	28	28		
10	330	27.0		22.1	234	40.1	+6	08.2	143	20	37	19	01		30	17	51		17	33	33		
11	345	26.9	+22	22.4	249	15.2	+5	53.8	144	10 N	18	19	18	41	19	08	12	22	45	0	10	38	
12	0	26.8	+22	22.7	263	50.5	+5	39.5	143	0	18	02	18	24	18	50	12	26	41	0	04	42	
13	15	26.7		23.0	278	25.7		25.1	144	10 S	17	45	18	08	34	30	37		**	**	**	**	
14	30	26.6		23.3	293	01.1	+5	10.7	144	20	28		17	51	19	34	32		**	**	**	**	
15	45	26.5		23.6	307	36.4	+4	56.3	144	30	17	07	34	18	03	39	27		**	**	**	**	
16	60	26.4		23.9	322	11.8		42.0	143	35	16	56	24	17	55	42	24		**	**	**	**	
17	75	26.3	+22	24.2	336	47.3	+4	27.6	144	40	16	42	17	12	17	46	12	45	21	**	**	**	**
18	90	26.2	+22	24.5	351	22.8	+4	13.2	144	45	16	26	17	00	17	37	12	49	17	**	**	**	**
19	105	26.1		24.8	5	58.3	+3	58.8	144	50	16	07	16	45	26	53	12		**	**	**	**	
20	120	26.0		25.1	20	33.9		44.3	145	52	15	58	38	21		55	10		**	**	**	**	
21	135	25.9		25.3	35	09.5		29.9	144	54	47	30	16		57	8		**	**	**	**	**	
22	150	25.8		25.6	49	45.1		15.5	144	56	36	22		10	12	59	6		**	**	**	**	
23	165	25.6		25.9	64	20.8	+3	01.1	144	58	22	12	17	04	13	02	3		**	**	**	**	
24	180	25.5	+22	26.2	78	56.5	+2	46.7	144	60 S	15	06	16	01	16	57	13	05	0	**	**	**	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 ^h 12.0 ^m		Mag: -4.4 PMG: 8 ^h 56 ^m		Mag: +1.3 PMG: 16 ^h 52 ^m		Mag: -1.9 PMG: 13 ^h 05 ^m		Mag: +1.1 PMG: 7 ^h 18 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	251	42.2	225	57.7	+8	15.2	163	23.6	+23	15.2
1	266	44.7	240	57.8		16.0	178	25.5		15.2
2	281	47.2	255	58.0		16.8	193	27.3		15.3
3	296	49.6	270	58.1		17.5	208	29.2		15.3
4	311	52.1	285	58.2		18.3	223	31.0		15.3
5	326	54.6	300	58.3	+8	19.1	238	32.9	+23	15.3
6	341	57.0	315	58.5	+8	19.8	253	34.7	+23	15.3
7	356	59.5	330	58.6		20.6	268	36.6		15.3
8	12	02.0	345	58.7		21.3	283	38.4		15.3
9	27	04.4	0	58.8		22.1	298	40.3		15.3
10	42	06.9	15	59.0		22.9	313	42.1		15.3
11	57	09.3	30	59.1	+8	23.6	328	44.0	+23	15.4
12	72	11.8	45	59.2	+8	24.4	343	45.8	+23	15.4
13	87	14.3	60	59.3		25.2	358	47.7		15.4
14	102	16.7	75	59.4		25.9	13	49.5		15.4
15	117	19.2	90	59.6		26.7	28	51.4		15.4
16	132	21.7	105	59.7		27.4	43	53.2		15.4
17	147	24.1	120	59.8	+8	28.2	58	55.1	+23	15.4
18	162	26.6	135	59.9	+8	29.0	73	57.0	+23	15.4
19	177	29.1	151	00.0		29.7	88	58.8		15.4
20	192	31.5	166	00.2		30.5	104	00.7		15.4
21	207	34.0	181	00.3		31.3	119	02.5		15.5
22	222	36.4	196	00.4		32.0	134	04.4		15.5
23	237	38.9	211	00.5		32.8	149	06.2		15.5
24	252	41.4	226	00.6	+8	33.6	164	08.1	+23	15.5
Dif	—		+1		+8		+12		+19	0
									+23	+1

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna								
	SD: 15'8 PMG:11 ^h 58.6 ^m				Edad: 8.9 ^d SD: 14'8 PMG: 19 ^h 54 ^m								PHE { 4 ^h : 54'4 12 ^h : 54'3 20 ^h : 54'2 R°: 42 ^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	180	22.9	+22	33.0	69	19.9			-2	57.2			60 N	21 14	22 45	** **		14 31	85			1 01	0				
1	195	22.8		33.3	83	56.0	171		-3	11.4	142		58	20 55	22 06	** **		27 81			03	3					
2	210	22.7		33.5	98	32.1	171			25.5	141		56	40	21 39	** **		24 78			05	6					
3	225	22.6		33.8	113	08.2	171			39.7	142		54	26	19	22 52		21 75			06	9					
4	240	22.5		34.1	127	44.3	171		-3	53.8	141		52	15	21 02	22 15		19 72			07	11					
5	255	22.4	+22	34.3	142	20.4	171		-4	07.9	141		50	20 04	20 48	21 50		14 16	70			1 09	12				
6	270	22.3	+22	34.6	156	56.5	171		-4	22.0	141		45	19 43	20 20	21 08		14 11	65			1 11	17				
7	285	22.2		34.9	171	32.6	171			36.0	140		40	26	19 58	20 39		07 61			13	21					
8	300	22.0		35.2	186	08.7	171		-4	50.1	141		35	19 11	41	20 17		03 58			15	24					
9	315	21.9		35.4	200	44.8	171		-5	04.1	140		30	18 59	26	19 59		14 00	55			17	27				
10	330	21.8		35.7	215	20.9	171			18.1	140		20	37	19 02	31		13 54	50			20	32				
11	345	21.7	+22	36.0	229	56.9	170		-5	32.0	139		10 N	18 19	18 42	19 09		13 49	46			1 22	37				
12	0	21.6	+22	36.2	244	33.0	171		-5	46.0	140		0	18 02	18 25	18 51		13 45	41			1 25	40				
13	15	21.5		36.5	259	09.0	170		-5	59.9	139		10 S	17 45	18 08	34		40 38			27	45					
14	30	21.4		36.7	273	45.1	171		-6	13.8	139		20	28	17 51	19		36 33			29	50					
15	45	21.3		37.0	288	21.1	170			27.6	138		30	17 07	33	18 03		30 28			32	55					
16	60	21.1		37.3	302	57.1	170			41.5	139		35	16 55	23	17 55		27 25			34	58					
17	75	21.0	+22	37.5	317	33.1	170		-6	55.3	138		40	16 42	17 12	17 46		13 24	22			1 36	61				
18	90	20.9	+22	37.8	332	09.0	169		-7	09.0	137		45	16 26	16 59	17 36		13 20	18			1 38	65				
19	105	20.8		38.1	346	45.0	170			22.8	138		50	16 06	44	25		15 14			41	70					
20	120	20.7		38.3	1	20.9	169			36.5	137		52	15 57	37	20		13 11			42	72					
21	135	20.6		38.6	15	56.8	169		-7	50.2	137		54	46	29	15		11 9			43	75					
22	150	20.5		38.8	30	32.7	169		-8	03.8	136		56	34	20	09		08 7			45	77					
23	165	20.4		39.1	45	08.5	168			17.5	137		58	20	11	17 03		05 4			46	81					
24	180	20.2	+22	39.4	59	44.4	169		-8	31.1	136		60 S	15 04	16 00	16 56		13 02	0			1 48	84				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO																		
	PMG: 7 ^h 04.1 ^m		Mag: -4.4 PMG: 8 ^h 56 ^m		Mag: +1.3 PMG: 16 ^h 48 ^m		Mag: -1.9 PMG: 12 ^h 59 ^m		Mag: +1.1 PMG: 7 ^h 10 ^m																		
h	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄																		
	° /		° /		° /		° /		° /																		
0	253	40.5	226	03.1	+8	52.0	107	39.8	+15	05.7	164	52.5	+23	15.7	252	09.1	-1	39.2									
1	268	43.0	241	03.2		52.8	122	41.0		05.3	179	54.4		15.7	267	11.4		39.2									
2	283	45.4	256	03.3		53.5	137	42.1		04.8	194	56.2		15.7	282	13.7		39.1									
3	298	47.9	271	03.4		54.3	152	43.3		04.3	209	58.1		15.7	297	16.1		39.0									
4	313	50.4	286	03.5		55.1	167	44.5		03.8	224	59.9		15.7	312	18.4		39.0									
5	328	52.8	301	03.6	+8	55.8	182	45.6	+15	03.3	240	01.8	+23	15.8	327	20.7	-1	38.9									
6	343	55.3	316	03.7	+8	56.6	197	46.8	+15	02.8	255	03.6	+23	15.8	342	23.0	-1	38.9									
7	358	57.8	331	03.8		57.4	212	47.9		02.4	270	05.5		15.8	357	25.4		38.8									
8	14	00.2	346	03.9		58.2	227	49.1		01.9	285	07.3		15.8	12	27.7		38.8									
9	29	02.7	1	04.0		58.9	242	50.2		01.4	300	09.2		15.8	27	30.0		38.7									
10	44	05.2	16	04.1	+8	59.7	257	51.4		00.9	315	11.0		15.8	42	32.3		38.7									
11	59	07.6	31	04.2	+9	00.5	272	52.6	+15	00.4	330	12.9	+23	15.8	57	34.6	-1	38.6									
12	74	10.1	46	04.2	+9	01.2	287	53.7	+14	59.9	345	14.7	+23	15.8	72	37.0	-1	38.6									
13	89	12.5	61	04.3		02.0	302	54.9		59.5	0	16.6		15.8	87	39.3		38.5									
14	104	15.0	76	04.4		02.8	317	56.0		59.0	15	18.4		15.8	102	41.6		38.5									
15	119	17.5	91	04.5		03.6	332	57.2		58.5	30	20.3		15.8	117	43.9		38.4									
16	134	19.9	106	04.6		04.3	347	58.3		58.0	45	22.1		15.9	132	46.3		38.4									
17	149	22.4	121	04.7	+9	05.1	2	59.5	+14	57.5	60	24.0	+23	15.9	147	48.6	-1	38.3									
18	164	24.9	136	04.8	+9	05.9	18	00.7	+14	57.0	75	25.8	+23	15.9	162	50.9	-1	38.3									
19	179	27.3	151	04.8		06.6	33	01.8		56.6	90	27.7		15.9	177	53.2		38.2									
20	194	29.8	166	04.9		07.4	48	03.0		56.1	105	29.5		15.9	192	55.5		38.2									
21	209	32.3	181	05.0		08.2	63	04.1		55.6	120	31.4		15.9	207	57.9		38.1									
22	224	34.7	196	05.1		09.0	78	05.3		55.1	135	33.2		15.9	223	00.2		38.1									
23	239	37.2	211	05.2		09.7	93	06.4		54.6	150	35.1		15.9	238	02.5		38.0									
24	254	39.7	226	05.3	+9	10.5	108	07.6	+14	54.1	165	36.9	+23	15.9	253	04.8	-1	38.0									
Dif	—		+1		+8		+12		-5		+19		0		+23		+										

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/8 PMG: 11 ^h 58.7 ^m			Edad: 9.9 ^d PHE { 4 ^h : 54/2 12 ^h : 54/1 20 ^h : 54/1 PMG: 20 ^h 35 ^m R°: 42 ^m														
	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	180	20.2	+22	39.4	59	44.4	168	-8	31.1	60 N	** **	1 12	2 43	15 54	87	1 00 **		
1	195	20.1		39.6	74	20.2	168		44.6	58	** **	1 51	3 02	47 82		05 2		
2	210	20.0		39.9	88	56.0	167	-8	58.1	56	** **	2 18	17	41 78		09 6		
3	225	19.9		40.1	103	31.7	167	-9	11.6	54	1 05	38	31	35 75		13 8		
4	240	19.8		40.4	118	07.5	168		25.1	52	1 42	2 55	42	30 72		17 10		
5	255	19.7	+22	40.6	132	43.1	166	-9	38.5	50	2 07	3 09	3 53	15 25	70	1 20 13		
6	270	19.6	+22	40.9	147	18.8	167	-9	51.8	45	2 49	3 37	4 14	15 15	65	1 27 17		
7	285	19.4		41.1	161	54.5	167	-10	05.2	40	3 18	3 59	32	07 61		33 21		
8	300	19.3		41.4	176	30.1	166		18.5	35	40	4 17	46	15 00	57	38 25		
9	315	19.2		41.6	191	05.6	165		31.7	30	3 58	31	4 59	14 53	55	43 27		
10	330	19.1		41.9	205	41.2	166		45.0	20	4 26	4 55	5 20	43 50		51 32		
11	345	19.0	+22	42.1	220	16.7	165	-10	58.1	10 N	4 48	5 15	5 38	14 33	46	1 57 37		
12	0	18.9	+22	42.4	234	52.1	164	-11	11.3	0	5 07	5 33	5 55	14 25	41	2 04 41		
13	15	18.8		42.6	249	27.5	164		24.4	10 S	23	5 49	6 12	16 38		11 44		
14	30	18.6		42.9	264	02.9	164		37.4	20	39	6 06	30	14 07	34	18 49		
15	45	18.5		43.1	278	38.3	164	-11	50.4	30	5 54	24	6 50	13 57	28	26 54		
16	60	18.4		43.4	293	13.6	163	-12	03.4	35	6 03	34	7 02	51 26		30 57		
17	75	18.3	+22	43.6	307	48.8	162	-12	16.3	40	6 12	6 46	7 16	13 44	23	2 36 60		
18	90	18.2	+22	43.9	322	24.1	163	-12	29.2	45	6 21	6 58	7 32	13 37	18	2 42 64		
19	105	18.1		44.1	336	59.2	161		42.0	50	33	7 14	7 52	27 14		49 70		
20	120	17.9		44.4	351	34.4	162	-12	54.8	52	38	21	8 01	23 12		53 71		
21	135	17.8		44.6	6	09.5	161	-13	07.5	54	43	29	12	18 10		2 57 74		
22	150	17.7		44.8	20	44.5	160		20.2	56	49	37	24	13 7		3 01 77		
23	165	17.6		45.1	35	19.5	160		32.8	58	6 55	47	38	08 3		06 80		
24	180	17.5	+22	45.3	49	54.4	159	-13	45.4	60 S	7 02	7 58	8 54	13 01	0	3 11 84		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 7 ^h 00.2 ^m		Mag: -4.4 PMG: 8 ^h 56 ^m			Mag: +1.3 PMG: 16 ^h 46 ^m			Mag: -1.9 PMG: 12 ^h 56 ^m			Mag: +1.1 PMG: 7 ^h 07 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	254	39.7	226	05.3	+9	10.5	108	07.6	+14	54.1	165	36.9	+23	15.9	253	04.8	-1	38.0
1	269	42.1	241	05.3		11.3	123	08.7		53.6	180	38.8		15.9	268	07.2		37.9
2	284	44.6	256	05.4		12.1	138	09.9		53.2	195	40.6		15.9	283	09.5		37.9
3	299	47.0	271	05.5		12.8	153	11.1		52.7	210	42.5		15.9	298	11.8		37.8
4	314	49.5	286	05.6		13.6	168	12.2		52.2	225	44.3		15.9	313	14.1		37.8
5	329	52.0	301	05.7	+9	14.4	183	13.4	+14	51.7	240	46.2	+23	16.0	328	16.5	-1	37.7
6	344	54.4	316	05.7	+9	15.2	198	14.5	+14	51.2	255	48.0	+23	16.0	343	18.8	-1	37.7
7	359	56.9	331	05.8		15.9	213	15.7		50.7	270	49.9		16.0	358	21.1		37.6
8	14	59.4	346	05.9		16.7	228	16.8		50.2	285	51.7		16.0	13	23.4		37.6
9	30	01.8	1	06.0		17.5	243	18.0		49.8	300	53.6		16.0	28	25.8		37.6
10	45	04.3	16	06.0		18.3	258	19.1		49.3	315	55.4		16.0	43	28.1		37.5
11	60	06.8	31	06.1	+9	19.0	273	20.3	+14	48.8	330	57.3	+23	16.0	58	30.4	-1	37.5
12	75	09.2	46	06.2	+9	19.8	288	21.5	+14	48.3	345	59.1	+23	16.0	73	32.7	-1	37.4
13	90	11.7	61	06.3		20.6	303	22.6		47.8	1	01.0		16.0	88	35.1		37.4
14	105	14.2	76	06.3		21.4	318	23.8		47.3	16	02.8		16.0	103	37.4		37.3
15	120	16.6	91	06.4		22.1	333	24.9		46.8	31	04.7		16.0	118	39.7		37.3
16	135	19.1	106	06.5		22.9	348	26.1		46.3	46	06.5		16.0	133	42.0		37.2
17	150	21.5	121	06.5	+9	23.7	3	27.2	+14	45.9	61	08.4	+23	16.0	148	44.4	-1	37.2
18	165	24.0	136	06.6	+9	24.5	18	28.4	+14	45.4	76	10.2	+23	16.1	163	46.7	-1	37.1
19	180	26.5	151	06.7		25.2	33	29.5		44.9	91	12.1		16.1	178	49.0		37.1
20	195	28.9	166	06.7		26.0	48	30.7		44.4	106	13.9		16.1	193	51.3		37.0
21	210	31.4	181	06.8		26.8	63	31.8		43.9	121	15.8		16.1	208	53.7		37.0
22	225	33.9	196	06.9		27.6	78	33.0		43.4	136	17.6		16.1	223	56.0		36.9
23	240	36.3	211	06.9		28.3	93	34.2		42.9	151	19.5		16.1	238	58.3		36.9
24	255	38.8	226	07.0	+9	29.1	108	35.3	+14	42.4	166	21.3	+23	16.1	254	00.7	-1	36.8
Dif	—		+1		+8		+12		-5		+18		0		+23		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 15'8 PMG: 11 ^h 58.9 ^m			Edad: 10.9 ^d SD: 14'7 PMG: 21 ^h 17 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1 Rº: 46 ^m								Civil			Náutico			Hora Rº			Hora Rº		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif																
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m m	h m m	h m m	h m m	h m m	h m m	h m m	h m m			
0	180	17.5	+22 45.3	49	54.4	159	-13 45.4	126	60 N	21 17	22 51	** **	** **	17 21 92	0 59 1								
1	195	17.4	45.6	64	29.3	159	-13 58.0	126	58	20 58	22 10	** **	** **	17 09 87	1 07 6								
2	210	17.2	45.8	79	04.2	158	-14 10.4	124	56	42	21 42	** **	** **	16 59 82	15 9								
3	225	17.1	46.0	93	39.0	158	22.9	125	54	28	21	22 57		50 79	21 12								
4	240	17.0	46.3	108	13.7	157	35.2	123	52	16	21 04	22 19	42 76	27 15									
5	255	16.9	+22 46.5	122	48.4	157	-14 47.5	123	50	20 06	20 50	21 53	16 35 73	1 33 17									
6	270	16.8	+22 46.8	137	23.1	157	-14 59.8	123	45	19 44	20 21	21 10	16 20 68	1 44 22									
7	285	16.7	47.0	151	57.6	155	-15 12.0	122	40	27	19 59	20 41	16 08 64	1 54 26									
8	300	16.5	47.2	166	32.2	156	24.2	122	35	12	42	18	15 57 61	2 03 28									
9	315	16.4	47.5	181	06.6	154	36.3	121	30	19 00	27	20 00	48 58	10 31									
10	330	16.3	47.7	195	41.1	155	-15 48.3	120	20	18 38	19 03	19 32	33 53	23 36									
11	345	16.2	+22 47.9	210	15.4	153	-16 00.3	120	10 N	18 20	18 43	19 10	15 19 49	2 34 40									
12	0	16.1	+22 48.2	224	49.7	153	-16 12.2	119	0	18 03	18 25	18 51	15 06 46	2 45 44									
13	15	16.0	48.4	239	23.9	152	24.0	118	10 S	17 46	18 08	35	14 54 42	2 55 48									
14	30	15.8	48.6	253	58.1	152	35.8	118	20	28	17 52	19	41 37	3 07 52									
15	45	15.7	48.9	268	32.2	151	47.5	117	30	17 07	33	18 03	25 34	20 57									
16	60	15.6	49.1	283	06.3	151	-16 59.2	117	35	16 55	23	17 55	17 30	27 60									
17	75	15.5	+22 49.3	297	40.3	150	-17 10.8	116	40	16 41	17 12	17 46	14 07 27	3 36 63									
18	90	15.4	+22 49.5	312	14.2	149	-17 22.3	115	45	16 25	16 59	17 36	13 55 24	3 46 67									
19	105	15.2	49.8	326	48.1	149	33.8	115	50	16 05	43	24	41 19	3 59 72									
20	120	15.1	50.0	341	21.9	148	45.2	114	52	15 56	36	19	35 16	4 04 75									
21	135	15.0	50.2	355	55.6	147	-17 56.5	113	54	45	28	14	28 13	11 78									
22	150	14.9	50.4	10	29.3	147	-18 07.8	113	56	33	19	08	20 10	18 81									
23	165	14.8	50.7	25	02.9	146	19.0	112	58	19	16 10	17 02	11 6	26 85									
24	180	14.7	+22 50.9	39	36.4	145	-18 30.1	111	60 S	15 02	15 58	16 54	13 01 2	4 35 90									
UT	ARIES PMG 6 ^h 56.3 ^m			VENUS Mag: -4.3 PMG: 8 ^h 55 ^m			MARTE Mag: +1.3 PMG: 16 ^h 44 ^m			JÚPITER Mag: -1.9 PMG: 12 ^h 53 ^m			SATURNO Mag: +1.1 PMG: 7 ^h 03 ^m										
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec									
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	255	38.8	226 07.0	+9 29.1	108 35.3	+14 42.4	166 21.3	+23 16.1	254 00.7	-1 36.8													
1	270	41.3	241 07.1	29.9	123 36.5	41.9	181 23.2	16.1	269 03.0	36.8													
2	285	43.7	256 07.1	30.7	138 37.6	41.5	196 25.0	16.1	284 05.3	36.7													
3	300	46.2	271 07.2	31.4	153 38.8	41.0	211 26.9	16.1	299 07.6	36.7													
4	315	48.6	286 07.3	32.2	168 39.9	40.5	226 28.7	16.1	314 10.0	36.6													
5	330	51.1	301 07.3	+9 33.0	183 41.1	+14 40.0	241 30.6	+23 16.1	329 12.3	-1 36.6													
6	345	53.6	316 07.4	+9 33.8	198 42.2	+14 39.5	256 32.4	+23 16.1	344 14.6	-1 36.5													
7	0	56.0	331 07.5	34.6	213 43.4	39.0	271 34.3	16.1	359 16.9	36.5													
8	15	58.5	346 07.5	35.3	228 44.5	38.5	286 36.1	16.2	14 19.3	36.4													
9	31	01.0	1 07.6	36.1	243 45.7	38.0	301 38.0	16.2	29 21.6	36.4													
10	46	03.4	16 07.6	36.9	258 46.8	37.5	316 39.8	16.2	44 23.9	36.3													
11	61	05.9	31 07.7	+9 37.7	273 48.0	+14 37.0	331 41.7	+23 16.2	59 26.3	-1 36.3													
12	76	08.4	46 07.7	+9 38.4	288 49.2	+14 36.5	346 43.5	+23 16.2	74 28.6	-1 36.2													
13	91	10.8	61 07.8	39.2	303 50.3	36.1	1 45.4	16.2	89 30.9	36.2													
14	106	13.3	76 07.9	40.0	318 51.5	35.6	16 47.2	16.2	104 33.3	36.2													
15	121	15.8	91 07.9	40.8	333 52.6	35.1	31 49.0	16.2	119 35.6	36.1													
16	136	18.2	106 08.0	41.6	348 53.8	34.6	46 50.9	16.2	134 37.9	36.1													
17	151	20.7	121 08.0	+9 42.3	3 54.9	+14 34.1	61 52.7	+23 16.2	149 40.2	-1 36.0													
18	166	23.1	136 08.1	+9 43.1	18 56.1	+14 33.6	76 54.6	+23 16.2	164 42.6	-1 36.0													
19	181	25.6	151 08.1	43.9	33 57.2	33.1	91 56.4	16.2	179 44.9	35.9													
20	196	28.1	166 08.2	44.7	48 58.4	32.6	106 58.3	16.2	194 47.2	35.9													
21	211	30.5	181 08.2	45.4	63 59.5	32.1	122 00.1	16.2	209 49.6	35.8													
22	226	33.0	196 08.3	46.2	79 00.7	31.6	137 02.0	16.2	224 51.9	35.8													
23	241	35.5	211 08.3	47.0	94 01.8	31.1	152 03.8	16.2	239 54.2	35.7													
24	256	37.9	226 08.4	+9 47.8	109 03.0	+14 30.6	167 05.7	+23 16.3	254 56.5	-1 35.7													
Dif	—		+1	+8	+12	-5	+18	0	+23														

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15/8 PMG:11 ^h 59.1 ^m				Edad: 11.9 ^d PHE { 4 ^h : 54/1 12 ^h : 54/1 20 ^h : 54/2 R°: 48 ^m SD: 14/7 PMG: 22 ^h 02 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	180	14.7	+22	50.9	39	36.4	-18	30.1	110	58	1 07	2 41	18 52	94	0 59	1						
1	195	14.5		51.1	54	09.9	145	41.1	110	58	1 48	3 00	34 87	1 11	7							
2	210	14.4		51.3	68	43.3	144	-18	52.1	109	56	2 16	16	20 82	22	11						
3	225	14.3		51.6	83	16.6	143	-19	03.0	109	54	1 01	36	18 08	77	32	14					
4	240	14.2		51.8	97	49.9	143		13.9	109	52	1 39	2 54	17 57	74	40	18					
5	255	14.1	+22	52.0	112	23.1	142	-19	24.6	107	50	2 05	3 08	17 47	72	1 48	20					
6	270	13.9	+22	52.2	126	56.2	141	-19	35.3	107	45	2 48	3 37	17 27	67	2 05	24					
7	285	13.8		52.4	141	29.2	140		45.9	106	40	3 17	3 59	17 10	63	18	29					
8	300	13.7		52.7	156	02.2	140	-19	56.4	105	35	40	4 16	16 57	60	30	31					
9	315	13.6		52.9	170	35.1	139	-20	06.9	105	30	3 58	31	4 58	45	57	40	34				
10	330	13.5		53.1	185	07.9	138		17.2	103	20	4 26	4 55	5 20	24	54	2 58	38				
11	345	13.3	+22	53.3	199	40.7	138	-20	27.5	103	10 N	4 48	5 15	5 38	16 07	50	3 13	42				
12	0	13.2	+22	53.5	214	13.4	137	-20	37.7	102	0	5 07	5 33	5 55	15 51	47	3 27	46				
13	15	13.1		53.7	228	46.0	136		47.8	101	10 S	23	5 50	6 12	34 45	42	49					
14	30	13.0		54.0	243	18.5	135	-20	57.9	101	20	39	6 07	31	15 17	41	3 57	53				
15	45	12.9		54.2	257	51.0	135	-21	07.8	99	30	5 55	25	6 51	14 57	37	4 15	57				
16	60	12.7		54.4	272	23.3	133		17.7	99	35	6 04	35	7 03	46 34	26	60					
17	75	12.6	+22	54.6	286	55.6	133	-21	27.4	97	40	6 13	6 47	7 17	14 33	31	4 38	63				
18	90	12.5	+22	54.8	301	27.9	133	-21	37.1	96	45	6 23	7 00	7 33	14 18	27	4 52	67				
19	105	12.4		55.0	316	00.0	131		46.7	95	50	34	15	7 53	13 59	23	5 10	71				
20	120	12.2		55.2	330	32.1	131	-21	56.2	95	52	39	22	8 03	50 20	18	74					
21	135	12.1		55.4	345	04.1	130	-22	05.7	95	54	44	30	14	40 18	27	78					
22	150	12.0		55.6	359	36.0	129		15.0	93	56	50	39	26	29 14	38	81					
23	165	11.9		55.9	14	07.9	129		24.2	92	58	6 57	7 49	40	16 10	5 50	86					
24	180	11.8	+22	56.1	28	39.6	127	-22	33.4	92	60 S	7 04	8 00	8 57	13 01	4	6 04	92				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 6 ^h 52.3 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.3 PMG: 16 ^h 43 ^m		Mag: -1.9 PMG: 12 ^h 50 ^m		Mag: +1.1 PMG: 6 ^h 59 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	256	37.9	226	08.4	+9	47.8	109	03.0	+14	30.6	167	05.7	+23	16.3	254	56.5	-1	35.7
1	271	40.4	241	08.4		48.6	124	04.1		30.1	182	07.5		16.3	269	58.9		35.6
2	286	42.9	256	08.5		49.3	139	05.3		29.7	197	09.4		16.3	285	01.2		35.6
3	301	45.3	271	08.5		50.1	154	06.4		29.2	212	11.2		16.3	300	03.5		35.5
4	316	47.8	286	08.6		50.9	169	07.6		28.7	227	13.1		16.3	315	05.9		35.5
5	331	50.3	301	08.6	+9	51.7	184	08.7	+14	28.2	242	14.9	+23	16.3	330	08.2	-1	35.5
6	346	52.7	316	08.7	+9	52.5	199	09.9	+14	27.7	257	16.8	+23	16.3	345	10.5	-1	35.4
7	1	55.2	331	08.7		53.2	214	11.0		27.2	272	18.6		16.3	0	12.9		35.4
8	16	57.6	346	08.8		54.0	229	12.2		26.7	287	20.5		16.3	15	15.2		35.3
9	32	00.1	1	08.8		54.8	244	13.3		26.2	302	22.3		16.3	30	17.5		35.3
10	47	02.6	16	08.8		55.6	259	14.5		25.7	317	24.2		16.3	45	19.9		35.2
11	62	05.0	31	08.9	+9	56.4	274	15.7	+14	25.2	332	26.0	+23	16.3	60	22.2	-1	35.2
12	77	07.5	46	08.9	+9	57.1	289	16.8	+14	24.7	347	27.9	+23	16.3	75	24.5	-1	35.1
13	92	10.0	61	09.0		57.9	304	18.0		24.2	2	29.7		16.3	90	26.9		35.1
14	107	12.4	76	09.0		58.7	319	19.1		23.7	17	31.6		16.3	105	29.2		35.0
15	122	14.9	91	09.1	+9	59.5	334	20.3		23.2	32	33.4		16.3	120	31.5		35.0
16	137	17.4	106	09.1	+10	00.3	349	21.4		22.7	47	35.3		16.3	135	33.9		34.9
17	152	19.8	121	09.1	+10	01.0	4	22.6	+14	22.2	62	37.1	+23	16.3	150	36.2	-1	34.9
18	167	22.3	136	09.2	+10	01.8	19	23.7	+14	21.7	77	39.0	+23	16.4	165	38.5	-1	34.9
19	182	24.7	151	09.2		02.6	34	24.9		21.2	92	40.8		16.4	180	40.9		34.8
20	197	27.2	166	09.2		03.4	49	26.0		20.7	107	42.7		16.4	195	43.2		34.8
21	212	29.7	181	09.3		04.2	64	27.2		20.3	122	44.5		16.4	210	45.5		34.7
22	227	32.1	196	09.3		04.9	79	28.3		19.8	137	46.3		16.4	225	47.9		34.7
23	242	34.6	211	09.3		05.7	94	29.5		19.3	152	48.2		16.4	240	50.2		34.6
24	257	37.1	226	09.4	+10	06.5	109	30.6	+14	18.8	167	50.0	+23	16.4	255	52.5	-1	34.6
Dif	—		0		+8		+12		-5		+18		0		+23			

UT	SOL		☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 59.3 ^m		Edad: 12.9 ^d PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'4 R°: 52 ^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	h m m	
0	180	11.8	+22 56.1		28 39.6	127 -22 33.4	90 60 N	21 20	22 57	** **	20 26	94	1 00	6		
1	195	11.6	56.3		43 11.3	126 -22 42.4	58	21 00	22 13	** **	20 01	85	18	14		
2	210	11.5	56.5		57 42.9	125 -22 51.3	89 56	20 44	21 45	** **	19 42	78	33	19		
3	225	11.4	56.7		72 14.4	125 -23 00.2	89 54	30	24	23 02	25 75		46	23		
4	240	11.3	56.9		86 45.9	125 09.0	88 52	18	21 06	22 22	19 11	72	1 58	25		
5	255	11.2	+22 57.1		101 17.3	124 -23 17.6	86 50	20 08	20 52	21 56	18 59	70	2 08	28		
6	270	11.0	+22 57.3		115 48.6	123 -23 26.2	86 45	19 46	20 23	21 12	18 34	66	2 29	33		
7	285	10.9	57.5		130 19.8	122 34.6	84 40	28	20 01	20 42	18 13	64	2 47	36		
8	300	10.8	57.7		144 50.9	121 43.0	84 35	13	19 43	19	17 57	61	3 01	39		
9	315	10.7	57.9		159 22.0	121 51.2	82 30	19 00	28	20 01	42 60		14	41		
10	330	10.5	58.1		173 53.0	120 -23 59.4	82 20	18 39	19 03	19 32	17 18	57	36	45		
11	345	10.4	+22 58.3		188 23.9	119 -24 07.4	80 10 N	18 20	18 43	19 10	16 57	54	3 55	48		
12	0	10.3	+22 58.5		202 54.7	118 -24 15.4	80 0	18 03	18 25	18 52	16 38	52	4 13	50		
13	15	10.2	58.7		217 25.4	117 23.2	78 10 S	17 46	18 09	35	16 19	49	31	53		
14	30	10.0	58.9		231 56.1	117 30.9	77 20	28	17 52	19	15 58	47	4 50	56		
15	45	09.9	59.1		246 26.7	116 38.5	76 30	17 07	33	18 03	34 44		5 12	60		
16	60	09.8	59.3		260 57.2	115 46.1	76 35	16 55	23	17 54	20 42		26	61		
17	75	09.7	+22 59.5		275 27.6	114 -24 53.4	73 40	16 41	17 11	17 45	15 04	40	5 41	64		
18	90	09.6	+22 59.7		289 58.0	114 -25 00.7	72 45	16 25	16 58	17 35	14 45	37	5 59	67		
19	105	09.4	+22 59.9		304 28.3	113 07.9	72 50	16 04	43	24	22 32		6 21	72		
20	120	09.3	+23 00.1		318 58.5	112 15.0	71 52	15 55	35	19	14 10	31	32	75		
21	135	09.2	00.3		333 28.6	111 21.9	69 54	44	27	13	13 58	27	45	77		
22	150	09.1	00.4		347 58.6	110 28.7	68 56	32	19	07	43 24		6 59	81		
23	165	08.9	00.6		2 28.6	109 35.5	68 58	17	16 09	17 01	26 18		7 16	86		
24	180	08.8	+23 00.8		16 58.5	109 -25 42.0	65 60 S	15 01	15 57	16 54	13 05	10	7 36	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 48.4 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.3 PMG: 16 ^h 41 ^m		Mag: -1.9 PMG: 12 ^h 47 ^m		Mag: +1.1 PMG: 6 ^h 55 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	257	37.1	226 09.4	+10 06.5	109 30.6	+14 18.8	167 50.0	+23 16.4	255 52.5	-1 34.6
1	272	39.5	241 09.4	07.3	124 31.8	18.3	182 51.9	16.4	270 54.9	34.5
2	287	42.0	256 09.4	08.1	139 32.9	17.8	197 53.7	16.4	285 57.2	34.5
3	302	44.5	271 09.5	08.8	154 34.1	17.3	212 55.6	16.4	300 59.5	34.5
4	317	46.9	286 09.5	09.6	169 35.2	16.8	227 57.4	16.4	316 01.9	34.4
5	332	49.4	301 09.5	+10 10.4	184 36.4	+14 16.3	242 59.3	+23 16.4	331 04.2	-1 34.4
6	347	51.9	316 09.6	+10 11.2	199 37.5	+14 15.8	258 01.1	+23 16.4	346 06.5	-1 34.3
7	2	54.3	331 09.6	12.0	214 38.7	15.3	273 03.0	16.4	1 08.9	34.3
8	17	56.8	346 09.6	12.7	229 39.8	14.8	288 04.8	16.4	16 11.2	34.2
9	32	59.2	1 09.7	13.5	244 41.0	14.3	303 06.7	16.4	31 13.5	34.2
10	48	01.7	16 09.7	14.3	259 42.1	13.8	318 08.5	16.4	46 15.9	34.1
11	63	04.2	31 09.7	+10 15.1	274 43.3	+14 13.3	333 10.4	+23 16.4	61 18.2	-1 34.1
12	78	06.6	46 09.7	+10 15.9	289 44.4	+14 12.8	348 12.2	+23 16.4	76 20.5	-1 34.0
13	93	09.1	61 09.8	16.7	304 45.6	12.3	3 14.1	16.4	91 22.9	34.0
14	108	11.6	76 09.8	17.4	319 46.7	11.8	18 15.9	16.5	106 25.2	34.0
15	123	14.0	91 09.8	18.2	334 47.9	11.3	33 17.8	16.5	121 27.5	33.9
16	138	16.5	106 09.8	19.0	349 49.0	10.8	48 19.6	16.5	136 29.9	33.9
17	153	19.0	121 09.9	+10 19.8	4 50.2	+14 10.3	63 21.5	+23 16.5	151 32.2	-1 33.8
18	168	21.4	136 09.9	+10 20.6	19 51.3	+14 09.8	78 23.3	+23 16.5	166 34.6	-1 33.8
19	183	23.9	151 09.9	21.3	34 52.5	09.3	93 25.1	16.5	181 36.9	33.7
20	198	26.4	166 09.9	22.1	49 53.6	08.8	108 27.0	16.5	196 39.2	33.7
21	213	28.8	181 09.9	22.9	64 54.8	08.3	123 28.8	16.5	211 41.6	33.7
22	228	31.3	196 10.0	23.7	79 55.9	07.8	138 30.7	16.5	226 43.9	33.6
23	243	33.7	211 10.0	24.5	94 57.1	07.3	153 32.5	16.5	241 46.2	33.6
24	258	36.2	226 10.0	+10 25.2	109 58.2	+14 06.8	168 34.4	+23 16.5	256 48.6	-1 33.5
Dif	—		0	+8	+11	-5	+18	0	+23	0

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:11 ^h 59.5 ^m			Edad: 13.9 ^d PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 53 ^m														
	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	180	08.8	+23	00.8	16	58.5	108	-25	42.0	65	60 N	1 02	2 39	21 59	73	1 05	14	
1	195	08.7		01.0	31	28.3	108		48.5	64	58	1 46	2 59	21 24	67	30	24	
2	210	08.6		01.2	45	58.1	107	-25	54.9	62	56	2 14	3 15	20 59	65	1 51	28	
3	225	08.4		01.4	60	27.8	106	-26	01.1	61	54	0 57	35	29	39	63	2 07	32
4	240	08.3		01.6	74	57.4	105		07.2	60	52	1 37	2 52	41	22	62	22	34
5	255	08.2	+23	01.8	89	26.9	105	-26	13.2	60	50	2 03	3 07	3 51	20 08	60	2 34	37
6	270	08.1	+23	02.0	103	56.4	105	-26	19.1	59	45	2 47	3 36	4 13	19 38	60	3 01	40
7	285	07.9		02.1	118	25.8	104		24.8	57	40	3 17	3 58	31	19 15	59	21	43
8	300	07.8		02.3	132	55.1	103		30.5	57	35	40	4 16	46	18 57	57	39	44
9	315	07.7		02.5	147	24.3	102		36.0	55	30	3 58	31	4 58	41	56	3	54
10	330	07.6		02.7	161	53.5	102		41.3	53	20	4 26	4 55	5 20	18 13	56	4	19
11	345	07.4	+23	02.9	176	22.6	101	-26	46.6	53	10 N	4 49	5 16	5 39	17 50	54	4	41
12	0	07.3	+23	03.1	190	51.7	101	-26	51.7	51	0	5 07	5 33	5 56	17 28	53	5	02
13	15	07.2		03.2	205	20.7	100	-26	56.7	50	10 S	5 24	5 50	6 13	17 07	52	23	53
14	30	07.1		03.4	219	49.6	99	-27	01.5	48	20	40	6 07	31	16 44	50	5	45
15	45	06.9		03.6	234	18.4	98		06.3	48	30	5 56	26	6 52	17 49		6	11
16	60	06.8		03.8	248	47.2	98		10.9	46	35	6 04	36	7 04	16 01	48	26	59
17	75	06.7	+23	04.0	263	15.9	97	-27	15.3	44	40	6 14	6 48	7 18	15 43	47	6	44
18	90	06.6	+23	04.1	277	44.6	97	-27	19.6	43	45	6 24	7 01	7 35	15 21	45	7	05
19	105	06.4		04.3	292	13.2	96		23.8	42	50	35	17	7 55	14 53	43	32	65
20	120	06.3		04.5	306	41.7	95		27.9	41	52	40	24	8 04	39 42		7	45
21	135	06.2		04.7	321	10.2	95		31.8	39	54	46	32	15	24 40		8	01
22	150	06.1		04.8	335	38.6	94		35.6	38	56	52	41	28	14 05	38	19	72
23	165	05.9		05.0	350	07.0	94		39.3	37	58	6 58	7 51	42	13 43	33	8	41
24	180	05.8	+23	05.2	4	35.3	93	-27	42.8	35	60 S	7 06	8 02	8 59	13 14	24	9	10
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 44.5 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m			Mag: +1.3 PMG: 16 ^h 39 ^m			Mag: -1.9 PMG: 12 ^h 44 ^m			Mag: +1.0 PMG: 6 ^h 52 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	258	36.2	226	10.0	+10	25.2	109	58.2	+14	06.8	168	34.4	+23	16.5	256	48.6	-1	33.5
1	273	38.7	241	10.0		26.0	124	59.3		06.3	183	36.2		16.5	271	50.9		33.5
2	288	41.1	256	10.0		26.8	140	00.5		05.8	198	38.1		16.5	286	53.2		33.4
3	303	43.6	271	10.1		27.6	155	01.6		05.3	213	39.9		16.5	301	55.6		33.4
4	318	46.1	286	10.1		28.4	170	02.8		04.8	228	41.8		16.5	316	57.9		33.3
5	333	48.5	301	10.1	+10	29.2	185	03.9	+14	04.3	243	43.6	+23	16.5	332	00.3	-1	33.3
6	348	51.0	316	10.1	+10	29.9	200	05.1	+14	03.8	258	45.5	+23	16.5	347	02.6	-1	33.3
7	3	53.5	331	10.1		30.7	215	06.2		03.3	273	47.3		16.5	2	04.9		33.2
8	18	55.9	346	10.1		31.5	230	07.4		02.8	288	49.2		16.5	17	07.3		33.2
9	33	58.4	1	10.1		32.3	245	08.5		02.3	303	51.0		16.5	32	09.6		33.1
10	49	00.9	16	10.1		33.1	260	09.7		01.8	318	52.9		16.5	47	12.0		33.1
11	64	03.3	31	10.2	+10	33.9	275	10.8	+14	01.3	333	54.7	+23	16.5	62	14.3	-1	33.0
12	79	05.8	46	10.2	+10	34.6	290	12.0	+14	00.8	348	56.5	+23	16.5	77	16.6	-1	33.0
13	94	08.2	61	10.2		35.4	305	13.1	+14	00.3	3	58.4		16.5	92	19.0		33.0
14	109	10.7	76	10.2		36.2	320	14.3	+13	59.8	19	00.2		16.5	107	21.3		32.9
15	124	13.2	91	10.2		37.0	335	15.4		59.3	34	02.1		16.5	122	23.6		32.9
16	139	15.6	106	10.2		37.8	350	16.6		58.8	49	03.9		16.6	137	26.0		32.8
17	154	18.1	121	10.2	+10	38.5	5	17.7	+13	58.3	64	05.8	+23	16.6	152	28.3	-1	32.8
18	169	20.6	136	10.2	+10	39.3	20	18.9	+13	57.7	79	07.6	+23	16.6	167	30.7	-1	32.7
19	184	23.0	151	10.2		40.1	35	20.0		57.2	94	09.5		16.6	182	33.0		32.7
20	199	25.5	166	10.2		40.9	50	21.2		56.7	109	11.3		16.6	197	35.3		32.7
21	214	28.0	181	10.2		41.7	65	22.3		56.2	124	13.2		16.6	212	37.7		32.6
22	229	30.4	196	10.2		42.5	80	23.5		55.7	139	15.0		16.6	227	40.0		32.6
23	244	32.9	211	10.2		43.2	95	24.6		55.2	154	16.9		16.6	242	42.4		32.5
24	259	35.4	226	10.2	+10	44.0	110	25.7	+13	54.7	169	18.7	+23	16.6	257	44.7	-1	32.5
Dif	—		0		+8		+11		-5		+18		0		+23		0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG: 11 ^h 59.7 ^m		Edad: 14.9 ^d SD: 14'9 PMG: **h **m						Civil		Náutico	Hora	R°	Hora	R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			h m	h m	h m	h m	h m	h m	h m	h m	
0	180	05.8	+23	05.2	4	35.3	-27	42.8	33	60 N	21 22	23 02	** **	23 12	38	1 19	39
1	195	05.7		05.4	19	03.6	93	46.1	33	58	21 02	22 16	** **	22 31	45	1 54	45
2	210	05.6		05.5	33	31.8	92	49.4	31	56	20 46	21 47	** **	22 04	46	2 19	48
3	225	05.4		05.7	48	00.0	92	52.5	31	54	32	25	23 07	21 42	48	39	50
4	240	05.3		05.9	62	28.1	91	55.4	29	52	20	21 08	22 24	24	49	2 56	51
5	255	05.2	+23	06.0	76	56.1	90	58.2	28	50	20 09	20 53	21 58	21 08	51	3 11	51
6	270	05.0	+23	06.2	91	24.1	90	00.9	27	45	19 47	20 24	21 13	20 38	52	3 41	52
7	285	04.9		06.4	105	52.1	90	03.4	25	40	29	20 02	20 43	20 14	52	4 04	53
8	300	04.8		06.6	120	20.0	89	05.8	24	35	14	19 44	20	19 54	53	23	54
9	315	04.7		06.7	134	47.9	89	08.1	23	30	19 01	29	20 02	37	54	4 40	53
10	330	04.5		06.9	149	15.7	88	10.2	21	20	18 39	19 04	19 33	19 09	54	5 07	55
11	345	04.4	+23	07.1	163	43.5	88	12.1	19	10 N	18 21	18 44	19 11	18 44	55	5 31	55
12	0	04.3	+23	07.2	178	11.2	87	13.9	18	0	18 03	18 26	18 52	18 21	56	5 54	55
13	15	04.2		07.4	192	38.9	87	15.6	17	10 S	17 46	18 09	35	17 59	56	6 16	56
14	30	04.0		07.5	207	06.6	87	17.1	15	20	28	17 52	19	34	57	6 40	56
15	45	03.9		07.7	221	34.3	87	18.5	14	30	17 07	33	18 03	17 06	57	7 08	56
16	60	03.8		07.9	236	01.9	86	19.7	12	35	16 55	23	17 54	16 49	58	25	56
17	75	03.6	+23	08.0	250	29.4	85	20.8	11	40	16 41	17 11	17 45	16 30	57	7 44	56
18	90	03.5	+23	08.2	264	57.0	86	21.7	9	45	16 24	16 58	17 35	16 06	58	8 07	57
19	105	03.4		08.4	279	24.5	85	22.5	8	50	16 04	42	24	15 36	58	37	57
20	120	03.3		08.5	293	52.0	85	23.1	6	52	15 54	35	18	21	58	8 52	57
21	135	03.1		08.7	308	19.4	84	23.6	5	54	43	27	13	15 04	58	9 10	56
22	150	03.0		08.8	322	46.9	85	23.9	3	56	31	18	07	14 43	58	31	56
23	165	02.9		09.0	337	14.3	84	24.1	2	58	15 16	16 08	17 00	14 16	59	9 57	57
24	180	02.7	+23	09.1	351	41.7	84	24.1	0	60 S	14 59	15 56	16 53	13 38	60	10 34	57

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 6 ^h 40.5 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.3 PMG: 16 ^h 37 ^m		Mag: -1.9 PMG: 12 ^h 41 ^m		Mag: +1.0 PMG: 6 ^h 48 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	259	35.4	226	10.2	+10	44.0	110	25.7	+13	54.7	169	18.7	+23	16.6	257	44.7	-1	32.5
1	274	37.8	241	10.2		44.8	125	26.9		54.2	184	20.5		16.6	272	47.0		32.4
2	289	40.3	256	10.3		45.6	140	28.0		53.7	199	22.4		16.6	287	49.4		32.4
3	304	42.7	271	10.3		46.4	155	29.2		53.2	214	24.2		16.6	302	51.7		32.4
4	319	45.2	286	10.3		47.2	170	30.3		52.7	229	26.1		16.6	317	54.1		32.3
5	334	47.7	301	10.3	+10	47.9	185	31.5	+13	52.2	244	27.9	+23	16.6	332	56.4	-1	32.3
6	349	50.1	316	10.3	+10	48.7	200	32.6	+13	51.7	259	29.8	+23	16.6	347	58.8	-1	32.2
7	4	52.6	331	10.2		49.5	215	33.8		51.2	274	31.6		16.6	3	01.1		32.2
8	19	55.1	346	10.2		50.3	230	34.9		50.7	289	33.5		16.6	18	03.4		32.2
9	34	57.5	1	10.2		51.1	245	36.1		50.2	304	35.3		16.6	33	05.8		32.1
10	50	00.0	16	10.2		51.9	260	37.2		49.7	319	37.2		16.6	48	08.1		32.1
11	65	02.5	31	10.2	+10	52.6	275	38.4	+13	49.2	334	39.0	+23	16.6	63	10.5	-1	32.0
12	80	04.9	46	10.2	+10	53.4	290	39.5	+13	48.7	349	40.9	+23	16.6	78	12.8	-1	32.0
13	95	07.4	61	10.2		54.2	305	40.7		48.2	4	42.7		16.6	93	15.1		31.9
14	110	09.8	76	10.2		55.0	320	41.8		47.6	19	44.6		16.6	108	17.5		31.9
15	125	12.3	91	10.2		55.8	335	42.9		47.1	34	46.4		16.6	123	19.8		31.9
16	140	14.8	106	10.2		56.5	350	44.1		46.6	49	48.2		16.6	138	22.2		31.8
17	155	17.2	121	10.2	+10	57.3	5	45.2	+13	46.1	64	50.1	+23	16.6	153	24.5	-1	31.8
18	170	19.7	136	10.2	+10	58.1	20	46.4	+13	45.6	79	51.9	+23	16.6	168	26.9	-1	31.7
19	185	22.2	151	10.2		58.9	35	47.5		45.1	94	53.8		16.6	183	29.2		31.7
20	200	24.6	166	10.2	+10	59.7	50	48.7		44.6	109	55.6		16.6	198	31.5		31.7
21	215	27.1	181	10.2	+11	00.5	65	49.8		44.1	124	57.5		16.6	213	33.9		31.6
22	230	29.6	196	10.1		01.2	80	51.0		43.6	139	59.3		16.6	228	36.2		31.6
23	245	32.0	211	10.1		02.0	95	52.1		43.1	155	01.2		16.6	243	38.6		31.5
24	260	34.5	226	10.1	+11	02.8	110	53.3	+13	42.6	170	03.0	+23	16.6	258	40.9	-1	31.5

Dif	—	0	+8	+11	-5	+18	0	+23

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:11 ^h 59.9 ^m			Edad: 15.9 ^d PHE { 4 ^h : 55 ^h 2 12 ^h : 55 ^h 3 20 ^h : 55 ^h 5 R°: 55 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	180	02.7	+23	09.1	351	41.7	83	-28	24.1	1	60 N	0 58	2 38	23 49	13	1 57	77	
1	195	02.6		09.3	6	09.0	84		24.0	2	58	1 44	2 57	23 14	23	2 38	70	
2	210	02.5		09.5	20	36.4	83		23.7	3	56	2 12	3 14	22 49	29	3 06	67	
3	225	02.4		09.6	35	03.7	83		23.3	4	54	0 53	34	29	32	27	66	
4	240	02.2		09.8	49	31.0	83		22.7	5	52	1 35	2 52	40	22 12	35	3 45	64
5	255	02.1	+23	09.9	63	58.4	84	-28	22.0	6	50	2 02	3 06	3 51	21 58	37	4 01	63
6	270	02.0	+23	10.1	78	25.6	82	-28	21.1	7	45	2 46	3 36	4 13	21 28	41	4 32	61
7	285	01.8		10.2	92	52.9	83		20.1	8	40	3 16	3 58	31	21 05	44	4 55	60
8	300	01.7		10.4	107	20.2	83		18.9	9	35	39	4 16	45	20 46	46	5 15	59
9	315	01.6		10.5	121	47.5	83		17.6	10	30	3 58	31	4 58	30	47	5 32	58
10	330	01.5		10.7	136	14.7	82		16.1	11	20	4 26	4 56	5 20	20 02	50	6 00	57
11	345	01.3	+23	10.8	150	42.0	83	-28	14.5	12	10 N	4 49	5 16	5 39	19 38	52	6 25	55
12	0	01.2	+23	11.0	165	09.2	82	-28	12.7	13	0	5 08	5 34	5 56	19 16	54	6 48	54
13	15	01.1		11.1	179	36.5	83		10.8	14	10 S	24	5 51	6 13	18 53	56	7 10	53
14	30	00.9		11.3	194	03.8	83		08.7	15	20	40	6 08	32	30	57	7 34	52
15	45	00.8		11.4	208	31.0	82		06.5	16	30	5 57	26	6 53	18 02	60	8 03	50
16	60	00.7		11.6	222	58.3	83		04.1	17	35	6 05	37	7 05	17 45	62	19	49
17	75	00.6	+23	11.7	237	25.5	82	-28	01.5	18	40	6 15	6 49	7 19	17 26	63	8 39	47
18	90	00.4	+23	11.8	251	52.8	83	-27	58.8	19	45	6 25	7 02	7 36	17 03	65	9 02	46
19	105	00.3		12.0	266	20.1	83		56.0	20	50	36	18	7 56	16 33	68	33	43
20	120	00.2		12.1	280	47.4	83		53.0	21	52	41	25	8 06	18	70	9 48	41
21	135	00.0		12.3	295	14.7	83		49.8	22	54	47	33	17	16 00	73	10 05	39
22	149	59.9		12.4	309	42.0	83		46.6	23	56	6 53	42	29	15 40	75	26	37
23	164	59.8		12.6	324	09.3	83		43.1	24	58	7 00	7 52	8 44	15 13	81	10 52	32
24	179	59.6	+23	12.7	338	36.7	84	-27	39.5	25	60 S	7 07	8 04	9 01	14 36	90	11 29	24
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 36.6 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m			Mag: +1.3 PMG: 16 ^h 35 ^m			Mag: -1.9 PMG: 12 ^h 38 ^m			Mag: +1.0 PMG: 6 ^h 44 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	'	°	°	'	°	°	'	°				
0	260	34.5	226	10.1	+11	02.8	110	53.3	+13	42.6	170	03.0	+23	16.6	258	40.9	-1	31.5
1	275	37.0	241	10.1		03.6	125	54.4		42.1	185	04.9		16.6	273	43.3		31.5
2	290	39.4	256	10.1		04.4	140	55.5		41.6	200	06.7		16.6	288	45.6		31.4
3	305	41.9	271	10.1		05.2	155	56.7		41.0	215	08.5		16.6	303	47.9		31.4
4	320	44.3	286	10.1		05.9	170	57.8		40.5	230	10.4		16.6	318	50.3		31.3
5	335	46.8	301	10.0	+11	06.7	185	59.0	+13	40.0	245	12.2	+23	16.6	333	52.6	-1	31.3
6	350	49.3	316	10.0	+11	07.5	201	00.1	+13	39.5	260	14.1	+23	16.7	348	55.0	-1	31.3
7	5	51.7	331	10.0		08.3	216	01.3		39.0	275	15.9		16.7	3	57.3		31.2
8	20	54.2	346	10.0		09.1	231	02.4		38.5	290	17.8		16.7	18	59.7		31.2
9	35	56.7	1	10.0		09.8	246	03.6		38.0	305	19.6		16.7	34	02.0		31.1
10	50	59.1	16	10.0		10.6	261	04.7		37.5	320	21.5		16.7	49	04.4		31.1
11	66	01.6	31	09.9	+11	11.4	276	05.8	+13	37.0	335	23.3	+23	16.7	64	06.7	-1	31.1
12	81	04.1	46	09.9	+11	12.2	291	07.0	+13	36.5	350	25.2	+23	16.7	79	09.1	-1	31.0
13	96	06.5	61	09.9		13.0	306	08.1		36.0	5	27.0		16.7	94	11.4		31.0
14	111	09.0	76	09.9		13.8	321	09.3		35.4	20	28.8		16.7	109	13.7		30.9
15	126	11.5	91	09.9		14.5	336	10.4		34.9	35	30.7		16.7	124	16.1		30.9
16	141	13.9	106	09.8		15.3	351	11.6		34.4	50	32.5		16.7	139	18.4		30.9
17	156	16.4	121	09.8	+11	16.1	6	12.7	+13	33.9	65	34.4	+23	16.7	154	20.8	-1	30.8
18	171	18.8	136	09.8	+11	16.9	21	13.9	+13	33.4	80	36.2	+23	16.7	169	23.1	-1	30.8
19	186	21.3	151	09.8		17.7	36	15.0		32.9	95	38.1		16.7	184	25.5		30.7
20	201	23.8	166	09.7		18.5	51	16.1		32.4	110	39.9		16.7	199	27.8		30.7
21	216	26.2	181	09.7		19.2	66	17.3		31.9	125	41.8		16.7	214	30.2		30.7
22	231	28.7	196	09.7		20.0	81	18.4		31.4	140	43.6		16.7	229	32.5		30.6
23	246	31.2	211	09.7		20.8	96	19.6		30.8	155	45.5		16.7	244	34.9		30.6
24	261	33.6	226	09.6	+11	21.6	111	20.7	+13	30.3	170	47.3	+23	16.7	259	37.2	-1	30.5
Dif	—		0		+8		+11		-5		+18		0		+23		0	

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 15'8 PMG:12 ^h 00.1 ^m				Edad: 16.9 ^d SD: 15'1 PMG: 1 ^h 29 ^m PHE { 4 ^h : 55'6 12 ^h : 55'8 20 ^h : 55'9 R°: 55 ^m																				
	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	59.6	+23	12.7	338	36.7			-27	39.5	37	60 N	21	24	23	06	**	**	**	3	14	100			
1	194	59.5		12.8	353	04.1	84			35.8	39	58	21	04	22	18	**	**	23	37	14	3	48	89	
2	209	59.4		13.0	7	31.4	84			31.9	41	56	20	47	21	49	**	**	18	19		4	13	83	
3	224	59.3		13.1	21	58.8	84			27.8	42	54		33		27	23	11	23	01	23	33	77		
4	239	59.1		13.2	36	26.3	85			23.6	43	52		21	21	09	22	27	22	47	26	4	49	77	
5	254	59.0	+23	13.4	50	53.7	84	-27	19.3	42	50		20	10	20	54	21	59	22	35	29	5	04	74	
6	269	58.9	+23	13.5	65	21.2	85	-27	14.8	45	45		19	48	20	25	21	15	22	09	34	5	33	70	
7	284	58.7		13.7	79	48.7	85		10.1	47	40		30	20	03	20	44	21	49	37	5	55	67		
8	299	58.6		13.8	94	16.2	85		05.3	48	35		15	19	45		21		32	40		6	14	65	
9	314	58.5		13.9	108	43.8	86	-27	00.4	49	30		19	02		29	20	03	21	17	43		30	63	
10	329	58.3		14.1	123	11.4	86	-26	55.3	51	20		18	40	19	05	19	34	20	52	47		6	57	60
11	344	58.2	+23	14.2	137	39.0	86	-26	50.1	52	10 N		18	21	18	44	19	11	20	30	50		7	20	57
12	359	58.1	+23	14.3	152	06.6	86	-26	44.7	54	0		18	04	18	26	18	53	20	10	53		7	42	54
13	14	57.9		14.4	166	34.3	87		39.2	55	10 S		17	46	18	09		36	19	49	57		8	03	52
14	29	57.8		14.6	181	02.0	87		33.5	57	20		28		17	52		20		27	60		26	49	
15	44	57.7		14.7	195	29.8	88		27.7	58	30		17	07	33	18	03	19	02	63		8	53	46	
16	59	57.6		14.8	209	57.6	88		21.7	60	35		16	55	23	17	55	18	47	66		9	08	44	
17	74	57.4	+23	15.0	224	25.4	88	-26	15.6	61	40		16	41	17	11	17	45	18	29	69		9	26	42
18	89	57.3	+23	15.1	238	53.3	89	-26	09.4	62	45		16	24	16	58	17	35	18	08	73		9	48	38
19	104	57.2		15.2	253	21.2	89	-26	03.0	64	50		16	04		42	23	17	41	78		10	16	33	
20	119	57.0		15.3	267	49.1	89	-25	56.5	65	52		15	54	35	18		28	80		29	31			
21	134	56.9		15.5	282	17.1	90		49.8	67	54			43		26	13	17	13	84		10	44	28	
22	149	56.8		15.6	296	45.1	90		43.0	68	56			30		17	06	16	55	88		11	03	23	
23	164	56.6		15.7	311	13.2	91		36.1	69	58		15	16	16	07	17	00	34	93		24	19		
24	179	56.5	+23	15.8	325	41.3	91	-25	29.0	71	60 S		14	58	15	56	16	52	16	06	102		11	53	10

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 6 ^h 32.7 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m			Mag: +1.3 PMG: 16 ^h 33 ^m			Mag: -1.9 PMG: 12 ^h 35 ^m			Mag: +1.0 PMG: 6 ^h 40 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	261	33.6	226	09.6	+11	21.6			170	47.3	+23	16.7	259	37.2	-1	30.5	
1	276	36.1	241	09.6		22.4			185	49.1		16.7	274	39.6		30.5	
2	291	38.6	256	09.6		23.1			200	51.0		16.7	289	41.9		30.5	
3	306	41.0	271	09.5		23.9			215	52.8		16.7	304	44.3		30.4	
4	321	43.5	286	09.5		24.7			230	54.7		16.7	319	46.6		30.4	
5	336	46.0	301	09.5	+11	25.5			245	56.5	+23	16.7	334	48.9	-1	30.3	
6	351	48.4	316	09.4	+11	26.3			260	58.4	+23	16.7	349	51.3	-1	30.3	
7	6	50.9	331	09.4		27.1			276	00.2		16.7	4	53.6		30.3	
8	21	53.3	346	09.4		27.8			291	02.1		16.7	19	56.0		30.2	
9	36	55.8	1	09.3		28.6			306	03.9		16.7	34	58.3		30.2	
10	51	58.3	16	09.3		29.4			321	05.8		16.7	50	00.7		30.2	
11	67	00.7	31	09.3	+11	30.2			336	07.6	+23	16.7	65	03.0	-1	30.1	
12	82	03.2	46	09.2	+11	31.0			351	09.4	+23	16.7	80	05.4	-1	30.1	
13	97	05.7	61	09.2		31.7			6	11.3		16.7	95	07.7		30.0	
14	112	08.1	76	09.2		32.5			21	13.1		16.7	110	10.1		30.0	
15	127	10.6	91	09.1		33.3			36	15.0		16.7	125	12.4		30.0	
16	142	13.1	106	09.1		34.1			51	16.8		16.7	140	14.8		29.9	
17	157	15.5	121	09.0	+11	34.9			66	18.7	+23	16.7	155	17.1	-1	29.9	
18	172	18.0	136	09.0	+11	35.7			81	20.5	+23	16.7	170	19.5	-1	29.9	
19	187	20.5	151	09.0		36.4			96	22.4		16.7	185	21.8		29.8	
20	202	22.9	166	08.9		37.2			111	24.2		16.7	200	24.2		29.8	
21	217	25.4	181	08.9		38.0			126	26.0		16.7	215	26.5		29.7	
22	232	27.8	196	08.8		38.8			141	27.9		16.7	230	28.9		29.7	
23	247	30.3	211	08.8		39.6			156	29.7		16.7	245	31.2		29.7	
24	262	32.8	226	08.8	+11	40.3			171	31.6	+23	16.7	260	33.6	-1	29.6	
Dif	—		0			+8			+18			0			+23		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 15/7 PMG:12 ^h 00.3 ^m				Edad: 17.9 ^d PHE { 4 ^h : 56/1 12 ^h : 56/3 20 ^h : 56/4 PMG: 2 ^h 22 ^m R°: 52 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m		
0	179	56.5	+23	15.8	325	41.3	92	-25	29.0	72	60 N	** **	0 54	2 36	0 02	4	4 52	102						
1	194	56.4		16.0	340	09.5	92		21.8	74	58	** **	1 42	2 57	23 49	7	5 16	94						
2	209	56.2		16.1	354	37.7	92		14.4	75	56	** **	2 11	3 13	35 12		35	89						
3	224	56.1		16.2	9	05.9	92	-25	06.9	75	54	0 50	33	27	23 15	5	5 51	85						
4	239	56.0		16.3	23	34.3	94	-24	59.3	76	52	1 34	2 51	40	12 18	6	05	81						
5	254	55.8	+23	16.4	38	02.6	93	-24	51.5	78	50	2 01	3 06	3 50	23 02	21	6 17	78						
6	269	55.7	+23	16.6	52	31.0	94	-24	43.6	79	45	2 46	3 35	4 13	22 42	26	6 41	73						
7	284	55.6		16.7	66	59.5	95		35.6	80	40	3 16	3 58	31	25 30		7 01	69						
8	299	55.4		16.8	81	28.0	95		27.4	82	35	39	4 16	46	22 11	34	17	66						
9	314	55.3		16.9	95	56.5	95		19.1	83	30	3 58	31	4 58	21 59	36	31	63						
10	329	55.2		17.0	110	25.1	96		10.7	84	20	4 27	4 56	5 20	37 42		7 55	59						
11	344	55.1	+23	17.1	124	53.8	97	-24	02.1	86	10 N	4 49	5 16	5 39	21 19	46	8 16	54						
12	359	54.9	+23	17.3	139	22.5	97	-23	53.4	87	0	5 08	5 34	5 57	21 02	49	8 35	51						
13	14	54.8		17.4	153	51.3	98		44.6	88	10 S	25	5 51	6 14	20 44	54	8 54	47						
14	29	54.7		17.5	168	20.1	98		35.6	90	20	41	6 08	32	26 58		9 14	44						
15	44	54.5		17.6	182	49.0	99		26.6	90	30	5 57	27	6 54	20 04	63	37	39						
16	59	54.4		17.7	197	17.9	99		17.3	93	35	6 06	38	7 06	19 51	66	9 51	36						
17	74	54.3	+23	17.8	211	46.9	100	-23	08.0	93	40	6 15	6 49	7 20	19 37	69	10 06	33						
18	89	54.1	+23	17.9	226	15.9	100	-22	58.6	94	45	6 26	7 03	7 37	19 19	74	10 25	29						
19	104	54.0		18.0	240	45.0	101		49.0	97	50	37	19	7 57	18 57	80	48	24						
20	119	53.9		18.1	255	14.1	101		39.3	97	52	42	26	8 07	47 82		10 59	21						
21	134	53.7		18.2	269	43.3	102		29.5	98	54	48	34	18	35 86		11 11	18						
22	149	53.6		18.4	284	12.6	103		19.5	100	56	6 54	43	31	22 89		25	14						
23	164	53.5		18.5	298	41.9	103	-22	09.5	100	58	7 01	7 53	8 45	18 06	94	11 42	9						
24	179	53.3	+23	18.6	313	11.3	104	-21	59.3	102	60 S	7 08	8 05	9 02	17 47	101	12 01	3						
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 6 ^h 28.8 ^m				Mag: -4.3 PMG: 8 ^h 55 ^m				Mag: +1.3 PMG: 16 ^h 32 ^m				Mag: -1.9 PMG: 12 ^h 32 ^m				Mag: +1.0 PMG: 6 ^h 37 ^m							
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	262	32.8	226	08.8	+11	40.3	111	48.1	+13	18.0	171	31.6	+23	16.7	260	33.6	-1	29.6						
1	277	35.2	241	08.7		41.1	126	49.3		17.5	186	33.4		16.7	275	35.9		29.6						
2	292	37.7	256	08.7		41.9	141	50.4		17.0	201	35.3		16.7	290	38.3		29.6						
3	307	40.2	271	08.6		42.7	156	51.6		16.5	216	37.1		16.7	305	40.6		29.5						
4	322	42.6	286	08.6		43.5	171	52.7		15.9	231	39.0		16.7	320	43.0		29.5						
5	337	45.1	301	08.5	+11	44.2	186	53.9	+13	15.4	246	40.8	+23	16.7	335	45.3	-1	29.4						
6	352	47.6	316	08.5	+11	45.0	201	55.0	+13	14.9	261	42.7	+23	16.7	350	47.7	-1	29.4						
7	7	50.0	331	08.4		45.8	216	56.1		14.4	276	44.5		16.7	5	50.0		29.4						
8	22	52.5	346	08.4		46.6	231	57.3		13.9	291	46.3		16.7	20	52.4		29.3						
9	37	55.0	1	08.3		47.4	246	58.4		13.4	306	48.2		16.7	35	54.7		29.3						
10	52	57.4	16	08.3		48.1	261	59.6		12.8	321	50.0		16.7	50	57.1		29.3						
11	67	59.9	31	08.2	+11	48.9	277	00.7	+13	12.3	336	51.9	+23	16.7	65	59.5	-1	29.2						
12	83	02.3	46	08.2	+11	49.7	292	01.8	+13	11.8	351	53.7	+23	16.7	81	01.8	-1	29.2						
13	98	04.8	61	08.1		50.5	307	03.0		11.3	6	55.6		16.7	96	04.2		29.1						
14	113	07.3	76	08.1		51.3	322	04.1		10.8	21	57.4		16.7	111	06.5		29.1						
15	128	09.7	91	08.0		52.0	337	05.3		10.3	36	59.3		16.7	126	08.9		29.1						
16	143	12.2	106	08.0		52.8	352	06.4		09.7	52	01.1		16.7	141	11.2		29.0						
17	158	14.7	121	07.9	+11	53.6	7	07.5	+13	09.2	67	02.9	+23	16.7	156	13.6	-1	29.0						
18	173	17.1	136	07.9	+11	54.4	22	08.7	+13	08.7	82	04.8	+23	16.7	171	15.9	-1	29.0						
19	188	19.6	151	07.8		55.2	37	09.8		08.2	97	06.6		16.7	186	18.3		28.9						
20	203	22.1	166	07.8		55.9	52	11.0		07.7	112	08.5		16.7	201	20.6		28.9						
21	218	24.5	181	07.7		56.7	67	12.1		07.1	127	10.3		16.7	216	23.0		28.9						
22	233	27.0	196	07.6		57.5	82	13.3		06.6	142	12.2		16.7	231	25.3		28.8						
23	248	29.4	211	07.6		58.3	97	14.4		06.1	157	14.0		16.7	246	27.7		28.8						
24	263	31.9	226	07.5	+11	59.1	112	15.5	+13	05.6	172	15.9	+23	16.7	261	30.0	-1	28.7						
Dif	—				-1				+8				+18				0				+24			

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG:12 ^h 00.6 ^m				Edad: 18.9 ^d SD: 15'4 PMG: 3 ^h 14 ^m PHE { 4 ^h : 56'6 12 ^h : 56'8 20 ^h : 57'0 Rº: 50 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m	
0	179	53.3	+23	18.6	313	11.3	-21	59.3	103	58	60 N	21 25	23 10	** **	0 06	3	6 34	102			
1	194	53.2		18.7	327	40.7		49.0	104	58		21 05	22 20	** **	23 56	6	6 50	96			
2	209	53.1		18.8	342	10.2		38.6	105	56		20 48	21 51	** **	47 9		7 04	91			
3	224	52.9		18.9	356	39.7		28.0	106	54		34 29	23 14		38 12		16 87				
4	239	52.8		19.0	11	09.3		17.4	106	52		22 21	22 29		30 16		26 84				
5	254	52.7	+23	19.1	25	39.0	-21	06.6	108	50		20 11	20 56	22 01	23 23	18	7 35	81			
6	269	52.5	+23	19.2	40	08.7	-20	55.8	108	45		19 49	20 26	21 16	23 08	23	7 54	76			
7	284	52.4		19.3	54	38.5		44.8	110	40		31 20	20 03	20 45	22 55	28	8 10	71			
8	299	52.3		19.4	69	08.3		33.7	111	35		16 19	45 22		45 31		23 67				
9	314	52.1		19.5	83	38.2		22.5	112	30		19 03	30 20	03 35	35 35		34 64				
10	329	52.0		19.6	98	08.1	-20	11.1	114	20		18 41	19 05	19 34	19 40		8 54	58			
11	344	51.9	+23	19.7	112	38.1	-19	59.7	114	10 N		18 22	18 45	19 12	22 05	44	9 10	54			
12	359	51.7	+23	19.8	127	08.1	-19	48.2	115	0		18 04	18 27	18 53	21 51	50	9 26	50			
13	14	51.6		19.9	141	38.2		36.6	116	10 S		17 47	18 10	36	38 53		41 46				
14	29	51.5		20.0	156	08.4		24.8	118	20		28 17	52 20		24 58		9 58	41			
15	44	51.3		20.1	170	38.6		13.0	118	30		17 07	34 18	03 21	07 64		10 16	36			
16	59	51.2		20.2	185	08.9	-19	01.0	120	35		16 55	23 17	55 20	57 67		27 33				
17	74	51.1	+23	20.3	199	39.2	-18	49.0	120	40		16 41	17 11	17 45	20 46	71	10 39	30			
18	89	50.9	+23	20.3	214	09.6	-18	36.8	122	45		16 24	16 58	17 35	20 33	75	10 54	25			
19	104	50.8		20.4	228	40.0		24.6	122	50		16 03	42 23		17 81		11 12	19			
20	119	50.7		20.5	243	10.5	-18	12.2	124	52		15 54	34 18		09 84		20 17				
21	134	50.5		20.6	257	41.0	-17	59.8	124	54		42 42	26 12		20 01	87	29 14				
22	149	50.4		20.7	272	11.6		47.2	126	56		30 17	06 06		19 51	91	39 11				
23	164	50.3		20.8	286	42.2		34.6	126	58		15 15	16 07	17 00	40 95		11 51	7			
24	179	50.1	+23	20.9	301	12.9	-17	21.8	128	60 S		14 58	15 55	16 52	19 28	100	12 04	3			

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG 6 ^h 24.8 ^m		Mag: -4.3 PMG: 8 ^h 56 ^m			Mag: +1.3 PMG: 16 ^h 30 ^m			Mag: -1.9 PMG: 12 ^h 29 ^m			Mag: +1.0 PMG: 6 ^h 33 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°	
0	263	31.9	226	07.5	+11	59.1	112	15.5	+13	05.6	172	15.9	+23	16.7	
1	278	34.4	241	07.5	+11	59.8	127	16.7		05.1	187	17.7		16.7	
2	293	36.8	256	07.4	+12	00.6	142	17.8		04.6	202	19.5		16.7	
3	308	39.3	271	07.3		01.4	157	19.0		04.0	217	21.4		16.7	
4	323	41.8	286	07.3		02.2	172	20.1		03.5	232	23.2		16.7	
5	338	44.2	301	07.2	+12	02.9	187	21.2	+13	03.0	247	25.1	+23	16.7	
6	353	46.7	316	07.2	+12	03.7	202	22.4	+13	02.5	262	26.9	+23	16.7	
7	8	49.2	331	07.1		04.5	217	23.5		02.0	277	28.8		16.7	
8	23	51.6	346	07.0		05.3	232	24.7		01.4	292	30.6		16.7	
9	38	54.1	1	07.0		06.1	247	25.8		00.9	307	32.5		16.7	
10	53	56.6	16	06.9		06.8	262	26.9	+13	00.4	322	34.3		16.7	
11	68	59.0	31	06.8	+12	07.6	277	28.1	+12	59.9	337	36.1	+23	16.7	
12	84	01.5	46	06.8	+12	08.4	292	29.2	+12	59.4	352	38.0	+23	16.7	
13	99	03.9	61	06.7		09.2	307	30.4		58.8	7	39.8		16.7	
14	114	06.4	76	06.6		10.0	322	31.5		58.3	22	41.7		16.7	
15	129	08.9	91	06.6		10.7	337	32.6		57.8	37	43.5		16.7	
16	144	11.3	106	06.5		11.5	352	33.8		57.3	52	45.4		16.7	
17	159	13.8	121	06.4	+12	12.3	7	34.9	+12	56.7	67	47.2	+23	16.7	
18	174	16.3	136	06.4	+12	13.1	22	36.0	+12	56.2	82	49.0	+23	16.7	
19	189	18.7	151	06.3		13.8	37	37.2		55.7	97	50.9		16.7	
20	204	21.2	166	06.2		14.6	52	38.3		55.2	112	52.7		16.7	
21	219	23.7	181	06.1		15.4	67	39.5		54.7	127	54.6		16.7	
22	234	26.1	196	06.1		16.2	82	40.6		54.1	142	56.4		16.7	
23	249	28.6	211	06.0		16.9	97	41.7		53.6	157	58.3		16.7	
24	264	31.1	226	05.9	+12	17.7	112	42.9	+12	53.1	173	00.1	+23	16.7	
Dif	—		-1		+8		+11		-5		+18		0		+24

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15/7 PMG:12 ^h 00.8 ^m			Edad: 19.9 ^d PHE { 4 ^h : 57/2 12 ^h : 57/4 20 ^h : 57/5 SD: 15/5 PMG: 4 ^h 03 ^m R°: 47 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	179	50.1	+23	20.9	301	12.9	-17	21.8	128	60 N	0 52	2 36	0 08	0	8 15	97		
1	194	50.0		21.0	315	43.6	-17	09.0	129	58	1 41	2 56	08 00	0	25	93		
2	209	49.8		21.1	330	14.4	-16	56.1	130	56	2 11	3 13	23 55	6	34	89		
3	224	49.7		21.1	344	45.2		43.1	131	54	0 47	33	27	49	9	42	85	
4	239	49.6		21.2	359	16.1		30.0	132	52	1 33	2 51	39	44	12	49	82	
5	254	49.4	+23	21.3	13	47.0	-16	16.8	133	50	2 00	3 06	3 50	23 40	14	8 55	80	
6	269	49.3	+23	21.4	28	18.0	-16	03.5	134	45	2 46	3 35	4 13	23 30	20	9 08	74	
7	284	49.2		21.5	42	49.0	-15	50.1	134	40	3 16	3 58	31	22	24	19	70	
8	299	49.0		21.6	57	20.1		36.7	134	35	39	4 16	46	15	27	29	65	
9	314	48.9		21.7	71	51.2		23.2	135	30	3 58	31	4 59	23 08	31	37	62	
10	329	48.8		21.7	86	22.4	-15	09.5	137	20	4 27	4 56	5 21	22 58	36	9 51	56	
11	344	48.6	+23	21.8	100	53.6	-14	55.8	137	10 N	4 49	5 16	5 40	22 48	42	10 03	52	
12	359	48.5	+23	21.9	115	24.8	-14	42.0	138	0	5 08	5 35	5 57	22 39	47	10 14	47	
13	14	48.4		22.0	129	56.1		28.2	138	10 S	25	5 52	6 14	30 51	26	42		
14	29	48.2		22.0	144	27.4		14.2	140	20	41	6 09	33	20 57	38	37		
15	44	48.1		22.1	158	58.8	-14	00.2	140	30	5 58	28	6 54	09 62	51	32		
16	59	48.0		22.2	173	30.2	-13	46.1	141	35	6 07	38	7 06	22 03	65	10 59	28	
17	74	47.8	+23	22.3	188	01.6	-13	31.9	142	40	6 16	6 50	7 21	21 56	69	11 08	24	
18	89	47.7	+23	22.4	202	33.1	-13	17.7	142	45	6 26	7 04	7 37	21 47	74	11 18	20	
19	104	47.6		22.4	217	04.6	-13	03.4	143	50	38	20	7 58	37 79	30	15		
20	119	47.4		22.5	231	36.1	-12	49.0	144	52	43	27	8 08	32 82	36	13		
21	134	47.3		22.6	246	07.7		34.5	145	54	49	35	19	26 86	42	10		
22	149	47.2		22.7	260	39.3		20.0	145	56	6 55	44	32	20 89	49	7		
23	164	47.0		22.7	275	11.0	-12	05.3	147	58	7 02	7 55	8 46	14 92	11 57	3		
24	179	46.9	+23	22.8	289	42.7	-11	50.7	146	60 S	7 09	8 06	9 04	21 06	97	12 05	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 20.9 ^m		Mag: -4.3 PMG: 8 ^h 56 ^m		Mag: +1.3 PMG: 16 ^h 28 ^m		Mag: -1.9 PMG: 12 ^h 26 ^m		Mag: +1.0 PMG: 6 ^h 29 ^m	
	hG ♀	Dec			hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	264	31.1	226	05.9	+12	17.7	173	00.1	+23	16.7
1	279	33.5	241	05.8		18.5	188	02.0		16.7
2	294	36.0	256	05.8		19.3	203	03.8		16.6
3	309	38.4	271	05.7		20.1	218	05.6		16.6
4	324	40.9	286	05.6		20.8	233	07.5		16.6
5	339	43.4	301	05.5	+12	21.6	248	09.3	+23	16.6
6	354	45.8	316	05.5	+12	22.4	263	11.2	+23	16.6
7	9	48.3	331	05.4		23.2	278	13.0		16.6
8	24	50.8	346	05.3		23.9	293	14.9		16.6
9	39	53.2	1	05.2		24.7	308	16.7		16.6
10	54	55.7	16	05.1		25.5	323	18.6		16.6
11	69	58.2	31	05.1	+12	26.3	338	20.4	+23	16.6
12	85	00.6	46	05.0	+12	27.0	353	22.2	+23	16.6
13	100	03.1	61	04.9		27.8	8	24.1		16.6
14	115	05.6	76	04.8		28.6	23	25.9		16.6
15	130	08.0	91	04.7		29.4	38	27.8		16.6
16	145	10.5	106	04.6		30.1	53	29.6		16.6
17	160	12.9	121	04.6	+12	30.9	68	31.5	+23	16.6
18	175	15.4	136	04.5	+12	31.7	83	33.3	+23	16.6
19	190	17.9	151	04.4		32.5	98	35.1		16.6
20	205	20.3	166	04.3		33.2	113	37.0		16.6
21	220	22.8	181	04.2		34.0	128	38.8		16.6
22	235	25.3	196	04.1		34.8	143	40.7		16.6
23	250	27.7	211	04.0		35.6	158	42.5		16.6
24	265	30.2	226	03.9	+12	36.3	173	44.4	+23	16.6
Dif	—		-1	+8	+11	-5	+18	0	+24	0

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 01.0 ^m				Edad: 20.9 ^d SD: 15'7 PMG: 4 ^h 50 ^m PHE { 4 ^h : 57'7 12 ^h : 57'9 20 ^h : 58'1 Rº: 48 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	46.9	+23	22.8	289	42.7	-11	50.7	148	58	60 N	21	27	23	12	**	**	0	08
1	194	46.7		22.9	304	14.4		35.9	148	58		21	06	22	22	**	**	0	01
2	209	46.6		22.9	318	46.1		21.1	148	56		20	49	21	52	**	**	0	01
3	224	46.5		23.0	333	17.9	-11	06.2	149	54		35		30	23	17	23	58	**
4	239	46.3		23.1	347	49.7	-10	51.3	149	52		23	21	12	22	30	56	13	11
5	254	46.2	+23	23.1	2	21.5	-10	36.3	150	50		20	12	20	57	22	02	23	54
6	269	46.1	+23	23.2	16	53.4	-10	21.2	151	45		19	49	20	27	21	17	23	50
7	284	45.9		23.3	31	25.2	-10	06.1	151	40		31	20	04	20	46	46	24	20
8	299	45.8		23.3	45	57.1	-9	50.9	152	35		16	19	46		23	42	29	29
9	314	45.7		23.4	60	29.0		35.7	152	30		19	03	31	20	04	39	32	39
10	329	45.5		23.5	75	01.0		20.4	153	20		18	41	19	06	19	35	34	38
11	344	45.4	+23	23.5	89	32.9	-9	05.0	154	10 N		18	22	18	45	19	12	23	30
12	359	45.3	+23	23.6	104	04.9	-8	49.6	154	0		18	05	18	27	18	53	23	26
13	14	45.1		23.7	118	36.9		34.1	155	10 S		17	47	18	10		36	21	53
14	29	45.0		23.7	133	08.9		18.6	155	20		29	17	53		20	17	58	15
15	44	44.8		23.8	147	41.0	-8	03.1	155	30		17	07	34	18	04	11	64	23
16	59	44.7		23.8	162	13.0	-7	47.4	157	35		16	55	23	17	55	08	68	27
17	74	44.6	+23	23.9	176	45.1	-7	31.8	156	40		16	41	17	12	17	46	23	05
18	89	44.4	+23	24.0	191	17.1	-7	16.0	158	45		16	24	16	58	17	35	23	01
19	104	44.3		24.0	205	49.2	-7	00.3	157	50		16	03	42	23	22	56	82	45
20	119	44.2		24.1	220	21.3	-6	44.5	158	52		15	54	34	18	54	84	49	12
21	134	44.0		24.1	234	53.4		28.6	159	54		42	26	26	13	52	87	52	10
22	149	43.9		24.2	249	25.5	-6	12.7	159	56		30	17	17	06	49	90	11	56
23	164	43.8		24.2	263	57.6	-5	56.8	159	58		15	15	16	07	17	00	46	94
24	179	43.6	+23	24.3	278	29.7	-5	40.8	160	60 S		14	58	15	55	16	52	22	43

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 17.0 ^m		Mag: -4.3 PMG: 8 ^h 56 ^m		Mag: +1.3 PMG: 16 ^h 26 ^m		Mag: -1.9 PMG: 12 ^h 24 ^m		Mag: +1.0 PMG: 6 ^h 25 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	265	30.2	226	03.9	+12	36.3	113	10.2	+12	40.5
1	280	32.7	241	03.9		37.1	128	11.3		40.0
2	295	35.1	256	03.8		37.9	143	12.5		39.5
3	310	37.6	271	03.7		38.6	158	13.6		38.9
4	325	40.0	286	03.6		39.4	173	14.7		38.4
5	340	42.5	301	03.5	+12	40.2	188	15.9	+12	37.9
6	355	45.0	316	03.4	+12	41.0	203	17.0	+12	37.4
7	10	47.4	331	03.3		41.7	218	18.1		36.8
8	25	49.9	346	03.2		42.5	233	19.3		36.3
9	40	52.4	1	03.1		43.3	248	20.4		35.8
10	55	54.8	16	03.0		44.1	263	21.6		35.2
11	70	57.3	31	02.9	+12	44.8	278	22.7	+12	34.7
12	85	59.8	46	02.8	+12	45.6	293	23.8	+12	34.2
13	101	02.2	61	02.7		46.4	308	25.0		33.7
14	116	04.7	76	02.6		47.1	323	26.1		33.1
15	131	07.2	91	02.5		47.9	338	27.2		32.6
16	146	09.6	106	02.4		48.7	353	28.4		32.1
17	161	12.1	121	02.3	+12	49.5	8	29.5	+12	31.5
18	176	14.5	136	02.2	+12	50.2	23	30.6	+12	31.0
19	191	17.0	151	02.1		51.0	38	31.8		30.5
20	206	19.5	166	02.0		51.8	53	32.9		30.0
21	221	21.9	181	01.9		52.5	68	34.1		29.4
22	236	24.4	196	01.8		53.3	83	35.2		28.9
23	251	26.9	211	01.7		54.1	98	36.3		28.4
24	266	29.3	226	01.6	+12	54.9	113	37.5	+12	27.8
Dif	—		-1		+8		+11		-5	
	—		-1		+8		+11		-5	

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15 ^h /7 PMG:12 ^h 01.2 ^m			Edad: 21.9 ^d PHE { 4 ^h : 58 ^h /3 12 ^h : 58 ^h /5 20 ^h : 58 ^h /7 PMG: 5 ^h 36 ^m R°: 47 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°						
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m		
0	179	43.6	+23	278	29.7	-5	40.8	60 N	** **	0 50	2 36	0 07	**	11	28	98					
1	194	43.5		293	01.8		24.8	58	** **	1 40	2 56	04	2	30	93						
2	209	43.4		307	33.9	-5	08.7	56	** **	2 10	3 13	0 01	6	31	90						
3	224	43.2		322	06.0	-4	52.6	54	0 46	33	27	** **	**	32	87						
4	239	43.1		336	38.1		36.5	52	1 32	2 51	39	** **	**	33	84						
5	254	42.9	+23	351	10.3	-4	20.3	50	2 00	3 06	3 50	** **	**	11	34	82					
6	269	42.8	+23	5	42.4	-4	04.1	45	2 46	3 35	4 13	** **	**	11	37	75					
7	284	42.7		20	14.5	-3	47.9	40	3 16	3 58	31	** **	**	38	71						
8	299	42.5		34	46.6		31.6	35	39	4 16	46	** **	**	40	67						
9	314	42.4		49	18.6	-3	15.3	30	3 58	31	4 59	** **	**	41	63						
10	329	42.3		63	50.7	-2	59.0	20	4 27	4 56	5 21	** **	**	44	57						
11	344	42.1	+23	78	22.8	-2	42.7	10 N	4 50	5 17	5 40	** **	**	11	46	51					
12	359	42.0	+23	92	54.8	-2	26.3	0	5 09	5 35	5 58	** **	**	11	47	47					
13	14	41.9		107	26.9	-2	09.9	10 S	26	5 52	6 15	** **	**	49	42						
14	29	41.7		121	58.9	-1	53.4	20	42	6 09	34	** **	**	51	36						
15	44	41.6		136	30.9		37.0	30	5 58	28	6 55	** **	**	53	31						
16	59	41.4		151	02.9		20.5	35	6 07	39	7 07	** **	**	54	27						
17	74	41.3	+23	165	34.9	-1	04.0	40	6 17	6 51	7 21	** **	**	11	56	23					
18	89	41.2	+23	180	06.9	-0	47.5	45	6 27	7 04	7 38	** **	**	11	57	19					
19	104	41.0		194	38.8		31.0	50	39	20	7 59	** **	**	11	59	14					
20	119	40.9		209	10.7	-0	14.4	52	44	28	8 09	** **	**	12	00	11					
21	134	40.8		223	42.6	+0	02.1	54	50	36	20	** **	**	01	8						
22	149	40.6		238	14.5		18.7	56	6 56	45	33	** **	**	02	6						
23	164	40.5		252	46.3		35.3	58	7 03	7 55	8 47	** **	**	03	2						
24	179	40.3	+23	267	18.1	+0	51.9	60 S	7 10	8 07	9 05	** **	**	12	04	**					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 6 ^h 13.0 ^m			Mag: -4.2 PMG: 8 ^h 56 ^m			Mag: +1.3 PMG: 16 ^h 24 ^m			Mag: -1.9 PMG: 12 ^h 21 ^m			Mag: +1.0 PMG: 6 ^h 22 ^m								
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec						
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°						
0	266	29.3		226	01.6	+12	113	37.5	+12	174	28.6	+23	16.5	264	19.9	-1	26.3				
1	281	31.8		241	01.5		128	38.6		189	30.4		16.5	279	22.3		26.3				
2	296	34.3		256	01.4		143	39.7		204	32.3		16.5	294	24.7		26.3				
3	311	36.7		271	01.3		158	40.9		219	34.1		16.5	309	27.0		26.2				
4	326	39.2		286	01.2		173	42.0		234	36.0		16.5	324	29.4		26.2				
5	341	41.7		301	01.1	+12	188	43.1	+12	249	37.8	+23	16.5	339	31.8	-1	26.2				
6	356	44.1		316	01.0	+12	203	44.3	+12	264	39.7	+23	16.5	354	34.1	-1	26.1				
7	11	46.6		331	00.9	+13	218	45.4		279	41.5		16.5	9	36.5		26.1				
8	26	49.0		346	00.8		233	46.5		294	43.3		16.5	24	38.8		26.1				
9	41	51.5		1	00.6		248	47.7		309	45.2		16.5	39	41.2		26.1				
10	56	54.0		16	00.5		263	48.8		324	47.0		16.5	54	43.6		26.0				
11	71	56.4		31	00.4	+13	278	49.9	+12	339	48.9	+23	16.5	69	45.9	-1	26.0				
12	86	58.9		46	00.3	+13	293	51.1	+12	354	50.7	+23	16.5	84	48.3	-1	26.0				
13	102	01.4		61	00.2		308	52.2		9	52.6		16.5	99	50.7		25.9				
14	117	03.8		76	00.1		323	53.4		24	54.4		16.5	114	53.0		25.9				
15	132	06.3		91	00.0		338	54.5		39	56.3		16.5	129	55.4		25.9				
16	147	08.8		105	59.9		353	55.6		54	58.1		16.4	144	57.8		25.8				
17	162	11.2		120	59.7	+13	8	56.8	+12	69	59.9	+23	16.4	160	00.1	-1	25.8				
18	177	13.7		135	59.6	+13	23	57.9	+12	85	01.8	+23	16.4	175	02.5	-1	25.8				
19	192	16.1		150	59.5		38	59.0		100	03.6		16.4	190	04.9		25.8				
20	207	18.6		165	59.4		54	00.2		115	05.5		16.4	205	07.2		25.7				
21	222	21.1		180	59.3		69	01.3		130	07.3		16.4	220	09.6		25.7				
22	237	23.5		195	59.2		84	02.4		145	09.2		16.4	235	12.0		25.7				
23	252	26.0		210	59.0		99	03.6		160	11.0		16.4	250	14.4		25.6				
24	267	28.5		225	58.9	+13	114	04.7	+12	175	12.8	+23	16.4	265	16.7	-1	25.6				
Dif	—			-1			+8			+11			-5			+18			0		

UT	SOL				☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 01.4 ^m				Edad: 22.9 ^d SD: 16'0 PMG: 6 ^h 23 ^m PHE { 4 ^h : 58'9 12 ^h : 59'1 20 ^h : 59'3 R°: 49 ^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	179	40.3	+23	25.4	267	18.1	+0	51.9	60 N	21 27	23 14	** **	0 06	1	13 06	103		
1	194	40.2		25.4	281	49.9	+1	08.5	58	21 07	22 23	** **	06	5	03	99		
2	209	40.1		25.4	296	21.6		25.1	56	20 50	21 53	** **	07	7	13	01		
3	224	39.9		25.5	310	53.3		41.7	54	36	30	23 18	07	10	12	59		
4	239	39.8		25.5	325	25.0	+1	58.3	52	23	21 12	22 31	07	13	57	88		
5	254	39.7	+23	25.5	339	56.6	+2	15.0	50	20 13	20 57	22 03	0 08	15	12	56		
6	269	39.5	+23	25.6	354	28.2	+2	31.6	45	19 50	20 27	21 17	0 08	21	12	52		
7	284	39.4		25.6	8	59.8	+2	48.2	40	32	20 05	20 47	09	25	49	75		
8	299	39.3		25.6	23	31.3	+3	04.9	35	17	19 47	23	09	29	47	70		
9	314	39.1		25.7	38	02.8		21.5	30	19 04	31	20 05	10	32	44	67		
10	329	39.0		25.7	52	34.3		38.2	20	18 42	19 06	19 36	10	39	41	60		
11	344	38.8	+23	25.7	67	05.6	+3	54.8	10 N	18 23	18 46	19 13	0 11	44	12	37		
12	359	38.7	+23	25.8	81	37.0	+4	11.4	0	18 05	18 28	18 54	0 12	49	12	34		
13	14	38.6		25.8	96	08.3		28.0	10 S	17 48	18 10	37	12	54	31	45		
14	29	38.4		25.8	110	39.6	+4	44.6	20	29	17 53	21	13	60	27	40		
15	44	38.3		25.8	125	10.8	+5	01.2	30	17 08	34	18 04	14	66	24	33		
16	59	38.2		25.9	139	41.9		17.8	35	16 55	24	17 55	15	69	21	31		
17	74	38.0	+23	25.9	154	13.0	+5	34.4	40	16 41	17 12	17 46	0 15	73	12	19		
18	89	37.9	+23	25.9	168	44.0	+5	50.9	45	16 24	16 58	17 36	0 16	78	12	16		
19	104	37.8		25.9	183	15.0	+6	07.5	50	16 04	42	24	17	84	13	16		
20	119	37.6		26.0	197	46.0		24.0	52	15 54	35	18	17	87	11	14		
21	134	37.5		26.0	212	16.8		40.5	54	43	26	13	18	89	09	11		
22	149	37.3		26.0	226	47.6	+6	57.0	56	30	17	07	18	93	08	7		
23	164	37.2		26.0	241	18.4	+7	13.5	58	15 15	16 07	17 00	19	96	05	5		
24	179	37.1	+23	26.0	255	49.1	+7	29.9	60 S	14 58	15 55	16 52	0 19	101	12	03		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 6 ^h 09.1 ^m		Mag: -4.2 PMG: 8 ^h 56 ^m				Mag: +1.3 PMG: 16 ^h 22 ^m				Mag: -1.9 PMG: 12 ^h 18 ^m				Mag: +1.0 PMG: 6 ^h 18 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	267	28.5	225	58.9	+13	13.3	114	04.7	+12	15.1	175	12.8	+23	16.4	265	16.7		
1	282	30.9	240	58.8		14.0	129	05.8		14.6	190	14.7		16.4	280	19.1		
2	297	33.4	255	58.7		14.8	144	07.0		14.0	205	16.5		16.4	295	21.5		
3	312	35.9	270	58.6		15.6	159	08.1		13.5	220	18.4		16.4	310	23.8		
4	327	38.3	285	58.4		16.3	174	09.2		13.0	235	20.2		16.4	325	26.2		
5	342	40.8	300	58.3	+13	17.1	189	10.4	+12	12.4	250	22.1	+23	16.4	340	28.6		
6	357	43.3	315	58.2	+13	17.9	204	11.5	+12	11.9	265	23.9	+23	16.4	355	30.9		
7	12	45.7	330	58.1		18.6	219	12.6		11.4	280	25.7		16.4	10	33.3		
8	27	48.2	345	57.9		19.4	234	13.8		10.8	295	27.6		16.4	25	35.7		
9	42	50.6	0	57.8		20.2	249	14.9		10.3	310	29.4		16.4	40	38.0		
10	57	53.1	15	57.7		20.9	264	16.0		09.8	325	31.3		16.4	55	40.4		
11	72	55.6	30	57.6	+13	21.7	279	17.2	+12	09.2	340	33.1	+23	16.4	70	42.8		
12	87	58.0	45	57.4	+13	22.5	294	18.3	+12	08.7	355	35.0	+23	16.4	85	45.2		
13	103	00.5	60	57.3		23.2	309	19.4		08.1	10	36.8		16.3	100	47.5		
14	118	03.0	75	57.2		24.0	324	20.6		07.6	25	38.6		16.3	115	49.9		
15	133	05.4	90	57.0		24.7	339	21.7		07.1	40	40.5		16.3	130	52.3		
16	148	07.9	105	56.9		25.5	354	22.8		06.5	55	42.3		16.3	145	54.6		
17	163	10.4	120	56.8	+13	26.3	9	24.0	+12	06.0	70	44.2	+23	16.3	160	57.0		
18	178	12.8	135	56.7	+13	27.0	24	25.1	+12	05.5	85	46.0	+23	16.3	175	59.4		
19	193	15.3	150	56.5		27.8	39	26.2		04.9	100	47.9		16.3	191	01.7		
20	208	17.8	165	56.4		28.6	54	27.4		04.4	115	49.7		16.3	206	04.1		
21	223	20.2	180	56.3		29.3	69	28.5		03.9	130	51.5		16.3	221	06.5		
22	238	22.7	195	56.1		30.1	84	29.6		03.3	145	53.4		16.3	236	08.9		
23	253	25.1	210	56.0		30.8	99	30.8		02.8	160	55.2		16.3	251	11.2		
24	268	27.6	225	55.9	+13	31.6	114	31.9	+12	02.3	175	57.1	+23	16.3	266	13.6		
Dif	—		—1		+8		+11		—5		+18		0		+24	0		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15/7 PMG:12 ^h 01.6 ^m			Edad: 23.9 ^d PHE { 4 ^h : 59/5 12 ^h : 59/7 20 ^h : 59/8 R°: 51 ^m PMG: 7 ^h 11 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m			
0	179	37.1	+23	26.0	255	49.1	+7	29.9	60 N	** **	0 49	2 36	0 05	0	14	47	108				
1	194	36.9		26.1	270	19.7	+7	46.3	58	** **	1 40	2 56	09	4	40	103					
2	209	36.8		26.1	284	50.3	+8	02.7	56	** **	2 10	3 13	13	8	34	99					
3	224	36.7		26.1	299	20.7		19.1	54	0 45	33	27	16	11	29	97					
4	239	36.5		26.1	313	51.2		35.4	52	1 32	2 51	40	19	14	24	97					
5	254	36.4	+23	26.1	328	21.5	+8	51.7	50	2 00	3 06	3 50	0 22	16	14	20	87				
6	269	36.2	+23	26.1	342	51.8	+9	07.9	45	2 46	3 36	4 13	0 28	22	14	10	82				
7	284	36.1		26.2	357	22.0		24.2	40	3 17	3 58	31	33	26	14	02	77				
8	299	36.0		26.2	11	52.1		40.3	35	40	4 16	46	37	31	13	56	72				
9	314	35.8		26.2	26	22.2	+9	56.5	30	3 58	32	4 59	41	34	50	68					
10	329	35.7		26.2	40	52.1	+10	12.6	20	4 28	4 57	5 21	48	40	40	62					
11	344	35.6	+23	26.2	55	22.0	+10	28.7	10 N	4 50	5 17	5 40	0 54	45	13	31	57				
12	359	35.4	+23	26.2	69	51.8	+10	44.7	0	5 09	5 35	5 58	0 59	51	13	23	52				
13	14	35.3		26.2	84	21.6	+11	00.7	10 S	26	5 53	6 15	1 05	55	14	48					
14	29	35.1		26.2	98	51.2		16.6	20	42	6 10	34	11	61	13	06	42				
15	44	35.0		26.3	113	20.8		32.5	30	5 59	29	6 55	18	67	12	56	36				
16	59	34.9		26.3	127	50.3	+11	48.3	35	6 08	39	7 08	22	71	50	33					
17	74	34.7	+23	26.3	142	19.7	+12	04.1	40	6 17	6 51	7 22	1 27	75	12	44	28				
18	89	34.6	+23	26.3	156	49.0	+12	19.8	45	6 28	7 05	7 39	1 33	80	12	36	24				
19	104	34.5		26.3	171	18.2		35.5	50	39	21	7 59	39	86	28	17					
20	119	34.3		26.3	185	47.3	+12	51.1	52	45	28	8 09	42	89	23	16					
21	134	34.2		26.3	200	16.4	+13	06.7	54	50	37	21	46	92	19	12					
22	149	34.1		26.3	214	45.3		22.1	56	6 57	46	33	50	96	14	9					
23	164	33.9		26.3	229	14.2		37.6	58	7 03	7 56	8 48	54	100	09	4					
24	179	33.8	+23	26.3	243	42.9	+13	52.9	60 S	7 11	8 08	9 06	1 59	105	12	02	0				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 6 ^h 05.2 ^m			Mag: -4.2 PMG: 8 ^h 56 ^m			Mag: +1.3 PMG: 16 ^h 21 ^m			Mag: -1.9 PMG: 12 ^h 15 ^m			Mag: +1.0 PMG: 6 ^h 14 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°		°	'	°	'	°	'	°	'			
0	268	27.6	225	55.9	+13	31.6	114	31.9	+12	02.3	175	57.1	+23	16.3	266	13.6	-1	24.9			
1	283	30.1	240	55.7		32.4	129	33.0		01.7	190	58.9		16.3	281	16.0		24.9			
2	298	32.5	255	55.6		33.1	144	34.2		01.2	206	00.8		16.3	296	18.3		24.9			
3	313	35.0	270	55.4		33.9	159	35.3		00.6	221	02.6		16.3	311	20.7		24.8			
4	328	37.5	285	55.3		34.6	174	36.4	+12	00.1	236	04.4		16.3	326	23.1		24.8			
5	343	39.9	300	55.2	+13	35.4	189	37.6	+11	59.6	251	06.3	+23	16.3	341	25.5	-1	24.8			
6	358	42.4	315	55.0	+13	36.2	204	38.7	+11	59.0	266	08.1	+23	16.2	356	27.8	-1	24.7			
7	13	44.9	330	54.9		36.9	219	39.8		58.5	281	10.0		16.2	11	30.2		24.7			
8	28	47.3	345	54.8		37.7	234	40.9		58.0	296	11.8		16.2	26	32.6		24.7			
9	43	49.8	0	54.6		38.4	249	42.1		57.4	311	13.7		16.2	41	35.0		24.7			
10	58	52.2	15	54.5		39.2	264	43.2		56.9	326	15.5		16.2	56	37.3		24.6			
11	73	54.7	30	54.3	+13	40.0	279	44.3	+11	56.3	341	17.3	+23	16.2	71	39.7	-1	24.6			
12	88	57.2	45	54.2	+13	40.7	294	45.5	+11	55.8	356	19.2	+23	16.2	86	42.1	-1	24.6			
13	103	59.6	60	54.0		41.5	309	46.6		55.3	11	21.0		16.2	101	44.5		24.6			
14	119	02.1	75	53.9		42.2	324	47.7		54.7	26	22.9		16.2	116	46.8		24.5			
15	134	04.6	90	53.8		43.0	339	48.9		54.2	41	24.7		16.2	131	49.2		24.5			
16	149	07.0	105	53.6		43.8	354	50.0		53.7	56	26.6		16.2	146	51.6		24.5			
17	164	09.5	120	53.5	+13	44.5	9	51.1	+11	53.1	71	28.4	+23	16.2	161	53.9	-1	24.4			
18	179	12.0	135	53.3	+13	45.3	24	52.3	+11	52.6	86	30.2	+23	16.2	176	56.3	-1	24.4			
19	194	14.4	150	53.2		46.0	39	53.4		52.0	101	32.1		16.2	191	58.7		24.4			
20	209	16.9	165	53.0		46.8	54	54.5		51.5	116	33.9		16.2	207	01.1		24.4			
21	224	19.4	180	52.9		47.5	69	55.7		51.0	131	35.8		16.1	222	03.4		24.3			
22	239	21.8	195	52.7		48.3	84	56.8		50.4	146	37.6		16.1	237	05.8		24.3			
23	254	24.3	210	52.6		49.0	99	57.9		49.9	161	39.5		16.1	252	08.2		24.3			
24	269	26.7	225	52.4	+13	49.8	114	59.0	+11	49.3	176	41.3	+23	16.1	267	10.6	-1	24.3			
Dif	—			-1			+8			+11			-5			+18			0		

UT	SOL				☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 01.9 ^m				Edad: 24.9 ^d SD: 16'3 PMG: 8 ^h 02 ^m PHE { 4 ^h : 59'9 12 ^h : 60'1 20 ^h : 60'2 R°: 57 ^m																
	hG ☉		Dec		hG ☾		Dif		Dec										Dif		
h	°	'	°	'	°	'			°	'			h	m	h	m	h	m	h	m	
0	179	33.8	+23	26.3	243	42.9	97	+13	52.9	153	60 N	21	28	23	15	**	**	0	05	3	16
1	194	33.6		26.3	258	11.6		+14	08.2	152	58	21	07	22	23	**	**	13	8		23
2	209	33.5		26.3	272	40.1	95		23.4	152	56	20	51	21	53	**	**	21	12		13
3	224	33.4		26.3	287	08.6	95		38.6	152	54		36	31	23	19		27	16	16	
4	239	33.2		26.3	301	37.0	94	+14	53.7	151	52	24	21	13	22	31		33	19	15	
5	254	33.1	+23	26.3	316	05.2	92	+15	08.7	150	50	20	13	20	58	22	03	0	38	22	15
6	269	33.0	+23	26.3	330	33.4	92	+15	23.6	149	45	19	50	20	28	21	18	0	50	28	15
7	284	32.8		26.3	345	01.5	91		38.4	148	40	32	20	05	20	47		0	59	33	19
8	299	32.7		26.3	359	29.4	89	+15	53.2	148	35	17	19	47		24		1	08	36	15
9	314	32.5		26.3	13	57.3	89	+16	07.9	147	30	19	04	32	20	05		15	40	14	
10	329	32.4		26.3	28	25.0	87		22.5	146	20	18	42	19	07	19	36	28	46	42	68
11	344	32.3	+23	26.3	42	52.7	87	+16	37.0	145	10 N	18	23	18	46	19	13	1	39	51	14
12	359	32.1	+23	26.3	57	20.2	85	+16	51.4	144	0	18	06	18	28	18	54	1	50	55	14
13	14	32.0		26.3	71	47.6	84	+17	05.7	143	10 S	17	48	18	11	37		2	00	61	14
14	29	31.9		26.3	86	14.9	83		20.0	143	20	30	17	54		21		12	66		13
15	44	31.7		26.2	100	42.1	82		34.1	141	30	17	08	35	18	05		25	72		32
16	59	31.6		26.2	115	09.2	81	+17	48.1	140	35	16	56	24	17	56		33	76		23
17	74	31.5	+23	26.2	129	36.2	80	+18	02.1	140	40	16	42	17	12	17	46	2	42	80	13
18	89	31.3	+23	26.2	144	03.1	79	+18	15.9	138	45	16	25	16	59	17	36	2	53	84	13
19	104	31.2		26.2	158	29.9	78		29.7	138	50	16	04	43	24		3	05	92		12
20	119	31.0		26.2	172	56.5	76		43.3	136	52	15	54	35	19		11	95		39	
21	134	30.9		26.2	187	23.1	76	+18	56.8	135	54	43	27	13		13		18	98		31
22	149	30.8		26.2	201	49.5	74	+19	10.2	134	56	30	18		07		26	102		23	
23	164	30.6		26.2	216	15.8	73		23.5	133	58	15	16	16	07	17	00	34	108		13
24	179	30.5	+23	26.1	230	42.0	72	+19	36.7	132	60 S	14	58	15	56	16	53	3	44	114	12
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 6 ^h 01.2 ^m		Mag: -4.2 PMG: 8 ^h 57 ^m				Mag: +1.4 PMG: 16 ^h 19 ^m				Mag: -1.9 PMG: 12 ^h 12 ^m				Mag: +1.0 PMG: 6 ^h 10 ^m						
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	269	26.7	225	52.4	+13	49.8	114	59.0	+11	49.3	176	41.3	+23	16.1	267	10.6	-1	24.3			
1	284	29.2	240	52.3		50.6	130	00.2		48.8	191	43.1		16.1	282	12.9		24.2			
2	299	31.7	255	52.1		51.3	145	01.3		48.3	206	45.0		16.1	297	15.3		24.2			
3	314	34.1	270	52.0		52.1	160	02.4		47.7	221	46.8		16.1	312	17.7		24.2			
4	329	36.6	285	51.8		52.8	175	03.6		47.2	236	48.7		16.1	327	20.1		24.2			
5	344	39.1	300	51.7	+13	53.6	190	04.7	+11	46.6	251	50.5	+23	16.1	342	22.5	-1	24.1			
6	359	41.5	315	51.5	+13	54.3	205	05.8	+11	46.1	266	52.3	+23	16.1	357	24.8	-1	24.1			
7	14	44.0	330	51.4		55.1	220	07.0		45.6	281	54.2		16.1	12	27.2		24.1			
8	29	46.5	345	51.2		55.8	235	08.1		45.0	296	56.0		16.1	27	29.6		24.1			
9	44	48.9	0	51.1		56.6	250	09.2		44.5	311	57.9		16.1	42	32.0		24.0			
10	59	51.4	15	50.9		57.3	265	10.4		43.9	326	59.7		16.1	57	34.3		24.0			
11	74	53.9	30	50.7	+13	58.1	280	11.5	+11	43.4	342	01.6	+23	16.0	72	36.7	-1	24.0			
12	89	56.3	45	50.6	+13	58.9	295	12.6	+11	42.8	357	03.4	+23	16.0	87	39.1	-1	23.9			
13	104	58.8	60	50.4	+13	59.6	310	13.7		42.3	12	05.2		16.0	102	41.5		23.9			
14	120	01.2	75	50.3	+14	00.4	325	14.9		41.8	27	07.1		16.0	117	43.8		23.9			
15	135	03.7	90	50.1		01.1	340	16.0		41.2	42	08.9		16.0	132	46.2		23.9			
16	150	06.2	105	49.9		01.9	355	17.1		40.7	57	10.8		16.0	147	48.6		23.8			
17	165	08.6	120	49.8	+14	02.6	10	18.3	+11	40.1	72	12.6	+23	16.0	162	51.0	-1	23.8			
18	180	11.1	135	49.6	+14	03.4	25	19.4	+11	39.6	87	14.5	+23	16.0	177	53.4	-1	23.8			
19	195	13.6	150	49.5		04.1	40	20.5		39.1	102	16.3		16.0	192	55.7		23.8			
20	210	16.0	165	49.3		04.9	55	21.6		38.5	117	18.1		16.0	207	58.1		23.7			
21	225	18.5	180	49.1		05.6	70	22.8		38.0	132	20.0		16.0	223	00.5		23.7			
22	240	21.0	195	49.0		06.4	85	23.9		37.4	147	21.8		16.0	238	02.9		23.7			
23	255	23.4	210	48.8		07.1	100	25.0		36.9	162	23.7		16.0	253	05.2		23.7			
24	270	25.9	225	48.6	+14	07.9	115	26.2	+11	36.3	177	25.5	+23	16.0	268	07.6	-1	23.6			
Dif	—		-2		+8		+11		-5		+18		0		+24		0				

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15/7 PMG:12 ^h 02.1 ^m		Edad: 25.9 ^d SD: 16/4 PMG: 8 ^h 58 ^m											
			PHE { 4 ^h : 60/3 12 ^h : 60/3 20 ^h : 60/4 R°: 60 ^m											
	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 30.5	+23 26.1	230 42.0		+19 36.7		60 N	** **	0 49	2 36	0 06 5		18 31 117	
1	194 30.4	26.1	245 08.1	71	+19 49.8	131	58	** **	1 41	2 57	20 12		18 11 107	
2	209 30.2	26.1	259 34.1	70	+20 02.7	129	56	** **	2 11	3 13	31 18		17 55 100	
3	224 30.1	26.1	273 59.9	68	15.6	129	54	0 45	33	28	42 21		41 95	
4	239 29.9	26.1	288 25.7	68	28.3	127	52	1 33	2 51	40	51 25		29 91	
5	254 29.8	+23 26.1	302 51.3	66	+20 40.9	126	50	2 01	3 06	3 51	0 59 28		17 18 89	
6	269 29.7	+23 26.0	317 16.8	65	+20 53.3	124	45	2 46	3 36	4 14	1 16 35		16 56 83	
7	284 29.5	26.0	331 42.2	64	+21 05.7	124	40	3 17	3 59	32	31 39		38 79	
8	299 29.4	26.0	346 07.5	63	17.9	122	35	40	4 17	4 47	43 43		23 76	
9	314 29.3	26.0	0 32.6	61	29.9	120	30	3 59	32	5 00	1 54 45		16 10 73	
10	329 29.1	25.9	14 57.7	61	41.9	120	20	4 28	4 57	22	2 12 51		15 48 69	
11	344 29.0	+23 25.9	29 22.6	59	+21 53.7	118	10 N	4 51	5 18	5 41	2 29 55		15 29 65	
12	359 28.9	+23 25.9	43 47.5	59	+22 05.3	116	0	5 10	5 36	5 58	2 44 59		15 12 61	
13	14 28.7	25.9	58 12.2	57	16.8	115	10 S	27	5 53	6 16	3 00 63		14 54 58	
14	29 28.6	25.9	72 36.8	56	28.2	114	20	43	6 10	34	16 68		35 55	
15	44 28.4	25.8	87 01.2	54	39.4	112	30	5 59	29	6 56	36 73		14 50	
16	59 28.3	25.8	101 25.6	54	+22 50.5	111	35	6 08	40	7 08	3 47 76		14 01 47	
17	74 28.2	+23 25.8	115 49.9	53	+23 01.4	109	40	6 18	6 52	7 22	4 00 80		13 47 44	
18	89 28.0	+23 25.7	130 14.0	51	+23 12.2	108	45	6 28	7 05	7 39	4 16 84		13 30 39	
19	104 27.9	25.7	144 38.1	51	22.8	106	50	40	21	8 00	35 91		13 09 34	
20	119 27.8	25.7	159 02.0	49	33.3	105	52	45	29	10	44 95		12 59 31	
21	134 27.6	25.7	173 25.8	48	43.6	103	54	51	37	21	4 55 98		48 27	
22	149 27.5	25.6	187 49.5	47	+23 53.8	102	56	6 57	46	34	5 07 103		36 22	
23	164 27.4	25.6	202 13.1	46	+24 03.8	100	58	7 04	7 56	8 48	20 110		21 16	
24	179 27.2	+23 25.6	216 36.6	45	+24 13.6	98	60 S	7 11	8 08	9 06	5 36 120		12 04 6	
UT	ARIES PMG 5 ^h 57.3 ^m		VENUS Mag: -4.2 PMG: 8 ^h 57 ^m		MARTE Mag: +1.4 PMG: 16 ^h 17 ^m		JÚPITER Mag: -1.9 PMG: 12 ^h 09 ^m		SATURNO Mag: +1.0 PMG: 6 ^h 07 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	270 25.9	225 48.6	+14 07.9	115 26.2	+11 36.3	177 25.5	+23 16.0	268 07.6	-1 23.6					
1	285 28.3	240 48.5	08.6	130 27.3	35.8	192 27.4	15.9	283 10.0	23.6					
2	300 30.8	255 48.3	09.4	145 28.4	35.2	207 29.2	15.9	298 12.4	23.6					
3	315 33.3	270 48.1	10.1	160 29.6	34.7	222 31.0	15.9	313 14.8	23.6					
4	330 35.7	285 48.0	10.9	175 30.7	34.2	237 32.9	15.9	328 17.1	23.5					
5	345 38.2	300 47.8	+14 11.6	190 31.8	+11 33.6	252 34.7	+23 15.9	343 19.5	-1 23.5					
6	0 40.7	315 47.6	+14 12.4	205 32.9	+11 33.1	267 36.6	+23 15.9	358 21.9	-1 23.5					
7	15 43.1	330 47.5	13.1	220 34.1	32.5	282 38.4	15.9	13 24.3	23.5					
8	30 45.6	345 47.3	13.9	235 35.2	32.0	297 40.3	15.9	28 26.7	23.5					
9	45 48.1	0 47.1	14.6	250 36.3	31.4	312 42.1	15.9	43 29.0	23.4					
10	60 50.5	15 47.0	15.4	265 37.5	30.9	327 43.9	15.9	58 31.4	23.4					
11	75 53.0	30 46.8	+14 16.1	280 38.6	+11 30.3	342 45.8	+23 15.9	73 33.8	-1 23.4					
12	90 55.5	45 46.6	+14 16.8	295 39.7	+11 29.8	357 47.6	+23 15.9	88 36.2	-1 23.4					
13	105 57.9	60 46.4	17.6	310 40.8	29.3	12 49.5	15.8	103 38.6	23.3					
14	121 00.4	75 46.3	18.3	325 42.0	28.7	27 51.3	15.8	118 41.0	23.3					
15	136 02.8	90 46.1	19.1	340 43.1	28.2	42 53.2	15.8	133 43.3	23.3					
16	151 05.3	105 45.9	19.8	355 44.2	27.6	57 55.0	15.8	148 45.7	23.3					
17	166 07.8	120 45.7	+14 20.6	10 45.4	+11 27.1	72 56.8	+23 15.8	163 48.1	-1 23.2					
18	181 10.2	135 45.6	+14 21.3	25 46.5	+11 26.5	87 58.7	+23 15.8	178 50.5	-1 23.2					
19	196 12.7	150 45.4	22.1	40 47.6	26.0	103 00.5	15.8	193 52.9	23.2					
20	211 15.2	165 45.2	22.8	55 48.7	25.4	118 02.4	15.8	208 55.2	23.2					
21	226 17.6	180 45.0	23.6	70 49.9	24.9	133 04.2	15.8	223 57.6	23.1					
22	241 20.1	195 44.9	24.3	85 51.0	24.3	148 06.0	15.8	239 00.0	23.1					
23	256 22.6	210 44.7	25.0	100 52.1	23.8	163 07.9	15.8	254 02.4	23.1					
24	271 25.0	225 44.5	+14 25.8	115 53.2	+11 23.3	178 09.7	+23 15.7	269 04.8	-1 23.1					
Dif	—	-2	+7	+11	-5	+18	0	+24	0					

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna						
	SD: 15'7 PMG:12 ^h 02.3 ^m				Edad: 26.9 ^d SD: 16'4 PMG: 9 ^h 58 ^m								PHE { 4 ^h : 60'4 12 ^h : 60'4 20 ^h : 60'3 Rº: 66 ^m												
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil			Náutico			Hora		Rº		
h	º	'	º	'	º	'	º	'	º	'	º	'	h	m	h	m	h	m	h	m	m	h	m	m	
0	179	27.2	+23	25.6	216	36.6			+24	13.6	97	60 N	21	28	23	14	**	**	0	11	15	20	28	98	
1	194	27.1		25.5	231	00.0	44			23.3	95	58	21	08	22	23	**	**		32	24	19	58	89	
2	209	26.9		25.5	245	23.3	42			32.8	93	56	20	51	21	53	**	**	0	49	31		35	85	
3	224	26.8		25.5	259	46.5	41			42.1	92	54		36	31	23	18		1	03	36		16	83	
4	239	26.7		25.4	274	09.6	40	+24		51.3	90	52		24	21	13	22	31		16	39	19	00	81	
5	254	26.5	+23	25.4	288	32.6		+25		00.3	88	50	20	13	20	58	22	04		1	27	42	18	47	79
6	269	26.4	+23	25.4	302	55.5	39	+25		09.1	86	45	19	51	20	28	21	18		1	51	47	18	19	76
7	284	26.3		25.3	317	18.2	37			17.7	86	40		33	20	06	20	47		2	10	50	17	57	74
8	299	26.1		25.3	331	40.9	37			26.2	85	35		18	19	47		24			26	53		39	73
9	314	26.0		25.2	346	03.6	35			34.4	82	30	19	05		32	20	05		2	39	56	17	23	72
10	329	25.9		25.2	0	26.1	34			42.6	82	20	18	43	19	07	19	36		3	03	59	16	57	70
11	344	25.7	+23	25.2	14	48.5	33	+25		50.5	79	10 N	18	24	18	47	19	14		3	24	62	16	34	68
12	359	25.6	+23	25.1	29	10.8	33	+25		58.2	77	0	18	06	18	29	18	55		3	43	65	16	13	66
13	14	25.4		25.1	43	33.1	33	+26		05.8	76	10 S	17	49	18	11		38		4	03	67	15	52	65
14	29	25.3		25.0	57	55.3	32			13.1	73	20		30	17	54		22		24	70		30	62	
15	44	25.2		25.0	72	17.3	30			20.3	72	30	17	09		35	18	05		4	49	73	15	04	60
16	59	25.0		25.0	86	39.4	31			27.3	70	35	16	56		25	17	56		5	03	76	14	48	59
17	74	24.9	+23	24.9	101	01.3	29	+26		34.1	68	40	16	42	17	13	17	47		5	20	78	14	31	56
18	89	24.8	+23	24.9	115	23.2	29	+26		40.7	66	45	16	25	16	59	17	36		5	40	82	14	09	54
19	104	24.6		24.8	129	44.9	27			47.1	64	50	16	05		43	25			6	06	86	13	43	49
20	119	24.5		24.8	144	06.7	28			53.3	62	52	15	55		36	19			19	88		30	47	
21	134	24.4		24.7	158	28.3	26	+26		59.3	60	54		44		27	14			33	92		13	15	45
22	149	24.2		24.7	172	49.9	26	+27		05.1	58	56		31		18	08			6	50	96	12	58	40
23	164	24.1		24.6	187	11.4	25			10.7	56	58	15	16	16	08	17	01		7	10	103		37	34
24	179	24.0	+23	24.6	201	32.9	25	+27		16.2	55	60 S	14	59	15	56	16	53		7	36	115	12	10	23
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO										
	PMG: 5 ^h 53.4 ^m		Mag: -4.2 PMG: 8 ^h 57 ^m				Mag: +1.4 PMG: 16 ^h 15 ^m				Mag: -1.9 PMG: 12 ^h 06 ^m				Mag: +1.0 PMG: 6 ^h 03 ^m										
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec								
0	271	25.0	225	44.5	+14	25.8	115	53.2	+11	23.3	178	09.7	+23	15.7	269	04.8	-1	23.1							
1	286	27.5	240	44.3		26.5	130	54.4		22.7	193	11.6		15.7	284	07.2		23.1							
2	301	30.0	255	44.1		27.3	145	55.5		22.2	208	13.4		15.7	299	09.5		23.0							
3	316	32.4	270	44.0		28.0	160	56.6		21.6	223	15.3		15.7	314	11.9		23.0							
4	331	34.9	285	43.8		28.8	175	57.8		21.1	238	17.1		15.7	329	14.3		23.0							
5	346	37.3	300	43.6	+14	29.5	190	58.9	+11	20.5	253	18.9	+23	15.7	344	16.7	-1	23.0							
6	1	39.8	315	43.4	+14	30.2	206	00.0	+11	20.0	268	20.8	+23	15.7	359	19.1	-1	22.9							
7	16	42.3	330	43.2		31.0	221	01.1		19.4	283	22.6		15.7	14	21.5		22.9							
8	31	44.7	345	43.0		31.7	236	02.3		18.9	298	24.5		15.7	29	23.8		22.9							
9	46	47.2	0	42.9		32.5	251	03.4		18.3	313	26.3		15.7	44	26.2		22.9							
10	61	49.7	15	42.7		33.2	266	04.5		17.8	328	28.2		15.7	59	28.6		22.8							
11	76	52.1	30	42.5	+14	33.9	281	05.6	+11	17.2	343	30.0	+23	15.6	74	31.0	-1	22.8							
12	91	54.6	45	42.3	+14	34.7	296	06.8	+11	16.7	358	31.8	+23	15.6	89	33.4	-1	22.8							
13	106	57.1	60	42.1		35.4	311	07.9		16.1	13	33.7		15.6	104	35.8		22.8							
14	121	59.5	75	41.9		36.2	326	09.0		15.6	28	35.5		15.6	119	38.1		22.8							
15	137	02.0	90	41.7		36.9	341	10.2		15.0	43	37.4		15.6	134	40.5		22.7							
16	152	04.5	105	41.5		37.6	356	11.3		14.5	58	39.2		15.6	149	42.9		22.7							
17	167	06.9	120	41.4	+14	38.4	11	12.4	+11	13.9	73	41.1	+23	15.6	164	45.3	-1	22.7							
18	182	09.4	135	41.2	+14	39.1	26	13.5	+11	13.4	88	42.9	+23	15.6	179	47.7	-1	22.7							
19	197	11.8	150	41.0		39.8	41	14.7		12.8	103	44.7		15.6	194	50.1		22.6							
20	212	14.3	165	40.8		40.6	56	15.8		12.3	118	46.6		15.6	209	52.5		22.6							
21	227	16.8	180	40.6		41.3	71	16.9		11.7	133	48.4		15.5	224	54.8		22.6							
22	242	19.2	195	40.4		42.1	86	18.0		11.2	148	50.3		15.5	239	57.2		22.6							
23	257	21.7	210	40.2		42.8	101	19.2		10.6	163	52.1		15.5	254	59.6		22.6							
24	272	24.2	225	40.0	+14	43.5	116	20.3	+11	10.1	178	53.9	+23	15.5	270	02.0	-1	22.5							
Dif	—		-2		+7		+11		-5		+18		0		+24		0								

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15 ^h 7 PMG:12 ^h 02.5 ^m			Edad: 27.9 ^d PHE { 4 ^h : 60'3 12 ^h : 60'2 20 ^h : 60'1 SD: 16'4 PMG: 11 ^h 02 ^m R°: 66 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	24.0	+23	24.6	201	32.9	+27	16.2	52	60 N	** **	0 51	2 37	0 24	41	22 05	47		
1	194	23.8		24.5	215	54.3		21.4	50	58	** **	1 42	2 57	0 55	49	21 26	53		
2	209	23.7		24.5	230	15.6	23	26.4	48	56	** **	2 12	3 14	1 19	52	20 59	56		
3	224	23.6		24.4	244	37.0	24	31.2	46	54	0 47	34	28	38	54	37	58		
4	239	23.4		24.4	258	58.2	22	35.8	44	52	1 33	2 52	41	1 54	56	20	59		
5	254	23.3	+23	24.3	273	19.4	22	40.2	44	50	2 01	3 07	3 52	2 08	57	20 05	59		
6	269	23.1	+23	24.3	287	40.6	22	44.4	42	45	2 47	3 37	4 14	2 36	60	19 34	61		
7	284	23.0		24.2	302	01.7	21	48.4	40	40	3 18	3 59	32	2 59	61	19 10	62		
8	299	22.9		24.2	316	22.8	21	52.2	38	35	41	4 17	4 47	3 18	61	18 50	63		
9	314	22.7		24.1	330	43.9	21	55.8	36	30	3 59	33	5 00	3 34	62	34	63		
10	329	22.6		24.0	345	04.9	20	59.1	33	20	4 28	4 58	22	4 01	64	18 05	64		
11	344	22.5	+23	24.0	359	25.9	20	02.3	32	10 N	4 51	5 18	5 41	4 25	64	17 41	64		
12	359	22.3	+23	23.9	13	46.9	20	05.2	29	0	5 10	5 36	5 59	4 47	65	17 18	65		
13	14	22.2		23.9	28	07.9	20	08.0	28	10 S	27	5 53	6 16	5 09	66	16 55	65		
14	29	22.1		23.8	42	28.8	19	10.5	25	20	5 43	6 11	35	5 33	67	31	65		
15	44	21.9		23.8	56	49.7	19	12.8	23	30	6 00	30	6 56	6 01	67	16 02	66		
16	59	21.8		23.7	71	10.7	20	15.0	22	35	09	40	7 08	18	67	15 45	66		
17	74	21.7	+23	23.6	85	31.6	19	16.9	19	40	6 18	6 52	7 23	6 37	68	15 26	66		
18	89	21.5	+23	23.6	99	52.5	19	18.5	16	45	6 28	7 06	7 39	7 00	69	15 02	66		
19	104	21.4		23.5	114	13.4	19	20.0	15	50	40	22	8 00	31	69	14 31	66		
20	119	21.3		23.4	128	34.3	19	21.3	13	52	45	29	10	7 46	69	14 16	66		
21	134	21.1		23.4	142	55.2	19	22.3	10	54	51	37	21	8 03	70	13 58	66		
22	149	21.0		23.3	157	16.2	20	23.2	9	56	6 57	46	34	24	71	37	66		
23	164	20.9		23.2	171	37.1	19	23.8	6	58	7 04	7 57	8 49	8 51	72	13 10	65		
24	179	20.7	+23	23.2	185	58.1	20	24.3	5	60 S	7 11	8 08	9 06	9 29	73	12 31	65		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 ^h 49.4 ^m		Mag: -4.2 PMG: 8 ^h 57 ^m		Mag: +1.4 PMG: 16 ^h 13 ^m		Mag: -1.9 PMG: 12 ^h 03 ^m		Mag: +1.0 PMG: 5 ^h 59 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	272	24.2	225	40.0	+14	43.5	116	20.3	+11	10.1
1	287	26.6	240	39.8		44.3	131	21.4		09.5
2	302	29.1	255	39.6		45.0	146	22.5		09.0
3	317	31.6	270	39.4		45.7	161	23.7		08.4
4	332	34.0	285	39.2		46.5	176	24.8		07.9
5	347	36.5	300	39.0	+14	47.2	191	25.9	+11	07.3
6	2	39.0	315	38.8	+14	47.9	206	27.0	+11	06.8
7	17	41.4	330	38.6		48.7	221	28.2		06.2
8	32	43.9	345	38.4		49.4	236	29.3		05.7
9	47	46.3	0	38.2		50.1	251	30.4		05.1
10	62	48.8	15	38.0		50.9	266	31.5		04.6
11	77	51.3	30	37.8	+14	51.6	281	32.7	+11	04.0
12	92	53.7	45	37.6	+14	52.3	296	33.8	+11	03.5
13	107	56.2	60	37.4		53.1	311	34.9		02.9
14	122	58.7	75	37.2		53.8	326	36.0		02.4
15	138	01.1	90	37.0		54.5	341	37.2		01.8
16	153	03.6	105	36.8		55.3	356	38.3		01.3
17	168	06.1	120	36.6	+14	56.0	11	39.4	+11	00.7
18	183	08.5	135	36.4	+14	56.7	26	40.5	+11	00.2
19	198	11.0	150	36.2		57.5	41	41.7	+10	59.6
20	213	13.5	165	36.0		58.2	56	42.8		59.1
21	228	15.9	180	35.8		58.9	71	43.9		58.5
22	243	18.4	195	35.6	+14	59.6	86	45.0		58.0
23	258	20.8	210	35.4	+15	00.4	101	46.2		57.4
24	273	23.3	225	35.2	+15	01.1	116	47.3	+10	56.8
Dif	—		-2		+7		+11		-6	
								+18		0
									+24	
										0

UT	SOL			● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 02.7 ^m			Edad: 28.9 ^d SD: 16'3 PMG: 12 ^h 08 ^m PHE { 4 ^h : 59'9 12 ^h : 59'8 20 ^h : 59'6 R°: 64 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif								
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m m	h m m	h m m	
0	179 20.7	+23 23.2	185 58.1	19	+28 24.3	2	2	60 N	21 28	23 12	** **	1 05 89	22 52 17		
1	194 20.6	23.1	200 19.0	20	24.5	0	0	58	21 07	22 23	** **	1 44 82	22 19 27		
2	209 20.5	23.0	214 40.0	21	24.5	2	2	56	20 51	21 53	** **	2 11 79	21 55 33		
3	224 20.3	23.0	229 01.1	21	24.3	4	4	54	36	31	23 17	32 78	35 38		
4	239 20.2	22.9	243 22.1	20	23.9	7	7	52	24	21 13	22 31	2 50 76	19 40		
5	254 20.0	+23 22.8	257 43.2	21	+28 23.2	8	8	50	20 13	20 58	22 03	3 05 75	21 04 43		
6	269 19.9	+23 22.8	272 04.3	21	+28 22.4	10	10	45	19 51	20 28	21 18	3 36 73	20 35 48		
7	284 19.8	22.7	286 25.5	22	21.4	13	13	40	33	20 06	20 47	4 00 71	20 12 51		
8	299 19.6	22.6	300 46.7	22	20.1	14	14	35	18	19 48	24	19 71	19 53 53		
9	314 19.5	22.5	315 08.0	23	18.7	17	17	30	19 05	32	20 06	4 36 70	37 55		
10	329 19.4	22.5	329 29.3	23	17.0	18	18	20	18 43	19 07	19 37	5 05 67	19 09 58		
11	344 19.2	+23 22.4	343 50.6	23	+28 15.2	21	21	10 N	18 24	18 47	19 14	5 29 67	18 45 61		
12	359 19.1	+23 22.3	358 12.1	24	+28 13.1	23	23	0	18 06	18 29	18 55	5 52 65	18 23 63		
13	14 19.0	22.2	12 33.5	26	10.8	24	24	10 S	17 49	18 12	38	6 15 63	18 00 66		
14	29 18.8	22.2	26 55.1	26	08.4	24	24	20	30	17 55	22	6 40 61	17 36 68		
15	44 18.7	22.1	41 16.7	26	05.7	27	27	30	17 09	36	18 06	7 08 60	17 08 71		
16	59 18.6	22.0	55 38.3	26	+28 02.8	29	29	35	16 57	25	17 57	25 59	16 51 73		
17	74 18.4	+23 21.9	70 00.0	27	+27 59.7	31	31	40	16 43	17 13	17 47	7 45 57	16 32 74		
18	89 18.3	+23 21.9	84 21.9	28	+27 56.5	32	32	45	16 26	17 00	17 37	8 09 55	16 08 77		
19	104 18.2	21.8	98 43.7	30	53.0	36	36	50	16 05	16 44	25	40 51	15 37 81		
20	119 18.0	21.7	113 05.7	30	49.4	36	36	52	15 55	36	20	8 55 50	22 83		
21	134 17.9	21.6	127 27.7	30	45.5	39	39	54	44	28	14	9 13 47	15 04 86		
22	149 17.8	21.5	141 49.9	32	41.5	40	40	56	32	19	08	9 35 43	14 43 90		
23	164 17.6	21.4	156 12.1	32	37.2	43	43	58	17	16 09	17 02	10 03 37	14 15 96		
24	179 17.5	+23 21.4	170 34.4	33	+27 32.8	44	44	60 S	15 00	15 57	16 54	10 42 27	13 36 107		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 5 ^h 45.5 ^m			Mag: -4.2 PMG: 8 ^h 58 ^m			Mag: +1.4 PMG: 16 ^h 12 ^m			Mag: -1.9 PMG: 12 ^h 00 ^m			Mag: +1.0 PMG: 5 ^h 55 ^m		
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec		
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	273 23.3	225 35.2	+15 01.1	116 47.3	+10 56.8	179 38.2	+23 15.3	270 59.3	-1 22.0						
1	288 25.8	240 34.9	01.8	131 48.4	56.3	194 40.0	15.3	286 01.7	22.0						
2	303 28.2	255 34.7	02.6	146 49.5	55.7	209 41.9	15.2	301 04.1	22.0						
3	318 30.7	270 34.5	03.3	161 50.7	55.2	224 43.7	15.2	316 06.5	22.0						
4	333 33.2	285 34.3	04.0	176 51.8	54.6	239 45.6	15.2	331 08.9	22.0						
5	348 35.6	300 34.1	+15 04.7	191 52.9	+10 54.1	254 47.4	+23 15.2	346 11.3	-1 21.9						
6	3 38.1	315 33.9	+15 05.5	206 54.0	+10 53.5	269 49.3	+23 15.2	1 13.7	-1 21.9						
7	18 40.6	330 33.7	06.2	221 55.2	53.0	284 51.1	15.2	16 16.1	21.9						
8	33 43.0	345 33.5	06.9	236 56.3	52.4	299 52.9	15.2	31 18.5	21.9						
9	48 45.5	0 33.2	07.6	251 57.4	51.9	314 54.8	15.2	46 20.8	21.9						
10	63 48.0	15 33.0	08.4	266 58.5	51.3	329 56.6	15.2	61 23.2	21.8						
11	78 50.4	30 32.8	+15 09.1	281 59.7	+10 50.8	344 58.5	+23 15.1	76 25.6	-1 21.8						
12	93 52.9	45 32.6	+15 09.8	297 00.8	+10 50.2	0 00.3	+23 15.1	91 28.0	-1 21.8						
13	108 55.3	60 32.4	10.5	312 01.9	49.6	15 02.1	15.1	106 30.4	21.8						
14	123 57.8	75 32.2	11.3	327 03.0	49.1	30 04.0	15.1	121 32.8	21.8						
15	139 00.3	90 31.9	12.0	342 04.1	48.5	45 05.8	15.1	136 35.2	21.8						
16	154 02.7	105 31.7	12.7	357 05.3	48.0	60 07.7	15.1	151 37.6	21.7						
17	169 05.2	120 31.5	+15 13.4	12 06.4	+10 47.4	75 09.5	+23 15.1	166 40.0	-1 21.7						
18	184 07.7	135 31.3	+15 14.2	27 07.5	+10 46.9	90 11.4	+23 15.1	181 42.4	-1 21.7						
19	199 10.1	150 31.1	14.9	42 08.6	46.3	105 13.2	15.1	196 44.8	21.7						
20	214 12.6	165 30.8	15.6	57 09.8	45.8	120 15.0	15.0	211 47.2	21.7						
21	229 15.1	180 30.6	16.3	72 10.9	45.2	135 16.9	15.0	226 49.6	21.6						
22	244 17.5	195 30.4	17.0	87 12.0	44.6	150 18.7	15.0	241 51.9	21.6						
23	259 20.0	210 30.2	17.8	102 13.1	44.1	165 20.6	15.0	256 54.3	21.6						
24	274 22.5	225 30.0	+15 18.5	117 14.3	+10 43.5	180 22.4	+23 15.0	271 56.7	-1 21.6						
Dif	—	-2	+7	+11	-6	+18	0	+24	0						

UT	SOL				● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15/7 PMG:12 ^h 02.9 ^m				Edad: 0.6 ^d PHE { 4 ^h : 59/4 12 ^h : 59/1 20 ^h : 58/9 R°: 58 ^m											
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m		
0	179	17.5	+23	21.4	170	34.4	+27	32.8	60 N	*** **	0 54	2 38	2 33 110	23 08 5		
1	194	17.4		21.3	184	56.8		28.2	58	** **	1 43	2 58	3 05 100	22 45 13		
2	209	17.2		21.2	199	19.2		23.4	56	** **	2 13	3 15	29 93	27 18		
3	224	17.1		21.1	213	41.8		18.4	54	0 49	35	29	3 48 89	22 11 23		
4	239	17.0		21.0	228	04.5		13.2	52	1 35	2 53	42	4 05 85	21 58 26		
5	254	16.9	+23	20.9	242	27.3	+27	07.9	50	2 02	3 08	3 52	4 19 83	21 46 29		
6	269	16.7	+23	20.8	256	50.2	+27	02.4	45	2 48	3 37	4 15	4 47 78	21 21 34		
7	284	16.6		20.8	271	13.1	+26	56.7	40	3 18	4 00	33	5 10 74	21 02 38		
8	299	16.5		20.7	285	36.2		50.8	35	3 41	18	4 48	28 72	20 45 42		
9	314	16.3		20.6	299	59.4		44.7	30	4 00	33	5 01	5 44 69	31 44		
10	329	16.2		20.5	314	22.7		38.5	20	29	4 58	23	6 11 65	20 06 49		
11	344	16.1	+23	20.4	328	46.1	+26	32.1	10 N	4 52	5 19	5 42	6 34 62	19 45 52		
12	359	15.9	+23	20.3	343	09.7	+26	25.5	0	5 11	5 37	5 59	6 56 59	19 24 57		
13	14	15.8		20.2	357	33.3		18.7	10 S	27	5 54	6 17	7 17 56	19 04 60		
14	29	15.7		20.1	11	57.1		11.8	20	5 44	6 11	35	7 40 53	18 43 63		
15	44	15.5		20.0	26	21.0	+26	04.7	30	6 00	30	6 56	8 07 48	17 69		
16	59	15.4		19.9	40	45.0	+25	57.5	35	09	40	7 09	22 47	18 02 71		
17	74	15.3	+23	19.8	55	09.1	+25	50.1	40	6 18	6 52	7 23	8 40 44	17 45 74		
18	89	15.1	+23	19.7	69	33.3	+25	42.5	45	6 28	7 06	7 40	9 02 40	17 24 79		
19	104	15.0		19.6	83	57.7		34.8	50	40	22	8 00	30 34	16 57 85		
20	119	14.9		19.5	98	22.2		26.9	52	45	29	10	43 31	44 88		
21	134	14.7		19.4	112	46.8		18.9	54	51	37	21	9 59 27	29 91		
22	149	14.6		19.3	127	11.6		10.7	56	6 57	46	34	10 17 23	16 11 96		
23	164	14.5		19.2	141	36.4	+25	02.3	58	7 04	7 57	8 48	10 39 17	15 50 102		
24	179	14.3	+23	19.1	156	01.4	+24	53.9	60 S	7 11	8 08	9 06	11 07 8	15 22 112		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 ^h 41.6 ^m		Mag: -4.2 PMG: 8 ^h 58 ^m		Mag: +1.4 PMG: 16 ^h 10 ^m		Mag: -1.9 PMG: 11 ^h 57 ^m		Mag: +1.0 PMG: 5 ^h 51 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	274	22.5	225	30.0	117	14.3	180	22.4	271	56.7
1	289	24.9	240	29.7	132	15.4	195	24.3	286	59.1
2	304	27.4	255	29.5	147	16.5	210	26.1	302	01.5
3	319	29.8	270	29.3	162	17.6	225	27.9	317	03.9
4	334	32.3	285	29.1	177	18.7	240	29.8	332	06.3
5	349	34.8	300	28.8	192	19.9	255	31.6	347	08.7
6	4	37.2	315	28.6	207	21.0	270	33.5	2	11.1
7	19	39.7	330	28.4	222	22.1	285	35.3	17	13.5
8	34	42.2	345	28.1	237	23.2	300	37.2	32	15.9
9	49	44.6	0	27.9	252	24.4	315	39.0	47	18.3
10	64	47.1	15	27.7	267	25.5	330	40.8	62	20.7
11	79	49.6	30	27.5	282	26.6	345	42.7	77	23.1
12	94	52.0	45	27.2	297	27.7	0	44.5	92	25.5
13	109	54.5	60	27.0	312	28.8	15	46.4	107	27.9
14	124	56.9	75	26.8	327	30.0	30	48.2	122	30.3
15	139	59.4	90	26.5	342	31.1	45	50.1	137	32.7
16	155	01.9	105	26.3	357	32.2	60	51.9	152	35.1
17	170	04.3	120	26.1	12	33.3	75	53.7	167	37.5
18	185	06.8	135	25.8	27	34.5	90	55.6	182	39.9
19	200	09.3	150	25.6	42	35.6	105	57.4	197	42.3
20	215	11.7	165	25.4	57	36.7	120	59.3	212	44.6
21	230	14.2	180	25.1	72	37.8	136	01.1	227	47.0
22	245	16.7	195	24.9	87	38.9	151	03.0	242	49.4
23	260	19.1	210	24.6	102	40.1	166	04.8	257	51.8
24	275	21.6	225	24.4	117	41.2	181	06.6	272	54.2
Dif	—		-2	+7	+11	-6	+18	0	+24	0

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 03.1 ^m				Edad: 1.6 ^d SD: 16'0 PMG: 14 ^h 08 ^m						PHE $\left\{ \begin{array}{l} 4^{\text{h}}: 58'6 \\ 12^{\text{h}}: 58'4 \\ 20^{\text{h}}: 58'1 \\ \text{R}^{\circ}: 53^{\text{m}} \end{array} \right.$							
	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	h m		
0	179 14.3	+23 19.1	156 01.4	62	+24 53.9	87	60 N	21 27	23 10	** **	4 23 109	23 13 3						
1	194 14.2	19.0	170 26.6	62	45.2	87	58	21 07	22 22	** **	4 45 102	22 58 8						
2	209 14.1	18.9	184 51.8	64	36.5	90	56	20 50	21 52	** **	5 02 97	45 12						
3	224 14.0	18.8	199 17.2	64	27.5	90	54	36	30	23 14	17 92	34 15						
4	239 13.8	18.7	213 42.7	65	18.5	90	52	24	21 13	22 30	30 89	24 19						
5	254 13.7	+23 18.6	228 08.4	67	+24 09.3	92	50	20 13	20 58	22 03	5 42 85	22 15 21						
6	269 13.6	+23 18.5	242 34.2	68	+24 00.0	93	45	19 51	20 28	21 18	6 05 79	21 55 28						
7	284 13.4	18.4	257 00.1	69	+23 50.5	95	40	33	20 06	20 47	24 75	40 31						
8	299 13.3	18.3	271 26.1	70	40.9	96	35	18	19 48	24	40 71	27 35						
9	314 13.2	18.2	285 52.3	72	31.2	97	30	19 05	33	20 06	6 53 68	21 15 38						
10	329 13.0	18.1	300 18.6	73	21.3	99	20	18 43	19 08	19 37	7 16 63	20 55 43						
11	344 12.9	+23 18.0	314 45.1	75	+23 11.3	100	10 N	18 24	18 47	19 14	7 36 59	20 37 48						
12	359 12.8	+23 17.9	329 11.6	75	+23 01.2	101	0	18 07	18 29	18 56	7 55 54	20 21 52						
13	14 12.6	17.8	343 38.4	78	+22 51.0	102	10 S	17 49	18 12	39	8 13 51	20 04 57						
14	29 12.5	17.7	358 05.2	80	40.7	103	20	31	17 55	23	33 46	19 46 61						
15	44 12.4	17.5	12 32.2	80	30.2	105	30	17 10	36	18 06	8 55 42	26 66						
16	59 12.3	17.4	26 59.3	81	19.6	106	35	16 58	26	17 57	9 09 38	19 13 70						
17	74 12.1	+23 17.3	41 26.6	83	+22 08.9	107	40	16 44	17 14	17 48	9 24 35	18 59 74						
18	89 12.0	+23 17.2	55 53.9	83	+21 58.1	108	45	16 27	17 01	17 38	9 42 30	18 43 78						
19	104 11.9	17.1	70 21.5	86	47.2	109	50	16 06	16 45	26	10 04 25	22 84						
20	119 11.7	17.0	84 49.1	86	36.2	110	52	15 56	37	21	14 22	12 87						
21	134 11.6	16.9	99 16.9	88	25.0	112	54	45	29	15	26 19	18 00 91						
22	149 11.5	16.7	113 44.8	89	13.8	112	56	33	20	09	40 15	17 47 95						
23	164 11.4	16.6	128 12.8	90	+21 02.4	114	58	18	16 10	17 03	10 56 9	32 100						
24	179 11.2	+23 16.5	142 41.0	92	+20 51.0	114	60 S	15 01	15 58	16 55	11 15 3	17 14 107						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 ^h 37.6 ^m		Mag: -4.2 PMG: 8 ^h 59 ^m		Mag: +1.5 PMG: 16 ^h 08 ^m		Mag: -1.9 PMG: 11 ^h 54 ^m		Mag: +1.0 PMG: 5 ^h 47 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	275 21.6	225 24.4	+15 35.7	117 41.2	+10 30.1	181 06.6	+23 14.7	272 54.2	-1 21.2	
1	290 24.1	240 24.2	36.4	132 42.3	29.6	196 08.5	14.7	287 56.6	21.2	
2	305 26.5	255 23.9	37.1	147 43.4	29.0	211 10.3	14.7	302 59.0	21.1	
3	320 29.0	270 23.7	37.8	162 44.5	28.4	226 12.2	14.7	318 01.4	21.1	
4	335 31.4	285 23.4	38.5	177 45.7	27.9	241 14.0	14.7	333 03.8	21.1	
5	350 33.9	300 23.2	+15 39.2	192 46.8	+10 27.3	256 15.9	+23 14.6	348 06.2	-1 21.1	
6	5 36.4	315 23.0	+15 39.9	207 47.9	+10 26.8	271 17.7	+23 14.6	3 08.6	-1 21.1	
7	20 38.8	330 22.7	40.6	222 49.0	26.2	286 19.5	14.6	18 11.0	21.1	
8	35 41.3	345 22.5	41.3	237 50.2	25.6	301 21.4	14.6	33 13.4	21.0	
9	50 43.8	0 22.2	42.0	252 51.3	25.1	316 23.2	14.6	48 15.8	21.0	
10	65 46.2	15 22.0	42.8	267 52.4	24.5	331 25.1	14.6	63 18.2	21.0	
11	80 48.7	30 21.7	+15 43.5	282 53.5	+10 24.0	346 26.9	+23 14.6	78 20.6	-1 21.0	
12	95 51.2	45 21.5	+15 44.2	297 54.6	+10 23.4	1 28.8	+23 14.5	93 23.0	-1 21.0	
13	110 53.6	60 21.3	44.9	312 55.8	22.8	16 30.6	14.5	108 25.4	21.0	
14	125 56.1	75 21.0	45.6	327 56.9	22.3	31 32.4	14.5	123 27.8	20.9	
15	140 58.6	90 20.8	46.3	342 58.0	21.7	46 34.3	14.5	138 30.2	20.9	
16	156 01.0	105 20.5	47.0	357 59.1	21.2	61 36.1	14.5	153 32.6	20.9	
17	171 03.5	120 20.3	+15 47.7	13 00.2	+10 20.6	76 38.0	+23 14.5	168 35.0	-1 20.9	
18	186 05.9	135 20.0	+15 48.4	28 01.4	+10 20.0	91 39.8	+23 14.5	183 37.4	-1 20.9	
19	201 08.4	150 19.8	49.1	43 02.5	19.5	106 41.7	14.5	198 39.8	20.9	
20	216 10.9	165 19.5	49.8	58 03.6	18.9	121 43.5	14.4	213 42.2	20.9	
21	231 13.3	180 19.3	50.5	73 04.7	18.3	136 45.3	14.4	228 44.6	20.8	
22	246 15.8	195 19.0	51.2	88 05.8	17.8	151 47.2	14.4	243 47.0	20.8	
23	261 18.3	210 18.8	51.9	103 07.0	17.2	166 49.0	14.4	258 49.4	20.8	
24	276 20.7	225 18.5	+15 52.6	118 08.1	+10 16.7	181 50.9	+23 14.4	273 51.8	-1 20.8	
Dif	—	-2	+7	+11	-6	+18	0	+24	0	

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15/7 PMG:12 ^h 03.4 ^m			Edad: 2.6 ^d PHE { 4 ^h : 57/8 12 ^h : 57/5 20 ^h : 57/2 SD: 15/8 PMG: 15 ^h 00 ^m R°: 47 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	179	11.2	+23	16.5	142	41.0	+20	51.0	115	60 N	0 57	2 40	6 11	100	23 14	0		
1	194	11.1		16.4	157	09.3		39.5	117	58	1 45	3 00	25	95	23 04	4		
2	209	11.0		16.3	171	37.8		27.8	117	56	2 14	16	37	90	22 56	7		
3	224	10.8		16.2	186	06.3		16.1	117	54	0 52	36	48	86	48	1		
4	239	10.7		16.0	200	35.0	+20	04.3	118	52	1 37	2 54	6 57	83	41	13		
5	254	10.6	+23	15.9	215	03.9	+19	52.3	120	50	2 04	3 09	7 05	81	22 35	15		
6	269	10.4	+23	15.8	229	32.8	+19	40.3	120	45	2 49	3 38	7 23	74	22 21	21		
7	284	10.3		15.7	244	01.9		28.2	121	40	3 19	4 01	37	70	10	25		
8	299	10.2		15.5	258	31.1		16.1	121	35	3 42	19	7 49	66	22 00	29		
9	314	10.1		15.4	273	00.4	+19	03.8	123	30	4 01	34	8 00	63	21 52	31		
10	329	09.9		15.3	287	29.9	+18	51.4	124	20	30	4 59	18	57	37	37		
11	344	09.8	+23	15.2	301	59.5	+18	39.0	124	10 N	4 52	5 19	8 34	52	21 24	42		
12	359	09.7	+23	15.0	316	29.2	+18	26.5	125	0	5 11	5 37	6 00	8 48	48	21 12	46	
13	14	09.6		14.9	330	59.0		13.9	126	10 S	28	5 54	17	9 03	43	20 59	51	
14	29	09.4		14.8	345	28.9	+18	01.2	127	20	5 44	6 11	35	18	39	46	55	
15	44	09.3		14.7	359	59.0	+17	48.5	127	30	6 00	30	6 56	36	33	31	60	
16	59	09.2		14.5	14	29.2		35.7	128	35	09	41	7 09	46	30	22	64	
17	74	09.0	+23	14.4	28	59.5	+17	22.8	129	40	6 18	6 52	7 23	9 57	27	20 11	68	
18	89	08.9	+23	14.3	43	29.9	+17	09.9	129	45	6 29	7 06	7 39	10 11	23	19 59	73	
19	104	08.8		14.1	58	00.5	+16	56.8	131	50	40	22	8 00	27	18	44	78	
20	119	08.7		14.0	72	31.1		43.8	130	52	45	29	10	35	15	37	81	
21	134	08.5		13.9	87	01.9		30.6	132	54	51	37	21	44	11	29	84	
22	149	08.4		13.7	101	32.8		17.4	132	56	6 57	46	33	10 53	9	21	87	
23	164	08.3		13.6	116	03.8	+16	04.1	133	58	7 04	7 56	8 48	11 04	5	19 11	91	
24	179	08.1	+23	13.5	130	34.9	+15	50.8	133	60 S	7 11	8 08	9 05	11 17	0	18 59	96	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 5 ^h 33.7 ^m		Mag: -4.2 PMG: 8 ^h 59 ^m			Mag: +1.5 PMG: 16 ^h 06 ^m			Mag: -1.9 PMG: 11 ^h 51 ^m			Mag: +1.0 PMG: 5 ^h 44 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	276	20.7	225	18.5	+15	52.6	118	08.1	+10	16.7	181	50.9	+23	14.4	273	51.8	-1	20.8
1	291	23.2	240	18.3		53.3	133	09.2		16.1	196	52.7		14.4	288	54.2		20.8
2	306	25.7	255	18.0		54.0	148	10.3		15.5	211	54.6		14.4	303	56.6		20.8
3	321	28.1	270	17.7		54.7	163	11.4		15.0	226	56.4		14.3	318	59.0		20.8
4	336	30.6	285	17.5		55.4	178	12.6		14.4	241	58.2		14.3	334	01.4		20.7
5	351	33.1	300	17.2	+15	56.1	193	13.7	+10	13.8	257	00.1	+23	14.3	349	03.8	-1	20.7
6	6	35.5	315	17.0	+15	56.8	208	14.8	+10	13.3	272	01.9	+23	14.3	4	06.2	-1	20.7
7	21	38.0	330	16.7		57.5	223	15.9		12.7	287	03.8		14.3	19	08.6		20.7
8	36	40.4	345	16.5		58.2	238	17.0		12.1	302	05.6		14.3	34	11.0		20.7
9	51	42.9	0	16.2		58.9	253	18.2		11.6	317	07.5		14.3	49	13.4		20.7
10	66	45.4	15	15.9	+15	59.6	268	19.3		11.0	332	09.3		14.2	64	15.9		20.7
11	81	47.8	30	15.7	+16	00.3	283	20.4	+10	10.5	347	11.2	+23	14.2	79	18.3	-1	20.6
12	96	50.3	45	15.4	+16	01.0	298	21.5	+10	09.9	2	13.0	+23	14.2	94	20.7	-1	20.6
13	111	52.8	60	15.2		01.7	313	22.6		09.3	17	14.8		14.2	109	23.1		20.6
14	126	55.2	75	14.9		02.4	328	23.7		08.8	32	16.7		14.2	124	25.5		20.6
15	141	57.7	90	14.6		03.1	343	24.9		08.2	47	18.5		14.2	139	27.9		20.6
16	157	00.2	105	14.4		03.8	358	26.0		07.6	62	20.4		14.2	154	30.3		20.6
17	172	02.6	120	14.1	+16	04.5	13	27.1	+10	07.1	77	22.2	+23	14.1	169	32.7	-1	20.6
18	187	05.1	135	13.9	+16	05.2	28	28.2	+10	06.5	92	24.1	+23	14.1	184	35.1	-1	20.5
19	202	07.6	150	13.6		05.9	43	29.3		05.9	107	25.9		14.1	199	37.5		20.5
20	217	10.0	165	13.3		06.6	58	30.5		05.4	122	27.7		14.1	214	39.9		20.5
21	232	12.5	180	13.1		07.3	73	31.6		04.8	137	29.6		14.1	229	42.3		20.5
22	247	14.9	195	12.8		08.0	88	32.7		04.2	152	31.4		14.1	244	44.7		20.5
23	262	17.4	210	12.5		08.7	103	33.8		03.7	167	33.3		14.1	259	47.1		20.5
24	277	19.9	225	12.3	+16	09.3	118	34.9	+10	03.1	182	35.1	+23	14.0	274	49.5	-1	20.5
Dif	—		-3		+7		+11		-6		+18		0		+24		0	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 03.6 ^m			Edad: 3.6 ^d SD: 15'6 PMG: 15 ^h 47 ^m PHE { 4 ^h : 57'0 12 ^h : 56'7 20 ^h : 56'4 R°: 45 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	08.1	+23	13.5	130	34.9	+15	50.8	60 N	21	26	23	06	**	**	7	51
1	194	08.0		13.3	145	06.1		37.4	58	21	06	22	20	**	**	8	00
2	209	07.9		13.2	159	37.4		24.0	56	20	50	21	51	**	**	07	86
3	224	07.8		13.1	174	08.8	+15	10.5	54		36	30	23	11	14	82	
4	239	07.6		12.9	188	40.4	+14	56.9	52		24	21	12	22	29	20	80
5	254	07.5	+23	12.8	203	12.0	+14	43.3	50	20	13	20	57	22	02	8	26
6	269	07.4	+23	12.6	217	43.8	+14	29.7	45	19	51	20	28	21	17	8	37
7	284	07.3		12.5	232	15.6		16.0	40		33	20	06	20	47	47	67
8	299	07.1		12.4	246	47.6	+14	02.2	35		18	19	48		24	8	55
9	314	07.0		12.2	261	19.6	+13	48.4	30	19	05	33	20	06		9	03
10	329	06.9		12.1	275	51.8		34.6	20	18	43	19	08	19	37	15	55
11	344	06.8	+23	11.9	290	24.0	+13	20.7	10 N	18	25	18	48	19	15	9	26
12	359	06.6	+23	11.8	304	56.4	+13	06.8	0	18	07	18	30	18	56	9	36
13	14	06.5		11.6	319	28.8	+12	52.8	10 S	17	50	18	13		39	46	41
14	29	06.4		11.5	334	01.3		38.8	20		32	17	56		23	9	57
15	44	06.3		11.4	348	34.0		24.8	30	17	11		37	18	07	10	09
16	59	06.1		11.2	3	06.7	+12	10.7	35	16	58		27	17	58	16	28
17	74	06.0	+23	11.1	17	39.5	+11	56.6	40	16	44	17	15	17	49	10	24
18	89	05.9	+23	10.9	32	12.4	+11	42.4	45	16	28	17	02	17	39	10	34
19	104	05.8		10.8	46	45.4		28.2	50	16	07	16	46		27	45	15
20	119	05.6		10.6	61	18.4	+11	14.0	52	15	58		38	22	50	13	20
21	134	05.5		10.5	75	51.6	+10	59.8	54		47		30	16		10	55
22	149	05.4		10.3	90	24.8		45.5	56		34		21	10		11	02
23	164	05.3		10.2	104	58.1		31.2	58	20		11	17	04		09	4
24	179	05.1	+23	10.0	119	31.5	+10	16.9	60 S	15	03	16	00	16	56	11	17

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 ^h 29.8 ^m		Mag: -4.2 PMG: 8 ^h 59 ^m		Mag: +1.5 PMG: 16 ^h 04 ^m		Mag: -1.9 PMG: 11 ^h 48 ^m		Mag: +1.0 PMG: 5 ^h 40 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	277	19.9	225	12.3	+16	09.3	118	34.9	+10	03.1
1	292	22.3	240	12.0		10.0	133	36.1		02.5
2	307	24.8	255	11.7		10.7	148	37.2		02.0
3	322	27.3	270	11.5		11.4	163	38.3		01.4
4	337	29.7	285	11.2		12.1	178	39.4		00.8
5	352	32.2	300	10.9	+16	12.8	193	40.5	+10	00.3
6	7	34.7	315	10.6	+16	13.5	208	41.6	+9	59.7
7	22	37.1	330	10.4		14.2	223	42.8		59.1
8	37	39.6	345	10.1		14.9	238	43.9		58.6
9	52	42.0	0	09.8		15.6	253	45.0		58.0
10	67	44.5	15	09.6		16.2	268	46.1		57.4
11	82	47.0	30	09.3	+16	16.9	283	47.2	+9	56.9
12	97	49.4	45	09.0	+16	17.6	298	48.4	+9	56.3
13	112	51.9	60	08.7		18.3	313	49.5		55.7
14	127	54.4	75	08.5		19.0	328	50.6		55.2
15	142	56.8	90	08.2		19.7	343	51.7		54.6
16	157	59.3	105	07.9		20.4	358	52.8		54.0
17	173	01.8	120	07.6	+16	21.0	13	53.9	+9	53.5
18	188	04.2	135	07.4	+16	21.7	28	55.1	+9	52.9
19	203	06.7	150	07.1		22.4	43	56.2		52.3
20	218	09.2	165	06.8		23.1	58	57.3		51.8
21	233	11.6	180	06.5		23.8	73	58.4		51.2
22	248	14.1	195	06.2		24.5	88	59.5		50.6
23	263	16.5	210	06.0		25.1	104	00.6		50.1
24	278	19.0	225	05.7	+16	25.8	119	01.8	+9	49.5
Dif	—		-3		+7		+11		-6	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/7 PMG:12 ^h 03.8 ^m			Edad: 4.6 ^d PHE { 4 ^h : 56/2 12 ^h : 55/9 20 ^h : 55/7 PMG: 16 ^h 30 ^m R°: 41 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m	m	
0	179	05.1	+23	10.0		119	31.5	+10	16.9	60 N	** **	1 01	2 41	9 23	86	23 13	**	
1	194	05.0		09.9		134	05.0	+10	02.5	58	** **	1 47	3 01		27 83	11	2	
2	209	04.9		09.7		148	38.5	+9	48.1	56	** **	2 16	18	31	80	09	4	
3	224	04.8		09.6		163	12.2		33.7	54	0 56	38	32	35	77	07	7	
4	239	04.6		09.4		177	45.9		19.3	52	1 39	2 55	44	38	75	05	9	
5	254	04.5	+23	09.2		192	19.7	+9	04.8	50	2 06	3 10	3 54	9 41	72	23 03	12	
6	269	04.4	+23	09.1		206	53.5	+8	50.4	45	2 50	3 39	4 17	9 48	67	23 00	16	
7	284	04.3		08.9		221	27.4		35.9	40	3 20	4 02	34	53	63	22 57	20	
8	299	04.1		08.8		236	01.4		21.4	35	3 43	20	4 49	9 58	59	54	23	
9	314	04.0		08.6		250	35.5	+8	06.8	30	4 02	35	5 02	10 02	56	52	26	
10	329	03.9		08.5		265	09.6	+7	52.3	20		30	4 59	24	09 50	48	31	
11	344	03.8	+23	08.3		279	43.8	+7	37.7	10 N	4 53	5 20	5 43	10 15	45	22 44	36	
12	359	03.7	+23	08.1		294	18.1	+7	23.2	0	5 11	5 38	6 00	10 20	42	22 40	41	
13	14	03.5		08.0		308	52.4	+7	08.6	10 S		5 55	17	26	37	37	45	
14	29	03.4		07.8		323	26.8	+6	54.0	20	5 44	6 12	36	32	32	33	50	
15	44	03.3		07.7		338	01.2		39.4	30	6 00	30	6 57	39	27	29	55	
16	59	03.2		07.5		352	35.7		24.8	35	09	41	7 09	43	24	26	58	
17	74	03.0	+23	07.3		7	10.3	+6	10.2	40	6 18	6 52	7 23	10 47	21	22 23	62	
18	89	02.9	+23	07.2		21	44.9	+5	55.5	45	6 28	7 06	7 39	10 52	17	22 20	66	
19	104	02.8		07.0		36	19.6		40.9	50	40	21	8 00	10 59	11	16	71	
20	119	02.7		06.8		50	54.3		26.2	52	45	29	09	11 01	10	14	73	
21	134	02.5		06.7		65	29.1	+5	11.6	54	51	37	20	04	8	12	76	
22	149	02.4		06.5		80	03.9	+4	56.9	56	6 57	46	33	08	5	10	78	
23	164	02.3		06.3		94	38.8		42.3	58	7 03	7 56	8 47	11	2	07	82	
24	179	02.2	+23	06.2		109	13.7	+4	27.6	60 S	7 11	8 07	9 04	11 16	**	22 05	85	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 5 ^h 25.8 ^m		Mag: -4.1 PMG: 9 ^h 00 ^m			Mag: +1.5 PMG: 16 ^h 03 ^m			Mag: -1.9 PMG: 11 ^h 45 ^m			Mag: +1.0 PMG: 5 ^h 36 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	278	19.0	225	05.7	+16	25.8	119	01.8	+9	49.5	183	19.4	+23	13.7	275	47.3	-1	20.2
1	293	21.5	240	05.4		26.5	134	02.9		48.9	198	21.2		13.7	290	49.7		20.2
2	308	23.9	255	05.1		27.2	149	04.0		48.3	213	23.1		13.6	305	52.1		20.1
3	323	26.4	270	04.8		27.9	164	05.1		47.8	228	24.9		13.6	320	54.5		20.1
4	338	28.9	285	04.5		28.5	179	06.2		47.2	243	26.8		13.6	335	56.9		20.1
5	353	31.3	300	04.3	+16	29.2	194	07.3	+9	46.6	258	28.6	+23	13.6	350	59.3	-1	20.1
6	8	33.8	315	04.0	+16	29.9	209	08.5	+9	46.1	273	30.4	+23	13.6	6	01.7	-1	20.1
7	23	36.3	330	03.7		30.6	224	09.6		45.5	288	32.3		13.6	21	04.2		20.1
8	38	38.7	345	03.4		31.3	239	10.7		44.9	303	34.1		13.5	36	06.6		20.1
9	53	41.2	0	03.1		31.9	254	11.8		44.4	318	36.0		13.5	51	09.0		20.1
10	68	43.7	15	02.8		32.6	269	12.9		43.8	333	37.8		13.5	66	11.4		20.1
11	83	46.1	30	02.5	+16	33.3	284	14.0	+9	43.2	348	39.7	+23	13.5	81	13.8	-1	20.0
12	98	48.6	45	02.2	+16	34.0	299	15.2	+9	42.7	3	41.5	+23	13.5	96	16.2	-1	20.0
13	113	51.0	60	02.0		34.6	314	16.3		42.1	18	43.3		13.5	111	18.6		20.0
14	128	53.5	75	01.7		35.3	329	17.4		41.5	33	45.2		13.4	126	21.0		20.0
15	143	56.0	90	01.4		36.0	344	18.5		40.9	48	47.0		13.4	141	23.4		20.0
16	158	58.4	105	01.1		36.7	359	19.6		40.4	63	48.9		13.4	156	25.9		20.0
17	174	00.9	120	00.8	+16	37.3	14	20.7	+9	39.8	78	50.7	+23	13.4	171	28.3	-1	20.0
18	189	03.4	135	00.5	+16	38.0	29	21.9	+9	39.2	93	52.6	+23	13.4	186	30.7	-1	20.0
19	204	05.8	150	00.2		38.7	44	23.0		38.7	108	54.4		13.4	201	33.1		20.0
20	219	08.3	164	59.9		39.4	59	24.1		38.1	123	56.3		13.4	216	35.5		20.0
21	234	10.8	179	59.6		40.0	74	25.2		37.5	138	58.1		13.3	231	37.9		19.9
22	249	13.2	194	59.3		40.7	89	26.3		36.9	154	00.0		13.3	246	40.3		19.9
23	264	15.7	209	59.0		41.4	104	27.4		36.4	169	01.8		13.3	261	42.7		19.9
24	279	18.1	224	58.7	+16	42.1	119	28.5	+9	35.8	184	03.6	+23	13.3	276	45.1	-1	19.9
Dif	—		-3		+7		+11	-6			+18		0		+24		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG: 12 ^h 04.0 ^m			Edad: 5.6 ^d SD: 15'1 PMG: 17 ^h 11 ^m			PHE { 4 ^h : 55'5 12 ^h : 55'3 20 ^h : 55'1 R°: 42 ^m					Civil			Náutico			Hora R°		Hora R°	
	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	02.2	+23	06.2	109	13.7	+4	27.6	160	147	60 N	21 25	23 02	** **		10 49	85		23 12	0	
1	194	02.1		06.0	123	48.7	+4	12.9	160	146	58	21 05	22 18	** **		50 82		13 3			
2	209	01.9		05.8	138	23.7	+3	58.3	161	147	56	20 49	21 50	** **		51 79		13 6			
3	224	01.8		05.7	152	58.8		43.6	161	146	54		35	29	23 07	52 76		14 8			
4	239	01.7		05.5	167	33.9		29.0	161	146	52	23	21 11	22 27		53 73		14 11			
5	254	01.6	+23	05.3	182	09.0	+3	14.3	161	147	50	20 12	20 57	22 01		10 53	71	23 15	13		
6	269	01.5	+23	05.1	196	44.2	+2	59.6	162	147	45	19 50	20 28	21 17		10 55	66	23 16	17		
7	284	01.3		05.0	211	19.5		45.0	163	146	40	33	20 05	20 47		56 62		17 21			
8	299	01.2		04.8	225	54.7		30.3	162	147	35	18	19 48		24	57 58		17 25			
9	314	01.1		04.6	240	30.0		15.7	163	146	30	19 05	33	20 06		58 55		18 27			
10	329	01.0		04.4	255	05.4	+2	01.0	164	147	20	18 44	19 08	19 37		10 59	50	19 33			
11	344	00.9	+23	04.3	269	40.7	+1	46.4	163	146	10 N	18 25	18 48	19 15		11 00	46	23 20	37		
12	359	00.7	+23	04.1	284	16.1	+1	31.7	164	147	0	18 08	18 30	18 56		11 02	41	23 21	41		
13	14	00.6		03.9	298	51.6		17.1	165	146	10 S	17 50	18 13		40	03 37		22 45			
14	29	00.5		03.7	313	27.1	+1	02.5	165	146	20	32	17 56		24	04 33		23 50			
15	44	00.4		03.5	328	02.5	+0	47.9	164	146	30	17 11	38	18 07		06 27		24 55			
16	59	00.3		03.4	342	38.1		33.3	166	146	35	16 59	27	17 59		07 24		24 59			
17	74	00.1	+23	03.2	357	13.6	+0	18.7	165	146	40	16 45	17 16	17 50		11 08	21	23 25	62		
18	89	00.0	+23	03.0	11	49.2	+0	04.2	166	145	45	16 29	17 03	17 40		11 09	17	23 26	66		
19	103	59.9		02.8	26	24.8	-0	10.4	166	146	50	16 09	16 47		28	10 13		27 71			
20	118	59.8		02.6	41	00.4		25.0	166	146	52	15 59	40	23		11 11		27 73			
21	133	59.7		02.5	55	36.1		39.5	167	145	54	48	32	18		12 8		28 75			
22	148	59.5		02.3	70	11.7	-0	54.0	166	145	56	36	23	12		13 5		28 79			
23	163	59.4		02.1	84	47.4	-1	08.5	167	145	58	21	13	17 05		13 3		29 81			
24	178	59.3	+23	01.9	99	23.1	-1	23.0	167	145	60 S	15 04	16 01	16 58		11 14	0	23 30	84		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 5 ^h 21.9 ^m			Mag: -4.1 PMG: 9 ^h 00 ^m			Mag: +1.5 PMG: 16 ^h 01 ^m			Mag: -1.9 PMG: 11 ^h 42 ^m			Mag: +1.0 PMG: 5 ^h 32 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	279	18.1	224	58.7	+16	42.1	119	28.5	+9	35.8	184	03.6	+23	13.3	276	45.1	-1	19.9			
1	294	20.6	239	58.4		42.7	134	29.7		35.2	199	05.5		13.3	291	47.6		19.9			
2	309	23.1	254	58.1		43.4	149	30.8		34.7	214	07.3		13.3	306	50.0		19.9			
3	324	25.5	269	57.8		44.1	164	31.9		34.1	229	09.2		13.2	321	52.4		19.9			
4	339	28.0	284	57.5		44.7	179	33.0		33.5	244	11.0		13.2	336	54.8		19.9			
5	354	30.5	299	57.2	+16	45.4	194	34.1	+9	32.9	259	12.9	+23	13.2	351	57.2	-1	19.9			
6	9	32.9	314	56.9	+16	46.1	209	35.2	+9	32.4	274	14.7	+23	13.2	6	59.6	-1	19.9			
7	24	35.4	329	56.6		46.7	224	36.4		31.8	289	16.6		13.2	22	02.0		19.8			
8	39	37.9	344	56.3		47.4	239	37.5		31.2	304	18.4		13.1	37	04.5		19.8			
9	54	40.3	359	56.0		48.1	254	38.6		30.6	319	20.2		13.1	52	06.9		19.8			
10	69	42.8	14	55.7		48.7	269	39.7		30.1	334	22.1		13.1	67	09.3		19.8			
11	84	45.3	29	55.4	+16	49.4	284	40.8	+9	29.5	349	23.9	+23	13.1	82	11.7	-1	19.8			
12	99	47.7	44	55.1	+16	50.1	299	41.9	+9	28.9	4	25.8	+23	13.1	97	14.1	-1	19.8			
13	114	50.2	59	54.8		50.7	314	43.0		28.4	19	27.6		13.1	112	16.5		19.8			
14	129	52.6	74	54.5		51.4	329	44.2		27.8	34	29.5		13.0	127	18.9		19.8			
15	144	55.1	89	54.2		52.1	344	45.3		27.2	49	31.3		13.0	142	21.4		19.8			
16	159	57.6	104	53.9		52.7	359	46.4		26.6	64	33.2		13.0	157	23.8		19.8			
17	175	00.0	119	53.6	+16	53.4	14	47.5	+9	26.1	79	35.0	+23	13.0	172	26.2	-1	19.8			
18	190	02.5	134	53.3	+16	54.0	29	48.6	+9	25.5	94	36.8	+23	13.0	187	28.6	-1	19.7			
19	205	05.0	149	53.0		54.7	44	49.7		24.9	109	38.7		13.0	202	31.0		19.7			
20	220	07.4	164	52.7		55.4	59	50.8		24.3	124	40.5		12.9	217	33.4		19.7			
21	235	09.9	179	52.4		56.0	74	52.0		23.8	139	42.4		12.9	232	35.9		19.7			
22	250	12.4	194	52.1		56.7	89	53.1		23.2	154	44.2		12.9	247	38.3		19.7			
23	265	14.8	209	51.8		57.4	104	54.2		22.6	169	46.1		12.9	262	40.7		19.7			
24	280	17.3	224	51.5	+16	58.0	119	55.3	+9	22.0	184	47.9	+23	12.9	277	43.1	-1	19.7			
Dif	—			-3			+7			+11			-6			+18			0		

UT	SOL			☾ LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15/7 PMG:12 ^h 04.1 ^m			Edad: 6.6 ^d SD: 15/0 PMG: 17 ^h 51 ^m										
	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	178	59.3	+23	01.9	99	23.1	-1	23.0	60 N	** **	1 06	2 43	12 13 83	23 11 **
1	193	59.2		01.7	113	58.8		37.5	58	** **	1 50	3 03	10 80	15 2
2	208	59.1		01.5	128	34.5		51.9	56	** **	2 18	19	08 77	18 5
3	223	58.9		01.3	143	10.3		06.4	54	1 01	40	33	06 74	21 8
4	238	58.8		01.2	157	46.0		20.8	52	1 42	2 57	45	05 71	24 10
5	253	58.7	+23	01.0	172	21.8		35.2	50	2 08	3 12	3 56	12 03 69	23 26 13
6	268	58.6	+23	00.8	186	57.6		49.6	45	2 52	3 41	4 18	11 59 65	23 32 17
7	283	58.5		00.6	201	33.3		03.9	40	3 21	4 03	35	57 60	36 21
8	298	58.4		00.4	216	09.1		18.2	35	3 44	21	4 50	54 57	41 24
9	313	58.2	+23	00.2	230	44.9		32.6	30	4 02	4 36	5 03	52 54	44 27
10	328	58.1	+23	00.0	245	20.7		46.9	20	31	5 00	25	48 49	50 32
11	343	58.0	+22	59.8	259	56.5		01.1	10 N	4 53	5 20	5 43	11 45 44	23 56 36
12	358	57.9	+22	59.6	274	32.4		15.4	0	5 12	5 38	6 00	11 42 40	** ** *
13	13	57.8		59.4	289	08.2		29.6	10 S	29	5 55	18	39 35	** ** *
14	28	57.7		59.2	303	44.0		43.8	20	5 44	6 12	36	36 31	** ** *
15	43	57.5		59.0	318	19.8		57.9	30	6 01	30	6 57	32 26	** ** *
16	58	57.4		58.8	332	55.6		12.1	35	09	41	7 09	30 23	** ** *
17	73	57.3	+22	58.6	347	31.4		26.2	40	6 18	6 52	7 23	11 28 20	** ** *
18	88	57.2	+22	58.4	2	07.2		40.3	45	6 28	7 05	7 39	11 25 16	** ** *
19	103	57.1		58.2	16	43.0		54.3	50	40	21	7 59	22 12	** ** *
20	118	57.0		58.0	31	18.8		08.4	52	45	28	8 09	20 10	** ** *
21	133	56.8		57.8	45	54.6		22.4	54	50	36	20	19 7	** ** *
22	148	56.7		57.6	60	30.3		36.3	56	6 56	45	32	17 5	** ** *
23	163	56.6		57.4	75	06.1		50.3	58	7 03	7 55	8 46	15 2	** ** *
24	178	56.5	+22	57.2	89	41.8		04.2	60 S	7 10	8 06	9 03	11 13 **	** ** *
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 5 ^h 18.0 ^m		Mag: -4.1 PMG: 9 ^h 01 ^m		Mag: +1.5 PMG: 15 ^h 59 ^m		Mag: -1.9 PMG: 11 ^h 39 ^m		Mag: +0.9 PMG: 5 ^h 28 ^m					
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'				
0	280	17.3	224	51.5	+16	58.0	119	55.3	+9	22.0				
1	295	19.8	239	51.1		58.7	134	56.4		21.5				
2	310	22.2	254	50.8	+16	59.3	149	57.5		20.9				
3	325	24.7	269	50.5	+17	00.0	164	58.6		20.3				
4	340	27.1	284	50.2	+17	00.6	179	59.8		19.7				
5	355	29.6	299	49.9	+17	01.3	195	00.9	+9	19.2				
6	10	32.1	314	49.6	+17	02.0	210	02.0	+9	18.6				
7	25	34.5	329	49.3		02.6	225	03.1		18.0				
8	40	37.0	344	48.9		03.3	240	04.2		17.4				
9	55	39.5	359	48.6		03.9	255	05.3		16.9				
10	70	41.9	14	48.3		04.6	270	06.4		16.3				
11	85	44.4	29	48.0	+17	05.2	285	07.6	+9	15.7				
12	100	46.9	44	47.7	+17	05.9	300	08.7	+9	15.1				
13	115	49.3	59	47.4		06.5	315	09.8		14.6				
14	130	51.8	74	47.0		07.2	330	10.9		14.0				
15	145	54.2	89	46.7		07.8	345	12.0		13.4				
16	160	56.7	104	46.4		08.5	0	13.1		12.8				
17	175	59.2	119	46.1	+17	09.1	15	14.2	+9	12.2				
18	191	01.6	134	45.8	+17	09.8	30	15.3	+9	11.7				
19	206	04.1	149	45.4		10.4	45	16.5		11.1				
20	221	06.6	164	45.1		11.1	60	17.6		10.5				
21	236	09.0	179	44.8		11.7	75	18.7		09.9				
22	251	11.5	194	44.5		12.4	90	19.8		09.4				
23	266	14.0	209	44.2		13.0	105	20.9		08.8				
24	281	16.4	224	43.8	+17	13.7	120	22.0	+9	08.2				
Dif	—		-3		+7		+11		-6					
									+18					
									0					
									+24					
									0					

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 04.3 ^m			Edad: 7.6 ^d SD: 14'9 PMG: 18 ^h 31 ^m							Civil		Náutico	Hora	R°	Hora	R°		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif												
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	178	56.5	+22	57.2	89	41.8	-7	04.2	60 N	21	23	22	57	**	**		13	36	87
1	193	56.4		57.0	104	17.6		18.0	58	21	04	22	16	**	**		30	83	17
2	208	56.3		56.8	118	53.3		31.9	56	20	48	21	48	**	**		25	79	23
3	223	56.2		56.6	133	29.0		45.7	54		34	27	23	03		20	77	29	
4	238	56.0		56.4	148	04.7	-7	59.4	52		22	21	10	22	25		16	74	34
5	253	55.9	+22	56.2	162	40.4	-8	13.2	50	20	12	20	56	21	59		13	12	71
6	268	55.8	+22	56.0	177	16.0	-8	26.9	45	19	50	20	27	21	16		13	04	66
7	283	55.7		55.8	191	51.7		40.5	40		32	20	05	20	46		12	57	62
8	298	55.6		55.6	206	27.3	-8	54.1	35		18	19	47	24			51	59	**
9	313	55.5		55.4	221	02.9	-9	07.7	30	19	05	32	20	06	46	56	**	**	**
10	328	55.4		55.2	235	38.4		21.3	20	18	44	19	08	19	37	37	51	**	**
11	343	55.2	+22	55.0	250	14.0	-9	34.8	10 N	18	25	18	48	19	15	12	29	46	**
12	358	55.1	+22	54.8	264	49.5	-9	48.2	0	18	08	18	30	18	57	12	22	42	0
13	13	55.0		54.5	279	25.0	-10	01.7	10 S	17	51	18	14	40		14	39		06
14	28	54.9		54.3	294	00.5		15.0	20		33	17	57	24		12	07	34	12
15	43	54.8		54.1	308	35.9		28.4	30		12	38	08	11	58	29	18	55	
16	58	54.7		53.9	323	11.3		41.7	35	17	00	28	18	00	53	27	21	59	
17	73	54.6	+22	53.7	337	46.7	-10	54.9	40	16	46	17	17	17	51	11	48	23	0
18	88	54.4	+22	53.5	352	22.1	-11	08.1	45	16	30	17	04	17	41	11	41	19	0
19	103	54.3		53.3	6	57.4		21.3	50		10	16	48	29		34	14		36
20	118	54.2		53.0	21	32.7		34.4	52	16	00	41	24	30	12	39	73		
21	133	54.1		52.8	36	07.9	-11	47.5	54	15	50	33	19	26	10	42	76		
22	148	54.0		52.6	50	43.1	-12	00.5	56		37	24	13	22	7	45	79		
23	163	53.9		52.4	65	18.3		13.5	58		23	14	17	06	17	4	49	82	
24	178	53.8	+22	52.2	79	53.4	-12	26.5	60 S	15	07	16	03	16	59	11	12	0	0

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG 5 ^h 14.0 ^m		Mag: -4.1 PMG: 9 ^h 01 ^m			Mag: +1.5 PMG: 15 ^h 57 ^m			Mag: -1.9 PMG: 11 ^h 36 ^m			Mag: +0.9 PMG: 5 ^h 24 ^m		
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°
0	281	16.4	224	43.8	+17	120	22.0	+9	185	32.2	+23	278	41.2	-1
1	296	18.9	239	43.5		135	23.1		200	34.1		293	43.6	
2	311	21.4	254	43.2		150	24.2		215	35.9		308	46.0	
3	326	23.8	269	42.8		165	25.4		230	37.7		323	48.4	
4	341	26.3	284	42.5		180	26.5		245	39.6		338	50.8	
5	356	28.7	299	42.2	+17	195	27.6	+9	260	41.4	+23	353	53.3	-1
6	11	31.2	314	41.9	+17	210	28.7	+9	275	43.3	+23	8	55.7	-1
7	26	33.7	329	41.5		225	29.8		290	45.1		23	58.1	
8	41	36.1	344	41.2		240	30.9		305	47.0		39	00.5	
9	56	38.6	359	40.9		255	32.0		320	48.8		54	02.9	
10	71	41.1	14	40.5		270	33.1		335	50.7		69	05.4	
11	86	43.5	29	40.2	+17	285	34.3	+9	350	52.5	+23	84	07.8	-1
12	101	46.0	44	39.9	+17	300	35.4	+9	5	54.4	+23	99	10.2	-1
13	116	48.5	59	39.6		315	36.5		20	56.2		114	12.6	
14	131	50.9	74	39.2		330	37.6	+9	35	58.0		129	15.1	
15	146	53.4	89	38.9		345	38.7	+8	50	59.9		144	17.5	
16	161	55.9	104	38.6		0	39.8		66	01.7		159	19.9	
17	176	58.3	119	38.2	+17	15	40.9	+8	81	03.6	+23	174	22.3	-1
18	192	00.8	134	37.9	+17	30	42.0	+8	96	05.4	+23	189	24.7	-1
19	207	03.2	149	37.5		45	43.2		111	07.3		204	27.2	
20	222	05.7	164	37.2		60	44.3		126	09.1		219	29.6	
21	237	08.2	179	36.9		75	45.4		141	11.0		234	32.0	
22	252	10.6	194	36.5		90	46.5		156	12.8		249	34.4	
23	267	13.1	209	36.2		105	47.6		171	14.7		264	36.9	
24	282	15.6	224	35.9	+17	120	48.7	+8	186	16.5	+23	279	39.3	-1
Dif	—		-3	+6		+11	-6		+18	0		+24		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15 ^h 7 PMG:12 ^h 04.5 ^m				Edad: 8.6 ^d PHE { 4 ^h : 54 ^h /3 12 ^h : 54 ^h /2 20 ^h : 54 ^h /2 R°: 44 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	53.8	+22	52.2	79	53.4	-12	26.5	128	58	1 12	2 46	15	02	89	23	09	1		
1	193	53.7		52.0	94	28.5	-12	39.3	129	56	1 54	3 05	14	52	84	20	6			
2	208	53.5		51.7	109	03.6	-12	52.2	128	54	2 21	21	43	80	30	9				
3	223	53.4		51.5	123	38.6	-13	05.0	128	52	1 06	42	35	77	38	13				
4	238	53.3		51.3	138	13.6		17.7	127	50	1 44	2 59	47	28	74	46	16			
5	253	53.2	+22	51.1	152	48.5	-13	30.4	127	45	2 10	3 13	3 57	14	22	71	23	53	18	
6	268	53.1	+22	50.8	167	23.4	-13	43.0	126	40	2 53	3 42	4 19	14	09	66	**	**	**	
7	283	53.0		50.6	181	58.3	-13	55.6	126	35	3 23	4 04	37	13	58	62	**	**	**	
8	298	52.9		50.4	196	33.1	-14	08.1	125	30	3 45	22	4 51	48	59	0	05	26		
9	313	52.8		50.2	211	07.8		20.6	125	20	4 03	4 37	5 04	40	56	11	29			
10	328	52.7		50.0	225	42.5		33.0	124	10 N	32	5 01	25	26	51	22	34			
11	343	52.5	+22	49.7	240	17.2	-14	45.3	123	0	4 54	5 21	5 44	13	14	47	0	32	38	
12	358	52.4	+22	49.5	254	51.8	-14	57.6	123	10 S	5 12	5 38	6 01	13	03	43	0	41	42	
13	13	52.3		49.3	269	26.3	-15	09.9	123	20	29	5 55	18	12	51	40	0	51	45	
14	28	52.2		49.0	284	00.9		22.0	122	30	5 45	6 12	36	40	35	1	00	51		
15	43	52.1		48.8	298	35.3		34.2	122	35	6 01	30	6 56	26	31	12	55			
16	58	52.0		48.6	313	09.7		46.2	120	40	09	40	7 08	18	28	19	58			
17	73	51.9	+22	48.4	327	44.1	-15	58.2	120	45	6 18	6 52	7 22	12	09	25	1	26	61	
18	88	51.8	+22	48.1	342	18.3	-16	10.2	120	50	6 28	7 05	7 39	11	59	21	1	35	65	
19	103	51.7		47.9	356	52.6		22.0	118	52	39	20	7 59	47	16	46	70			
20	118	51.6		47.7	11	26.8		33.8	118	54	44	28	8 08	41	14	51	73			
21	133	51.5		47.4	26	00.9		45.6	117	56	50	35	19	35	11	1	56	76		
22	148	51.3		47.2	40	34.9	-16	57.3	117	58	6 56	44	31	28	8	2	02	79		
23	163	51.2		47.0	55	08.9	-17	08.9	116	60 S	7 02	7 54	8 45	20	4	09	83			
24	178	51.1	+22	46.7	69	42.9	-17	20.4	115		7 09	8 05	9 01	11	11	0	2	17	87	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 5 ^h 10.1 ^m		Mag: -4.1 PMG: 9 ^h 02 ^m				Mag: +1.5 PMG: 15 ^h 56 ^m				Mag: -1.9 PMG: 11 ^h 33 ^m				Mag: +0.9 PMG: 5 ^h 21 ^m					
	hG ♀		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	282	15.6	224	35.9	+17	29.1	120	48.7	+8	54.3	186	16.5	+23	12.0	279	39.3	-1	19.4		
1	297	18.0	239	35.5		29.7	135	49.8		53.7	201	18.4		12.0	294	41.7		19.4		
2	312	20.5	254	35.2		30.3	150	50.9		53.1	216	20.2		11.9	309	44.1		19.4		
3	327	23.0	269	34.8		31.0	165	52.0		52.6	231	22.1		11.9	324	46.6		19.4		
4	342	25.4	284	34.5		31.6	180	53.2		52.0	246	23.9		11.9	339	49.0		19.4		
5	357	27.9	299	34.2	+17	32.2	195	54.3	+8	51.4	261	25.7	+23	11.9	354	51.4	-1	19.4		
6	12	30.3	314	33.8	+17	32.9	210	55.4	+8	50.8	276	27.6	+23	11.9	9	53.8	-1	19.4		
7	27	32.8	329	33.5		33.5	225	56.5		50.2	291	29.4		11.8	24	56.3		19.4		
8	42	35.3	344	33.1		34.1	240	57.6		49.7	306	31.3		11.8	39	58.7		19.4		
9	57	37.7	359	32.8		34.8	255	58.7		49.1	321	33.1		11.8	55	01.1		19.3		
10	72	40.2	14	32.4		35.4	270	59.8		48.5	336	35.0		11.8	70	03.5		19.3		
11	87	42.7	29	32.1	+17	36.0	286	00.9	+8	47.9	351	36.8	+23	11.8	85	06.0	-1	19.3		
12	102	45.1	44	31.7	+17	36.6	301	02.0	+8	47.3	6	38.7	+23	11.7	100	08.4	-1	19.3		
13	117	47.6	59	31.4		37.3	316	03.2		46.7	21	40.5		11.7	115	10.8		19.3		
14	132	50.1	74	31.1		37.9	331	04.3		46.2	36	42.4		11.7	130	13.2		19.3		
15	147	52.5	89	30.7		38.5	346	05.4		45.6	51	44.2		11.7	145	15.7		19.3		
16	162	55.0	104	30.4		39.2	1	06.5		45.0	66	46.1		11.7	160	18.1		19.3		
17	177	57.5	119	30.0	+17	39.8	16	07.6	+8	44.4	81	47.9	+23	11.6	175	20.5	-1	19.3		
18	192	59.9	134	29.7	+17	40.4	31	08.7	+8	43.8	96	49.8	+23	11.6	190	23.0	-1	19.3		
19	208	02.4	149	29.3		41.0	46	09.8		43.3	111	51.6		11.6	205	25.4		19.3		
20	223	04.8	164	29.0		41.7	61	10.9		42.7	126	53.4		11.6	220	27.8		19.3		
21	238	07.3	179	28.6		42.3	76	12.0		42.1	141	55.3		11.5	235	30.2		19.3		
22	253	09.8	194	28.3		42.9	91	13.1		41.5	156	57.1		11.5	250	32.7		19.3		
23	268	12.2	209	27.9		43.5	106	14.3		40.9	171	59.0		11.5	265	35.1		19.3		
24	283	14.7	224	27.6	+17	44.1	121	15.4	+8	40.3	187	00.8	+23	11.5	280	37.5	-1	19.3		
Dif	—		-3		+6		+11		-6		+18		0		+24		0			

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 04.7 ^m			Edad: 9.6 ^d SD: 14'8 PMG: 19 ^h 57 ^m PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/2 Rº: 48 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	51.1	+22	46.7	69	42.9	149	−17	20.4	60 N	21 21	22 52	** **	16 31	95	23 10	4
1	193	51.0		46.5	84	16.8	149		31.9	58	21 02	22 13	** **	16 88		26 11	
2	208	50.9		46.2	98	50.6	148		43.4	56	20 46	21 46	** **	16 03	83	39 16	
3	223	50.8		46.0	113	24.4	148	−17	54.7	54	33	26	22 59	15 52	79	23 51	20
4	238	50.7		45.8	127	58.1	147	−18	06.0	52	21	21 09	22 22	42 76		** **	**
5	253	50.6	+22	45.5	142	31.7	146	−18	17.2	50	20 11	20 54	21 57	15 33	74	** **	**
6	268	50.5	+22	45.3	157	05.3	146	−18	28.3	45	19 49	20 26	21 15	15 15	68	0 08	24
7	283	50.4		45.1	171	38.8	145		39.4	40	32	20 04	20 45	15 00	64	20 28	
8	298	50.3		44.8	186	12.2	144	−18	50.4	35	17	19 47	23	14 47	61	31 31	
9	313	50.2		44.6	200	45.6	144	−19	01.3	30	19 05	32	20 05	36 59		40 34	
10	328	50.1		44.3	215	18.9	143		12.1	20	18 44	19 08	19 37	17 55	0	56 38	
11	343	49.9	+22	44.1	229	52.1	142	−19	22.9	10 N	18 25	18 48	19 15	14 01	51	1 10	42
12	358	49.8	+22	43.8	244	25.3	142	−19	33.6	0	18 08	18 31	18 57	13 46	47	1 23	46
13	13	49.7		43.6	258	58.3	140		44.2	10 S	17 51	18 14	40	31 44		36 50	
14	28	49.6		43.4	273	31.4	141	−19	54.8	20	34	17 57	25	13 15	40	1 51	53
15	43	49.5		43.1	288	04.3	139	−20	05.2	30	13	39	09	12 57	36	2 07	58
16	58	49.4		42.9	302	37.2	139		15.6	35	17 01	29	18 01	46 34		17 60	
17	73	49.3	+22	42.6	317	10.0	138	−20	25.9	40	16 47	17 18	17 52	12 34	31	2 27	64
18	88	49.2	+22	42.4	331	42.8	138	−20	36.1	45	16 31	17 05	17 42	12 20	27	2 40	68
19	103	49.1		42.1	346	15.4	136		46.2	50	11	16 49	31	12 03	22	2 56	73
20	118	49.0		41.9	0	48.0	136	−20	56.3	52	16 02	42	26	11 55	19	3 04	75
21	133	48.9		41.6	15	20.5	135	−21	06.2	54	15 51	35	20	46 17		12 79	
22	148	48.8		41.4	29	53.0	135		16.1	56	39	26	14	36 13		21 82	
23	163	48.7		41.1	44	25.3	133		25.9	58	25	16	08	24 9		32 87	
24	178	48.6	+22	40.9	58	57.6	133	−21	35.6	60 S	15 09	16 05	17 01	11 11	4	3 44	93

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 ^h 06.2 ^m		Mag: −4.1 PMG: 9 ^h 02 ^m		Mag: +1.5 PMG: 15 ^h 54 ^m		Mag: −1.9 PMG: 11 ^h 31 ^m		Mag: +0.9 PMG: 5 ^h 17 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	283	14.7	224	27.6	+17	44.1	121	15.4	+8	40.3
1	298	17.2	239	27.2		44.8	136	16.5		39.8
2	313	19.6	254	26.8		45.4	151	17.6		39.2
3	328	22.1	269	26.5		46.0	166	18.7		38.6
4	343	24.6	284	26.1		46.6	181	19.8		38.0
5	358	27.0	299	25.8	+17	47.2	196	20.9	+8	37.4
6	13	29.5	314	25.4	+17	47.9	211	22.0	+8	36.8
7	28	32.0	329	25.1		48.5	226	23.1		36.2
8	43	34.4	344	24.7		49.1	241	24.2		35.7
9	58	36.9	359	24.3		49.7	256	25.4		35.1
10	73	39.3	14	24.0		50.3	271	26.5		34.5
11	88	41.8	29	23.6	+17	51.0	286	27.6	+8	33.9
12	103	44.3	44	23.3	+17	51.6	301	28.7	+8	33.3
13	118	46.7	59	22.9		52.2	316	29.8		32.7
14	133	49.2	74	22.5		52.8	331	30.9		32.2
15	148	51.7	89	22.2		53.4	346	32.0		31.6
16	163	54.1	104	21.8		54.0	1	33.1		31.0
17	178	56.6	119	21.5	+17	54.6	16	34.2	+8	30.4
18	193	59.1	134	21.1	+17	55.2	31	35.3	+8	29.8
19	209	01.5	149	20.7		55.9	46	36.4		29.2
20	224	04.0	164	20.4		56.5	61	37.6		28.6
21	239	06.4	179	20.0		57.1	76	38.7		28.1
22	254	08.9	194	19.6		57.7	91	39.8		27.5
23	269	11.4	209	19.3		58.3	106	40.9		26.9
24	284	13.8	224	18.9	+17	58.9	121	42.0	+8	26.3
Dif	—		−4	+6	+11	−6	+18	0	+24	0

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 04.8 ^m				Edad: 10.6 ^d PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'4 R°: 50 ^m PMG: 20 ^h 44 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	48.6	+22	40.9	58	57.6	-21	35.6	96	60 N	** **	1 17	2 49	18 05	94	23 13	9		
1	193	48.5		40.6	73	29.8	132	45.2	95	58	** **	1 57	3 08	17 43	85	36	18		
2	208	48.4		40.4	88	02.0	132	-21	54.7	95	56	** **	2 24	23	25	80	23	54	24
3	223	48.3		40.1	102	34.0	130	-22	04.2	95	54	1 11	2 44	37	17 10	75	** **	** **	
4	238	48.2		39.8	117	06.0	130		13.5	93	52	1 48	3 01	49	16 57	72	0 02	21	
5	253	48.1	+22	39.6	131	37.9	129	-22	22.8	93	50	2 13	3 15	3 59	16 45	71	0 11	24	
6	268	48.0	+22	39.3	146	09.8	129	-22	31.9	91	45	2 55	3 44	4 20	16 22	65	0 31	29	
7	283	47.9		39.1	160	41.5	127		41.0	91	40	3 24	4 05	38	16 03	62	0 47	32	
8	298	47.7		38.8	175	13.2	127		50.0	90	35	3 46	23	4 52	15 47	60	1 01	35	
9	313	47.6		38.6	189	44.8	126	-22	58.9	89	30	4 04	4 37	5 05	33	59	13	37	
10	328	47.5		38.3	204	16.3	125	-23	07.6	87	20	33	5 02	26	15 10	55	33	41	
11	343	47.4	+22	38.0	218	47.7	124	-23	16.3	87	10 N	4 54	5 21	5 44	14 50	52	1 51	45	
12	358	47.3	+22	37.8	233	19.1	124	-23	24.9	86	0	5 13	5 39	6 01	14 32	49	2 08	47	
13	13	47.2		37.5	247	50.4	123		33.4	85	10 S	29	5 55	18	14 14	46	25	50	
14	28	47.1		37.3	262	21.6	122		41.8	84	20	5 45	6 12	36	13 54	44	2 43	54	
15	43	47.0		37.0	276	52.7	121		50.0	82	30	6 00	30	6 56	32	40	3 04	57	
16	58	46.9		36.7	291	23.7	120	-23	58.2	82	35	09	40	7 08	18	39	16	60	
17	73	46.8	+22	36.5	305	54.7	120	-24	06.3	81	40	6 18	6 51	7 22	13 03	36	3 30	63	
18	88	46.7	+22	36.2	320	25.6	119	-24	14.2	79	45	6 27	7 04	7 38	12 46	32	3 47	66	
19	103	46.6		35.9	334	56.4	118		22.1	79	50	39	20	7 58	24	28	4 08	71	
20	118	46.5		35.7	349	27.1	117		29.9	78	52	44	27	8 07	13	26	18	74	
21	133	46.4		35.4	3	57.7	116		37.5	76	54	49	35	18	12 01	23	29	77	
22	148	46.3		35.2	18	28.3	116		45.1	76	56	6 55	43	30	11 48	19	42	81	
23	163	46.2		34.9	32	58.8	115		52.5	74	58	7 01	7 53	8 43	32	14	4 57	86	
24	178	46.1	+22	34.6	47	29.2	114	-24	59.8	73	60 S	7 08	8 04	9 00	11 13	7	5 15	94	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 5 ^h 02.2 ^m		Mag: -4.1 PMG: 9 ^h 03 ^m				Mag: +1.5 PMG: 15 ^h 52 ^m				Mag: -1.9 PMG: 11 ^h 28 ^m				Mag: +0.9 PMG: 5 ^h 13 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	284	13.8	224	18.9	+17	58.9	121	42.0	+8	26.3	187	45.2	+23	11.0	281	35.8	-1	19.2	
1	299	16.3	239	18.5	+17	59.5	136	43.1		25.7	202	47.0		11.0	296	38.3		19.2	
2	314	18.8	254	18.2	+18	00.1	151	44.2		25.1	217	48.9		10.9	311	40.7		19.2	
3	329	21.2	269	17.8		00.7	166	45.3		24.5	232	50.7		10.9	326	43.1		19.2	
4	344	23.7	284	17.4		01.3	181	46.4		24.0	247	52.6		10.9	341	45.6		19.2	
5	359	26.2	299	17.1	+18	01.9	196	47.5	+8	23.4	262	54.4	+23	10.9	356	48.0	-1	19.2	
6	14	28.6	314	16.7	+18	02.5	211	48.6	+8	22.8	277	56.3	+23	10.9	11	50.4	-1	19.2	
7	29	31.1	329	16.3		03.2	226	49.7		22.2	292	58.1		10.8	26	52.9		19.2	
8	44	33.6	344	15.9		03.8	241	50.9		21.6	308	00.0		10.8	41	55.3		19.2	
9	59	36.0	359	15.6		04.4	256	52.0		21.0	323	01.8		10.8	56	57.7		19.2	
10	74	38.5	14	15.2		05.0	271	53.1		20.4	338	03.6		10.8	72	00.2		19.2	
11	89	40.9	29	14.8	+18	05.6	286	54.2	+8	19.9	353	05.5	+23	10.7	87	02.6	-1	19.2	
12	104	43.4	44	14.5	+18	06.2	301	55.3	+8	19.3	8	07.3	+23	10.7	102	05.0	-1	19.2	
13	119	45.9	59	14.1		06.8	316	56.4		18.7	23	09.2		10.7	117	07.5		19.2	
14	134	48.3	74	13.7		07.4	331	57.5		18.1	38	11.0		10.7	132	09.9		19.2	
15	149	50.8	89	13.3		08.0	346	58.6		17.5	53	12.9		10.7	147	12.3		19.2	
16	164	53.3	104	13.0		08.6	1	59.7		16.9	68	14.7		10.6	162	14.8		19.2	
17	179	55.7	119	12.6	+18	09.2	17	00.8	+8	16.3	83	16.6	+23	10.6	177	17.2	-1	19.2	
18	194	58.2	134	12.2	+18	09.8	32	01.9	+8	15.7	98	18.4	+23	10.6	192	19.6	-1	19.2	
19	210	00.7	149	11.8		10.4	47	03.0		15.1	113	20.3		10.6	207	22.1		19.2	
20	225	03.1	164	11.4		11.0	62	04.1		14.6	128	22.1		10.5	222	24.5		19.2	
21	240	05.6	179	11.1		11.6	77	05.3		14.0	143	24.0		10.5	237	26.9		19.2	
22	255	08.1	194	10.7		12.1	92	06.4		13.4	158	25.8		10.5	252	29.4		19.2	
23	270	10.5	209	10.3		12.7	107	07.5		12.8	173	27.7		10.5	267	31.8		19.2	
24	285	13.0	224	09.9	+18	13.3	122	08.6	+8	12.2	188	29.5	+23	10.5	282	34.3	-1	19.2	
Dif	—		-4		+6		+11		-6		+18		0		+24		0		

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG: 12 ^h 05.0 ^m		Edad: 11.6 ^d SD: 14'8 PMG: 21 ^h 34 ^m PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 54 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	m	h m	m		
0	178 46.1	+22 34.6	47 29.2	-24 59.8	72	60 N	21 19	22 47	** **	19 39	85	23 22	29				
1	193 46.0	34.3	61 59.5	-25 07.0	71	58	21 00	22 09	** **	19 08	76	23 54	37				
2	208 45.9	34.1	76 29.7	14.1	70	56	20 45	21 44	** **	18 45	71	** **	**				
3	223 45.8	33.8	90 59.9	21.1	69	54	32	24	22 54	25 69	0 10	29					
4	238 45.7	33.5	105 30.0	28.0	67	52	20	21 07	22 19	18 09	68	23 32					
5	253 45.6	+22 33.3	120 00.0	-25 34.7	66	50	20 10	20 53	21 55	17 56	65	0 35	34				
6	268 45.5	+22 33.0	134 29.9	-25 41.3	66	45	19 48	20 25	21 13	17 27	64	1 00	38				
7	283 45.4	32.7	148 59.8	47.9	66	40	31	20 04	20 45	17 05	62	19 41					
8	298 45.3	32.4	163 29.6	-25 54.3	64	35	17	19 46	23	16 47	60	36 43					
9	313 45.2	32.2	177 59.3	-26 00.5	62	30	19 05	32	20 05	32 58	1 50	45					
10	328 45.1	31.9	192 28.9	06.7	60	20	18 44	19 08	19 37	16 05	57	2 14	48				
11	343 45.0	+22 31.6	206 58.4	-26 12.7	60	10 N	18 25	18 48	19 15	15 42	56	2 36	50				
12	358 44.9	+22 31.3	221 27.9	-26 18.7	60	0	18 09	18 31	18 57	15 21	54	2 55	53				
13	13 44.8	31.1	235 57.3	24.5	58	10 S	17 52	18 15	41	15 00	53	3 15	55				
14	28 44.7	30.8	250 26.6	30.1	56	20	34	17 58	25	14 38	51	3 37	56				
15	43 44.6	30.5	264 55.9	35.7	56	30	14	40	10	14 12	49	4 01	60				
16	58 44.5	30.2	279 25.1	41.1	54	35	17 02	30	18 02	13 57	47	16 61					
17	73 44.4	+22 30.0	293 54.2	-26 46.4	53	40	16 49	17 19	17 53	13 39	46	4 33	63				
18	88 44.3	+22 29.7	308 23.2	-26 51.6	52	45	16 33	17 06	17 43	13 18	44	4 53	66				
19	103 44.2	29.4	322 52.2	-26 56.6	50	50	13	16 51	32	12 52	40	5 19	69				
20	118 44.1	29.1	337 21.0	-27 01.5	49	52	16 04	44	27	39 38	32 71						
21	133 44.1	28.8	351 49.9	06.3	48	54	15 53	36	22	24 36	5 46	74					
22	148 44.0	28.5	6 18.6	10.9	46	56	42	28	16	12 07	33	6 03	77				
23	163 43.9	28.3	20 47.3	15.4	45	58	28	18	10	11 46	28	23 82					
24	178 43.8	+22 28.0	35 15.9	-27 19.8	44	60 S	15 12	16 07	17 03	11 20	19	6 49	92				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 58.3 ^m		Mag: -4.1 PMG: 9 ^h 04 ^m		Mag: +1.5 PMG: 15 ^h 50 ^m		Mag: -1.9 PMG: 11 ^h 25 ^m		Mag: +0.9 PMG: 5 ^h 09 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	285 13.0	224 09.9	+18 13.3	122 08.6	+8 12.2	188 29.5	+23 10.5	282 34.3	-1 19.2	
1	300 15.4	239 09.5	13.9	137 09.7	11.6	203 31.4	10.4	297 36.7	19.2	
2	315 17.9	254 09.2	14.5	152 10.8	11.0	218 33.2	10.4	312 39.1	19.2	
3	330 20.4	269 08.8	15.1	167 11.9	10.4	233 35.1	10.4	327 41.6	19.2	
4	345 22.8	284 08.4	15.7	182 13.0	09.9	248 36.9	10.4	342 44.0	19.2	
5	0 25.3	299 08.0	+18 16.3	197 14.1	+8 09.3	263 38.8	+23 10.3	357 46.4	-1 19.2	
6	15 27.8	314 07.6	+18 16.9	212 15.2	+8 08.7	278 40.6	+23 10.3	12 48.9	-1 19.2	
7	30 30.2	329 07.2	17.5	227 16.3	08.1	293 42.5	10.3	27 51.3	19.2	
8	45 32.7	344 06.9	18.1	242 17.4	07.5	308 44.3	10.3	42 53.7	19.2	
9	60 35.2	359 06.5	18.7	257 18.5	06.9	323 46.2	10.2	57 56.2	19.2	
10	75 37.6	14 06.1	19.3	272 19.6	06.3	338 48.0	10.2	72 58.6	19.2	
11	90 40.1	29 05.7	+18 19.8	287 20.8	+8 05.7	353 49.9	+23 10.2	88 01.1	-1 19.2	
12	105 42.6	44 05.3	+18 20.4	302 21.9	+8 05.1	8 51.7	+23 10.2	103 03.5	-1 19.2	
13	120 45.0	59 04.9	21.0	317 23.0	04.5	23 53.6	10.2	118 05.9	19.2	
14	135 47.5	74 04.5	21.6	332 24.1	04.0	38 55.4	10.1	133 08.4	19.2	
15	150 49.9	89 04.1	22.2	347 25.2	03.4	53 57.3	10.1	148 10.8	19.2	
16	165 52.4	104 03.7	22.8	2 26.3	02.8	68 59.1	10.1	163 13.3	19.2	
17	180 54.9	119 03.4	+18 23.4	17 27.4	+8 02.2	84 01.0	+23 10.1	178 15.7	-1 19.2	
18	195 57.3	134 03.0	+18 23.9	32 28.5	+8 01.6	99 02.8	+23 10.0	193 18.1	-1 19.2	
19	210 59.8	149 02.6	24.5	47 29.6	01.0	114 04.7	10.0	208 20.6	19.2	
20	226 02.3	164 02.2	25.1	62 30.7	+8 00.4	129 06.5	10.0	223 23.0	19.2	
21	241 04.7	179 01.8	25.7	77 31.8	+7 59.8	144 08.4	10.0	238 25.4	19.2	
22	256 07.2	194 01.4	26.3	92 32.9	59.2	159 10.2	09.9	253 27.9	19.2	
23	271 09.7	209 01.0	26.8	107 34.0	58.6	174 12.1	09.9	268 30.3	19.2	
24	286 12.1	224 00.6	+18 27.4	122 35.1	+7 58.0	189 13.9	+23 09.9	283 32.8	-1 19.2	
Dif	—	-4	+6	+11	-6	+18	0	+24	0	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15'7 PMG:12 ^h 05.2 ^m				Edad: 12.6 ^d PHE { SD: 14'9 PMG: 22 ^h 27 ^m																		
					4 ^h : 54'8 12 ^h : 55'0 20 ^h : 55'1 R°: 55 ^m																		
	hG ☉	Dec			hG ☾	Dif			Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m				
0	178	43.8	+22	28.0	35	15.9	96	-27	19.8	43	60 N	**	**	1	23	2	52	21	03	49	23	50	8
1	193	43.7		27.7	49	44.5	95		24.1	41	58	**	**	2	01	3	10	20	22	52	**	**	**
2	208	43.6		27.4	64	13.0	94		28.2	40	56	**	**	27	26	19	55	52		0	18	40	
3	223	43.5		27.1	78	41.4	94		32.2	38	54	1	17	2	47	39	33	53		37	43		
4	238	43.4		26.8	93	09.8	94		36.0	37	52	1	51	3	03	3	50	15	54		0	54	44
5	253	43.3	+22	26.5	107	38.1	93	-27	39.7	37	50	2	15	3	17	4	01	19	00	54	1	08	45
6	268	43.2	+22	26.3	122	06.3	92	-27	43.3	36	45	2	57	3	45	4	22	18	29	54	1	36	48
7	283	43.1		26.0	136	34.5	92		46.7	34	40	3	26	4	07	39	18	05	55	1	59	49	
8	298	43.0		25.7	151	02.6	91		50.0	33	35	3	48	24	4	53	17	46	54	2	18	49	
9	313	42.9		25.4	165	30.7	91		53.1	31	30	4	06	4	38	5	06	29	54	2	34	50	
10	328	42.8		25.1	179	58.7	90		56.1	30	20	33	5	02	27	17	01	54	3	01	52		
11	343	42.7	+22	24.8	194	26.6	89	-27	59.0	29	10 N	4	55	5	22	5	45	16	36	55	3	25	52
12	358	42.6	+22	24.5	208	54.5	89	-28	01.7	27	0	5	13	5	39	6	02	16	14	54	3	46	54
13	13	42.5		24.2	223	22.4	89		04.3	26	10 S	29	5	55	18	15	51	55	4	08	55		
14	28	42.4		23.9	237	50.2	88		06.8	25	20	5	45	6	12	36	15	27	54	32	55		
15	43	42.3		23.6	252	17.9	87		09.0	22	30	6	00	30	6	56	14	59	54	4	59	57	
16	58	42.2		23.3	266	45.6	87		11.2	22	35	08	40	7	08	43	54	5	16	56			
17	73	42.2	+22	23.0	281	13.3	87	-28	13.2	20	40	6	17	6	51	7	21	14	24	53	5	35	57
18	88	42.1	+22	22.7	295	40.9	86	-28	15.1	19	45	6	27	7	04	7	37	14	00	53	5	58	58
19	103	42.0		22.4	310	08.4	85		16.8	17	50	38	19	7	57	13	30	53	6	27	59		
20	118	41.9		22.2	324	35.9	85		18.3	15	52	43	26	8	06	13	16	52	41	60			
21	133	41.8		21.9	339	03.4	85		19.7	14	54	48	33	16	12	59	51	6	58	61			
22	148	41.7		21.6	353	30.8	84		21.0	13	56	6	54	42	28	38	51	7	19	62			
23	163	41.6		21.3	7	58.2	84		22.1	11	58	7	00	7	51	42	12	13	49	7	44	64	
24	178	41.5	+22	21.0	22	25.6	84	-28	23.1	10	60 S	7	07	8	02	8	58	11	37	46	8	19	67

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 4 ^h 54.4 ^m			Mag: -4.1 PMG: 9 ^h 04 ^m			Mag: +1.5 PMG: 15 ^h 48 ^m			Mag: -1.9 PMG: 11 ^h 22 ^m			Mag: +0.9 PMG: 5 ^h 05 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	286	12.1	224	00.6	+18	27.4	122	35.1	+7	58.0	189	13.9	+23	09.9	283	32.8	-1	19.2	
1	301	14.6	239	00.2		28.0	137	36.2		57.5	204	15.8		09.9	298	35.2		19.2	
2	316	17.0	253	59.8		28.6	152	37.3		56.9	219	17.6		09.9	313	37.6		19.3	
3	331	19.5	268	59.4		29.2	167	38.5		56.3	234	19.5		09.8	328	40.1		19.3	
4	346	22.0	283	59.0		29.7	182	39.6		55.7	249	21.3		09.8	343	42.5		19.3	
5	1	24.4	298	58.6	+18	30.3	197	40.7	+7	55.1	264	23.1	+23	09.8	358	45.0	-1	19.3	
6	16	26.9	313	58.2	+18	30.9	212	41.8	+7	54.5	279	25.0	+23	09.8	13	47.4	-1	19.3	
7	31	29.4	328	57.8		31.5	227	42.9		53.9	294	26.8		09.7	28	49.8		19.3	
8	46	31.8	343	57.4		32.0	242	44.0		53.3	309	28.7		09.7	43	52.3		19.3	
9	61	34.3	358	57.0		32.6	257	45.1		52.7	324	30.5		09.7	58	54.7		19.3	
10	76	36.8	13	56.6		33.2	272	46.2		52.1	339	32.4		09.7	73	57.2		19.3	
11	91	39.2	28	56.2	+18	33.8	287	47.3	+7	51.5	354	34.2	+23	09.6	88	59.6	-1	19.3	
12	106	41.7	43	55.8	+18	34.3	302	48.4	+7	50.9	9	36.1	+23	09.6	104	02.1	-1	19.3	
13	121	44.2	58	55.4		34.9	317	49.5		50.4	24	37.9		09.6	119	04.5		19.3	
14	136	46.6	73	55.0		35.5	332	50.6		49.8	39	39.8		09.6	134	06.9		19.3	
15	151	49.1	88	54.6		36.1	347	51.7		49.2	54	41.6		09.5	149	09.4		19.3	
16	166	51.5	103	54.2		36.6	2	52.8		48.6	69	43.5		09.5	164	11.8		19.3	
17	181	54.0	118	53.8	+18	37.2	17	53.9	+7	48.0	84	45.3	+23	09.5	179	14.3	-1	19.3	
18	196	56.5	133	53.4	+18	37.8	32	55.0	+7	47.4	99	47.2	+23	09.5	194	16.7	-1	19.3	
19	211	58.9	148	53.0		38.3	47	56.1		46.8	114	49.0		09.4	209	19.1		19.3	
20	227	01.4	163	52.6		38.9	62	57.2		46.2	129	50.9		09.4	224	21.6		19.3	
21	242	03.9	178	52.2		39.5	77	58.3		45.6	144	52.7		09.4	239	24.0		19.3	
22	257	06.3	193	51.8		40.0	92	59.4		45.0	159	54.6		09.4	254	26.5		19.3	
23	272	08.8	208	51.4		40.6	108	00.6		44.4	174	56.4		09.4	269	28.9		19.3	
24	287	11.3	223	50.9	+18	41.2	123	01.7	+7	43.8	189	58.3	+23	09.3	284	31.4	-1	19.3	
Dif	—		-4		+6		+11		-6		+18		0		+24		0		

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 05.3 ^m			Edad: 13.6 ^d SD: 15'0 PMG: 23 ^h 22 ^m PHE { 4 ^h : 55'3 12 ^h : 55'4 20 ^h : 55'6 R°: 56 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	178	41.5	+22	21.0	22	25.6	-28	23.1	60 N	21 16	22 42	** ** *	21 52	19	23 58	** ** *
1	193	41.4		20.7	36	52.9	83	23.9	58	20 58	22 06	** ** *	21 14	30	0 30	64
2	208	41.3		20.4	51	20.2	83	24.6	56	43	21 41	** ** *	20 47	35	0 58	62
3	223	41.2		20.0	65	47.4	82	25.1	54	30	21	22 49	26	39	1 20	61
4	238	41.1		19.7	80	14.7	83	25.5	52	19	21 05	22 16	20 09	41	38	61
5	253	41.0	+22	19.4	94	41.8	81	-28	50	20 09	20 51	21 53	19 54	42	1 53	60
6	268	41.0	+22	19.1	109	09.0	82	-28	45	19 48	20 24	21 12	19 23	46	2 24	59
7	283	40.9		18.8	123	36.1	81	25.7	40	31	20 03	20 43	19 00	48	2 48	59
8	298	40.8		18.5	138	03.3	82	25.4	35	17	19 46	22	18 40	50	3 07	59
9	313	40.7		18.2	152	30.3	80	25.0	30	19 04	31	20 04	18 23	52	24	59
10	328	40.6		17.9	166	57.4	81	24.5	20	18 43	19 08	19 37	17 55	53	3 53	57
11	343	40.5	+22	17.6	181	24.5	81	-28	10 N	18 26	18 48	19 15	17 31	55	4 17	57
12	358	40.4	+22	17.3	195	51.5	80	-28	0	18 09	18 31	18 57	17 08	57	4 40	56
13	13	40.3		17.0	210	18.5	80	21.9	10 S	17 52	18 15	41	16 46	57	5 03	55
14	28	40.2		16.7	224	45.5	80	20.8	20	35	17 59	26	16 21	60	27	55
15	43	40.1		16.4	239	12.5	80	19.4	30	15	41	11	15 53	61	5 56	53
16	58	40.1		16.1	253	39.5	80	18.0	35	17 03	31	18 03	37	61	6 12	53
17	73	40.0	+22	15.7	268	06.4	79	-28	40	16 50	17 20	17 54	15 17	63	6 32	52
18	88	39.9	+22	15.4	282	33.4	80	-28	45	16 34	17 08	17 44	14 53	65	6 56	51
19	103	39.8		15.1	297	00.3	79	12.6	50	15	16 53	34	23	67	7 26	49
20	118	39.7		14.8	311	27.3	80	10.5	52	16 06	46	29	14 08	68	7 41	48
21	133	39.6		14.5	325	54.2	79	08.3	54	15 55	38	24	13 50	70	7 59	47
22	148	39.5		14.2	340	21.1	79	05.9	56	44	30	18	29	72	8 21	44
23	163	39.4		13.9	354	48.1	80	03.3	58	30	20	12	13 02	76	8 48	40
24	178	39.4	+22	13.5	9	15.0	79	-28	60 S	15 15	16 10	17 05	12 23	84	9 26	34

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 50.5 ^m		Mag: -4.1 PMG: 9 ^h 05 ^m		Mag: +1.5 PMG: 15 ^h 47 ^m		Mag: -1.9 PMG: 11 ^h 19 ^m		Mag: +0.9 PMG: 5 ^h 01 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	287	11.3	223	50.9	123	01.7	189	58.3	284	31.4
1	302	13.7	238	50.5	138	02.8	205	00.1	299	33.8
2	317	16.2	253	50.1	153	03.9	220	02.0	314	36.2
3	332	18.7	268	49.7	168	05.0	235	03.8	329	38.7
4	347	21.1	283	49.3	183	06.1	250	05.7	344	41.1
5	2	23.6	298	48.9	198	07.2	265	07.5	359	43.6
6	17	26.0	313	48.5	213	08.3	280	09.4	14	46.0
7	32	28.5	328	48.1	228	09.4	295	11.3	29	48.5
8	47	31.0	343	47.7	243	10.5	310	13.1	44	50.9
9	62	33.4	358	47.2	258	11.6	325	15.0	59	53.4
10	77	35.9	13	46.8	273	12.7	340	16.8	74	55.8
11	92	38.4	28	46.4	288	13.8	355	18.7	89	58.3
12	107	40.8	43	46.0	303	14.9	10	20.5	105	00.7
13	122	43.3	58	45.6	318	16.0	25	22.4	120	03.1
14	137	45.8	73	45.2	333	17.1	40	24.2	135	05.6
15	152	48.2	88	44.7	348	18.2	55	26.1	150	08.0
16	167	50.7	103	44.3	3	19.3	70	27.9	165	10.5
17	182	53.2	118	43.9	18	20.4	85	29.8	180	12.9
18	197	55.6	133	43.5	33	21.5	100	31.6	195	15.4
19	212	58.1	148	43.1	48	22.6	115	33.5	210	17.8
20	228	00.5	163	42.7	63	23.7	130	35.3	225	20.3
21	243	03.0	178	42.2	78	24.8	145	37.2	240	22.7
22	258	05.5	193	41.8	93	25.9	160	39.0	255	25.2
23	273	07.9	208	41.4	108	27.0	175	40.9	270	27.6
24	288	10.4	223	41.0	123	28.1	190	42.7	285	30.1
Dif	—		-4		+6		+19		+24	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/7 PMG: 12 ^h 05.4 ^m			Edad: 14.6 ^d PHE { 4 ^h : 55/8 12 ^h : 55/9 20 ^h : 56/1 R°: *** ^m PMG: **h **m														
	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	39.4	+22	13.5	9	15.0	79	-28	00.6	28	60 N	** **	1 30	2 55	22 10	6	0 55	95
1	193	39.3		13.2	23	41.9	80	-27	57.8	30	58	** **	2 05	3 13	21 43	15	1 32	85
2	208	39.2		12.9	38	08.9	79		54.8	32	56	** **	30	28	21 21		1 59	79
3	223	39.1		12.6	52	35.8	80		51.6	33	54	1 22	2 50	41	21 03	25	2 20	76
4	238	39.0		12.3	67	02.8	80		48.3	35	52	1 55	3 06	3 52	20 48	28	37	74
5	253	38.9	+22	12.0	81	29.8	80	-27	44.8	33	50	2 18	3 20	4 03	20 35	31	2 52	71
6	268	38.8	+22	11.6	95	56.7	79	-27	41.1	37	45	2 59	3 47	4 23	20 08	36	3 22	68
7	283	38.7		11.3	110	23.7	80		37.3	38	40	3 28	4 08	40	19 46	40	3 45	65
8	298	38.7		11.0	124	50.7	80		33.4	39	35	3 49	25	4 54	29 41		4 05	63
9	313	38.6		10.7	139	17.7	80		29.3	41	30	4 07	4 40	5 07	19 13	44	21	62
10	328	38.5		10.3	153	44.8	81		25.1	42	20	34	5 03	27	18 47	48	4 49	59
11	343	38.4	+22	10.0	168	11.8	80	-27	20.7	44	10 N	4 56	5 22	5 45	18 24	51	5 13	56
12	358	38.3	+22	09.7	182	38.9	81	-27	16.1	46	0	5 13	5 39	6 02	18 03	54	5 35	54
13	13	38.2		09.4	197	06.0	81		11.4	47	10 S	29	5 56	18	17 42	56	5 57	52
14	28	38.1		09.0	211	33.1	81		06.5	49	20	5 45	6 12	36	17 19	59	6 20	50
15	43	38.1		08.7	226	00.3	82	-27	01.5	50	30	6 00	30	6 56	16 53	62	6 48	47
16	58	38.0		08.4	240	27.4	81	-26	56.4	51	35	08	39	7 07	37 65		7 04	45
17	73	37.9	+22	08.1	254	54.6	82	-26	51.0	54	40	6 17	6 50	7 20	16 19	67	7 23	42
18	88	37.8	+22	07.7	269	21.9	83	-26	45.6	54	45	6 26	7 03	7 36	15 57	71	7 45	40
19	103	37.7		07.4	283	49.1	82		40.0	56	50	37	18	7 55	29 75		8 14	36
20	118	37.6		07.1	298	16.4	83		34.2	58	52	42	25	8 04	15 15	78	28	33
21	133	37.6		06.8	312	43.7	83		28.3	59	54	47	32	15	14 59	81	8 44	31
22	148	37.5		06.4	327	11.1	84		22.2	61	56	52	40	26	40 85		9 03	27
23	163	37.4		06.1	341	38.5	84		16.0	62	58	6 58	7 50	40	14 16	91	27	21
24	178	37.3	+22	05.8	356	05.9	84	-26	09.7	63	60 S	7 05	8 00	8 55	13 45	101	9 59	12
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 4 ^h 46.5 ^m		Mag: -4.1 PMG: 9 ^h 06 ^m			Mag: +1.5 PMG: 15 ^h 45 ^m			Mag: -1.9 PMG: 11 ^h 16 ^m			Mag: +0.9 PMG: 4 ^h 57 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	288	10.4	223	41.0	+18	54.5	123	28.1	+7	29.5	190	42.7	+23	08.7	285	30.1	-1	19.4
1	303	12.9	238	40.5		55.1	138	29.2		28.9	205	44.6		08.7	300	32.5		19.4
2	318	15.3	253	40.1		55.6	153	30.3		28.3	220	46.4		08.7	315	34.9		19.4
3	333	17.8	268	39.7		56.2	168	31.5		27.8	235	48.3		08.7	330	37.4		19.4
4	348	20.3	283	39.3		56.7	183	32.6		27.2	250	50.1		08.6	345	39.8		19.4
5	3	22.7	298	38.8	+18	57.3	198	33.7	+7	26.6	265	52.0	+23	08.6	0	42.3	-1	19.4
6	18	25.2	313	38.4	+18	57.8	213	34.8	+7	26.0	280	53.8	+23	08.6	15	44.7	-1	19.4
7	33	27.7	328	38.0		58.4	228	35.9		25.4	295	55.7		08.6	30	47.2		19.5
8	48	30.1	343	37.6		58.9	243	37.0		24.8	310	57.5		08.5	45	49.6		19.5
9	63	32.6	358	37.1	+18	59.5	258	38.1		24.2	325	59.4		08.5	60	52.1		19.5
10	78	35.0	13	36.7	+19	00.0	273	39.2		23.6	341	01.2		08.5	75	54.5		19.5
11	93	37.5	28	36.3	+19	00.5	288	40.3	+7	23.0	356	03.1	+23	08.5	90	57.0	-1	19.5
12	108	40.0	43	35.9	+19	01.1	303	41.4	+7	22.4	11	04.9	+23	08.4	105	59.4	-1	19.5
13	123	42.4	58	35.4		01.6	318	42.5		21.8	26	06.8		08.4	121	01.9		19.5
14	138	44.9	73	35.0		02.2	333	43.6		21.2	41	08.6		08.4	136	04.3		19.5
15	153	47.4	88	34.6		02.7	348	44.7		20.6	56	10.5		08.3	151	06.8		19.5
16	168	49.8	103	34.1		03.2	3	45.8		20.0	71	12.3		08.3	166	09.2		19.5
17	183	52.3	118	33.7	+19	03.8	18	46.9	+7	19.4	86	14.2	+23	08.3	181	11.7	-1	19.5
18	198	54.8	133	33.3	+19	04.3	33	48.0	+7	18.8	101	16.0	+23	08.3	196	14.1	-1	19.5
19	213	57.2	148	32.8		04.9	48	49.1		18.2	116	17.9		08.2	211	16.6		19.5
20	228	59.7	163	32.4		05.4	63	50.2		17.6	131	19.7		08.2	226	19.0		19.5
21	244	02.2	178	32.0		05.9	78	51.3		17.0	146	21.6		08.2	241	21.5		19.5
22	259	04.6	193	31.5		06.5	93	52.4		16.4	161	23.5		08.2	256	23.9		19.5
23	274	07.1	208	31.1		07.0	108	53.5		15.8	176	25.3		08.1	271	26.4		19.6
24	289	09.5	223	30.7	+19	07.5	123	54.6	+7	15.2	191	27.2	+23	08.1	286	28.8	-1	19.6
Dif	—		-4		+5		+11		-6		+19		0		+24		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG: 12 ^h 05.6 ^m				Edad: 15.6 ^d SD: 15'3 PMG: 0 ^h 16 ^m		PHE { 4 ^h : 56'3 12 ^h : 56'5 20 ^h : 56'6 Rº: 55 ^m		hG ☾	Dif			Dec	Dif	Civil	Náutico	Hora	Rº	Hora	Rº		
	hG ☉	Dec	hG ☾	Dif																		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	178	37.3	+22	05.8	356	05.9	85	-26	09.7	65	60 N	21 13	22 36	** **	22 16	4	2 30	106				
1	193	37.2		05.4	10	33.4	85	-26	03.2	65	58	20 56	22 02	** **	21 58	9	2 57	97				
2	208	37.1		05.1	25	00.9	85	-25	56.5	67	56	41	21 38	** **	42 14		3 18	91				
3	223	37.1		04.8	39	28.4	85		49.7	68	54	28	19	22 44		28 18		36 88				
4	238	37.0		04.4	53	56.0	86		42.8	69	52	17	21 03	22 12		16 22		3 51	82			
5	253	36.9	+22	04.1	68	23.6	86	-25	35.7	71	50	20 07	20 50	21 50		21 06	24	4 03	80			
6	268	36.8	+22	03.7	82	51.3	87	-25	28.5	72	45	19 46	20 23	21 10		20 44	29	4 30	74			
7	283	36.7		03.4	97	19.0	87		21.1	74	40	30	20 02	20 42		26 33		4 50	71			
8	298	36.7		03.1	111	46.7	87		13.6	75	35	16	19 45	21		20 10	38	5 08	67			
9	313	36.6		02.7	126	14.5	88	-25	06.0	76	30	19 04	31	20 03		19 57	40	23	64			
10	328	36.5		02.4	140	42.4	89	-24	58.2	78	20	18 43	19 08	19 36		35 45		5 48	60			
11	343	36.4	+22	02.1	155	10.3	89	-24	50.2	80	10 N	18 26	18 48	19 15		19 15	49	6 09	57			
12	358	36.3	+22	01.7	169	38.2	89	-24	42.2	80	0	18 09	18 32	18 57		18 57	52	6 29	54			
13	13	36.2		01.4	184	06.2	90		34.0	82	10 S	17 53	18 16	42		38 57		6 49	51			
14	28	36.2		01.0	198	34.3	91		25.6	84	20	36	17 59	27		18 18	61	7 10	47			
15	43	36.1		00.7	213	02.4	91		17.1	85	30	16	42	12		17 55	66	35	42			
16	58	36.0	+22	00.4	227	30.5	91	-24	08.5	86	35	17 04	32	18 04		42 68		7 49	40			
17	73	35.9	+22	00.0	241	58.7	92	-23	59.8	87	40	16 51	17 21	17 55		17 26	72	8 05	37			
18	88	35.8	+21	59.7	256	26.9	92	-23	50.9	89	45	16 36	17 09	17 46		17 08	75	8 25	33			
19	103	35.8		59.3	270	55.3	94		41.9	90	50	17	16 54	35		16 44	82	8 50	27			
20	118	35.7		59.0	285	23.6	93		32.7	92	52	16 08	48	30		33 84		9 01	25			
21	133	35.6		58.6	299	52.0	94		23.5	92	54	15 58	40	25		20 88		15	22			
22	148	35.5		58.3	314	20.5	95		14.0	95	56	46	32	20		16 05	92	30	18			
23	163	35.5		57.9	328	49.0	95	-23	04.5	95	58	33	23	14		15 47	98	9 48	13			
24	178	35.4	+21	57.6	343	17.6	96	-22	54.8	97	60 S	15 18	16 12	17 07		15 26	104	10 11	5			
UT	ARIES PMG 4 ^h 42.6 ^m				VENUS Mag: -4.1 PMG: 9 ^h 06 ^m				MARTE Mag: +1.5 PMG: 15 ^h 43 ^m				JÚPITER Mag: -1.9 PMG: 11 ^h 13 ^m				SATURNO Mag: +0.9 PMG: 4 ^h 53 ^m					
	hG ♈	hG ♎	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec	hG ♇	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	289	09.5	223	30.7	+19	07.5	123	54.6	+7	15.2	191	27.2	+23	08.1	286	28.8	-1	19.6				
1	304	12.0	238	30.2		08.1	138	55.7		14.6	206	29.0		08.1	301	31.3		19.6				
2	319	14.5	253	29.8		08.6	153	56.8		14.0	221	30.9		08.1	316	33.7		19.6				
3	334	16.9	268	29.3		09.1	168	57.9		13.4	236	32.7		08.0	331	36.2		19.6				
4	349	19.4	283	28.9		09.7	183	59.0		12.8	251	34.6		08.0	346	38.6		19.6				
5	4	21.9	298	28.5	+19	10.2	199	00.1	+7	12.2	266	36.4	+23	08.0	1	41.1	-1	19.6				
6	19	24.3	313	28.0	+19	10.7	214	01.2	+7	11.6	281	38.3	+23	08.0	16	43.5	-1	19.6				
7	34	26.8	328	27.6		11.3	229	02.3		11.0	296	40.1		07.9	31	46.0		19.6				
8	49	29.3	343	27.1		11.8	244	03.4		10.4	311	42.0		07.9	46	48.5		19.6				
9	64	31.7	358	26.7		12.3	259	04.5		09.8	326	43.8		07.9	61	50.9		19.6				
10	79	34.2	13	26.3		12.8	274	05.6		09.2	341	45.7		07.9	76	53.4		19.6				
11	94	36.7	28	25.8	+19	13.4	289	06.7	+7	08.6	356	47.5	+23	07.8	91	55.8	-1	19.6				
12	109	39.1	43	25.4	+19	13.9	304	07.8	+7	08.0	11	49.4	+23	07.8	106	58.3	-1	19.6				
13	124	41.6	58	24.9		14.4	319	08.9		07.4	26	51.2		07.8	122	00.7		19.7				
14	139	44.0	73	24.5		14.9	334	10.0		06.8	41	53.1		07.7	137	03.2		19.7				
15	154	46.5	88	24.0		15.5	349	11.1		06.2	56	54.9		07.7	152	05.6		19.7				
16	169	49.0	103	23.6		16.0	4	12.2		05.6	71	56.8		07.7	167	08.1		19.7				
17	184	51.4	118	23.2	+19	16.5	19	13.3	+7	05.0	86	58.6	+23	07.7	182	10.5	-1	19.7				
18	199	53.9	133	22.7	+19	17.0	34	14.4	+7	04.4	102	00.5	+23	07.6	197	13.0	-1	19.7				
19	214	56.4	148	22.3		17.6	49	15.5		03.8	117	02.4		07.6	212	15.4		19.7				
20	229	58.8	163	21.8		18.1	64	16.6		03.2	132	04.2		07.6	227	17.9		19.7				
21	245	01.3	178	21.4		18.6	79	17.7		02.6	147	06.1		07.6	242	20.3		19.7				
22	260	03.8	193	20.9		19.1	94	18.8		02.0	162	07.9		07.5	257	22.8		19.7				
23	275	06.2	208	20.5		19.6	109	19.9		01.4	177	09.8		07.5	272	25.3		19.7				
24	290	08.7	223	20.0	+19	20.1	124	21.0	+7	00.8	192	11.6	+23	07.5	287	27.7	-1	19.7				
Dif	—		-4		+5		+11		-6		+19		0		+25		0					

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15/7 PMG: 12 ^h 05.7 ^m			Edad: 16.6 ^d SD: 15/4 PMG: 1 ^h 09 ^m														
				PHE { 4 ^h : 56/8 12 ^h : 57/0 20 ^h : 57/1 Rº: 51 ^m														
	hG ☉	Dec		hG ☾	Dif		Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	178	35.4	+21	57.6	343	17.6	96	-22	54.8	98	60 N	1 36	2 58	22 18	1	4 14	103	
1	193	35.3		57.2	357	46.2	97		45.0	99	58	2 09	3 16	22 06	5	32	97	
2	208	35.2		56.9	12	14.9	98		35.1	100	56	34	31	21 55	9	4	47 92	
3	223	35.1		56.5	26	43.7	98		25.1	100	54	1 28	2 53	44	45	12	5 00 88	
4	238	35.1		56.2	41	12.5	98		14.9	102	52	1 59	3 08	3 55	36	16	12 84	
5	253	35.0	+21	55.8	55	41.3	98	-22	04.6	103	50	2 22	3 22	4 05	21 29	17	5 22 81	
6	268	34.9	+21	55.5	70	10.3	100	-21	54.2	104	45	3 01	3 49	4 25	21 12	23	5 43 75	
7	283	34.8		55.1	84	39.2	99		43.7	105	40	29	4 10	42	20 58	28	6 00 70	
8	298	34.8		54.8	99	08.3	101		33.0	107	35	3 51	26	4 56	46	32	14 67	
9	313	34.7		54.4	113	37.4	101		22.3	107	30	4 08	4 41	5 08	36	34	26 64	
10	328	34.6		54.1	128	06.5	101		11.4	109	20	35	5 04	28	18	40	6 47 59	
11	343	34.5	+21	53.7	142	35.7	102	-21	00.4	110	10 N	4 56	5 23	5 46	20 03	44	7 05 54	
12	358	34.5	+21	53.4	157	05.0	103	-20	49.2	112	0	5 14	5 40	6 02	19 48	49	7 22 50	
13	13	34.4		53.0	171	34.3	103		38.0	112	10 S	30	5 56	18	33	54	38 46	
14	28	34.3		52.6	186	03.7	104		26.7	113	20	5 45	6 12	36	19 18	58	7 56 41	
15	43	34.2		52.3	200	33.2	105		15.2	115	30	6 00	29	6 55	18 59	64	8 16 36	
16	58	34.2		51.9	215	02.7	105	-20	03.6	116	35	08	39	7 07	49	67	28 33	
17	73	34.1	+21	51.6	229	32.3	106	-19	51.9	117	40	6 16	6 50	7 20	18 37	70	8 41 30	
18	88	34.0	+21	51.2	244	01.9	106	-19	40.1	118	45	6 25	7 02	7 35	18 22	75	8 57 25	
19	103	33.9		50.9	258	31.6	107		28.2	119	50	36	17	7 54	18 04	81	9 16 20	
20	118	33.9		50.5	273	01.3	107		16.2	120	52	40	23	8 03	17 56	84	25 18	
21	133	33.8		50.1	287	31.1	108	-19	04.1	121	54	45	31	13	46	87	35 15	
22	148	33.7		49.8	302	01.0	109	-18	51.9	122	56	51	39	24	36	90	9 47 10	
23	163	33.6		49.4	316	30.9	109		39.6	123	58	6 57	48	37	23	96	10 00 6	
24	178	33.6	+21	49.0	331	00.9	110	-18	27.2	124	60 S	7 03	7 58	8 52	17 09	101	10 15 1	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 4 ^h 38.7 ^m		Mag: -4.1 PMG: 9 ^h 07 ^m			Mag: +1.5 PMG: 15 ^h 41 ^m			Mag: -1.9 PMG: 11 ^h 10 ^m			Mag: +0.9 PMG: 4 ^h 49 ^m						
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	290	08.7	223	20.0	+19	20.1	124	21.0	+7	00.8	192	11.6	+23	07.5	287	27.7	-1	19.7
1	305	11.1	238	19.6		20.7	139	22.1	+7	00.2	207	13.5		07.4	302	30.2		19.7
2	320	13.6	253	19.1		21.2	154	23.2	+6	59.6	222	15.3		07.4	317	32.6		19.8
3	335	16.1	268	18.7		21.7	169	24.3		59.0	237	17.2		07.4	332	35.1		19.8
4	350	18.5	283	18.2		22.2	184	25.4		58.4	252	19.0		07.4	347	37.5		19.8
5	5	21.0	298	17.8	+19	22.7	199	26.5	+6	57.8	267	20.9	+23	07.3	2	40.0	-1	19.8
6	20	23.5	313	17.3	+19	23.2	214	27.6	+6	57.2	282	22.7	+23	07.3	17	42.4	-1	19.8
7	35	25.9	328	16.9		23.8	229	28.7		56.6	297	24.6		07.3	32	44.9		19.8
8	50	28.4	343	16.4		24.3	244	29.8		56.0	312	26.4		07.3	47	47.4		19.8
9	65	30.9	358	15.9		24.8	259	30.9		55.4	327	28.3		07.2	62	49.8		19.8
10	80	33.3	13	15.5		25.3	274	32.0		54.8	342	30.2		07.2	77	52.3		19.8
11	95	35.8	28	15.0	+19	25.8	289	33.1	+6	54.2	357	32.0	+23	07.2	92	54.7	-1	19.8
12	110	38.3	43	14.6	+19	26.3	304	34.2	+6	53.6	12	33.9	+23	07.1	107	57.2	-1	19.8
13	125	40.7	58	14.1		26.8	319	35.3		53.0	27	35.7		07.1	122	59.6		19.9
14	140	43.2	73	13.7		27.3	334	36.4		52.4	42	37.6		07.1	138	02.1		19.9
15	155	45.6	88	13.2		27.8	349	37.5		51.8	57	39.4		07.1	153	04.6		19.9
16	170	48.1	103	12.8		28.3	4	38.6		51.2	72	41.3		07.0	168	07.0		19.9
17	185	50.6	118	12.3	+19	28.8	19	39.7	+6	50.6	87	43.1	+23	07.0	183	09.5	-1	19.9
18	200	53.0	133	11.8	+19	29.3	34	40.8	+6	50.0	102	45.0	+23	07.0	198	11.9	-1	19.9
19	215	55.5	148	11.4		29.9	49	41.9		49.4	117	46.8		07.0	213	14.4		19.9
20	230	58.0	163	10.9		30.4	64	43.0		48.8	132	48.7		06.9	228	16.8		19.9
21	246	00.4	178	10.5		30.9	79	44.1		48.2	147	50.5		06.9	243	19.3		19.9
22	261	02.9	193	10.0		31.4	94	45.2		47.5	162	52.4		06.9	258	21.8		19.9
23	276	05.4	208	09.5		31.9	109	46.3		46.9	177	54.3		06.8	273	24.2		20.0
24	291	07.8	223	09.1	+19	32.4	124	47.4	+6	46.3	192	56.1	+23	06.8	288	26.7	-1	20.0
Dif	—		-5		+5		+11		-6		+19		0		+25		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 05.8 ^m				Edad: 17.6 ^d SD: 15'6 PMG: 2 ^h 00 ^m		PHE { 4 ^h : 57'3 12 ^h : 57'5 20 ^h : 57'6 R°: 50 ^m												
	hG ☉	Dec			hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	33.6	+21	49.0	331	00.9	-18	27.2	60 N	21	10	22	30	**	**	22	19	0	5
1	193	33.5		48.7	345	30.9		14.6	58	20	53	21	58	**	**	11	4	6	09
2	208	33.4		48.3	0	01.0	-18	02.0	56	38		35	23	32		22	04	8	19
3	223	33.3		47.9	14	31.1	-17	49.3	54	26		16	22	38		21	57	11	28
4	238	33.3		47.6	29	01.3		36.5	52	15	21	01	22	09		52	13	36	85
5	253	33.2	+21	47.2	43	31.6	-17	23.6	50	20	05	20	48	21	47	21	46	17	6
6	268	33.1	+21	46.8	58	01.9	-17	10.6	45	19	45	20	21	21	08	21	35	22	6
7	283	33.0		46.5	72	32.3	-16	57.5	40	29	20	01	20	41		26	26	7	10
8	298	33.0		46.1	87	02.7		44.3	35	15	19	44	20		18	29	21	68	
9	313	32.9		45.7	101	33.2		31.0	30	19	03	30	20	03		21	10	33	30
10	328	32.8		45.4	116	03.7		17.6	20	18	43	19	07	19	36	20	58	39	46
11	343	32.8	+21	45.0	130	34.3	-16	04.2	10 N	18	26	18	48	19	15	20	47	44	7
12	358	32.7	+21	44.6	145	04.9	-15	50.6	0	18	09	18	32	18	58	20	37	48	8
13	13	32.6		44.3	159	35.6		37.0	10 S	17	53	16		42		27	53	24	45
14	28	32.6		43.9	174	06.3		23.3	20	36	18	00	27		16	58	37	40	
15	43	32.5		43.5	188	37.1	-15	09.5	30	17	17	43	12		20	03	64	8	52
16	58	32.4		43.1	203	07.9	-14	55.6	35	17	06	33	18	05	19	56	67	9	01
17	73	32.3	+21	42.8	217	38.8	-14	41.6	40	16	53	17	23	17	56	19	47	72	9
18	88	32.3	+21	42.4	232	09.8	-14	27.5	45	16	37	17	11	17	47	19	37	76	9
19	103	32.2		42.0	246	40.7	-14	13.4	50	19		16	56	37		25	82	36	18
20	118	32.1		41.6	261	11.8	-13	59.2	52	10		50	32	20		84	43	14	
21	133	32.1		41.3	275	42.8		44.9	54	16	00	42	27		13	88	50	12	
22	148	32.0		40.9	290	13.9		30.6	56	15	49	34	22		19	06	91	9	57
23	163	31.9		40.5	304	45.1		16.2	58	36		25	16		18	59	94	10	06
24	178	31.9	+21	40.1	319	16.3	-13	01.6	60 S	15	21	16	15	17	10	18	50	99	10

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 34.7 ^m		Mag: -4.1 PMG: 9 ^h 08 ^m		Mag: +1.5 PMG: 15 ^h 40 ^m		Mag: -1.9 PMG: 11 ^h 07 ^m		Mag: +0.9 PMG: 4 ^h 45 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	291	07.8	223	09.1	+19	32.4	124	47.4	+23	06.8
1	306	10.3	238	08.6		32.9	139	48.5		06.8
2	321	12.8	253	08.1		33.4	154	49.6		06.8
3	336	15.2	268	07.7		33.9	169	50.7		06.7
4	351	17.7	283	07.2		34.4	184	51.8		06.7
5	6	20.1	298	06.7	+19	34.9	199	52.9	+23	06.7
6	21	22.6	313	06.3	+19	35.4	214	54.0	+23	06.6
7	36	25.1	328	05.8		35.8	229	55.1		06.6
8	51	27.5	343	05.3		36.3	244	56.2		06.6
9	66	30.0	358	04.9		36.8	259	57.3		06.6
10	81	32.5	13	04.4		37.3	274	58.4		06.5
11	96	34.9	28	03.9	+19	37.8	289	59.5	+23	06.5
12	111	37.4	43	03.5	+19	38.3	305	00.6	+23	06.5
13	126	39.9	58	03.0		38.8	320	01.7		06.5
14	141	42.3	73	02.5		39.3	335	02.8		06.4
15	156	44.8	88	02.1		39.8	350	03.9		06.4
16	171	47.3	103	01.6		40.3	5	05.0		06.4
17	186	49.7	118	01.1	+19	40.8	20	06.1	+23	06.3
18	201	52.2	133	00.6	+19	41.3	35	07.2	+23	06.3
19	216	54.6	148	00.2		41.7	50	08.3		06.3
20	231	57.1	162	59.7		42.2	65	09.4		06.3
21	246	59.6	177	59.2		42.7	80	10.4		06.2
22	262	02.0	192	58.7		43.2	95	11.5		06.2
23	277	04.5	207	58.3		43.7	110	12.6		06.2
24	292	07.0	222	57.8	+19	44.2	125	13.7	+23	06.1
Dif	—		-5	+5		+11	-6	+19		0

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15/7 PMG: 12 ^h 05.9 ^m				Edad: 18.6 ^d PHE { 4 ^h : 57/8 12 ^h : 57/9 20 ^h : 58/1 PMG: 2 ^h 48 ^m R°: 47 ^m																	
	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	31.9	+21	40.1	319	16.3	-13	01.6	145	60 N	** **	1	42	3	02	22	18	**	7	36	97	
1	193	31.8		39.7	333	47.5	-12	47.1	147	58	** **	2	14		19	14	3		43	93		
2	208	31.7		39.4	348	18.8		32.4	147	56	0	40	37		34	10	6		49	89		
3	223	31.7		39.0	2	50.2		17.7	147	54	1	34	2	56	46	07	9		55	85		
4	238	31.6		38.6	17	21.5	-12	02.9	148	52	2	03	3	11	3	57	04	11	7	59	83	
5	253	31.5	+21	38.2	31	52.9	-11	48.1	148	50	2	25	3	24	4	07	22	01	14	8	04	80
6	268	31.5	+21	37.8	46	24.4	-11	33.2	149	45	3	04	3	51	4	27	21	55	19	8	13	75
7	283	31.4		37.5	60	55.9		18.2	150	40	31	4	11	43	50	23		21	70			
8	298	31.3		37.1	75	27.4	-11	03.2	150	35	3	52	28	4	57	46	27		27	66		
9	313	31.3		36.7	89	58.9	-10	48.1	151	30	4	09	4	42	5	09	42	30		33	62	
10	328	31.2		36.3	104	30.5		32.9	152	20	36	5	05	29	35	37		43	56			
11	343	31.1	+21	35.9	119	02.1	-10	17.7	152	10 N	4	57	5	23	5	46	21	30	41	8	52	51
12	358	31.1	+21	35.5	133	33.8	-10	02.4	153	0	5	14	5	40	6	02	21	24	46	9	00	46
13	13	31.0		35.1	148	05.5	-9	47.1	153	10 S	30	5	56		18	18	51		07	42		
14	28	30.9		34.8	162	37.2		31.7	154	20	44	6	12	35	12	57		16	36			
15	43	30.9		34.4	177	08.9		16.3	154	30	5	59	29	6	55	06	62		25	31		
16	58	30.8		34.0	191	40.7	-9	00.8	155	35	6	07	38	7	06	21	02	66		31	27	
17	73	30.7	+21	33.6	206	12.5	-8	45.2	156	40	6	15	6	49	7	19	20	57	70	9	37	23
18	88	30.7	+21	33.2	220	44.3	-8	29.6	156	45	6	24	7	01	7	34	20	52	75	9	44	19
19	103	30.6		32.8	235	16.2	-8	14.0	156	50	35	15	7	52	46	80		52	14			
20	118	30.5		32.4	249	48.0	-7	58.3	157	52	39	22	8	01	43	83		9	56	12		
21	133	30.5		32.0	264	19.9		42.6	157	54	44	29	11		40	85		10	00	9		
22	148	30.4		31.6	278	51.8		26.8	158	56	49	37	22		36	89		05	6			
23	163	30.3		31.2	293	23.8	-7	10.9	159	58	6	55	46	35	32	92		10	3			
24	178	30.3	+21	30.8	307	55.7	-6	55.1	158	60 S	7	01	7	56	8	50	20	28	96	10	16	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 4 ^h 30.8 ^m		Mag: -4.1 PMG: 9 ^h 08 ^m		Mag: +1.5 PMG: 15 ^h 38 ^m		Mag: -1.9 PMG: 11 ^h 04 ^m		Mag: +0.9 PMG: 4 ^h 42 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	292	07.0	222	57.8	+19	44.2	125	13.7	+6	31.8	193	40.6	+23	06.1	289	25.7	-1	20.2		
1	307	09.4	237	57.3		44.6	140	14.8		31.2	208	42.5		06.1	304	28.2		20.2		
2	322	11.9	252	56.8		45.1	155	15.9		30.6	223	44.3		06.1	319	30.7		20.3		
3	337	14.4	267	56.4		45.6	170	17.0		30.0	238	46.2		06.0	334	33.1		20.3		
4	352	16.8	282	55.9		46.1	185	18.1		29.4	253	48.1		06.0	349	35.6		20.3		
5	7	19.3	297	55.4	+19	46.6	200	19.2	+6	28.8	268	49.9	+23	06.0	4	38.1	-1	20.3		
6	22	21.7	312	54.9	+19	47.0	215	20.3	+6	28.2	283	51.8	+23	06.0	19	40.5	-1	20.3		
7	37	24.2	327	54.4		47.5	230	21.4		27.6	298	53.6		05.9	34	43.0		20.3		
8	52	26.7	342	54.0		48.0	245	22.5		27.0	313	55.5		05.9	49	45.5		20.3		
9	67	29.1	357	53.5		48.5	260	23.6		26.4	328	57.3		05.9	64	47.9		20.3		
10	82	31.6	12	53.0		49.0	275	24.7		25.8	343	59.2		05.8	79	50.4		20.3		
11	97	34.1	27	52.5	+19	49.4	290	25.8	+6	25.2	359	01.0	+23	05.8	94	52.8	-1	20.4		
12	112	36.5	42	52.0	+19	49.9	305	26.9	+6	24.5	14	02.9	+23	05.8	109	55.3	-1	20.4		
13	127	39.0	57	51.6		50.4	320	28.0		23.9	29	04.8		05.8	124	57.8		20.4		
14	142	41.5	72	51.1		50.9	335	29.1		23.3	44	06.6		05.7	140	00.2		20.4		
15	157	43.9	87	50.6		51.3	350	30.2		22.7	59	08.5		05.7	155	02.7		20.4		
16	172	46.4	102	50.1		51.8	5	31.3		22.1	74	10.3		05.7	170	05.2		20.4		
17	187	48.9	117	49.6	+19	52.3	20	32.4	+6	21.5	89	12.2	+23	05.6	185	07.6	-1	20.4		
18	202	51.3	132	49.1	+19	52.7	35	33.5	+6	20.9	104	14.0	+23	05.6	200	10.1	-1	20.5		
19	217	53.8	147	48.7		53.2	50	34.6		20.3	119	15.9		05.6	215	12.6		20.5		
20	232	56.2	162	48.2		53.7	65	35.7		19.7	134	17.7		05.6	230	15.0		20.5		
21	247	58.7	177	47.7		54.1	80	36.8		19.1	149	19.6		05.5	245	17.5		20.5		
22	263	01.2	192	47.2		54.6	95	37.9		18.5	164	21.5		05.5	260	20.0		20.5		
23	278	03.6	207	46.7		55.1	110	38.9		17.9	179	23.3		05.5	275	22.4		20.5		
24	293	06.1	222	46.2	+19	55.5	125	40.0	+6	17.3	194	25.2	+23	05.4	290	24.9	-1	20.5		
Dif	—		-5		+5		+11		-6		+19		0		+25		0			

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 06.0 ^m				Edad: 19.6 ^d SD: 15'8 PMG: 3 ^h 35 ^m PHE { 4 ^h : 58'2 12 ^h : 58'4 20 ^h : 58'5 Rº: 47 ^m											
	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	h m m
0	178	30.3	+21	30.8	307	55.7	-6	55.1	60 N	21 07	22 24	** **	22 17	0	9 13	98
1	193	30.2		30.4	322	27.7 ¹³⁰		39.2 ¹⁵⁹	58	20 50	21 54	** **	17	3	16	94
2	208	30.2		30.0	336	59.7 ¹³⁰		23.2 ¹⁶⁰	56	36	31	23 19	16	7	18	91
3	223	30.1		29.7	351	31.7 ¹³⁰	-6	07.2 ¹⁶⁰	54	24	21 13	22 33	16	10	20	88
4	238	30.0		29.3	6	03.7 ¹³⁰	-5	51.2 ¹⁶⁰	52	13	20 58	22 05	15	13	22	85
5	253	30.0	+21	28.9	20	35.8 ¹³¹	-5	35.1 ¹⁶¹	50	20 04	20 46	21 44	22 15	15	9 24	82
6	268	29.9	+21	28.5	35	07.8 ¹³⁰	-5	19.0 ¹⁶¹	45	19 44	20 20	21 06	22 14	20	9 28	76
7	283	29.8		28.1	49	39.9 ¹³¹	-5	02.9 ¹⁶¹	40	28	20 00	20 39	13	25	31	71
8	298	29.8		27.7	64	11.9 ¹³⁰	-4	46.8 ¹⁶¹	35	14	19 43	19	13	28	33	68
9	313	29.7		27.3	78	44.0 ¹³¹		30.6 ¹⁶²	30	19 03	29	20 02	12	32	35	64
10	328	29.7		26.9	93	16.1 ¹³¹	-4	14.3 ¹⁶³	20	18 43	19 07	19 35	12	37	39	58
11	343	29.6	+21	26.5	107	48.2 ¹³¹	-3	58.1 ¹⁶²	10 N	18 26	18 48	19 15	22 11	43	9 43	52
12	358	29.5	+21	26.1	122	20.3 ¹³¹	-3	41.8 ¹⁶³	0	18 10	18 32	18 58	22 10	48	9 46	47
13	13	29.5		25.7	136	52.3 ¹³⁰		25.5 ¹⁶³	10 S	17 54	16	42	09	53	49	43
14	28	29.4		25.3	151	24.4 ¹³¹	-3	09.2 ¹⁶³	20	37	18 01	28	09	58	52	38
15	43	29.4		24.8	165	56.5 ¹³¹	-2	52.8 ¹⁶⁴	30	18	17 44	13	08	65	56	31
16	58	29.3		24.4	180	28.6 ¹³¹		36.5 ¹⁶³	35	17 07	34	18 06	08	68	9 58	28
17	73	29.2	+21	24.0	195	00.7 ¹³¹	-2	20.1 ¹⁶⁴	40	16 54	17 24	17 58	22 07	72	10 00	25
18	88	29.2	+21	23.6	209	32.8 ¹³¹	-2	03.7 ¹⁶⁴	45	16 39	17 12	17 49	22 07	76	10 03	20
19	103	29.1		23.2	224	04.9 ¹³¹	-1	47.2 ¹⁶⁵	50	21	16 58	39	06	82	06	15
20	118	29.1		22.8	238	37.0 ¹³¹		30.8 ¹⁶⁴	52	12	52	34	06	85	08	12
21	133	29.0		22.4	253	09.1 ¹³¹	-1	14.3 ¹⁶⁵	54	16 03	44	29	05	88	09	10
22	148	28.9		22.0	267	41.1 ¹³⁰	-0	57.9 ¹⁶⁴	56	15 52	37	24	05	91	11	7
23	163	28.9		21.6	282	13.2 ¹³¹		41.4 ¹⁶⁵	58	39	28	19	04	95	13	4
24	178	28.8	+21	21.2	296	45.2 ¹³⁰	-0	24.9 ¹⁶⁵	60 S	15 24	16 18	17 12	22 04	99	10 15	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 4 ^h 26.9 ^m		Mag: -4.1 PMG: 9 ^h 09 ^m		Mag: +1.5 PMG: 15 ^h 36 ^m		Mag: -1.9 PMG: 11 ^h 01 ^m		Mag: +0.9 PMG: 4 ^h 38 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	293	06.1	222	46.2	+19	55.5	125	40.0	+6	17.3	194	25.2	+23	05.4	290	24.9	-1	20.5
1	308	08.6	237	45.7		56.0	140	41.1		16.6	209	27.0		05.4	305	27.4		20.5
2	323	11.0	252	45.2		56.5	155	42.2		16.0	224	28.9		05.4	320	29.8		20.6
3	338	13.5	267	44.7		56.9	170	43.3		15.4	239	30.7		05.3	335	32.3		20.6
4	353	16.0	282	44.3		57.4	185	44.4		14.8	254	32.6		05.3	350	34.8		20.6
5	8	18.4	297	43.8	+19	57.9	200	45.5	+6	14.2	269	34.5	+23	05.3	5	37.2	-1	20.6
6	23	20.9	312	43.3	+19	58.3	215	46.6	+6	13.6	284	36.3	+23	05.3	20	39.7	-1	20.6
7	38	23.4	327	42.8		58.8	230	47.7		13.0	299	38.2		05.2	35	42.2		20.6
8	53	25.8	342	42.3		59.2	245	48.8		12.4	314	40.0		05.2	50	44.6		20.6
9	68	28.3	357	41.8	+19	59.7	260	49.9		11.8	329	41.9		05.2	65	47.1		20.7
10	83	30.7	12	41.3	+20	00.2	275	51.0		11.2	344	43.7		05.1	80	49.6		20.7
11	98	33.2	27	40.8	+20	00.6	290	52.1	+6	10.6	359	45.6	+23	05.1	95	52.0	-1	20.7
12	113	35.7	42	40.3	+20	01.1	305	53.2	+6	10.0	14	47.5	+23	05.1	110	54.5	-1	20.7
13	128	38.1	57	39.8		01.5	320	54.3		09.3	29	49.3		05.0	125	57.0		20.7
14	143	40.6	72	39.3		02.0	335	55.4		08.7	44	51.2		05.0	140	59.4		20.7
15	158	43.1	87	38.8		02.4	350	56.5		08.1	59	53.0		05.0	156	01.9		20.7
16	173	45.5	102	38.3		02.9	5	57.6		07.5	74	54.9		05.0	171	04.4		20.8
17	188	48.0	117	37.8	+20	03.3	20	58.7	+6	06.9	89	56.7	+23	04.9	186	06.9	-1	20.8
18	203	50.5	132	37.3	+20	03.8	35	59.7	+6	06.3	104	58.6	+23	04.9	201	09.3	-1	20.8
19	218	52.9	147	36.8		04.3	51	00.8		05.7	120	00.5		04.9	216	11.8		20.8
20	233	55.4	162	36.3		04.7	66	01.9		05.1	135	02.3		04.8	231	14.3		20.8
21	248	57.8	177	35.8		05.2	81	03.0		04.5	150	04.2		04.8	246	16.7		20.8
22	264	00.3	192	35.3		05.6	96	04.1		03.9	165	06.0		04.8	261	19.2		20.8
23	279	02.8	207	34.8		06.0	111	05.2		03.2	180	07.9		04.7	276	21.7		20.9
24	294	05.2	222	34.3	+20	06.5	126	06.3	+6	02.6	195	09.7	+23	04.7	291	24.1	-1	20.9
Dif	—		-5		+5		+11		-6		+19		0		+25			

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 06.1 ^m			Edad: 20.6 ^d SD: 16'0 PMG: 4 ^h 21 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°			Hora	R°
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m	
0	178	28.8	+21	21.2	296	45.2	-0	24.9	60 N	** **	1 49	3 06	22 16	0	10 50	99	
1	193	28.8		20.8	311	17.3	-0	08.4	58	** **	2 19	23	19	4	49	94	
2	208	28.7		20.4	325	49.3	+0	08.2	56		0 54	41	37	22	7	47	91
3	223	28.6		20.0	340	21.3		24.7	54		1 40	2 59	49	24	10	46	88
4	238	28.6		19.5	354	53.3		41.2	52		2 08	3 14	3 59	27	12	45	85
5	253	28.5	+21	19.1	9	25.2	+0	57.8	50		2 29	3 27	4 09	22 29	15	10 44	82
6	268	28.5	+21	18.7	23	57.2	+1	14.3	45		3 06	3 53	4 29	22 33	21	10 42	77
7	283	28.4		18.3	38	29.1		30.8	40		33	4 13	45	37	25	41	71
8	298	28.4		17.9	53	01.0	+1	47.4	35		3 54	29	4 58	40	29	39	68
9	313	28.3		17.5	67	32.9	+2	03.9	30		4 11	4 43	5 10	43	32	38	64
10	328	28.2		17.1	82	04.8		20.5	20		37	5 05	30	48	38	36	58
11	343	28.2	+21	16.6	96	36.6	+2	37.0	10 N		4 57	5 24	5 47	22 52	44	10 34	52
12	358	28.1	+21	16.2	111	08.4	+2	53.5	0		5 15	5 40	6 03	22 57	48	10 32	47
13	13	28.1		15.8	125	40.2	+3	10.1	10 S		30	5 56	18	23 01	54	30	43
14	28	28.0		15.4	140	11.9		26.6	20		44	6 11	35	06	59	28	37
15	43	28.0		15.0	154	43.6		43.1	30		5 59	28	6 54	11	65	26	31
16	58	27.9		14.5	169	15.3	+3	59.6	35		6 06	37	7 05	14	69	25	28
17	73	27.9	+21	14.1	183	47.0	+4	16.1	40		6 14	6 48	7 18	23 18	73	10 23	24
18	88	27.8	+21	13.7	198	18.6	+4	32.5	45		6 23	7 00	7 32	23 22	78	10 22	19
19	103	27.8		13.3	212	50.2	+4	49.0	50		33	14	51	27	83	20	14
20	118	27.7		12.9	227	21.7	+5	05.4	52		38	20	7 59	29	87	19	12
21	133	27.6		12.4	241	53.2		21.9	54		42	27	8 09	32	89	18	9
22	148	27.6		12.0	256	24.6		38.3	56		47	35	20	35	93	17	6
23	163	27.5		11.6	270	56.0	+5	54.7	58		53	43	32	38	97	16	2
24	178	27.5	+21	11.2	285	27.4	+6	11.0	60 S		6 59	7 53	8 46	23 41	102	10 14	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 4 ^h 22.9 ^m		Mag: -4.1 PMG: 9 ^h 10 ^m		Mag: +1.5 PMG: 15 ^h 34 ^m		Mag: -1.9 PMG: 10 ^h 58 ^m		Mag: +0.9 PMG: 4 ^h 34 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	294	05.2	222	34.3	+20	06.5	126	06.3	+6	02.6	195	09.7	+23	04.7	291	24.1	-1	20.9
1	309	07.7	237	33.8		06.9	141	07.4		02.0	210	11.6		04.7	306	26.6		20.9
2	324	10.2	252	33.3		07.4	156	08.5		01.4	225	13.5		04.6	321	29.1		20.9
3	339	12.6	267	32.8		07.8	171	09.6		00.8	240	15.3		04.6	336	31.6		20.9
4	354	15.1	282	32.3		08.3	186	10.7	+6	00.2	255	17.2		04.6	351	34.0		20.9
5	9	17.6	297	31.8	+20	08.7	201	11.8	+5	59.6	270	19.0	+23	04.6	6	36.5	-1	20.9
6	24	20.0	312	31.3	+20	09.2	216	12.9	+5	59.0	285	20.9	+23	04.5	21	39.0	-1	21.0
7	39	22.5	327	30.8		09.6	231	14.0		58.4	300	22.8		04.5	36	41.4		21.0
8	54	25.0	342	30.3		10.0	246	15.1		57.7	315	24.6		04.5	51	43.9		21.0
9	69	27.4	357	29.8		10.5	261	16.2		57.1	330	26.5		04.4	66	46.4		21.0
10	84	29.9	12	29.3		10.9	276	17.2		56.5	345	28.3		04.4	81	48.9		21.0
11	99	32.3	27	28.8	+20	11.4	291	18.3	+5	55.9	0	30.2	+23	04.4	96	51.3	-1	21.0
12	114	34.8	42	28.3	+20	11.8	306	19.4	+5	55.3	15	32.0	+23	04.3	111	53.8	-1	21.1
13	129	37.3	57	27.8		12.2	321	20.5		54.7	30	33.9		04.3	126	56.3		21.1
14	144	39.7	72	27.3		12.7	336	21.6		54.1	45	35.8		04.3	141	58.7		21.1
15	159	42.2	87	26.7		13.1	351	22.7		53.5	60	37.6		04.2	157	01.2		21.1
16	174	44.7	102	26.2		13.5	6	23.8		52.9	75	39.5		04.2	172	03.7		21.1
17	189	47.1	117	25.7	+20	14.0	21	24.9	+5	52.2	90	41.3	+23	04.2	187	06.2	-1	21.1
18	204	49.6	132	25.2	+20	14.4	36	26.0	+5	51.6	105	43.2	+23	04.2	202	08.6	-1	21.2
19	219	52.1	147	24.7		14.8	51	27.1		51.0	120	45.1		04.1	217	11.1		21.2
20	234	54.5	162	24.2		15.3	66	28.2		50.4	135	46.9		04.1	232	13.6		21.2
21	249	57.0	177	23.7		15.7	81	29.3		49.8	150	48.8		04.1	247	16.1		21.2
22	264	59.4	192	23.2		16.1	96	30.4		49.2	165	50.6		04.0	262	18.5		21.2
23	280	01.9	207	22.6		16.6	111	31.4		48.6	180	52.5		04.0	277	21.0		21.2
24	295	04.4	222	22.1	+20	17.0	126	32.5	+5	48.0	195	54.3	+23	04.0	292	23.5	-1	21.3
Dif	—		-5		+4		+11		-6		+19		0		+25			

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 06.2 ^m				Edad: 21.6 ^d SD: 16'0 PMG: 5 ^h 08 ^m PHE { 4 ^h : 59'0 12 ^h : 59'1 20 ^h : 59'2 R°: 51 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico			Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	
0	178	27.5	+21	11.2	285	27.4	+6	11.0	60 N	21 03	22 18	** **	22 16	1	12 29	105	
1	193	27.4		10.7	299	58.7 ¹²³		27.4	58	20 47	21 49	** **	23	6	23 100		
2	208	27.4		10.3	314	30.0 ¹²³	+6	43.7 ¹⁶³	56	33	28	23 08	29	10	18 96		
3	223	27.3		09.9	329	01.2 ¹²²	+7	00.0 ¹⁶³	54	21	21 10	22 27	34	14	14 92		
4	238	27.3		09.5	343	32.4 ¹²²	+7	16.2 ¹⁶²	52	11	20 56	22 01	39	17	10 89		
5	253	27.2	+21	09.0	358	03.5 ¹²¹	+7	32.5 ¹⁶³	50	20 02	20 43	21 41	22 44	19	12 06	87	
6	268	27.2	+21	08.6	12	34.6 ¹²¹	+7	48.7 ¹⁶²	45	19 42	20 18	21 04	22 54	25	11 59	80	
7	283	27.1		08.2	27	05.6 ¹²⁰	+8	04.9 ¹⁶²	40	27	19 58	20 38	23 02	30	52 75		
8	298	27.1		07.7	41	36.6 ¹²⁰		21.0 ¹⁶¹	35	13	42	17	09 34		47 71		
9	313	27.0		07.3	56	07.5 ¹¹⁹		37.1 ¹⁶¹	30	19 02	29	20 01	15 38		42 67		
10	328	27.0		06.9	70	38.4 ¹¹⁹	+8	53.2 ¹⁶¹	20	18 42	19 06	19 35	26 44		34 61		
11	343	26.9	+21	06.5	85	09.2 ¹¹⁸	+9	09.2 ¹⁶⁰	10 N	18 25	18 48	19 15	23 36	48	11 26	56	
12	358	26.9	+21	06.0	99	39.9 ¹¹⁷	+9	25.2 ¹⁶⁰	0	18 10	18 32	18 58	23 45	53	11 19	52	
13	13	26.8		05.6	114	10.6 ¹¹⁷		41.2 ¹⁶⁰	10 S	17 54	17	43	23 55	57	13 46		
14	28	26.8		05.2	128	41.2 ¹¹⁶	+9	57.1 ¹⁵⁹	20	38	18 01	28	** ** *		11 05	42	
15	43	26.7		04.7	143	11.7 ¹¹⁵	+10	12.9 ¹⁵⁸	30	19	17 45	14	** ** *		10 57	36	
16	58	26.7		04.3	157	42.2 ¹¹⁵		28.7 ¹⁵⁸	35	17 08	36	18 07	** ** *		53 31		
17	73	26.6	+21	03.9	172	12.6 ¹¹⁴	+10	44.5 ¹⁵⁸	40	16 56	17 25	17 59	** ** *		10 47	28	
18	88	26.6	+21	03.4	186	43.0 ¹¹⁴	+11	00.2 ¹⁵⁷	45	16 41	17 14	17 50	** ** *		10 41	23	
19	103	26.5		03.0	201	13.2 ¹¹²		15.9 ¹⁵⁷	50	23	17 00	40	** ** *		34 18		
20	118	26.5		02.5	215	43.4 ¹¹²		31.5 ¹⁵⁶	52	15	16 54	36	** ** *		31 15		
21	133	26.4		02.1	230	13.6 ¹¹²	+11	47.1 ¹⁵⁶	54	16 05	47	31	** ** *		27 12		
22	148	26.4		01.7	244	43.6 ¹¹⁰	+12	02.6 ¹⁵⁵	56	15 55	39	26	** ** *		23 9		
23	163	26.3		01.2	259	13.6 ¹¹⁰		18.1 ¹⁵⁵	58	42	31	21	** ** *		18 5		
24	178	26.3	+21	00.8	273	43.5 ¹⁰⁹	+12	33.5 ¹⁵⁴	60 S	15 28	16 21	17 15	** ** *		10 13	1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 4 ^h 19.0 ^m		Mag: -4.0 PMG: 9 ^h 11 ^m		Mag: +1.5 PMG: 15 ^h 33 ^m		Mag: -1.9 PMG: 10 ^h 55 ^m		Mag: +0.9 PMG: 4 ^h 30 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	295	04.4	222	22.1	+20	17.0	126	32.5	+5	48.0	195	54.3	+23	04.0	292	23.5	-1	21.3
1	310	06.8	237	21.6		17.4	141	33.6		47.3	210	56.2		03.9	307	26.0		21.3
2	325	09.3	252	21.1		17.9	156	34.7		46.7	225	58.1		03.9	322	28.4		21.3
3	340	11.8	267	20.6		18.3	171	35.8		46.1	240	59.9		03.9	337	30.9		21.3
4	355	14.2	282	20.1		18.7	186	36.9		45.5	256	01.8		03.8	352	33.4		21.3
5	10	16.7	297	19.6	+20	19.1	201	38.0	+5	44.9	271	03.6	+23	03.8	7	35.9	-1	21.3
6	25	19.2	312	19.0	+20	19.6	216	39.1	+5	44.3	286	05.5	+23	03.8	22	38.3	-1	21.4
7	40	21.6	327	18.5		20.0	231	40.2		43.7	301	07.4		03.7	37	40.8		21.4
8	55	24.1	342	18.0		20.4	246	41.3		43.0	316	09.2		03.7	52	43.3		21.4
9	70	26.6	357	17.5		20.8	261	42.4		42.4	331	11.1		03.7	67	45.8		21.4
10	85	29.0	12	17.0		21.2	276	43.5		41.8	346	12.9		03.6	82	48.2		21.4
11	100	31.5	27	16.5	+20	21.7	291	44.5	+5	41.2	1	14.8	+23	03.6	97	50.7	-1	21.4
12	115	33.9	42	15.9	+20	22.1	306	45.6	+5	40.6	16	16.7	+23	03.6	112	53.2	-1	21.5
13	130	36.4	57	15.4		22.5	321	46.7		40.0	31	18.5		03.6	127	55.7		21.5
14	145	38.9	72	14.9		22.9	336	47.8		39.4	46	20.4		03.5	142	58.1		21.5
15	160	41.3	87	14.4		23.3	351	48.9		38.8	61	22.2		03.5	158	00.6		21.5
16	175	43.8	102	13.8		23.8	6	50.0		38.1	76	24.1		03.5	173	03.1		21.5
17	190	46.3	117	13.3	+20	24.2	21	51.1	+5	37.5	91	26.0	+23	03.4	188	05.6	-1	21.5
18	205	48.7	132	12.8	+20	24.6	36	52.2	+5	36.9	106	27.8	+23	03.4	203	08.0	-1	21.6
19	220	51.2	147	12.3		25.0	51	53.3		36.3	121	29.7		03.4	218	10.5		21.6
20	235	53.7	162	11.8		25.4	66	54.4		35.7	136	31.5		03.3	233	13.0		21.6
21	250	56.1	177	11.2		25.8	81	55.5		35.1	151	33.4		03.3	248	15.5		21.6
22	265	58.6	192	10.7		26.2	96	56.5		34.5	166	35.3		03.3	263	18.0		21.6
23	281	01.1	207	10.2		26.6	111	57.6		33.8	181	37.1		03.2	278	20.4		21.7
24	296	03.5	222	09.7	+20	27.1	126	58.7	+5	33.2	196	39.0	+23	03.2	293	22.9	-1	21.7
Dif	—		-5		+4		+11		-6		+19		0		+25		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15/7 PMG:12 ^h 06.3 ^m				Edad: 22.6 ^d SD: 16/1 PMG: 5 ^h 57 ^m																
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº							
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	178	26.3	+21	00.8	273	43.5	+12	33.5	60 N	** **	1 55	3 10	22 16	3	14 13	110					
1	193	26.2	+21	00.3	288	13.4	+12	48.8	58	** **	2 24	26	28	9	14 02	104					
2	208	26.2	+20	59.9	302	43.1	+13	04.1	56	1 05	2 45	40	38	14	13 53	99					
3	223	26.1		59.5	317	12.8		19.3	54	1 46	3 03	3 52	47	18	45	9					
4	238	26.1		59.0	331	42.4		34.4	52	2 12	17	4 02	22 55	21	38	90					
5	253	26.0	+20	58.6	346	11.9	+13	49.5	50	2 32	3 30	4 11	23 02	24	13 31	88					
6	268	26.0	+20	58.1	0	41.3	+14	04.5	45	3 09	3 55	4 31	23 18	30	13 17	82					
7	283	25.9		57.7	15	10.7		19.5	40	35	4 15	46	31	34	13 06	76					
8	298	25.9		57.3	29	39.9		34.3	35	3 55	31	4 59	42	38	12 56	73					
9	313	25.9		56.8	44	09.1	+14	49.1	30	4 12	4 44	5 11	23 51	42	48	69					
10	328	25.8		56.4	58	38.2	+15	03.9	20	38	5 06	30	** **	** **	34	63					
11	343	25.8	+20	55.9	73	07.2	+15	18.5	10 N	4 58	5 24	5 47	** **	** **	12 21	58					
12	358	25.7	+20	55.5	87	36.1	+15	33.1	0	5 15	5 41	6 03	** **	** **	12 09	54					
13	13	25.7		55.0	102	04.9	+15	47.6	10 S	30	5 56	18	** **	** **	11 58	49					
14	28	25.6		54.6	116	33.6	+16	02.0	20	44	6 11	35	0 05	61	45	45					
15	43	25.6		54.1	131	02.3		16.3	30	5 58	27	6 53	16	68	31	39					
16	58	25.5		53.7	145	30.8		30.5	35	6 05	37	7 04	23	71	23	35					
17	73	25.5	+20	53.2	159	59.3	+16	44.7	40	6 13	6 47	7 16	0 31	75	11 14	31					
18	88	25.5	+20	52.8	174	27.6	+16	58.7	45	6 22	6 58	7 31	0 40	80	11 03	27					
19	103	25.4		52.3	188	55.9	+17	12.7	50	32	7 12	49	50	87	10 50	21					
20	118	25.4		51.9	203	24.0		26.6	52	36	18	7 57	0 56	89	44	18					
21	133	25.3		51.4	217	52.1		40.4	54	40	25	8 06	1 01	93	38	14					
22	148	25.3		51.0	232	20.1	+17	54.1	56	45	33	17	08	97	30	11					
23	163	25.2		50.5	246	48.0	+18	07.7	58	51	41	29	15	102	22	6					
24	178	25.2	+20	50.1	261	15.7	+18	21.1	60 S	6 57	7 51	8 43	1 23	107	10 13	1					
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG 4 ^h 15.1 ^m		Mag: -4.0 PMG: 9 ^h 12 ^m			Mag: +1.5 PMG: 15 ^h 31 ^m			Mag: -1.9 PMG: 10 ^h 52 ^m			Mag: +0.9 PMG: 4 ^h 26 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'									
0	296	03.5	222	09.7	+20	27.1	126	58.7	+5	33.2	196	39.0	+23	03.2	293	22.9	-1	21.7			
1	311	06.0	237	09.1		27.5	141	59.8		32.6	211	40.8		03.2	308	25.4		21.7			
2	326	08.4	252	08.6		27.9	157	00.9		32.0	226	42.7		03.1	323	27.9		21.7			
3	341	10.9	267	08.1		28.3	172	02.0		31.4	241	44.6		03.1	338	30.4		21.7			
4	356	13.4	282	07.5		28.7	187	03.1		30.8	256	46.4		03.1	353	32.8		21.8			
5	11	15.8	297	07.0	+20	29.1	202	04.2	+5	30.1	271	48.3	+23	03.0	8	35.3	-1	21.8			
6	26	18.3	312	06.5	+20	29.5	217	05.3	+5	29.5	286	50.1	+23	03.0	23	37.8	-1	21.8			
7	41	20.8	327	06.0		29.9	232	06.4		28.9	301	52.0		03.0	38	40.3		21.8			
8	56	23.2	342	05.4		30.3	247	07.4		28.3	316	53.9		02.9	53	42.7		21.8			
9	71	25.7	357	04.9		30.7	262	08.5		27.7	331	55.7		02.9	68	45.2		21.8			
10	86	28.2	12	04.4		31.1	277	09.6		27.1	346	57.6		02.9	83	47.7		21.9			
11	101	30.6	27	03.8	+20	31.5	292	10.7	+5	26.5	1	59.4	+23	02.8	98	50.2	-1	21.9			
12	116	33.1	42	03.3	+20	31.9	307	11.8	+5	25.8	17	01.3	+23	02.8	113	52.7	-1	21.9			
13	131	35.5	57	02.8		32.3	322	12.9		25.2	32	03.2		02.8	128	55.1		21.9			
14	146	38.0	72	02.2		32.7	337	14.0		24.6	47	05.0		02.7	143	57.6		21.9			
15	161	40.5	87	01.7		33.1	352	15.1		24.0	62	06.9		02.7	159	00.1		22.0			
16	176	42.9	102	01.2		33.5	7	16.2		23.4	77	08.8		02.7	174	02.6		22.0			
17	191	45.4	117	00.6	+20	33.9	22	17.2	+5	22.8	92	10.6	+23	02.6	189	05.1	-1	22.0			
18	206	47.9	132	00.1	+20	34.3	37	18.3	+5	22.1	107	12.5	+23	02.6	204	07.6	-1	22.0			
19	221	50.3	146	59.6		34.7	52	19.4		21.5	122	14.3		02.6	219	10.0		22.0			
20	236	52.8	161	59.0		35.1	67	20.5		20.9	137	16.2		02.5	234	12.5		22.1			
21	251	55.3	176	58.5		35.5	82	21.6		20.3	152	18.1		02.5	249	15.0		22.1			
22	266	57.7	191	58.0		35.9	97	22.7		19.7	167	19.9		02.5	264	17.5		22.1			
23	282	00.2	206	57.4		36.3	112	23.8		19.1	182	21.8		02.4	279	20.0		22.1			
24	297	02.7	221	56.9	+20	36.6	127	24.9	+5	18.4	197	23.6	+23	02.4	294	22.4	-1	22.1			
Dif	—		-5			+4	+11			-6	+19		0			+25			0		

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 06.4 ^m			Edad: 23.6 ^d SD: 16'2 PMG: 6 ^h 50 ^m							Civil		Náutico		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	178	25.2	+20 50.1	261	15.7	87	+18 21.1	134	60 N	20 59	22 11	** **	22 19	9	16 03 116	
1	193	25.2	49.6	275	43.4	86	+18 34.5	133	58	44	21 45	** **	37	18	15 46 107	
2	208	25.1	49.1	290	11.0	84	+18 47.8	132	56	30	24	22 58	22 52	24	32 100	
3	223	25.1	48.7	304	38.4	84	+19 01.0	131	54	19	21 07	22 21	23 05	29	19 96	
4	238	25.0	48.2	319	05.8	84	+19 14.1	130	52	09	20 53	21 57	16	33	15 08 92	
5	253	25.0	+20 47.8	333	33.1	83	+19 27.1	128	50	20 00	20 41	21 37	23 26	36	14 59 89	
6	268	25.0	+20 47.3	348	00.2	81	+19 39.9	128	45	19 41	20 16	21 01	23 48	41	14 39 83	
7	283	24.9	46.9	2	27.3	81	+19 52.7	128	40	25	19 57	20 36	** **	**	22 79	
8	298	24.9	46.4	16	54.2	79	+20 05.3	126	35	12	41	16	** **	**	14 09 75	
9	313	24.8	45.9	31	21.1	79	+20 17.8	125	30	19 01	28	20 00	** **	**	13 57 72	
10	328	24.8	45.5	45	47.8	77	+20 30.2	124	20	18 42	19 06	19 34	0 08	49	37 67	
11	343	24.8	+20 45.0	60	14.5	77	+20 42.5	123	10 N	18 25	18 48	19 14	0 23	53	13 19 63	
12	358	24.7	+20 44.6	74	41.0	75	+20 54.6	121	0	18 10	18 32	18 58	0 37	57	13 03 59	
13	13	24.7	44.1	89	07.5	75	+21 06.7	121	10 S	17 55	17	43	0 51	62	12 47 55	
14	28	24.6	43.6	103	33.8	72	+21 18.6	119	20	39	18 02	29	1 06	66	30 51	
15	43	24.6	43.2	118	00.0	72	+21 30.4	118	30	20	17 46	15	24	71	12 10 46	
16	58	24.6	42.7	132	26.1	71	+21 42.0	116	35	17 09	37	08	34	75	11 58 44	
17	73	24.5	+20 42.2	146	52.1	70	+21 53.5	115	40	16 57	17 27	18 00	1 46	78	11 45 40	
18	88	24.5	+20 41.8	161	18.0	69	+22 04.9	114	45	16 43	17 16	17 52	2 00	83	11 30 36	
19	103	24.4	41.3	175	43.8	68	+22 16.2	113	50	25	17 02	42	17	90	11 30	
20	118	24.4	40.8	190	09.5	67	+22 27.3	111	52	17	16 56	38	25	93	11 02 27	
21	133	24.4	40.4	204	35.1	66	+22 38.3	110	54	16 08	49	34	34	97	10 52 23	
22	148	24.3	39.9	219	00.6	65	+22 49.2	109	56	15 58	42	29	45	101	41 19	
23	163	24.3	39.4	233	26.0	64	+22 59.9	107	58	46	34	24	2 57	107	28 13	
24	178	24.3	+20 39.0	247	51.3	63	+23 10.4	105	60 S	15 32	16 24	17 18	3 10	116	10 14 5	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 11.1 ^m		Mag: -4.0 PMG: 9 ^h 13 ^m		Mag: +1.5 PMG: 15 ^h 29 ^m		Mag: -1.9 PMG: 10 ^h 49 ^m		Mag: +0.9 PMG: 4 ^h 22 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	297	02.7	221 56.9	+20 36.6	127 24.9	+5 18.4	197 23.6	+23 02.4	294 22.4	-1 22.1
1	312	05.1	236 56.3	37.0	142 26.0	17.8	212 25.5	02.4	309 24.9	22.2
2	327	07.6	251 55.8	37.4	157 27.0	17.2	227 27.4	02.3	324 27.4	22.2
3	342	10.0	266 55.3	37.8	172 28.1	16.6	242 29.2	02.3	339 29.9	22.2
4	357	12.5	281 54.7	38.2	187 29.2	16.0	257 31.1	02.3	354 32.4	22.2
5	12	15.0	296 54.2	+20 38.6	202 30.3	+5 15.4	272 33.0	+23 02.2	9 34.9	-1 22.2
6	27	17.4	311 53.7	+20 39.0	217 31.4	+5 14.7	287 34.8	+23 02.2	24 37.3	-1 22.3
7	42	19.9	326 53.1	39.4	232 32.5	14.1	302 36.7	02.2	39 39.8	22.3
8	57	22.4	341 52.6	39.7	247 33.6	13.5	317 38.5	02.1	54 42.3	22.3
9	72	24.8	356 52.0	40.1	262 34.7	12.9	332 40.4	02.1	69 44.8	22.3
10	87	27.3	11 51.5	40.5	277 35.7	12.3	347 42.3	02.1	84 47.3	22.3
11	102	29.8	26 50.9	+20 40.9	292 36.8	+5 11.6	2 44.1	+23 02.0	99 49.8	-1 22.4
12	117	32.2	41 50.4	+20 41.3	307 37.9	+5 11.0	17 46.0	+23 02.0	114 52.2	-1 22.4
13	132	34.7	56 49.9	41.6	322 39.0	10.4	32 47.9	02.0	129 54.7	22.4
14	147	37.2	71 49.3	42.0	337 40.1	09.8	47 49.7	01.9	144 57.2	22.4
15	162	39.6	86 48.8	42.4	352 41.2	09.2	62 51.6	01.9	159 59.7	22.4
16	177	42.1	101 48.2	42.8	7 42.3	08.6	77 53.4	01.9	175 02.2	22.5
17	192	44.5	116 47.7	+20 43.2	22 43.4	+5 07.9	92 55.3	+23 01.8	190 04.7	-1 22.5
18	207	47.0	131 47.1	+20 43.5	37 44.4	+5 07.3	107 57.2	+23 01.8	205 07.1	-1 22.5
19	222	49.5	146 46.6	43.9	52 45.5	06.7	122 59.0	01.8	220 09.6	22.5
20	237	51.9	161 46.0	44.3	67 46.6	06.1	138 00.9	01.7	235 12.1	22.6
21	252	54.4	176 45.5	44.6	82 47.7	05.5	153 02.8	01.7	250 14.6	22.6
22	267	56.9	191 44.9	45.0	97 48.8	04.8	168 04.6	01.7	265 17.1	22.6
23	282	59.3	206 44.4	45.4	112 49.9	04.2	183 06.5	01.6	280 19.6	22.6
24	298	01.8	221 43.8	+20 45.8	127 51.0	+5 03.6	198 08.3	+23 01.6	295 22.1	-1 22.6
Dif	—		-5	+4	+11	-6	+19	0	+25	0

ALMANAQUE NÁUTICO PERSEIS

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG:12 ^h 06.5 ^m			Edad: 25.6 ^d SD: 16'2 PMG: 8 ^h 48 ^m								PHE { 4 ^h : 59'6 12 ^h : 59'5 20 ^h : 59'5 R°: 65 ^m									
	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	23.4	+20	27.5	233	29.0	39	+26	36.8	65	60 N	20	55	22	05	**	**		22	52	69
1	193	23.4		27.0	247	51.9	40		43.3	63	58	40	21	40	**	**		23	29	69	
2	208	23.4		26.6	262	14.9	38		49.6	61	56	27	20	22	49		23	56	68		
3	223	23.4		26.1	276	37.7	38	+26	55.7	59	54	16	21	04	22	16	**	**	**		
4	238	23.3		25.6	291	00.5	38	+27	01.6	57	52	20	06	20	50	21	52	**	**	**	
5	253	23.3	+20	25.1	305	23.2	37	+27	07.3	57	50	19	57	20	38	21	33	0	01	50	
6	268	23.3	+20	24.6	319	45.8	36	+27	12.9	56	45	19	39	20	14	20	59	0	28	54	
7	283	23.2		24.1	334	08.4	36		18.2	53	40	24	19	55	34	0	49	56	16	53	
8	298	23.2		23.6	348	30.9	35		23.4	52	35	11	40	20	14	1	07	58	34	66	
9	313	23.2		23.2	2	53.4	35		28.3	49	30	19	00	27	19	58	23	59	16	17	
10	328	23.1		22.7	17	15.8	34		33.1	48	20	18	41	19	05	33	1	49	61	15	
11	343	23.1	+20	22.2	31	38.1	33	+27	37.7	46	10 N	18	25	18	48	19	14	2	12	63	
12	358	23.1	+20	21.7	46	00.4	33	+27	42.1	44	0	18	10	18	32	18	58	2	33	65	
13	13	23.1		21.2	60	22.7	33		46.3	40	10 S	17	55	17	43	2	55	65	14	41	
14	28	23.0		20.7	74	44.9	32		50.3	42	20	39	18	03	30	3	18	67	14	17	
15	43	23.0		20.2	89	07.0	31		54.1	38	30	21	17	47	16	3	45	69	13	49	
16	58	23.0		19.7	103	29.2	32	+27	57.7	36	35	17	11	38	09	4	01	70	32	63	
17	73	23.0	+20	19.2	117	51.2	30	+28	01.2	35	40	16	59	17	28	18	02	4	19	72	
18	88	22.9	+20	18.7	132	13.3	31	+28	04.4	32	45	16	45	17	17	17	53	4	42	73	
19	103	22.9		18.2	146	35.3	30		07.4	30	50	28	17	04	44	5	11	75	20	59	
20	118	22.9		17.7	160	57.3	30		10.2	28	52	20	16	58	40	25	77	12	06	58	
21	133	22.8		17.2	175	19.2	29		12.8	26	54	11	52	36	5	42	78	11	49	56	
22	148	22.8		16.7	189	41.2	30		15.3	25	56	16	01	45	31	6	02	81	29	54	
23	163	22.8		16.2	204	03.1	29		17.5	22	58	15	49	37	26	6	26	85	11	03	
24	178	22.8	+20	15.8	218	25.0	29	+28	19.5	20	60 S	15	36	16	27	17	21	7	00	93	

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG 4 ^h 03.3 ^m			Mag: -4.0 PMG: 9 ^h 14 ^m			Mag: +1.5 PMG: 15 ^h 26 ^m			Mag: -1.9 PMG: 10 ^h 43 ^m			Mag: +0.9 PMG: 4 ^h 14 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	299	00.9	221	30.5	+20	54.4	128	17.0	+4	48.7	198	53.1	+23	00.8	296	21.8		
1	314	03.4	236	30.0		54.7	143	18.1		48.1	213	54.9		00.7	311	24.3		
2	329	05.9	251	29.4		55.1	158	19.2		47.5	228	56.8		00.7	326	26.7		
3	344	08.3	266	28.8		55.4	173	20.3		46.9	243	58.7		00.7	341	29.2		
4	359	10.8	281	28.3		55.8	188	21.4		46.2	259	00.5		00.6	356	31.7		
5	14	13.3	296	27.7	+20	56.1	203	22.4	+4	45.6	274	02.4	+23	00.6	11	34.2		
6	29	15.7	311	27.2	+20	56.5	218	23.5	+4	45.0	289	04.3	+23	00.6	26	36.7		
7	44	18.2	326	26.6		56.8	233	24.6		44.4	304	06.1		00.5	41	39.2		
8	59	20.6	341	26.0		57.2	248	25.7		43.7	319	08.0		00.5	56	41.7		
9	74	23.1	356	25.5		57.5	263	26.8		43.1	334	09.9		00.5	71	44.2		
10	89	25.6	11	24.9		57.8	278	27.9		42.5	349	11.7		00.4	86	46.7		
11	104	28.0	26	24.3	+20	58.2	293	29.0	+4	41.9	4	13.6	+23	00.4	101	49.2		
12	119	30.5	41	23.8	+20	58.5	308	30.0	+4	41.3	19	15.5	+23	00.4	116	51.7		
13	134	33.0	56	23.2		58.9	323	31.1		40.6	34	17.3		00.3	131	54.2		
14	149	35.4	71	22.6		59.2	338	32.2		40.0	49	19.2		00.3	146	56.6		
15	164	37.9	86	22.1		59.5	353	33.3		39.4	64	21.1		00.2	161	59.1		
16	179	40.4	101	21.5	+20	59.9	8	34.4		38.8	79	22.9		00.2	177	01.6		
17	194	42.8	116	20.9	+21	00.2	23	35.5	+4	38.1	94	24.8	+23	00.2	192	04.1		
18	209	45.3	131	20.4	+21	00.5	38	36.5	+4	37.5	109	26.7	+23	00.1	207	06.6		
19	224	47.8	146	19.8		00.9	53	37.6		36.9	124	28.5		00.1	222	09.1		
20	239	50.2	161	19.2		01.2	68	38.7		36.3	139	30.4	+23	00.1	237	11.6		
21	254	52.7	176	18.7		01.5	83	39.8		35.7	154	32.3	+23	00.0	252	14.1		
22	269	55.1	191	18.1		01.9	98	40.9		35.0	169	34.1		00.0	267	16.6		
23	284	57.6	206	17.5		02.2	113	42.0		34.4	184	36.0	+23	00.0	282	19.1		
24	300	00.1	221	16.9	+21	02.5	128	43.0	+4	33.8	199	37.9	+22	59.9	297	21.6		
Dif	—		-6		+3		+11		-6		+19		0		+25		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/7 PMG:12 ^h 06.5 ^m				Edad: 26.6 ^d PHE { 4 ^h : 59/4 12 ^h : 59/3 20 ^h : 59/2 SD: 16/2 PMG: 9 ^h 51 ^m R°: 63 ^m												
	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	22.8	+20	15.8	218	25.0	+28	19.5	60 N	** **	2 08	3 18	23 59 105	20 50 24			
1	193	22.7		15.3	232	46.9		21.3	58	** **		34	** ** *	20 13 35			
2	208	22.7		14.8	247	08.7		23.0	56	1 24	2 54	46	** ** *	19 46 40			
3	223	22.7		14.3	261	30.6		24.4	54	1 58	3 10	3 57	0 17 67	25 44			
4	238	22.7		13.8	275	52.4		25.6	52	2 21	23	4 07	35 66	19 08 46			
5	253	22.6	+20	13.3	290	14.3	+28	26.6	50	2 40	3 35	4 16	0 50 66	18 53 48			
6	268	22.6	+20	12.8	304	36.1	+28	27.4	45	3 14	4 00	4 35	1 20 66	18 22 52			
7	283	22.6		12.3	318	58.0		28.0	40	39	18	4 50	1 44 65	17 59 53			
8	298	22.6		11.7	333	19.8		28.5	35	3 59	34	5 02	2 04 65	39 56			
9	313	22.6		11.2	347	41.7		28.7	30	4 15	4 47	13	20 65	17 22 57			
10	328	22.5		10.7	2	03.6		28.7	20	40	5 08	32	2 49 64	16 54 59			
11	343	22.5	+20	10.2	16	25.5	+28	28.5	10 N	4 59	5 25	5 48	3 13 64	16 29 61			
12	358	22.5	+20	09.7	30	47.4	+28	28.1	0	5 15	5 41	6 03	3 36 63	16 07 62			
13	13	22.5		09.2	45	09.3		27.5	10 S	30	5 55	18	3 59 63	15 44 63			
14	28	22.4		08.7	59	31.2		26.7	20	43	6 10	33	4 24 62	15 19 65			
15	43	22.4		08.2	73	53.2		25.7	30	5 57	26	6 51	4 52 62	14 50 67			
16	58	22.4		07.7	88	15.2		24.5	35	6 04	34	7 02	5 10 60	33 69			
17	73	22.4	+20	07.2	102	37.3	+28	23.1	40	6 11	6 44	7 14	5 29 60	14 13 70			
18	88	22.4	+20	06.7	116	59.3	+28	21.5	45	6 19	6 55	7 27	5 54 58	13 49 71			
19	103	22.3		06.2	131	21.4		19.8	50	28	7 08	44	6 25 57	18 73			
20	118	22.3		05.7	145	43.6		17.8	52	32	14	7 52	41 55	13 02 75			
21	133	22.3		05.2	160	05.8		15.6	54	36	20	8 01	6 59 54	12 44 77			
22	148	22.3		04.7	174	28.0		13.2	56	41	28	11	7 21 52	12 22 79			
23	163	22.3		04.1	188	50.3		10.6	58	46	35	23	7 50 48	11 53 83			
24	178	22.2	+20	03.6	203	12.6	+28	07.9	60 S	6 51	7 44	8 36	8 32 40	11 11 92			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 3 ^h 59.3 ^m		Mag: -4.0 PMG: 9 ^h 15 ^m			Mag: +1.5 PMG: 15 ^h 24 ^m			Mag: -1.9 PMG: 10 ^h 40 ^m			Mag: +0.8 PMG: 4 ^h 10 ^m					
	hG ♊		hG ♊	Dec		hG ♊	Dec		hG ♊	Dec		hG ♊	Dec				
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/	
0	300	00.1	221	16.9	+21	02.5	128	43.0	+4	33.8	199	37.9	+22	59.9	297	21.6	-1 23.8
1	315	02.5	236	16.4		02.9	143	44.1		33.2	214	39.7		59.9	312	24.1	23.8
2	330	05.0	251	15.8		03.2	158	45.2		32.5	229	41.6		59.9	327	26.6	23.8
3	345	07.5	266	15.2		03.5	173	46.3		31.9	244	43.5		59.8	342	29.1	23.8
4	0	09.9	281	14.7		03.8	188	47.4		31.3	259	45.3		59.8	357	31.5	23.9
5	15	12.4	296	14.1	+21	04.2	203	48.4	+4	30.7	274	47.2	+22	59.8	12	34.0	-1 23.9
6	30	14.9	311	13.5	+21	04.5	218	49.5	+4	30.0	289	49.1	+22	59.7	27	36.5	-1 23.9
7	45	17.3	326	12.9		04.8	233	50.6		29.4	304	50.9		59.7	42	39.0	23.9
8	60	19.8	341	12.4		05.1	248	51.7		28.8	319	52.8		59.6	57	41.5	24.0
9	75	22.3	356	11.8		05.5	263	52.8		28.2	334	54.7		59.6	72	44.0	24.0
10	90	24.7	11	11.2		05.8	278	53.9		27.6	349	56.5		59.6	87	46.5	24.0
11	105	27.2	26	10.6	+21	06.1	293	54.9	+4	26.9	4	58.4	+22	59.5	102	49.0	-1 24.0
12	120	29.6	41	10.1	+21	06.4	308	56.0	+4	26.3	20	00.3	+22	59.5	117	51.5	-1 24.1
13	135	32.1	56	09.5		06.7	323	57.1		25.7	35	02.1		59.5	132	54.0	24.1
14	150	34.6	71	08.9		07.1	338	58.2		25.1	50	04.0		59.4	147	56.5	24.1
15	165	37.0	86	08.3		07.4	353	59.3		24.4	65	05.9		59.4	162	59.0	24.1
16	180	39.5	101	07.8		07.7	9	00.3		23.8	80	07.7		59.4	178	01.5	24.2
17	195	42.0	116	07.2	+21	08.0	24	01.4	+4	23.2	95	09.6	+22	59.3	193	04.0	-1 24.2
18	210	44.4	131	06.6	+21	08.3	39	02.5	+4	22.6	110	11.5	+22	59.3	208	06.5	-1 24.2
19	225	46.9	146	06.0		08.6	54	03.6		21.9	125	13.3		59.2	223	09.0	24.2
20	240	49.4	161	05.4		08.9	69	04.7		21.3	140	15.2		59.2	238	11.5	24.3
21	255	51.8	176	04.9		09.3	84	05.8		20.7	155	17.1		59.2	253	14.0	24.3
22	270	54.3	191	04.3		09.6	99	06.8		20.1	170	18.9		59.1	268	16.5	24.3
23	285	56.8	206	03.7		09.9	114	07.9		19.4	185	20.8		59.1	283	19.0	24.3
24	300	59.2	221	03.1	+21	10.2	129	09.0	+4	18.8	200	22.7	+22	59.1	298	21.5	-1 24.4
Dif	—		-6		+3		+11		-6		+19		0		+25		0

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG: 12 ^h 06.5 ^m			Edad: 27.6 ^d SD: 16'1 PMG: 10 ^h 54 ^m								PHE { 4 ^h : 59'1 12 ^h : 59'0 20 ^h : 58'8 Rº: 61 ^m								
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº		
h	° /	° /	° /	° /		° /		° N	h m	h m	h m	h m m	h m m	h m m	h m m	h m m				
0	178	22.2	+20	03.6		203	12.6	34	+28	07.9	30	60 N	20 51	21 59	** ** *	** ** *	21 14 10			
1	193	22.2		03.1		217	35.0	35		04.9	31	58	36	35	** ** *	0 36 95	20 48 18			
2	208	22.2		02.6		231	57.5	35	+28	01.8	34	56	24	16	22 41	1 03 89	26 24			
3	223	22.2		02.1		246	20.0	35	+27	58.4	35	54	13	21 00	22 10	24 85	20 09 28			
4	238	22.2		01.6		260	42.5	35		54.9	37	52	20 03	20 47	21 48	41 83	19 54 32			
5	253	22.1	+20	01.1		275	05.2	37	+27	51.2	37	50	19 55	20 35	21 30	1 56 80	19 41 34			
6	268	22.1	+20	00.5		289	27.9	37	+27	47.2	40	45	19 37	20 12	20 56	2 26 76	19 14 40			
7	283	22.1	+20	00.0		303	50.6	37		43.1	41	40	22	19 53	32	2 49 74	18 52 44			
8	298	22.1	+19	59.5		318	13.5	39		38.9	42	35	19 10	38	20 13	3 09 71	35 46			
9	313	22.1		59.0		332	36.4	39		34.4	45	30	18 59	25	19 57	25 70	18 19 49			
10	328	22.1		58.5		346	59.4	40		29.7	47	20	41	19 04	33	3 53 67	17 53 53			
11	343	22.0	+19	58.0		1	22.5	41	+27	24.9	48	10 N	18 25	18 47	19 14	4 17 64	17 30 57			
12	358	22.0	+19	57.4		15	45.6	41	+27	19.9	50	0	18 10	18 32	18 58	4 39 62	17 09 60			
13	13	22.0		56.9		30	08.8	42		14.7	52	10 S	17 55	18	44	5 02 59	16 47 63			
14	28	22.0		56.4		44	32.2	44		09.3	54	20	40	18 03	30	26 57	16 24 67			
15	43	22.0		55.9		58	55.6	44	+27	03.7	56	30	22	17 48	17	5 54 53	15 57 71			
16	58	22.0		55.4		73	19.1	45	+26	58.0	57	35	12	39	10	6 10 52	42 72			
17	73	21.9	+19	54.8		87	42.6	45	+26	52.1	59	40	17 01	17 30	18 03	6 29 49	15 23 75			
18	88	21.9	+19	54.3		102	06.3	47	+26	46.0	61	45	16 47	17 19	17 55	6 52 46	15 00 79			
19	103	21.9		53.8		116	30.1	48		39.7	63	50	30	07	46	7 22 41	14 31 85			
20	118	21.9		53.3		130	54.0	49		33.3	64	52	22	17 01	43	36 39	17 87			
21	133	21.9		52.7		145	17.9	49		26.7	66	54	14	16 54	38	7 53 35	14 01 90			
22	148	21.9		52.2		159	42.0	51		20.0	67	56	16 04	47	34	8 13 31	13 41 95			
23	163	21.9		51.7		174	06.2	52		13.0	70	58	15 53	40	29	8 38 24	13 16 102			
24	178	21.9	+19	51.2		188	30.5	53	+26	05.9	71	60 S	15 40	16 31	17 24	9 12 13	12 43 113			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 ^h 55.4 ^m		Mag: -4.0 PMG: 9 ^h 16 ^m		Mag: +1.5 PMG: 15 ^h 22 ^m		Mag: -1.9 PMG: 10 ^h 37 ^m		Mag: +0.8 PMG: 4 ^h 06 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	300	59.2	221	03.1	+21	10.2	129	09.0	+4	18.8
1	316	01.7	236	02.5		10.5	144	10.1		18.2
2	331	04.1	251	02.0		10.8	159	11.2		17.6
3	346	06.6	266	01.4		11.1	174	12.2		16.9
4	1	09.1	281	00.8		11.4	189	13.3		16.3
5	16	11.5	296	00.2	+21	11.7	204	14.4	+4	15.7
6	31	14.0	310	59.6	+21	12.0	219	15.5	+4	15.1
7	46	16.5	325	59.0		12.3	234	16.6		14.4
8	61	18.9	340	58.5		12.6	249	17.6		13.8
9	76	21.4	355	57.9		12.9	264	18.7		13.2
10	91	23.9	10	57.3		13.2	279	19.8		12.6
11	106	26.3	25	56.7	+21	13.5	294	20.9	+4	11.9
12	121	28.8	40	56.1	+21	13.8	309	22.0	+4	11.3
13	136	31.3	55	55.5		14.1	324	23.0		10.7
14	151	33.7	70	54.9		14.4	339	24.1		10.0
15	166	36.2	85	54.4		14.7	354	25.2		09.4
16	181	38.6	100	53.8		15.0	9	26.3		08.8
17	196	41.1	115	53.2	+21	15.3	24	27.4	+4	08.2
18	211	43.6	130	52.6	+21	15.6	39	28.4	+4	07.5
19	226	46.0	145	52.0		15.9	54	29.5		06.9
20	241	48.5	160	51.4		16.2	69	30.6		06.3
21	256	51.0	175	50.8		16.4	84	31.7		05.7
22	271	53.4	190	50.2		16.7	99	32.8		05.0
23	286	55.9	205	49.6		17.0	114	33.8		04.4
24	301	58.4	220	49.1	+21	17.3	129	34.9	+4	03.8
Dif	—		-6		+3		+11		-6	
									+19	0
										+25

0	20	21	**	**	**	**	21
1	36	35	**	**	0	36	95
2	24	16	22	41	1	03	89
3	13	21	00	22	24	85	20
4	03	20	47	21	48	41	83
5	19	20	35	21	30	1	56
6	19	20	12	20	56	2	26
7	22	19	53	32	2	49	74
8	10	38	20	13	3	09	71
9	59	25	19	57	25	70	18
10	41	19	04	33	3	53	67
11	18	18	47	19	14	4	17
12	10	18	32	18	58	4	39
13	55	18	44	5	02	59	16
14	40	18	03	30	26	57	16
15	22	17	48	17	54	53	15
16	12	39	10	6	10	52	42
17	01	17	30	18	03	6	29
18	47	17	19	17	55	6	52
19	30	07	46	7	22	41	14
20	22	17	01	43	36	39	17
21	14	16	54	38	7	53	35
22	04	47	34	8	13	31	13
23	53	40	29	8	38	24	13
24	40	16	31	17	24	9	12

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG:12 ^h 06.6 ^m				Edad: 28.6 ^d PHE { 4 ^h : 58'6 12 ^h : 58'4 20 ^h : 58'3 R°: 54 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	21.9	+19	51.2	188	30.5	+26	05.9	72	58	0	30	2 15	3 23	1 44	110	21	22	3	
1	193	21.8		50.6	202	54.8	+25	58.7	74	56	1	33	2 58	3 50	2 10	101	21	04	9	
2	208	21.8		50.1	217	19.3		51.3	76	54	2	04	3 14	4 01	31	95	20	49	13	
3	223	21.8		49.6	231	43.9		43.7	77	52	26		27	10	3 02	87	24	21		
4	238	21.8		49.1	246	08.6		36.0	79	50	2 44	3 38	4 19	3 15	84	20	14	23		
5	253	21.8	+19	48.5	260	33.4	+25	28.1	81	45	3 17	4 02	4 37	3 41	78	19	52	30		
6	268	21.8	+19	48.0	274	58.3	+25	20.0	82	40	3 42		20	4 51	4 02	74	35	33		
7	283	21.8		47.5	289	23.4		11.8	83	35	4 01	35	5 04		19	70	20	37		
8	298	21.8		46.9	303	48.5	+25	03.5	85	30	16	4 48	14	34	67	19	07	40		
9	313	21.7		46.4	318	13.8	+24	55.0	86	20	4 41	5 09	33	4 58	64	18	45	45		
10	328	21.7		45.9	332	39.1		46.4	88	10 N	5 00	5 26	5 48	5 20	59	18	25	50		
11	343	21.7	+19	45.4	347	04.6	+24	37.6	89	0	5 15	5 41	6 03	5 40	56	18	07	54		
12	358	21.7	+19	44.8	1	30.2	+24	28.7	91	10 S	30	5 55	18	6 00	52	17	49	57		
13	13	21.7		44.3	15	56.0		19.6	92	20	43	6 09	33		21	48		29	62	
14	28	21.7		43.8	30	21.8		10.4	94	30	5 56	25	6 50	6 46	43	17	06	67		
15	43	21.7		43.2	44	47.8	+24	01.0	95	35	6 02	33	7 00	7 00	41	16	53	69		
16	58	21.7		42.7	59	13.8	+23	51.5	96	40	6 10	6 43	7 12	7 17	37	16	37	73		
17	73	21.7	+19	42.2	73	40.0	+23	41.9	97	45	6 17	6 53	7 26	7 37	33	16	18	78		
18	88	21.7	+19	41.6	88	06.3	+23	32.2	99	50	26	7 06	42	8 01	28	15	54	85		
19	103	21.6		41.1	102	32.8		22.3	100	52	30	12	50		13	25	43	87		
20	118	21.6		40.5	116	59.3		12.3	102	54	34	18	7 58	27	21	30	91			
21	133	21.6		40.0	131	26.0	+23	02.1	102	56	38	25	8 08	8	43	16	15	15	95	
22	148	21.6		39.5	145	52.8	+22	51.9	104	58	43	32	19	9	01	11	14	57	101	
23	163	21.6		38.9	160	19.7		41.5	104	60 S	6 48	7 41	8 32	9	24	3	14	35	109	
24	178	21.6	+19	38.4	174	46.8	+22	31.0	105											

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 3 ^h 51.5 ^m		Mag: -4.0 PMG: 9 ^h 17 ^m		Mag: +1.5 PMG: 15 ^h 21 ^m		Mag: -1.9 PMG: 10 ^h 34 ^m		Mag: +0.8 PMG: 4 ^h 02 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	301	58.4	220	49.1	+21	17.3	129	34.9	+4	03.8
1	317	00.8	235	48.5		17.6	144	36.0		03.2
2	332	03.3	250	47.9		17.9	159	37.1		02.5
3	347	05.8	265	47.3		18.2	174	38.1		01.9
4	2	08.2	280	46.7		18.5	189	39.2		01.3
5	17	10.7	295	46.1	+21	18.7	204	40.3	+4	00.6
6	32	13.1	310	45.5	+21	19.0	219	41.4	+4	00.0
7	47	15.6	325	44.9		19.3	234	42.5	+3	59.4
8	62	18.1	340	44.3		19.6	249	43.5		58.8
9	77	20.5	355	43.7		19.9	264	44.6		58.1
10	92	23.0	10	43.1		20.1	279	45.7		57.5
11	107	25.5	25	42.5	+21	20.4	294	46.8	+3	56.9
12	122	27.9	40	41.9	+21	20.7	309	47.9	+3	56.3
13	137	30.4	55	41.3		21.0	324	48.9		55.6
14	152	32.9	70	40.7		21.2	339	50.0		55.0
15	167	35.3	85	40.1		21.5	354	51.1		54.4
16	182	37.8	100	39.5		21.8	9	52.2		53.7
17	197	40.3	115	38.9	+21	22.1	24	53.2	+3	53.1
18	212	42.7	130	38.3	+21	22.3	39	54.3	+3	52.5
19	227	45.2	145	37.7		22.6	54	55.4		51.9
20	242	47.6	160	37.1		22.9	69	56.5		51.2
21	257	50.1	175	36.6		23.1	84	57.5		50.6
22	272	52.6	190	36.0		23.4	99	58.6		50.0
23	287	55.0	205	35.4		23.7	114	59.7		49.3
24	302	57.5	220	34.7	+21	23.9	130	00.8	+3	48.7
Dif	—		-6		+3		+11		-6	

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15/7 PMG:12 ^h 06.6 ^m			Edad: 29.6 ^d PHE { 4 ^h : 58/0 12 ^h : 57/8 20 ^h : 57/6 PMG: 12 ^h 48 ^m R°: 51 ^m								Civil			Náutico			Hora R°		Hora R°	
	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	21.6	+19	38.4	174	46.8	82	+22	31.0	107	60 N	20 46	21 52	** **	3	34	106	21	25	1	
1	193	21.6		37.8	189	14.0	82		20.3	107	58	32	29	23 21	3	51	100	13	6		
2	208	21.6		37.3	203	41.2	84	+22	09.6	109	56	20	21 11	22 33	4	06	94	21	02	10	
3	223	21.6		36.8	218	08.6	86	+21	58.7	109	54	10	20 56	22 04	18	91	20	53	13		
4	238	21.6		36.2	232	36.2	86		47.8	109	52	20 01	43	21 43	29	87	45	16			
5	253	21.6	+19	35.7	247	03.8	86	+21	36.7	111	50	19 52	20 32	21 26	4	39	84	20	37	19	
6	268	21.6	+19	35.1	261	31.6	88	+21	25.5	112	45	19 35	20 09	20 53	4	59	78	20	22	24	
7	283	21.6		34.6	275	59.5	89		14.2	113	40	20	19 51	30	5	16	73	20	08	29	
8	298	21.6		34.1	290	27.5	90	+21	02.8	114	35	19 08	37	20 11	29	70	19	57	32		
9	313	21.6		33.5	304	55.7	92	+20	51.2	116	30	18 58	24	19 56	5	41	67	47	35		
10	328	21.6		33.0	319	23.9	92		39.6	116	20	40	19 04	32	6	02	61	30	41		
11	343	21.5	+19	32.4	333	52.3	94	+20	27.9	117	10 N	18 24	18 47	19 13	6	19	57	19	15	45	
12	358	21.5	+19	31.9	348	20.8	95	+20	16.1	118	0	18 10	18 32	18 58	6	36	52	19	01	49	
13	13	21.5		31.3	2	49.4	96	+20	04.2	119	10 S	17 56	18	44	6	52	48	18	46	54	
14	28	21.5		30.8	17	18.2	98	+19	52.2	120	20	41	18 04	31	7	09	44	31	59		
15	43	21.5		30.2	31	47.0	98		40.0	122	30	24	17 49	18	29	38	13	65			
16	58	21.5		29.7	46	16.0	100		27.8	122	35	14	41	12	41	35	18	02	68		
17	73	21.5	+19	29.1	60	45.1	101	+19	15.6	122	40	17 02	17 32	18 05	7	54	31	17	50	72	
18	88	21.5	+19	28.6	75	14.3	102	+19	03.2	124	45	16 49	17 21	17 57	8	10	26	17	36	77	
19	103	21.5		28.0	89	43.6	103	+18	50.7	125	50	33	09	49	29	21	19	82			
20	118	21.5		27.5	104	13.1	105		38.2	125	52	25	17 03	45	38	18	10	86			
21	133	21.5		26.9	118	42.6	105		25.5	127	54	17	16 57	41	48	15	17	01	89		
22	148	21.5		26.4	133	12.3	107	+18	12.8	127	56	16 07	50	37	8	59	12	16	50	93	
23	163	21.5		25.8	147	42.1	108	+18	00.0	128	58	15 57	43	32	9	12	7	38	97		
24	178	21.5	+19	25.3	162	12.0	109	+17	47.1	129	60 S	15 44	16 34	17 27	9	27	2	16	24	103	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 3 ^h 47.5 ^m		Mag: -4.0 PMG: 9 ^h 18 ^m			Mag: +1.5 PMG: 15 ^h 19 ^m			Mag: -1.9 PMG: 10 ^h 31 ^m			Mag: +0.8 PMG: 3 ^h 58 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	302	57.5	220	34.7	+21	23.9	130	00.8	+3	48.7	201	52.4	+22	57.3	300	21.5	-1	25.7	
1	318	00.0	235	34.1		24.2	145	01.9		48.1	216	54.3		57.2	315	24.0		25.7	
2	333	02.4	250	33.5		24.5	160	02.9		47.5	231	56.1		57.2	330	26.5		25.8	
3	348	04.9	265	32.9		24.7	175	04.0		46.8	246	58.0		57.2	345	29.0		25.8	
4	3	07.4	280	32.3		25.0	190	05.1		46.2	261	59.9		57.1	0	31.6		25.8	
5	18	09.8	295	31.7	+21	25.2	205	06.2	+3	45.6	277	01.8	+22	57.1	15	34.1	-1	25.9	
6	33	12.3	310	31.1	+21	25.5	220	07.2	+3	44.9	292	03.6	+22	57.0	30	36.6	-1	25.9	
7	48	14.7	325	30.5		25.8	235	08.3		44.3	307	05.5		57.0	45	39.1		25.9	
8	63	17.2	340	29.9		26.0	250	09.4		43.7	322	07.4		57.0	60	41.6		26.0	
9	78	19.7	355	29.3		26.3	265	10.5		43.0	337	09.3		56.9	75	44.1		26.0	
10	93	22.1	10	28.7		26.5	280	11.5		42.4	352	11.1		56.9	90	46.6		26.0	
11	108	24.6	25	28.1	+21	26.8	295	12.6	+3	41.8	7	13.0	+22	56.9	105	49.1	-1	26.0	
12	123	27.1	40	27.5	+21	27.0	310	13.7	+3	41.2	22	14.9	+22	56.8	120	51.6	-1	26.1	
13	138	29.5	55	26.9		27.3	325	14.8		40.5	37	16.7		56.8	135	54.1		26.1	
14	153	32.0	70	26.3		27.5	340	15.8		39.9	52	18.6		56.7	150	56.6		26.1	
15	168	34.5	85	25.7		27.8	355	16.9		39.3	67	20.5		56.7	165	59.1		26.2	
16	183	36.9	100	25.1		28.0	10	18.0		38.6	82	22.4		56.7	181	01.6		26.2	
17	198	39.4	115	24.5	+21	28.3	25	19.1	+3	38.0	97	24.2	+22	56.6	196	04.1	-1	26.2	
18	213	41.9	130	23.9	+21	28.5	40	20.2	+3	37.4	112	26.1	+22	56.6	211	06.7	-1	26.3	
19	228	44.3	145	23.3		28.8	55	21.2		36.7	127	28.0		56.6	226	09.2		26.3	
20	243	46.8	160	22.7		29.0	70	22.3		36.1	142	29.8		56.5	241	11.7		26.3	
21	258	49.2	175	22.1		29.3	85	23.4		35.5	157	31.7		56.5	256	14.2		26.3	
22	273	51.7	190	21.4		29.5	100	24.5		34.9	172	33.6		56.4	271	16.7		26.4	
23	288	54.2	205	20.8		29.8	115	25.5		34.2	187	35.5		56.4	286	19.2		26.4	
24	303	56.6	220	20.2	+21	30.0	130	26.6	+3	33.6	202	37.3	+22	56.4	301	21.7	-1	26.4	
Dif	—		-6		+3		+11		-6		+19		0		+25				

UT	SOL				● LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG:12 ^h 06.6 ^m				Edad: 1.2 ^d PHE { 4 ^h : 57'4 12 ^h : 57'1 20 ^h : 56'9 Rº: 45 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	21.5	+19	25.3	162	12.0	+17	47.1	129	58	0	53	2 22	3 27	5 18	97	21 25	**		
1	193	21.5		24.7	176	42.0		34.2	130	56	1	41	3 02	41	29	92	18	3		
2	208	21.5		24.2	191	12.1		21.2	131	54	2	09	17	3 53	39	88	11	6		
3	223	21.5		23.6	205	42.3	+17	08.1	132	52	31		30	4 04	47	85	05	9		
4	238	21.5		23.1	220	12.7	+16	54.9	132	50	2	48	3 41	13	5 55	81	21 00	11		
5	253	21.5	+19	22.5	234	43.1	+16	41.7	132	45	3	20	4 04	4 21	6 02	78	20 55	14		
6	268	21.5	+19	21.9	249	13.7	+16	28.4	133	40	3	44	22	4 39	6 16	73	20 44	19		
7	283	21.5		21.4	263	44.3		15.0	134	35	4	02	37	5 05	28	68	35	24		
8	298	21.5		20.8	278	15.1	+16	01.6	135	30	18		4 49	16	38	64	28	26		
9	313	21.5		20.3	292	46.0	+15	48.1	136	20	4	42	5 10	33	6 46	62	21	30		
10	328	21.5		19.7	307	17.0		34.5	136	10 N	5	00	5 26	5 49	7 01	56	20 09	35		
11	343	21.5	+19	19.2	321	48.0	+15	20.9	136	0	5	16	5 41	6 03	7 14	51	19 59	40		
12	358	21.5	+19	18.6	336	19.2	+15	07.2	137	10 S	29		5 55	17	7 26	47	19 49	45		
13	13	21.5		18.0	350	50.5	+14	53.5	137	20	42		6 09	32	39	41	39	49		
14	28	21.5		17.5	5	21.9		39.7	138	30	5	55	24	49	7 51	37	28	54		
15	43	21.5		16.9	19	53.4		25.8	139	35	6	01	32	6 59	8 06	31	16	60		
16	58	21.5		16.4	34	25.0	+14	11.9	139	40	6	08	6 41	7 10	14	29	09	63		
17	73	21.5	+19	15.8	48	56.6	+13	58.0	139	45	6	16	6 51	7 24	8 24	25	19 01	67		
18	88	21.5	+19	15.2	63	28.4	+13	44.0	140	50	24		7 04	40	8 35	21	18 51	71		
19	103	21.6		14.7	78	00.3		29.9	141	52	28		09	47	49	15	40	76		
20	118	21.6		14.1	92	32.3		15.8	141	54	32		15	7 55	8 55	12	34	79		
21	133	21.6		13.5	107	04.3	+13	01.7	141	56	36		22	8 05	9 02	10	28	82		
22	148	21.6		13.0	121	36.5	+12	47.5	142	58	40		29	15	09	7	21	86		
23	163	21.6		12.4	136	08.7		33.3	142	60 S	6	45	7 38	8 28	18	3	14	89		
24	178	21.6	+19	11.8	150	41.0	+12	19.0	143	60 S	6	45	7 38	8 28	9 28	**	18 05	93		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 3 ^h 43.6 ^m				Mag: -4.0 PMG: 9 ^h 19 ^m				Mag: +1.5 PMG: 15 ^h 17 ^m				Mag: -1.9 PMG: 10 ^h 28 ^m				Mag: +0.8 PMG: 3 ^h 54 ^m			
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	303	56.6	220	20.2	+21	30.0	130	26.6	+3	33.6	202	37.3	+22	56.4	301	21.7	-1	26.4		
1	318	59.1	235	19.6		30.3	145	27.7		33.0	217	39.2		56.3	316	24.2		26.5		
2	334	01.6	250	19.0		30.5	160	28.8		32.3	232	41.1		56.3	331	26.7		26.5		
3	349	04.0	265	18.4		30.7	175	29.8		31.7	247	43.0		56.2	346	29.2		26.5		
4	4	06.5	280	17.8		31.0	190	30.9		31.1	262	44.8		56.2	1	31.7		26.6		
5	19	09.0	295	17.2	+21	31.2	205	32.0	+3	30.4	277	46.7	+22	56.2	16	34.2	-1	26.6		
6	34	11.4	310	16.6	+21	31.5	220	33.0	+3	29.8	292	48.6	+22	56.1	31	36.8	-1	26.6		
7	49	13.9	325	16.0		31.7	235	34.1		29.2	307	50.5		56.1	46	39.3		26.7		
8	64	16.4	340	15.3		31.9	250	35.2		28.6	322	52.3		56.0	61	41.8		26.7		
9	79	18.8	355	14.7		32.2	265	36.3		27.9	337	54.2		56.0	76	44.3		26.7		
10	94	21.3	10	14.1		32.4	280	37.3		27.3	352	56.1		56.0	91	46.8		26.8		
11	109	23.7	25	13.5	+21	32.6	295	38.4	+3	26.7	7	58.0	+22	55.9	106	49.3	-1	26.8		
12	124	26.2	40	12.9	+21	32.9	310	39.5	+3	26.0	22	59.8	+22	55.9	121	51.8	-1	26.8		
13	139	28.7	55	12.3		33.1	325	40.6		25.4	38	01.7		55.9	136	54.3		26.9		
14	154	31.1	70	11.7		33.3	340	41.6		24.8	53	03.6		55.8	151	56.8		26.9		
15	169	33.6	85	11.0		33.6	355	42.7		24.1	68	05.4		55.8	166	59.4		26.9		
16	184	36.1	100	10.4		33.8	10	43.8		23.5	83	07.3		55.7	182	01.9		27.0		
17	199	38.5	115	09.8	+21	34.0	25	44.9	+3	22.9	98	09.2	+22	55.7	197	04.4	-1	27.0		
18	214	41.0	130	09.2	+21	34.2	40	45.9	+3	22.2	113	11.1	+22	55.7	212	06.9	-1	27.0		
19	229	43.5	145	08.6		34.5	55	47.0		21.6	128	12.9		55.6	227	09.4		27.0		
20	244	45.9	160	08.0		34.7	70	48.1		21.0	143	14.8		55.6	242	11.9		27.1		
21	259	48.4	175	07.3		34.9	85	49.2		20.3	158	16.7		55.5	257	14.4		27.1		
22	274	50.8	190	06.7		35.1	100	50.2		19.7	173	18.6		55.5	272	16.9		27.1		
23	289	53.3	205	06.1		35.4	115	51.3		19.1	188	20.4		55.5	287	19.4		27.2		
24	304	55.8	220	05.5	+21	35.6	130	52.4	+3	18.4	203	22.3	+22	55.4	302	22.0	-1	27.2		
Dif	—		-6		+2		+11		-6		+19		0		+25		0			

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 06.6 ^m				Edad: 2.2 ^d SD: 15'5 PMG: 14 ^h 23 ^m PHE { 4 ^h : 56'7 12 ^h : 56'4 20 ^h : 56'2 Rº: 44 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	° /	° /	° /	° /	° /	° /	° N	h m	h m	h m	h m m	h m m	h m m	h m m		
0	178 21.6	+19 11.8	150 41.0	+12 19.0			60 N	20 42	21 46	** **	6 55	91	21 24	1		
1	193 21.6		165 13.4 ¹³⁴	+12 04.7 ¹⁴³			58	28	24	23 06	7 01	88	21	3		
2	208 21.6		179 45.9 ¹³⁵	+11 50.4 ¹⁴³			56	17	21 07	22 25	07 84		17	6		
3	223 21.6		194 18.5 ¹³⁶				54	20 07	20 52	21 58	12 81		14	9		
4	238 21.6		208 51.2 ¹³⁷				52	19 58	40	38	16 78		11	12		
5	253 21.6	+19 09.0	223 23.9 ¹³⁷	+11 07.1 ¹⁴⁵			50	19 50	20 29	21 22	7 20	76	21 09	13		
6	268 21.6	+19 08.4	237 56.8 ¹³⁹	+10 52.7 ¹⁴⁴			45	19 32	20 07	20 50	7 29	70	21 03	18		
7	283 21.6		252 29.7 ¹³⁹				40	19	19 49	27	36 66		20 59	22		
8	298 21.6		267 02.7 ¹⁴⁰				35	19 07	35	20 09	42 63		54 26			
9	313 21.6		281 35.8 ¹⁴¹	+10 09.0 ¹⁴⁶			30	18 57	23	19 54	48 59		51 29			
10	328 21.6		296 08.9 ¹⁴¹	+9 54.4 ¹⁴⁶			20	39	19 03	31	7 57	54	44	35		
11	343 21.7	+19 05.6	310 42.1 ¹⁴²	+9 39.8 ¹⁴⁶			10 N	18 24	18 46	19 13	8 05	49	20 39	39		
12	358 21.7	+19 05.0	325 15.4 ¹⁴³	+9 25.1 ¹⁴⁷			0	18 10	18 32	18 57	8 13	44	20 34	43		
13	13 21.7		339 48.8 ¹⁴⁴	+9 10.5 ¹⁴⁶			10 S	17 56	18	44	20 40		28 48			
14	28 21.7		354 22.3 ¹⁴⁵	+8 55.8 ¹⁴⁷			20	41	18 05	31	28 35		22 53			
15	43 21.7		8 55.8 ¹⁴⁵				30	25	17 50	19	37 30		16 58			
16	58 21.7		23 29.4 ¹⁴⁶				35	15	42	13	43 26		12 61			
17	73 21.7	+19 02.1	38 03.0 ¹⁴⁶	+8 11.5 ¹⁴⁸			40	17 04	17 33	18 06	8 49	23	20 08	65		
18	88 21.7	+19 01.6	52 36.7 ¹⁴⁷	+7 56.8 ¹⁴⁷			45	16 51	17 23	17 59	8 56	18	20 02	70		
19	103 21.7		67 10.5 ¹⁴⁸				50	35	11	51	9 04	14	19 56	75		
20	118 21.7	+19 00.0	81 44.4 ¹⁴⁹				52	28	06	47	07 12		53 77			
21	133 21.8	+18 59.8	96 18.3 ¹⁴⁹	+7 12.3 ¹⁴⁹			54	20	17 00	43	12 9		50 80			
22	148 21.8		110 52.3 ¹⁵⁰	+6 57.5 ¹⁴⁹			56	11	16 53	39	16 7		47 82			
23	163 21.8		125 26.3 ¹⁵⁰				58	16 00	46	35	21 4		43 85			
24	178 21.8	+18 58.1	140 00.4 ¹⁵¹	+6 27.8 ¹⁴⁸			60 S	15 48	16 38	17 30	9 27	0	19 38	90		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG 3 ^h 39.7 ^m		Mag: -4.0 PMG: 9 ^h 20 ^m		Mag: +1.5 PMG: 15 ^h 15 ^m		Mag: -1.9 PMG: 10 ^h 25 ^m		Mag: +0.8 PMG: 3 ^h 50 ^m		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	304 55.8	220 05.5	+21 35.6		130 52.4	+3 18.4	203 22.3	+22 55.4	302 22.0	-1 27.2	
1	319 58.2	235 04.9		35.8	145 53.4		218 24.2		317 24.5		27.2
2	335 00.7	250 04.3		36.0	160 54.5		233 26.1		332 27.0		27.3
3	350 03.2	265 03.6		36.2	175 55.6		248 27.9		347 29.5		27.3
4	5 05.6	280 03.0		36.5	190 56.7		263 29.8		2 32.0		27.3
5	20 08.1	295 02.4	+21 36.7		205 57.7	+3 15.3	278 31.7	+22 55.2	17 34.5	-1 27.4	
6	35 10.6	310 01.8	+21 36.9		220 58.8	+3 14.6	293 33.6	+22 55.2	32 37.0	-1 27.4	
7	50 13.0	325 01.2		37.1	235 59.9		308 35.5		47 39.6		27.4
8	65 15.5	340 00.5		37.3	251 01.0		323 37.3		62 42.1		27.5
9	80 18.0	354 59.9		37.5	266 02.0		338 39.2		77 44.6		27.5
10	95 20.4	9 59.3		37.7	281 03.1		353 41.1		92 47.1		27.5
11	110 22.9	24 58.7	+21 37.9		296 04.2	+3 11.5	8 43.0	+22 55.0	107 49.6	-1 27.6	
12	125 25.3	39 58.0	+21 38.2		311 05.2	+3 10.9	23 44.8	+22 54.9	122 52.1	-1 27.6	
13	140 27.8	54 57.4		38.4	326 06.3		38 46.7		137 54.6		27.6
14	155 30.3	69 56.8		38.6	341 07.4		53 48.6		152 57.2		27.7
15	170 32.7	84 56.2		38.8	356 08.5		68 50.5		167 59.7		27.7
16	185 35.2	99 55.6		39.0	11 09.5		83 52.3		183 02.2		27.7
17	200 37.7	114 54.9	+21 39.2		26 10.6	+3 07.7	98 54.2	+22 54.7	198 04.7	-1 27.8	
18	215 40.1	129 54.3	+21 39.4		41 11.7	+3 07.1	113 56.1	+22 54.7	213 07.2	-1 27.8	
19	230 42.6	144 53.7		39.6	56 12.7		128 58.0		228 09.7		27.8
20	245 45.1	159 53.1		39.8	71 13.8		143 59.8		243 12.2		27.9
21	260 47.5	174 52.4		40.0	86 14.9		159 01.7		258 14.8		27.9
22	275 50.0	189 51.8		40.2	101 16.0		174 03.6		273 17.3		27.9
23	290 52.5	204 51.2		40.4	116 17.0		189 05.5		288 19.8		28.0
24	305 54.9	219 50.6	+21 40.6		131 18.1	+3 03.3	204 07.3	+22 54.5	303 22.3	-1 28.0	
Dif	—	-6	+2		+11	-6	+19	0	+25		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15'8 PMG:12 ^h 06.5 ^m				Edad: 3.2 ^d SD: 15'3 PMG: 15 ^h 06 ^m PHE 4^h: 56'0 12^h: 55'8 20^h: 55'6 R°: 40^m																		
	hG ☉	Dec			hG ☾	Dif		Dec		Dif		Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m					
0	178	21.8	+18	58.1	140	00.4		+6	27.8	149	60 N	**	**	2	28	3	32	8	25	86	21	23	**
1	193	21.8		57.5	154	34.5		+6	12.9	149	58	1	08	2	49	45		27	83		23	1	
2	208	21.8		56.9	169	08.8		+5	58.0	149	56	1	49	3	07	3	57	29	80		22	5	
3	223	21.8		56.3	183	43.0			43.1	149	54	2	15	21	4	07	31	77		22			
4	238	21.8		55.8	198	17.4			28.2	149	52		35	34	16		33	74		21	10		
5	253	21.9	+18	55.2	212	51.7		+5	13.3	149	50	2	52	3	45	4	24	8	35	71	21	21	11
6	268	21.9	+18	54.6	227	26.2		+4	58.4	149	45	3	23	4	07	4	41	8	38	67	21	20	16
7	283	21.9		54.0	242	00.6			43.5	149	40	3	46	24	4	55	41	62		19	20		
8	298	21.9		53.4	256	35.2			28.6	149	35	4	04	38	5	07	43	59		19	23		
9	313	21.9		52.8	271	09.7		+4	13.7	150	30		19	4	51	17	46	55		18	27		
10	328	21.9		52.3	285	44.4		+3	58.7	149	20	4	42	5	10	34	49	51		17	32		
11	343	21.9	+18	51.7	300	19.0		+3	43.8	149	10 N	5	01	5	27	5	49	8	53	45	21	16	37
12	358	22.0	+18	51.1	314	53.7		+3	28.9	149	0	5	16	5	41	6	03	8	56	41	21	15	41
13	13	22.0		50.5	329	28.5		+3	14.0	149	10 S		29	5	55	17	8	59	36		15	45	
14	28	22.0		49.9	344	03.3		+2	59.1	150	20		41	6	08	31	9	02	32		14	49	
15	43	22.0		49.3	358	38.1			44.1	150	30	5	54	23	48		06	26		13	55		
16	58	22.0		48.7	13	13.0			29.2	149	35	6	00	31	6	58	08	23		12	58		
17	73	22.0	+18	48.2	27	47.9		+2	14.3	149	40	6	07	6	39	7	09	9	10	20	21	11	62
18	88	22.0	+18	47.6	42	22.9		+1	59.4	149	45	6	14	6	49	7	21	9	13	16	21	10	66
19	103	22.1		47.0	56	57.9			44.5	149	50		22	7	01	37	16	12		09	71		
20	118	22.1		46.4	71	32.9			29.7	148	52		25	07	44		18	9		09	73		
21	133	22.1		45.8	86	07.9		+1	14.8	149	54		29	12	7	52	20	7		08	76		
22	148	22.1		45.2	100	43.0		+0	59.9	149	56		33	19	8	01	21	5		08	78		
23	163	22.1		44.6	115	18.2			45.1	148	58		37	26	11		23	2		07	82		
24	178	22.2	+18	44.0	129	53.3		+0	30.2	149	60 S	6	42	7	34	8	23	9	26	**	21	06	85
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO								
	PMG: 3 ^h 35.7 ^m		Mag: -4.0 PMG: 9 ^h 21 ^m				Mag: +1.5 PMG: 15 ^h 14 ^m				Mag: -1.9 PMG: 10 ^h 22 ^m				Mag: +0.8 PMG: 3 ^h 46 ^m								
	hG ♊	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	305	54.9	219	50.6	+21	40.6	131	18.1	+3	03.3	204	07.3	+22	54.5	303	22.3	-1	28.0					
1	320	57.4	234	49.9		40.8	146	19.2		02.6	219	09.2		54.4	318	24.8		28.1					
2	335	59.8	249	49.3		41.0	161	20.2		02.0	234	11.1		54.4	333	27.3		28.1					
3	351	02.3	264	48.7		41.2	176	21.3		01.3	249	13.0		54.3	348	29.9		28.1					
4	6	04.8	279	48.0		41.4	191	22.4		00.7	264	14.9		54.3	3	32.4		28.2					
5	21	07.2	294	47.4	+21	41.6	206	23.4	+3	00.1	279	16.7	+22	54.3	18	34.9	-1	28.2					
6	36	09.7	309	46.8	+21	41.8	221	24.5	+2	59.4	294	18.6	+22	54.2	33	37.4	-1	28.2					
7	51	12.2	324	46.2		42.0	236	25.6		58.8	309	20.5		54.2	48	39.9		28.3					
8	66	14.6	339	45.5		42.1	251	26.7		58.2	324	22.4		54.1	63	42.4		28.3					
9	81	17.1	354	44.9		42.3	266	27.7		57.5	339	24.2		54.1	78	45.0		28.3					
10	96	19.6	9	44.3		42.5	281	28.8		56.9	354	26.1		54.1	93	47.5		28.4					
11	111	22.0	24	43.6	+21	42.7	296	29.9	+2	56.3	9	28.0	+22	54.0	108	50.0	-1	28.4					
12	126	24.5	39	43.0	+21	42.9	311	30.9	+2	55.6	24	29.9	+22	54.0	123	52.5	-1	28.4					
13	141	26.9	54	42.4		43.1	326	32.0		55.0	39	31.8		53.9	138	55.0		28.5					
14	156	29.4	69	41.8		43.3	341	33.1		54.4	54	33.6		53.9	153	57.6		28.5					
15	171	31.9	84	41.1		43.5	356	34.1		53.7	69	35.5		53.9	169	00.1		28.5					
16	186	34.3	99	40.5		43.6	11	35.2		53.1	84	37.4		53.8	184	02.6		28.6					
17	201	36.8	114	39.9	+21	43.8	26	36.3	+2	52.5	99	39.3	+22	53.8	199	05.1	-1	28.6					
18	216	39.3	129	39.2	+21	44.0	41	37.4	+2	51.8	114	41.2	+22	53.7	214	07.6	-1	28.6					
19	231	41.7	144	38.6		44.2	56	38.4		51.2	129	43.0		53.7	229	10.2		28.7					
20	246	44.2	159	38.0		44.4	71	39.5		50.6	144	44.9		53.7	244	12.7		28.7					
21	261	46.7	174	37.3		44.5	86	40.6		49.9	159	46.8		53.6	259	15.2		28.8					
22	276	49.1	189	36.7		44.7	101	41.6		49.3	174	48.7		53.6	274	17.7		28.8					
23	291	51.6	204	36.1		44.9	116	42.7		48.7	189	50.5		53.5	289	20.2		28.8					
24	306	54.1	219	35.4	+21	45.1	131	43.8	+2	48.0	204	52.4	+22	53.5	304	22.7	-1	28.9					
Dif	—		-6		+2		+11		-6		+19		0		+25								

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15 ^h 8 PMG:12 ^h 06.5 ^m			Edad: 4.2 ^d SD: 15 ^h 1 PMG: 15 ^h 46 ^m PHE { 4 ^h : 55/4 12 ^h : 55/2 20 ^h : 55/0 Rº: 42 ^m															
	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	h m m			
0	178	22.2	+18	44.0	129	53.3	+0	30.2	60 N	20 37	21 39	** **	9 51	86	21 22	0			
1	193	22.2		43.4	144	28.5		15.4	58	24	19	22 53	50	82	24	4			
2	208	22.2		42.8	159	03.7	+0	00.6	56	13	21 02	22 17	49	79	27	6			
3	223	22.2		42.2	173	38.9	-0	14.2	54	20 03	20 48	21 53	48	76	29	9			
4	238	22.2		41.6	188	14.2		29.0	52	19 55	36	33	47	74	31	11			
5	253	22.2	+18	41.1	202	49.5	-0	43.8	50	19 47	20 26	21 18	9 46	72	21 32	14			
6	268	22.3	+18	40.5	217	24.8	-0	58.6	45	19 30	20 04	20 47	9 45	66	21 36	18			
7	283	22.3		39.9	232	00.1	-1	13.3	40	17	19 47	25	43	63	39	22			
8	298	22.3		39.3	246	35.4		28.0	35	19 05	33	20 07	42	59	42	25			
9	313	22.3		38.7	261	10.8		42.7	30	18 55	21	19 53	41	56	45	28			
10	328	22.4		38.1	275	46.2	-1	57.4	20	38	19 02	30	40	50	49	33			
11	343	22.4	+18	37.5	290	21.6	-2	12.1	10 N	18 24	18 46	19 12	9 38	46	21 53	37			
12	358	22.4	+18	36.9	304	57.0	-2	26.7	0	18 10	18 32	18 57	9 37	41	21 56	42			
13	13	22.4		36.3	319	32.4		41.3	10 S	17 56	19	44	35	38	22 00	46			
14	28	22.4		35.7	334	07.8	-2	55.9	20	42	18 05	32	34	33	03	51			
15	43	22.5		35.1	348	43.3	-3	10.5	30	26	17 51	20	32	28	08	56			
16	58	22.5		34.5	3	18.7		25.1	35	17	43	14	31	25	10	59			
17	73	22.5	+18	33.9	17	54.2	-3	39.6	40	17 06	17 35	18 08	9 30	22	22 13	62			
18	88	22.5	+18	33.3	32	29.7	-3	54.1	45	16 53	17 25	18 01	9 29	18	22 16	67			
19	103	22.6		32.7	47	05.2	-4	08.6	50	38	14	17 53	28	13	20	72			
20	118	22.6		32.1	61	40.6		23.0	52	31	08	50	27	11	22	74			
21	133	22.6		31.5	76	16.1		37.4	54	23	17 03	46	27	8	24	76			
22	148	22.6		30.9	90	51.6	-4	51.8	56	14	16 56	42	26	6	26	79			
23	163	22.6		30.3	105	27.1	-5	06.2	58	16 04	50	38	25	3	29	82			
24	178	22.7	+18	29.7	120	02.6	-5	20.5	60 S	15 53	16 42	17 34	9 24	0	22 31	86			

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG 3 ^h 31.8 ^m			Mag: -4.0 PMG: 9 ^h 22 ^m			Mag: +1.5 PMG: 15 ^h 12 ^m			Mag: -1.9 PMG: 10 ^h 19 ^m			Mag: +0.8 PMG: 3 ^h 42 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/		
0	306	54.1	219	35.4	+21	45.1	131	43.8	+2	48.0	204	52.4	+22	53.5	304	22.7	-1	28.9
1	321	56.5	234	34.8		45.2	146	44.8		47.4	219	54.3		53.4	319	25.3		28.9
2	336	59.0	249	34.2		45.4	161	45.9		46.7	234	56.2		53.4	334	27.8		28.9
3	352	01.4	264	33.5		45.6	176	47.0		46.1	249	58.1		53.4	349	30.3		29.0
4	7	03.9	279	32.9		45.8	191	48.0		45.5	264	59.9		53.3	4	32.8		29.0
5	22	06.4	294	32.2	+21	45.9	206	49.1	+2	44.8	280	01.8	+22	53.3	19	35.4	-1	29.0
6	37	08.8	309	31.6	+21	46.1	221	50.2	+2	44.2	295	03.7	+22	53.2	34	37.9	-1	29.1
7	52	11.3	324	31.0		46.3	236	51.2		43.6	310	05.6		53.2	49	40.4		29.1
8	67	13.8	339	30.3		46.4	251	52.3		42.9	325	07.5		53.2	64	42.9		29.2
9	82	16.2	354	29.7		46.6	266	53.4		42.3	340	09.3		53.1	79	45.4		29.2
10	97	18.7	9	29.1		46.8	281	54.5		41.7	355	11.2		53.1	94	48.0		29.2
11	112	21.2	24	28.4	+21	46.9	296	55.5	+2	41.0	10	13.1	+22	53.0	109	50.5	-1	29.3
12	127	23.6	39	27.8	+21	47.1	311	56.6	+2	40.4	25	15.0	+22	53.0	124	53.0	-1	29.3
13	142	26.1	54	27.2		47.3	326	57.7		39.8	40	16.9		53.0	139	55.5		29.3
14	157	28.5	69	26.5		47.4	341	58.7		39.1	55	18.7		52.9	154	58.0		29.4
15	172	31.0	84	25.9		47.6	356	59.8		38.5	70	20.6		52.9	170	00.6		29.4
16	187	33.5	99	25.2		47.7	12	00.9		37.8	85	22.5		52.8	185	03.1		29.4
17	202	35.9	114	24.6	+21	47.9	27	01.9	+2	37.2	100	24.4	+22	52.8	200	05.6	-1	29.5
18	217	38.4	129	24.0	+21	48.1	42	03.0	+2	36.6	115	26.3	+22	52.7	215	08.1	-1	29.5
19	232	40.9	144	23.3		48.2	57	04.1		35.9	130	28.1		52.7	230	10.7		29.6
20	247	43.3	159	22.7		48.4	72	05.1		35.3	145	30.0		52.7	245	13.2		29.6
21	262	45.8	174	22.0		48.5	87	06.2		34.7	160	31.9		52.6	260	15.7		29.6
22	277	48.3	189	21.4		48.7	102	07.3		34.0	175	33.8		52.6	275	18.2		29.7
23	292	50.7	204	20.8		48.8	117	08.3		33.4	190	35.7		52.5	290	20.8		29.7
24	307	53.2	219	20.1	+21	49.0	132	09.4	+2	32.8	205	37.5	+22	52.5	305	23.3	-1	29.7
Dif	—		-6		+2		+11		-6		+19		0		+25			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15 ^h 8 PMG: 12 ^h 06.5 ^m				Edad: 5.2 ^d PHE { 4 ^h : 54'9 12 ^h : 54'7 20 ^h : 54'6 PMG: 16 ^h 27 ^m R°: 41 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	22.7	+18	29.7	120	02.6			-5	20.5			60 N	** **	2 34	3 36	11 15	86	21 21 **	
1	193	22.7		29.0	134	38.1				34.8			58	1 20	2 55	3 49	11 81	26 3		
2	208	22.7		28.4	149	13.6			-5	49.1			56	1 56	3 11	4 01	07 78	32 6		
3	223	22.8		27.8	163	49.1			-6	03.4			54	2 21	25	10	03 75	36 9		
4	238	22.8		27.2	178	24.6				17.6			52	40	37	19	11 00	72 40 12		
5	253	22.8	+18	26.6	193	00.1			-6	31.7			50	2 56	3 48	4 27	10 57	70 21 44 14		
6	268	22.8	+18	26.0	207	35.6			-6	45.9			45	3 26	4 09	4 43	10 50	65 21 53 18		
7	283	22.9		25.4	222	11.1			-7	00.0			40	3 49	26	4 57	45 61	22 00 22		
8	298	22.9		24.8	236	46.5			-7	14.0			35	4 06	40	5 08	40 58	06 25		
9	313	22.9		24.2	251	22.0				28.1			30	21	4 52	18	36 54	11 28		
10	328	22.9		23.6	265	57.4				42.1			20	4 43	5 11	35	29 49	21 33		
11	343	23.0	+18	23.0	280	32.9			-7	56.0			10 N	5 01	5 27	5 49	10 23	45 22 29 37		
12	358	23.0	+18	22.4	295	08.3			-8	10.0			0	5 16	5 41	6 03	10 17	41 22 37 41		
13	13	23.0		21.7	309	43.7				23.8			10 S	29	5 54	16	11 37	44 46		
14	28	23.1		21.1	324	19.1				37.7			20	41	6 07	31	10 05	33 22 53 50		
15	43	23.1		20.5	338	54.5			-8	51.5			30	53	21	47	9 59	27 23 02 55		
16	58	23.1		19.9	353	29.8			-9	05.2			35	5 59	29	6 56	55 24	08 58		
17	73	23.1	+18	19.3	8	05.2			-9	19.0			40	6 05	6 38	7 07	9 50	22 23 14 61		
18	88	23.2	+18	18.7	22	40.5			-9	32.6			45	6 12	6 47	7 19	9 45	18 23 21 66		
19	103	23.2		18.1	37	15.8				46.3			50	19	6 59	34	40 12	30 71		
20	118	23.2		17.4	51	51.1			-9	59.9			52	23	7 04	41	37 10	34 73		
21	133	23.3		16.8	66	26.3			-10	13.4			54	26	09	49	34 8	39 76		
22	148	23.3		16.2	81	01.6				26.9			56	30	16	7 58	31 5	44 79		
23	163	23.3		15.6	95	36.8				40.4			58	34	22	8 07	27 2	50 82		
24	178	23.4	+18	15.0	110	12.0			-10	53.8			60 S	6 38	7 30	8 19	9 23 **	23 56 87		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 3 ^h 27.9 ^m			Mag: -4.0 PMG: 9 ^h 23 ^m			Mag: +1.5 PMG: 15 ^h 10 ^m			Mag: -1.9 PMG: 10 ^h 16 ^m			Mag: +0.8 PMG: 3 ^h 38 ^m							
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	307	53.2	219	20.1	+21	49.0	132	09.4	+2	32.8	205	37.5	+22	52.5	305	23.3	-1	29.7		
1	322	55.7	234	19.5		49.1	147	10.5		32.1	220	39.4		52.5	320	25.8		29.8		
2	337	58.1	249	18.8		49.3	162	11.5		31.5	235	41.3		52.4	335	28.3		29.8		
3	353	00.6	264	18.2		49.4	177	12.6		30.8	250	43.2		52.4	350	30.8		29.9		
4	8	03.0	279	17.5		49.6	192	13.7		30.2	265	45.1		52.3	5	33.4		29.9		
5	23	05.5	294	16.9	+21	49.7	207	14.7	+2	29.6	280	47.0	+22	52.3	20	35.9	-1	29.9		
6	38	08.0	309	16.3	+21	49.9	222	15.8	+2	28.9	295	48.8	+22	52.2	35	38.4	-1	30.0		
7	53	10.4	324	15.6		50.0	237	16.9		28.3	310	50.7		52.2	50	40.9		30.0		
8	68	12.9	339	15.0		50.2	252	17.9		27.7	325	52.6		52.2	65	43.5		30.0		
9	83	15.4	354	14.3		50.3	267	19.0		27.0	340	54.5		52.1	80	46.0		30.1		
10	98	17.8	9	13.7		50.5	282	20.1		26.4	355	56.4		52.1	95	48.5		30.1		
11	113	20.3	24	13.0	+21	50.6	297	21.1	+2	25.7	10	58.2	+22	52.0	110	51.0	-1	30.2		
12	128	22.8	39	12.4	+21	50.7	312	22.2	+2	25.1	26	00.1	+22	52.0	125	53.6	-1	30.2		
13	143	25.2	54	11.7		50.9	327	23.3		24.5	41	02.0		52.0	140	56.1		30.2		
14	158	27.7	69	11.1		51.0	342	24.3		23.8	56	03.9		51.9	155	58.6		30.3		
15	173	30.2	84	10.5		51.2	357	25.4		23.2	71	05.8		51.9	171	01.2		30.3		
16	188	32.6	99	09.8		51.3	12	26.4		22.6	86	07.7		51.8	186	03.7		30.3		
17	203	35.1	114	09.2	+21	51.4	27	27.5	+2	21.9	101	09.5	+22	51.8	201	06.2	-1	30.4		
18	218	37.5	129	08.5	+21	51.6	42	28.6	+2	21.3	116	11.4	+22	51.7	216	08.7	-1	30.4		
19	233	40.0	144	07.9		51.7	57	29.6		20.6	131	13.3		51.7	231	11.3		30.5		
20	248	42.5	159	07.2		51.8	72	30.7		20.0	146	15.2		51.7	246	13.8		30.5		
21	263	44.9	174	06.6		52.0	87	31.8		19.4	161	17.1		51.6	261	16.3		30.5		
22	278	47.4	189	05.9		52.1	102	32.8		18.7	176	19.0		51.6	276	18.8		30.6		
23	293	49.9	204	05.3		52.2	117	33.9		18.1	191	20.8		51.5	291	21.4		30.6		
24	308	52.3	219	04.6	+21	52.3	132	35.0	+2	17.4	206	22.7	+22	51.5	306	23.9	-1	30.7		
Dif	—		-6		+1		+11		-6		+19		0		+25		0			

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 15'8 PMG:12 ^h 06.4 ^m				Edad: 6.2 ^d SD: 14'9 PMG: 17 ^h 08 ^m PHE { 4 ^h : 54'5 12 ^h : 54'4 20 ^h : 54'3 R°: 44 ^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	178	23.4	+18	15.0	110	12.0	-10	53.8	133	60 N	20 32	21 33	** **	12 41	89	21 20	1							
1	193	23.4		14.4	124	47.1	-11	07.1	134	58	20	21 13	22 42	32 85		29	6							
2	208	23.4		13.7	139	22.3		20.5	132	56	09	20 58	22 10	25 81		38	9							
3	223	23.4		13.1	153	57.4		33.7	132	54	20 00	44	21 47	18 78		45	13							
4	238	23.5		12.5	168	32.5	-11	46.9	132	52	19 51	33	28	12 75		52	15							
5	253	23.5	+18	11.9	183	07.5	-12	00.1	132	50	19 44	20 22	21 13	12 07	72	21 58	17							
6	268	23.5	+18	11.3	197	42.5	-12	13.2	131	45	19 28	20 01	20 44	11 55	67	22 11	22							
7	283	23.6		10.6	212	17.5		26.3	131	40	15	19 45	22	46 63		22	26							
8	298	23.6		10.0	226	52.4		39.3	130	35	19 04	31	20 05	38 59		31	30							
9	313	23.6		09.4	241	27.4	-12	52.3	130	30	18 54	20	19 51	30 57		39	33							
10	328	23.7		08.8	256	02.2	-13	05.2	129	20	37	19 01	29	18 52		22 54	37							
11	343	23.7	+18	08.2	270	37.1	-13	18.0	128	10 N	18 23	18 45	19 11	11 08	47	23 06	41							
12	358	23.8	+18	07.5	285	11.9	-13	30.8	128	0	18 10	18 32	18 57	10 58	44	23 18	45							
13	13	23.8		06.9	299	46.6		43.5	127	10 S	17 57	19	44	48 40		30	48							
14	28	23.8		06.3	314	21.4	-13	56.2	127	20	43	18 06	33	38 35		43	52							
15	43	23.9		05.7	328	56.1	-14	08.9	127	30	27	17 52	21	26 31		23 57	58							
16	58	23.9		05.0	343	30.7		21.4	125	35	18	45	15	19 28		** **	**							
17	73	23.9	+18	04.4	358	05.3	-14	33.9	125	40	17 08	17 36	18 09	10 12	24	** **	**							
18	88	24.0	+18	03.8	12	39.9	-14	46.4	125	45	16 55	17 27	18 03	10 03	21	** **	**							
19	103	24.0		03.2	27	14.4	-14	58.8	124	50	41	16	17 55	9 52	16	** **	**							
20	118	24.0		02.5	41	48.8	-15	11.1	123	52	34	11	52	47 14		** **	**							
21	133	24.1		01.9	56	23.3		23.4	123	54	26	06	49	42 11		** **	**							
22	148	24.1		01.3	70	57.6		35.6	122	56	18	17 00	45	36 8		** **	**							
23	163	24.1	+18	00.6	85	31.9		47.7	121	58	16 08	16 53	41	29 5		** **	**							
24	178	24.2	+18	00.0	100	06.2	-15	59.8	121	60 S	15 57	16 46	17 37	9 22	1	** **	**							
UT	ARIES PMG 3 ^h 24.0 ^m				VENUS Mag: -4.0 PMG: 9 ^h 24 ^m				MARTE Mag: +1.5 PMG: 15 ^h 09 ^m				JÚPITER Mag: -1.9 PMG: 10 ^h 13 ^m				SATURNO Mag: +0.8 PMG: 3 ^h 34 ^m							
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	308	52.3	219	04.6	+21	52.3	132	35.0	+2	17.4	206	22.7	+22	51.5	306	23.9	-1	30.7						
1	323	54.8	234	04.0		52.5	147	36.0		16.8	221	24.6		51.4	321	26.4		30.7						
2	338	57.3	249	03.3		52.6	162	37.1		16.2	236	26.5		51.4	336	28.9		30.7						
3	353	59.7	264	02.7		52.7	177	38.2		15.5	251	28.4		51.4	351	31.5		30.8						
4	9	02.2	279	02.0		52.8	192	39.2		14.9	266	30.3		51.3	6	34.0		30.8						
5	24	04.6	294	01.4	+21	53.0	207	40.3	+2	14.3	281	32.1	+22	51.3	21	36.5	-1	30.9						
6	39	07.1	309	00.7	+21	53.1	222	41.4	+2	13.6	296	34.0	+22	51.2	36	39.1	-1	30.9						
7	54	09.6	324	00.1		53.2	237	42.4		13.0	311	35.9		51.2	51	41.6		30.9						
8	69	12.0	338	59.4		53.3	252	43.5		12.3	326	37.8		51.1	66	44.1		31.0						
9	84	14.5	353	58.8		53.5	267	44.5		11.7	341	39.7		51.1	81	46.6		31.0						
10	99	17.0	8	58.1		53.6	282	45.6		11.1	356	41.6		51.1	96	49.2		31.0						
11	114	19.4	23	57.5	+21	53.7	297	46.7	+2	10.4	11	43.4	+22	51.0	111	51.7	-1	31.1						
12	129	21.9	38	56.8	+21	53.8	312	47.7	+2	09.8	26	45.3	+22	51.0	126	54.2	-1	31.1						
13	144	24.4	53	56.2		53.9	327	48.8		09.1	41	47.2		50.9	141	56.8		31.2						
14	159	26.8	68	55.5		54.0	342	49.9		08.5	56	49.1		50.9	156	59.3		31.2						
15	174	29.3	83	54.9		54.2	357	50.9		07.9	71	51.0		50.8	172	01.8		31.2						
16	189	31.8	98	54.2		54.3	12	52.0		07.2	86	52.9		50.8	187	04.4		31.3						
17	204	34.2	113	53.6	+21	54.4	27	53.0	+2	06.6	101	54.8	+22	50.8	202	06.9	-1	31.3						
18	219	36.7	128	52.9	+21	54.5	42	54.1	+2	06.0	116	56.6	+22	50.7	217	09.4	-1	31.4						
19	234	39.1	143	52.3		54.6	57	55.2		05.3	131	58.5		50.7	232	11.9		31.4						
20	249	41.6	158	51.6		54.7	72	56.2		04.7	147	00.4		50.6	247	14.5		31.4						
21	264	44.1	173	51.0		54.8	87	57.3		04.0	162	02.3		50.6	262	17.0		31.5						
22	279	46.5	188	50.3		54.9	102	58.4		03.4	177	04.2		50.5	277	19.5		31.5						
23	294	49.0	203	49.6		55.0	117	59.4		02.8	192	06.1		50.5	292	22.1		31.6						
24	309	51.5	218	49.0	+21	55.1	133	00.5	+2	02.1	207	08.0	+22	50.5	307	24.6	-1	31.6						
Dif	—				-7				+11				+19				0				+25			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:12 ^h 06.4 ^m				Edad: 7.2 ^d SD: 14 ^h 8 PMG: 17 ^h 51 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	178	24.2	+18	00.0	100	06.2	-15	59.8	60 N	**	**	2	41	3	41	14	09	
1	193	24.2	+17	59.4	114	40.5	-16	11.8	58	1	31	3	00	3	54	13	56	
2	208	24.3		58.7	129	14.6		23.8	56	2	04	16	4	04	44	82	46	
3	223	24.3		58.1	143	48.8		35.7	54	27		29	14	34	78	21	56	
4	238	24.3		57.5	158	22.8		47.5	52	2	45	41	22	26	74	22	06	
5	253	24.4	+17	56.9	172	56.8	-16	59.3	50	3	00	3	51	4	30	13	18	
6	268	24.4	+17	56.2	187	30.8	-17	10.9	45	3	29	4	12	4	46	13	01	
7	283	24.5		55.6	202	04.7		22.6	40	3	51	28	4	59	12	47	63	
8	298	24.5		55.0	216	38.6		34.1	35	4	08	42	5	10	36	59	22	
9	313	24.5		54.3	231	12.4		45.6	30	22	4	53	19	26	57	23	10	
10	328	24.6		53.7	245	46.1	-17	57.0	20	4	44	5	12	36	12	09	52	
11	343	24.6	+17	53.0	260	19.8	-18	08.3	10 N	5	02	5	28	5	50	11	54	
12	358	24.7	+17	52.4	274	53.4	-18	19.6	0	5	16	5	41	6	03	11	40	
13	13	24.7		51.8	289	27.0		30.8	10 S	28	5	54	16	27	41	**	**	
14	28	24.7		51.1	304	00.5		41.9	20	40	6	07	30	11	12	**	**	
15	43	24.8		50.5	318	33.9	-18	52.9	30	51	20	45	10	55	33	**	**	
16	58	24.8		49.9	333	07.3	-19	03.9	35	5	57	28	6	54	46	30	0	
17	73	24.9	+17	49.2	347	40.6	-19	14.8	40	6	03	6	36	7	05	10	35	
18	88	24.9	+17	48.6	2	13.9	-19	25.6	45	6	10	6	45	7	17	10	22	
19	103	25.0		47.9	16	47.1		36.3	50	17	6	56	31	07	18	41	71	
20	118	25.0		47.3	31	20.2		47.0	52	20	7	01	38	10	00	16	47	
21	133	25.0		46.7	45	53.3	-19	57.5	54	23		06	45	9	52	13	0	
22	148	25.1		46.0	60	26.2	-20	08.0	56	27	12	7	54	43	10	1	03	
23	163	25.1		45.4	74	59.2		18.4	58	31	19	8	03	33	6	12	85	
24	178	25.2	+17	44.7	89	32.0	-20	28.8	60 S	6	35	7	26	8	14	9	21	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 3 ^h 20.0 ^m		Mag: -4.0 PMG: 9 ^h 25 ^m				Mag: +1.6 PMG: 15 ^h 07 ^m				Mag: -1.9 PMG: 10 ^h 10 ^m				Mag: +0.8 PMG: 3 ^h 30 ^m			
	hG ♈		hG ♊	Dec		hG ♊	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	309	51.5	218	49.0	+21	55.1	133	00.5	+2	02.1	207	08.0	+22	50.5	307	24.6	-1	31.6
1	324	53.9	233	48.3		55.2	148	01.5		01.5	222	09.8		50.4	322	27.1		31.6
2	339	56.4	248	47.7		55.3	163	02.6		00.8	237	11.7		50.4	337	29.7		31.7
3	354	58.9	263	47.0		55.4	178	03.7	+2	00.2	252	13.6		50.3	352	32.2		31.7
4	10	01.3	278	46.4		55.5	193	04.7	+1	59.6	267	15.5		50.3	7	34.7		31.8
5	25	03.8	293	45.7	+21	55.7	208	05.8	+1	58.9	282	17.4	+22	50.2	22	37.3	-1	31.8
6	40	06.3	308	45.1	+21	55.7	223	06.9	+1	58.3	297	19.3	+22	50.2	37	39.8	-1	31.9
7	55	08.7	323	44.4		55.8	238	07.9		57.6	312	21.2		50.2	52	42.3		31.9
8	70	11.2	338	43.7		55.9	253	09.0		57.0	327	23.0		50.1	67	44.8		31.9
9	85	13.6	353	43.1		56.0	268	10.0		56.4	342	24.9		50.1	82	47.4		32.0
10	100	16.1	8	42.4		56.1	283	11.1		55.7	357	26.8		50.0	97	49.9		32.0
11	115	18.6	23	41.8	+21	56.2	298	12.2	+1	55.1	12	28.7	+22	50.0	112	52.4	-1	32.1
12	130	21.0	38	41.1	+21	56.3	313	13.2	+1	54.4	27	30.6	+22	49.9	127	55.0	-1	32.1
13	145	23.5	53	40.5		56.4	328	14.3		53.8	42	32.5		49.9	142	57.5		32.1
14	160	26.0	68	39.8		56.5	343	15.3		53.2	57	34.4		49.9	158	00.0		32.2
15	175	28.4	83	39.1		56.6	358	16.4		52.5	72	36.2		49.8	173	02.6		32.2
16	190	30.9	98	38.5		56.7	13	17.5		51.9	87	38.1		49.8	188	05.1		32.3
17	205	33.4	113	37.8	+21	56.8	28	18.5	+1	51.2	102	40.0	+22	49.7	203	07.6	-1	32.3
18	220	35.8	128	37.2	+21	56.9	43	19.6	+1	50.6	117	41.9	+22	49.7	218	10.2	-1	32.3
19	235	38.3	143	36.5		56.9	58	20.7		49.9	132	43.8		49.6	233	12.7		32.4
20	250	40.7	158	35.8		57.0	73	21.7		49.3	147	45.7		49.6	248	15.2		32.4
21	265	43.2	173	35.2		57.1	88	22.8		48.7	162	47.6		49.6	263	17.8		32.5
22	280	45.7	188	34.5		57.2	103	23.8		48.0	177	49.5		49.5	278	20.3		32.5
23	295	48.1	203	33.9		57.3	118	24.9		47.4	192	51.3		49.5	293	22.8		32.6
24	310	50.6	218	33.2	+21	57.4	133	26.0	+1	46.7	207	53.2	+22	49.4	308	25.4	-1	32.6
Dif	—		-7		+1		+11		-6		+19		0		+25		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 06.3 ^m				Edad: 8.2 ^d SD: 14'8 PMG: 18 ^h 36 ^m PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'3 R°: 50 ^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	178	25.2	+17	44.7	89	32.0	-20	28.8	102	60 N	20 27	21 26	23 23	15 41	97	21 21	7	
1	193	25.2		44.1	104	04.8		39.0	102	58	15	21 08	22 32	22 88		41	15	
2	208	25.3		43.5	118	37.6		49.2	100	56	20 05	20 53	22 02	15 06	82	21 58	20	
3	223	25.3		42.8	133	10.2	-20	59.2	100	54	19 56	40	21 41	14 52	78	22 12	25	
4	238	25.4		42.2	147	42.8	-21	09.2	100	52	48	29	23	40	75	24	28	
5	253	25.4	+17	41.5	162	15.3	-21	19.1	99	50	19 41	20 19	21 09	14 30	72	22 35	30	
6	268	25.4	+17	40.9	176	47.8	-21	29.0	97	45	19 25	19 59	20 41	14 08	67	22 58	35	
7	283	25.5		40.2	191	20.1		38.7	97	40	13	43	20	13 50	64	23 17	38	
8	298	25.5		39.6	205	52.4		48.3	96	35	19 02	29	20 03	35	62	32	41	
9	313	25.6		38.9	220	24.7	-21	57.9	96	30	18 52	18	19 49	23	59	23	46	
10	328	25.6		38.3	234	56.8	-22	07.3	94	20	36	19 00	27	13 01	56	**	**	
11	343	25.7	+17	37.7	249	28.9	-22	16.7	94	10 N	18 23	18 45	19 11	12 42	53	**	**	
12	358	25.7	+17	37.0	264	00.9	-22	26.0	93	0	18 10	18 31	18 57	12 25	49	0	02	
13	13	25.8		36.4	278	32.9		35.1	91	10 S	17 57	19	44	12 08	46	17	51	
14	28	25.8		35.7	293	04.7		44.2	91	20	44	18 07	33	11 50	43	34	54	
15	43	25.9		35.1	307	36.5	-22	53.2	90	30	28	17 53	22	28	40	0	53	
16	58	25.9		34.4	322	08.2	-23	02.1	89	35	19	46	17	16	37	1	05	
17	73	26.0	+17	33.8	336	39.9	-23	10.9	87	40	17 09	17 38	18 11	11 02	35	1	18	
18	88	26.0	+17	33.1	351	11.4	-23	19.6	86	45	16 58	17 29	18 04	10 46	30	1	33	
19	103	26.1		32.5	5	42.9		28.2	85	50	43	19	17 58	25	26	1	52	
20	118	26.1		31.8	20	14.3		36.7	85	52	37	14	55	16	23	2	01	
21	133	26.2		31.2	34	45.7		45.1	84	54	29	09	51	10 05	21	12	78	
22	148	26.2		30.5	49	16.9	-23	53.4	83	56	21	17 03	48	9	53	23	83	
23	163	26.3		29.8	63	48.1	-24	01.6	82	58	12	16 57	45	39	12	37	87	
24	178	26.3	+17	29.2	78	19.2	-24	09.7	81	60 S	16 01	16 49	17 41	9	22	2	52	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 ^h 16.1 ^m		Mag: -4.0 PMG: 9 ^h 26 ^m		Mag: +1.6 PMG: 15 ^h 05 ^m		Mag: -1.9 PMG: 10 ^h 07 ^m		Mag: +0.8 PMG: 3 ^h 26 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	310	50.6	218	33.2	133	26.0	207	53.2	308	25.4
1	325	53.1	233	32.5	148	27.0	222	55.1	323	27.9
2	340	55.5	248	31.9	163	28.1	237	57.0	338	30.5
3	355	58.0	263	31.2	178	29.1	252	58.9	353	33.0
4	11	00.5	278	30.6	193	30.2	268	00.8	8	35.5
5	26	02.9	293	29.9	208	31.3	283	02.7	23	38.1
6	41	05.4	308	29.2	223	32.3	298	04.6	38	40.6
7	56	07.9	323	28.6	238	33.4	313	06.4	53	43.1
8	71	10.3	338	27.9	253	34.4	328	08.3	68	45.7
9	86	12.8	353	27.2	268	35.5	343	10.2	83	48.2
10	101	15.2	8	26.6	283	36.6	358	12.1	98	50.7
11	116	17.7	23	25.9	298	37.6	13	14.0	113	53.3
12	131	20.2	38	25.2	313	38.7	28	15.9	128	55.8
13	146	22.6	53	24.6	328	39.7	43	17.8	143	58.3
14	161	25.1	68	23.9	343	40.8	58	19.7	159	00.9
15	176	27.6	83	23.3	358	41.8	73	21.6	174	03.4
16	191	30.0	98	22.6	13	42.9	88	23.4	189	06.0
17	206	32.5	113	21.9	28	44.0	103	25.3	204	08.5
18	221	35.0	128	21.3	43	45.0	118	27.2	219	11.0
19	236	37.4	143	20.6	58	46.1	133	29.1	234	13.6
20	251	39.9	158	19.9	73	47.1	148	31.0	249	16.1
21	266	42.4	173	19.3	88	48.2	163	32.9	264	18.6
22	281	44.8	188	18.6	103	49.3	178	34.8	279	21.2
23	296	47.3	203	17.9	118	50.3	193	36.7	294	23.7
24	311	49.7	218	17.3	133	51.4	208	38.6	309	26.3
Dif	—		-7	+1	+11	-6	+19	0	+25	0

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15 ^h 8 PMG: 12 ^h 06.2 ^m			Edad: 9.2 ^d PHE { 4 ^h : 54.4 12 ^h : 54.5 20 ^h : 54.6 Rº: 52 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº						
h	°	'	°	°	'	°	'	°	°	h	m	h	m	h	m	h	m					
0	178	26.3	+17	29.2	78	19.2	121	-24	09.7	79	0	51	2	47	3	46	17	16	91	21	27	17
1	193	26.4		28.5	92	50.3	121		17.6	79	1	41	3	05	3	58	16	48	80	21	55	27
2	208	26.4		27.9	107	21.2	119		25.5	79	2	11		20	4	08		27	74	22	17	33
3	223	26.5		27.2	121	52.1	119		33.3	78		32		33	17	16	09	71			35	36
4	238	26.5		26.6	136	22.9	118		41.0	77	2	50		44	25	15	54	69		22	51	38
5	253	26.6	+17	25.9	150	53.6	117	-24	48.5	75	3	04	3	54	4	32	15	41	67	23	04	40
6	268	26.6	+17	25.3	165	24.3	117	-24	56.0	75	3	32	4	14	4	48	15	14	64	23	31	43
7	283	26.7		24.6	179	54.8	115	-25	03.3	73	3	53		30	5	00	14	53	61	23	53	45
8	298	26.7		23.9	194	25.3	115		10.5	72	4	10		43	11		36	59		**	**	**
9	313	26.8		23.3	208	55.7	114		17.7	72		24	4	55	20	14	21	57		**	**	**
10	328	26.8		22.6	223	26.1	114		24.7	70	4	45	5	13	36	13	55	55		0	09	44
11	343	26.9	+17	22.0	237	56.4	113	-25	31.6	69	5	02	5	28	5	50	13	33	53	0	29	47
12	358	27.0	+17	21.3	252	26.5	111	-25	38.3	67	5	16	5	41	6	03	13	13	51	0	48	49
13	13	27.0		20.7	266	56.7	112		45.0	67		28	5	53	15	12	53	49		1	07	52
14	28	27.1		20.0	281	26.7	110		51.5	65		39	6	06	29		31	47			27	55
15	43	27.1		19.3	295	56.7	110	-25	58.0	65		50		19	44	12	07	44		1	51	57
16	58	27.2		18.7	310	26.5	108	-26	04.3	63	5	56	26		6	53	11	52	43	2	04	60
17	73	27.2	+17	18.0	324	56.4	109	-26	10.5	62	6	01	6	34	7	03	11	35	41	2	20	63
18	88	27.3	+17	17.3	339	26.1	107	-26	16.5	60	6	08	6	43	7	14	11	15	38	2	40	65
19	103	27.3		16.7	353	55.8	107		22.5	60		14		53	28	10	50	34		3	04	69
20	118	27.4		16.0	8	25.3	105		28.3	58		17	6	58	35		38	32			16	71
21	133	27.5		15.4	22	54.9	106		34.0	57		20	7	03	42		24	29			29	75
22	148	27.5		14.7	37	24.3	104		39.6	56		24		09	50	10	08	26		3	44	79
23	163	27.6		14.0	51	53.7	104		45.1	55		27	15		7	59	9	49	21	4	03	84
24	178	27.6	+17	13.4	66	23.0	103	-26	50.4	53	6	31	7	22	8	09	9	26	11	4	26	93
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 3 ^h 12.2 ^m			Mag: -4.0 PMG: 9 ^h 27 ^m			Mag: +1.6 PMG: 15 ^h 04 ^m			Mag: -1.9 PMG: 10 ^h 04 ^m			Mag: +0.8 PMG: 3 ^h 22 ^m									
	hG ♀		Dec	hG ♀		Dec	hG ♂		Dec	hG ♀		Dec	hG ♀		Dec							
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°							
0	311	49.7	218	17.3	+21	59.0	133	51.4	+1	31.3	208	38.6	+22	48.4	309	26.3	-1	33.6				
1	326	52.2	233	16.6		59.1	148	52.4		30.7	223	40.5		48.3	324	28.8		33.7				
2	341	54.7	248	15.9		59.1	163	53.5		30.1	238	42.3		48.3	339	31.3		33.7				
3	356	57.1	263	15.3		59.2	178	54.5		29.4	253	44.2		48.2	354	33.9		33.7				
4	11	59.6	278	14.6		59.2	193	55.6		28.8	268	46.1		48.2	9	36.4		33.8				
5	27	02.1	293	13.9	+21	59.3	208	56.7	+1	28.1	283	48.0	+22	48.1	24	39.0	-1	33.8				
6	42	04.5	308	13.3	+21	59.3	223	57.7	+1	27.5	298	49.9	+22	48.1	39	41.5	-1	33.9				
7	57	07.0	323	12.6		59.4	238	58.8		26.8	313	51.8		48.1	54	44.0		33.9				
8	72	09.5	338	11.9		59.4	253	59.8		26.2	328	53.7		48.0	69	46.6		34.0				
9	87	11.9	353	11.3		59.5	269	00.9		25.6	343	55.6		48.0	84	49.1		34.0				
10	102	14.4	8	10.6		59.5	284	01.9		24.9	358	57.5		47.9	99	51.6		34.0				
11	117	16.8	23	09.9	+21	59.6	299	03.0	+1	24.3	13	59.4	+22	47.9	114	54.2	-1	34.1				
12	132	19.3	38	09.3	+21	59.6	314	04.1	+1	23.6	29	01.3	+22	47.8	129	56.7	-1	34.1				
13	147	21.8	53	08.6		59.7	329	05.1		23.0	44	03.1		47.8	144	59.3		34.2				
14	162	24.2	68	07.9		59.7	344	06.2		22.4	59	05.0		47.7	160	01.8		34.2				
15	177	26.7	83	07.2		59.8	359	07.2		21.7	74	06.9		47.7	175	04.3		34.3				
16	192	29.2	98	06.6		59.8	14	08.3		21.1	89	08.8		47.6	190	06.9		34.3				
17	207	31.6	113	05.9	+21	59.8	29	09.3	+1	20.4	104	10.7	+22	47.6	205	09.4	-1	34.4				
18	222	34.1	128	05.2	+21	59.9	44	10.4	+1	19.8	119	12.6	+22	47.6	220	12.0	-1	34.4				
19	237	36.6	143	04.6	+21	59.9	59	11.5		19.1	134	14.5		47.5	235	14.5		34.4				
20	252	39.0	158	03.9	+22	00.0	74	12.5		18.5	149	16.4		47.5	250	17.1		34.5				
21	267	41.5	173	03.2		00.0	89	13.6		17.8	164	18.3		47.4	265	19.6		34.5				
22	282	44.0	188	02.5	+22	00.0	104	14.6		17.2	179	20.2		47.4	280	22.1		34.6				
23	297	46.4	203	01.9	+22	00.1	119	15.7		16.6	194	22.1		47.3	295	24.7		34.6				
24	312	48.9	218	01.2	+22	00.1	134	16.7	+1	15.9	209	24.0	+22	47.3	310	27.2	-1	34.7				
Dif	—			-7			0			+11			-6			+19			0			

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG:12 ^h 06.1 ^m			Edad: 10.2 ^d SD: 14'9 PMG: 20 ^h 17 ^m PHE 4^h: 54'7 12^h: 54'8 20^h: 55'0 R°: 55^m															
	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	27.6	+17	13.4	66	23.0	-26	50.4	52	60 N	20 22	21 20	23 04	18 47	65		21 44	50	
1	193	27.7		12.7	80	52.2	-26	55.6	51	58	11	21 02	22 22	18 08	63		22 22	53	
2	208	27.7		12.0	95	21.3	-27	00.7	49	56	20 01	20 48	21 55	17 41	62		22 50	53	
3	223	27.8		11.4	109	50.4		05.6	48	54	19 52	35	35	20 61	23 11	54			
4	238	27.9		10.7	124	19.4		10.4	47	52	44	25	18	17 03	60		29 54		
5	253	27.9	+17	10.0	138	48.4	-27	15.1	47	50	19 37	20 15	21 05	16 48	59		23 44	55	
6	268	28.0	+17	09.4	153	17.3	-27	19.7	46	45	19 23	19 56	20 37	16 18	58	**	**	**	
7	283	28.0		08.7	167	46.1		24.1	44	40	10	40	17	15 54	58	**	**	**	
8	298	28.1		08.0	182	14.8		28.4	43	35	19 00	27	20 01	35 57	0 11	48			
9	313	28.2		07.4	196	43.5		32.6	42	30	18 51	19 17	19 47	15 18	57		27 49		
10	328	28.2		06.7	211	12.1		36.6	40	20	35	18 59	26	14 50	57	0 53	51		
11	343	28.3	+17	06.0	225	40.7	-27	40.5	39	10 N	18 22	18 44	19 10	14 26	56	1 16	53		
12	358	28.3	+17	05.3	240	09.1	-27	44.3	38	0	18 10	18 31	18 56	14 04	55	1 37	54		
13	13	28.4		04.7	254	37.6		47.9	36	10 S	17 57	19	44	13 42	54	1 59	55		
14	28	28.5		04.0	269	05.9		51.4	35	20	44	18 07	34	13 18	54	2 22	56		
15	43	28.5		03.3	283	34.2		54.8	34	30	29	17 54	23	12 51	52	2 48	59		
16	58	28.6		02.7	298	02.5	-27	58.0	32	35	21	48	18	35 51	3 04	59			
17	73	28.6	+17	02.0	312	30.6	-28	01.0	30	40	17 11	17 40	18 12	12 16	51	3 23	60		
18	88	28.7	+17	01.3	326	58.8	-28	04.0	30	45	17 00	17 31	18 06	11 53	50	3 45	62		
19	103	28.8	+17	00.6	341	26.8		06.8	28	50	16 46	21	18 00	24 48	4 13	65			
20	118	28.8	+17	00.0	355	54.8		09.4	26	52	40	17	17 57	11 10	47	27 66			
21	133	28.9	+16	59.3	10	22.8		11.9	25	54	33	12	54	10 53	46	4 44	67		
22	148	29.0		58.6	24	50.7		14.3	24	56	25	06	51	34 43	5 03	69			
23	163	29.0		57.9	39	18.6		16.5	22	58	16	17 00	48	10 10	40	27 73			
24	178	29.1	+16	57.3	53	46.3	-28	18.6	21	60 S	16 06	16 53	17 44	9 37	33	5 59	81		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 3 ^h 08.2 ^m			Mag: -4.0 PMG: 9 ^h 28 ^m			Mag: +1.6 PMG: 15 ^h 02 ^m			Mag: -1.9 PMG: 10 ^h 01 ^m			Mag: +0.8 PMG: 3 ^h 18 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	312	48.9	218	01.2	+22	00.1	134	16.7	+1	15.9	209	24.0	+22	47.3	310	27.2	-1	34.7			
1	327	51.3	233	00.5		00.1	149	17.8		15.3	224	25.8		47.2	325	29.8		34.7			
2	342	53.8	247	59.9		00.2	164	18.8		14.6	239	27.7		47.2	340	32.3		34.8			
3	357	56.3	262	59.2		00.2	179	19.9		14.0	254	29.6		47.2	355	34.8		34.8			
4	12	58.7	277	58.5		00.2	194	21.0		13.3	269	31.5		47.1	10	37.4		34.8			
5	28	01.2	292	57.8	+22	00.2	209	22.0	+1	12.7	284	33.4	+22	47.1	25	39.9	-1	34.9			
6	43	03.7	307	57.2	+22	00.3	224	23.1	+1	12.1	299	35.3	+22	47.0	40	42.5	-1	34.9			
7	58	06.1	322	56.5		00.3	239	24.1		11.4	314	37.2		47.0	55	45.0		35.0			
8	73	08.6	337	55.8		00.3	254	25.2		10.8	329	39.1		46.9	70	47.6		35.0			
9	88	11.1	352	55.2		00.3	269	26.2		10.1	344	41.0		46.9	85	50.1		35.1			
10	103	13.5	7	54.5		00.4	284	27.3		09.5	359	42.9		46.8	100	52.6		35.1			
11	118	16.0	22	53.8	+22	00.4	299	28.3	+1	08.8	14	44.8	+22	46.8	115	55.2	-1	35.2			
12	133	18.5	37	53.1	+22	00.4	314	29.4	+1	08.2	29	46.7	+22	46.7	130	57.7	-1	35.2			
13	148	20.9	52	52.5		00.4	329	30.4		07.6	44	48.6		46.7	146	00.3		35.3			
14	163	23.4	67	51.8		00.4	344	31.5		06.9	59	50.5		46.7	161	02.8		35.3			
15	178	25.8	82	51.1		00.5	359	32.6		06.3	74	52.4		46.6	176	05.4		35.3			
16	193	28.3	97	50.4		00.5	14	33.6		05.6	89	54.2		46.6	191	07.9		35.4			
17	208	30.8	112	49.8	+22	00.5	29	34.7	+1	05.0	104	56.1	+22	46.5	206	10.4	-1	35.4			
18	223	33.2	127	49.1	+22	00.5	44	35.7	+1	04.3	119	58.0	+22	46.5	221	13.0	-1	35.5			
19	238	35.7	142	48.4		00.5	59	36.8		03.7	134	59.9		46.4	236	15.5		35.5			
20	253	38.2	157	47.7		00.5	74	37.8		03.0	150	01.8		46.4	251	18.1		35.6			
21	268	40.6	172	47.1		00.6	89	38.9		02.4	165	03.7		46.3	266	20.6		35.6			
22	283	43.1	187	46.4		00.6	104	39.9		01.8	180	05.6		46.3	281	23.2		35.7			
23	298	45.6	202	45.7		00.6	119	41.0		01.1	195	07.5		46.2	296	25.7		35.7			
24	313	48.0	217	45.0	+22	00.6	134	42.0	+1	00.5	210	09.4	+22	46.2	311	28.3	-1	35.8			
Dif	—			-7			0			+11			-6			+19			0		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:12 ^h 06.0 ^m			Edad: 11.2 ^d PHE { 4 ^h : 55 ^h 1 12 ^h : 55 ^h 3 20 ^h : 55 ^h 5 R°: 55 ^m															
	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	29.1	+16	57.3	53	46.3	88	-28	18.6	19	60 N	1 09	2 53	3 51	19 51	27	22 32	88	
1	193	29.1		56.6	68	14.1	87		20.5	18	58	1 51	3 11	4 02	19 10	36	23 14	78	
2	208	29.2		55.9	82	41.8	87		22.3	17	56	2 18	25	12	18 41	41	23 42	73	
3	223	29.3		55.2	97	09.5	87		24.0	17	54		38	37	21	20 43	**	**	
4	238	29.3		54.5	111	37.1	86		25.5	15	52	2 54	48	28	18 01	45	**	**	
5	253	29.4	+16	53.9	126	04.6	85	-28	26.8	13	50	3 08	3 57	4 35	17 46	46	**	**	
6	268	29.5	+16	53.2	140	32.1	85	-28	28.0	12	45	3 35	4 17	4 50	17 15	48	0 14	54	
7	283	29.5		52.5	154	59.6	85		29.1	11	40	3 56	32	5 02	16 51	50	38	54	
8	298	29.6		51.8	169	27.1	85		30.0	9	35	4 12	45	13	31 51		0 58	54	
9	313	29.7		51.1	183	54.4	83		30.7	7	30		25	4 56	22	16 14	52	1 14	55
10	328	29.7		50.5	198	21.8	84		31.3	6	20	4 46	5 14	37	15 45	53	1 43	55	
11	343	29.8	+16	49.8	212	49.1	83	-28	31.8	5	10 N	5 02	5 28	5 50	15 21	54	2 07	55	
12	358	29.9	+16	49.1	227	16.4	83	-28	32.1	3	0	5 16	5 41	6 03	14 58	55	2 30	54	
13	13	29.9		48.4	241	43.7	83		32.3	2	10 S	28	5 53	15	35 56		2 53	54	
14	28	30.0		47.7	256	10.9	82		32.3	0	20	38	6 05	28	14 11	56	3 17	54	
15	43	30.1		47.0	270	38.1	82		32.1	2	30	49	17	42	13 42	58	3 45	54	
16	58	30.1		46.4	285	05.2	81		31.8	3	35	54	24	6 51	25 58		4 02	54	
17	73	30.2	+16	45.7	299	32.4	82	-28	31.4	4	40	5 59	6 32	7 00	13 05	59	4 22	53	
18	88	30.3	+16	45.0	313	59.5	81	-28	30.8	6	45	6 05	6 40	7 12	12 41	60	4 46	53	
19	103	30.3		44.3	328	26.5	80		30.0	8	50	11	50	25	12 11	60	5 16	53	
20	118	30.4		43.6	342	53.6	81		29.1	9	52	14	6 55	31	11 55	62	31	52	
21	133	30.5		42.9	357	20.6	80		28.0	11	54	17	7 00	38	37 63		5 49	52	
22	148	30.6		42.2	11	47.7	81		26.8	12	56	20	05	46	11 16	63	6 11	50	
23	163	30.6		41.6	26	14.7	80		25.4	14	58	23	11	7 55	10 48	66	6 38	49	
24	178	30.7	+16	40.9	40	41.6	79	-28	23.9	15	60 S	6 27	7 18	8 05	10 08	70	7 18	45	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 3 ^h 04.3 ^m		Mag: -4.0 PMG: 9 ^h 29 ^m				Mag: +1.6 PMG: 15 ^h 00 ^m				Mag: -1.9 PMG: 9 ^h 58 ^m				Mag: +0.8 PMG: 3 ^h 14 ^m				
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°		
0	313	48.0	217	45.0	+22	00.6	134	42.0	+1	00.5	210	09.4	+22	46.2	311	28.3	-1	35.8	
1	328	50.5	232	44.4		00.6	149	43.1	+0	59.8	225	11.3		46.2	326	30.8		35.8	
2	343	53.0	247	43.7		00.6	164	44.1		59.2	240	13.2		46.1	341	33.4		35.8	
3	358	55.4	262	43.0		00.6	179	45.2		58.5	255	15.1		46.1	356	35.9		35.9	
4	13	57.9	277	42.3		00.6	194	46.3		57.9	270	17.0		46.0	11	38.4		35.9	
5	29	00.3	292	41.6	+22	00.6	209	47.3	+0	57.2	285	18.9	+22	46.0	26	41.0	-1	36.0	
6	44	02.8	307	41.0	+22	00.6	224	48.4	+0	56.6	300	20.8	+22	45.9	41	43.5	-1	36.0	
7	59	05.3	322	40.3		00.6	239	49.4		56.0	315	22.7		45.9	56	46.1		36.1	
8	74	07.7	337	39.6		00.6	254	50.5		55.3	330	24.6		45.8	71	48.6		36.1	
9	89	10.2	352	38.9		00.6	269	51.5		54.7	345	26.5		45.8	86	51.2		36.2	
10	104	12.7	7	38.3		00.6	284	52.6		54.0	0	28.4		45.7	101	53.7		36.2	
11	119	15.1	22	37.6	+22	00.6	299	53.6	+0	53.4	15	30.3	+22	45.7	116	56.3	-1	36.3	
12	134	17.6	37	36.9	+22	00.6	314	54.7	+0	52.7	30	32.2	+22	45.7	131	58.8	-1	36.3	
13	149	20.1	52	36.2		00.6	329	55.7		52.1	45	34.0		45.6	147	01.4		36.4	
14	164	22.5	67	35.5		00.6	344	56.8		51.4	60	35.9		45.6	162	03.9		36.4	
15	179	25.0	82	34.9		00.6	359	57.8		50.8	75	37.8		45.5	177	06.5		36.5	
16	194	27.5	97	34.2		00.6	14	58.9		50.1	90	39.7		45.5	192	09.0		36.5	
17	209	29.9	112	33.5	+22	00.6	29	59.9	+0	49.5	105	41.6	+22	45.4	207	11.5	-1	36.5	
18	224	32.4	127	32.8	+22	00.6	45	01.0	+0	48.9	120	43.5	+22	45.4	222	14.1	-1	36.6	
19	239	34.8	142	32.1		00.6	60	02.0		48.2	135	45.4		45.3	237	16.6		36.6	
20	254	37.3	157	31.5		00.5	75	03.1		47.6	150	47.3		45.3	252	19.2		36.7	
21	269	39.8	172	30.8		00.5	90	04.1		46.9	165	49.2		45.2	267	21.7		36.7	
22	284	42.2	187	30.1		00.5	105	05.2		46.3	180	51.1		45.2	282	24.3		36.8	
23	299	44.7	202	29.4		00.5	120	06.2		45.6	195	53.0		45.1	297	26.8		36.8	
24	314	47.2	217	28.7	+22	00.5	135	07.3	+0	45.0	210	54.9	+22	45.1	312	29.4	-1	36.9	
Dif	—		-7		0		+11		-6		+19		0		+25				

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 12 ^h 05.9 ^m			Edad: 12.2 ^d SD: 15'1 PMG: 22 ^h 06 ^m PHE { 4 ^h : 55'7 12 ^h : 55'9 20 ^h : 56'1 Rº: 56 ^m																
	hG ☉	Dec		hG ☾	Dif		Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	178	30.7	+16	40.9	40	41.6	80	-28	23.9	17	60 N	20 17	21 13	22 49	20 18	11		**	**	**
1	193	30.8		40.2	55	08.6	79		22.2	19	58	20 06	20 57	22 13	19 46	20		**	**	**
2	208	30.8		39.5	69	35.5	80		20.3	20	56	19 57	43	21 48	22 26			**	**	**
3	223	30.9		38.8	84	02.5	80		18.3	21	54	48	31	29	19 03	30	0	04	7	
4	238	31.0		38.1	98	29.4	79		16.2	21	52	41	21	13	18 46	34		22	70	
5	253	31.0	+16	37.4	112	56.3	79	-28	13.9	23	50	19 34	20 12	21 00	18 32	36	0	37	69	
6	268	31.1	+16	36.7	127	23.2	79	-28	11.4	25	45	19 20	19 53	20 34	18 03	41	1	08	66	
7	283	31.2		36.0	141	50.1	79		08.8	26	40	19 08	38	20 14	17 41	43		32	64	
8	298	31.3		35.4	156	17.0	79		06.0	28	35	18 58	25	19 58	22 46		1	52	63	
9	313	31.3		34.7	170	43.9	79	-28	03.1	29	30	49	19 15	45	17 06	48	2	09	61	
10	328	31.4		34.0	185	10.8	79	-28	00.0	31	20	34	18 58	25	16 38	51	2	37	60	
11	343	31.5	+16	33.3	199	37.7	79	-27	56.7	33	10 N	18 21	18 43	19 09	16 15	53	3	02	57	
12	358	31.6	+16	32.6	214	04.6	79	-27	53.3	34	0	18 09	18 31	18 56	15 53	56	3	24	56	
13	13	31.6		31.9	228	31.5	79		49.8	35	10 S	17 57	19	45	31 58		3	47	54	
14	28	31.7		31.2	242	58.4	79		46.1	37	20	45	18 08	34	15 07	61	4	11	53	
15	43	31.8		30.5	257	25.3	79		42.2	39	30	31	17 56	24	14 40	63		39	51	
16	58	31.9		29.8	271	52.2	79		38.2	40	35	22	49	19	23 66		4	56	49	
17	73	31.9	+16	29.1	286	19.1	79	-27	34.0	42	40	17 13	17 42	18 14	14 04	68	5	15	48	
18	88	32.0	+16	28.4	300	46.1	80	-27	29.7	43	45	17 02	17 33	18 08	13 41	70	5	39	45	
19	103	32.1		27.7	315	13.0	79		25.2	45	50	16 49	24	02	13 11	75	6	09	41	
20	118	32.2		27.0	329	40.0	80		20.5	47	52	43	19	18 00	12 57	76		23	40	
21	133	32.2		26.3	344	06.9	79		15.7	48	54	36	15	17 57	40 79		6	41	37	
22	148	32.3		25.6	358	33.9	80		10.8	49	56	29	09	54	12 19	83	7	01	34	
23	163	32.4		24.9	13	00.9	80		05.7	51	58	20	17 04	51	11 54	88	7	27	28	
24	178	32.5	+16	24.2	27	27.9	80	-27	00.4	53	60 S	16 10	16 57	17 48	11 18	99	8	03	18	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 3 ^h 00.4 ^m		Mag: -4.0 PMG: 9 ^h 31 ^m			Mag: +1.6 PMG: 14 ^h 58 ^m			Mag: -1.9 PMG: 9 ^h 55 ^m			Mag: +0.8 PMG: 3 ^h 10 ^m								
	hG ♈	hG ♀		Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	314	47.2	217	28.7	+22	00.5	135	07.3	+0	45.0	210	54.9	+22	45.1						
1	329	49.6	232	28.1		00.5	150	08.3		44.3	225	56.8		45.1						
2	344	52.1	247	27.4		00.5	165	09.4		43.7	240	58.7		45.0						
3	359	54.6	262	26.7		00.4	180	10.4		43.0	256	00.6		45.0						
4	14	57.0	277	26.0		00.4	195	11.5		42.4	271	02.5		44.9						
5	29	59.5	292	25.3	+22	00.4	210	12.5	+0	41.8	286	04.4	+22	44.9						
6	45	01.9	307	24.7	+22	00.4	225	13.6	+0	41.1	301	06.3	+22	44.8						
7	60	04.4	322	24.0		00.3	240	14.6		40.5	316	08.2		44.8						
8	75	06.9	337	23.3		00.3	255	15.7		39.8	331	10.1		44.7						
9	90	09.3	352	22.6		00.3	270	16.7		39.2	346	12.0		44.7						
10	105	11.8	7	21.9		00.3	285	17.8		38.5	1	13.9		44.6						
11	120	14.3	22	21.3	+22	00.2	300	18.8	+0	37.9	16	15.8	+22	44.6						
12	135	16.7	37	20.6	+22	00.2	315	19.9	+0	37.2	31	17.7	+22	44.5						
13	150	19.2	52	19.9		00.2	330	20.9		36.6	46	19.6		44.5						
14	165	21.7	67	19.2		00.2	345	22.0		35.9	61	21.5		44.5						
15	180	24.1	82	18.5		00.1	0	23.0		35.3	76	23.4		44.4						
16	195	26.6	97	17.8		00.1	15	24.1		34.6	91	25.3		44.4						
17	210	29.1	112	17.2	+22	00.1	30	25.1	+0	34.0	106	27.2	+22	44.3						
18	225	31.5	127	16.5	+22	00.0	45	26.2	+0	33.4	121	29.1	+22	44.3						
19	240	34.0	142	15.8		00.0	60	27.2		32.7	136	31.0		44.2						
20	255	36.4	157	15.1	+22	00.0	75	28.3		32.1	151	32.9		44.2						
21	270	38.9	172	14.4	+21	59.9	90	29.3		31.4	166	34.8		44.1						
22	285	41.4	187	13.7		59.9	105	30.4		30.8	181	36.7		44.1						
23	300	43.8	202	13.1		59.8	120	31.4		30.1	196	38.6		44.0						
24	315	46.3	217	12.4	+21	59.8	135	32.5	+0	29.5	211	40.5	+22	44.0						
Dif	—		-7		0		+10		-6		+19		0		+26		0			

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'8 PMG:12 ^h 05.8 ^m				Edad: 13.2 ^d PHE { 4 ^h : 56'3 12 ^h : 56'5 20 ^h : 56'7 SD: 15'3 PMG: 23 ^h 00 ^m R°: 53 ^m														
	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	178	32.5	+16	24.2	27	27.9			-27	00.4	54	60 N	1 24	2 59	3 55	20 27	3	0 00 104	
1	193	32.5		23.5	41	55.0			-26	55.0	56	58	2 00	3 16	4 06	20 05	10	32 93	
2	208	32.6		22.8	56	22.0				49.4	57	56	24	30	16	19 47	15	0 55 88	
3	223	32.7		22.1	70	49.1				43.7	59	54	43	41	24	32 19		1 15 83	
4	238	32.8		21.4	85	16.2				37.8	59	52	2 59	3 52	31	19 22		31 79	
5	253	32.8	+16	20.7	99	43.4			-26	31.8	60	50	3 12	4 01	4 38	19 07	25	1 45 77	
6	268	32.9	+16	20.0	114	10.5			-26	25.6	62	45	3 38	4 19	4 52	18 42	32	2 13 72	
7	283	33.0		19.3	128	37.7				19.3	63	40	3 58	34	5 04	23 35		35 69	
8	298	33.1		18.6	143	05.0				12.8	65	35	4 14	47	14	18 06	39	2 53 66	
9	313	33.2		17.9	157	32.2			-26	06.2	66	30	27	4 57	23	17 52	41	3 09 63	
10	328	33.2		17.2	171	59.5			-25	59.4	68	20	4 47	5 14	38	28 46		35 60	
11	343	33.3	+16	16.5	186	26.8			-25	52.5	69	10 N	5 03	5 28	5 50	17 07	49	3 58 57	
12	358	33.4	+16	15.8	200	54.2			-25	45.4	71	0	5 16	5 41	6 02	16 47	53	4 19 54	
13	13	33.5		15.1	215	21.5				38.2	72	10 S	27	5 52	14	28 56		4 40 51	
14	28	33.6		14.4	229	49.0				30.9	73	20	37	6 04	27	16 06	60	5 03 47	
15	43	33.6		13.7	244	16.4				23.3	76	30	47	16	41	15 42	64	28 44	
16	58	33.7		13.0	258	43.9				15.7	76	35	52	22	49	27 67		5 44 41	
17	73	33.8	+16	12.3	273	11.4			-25	07.9	78	40	5 57	6 30	6 58	15 10	71	6 01 39	
18	88	33.9	+16	11.6	287	39.0			-24	59.9	80	45	6 03	6 38	7 09	14 50	74	6 22 35	
19	103	34.0		10.9	302	06.6				51.8	81	50	09	47	22	24 80		6 49 30	
20	118	34.0		10.1	316	34.3				43.6	82	52	11	51	28	14 12	83	7 02 27	
21	133	34.1		09.4	331	02.0				35.2	84	54	14	6 56	34	13 58	86	16 24	
22	148	34.2		08.7	345	29.7				26.7	85	56	17	7 01	42	41 91		33 20	
23	163	34.3		08.0	359	57.5				18.0	87	58	20	07	7 50	13 21	96	7 54 14	
24	178	34.4	+16	07.3	14	25.3			-24	09.2	88	60 S	6 23	7 13	8 00	12 55 105		8 20 6	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 56.4 ^m			Mag: -4.0 PMG: 9 ^h 32 ^m			Mag: +1.6 PMG: 14 ^h 57 ^m			Mag: -1.9 PMG: 9 ^h 52 ^m			Mag: +0.8 PMG: 3 ^h 05 ^m						
	hG ♀		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	315	46.3	217	12.4	+21	59.8	135	32.5	+0	29.5	211	40.5	+22	44.0	313	30.6	-1	38.0	
1	330	48.8	232	11.7		59.8	150	33.5		28.8	226	42.4		43.9	328	33.1		38.1	
2	345	51.2	247	11.0		59.7	165	34.6		28.2	241	44.3		43.9	343	35.7		38.1	
3	0	53.7	262	10.3		59.7	180	35.6		27.5	256	46.2		43.8	358	38.3		38.2	
4	15	56.2	277	09.6		59.6	195	36.7		26.9	271	48.1		43.8	13	40.8		38.2	
5	30	58.6	292	08.9	+21	59.6	210	37.7	+0	26.2	286	50.0	+22	43.8	28	43.4	-1	38.3	
6	46	01.1	307	08.3	+21	59.5	225	38.8	+0	25.6	301	51.9	+22	43.7	43	45.9	-1	38.3	
7	61	03.6	322	07.6		59.5	240	39.8		25.0	316	53.8		43.7	58	48.5		38.4	
8	76	06.0	337	06.9		59.4	255	40.9		24.3	331	55.7		43.6	73	51.0		38.4	
9	91	08.5	352	06.2		59.4	270	41.9		23.7	346	57.6		43.6	88	53.6		38.5	
10	106	10.9	7	05.5		59.3	285	43.0		23.0	1	59.5		43.5	103	56.1		38.5	
11	121	13.4	22	04.8	+21	59.3	300	44.0	+0	22.4	17	01.4	+22	43.5	118	58.7	-1	38.6	
12	136	15.9	37	04.1	+21	59.2	315	45.1	+0	21.7	32	03.3	+22	43.4	134	01.2	-1	38.6	
13	151	18.3	52	03.5		59.2	330	46.1		21.1	47	05.2		43.4	149	03.8		38.7	
14	166	20.8	67	02.8		59.1	345	47.2		20.4	62	07.1		43.3	164	06.3		38.7	
15	181	23.3	82	02.1		59.1	0	48.2		19.8	77	09.0		43.3	179	08.9		38.8	
16	196	25.7	97	01.4		59.0	15	49.3		19.1	92	10.9		43.2	194	11.4		38.8	
17	211	28.2	112	00.7	+21	59.0	30	50.3	+0	18.5	107	12.8	+22	43.2	209	14.0	-1	38.9	
18	226	30.7	127	00.0	+21	58.9	45	51.3	+0	17.8	122	14.7	+22	43.1	224	16.6	-1	38.9	
19	241	33.1	141	59.3		58.8	60	52.4		17.2	137	16.6		43.1	239	19.1		39.0	
20	256	35.6	156	58.7		58.8	75	53.4		16.5	152	18.5		43.0	254	21.7		39.0	
21	271	38.1	171	58.0		58.7	90	54.5		15.9	167	20.4		43.0	269	24.2		39.1	
22	286	40.5	186	57.3		58.7	105	55.5		15.2	182	22.3		43.0	284	26.8		39.1	
23	301	43.0	201	56.6		58.6	120	56.6		14.6	197	24.2		42.9	299	29.3		39.2	
24	316	45.4	216	55.9	+21	58.5	135	57.6	+0	14.0	212	26.1	+22	42.9	314	31.9	-1	39.2	
Dif	—		-7		-1		+10		-6		+19		0		+26				

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:12 ^h 05.6 ^m			Edad: 14.2 ^d SD: 15'5 PMG: 23 ^h 53 ^m PHE { 4 ^h : 57'0 12 ^h : 57'2 20 ^h : 57'4 Rº: 51 ^m																
	hG ☉	Dec		hG ☾	Dif		Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	178	34.4	+16	07.3	14	25.3	89	-24	09.2	89	60 N	20 12	21 06	22 36	20 30	2	1 44	107		
1	193	34.5		06.6	28	53.2	89	-24	00.3	91	58	20 01	20 51	22 04	15	7	2 05	100		
2	208	34.5		05.9	43	21.1	90	-23	51.2	92	56	19 52	38	21 41	20 02	12	23	94		
3	223	34.6		05.2	57	49.1	90		42.0	94	54		44	26	23	19 51	15	38	89	
4	238	34.7		04.5	72	17.1	90		32.6	94	52		37	17	21 08	41	19	2 50	87	
5	253	34.8	+16	03.8	86	45.2	91	-23	23.2	94	50	19 31	20 08	20 55	19 32	21	3 02	83		
6	268	34.9	+16	03.0	101	13.3	91	-23	13.5	97	45	19 17	19 50	20 30	19 14	26	3 25	77		
7	283	35.0		02.3	115	41.5	92	-23	03.8	97	40	19 06	35	20 11	18 58	31	44	72		
8	298	35.0		01.6	130	09.7	92	-22	53.9	99	35	18 56	23	19 56	45	35	3 59	69		
9	313	35.1		00.9	144	37.9	92		43.9	100	30		48	19 13	43	33	38	4 12	67	
10	328	35.2	+16	00.2	159	06.3	94		33.7	102	20		33	18 56	24	18 14	43	35	61	
11	343	35.3	+15	59.5	173	34.6	93	-22	23.4	103	10 N	18 21	18 43	19 08	17 56	48	4 55	57		
12	358	35.4	+15	58.8	188	03.0	94	-22	13.0	104	0	18 09	18 31	18 56	17 40	52	5 13	53		
13	13	35.5		58.0	202	31.5	95	-22	02.5	105	10 S	17 58	19	45	24	56	31	49		
14	28	35.6		57.3	217	00.0	95	-21	51.8	107	20	45	18 08	35	17 06	61	5 50	45		
15	43	35.6		56.6	231	28.6	96		41.0	108	30	32	17 57	25	16 46	67	6 12	40		
16	58	35.7		55.9	245	57.2	96		30.1	109	35	24	50	20	34	70	25	37		
17	73	35.8	+15	55.2	260	25.9	97	-21	19.0	111	40	17 15	17 43	18 15	16 21	73	6 40	33		
18	88	35.9	+15	54.5	274	54.6	97	-21	07.9	111	45	17 04	17 35	18 10	16 04	78	6 57	29		
19	103	36.0		53.7	289	23.4	98	-20	56.6	113	50	16 52	26	05	15 44	84	7 19	23		
20	118	36.1		53.0	303	52.3	99		45.2	114	52	46	22	02	35	87	29	21		
21	133	36.2		52.3	318	21.2	99		33.6	116	54	39	18	18 00	24	90	40	18		
22	148	36.2		51.6	332	50.1	99		22.0	116	56	32	13	17 57	15 12	94	7 53	14		
23	163	36.3		50.9	347	19.1	100	-20	10.2	118	58	24	07	55	14 57	100	8 08	9		
24	178	36.4	+15	50.1	1	48.2	101	-19	58.3	119	60 S	16 15	17 01	17 52	14 40	106	8 26	3		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 52.5 ^m		Mag: -4.0 PMG: 9 ^h 33 ^m		Mag: +1.6 PMG: 14 ^h 55 ^m		Mag: -1.9 PMG: 9 ^h 49 ^m		Mag: +0.8 PMG: 3 ^h 01 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	316	45.4	216	55.9	+21	58.5	135	57.6	+0	14.0
1	331	47.9	231	55.2		58.5	150	58.7		13.3
2	346	50.4	246	54.5		58.4	165	59.7		12.7
3	1	52.8	261	53.8		58.3	181	00.8		12.0
4	16	55.3	276	53.2		58.3	196	01.8		11.4
5	31	57.8	291	52.5	+21	58.2	211	02.9	+0	10.7
6	47	00.2	306	51.8	+21	58.1	226	03.9	+0	10.1
7	62	02.7	321	51.1		58.0	241	04.9		09.4
8	77	05.2	336	50.4		58.0	256	06.0		08.8
9	92	07.6	351	49.7		57.9	271	07.0		08.1
10	107	10.1	6	49.0		57.8	286	08.1		07.5
11	122	12.6	21	48.3	+21	57.7	301	09.1	+0	06.8
12	137	15.0	36	47.6	+21	57.7	316	10.2	+0	06.2
13	152	17.5	51	47.0		57.6	331	11.2		05.5
14	167	19.9	66	46.3		57.5	346	12.3		04.9
15	182	22.4	81	45.6		57.4	1	13.3		04.2
16	197	24.9	96	44.9		57.3	16	14.4		03.6
17	212	27.3	111	44.2	+21	57.3	31	15.4	+0	02.9
18	227	29.8	126	43.5	+21	57.2	46	16.4	+0	02.3
19	242	32.3	141	42.8		57.1	61	17.5		01.6
20	257	34.7	156	42.1		57.0	76	18.5		01.0
21	272	37.2	171	41.4		56.9	91	19.6	+0	00.3
22	287	39.7	186	40.8		56.8	106	20.6	-0	00.3
23	302	42.1	201	40.1		56.7	121	21.7		00.9
24	317	44.6	216	39.4	+21	56.7	136	22.7	-0	01.6
Dif	—		-7		-1		+10		-6	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 05.5 ^m				Edad: 15.2 ^d PHE { 4 ^h : 57/6 12 ^h : 57/8 20 ^h : 58/0 PMG: **h **m R°: **m													
	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	36.4	+15	50.1	1	48.2	-19	58.3	120	60 N	1 36	3 05	4 00	20 31	**	3 30	103	
1	193	36.5		49.4	16	17.3		46.3	121	58	2 08	21	11	21	4	44	97	
2	208	36.6		48.7	30	46.4		34.2	121	56	31	34	20	13	7	3	56	92
3	223	36.7		48.0	45	15.7		22.0	122	54	2 49	45	28	20 05	11	4	06	89
4	238	36.8		47.3	59	44.9	-19	09.7	123	52	3 04	3 55	35	19 58	14	15	86	
5	253	36.9	+15	46.5	74	14.3	-18	57.2	125	50	3 16	4 04	4 41	19 52	16	4	23	83
6	268	37.0	+15	45.8	88	43.6	-18	44.7	125	45	3 41	4 22	4 55	19 39	21	4	41	77
7	283	37.1		45.1	103	13.1		32.0	127	40	4 00	36	5 06	28 26		4	55	72
8	298	37.1		44.4	117	42.6		19.2	128	35	16	48	16	18 30		5	07	68
9	313	37.2		43.6	132	12.1	-18	06.4	128	30	28	4 58	24	19 10	33	17	65	
10	328	37.3		42.9	146	41.7	-17	53.4	130	20	4 48	5 15	38	18 56	38	35	59	
11	343	37.4	+15	42.2	161	11.3	-17	40.3	131	10 N	5 03	5 29	5 51	18 43	44	5	50	55
12	358	37.5	+15	41.5	175	41.0	-17	27.1	132	0	5 16	5 41	6 02	18 31	49	6	05	49
13	13	37.6		40.7	190	10.8		13.8	133	10 S	26	5 52	13	19 53		19	45	
14	28	37.7		40.0	204	40.6	-17	00.4	134	20	36	6 03	25	18 06	59	34	40	
15	43	37.8		39.3	219	10.4	-16	47.0	134	30	46	14	39	17 51	65	6	51	35
16	58	37.9		38.6	233	40.3		33.4	136	35	50	20	47	43 68		7	01	31
17	73	38.0	+15	37.8	248	10.3	-16	19.7	137	40	5 55	6 27	6 56	17 33	72	7	12	28
18	88	38.1	+15	37.1	262	40.3	-16	05.9	138	45	6 00	6 35	7 06	17 21	77	7	25	23
19	103	38.2		36.4	277	10.3	-15	52.1	138	50	06	44	18	07 83		41	18	
20	118	38.3		35.6	291	40.4		38.1	140	52	08	48	24	17 00	86	48	15	
21	133	38.3		34.9	306	10.6		24.1	140	54	10	52	31	16 53	88	7	57	12
22	148	38.4		34.2	320	40.8	-15	09.9	142	56	13	6 57	38	45 92		8	06	8
23	163	38.5		33.5	335	11.0	-14	55.7	142	58	16	7 03	46	35 96		16	5	
24	178	38.6	+15	32.7	349	41.3	-14	41.4	143	60 S	6 19	7 08	7 55	16 24	102	8	28	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 2 ^h 48.6 ^m		Mag: -4.0 PMG: 9 ^h 34 ^m		Mag: +1.6 PMG: 14 ^h 53 ^m		Mag: -1.9 PMG: 9 ^h 46 ^m		Mag: +0.8 PMG: 2 ^h 57 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	317	44.6	216	39.4	+21	56.7	136	22.7	-0	01.6	213	11.8	+22	41.7	315	33.3	-1	40.4
1	332	47.0	231	38.7		56.6	151	23.7		02.2	228	13.7		41.7	330	35.8		40.5
2	347	49.5	246	38.0		56.5	166	24.8		02.9	243	15.6		41.6	345	38.4		40.5
3	2	52.0	261	37.3		56.4	181	25.8		03.5	258	17.5		41.6	0	40.9		40.6
4	17	54.4	276	36.6		56.3	196	26.9		04.2	273	19.4		41.5	15	43.5		40.6
5	32	56.9	291	35.9	+21	56.2	211	27.9	-0	04.8	288	21.3	+22	41.5	30	46.0	-1	40.7
6	47	59.4	306	35.2	+21	56.1	226	29.0	-0	05.5	303	23.2	+22	41.4	45	48.6	-1	40.7
7	63	01.8	321	34.5		56.0	241	30.0		06.1	318	25.1		41.4	60	51.2		40.8
8	78	04.3	336	33.8		55.9	256	31.0		06.8	333	27.0		41.3	75	53.7		40.8
9	93	06.8	351	33.2		55.8	271	32.1		07.4	348	28.9		41.3	90	56.3		40.9
10	108	09.2	6	32.5		55.7	286	33.1		08.1	3	30.8		41.2	105	58.8		40.9
11	123	11.7	21	31.8	+21	55.6	301	34.2	-0	08.7	18	32.8	+22	41.2	121	01.4	-1	41.0
12	138	14.2	36	31.1	+21	55.5	316	35.2	-0	09.4	33	34.7	+22	41.1	136	04.0	-1	41.1
13	153	16.6	51	30.4		55.4	331	36.3		10.0	48	36.6		41.1	151	06.5		41.1
14	168	19.1	66	29.7		55.3	346	37.3		10.7	63	38.5		41.0	166	09.1		41.2
15	183	21.5	81	29.0		55.2	1	38.3		11.3	78	40.4		41.0	181	11.7		41.2
16	198	24.0	96	28.3		55.1	16	39.4		12.0	93	42.3		40.9	196	14.2		41.3
17	213	26.5	111	27.6	+21	55.0	31	40.4	-0	12.6	108	44.2	+22	40.9	211	16.8	-1	41.3
18	228	28.9	126	26.9	+21	54.9	46	41.5	-0	13.3	123	46.1	+22	40.9	226	19.3	-1	41.4
19	243	31.4	141	26.2		54.7	61	42.5		13.9	138	48.0		40.8	241	21.9		41.4
20	258	33.9	156	25.5		54.6	76	43.6		14.6	153	49.9		40.8	256	24.5		41.5
21	273	36.3	171	24.9		54.5	91	44.6		15.2	168	51.8		40.7	271	27.0		41.5
22	288	38.8	186	24.2		54.4	106	45.6		15.9	183	53.7		40.7	286	29.6		41.6
23	303	41.3	201	23.5		54.3	121	46.7		16.5	198	55.6		40.6	301	32.1		41.6
24	318	43.7	216	22.8	+21	54.2	136	47.7	-0	17.2	213	57.5	+22	40.6	316	34.7	-1	41.7
Dif	—		-7		-1		+10		-6		+19		0		+26		-1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 05.3 ^m				Edad: 16.2 ^d SD: 15'8 PMG: 0 ^h 43 ^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	h m m	
0	178	38.6	+15	32.7	349	41.3	-14	41.4	60 N	20 06	21 00	22 24	20 30	0	5	13	101
1	193	38.7		32.0	4	11.6 ¹¹³		27.0 ¹⁴⁴	58	19 56	20 45	21 55	25	4		21	97
2	208	38.8		31.3	18	42.0 ¹¹⁴	-14	12.5 ¹⁴⁵	56	48	33	34	20	7		28	94
3	223	38.9		30.5	33	12.4 ¹¹⁴	-13	58.0 ¹⁴⁵	54	40	22	17	16	10		35	90
4	238	39.0		29.8	47	42.9 ¹¹⁵		43.3 ¹⁴⁷	52	33	12	21 03	12	13		41	87
5	253	39.1	+15	29.1	62	13.4 ¹¹⁵	-13	28.6 ¹⁴⁷	50	19 27	20 04	20 51	20 08	16	5	46	84
6	268	39.2	+15	28.3	76	44.0 ¹¹⁶	-13	13.8 ¹⁴⁸	45	19 14	19 46	20 27	20 00	21	5	58	78
7	283	39.3		27.6	91	14.5 ¹¹⁵	-12	59.0 ¹⁴⁸	40	19 03	32	20 08	19 54	25	6	07	73
8	298	39.4		26.9	105	45.2 ¹¹⁷		44.0 ¹⁵⁰	35	18 54	21	19 53	48	29		15	69
9	313	39.5		26.1	120	15.9 ¹¹⁷		29.0 ¹⁵⁰	30	46	19 11	41	43	33		22	66
10	328	39.6		25.4	134	46.6 ¹¹⁷	-12	13.9 ¹⁵¹	20	32	18 55	22	34	39		34	60
11	343	39.7	+15	24.7	149	17.3 ¹¹⁷	-11	58.7 ¹⁵²	10 N	18 20	18 42	19 07	19 27	44	6	45	54
12	358	39.8	+15	23.9	163	48.1 ¹¹⁸	-11	43.5 ¹⁵²	0	18 09	18 30	18 55	19 20	48	6	54	50
13	13	39.9		23.2	178	19.0 ¹¹⁹		28.2 ¹⁵³	10 S	17 58	19	45	12	54	7	04	44
14	28	40.0		22.4	192	49.8 ¹¹⁸	-11	12.8 ¹⁵⁴	20	46	18 09	35	19 05	59		14	39
15	43	40.1		21.7	207	20.7 ¹¹⁹	-10	57.4 ¹⁵⁴	30	33	17 58	26	18 56	65		26	33
16	58	40.2		21.0	221	51.7 ¹²⁰		41.9 ¹⁵⁵	35	25	52	22	51	68		32	30
17	73	40.3	+15	20.2	236	22.6 ¹¹⁹	-10	26.3 ¹⁵⁶	40	17 17	17 45	18 17	18 45	73	7	40	26
18	88	40.4	+15	19.5	250	53.6 ¹²⁰	-10	10.7 ¹⁵⁶	45	17 07	17 38	18 12	18 38	78	7	48	22
19	103	40.5		18.8	265	24.7 ¹²¹	-9	55.0 ¹⁵⁷	50	16 55	29	07	30	83	7	59	16
20	118	40.6		18.0	279	55.7 ¹²⁰		39.3 ¹⁵⁷	52	49	25	05	26	86	8	03	14
21	133	40.7		17.3	294	26.8 ¹²¹		23.5 ¹⁵⁸	54	43	21	03	21	90		09	10
22	148	40.8		16.5	308	58.0 ¹²²	-9	07.6 ¹⁵⁹	56	36	16	18 01	17	92		14	8
23	163	40.9		15.8	323	29.1 ¹²¹	-8	51.7 ¹⁵⁹	58	28	11	17 58	11	97		21	4
24	178	41.0	+15	15.1	338	00.3 ¹²²	-8	35.7 ¹⁶⁰	60 S	16 20	17 05	17 55	18 06	100	8	28	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 2 ^h 44.6 ^m		Mag: -4.0 PMG: 9 ^h 35 ^m		Mag: +1.6 PMG: 14 ^h 52 ^m		Mag: -1.9 PMG: 9 ^h 43 ^m		Mag: +0.8 PMG: 2 ^h 53 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	318	43.7	216	22.8	+21	54.2	136	47.7	-0	17.2	213	57.5	+22	40.6	316	34.7	-1	41.7
1	333	46.2	231	22.1		54.1	151	48.8		17.8	228	59.5		40.5	331	37.3		41.7
2	348	48.7	246	21.4		54.0	166	49.8		18.5	244	01.4		40.5	346	39.8		41.8
3	3	51.1	261	20.7		53.8	181	50.8		19.1	259	03.3		40.4	1	42.4		41.8
4	18	53.6	276	20.0		53.7	196	51.9		19.8	274	05.2		40.4	16	45.0		41.9
5	33	56.0	291	19.3	+21	53.6	211	52.9	-0	20.4	289	07.1	+22	40.3	31	47.5	-1	41.9
6	48	58.5	306	18.6	+21	53.5	226	54.0	-0	21.1	304	09.0	+22	40.3	46	50.1	-1	42.0
7	64	01.0	321	17.9		53.4	241	55.0		21.7	319	10.9		40.2	61	52.6		42.1
8	79	03.4	336	17.2		53.2	256	56.0		22.4	334	12.8		40.2	76	55.2		42.1
9	94	05.9	351	16.5		53.1	271	57.1		23.0	349	14.7		40.1	91	57.8		42.2
10	109	08.4	6	15.8		53.0	286	58.1		23.7	4	16.6		40.1	107	00.3		42.2
11	124	10.8	21	15.1	+21	52.9	301	59.2	-0	24.3	19	18.5	+22	40.0	122	02.9	-1	42.3
12	139	13.3	36	14.5	+21	52.7	317	00.2	-0	25.0	34	20.4	+22	40.0	137	05.5	-1	42.3
13	154	15.8	51	13.8		52.6	332	01.2		25.6	49	22.4		39.9	152	08.0		42.4
14	169	18.2	66	13.1		52.5	347	02.3		26.3	64	24.3		39.9	167	10.6		42.4
15	184	20.7	81	12.4		52.3	2	03.3		26.9	79	26.2		39.8	182	13.1		42.5
16	199	23.1	96	11.7		52.2	17	04.4		27.6	94	28.1		39.8	197	15.7		42.5
17	214	25.6	111	11.0	+21	52.1	32	05.4	-0	28.2	109	30.0	+22	39.7	212	18.3	-1	42.6
18	229	28.1	126	10.3	+21	51.9	47	06.4	-0	28.9	124	31.9	+22	39.7	227	20.8	-1	42.6
19	244	30.5	141	09.6		51.8	62	07.5		29.5	139	33.8		39.6	242	23.4		42.7
20	259	33.0	156	08.9		51.7	77	08.5		30.2	154	35.7		39.6	257	26.0		42.7
21	274	35.5	171	08.2		51.5	92	09.6		30.8	169	37.6		39.5	272	28.5		42.8
22	289	37.9	186	07.5		51.4	107	10.6		31.5	184	39.5		39.5	287	31.1		42.9
23	304	40.4	201	06.8		51.3	122	11.6		32.1	199	41.5		39.4	302	33.7		42.9
24	319	42.9	216	06.1	+21	51.1	137	12.7	-0	32.8	214	43.4	+22	39.4	317	36.2	-1	43.0
Dif	—		-7		-1		+10		-6		+19		0		+26		-	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15 ^h 8 PMG:12 ^h 05.2 ^m				Edad: 17.2 ^d PHE { 4 ^h : 58'6 12 ^h : 58'8 20 ^h : 58'9 R°: 47 ^m																	
	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	41.0	+15	15.1	338	00.3	-8	35.7	60 N	1	47	3	11	4	05	20	29	**	6	53	98	
1	193	41.1		14.3	352	31.5		19.7	58	2	16		26	15		27	3		6	57	94	
2	208	41.2		13.6	7	02.7	-8	03.6	56		37		39	23		26	6		7	00	91	
3	223	41.3		12.8	21	34.0	-7	47.5	54	2	54		49	31		25	8		03	88		
4	238	41.4		12.1	36	05.3		31.4	52	3	08	3	59	38		23	12		06	85		
5	253	41.5	+15	11.3	50	36.5	-7	15.1	50	3	20	4	07	4	44	20	22	14	7	09	82	
6	268	41.6	+15	10.6	65	07.9	-6	58.9	45	3	44	4	25	4	57	20	20	19	7	14	77	
7	283	41.7		09.9	79	39.2		42.6	40	4	03	39		5	08	18	23		19	71		
8	298	41.8		09.1	94	10.6		26.3	35		17	4	50	17		16	27		23	67		
9	313	41.9		08.4	108	41.9	-6	09.9	30		30	5	00	25		14	31		26	64		
10	328	42.0		07.6	123	13.3	-5	53.5	20	4	49		16	39		12	36		32	58		
11	343	42.1	+15	06.9	137	44.7	-5	37.0	10 N	5	03	5	29	5	51	20	09	42	7	37	53	
12	358	42.2	+15	06.1	152	16.2	-5	20.5	0	5	15	5	40	6	02	20	07	47	7	42	47	
13	13	42.3		05.4	166	47.6	-5	04.0	10 S		26	5	51	13		05	52		47	42		
14	28	42.4		04.6	181	19.0	-4	47.5	20		35	6	01	24		02	58		52	37		
15	43	42.5		03.9	195	50.5		30.9	30		44	12	37	27		20	00	64	7	58	30	
16	58	42.6		03.1	210	22.0	-4	14.3	35		48	18		45		19	58	68	8	01	27	
17	73	42.7	+15	02.4	224	53.4	-3	57.6	40	5	53	6	25	6	53	19	56	72	8	04	24	
18	88	42.8	+15	01.6	239	24.9	-3	40.9	45	5	58	6	32	7	03	19	54	77	8	08	19	
19	103	42.9		00.9	253	56.4		24.2	50	6	03		41	15		52	82		13	14		
20	118	43.0	+15	00.1	268	27.9	-3	07.5	52		05	45		20	51	52	85		16	11		
21	133	43.1	+14	59.4	282	59.4	-2	50.8	54		07	49		26		49	88		18	9		
22	148	43.3		58.6	297	30.9		34.0	56		09	53		33		48	91		21	6		
23	163	43.4		57.9	312	02.4		17.2	58		12	6	58	41		46	95		24	2		
24	178	43.5	+14	57.1	326	33.9	-2	00.4	60 S	6	14	7	04	7	49	19	45	99	8	27	**	

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 2 ^h 40.7 ^m		Mag: -4.0 PMG: 9 ^h 36 ^m				Mag: +1.6 PMG: 14 ^h 50 ^m				Mag: -1.9 PMG: 9 ^h 40 ^m				Mag: +0.7 PMG: 2 ^h 49 ^m			
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♀		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	319	42.9	216	06.1	+21	51.1	137	12.7	-0	32.8	214	43.4	+22	39.4	317	36.2	-1	43.0
1	334	45.3	231	05.4		51.0	152	13.7		33.4	229	45.3		39.3	332	38.8		43.0
2	349	47.8	246	04.7		50.8	167	14.8		34.1	244	47.2		39.3	347	41.4		43.1
3	4	50.3	261	04.0		50.7	182	15.8		34.7	259	49.1		39.3	2	43.9		43.1
4	19	52.7	276	03.3		50.5	197	16.8		35.4	274	51.0		39.2	17	46.5		43.2
5	34	55.2	291	02.7	+21	50.4	212	17.9	-0	36.0	289	52.9	+22	39.2	32	49.1	-1	43.2
6	49	57.6	306	02.0	+21	50.3	227	18.9	-0	36.7	304	54.8	+22	39.1	47	51.6	-1	43.3
7	65	00.1	321	01.3		50.1	242	19.9		37.3	319	56.7		39.1	62	54.2		43.3
8	80	02.6	336	00.6		50.0	257	21.0		38.0	334	58.7		39.0	77	56.8		43.4
9	95	05.0	350	59.9		49.8	272	22.0		38.6	350	00.6		39.0	92	59.3		43.5
10	110	07.5	5	59.2		49.7	287	23.1		39.3	5	02.5		38.9	108	01.9		43.5
11	125	10.0	20	58.5	+21	49.5	302	24.1	-0	39.9	20	04.4	+22	38.9	123	04.5	-1	43.6
12	140	12.4	35	57.8	+21	49.4	317	25.1	-0	40.6	35	06.3	+22	38.8	138	07.0	-1	43.6
13	155	14.9	50	57.1		49.2	332	26.2		41.2	50	08.2		38.8	153	09.6		43.7
14	170	17.4	65	56.4		49.1	347	27.2		41.9	65	10.1		38.7	168	12.2		43.7
15	185	19.8	80	55.7		48.9	2	28.2		42.5	80	12.0		38.7	183	14.7		43.8
16	200	22.3	95	55.0		48.7	17	29.3		43.2	95	13.9		38.6	198	17.3		43.8
17	215	24.8	110	54.3	+21	48.6	32	30.3	-0	43.8	110	15.9	+22	38.6	213	19.9	-1	43.9
18	230	27.2	125	53.6	+21	48.4	47	31.3	-0	44.5	125	17.8	+22	38.5	228	22.4	-1	43.9
19	245	29.7	140	52.9		48.3	62	32.4		45.1	140	19.7		38.5	243	25.0		44.0
20	260	32.1	155	52.2		48.1	77	33.4		45.8	155	21.6		38.4	258	27.6		44.1
21	275	34.6	170	51.5		47.9	92	34.5		46.4	170	23.5		38.4	273	30.1		44.1
22	290	37.1	185	50.8		47.8	107	35.5		47.1	185	25.4		38.3	288	32.7		44.2
23	305	39.5	200	50.1		47.6	122	36.5		47.7	200	27.3		38.3	303	35.3		44.2
24	320	42.0	215	49.4	+21	47.5	137	37.6	-0	48.4	215	29.2	+22	38.2	318	37.8	-1	44.3
Dif	—		-7		-2		+10		-7		+19		0		+26		-	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 12 ^h 05.0 ^m			Edad: 18.2 ^d SD: 16'1 PMG: 2 ^h 18 ^m PHE { 4 ^h : 59'0 12 ^h : 59'1 20 ^h : 59'2 R°: 49 ^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	178	43.5	+14	326	33.9	-2	00.4	168	60 N	20 01	20 53	22 13	20 28	0	8 31	102	
1	193	43.6		341	05.4	-1	43.6	168	58	19 51	39	21 47	30	4	31	97	
2	208	43.7		355	36.9		26.8	168	56	43	27	27	32	7	31	93	
3	223	43.8		54.9	10 08.4	-1	09.9	169	54	36	17	21 11	33	11	31	90	
4	238	43.9		54.1	24 39.9	-0	53.1	168	52	29	08	20 58	35	13	31	87	
5	253	44.0	+14	53.4	39 11.4	-0	36.2	169	50	19 24	20 00	20 46	20 36	16	8 31	84	
6	268	44.1	+14	52.6	53 42.8	-0	19.3	169	45	19 11	19 43	20 23	20 39	21	8 31	78	
7	283	44.2		51.9	68 14.3	-0	02.5	168	40	19 00	30	20 05	41	26	30	74	
8	298	44.3		51.1	82 45.8	+0	14.4	169	35	18 52	19	19 51	43	30	30	70	
9	313	44.4		50.4	97 17.2		31.3	169	30	44	19 09	39	45	34	30	66	
10	328	44.5		49.6	111 48.6	+0	48.2	169	20	31	18 54	21	48	40	30	59	
11	343	44.7	+14	48.8	126 20.0	+1	05.1	169	10 N	18 19	18 41	19 06	20 51	45	8 30	54	
12	358	44.8	+14	48.1	140 51.5	+1	22.0	169	0	18 08	18 30	18 55	20 54	50	8 29	49	
13	13	44.9		47.3	155 22.8		38.9	169	10 S	17 58	20	45	20 57	55	29	44	
14	28	45.0		46.6	169 54.2	+1	55.8	169	20	47	18 09	36	21 00	60	29	38	
15	43	45.1		45.8	184 25.6	+2	12.7	169	30	34	17 59	27	04	66	28	33	
16	58	45.2		45.1	198 56.9		29.6	169	35	27	53	23	06	70	28	29	
17	73	45.3	+14	44.3	213 28.2	+2	46.4	168	40	17 19	17 47	18 19	21 08	75	8 28	25	
18	88	45.4	+14	43.5	227 59.5	+3	03.3	169	45	17 09	17 40	18 14	21 11	79	8 27	21	
19	103	45.5		42.8	242 30.8		20.2	169	50	16 58	32	10	14	85	27	15	
20	118	45.6		42.0	257 02.0		37.0	168	52	52	28	08	16	88	27	13	
21	133	45.8		41.3	271 33.2	+3	53.8	168	54	46	24	06	17	92	27	10	
22	148	45.9		40.5	286 04.4	+4	10.6	168	56	40	20	04	19	95	27	7	
23	163	46.0		39.7	300 35.5		27.4	168	58	32	15	18 02	21	99	26	4	
24	178	46.1	+14	39.0	315 06.7	+4	44.2	168	60 S	16 24	17 10	17 59	21 24	103	8 26	0	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 2 ^h 36.8 ^m		Mag: -4.0 PMG: 9 ^h 37 ^m			Mag: +1.6 PMG: 14 ^h 48 ^m			Mag: -1.9 PMG: 9 ^h 37 ^m			Mag: +0.7 PMG: 2 ^h 45 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	320	42.0	215	49.4	+21	137	37.6	-0	215	29.2	+22	38.2	318	37.8	-1		
1	335	44.5	230	48.7		152	38.6		230	31.2		38.2	333	40.4			
2	350	46.9	245	48.0		167	39.6		245	33.1		38.1	348	43.0			
3	5	49.4	260	47.4		182	40.7		260	35.0		38.1	3	45.5			
4	20	51.9	275	46.7		197	41.7		275	36.9		38.0	18	48.1			
5	35	54.3	290	46.0	+21	212	42.7	-0	290	38.8	+22	38.0	33	50.7	-1		
6	50	56.8	305	45.3	+21	227	43.8	-0	305	40.7	+22	37.9	48	53.2	-1		
7	65	59.2	320	44.6		242	44.8		320	42.6		37.9	63	55.8			
8	81	01.7	335	43.9		257	45.8		335	44.6		37.8	78	58.4			
9	96	04.2	350	43.2		272	46.9		350	46.5		37.8	94	01.0			
10	111	06.6	5	42.5		287	47.9		5	48.4		37.7	109	03.5			
11	126	09.1	20	41.8	+21	302	49.0	-0	20	50.3	+22	37.7	124	06.1	-1		
12	141	11.6	35	41.1	+21	317	50.0	-0	35	52.2	+22	37.6	139	08.7	-1		
13	156	14.0	50	40.4		332	51.0		50	54.1		37.6	154	11.2			
14	171	16.5	65	39.7		347	52.1		65	56.0		37.5	169	13.8			
15	186	19.0	80	39.0		2	53.1		80	58.0		37.5	184	16.4			
16	201	21.4	95	38.3		17	54.1		95	59.9		37.4	199	18.9			
17	216	23.9	110	37.6	+21	32	55.2	-0	111	01.8	+22	37.4	214	21.5	-1		
18	231	26.4	125	36.9	+21	47	56.2	-1	126	03.7	+22	37.3	229	24.1	-1		
19	246	28.8	140	36.2		62	57.2		141	05.6		37.3	244	26.7			
20	261	31.3	155	35.5		77	58.3		156	07.5		37.2	259	29.2			
21	276	33.7	170	34.8		92	59.3		171	09.5		37.2	274	31.8			
22	291	36.2	185	34.1		108	00.3		186	11.4		37.1	289	34.4			
23	306	38.7	200	33.4		123	01.4		201	13.3		37.1	304	36.9			
24	321	41.1	215	32.7	+21	138	02.4	-1	216	15.2	+22	37.0	319	39.5	-1		
Dif	—		-7	-2		+10	-7		+19	0			+26	-1			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 8 PMG:12 ^h 04.8 ^m			Edad: 19.2 ^d PHE { 4 ^h : 59/2 12 ^h : 59/3 20 ^h : 59/3 R°: 48 ^m SD: 16'1 PMG: 3 ^h 06 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	46.1	+14	39.0	315	06.7	+4	44.2	60 N	1	58	3	17	4	10	20	27
1	193	46.2		38.2	329	37.8	+5	01.0	58	2	23		31	19		33	4
2	208	46.3		37.5	344	08.8		17.7	56		43		43	27		38	8
3	223	46.4		36.7	358	39.8		34.4	54	2	59	3	54	35	42	12	10
4	238	46.5		35.9	13	10.8	+5	51.1	52	3	13	4	03	41	47	14	9
5	253	46.7	+14	35.2	27	41.8	+6	07.8	50	3	24	4	11	4	47	20	50
6	268	46.8	+14	34.4	42	12.7	+6	24.4	45	3	47	4	27	4	59	20	59
7	283	46.9		33.6	56	43.6		41.0	40	4	05	41	5	10	21	06	27
8	298	47.0		32.9	71	14.4	+6	57.6	35		19	4	52	19	12	31	38
9	313	47.1		32.1	85	45.2	+7	14.1	30		31	5	01	26	17	35	35
10	328	47.2		31.4	100	16.0		30.6	20	4	49		16	39	27	40	28
11	343	47.3	+14	30.6	114	46.7	+7	47.1	10 N	5	04	5	29	5	51	21	35
12	358	47.5	+14	29.8	129	17.3	+8	03.5	0	5	15	5	40	6	01	21	43
13	13	47.6		29.1	143	47.9		19.9	10 S		25	5	50	12		51	55
14	28	47.7		28.3	158	18.5		36.3	20		34	6	00	23		21	59
15	43	47.8		27.5	172	49.0	+8	52.6	30		42	11	35	22		22	09
16	58	47.9		26.8	187	19.5	+9	08.9	35		46	16	43			15	70
17	73	48.0	+14	26.0	201	49.9	+9	25.1	40	5	51	6	23	6	51	22	21
18	88	48.1	+14	25.2	216	20.3	+9	41.3	45	5	55	6	29	7	00	22	29
19	103	48.3		24.4	230	50.6	+9	57.4	50	5	59		37	11		38	86
20	118	48.4		23.7	245	20.8	+10	13.5	52	6	01		41	17		42	90
21	133	48.5		22.9	259	51.0		29.5	54		03		45	22		47	93
22	148	48.6		22.1	274	21.2	+10	45.5	56		05		49	29		52	97
23	163	48.7		21.4	288	51.2	+11	01.4	58		07		54	36		22	58
24	178	48.9	+14	20.6	303	21.3	+11	17.3	60 S	6	10	6	59	7	44	23	05

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 32.8 ^m		Mag: -4.0 PMG: 9 ^h 38 ^m			Mag: +1.6 PMG: 14 ^h 47 ^m			Mag: -1.9 PMG: 9 ^h 34 ^m			Mag: +0.7 PMG: 2 ^h 41 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	321	41.1	215	32.7	+21	43.2	138	02.4	-1	04.0	216	15.2	+22	37.0	319	39.5	-1	45.6
1	336	43.6	230	32.0		43.0	153	03.4		04.6	231	17.1		37.0	334	42.1		45.7
2	351	46.1	245	31.3		42.8	168	04.5		05.3	246	19.0		36.9	349	44.7		45.7
3	6	48.5	260	30.6		42.6	183	05.5		05.9	261	20.9		36.9	4	47.2		45.8
4	21	51.0	275	29.9		42.4	198	06.5		06.6	276	22.9		36.8	19	49.8		45.8
5	36	53.5	290	29.2	+21	42.2	213	07.6	-1	07.2	291	24.8	+22	36.8	34	52.4	-1	45.9
6	51	55.9	305	28.5	+21	42.0	228	08.6	-1	07.9	306	26.7	+22	36.7	49	54.9	-1	46.0
7	66	58.4	320	27.8		41.8	243	09.6		08.5	321	28.6		36.7	64	57.5		46.0
8	82	00.8	335	27.1		41.6	258	10.6		09.2	336	30.5		36.6	80	00.1		46.1
9	97	03.3	350	26.5		41.4	273	11.7		09.8	351	32.4		36.6	95	02.7		46.1
10	112	05.8	5	25.8		41.2	288	12.7		10.5	6	34.4		36.5	110	05.2		46.2
11	127	08.2	20	25.1	+21	41.0	303	13.7	-1	11.1	21	36.3	+22	36.5	125	07.8	-1	46.2
12	142	10.7	35	24.4	+21	40.8	318	14.8	-1	11.8	36	38.2	+22	36.4	140	10.4	-1	46.3
13	157	13.2	50	23.7		40.6	333	15.8		12.4	51	40.1		36.4	155	13.0		46.4
14	172	15.6	65	23.0		40.4	348	16.8		13.1	66	42.0		36.3	170	15.5		46.4
15	187	18.1	80	22.3		40.2	3	17.9		13.7	81	44.0		36.3	185	18.1		46.5
16	202	20.6	95	21.6		40.0	18	18.9		14.4	96	45.9		36.2	200	20.7		46.5
17	217	23.0	110	20.9	+21	39.8	33	19.9	-1	15.0	111	47.8	+22	36.2	215	23.3	-1	46.6
18	232	25.5	125	20.2	+21	39.6	48	21.0	-1	15.7	126	49.7	+22	36.1	230	25.8	-1	46.6
19	247	28.0	140	19.5		39.4	63	22.0		16.4	141	51.6		36.1	245	28.4		46.7
20	262	30.4	155	18.8		39.2	78	23.0		17.0	156	53.5		36.0	260	31.0		46.8
21	277	32.9	170	18.1		39.0	93	24.1		17.7	171	55.5		36.0	275	33.6		46.8
22	292	35.3	185	17.4		38.7	108	25.1		18.3	186	57.4		35.9	290	36.1		46.9
23	307	37.8	200	16.7		38.5	123	26.1		19.0	201	59.3		35.9	305	38.7		46.9
24	322	40.3	215	16.0	+21	38.3	138	27.1	-1	19.6	217	01.2	+22	35.8	320	41.3	-1	47.0
Dif	—		-7		-2		+10		-7		+19		-1		+26		-1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna									
	SD: 15'8 PMG:12 ^h 04.6 ^m				Edad: 20.2 ^d SD: 16'2 PMG: 3 ^h 54 ^m		PHE { 4 ^h : 59'4 12 ^h : 59'4 20 ^h : 59'4 Rº: 53 ^m																					
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico		Hora		Rº		Hora		Rº			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	h	m	m			
0	178	48.9	+14	20.6	303	21.3	+11	17.3	158	58	60 N	19 55	20 47	22 03	20 27	3	11 55	110										
1	193	49.0		19.8	317	51.2		33.1	157	58	58	46	33	21 39	37	9	46	104										
2	208	49.1		19.1	332	21.1	+11	48.8	157	56	56	39	22	21	46	13	38	99										
3	223	49.2		18.3	346	50.9	+12	04.5	157	54	54	32	12	21 05	20 54	17	31	95										
4	238	49.3		17.5	1	20.7		20.1	156	52	52	25	20 04	20 53	21 01	21	24	92										
5	253	49.4	+14	16.7	15	50.4	+12	35.7	156	50	50	19 20	19 56	20 41	21 08	23	11 19	88										
6	268	49.6	+14	16.0	30	20.0	+12	51.2	155	45	45	19 08	19 40	20 19	21 22	29	11 07	82										
7	283	49.7		15.2	44	49.6	+13	06.6	154	40	40	18 58	27	20 02	33	34	10 57	77										
8	298	49.8		14.4	59	19.1		21.9	153	35	35	49	16	19 48	43	38	48	73										
9	313	49.9		13.6	73	48.5		37.2	153	30	30	42	19 07	37	21 52	41	41	69										
10	328	50.0		12.9	88	17.9	+13	52.4	152	20	20	29	18 52	19	22 07	47	28	64										
11	343	50.2	+14	12.1	102	47.2	+14	07.6	152	10 N	10 N	18 18	18 40	19 05	22 21	51	10 17	58										
12	358	50.3	+14	11.3	117	16.4	+14	22.6	150	0	0	18 08	18 29	18 54	22 34	55	10 06	54										
13	13	50.4		10.5	131	45.5		37.6	150	10 S	10 S	17 58	20	45	22 46	61	9 56	49										
14	28	50.5		09.8	146	14.6	+14	52.5	149	20	20	47	10	36	23 00	65	45	44										
15	43	50.6		09.0	160	43.6	+15	07.3	148	30	30	35	18 00	28	16	71	33	38										
16	58	50.8		08.2	175	12.5		22.1	148	35	35	28	17 54	24	25	74	25	35										
17	73	50.9	+14	07.4	189	41.3	+15	36.7	146	40	40	17 20	17 48	18 20	23 36	78	9 17	31										
18	88	51.0	+14	06.7	204	10.1	+15	51.3	146	45	45	17 11	17 42	18 16	23 49	83	9 08	26										
19	103	51.1		05.9	218	38.7	+16	05.8	145	50	50	17 00	34	12	** ** *		8 57	20										
20	118	51.2		05.1	233	07.3		20.2	144	52	52	16 55	31	11	** ** *		51	18										
21	133	51.4		04.3	247	35.8		34.5	143	54	54	50	27	09	** ** *		46	14										
22	148	51.5		03.5	262	04.3	+16	48.7	142	56	56	44	23	07	** ** *		39	11										
23	163	51.6		02.8	276	32.6	+17	02.8	141	58	58	37	19	05	** ** *		32	7										
24	178	51.7	+14	02.0	291	00.9	+17	16.8	140	60 S	60 S	16 29	17 14	18 03	** ** *		8 24	1										
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO											
	PMG 2 ^h 28.9 ^m				Mag: -4.0 PMG: 9 ^h 39 ^m				Mag: +1.6 PMG: 14 ^h 45 ^m				Mag: -1.9 PMG: 9 ^h 31 ^m				Mag: +0.7 PMG: 2 ^h 37 ^m											
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	322	40.3	215	16.0	+21	38.3	138	27.1	-1	19.6	217	01.2	+22	35.8	320	41.3	-1	47.0										
1	337	42.7	230	15.3		38.1	153	28.2		20.3	232	03.1		35.8	335	43.8		47.0										
2	352	45.2	245	14.6		37.9	168	29.2		20.9	247	05.1		35.7	350	46.4		47.1										
3	7	47.7	260	13.9		37.7	183	30.2		21.6	262	07.0		35.7	5	49.0		47.2										
4	22	50.1	275	13.2		37.4	198	31.3		22.2	277	08.9		35.6	20	51.6		47.2										
5	37	52.6	290	12.5	+21	37.2	213	32.3	-1	22.9	292	10.8	+22	35.6	35	54.1	-1	47.3										
6	52	55.1	305	11.8	+21	37.0	228	33.3	-1	23.5	307	12.7	+22	35.5	50	56.7	-1	47.3										
7	67	57.5	320	11.1		36.8	243	34.4		24.2	322	14.7		35.5	65	59.3		47.4										
8	83	00.0	335	10.4		36.6	258	35.4		24.8	337	16.6		35.4	81	01.9		47.5										
9	98	02.5	350	09.7		36.3	273	36.4		25.5	352	18.5		35.4	96	04.5		47.5										
10	113	04.9	5	09.0		36.1	288	37.4		26.1	7	20.4		35.3	111	07.0		47.6										
11	128	07.4	20	08.3	+21	35.9	303	38.5	-1	26.8	22	22.3	+22	35.3	126	09.6	-1	47.6										
12	143	09.8	35	07.6	+21	35.6	318	39.5	-1	27.4	37	24.3	+22	35.2	141	12.2	-1	47.7										
13	158	12.3	50	06.9		35.4	333	40.5		28.1	52	26.2		35.2	156	14.8		47.7										
14	173	14.8	65	06.2		35.2	348	41.6		28.7	67	28.1		35.1	171	17.3		47.8										
15	188	17.2	80	05.5		35.0	3	42.6		29.4	82	30.0		35.1	186	19.9		47.9										
16	203	19.7	95	04.8		34.7	18	43.6		30.0	97	31.9		35.0	201	22.5		47.9										
17	218	22.2	110	04.1	+21	34.5	33	44.6	-1	30.7	112	33.9	+22	35.0	216	25.1	-1	48.0										
18	233	24.6	125	03.4	+21	34.3	48	45.7	-1	31.3	127	35.8	+22	34.9	231	27.6	-1	48.0										
19	248	27.1	140	02.7		34.0	63	46.7		32.0	142	37.7		34.9	246	30.2		48.1										
20	263	29.6	155	02.0		33.8	78	47.7		32.6	157	39.6		34.8	261	32.8		48.2										
21	278	32.0	170	01.3		33.6	93	48.7		33.3	172	41.5		34.8	276	35.4		48.2										
22	293	34.5	185	00.7		33.3	108	49.8		34.0	187	43.5		34.7	291	38.0		48.3										
23	308	36.9	200	00.0		33.1	123	50.8		34.6	202	45.4		34.7	306	40.5		48.3										
24	323	39.4	214	59.3	+21	32.8	138	51.8	-1	35.3	217	47.3	+22	34.6	321	43.1	-1	48.4										
Dif	—				-7				+10				+19				-1				+26				-			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 12 ^h 04.5 ^m				Edad: 21.2 ^d PHE { 4 ^h : 59'4 12 ^h : 59'4 20 ^h : 59'3 Rº: 55 ^m											
	hG ☉	Dec			hG ☾	Dif				Náutico	Civil		Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	178	51.7	+14	02.0	291	00.9	+17	16.8	60 N	2 07	3 23	4 15	20 28	6	13 43	114
1	193	51.9		01.2	305	29.1		30.7	58	31	37	24	44	14		28 105
2	208	52.0	+14	00.4	319	57.2		44.5	56	2 49	48	31	20 58	19		15 100
3	223	52.1	+13	59.6	334	25.2	+17	58.3	54	3 04	3 58	38	21 10	24	13 04	95
4	238	52.2		58.9	348	53.1	+18	11.9	52	17	4 06	44	20	28	12 55	90
5	253	52.4	+13	58.1	3	20.9	+18	25.4	50	3 28	4 14	4 50	21 30	30	12 46	87
6	268	52.5	+13	57.3	17	48.7	+18	38.8	45	3 50	4 30	5 02	21 50	36	12 27	82
7	283	52.6		56.5	32	16.3	+18	52.1	40	4 08	43	12	22 06	40	12	77
8	298	52.7		55.7	46	43.9	+19	05.3	35	21	4 53	20	20	43	12 00	73
9	313	52.9		54.9	61	11.4		18.4	30	32	5 02	27	32	46	11 49	70
10	328	53.0		54.2	75	38.8		31.3	20	4 50	17	40	22 53	51	30	65
11	343	53.1	+13	53.4	90	06.1	+19	44.2	10 N	5 04	5 29	5 51	23 11	55	11 14	60
12	358	53.2	+13	52.6	104	33.3	+19	56.9	0	5 15	5 40	6 01	23 28	58	10 59	56
13	13	53.4		51.8	119	00.5	+20	09.5	10 S	24	49	11	23 45	62	44	52
14	28	53.5		51.0	133	27.5		22.0	20	33	5 59	22	** ** *	**	28	48
15	43	53.6		50.2	147	54.4		34.4	30	41	6 09	33	** ** *	**	10 10	42
16	58	53.7		49.4	162	21.3		46.6	35	44	14	40	** ** *	**	9 59	40
17	73	53.9	+13	48.7	176	48.1	+20	58.8	40	5 48	6 20	6 48	** ** *	**	9 47	36
18	88	54.0	+13	47.9	191	14.7	+21	10.8	45	5 52	6 27	6 57	** ** *	**	9 33	31
19	103	54.1		47.1	205	41.3		22.7	50	56	34	7 08	0 04	88	16	25
20	118	54.2		46.3	220	07.8		34.4	52	58	37	13	12	91	9 08	22
21	133	54.4		45.5	234	34.2		46.0	54	5 59	41	18	20	95	8 59	18
22	148	54.5		44.7	249	00.5	+21	57.5	56	6 01	45	24	29	99	49	14
23	163	54.6		43.9	263	26.7	+22	08.9	58	03	49	31	39	105	37	9
24	178	54.8	+13	43.1	277	52.9	+22	20.1	60 S	6 05	6 54	7 39	0 52	112	8 24	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 25.0 ^m		Mag: -3.9 PMG: 9 ^h 40 ^m		Mag: +1.6 PMG: 14 ^h 44 ^m		Mag: -1.9 PMG: 9 ^h 28 ^m		Mag: +0.7 PMG: 2 ^h 33 ^m	
	hG ♂		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	323	39.4	214	59.3	+21	32.8	138	51.8	-1	35.3
1	338	41.9	229	58.6		32.6	153	52.9		35.9
2	353	44.3	244	57.9		32.4	168	53.9		36.6
3	8	46.8	259	57.2		32.1	183	54.9		37.2
4	23	49.3	274	56.5		31.9	198	55.9		37.9
5	38	51.7	289	55.8	+21	31.6	213	57.0	-1	38.5
6	53	54.2	304	55.1	+21	31.4	228	58.0	-1	39.2
7	68	56.7	319	54.4		31.1	243	59.0		39.8
8	83	59.1	334	53.7		30.9	259	00.0		40.5
9	99	01.6	349	53.0		30.6	274	01.1		41.1
10	114	04.1	4	52.3		30.4	289	02.1		41.8
11	129	06.5	19	51.6	+21	30.1	304	03.1	-1	42.4
12	144	09.0	34	50.9	+21	29.9	319	04.1	-1	43.1
13	159	11.4	49	50.2		29.6	334	05.2		43.7
14	174	13.9	64	49.5		29.4	349	06.2		44.4
15	189	16.4	79	48.8		29.1	4	07.2		45.0
16	204	18.8	94	48.1		28.9	19	08.2		45.7
17	219	21.3	109	47.4	+21	28.6	34	09.3	-1	46.3
18	234	23.8	124	46.7	+21	28.3	49	10.3	-1	47.0
19	249	26.2	139	46.0		28.1	64	11.3		47.7
20	264	28.7	154	45.3		27.8	79	12.3		48.3
21	279	31.2	169	44.6		27.6	94	13.4		49.0
22	294	33.6	184	43.9		27.3	109	14.4		49.6
23	309	36.1	199	43.2		27.0	124	15.4		50.3
24	324	38.6	214	42.5	+21	26.8	139	16.4	-1	50.9
Dif	—		-7		-3		+10		-7	
							+19		-1	
									+26	
									-1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG: 12 ^h 04.2 ^m				Edad: 22.2 ^d SD: 16'2 PMG: 5 ^h 41 ^m PHE { 4 ^h : 59'3 12 ^h : 59'2 20 ^h : 59'2 Rº: 61 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	178	54.8	+13	43.1	277	52.9	70	+22	20.1	110	60 N	19 50	20 40	21 53	20 34	17	15 37	112			
1	193	54.9		42.3	292	18.9	69		31.1	110	58	41	28	31	20 58	28	15 13	101			
2	208	55.0		41.6	306	44.8	69		42.1	108	56	34	17	14	21 17	35	14 55	93			
3	223	55.1		40.8	321	10.7	68	+22	52.9	106	54	27	20 07	21 00	34 38	39 88					
4	238	55.3		40.0	335	36.5	66	+23	03.5	105	52	21	19 59	20 47	21 48	42	25 86				
5	253	55.4	+13	39.2	350	02.1	66	+23	14.0	104	50	19 16	19 52	20 37	22 00	44	14 13	84			
6	268	55.5	+13	38.4	4	27.7	65	+23	24.4	102	45	19 05	19 36	20 15	22 26	48	13 49	78			
7	283	55.7		37.6	18	53.2	64		34.6	101	40	18 55	24	19 59	22 46	52	29 76				
8	298	55.8		36.8	33	18.6	63		44.7	99	35	47	14	46	23 03	54	13 13	73			
9	313	55.9		36.0	47	43.9	63	+23	54.6	98	30	40	19 05	35	18 56	12 59	70				
10	328	56.1		35.2	62	09.2	61	+24	04.4	96	20	28	18 51	18	23 44	58	35 67				
11	343	56.2	+13	34.4	76	34.3	61	+24	14.0	95	10 N	18 17	18 39	19 04	** ** *	**	12 14	64			
12	358	56.3	+13	33.6	90	59.4	59	+24	23.5	93	0	18 08	18 29	18 54	** ** *	**	11 55	61			
13	13	56.4		32.8	105	24.3	59		32.8	92	10 S	17 58	20	44	** ** *	**	36 59				
14	28	56.6		32.0	119	49.2	58		42.0	90	20	48	10	36	0 04	67	11 16	55			
15	43	56.7		31.2	134	14.0	58		51.0	88	30	36	18 01	29	25 72	10 52	52				
16	58	56.8		30.5	148	38.8	56	+24	59.8	87	35	30	17 56	26	38 74	39 49					
17	73	57.0	+13	29.7	163	03.4	56	+25	08.5	85	40	17 22	17 50	18 22	0 53	77	10 23	46			
18	88	57.1	+13	28.9	177	28.0	54	+25	17.0	83	45	17 14	17 44	18 19	1 10	82	10 04	43			
19	103	57.2		28.1	191	52.4	55		25.3	82	50	17 03	37	15	32 88	9 41	37				
20	118	57.4		27.3	206	16.9	53		33.5	80	52	16 58	34	13	43 90	30 34					
21	133	57.5		26.5	220	41.2	53		41.5	79	54	53	30	12	1 55	94	17 31				
22	148	57.6		25.7	235	05.4	52		49.4	77	56	47	27	10	2 08	100	9 03	26			
23	163	57.8		24.9	249	29.6	52	+25	57.1	77	58	41	22	09	24 107	8 46	20				
24	178	57.9	+13	24.1	263	53.7	51	+26	04.6	75	60 S	16 33	17 18	18 07	2 44	117	8 26	9			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG 2 ^h 21.0 ^m		Mag: -3.9 PMG: 9 ^h 42 ^m			Mag: +1.6 PMG: 14 ^h 42 ^m			Mag: -1.9 PMG: 9 ^h 25 ^m			Mag: +0.7 PMG: 2 ^h 29 ^m									
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	324	38.6	214	42.5	+21	26.8	139	16.4	-1	50.9	218	33.5	+22	33.4	322	45.0	-1	49.8			
1	339	41.0	229	41.8		26.5	154	17.5		51.6	233	35.4		33.3	337	47.6		49.9			
2	354	43.5	244	41.1		26.2	169	18.5		52.2	248	37.3		33.3	352	50.2		49.9			
3	9	45.9	259	40.4		26.0	184	19.5		52.9	263	39.2		33.2	7	52.8		50.0			
4	24	48.4	274	39.7		25.7	199	20.5		53.5	278	41.2		33.2	22	55.3		50.1			
5	39	50.9	289	39.0	+21	25.4	214	21.6	-1	54.2	293	43.1	+22	33.1	37	57.9	-1	50.1			
6	54	53.3	304	38.3	+21	25.1	229	22.6	-1	54.8	308	45.0	+22	33.1	53	00.5	-1	50.2			
7	69	55.8	319	37.7		24.9	244	23.6		55.5	323	46.9		33.0	68	03.1		50.2			
8	84	58.3	334	37.0		24.6	259	24.6		56.1	338	48.9		33.0	83	05.7		50.3			
9	100	00.7	349	36.3		24.3	274	25.7		56.8	353	50.8		32.9	98	08.2		50.4			
10	115	03.2	4	35.6		24.1	289	26.7		57.4	8	52.7		32.9	113	10.8		50.4			
11	130	05.7	19	34.9	+21	23.8	304	27.7	-1	58.1	23	54.6	+22	32.8	128	13.4	-1	50.5			
12	145	08.1	34	34.2	+21	23.5	319	28.7	-1	58.8	38	56.6	+22	32.8	143	16.0	-1	50.5			
13	160	10.6	49	33.5		23.2	334	29.7	-1	59.4	53	58.5		32.7	158	18.6		50.6			
14	175	13.0	64	32.8		22.9	349	30.8	-2	00.1	69	00.4		32.7	173	21.2		50.7			
15	190	15.5	79	32.1		22.7	4	31.8		00.7	84	02.4		32.6	188	23.7		50.7			
16	205	18.0	94	31.4		22.4	19	32.8		01.4	99	04.3		32.6	203	26.3		50.8			
17	220	20.4	109	30.7	+21	22.1	34	33.8	-2	02.0	114	06.2	+22	32.5	218	28.9	-1	50.8			
18	235	22.9	124	30.0	+21	21.8	49	34.9	-2	02.7	129	08.1	+22	32.5	233	31.5	-1	50.9			
19	250	25.4	139	29.3		21.5	64	35.9		03.3	144	10.1		32.4	248	34.1		51.0			
20	265	27.8	154	28.6		21.2	79	36.9		04.0	159	12.0		32.4	263	36.7		51.0			
21	280	30.3	169	27.9		21.0	94	37.9		04.6	174	13.9		32.3	278	39.2		51.1			
22	295	32.8	184	27.2		20.7	109	38.9		05.3	189	15.8		32.2	293	41.8		51.1			
23	310	35.2	199	26.5		20.4	124	40.0		05.9	204	17.8		32.2	308	44.4		51.2			
24	325	37.7	214	25.8	+21	20.1	139	41.0	-2	06.6	219	19.7	+22	32.1	323	47.0	-1	51.3			
Dif	—		-7		-3		+10		-7		+19		-1		+26		-				

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 04.0 ^m			Edad: 23.2 ^d SD: 16'1 PMG: 6 ^h 41 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	57.9	+13	24.1	263	53.7	+26	04.6	60 N	2 16	3 29	4 20	20 50	49	17 27	81
1	193	58.0		23.3	278	17.7		11.9	58	38	42	28	21 25	54	16 52	76
2	208	58.2		22.5	292	41.7		19.1	56	2 55	3 52	35	21 51	56		27 73
3	223	58.3		21.7	307	05.6		26.1	54	3 09	4 02	42	22 11	58	16 07	72
4	238	58.4		20.9	321	29.4		32.9	52		10	48		28 59	15 50	71
5	253	58.6	+13	20.1	335	53.2	+26	39.5	50	3 32	4 17	4 53	22 43	59	15 35	70
6	268	58.7	+13	19.3	350	16.9	+26	46.0	45	3 54	4 33	5 04	23 13	60	15 06	68
7	283	58.8		18.5	4	40.5		52.3	40	4 10	45	14		36 61	14 43	67
8	298	59.0		17.7	19	04.1	+26	58.4	35	23	4 55	22	23 56	61		24 66
9	313	59.1		16.9	33	27.6	+27	04.3	30	34	5 04	29	** ** *	**	14 08	65
10	328	59.2		16.1	47	51.0		10.1	20	4 51	18	41	** ** *	**	13 41	64
11	343	59.4	+13	15.3	62	14.4	+27	15.7	10 N	5 04	5 29	5 51	0 06	59	13 17	63
12	358	59.5	+13	14.5	76	37.8	+27	21.1	0	5 15	5 39	6 01	0 26	61	12 55	62
13	13	59.7		13.7	91	01.1		26.3	10 S		49	10	0 47	63		33 61
14	28	59.8		12.9	105	24.3		31.3	20	32	5 58	20	1 09	66	12 10	59
15	43	59.9		12.1	119	47.5		36.1	30	39	6 07	32	35	68	11 43	57
16	59	00.1		11.2	134	10.7		40.8	35	42	12	38	1 51	69	26	57
17	74	00.2	+13	10.4	148	33.8	+27	45.2	40	5 46	6 17	6 45	2 09	71	11 08	55
18	89	00.3	+13	09.6	162	56.8	+27	49.5	45	5 49	6 24	6 54	2 30	74	10 45	54
19	104	00.5		08.8	177	19.9		53.6	50	53	30	7 04	2 58	77		51
20	119	00.6		08.0	191	42.9	+27	57.5	52	54	34	09	3 12	79	10 03	49
21	134	00.8		07.2	206	05.8	+28	01.2	54	55	37	14	28	81	9 47	47
22	149	00.9		06.4	220	28.7		04.7	56	57	41	20	3 46	85		28 43
23	164	01.0		05.6	234	51.6		08.0	58	5 59	45	26	4 09	91	9 04	39
24	179	01.2	+13	04.8	249	14.5	+28	11.2	60 S	6 00	6 49	7 33	4 39	103	8 34	27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 17.1 ^m		Mag: -3.9 PMG: 9 ^h 43 ^m		Mag: +1.6 PMG: 14 ^h 40 ^m		Mag: -1.9 PMG: 9 ^h 21 ^m		Mag: +0.7 PMG: 2 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	325	37.7	214	25.8	+21	20.1	139	41.0	-2	06.6
1	340	40.2	229	25.1		19.8	154	42.0		07.2
2	355	42.6	244	24.4		19.5	169	43.0		07.9
3	10	45.1	259	23.7		19.2	184	44.1		08.5
4	25	47.5	274	23.0		18.9	199	45.1		09.2
5	40	50.0	289	22.3	+21	18.6	214	46.1	-2	09.9
6	55	52.5	304	21.6	+21	18.3	229	47.1	-2	10.5
7	70	54.9	319	21.0		18.0	244	48.1		11.2
8	85	57.4	334	20.3		17.7	259	49.2		11.8
9	100	59.9	349	19.6		17.4	274	50.2		12.5
10	116	02.3	4	18.9		17.1	289	51.2		13.1
11	131	04.8	19	18.2	+21	16.8	304	52.2	-2	13.8
12	146	07.3	34	17.5	+21	16.5	319	53.2	-2	14.4
13	161	09.7	49	16.8		16.2	334	54.3		15.1
14	176	12.2	64	16.1		15.9	349	55.3		15.7
15	191	14.7	79	15.4		15.6	4	56.3		16.4
16	206	17.1	94	14.7		15.3	19	57.3		17.0
17	221	19.6	109	14.0	+21	15.0	34	58.3	-2	17.7
18	236	22.0	124	13.3	+21	14.7	49	59.3	-2	18.4
19	251	24.5	139	12.6		14.4	65	00.4		19.0
20	266	27.0	154	11.9		14.1	80	01.4		19.7
21	281	29.4	169	11.2		13.8	95	02.4		20.3
22	296	31.9	184	10.5		13.4	110	03.4		21.0
23	311	34.4	199	09.8		13.1	125	04.4		21.6
24	326	36.8	214	09.1	+21	12.8	140	05.5	-2	22.3
Dif	—		-7		-3		+10		-7	
									+19	
									-1	
									+26	
									-1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG:12 ^h 03.8 ^m				Edad: 24.2 ^d SD: 16'1 PMG: 7 ^h 42 ^m								PHE { 4 ^h : 58'9 12 ^h : 58'8 20 ^h : 58'7 Rº: 63 ^m								
	hG ☉	Dec			hG ☾	Dif			Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	01.2	+13	04.8	249	14.5	+28	11.2	29	60 N	19 44	20 33	21 44	21 39	95	18 48	36				
1	194	01.3		04.0	263	37.3		14.1	28	58	36	22	24	22 19	86	18 08	44				
2	209	01.4		03.2	278	00.2	38	16.9	25	56	29	11	21 07	22 47	81	17 40	49				
3	224	01.6		02.4	292	23.0	37	19.4	24	54	23	20 02	20 54	23 09	78	19	51				
4	239	01.7		01.6	306	45.7	38	21.8	22	52	17	19 55	42	27	76	17 01	52				
5	254	01.9	+13	00.8	321	08.5	+28	24.0	20	50	19 12	19 48	20 32	23 42	75	16 45	54				
6	269	02.0	+12	59.9	335	31.3	+28	26.0	18	45	19 01	19 33	20 11	** ** *		16 14	57				
7	284	02.1		59.1	349	54.0		27.8	16	40	18 52	21	19 56	** ** *		15 50	58				
8	299	02.3		58.3	4	16.7		29.4	14	35	45	11	43	** ** *		30	59				
9	314	02.4		57.5	18	39.5		30.8	12	30	38	19 03	32	0 12	63	15 13	60				
10	329	02.6		56.7	33	02.2		32.0	10	20	26	18 49	16	0 40	63	14 45	61				
11	344	02.7	+12	55.9	47	24.9	+28	33.0	9	10 N	18 16	18 38	19 03	1 05	63	14 20	62				
12	359	02.8	+12	55.1	61	47.7	+28	33.9	6	0	18 07	18 28	18 53	1 27	64	13 57	63				
13	14	03.0		54.3	76	10.4		34.5	4	10 S	17 58	20	44	1 50	64	34	64				
14	29	03.1		53.5	90	33.1		34.9	3	20	48	11	37	2 15	63	13 09	65				
15	44	03.3		52.6	104	55.9		35.2	0	30	37	18 02	30	2 43	64	12 40	66				
16	59	03.4		51.8	119	18.6		35.2	1	35	31	17 57	27	3 00	64	23	66				
17	74	03.6	+12	51.0	133	41.4	+28	35.1	3	40	17 24	17 52	18 24	3 20	63	12 03	67				
18	89	03.7	+12	50.2	148	04.2	+28	34.8	5	45	17 16	17 46	18 21	3 44	63	11 39	67				
19	104	03.8		49.4	162	27.0		34.3	8	50	06	40	18	4 15	63	11 08	68				
20	119	04.0		48.6	176	49.9		33.5	9	52	17 02	37	16	31	62	10 52	69				
21	134	04.1		47.8	191	12.8		32.6	11	54	16 57	34	15	4 49	62	34	69				
22	149	04.3		46.9	205	35.6		31.5	12	56	51	30	14	5 11	61	10 11	71				
23	164	04.4		46.1	219	58.6		30.3	15	58	45	26	12	5 40	60	9 43	72				
24	179	04.6	+12	45.3	234	21.5	+28	28.8		60 S	16 38	17 22	18 11	6 22	57	9 01	75				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 2 ^h 13.2 ^m		Mag: -3.9 PMG: 9 ^h 44 ^m		Mag: +1.6 PMG: 14 ^h 39 ^m		Mag: -1.9 PMG: 9 ^h 18 ^m		Mag: +0.7 PMG: 2 ^h 20 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	326	36.8	214	09.1	+21	12.8	140	05.5	-2	22.3	220	06.0	+22	30.9	324	49.0	-1	52.7
1	341	39.3	229	08.4		12.5	155	06.5		22.9	235	07.9		30.8	339	51.6		52.8
2	356	41.8	244	07.8		12.2	170	07.5		23.6	250	09.9		30.8	354	54.2		52.9
3	11	44.2	259	07.1		11.9	185	08.5		24.2	265	11.8		30.7	9	56.8		52.9
4	26	46.7	274	06.4		11.5	200	09.5		24.9	280	13.7		30.7	24	59.4		53.0
5	41	49.2	289	05.7	+21	11.2	215	10.5	-2	25.5	295	15.7	+22	30.6	40	02.0	-1	53.1
6	56	51.6	304	05.0	+21	10.9	230	11.6	-2	26.2	310	17.6	+22	30.6	55	04.6	-1	53.1
7	71	54.1	319	04.3		10.6	245	12.6		26.8	325	19.5		30.5	70	07.1		53.2
8	86	56.5	334	03.6		10.3	260	13.6		27.5	340	21.5		30.5	85	09.7		53.2
9	101	59.0	349	02.9		09.9	275	14.6		28.2	355	23.4		30.4	100	12.3		53.3
10	117	01.5	4	02.2		09.6	290	15.6		28.8	10	25.3		30.4	115	14.9		53.4
11	132	03.9	19	01.5	+21	09.3	305	16.6	-2	29.5	25	27.3	+22	30.3	130	17.5	-1	53.4
12	147	06.4	34	00.8	+21	09.0	320	17.7	-2	30.1	40	29.2	+22	30.3	145	20.1	-1	53.5
13	162	08.9	49	00.1		08.6	335	18.7		30.8	55	31.1		30.2	160	22.7		53.6
14	177	11.3	63	59.4		08.3	350	19.7		31.4	70	33.1		30.2	175	25.3		53.6
15	192	13.8	78	58.7		08.0	5	20.7		32.1	85	35.0		30.1	190	27.9		53.7
16	207	16.3	93	58.0		07.6	20	21.7		32.7	100	36.9		30.1	205	30.4		53.8
17	222	18.7	108	57.4	+21	07.3	35	22.7	-2	33.4	115	38.9	+22	30.0	220	33.0	-1	53.8
18	237	21.2	123	56.7	+21	07.0	50	23.8	-2	34.0	130	40.8	+22	30.0	235	35.6	-1	53.9
19	252	23.7	138	56.0		06.6	65	24.8		34.7	145	42.7		29.9	250	38.2		53.9
20	267	26.1	153	55.3		06.3	80	25.8		35.3	160	44.7		29.9	265	40.8		54.0
21	282	28.6	168	54.6		06.0	95	26.8		36.0	175	46.6		29.8	280	43.4		54.1
22	297	31.0	183	53.9		05.6	110	27.8		36.7	190	48.5		29.8	295	46.0		54.1
23	312	33.5	198	53.2		05.3	125	28.8		37.3	205	50.5		29.7	310	48.6		54.2
24	327	36.0	213	52.5	+21	04.9	140	29.8	-2	38.0	220	52.4	+22	29.6	325	51.2	-1	54.3
Dif	—		-7		-3		+10		-7		+19		-1		+26		-	

UT	SOL				LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15'8 PMG: 12 ^h 03.6 ^m				Edad: 25.2 ^d SD: 16'0 PMG: 8 ^h 44 ^m																
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	179	04.6	+12	45.3	234	21.5			+28	28.8			60 N	2	24	3	35	4	24	23 13 109	19 22 11
1	194	04.7		44.5	248	44.5				27.1			58	2	45		47	32	23 44 98	18 51 21	
2	209	04.8		43.7	263	07.6				25.3			56	3	01	3	57	39	** ** *	28 26	
3	224	05.0		42.9	277	30.6				23.2			54		14	4	06	45	** ** *	18 08 32	
4	239	05.1		42.0	291	53.7				21.0			52		26		13	51	** ** *	17 52 35	
5	254	05.3	+12	41.2	306	16.9			+28	18.6			50	3	36	4	20	4	56	** ** *	17 38 37
6	269	05.4	+12	40.4	320	40.1			+28	16.0			45	3	57	4	35	5	07	0 13 71	17 09 42
7	284	05.6		39.6	335	03.4				13.2			40	4	12		47	16	37 69	16 47 45	
8	299	05.7		38.8	349	26.7				10.2			35		25	4	57	23	0 57 67	28 48	
9	314	05.9		37.9	3	50.0				07.0			30		35	5	05	30	1 13 66	16 12 50	
10	329	06.0		37.1	18	13.4				03.7			20	4	52		18	41	1 42 64	15 44 54	
11	344	06.1	+12	36.3	32	36.9			+28	00.2			10 N	5	04	5	29	5	51	2 07 62	15 21 56
12	359	06.3	+12	35.5	47	00.5			+27	56.5			0	5	14	5	39	6	00	2 29 61	14 59 58
13	14	06.4		34.7	61	24.1				52.6			10 S		23		48	09	2 52 59	36 61	
14	29	06.6		33.8	75	47.7				48.5			20		30	5	56	19	3 17 56	14 12 64	
15	44	06.7		33.0	90	11.5				44.3			30		37	6	05	29	3 45 54	13 44 67	
16	59	06.9		32.2	104	35.3				39.9			35		40		10	36	4 02 53	28 69	
17	74	07.0	+12	31.4	118	59.1			+27	35.3			40	5	43	6	15	6	43	4 22 50	13 08 72
18	89	07.2	+12	30.6	133	23.1			+27	30.5			45	5	46	6	20	6	51	4 46 48	12 45 74
19	104	07.3		29.7	147	47.1				25.5			50		49		27	7	00	5 17 44	15 78
20	119	07.5		28.9	162	11.2				20.4			52		50		30	05	32 42	12 00 81	
21	134	07.6		28.1	176	35.4				15.1			54		51		33	10	5 50 39	11 42 84	
22	149	07.8		27.3	190	59.7				09.7			56		53		36	15	6 11 35	11 21 88	
23	164	07.9		26.4	205	24.0			+27	04.0			58		54		40	21	6 38 29	10 54 95	
24	179	08.1	+12	25.6	219	48.4			+26	58.2			60 S	5	55	6	44	7	28	7 17 17	10 15 107
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 2 ^h 09.2 ^m		Mag: -3.9 PMG: 9 ^h 45 ^m				Mag: +1.6 PMG: 14 ^h 37 ^m				Mag: -2.0 PMG: 9 ^h 15 ^m				Mag: +0.7 PMG: 2 ^h 16 ^m						
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	327	36.0	213	52.5	+21	04.9	140	29.8	-2	38.0	220	52.4	+22	29.6	325	51.2	-1	54.3			
1	342	38.4	228	51.8		04.6	155	30.9		38.6	235	54.3		29.6	340	53.7		54.3			
2	357	40.9	243	51.1		04.3	170	31.9		39.3	250	56.3		29.5	355	56.3		54.4			
3	12	43.4	258	50.4		03.9	185	32.9		39.9	265	58.2		29.5	10	58.9		54.4			
4	27	45.8	273	49.7		03.6	200	33.9		40.6	281	00.1		29.4	26	01.5		54.5			
5	42	48.3	288	49.0	+21	03.2	215	34.9	-2	41.2	296	02.1	+22	29.4	41	04.1	-1	54.6			
6	57	50.8	303	48.4	+21	02.9	230	35.9	-2	41.9	311	04.0	+22	29.3	56	06.7	-1	54.6			
7	72	53.2	318	47.7		02.5	245	36.9		42.5	326	05.9		29.3	71	09.3		54.7			
8	87	55.7	333	47.0		02.2	260	38.0		43.2	341	07.9		29.2	86	11.9		54.8			
9	102	58.2	348	46.3		01.8	275	39.0		43.8	356	09.8		29.2	101	14.5		54.8			
10	118	00.6	3	45.6		01.5	290	40.0		44.5	11	11.7		29.1	116	17.1		54.9			
11	133	03.1	18	44.9	+21	01.1	305	41.0	-2	45.2	26	13.7	+22	29.1	131	19.6	-1	55.0			
12	148	05.5	33	44.2	+21	00.8	320	42.0	-2	45.8	41	15.6	+22	29.0	146	22.2	-1	55.0			
13	163	08.0	48	43.5		00.4	335	43.0		46.5	56	17.6		29.0	161	24.8		55.1			
14	178	10.5	63	42.8	+21	00.1	350	44.0		47.1	71	19.5		28.9	176	27.4		55.1			
15	193	12.9	78	42.1	+20	59.7	5	45.1		47.8	86	21.4		28.9	191	30.0		55.2			
16	208	15.4	93	41.4		59.4	20	46.1		48.4	101	23.4		28.8	206	32.6		55.3			
17	223	17.9	108	40.8	+20	59.0	35	47.1	-2	49.1	116	25.3	+22	28.8	221	35.2	-1	55.3			
18	238	20.3	123	40.1	+20	58.6	50	48.1	-2	49.7	131	27.2	+22	28.7	236	37.8	-1	55.4			
19	253	22.8	138	39.4		58.3	65	49.1		50.4	146	29.2		28.6	251	40.4		55.5			
20	268	25.3	153	38.7		57.9	80	50.1		51.0	161	31.1		28.6	266	43.0		55.5			
21	283	27.7	168	38.0		57.6	95	51.1		51.7	176	33.0		28.5	281	45.6		55.6			
22	298	30.2	183	37.3		57.2	110	52.1		52.3	191	35.0		28.5	296	48.2		55.7			
23	313	32.6	198	36.6		56.8	125	53.1		53.0	206	36.9		28.4	311	50.7		55.7			
24	328	35.1	213	35.9	+20	56.5	140	54.2	-2	53.7	221	38.9	+22	28.4	326	53.3	-1	55.8			
Dif	—		-7		-4		+10		-7		+19		-1		+26		-1				

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 12 ^h 03.3 ^m				Edad: 26.2 ^d SD: 15'9 PMG: 9 ^h 44 ^m PHE { 4 ^h : 58'2 12 ^h : 58'1 20 ^h : 57'9 Rº: 56 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	08.1	+12	25.6	219	48.4			+26	58.2	60	60 N	19 38	20 27	21 35				19 33	5	
1	194	08.2		24.8	234	12.9				52.2	61	58	31		16				19 12	12	
2	209	08.4		24.0	248	37.5				46.1	63	56	24	20 06				0 07	94	18	54 17
3	224	08.5		23.1	263	02.2				39.8	64	54	18	19 58	20 48			26	89	40	21
4	239	08.7		22.3	277	27.0				33.4	64	52	13		50			42	85	27	24
5	254	08.8	+12	21.5	291	51.8			+26	26.7	67	50	19 08	19 43	20 27			0 56	82	18	15 27
6	269	09.0	+12	20.7	306	16.8			+26	19.9	68	45	18 58	19 29	20 08			1 24	77	17	51 33
7	284	09.1		19.8	320	41.9				13.0	69	40	49		18	19 52		1 46	73	32	37
8	299	09.3		19.0	335	07.0			+26	05.9	71	35	42	09		40		2 04	71		16 40
9	314	09.4		18.2	349	32.2			+25	58.7	72	30	36	19 01		30		19	69	17	02 43
10	329	09.6		17.4	3 57.6	64				51.2	75	20	25	18 48		14		2 46	64	16	38 48
11	344	09.7	+12	16.5	18 23.0	64			+25	43.7	75	10 N	18 15	18 37	19 02			3 09	61	16	17 52
12	359	09.9	+12	15.7	32 48.6	66			+25	36.0	77	0	18 07	18 28	18 52			3 30	57	15	57 56
13	14	10.0		14.9	47 14.2	66				28.1	79	10 S	17 58		19	44		3 51	54		37 60
14	29	10.2		14.0	61 39.9	67				20.1	80	20	49		11	37		4 13	51	15	16 63
15	44	10.3		13.2	76 05.8	69				11.9	82	30	39	18 03		31		39	47	14	51 68
16	59	10.5		12.4	90 31.7	69			+25	03.6	83	35	33	17 59		28		4 55	44		37 71
17	74	10.6	+12	11.6	104 57.8	71			+24	55.2	84	40	17 26	17 54	18 25			5 12	42	14	20 74
18	89	10.8	+12	10.7	119 23.9	71			+24	46.6	86	45	17 18	17 48	18 23			5 34	37	13	59 79
19	104	10.9		09.9	133 50.2	73				37.9	87	50	09		42	20		6 01	32		33 85
20	119	11.1		09.1	148 16.6	74				29.0	89	52	05	40		19		14	29		21 87
21	134	11.2		08.2	162 43.0	74				20.0	90	54	17 00		37	18		29	25	13	06 91
22	149	11.4		07.4	177 09.6	76				10.8	92	56	16 55		34	17		6 46	21	12	49 96
23	164	11.5		06.6	191 36.3	77			+24	01.6	92	58	49		30	16		7 07	15	29	102
24	179	11.7	+12	05.7	206 03.1	78			+23	52.1	95	60 S	16 43	17 26	18 15			7 34	6	12	02 112

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO			
	PMG 2 ^h 05.3 ^m			Mag: -3.9 PMG: 9 ^h 46 ^m			Mag: +1.6 PMG: 14 ^h 35 ^m			Mag: -2.0 PMG: 9 ^h 12 ^m			Mag: +0.7 PMG: 2 ^h 12 ^m			
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	328	35.1	213 35.9	+20 56.5	140 54.2	-2 53.7	221 38.9	+22 28.4	326 53.3	-1 55.8						
1	343	37.6	228 35.2	56.1	155 55.2	54.3	236 40.8	28.3	341 55.9	55.9						
2	358	40.0	243 34.5	55.7	170 56.2	55.0	251 42.7	28.3	356 58.5	55.9						
3	13	42.5	258 33.9	55.4	185 57.2	55.6	266 44.7	28.2	12 01.1	56.0						
4	28	45.0	273 33.2	55.0	200 58.2	56.3	281 46.6	28.2	27 03.7	56.0						
5	43	47.4	288 32.5	+20 54.6	215 59.2	-2 56.9	296 48.6	+22 28.1	42 06.3	-1 56.1						
6	58	49.9	303 31.8	+20 54.3	231 00.2	-2 57.6	311 50.5	+22 28.1	57 08.9	-1 56.2						
7	73	52.4	318 31.1	53.9	246 01.2	58.2	326 52.4	28.0	72 11.5	56.2						
8	88	54.8	333 30.4	53.5	261 02.2	58.9	341 54.4	28.0	87 14.1	56.3						
9	103	57.3	348 29.7	53.2	276 03.3	-2 59.5	356 56.3	27.9	102 16.7	56.4						
10	118	59.8	3 29.0	52.8	291 04.3	-3 00.2	11 58.2	27.9	117 19.3	56.4						
11	134	02.2	18 28.3	+20 52.4	306 05.3	-3 00.9	27 00.2	+22 27.8	132 21.9	-1 56.5						
12	149	04.7	33 27.7	+20 52.0	321 06.3	-3 01.5	42 02.1	+22 27.8	147 24.5	-1 56.6						
13	164	07.1	48 27.0	51.6	336 07.3	02.2	57 04.1	27.7	162 27.0	56.6						
14	179	09.6	63 26.3	51.3	351 08.3	02.8	72 06.0	27.6	177 29.6	56.7						
15	194	12.1	78 25.6	50.9	6 09.3	03.5	87 07.9	27.6	192 32.2	56.8						
16	209	14.5	93 24.9	50.5	21 10.3	04.1	102 09.9	27.5	207 34.8	56.8						
17	224	17.0	108 24.2	+20 50.1	36 11.3	-3 04.8	117 11.8	+22 27.5	222 37.4	-1 56.9						
18	239	19.5	123 23.5	+20 49.7	51 12.3	-3 05.4	132 13.8	+22 27.4	237 40.0	-1 57.0						
19	254	21.9	138 22.8	49.4	66 13.4	06.1	147 15.7	27.4	252 42.6	57.0						
20	269	24.4	153 22.2	49.0	81 14.4	06.7	162 17.6	27.3	267 45.2	57.1						
21	284	26.9	168 21.5	48.6	96 15.4	07.4	177 19.6	27.3	282 47.8	57.1						
22	299	29.3	183 20.8	48.2	111 16.4	08.0	192 21.5	27.2	297 50.4	57.2						
23	314	31.8	198 20.1	47.8	126 17.4	08.7	207 23.5	27.2	312 53.0	57.3						
24	329	34.3	213 19.4	+20 47.4	141 18.4	-3 09.4	222 25.4	+22 27.1	327 55.6	-1 57.3						
Dif	—		-7	-4	+10	-7	+19	-1	+26	-1						

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 03.1 ^m				Edad: 27.2 ^d SD: 15'8 PMG: 10 ^h 39 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	179	11.7	+12	05.7	206	03.1	+23	52.1	60 N	2	32	3	40	4	29	1	02	106
1	194	11.8		04.9	220	30.0		42.6	58	2	51	3	52	37		22	99	22
2	209	12.0		04.1	234	57.0		32.9	56	3	07	4	01	43		39	94	19
3	224	12.1		03.2	249	24.1		23.1	54		19		10	49	1	54	89	18
4	239	12.3		02.4	263	51.4		13.2	52		30		17	54	2	06	86	50
5	254	12.4	+12	01.6	278	18.7	+23	03.2	50	3	40	4	24	4	59	2	17	83
6	269	12.6	+12	00.7	292	46.2	+22	53.0	45	3	59	4	38	5	09	2	40	76
7	284	12.8	+11	59.9	307	13.7		42.7	40	4	15		49	17	2	58	72	18
8	299	12.9		59.1	321	41.4		32.3	35		27		58	25	3	13	69	17
9	314	13.1		58.2	336	09.2		21.8	30		37		06	31	2	66		44
10	329	13.2		57.4	350	37.1		11.1	20	4	52		19	42	3	49	60	24
11	344	13.4	+11	56.6	5	05.1	+22	00.4	10 N	5	04	5	30	5	51	4	08	56
12	359	13.5	+11	55.7	19	33.2	+21	49.5	0	5	14	5	39	6	00	4	26	52
13	14	13.7		54.9	34	01.4		38.5	10 S		22		47	08	4	44	48	35
14	29	13.8		54.0	48	29.8		27.4	20		29		55	17	5	03	44	16
15	44	14.0		53.2	62	58.2		16.2	30		35		03	27	25	38	15	58
16	59	14.2		52.4	77	26.8	+21	04.9	35		38		07	33	38	35	46	67
17	74	14.3	+11	51.5	91	55.4	+20	53.5	40	5	40	6	12	6	40	5	53	31
18	89	14.5	+11	50.7	106	24.2	+20	42.0	45	5	43	6	17	6	47	6	10	27
19	104	14.6		49.9	120	53.1		30.4	50		45		23	6	56	31	22	14
20	119	14.8		49.0	135	22.1		18.7	52		46		26	7	01	41	19	47
21	134	14.9		48.2	149	51.2	+20	06.8	54		47		29	05	6	53	16	36
22	149	15.1		47.3	164	20.4	+19	54.9	56		48		32	10	7	06	12	24
23	164	15.3		46.5	178	49.7		42.9	58		49		35	16	21	7	14	09
24	179	15.4	+11	45.7	193	19.1	+19	30.8	60 S	5	50	6	39	7	22	7	39	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 01.4 ^m		Mag: -3.9 PMG: 9 ^h 47 ^m		Mag: +1.6 PMG: 14 ^h 34 ^m		Mag: -2.0 PMG: 9 ^h 09 ^m		Mag: +0.7 PMG: 2 ^h 08 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	329	34.3	213	19.4	+20	47.4	141	18.4	-3	09.4
1	344	36.7	228	18.7		47.0	156	19.4		10.0
2	359	39.2	243	18.0		46.6	171	20.4		10.7
3	14	41.6	258	17.3		46.2	186	21.4		11.3
4	29	44.1	273	16.7		45.9	201	22.4		12.0
5	44	46.6	288	16.0	+20	45.5	216	23.4	-3	12.6
6	59	49.0	303	15.3	+20	45.1	231	24.4	-3	13.3
7	74	51.5	318	14.6		44.7	246	25.4		13.9
8	89	54.0	333	13.9		44.3	261	26.5		14.6
9	104	56.4	348	13.2		43.9	276	27.5		15.2
10	119	58.9	3	12.5		43.5	291	28.5		15.9
11	135	01.4	18	11.9	+20	43.1	306	29.5	-3	16.6
12	150	03.8	33	11.2	+20	42.7	321	30.5	-3	17.2
13	165	06.3	48	10.5		42.3	336	31.5		17.9
14	180	08.8	63	09.8		41.9	351	32.5		18.5
15	195	11.2	78	09.1		41.5	6	33.5		19.2
16	210	13.7	93	08.4		41.1	21	34.5		19.8
17	225	16.1	108	07.7	+20	40.7	36	35.5	-3	20.5
18	240	18.6	123	07.1	+20	40.2	51	36.5	-3	21.1
19	255	21.1	138	06.4		39.8	66	37.5		21.8
20	270	23.5	153	05.7		39.4	81	38.5		22.4
21	285	26.0	168	05.0		39.0	96	39.5		23.1
22	300	28.5	183	04.3		38.6	111	40.5		23.8
23	315	30.9	198	03.6		38.2	126	41.5		24.4
24	330	33.4	213	03.0	+20	37.8	141	42.5	-3	25.1
Dif	—		-7		-4		+10		-7	
							+19		-1	
									+26	
									-1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 02.8 ^m		Edad: 28.2 ^d SD: 15'6 PMG: 11 ^h 30 ^m PHE { 4 ^h : 57'2 12 ^h : 57'1 20 ^h : 56'9 R°: 48 ^m													
	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	179	15.4	+11	45.7	193	19.1	+19	30.8	60 N	19 33	20 20	21 26	2 48	100	19 37	1
1	194	15.6		44.8	207	48.6		18.7	58	26	10	21 09	3 01	95	28	5
2	209	15.7		44.0	222	18.3	+19	06.4	56	19	20 01	20 54	13	90	20	8
3	224	15.9		43.1	236	48.0	+18	54.0	54	14	19 53	42	23	87	13	1
4	239	16.0		42.3	251	17.8		41.6	52	09	45	31	32	83	06	14
5	254	16.2	+11	41.4	265	47.8	+18	29.0	50	19 04	19 39	20 22	3 40	81	19 00	16
6	269	16.4	+11	40.6	280	17.8	+18	16.4	45	18 55	19 26	20 04	3 56	76	18 47	22
7	284	16.5		39.8	294	48.0	+18	03.7	40	47	15	19 49	4 10	71	37	25
8	299	16.7		38.9	309	18.2	+17	51.0	35	40	19 06	37	22	67	27	30
9	314	16.8		38.1	323	48.6		38.1	30	34	18 58	28	32	63	19	33
10	329	17.0		37.2	338	19.1		25.2	20	23	46	13	4 49	58	18 05	38
11	344	17.2	+11	36.4	352	49.6	+17	12.2	10 N	18 14	18 36	19 01	5 04	53	17 53	42
12	359	17.3	+11	35.5	7	20.3	+16	59.1	0	18 06	18 27	18 52	5 18	49	17 41	47
13	14	17.5		34.7	21	51.0		45.9	10 S	17 58	19	44	32	44	29	52
14	29	17.6		33.9	36	21.9		32.7	20	49	12	38	5 47	39	17	56
15	44	17.8		33.0	50	52.8		19.4	30	40	04	32	6 03	35	17 02	62
16	59	18.0		32.2	65	23.9	+16	06.1	35	34	18 00	30	13	31	16 53	66
17	74	18.1	+11	31.3	79	55.0	+15	52.6	40	17 28	17 56	18 27	6 24	28	16 44	69
18	89	18.3	+11	30.5	94	26.2	+15	39.1	45	17 21	17 51	18 25	6 37	24	16 32	74
19	104	18.5		29.6	108	57.6		25.6	50	12	45	23	6 53	18	18	79
20	119	18.6		28.8	123	29.0	+15	12.0	52	08	43	22	7 00	16	11	83
21	134	18.8		27.9	138	00.5	+14	58.3	54	17 04	40	21	09	12	16 04	85
22	149	18.9		27.1	152	32.1		44.6	56	16 59	37	21	18	9	15 56	88
23	164	19.1		26.2	167	03.8		30.8	58	53	34	20	28	5	46	93
24	179	19.3	+11	25.4	181	35.6	+14	16.9	60 S	16 47	17 31	18 19	7 40	0	15 36	97

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 1 ^h 57.5 ^m		Mag: -3.9 PMG: 9 ^h 48 ^m		Mag: +1.6 PMG: 14 ^h 32 ^m		Mag: -2.0 PMG: 9 ^h 06 ^m		Mag: +0.7 PMG: 2 ^h 04 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /		° /		° /		° /									
0	330	33.4	213	03.0	+20	37.8	141	42.5	-3	25.1	223	12.0	+22	25.8	328	57.9	-1	58.9
1	345	35.9	228	02.3		37.4	156	43.6		25.7	238	14.0		25.8	344	00.5		59.0
2	0	38.3	243	01.6		37.0	171	44.6		26.4	253	15.9		25.7	359	03.1		59.1
3	15	40.8	258	00.9		36.5	186	45.6		27.0	268	17.9		25.7	14	05.7		59.1
4	30	43.2	273	00.2		36.1	201	46.6		27.7	283	19.8		25.6	29	08.3		59.2
5	45	45.7	287	59.5	+20	35.7	216	47.6	-3	28.3	298	21.8	+22	25.6	44	10.9	-1	59.3
6	60	48.2	302	58.9	+20	35.3	231	48.6	-3	29.0	313	23.7	+22	25.5	59	13.5	-1	59.3
7	75	50.6	317	58.2		34.9	246	49.6		29.6	328	25.6		25.5	74	16.1		59.4
8	90	53.1	332	57.5		34.4	261	50.6		30.3	343	27.6		25.4	89	18.7		59.5
9	105	55.6	347	56.8		34.0	276	51.6		30.9	358	29.5		25.4	104	21.3		59.5
10	120	58.0	2	56.1		33.6	291	52.6		31.6	13	31.5		25.3	119	23.9		59.6
11	136	00.5	17	55.5	+20	33.2	306	53.6	-3	32.3	28	33.4	+22	25.3	134	26.5	-1	59.7
12	151	03.0	32	54.8	+20	32.7	321	54.6	-3	32.9	43	35.4	+22	25.2	149	29.1	-1	59.7
13	166	05.4	47	54.1		32.3	336	55.6		33.6	58	37.3		25.1	164	31.7		59.8
14	181	07.9	62	53.4		31.9	351	56.6		34.2	73	39.3		25.1	179	34.3		59.9
15	196	10.4	77	52.7		31.5	6	57.6		34.9	88	41.2		25.0	194	36.9	-1	59.9
16	211	12.8	92	52.0		31.0	21	58.6		35.5	103	43.2		25.0	209	39.5	-2	00.0
17	226	15.3	107	51.4	+20	30.6	36	59.6	-3	36.2	118	45.1	+22	24.9	224	42.1	-2	00.1
18	241	17.7	122	50.7	+20	30.2	52	00.6	-3	36.8	133	47.1	+22	24.9	239	44.7	-2	00.1
19	256	20.2	137	50.0		29.7	67	01.6		37.5	148	49.0		24.8	254	47.3		00.2
20	271	22.7	152	49.3		29.3	82	02.6		38.1	163	51.0		24.8	269	49.9		00.3
21	286	25.1	167	48.6		28.9	97	03.6		38.8	178	52.9		24.7	284	52.5		00.3
22	301	27.6	182	48.0		28.4	112	04.6		39.5	193	54.8		24.7	299	55.1		00.4
23	316	30.1	197	47.3		28.0	127	05.6		40.1	208	56.8		24.6	314	57.7		00.5
24	331	32.5	212	46.6	+20	27.6	142	06.6	-3	40.8	223	58.7	+22	24.6	330	00.3	-2	00.5
Dif	—		-7		-4		+10		-7		+19		-1		+26		-	

UT	SOL				● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG:12 ^h 02.6 ^m				Edad: 29.2 ^d SD: 15'5 PMG: 12 ^h 16 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	19.3	+11	25.4	181	35.6	+14	16.9	139	60 N	2	40	3	46	4	34	4	27	92
1	194	19.4		24.5	196	07.5	+14	03.0	139	58	2	58	3	57		41	35	88	31
2	209	19.6		23.7	210	39.4	+13	49.1	139	56	3	12	4	06	47	42	85	27	5
3	224	19.8		22.8	225	11.5		35.1	140	54		24		14	52	48	82	22	8
4	239	19.9		22.0	239	43.6		21.0	141	52		35		21	4	57	54	79	19
5	254	20.1	+11	21.1	254	15.8	+13	06.9	141	50	3	44	4	27	5	02	4	59	76
6	269	20.2	+11	20.3	268	48.1	+12	52.8	141	45	4	02	4	40	5	11	5	10	71
7	284	20.4		19.4	283	20.5		38.6	142	40		17		4	51	19	19	67	19
8	299	20.6		18.6	297	52.9		24.3	143	35		28		5	00	26	27	63	18
9	314	20.7		17.7	312	25.4	+12	10.1	142	30		38		07	32	34	59	50	29
10	329	20.9		16.9	326	58.1	+11	55.7	144	20	4	53		20	42	46	53	42	33
11	344	21.1	+11	16.0	341	30.7	+11	41.4	143	10 N	5	05	5	30	5	51	5	56	49
12	359	21.2	+11	15.2	356	03.5	+11	27.0	144	0	5	14	5	38	5	59	6	05	45
13	14	21.4		14.3	10	36.4	+11	12.5	145	10 S		21		46	6	07	15	40	20
14	29	21.6		13.5	25	09.3	+10	58.0	145	20		28		5	53	16	25	35	12
15	44	21.7		12.6	39	42.3		43.5	145	30		33	6	01	25	36	30	18	03
16	59	21.9		11.8	54	15.3		29.0	145	35		35		05	31	43	26	17	58
17	74	22.1	+11	10.9	68	48.5	+10	14.4	146	40	5	38	6	09	6	37	6	51	22
18	89	22.2	+11	10.1	83	21.7	+9	59.8	146	45	5	40	6	14	6	44	6	59	19
19	104	22.4		09.2	97	54.9		45.1	147	50		42		19	52	7	10	13	36
20	119	22.6		08.4	112	28.3		30.5	146	52		43		22	6	56	14	11	32
21	134	22.7		07.5	127	01.7		15.8	147	54		43		24	7	01	20	8	28
22	149	22.9		06.7	141	35.2	+9	01.1	147	56		44		27	05	25	6	23	83
23	164	23.1		05.8	156	08.7	+8	46.3	148	58		44		30	11	32	2	18	86
24	179	23.2	+11	04.9	170	42.3	+8	31.5	148	60 S	5	45	6	33	7	17	7	39	**

UT	SOL			● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 02.3 ^m			Edad: 30.2 ^d SD: 15'3 PMG: 13 ^h 00 ^m												
	PHE { 4 ^h : 56'1 12 ^h : 56'0 20 ^h : 55'8 R°: 43 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	
0	179	23.2	+11 04.9	170	42.3	+8 31.5	148	60 N	19	27	20	14	21	18	5	
1	194	23.4	04.1	185	15.9	16.7	148	58	20	20	04	21	01	6	03	
2	209	23.6	03.2	199	49.7	+8 01.9	148	56	14	19	55	20	48	07	82	
3	224	23.7	02.4	214	23.5	+7 47.1	148	54	09	48	36	10	79	30	9	
4	239	23.9	01.5	228	57.3	32.2	149	52	05	41	26	13	76	29	11	
5	254	24.1	+11 00.7	243	31.2	+7 17.3	149	50	19	00	19	35	20	17	6	
6	269	24.2	+10 59.8	258	05.1	+7 02.4	149	45	18	51	19	22	20	00	6	
7	284	24.4	58.9	272	39.2	+6 47.5	149	40	44	12	19	46	26	65	22	
8	299	24.6	58.1	287	13.2	32.6	149	35	37	19	03	35	30	61	20	
9	314	24.7	57.2	301	47.3	17.7	149	30	32	18	56	25	33	58	19	
10	329	24.9	56.4	316	21.5	+6 02.7	150	20	22	44	11	39	53	15	34	
11	344	25.1	+10 55.5	330	55.7	+5 47.8	149	10 N	18	13	18	35	19	00	6	
12	359	25.2	+10 54.7	345	30.0	+5 32.8	150	0	18	06	18	27	18	51	6	
13	14	25.4	53.8	0	04.3	17.8	150	10 S	17	58	19	44	6	55	38	
14	29	25.6	52.9	14	38.7	+5 02.8	150	20	50	12	38	7	00	34	04	
15	44	25.7	52.1	29	13.1	+4 47.8	150	30	41	05	33	06	28	19	01	
16	59	25.9	51.2	43	47.5	32.8	150	35	36	18	01	31	09	26	18	
17	74	26.1	+10 50.4	58	22.0	+4 17.8	150	40	17	30	17	57	18	29	7	
18	89	26.3	+10 49.5	72	56.6	+4 02.8	150	45	17	23	17	53	18	27	7	
19	104	26.4	48.6	87	31.1	+3 47.8	150	50	15	48	26	23	13	18	54	
20	119	26.6	47.8	102	05.8	32.7	151	52	11	46	25	25	11	49	76	
21	134	26.8	46.9	116	40.4	17.7	150	54	07	43	25	28	9	48	78	
22	149	26.9	46.0	131	15.1	+3 02.7	150	56	17	03	41	24	31	6	46	
23	164	27.1	45.2	145	49.9	+2 47.7	150	58	16	58	38	24	34	3	44	
24	179	27.3	+10 44.3	160	24.6	+2 32.7	150	60 S	16	52	17	35	18	23	7	

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 1 ^h 49.6 ^m			Mag: -3.9 PMG: 9 ^h 50 ^m			Mag: +1.6 PMG: 14 ^h 29 ^m			Mag: -2.0 PMG: 9 ^h 00 ^m			Mag: +0.7 PMG: 1 ^h 55 ^m		
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°
0	332	31.7	212 30.3	+20 16.8	142 30.6	-3 56.5	224 45.5	+22 23.3	331 02.7	-2 02.2					
1	347	34.1	227 29.7	16.3	157 31.6	57.1	239 47.5	23.2	346 05.3	02.2					
2	2	36.6	242 29.0	15.8	172 32.6	57.8	254 49.4	23.2	1	07.9	02.3				
3	17	39.1	257 28.3	15.4	187 33.6	58.4	269 51.4	23.1	16	10.5	02.4				
4	32	41.5	272 27.6	14.9	202 34.6	59.1	284 53.3	23.1	31	13.1	02.4				
5	47	44.0	287 27.0	+20 14.4	217 35.6	-3 59.7	299 55.3	+22 23.0	46	15.7	-2 02.5				
6	62	46.5	302 26.3	+20 14.0	232 36.6	-4 00.4	314 57.3	+22 22.9	61	18.4	-2 02.6				
7	77	48.9	317 25.6	13.5	247 37.6	01.0	329 59.2	22.9	76	21.0	02.6				
8	92	51.4	332 25.0	13.0	262 38.6	01.7	345 01.2	22.8	91	23.6	02.7				
9	107	53.8	347 24.3	12.6	277 39.6	02.4	0 03.1	22.8	106	26.2	02.8				
10	122	56.3	2 23.6	12.1	292 40.6	03.0	15 05.1	22.7	121	28.8	02.8				
11	137	58.8	17 22.9	+20 11.6	307 41.6	-4 03.7	30 07.0	+22 22.7	136	31.4	-2 02.9				
12	153	01.2	32 22.3	+20 11.1	322 42.6	-4 04.3	45 09.0	+22 22.6	151	34.0	-2 03.0				
13	168	03.7	47 21.6	10.7	337 43.6	05.0	60 10.9	22.6	166	36.6	03.1				
14	183	06.2	62 20.9	10.2	352 44.6	05.6	75 12.9	22.5	181	39.2	03.1				
15	198	08.6	77 20.2	09.7	7 45.6	06.3	90 14.8	22.5	196	41.8	03.2				
16	213	11.1	92 19.6	09.2	22 46.6	06.9	105 16.8	22.4	211	44.4	03.3				
17	228	13.6	107 18.9	+20 08.7	37 47.6	-4 07.6	120 18.7	+22 22.3	226	47.0	-2 03.3				
18	243	16.0	122 18.2	+20 08.3	52 48.5	-4 08.2	135 20.7	+22 22.3	241	49.6	-2 03.4				
19	258	18.5	137 17.5	07.8	67 49.5	08.9	150 22.7	22.2	256	52.2	03.5				
20	273	20.9	152 16.9	07.3	82 50.5	09.5	165 24.6	22.2	271	54.8	03.5				
21	288	23.4	167 16.2	06.8	97 51.5	10.2	180 26.6	22.1	286	57.4	03.6				
22	303	25.9	182 15.5	06.3	112 52.5	10.9	195 28.5	22.1	302	00.0	03.7				
23	318	28.3	197 14.9	05.9	127 53.5	11.5	210 30.5	22.0	317	02.6	03.7				
24	333	30.8	212 14.2	+20 05.4	142 54.5	-4 12.2	225 32.4	+22 22.0	332	05.2	-2 03.8				
Dif	—		-7	-5	+10	-7	+20	-1	+26	-1					

UT	SOL				● LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 02.0 ^m				Edad: 1.7 ^d PHE { 4 ^h : 55'6 12 ^h : 55'4 20 ^h : 55'2 PMG: 13 ^h 41 ^m R°: 41 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	27.3	+10	44.3	160	24.6	+2	32.7	150	58	60 N	2 48	3 52	4 39	7 27	86	19 34	**	
1	194	27.5		43.5	174	59.4		17.7	151	58		3 04	4 01	45	27 82		35	2	
2	209	27.6		42.6	189	34.3	+2	02.6	150	56		17	10	51	28 78		36	5	
3	224	27.8		41.7	204	09.2	+1	47.6	150	54		29	18	4 56	28 76		37	8	
4	239	28.0		40.9	218	44.1		32.6	150	52		39	24	5 01	28 74		38	10	
5	254	28.1	+10	40.0	233	19.0	+1	17.6	150	50		3 48	4 30	5 05	7 28	72	19 39	12	
6	269	28.3	+10	39.1	247	54.0	+1	02.7	149	45		4 05	4 43	5 14	7 29	66	19 41	16	
7	284	28.5		38.3	262	28.9	+0	47.7	150	40		19	4 53	21	29 62		43	20	
8	299	28.7		37.4	277	04.0		32.7	150	35		30	5 01	28	30 58		44	24	
9	314	28.8		36.5	291	39.0		17.8	149	30		39	09	33	30 55		45	27	
10	329	29.0		35.7	306	14.1	+0	02.8	150	20		4 54	20	43	30 50		47	32	
11	344	29.2	+10	34.8	320	49.2	-0	12.1	149	10 N		5 05	5 30	5 51	7 31	45	19 49	37	
12	359	29.4	+10	33.9	335	24.3	-0	27.0	149	0		5 13	5 38	5 59	7 31	41	19 51	41	
13	14	29.5		33.1	349	59.4		41.9	149	10 S		20	45	6 06	32 36		53	45	
14	29	29.7		32.2	4	34.6	-0	56.8	149	20		26	52	14	32 32		55	49	
15	44	29.9		31.3	19	09.7	-1	11.7	149	30		31	5 59	23	33 26		57	55	
16	59	30.0		30.5	33	44.9		26.6	149	35		33	6 03	28	33 24		58	58	
17	74	30.2	+10	29.6	48	20.1	-1	41.4	148	40		5 35	6 06	6 34	7 34	20	19 59	62	
18	89	30.4	+10	28.7	62	55.3	-1	56.2	148	45		5 37	6 11	6 41	7 34	16	20 01	66	
19	104	30.6		27.9	77	30.6	-2	11.0	148	50		38	16	48	35 11		03	71	
20	119	30.7		27.0	92	05.8		25.8	148	52		39	18	52	35 9		04	73	
21	134	30.9		26.1	106	41.1		40.6	148	54		39	20	6 56	35 7		05	75	
22	149	31.1		25.3	121	16.4	-2	55.3	147	56		39	22	7 00	36 4		06	78	
23	164	31.3		24.4	135	51.6	-3	10.0	147	58		40	25	05	36 2		07	82	
24	179	31.4	+10	23.5	150	26.9	-3	24.7	147	60 S		5 40	6 28	7 11	7 36	**	20 08	85	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 ^h 45.7 ^m		Mag: -3.9 PMG: 9 ^h 51 ^m		Mag: +1.6 PMG: 14 ^h 27 ^m		Mag: -2.0 PMG: 8 ^h 57 ^m		Mag: +0.7 PMG: 1 ^h 51 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	333	30.8	212	14.2	+20	05.4	142	54.5	-4	12.2
1	348	33.3	227	13.5		04.9	157	55.5		12.8
2	3	35.7	242	12.9		04.4	172	56.5		13.5
3	18	38.2	257	12.2		03.9	187	57.5		14.1
4	33	40.7	272	11.5		03.4	202	58.5		14.8
5	48	43.1	287	10.8	+20	02.9	217	59.5	-4	15.4
6	63	45.6	302	10.2	+20	02.4	233	00.5	-4	16.1
7	78	48.1	317	09.5		01.9	248	01.5		16.7
8	93	50.5	332	08.8		01.5	263	02.5		17.4
9	108	53.0	347	08.2		01.0	278	03.5		18.0
10	123	55.4	2	07.5	+20	00.5	293	04.5		18.7
11	138	57.9	17	06.8	+20	00.0	308	05.4	-4	19.4
12	154	00.4	32	06.2	+19	59.5	323	06.4	-4	20.0
13	169	02.8	47	05.5		59.0	338	07.4		20.7
14	184	05.3	62	04.8		58.5	353	08.4		21.3
15	199	07.8	77	04.2		58.0	8	09.4		22.0
16	214	10.2	92	03.5		57.5	23	10.4		22.6
17	229	12.7	107	02.8	+19	57.0	38	11.4	-4	23.3
18	244	15.2	122	02.2	+19	56.5	53	12.4	-4	23.9
19	259	17.6	137	01.5		56.0	68	13.4		24.6
20	274	20.1	152	00.8		55.5	83	14.4		25.2
21	289	22.5	167	00.2		54.9	98	15.4		25.9
22	304	25.0	181	59.5		54.4	113	16.4		26.5
23	319	27.5	196	58.8		53.9	128	17.3		27.2
24	334	29.9	211	58.2	+19	53.4	143	18.3	-4	27.9
Dif	—		-7		-5		+10		-7	
									+20	
									-1	
									+26	
									-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15/8 PMG: 12 ^h 01.8 ^m			Edad: 2.7 ^d PHE { 4 ^h : 55'1 12 ^h : 54'9 20 ^h : 54'8 R°: 42 ^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	31.4	+10	23.5	150	26.9		-3	24.7	60 N	19 21	20 07	21 09	8 53	86	19 32 1				
1	194	31.6		22.7	165	02.2	163		39.4	58	15	19 58	20 54	49	84	37 4				
2	209	31.8		21.8	179	37.5	163	-3	54.0	56	09	50	41	46	80	41 7				
3	224	32.0		20.9	194	12.8	163	-4	08.7	54	04	43	30	44	77	45 9				
4	239	32.2		20.0	208	48.2	164		23.3	52	19 00	36	21	42	74	48 12				
5	254	32.3	+10	19.2	223	23.5	163	-4	37.8	50	18 56	19 30	20 13	8 40	72	19 51 14				
6	269	32.5	+10	18.3	237	58.8	163	-4	52.4	45	18 48	19 18	19 56	8 35	67	19 57 19				
7	284	32.7		17.4	252	34.1	163	-5	06.9	40	41	09	42	31	63	20 03 23				
8	299	32.9		16.6	267	09.4	163		21.3	35	35	19 01	32	28	59	08 26				
9	314	33.0		15.7	281	44.8	164		35.8	30	29	18 54	23	25	56	12 29				
10	329	33.2		14.8	296	20.1	163	-5	50.2	20	20	43	19 09	20	51	19 34				
11	344	33.4	+10	13.9	310	55.4	163	-6	04.6	10 N	18 12	18 34	18 59	8 16	46	20 26 38				
12	359	33.6	+10	13.1	325	30.7	163	-6	18.9	0	18 05	18 26	18 50	8 12	42	20 32 42				
13	14	33.7		12.2	340	06.0	163		33.2	10 S	17 58	19	44	08	38	38 46				
14	29	33.9		11.3	354	41.3	163	-6	47.5	20	50	13	38	8 04	33	44 51				
15	44	34.1		10.4	9	16.6	163	-7	01.8	30	42	06	34	7 59	29	52 56				
16	59	34.3		09.6	23	51.9	163		16.0	35	37	18 03	32	57	25	20 56 60				
17	74	34.5	+10	08.7	38	27.2	163	-7	30.1	40	17 32	17 59	18 31	7 54	22	21 01 63				
18	89	34.6	+10	07.8	53	02.4	162	-7	44.3	45	17 25	17 55	18 29	7 50	18	21 07 67				
19	104	34.8		06.9	67	37.7	163	-7	58.4	50	18	51	28	46	14	14 72				
20	119	35.0		06.1	82	12.9	162	-8	12.4	52	14	49	28	44	12	17 74				
21	134	35.2		05.2	96	48.2	163		26.4	54	11	47	28	42	9	20 78				
22	149	35.4		04.3	111	23.4	162		40.4	56	06	44	28	40	6	24 80				
23	164	35.5		03.4	125	58.6	162	-8	54.4	58	17 02	42	28	38	3	29 83				
24	179	35.7	+10	02.6	140	33.8	162	-9	08.2	60 S	16 57	17 39	18 28	7 35	0	21 33 88				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 1 ^h 41.7 ^m			Mag: -3.9 PMG: 9 ^h 53 ^m			Mag: +1.5 PMG: 14 ^h 26 ^m			Mag: -2.0 PMG: 8 ^h 54 ^m			Mag: +0.7 PMG: 1 ^h 47 ^m							
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	334	29.9	211	58.2	+19	53.4	143	18.3	-4	27.9	226	19.4	+22	20.7	333	07.8	-2	05.5		
1	349	32.4	226	57.5		52.9	158	19.3		28.5	241	21.4		20.6	348	10.4		05.6		
2	4	34.9	241	56.8		52.4	173	20.3		29.2	256	23.3		20.6	3	13.0		05.6		
3	19	37.3	256	56.2		51.9	188	21.3		29.8	271	25.3		20.5	18	15.6		05.7		
4	34	39.8	271	55.5		51.4	203	22.3		30.5	286	27.2		20.5	33	18.2		05.8		
5	49	42.3	286	54.8	+19	50.9	218	23.3	-4	31.1	301	29.2	+22	20.4	48	20.8	-2	05.8		
6	64	44.7	301	54.2	+19	50.3	233	24.3	-4	31.8	316	31.2	+22	20.3	63	23.4	-2	05.9		
7	79	47.2	316	53.5		49.8	248	25.3		32.4	331	33.1		20.3	78	26.1		06.0		
8	94	49.7	331	52.8		49.3	263	26.3		33.1	346	35.1		20.2	93	28.7		06.0		
9	109	52.1	346	52.2		48.8	278	27.2		33.7	1	37.0		20.2	108	31.3		06.1		
10	124	54.6	1	51.5		48.3	293	28.2		34.4	16	39.0		20.1	123	33.9		06.2		
11	139	57.0	16	50.8	+19	47.8	308	29.2	-4	35.0	31	41.0	+22	20.1	138	36.5	-2	06.3		
12	154	59.5	31	50.2	+19	47.2	323	30.2	-4	35.7	46	42.9	+22	20.0	153	39.1	-2	06.3		
13	170	02.0	46	49.5		46.7	338	31.2		36.4	61	44.9		20.0	168	41.7		06.4		
14	185	04.4	61	48.9		46.2	353	32.2		37.0	76	46.8		19.9	183	44.3		06.5		
15	200	06.9	76	48.2		45.7	8	33.2		37.7	91	48.8		19.9	198	46.9		06.5		
16	215	09.4	91	47.5		45.1	23	34.2		38.3	106	50.8		19.8	213	49.5		06.6		
17	230	11.8	106	46.9	+19	44.6	38	35.2	-4	39.0	121	52.7	+22	19.7	228	52.1	-2	06.7		
18	245	14.3	121	46.2	+19	44.1	53	36.1	-4	39.6	136	54.7	+22	19.7	243	54.8	-2	06.8		
19	260	16.8	136	45.5		43.6	68	37.1		40.3	151	56.6		19.6	258	57.4		06.8		
20	275	19.2	151	44.9		43.0	83	38.1		40.9	166	58.6		19.6	274	00.0		06.9		
21	290	21.7	166	44.2		42.5	98	39.1		41.6	182	00.6		19.5	289	02.6		07.0		
22	305	24.2	181	43.6		42.0	113	40.1		42.2	197	02.5		19.5	304	05.2		07.0		
23	320	26.6	196	42.9		41.4	128	41.1		42.9	212	04.5		19.4	319	07.8		07.1		
24	335	29.1	211	42.2	+19	40.9	143	42.1	-4	43.5	227	06.5	+22	19.4	334	10.4	-2	07.2		
Dif	—			-7			+10			-7			+20			+26			-1	

UT	SOL				LUNA							Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15 ^h 8 PMG: 12 ^h 01.5 ^m				Edad: 3.7 ^d SD: 14 ^h 9 PMG: 15 ^h 03 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec		Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	179	35.7	+10	02.6	140	33.8		−9	08.2		139	60 N	2 55	3 57	4 43		10 18	88	19 31	0		
1	194	35.9		01.7	155	08.9	161		22.1	139	58	3 10	4 06	50		11 83		39	4			
2	209	36.1	+10	00.8	169	44.1	162		35.9	138	56	23	14	4 55		05 80		46	7			
3	224	36.3	+9	59.9	184	19.2	161	−9	49.7	138	54	34	22	5 00	10 00	76		53	10			
4	239	36.4		59.1	198	54.3	161	−10	03.4	137	52	43	28	04	9 55	73	19 58	13				
5	254	36.6	+9	58.2	213	29.4	161	−10	17.0	136	50	3 51	4 34	5 08	9 50	71	20 04	14				
6	269	36.8	+9	57.3	228	04.5	161	−10	30.7	137	45	4 08	4 45	5 16	9 41	66	20 15	20				
7	284	37.0		56.4	242	39.5	160		44.2	135	40	21	4 55	23	33 62		24	24				
8	299	37.2		55.6	257	14.5	160	−10	57.8	136	35	32	5 03	29	26 58		32	27				
9	314	37.3		54.7	271	49.5	160	−11	11.2	134	30	41	10	34	20 56		39	30				
10	329	37.5		53.8	286	24.5	160		24.7	135	20	4 54	21	43	10 50		20	32				
11	344	37.7	+9	52.9	300	59.5	160	−11	38.0	133	10 N	5 05	5 30	5 51	9 01	46	21 03	38				
12	359	37.9	+9	52.0	315	34.4	159	−11	51.4	134	0	5 13	5 37	5 58	8 53	42	21 13	43				
13	14	38.1		51.2	330	09.2	158	−12	04.6	132	10 S	19	44	6 05	45 38		23	47				
14	29	38.3		50.3	344	44.1	159		17.9	133	20	25	50	13	36 34		34	51				
15	44	38.4		49.4	359	18.9	158		31.0	131	30	29	5 57	21	26 29		47	56				
16	59	38.6		48.5	13	53.7	158		44.1	131	35	31	6 00	26	21 25	21 54	59					
17	74	38.8	+9	47.6	28	28.5	158	−12	57.2	130	40	5 32	6 04	6 31	8 14	23	22 03	62				
18	89	39.0	+9	46.8	43	03.2	157	−13	10.2	129	45	5 33	6 07	6 37	8 07	18	22 12	67				
19	104	39.2		45.9	57	37.9	157		23.1	129	50	34	12	44	7 58	14	24	72				
20	119	39.3		45.0	72	12.5	156		36.0	129	52	34	14	48	54 12		30	74				
21	134	39.5		44.1	86	47.2	157	−13	48.9	129	54	35	16	51	50 9		36	77				
22	149	39.7		43.2	101	21.8	156	−14	01.6	127	56	35	18	6 56	45 6		43	80				
23	164	39.9		42.3	115	56.3	155		14.3	127	58	35	20	7 00	40 2	22 51	84					
24	179	40.1	+9	41.5	130	30.8	155	−14	27.0	127	60 S	5 34	6 23	7 05	7 33	0	23 00	89				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 1 ^h 37.8 ^m		Mag: −3.9 PMG: 9 ^h 54 ^m				Mag: +1.5 PMG: 14 ^h 24 ^m				Mag: −2.0 PMG: 8 ^h 50 ^m				Mag: +0.7 PMG: 1 ^h 43 ^m							
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♀		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	335	29.1	211	42.2	+19	40.9	143	42.1	−4	43.5	227	06.5	+22	19.4	334	10.4	−2	07.2				
1	350	31.5	226	41.6		40.4	158	43.1		44.2	242	08.4		19.3	349	13.0		07.2				
2	5	34.0	241	40.9		39.8	173	44.0		44.8	257	10.4		19.3	4	15.6		07.3				
3	20	36.5	256	40.3		39.3	188	45.0		45.5	272	12.4		19.2	19	18.2		07.4				
4	35	38.9	271	39.6		38.8	203	46.0		46.2	287	14.3		19.1	34	20.9		07.5				
5	50	41.4	286	38.9	+19	38.2	218	47.0	−4	46.8	302	16.3	+22	19.1	49	23.5	−2	07.5				
6	65	43.9	301	38.3	+19	37.7	233	48.0	−4	47.5	317	18.2	+22	19.0	64	26.1	−2	07.6				
7	80	46.3	316	37.6		37.1	248	49.0		48.1	332	20.2		19.0	79	28.7		07.7				
8	95	48.8	331	37.0		36.6	263	50.0		48.8	347	22.2		18.9	94	31.3		07.7				
9	110	51.3	346	36.3		36.1	278	51.0		49.4	2	24.1		18.9	109	33.9		07.8				
10	125	53.7	1	35.6		35.5	293	51.9		50.1	17	26.1		18.8	124	36.5		07.9				
11	140	56.2	16	35.0	+19	35.0	308	52.9	−4	50.7	32	28.1	+22	18.8	139	39.1	−2	08.0				
12	155	58.6	31	34.3	+19	34.4	323	53.9	−4	51.4	47	30.0	+22	18.7	154	41.7	−2	08.0				
13	171	01.1	46	33.7		33.9	338	54.9		52.0	62	32.0		18.7	169	44.4		08.1				
14	186	03.6	61	33.0		33.3	353	55.9		52.7	77	34.0		18.6	184	47.0		08.2				
15	201	06.0	76	32.4		32.8	8	56.9		53.3	92	35.9		18.5	199	49.6		08.2				
16	216	08.5	91	31.7		32.3	23	57.8		54.0	107	37.9		18.5	214	52.2		08.3				
17	231	11.0	106	31.0	+19	31.7	38	58.8	−4	54.6	122	39.9	+22	18.4	229	54.8	−2	08.4				
18	246	13.4	121	30.4	+19	31.2	53	59.8	−4	55.3	137	41.8	+22	18.4	244	57.4	−2	08.5				
19	261	15.9	136	29.7		30.6	69	00.8		56.0	152	43.8		18.3	260	00.0		08.5				
20	276	18.4	151	29.1		30.0	84	01.8		56.6	167	45.8		18.3	275	02.6		08.6				
21	291	20.8	166	28.4		29.5	99	02.8		57.3	182	47.7		18.2	290	05.2		08.7				
22	306	23.3	181	27.8		28.9	114	03.8		57.9	197	49.7		18.2	305	07.9		08.7				
23	321	25.8	196	27.1		28.4	129	04.7		58.6	212	51.7		18.1	320	10.5		08.8				
24	336	28.2	211	26.5	+19	27.8	144	05.7	−4	59.2	227	53.6	+22	18.1	335	13.1	−2	08.9				
Dif	—		−7		−5		+10		−7		+20		−1		+26		−1					

UT	SOL			LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 01.2 ^m			Edad: 4.7 ^d SD: 14'8 PMG: 15 ^h 45 ^m PHE { 4 ^h : 54'4 12 ^h : 54'3 20 ^h : 54'3 R°: 46 ^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	179	40.1	+9	41.5	130	30.8	155	-14	27.0	126	19 15	20 01	21 01	11 46	92	19 31	1	
1	194	40.3		40.6	145	05.3	155		39.6	125	09	19 52	20 47	34	87	43	7	
2	209	40.5		39.7	159	39.7	154	-14	52.1	125	04	44	35	25	82	19 53	12	
3	224	40.6		38.8	174	14.1	154	-15	04.6	125	19 00	37	25	16	79	20 03	14	
4	239	40.8		37.9	188	48.4	153		17.0	124	18 56	31	16	08	76	11	18	
5	254	41.0	+9	37.0	203	22.7	153	-15	29.3	123	18 52	19 26	20 08	11 01	74	20 18	21	
6	269	41.2	+9	36.2	217	57.0	153	-15	41.6	123	18 44	19 15	19 52	10 47	68	20 35	25	
7	284	41.4		35.3	232	31.2	152	-15	53.8	122	38	19 06	39	35	64	48	29	
8	299	41.6		34.4	247	05.3	151	-16	06.0	122	32	18 58	29	24	61	20 59	32	
9	314	41.7		33.5	261	39.5	152		18.0	120	27	51	20	16	57	21 09	35	
10	329	41.9		32.6	276	13.5	150		30.0	120	19	41	19 07	10 00	53	26	40	
11	344	42.1	+9	31.7	290	47.6	151	-16	42.0	120	18 11	18 33	18 57	9 47	49	21 41	43	
12	359	42.3	+9	30.8	305	21.5	149	-16	53.8	118	18 04	18 25	18 50	9 35	45	21 56	46	
13	14	42.5		30.0	319	55.5	150	-17	05.6	118	17 58	19	44	23	41	22 10	50	
14	29	42.7		29.1	334	29.3	148		17.4	118	51	13	39	9 10	37	25	54	
15	44	42.9		28.2	349	03.2	149		29.0	116	43	07	35	8 55	33	43	58	
16	59	43.0		27.3	3	36.9	147		40.6	116	39	04	34	46	30	22 53	61	
17	74	43.2	+9	26.4	18	10.6	147	-17	52.1	115	17 34	18 01	18 32	8 37	27	23 05	64	
18	89	43.4	+9	25.5	32	44.3	147	-18	03.6	115	17 28	17 57	18 31	8 25	23	23 19	68	
19	104	43.6		24.6	47	17.9	146		14.9	113	21	54	31	12	18	36	73	
20	119	43.8		23.7	61	51.5	146		26.2	113	18	52	31	8 06	15	44	76	
21	134	44.0		22.9	76	25.0	145		37.4	112	14	50	31	7 59	13	23 53	79	
22	149	44.2		22.0	90	58.4	144		48.6	112	10	48	31	51	10	**	**	
23	164	44.4		21.1	105	31.8	144	-18	59.6	110	06	46	31	42	6	**	**	
24	179	44.5	+9	20.2	120	05.2	144	-19	10.6	110	17 01	17 44	18 32	7 33	1	**	**	
UT	ARIES		VENUS				MARTE				JÚPITER			SATURNO				
	PMG 1 ^h 33.9 ^m		Mag: -3.9 PMG: 9 ^h 55 ^m				Mag: +1.5 PMG: 14 ^h 23 ^m				Mag: -2.0 PMG: 8 ^h 47 ^m			Mag: +0.7 PMG: 1 ^h 39 ^m				
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	°	'	°	°	'	°	'	°	'	°	'	°	
0	336	28.2	211	26.5	+19	27.8	144	05.7	-4	59.2	227	53.6	+22	18.1	335	13.1	-2	08.9
1	351	30.7	226	25.8		27.3	159	06.7	-4	59.9	242	55.6		18.0	350	15.7		09.0
2	6	33.1	241	25.1		26.7	174	07.7	-5	00.5	257	57.6		17.9	5	18.3		09.0
3	21	35.6	256	24.5		26.2	189	08.7		01.2	272	59.5		17.9	20	20.9		09.1
4	36	38.1	271	23.8		25.6	204	09.7		01.8	288	01.5		17.8	35	23.5		09.2
5	51	40.5	286	23.2	+19	25.0	219	10.6	-5	02.5	303	03.5	+22	17.8	50	26.2	-2	09.2
6	66	43.0	301	22.5	+19	24.5	234	11.6	-5	03.1	318	05.4	+22	17.7	65	28.8	-2	09.3
7	81	45.5	316	21.9		23.9	249	12.6		03.8	333	07.4		17.7	80	31.4		09.4
8	96	47.9	331	21.2		23.3	264	13.6		04.4	348	09.4		17.6	95	34.0		09.5
9	111	50.4	346	20.6		22.8	279	14.6		05.1	3	11.3		17.6	110	36.6		09.5
10	126	52.9	1	19.9		22.2	294	15.5		05.7	18	13.3		17.5	125	39.2		09.6
11	141	55.3	16	19.3	+19	21.7	309	16.5	-5	06.4	33	15.3	+22	17.5	140	41.8	-2	09.7
12	156	57.8	31	18.6	+19	21.1	324	17.5	-5	07.1	48	17.2	+22	17.4	155	44.4	-2	09.7
13	172	00.2	46	18.0		20.5	339	18.5		07.7	63	19.2		17.3	170	47.1		09.8
14	187	02.7	61	17.3		19.9	354	19.5		08.4	78	21.2		17.3	185	49.7		09.9
15	202	05.2	76	16.7		19.4	9	20.5		09.0	93	23.1		17.2	200	52.3		10.0
16	217	07.6	91	16.0		18.8	24	21.4		09.7	108	25.1		17.2	215	54.9		10.0
17	232	10.1	106	15.4	+19	18.2	39	22.4	-5	10.3	123	27.1	+22	17.1	230	57.5	-2	10.1
18	247	12.6	121	14.7	+19	17.7	54	23.4	-5	11.0	138	29.0	+22	17.1	246	00.1	-2	10.2
19	262	15.0	136	14.1		17.1	69	24.4		11.6	153	31.0		17.0	261	02.7		10.3
20	277	17.5	151	13.4		16.5	84	25.4		12.3	168	33.0		17.0	276	05.4		10.3
21	292	20.0	166	12.8		15.9	99	26.3		12.9	183	35.0		16.9	291	08.0		10.4
22	307	22.4	181	12.1		15.4	114	27.3		13.6	198	36.9		16.8	306	10.6		10.5
23	322	24.9	196	11.5		14.8	129	28.3		14.2	213	38.9		16.8	321	13.2		10.5
24	337	27.4	211	10.8	+19	14.2	144	29.3	-5	14.9	228	40.9	+22	16.7	336	15.8	-2	10.6
Dif	—		-7		-6		+10		-7		+20		-1		+26		-1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 8 PMG:12 ^h 00.9 ^m			Edad: 5.7 ^d PHE { 4 ^h : 54 ^h /2 12 ^h : 54 ^h /2 20 ^h : 54 ^h /2 PMG: 16 ^h 30 ^m R°: 47 ^m														
	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	179	44.5	+9	20.2	120	05.2	142	-19	10.6	60 N	3 02	4 02	4 48	13 17	94	19 31	3	
1	194	44.7		19.3	134	38.4	142		21.5	58	16	11	54	13 00	86	19 48	11	
2	209	44.9		18.4	149	11.6	142		32.4	56	28	19	4 59	12 46	81	20 03	16	
3	224	45.1		17.5	163	44.8	142		43.1	54	38	25	5 03	33 78		16 20		
4	239	45.3		16.6	178	17.9	141	-19	53.8	52	47	31	07	23 74		27 23		
5	254	45.5	+9	15.7	192	50.9	140	-20	04.3	50	3 55	4 37	5 11	12 13	72	20 37	25	
6	269	45.7	+9	14.9	207	23.9	140	-20	14.8	45	4 11	4 48	5 19	11 53	67	20 58	30	
7	284	45.9		14.0	221	56.8	139		25.2	40	24	4 57	25	37 63		21 16	33	
8	299	46.0		13.1	236	29.7	139		35.6	35	34	5 05	31	24 59		30 36		
9	314	46.2		12.2	251	02.5	138		45.8	30	42	11	35	11 12	57	21 43	38	
10	329	46.4		11.3	265	35.2	137	-20	56.0	20	4 55	21	44	10 52	53	22 04	42	
11	344	46.6	+9	10.4	280	07.9	137	-21	06.0	10 N	5 05	5 30	5 51	10 35	49	22 23	45	
12	359	46.8	+9	09.5	294	40.5	136	-21	16.0	0	5 12	5 37	5 58	10 19	46	22 41	48	
13	14	47.0		08.6	309	13.0	135		25.9	10 S	18	43	6 04	10 03	43	22 58	51	
14	29	47.2		07.7	323	45.5	135		35.7	20	23	49	11	9 46	40	23 17	54	
15	44	47.4		06.8	338	17.9	134		45.4	30	27	54	19	26 36		39 58		
16	59	47.6		05.9	352	50.2	133	-21	55.0	35	28	5 57	23	15 33		23 52	60	
17	74	47.8	+9	05.0	7	22.5	133	-22	04.5	40	5 29	6 01	6 28	9 02	31	** ** *	**	
18	89	47.9	+9	04.1	21	54.7	132	-22	14.0	45	5 30	6 04	6 34	8 47	27	** ** *	**	
19	104	48.1		03.3	36	26.8	131		23.3	50	30	08	40	29 21		** ** *	**	
20	119	48.3		02.4	50	58.9	131		32.6	52	30	09	43	20 19		** ** *	**	
21	134	48.5		01.5	65	30.9	130		41.7	54	30	11	47	8 10	17	** ** *	**	
22	149	48.7	+9	00.6	80	02.8	129		50.8	56	30	13	51	7 59	13	0 03	81	
23	164	48.9	+8	59.7	94	34.7	129	-22	59.7	58	30	15	55	47 8		15 86		
24	179	49.1	+8	58.8	109	06.5	128	-23	08.6	60 S	5 29	6 17	6 59	7 33	2	0 29	92	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 1 ^h 29.9 ^m		Mag: -3.9 PMG: 9 ^h 56 ^m		Mag: +1.5 PMG: 14 ^h 21 ^m		Mag: -2.0 PMG: 8 ^h 44 ^m		Mag: +0.7 PMG: 1 ^h 35 ^m									
	hG ♊		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	337	27.4	211	10.8	+19	14.2	144	29.3	-5	14.9	228	40.9	+22	16.7	336	15.8	-2	10.6
1	352	29.8	226	10.2		13.6	159	30.3		15.5	243	42.8		16.7	351	18.4		10.7
2	7	32.3	241	09.5		13.0	174	31.2		16.2	258	44.8		16.6	6	21.0		10.8
3	22	34.7	256	08.9		12.5	189	32.2		16.8	273	46.8		16.6	21	23.7		10.8
4	37	37.2	271	08.2		11.9	204	33.2		17.5	288	48.8		16.5	36	26.3		10.9
5	52	39.7	286	07.6	+19	11.3	219	34.2	-5	18.1	303	50.7	+22	16.5	51	28.9	-2	11.0
6	67	42.1	301	06.9	+19	10.7	234	35.2	-5	18.8	318	52.7	+22	16.4	66	31.5	-2	11.0
7	82	44.6	316	06.3		10.1	249	36.1		19.5	333	54.7		16.4	81	34.1		11.1
8	97	47.1	331	05.6		09.5	264	37.1		20.1	348	56.6		16.3	96	36.7		11.2
9	112	49.5	346	05.0		09.0	279	38.1		20.8	3	58.6		16.2	111	39.3		11.3
10	127	52.0	1	04.3		08.4	294	39.1		21.4	19	00.6		16.2	126	42.0		11.3
11	142	54.5	16	03.7	+19	07.8	309	40.0	-5	22.1	34	02.6	+22	16.1	141	44.6	-2	11.4
12	157	56.9	31	03.0	+19	07.2	324	41.0	-5	22.7	49	04.5	+22	16.1	156	47.2	-2	11.5
13	172	59.4	46	02.4		06.6	339	42.0		23.4	64	06.5		16.0	171	49.8		11.6
14	188	01.9	61	01.7		06.0	354	43.0		24.0	79	08.5		16.0	186	52.4		11.6
15	203	04.3	76	01.1		05.4	9	44.0		24.7	94	10.4		15.9	201	55.0		11.7
16	218	06.8	91	00.5		04.8	24	44.9		25.3	109	12.4		15.9	216	57.7		11.8
17	233	09.2	105	59.8	+19	04.2	39	45.9	-5	26.0	124	14.4	+22	15.8	232	00.3	-2	11.8
18	248	11.7	120	59.2	+19	03.6	54	46.9	-5	26.6	139	16.4	+22	15.7	247	02.9	-2	11.9
19	263	14.2	135	58.5		03.0	69	47.9		27.3	154	18.3		15.7	262	05.5		12.0
20	278	16.6	150	57.9		02.4	84	48.8		27.9	169	20.3		15.6	277	08.1		12.1
21	293	19.1	165	57.2		01.8	99	49.8		28.6	184	22.3		15.6	292	10.7		12.1
22	308	21.6	180	56.6		01.2	114	50.8		29.2	199	24.3		15.5	307	13.4		12.2
23	323	24.0	195	55.9	+19	00.6	129	51.8		29.9	214	26.2		15.5	322	16.0		12.3
24	338	26.5	210	55.3	+19	00.0	144	52.8	-5	30.5	229	28.2	+22	15.4	337	18.6	-2	12.4
Dif	—		-6		-6		+10		-7		+20		-1		+26		-1	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG: 12 ^h 00.6 ^m			Edad: 6.7 ^d SD: 14'8 PMG: 17 ^h 17 ^m			PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'3 Rº: 51 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m
0	179	49.1	+8	58.8	109	06.5	127	-23	08.6	87	60 N	19	09	19	54	20	53	14	51	95
1	194	49.3		57.9	123	38.2	87		17.3	87	58	19	04	46	40		26	85	19	59
2	209	49.5		57.0	138	09.9	86		26.0	86	56	18	59	39	29	14	07	79	20	19
3	224	49.7		56.1	152	41.5	84		34.6	84	54	55	32	19	13	51	75		36	30
4	239	49.9		55.2	167	13.0	84		43.0	84	52	51	27	10	37	72		20	50	33
5	254	50.1	+8	54.3	181	44.5	82	-23	51.4	84	50	18	48	19	22	20	03	13	25	70
6	269	50.2	+8	53.4	196	15.8	82	-23	59.6	82	45	18	41	19	11	19	47	13	00	66
7	284	50.4		52.5	210	47.2	80	-24	07.8	80	40	34	19	02	35	12	40	63	21	49
8	299	50.6		51.6	225	18.4	80		15.8	80	35	29	18	55	26	23	61		22	06
9	314	50.8		50.7	239	49.6	78		23.8	80	30	25	49	18	12	09	59		21	46
10	329	51.0		49.8	254	20.7	77		31.6	78	20	17	39	19	05	11	45	56	22	46
11	344	51.2	+8	48.9	268	51.7	77	-24	39.3	77	10 N	18	10	18	31	18	56	11	24	54
12	359	51.4	+8	48.0	283	22.7	75	-24	47.0	77	0	18	04	18	25	18	49	11	05	51
13	14	51.6		47.1	297	53.6	75	-24	54.5	74	10 S	17	58	19	44	10	46	48	23	49
14	29	51.8		46.2	312	24.4	73	-25	01.9	74	20	51	14	39	26	45		**	**	**
15	44	52.0		45.3	326	55.1	73		09.2	73	30	44	08	36	10	02	43		**	**
16	59	52.2		44.4	341	25.8	72		16.4	72	35	40	05	35	9	48	41		**	**
17	74	52.4	+8	43.5	355	56.4	70	-25	23.4	70	40	17	35	18	03	18	34	9	33	38
18	89	52.6	+8	42.6	10	27.0	68	-25	30.4	70	45	17	30	18	00	18	34	9	14	35
19	104	52.8		41.7	24	57.4	68		37.2	68	50	24	17	56	34	8	50	31		48
20	119	53.0		40.8	39	27.8	66		44.0	68	52	21	55	34	39	29	0	58	75	
21	134	53.1		39.9	53	58.2	66		50.6	66	54	18	53	34	27	25	1	10	78	
22	149	53.3		39.0	68	28.4	64	-25	57.1	66	56	14	52	35	8	12	22		24	82
23	164	53.5		38.1	82	58.6	64	-26	03.5	64	58	10	50	35	7	55	17	1	41	87
24	179	53.7	+8	37.2	97	28.8	62	-26	09.7	62	60 S	17	06	17	48	18	36	7	35	8

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 1 ^h 26.0 ^m		Mag: -3.9 PMG: 9 ^h 57 ^m			Mag: +1.5 PMG: 14 ^h 20 ^m			Mag: -2.0 PMG: 8 ^h 41 ^m			Mag: +0.7 PMG: 1 ^h 30 ^m					
	hG ♈	Dec	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°			
0	338	26.5	210	55.3	+19	00.0	144	52.8	-5	30.5	229	28.2	+22	15.4			
1	353	29.0	225	54.7	+18	59.4	159	53.7		31.2	244	30.2		15.4			
2	8	31.4	240	54.0		58.8	174	54.7		31.8	259	32.2		15.3			
3	23	33.9	255	53.4		58.2	189	55.7		32.5	274	34.1		15.3			
4	38	36.3	270	52.7		57.6	204	56.7		33.1	289	36.1		15.2			
5	53	38.8	285	52.1	+18	57.0	219	57.6	-5	33.8	304	38.1	+22	15.1			
6	68	41.3	300	51.4	+18	56.4	234	58.6	-5	34.5	319	40.1	+22	15.1			
7	83	43.7	315	50.8		55.8	249	59.6		35.1	334	42.0		15.0			
8	98	46.2	330	50.2		55.2	265	00.6		35.8	349	44.0		15.0			
9	113	48.7	345	49.5		54.6	280	01.5		36.4	4	46.0		14.9			
10	128	51.1	0	48.9		54.0	295	02.5		37.1	19	48.0		14.9			
11	143	53.6	15	48.2	+18	53.4	310	03.5	-5	37.7	34	49.9	+22	14.8			
12	158	56.1	30	47.6	+18	52.7	325	04.5	-5	38.4	49	51.9	+22	14.8			
13	173	58.5	45	47.0		52.1	340	05.4		39.0	64	53.9		14.7			
14	189	01.0	60	46.3		51.5	355	06.4		39.7	79	55.9		14.6			
15	204	03.5	75	45.7		50.9	10	07.4		40.3	94	57.9		14.6			
16	219	05.9	90	45.0		50.3	25	08.3		41.0	109	59.8		14.5			
17	234	08.4	105	44.4	+18	49.7	40	09.3	-5	41.6	125	01.8	+22	14.5			
18	249	10.8	120	43.8	+18	49.0	55	10.3	-5	42.3	140	03.8	+22	14.4			
19	264	13.3	135	43.1		48.4	70	11.3		42.9	155	05.8		14.4			
20	279	15.8	150	42.5		47.8	85	12.2		43.6	170	07.7		14.3			
21	294	18.2	165	41.9		47.2	100	13.2		44.2	185	09.7		14.3			
22	309	20.7	180	41.2		46.6	115	14.2		44.9	200	11.7		14.2			
23	324	23.2	195	40.6		45.9	130	15.2		45.5	215	13.7		14.2			
24	339	25.6	210	39.9	+18	45.3	145	16.1	-5	46.2	230	15.7	+22	14.1			
Dif	—		-6		-6		+10		-7		+20		-1		+26		-1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 00.3 ^m			Edad: 7.7 ^d SD: 14'8 PMG: 18 ^h 07 ^m PHE { 4 ^h : 54'4 12 ^h : 54'5 20 ^h : 54'6 R°: 53 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m	m	
0	179	53.7	+8	97	28.8	110	62	-26	09.7	60	N	3 08	4 08	4 53	16 25	78	19 44	32
1	194	53.9			36.3	111	58.8		15.9	58		22	16	4 58	15 50	70	20 19	40
2	209	54.1			35.4	126	28.8		21.9	56		33	23	5 03	25 66	20 45	42	
3	224	54.3			34.5	140	58.7		27.8	54		43	29	07	15 05	64	21 05	45
4	239	54.5			33.6	155	28.6		33.6	52		51	35	10	14 48	63	22 46	
5	254	54.7	+8	32.7		169	58.3	-26	39.2	50		3 59	4 40	5 14	14 33	62	21 37	47
6	269	54.9	+8	31.8		184	28.1	-26	44.8	45		4 14	4 51	5 21	14 04	60	22 06	49
7	284	55.1			30.9	198	57.7		50.2	40		26	4 59	27	13 41	59	30 49	
8	299	55.3			30.0	213	27.3	-26	55.5	35		35	5 06	32	23 57		22 49	50
9	314	55.5			29.1	227	56.8	-27	00.7	30		43	12	37	13 07	56	23 05	51
10	329	55.7			28.2	242	26.3		05.7	20		4 56	22	44	12 39	55	33 52	
11	344	55.9	+8	27.3		256	55.7	-27	10.6	10	N	5 05	5 30	5 51	12 16	54	23 57	53
12	359	56.1	+8	26.4		271	25.0	-27	15.4	0		5 12	5 36	5 57	11 55	52	*** ** *	
13	14	56.3			25.5	285	54.3		20.1	10	S	17	42	6 03	33 51		*** ** *	
14	29	56.5			24.6	300	23.5		24.6	20		21	47	09	11 10	49	0 11	55
15	44	56.7			23.7	314	52.6		29.0	30		24	52	16	10 43	48	37 57	
16	59	56.9			22.8	329	21.7		33.3	35		25	55	20	28 46		0 52	58
17	74	57.1	+8	21.9		343	50.7	-27	37.4	40		5 26	5 58	6 25	10 09	46	1 10	60
18	89	57.3	+8	21.0		358	19.6	-27	41.4	45		5 26	6 00	6 30	9 48	43	1 31	62
19	104	57.5			20.1	12	48.5		45.3	50		26	04	36	20 40		1 58	66
20	119	57.7			19.2	27	17.4		49.1	52		26	05	39	9 06	39	2 11	68
21	134	57.9			18.3	41	46.1		52.7	54		26	06	42	8 51	37	26 70	
22	149	58.1			17.3	56	14.9		56.1	56		25	08	45	32 34		2 44	73
23	164	58.3			16.4	70	43.5	-27	59.5	58		24	10	49	8 10	29	3 06	78
24	179	58.4	+8	15.5		85	12.1	-28	02.7	60	S	5 23	6 11	6 54	7 41	20	3 35	87
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 1 ^h 22.1 ^m		Mag: -3.9 PMG: 9 ^h 58 ^m				Mag: +1.5 PMG: 14 ^h 18 ^m				Mag: -2.0 PMG: 8 ^h 38 ^m				Mag: +0.7 PMG: 1 ^h 26 ^m			
	hG ♈		hG ♊	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	°	'	°	°	'	°	'	°	°	'	°	°	'	°	'
0	339	25.6	210	39.9	+18	45.3	145	16.1	-5	46.2	230	15.7	+22	14.1	338	21.4	-2	14.1
1	354	28.1	225	39.3		44.7	160	17.1		46.8	245	17.6		14.0	353	24.0		14.2
2	9	30.6	240	38.7		44.1	175	18.1		47.5	260	19.6		14.0	8	26.7		14.3
3	24	33.0	255	38.0		43.4	190	19.0		48.1	275	21.6		13.9	23	29.3		14.3
4	39	35.5	270	37.4		42.8	205	20.0		48.8	290	23.6		13.9	38	31.9		14.4
5	54	38.0	285	36.8	+18	42.2	220	21.0	-5	49.4	305	25.5	+22	13.8	53	34.5	-2	14.5
6	69	40.4	300	36.1	+18	41.6	235	22.0	-5	50.1	320	27.5	+22	13.8	68	37.1	-2	14.6
7	84	42.9	315	35.5		40.9	250	22.9		50.7	335	29.5		13.7	83	39.7		14.6
8	99	45.3	330	34.9		40.3	265	23.9		51.4	350	31.5		13.7	98	42.4		14.7
9	114	47.8	345	34.2		39.7	280	24.9		52.0	5	33.5		13.6	113	45.0		14.8
10	129	50.3	0	33.6		39.0	295	25.8		52.7	20	35.4		13.5	128	47.6		14.9
11	144	52.7	15	33.0	+18	38.4	310	26.8	-5	53.3	35	37.4	+22	13.5	143	50.2	-2	14.9
12	159	55.2	30	32.3	+18	37.8	325	27.8	-5	54.0	50	39.4	+22	13.4	158	52.8	-2	15.0
13	174	57.7	45	31.7		37.1	340	28.8		54.6	65	41.4		13.4	173	55.5		15.1
14	190	00.1	60	31.1		36.5	355	29.7		55.3	80	43.4		13.3	188	58.1		15.2
15	205	02.6	75	30.4		35.8	10	30.7		55.9	95	45.4		13.3	204	00.7		15.2
16	220	05.1	90	29.8		35.2	25	31.7		56.6	110	47.3		13.2	219	03.3		15.3
17	235	07.5	105	29.2	+18	34.6	40	32.6	-5	57.2	125	49.3	+22	13.2	234	05.9	-2	15.4
18	250	10.0	120	28.5	+18	33.9	55	33.6	-5	57.9	140	51.3	+22	13.1	249	08.6	-2	15.5
19	265	12.5	135	27.9		33.3	70	34.6		58.5	155	53.3		13.1	264	11.2		15.5
20	280	14.9	150	27.3		32.6	85	35.5		59.2	170	55.3		13.0	279	13.8		15.6
21	295	17.4	165	26.6		32.0	100	36.5	-5	59.9	185	57.2		12.9	294	16.4		15.7
22	310	19.8	180	26.0		31.4	115	37.5	-6	00.5	200	59.2		12.9	309	19.0		15.7
23	325	22.3	195	25.4		30.7	130	38.4		01.2	216	01.2		12.8	324	21.7		15.8
24	340	24.8	210	24.8	+18	30.1	145	39.4	-6	01.8	231	03.2	+22	12.8	339	24.3	-2	15.9
Dif	—		-6		-6		+10		-7		+20		-1		+26		-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 59.9 ^m			Edad: 8.7 ^d PHE { 4 ^h : 54'7 12 ^h : 54'9 20 ^h : 55'1 Rº: 55 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Civil			Náutico	Hora	Rº	Hora	Rº	
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	h m	h m	h m	
0	179 58.4	+ 8 15.5	85 12.1	96	-28 02.7	31	60 N	19 03	19 48	20 46	17 43	42	20 16	73			
1	194 58.6		99 40.7	95	05.8	29	58	18 58	40	33	17 00	47	20 59	67			
2	209 58.8		114 09.2	95	08.7	28	56	54	33	22	16 31	50	21 27	66			
3	224 59.0		128 37.7	94	11.5	26	54	50	27	13	16 09	51	21 50	66			
4	239 59.2		143 06.1	93	14.1	25	52	47	22	20 05	15 51	51	22 08	63			
5	254 59.4	+ 8 11.0	157 34.4	93	-28 16.6	25	50	18 44	19 17	19 58	15 35	52	22 24	62			
6	269 59.6	+ 8 10.1	172 02.7	93	-28 19.0	24	45	18 37	19 07	19 43	15 04	53	22 55	61			
7	284 59.8		186 31.0	93	21.3	23	40	31	18 59	32	14 40	53	23 19	60			
8	300 00.0		200 59.2	92	23.4	21	35	27	52	23	20 54		39 59				
9	315 00.2		215 27.3	91	25.3	19	30	22	47	15	14 03	54	23 56	59			
10	330 00.4		229 55.4	91	27.1	18	20	15	37	19 04	13 34	55	** ** *	**			
11	345 00.6	+ 8 05.5	244 23.5	91	-28 28.8	17	10 N	18 09	18 30	18 55	13 10	55	** ** *	**			
12	0 00.8	+ 8 04.6	258 51.5	90	-28 30.3	15	0	18 03	18 24	18 48	12 47	55	0 19	55			
13	15 01.0		273 19.5	90	31.7	14	10 S	17 58	19	43	12 24	55	0 42	55			
14	30 01.2		287 47.4	89	32.9	12	20	52	14	40	11 59	56	1 06	55			
15	45 01.4		302 15.3	89	34.0	11	30	45	09	37	31 56		34 56				
16	60 01.6		316 43.2	89	35.0	10	35	41	07	36	11 14	56	1 50	57			
17	75 01.8	+ 8 00.1	331 11.0	88	-28 35.8	8	40	17 37	18 04	18 36	10 55	55	2 10	57			
18	90 02.0	+ 7 59.2	345 38.8	88	-28 36.4	6	45	17 32	18 02	18 36	10 31	55	2 33	58			
19	105 02.2		0 06.5	87	36.9	5	50	27	17 59	37	10 00	56	3 04	57			
20	120 02.4		14 34.2	87	37.3	4	52	24	58	37	9 45	56	19 58				
21	135 02.6		29 01.9	87	37.5	2	54	21	57	38	28 55		36 59				
22	150 02.8		43 29.6	87	37.6	1	56	18	55	38	9 06	55	3 57	59			
23	165 03.0		57 57.2	86	37.5	1	58	14	54	39	8 39	55	4 24	60			
24	180 03.2	+ 7 53.7	72 24.8	86	-28 37.2	3	60 S	17 10	17 53	18 41	8 01	53	5 02	62			
UT	ARIES PMG 1 ^h 18.1 ^m		VENUS Mag: -3.9 PMG: 9 ^h 59 ^m		MARTE Mag: +1.5 PMG: 14 ^h 16 ^m		JÚPITER Mag: -2.0 PMG: 8 ^h 35 ^m		SATURNO Mag: +0.6 PMG: 1 ^h 22 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	340 24.8	210 24.8	+ 18 30.1	145 39.4	- 6 01.8	231 03.2	+ 22 12.8	339 24.3	- 2 15.9								
1	355 27.2	225 24.1	29.4	160 40.4	02.5	246 05.2	12.7	354 26.9	16.0								
2	10 29.7	240 23.5	28.8	175 41.4	03.1	261 07.2	12.7	9 29.5	16.0								
3	25 32.2	255 22.9	28.1	190 42.3	03.8	276 09.1	12.6	24 32.2	16.1								
4	40 34.6	270 22.2	27.5	205 43.3	04.4	291 11.1	12.6	39 34.8	16.2								
5	55 37.1	285 21.6	+ 18 26.8	220 44.3	- 6 05.1	306 13.1	+ 22 12.5	54 37.4	- 2 16.3								
6	70 39.6	300 21.0	+ 18 26.2	235 45.2	- 6 05.7	321 15.1	+ 22 12.4	69 40.0	- 2 16.3								
7	85 42.0	315 20.3	25.5	250 46.2	06.4	336 17.1	12.4	84 42.6	16.4								
8	100 44.5	330 19.7	24.9	265 47.2	07.0	351 19.1	12.3	99 45.3	16.5								
9	115 46.9	345 19.1	24.2	280 48.1	07.7	6 21.0	12.3	114 47.9	16.6								
10	130 49.4	0 18.5	23.6	295 49.1	08.3	21 23.0	12.2	129 50.5	16.6								
11	145 51.9	15 17.8	+ 18 22.9	310 50.1	- 6 09.0	36 25.0	+ 22 12.2	144 53.1	- 2 16.7								
12	160 54.3	30 17.2	+ 18 22.2	325 51.0	- 6 09.6	51 27.0	+ 22 12.1	159 55.7	- 2 16.8								
13	175 56.8	45 16.6	21.6	340 52.0	10.3	66 29.0	12.1	174 58.4	16.9								
14	190 59.3	60 16.0	20.9	355 53.0	10.9	81 31.0	12.0	190 01.0	16.9								
15	206 01.7	75 15.3	20.3	10 53.9	11.6	96 33.0	12.0	205 03.6	17.0								
16	221 04.2	90 14.7	19.6	25 54.9	12.2	111 34.9	11.9	220 06.2	17.1								
17	236 06.7	105 14.1	+ 18 18.9	40 55.9	- 6 12.9	126 36.9	+ 22 11.8	235 08.9	- 2 17.2								
18	251 09.1	120 13.5	+ 18 18.3	55 56.8	- 6 13.5	141 38.9	+ 22 11.8	250 11.5	- 2 17.2								
19	266 11.6	135 12.8	17.6	70 57.8	14.2	156 40.9	11.7	265 14.1	17.3								
20	281 14.1	150 12.2	17.0	85 58.8	14.8	171 42.9	11.7	280 16.7	17.4								
21	296 16.5	165 11.6	16.3	100 59.7	15.5	186 44.9	11.6	295 19.3	17.5								
22	311 19.0	180 11.0	15.6	116 00.7	16.1	201 46.9	11.6	310 22.0	17.5								
23	326 21.4	195 10.3	15.0	131 01.6	16.8	216 48.8	11.5	325 24.6	17.6								
24	341 23.9	210 09.7	+ 18 14.3	146 02.6	- 6 17.4	231 50.8	+ 22 11.5	340 27.2	- 2 17.7								
Dif	—	- 6	- 7	+ 10	- 7	+ 20	- 1	+ 26	- 1								

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG:11 ^h 59.6 ^m			Edad: 9.7 ^d PHE { 4 ^h : 55'3 12 ^h : 55'5 20 ^h : 55'7 SD: 15'0 PMG: 19 ^h 54 ^m R°: 54 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	180	03.2	+7	53.7	72	24.8	85	-28	37.2	3	15	4	13	4	58	18	24		
1	195	03.4		52.8	86	52.3	85		36.9	6	27	21		5	02	17	46		
2	210	03.7		51.9	101	19.9	86		36.3	7	38	27		07	17	19	31		
3	225	03.9		51.0	115	47.4	85		35.6	8	47	33		10	16	58	35		
4	240	04.1		50.1	130	14.9	85		34.8	10	55	38		14	41	37	23		
5	255	04.3	+7	49.1	144	42.3	84	-28	33.8	11	4	43	4	17	16	26	39		
6	270	04.5	+7	48.2	159	09.8	85	-28	32.7	13	4	53	5	23	15	56	42		
7	285	04.7		47.3	173	37.2	84		31.4	14	28	5	01	29	32	45	23		
8	300	04.9		46.4	188	04.6	84		30.0	16	37	08		34	15	12	47		
9	315	05.1		45.5	202	32.0	84		28.4	17	45	13		38	14	56	48		
10	330	05.3		44.6	216	59.4	84		26.7	19	4	56	22	45	27	51	0		
11	345	05.5	+7	43.7	231	26.7	83	-28	24.8	21	5	05	5	30	5	51	14		
12	0	05.7	+7	42.8	245	54.1	84	-28	22.7	22	5	11	5	35	5	56	13		
13	15	05.9		41.8	260	21.4	83		20.5	23	16	41	6	02	13	18	56		
14	30	06.1		40.9	274	48.7	83		18.2	25	20	45	08	12	54	57	2		
15	45	06.3		40.0	289	16.0	83		15.7	27	20	50	14	25	60	29	50		
16	60	06.5		39.1	303	43.3	83		13.0	28	23	52	18	12	08	61	2		
17	75	06.7	+7	38.2	318	10.6	83	-28	10.2	29	5	23	5	54	6	22	11		
18	90	06.9	+7	37.3	332	37.9	83	-28	07.3	31	5	23	5	57	6	26	11		
19	105	07.1		36.3	347	05.2	83		04.2	33	22	6	00	32	10	54	68		
20	120	07.3		35.4	1	32.5	83	-28	00.9	34	22	01	35	39	69	15	44		
21	135	07.5		34.5	15	59.8	83	-27	57.5	36	21	02	37	21	71	33	42		
22	150	07.7		33.6	30	27.1	83		53.9	37	20	03	40	10	00	74	4		
23	165	07.9		32.7	44	54.3	82		50.2	39	19	04	44	9	32	79	5		
24	180	08.1	+7	31.8	59	21.6	83	-27	46.3		5	18	6	06	8	52	88		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 ^h 14.2 ^m		Mag: -3.9 PMG: 10 ^h 00 ^m		Mag: +1.5 PMG: 14 ^h 15 ^m		Mag: -2.0 PMG: 8 ^h 31 ^m		Mag: +0.6 PMG: 1 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	341	23.9	210	09.7	+18	14.3	146	02.6	-6	17.4
1	356	26.4	225	09.1		13.6	161	03.6		18.1
2	11	28.8	240	08.5		13.0	176	04.5		18.7
3	26	31.3	255	07.8		12.3	191	05.5		19.4
4	41	33.8	270	07.2		11.6	206	06.5		20.0
5	56	36.2	285	06.6	+18	10.9	221	07.4	-6	20.7
6	71	38.7	300	06.0	+18	10.3	236	08.4	-6	21.3
7	86	41.2	315	05.4		09.6	251	09.4		22.0
8	101	43.6	330	04.7		08.9	266	10.3		22.6
9	116	46.1	345	04.1		08.2	281	11.3		23.3
10	131	48.6	0	03.5		07.6	296	12.2		23.9
11	146	51.0	15	02.9	+18	06.9	311	13.2	-6	24.6
12	161	53.5	30	02.3	+18	06.2	326	14.2	-6	25.2
13	176	55.9	45	01.6		05.5	341	15.1		25.9
14	191	58.4	60	01.0		04.8	356	16.1		26.5
15	207	00.9	75	00.4		04.2	11	17.1		27.1
16	222	03.3	89	59.8		03.5	26	18.0		27.8
17	237	05.8	104	59.2	+18	02.8	41	19.0	-6	28.4
18	252	08.3	119	58.5	+18	02.1	56	19.9	-6	29.1
19	267	10.7	134	57.9		01.4	71	20.9		29.7
20	282	13.2	149	57.3		00.7	86	21.9		30.4
21	297	15.7	164	56.7	+18	00.1	101	22.8		31.0
22	312	18.1	179	56.1	+17	59.4	116	23.8		31.7
23	327	20.6	194	55.5		58.7	131	24.8		32.3
24	342	23.1	209	54.8	+17	58.0	146	25.7	-6	33.0
Dif	—		-6		-7		+10		-6	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG:11 ^h 59.3 ^m			Edad: 10.7 ^d SD: 15'2 PMG: 20 ^h 48 ^m PHE { 4 ^h : 55'9 12 ^h : 56'1 20 ^h : 56'4 R°: 54 ^m							Civil			Náutico			Hora R°		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif												
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	m	h m	m	h m	m	
0	180	08.1	+7	31.8	59	21.6	83	-27	46.3	40	60 N	18 57	19 41	20 38	18 37	6	23 07	107	
1	195	08.3		30.8	73	48.9	83		42.3	42	58	53	34	26	18 11	14		33 98	
2	210	08.5		29.9	88	16.2	83		38.1	43	56	49	28	16	17 50	20		23 53 93	
3	225	08.7		29.0	102	43.5	83		33.8	44	54	45	22	07		33 24	** ** *	** ** *	
4	240	08.9		28.1	117	10.8	83		29.3	45	52	42	17	20 00		18 27	** ** *	** ** *	
5	255	09.1	+7	27.2	131	38.2	84	-27	24.7	46	50	18 39	19 13	19 53		17 05	30	** ** *	
6	270	09.3	+7	26.3	146	05.5	83	-27	19.9	48	45	18 33	19 03	19 39		16 38	36	** ** *	
7	285	09.6		25.3	160	32.8	83		14.9	50	40	28	18 56	29		16 17	39	0 18 67	
8	300	09.8		24.4	175	00.2	84		09.8	51	35	24	49	20		15 59	43	37 65	
9	315	10.0		23.5	189	27.6	84	-27	04.6	52	30	20	44	13		44 45		0 53 63	
10	330	10.2		22.6	203	54.9	83	-26	59.2	54	20	13	36	19 02		15 18	49	1 21 60	
11	345	10.4	+7	21.7	218	22.3	84	-26	53.6	56	10 N	18 08	18 29	18 54		14 56	52	1 45 57	
12	0	10.6	+7	20.7	232	49.8	85	-26	47.9	57	0	18 03	18 23	18 48		14 35	55	2 07 55	
13	15	10.8		19.8	247	17.2	84		42.1	58	10 S	17 57	19	43		14 14	58	29 53	
14	30	11.0		18.9	261	44.6	84		36.1	60	20	52	14	40		13 51	61	2 52 50	
15	45	11.2		18.0	276	12.1	85		29.9	62	30	46	10	38		25 65		3 19 47	
16	60	11.4		17.1	290	39.6	85		23.7	62	35	43	08	38		13 09	67	35 45	
17	75	11.6	+7	16.1	305	07.1	85	-26	17.2	65	40	17 39	18 06	18 38		12 51	70	3 54 43	
18	90	11.8	+7	15.2	319	34.7	86	-26	10.6	66	45	17 35	18 04	18 38		12 30	73	4 16 40	
19	105	12.0		14.3	334	02.3	86	-26	03.9	67	50	30	02	39		12 02	78	45 35	
20	120	12.2		13.4	348	29.9	86	-25	57.0	69	52	27	01	40		11 48	81	4 59 32	
21	135	12.4		12.5	2	57.5	86		49.9	71	54	25	18 00	41		32 85		5 15 29	
22	150	12.6		11.5	17	25.1	86		42.7	72	56	22	17 59	42		11 14	88	34 25	
23	165	12.9		10.6	31	52.8	87		35.4	73	58	19	58	44		10 51	94	5 57 20	
24	180	13.1	+7	09.7	46	20.5	87	-25	27.9	75	60 S	17 15	17 57	18 45		10 20	105	6 28 10	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 1 ^h 10.3 ^m		Mag: -3.9 PMG: 10 ^h 01 ^m			Mag: +1.6 PMG: 14 ^h 13 ^m			Mag: -2.0 PMG: 8 ^h 28 ^m			Mag: +0.6 PMG: 1 ^h 14 ^m						
	hG ♈	Dec	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	342	23.1	209	54.8	+17	58.0	146	25.7	-6	33.0	232	38.6	+22	10.1	341	30.2	-2	19.5
1	357	25.5	224	54.2		57.3	161	26.7		33.6	247	40.6		10.1	356	32.8		19.6
2	12	28.0	239	53.6		56.6	176	27.6		34.3	262	42.6		10.0	11	35.4		19.6
3	27	30.4	254	53.0		55.9	191	28.6		34.9	277	44.5		10.0	26	38.0		19.7
4	42	32.9	269	52.4		55.2	206	29.6		35.6	292	46.5		09.9	41	40.7		19.8
5	57	35.4	284	51.8	+17	54.5	221	30.5	-6	36.2	307	48.5	+22	09.9	56	43.3	-2	19.9
6	72	37.8	299	51.2	+17	53.8	236	31.5	-6	36.9	322	50.5	+22	09.8	71	45.9	-2	19.9
7	87	40.3	314	50.5		53.1	251	32.4		37.5	337	52.5		09.7	86	48.5		20.0
8	102	42.8	329	49.9		52.5	266	33.4		38.2	352	54.5		09.7	101	51.2		20.1
9	117	45.2	344	49.3		51.8	281	34.3		38.8	7	56.5		09.6	116	53.8		20.2
10	132	47.7	359	48.7		51.1	296	35.3		39.5	22	58.5		09.6	131	56.4		20.2
11	147	50.2	14	48.1	+17	50.4	311	36.3	-6	40.1	38	00.5	+22	09.5	146	59.0	-2	20.3
12	162	52.6	29	47.5	+17	49.7	326	37.2	-6	40.8	53	02.5	+22	09.5	162	01.7	-2	20.4
13	177	55.1	44	46.9		49.0	341	38.2		41.4	68	04.5		09.4	177	04.3		20.5
14	192	57.5	59	46.2		48.3	356	39.1		42.1	83	06.5		09.4	192	06.9		20.6
15	208	00.0	74	45.6		47.6	11	40.1		42.7	98	08.5		09.3	207	09.5		20.6
16	223	02.5	89	45.0		46.8	26	41.1		43.4	113	10.5		09.2	222	12.2		20.7
17	238	04.9	104	44.4	+17	46.1	41	42.0	-6	44.0	128	12.5	+22	09.2	237	14.8	-2	20.8
18	253	07.4	119	43.8	+17	45.4	56	43.0	-6	44.7	143	14.4	+22	09.1	252	17.4	-2	20.9
19	268	09.9	134	43.2		44.7	71	43.9		45.3	158	16.4		09.1	267	20.0		20.9
20	283	12.3	149	42.6		44.0	86	44.9		46.0	173	18.4		09.0	282	22.7		21.0
21	298	14.8	164	42.0		43.3	101	45.8		46.6	188	20.4		09.0	297	25.3		21.1
22	313	17.3	179	41.4		42.6	116	46.8		47.3	203	22.4		08.9	312	27.9		21.2
23	328	19.7	194	40.7		41.9	131	47.8		47.9	218	24.4		08.9	327	30.5		21.2
24	343	22.2	209	40.1	+17	41.2	146	48.7	-6	48.6	233	26.4	+22	08.8	342	33.2	-2	21.3
Dif	—		-6		-7		+10		-6		+20		-1		+26		-8	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 59.0 ^m			Edad: 11.7 ^d PHE { 4 ^h : 56'6 12 ^h : 56'9 20 ^h : 57'2 R°: 51 ^m													
	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	180	13.1	+7 09.7	46 20.5	87	–25 27.9	76	60 N	3 21	4 18	5 02	18 42	1	** ** *	**	**	
1	195	13.3	08.8	60 48.2	87	20.3	78	58	33	25	07	24	7	** ** *	**	**	
2	210	13.5	07.9	75 16.0	88	12.5	79	56	43	32	10	18 09	12	** ** *	**	**	
3	225	13.7	06.9	89 43.8	88	–25 04.6	80	54	52	37	14	17 56	15	0 10	87	**	
4	240	13.9	06.0	104 11.6	88	–24 56.6	82	52	3 59	42	17	44 19		25	83	**	
5	255	14.1	+7 05.1	118 39.5	89	–24 48.4	80	50	4 06	4 46	5 20	17 34	22	0 37	80	**	
6	270	14.3	+7 04.2	133 07.4	89	–24 40.0	84	45	4 20	4 56	5 26	17 12	28	1 03	74	**	
7	285	14.5	03.2	147 35.3	89	31.5	85	40	30	5 03	31	16 55	32	23	71	**	
8	300	14.7	02.3	162 03.3	90	22.9	86	35	39	09	35	40 36		40	67	**	
9	315	14.9	01.4	176 31.3	90	14.1	88	30	46	14	39	27 39		1 55	64	**	
10	330	15.1	+7 00.5	190 59.4	91	–24 05.2	89	20	4 57	23	45	16 05	44	2 20	60	**	
11	345	15.3	+6 59.5	205 27.5	91	–23 56.2	90	10 N	5 05	5 29	5 51	15 46	48	2 41	56	**	
12	0	15.6	+6 58.6	219 55.6	91	–23 47.0	92	0	5 11	5 35	5 56	15 28	52	3 01	52	**	
13	15	15.8	57.7	234 23.7	91	37.7	93	10 S	15	40	6 01	15 10	56	20	49	**	
14	30	16.0	56.8	248 51.9	92	28.2	95	20	18	44	06	14 51	60	3 41	45	**	
15	45	16.2	55.9	263 20.2	93	18.6	96	30	20	48	12	28 65		4 05	41	**	
16	60	16.4	54.9	277 48.4	92	–23 08.9	97	35	20	49	15	15 68		19	38	**	
17	75	16.6	+6 54.0	292 16.8	94	–22 59.0	99	40	5 20	5 51	6 19	14 00	71	4 35	35	**	
18	90	16.8	+6 53.1	306 45.1	93	–22 49.0	100	45	5 19	5 53	6 23	13 42	76	4 55	30	**	
19	105	17.0	52.1	321 13.5	94	38.9	101	50	18	55	28	19 82		5 18	26	**	
20	120	17.2	51.2	335 42.0	95	28.6	103	52	17	56	30	13 08	85	30	22	**	
21	135	17.4	50.3	350 10.4	94	18.2	104	54	16	57	33	12 55	89	43	19	**	
22	150	17.6	49.4	4 39.0	96	–22 07.7	105	56	15	58	35	41 93		5 58	15	**	
23	165	17.9	48.4	19 07.5	95	–21 57.0	107	58	14	5 59	38	24 98		6 15	10	**	
24	180	18.1	+6 47.5	33 36.2	97	–21 46.2	108	60 S	5 12	6 00	6 42	12 03	105	6 37	3	**	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 1 ^h 06.3 ^m		Mag: –3.9 PMG: 10 ^h 02 ^m			Mag: +1.6 PMG: 14 ^h 12 ^m			Mag: –2.0 PMG: 8 ^h 25 ^m			Mag: +0.6 PMG: 1 ^h 10 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	343	22.2	209 40.1	+17 41.2	146 48.7	–6 48.6	233 26.4	+22 08.8	342 33.2	–2 21.3							
1	358	24.7	224 39.5	40.5	161 49.7	49.2	248 28.4	08.8	357 35.8	21.4							
2	13	27.1	239 38.9	39.8	176 50.6	49.8	263 30.4	08.7	12 38.4	21.5							
3	28	29.6	254 38.3	39.1	191 51.6	50.5	278 32.4	08.6	27 41.1	21.5							
4	43	32.0	269 37.7	38.3	206 52.5	51.1	293 34.4	08.6	42 43.7	21.6							
5	58	34.5	284 37.1	+17 37.6	221 53.5	–6 51.8	308 36.4	+22 08.5	57 46.3	–2 21.7							
6	73	37.0	299 36.5	+17 36.9	236 54.5	–6 52.4	323 38.4	+22 08.5	72 48.9	–2 21.8							
7	88	39.4	314 35.9	36.2	251 55.4	53.1	338 40.4	08.4	87 51.6	21.8							
8	103	41.9	329 35.3	35.5	266 56.4	53.7	353 42.4	08.4	102 54.2	21.9							
9	118	44.4	344 34.7	34.8	281 57.3	54.4	8 44.4	08.3	117 56.8	22.0							
10	133	46.8	359 34.1	34.0	296 58.3	55.0	23 46.4	08.3	132 59.4	22.1							
11	148	49.3	14 33.5	+17 33.3	311 59.2	–6 55.7	38 48.4	+22 08.2	148 02.1	–2 22.1							
12	163	51.8	29 32.9	+17 32.6	327 00.2	–6 56.3	53 50.4	+22 08.1	163 04.7	–2 22.2							
13	178	54.2	44 32.2	31.9	342 01.1	57.0	68 52.4	08.1	178 07.3	22.3							
14	193	56.7	59 31.6	31.2	357 02.1	57.6	83 54.4	08.0	193 09.9	22.4							
15	208	59.2	74 31.0	30.4	12 03.0	58.3	98 56.4	08.0	208 12.6	22.5							
16	224	01.6	89 30.4	29.7	27 04.0	58.9	113 58.4	07.9	223 15.2	22.5							
17	239	04.1	104 29.8	+17 29.0	42 05.0	–6 59.6	129 00.4	+22 07.9	238 17.8	–2 22.6							
18	254	06.5	119 29.2	+17 28.3	57 05.9	–7 00.2	144 02.4	+22 07.8	253 20.5	–2 22.7							
19	269	09.0	134 28.6	27.5	72 06.9	00.9	159 04.4	07.8	268 23.1	22.8							
20	284	11.5	149 28.0	26.8	87 07.8	01.5	174 06.4	07.7	283 25.7	22.8							
21	299	13.9	164 27.4	26.1	102 08.8	02.1	189 08.4	07.7	298 28.3	22.9							
22	314	16.4	179 26.8	25.3	117 09.7	02.8	204 10.4	07.6	313 31.0	23.0							
23	329	18.9	194 26.2	24.6	132 10.7	03.4	219 12.4	07.5	328 33.6	23.1							
24	344	21.3	209 25.6	+17 23.9	147 11.6	–7 04.1	234 14.4	+22 07.5	343 36.2	–2 23.1							
Dif	—		–6	–7	+10	–6	+20	–1	+26	–1							

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 15'9 PMG:11 ^h 58.6 ^m			Edad: 12.7 ^d SD: 15'6 PMG: 22 ^h 32 ^m PHE { 4 ^h : 57'4 12 ^h : 57'7 20 ^h : 58'0 R°: 51 ^m																	
	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	18.1	+6	47.5	33	36.2	96	-21	46.2	109	60 N	18 51	19 35	20 30	18 43	1	0 53 106				
1	195	18.3		46.6	48	04.8	96		35.3	109	58	47	28	19	31	6	1 10 100				
2	210	18.5		45.7	62	33.5	97		24.2	111	56	44	22	10	21	9	24 95				
3	225	18.7		44.7	77	02.2	97		13.1	111	54	40	17	20 02	11	14	37 91				
4	240	18.9		43.8	91	31.0	98	-21	01.8	113	52	38	12	19 55	18 03	16	48 87				
5	255	19.1	+6	42.9	105	59.9	99	-20	50.3	115	50	18 35	19 08	19 48	17 56	19	1 57 85				
6	270	19.3	+6	42.0	120	28.7	98	-20	38.8	115	45	18 30	18 59	19 35	17 40	24	2 17 79				
7	285	19.5		41.0	134	57.7	100		27.1	117	40	25	52	25	27	29	34 74				
8	300	19.7		40.1	149	26.6	99		15.3	118	35	21	47	17	16	32	47 70				
9	315	20.0		39.2	163	55.6	100	-20	03.4	119	30	18	42	10	17 06	36	2 59 67				
10	330	20.2		38.2	178	24.7	101	-19	51.4	120	20	12	34	19 00	16 49	42	3 20 61				
11	345	20.4	+6	37.3	192	53.8	101	-19	39.2	122	10 N	18 07	18 28	18 52	16 34	47	3 37 56				
12	0	20.6	+6	36.4	207	22.9	101	-19	27.0	122	0	18 02	18 23	18 47	16 20	51	3 53 52				
13	15	20.8		35.5	221	52.1	102		14.6	124	10 S	17 57	18	43	16 06	56	4 09 48				
14	30	21.0		34.5	236	21.3	102	-19	02.1	125	20	53	15	40	15 51	61	26 43				
15	45	21.2		33.6	250	50.6	103	-18	49.5	126	30	47	11	39	33	67	46 38				
16	60	21.4		32.7	265	19.9	103		36.7	128	35	44	10	39	23	70	4 57 35				
17	75	21.6	+6	31.7	279	49.2	103	-18	23.9	128	40	17 41	18 08	18 39	15 11	75	5 10 31				
18	90	21.9	+6	30.8	294	18.6	104	-18	10.9	130	45	17 37	18 06	18 40	14 58	79	5 25 27				
19	105	22.1		29.9	308	48.1	105	-17	57.9	130	50	32	05	42	41	85	44 20				
20	120	22.3		29.0	323	17.5	104		44.7	132	52	30	04	43	33	88	5 52 18				
21	135	22.5		28.0	337	47.1	106		31.4	133	54	28	04	44	24	91	6 02 15				
22	150	22.7		27.1	352	16.6	105		18.1	133	56	26	03	46	14	95	13 11				
23	165	22.9		26.2	6	46.2	106	-17	04.6	135	58	23	02	48	14 02	100	25 7				
24	180	23.1	+6	25.2	21	15.9	107	-16	51.0	136	60 S	17 20	18 01	18 50	13 48	105	6 40 1				
UT	ARIES PMG 1 ^h 02.4 ^m			VENUS Mag: -3.9 PMG: 10 ^h 03 ^m			MARTE Mag: +1.6 PMG: 14 ^h 10 ^m			JÚPITER Mag: -2.0 PMG: 8 ^h 22 ^m			SATURNO Mag: +0.6 PMG: 1 ^h 05 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	344	21.3	209	25.6	+17	23.9	147	11.6	-7	04.1	234	14.4	+22	07.5	343	36.2	-2	23.1			
1	359	23.8	224	25.0		23.2	162	12.6		04.7	249	16.4		07.4	358	38.8		23.2			
2	14	26.3	239	24.4		22.4	177	13.5		05.4	264	18.4		07.4	13	41.5		23.3			
3	29	28.7	254	23.8		21.7	192	14.5		06.0	279	20.4		07.3	28	44.1		23.4			
4	44	31.2	269	23.2		20.9	207	15.4		06.7	294	22.4		07.3	43	46.7		23.4			
5	59	33.7	284	22.6	+17	20.2	222	16.4	-7	07.3	309	24.4	+22	07.2	58	49.4	-2	23.5			
6	74	36.1	299	22.0	+17	19.5	237	17.3	-7	08.0	324	26.4	+22	07.2	73	52.0	-2	23.6			
7	89	38.6	314	21.4		18.7	252	18.3		08.6	339	28.4		07.1	88	54.6		23.7			
8	104	41.0	329	20.8		18.0	267	19.2		09.3	354	30.4		07.0	103	57.2		23.7			
9	119	43.5	344	20.2		17.3	282	20.2		09.9	9	32.4		07.0	118	59.9		23.8			
10	134	46.0	359	19.6		16.5	297	21.1		10.6	24	34.4		06.9	134	02.5		23.9			
11	149	48.4	14	19.0	+17	15.8	312	22.1	-7	11.2	39	36.4	+22	06.9	149	05.1	-2	24.0			
12	164	50.9	29	18.4	+17	15.0	327	23.0	-7	11.8	54	38.4	+22	06.8	164	07.8	-2	24.1			
13	179	53.4	44	17.8		14.3	342	24.0		12.5	69	40.4		06.8	179	10.4		24.1			
14	194	55.8	59	17.2		13.6	357	24.9		13.1	84	42.4		06.7	194	13.0		24.2			
15	209	58.3	74	16.6		12.8	12	25.9		13.8	99	44.4		06.7	209	15.6		24.3			
16	225	00.8	89	16.0		12.1	27	26.8		14.4	114	46.4		06.6	224	18.3		24.4			
17	240	03.2	104	15.4	+17	11.3	42	27.8	-7	15.1	129	48.4	+22	06.5	239	20.9	-2	24.4			
18	255	05.7	119	14.8	+17	10.6	57	28.7	-7	15.7	144	50.4	+22	06.5	254	23.5	-2	24.5			
19	270	08.1	134	14.2		09.8	72	29.7		16.4	159	52.4		06.4	269	26.2		24.6			
20	285	10.6	149	13.6		09.1	87	30.6		17.0	174	54.4		06.4	284	28.8		24.7			
21	300	13.1	164	13.0		08.3	102	31.6		17.7	189	56.4		06.3	299	31.4		24.7			
22	315	15.5	179	12.4		07.6	117	32.5		18.3	204	58.4		06.3	314	34.0		24.8			
23	330	18.0	194	11.9		06.8	132	33.5		19.0	220	00.4		06.2	329	36.7		24.9			
24	345	20.5	209	11.3	+17	06.1	147	34.4	-7	19.6	235	02.4	+22	06.2	344	39.3	-2	25.0			
Dif	—			-6			+10			-6			+20			-1			+26		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna								
	SD: 15'9 PMG:11 ^h 58.3 ^m			Edad: 13.7 ^d SD: 15'8 PMG: 23 ^h 22 ^m																				
	PHE { 4 ^h : 58'2 12 ^h : 58'5 20 ^h : 58'7 Rº: 48 ^m																							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº		Hora	Rº								
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m						
0	180	23.1	+6	25.2	21	15.9	107	-16	51.0	137	60 N	3	28	4	23	5	07	18	43	**	2	38	102	
1	195	23.3		24.3	35	45.6	107		37.3	138	58	38	30	11		35	3		49	97				
2	210	23.6		23.4	50	15.3	107		23.5	138	56	48	36	14		29	6		2	58	94			
3	225	23.8		22.4	64	45.1	108	-16	09.6	139	54	3	56	41	17		23	10		3	06	90		
4	240	24.0		21.5	79	14.9	108	-15	55.6	140	52	4	03	45	20		18	12			14	86		
5	255	24.2	+6	20.6	93	44.7	108	-15	41.5	141	50	4	09	4	49	5	23	18	13	15		3	20	84
6	270	24.4	+6	19.6	108	14.6	109	-15	27.3	142	45	4	22	4	58	5	28	18	03	21		3	35	77
7	285	24.6		18.7	122	44.5	109	-15	13.0	143	40	32	5	05	33		17	55	25		46	73		
8	300	24.8		17.8	137	14.5	110	-14	58.6	144	35	41	11	36		47	29		3	56	69			
9	315	25.0		16.8	151	44.5	110		44.2	144	30	47	16	40		41	32		4	05	65			
10	330	25.3		15.9	166	14.5	110		29.6	146	20	4	57	23	46		29	39			19	60		
11	345	25.5	+6	15.0	180	44.6	111	-14	15.0	146	10 N	5	05	5	29	5	50	17	19	44		4	32	54
12	0	25.7	+6	14.0	195	14.7	111	-14	00.2	148	0	5	10	5	34	5	55	17	10	49		4	44	49
13	15	25.9		13.1	209	44.8	111	-13	45.4	148	10 S	14	38	5	59	5	59	17	00	54		4	56	44
14	30	26.1		12.2	224	15.0	112		30.5	149	20	16	42	6	04	16	50	59		5	08	39		
15	45	26.3		11.2	238	45.2	112		15.5	150	30	18	45	09		39	65			22	34			
16	60	26.5		10.3	253	15.4	112	-13	00.4	151	35	17	47	12		32	69			30	30			
17	75	26.8	+6	09.4	267	45.7	113	-12	45.2	152	40	5	17	5	48	6	15	16	24	73		5	40	26
18	90	27.0	+6	08.4	282	16.0	113	-12	30.0	152	45	5	16	5	50	6	19	16	15	78		5	50	22
19	105	27.2		07.5	296	46.3	113	-12	14.6	154	50	14	51	23		16	04	84		6	03	16		
20	120	27.4		06.6	311	16.7	114	-11	59.2	154	52	13	52	25		15	59	87		09	13			
21	135	27.6		05.6	325	47.0	113		43.7	155	54	12	52	28		54	89			16	10			
22	150	27.8		04.7	340	17.5	115		28.2	155	56	10	53	30		47	93			23	7			
23	165	28.0		03.8	354	47.9	114	-11	12.6	156	58	08	54	33		40	97			31	4			
24	180	28.3	+6	02.8	9	18.4	115	-10	56.9	157	60 S	5	06	5	54	6	36	15	32	102		6	40	0

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 58.5 ^m		Mag: -3.9 PMG: 10 ^h 04 ^m			Mag: +1.6 PMG: 14 ^h 09 ^m			Mag: -2.0 PMG: 8 ^h 19 ^m			Mag: +0.6 PMG: 1 ^h 01 ^m						
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°	°	'		
0	345	20.5	209	11.3	+17	06.1	147	34.4	-7	19.6	235	02.4	+22	06.2	344	39.3		
1	0	22.9	224	10.7		05.3	162	35.4		20.2	250	04.4		06.1	359	41.9		
2	15	25.4	239	10.1		04.6	177	36.3		20.9	265	06.4		06.1	14	44.6		
3	30	27.9	254	09.5		03.8	192	37.3		21.5	280	08.4		06.0	29	47.2		
4	45	30.3	269	08.9		03.1	207	38.2		22.2	295	10.4		05.9	44	49.8		
5	60	32.8	284	08.3	+17	02.3	222	39.2	-7	22.8	310	12.4	+22	05.9	59	52.4		
6	75	35.3	299	07.7	+17	01.6	237	40.1	-7	23.5	325	14.4	+22	05.8	74	55.1		
7	90	37.7	314	07.1	+17	00.8	252	41.1		24.1	340	16.5		05.8	89	57.7		
8	105	40.2	329	06.5	+17	00.0	267	42.0		24.8	355	18.5		05.7	105	00.3		
9	120	42.6	344	05.9	+16	59.3	282	43.0		25.4	10	20.5		05.7	120	03.0		
10	135	45.1	359	05.3		58.5	297	43.9		26.1	25	22.5		05.6	135	05.6		
11	150	47.6	14	04.7	+16	57.8	312	44.8	-7	26.7	40	24.5	+22	05.6	150	08.2		
12	165	50.0	29	04.1	+16	57.0	327	45.8	-7	27.3	55	26.5	+22	05.5	165	10.8		
13	180	52.5	44	03.6		56.2	342	46.7		28.0	70	28.5		05.4	180	13.5		
14	195	55.0	59	03.0		55.5	357	47.7		28.6	85	30.5		05.4	195	16.1		
15	210	57.4	74	02.4		54.7	12	48.6		29.3	100	32.5		05.3	210	18.7		
16	225	59.9	89	01.8		53.9	27	49.6		29.9	115	34.5		05.3	225	21.4		
17	241	02.4	104	01.2	+16	53.2	42	50.5	-7	30.6	130	36.5	+22	05.2	240	24.0		
18	256	04.8	119	00.6	+16	52.4	57	51.5	-7	31.2	145	38.5	+22	05.2	255	26.6		
19	271	07.3	134	00.0		51.6	72	52.4		31.9	160	40.5		05.1	270	29.3		
20	286	09.8	148	59.4		50.9	87	53.4		32.5	175	42.5		05.1	285	31.9		
21	301	12.2	163	58.8		50.1	102	54.3		33.1	190	44.6		05.0	300	34.5		
22	316	14.7	178	58.3		49.3	117	55.2		33.8	205	46.6		05.0	315	37.2		
23	331	17.1	193	57.7		48.6	132	56.2		34.4	220	48.6		04.9	330	39.8		
24	346	19.6	208	57.1	+16	47.8	147	57.1	-7	35.1	235	50.6	+22	04.8	345	42.4		
Dif	—		-6			-8	+9			-6	+20			-1	+26			-

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 57.9 ^m			Edad: 14.7 ^d SD: 16'0 PMG: **h **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	180	28.3	+6	02.8	9	18.4	-10	56.9	60 N	18 45	19 28	20 23	18 42	0	4 20 103
1	195	28.5		01.9	23	48.8		41.1	58	41	22	13	38	4	26 99
2	210	28.7	+6	01.0	38	19.4		25.2	56	38	17	20 04	35	8	32 94
3	225	28.9	+6	00.0	52	49.9	-10	09.3	54	36	12	19 56	33	10	36 99
4	240	29.1	+5	59.1	67	20.4	-9	53.3	52	33	08	49	30	13	40 89
5	255	29.3	+5	58.2	81	51.0	-9	37.3	50	18 31	19 04	19 43	18 28	16	4 44 86
6	270	29.5	+5	57.2	96	21.6	-9	21.2	45	18 26	18 56	19 31	18 24	20	4 52 80
7	285	29.8		56.3	110	52.3	-9	05.0	40	22	49	22	20	25	4 59 75
8	300	30.0		55.4	125	22.9	-8	48.8	35	18	44	14	16	29	5 05 70
9	315	30.2		54.4	139	53.5		32.5	30	15	39	19 08	13	33	10 67
10	330	30.4		53.5	154	24.2	-8	16.1	20	10	32	18 58	08	39	19 60
11	345	30.6	+5	52.5	168	54.9	-7	59.7	10 N	18 05	18 26	18 51	18 03	45	5 26 55
12	0	30.8	+5	51.6	183	25.6	-7	43.3	0	18 01	18 22	18 46	17 59	49	5 33 50
13	15	31.0		50.7	197	56.3		26.8	10 S	17 57	18	43	54	55	40 45
14	30	31.3		49.7	212	27.1	-7	10.2	20	53	15	41	49	61	47 40
15	45	31.5		48.8	226	57.8	-6	53.6	30	48	12	40	44	67	5 56 33
16	60	31.7		47.9	241	28.6		36.9	35	46	11	40	41	70	6 00 30
17	75	31.9	+5	46.9	255	59.3	-6	20.2	40	17 43	18 10	18 41	17 37	75	6 06 25
18	90	32.1	+5	46.0	270	30.1	-6	03.5	45	17 39	18 09	18 43	17 33	80	6 12 21
19	105	32.3		45.0	285	00.9	-5	46.7	50	35	08	45	28	86	19 16
20	120	32.6		44.1	299	31.7		29.8	52	34	07	46	26	88	22 14
21	135	32.8		43.2	314	02.5	-5	12.9	54	32	07	48	23	92	26 10
22	150	33.0		42.2	328	33.3	-4	56.0	56	29	07	50	20	95	30 7
23	165	33.2		41.3	343	04.1		39.0	58	27	06	52	17	99	35 4
24	180	33.4	+5	40.3	357	34.9	-4	22.0	60 S	17 24	18 06	18 54	17 14	103	6 40 0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 0 ^h 54.5 ^m		Mag: -3.9 PMG: 10 ^h 05 ^m		Mag: +1.6 PMG: 14 ^h 07 ^m		Mag: -2.0 PMG: 8 ^h 16 ^m		Mag: +0.6 PMG: 0 ^h 57 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /									
0	346	19.6	208	57.1	+16	47.8	147	57.1	-7	35.1	235	50.6	+22	04.8	345	42.4	-2	26.8	
1	1	22.1	223	56.5		47.0	162	58.1		35.7	250	52.6		04.8	0	45.0		26.9	
2	16	24.5	238	55.9		46.2	177	59.0		36.4	265	54.6		04.7	15	47.7		27.0	
3	31	27.0	253	55.3		45.5	193	00.0		37.0	280	56.6		04.7	30	50.3		27.1	
4	46	29.5	268	54.7		44.7	208	00.9		37.7	295	58.6		04.6	45	52.9		27.1	
5	61	31.9	283	54.2	+16	43.9	223	01.9	-7	38.3	311	00.6	+22	04.6	60	55.6	-2	27.2	
6	76	34.4	298	53.6	+16	43.1	238	02.8	-7	38.9	326	02.6	+22	04.5	75	58.2	-2	27.3	
7	91	36.9	313	53.0		42.4	253	03.7		39.6	341	04.6		04.5	91	00.8		27.4	
8	106	39.3	328	52.4		41.6	268	04.7		40.2	356	06.7		04.4	106	03.5		27.4	
9	121	41.8	343	51.8		40.8	283	05.6		40.9	11	08.7		04.3	121	06.1		27.5	
10	136	44.2	358	51.2		40.0	298	06.6		41.5	26	10.7		04.3	136	08.7		27.6	
11	151	46.7	13	50.6	+16	39.2	313	07.5	-7	42.2	41	12.7	+22	04.2	151	11.4	-2	27.7	
12	166	49.2	28	50.1	+16	38.5	328	08.5	-7	42.8	56	14.7	+22	04.2	166	14.0	-2	27.8	
13	181	51.6	43	49.5		37.7	343	09.4		43.4	71	16.7		04.1	181	16.6		27.8	
14	196	54.1	58	48.9		36.9	358	10.3		44.1	86	18.7		04.1	196	19.2		27.9	
15	211	56.6	73	48.3		36.1	13	11.3		44.7	101	20.7		04.0	211	21.9		28.0	
16	226	59.0	88	47.7		35.3	28	12.2		45.4	116	22.7		04.0	226	24.5		28.1	
17	242	01.5	103	47.1	+16	34.5	43	13.2	-7	46.0	131	24.8	+22	03.9	241	27.1	-2	28.1	
18	257	04.0	118	46.6	+16	33.8	58	14.1	-7	46.7	146	26.8	+22	03.9	256	29.8	-2	28.2	
19	272	06.4	133	46.0		33.0	73	15.0		47.3	161	28.8		03.8	271	32.4		28.3	
20	287	08.9	148	45.4		32.2	88	16.0		48.0	176	30.8		03.7	286	35.0		28.4	
21	302	11.4	163	44.8		31.4	103	16.9		48.6	191	32.8		03.7	301	37.7		28.5	
22	317	13.8	178	44.2		30.6	118	17.9		49.2	206	34.8		03.6	316	40.3		28.5	
23	332	16.3	193	43.7		29.8	133	18.8		49.9	221	36.8		03.6	331	42.9		28.6	
24	347	18.7	208	43.1	+16	29.0	148	19.7	-7	50.5	236	38.8	+22	03.5	346	45.6	-2	28.7	
Dif	—		-6		-8		+9		-6		+20		-1		+26			-1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 15'9 PMG: 11 ^h 57.6 ^m			Edad: 15.7 ^d SD: 16'2 PMG: 0 ^h 10 ^m PHE 4^h: 59'5 12^h: 59'7 20^h: 59'8 R°: 48^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m					
0	180	33.4	+5	40.3	357	34.9	118	-4	22.0	60 N	3	34	4	28	5	12	18	40	**	6	02	102
1	195	33.6		39.4	12	05.7	118	-4	05.0	58	44	34	15	41	3	41	3	41	3		03	98
2	210	33.9		38.5	26	36.5	118	-3	47.9	56	3	53	40	18	41	6	41	6		05	94	
3	225	34.1		37.5	41	07.3	118		30.9	54	4	00	45	21	42	9	42	9		06	91	
4	240	34.3		36.6	55	38.1	118	-3	13.7	52	07	49	23	42	12	42	12		07	88		
5	255	34.5	+5	35.6	70	08.9	118	-2	56.6	50	4	13	4	53	5	26	18	42	15	6	08	85
6	270	34.7	+5	34.7	84	39.7	118	-2	39.4	45	4	25	5	01	5	30	18	43	20	6	10	79
7	285	34.9		33.8	99	10.5	118		22.2	40	35	07	34	44	24	44	24		12	74		
8	300	35.2		32.8	113	41.2	117	-2	05.0	35	42	12	38	44	29	44	29		14	69		
9	315	35.4		31.9	128	12.0	118	-1	47.7	30	48	17	41	45	32	45	32		15	66		
10	330	35.6		30.9	142	42.8	118		30.4	20	4	58	24	46	45	39	45	39		18	59	
11	345	35.8	+5	30.0	157	13.5	117	-1	13.2	10 N	5	05	5	29	5	50	18	46	44	6	20	53
12	0	36.0	+5	29.1	171	44.3	118	-0	55.9	0	5	09	5	34	5	54	18	47	49	6	21	49
13	15	36.2		28.1	186	15.0	117		38.5	10 S	13	37	5	58	48	54	48	54		23	44	
14	30	36.5		27.2	200	45.7	117		21.2	20	15	40	6	02	49	60	49	60		25	38	
15	45	36.7		26.2	215	16.4	117	-0	03.9	30	15	43	07	50	66	27	50	66		27	32	
16	60	36.9		25.3	229	47.1	117	+0	13.5	35	15	44	09	50	71	29	50	71		29	28	
17	75	37.1	+5	24.4	244	17.8	117	+0	30.8	40	5	14	5	45	6	12	18	51	75	6	30	24
18	90	37.3	+5	23.4	258	48.4	116	+0	48.2	45	5	12	5	46	6	15	18	52	79	6	32	19
19	105	37.5		22.5	273	19.0	116	+1	05.6	50	10	47	19	53	85	33	53	85		33	14	
20	120	37.8		21.5	287	49.6	116		22.9	52	08	47	21	53	89	34	53	89		34	12	
21	135	38.0		20.6	302	20.2	116		40.3	54	07	48	23	53	92	35	53	92		35	9	
22	150	38.2		19.6	316	50.8	116	+1	57.7	56	05	48	25	54	95	36	54	95		36	6	
23	165	38.4		18.7	331	21.3	115	+2	15.1	58	03	48	27	55	99	37	55	99		37	3	
24	180	38.6	+5	17.8	345	51.8	115	+2	32.4	60 S	5	00	5	48	6	30	18	55	104	6	39	**

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 50.6 ^m		Mag: -3.9 PMG: 10 ^h 06 ^m			Mag: +1.6 PMG: 14 ^h 06 ^m			Mag: -2.0 PMG: 8 ^h 12 ^m			Mag: +0.6 PMG: 0 ^h 53 ^m						
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	347	18.7	208	43.1	+16	29.0	148	19.7	-7	50.5	236	38.8	+22	03.5	346	45.6	-2	28.7
1	2	21.2	223	42.5		28.2	163	20.7		51.2	251	40.9		03.5	1	48.2		28.8
2	17	23.7	238	41.9		27.4	178	21.6		51.8	266	42.9		03.4	16	50.8		28.8
3	32	26.1	253	41.3		26.6	193	22.6		52.5	281	44.9		03.4	31	53.5		28.9
4	47	28.6	268	40.8		25.8	208	23.5		53.1	296	46.9		03.3	46	56.1		29.0
5	62	31.1	283	40.2	+16	25.0	223	24.4	-7	53.7	311	48.9	+22	03.3	61	58.7	-2	29.1
6	77	33.5	298	39.6	+16	24.2	238	25.4	-7	54.4	326	50.9	+22	03.2	77	01.4	-2	29.2
7	92	36.0	313	39.0		23.5	253	26.3		55.0	341	52.9		03.1	92	04.0		29.2
8	107	38.5	328	38.5		22.7	268	27.3		55.7	356	55.0		03.1	107	06.6		29.3
9	122	40.9	343	37.9		21.9	283	28.2		56.3	11	57.0		03.0	122	09.3		29.4
10	137	43.4	358	37.3		21.1	298	29.1		57.0	26	59.0		03.0	137	11.9		29.5
11	152	45.8	13	36.7	+16	20.3	313	30.1	-7	57.6	42	01.0	+22	02.9	152	14.5	-2	29.5
12	167	48.3	28	36.2	+16	19.5	328	31.0	-7	58.2	57	03.0	+22	02.9	167	17.1	-2	29.6
13	182	50.8	43	35.6		18.7	343	31.9		58.9	72	05.0		02.8	182	19.8		29.7
14	197	53.2	58	35.0		17.8	358	32.9	-7	59.5	87	07.1		02.8	197	22.4		29.8
15	212	55.7	73	34.4		17.0	13	33.8	-8	00.2	102	09.1		02.7	212	25.0		29.9
16	227	58.2	88	33.9		16.2	28	34.8		00.8	117	11.1		02.6	227	27.7		29.9
17	243	00.6	103	33.3	+16	15.4	43	35.7	-8	01.5	132	13.1	+22	02.6	242	30.3	-2	30.0
18	258	03.1	118	32.7	+16	14.6	58	36.6	-8	02.1	147	15.1	+22	02.5	257	32.9	-2	30.1
19	273	05.6	133	32.1		13.8	73	37.6		02.7	162	17.1		02.5	272	35.6		30.2
20	288	08.0	148	31.6		13.0	88	38.5		03.4	177	19.2		02.4	287	38.2		30.2
21	303	10.5	163	31.0		12.2	103	39.4		04.0	192	21.2		02.4	302	40.8		30.3
22	318	13.0	178	30.4		11.4	118	40.4		04.7	207	23.2		02.3	317	43.5		30.4
23	333	15.4	193	29.8		10.6	133	41.3		05.3	222	25.2		02.3	332	46.1		30.5
24	348	17.9	208	29.3	+16	09.8	148	42.2	-8	05.9	237	27.2	+22	02.2	347	48.7	-2	30.6
Dif	—		-6	-8		-8	+9	-6		-6	+20	-1			+26	-1		-1

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG: 11 ^h 57.3 ^m			Edad: 16.7 ^d PHE { 4 ^h : 59'9 12 ^h : 60'0 20 ^h : 60'1 SD: 16'3 PMG: 0 ^h 58 ^m R°: 52 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m
0	180	38.6	+5	17.8	345	51.8	+2	32.4	60 N	18	39	19	22	20	16	18	39	1	7	44
1	195	38.8		16.8	0	22.3	+2	49.8	58	36	16	20	06	44	5	41	102			
2	210	39.1		15.9	14	52.7	+3	07.1	56	33	11	19	58	47	9	39	98			
3	225	39.3		14.9	29	23.2		24.5	54	31	07	51	51	12	37	94				
4	240	39.5		14.0	43	53.6		41.8	52	28	19	03	44	54	15	35	91			
5	255	39.7	+5	13.0	58	23.9	+3	59.1	50	18	26	18	59	19	39	18	57	18	7	33
6	270	39.9	+5	12.1	72	54.2	+4	16.4	45	18	22	18	52	19	27	19	03	24	7	29
7	285	40.2		11.2	87	24.5		33.7	40	18	46	18	08	29	26	77				
8	300	40.4		10.2	101	54.8	+4	51.0	35	15	41	11	13	32	23	73				
9	315	40.6		09.3	116	25.0	+5	08.2	30	13	37	19	05	17	36	21	69			
10	330	40.8		08.3	130	55.2		25.4	20	08	30	18	56	24	42	17	62			
11	345	41.0	+5	07.4	145	25.3	+5	42.6	10 N	18	04	18	25	18	50	19	30	48	7	13
12	0	41.2	+5	06.4	159	55.4	+5	59.8	0	18	01	18	21	18	45	19	36	53	7	10
13	15	41.5		05.5	174	25.5	+6	17.0	10 S	17	57	18	42	42	58	07	46			
14	30	41.7		04.5	188	55.5		34.1	20	53	15	41	49	63	7	03	41			
15	45	41.9		03.6	203	25.5	+6	51.2	30	49	13	41	19	56	70	6	59	35		
16	60	42.1		02.7	217	55.4	+7	08.2	35	47	12	42	20	01	73	57	31			
17	75	42.3	+5	01.7	232	25.3	+7	25.2	40	17	45	18	12	20	06	78	6	54	27	
18	90	42.6	+5	00.8	246	55.1	+7	42.2	45	17	42	18	11	20	11	83	6	51	22	
19	105	42.8	+4	59.8	261	24.9	+7	59.2	50	38	11	48	18	90	47	17				
20	120	43.0		58.9	275	54.6	+8	16.1	52	37	11	50	22	92	46	14				
21	135	43.2		57.9	290	24.3		32.9	54	35	10	51	25	96	44	11				
22	150	43.4		57.0	304	53.9	+8	49.7	56	33	10	54	29	100	42	8				
23	165	43.7		56.0	319	23.5	+9	06.5	58	31	10	56	34	104	40	4				
24	180	43.9	+4	55.1	333	53.0	+9	23.2	60 S	17	29	18	10	20	39	109	6	37	1	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 0 ^h 46.7 ^m			Mag: -3.9 PMG: 10 ^h 06 ^m			Mag: +1.6 PMG: 14 ^h 04 ^m			Mag: -2.0 PMG: 8 ^h 09 ^m			Mag: +0.6 PMG: 0 ^h 49 ^m							
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	348	17.9	208	29.3	+16	09.8	148	42.2	-8	05.9	237	27.2	+22	02.2	347	48.7				
1	3	20.3	223	28.7		09.0	163	43.2		06.6	252	29.2		02.2	2	51.4				
2	18	22.8	238	28.1		08.1	178	44.1		07.2	267	31.3		02.1	17	54.0				
3	33	25.3	253	27.6		07.3	193	45.0		07.9	282	33.3		02.0	32	56.6				
4	48	27.7	268	27.0		06.5	208	46.0		08.5	297	35.3		02.0	47	59.3				
5	63	30.2	283	26.4	+16	05.7	223	46.9	-8	09.2	312	37.3	+22	01.9	63	01.9				
6	78	32.7	298	25.8	+16	04.9	238	47.8	-8	09.8	327	39.3	+22	01.9	78	04.5				
7	93	35.1	313	25.3		04.1	253	48.8		10.4	342	41.4		01.8	93	07.2				
8	108	37.6	328	24.7		03.3	268	49.7		11.1	357	43.4		01.8	108	09.8				
9	123	40.1	343	24.1		02.4	283	50.6		11.7	12	45.4		01.7	123	12.4				
10	138	42.5	358	23.6		01.6	298	51.6		12.4	27	47.4		01.7	138	15.1				
11	153	45.0	13	23.0	+16	00.8	313	52.5	-8	13.0	42	49.4	+22	01.6	153	17.7				
12	168	47.4	28	22.4	+16	00.0	328	53.4	-8	13.6	57	51.5	+22	01.6	168	20.3				
13	183	49.9	43	21.9	+15	59.2	343	54.4		14.3	72	53.5		01.5	183	23.0				
14	198	52.4	58	21.3		58.3	358	55.3		14.9	87	55.5		01.4	198	25.6				
15	213	54.8	73	20.7		57.5	13	56.2		15.6	102	57.5		01.4	213	28.2				
16	228	57.3	88	20.2		56.7	28	57.2		16.2	117	59.5		01.3	228	30.9				
17	243	59.8	103	19.6	+15	55.9	43	58.1	-8	16.8	133	01.6	+22	01.3	243	33.5				
18	259	02.2	118	19.0	+15	55.0	58	59.0	-8	17.5	148	03.6	+22	01.2	258	36.1				
19	274	04.7	133	18.5		54.2	74	00.0		18.1	163	05.6		01.2	273	38.8				
20	289	07.2	148	17.9		53.4	89	00.9		18.8	178	07.6		01.1	288	41.4				
21	304	09.6	163	17.3		52.6	104	01.8		19.4	193	09.7		01.1	303	44.0				
22	319	12.1	178	16.8		51.7	119	02.8		20.0	208	11.7		01.0	318	46.7				
23	334	14.6	193	16.2		50.9	134	03.7		20.7	223	13.7		01.0	333	49.3				
24	349	17.0	208	15.6	+15	50.1	149	04.6	-8	21.3	238	15.7	+22	00.9	348	52.0				
Dif	—		-6		-8		+9		-6		+20		-1		+26		-1			

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 56.9 ^m			Edad: 17.7 ^d PHE { 4 ^h : 60'1 12 ^h : 60'1 20 ^h : 60'1 SD: 16'4 PMG: 1 ^h 48 ^m R°: 52 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m
0	180	43.9	+4	55.1	333	53.0	+9	23.2	60 N	3	40	4	33	5	17	18	39	1
1	195	44.1		54.1	348	22.5		39.9	58	49		39	19		47	7		22
2	210	44.3		53.2	2	51.9	+9	56.5	56	3	57	44	22	18	55	11		15
3	225	44.5		52.2	17	21.2	+10	13.1	54	4	04	48	25	19	02	14		10
4	240	44.8		51.3	31	50.5		29.6	52	11		52	27		08	18		04
5	255	45.0	+4	50.3	46	19.7	+10	46.1	50	4	16	4	56	5	29	19	13	21
6	270	45.2	+4	49.4	60	48.9	+11	02.5	45	4	28	5	03	5	33	19	25	27
7	285	45.4		48.5	75	18.0		18.8	40	37		09	36		35	32		42
8	300	45.6		47.5	89	47.0		35.1	35	44		14	39		44	35		35
9	315	45.9		46.6	104	16.0	+11	51.3	30	50		18	42	19	52	39		29
10	330	46.1		45.6	118	44.9	+12	07.5	20	4	58	24	46	20	05	45		18
11	345	46.3	+4	44.7	133	13.8	+12	23.5	10 N	5	05	5	29	5	50	20	17	49
12	0	46.5	+4	43.7	147	42.6	+12	39.5	0	5	09	5	33	5	54	20	28	54
13	15	46.7		42.8	162	11.3	+12	55.5	10 S	12		36	5	57	39	59		7
14	30	47.0		41.8	176	39.9	+13	11.3	20	13		38	6	00	20	51	64	
15	45	47.2		40.9	191	08.5		27.1	30	13		40	04	21	05	70		32
16	60	47.4		39.9	205	37.0		42.8	35	12		41	06		13	74		26
17	75	47.6	+4	39.0	220	05.4	+13	58.5	40	5	11	5	42	6	09	21	22	78
18	90	47.8	+4	38.0	234	33.8	+14	14.0	45	5	08	5	42	6	12	21	33	83
19	105	48.1		37.1	249	02.0		29.5	50	05		43	15		46	90		7
20	120	48.3		36.1	263	30.3	+14	44.9	52	04		43	16	21	53	93		6
21	135	48.5		35.2	277	58.4	+15	00.2	54	02		43	18	22	00	97		54
22	150	48.7		34.2	292	26.4		15.4	56	5	00	43	20		07	102		48
23	165	48.9		33.3	306	54.4		30.5	58	4	57	43	22		16	107		43
24	180	49.2	+4	32.3	321	22.3	+15	45.5	60 S	4	54	5	42	6	24	22	26	114
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 42.7 ^m		Mag: -3.9 PMG: 10 ^h 07 ^m			Mag: +1.6 PMG: 14 ^h 03 ^m			Mag: -2.0 PMG: 8 ^h 06 ^m			Mag: +0.6 PMG: 0 ^h 44 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	349	17.0	208	15.6	+15	50.1	149	04.6	-8	21.3	238	15.7	+22	00.9	348	52.0	-2	32.4
1	4	19.5	223	15.1		49.2	164	05.6		22.0	253	17.7		00.8	3	54.6		32.5
2	19	21.9	238	14.5		48.4	179	06.5		22.6	268	19.8		00.8	18	57.2		32.6
3	34	24.4	253	13.9		47.6	194	07.4		23.3	283	21.8		00.7	33	59.9		32.7
4	49	26.9	268	13.4		46.7	209	08.4		23.9	298	23.8		00.7	49	02.5		32.7
5	64	29.3	283	12.8	+15	45.9	224	09.3	-8	24.5	313	25.8	+22	00.6	64	05.1	-2	32.8
6	79	31.8	298	12.3	+15	45.1	239	10.2	-8	25.2	328	27.9	+22	00.6	79	07.8	-2	32.9
7	94	34.3	313	11.7		44.2	254	11.1		25.8	343	29.9		00.5	94	10.4		33.0
8	109	36.7	328	11.1		43.4	269	12.1		26.5	358	31.9		00.5	109	13.0		33.1
9	124	39.2	343	10.6		42.6	284	13.0		27.1	13	33.9		00.4	124	15.7		33.1
10	139	41.7	358	10.0		41.7	299	13.9		27.7	28	36.0		00.4	139	18.3		33.2
11	154	44.1	13	09.4	+15	40.9	314	14.9	-8	28.4	43	38.0	+22	00.3	154	20.9	-2	33.3
12	169	46.6	28	08.9	+15	40.0	329	15.8	-8	29.0	58	40.0	+22	00.2	169	23.6	-2	33.4
13	184	49.0	43	08.3		39.2	344	16.7		29.6	73	42.0		00.2	184	26.2		33.4
14	199	51.5	58	07.8		38.4	359	17.6		30.3	88	44.1		00.1	199	28.8		33.5
15	214	54.0	73	07.2		37.5	14	18.6		30.9	103	46.1	+22	00.1	214	31.5		33.6
16	229	56.4	88	06.6		36.7	29	19.5		31.6	118	48.1	+22	00.0	229	34.1		33.7
17	244	58.9	103	06.1	+15	35.8	44	20.4	-8	32.2	133	50.1	+22	00.0	244	36.7	-2	33.8
18	260	01.4	118	05.5	+15	35.0	59	21.4	-8	32.8	148	52.2	+21	59.9	259	39.4	-2	33.8
19	275	03.8	133	05.0		34.1	74	22.3		33.5	163	54.2		59.9	274	42.0		33.9
20	290	06.3	148	04.4		33.3	89	23.2		34.1	178	56.2		59.8	289	44.6		34.0
21	305	08.8	163	03.9		32.5	104	24.1		34.8	193	58.2		59.8	304	47.3		34.1
22	320	11.2	178	03.3		31.6	119	25.1		35.4	209	00.3		59.7	319	49.9		34.2
23	335	13.7	193	02.7		30.8	134	26.0		36.0	224	02.3		59.6	334	52.6		34.2
24	350	16.2	208	02.2	+15	29.9	149	26.9	-8	36.7	239	04.3	+21	59.6	349	55.2	-2	34.3
Dif	—		-6		-8		+9		-6		+20		-1		+26		-1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 56.5 ^m				Edad: 18.7 ^d SD: 16'4 PMG: 2 ^h 40 ^m PHE { 4 ^h : 60'1 12 ^h : 60'0 20 ^h : 59'9 R°: 57 ^m												
	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	h m	
0	180 49.2	+4 32.3	321 22.3	89	+15 45.5	149	60 N	18 33	19 15	20 08	18 40	5	11 19	116			
1	195 49.4		31.4	335 50.2		+16 00.4	58	30	10	19 59	18 54	12	11 06	109			
2	210 49.6		30.4	350 17.9		87 15.3	56	28	06	52	19 06	18	10 55	103			
3	225 49.8		29.5	4 45.6		87 30.0	54	26	19 02	45	16 23		45	99			
4	240 50.0		28.5	19 13.2		86 44.6	52	24	18 58	39	26 26		37	94			
5	255 50.3	+4 27.6	33 40.7		+16 59.2	146	50	18 22	18 55	19 34	19 34	29	10 29	91			
6	270 50.5	+4 26.6	48 08.1		84 13.6	144	45	18 18	18 48	19 23	19 52	35	10 13	84			
7	285 50.7		25.7	62 35.4		83 27.9	40	15	42	15	20 07	39	9 59	80			
8	300 50.9		24.7	77 02.7		83 42.2	35	12	38	08	19 44		48	76			
9	315 51.1		23.8	91 29.9		82 +17 56.3	30	10	34	19 02	31 46		38	73			
10	330 51.4		22.8	105 57.0		81 +18 10.3	20	06	28	18 54	20 50	51	21	67			
11	345 51.6	+4 21.9	120 24.0		80 +18 24.2	139	10 N	18 03	18 24	18 48	21 06	56	9 07	62			
12	0 51.8	+4 20.9	134 50.9		79 +18 37.9	137	0	18 00	18 21	18 45	21 22	60	8 53	58			
13	15 52.0		20.0	149 17.8		79 +18 51.6	10 S	17 57	18	42	38 64		40	53			
14	30 52.2		19.0	163 44.5		77 +19 05.1	20	54	16	41	21 55	68	25	49			
15	45 52.5		18.1	178 11.2		77 18.5	30	50	14	42	22 15	73	8 09	43			
16	60 52.7		17.1	192 37.8		76 31.8	35	49	14	43	27 76		7 59	40			
17	75 52.9	+4 16.1	207 04.3		75 +19 45.0	132	40	17 47	18 14	18 45	22 40	80	7 49	35			
18	90 53.1	+4 15.2	221 30.8		75 +19 58.1	131	45	17 44	18 13	18 47	22 56	85	7 36	31			
19	105 53.4		14.2	235 57.1		73 +20 11.0	50	41	14	51	23 16	91	21	25			
20	120 53.6		13.3	250 23.3		72 23.8	52	40	14	53	26 94		14	21			
21	135 53.8		12.3	264 49.5		72 36.5	54	39	14	55	37 97		7 06	18			
22	150 54.0		11.4	279 15.6		71 +20 49.0	56	37	14	18 57	23 49	102	6 57	14			
23	165 54.2		10.4	293 41.6		70 +21 01.4	58	35	15	19 00	** ** *		47	9			
24	180 54.5	+4 09.5	308 07.5		69 +21 13.7	123	60 S	17 34	18 15	19 04	** ** *		6 36	2			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 0 ^h 38.8 ^m		Mag: -3.9 PMG: 10 ^h 08 ^m			Mag: +1.6 PMG: 14 ^h 01 ^m			Mag: -2.0 PMG: 8 ^h 03 ^m			Mag: +0.6 PMG: 0 ^h 40 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	° /		° /	° /		° /	° /		° /	° /		° /	° /				
0	350 16.2		208 02.2	+15 29.9		149 26.9	-8 36.7		239 04.3	+21 59.6		349 55.2	-2 34.3				
1	5 18.6		223 01.6	29.1		164 27.8	37.3		254 06.4	59.5		4 57.8	34.4				
2	20 21.1		238 01.1	28.2		179 28.8	38.0		269 08.4	59.5		20 00.5	34.5				
3	35 23.5		253 00.5	27.4		194 29.7	38.6		284 10.4	59.4		35 03.1	34.5				
4	50 26.0		268 00.0	26.5		209 30.6	39.2		299 12.4	59.4		50 05.7	34.6				
5	65 28.5		282 59.4	+15 25.7		224 31.5	-8 39.9		314 14.5	+21 59.3		65 08.4	-2 34.7				
6	80 30.9		297 58.8	+15 24.8		239 32.5	-8 40.5		329 16.5	+21 59.3		80 11.0	-2 34.8				
7	95 33.4		312 58.3	23.9		254 33.4	41.1		344 18.5	59.2		95 13.6	34.9				
8	110 35.9		327 57.7	23.1		269 34.3	41.8		359 20.6	59.2		110 16.3	34.9				
9	125 38.3		342 57.2	22.2		284 35.2	42.4		14 22.6	59.1		125 18.9	35.0				
10	140 40.8		357 56.6	21.4		299 36.2	43.1		29 24.6	59.0		140 21.5	35.1				
11	155 43.3		12 56.1	+15 20.5		314 37.1	-8 43.7		44 26.6	+21 59.0		155 24.2	-2 35.2				
12	170 45.7		27 55.5	+15 19.7		329 38.0	-8 44.3		59 28.7	+21 58.9		170 26.8	-2 35.3				
13	185 48.2		42 55.0	18.8		344 38.9	45.0		74 30.7	58.9		185 29.5	35.3				
14	200 50.7		57 54.4	17.9		359 39.9	45.6		89 32.7	58.8		200 32.1	35.4				
15	215 53.1		72 53.9	17.1		14 40.8	46.3		104 34.8	58.8		215 34.7	35.5				
16	230 55.6		87 53.3	16.2		29 41.7	46.9		119 36.8	58.7		230 37.4	35.6				
17	245 58.0		102 52.8	+15 15.4		44 42.6	-8 47.5		134 38.8	+21 58.7		245 40.0	-2 35.6				
18	261 00.5		117 52.2	+15 14.5		59 43.6	-8 48.2		149 40.9	+21 58.6		260 42.6	-2 35.7				
19	276 03.0		132 51.7	13.6		74 44.5	48.8		164 42.9	58.6		275 45.3	35.8				
20	291 05.4		147 51.1	12.8		89 45.4	49.4		179 44.9	58.5		290 47.9	35.9				
21	306 07.9		162 50.6	11.9		104 46.3	50.1		194 46.9	58.4		305 50.5	36.0				
22	321 10.4		177 50.0	11.0		119 47.2	50.7		209 49.0	58.4		320 53.2	36.0				
23	336 12.8		192 49.5	10.2		134 48.2	51.4		224 51.0	58.3		335 55.8	36.1				
24	351 15.3		207 48.9	+15 09.3		149 49.1	-8 52.0		239 53.0	+21 58.3		350 58.5	-2 36.2				
Dif	—		-6	-9		+9	-6		+20	-1		+26	-1				

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG:11 ^h 56.2 ^m			Edad: 19.7 ^d SD: 16'3 PMG: 3 ^h 36 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°		
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m	h	m
0	180	54.5	+4	09.5	308	07.5		+21	13.7	121	60 N	3 45	4 38	5 21	18 43	12	13 14	115
1	195	54.7		08.5	322	33.3	68		25.8	120	58	3 54	4 44	24	19 05	22	12 53	104
2	210	54.9		07.6	336	59.1	68		37.8	118	56	4 02	4 48	26	22 29		36 98	
3	225	55.1		06.6	351	24.7	66	+21	49.6	118	54	09	52	28	37 33		22 93	
4	240	55.3		05.7	5	50.3	66	+22	01.3	117	52	14	56	30	19 50	37	12 10	88
5	255	55.6	+4	04.7	20	15.8	65	+22	12.9	116	50	4 20	4 59	5 32	20 02	39	11 59	86
6	270	55.8	+4	03.8	34	41.2	64	+22	24.3	114	45	4 30	5 06	5 35	20 26	44	11 36	80
7	285	56.0		02.8	49	06.5	63		35.6	113	40	39	11	38	20 45	48	18 76	
8	300	56.2		01.8	63	31.8	63		46.7	111	35	45	15	41	21 01	50	11 02	74
9	315	56.5	+4	00.9	77	56.9	61	+22	57.7	110	30	51	19	43	15 53		10 49	71
10	330	56.7	+3	59.9	92	22.0	61	+23	08.5	108	20	4 59	25	47	21 40	55	27 66	
11	345	56.9	+3	59.0	106	47.0	60	+23	19.2	107	10 N	5 04	5 29	5 50	22 01	58	10 07	63
12	0	57.1	+3	58.0	121	11.9	59	+23	29.7	105	0	5 08	5 32	5 53	22 20	61	9 49	60
13	15	57.3		57.1	135	36.8	59		40.1	104	10 S	10	35	56	22 40	64	32 56	
14	30	57.6		56.1	150	01.5	57	+23	50.3	102	20	11	37	5 59	23 02	66	9 12	53
15	45	57.8		55.2	164	26.2	57	+24	00.3	100	30	10	38	6 02	27 69		8 50	49
16	60	58.0		54.2	178	50.8	56		10.2	99	35	09	38	04	41 72		38 45	
17	75	58.2	+3	53.2	193	15.3	55	+24	19.9	97	40	5 07	5 39	6 06	23 58	74	8 23	43
18	90	58.5	+3	52.3	207	39.8	55	+24	29.5	96	45	5 05	5 39	6 08	** ** *		8 06	38
19	105	58.7		51.3	222	04.1	53		38.9	94	50	5 01	38	10	** ** *		7 44	33
20	120	58.9		50.4	236	28.4	53		48.1	92	52	4 59	38	12	** ** *		34 30	
21	135	59.1		49.4	250	52.7	53	+24	57.2	91	54	57	38	13	** ** *		23 25	
22	150	59.3		48.5	265	16.8	51	+25	06.1	89	56	54	37	14	** ** *		7 10	21
23	165	59.6		47.5	279	40.9	51		14.8	87	58	51	37	16	0 03	108	6 55	14
24	180	59.8	+3	46.6	294	05.0	51	+25	23.4	86	60 S	4 48	5 36	6 18	0 20	118	6 37	5

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: -3.9 0 ^h 34.9 ^m		Mag: -3.9 PMG: 10 ^h 09 ^m			Mag: +1.6 PMG: 14 ^h 00 ^m			Mag: -2.0 PMG: 7 ^h 59 ^m			Mag: +0.6 PMG: 0 ^h 36 ^m						
	hG ♈	Dec	hG ♊	Dec	hG ♊	Dec	hG ♏	Dec	hG ♏	Dec	hG ♄	Dec						
h	°	'	°	°	'	°	'	°	°	'	°	'	°	°	'			
0	351	15.3	207	48.9	+15	09.3	149	49.1	-8	52.0	239	53.0	+21	58.3	350	58.5	-2	36.2
1	6	17.8	222	48.4		08.4	164	50.0		52.6	254	55.1		58.2	6	01.1		36.3
2	21	20.2	237	47.8		07.6	179	50.9		53.3	269	57.1		58.2	21	03.7		36.4
3	36	22.7	252	47.3		06.7	194	51.9		53.9	284	59.1		58.1	36	06.4		36.4
4	51	25.1	267	46.7		05.8	209	52.8		54.5	300	01.2		58.1	51	09.0		36.5
5	66	27.6	282	46.2	+15	05.0	224	53.7	-8	55.2	315	03.2	+21	58.0	66	11.6	-2	36.6
6	81	30.1	297	45.6	+15	04.1	239	54.6	-8	55.8	330	05.2	+21	58.0	81	14.3	-2	36.7
7	96	32.5	312	45.1		03.2	254	55.5		56.4	345	07.3		57.9	96	16.9		36.7
8	111	35.0	327	44.5		02.3	269	56.5		57.1	0	09.3		57.8	111	19.5		36.8
9	126	37.5	342	44.0		01.5	284	57.4		57.7	15	11.3		57.8	126	22.2		36.9
10	141	39.9	357	43.4	+15	00.6	299	58.3		58.4	30	13.4		57.7	141	24.8		37.0
11	156	42.4	12	42.9	+14	59.7	314	59.2	-8	59.0	45	15.4	+21	57.7	156	27.5	-2	37.1
12	171	44.9	27	42.3	+14	58.8	330	00.1	-8	59.6	60	17.4	+21	57.6	171	30.1	-2	37.1
13	186	47.3	42	41.8		58.0	345	01.1	-9	00.3	75	19.5		57.6	186	32.7		37.2
14	201	49.8	57	41.3		57.1	0	02.0		00.9	90	21.5		57.5	201	35.4		37.3
15	216	52.3	72	40.7		56.2	15	02.9		01.5	105	23.6		57.5	216	38.0		37.4
16	231	54.7	87	40.2		55.3	30	03.8		02.2	120	25.6		57.4	231	40.6		37.5
17	246	57.2	102	39.6	+14	54.4	45	04.7	-9	02.8	135	27.6	+21	57.4	246	43.3	-2	37.5
18	261	59.6	117	39.1	+14	53.6	60	05.6	-9	03.4	150	29.7	+21	57.3	261	45.9	-2	37.6
19	277	02.1	132	38.5		52.7	75	06.6		04.1	165	31.7		57.3	276	48.6		37.7
20	292	04.6	147	38.0		51.8	90	07.5		04.7	180	33.7		57.2	291	51.2		37.8
21	307	07.0	162	37.5		50.9	105	08.4		05.4	195	35.8		57.1	306	53.8		37.9
22	322	09.5	177	36.9		50.0	120	09.3		06.0	210	37.8		57.1	321	56.5		37.9
23	337	12.0	192	36.4		49.2	135	10.2		06.6	225	39.8		57.0	336	59.1		38.0
24	352	14.4	207	35.8	+14	48.3	150	11.2	-9	07.3	240	41.9	+21	57.0	352	01.7	-2	38.1
Dif	—		-5		-9		+9		-6		+20		-1		+26		-	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 55.8 ^m			Edad: 20.7 ^d SD: 16'2 PMG: 4 ^h 35 ^m							PHE { 4 ^h : 59'5 12 ^h : 59'4 20 ^h : 59'2 R°: 63 ^m						
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	59.8	+3	294	05.0	49	+25	23.4	84	60 N	18 27	19 09	20 01	18 55	37	15 09	95
1	196	00.0		308	28.9	49		31.8	82	58	24	04	19 53	19 27	46	14 37	87
2	211	00.2		322	52.8	48		40.0	80	56	22	19 00	46	19 51	50	14 14	82
3	226	00.5		337	16.6	48		48.0	79	54	21	18 56	40	20 10	53	13 55	79
4	241	00.7		351	40.4	47	+25	55.9	77	52	19	53	34	27 54		38 78	
5	256	00.9	+3	6	04.1		+26	03.6	75	50	18 18	18 50	19 29	20 41	55	13 25	76
6	271	01.1	+3	20	27.7	46	+26	11.1	73	45	18 14	18 44	19 19	21 10	57	12 56	74
7	286	01.3		34	51.3	46		18.4	73	40	12	39	11	33 58		34 71	
8	301	01.6		49	14.8	45		25.6	72	35	10	35	05	21 51	60	16 70	
9	316	01.8		63	38.3	45		32.5	69	30	08	32	19 00	22 08	60	12 00	69
10	331	02.0		78	01.7	44		39.3	68	20	04	26	18 52	35 62		11 33	67
11	346	02.2	+3	92	25.1	44	+26	45.9	66	10 N	18 02	18 23	18 47	22 59	63	11 10	65
12	1	02.5	+3	106	48.4	43	+26	52.4	65	0	17 59	18 20	18 44	23 21	64	10 49	63
13	16	02.7		121	11.7	43	+26	58.6	62	10 S	57	18	42	23 44	64	28 62	
14	31	02.9		135	34.9	42	+27	04.7	61	20	54	16	42	** ** *		10 05	60
15	46	03.1		149	58.1	42		10.5	58	30	52	15	43	** ** *		9 39	57
16	61	03.3		164	21.2	41		16.2	57	35	50	15	45	** ** *		23 56	
17	76	03.6	+3	178	44.3	41	+27	21.7	55	40	17 48	18 15	18 47	** ** *		9 06	53
18	91	03.8	+3	193	07.4	41	+27	27.0	53	45	17 46	18 16	18 50	0 19	78	8 44	51
19	106	04.0		207	30.4	40		32.1	51	50	44	16	54	45 83		17 47	
20	121	04.2		221	53.4	40		37.1	50	52	43	17	56	0 58 85		8 04	45
21	136	04.5		236	16.3	39		41.8	47	54	42	17	18 59	1 13 88		7 48	43
22	151	04.7		250	39.2	39		46.4	46	56	41	18	19 01	30 93		31 38	
23	166	04.9		265	02.1	39		50.7	43	58	40	19	05	1 51 99		7 09	32
24	181	05.1	+3	279	25.0	39	+27	54.9	42	60 S	17 38	18 20	19 08	2 18 112		6 42	20
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 0 ^h 31.0 ^m		Mag: -3.9 PMG: 10 ^h 10 ^m			Mag: +1.6 PMG: 13 ^h 58 ^m			Mag: -2.0 PMG: 7 ^h 56 ^m			Mag: +0.6 PMG: 0 ^h 32 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'			
0	352	14.4	207	35.8	+14	150	11.2	-9	07.3	240	41.9	+21	57.0	352	01.7	-2	38.1
1	7	16.9	222	35.3		165	12.1		07.9	255	43.9		56.9	7	04.4		38.2
2	22	19.4	237	34.7		180	13.0		08.5	270	46.0		56.9	22	07.0		38.2
3	37	21.8	252	34.2		195	13.9		09.2	285	48.0		56.8	37	09.7		38.3
4	52	24.3	267	33.7		210	14.8		09.8	300	50.0		56.8	52	12.3		38.4
5	67	26.8	282	33.1	+14	225	15.7	-9	10.4	315	52.1	+21	56.7	67	14.9	-2	38.5
6	82	29.2	297	32.6	+14	240	16.7	-9	11.1	330	54.1	+21	56.7	82	17.6	-2	38.6
7	97	31.7	312	32.0		255	17.6		11.7	345	56.1		56.6	97	20.2		38.6
8	112	34.1	327	31.5		270	18.5		12.3	0	58.2		56.5	112	22.8		38.7
9	127	36.6	342	31.0		285	19.4		13.0	16	00.2		56.5	127	25.5		38.8
10	142	39.1	357	30.4		300	20.3		13.6	31	02.3		56.4	142	28.1		38.9
11	157	41.5	12	29.9	+14	315	21.2	-9	14.3	46	04.3	+21	56.4	157	30.8	-2	39.0
12	172	44.0	27	29.4	+14	330	22.1	-9	14.9	61	06.3	+21	56.3	172	33.4	-2	39.0
13	187	46.5	42	28.8		345	23.1		15.5	76	08.4		56.3	187	36.0		39.1
14	202	48.9	57	28.3		0	24.0		16.2	91	10.4		56.2	202	38.7		39.2
15	217	51.4	72	27.7		15	24.9		16.8	106	12.5		56.2	217	41.3		39.3
16	232	53.9	87	27.2		30	25.8		17.4	121	14.5		56.1	232	43.9		39.4
17	247	56.3	102	26.7	+14	45	26.7	-9	18.1	136	16.5	+21	56.1	247	46.6	-2	39.4
18	262	58.8	117	26.1	+14	60	27.6	-9	18.7	151	18.6	+21	56.0	262	49.2	-2	39.5
19	278	01.3	132	25.6		75	28.5		19.3	166	20.6		56.0	277	51.9		39.6
20	293	03.7	147	25.1		90	29.5		20.0	181	22.7		55.9	292	54.5		39.7
21	308	06.2	162	24.5		105	30.4		20.6	196	24.7		55.8	307	57.1		39.7
22	323	08.6	177	24.0		120	31.3		21.2	211	26.8		55.8	322	59.8		39.8
23	338	11.1	192	23.5		135	32.2		21.9	226	28.8		55.7	338	02.4		39.9
24	353	13.6	207	22.9	+14	150	33.1	-9	22.5	241	30.8	+21	55.7	353	05.1	-2	40.0
Dif	—		-5	-9		+9	-6			+20	-1			+26	-1		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 55.5 ^m			Edad: 21.7 ^d PHE { 4 ^h : 59'1 12 ^h : 58'9 20 ^h : 58'7 Rº: 62 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	181	05.1	+3	23.6	279	25.0	+27	54.9	40	60 N	3	51	4	43	5	26	19	31
1	196	05.4		22.6	293	47.9	+27	58.9	39	58	3	59		48	28	20	11	
2	211	05.6		21.6	308	10.7	+28	02.6	37	56	4	06		52	30	20	39	
3	226	05.8		20.7	322	33.5		06.2	36	54		13		56	32	21	01	
4	241	06.0		19.7	336	56.3		09.6	34	52		18	4	59	33	19	70	
5	256	06.2	+3	18.8	351	19.1	+28	12.8	32	50		4	23	5	02	5	35	
6	271	06.5	+3	17.8	5	41.9	+28	15.9	31	45		4	33	5	08	5	38	
7	286	06.7		16.9	20	04.6		18.7	28	40		41		13	40	22	06	
8	301	06.9		15.9	34	27.4		21.3	26	35		47		17	42	30	66	
9	316	07.1		14.9	48	50.1		23.7	24	30		52		20	44	22	50	
10	331	07.4		14.0	63	12.9		26.0	23	20		4	59	25	47	23	36	
11	346	07.6	+3	13.0	77	35.6	+28	28.0	20	10 N		5	04	5	29	5	50	
12	1	07.8	+3	12.0	91	58.4	+28	29.9	19	0		5	08	5	32	5	52	
13	16	08.0		11.1	106	21.2		31.6	17	10 S		09		34	55	**	**	
14	31	08.2		10.1	120	43.9		33.0	14	20		09		35	57	0	08	
15	46	08.5		09.2	135	06.7		34.3	13	30		08		35	5	59	36	
16	61	08.7		08.2	149	29.5		35.4	11	35		06		36	6	01	0	
17	76	08.9	+3	07.2	163	52.3	+28	36.3	9	40		5	04	5	35	6	02	
18	91	09.1	+3	06.3	178	15.1	+28	37.0	7	45		5	01	5	35	6	04	
19	106	09.4		05.3	192	38.0		37.5	5	50		4	56		34	06	2	
20	121	09.6		04.4	207	00.9		37.8	3	52		54		33	07	22	67	
21	136	09.8		03.4	221	23.7		37.9	1	54		52		33	08	2	40	
22	151	10.0		02.4	235	46.7		37.8	1	56		49		32	09	3	01	
23	166	10.3		01.5	250	09.6		37.6	2	58		46		31	10	3	29	
24	181	10.5	+3	00.5	264	32.6	+28	37.1	5	60 S		4	42	5	30	6	12	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG		Mag: -3.9		Mag: +1.6		Mag: -2.0		Mag: +0.6									
	0 ^h 27.0 ^m		PMG: 10 ^h 11 ^m		PMG: 13 ^h 57 ^m		PMG: 7 ^h 53 ^m		PMG: 0 ^h 28 ^m									
h	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
0	353	13.6	207	22.9	150	33.1	241	30.8	353	05.1								
1	8	16.0	222	22.4	165	34.0	256	32.9	8	07.7								
2	23	18.5	237	21.9	180	34.9	271	34.9	23	10.3								
3	38	21.0	252	21.3	195	35.8	286	37.0	38	13.0								
4	53	23.4	267	20.8	210	36.7	301	39.0	53	15.6								
5	68	25.9	282	20.3	225	37.7	316	41.1	68	18.2								
6	83	28.4	297	19.7	240	38.6	331	43.1	83	20.9								
7	98	30.8	312	19.2	255	39.5	346	45.1	98	23.5								
8	113	33.3	327	18.7	270	40.4	1	47.2	113	26.2								
9	128	35.8	342	18.1	285	41.3	16	49.2	128	28.8								
10	143	38.2	357	17.6	300	42.2	31	51.3	143	31.4								
11	158	40.7	12	17.1	315	43.1	46	53.3	158	34.1								
12	173	43.1	27	16.5	330	44.0	61	55.4	173	36.7								
13	188	45.6	42	16.0	345	44.9	76	57.4	188	39.4								
14	203	48.1	57	15.5	0	45.8	91	59.5	203	42.0								
15	218	50.5	72	14.9	15	46.8	107	01.5	218	44.6								
16	233	53.0	87	14.4	30	47.7	122	03.5	233	47.3								
17	248	55.5	102	13.9	45	48.6	137	05.6	248	49.9								
18	263	57.9	117	13.4	60	49.5	152	07.6	263	52.5								
19	279	00.4	132	12.8	75	50.4	167	09.7	279	55.2								
20	294	02.9	147	12.3	90	51.3	182	11.7	294	57.8								
21	309	05.3	162	11.8	105	52.2	197	13.8	309	00.5								
22	324	07.8	177	11.3	120	53.1	212	15.8	324	03.1								
23	339	10.2	192	10.7	135	54.0	227	17.9	339	05.7								
24	354	12.7	207	10.2	150	54.9	242	19.9	354	08.4								
Dif	—		-5	-9	+9	-6	+20	-1	+26	-1								

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 55.1 ^m			Edad: 22.7 ^d SD: 16'0 PMG: 6 ^h 38 ^m			PHE { 4 ^h : 58'6 12 ^h : 58'4 20 ^h : 58'2 R°: 61 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m
0	181	10.5	+3	00.5	264	32.6	40	+28	37.1	6	60 N	18	21	19	03	19	54	20	53	107
1	196	10.7	+2	59.6	278	55.6	41		36.5	9	58	19	18	58	47	21	27	97	16	54
2	211	10.9		58.6	293	18.7	41		35.6	10	56	17		55	40	21	53	90	29	33
3	226	11.1		57.6	307	41.8	41		34.6	10	54	16		51	34	22	13	85	16	09
4	241	11.4		56.7	322	04.9	41		33.4	12	52	14		48	29	29	83	15	51	
5	256	11.6	+2	55.7	336	28.1	42	+28	32.0	14	50	18	13	18	46	19	24	22	44	
6	271	11.8	+2	54.7	350	51.3	42	+28	30.4	16	45	18	11	18	40	19	15	23	13	
7	286	12.0		53.8	5	14.6	43		28.6	18	40	09		36	08	36	72	14	44	
8	301	12.3		52.8	19	38.0	43		26.7	19	35	07		32	19	02	23	55		
9	316	12.5		51.9	34	01.3	43		24.5	22	30	05		29	18	57	**	**		
10	331	12.7		50.9	48	24.8	45		22.2	23	20	03		25	50	**	**			
11	346	12.9	+2	49.9	62	48.3	45	+28	19.7	25	10 N	18	00	18	21	18	46	0		
12	1	13.2	+2	49.0	77	11.8	45	+28	17.0	27	0	17	58	18	19	18	43	0		
13	16	13.4		48.0	91	35.5	46		14.1	29	10 S	57		18		42	0			
14	31	13.6		47.0	105	59.1	46		11.1	30	20	55		17	42	1				
15	46	13.8		46.1	120	22.9	48		07.8	33	30	53		16	44	40				
16	61	14.0		45.1	134	46.7	48		04.4	34	35	51		17	46	1				
17	76	14.3	+2	44.1	149	10.6	49	+28	00.8	36	40	17	50	18	17	18	49	2		
18	91	14.5	+2	43.2	163	34.5	49	+27	57.1	37	45	17	49	18	18	18	52	2		
19	106	14.7		42.2	177	58.6	51		53.1	40	50	47		19	57	3				
20	121	14.9		41.3	192	22.7	51		49.0	41	52	47		20	18	59	29			
21	136	15.2		40.3	206	46.8	51		44.7	43	54	46		21	19	02	3			
22	151	15.4		39.3	221	11.1	53		40.3	44	56	45		22	05	4				
23	166	15.6		38.4	235	35.4	53		35.6	47	58	44		23	09	4				
24	181	15.8	+2	37.4	249	59.9	55	+27	30.8	48	60 S	17	43	18	24	19	13	5		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 ^h 23.1 ^m		Mag: -3.9 PMG: 10 ^h 12 ^m		Mag: +1.6 PMG: 13 ^h 55 ^m		Mag: -2.0 PMG: 7 ^h 50 ^m		Mag: +0.6 PMG: 0 ^h 23 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	354	12.7	207	10.2	+14	04.9	150	54.9	-9	37.7
1	9	15.2	222	09.7		04.0	165	55.8		38.3
2	24	17.6	237	09.1		03.1	180	56.7		39.0
3	39	20.1	252	08.6		02.2	195	57.7		39.6
4	54	22.6	267	08.1		01.2	210	58.6		40.2
5	69	25.0	282	07.6	+14	00.3	225	59.5	-9	40.8
6	84	27.5	297	07.0	+13	59.4	241	00.4	-9	41.5
7	99	30.0	312	06.5		58.5	256	01.3		42.1
8	114	32.4	327	06.0		57.5	271	02.2		42.7
9	129	34.9	342	05.5		56.6	286	03.1		43.4
10	144	37.4	357	05.0		55.7	301	04.0		44.0
11	159	39.8	12	04.4	+13	54.8	316	04.9	-9	44.6
12	174	42.3	27	03.9	+13	53.8	331	05.8	-9	45.3
13	189	44.7	42	03.4		52.9	346	06.7		45.9
14	204	47.2	57	02.9		52.0	1	07.6		46.5
15	219	49.7	72	02.3		51.0	16	08.5		47.2
16	234	52.1	87	01.8		50.1	31	09.4		47.8
17	249	54.6	102	01.3	+13	49.2	46	10.3	-9	48.4
18	264	57.1	117	00.8	+13	48.3	61	11.2	-9	49.1
19	279	59.5	132	00.3		47.3	76	12.1		49.7
20	295	02.0	146	59.7		46.4	91	13.0		50.3
21	310	04.5	161	59.2		45.5	106	13.9		50.9
22	325	06.9	176	58.7		44.5	121	14.8		51.6
23	340	09.4	191	58.2		43.6	136	15.7		52.2
24	355	11.9	206	57.7	+13	42.6	151	16.6	-9	52.8
Dif	—		-5		-9		+9		-6	
									+20	-1
										+26
										-1

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG: 11 ^h 54.8 ^m			Edad: 23.7 ^d PHE { 4 ^h : 58'0 12 ^h : 57'9 20 ^h : 57'7 R ^o : 56 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	181	15.8	+2	37.4	249	59.9	55	+27	30.8	49	60 N	3 57	4 48	5 31	22 39 106	17 44 5		
1	196	16.1		36.4	264	24.4	56		25.9	52	58	4 04	53	32	23 02 98	20 12		
2	211	16.3		35.5	278	49.0	56		20.7	53	56	11	4 56	34	21 92	17 00 18		
3	226	16.5		34.5	293	13.6	56		15.4	53	54	17	5 00	35	37 88	16 44 22		
4	241	16.7		33.5	307	38.4	58		09.9	55	52	22	02	36	23 51 84	30 26		
5	256	16.9	+2	32.6	322	03.2	58	+27	04.3	56	50	4 26	5 05	5 38	** ** *	16 18 28		
6	271	17.2	+2	31.6	336	28.2	60	+26	58.5	58	45	4 36	5 11	5 40	** ** *	15 52 34		
7	286	17.4		30.7	350	53.2	60		52.6	59	40	43	15	42	** ** *	32 37		
8	301	17.6		29.7	5	18.4	62		46.4	62	35	49	18	44	** ** *	14 41		
9	316	17.8		28.7	19	43.6	62		40.2	62	30	4 53	21	45	0 11 66	15 00 43		
10	331	18.1		27.8	34	08.9	63		33.7	65	20	5 00	26	48	0 39 62	14 34 48		
11	346	18.3	+2	26.8	48	34.3	64	+26	27.2	65	10 N	5 04	5 29	5 50	1 02 60	14 12 52		
12	1	18.5	+2	25.8	62	59.8	65	+26	20.4	68	0	5 07	5 31	5 52	1 24 57	13 52 54		
13	16	18.7		24.9	77	25.4	66		13.5	70	10 S	08	32	53	1 46 54	31 58		
14	31	19.0		23.9	91	51.1	67	+26	06.5	72	20	07	33	55	2 09 51	13 09 61		
15	46	19.2		22.9	106	16.9	68	+25	59.3	72	30	05	33	57	36 48	12 43 66		
16	61	19.4		22.0	120	42.8	69		51.9	74	35	03	33	58	2 52 45	27 69		
17	76	19.6	+2	21.0	135	08.9	71	+25	44.4	75	40	5 01	5 32	5 59	3 11 42	12 09 72		
18	91	19.8	+2	20.0	149	35.0	71	+25	36.8	76	45	4 57	5 31	6 00	3 33 39	11 48 75		
19	106	20.1		19.1	164	01.2	72		29.0	78	50	52	30	02	4 02 33	20 81		
20	121	20.3		18.1	178	27.5	73		21.1	79	52	50	29	02	15 31	11 07 84		
21	136	20.5		17.1	192	53.9	74		13.0	81	54	47	28	03	31 28	10 51 88		
22	151	20.7		16.2	207	20.5	76	+25	04.8	82	56	44	27	04	4 50 23	32 93		
23	166	21.0		15.2	221	47.1	76	+24	56.5	83	58	40	26	05	5 14 16	10 10 98		
24	181	21.2	+2	14.2	236	13.8	77	+24	48.0	85	60 S	4 36	5 24	6 06	5 44 7	9 40 109		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 19.2 ^m		Mag: -3.9 PMG: 10 ^h 13 ^m			Mag: +1.6 PMG: 13 ^h 54 ^m			Mag: -2.0 PMG: 7 ^h 46 ^m			Mag: +0.6 PMG: 0 ^h 19 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	355	11.9	206	57.7	+13	42.6	151	16.6	-9	52.8	243	09.1	+21	53.1	355	11.7	-2	43.8
1	10	14.3	221	57.1		41.7	166	17.5		53.5	258	11.2		53.1	10	14.4		43.9
2	25	16.8	236	56.6		40.8	181	18.4		54.1	273	13.2		53.0	25	17.0		43.9
3	40	19.2	251	56.1		39.8	196	19.3		54.7	288	15.3		53.0	40	19.6		44.0
4	55	21.7	266	55.6		38.9	211	20.2		55.4	303	17.3		52.9	55	22.3		44.1
5	70	24.2	281	55.1	+13	38.0	226	21.2	-9	56.0	318	19.4	+21	52.9	70	24.9	-2	44.2
6	85	26.6	296	54.5	+13	37.0	241	22.1	-9	56.6	333	21.4	+21	52.8	85	27.6	-2	44.3
7	100	29.1	311	54.0		36.1	256	23.0		57.2	348	23.5		52.7	100	30.2		44.3
8	115	31.6	326	53.5		35.1	271	23.9		57.9	3	25.5		52.7	115	32.8		44.4
9	130	34.0	341	53.0		34.2	286	24.8		58.5	18	27.6		52.6	130	35.5		44.5
10	145	36.5	356	52.5		33.2	301	25.7		59.1	33	29.7		52.6	145	38.1		44.6
11	160	39.0	11	52.0	+13	32.3	316	26.6	-9	59.8	48	31.7	+21	52.5	160	40.8	-2	44.6
12	175	41.4	26	51.5	+13	31.4	331	27.5	-10	00.4	63	33.8	+21	52.5	175	43.4	-2	44.7
13	190	43.9	41	50.9		30.4	346	28.4		01.0	78	35.8		52.4	190	46.0		44.8
14	205	46.4	56	50.4		29.5	1	29.3		01.6	93	37.9		52.4	205	48.7		44.9
15	220	48.8	71	49.9		28.5	16	30.2		02.3	108	39.9		52.3	220	51.3		45.0
16	235	51.3	86	49.4		27.6	31	31.0		02.9	123	42.0		52.3	235	54.0		45.0
17	250	53.7	101	48.9	+13	26.6	46	31.9	-10	03.5	138	44.0	+21	52.2	250	56.6	-2	45.1
18	265	56.2	116	48.4	+13	25.7	61	32.8	-10	04.2	153	46.1	+21	52.2	265	59.2	-2	45.2
19	280	58.7	131	47.9		24.7	76	33.7		04.8	168	48.2		52.1	281	01.9		45.3
20	296	01.1	146	47.3		23.8	91	34.6		05.4	183	50.2		52.1	296	04.5		45.4
21	311	03.6	161	46.8		22.8	106	35.5		06.0	198	52.3		52.0	311	07.2		45.4
22	326	06.1	176	46.3		21.9	121	36.4		06.7	213	54.3		51.9	326	09.8		45.5
23	341	08.5	191	45.8		20.9	136	37.3		07.3	228	56.4		51.9	341	12.4		45.6
24	356	11.0	206	45.3	+13	20.0	151	38.2	-10	07.9	243	58.4	+21	51.8	356	15.1	-2	45.7
Dif	—		-5		-9		+9		-6		+21		-1		+26		-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG: 11 ^h 54.4 ^m			Edad: 24.7 ^d SD: 15'7 PMG: 8 ^h 34 ^m								PHE { 4 ^h : 57'5 12 ^h : 57'3 20 ^h : 57'1 Rº: 52 ^m							
	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	h m m	
0	181	21.2	+2	14.2	236	13.8	79	+24	48.0	86	60 N	18 14	18 56	19 47	** ** *	** ** *	17 49	2	
1	196	21.4		13.3	250	40.7	79		39.4	86	58	13	53	40	** ** *	** ** *	32	8	
2	211	21.6		12.3	265	07.6	81		30.7	87	56	12	49	34	** ** *	** ** *	18	13	
3	226	21.9		11.3	279	34.7	82		21.8	89	54	11	46	29	** ** *	** ** *	17 06	16	
4	241	22.1		10.4	294	01.9	82		12.8	90	52	10	44	24	** ** *	** ** *	16 56	19	
5	256	22.3	+2	09.4	308	29.2	83	+24	03.6	92	50	18 09	18 41	19 20	0 03	82	16 46	22	
6	271	22.5	+2	08.4	322	56.5	85	+23	54.4	92	45	18 07	18 36	19 11	0 27	77	16 26	27	
7	286	22.7		07.5	337	24.0	86		45.0	94	40	05	32	19 04	0 47	72	16 09	32	
8	301	23.0		06.5	351	51.6	86		35.5	95	35	04	29	18 59	1 03	69	15 55	36	
9	316	23.2		05.5	6	19.4	88		25.8	97	30	03	27	55	17	67	43	38	
10	331	23.4		04.6	20	47.2	88		16.1	97	20	18 01	23	48	1 41	62	22	43	
11	346	23.6	+2	03.6	35	15.1	89	+23	06.2	99	10 N	17 59	18 20	18 44	2 02	57	15 04	47	
12	1	23.9	+2	02.6	49	43.2	91	+22	56.2	100	0	17 58	18 18	18 42	2 21	54	14 46	52	
13	16	24.1		01.7	64	11.3	91		46.1	101	10 S	56	17	42	2 40	50	29	56	
14	31	24.3	+2	00.7	78	39.6	93		35.9	102	20	55	17	43	3 00	46	14 10	60	
15	46	24.5	+1	59.7	93	07.9	93		25.5	104	30	54	18	45	24	41	13 49	65	
16	61	24.8		58.8	107	36.4	95		15.1	104	35	53	18	48	37	39	36	68	
17	76	25.0	+1	57.8	122	05.0	96	+22	04.5	106	40	17 52	18 19	18 51	3 53	35	13 21	72	
18	91	25.2	+1	56.8	136	33.7	97	+21	53.8	107	45	17 51	18 21	18 55	4 12	31	13 03	77	
19	106	25.4		55.9	151	02.5	98		43.1	107	50	50	22	19 00	35	25	12 41	83	
20	121	25.6		54.9	165	31.4	99		32.2	109	52	50	23	03	46	23	31	85	
21	136	25.9		53.9	180	00.4	100		21.2	110	54	49	24	06	4 59	19	19	88	
22	151	26.1		53.0	194	29.5	101	+21	10.1	111	56	49	26	09	5 13	15	12 05	93	
23	166	26.3		52.0	208	58.7	102	+20	58.9	112	58	48	27	13	30	10	11 48	99	
24	181	26.5	+1	51.0	223	28.0	103	+20	47.6	113	60 S	17 47	18 29	19 18	5 51	3	11 29	105	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 0 ^h 15.2 ^m		Mag: -3.9 PMG: 10 ^h 13 ^m		Mag: +1.6 PMG: 13 ^h 53 ^m		Mag: -2.1 PMG: 7 ^h 43 ^m		Mag: +0.6 PMG: 0 ^h 15 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	356	11.0	206	45.3	+13	20.0	151	38.2	-10	07.9	243	58.4	+21	51.8	356	15.1	-2	45.7
1	11	13.5	221	44.8		19.0	166	39.1		08.6	259	00.5		51.8	11	17.7		45.8
2	26	15.9	236	44.3		18.1	181	40.0		09.2	274	02.6		51.7	26	20.4		45.8
3	41	18.4	251	43.8		17.1	196	40.9		09.8	289	04.6		51.7	41	23.0		45.9
4	56	20.9	266	43.3		16.2	211	41.8		10.4	304	06.7		51.6	56	25.6		46.0
5	71	23.3	281	42.7	+13	15.2	226	42.7	-10	11.1	319	08.7	+21	51.6	71	28.3	-2	46.1
6	86	25.8	296	42.2	+13	14.2	241	43.6	-10	11.7	334	10.8	+21	51.5	86	30.9	-2	46.2
7	101	28.2	311	41.7		13.3	256	44.5		12.3	349	12.8		51.5	101	33.6		46.2
8	116	30.7	326	41.2		12.3	271	45.4		13.0	4	14.9		51.4	116	36.2		46.3
9	131	33.2	341	40.7		11.4	286	46.3		13.6	19	17.0		51.4	131	38.9		46.4
10	146	35.6	356	40.2		10.4	301	47.2		14.2	34	19.0		51.3	146	41.5		46.5
11	161	38.1	11	39.7	+13	09.4	316	48.1	-10	14.8	49	21.1	+21	51.3	161	44.1	-2	46.5
12	176	40.6	26	39.2	+13	08.5	331	49.0	-10	15.5	64	23.1	+21	51.2	176	46.8	-2	46.6
13	191	43.0	41	38.7		07.5	346	49.9		16.1	79	25.2		51.2	191	49.4		46.7
14	206	45.5	56	38.2		06.6	1	50.8		16.7	94	27.3		51.1	206	52.1		46.8
15	221	48.0	71	37.7		05.6	16	51.7		17.3	109	29.3		51.1	221	54.7		46.9
16	236	50.4	86	37.2		04.6	31	52.6		18.0	124	31.4		51.0	236	57.3		46.9
17	251	52.9	101	36.6	+13	03.7	46	53.5	-10	18.6	139	33.5	+21	50.9	252	00.0	-2	47.0
18	266	55.3	116	36.1	+13	02.7	61	54.3	-10	19.2	154	35.5	+21	50.9	267	02.6	-2	47.1
19	281	57.8	131	35.6		01.7	76	55.2		19.8	169	37.6		50.8	282	05.3		47.2
20	297	00.3	146	35.1	+13	00.8	91	56.1		20.5	184	39.6		50.8	297	07.9		47.3
21	312	02.7	161	34.6	+12	59.8	106	57.0		21.1	199	41.7		50.7	312	10.5		47.3
22	327	05.2	176	34.1		58.8	121	57.9		21.7	214	43.8		50.7	327	13.2		47.4
23	342	07.7	191	33.6		57.9	136	58.8		22.4	229	45.8		50.6	342	15.8		47.5
24	357	10.1	206	33.1	+12	56.9	151	59.7	-10	23.0	244	47.9	+21	50.6	357	18.5	-2	47.6
Dif	—		—5		-10		+9		-6		+21		-1		+26		-1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15°9 PMG:11 ^h 54.1 ^m			Edad: 25.7 ^d SD: 15°5 PMG: 9 ^h 25 ^m PHE { 4 ^h : 57°0 12 ^h : 56°8 20 ^h : 56°6 R°: 47 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m		
0	181	26.5	+1	51.0	223	28.0	+20	47.6	60 N	4 02	4 53	5 35	0 25	99	17 50	**		
1	196	26.8		50.1	237	57.5		36.2	58	09	4 57	37	40	94	39	4		
2	211	27.0		49.1	252	27.0		24.7	56	15	5 00	38	0 53	90	30	7		
3	226	27.2		48.1	266	56.7		13.2	54	21	03	39	1 05	85	21	1		
4	241	27.4		47.2	281	26.4	+20	01.5	52	25	06	40	15	82	13	14		
5	256	27.7	+1	46.2	295	56.3	+19	49.7	50	4 30	5 08	5 41	1 24	79	17 07	15		
6	271	27.9	+1	45.2	310	26.2	+19	37.9	45	4 38	5 13	5 42	1 43	73	16 52	21		
7	286	28.1		44.2	324	56.3		25.9	40	45	17	44	1 58	69	40	25		
8	301	28.3		43.3	339	26.4		13.9	35	50	20	45	2 11	65	29	29		
9	316	28.5		42.3	353	56.7	+19	01.8	30	4 54	22	46	22	62	20	32		
10	331	28.8		41.3	8	27.0	+18	49.6	20	5 00	26	48	41	57	16 04	37		
11	346	29.0	+1	40.4	22	57.5	+18	37.3	10 N	5 04	5 29	5 50	2 58	52	15 50	42		
12	1	29.2	+1	39.4	37	28.1	+18	24.9	0	5 06	5 30	5 51	3 13	48	15 37	46		
13	16	29.4		38.4	51	58.7	+18	12.5	10 S	07	31	52	29	43	23	51		
14	31	29.7		37.5	66	29.5	+18	00.0	20	06	31	53	3 45	39	15 09	55		
15	46	29.9		36.5	81	00.3	+17	47.4	30	03	31	54	4 04	34	14 52	61		
16	61	30.1		35.5	95	31.2		34.7	35	5 00	30	55	14	31	43	64		
17	76	30.3	+1	34.6	110	02.3	+17	21.9	40	4 57	5 29	5 56	4 27	27	14 32	67		
18	91	30.5	+1	33.6	124	33.4	+17	09.1	45	4 53	5 27	5 56	4 41	23	14 18	73		
19	106	30.8		32.6	139	04.6	+16	56.2	50	48	25	57	4 59	18	14 02	78		
20	121	31.0		31.7	153	36.0		43.2	52	45	24	58	5 07	15	13 55	80		
21	136	31.2		30.7	168	07.4		30.2	54	42	23	58	16	12	46	84		
22	151	31.4		29.7	182	38.9		17.1	56	38	22	59	27	8	36	88		
23	166	31.7		28.7	197	10.5	+16	03.9	58	34	20	5 59	39	4	25	92		
24	181	31.9	+1	27.8	211	42.1	+15	50.7	60 S	4 29	5 18	6 00	5 52	0	13 13	96		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 0 ^h 11.3 ^m		Mag: -3.9 PMG: 10 ^h 14 ^m		Mag: +1.6 PMG: 13 ^h 51 ^m		Mag: -2.1 PMG: 7 ^h 40 ^m		Mag: +0.6 PMG: 0 ^h 11 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	357	10.1	206	33.1	+12	56.9	151	59.7	-10	23.0	244	47.9	+21	50.6	357	18.5	-2	47.6
1	12	12.6	221	32.6		55.9	167	00.6		23.6	259	50.0		50.5	12	21.1		47.7
2	27	15.1	236	32.1		55.0	182	01.5		24.2	274	52.0		50.5	27	23.7		47.7
3	42	17.5	251	31.6		54.0	197	02.4		24.9	289	54.1		50.4	42	26.4		47.8
4	57	20.0	266	31.1		53.0	212	03.3		25.5	304	56.1		50.4	57	29.0		47.9
5	72	22.5	281	30.6	+12	52.1	227	04.2	-10	26.1	319	58.2	+21	50.3	72	31.7	-2	48.0
6	87	24.9	296	30.1	+12	51.1	242	05.1	-10	26.7	335	00.3	+21	50.3	87	34.3	-2	48.1
7	102	27.4	311	29.6		50.1	257	05.9		27.4	350	02.3		50.2	102	36.9		48.1
8	117	29.8	326	29.1		49.1	272	06.8		28.0	5	04.4		50.2	117	39.6		48.2
9	132	32.3	341	28.6		48.2	287	07.7		28.6	20	06.5		50.1	132	42.2		48.3
10	147	34.8	356	28.1		47.2	302	08.6		29.2	35	08.5		50.1	147	44.9		48.4
11	162	37.2	11	27.6	+12	46.2	317	09.5	-10	29.9	50	10.6	+21	50.0	162	47.5	-2	48.4
12	177	39.7	26	27.1	+12	45.2	332	10.4	-10	30.5	65	12.7	+21	50.0	177	50.2	-2	48.5
13	192	42.2	41	26.6		44.3	347	11.3		31.1	80	14.7		49.9	192	52.8		48.6
14	207	44.6	56	26.1		43.3	2	12.2		31.7	95	16.8		49.8	207	55.4		48.7
15	222	47.1	71	25.6		42.3	17	13.1		32.4	110	18.9		49.8	222	58.1		48.8
16	237	49.6	86	25.1		41.3	32	13.9		33.0	125	20.9		49.7	237	00.7		48.8
17	252	52.0	101	24.6	+12	40.3	47	14.8	-10	33.6	140	23.0	+21	49.7	252	03.4	-2	48.9
18	267	54.5	116	24.1	+12	39.4	62	15.7	-10	34.2	155	25.1	+21	49.6	267	06.0	-2	49.0
19	282	57.0	131	23.6		38.4	77	16.6		34.9	170	27.1		49.6	282	08.6		49.1
20	297	59.4	146	23.1		37.4	92	17.5		35.5	185	29.2		49.5	297	11.3		49.2
21	313	01.9	161	22.6		36.4	107	18.4		36.1	200	31.3		49.5	313	13.9		49.2
22	328	04.3	176	22.1		35.4	122	19.3		36.7	215	33.3		49.4	328	16.6		49.3
23	343	06.8	191	21.6		34.5	137	20.2		37.4	230	35.4		49.4	343	19.2		49.4
24	358	09.3	206	21.1	+12	33.5	152	21.1	-10	38.0	245	37.5	+21	49.3	358	21.8	-2	49.5
Dif	—		-5		-10		+9		-6		+21		-1		+26		-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG: 11 ^h 53.7 ^m			Edad: 26.7 ^d SD: 15'4 PMG: 10 ^h 12 ^m			PHE { 4 ^h : 56'5 12 ^h : 56'3 20 ^h : 56'1 Rº: 45 ^m													
	hG ☉	Dec		hG ☾	Dif		Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	181	31.9	+1	27.8	211	42.1	+15	50.7	133	60 N	18 08	18 50	19 41	2 04	95	17 49	1	17 49	1	
1	196	32.1		26.8	226	13.9		37.4	134	58	07	47	34	14	90	43	4	43	4	
2	211	32.3		25.8	240	45.8		24.0	134	56	07	44	28	23	86	37	7	37	7	
3	226	32.5		24.9	255	17.7	+15	10.6	134	54	06	41	23	30	83	32	9	32	9	
4	241	32.8		23.9	269	49.7	+14	57.1	135	52	05	39	19	37	80	27	12	27	12	
5	256	33.0	+1	22.9	284	21.8	+14	43.6	135	50	18 04	18 37	19 15	2 43	78	17 22	15	17 22	15	
6	271	33.2	+1	22.0	298	54.0	+14	30.0	136	45	18 03	18 32	19 07	2 56	73	17 13	19	17 13	19	
7	286	33.4		21.0	313	26.3		16.4	136	40	02	29	19 01	3 07	68	17 05	23	17 05	23	
8	301	33.7		20.0	327	58.6	+14	02.7	137	35	01	26	18 56	16	64	16 58	27	16 58	27	
9	316	33.9		19.0	342	31.1	+13	48.9	138	30	18 00	24	52	24	61	52	30	52	30	
10	331	34.1		18.1	357	03.6		35.1	138	20	17 59	21	46	38	55	41	36	41	36	
11	346	34.3	+1	17.1	11	36.2	+13	21.2	139	10 N	17 58	18 19	18 43	3 50	50	16 32	40	16 32	40	
12	1	34.5	+1	16.1	26	08.9	+13	07.3	139	0	17 57	18 18	18 42	4 01	46	16 23	44	16 23	44	
13	16	34.8		15.2	40	41.6	+12	53.4	139	10 S	56	17	42	12	42	14	49	14	49	
14	31	35.0		14.2	55	14.4		39.4	140	20	55	17	43	24	37	16 04	54	16 04	54	
15	46	35.2		13.2	69	47.3		25.3	141	30	55	19	46	38	31	15 53	60	15 53	60	
16	61	35.4		12.3	84	20.3	+12	11.2	141	35	54	20	49	45	28	47	62	47	62	
17	76	35.7	+1	11.3	98	53.3	+11	57.1	141	40	17 54	18 21	18 53	4 54	25	15 39	67	15 39	67	
18	91	35.9	+1	10.3	113	26.4	+11	42.9	142	45	17 54	18 23	18 57	5 04	21	15 31	71	15 31	71	
19	106	36.1		09.3	127	59.6		28.7	142	50	53	25	19 03	17	15	20	76	20	76	
20	121	36.3		08.4	142	32.8		14.5	142	52	53	27	06	22	13	15	79	15	79	
21	136	36.5		07.4	157	06.2	+11	00.2	143	54	53	28	10	28	11	10	81	10	81	
22	151	36.8		06.4	171	39.5	+10	45.9	143	56	53	30	14	35	8	15 04	84	15 04	84	
23	166	37.0		05.5	186	13.0		31.5	144	58	52	32	18	43	4	14 57	88	14 57	88	
24	181	37.2	+1	04.5	200	46.5	+10	17.1	144	60 S	17 52	18 34	19 23	5 52	0	14 49	93	14 49	93	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 0 ^h 07.4 ^m		Mag: -3.9 PMG: 10 ^h 15 ^m		Mag: +1.6 PMG: 13 ^h 50 ^m		Mag: -2.1 PMG: 7 ^h 36 ^m		Mag: +0.6 PMG: 0 ^h 07 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	358	09.3	206	21.1	+12	33.5	152	21.1	-10	38.0	245	37.5	+21	49.3	358	21.8	-2	49.5	
1	13	11.7	221	20.6		32.5	167	21.9		38.6	260	39.5		49.3	13	24.5		49.6	
2	28	14.2	236	20.1		31.5	182	22.8		39.2	275	41.6		49.2	28	27.1		49.6	
3	43	16.7	251	19.6		30.5	197	23.7		39.8	290	43.7		49.2	43	29.8		49.7	
4	58	19.1	266	19.1		29.5	212	24.6		40.5	305	45.7		49.1	58	32.4		49.8	
5	73	21.6	281	18.6	+12	28.5	227	25.5	-10	41.1	320	47.8	+21	49.1	73	35.1	-2	49.9	
6	88	24.1	296	18.1	+12	27.6	242	26.4	-10	41.7	335	49.9	+21	49.0	88	37.7	-2	49.9	
7	103	26.5	311	17.6		26.6	257	27.3		42.3	350	52.0		49.0	103	40.3		50.0	
8	118	29.0	326	17.1		25.6	272	28.1		43.0	5	54.0		48.9	118	43.0		50.1	
9	133	31.4	341	16.6		24.6	287	29.0		43.6	20	56.1		48.9	133	45.6		50.2	
10	148	33.9	356	16.1		23.6	302	29.9		44.2	35	58.2		48.8	148	48.3		50.3	
11	163	36.4	11	15.7	+12	22.6	317	30.8	-10	44.8	51	00.2	+21	48.8	163	50.9	-2	50.3	
12	178	38.8	26	15.2	+12	21.6	332	31.7	-10	45.5	66	02.3	+21	48.7	178	53.5	-2	50.4	
13	193	41.3	41	14.7		20.6	347	32.6		46.1	81	04.4		48.6	193	56.2		50.5	
14	208	43.8	56	14.2		19.6	2	33.4		46.7	96	06.5		48.6	208	58.8		50.6	
15	223	46.2	71	13.7		18.6	17	34.3		47.3	111	08.5		48.5	224	01.5		50.7	
16	238	48.7	86	13.2		17.7	32	35.2		47.9	126	10.6		48.5	239	04.1		50.7	
17	253	51.2	101	12.7	+12	16.7	47	36.1	-10	48.6	141	12.7	+21	48.4	254	06.7	-2	50.8	
18	268	53.6	116	12.2	+12	15.7	62	37.0	-10	49.2	156	14.7	+21	48.4	269	09.4	-2	50.9	
19	283	56.1	131	11.7		14.7	77	37.9		49.8	171	16.8		48.3	284	12.0		51.0	
20	298	58.6	146	11.2		13.7	92	38.7		50.4	186	18.9		48.3	299	14.7		51.1	
21	314	01.0	161	10.7		12.7	107	39.6		51.1	201	21.0		48.2	314	17.3		51.1	
22	329	03.5	176	10.2		11.7	122	40.5		51.7	216	23.0		48.2	329	20.0		51.2	
23	344	05.9	191	09.8		10.7	137	41.4		52.3	231	25.1		48.1	344	22.6		51.3	
24	359	08.4	206	09.3	+12	09.7	152	42.3	-10	52.9	246	27.2	+21	48.1	359	25.2	-2	51.4	
Dif	—		-5		-10		+9		-6		+21		-1		+26		-1		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG:11 ^h 53.3 ^m			Edad: 27.7 ^d SD: 15'3 PMG: 10 ^h 56 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		Rº	Hora	Rº			
h	°	'	°	'	°	'		°	h	m	h	m	h	m	m	h	m	m
0	181	37.2	+1	04.5	200	46.5	+10	17.1	60 N	4 07	4 58	5 40	3 37	89	17 48	**		
1	196	37.4		03.5	215	20.1	+10	02.7	58	14	5 01	41	43	85	45	2		
2	211	37.7		02.5	229	53.7	+9	48.2	56	20	04	42	48	81	42	5		
3	226	37.9		01.6	244	27.4		33.7	54	25	07	42	52	78	40	7		
4	241	38.1	+1	00.6	259	01.2		19.2	52	29	09	43	3 56	76	38	9		
5	256	38.3	+0	59.6	273	35.0	+9	04.6	50	4 33	5 11	5 44	4 00	73	17 35	12		
6	271	38.5	+0	58.7	288	08.9	+8	50.1	45	4 41	5 15	5 45	4 07	68	17 31	16		
7	286	38.8		57.7	302	42.8		35.5	40	47	19	46	13	64	27	20		
8	301	39.0		56.7	317	16.8		20.8	35	52	21	47	19	60	23	24		
9	316	39.2		55.7	331	50.8	+8	06.2	30	4 56	23	47	24	57	20	27		
10	331	39.4		54.8	346	24.9	+7	51.5	20	5 01	26	48	32	51	15	32		
11	346	39.6	+0	53.8	0	59.1	+7	36.8	10 N	5 04	5 28	5 49	4 39	47	17 11	36		
12	1	39.9	+0	52.8	15	33.3	+7	22.1	0	5 05	5 29	5 50	4 46	42	17 06	41		
13	16	40.1		51.9	30	07.5	+7	07.3	10 S	05	30	51	52	38	17 02	45		
14	31	40.3		50.9	44	41.8	+6	52.6	20	04	29	51	4 59	33	16 57	50		
15	46	40.5		49.9	59	16.1		37.8	30	5 00	28	52	5 08	27	51	56		
16	61	40.8		48.9	73	50.5		23.0	35	4 57	27	52	12	25	48	59		
17	76	41.0	+0	48.0	88	25.0	+6	08.2	40	4 54	5 25	5 52	5 17	21	16 44	63		
18	91	41.2	+0	47.0	102	59.4	+5	53.4	45	4 49	5 23	5 53	5 23	17	16 40	67		
19	106	41.4		46.0	117	34.0		38.6	50	43	21	53	31	12	35	72		
20	121	41.6		45.1	132	08.5		23.7	52	40	19	53	34	10	33	74		
21	136	41.9		44.1	146	43.1	+5	08.9	54	36	18	53	37	8	30	77		
22	151	42.1		43.1	161	17.8	+4	54.0	56	32	16	53	41	5	27	80		
23	166	42.3		42.1	175	52.5		39.1	58	28	14	53	46	2	24	83		
24	181	42.5	+0	41.2	190	27.2	+4	24.2	60 S	4 23	5 12	5 54	5 51	**	16 20	87		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 03.4 ^m		Mag: -3.9 PMG: 10 ^h 16 ^m			Mag: +1.6 PMG: 13 ^h 48 ^m			Mag: -2.1 PMG: 7 ^h 33 ^m			Mag: +0.6 PMG: 0 ^h 02 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	359	08.4	206	09.3	+12	09.7	152	42.3	-10	52.9	246	27.2	+21	48.1	359	25.2	-2	51.4
1	14	10.9	221	08.8		08.7	167	43.2		53.5	261	29.3		48.0	14	27.9		51.4
2	29	13.3	236	08.3		07.7	182	44.0		54.2	276	31.3		48.0	29	30.5		51.5
3	44	15.8	251	07.8		06.7	197	44.9		54.8	291	33.4		47.9	44	33.2		51.6
4	59	18.3	266	07.3		05.7	212	45.8		55.4	306	35.5		47.9	59	35.8		51.7
5	74	20.7	281	06.8	+12	04.7	227	46.7	-10	56.0	321	37.6	+21	47.8	74	38.4	-2	51.8
6	89	23.2	296	06.3	+12	03.7	242	47.6	-10	56.6	336	39.6	+21	47.8	89	41.1	-2	51.8
7	104	25.7	311	05.8		02.7	257	48.4		57.3	351	41.7		47.7	104	43.7		51.9
8	119	28.1	326	05.4		01.7	272	49.3		57.9	6	43.8		47.7	119	46.4		52.0
9	134	30.6	341	04.9	+12	00.7	287	50.2		58.5	21	45.9		47.6	134	49.0		52.1
10	149	33.0	356	04.4	+11	59.7	302	51.1		59.1	36	47.9		47.6	149	51.7		52.2
11	164	35.5	11	03.9	+11	58.7	317	52.0	-10	59.7	51	50.0	+21	47.5	164	54.3	-2	52.2
12	179	38.0	26	03.4	+11	57.7	332	52.8	-11	00.4	66	52.1	+21	47.5	179	56.9	-2	52.3
13	194	40.4	41	02.9		56.6	347	53.7		01.0	81	54.2		47.4	194	59.6		52.4
14	209	42.9	56	02.4		55.6	2	54.6		01.6	96	56.2		47.4	210	02.2		52.5
15	224	45.4	71	02.0		54.6	17	55.5		02.2	111	58.3		47.3	225	04.9		52.6
16	239	47.8	86	01.5		53.6	32	56.4		02.8	127	00.4		47.3	240	07.5		52.6
17	254	50.3	101	01.0	+11	52.6	47	57.2	-11	03.5	142	02.5	+21	47.2	255	10.1	-2	52.7
18	269	52.8	116	00.5	+11	51.6	62	58.1	-11	04.1	157	04.6	+21	47.2	270	12.8	-2	52.8
19	284	55.2	131	00.0		50.6	77	59.0		04.7	172	06.6		47.1	285	15.4		52.9
20	299	57.7	145	59.5		49.6	92	59.9		05.3	187	08.7		47.1	300	18.1		52.9
21	315	00.2	160	59.1		48.6	108	00.7		05.9	202	10.8		47.0	315	20.7		53.0
22	330	02.6	175	58.6		47.6	123	01.6		06.6	217	12.9		46.9	330	23.4		53.1
23	345	05.1	190	58.1		46.6	138	02.5		07.2	232	14.9		46.9	345	26.0		53.2
24	0	07.5	205	57.6	+11	45.5	153	03.4	-11	07.8	247	17.0	+21	46.8	0	28.6	-2	53.3
Dif	—		-5			-10	+9			-6	+21		-1	-8974			-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 53.0 ^m			Edad: 28.7 ^d PHE { 4 ^h : 55'5 12 ^h : 55'4 20 ^h : 55'2 R°: 42 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	42.5	+0	41.2	190	27.2	+4	24.2	60 N	18	02	18	44	19	34	5	06
1	196	42.7		40.2	205	02.0	+4	09.3	58	02		41	28		08	83	47
2	211	43.0		39.2	219	36.8	+3	54.4	56	01		38	23		09	80	47
3	226	43.2		38.3	234	11.6		39.5	54	01		36	18		10	78	47
4	241	43.4		37.3	248	46.5		24.6	52	00		34	14		12	75	47
5	256	43.6	+0	36.3	263	21.3	+3	09.7	50	18	00	18	32	19	10	5	13
6	271	43.8	+0	35.3	277	56.3	+2	54.8	45	17	59	18	28	19	03	5	15
7	286	44.1		34.4	292	31.2		39.9	40	59		26	18	57	17	64	47
8	301	44.3		33.4	307	06.2		25.0	35	58		23	53		19	60	47
9	316	44.5		32.4	321	41.2	+2	10.0	30	58		22	49		21	56	47
10	331	44.7		31.4	336	16.3	+1	55.1	20	57		19	45		23	52	47
11	346	44.9	+0	30.5	350	51.3	+1	40.2	10 N	17	57	18	18	18	42	5	26
12	1	45.2	+0	29.5	5	26.4	+1	25.3	0	17	56	18	17	18	41	5	28
13	16	45.4		28.5	20	01.5	+1	10.4	10 S	56	17		41		30	38	47
14	31	45.6		27.6	34	36.7	+0	55.5	20	56	18		43		32	33	47
15	46	45.8		26.6	49	11.8		40.6	30	56	20		48		35	28	47
16	61	46.0		25.6	63	47.0		25.7	35	56	21		51		37	24	47
17	76	46.3	+0	24.6	78	22.2	+0	10.9	40	17	56	18	23	18	55	5	38
18	91	46.5	+0	23.7	92	57.4	-0	04.0	45	17	56	18	25	19	00	5	40
19	106	46.7		22.7	107	32.7		18.9	50	56		28	06		43	12	47
20	121	46.9		21.7	122	07.9		33.7	52	56	30		10		44	10	47
21	136	47.1		20.7	136	43.2	-0	48.6	54	56	32		14		45	8	47
22	151	47.4		19.8	151	18.5	-1	03.4	56	57	34		18		46	6	47
23	166	47.6		18.8	165	53.8		18.2	58	57	36		23		48	3	47
24	181	47.8	+0	17.8	180	29.1	-1	33.0	60 S	17	57	18	38	19	28	5	49

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 23 ^h 55.6 ^m		Mag: -3.9 PMG: 10 ^h 16 ^m		Mag: +1.6 PMG: 13 ^h 47 ^m		Mag: -2.1 PMG: 7 ^h 30 ^m		Mag: +0.6 PMG: 23 ^h 54 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	0	07.5	205	57.6	+11	45.5	153	03.4	-11	07.8	247	17.0	+21	46.8	0	28.6	-2	53.3
1	15	10.0	220	57.1		44.5	168	04.2		08.4	262	19.1		46.8	15	31.3		53.3
2	30	12.5	235	56.6		43.5	183	05.1		09.0	277	21.2		46.7	30	33.9		53.4
3	45	14.9	250	56.2		42.5	198	06.0		09.7	292	23.3		46.7	45	36.6		53.5
4	60	17.4	265	55.7		41.5	213	06.9		10.3	307	25.3		46.6	60	39.2		53.6
5	75	19.9	280	55.2	+11	40.5	228	07.8	-11	10.9	322	27.4	+21	46.6	75	41.8	-2	53.7
6	90	22.3	295	54.7	+11	39.5	243	08.6	-11	11.5	337	29.5	+21	46.5	90	44.5	-2	53.7
7	105	24.8	310	54.2		38.4	258	09.5		12.1	352	31.6		46.5	105	47.1		53.8
8	120	27.3	325	53.8		37.4	273	10.4		12.8	7	33.7		46.4	120	49.8		53.9
9	135	29.7	340	53.3		36.4	288	11.3		13.4	22	35.8		46.4	135	52.4		54.0
10	150	32.2	355	52.8		35.4	303	12.1		14.0	37	37.8		46.3	150	55.1		54.0
11	165	34.6	10	52.3	+11	34.4	318	13.0	-11	14.6	52	39.9	+21	46.3	165	57.7	-2	54.1
12	180	37.1	25	51.8	+11	33.3	333	13.9	-11	15.2	67	42.0	+21	46.2	181	00.3	-2	54.2
13	195	39.6	40	51.4		32.3	348	14.7		15.8	82	44.1		46.2	196	03.0		54.3
14	210	42.0	55	50.9		31.3	3	15.6		16.5	97	46.2		46.1	211	05.6		54.4
15	225	44.5	70	50.4		30.3	18	16.5		17.1	112	48.2		46.1	226	08.3		54.4
16	240	47.0	85	49.9		29.3	33	17.4		17.7	127	50.3		46.0	241	10.9		54.5
17	255	49.4	100	49.4	+11	28.2	48	18.2	-11	18.3	142	52.4	+21	46.0	256	13.5	-2	54.6
18	270	51.9	115	49.0	+11	27.2	63	19.1	-11	18.9	157	54.5	+21	45.9	271	16.2	-2	54.7
19	285	54.4	130	48.5		26.2	78	20.0		19.5	172	56.6		45.9	286	18.8		54.8
20	300	56.8	145	48.0		25.2	93	20.9		20.2	187	58.7		45.8	301	21.5		54.8
21	315	59.3	160	47.5		24.1	108	21.7		20.8	203	00.8		45.8	316	24.1		54.9
22	331	01.8	175	47.1		23.1	123	22.6		21.4	218	02.8		45.7	331	26.8		55.0
23	346	04.2	190	46.6		22.1	138	23.5		22.0	233	04.9		45.7	346	29.4		55.1
24	1	06.7	205	46.1	+11	21.1	153	24.3	-11	22.6	248	07.0	+21	45.6	1	32.0	-2	55.1
Dif	—		-5	-10			+9	-6			+21	-1		+26		-1		

UT	SOL		● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15 ^h 9 PMG:11 ^h 52.6 ^m		Edad: 0.2 ^d PHE { 4 ^h : 55'1 12 ^h : 54'9 20 ^h : 54'8 R°: 41 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	h	m
0	181	47.8	+0	17.8	180	29.1	-1	33.0	60 N	4 13	5 03	5 45	6 31	86	17 45	**	
1	196	48.0		16.9	195	04.4	-1	47.8	58	19	06	45	30	81	49	2	
2	211	48.2		15.9	209	39.7	-2	02.5	56	24	08	46	28	78	51	5	
3	226	48.5		14.9	224	15.1		17.3	54	29	11	46	27	75	54	8	
4	241	48.7		13.9	238	50.4		32.0	52	33	13	46	25	73	56	10	
5	256	48.9	+0	13.0	253	25.7	-2	46.7	50	4 36	5 14	5 47	6 24	71	17 59	12	
6	271	49.1	+0	12.0	268	01.1	-3	01.4	45	4 43	5 18	5 47	6 22	65	18 03	17	
7	286	49.3		11.0	282	36.5		16.1	40	49	21	48	19	62	07	21	
8	301	49.6		10.0	297	11.8		30.7	35	53	23	48	18	58	11	24	
9	316	49.8		09.1	311	47.2		45.3	30	4 57	25	48	16	55	14	27	
10	331	50.0		08.1	326	22.6	-3	59.9	20	5 01	27	49	13	50	19	32	
11	346	50.2	+0	07.1	340	57.9	-4	14.5	10 N	5 04	5 28	5 49	6 11	45	18 24	36	
12	1	50.4	+0	06.2	355	33.3	-4	29.1	0	5 05	5 29	5 49	6 09	40	18 28	41	
13	16	50.7		05.2	10	08.7		43.6	10 S	04	29	49	06	37	32	46	
14	31	50.9		04.2	24	44.0	-4	58.1	20	5 02	27	49	04	32	37	50	
15	46	51.1		03.2	39	19.4	-5	12.6	30	4 58	25	49	01	27	42	56	
16	61	51.3		02.3	53	54.7		27.0	35	55	24	49	6 00	23	46	58	
17	76	51.5	+0	01.3	68	30.1	-5	41.4	40	4 51	5 22	5 49	5 58	20	18 49	62	
18	91	51.8	+0	00.3	83	05.4	-5	55.8	45	4 45	5 20	5 49	5 56	17	18 53	66	
19	106	52.0	-0	00.7	97	40.8	-6	10.2	50	38	16	49	54	12	18 58	71	
20	121	52.2		01.6	112	16.1		24.5	52	35	15	48	53	10	19 00	74	
21	136	52.4		02.6	126	51.4		38.8	54	31	13	48	52	7	03	76	
22	151	52.6		03.6	141	26.7	-6	53.1	56	27	11	48	51	4	06	78	
23	166	52.9		04.6	156	02.0	-7	07.3	58	22	09	48	49	2	09	82	
24	181	53.1	-0	05.5	170	37.3	-7	21.5	60 S	4 16	5 06	5 47	5 48	**	19 12	86	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 23 ^h 51.6 ^m		Mag: -3.9 PMG: 10 ^h 17 ^m		Mag: +1.6 PMG: 13 ^h 46 ^m		Mag: -2.1 PMG: 7 ^h 26 ^m		Mag: +0.6 PMG: 23 ^h 50 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	1	06.7	205	46.1	+11	21.1	153	24.3	-11	22.6	248	07.0	+21	45.6	1	32.0	-2	55.1
1	16	09.1	220	45.6		20.0	168	25.2		23.2	263	09.1		45.6	16	34.7		55.2
2	31	11.6	235	45.2		19.0	183	26.1		23.9	278	11.2		45.5	31	37.3		55.3
3	46	14.1	250	44.7		18.0	198	27.0		24.5	293	13.3		45.5	46	40.0		55.4
4	61	16.5	265	44.2		16.9	213	27.8		25.1	308	15.4		45.4	61	42.6		55.5
5	76	19.0	280	43.7	+11	15.9	228	28.7	-11	25.7	323	17.4	+21	45.4	76	45.2	-2	55.5
6	91	21.5	295	43.3	+11	14.9	243	29.6	-11	26.3	338	19.5	+21	45.3	91	47.9	-2	55.6
7	106	23.9	310	42.8		13.9	258	30.4		26.9	353	21.6		45.3	106	50.5		55.7
8	121	26.4	325	42.3		12.8	273	31.3		27.6	8	23.7		45.2	121	53.2		55.8
9	136	28.9	340	41.8		11.8	288	32.2		28.2	23	25.8		45.2	136	55.8		55.9
10	151	31.3	355	41.4		10.8	303	33.0		28.8	38	27.9		45.1	151	58.5		55.9
11	166	33.8	10	40.9	+11	09.7	318	33.9	-11	29.4	53	30.0	+21	45.1	167	01.1	-2	56.0
12	181	36.2	25	40.4	+11	08.7	333	34.8	-11	30.0	68	32.0	+21	45.0	182	03.7	-2	56.1
13	196	38.7	40	39.9		07.7	348	35.6		30.6	83	34.1		45.0	197	06.4		56.2
14	211	41.2	55	39.5		06.6	3	36.5		31.3	98	36.2		44.9	212	09.0		56.2
15	226	43.6	70	39.0		05.6	18	37.4		31.9	113	38.3		44.9	227	11.7		56.3
16	241	46.1	85	38.5		04.6	33	38.3		32.5	128	40.4		44.8	242	14.3		56.4
17	256	48.6	100	38.1	+11	03.5	48	39.1	-11	33.1	143	42.5	+21	44.8	257	16.9	-2	56.5
18	271	51.0	115	37.6	+11	02.5	63	40.0	-11	33.7	158	44.6	+21	44.7	272	19.6	-2	56.6
19	286	53.5	130	37.1		01.4	78	40.9		34.3	173	46.7		44.7	287	22.2		56.6
20	301	56.0	145	36.7	+11	00.4	93	41.7		34.9	188	48.8		44.6	302	24.9		56.7
21	316	58.4	160	36.2	+10	59.4	108	42.6		35.6	203	50.9		44.6	317	27.5		56.8
22	332	00.9	175	35.7		58.3	123	43.5		36.2	218	52.9		44.5	332	30.2		56.9
23	347	03.4	190	35.2		57.3	138	44.3		36.8	233	55.0		44.5	347	32.8		57.0
24	2	05.8	205	34.8	+10	56.2	153	45.2	-11	37.4	248	57.1	+21	44.4	2	35.4	-2	57.0
Dif	—		-5	-10			+9	-6			+21	-1			+26	-1		

UT	SOL			● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 52.3 ^m			Edad: 1.2 ^d PHE { 4 ^h : 54'7 12 ^h : 54'6 20 ^h : 54'5 PMG: 12 ^h 59 ^m Rº: 43 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº
h	° /	° /		° /		° /		°	h m	h m	h m	h m m	h m m	h m m	
0	181 53.1	-0 05.5		170 37.3		-7 21.5		60 N	17 56	18 38	19 27	7 57 88	17 44 0		
1	196 53.3	06.5		185 12.6	163	35.6	141	58	56	35	22	51 84	51 4		
2	211 53.5	07.5		199 47.9	163	-7 49.8	142	56	56	33	17	46 81	17 56 8		
3	226 53.7	08.5		214 23.1	162	-8 03.8	140	54	56	31	13	42 78	18 02 10		
4	241 53.9	09.4		228 58.3	162	17.9	141	52	56	29	09	38 75	06 13		
5	256 54.2	-0 10.4		243 33.5	162	-8 31.9	140	50	17 56	18 28	19 06	7 35 72	18 11 15		
6	271 54.4	-0 11.4		258 08.7	162	-8 45.8	139	45	17 55	18 25	18 59	7 27 68	18 20 20		
7	286 54.6	12.3		272 43.9	162	-8 59.8	140	40	55	22	54	21 63	28 24		
8	301 54.8	13.3		287 19.1	162	-9 13.6	138	35	55	20	50	16 59	35 27		
9	316 55.0	14.3		301 54.2	161	27.5	139	30	55	19	47	11 57	41 30		
10	331 55.3	15.3		316 29.3	161	41.3	138	20	55	17	43	7 03 51	18 51 35		
11	346 55.5	-0 16.2		331 04.4	161	-9 55.0	137	10 N	17 55	18 16	18 41	6 56 47	19 00 40		
12	1 55.7	-0 17.2		345 39.5	161	-10 08.7	137	0	17 56	18 16	18 40	6 49 43	19 09 43		
13	16 55.9	18.2		0 14.5	160	22.4	137	10 S	56	17	41	43 38	18 47		
14	31 56.1	19.2		14 49.5	160	36.0	136	20	56	18	44	36 34	27 52		
15	46 56.3	20.1		29 24.5	160	-10 49.6	136	30	57	21	49	28 29	38 57		
16	61 56.6	21.1		43 59.5	160	-11 03.1	135	35	57	23	52	23 27	44 60		
17	76 56.8	-0 22.1		58 34.4	159	-11 16.6	135	40	17 58	18 25	18 57	6 18 23	19 51 63		
18	91 57.0	-0 23.1		73 09.4	160	-11 30.0	134	45	17 58	18 28	19 02	6 13 19	19 59 68		
19	106 57.2	24.0		87 44.2	158	43.4	133	50	17 59	32	10	06 14	20 09 73		
20	121 57.4	25.0		102 19.1	159	-11 56.7	133	52	18 00	33	13	6 03 12	14 75		
21	136 57.7	26.0		116 53.9	158	-12 10.0	133	54	00	35	17	5 59 10	19 78		
22	151 57.9	27.0		131 28.7	158	23.2	132	56	00	38	22	55 7	24 82		
23	166 58.1	27.9		146 03.5	158	36.4	132	58	01	40	27	51 4	31 85		
24	181 58.3	-0 28.9		160 38.2	157	-12 49.5	131	60 S	18 02	18 43	19 34	5 46 0	20 38 89		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 23 ^h 47.7 ^m		Mag: -3.9 PMG: 10 ^h 18 ^m		Mag: +1.6 PMG: 13 ^h 44 ^m		Mag: -2.1 PMG: 7 ^h 23 ^m		Mag: +0.6 PMG: 23 ^h 45 ^m						
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	2 05.8	205 34.8	+10 56.2	153 45.2	-11 37.4	248 57.1	+21 44.4	2 35.4	-2 57.0						
1	17 08.3	220 34.3	55.2	168 46.1	38.0	263 59.2	44.4	17 38.1	57.1						
2	32 10.7	235 33.8	54.2	183 46.9	38.6	279 01.3	44.3	32 40.7	57.2						
3	47 13.2	250 33.4	53.1	198 47.8	39.2	294 03.4	44.3	47 43.4	57.3						
4	62 15.7	265 32.9	52.1	213 48.6	39.9	309 05.5	44.2	62 46.0	57.3						
5	77 18.1	280 32.4	+10 51.0	228 49.5	-11 40.5	324 07.6	+21 44.2	77 48.6	-2 57.4						
6	92 20.6	295 32.0	+10 50.0	243 50.4	-11 41.1	339 09.7	+21 44.1	92 51.3	-2 57.5						
7	107 23.1	310 31.5	48.9	258 51.2	41.7	354 11.8	44.1	107 53.9	57.6						
8	122 25.5	325 31.0	47.9	273 52.1	42.3	9 13.9	44.0	122 56.6	57.7						
9	137 28.0	340 30.6	46.9	288 53.0	42.9	24 16.0	44.0	137 59.2	57.7						
10	152 30.5	355 30.1	45.8	303 53.8	43.5	39 18.0	43.9	153 01.9	57.8						
11	167 32.9	10 29.6	+10 44.8	318 54.7	-11 44.1	54 20.1	+21 43.9	168 04.5	-2 57.9						
12	182 35.4	25 29.2	+10 43.7	333 55.6	-11 44.8	69 22.2	+21 43.8	183 07.1	-2 58.0						
13	197 37.9	40 28.7	42.7	348 56.4	45.4	84 24.3	43.8	198 09.8	58.0						
14	212 40.3	55 28.2	41.6	3 57.3	46.0	99 26.4	43.7	213 12.4	58.1						
15	227 42.8	70 27.8	40.6	18 58.1	46.6	114 28.5	43.7	228 15.1	58.2						
16	242 45.2	85 27.3	39.5	33 59.0	47.2	129 30.6	43.6	243 17.7	58.3						
17	257 47.7	100 26.8	+10 38.5	48 59.9	-11 47.8	144 32.7	+21 43.6	258 20.3	-2 58.4						
18	272 50.2	115 26.4	+10 37.4	64 00.7	-11 48.4	159 34.8	+21 43.5	273 23.0	-2 58.4						
19	287 52.6	130 25.9	36.4	79 01.6	49.0	174 36.9	43.5	288 25.6	58.5						
20	302 55.1	145 25.5	35.3	94 02.5	49.7	189 39.0	43.4	303 28.3	58.6						
21	317 57.6	160 25.0	34.3	109 03.3	50.3	204 41.1	43.4	318 30.9	58.7						
22	333 00.0	175 24.5	33.2	124 04.2	50.9	219 43.2	43.3	333 33.6	58.8						
23	348 02.5	190 24.1	32.2	139 05.0	51.5	234 45.3	43.3	348 36.2	58.8						
24	3 05.0	205 23.6	+10 31.1	154 05.9	-11 52.1	249 47.4	+21 43.2	3 38.8	-2 58.9						
Dif	—	-5	-10	+9	-6	+21	0	+26	-1						

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 15 ^h 9 PMG:11 ^h 51.9 ^m			Edad: 2.2 ^d SD: 14 ^h 8 PMG: 13 ^h 41 ^m	PHE { 4 ^h : 54 ^h 4 12 ^h : 54 ^h 3 20 ^h : 54 ^h 2 R°: 43 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°						
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m			
0	181	58.3	−0	28.9	160	38.2	−12	49.5	60 N	4	18	5	08	5	49	9	23	90	17	43	0
1	196	58.5		29.9	175	12.9	−13	02.5	58		23	10		49		14	85		17	54	4
2	211	58.7		30.8	189	47.5		15.5	56		28	12		49	9	06	80		18	03	8
3	226	59.0		31.8	204	22.1		28.5	54		32	14		50	8	58	78		11	12	
4	241	59.2		32.8	218	56.7		41.3	52		36	16		50		52	74		18	15	
5	256	59.4	−0	33.8	233	31.3	−13	54.2	50	4	39	5	17	5	50	8	46	72	18	25	17
6	271	59.6	−0	34.7	248	05.8	−14	06.9	45	4	46	5	20	5	50	8	33	67	18	39	22
7	286	59.8		35.7	262	40.2		19.6	40		51	23		50		23	62		18	51	26
8	302	00.0		36.7	277	14.6		32.3	35		55	24		50		14	59		19	01	29
9	317	00.3		37.7	291	49.0		44.9	30	4	58	26		50	8	06	56		10	32	
10	332	00.5		38.6	306	23.4	−14	57.4	20	5	02	27		49	7	53	51		25	36	
11	347	00.7	−0	39.6	320	57.7	−15	09.9	10 N	5	04	5	28	5	49	7	41	47	19	38	41
12	2	00.9	−0	40.6	335	31.9	−15	22.3	0	5	04	5	28	5	49	7	31	43	19	51	44
13	17	01.1		41.6	350	06.1		34.6	10 S		03	27		48		20	39		20	04	48
14	32	01.3		42.5	4	40.3		46.9	20	5	00	26		48	7	09	35		17	52	
15	47	01.6		43.5	19	14.4	−15	59.0	30	4	55	23		47	6	56	30		33	57	
16	62	01.8		44.5	33	48.5	−16	11.2	35		52	21		46		48	28		42	60	
17	77	02.0	−0	45.5	48	22.6	−16	23.2	40	4	47	5	19	5	46	6	40	24	20	53	62
18	92	02.2	−0	46.4	62	56.5	−16	35.2	45	4	41	5	16	5	45	6	30	21	21	05	67
19	107	02.4		47.4	77	30.5		47.2	50		34	12		44		19	15		20	72	
20	122	02.6		48.4	92	04.4	−16	59.0	52		30	10		44		13	13		27	75	
21	137	02.9		49.4	106	38.2	−17	10.8	54		26	08		43		07	11		35	78	
22	152	03.1		50.3	121	12.0		22.5	56		21	06		43	6	01	7		44	81	
23	167	03.3		51.3	135	45.7		34.2	58		16	03		42	5	53	4	21	54	86	
24	182	03.5	−0	52.3	150	19.4	−17	45.7	60 S	4	10	5	00	5	41	5	45	0	22	06	91
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG 23 ^h 43.8 ^m		Mag: −3.9 PMG: 10 ^h 19 ^m				Mag: +1.6 PMG: 13 ^h 43 ^m				Mag: −2.1 PMG: 7 ^h 20 ^m				Mag: +0.6 PMG: 23 ^h 41 ^m						
	hG ♈		hG ♊	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	3	05.0	205	23.6	+10	31.1	154	05.9	−11	52.1	249	47.4	+21	43.2	3	38.8	−2	58.9			
1	18	07.4	220	23.1		30.1	169	06.8		52.7	264	49.5		43.2	18	41.5		59.0			
2	33	09.9	235	22.7		29.0	184	07.6		53.3	279	51.6		43.1	33	44.1		59.1			
3	48	12.3	250	22.2		28.0	199	08.5		53.9	294	53.7		43.1	48	46.8		59.1			
4	63	14.8	265	21.8		26.9	214	09.3		54.5	309	55.8		43.0	63	49.4		59.2			
5	78	17.3	280	21.3	+10	25.8	229	10.2	−11	55.2	324	57.9	+21	43.0	78	52.0	−2	59.3			
6	93	19.7	295	20.8	+10	24.8	244	11.1	−11	55.8	340	00.0	+21	42.9	93	54.7	−2	59.4			
7	108	22.2	310	20.4		23.7	259	11.9		56.4	355	02.1		42.9	108	57.3		59.5			
8	123	24.7	325	19.9		22.7	274	12.8		57.0	10	04.2		42.8	124	00.0		59.5			
9	138	27.1	340	19.5		21.6	289	13.6		57.6	25	06.3		42.8	139	02.6		59.6			
10	153	29.6	355	19.0		20.6	304	14.5		58.2	40	08.4		42.7	154	05.3		59.7			
11	168	32.1	10	18.5	+10	19.5	319	15.3	−11	58.8	55	10.5	+21	42.7	169	07.9	−2	59.8			
12	183	34.5	25	18.1	+10	18.4	334	16.2	−11	59.4	70	12.6	+21	42.6	184	10.5	−2	59.8			
13	198	37.0	40	17.6		17.4	349	17.1	−12	00.0	85	14.7		42.6	199	13.2	−2	59.9			
14	213	39.5	55	17.2		16.3	4	17.9	−12	00.6	100	16.8		42.5	214	15.8	−3	00.0			
15	228	41.9	70	16.7		15.3	19	18.8		01.3	115	18.9		42.5	229	18.5	−3	00.1			
16	243	44.4	85	16.2		14.2	34	19.6		01.9	130	21.0		42.4	244	21.1		00.2			
17	258	46.8	100	15.8	+10	13.1	49	20.5	−12	02.5	145	23.1	+21	42.4	259	23.7	−3	00.2			
18	273	49.3	115	15.3	+10	12.1	64	21.3	−12	03.1	160	25.2	+21	42.3	274	26.4	−3	00.3			
19	288	51.8	130	14.9		11.0	79	22.2		03.7	175	27.3		42.3	289	29.0		00.4			
20	303	54.2	145	14.4		09.9	94	23.1		04.3	190	29.4		42.2	304	31.7		00.5			
21	318	56.7	160	14.0		08.9	109	23.9		04.9	205	31.5		42.2	319	34.3		00.5			
22	333	59.2	175	13.5		07.8	124	24.8		05.5	220	33.6		42.1	334	36.9		00.6			
23	349	01.6	190	13.0		06.7	139	25.6		06.1	235	35.7		42.1	349	39.6		00.7			
24	4	04.1	205	12.6	+10	05.7	154	26.5	−12	06.7	250	37.8	+21	42.0	4	42.2	−3	00.8			
Dif	—		−5		−11		+9		−6		+21		0		+26		−1				

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 51.6 ^m			Edad: 3.2 ^d PHE { 4 ^h : 54'2 12 ^h : 54'1 20 ^h : 54'1 R°: 48 ^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 03.5	-0 52.3		150 19.4		-17 45.7		60 N	17 50	18 32	19 21	10 53 94		17 43 3	
1	197 03.7		53.2	164 53.1	147	-17 57.2	115	58	50	29	16	39 87		17 58 10	
2	212 03.9		54.2	179 26.7	146	-18 08.6	114	56	51	28	11	26 83		18 11 15	
3	227 04.2		55.2	194 00.2	145		20.0	54	51	26	07	16 79		23 18	
4	242 04.4		56.2	208 33.7	145		31.2	52	51	25	04	10 06 76		33 21	
5	257 04.6	-0 57.1		223 07.1	144	-18 42.4	112	50	17 51	18 23	19 01	9 58 73		18 42 23	
6	272 04.8	-0 58.1		237 40.5	144	-18 53.5	111	45	17 52	18 21	18 55	9 40 68		19 01 29	
7	287 05.0	-0 59.1		252 13.8	143	-19 04.6	110	40	52	19	50	25 64		17 32	
8	302 05.2	-1 00.1		266 47.0	142		15.5	35	52	18	47	13 61		30 35	
9	317 05.4		01.0	281 20.2	142		26.4	30	53	17	44	9 02 59		19 42 37	
10	332 05.7		02.0	295 53.4	142		37.2	20	53	15	41	8 44 54		20 01 42	
11	347 05.9	-1 03.0		310 26.5	141	-19 47.9	107	10 N	17 54	18 15	18 39	8 28 51		20 19 45	
12	2 06.1	-1 04.0		324 59.5	140	-19 58.5	106	0	17 55	18 16	18 40	8 14 46		20 35 48	
13	17 06.3		04.9	339 32.5	140	-20 09.0	105	10 S	56	17	41	7 59 43		20 52 51	
14	32 06.5		05.9	354 05.4	139		19.5	20	57	19	44	44 39		21 09 55	
15	47 06.7		06.9	8 38.3	139		29.8	30	58	22	50	26 35		30 58	
16	62 06.9		07.9	23 11.1	138		40.1	35	17 59	24	54	16 33		42 61	
17	77 07.2	-1 08.8		37 43.8	137	-20 50.3	102	40	18 00	18 27	18 59	7 04 30		21 55 64	
18	92 07.4	-1 09.8		52 16.5	137	-21 00.4	101	45	18 01	18 30	19 05	6 51 25		22 12 67	
19	107 07.6		10.8	66 49.1	136		10.4	50	02	35	13	34 21		32 73	
20	122 07.8		11.8	81 21.7	136		20.4	52	03	37	17	26 19		42 75	
21	137 08.0		12.7	95 54.2	135		30.2	54	04	39	21	18 15		22 53 78	
22	152 08.2		13.7	110 26.6	134		39.9	56	04	42	26	6 08 12		23 05 82	
23	167 08.5		14.7	124 59.0	134		49.6	58	05	45	32	5 57 8		20 87	
24	182 08.7	-1 15.6		139 31.3	133	-21 59.2	96	60 S	18 06	18 48	19 39	5 45 2		23 37 95	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG: 23 ^h 39.8 ^m		Mag: -3.9 PMG: 10 ^h 19 ^m			Mag: +1.6 PMG: 13 ^h 41 ^m			Mag: -2.1 PMG: 7 ^h 16 ^m			Mag: +0.6 PMG: 23 ^h 37 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	° /		° /			° /			° /			° /			
0	4 04.1		205 12.6	+10 05.7		154 26.5	-12 06.7		250 37.8	+21 42.0		4 42.2	-3 00.8		
1	19 06.6		220 12.1		04.6	169 27.3		07.3	265 39.9		42.0	19 44.9		00.9	
2	34 09.0		235 11.7		03.5	184 28.2		07.9	280 42.0		41.9	34 47.5		00.9	
3	49 11.5		250 11.2		02.5	199 29.0		08.6	295 44.1		41.9	49 50.2		01.0	
4	64 13.9		265 10.8		01.4	214 29.9		09.2	310 46.2		41.8	64 52.8		01.1	
5	79 16.4		280 10.3	+10 00.3		229 30.8	-12 09.8		325 48.3	+21 41.8		79 55.4	-3 01.2		
6	94 18.9		295 09.9	+9 59.3		244 31.6	-12 10.4		340 50.4	+21 41.7		94 58.1	-3 01.2		
7	109 21.3		310 09.4		58.2	259 32.5		11.0	355 52.5		41.7	110 00.7		01.3	
8	124 23.8		325 08.9		57.1	274 33.3		11.6	10 54.6		41.6	125 03.4		01.4	
9	139 26.3		340 08.5		56.1	289 34.2		12.2	25 56.7		41.6	140 06.0		01.5	
10	154 28.7		355 08.0		55.0	304 35.0		12.8	40 58.8		41.5	155 08.6		01.5	
11	169 31.2		10 07.6	+9 53.9		319 35.9	-12 13.4		56 00.9	+21 41.5		170 11.3	-3 01.6		
12	184 33.7		25 07.1	+9 52.9		334 36.7	-12 14.0		71 03.0	+21 41.4		185 13.9	-3 01.7		
13	199 36.1		40 06.7		51.8	349 37.6		14.6	86 05.1		41.4	200 16.6		01.8	
14	214 38.6		55 06.2		50.7	4 38.4		15.2	101 07.2		41.3	215 19.2		01.9	
15	229 41.1		70 05.8		49.6	19 39.3		15.8	116 09.3		41.3	230 21.8		01.9	
16	244 43.5		85 05.3		48.6	34 40.1		16.5	131 11.5		41.2	245 24.5		02.0	
17	259 46.0		100 04.9	+9 47.5		49 41.0	-12 17.1		146 13.6	+21 41.2		260 27.1	-3 02.1		
18	274 48.4		115 04.4	+9 46.4		64 41.8	-12 17.7		161 15.7	+21 41.1		275 29.8	-3 02.2		
19	289 50.9		130 04.0		45.3	79 42.7		18.3	176 17.8		41.1	290 32.4		02.2	
20	304 53.4		145 03.5		44.3	94 43.5		18.9	191 19.9		41.0	305 35.1		02.3	
21	319 55.8		160 03.1		43.2	109 44.4		19.5	206 22.0		41.0	320 37.7		02.4	
22	334 58.3		175 02.6		42.1	124 45.2		20.1	221 24.1		40.9	335 40.3		02.5	
23	350 00.8		190 02.2		41.0	139 46.1		20.7	236 26.2		40.9	350 43.0		02.6	
24	5 03.2		205 01.7	+9 39.9		154 46.9	-12 21.3		251 28.3	+21 40.9		5 45.6	-3 02.6		
Dif	—		-5	-11		+9	-6		+21		0	+26		-1	

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16 ^h 0 PMG: 11 ^h 51.3 ^m				Edad: 4.2 ^d PHE { 4 ^h : 54 ^h 1 12 ^h : 54 ^h 1 20 ^h : 54 ^h 1 R°: 49 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	182	08.7	-1	15.6	139	31.3	-21	59.2	60 N	4	23	5	54	12	26	94
1	197	08.9		16.6	154	03.6	-22	08.6	58	28	15	54	12	05	85	
2	212	09.1		17.6	168	35.8		18.0	56	32	16	53	11	48	79	
3	227	09.3		18.6	183	07.9		27.3	54	36	18	53		33	76	
4	242	09.5		19.5	197	39.9		36.4	52	40	19	53		20	73	
5	257	09.7	-1	20.5	212	11.9	-22	45.5	50	4	43	5	53	11	09	70
6	272	09.9	-1	21.5	226	43.9	-22	54.5	45	4	49	5	52	10	46	66
7	287	10.2		22.5	241	15.8	-23	03.4	40	53	25	52		28	62	19
8	302	10.4		23.4	255	47.6		12.2	35	56	26	51	10	12	60	20
9	317	10.6		24.4	270	19.3		20.9	30	4	59	27	51	9	59	57
10	332	10.8		25.4	284	51.0		29.5	20	5	02	28	50	37	53	20
11	347	11.0	-1	26.4	299	22.6	-23	37.9	10 N	5	04	5	49	9	17	51
12	2	11.2	-1	27.3	313	54.2	-23	46.3	0	5	03	5	48	8	59	48
13	17	11.4		28.3	328	25.7	-23	54.6	10 S	5	02	26	47	41	45	21
14	32	11.7		29.3	342	57.1	-24	02.8	20	4	58	24	46		22	42
15	47	11.9		30.3	357	28.5		10.8	30	53	20	44	8	00	39	27
16	62	12.1		31.2	11	59.8		18.8	35	49	18	43	7	47	37	41
17	77	12.3	-1	32.2	26	31.0	-24	26.7	40	4	44	5	42	7	32	34
18	92	12.5	-1	33.2	41	02.2	-24	34.4	45	4	37	5	41	7	15	31
19	107	12.7		34.1	55	33.3		42.1	50	29	07	40	6	54	26	43
20	122	12.9		35.1	70	04.3		49.6	52	25	05	39		43	24	23
21	137	13.1		36.1	84	35.3	-24	57.0	54	21	03	38		32	21	**
22	152	13.4		37.1	99	06.2	-25	04.3	56	15	5	37		19	17	**
23	167	13.6		38.0	113	37.1		11.5	58	10	4	37	36	6	04	12
24	182	13.8	-1	39.0	128	07.9	-25	18.6	60 S	4	03	4	35	5	46	4

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 ^h 35.9 ^m		Mag: -3.9 PMG: 10 ^h 20 ^m		Mag: +1.6 PMG: 13 ^h 40 ^m		Mag: -2.1 PMG: 7 ^h 13 ^m		Mag: +0.6 PMG: 23 ^h 33 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	5	03.2	205	01.7	+9	39.9	154	46.9	-12	21.3
1	20	05.7	220	01.3		38.9	169	47.8		21.9
2	35	08.2	235	00.8		37.8	184	48.6		22.5
3	50	10.6	250	00.4		36.7	199	49.5		23.1
4	65	13.1	264	59.9		35.6	214	50.3		23.7
5	80	15.6	279	59.5	+9	34.6	229	51.2	-12	24.3
6	95	18.0	294	59.0	+9	33.5	244	52.0	-12	24.9
7	110	20.5	309	58.6		32.4	259	52.9		25.5
8	125	22.9	324	58.1		31.3	274	53.7		26.1
9	140	25.4	339	57.7		30.2	289	54.6		26.7
10	155	27.9	354	57.2		29.1	304	55.4		27.3
11	170	30.3	9	56.8	+9	28.1	319	56.3	-12	28.0
12	185	32.8	24	56.3	+9	27.0	334	57.1	-12	28.6
13	200	35.3	39	55.9		25.9	349	58.0		29.2
14	215	37.7	54	55.5		24.8	4	58.8		29.8
15	230	40.2	69	55.0		23.7	19	59.6		30.4
16	245	42.7	84	54.6		22.6	35	00.5		31.0
17	260	45.1	99	54.1	+9	21.6	50	01.3	-12	31.6
18	275	47.6	114	53.7	+9	20.5	65	02.2	-12	32.2
19	290	50.0	129	53.2		19.4	80	03.0		32.8
20	305	52.5	144	52.8		18.3	95	03.9		33.4
21	320	55.0	159	52.3		17.2	110	04.7		34.0
22	335	57.4	174	51.9		16.1	125	05.6		34.6
23	350	59.9	189	51.4		15.0	140	06.4		35.2
24	6	02.4	204	51.0	+9	13.9	155	07.3	-12	35.8
Dif	—		-4	-11		+8	-6			+21

0	4	5	5	12	12	17
1	28	15	54	26	05	45
2	32	16	53	48	85	24
3	36	18	53	33	76	40
4	40	19	53	20	73	18
5	4	5	5	11	09	19
6	4	5	5	10	46	19
7	53	25	52	28	62	19
8	56	26	51	10	12	20
9	4	59	27	5	9	57
10	5	02	28	50	37	20
11	5	04	5	9	17	21
12	5	03	5	8	59	21
13	5	02	26	47	41	21
14	4	58	24	46	22	22
15	30	53	20	44	8	00
16	35	49	18	43	7	47
17	40	4	5	42	7	32
18	4	37	5	41	7	15
19	29	07	40	6	54	26
20	25	05	39	43	24	23
21	21	03	38	32	21	**
22	15	5	37	19	17	**
23	10	4	36	6	04	**
24	4	4	5	5	46	**

UT	SOL			☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16'0 PMG: 11 ^h 50.9 ^m			Edad: 5.2 ^d SD: 14'7 PMG: 15 ^h 59 ^m PHE { 4 ^h : 54'1 12 ^h : 54'2 20 ^h : 54'2 R°: 53 ^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	182	13.8	-1	39.0	128	07.9	-25	18.6	70	60 N	17 44	18 25	19 14	14 00 88	17 52 21			
1	197	14.0		40.0	142	38.6		25.6	69	58	45	24	10	13 30 77	18 22 32			
2	212	14.2		41.0	157	09.2		32.5	67	56	45	22	06	13 07 73	18 45 37			
3	227	14.4		41.9	171	39.8		39.2	66	54	46	21	19 02	12 49 69	19 04 39			
4	242	14.6		42.9	186	10.4		45.8	66	52	46	20	18 59	33 67	20 41			
5	257	14.8	-1	43.9	200	40.9	-25	52.4	66	50	17 47	18 19	18 57	12 19 66	19 34 43			
6	272	15.1	-1	44.9	215	11.3	-25	58.8	64	45	17 48	18 17	18 51	11 52 62	20 03 45			
7	287	15.3		45.8	229	41.6	-26	05.0	62	40	49	16	47	30 60	25 47			
8	302	15.5		46.8	244	11.9		11.2	61	35	49	15	44	11 12 59	43 48			
9	317	15.7		47.8	258	42.2		17.3	61	30	50	14	42	10 56 58	20 59 49			
10	332	15.9		48.7	273	12.3		23.2	59	20	52	14	39	30 56	21 26 51			
11	347	16.1	-1	49.7	287	42.4	-26	29.0	58	10 N	17 53	18 14	18 38	10 08 54	21 50 51			
12	2	16.3	-1	50.7	302	12.5	-26	34.7	57	0	17 54	18 15	18 39	9 47 52	22 11 53			
13	17	16.5		51.7	316	42.5		40.2	55	10 S	56	17	41	26 51	33 54			
14	32	16.7		52.6	331	12.4		45.7	55	20	57	19	45	9 04 49	22 56 56			
15	47	17.0		53.6	345	42.3		51.0	53	30	17 59	23	51	8 39 46	23 24 56			
16	62	17.2		54.6	0	12.1	-26	56.2	52	35	18 00	26	18 55	24 44	40 57			
17	77	17.4	-1	55.6	14	41.9	-27	01.3	51	40	18 02	18 29	19 01	8 06 43	23 59 **			
18	92	17.6	-1	56.5	29	11.6	-27	06.2	49	45	18 03	18 33	19 08	7 46 40	** ** *			
19	107	17.8		57.5	43	41.2		11.0	48	50	05	38	16	20 36	** ** *			
20	122	18.0		58.5	58	10.8		15.7	47	52	06	40	21	7 07 35	** ** *			
21	137	18.2	-1	59.4	72	40.4		20.3	46	54	07	43	25	6 53 32	0 10 73			
22	152	18.4	-2	00.4	87	09.9		24.8	45	56	08	46	31	36 29	26 77			
23	167	18.6		01.4	101	39.3		29.1	43	58	10	49	37	6 16 23	0 46 82			
24	182	18.8	-2	02.4	116	08.7	-27	33.3	42	60 S	18 11	18 53	19 44	5 50 15	1 10 93			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 23 ^h 32.0 ^m		Mag: -3.9 PMG: 10 ^h 21 ^m			Mag: +1.6 PMG: 13 ^h 39 ^m			Mag: -2.1 PMG: 7 ^h 10 ^m			Mag: +0.6 PMG: 23 ^h 29 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	6	02.4	204	51.0	+9	13.9	155	07.3	-12	35.8	252	19.0	+21	39.7	6	49.0	-3	04.5
1	21	04.8	219	50.6		12.8	170	08.1		36.4	267	21.1		39.6	21	51.6		04.6
2	36	07.3	234	50.1		11.8	185	08.9		37.0	282	23.2		39.6	36	54.3		04.6
3	51	09.8	249	49.7		10.7	200	09.8		37.6	297	25.3		39.5	51	56.9		04.7
4	66	12.2	264	49.2		09.6	215	10.6		38.2	312	27.5		39.5	66	59.6		04.8
5	81	14.7	279	48.8	+9	08.5	230	11.5	-12	38.8	327	29.6	+21	39.5	82	02.2	-3	04.9
6	96	17.2	294	48.3	+9	07.4	245	12.3	-12	39.4	342	31.7	+21	39.4	97	04.8	-3	04.9
7	111	19.6	309	47.9		06.3	260	13.2		40.0	357	33.8		39.4	112	07.5		05.0
8	126	22.1	324	47.5		05.2	275	14.0		40.6	12	35.9		39.3	127	10.1		05.1
9	141	24.5	339	47.0		04.1	290	14.8		41.2	27	38.0		39.3	142	12.8		05.2
10	156	27.0	354	46.6		03.0	305	15.7		41.8	42	40.2		39.2	157	15.4		05.2
11	171	29.5	9	46.1	+9	01.9	320	16.5	-12	42.4	57	42.3	+21	39.2	172	18.0	-3	05.3
12	186	31.9	24	45.7	+9	00.8	335	17.4	-12	43.0	72	44.4	+21	39.1	187	20.7	-3	05.4
13	201	34.4	39	45.3	+8	59.7	350	18.2		43.6	87	46.5		39.1	202	23.3		05.5
14	216	36.9	54	44.8		58.6	5	19.0		44.2	102	48.6		39.0	217	26.0		05.6
15	231	39.3	69	44.4		57.5	20	19.9		44.8	117	50.7		39.0	232	28.6		05.6
16	246	41.8	84	43.9		56.4	35	20.7		45.4	132	52.9		38.9	247	31.2		05.7
17	261	44.3	99	43.5	+8	55.3	50	21.6	-12	46.0	147	55.0	+21	38.9	262	33.9	-3	05.8
18	276	46.7	114	43.1	+8	54.2	65	22.4	-12	46.6	162	57.1	+21	38.8	277	36.5	-3	05.9
19	291	49.2	129	42.6		53.1	80	23.2		47.2	177	59.2		38.8	292	39.2		05.9
20	306	51.7	144	42.2		52.0	95	24.1		47.8	193	01.3		38.7	307	41.8		06.0
21	321	54.1	159	41.7		51.0	110	24.9		48.4	208	03.5		38.7	322	44.4		06.1
22	336	56.6	174	41.3		49.9	125	25.8		49.0	223	05.6		38.6	337	47.1		06.2
23	351	59.0	189	40.9		48.8	140	26.6		49.6	238	07.7		38.6	352	49.7		06.2
24	7	01.5	204	40.4	+8	47.6	155	27.4	-12	50.2	253	09.8	+21	38.5	7	52.4	-3	06.3
Dif	—		-4	-11			+8	-6			+21	0			+26	-1		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:11 ^h 50.6 ^m			Edad: 6.2 ^d PHE { 4 ^h : 54'3 12 ^h : 54'4 20 ^h : 54'5 R°: 53 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	18.8	-2	02.4	116	08.7	-27	33.3	40	4	28	5	17	5	59	15	26
1	197	19.1		03.3	130	38.0		37.3	39		33		19	58	14	46	
2	212	19.3		04.3	145	07.3		41.2	38		37		20	57	14	18	
3	227	19.5		05.3	159	36.5		45.0	38		40		22	57	13	57	
4	242	19.7		06.3	174	05.7		48.7	37		43		23	56		39	
5	257	19.9	-2	07.2	188	34.8	-27	52.2	35	50	4	46	5	23	5	56	
6	272	20.1	-2	08.2	203	03.9	-27	55.6	34	45	4	51	5	25	5	54	
7	287	20.3		09.2	217	32.9	-27	58.9	33	40		55		26	53	29	
8	302	20.5		10.1	232	01.9	-28	02.0	31	35	4	58		27	53	12	
9	317	20.7		11.1	246	30.8		05.0	30	30	5	00		28	52	11	
10	332	20.9		12.1	260	59.7		07.9	29	20		03		28	50	24	
11	347	21.2	-2	13.1	275	28.6	-28	10.6	27	10 N	5	03	5	28	5	49	
12	2	21.4	-2	14.0	289	57.4	-28	13.2	26	0	5	03	5	27	5	47	
13	17	21.6		15.0	304	26.2		15.6	24	10 S	5	00		25	46	10	
14	32	21.8		16.0	318	54.9		18.0	24	20	4	56		22	44	9	
15	47	22.0		17.0	333	23.6		20.1	21	30		50		18	42	23	
16	62	22.2		17.9	347	52.2		22.2	21	35		46		15	41	9	
17	77	22.4	-2	18.9	2	20.8	-28	24.1	19	40	4	40	5	12	5	39	
18	92	22.6	-2	19.9	16	49.4	-28	25.9	18	45	4	33	5	08	5	37	
19	107	22.8		20.8	31	17.9		27.5	16	50		24		03	35	7	
20	122	23.0		21.8	45	46.5		29.0	15	52	20	5	00	34	40	47	
21	137	23.2		22.8	60	14.9		30.3	13	54	15	4	58	33	23	46	
22	152	23.4		23.8	74	43.4		31.5	12	56		10		55	32	7	
23	167	23.7		24.7	89	11.8		32.6	11	58	4	03		51	31	6	
24	182	23.9	-2	25.7	103	40.1	-28	33.5	9	60 S	3	56	4	47	5	29	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 ^h 28.0 ^m		Mag: -3.9 PMG: 10 ^h 22 ^m		Mag: +1.6 PMG: 13 ^h 37 ^m		Mag: -2.1 PMG: 7 ^h 06 ^m		Mag: +0.6 PMG: 23 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	7	01.5	204	40.4	+8	47.6	155	27.4	-12	50.2
1	22	04.0	219	40.0		46.5	170	28.3		50.8
2	37	06.4	234	39.5		45.4	185	29.1		51.4
3	52	08.9	249	39.1		44.3	200	30.0		52.0
4	67	11.4	264	38.7		43.2	215	30.8		52.6
5	82	13.8	279	38.2	+8	42.1	230	31.6	-12	53.2
6	97	16.3	294	37.8	+8	41.0	245	32.5	-12	53.8
7	112	18.8	309	37.4		39.9	260	33.3		54.4
8	127	21.2	324	36.9		38.8	275	34.1		55.0
9	142	23.7	339	36.5		37.7	290	35.0		55.6
10	157	26.2	354	36.1		36.6	305	35.8		56.2
11	172	28.6	9	35.6	+8	35.5	320	36.6	-12	56.8
12	187	31.1	24	35.2	+8	34.4	335	37.5	-12	57.4
13	202	33.5	39	34.7		33.3	350	38.3		58.0
14	217	36.0	54	34.3		32.2	5	39.2		58.6
15	232	38.5	69	33.9		31.1	20	40.0		59.2
16	247	40.9	84	33.4		30.0	35	40.8	-12	59.8
17	262	43.4	99	33.0	+8	28.9	50	41.7	-13	00.4
18	277	45.9	114	32.6	+8	27.8	65	42.5	-13	01.0
19	292	48.3	129	32.1		26.7	80	43.3		01.6
20	307	50.8	144	31.7		25.5	95	44.2		02.2
21	322	53.3	159	31.3		24.4	110	45.0		02.8
22	337	55.7	174	30.8		23.3	125	45.8		03.4
23	352	58.2	189	30.4		22.2	140	46.7		04.0
24	8	00.6	204	30.0	+8	21.1	155	47.5	-13	04.6
Dif	—		-4	-11			+8	-6		

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16'0 PMG: 11 ^h 50.2 ^m			Edad: 7.2 ^d PHE { 4 ^h : 54'7 12 ^h : 54'8 20 ^h : 55'0 SD: 14'9 PMG: 17 ^h 43 ^m R°: 54 ^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	h m m					
0	182	23.9	-2	25.7	103	40.1	-28	33.5	8	60 N	17 38	18 19	19 08	16 22 24	19 05 91						
1	197	24.1		26.7	118	08.5		34.3	6	58	39	18	04	15 41 34	19 46 80						
2	212	24.3		27.6	132	36.8		34.9	5	56	40	17	19 00	15 13 38	20 14 75						
3	227	24.5		28.6	147	05.1		35.4	4	54	41	16	18 57	14 51 41	36 72						
4	242	24.7		29.6	161	33.3		35.8	2	52	42	15	54	33 43	20 54 70						
5	257	24.9	-2	30.6	176	01.6	-28	36.0	1	50	17 42	18 15	18 52	14 18 44	21 09 68						
6	272	25.1	-2	31.5	190	29.8	-28	36.1	1	45	17 44	18 13	18 47	13 47 47	21 40 65						
7	287	25.3		32.5	204	58.0		36.0	2	40	45	12	44	23 49	22 04 63						
8	302	25.5		33.5	219	26.1		35.8	4	35	47	12	41	13 03 50	24 61						
9	317	25.7		34.4	233	54.3		35.4	5	30	48	12	39	12 46 51	22 41 60						
10	332	25.9		35.4	248	22.4		34.9	6	20	50	12	37	12 18 52	23 09 58						
11	347	26.1	-2	36.4	262	50.5	-28	34.3	8	10 N	17 52	18 13	18 37	11 53 53	23 33 56						
12	2	26.3	-2	37.4	277	18.6	-28	33.5	10	0	17 54	18 14	18 38	11 30 55	23 56 54						
13	17	26.6		38.3	291	46.7		32.5	11	10 S	55	16	41	11 07 56	** ** *						
14	32	26.8		39.3	306	14.8		31.4	12	20	17 58	20	45	10 43 56	** ** *						
15	47	27.0		40.3	320	42.8		30.2	14	30	18 00	24	52	10 14 58	0 19 53						
16	62	27.2		41.2	335	10.8		28.8	15	35	02	27	18 57	9 57 59	36 52						
17	77	27.4	-2	42.2	349	38.9	-28	27.3	17	40	18 04	18 31	19 03	9 38 59	0 55 52						
18	92	27.6	-2	43.2	4	06.9	-28	25.6	18	45	18 06	18 35	19 10	9 14 60	1 19 52						
19	107	27.8		44.2	18	34.9		23.8	19	50	08	41	20	8 43 62	1 50 50						
20	122	28.0		45.1	33	02.9		21.9	21	52	10	44	24	27 63	2 06 49						
21	137	28.2		46.1	47	30.9		19.8	23	54	11	47	30	8 09 64	24 48						
22	152	28.4		47.1	61	58.8		17.5	24	56	12	50	35	7 47 66	2 45 47						
23	167	28.6		48.0	76	26.8		15.1	25	58	14	54	42	7 20 68	3 13 45						
24	182	28.8	-2	49.0	90	54.8	-28	12.6	25	60 S	18 16	18 58	19 50	6 39 74	3 54 39						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 23 ^h 24.1 ^m			Mag: -3.9 PMG: 10 ^h 22 ^m			Mag: +1.5 PMG: 13 ^h 36 ^m			Mag: -2.1 PMG: 7 ^h 03 ^m			Mag: +0.6 PMG: 23 ^h 20 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°						
0	8	00.6	204	30.0	+8	21.1	155	47.5	-13	04.6	254	00.8	+21	37.4	8	55.7	-3	08.1			
1	23	03.1	219	29.5		20.0	170	48.3		05.2	269	02.9		37.4	23	58.4		08.2			
2	38	05.6	234	29.1		18.9	185	49.2		05.8	284	05.1		37.3	39	01.0		08.3			
3	53	08.0	249	28.7		17.8	200	50.0		06.4	299	07.2		37.3	54	03.6		08.4			
4	68	10.5	264	28.2		16.7	215	50.8		06.9	314	09.3		37.2	69	06.3		08.4			
5	83	13.0	279	27.8	+8	15.5	230	51.7	-13	07.5	329	11.4	+21	37.2	84	08.9	-3	08.5			
6	98	15.4	294	27.4	+8	14.4	245	52.5	-13	08.1	344	13.6	+21	37.1	99	11.6	-3	08.6			
7	113	17.9	309	27.0		13.3	260	53.3		08.7	359	15.7		37.1	114	14.2		08.7			
8	128	20.4	324	26.5		12.2	275	54.1		09.3	14	17.8		37.1	129	16.8		08.7			
9	143	22.8	339	26.1		11.1	290	55.0		09.9	29	20.0		37.0	144	19.5		08.8			
10	158	25.3	354	25.7		10.0	305	55.8		10.5	44	22.1		37.0	159	22.1		08.9			
11	173	27.8	9	25.2	+8	08.9	320	56.6	-13	11.1	59	24.2	+21	36.9	174	24.8	-3	09.0			
12	188	30.2	24	24.8	+8	07.7	335	57.5	-13	11.7	74	26.3	+21	36.9	189	27.4	-3	09.0			
13	203	32.7	39	24.4		06.6	350	58.3		12.3	89	28.5		36.8	204	30.0		09.1			
14	218	35.1	54	23.9		05.5	5	59.1		12.9	104	30.6		36.8	219	32.7		09.2			
15	233	37.6	69	23.5		04.4	21	00.0		13.5	119	32.7		36.7	234	35.3		09.3			
16	248	40.1	84	23.1		03.3	36	00.8		14.1	134	34.9		36.7	249	37.9		09.3			
17	263	42.5	99	22.7	+8	02.1	51	01.6	-13	14.7	149	37.0	+21	36.6	264	40.6	-3	09.4			
18	278	45.0	114	22.2	+8	01.0	66	02.4	-13	15.3	164	39.1	+21	36.6	279	43.2	-3	09.5			
19	293	47.5	129	21.8	+7	59.9	81	03.3		15.9	179	41.3		36.5	294	45.9		09.6			
20	308	49.9	144	21.4		58.8	96	04.1		16.5	194	43.4		36.5	309	48.5		09.7			
21	323	52.4	159	20.9		57.7	111	04.9		17.1	209	45.5		36.5	324	51.1		09.7			
22	338	54.9	174	20.5		56.6	126	05.8		17.6	224	47.7		36.4	339	53.8		09.8			
23	353	57.3	189	20.1		55.4	141	06.6		18.2	239	49.8		36.4	354	56.4		09.9			
24	8	59.8	204	19.7	+7	54.3	156	07.4	-13	18.8	254	51.9	+21	36.3	9	59.1	-3	10.0			
Dif	—		-4		-11		+8		-6		+21		0		+26		-1				

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16/0 PMG: 11 ^h 49.9 ^m			Edad: 8.2 ^d SD: 15/0 PMG: 18 ^h 36 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	182	28.8	-2	49.0	90	54.8	27	-28	12.6	60 N	4	33	5	22	6	04	16	45	
1	197	29.0		50.0	90	54.8	29		09.9	58	37	23	02	16	14	16	21	05	
2	212	29.2		50.9	90	54.8	30		07.0	56	41	24	01	15	50	23	28	86	
3	227	29.4		51.9	90	54.8	31		04.0	54	44	25	00	31	27	21	47	8	
4	242	29.6		52.9	90	54.8	33	-28	00.9	52	47	26	6	00	15	30	22	02	
5	257	29.8	-2	53.9	90	54.8	34	-27	57.6	50	4	27	5	59	15	01	22	16	
6	272	30.0	-2	54.8	90	54.8	36	-27	54.2	45	4	28	5	57	14	33	22	44	
7	287	30.3		55.8	90	54.8	37		50.6	40	57	28	55	14	10	40	23	06	
8	302	30.5		56.8	90	54.8	38		46.9	35	4	29	54	13	52	42	24	64	
9	317	30.7		57.7	90	54.8	41		43.1	30	5	29	53	36	44	23	39	62	
10	332	30.9		58.7	90	54.8	41		39.0	20	03	29	51	13	08	48	**	**	
11	347	31.1	-2	59.7	90	54.8	43	-27	34.9	10 N	5	28	5	49	12	45	50	**	**
12	2	31.3	-3	00.7	90	54.8	45	-27	30.6	0	5	26	5	47	12	23	53	**	**
13	17	31.5		01.6	90	54.8	45		26.1	10 S	4	24	45	12	01	55	0	18	51
14	32	31.7		02.6	91	54.8	48		21.6	20	54	20	42	11	38	57	0	42	50
15	47	31.9		03.6	90	54.8	49		16.8	30	47	15	39	11	11	60	1	10	47
16	62	32.1		04.5	91	54.8	50		11.9	35	43	12	38	10	54	63	27	45	
17	77	32.3	-3	05.5	91	54.8	52	-27	06.9	40	4	37	5	36	10	36	64	1	46
18	92	32.5	-3	06.5	91	54.8	53	-27	01.7	45	4	29	5	34	10	13	67	2	09
19	107	32.7		07.4	91	54.8	54	-26	56.4	50	20	4	58	31	9	43	72	39	37
20	122	32.9		08.4	92	54.8	57		51.0	52	15	56	30	29	74	2	54	35	
21	137	33.1		09.4	91	54.8	57		45.3	54	10	53	28	9	12	77	3	11	32
22	152	33.3		10.3	92	54.8	59		39.6	56	4	49	27	8	52	80	31	29	
23	167	33.5		11.3	92	54.8	60		33.7	58	3	57	45	25	8	27	86	3	57
24	182	33.7	-3	12.3	92	54.8		-26	27.7	60 S	3	49	4	41	5	23	7	52	96

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 ^h 20.2 ^m		Mag: -3.9 PMG: 10 ^h 23 ^m		Mag: +1.6 PMG: 13 ^h 35 ^m		Mag: -2.1 PMG: 7 ^h 00 ^m		Mag: +0.6 PMG: 23 ^h 16 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	8	59.8	204	19.7	+7	54.3	156	07.4	-13	18.8
1	24	02.3	219	19.2		53.2	171	08.2		19.4
2	39	04.7	234	18.8		52.1	186	09.1		20.0
3	54	07.2	249	18.4		50.9	201	09.9		20.6
4	69	09.6	264	17.9		49.8	216	10.7		21.2
5	84	12.1	279	17.5	+7	48.7	231	11.5	-13	21.8
6	99	14.6	294	17.1	+7	47.6	246	12.4	-13	22.4
7	114	17.0	309	16.7		46.4	261	13.2		23.0
8	129	19.5	324	16.2		45.3	276	14.0		23.6
9	144	22.0	339	15.8		44.2	291	14.8		24.2
10	159	24.4	354	15.4		43.1	306	15.7		24.8
11	174	26.9	9	15.0	+7	41.9	321	16.5	-13	25.3
12	189	29.4	24	14.5	+7	40.8	336	17.3	-13	25.9
13	204	31.8	39	14.1		39.7	351	18.1		26.5
14	219	34.3	54	13.7		38.6	6	19.0		27.1
15	234	36.8	69	13.3		37.4	21	19.8		27.7
16	249	39.2	84	12.8		36.3	36	20.6		28.3
17	264	41.7	99	12.4	+7	35.2	51	21.4	-13	28.9
18	279	44.1	114	12.0	+7	34.1	66	22.3	-13	29.5
19	294	46.6	129	11.6		32.9	81	23.1		30.1
20	309	49.1	144	11.1		31.8	96	23.9		30.7
21	324	51.5	159	10.7		30.7	111	24.7		31.2
22	339	54.0	174	10.3		29.5	126	25.5		31.8
23	354	56.5	189	09.9		28.4	141	26.4		32.4
24	9	58.9	204	09.5	+7	27.3	156	27.2	-13	33.0
Dif	—		-4	-11			+8	-6		

UT	SOL				LUNA								Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG: 11 ^h 49.6 ^m				Edad: 9.2 ^d SD: 15'2 PMG: 19 ^h 28 ^m PHE { 4 ^h : 55'9 12 ^h : 56'1 20 ^h : 56'4 Rº: 53 ^m										Civil		Náutico	Hora	Rº	Hora	Rº
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Dec	Dif	Dec	Dif	h m	h m			h m	h m m	h m m	h m m	h m m		
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	182	33.7	-3	12.3	78	08.1	93	-26	27.7	62	60 N	17 32	18 13	19 02	16 52	4	22 16	104			
1	197	33.9		13.3	92	36.4	92		21.5	63	58	33	12	18 58	30	11	36	98			
2	212	34.1		14.2	107	04.6	93		15.2	65	56	35	12	55	16	13	22	92			
3	227	34.3		15.2	121	32.9	93		08.7	66	54	36	11	52	15	58	20	88			
4	242	34.5		16.2	136	01.2	93	-26	02.1	66	52	37	11	50	45	23	20	85			
5	257	34.7	-3	17.1	150	29.6	94	-25	55.4	67	50	17 38	18 10	18 48	15	33	23	82			
6	272	34.9	-3	18.1	164	58.0	94	-25	48.5	69	45	17 40	18 09	18 43	15	09	23	76			
7	287	35.1		19.1	179	26.3	93		41.4	71	40	42	09	40	14	50	35	73			
8	302	35.3		20.0	193	54.8	95		34.3	71	35	44	09	38	34	38	33	70			
9	317	35.5		21.0	208	23.2	94		27.0	73	30	45	09	37	14	20	31	67			
10	332	35.7		22.0	222	51.7	95		19.5	75	20	48	10	36	13	56	46	60			
11	347	35.9	-3	22.9	237	20.2	95	-25	11.9	76	10 N	17 50	18 11	18 36	13	35	0	56			
12	2	36.1	-3	23.9	251	48.7	95	-25	04.2	77	0	17 53	18 14	18 38	13	16	0	53			
13	17	36.3		24.9	266	17.3	96	-24	56.4	78	10 S	55	16	41	12	56	1	51			
14	32	36.5		25.8	280	45.9	96		48.4	80	20	17 58	20	46	35	60	32	47			
15	47	36.7		26.8	295	14.5	96		40.2	82	30	18 01	25	54	12	11	65	1	54		
16	62	36.9		27.8	309	43.2	97		31.9	83	35	03	29	18 59	11	57	67	2	41		
17	77	37.1	-3	28.8	324	11.9	97	-24	23.5	84	40	18 06	18 33	19 05	11	40	70	2	38		
18	92	37.3	-3	29.7	338	40.6	97	-24	15.0	85	45	18 08	18 38	19 13	11	20	74	2	35		
19	107	37.5		30.7	353	09.3	97	-24	06.3	87	50	11	44	23	10	55	80	3	30		
20	122	37.7		31.7	7	38.1	98	-23	57.5	88	52	13	47	28	43	82	29	27			
21	137	37.9		32.6	22	06.9	98		48.6	89	54	15	50	34	29	86	3	24			
22	152	38.1		33.6	36	35.8	99		39.5	91	56	16	54	40	10	12	91	4	20		
23	167	38.3		34.6	51	04.7	99		30.3	92	58	18	18 58	47	9	53	96	20	14		
24	182	38.5	-3	35.5	65	33.6	99	-23	20.9	94	60 S	18 21	19 03	19 56	9	28	104	4	7		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO												
	PMG: 23 ^h 16.2 ^m		Mag: -3.9 PMG: 10 ^h 24 ^m		Mag: +1.5 PMG: 13 ^h 33 ^m		Mag: -2.1 PMG: 6 ^h 56 ^m		Mag: +0.6 PMG: 23 ^h 12 ^m												
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec											
h	°	'	°	'	°	'	°	'	°	'											
0	9	58.9	204	09.5	+7	27.3	156	27.2	-13	33.0											
1	25	01.4	219	09.0		26.1	171	28.0		33.6											
2	40	03.9	234	08.6		25.0	186	28.8		34.2											
3	55	06.3	249	08.2		23.9	201	29.7		34.8											
4	70	08.8	264	07.8		22.7	216	30.5		35.4											
5	85	11.2	279	07.3	+7	21.6	231	31.3	-13	36.0											
6	100	13.7	294	06.9	+7	20.5	246	32.1	-13	36.5											
7	115	16.2	309	06.5		19.3	261	32.9		37.1											
8	130	18.6	324	06.1		18.2	276	33.8		37.7											
9	145	21.1	339	05.7		17.1	291	34.6		38.3											
10	160	23.6	354	05.2		15.9	306	35.4		38.9											
11	175	26.0	9	04.8	+7	14.8	321	36.2	-13	39.5											
12	190	28.5	24	04.4	+7	13.7	336	37.0	-13	40.1											
13	205	31.0	39	04.0		12.5	351	37.8		40.7											
14	220	33.4	54	03.6		11.4	6	38.7		41.3											
15	235	35.9	69	03.1		10.3	21	39.5		41.8											
16	250	38.4	84	02.7		09.1	36	40.3		42.4											
17	265	40.8	99	02.3	+7	08.0	51	41.1	-13	43.0											
18	280	43.3	114	01.9	+7	06.9	66	41.9	-13	43.6											
19	295	45.7	129	01.5		05.7	81	42.8		44.2											
20	310	48.2	144	01.0		04.6	96	43.6		44.8											
21	325	50.7	159	00.6		03.4	111	44.4		45.4											
22	340	53.1	174	00.2		02.3	126	45.2		45.9											
23	355	55.6	188	59.8	+7	01.2	141	46.0		46.5											
24	10	58.1	203	59.4	+7	00.0	156	46.8	-13	47.1											
Dif	—		-4		-11		+8		-6												
							+21		0												
									+26												

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h 0 PMG: 11 ^h 49.3 ^m			Edad: 10.2 ^d PHE { 4 ^h : 56 ^h 7 12 ^h : 57 ^h 0 20 ^h : 57 ^h 3 Rº: 50 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	182	38.5	-3	35.5	65	33.6	-23	20.9	95	60 N	4	38	5	27	6	08	23	59
1	197	38.7		36.5	80	02.6		11.4	96	58	42		28	07	40	5	**	**
2	212	38.9		37.5	94	31.6	-23	01.8	96	56	45		28	05	27	10	**	**
3	227	39.1		38.4	109	00.6	-22	52.1	97	54	48		29	04	16	13	**	**
4	242	39.3		39.4	123	29.7		42.2	99	52	50		29	03	16	06	**	**
5	257	39.5	-3	40.4	137	58.8	-22	32.2	100	50	4	52	5	30	6	02	**	**
6	272	39.7	-3	41.3	152	27.9	-22	22.1	101	45	4	56	5	30	5	59	**	**
7	287	39.9		42.3	166	57.1		11.9	102	40	4	59	30	57	24	29	0	13
8	302	40.1		43.3	181	26.3	-22	01.5	104	35	5	01	30	56	11	33	28	67
9	317	40.3		44.2	195	55.6	-21	51.0	105	30		02	30	54	15	00	0	41
10	332	40.5		45.2	210	24.9		40.4	106	20		04	29	51	14	40	1	04
11	347	40.7	-3	46.2	224	54.2	-21	29.6	108	10 N	5	03	5	28	5	49	1	23
12	2	40.9	-3	47.1	239	23.5	-21	18.7	109	0	5	01	5	25	5	46	1	41
13	17	41.1		48.1	253	52.9	-21	07.7	110	10 S	4	58		22	43	13	51	
14	32	41.3		49.1	268	22.4	-20	56.6	111	20		53	18	40	34	59	2	17
15	47	41.5		50.0	282	51.8		45.4	112	30		45	13	37	14	64	3	39
16	62	41.7		51.0	297	21.3		34.0	114	35		40	10	35	13	02	68	2
17	77	41.9	-3	52.0	311	50.9	-20	22.5	115	40	4	33	5	05	5	33	12	49
18	92	42.1	-3	52.9	326	20.5	-20	10.9	116	45	4	25	5	00	5	30	12	33
19	107	42.3		53.9	340	50.1	-19	59.2	117	50		15	4	54	27	13	82	
20	122	42.5		54.9	355	19.7		47.4	118	52		10	51	25	12	04		
21	137	42.7		55.8	9	49.4		35.4	120	54	4	04	48	23	11	53		
22	152	42.9		56.8	24	19.1		23.4	120	56	3	58	44	21	41	92		
23	167	43.1		57.8	38	48.9	-19	11.2	122	58		51	39	19	27	97		
24	182	43.3	-3	58.7	53	18.7	-18	58.9	123	60 S	3	42	4	35	5	17	11	11

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 23 ^h 12.3 ^m		Mag: -3.9 PMG: 10 ^h 24 ^m		Mag: +1.5 PMG: 13 ^h 32 ^m		Mag: -2.1 PMG: 6 ^h 53 ^m		Mag: +0.6 PMG: 23 ^h 08 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	10	58.1	203	59.4	+7	00.0	156	46.8	-13	47.1	256	34.6	+21	34.1	12	05.7	-3	13.5
1	26	00.5	218	59.0	+6	58.9	171	47.6		47.7	271	36.8		34.1	27	08.3		13.6
2	41	03.0	233	58.5		57.7	186	48.5		48.3	286	38.9		34.1	42	11.0		13.7
3	56	05.5	248	58.1		56.6	201	49.3		48.9	301	41.1		34.0	57	13.6		13.8
4	71	07.9	263	57.7		55.5	216	50.1		49.5	316	43.2		34.0	72	16.2		13.8
5	86	10.4	278	57.3	+6	54.3	231	50.9	-13	50.0	331	45.4	+21	33.9	87	18.9	-3	13.9
6	101	12.9	293	56.9	+6	53.2	246	51.7	-13	50.6	346	47.5	+21	33.9	102	21.5	-3	14.0
7	116	15.3	308	56.4		52.0	261	52.5		51.2	1	49.7		33.8	117	24.1		14.0
8	131	17.8	323	56.0		50.9	276	53.3		51.8	16	51.8		33.8	132	26.8		14.1
9	146	20.2	338	55.6		49.7	291	54.2		52.4	31	53.9		33.7	147	29.4		14.2
10	161	22.7	353	55.2		48.6	306	55.0		53.0	46	56.1		33.7	162	32.0		14.3
11	176	25.2	8	54.8	+6	47.5	321	55.8	-13	53.6	61	58.2	+21	33.7	177	34.7	-3	14.3
12	191	27.6	23	54.4	+6	46.3	336	56.6	-13	54.1	77	00.4	+21	33.6	192	37.3	-3	14.4
13	206	30.1	38	54.0		45.2	351	57.4		54.7	92	02.5		33.6	207	40.0		14.5
14	221	32.6	53	53.5		44.0	6	58.2		55.3	107	04.7		33.5	222	42.6		14.6
15	236	35.0	68	53.1		42.9	21	59.0		55.9	122	06.8		33.5	237	45.2		14.6
16	251	37.5	83	52.7		41.7	36	59.9		56.5	137	09.0		33.4	252	47.9		14.7
17	266	40.0	98	52.3	+6	40.6	52	00.7	-13	57.1	152	11.1	+21	33.4	267	50.5	-3	14.8
18	281	42.4	113	51.9	+6	39.4	67	01.5	-13	57.6	167	13.3	+21	33.4	282	53.1	-3	14.9
19	296	44.9	128	51.5		38.3	82	02.3		58.2	182	15.4		33.3	297	55.8		14.9
20	311	47.3	143	51.0		37.1	97	03.1		58.8	197	17.6		33.3	312	58.4		15.0
21	326	49.8	158	50.6		36.0	112	03.9	-13	59.4	212	19.8		33.2	328	01.0		15.1
22	341	52.3	173	50.2		34.8	127	04.7	-14	00.0	227	21.9		33.2	343	03.7		15.2
23	356	54.7	188	49.8		33.7	142	05.5	-14	00.6	242	24.1		33.1	358	06.3		15.2
24	11	57.2	203	49.4	+6	32.5	157	06.3	-14	01.1	257	26.2	+21	33.1	13	09.0	-3	15.3
Dif	—		-4		-11		+8		-6		+21		0		+26		-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 0 PMG: 11 ^h 49.0 ^m			Edad: 11.2 ^d PHE { 4 ^h : 57/6 12 ^h : 57/9 20 ^h : 58/2 R°: 50 ^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 43.3	-3 58.7	53 18.7	108	-18	58.9	124	60 N	17 26	18 07	18 56	16 54	1	**	**	**	
1	197 43.5	-3 59.7	67 48.5	109		46.5	125	58	28	07	52	45	5		0 13	98	
2	212 43.7	-4 00.7	82 18.4	109		34.0	127	56	30	06	50	37	8		24	94	
3	227 43.9		01.6	96 48.3		21.3	127	54	31	06	47	29	12		35	90	
4	242 44.1		02.6	111 18.2	109	-18 08.6	127	52	32	06	45	23	14		44	86	
5	257 44.3	-4 03.6	125 48.1	109	-17 55.8	128		50	17 34	18 06	18 43	16 17	17		0 52	84	
6	272 44.5	-4 04.5	140 18.1	110	-17 42.8	130		45	17 37	18 06	18 40	16 04	23		1 09	78	
7	287 44.7		05.5	154 48.2	111	29.7	131	40	39	06	37	15 53	27		23	73	
8	302 44.9		06.4	169 18.2	110	16.6	131	35	41	06	36	44	31		35	69	
9	317 45.1		07.4	183 48.3	111	-17 03.3	133	30	43	07	34	36	34		1 45	65	
10	332 45.2		08.4	198 18.4	111	-16 49.9	134	20	46	08	34	21	41		2 02	60	
11	347 45.4	-4 09.3	212 48.6	112	-16 36.4	135		10 N	17 49	18 10	18 35	15 09	45		2 17	55	
12	2 45.6	-4 10.3	227 18.8	112	-16 22.8	136		0	17 52	18 13	18 37	14 57	50		2 31	51	
13	17 45.8		11.3	241 49.0	112	-16 09.2	136	10 S	55	16	41	45	55		2 45	46	
14	32 46.0		12.2	256 19.2	112	-15 55.4	138	20	17 59	21	47	33	60		3 00	41	
15	47 46.2		13.2	270 49.5	113	41.5	139	30	18 03	27	18 55	18 66	17		35		
16	62 46.4		14.2	285 19.8	113	27.5	140	35	05	30	19 00	10 69	26		33		
17	77 46.6	-4 15.1	299 50.1	113	-15 13.4	141		40	18 08	18 35	19 07	14 00	74		3 37	29	
18	92 46.8	-4 16.1	314 20.4	113	-14 59.2	142		45	18 11	18 40	19 16	13 49	78		3 50	24	
19	107 47.0		17.1	328 50.8	114	45.0	144	50	15	47	27	35	84		4 06	18	
20	122 47.2		18.0	343 21.2	114	30.6	144	52	16	51	32	28	87		13	16	
21	137 47.4		19.0	357 51.6	114	16.1	145	54	18	54	38	21	90		21	13	
22	152 47.6		19.9	12 22.0	114	-14 01.6	145	56	20	18 58	45	13	94		30	10	
23	167 47.8		20.9	26 52.5	115	-13 46.9	147	58	23	19 03	19 53	13 04	98		40	6	
24	182 48.0	-4 21.9	41 23.0	115	-13 32.2	147		60 S	18 25	19 08	20 02	12 53	103		4 52	1	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 23 ^h 08.4 ^m		Mag: -3.9 PMG: 10 ^h 25 ^m			Mag: +1.5 PMG: 13 ^h 31 ^m			Mag: -2.1 PMG: 6 ^h 49 ^m			Mag: +0.6 PMG: 23 ^h 03 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♊	Dec	hG ♉	Dec	hG ♋	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	11 57.2	203 49.4	+6 32.5	157 06.3	-14 01.1	257 26.2	+21 33.1	13 09.0	-3 15.3								
1	26 59.7	218 49.0	31.4	172 07.1	01.7	272 28.4	33.0	28 11.6	15.4								
2	42 02.1	233 48.6	30.2	187 08.0	02.3	287 30.5	33.0	43 14.2	15.4								
3	57 04.6	248 48.1	29.1	202 08.8	02.9	302 32.7	33.0	58 16.9	15.5								
4	72 07.1	263 47.7	27.9	217 09.6	03.5	317 34.8	32.9	73 19.5	15.6								
5	87 09.5	278 47.3	+6 26.8	232 10.4	-14 04.0	332 37.0	+21 32.9	88 22.1	-3 15.7								
6	102 12.0	293 46.9	+6 25.6	247 11.2	-14 04.6	347 39.1	+21 32.8	103 24.8	-3 15.7								
7	117 14.5	308 46.5	24.5	262 12.0	05.2	2 41.3	32.8	118 27.4	15.8								
8	132 16.9	323 46.1	23.3	277 12.8	05.8	17 43.4	32.7	133 30.0	15.9								
9	147 19.4	338 45.7	22.2	292 13.6	06.4	32 45.6	32.7	148 32.7	16.0								
10	162 21.8	353 45.3	21.0	307 14.4	06.9	47 47.7	32.7	163 35.3	16.0								
11	177 24.3	8 44.8	+6 19.9	322 15.2	-14 07.5	62 49.9	+21 32.6	178 38.0	-3 16.1								
12	192 26.8	23 44.4	+6 18.7	337 16.0	-14 08.1	77 52.1	+21 32.6	193 40.6	-3 16.2								
13	207 29.2	38 44.0	17.6	352 16.8	08.7	92 54.2	32.5	208 43.2	16.2								
14	222 31.7	53 43.6	16.4	7 17.7	09.3	107 56.4	32.5	223 45.9	16.3								
15	237 34.2	68 43.2	15.3	22 18.5	09.8	122 58.5	32.4	238 48.5	16.4								
16	252 36.6	83 42.8	14.1	37 19.3	10.4	138 00.7	32.4	253 51.1	16.5								
17	267 39.1	98 42.4	+6 13.0	52 20.1	-14 11.0	153 02.8	+21 32.4	268 53.8	-3 16.5								
18	282 41.6	113 42.0	+6 11.8	67 20.9	-14 11.6	168 05.0	+21 32.3	283 56.4	-3 16.6								
19	297 44.0	128 41.6	10.6	82 21.7	12.2	183 07.2	32.3	298 59.0	16.7								
20	312 46.5	143 41.1	09.5	97 22.5	12.7	198 09.3	32.2	314 01.7	16.8								
21	327 49.0	158 40.7	08.3	112 23.3	13.3	213 11.5	32.2	329 04.3	16.8								
22	342 51.4	173 40.3	07.2	127 24.1	13.9	228 13.6	32.1	344 06.9	16.9								
23	357 53.9	188 39.9	06.0	142 24.9	14.5	243 15.8	32.1	359 09.6	17.0								
24	12 56.3	203 39.5	+6 04.9	157 25.7	-14 15.1	258 17.9	+21 32.1	14 12.2	-3 17.0								
Dif	—	-4	-12	+8	-6	+22	0	+26	-1								

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16 ^h 0 PMG: 11 ^h 48.7 ^m			Edad: 12.2 ^d PHE { 4 ^h : 58'5 12 ^h : 58'8 20 ^h : 59'1 R°: 49 ^m																			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil			Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m			
0	182	48.0	-4	21.9	41	23.0	115	-13	32.2	148	60 N	4	43	5	32	6	13	16	54	**			
1	197	48.2		22.8	55	53.5	115		17.4	148	58	46		32	11		49	2		50	96		
2	212	48.3		23.8	70	24.0	115	-13	02.5	149	56	49		32	09		44	6		1	57	93	
3	227	48.5		24.8	84	54.6	116	-12	47.5	150	54	51		32	08		40	9		2	03	89	
4	242	48.7		25.7	99	25.2	116		32.4	151	52	53		33	06		36	12		09	86		
5	257	48.9	-4	26.7	113	55.7	115	-12	17.3	151	50	4	55	5	33	6	05	16	33	14	2	14	84
6	272	49.1	-4	27.7	128	26.4	117	-12	02.0	153	45	4	59	5	33	6	02	16	25	20	2	25	78
7	287	49.3		28.6	142	57.0	116	-11	46.7	153	40	5	01		32	5	59	19	24		34	73	
8	302	49.5		29.6	157	27.6	116		31.3	154	35		03		32	57		13	29		42	69	
9	317	49.7		30.5	171	58.3	117		15.8	155	30		04		31	55		09	32		2	49	65
10	332	49.9		31.5	186	28.9	116	-11	00.3	155	20		04		30	52		16	00	38	3	01	59
11	347	50.1	-4	32.5	200	59.6	117	-10	44.6	157	10 N	5	03	5	27	5	48	15	53	43	3	11	53
12	2	50.3	-4	33.4	215	30.3	117	-10	28.9	157	0	5	01	5	25	5	45	15	46	48	3	20	49
13	17	50.5		34.4	230	01.0	117	-10	13.1	158	10 S	4	57		21	42		39	54		30	43	
14	32	50.7		35.4	244	31.7	117	-9	57.3	158	20	51		17	39		31	60		40	38		
15	47	50.8		36.3	259	02.4	117		41.3	160	30	42		11	35		23	65		51	32		
16	62	51.0		37.3	273	33.2	118		25.3	160	35	37		07	32		18	69		3	57	29	
17	77	51.2	-4	38.2	288	03.9	117	-9	09.3	160	40	4	30	5	02	5	29	15	12	74	4	05	25
18	92	51.4	-4	39.2	302	34.6	117	-8	53.2	161	45	4	21	4	56	5	26	15	06	78	4	13	20
19	107	51.6		40.2	317	05.4	118		37.0	162	50	10		49	22		14	58	84		23	15	
20	122	51.8		41.1	331	36.1	117		20.7	163	52	4	05	46	20		54	87		28	12		
21	137	52.0		42.1	346	06.9	118	-8	04.4	163	54	3	59	42	18		50	90		33	9		
22	152	52.2		43.0	0	37.6	117	-7	48.0	164	56	52		38	16		45	94		38	7		
23	167	52.4		44.0	15	08.4	118		31.5	165	58	44		34	14		40	97		45	3		
24	182	52.6	-4	45.0	29	39.2	118	-7	15.0	165	60 S	3	35	4	28	5	11	14	35	101	4	52	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 23 ^h 04.5 ^m		Mag: -3.9 PMG: 10 ^h 26 ^m		Mag: +1.5 PMG: 13 ^h 30 ^m		Mag: -2.1 PMG: 6 ^h 46 ^m		Mag: +0.6 PMG: 22 ^h 59 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	12	56.3	203	39.5	+6	04.9	157	25.7	-14	15.1	258	17.9	+21	32.1	14	12.2	-3	17.0
1	27	58.8	218	39.1		03.7	172	26.5		15.6	273	20.1		32.0	29	14.8		17.1
2	43	01.3	233	38.7		02.6	187	27.3		16.2	288	22.3		32.0	44	17.5		17.2
3	58	03.7	248	38.3		01.4	202	28.1		16.8	303	24.4		31.9	59	20.1		17.3
4	73	06.2	263	37.9	+6	00.2	217	28.9		17.4	318	26.6		31.9	74	22.7		17.3
5	88	08.7	278	37.5	+5	59.1	232	29.7	-14	18.0	333	28.7	+21	31.8	89	25.4	-3	17.4
6	103	11.1	293	37.1	+5	57.9	247	30.5	-14	18.5	348	30.9	+21	31.8	104	28.0	-3	17.5
7	118	13.6	308	36.6		56.8	262	31.3		19.1	3	33.1		31.8	119	30.7		17.6
8	133	16.1	323	36.2		55.6	277	32.1		19.7	18	35.2		31.7	134	33.3		17.6
9	148	18.5	338	35.8		54.4	292	32.9		20.3	33	37.4		31.7	149	35.9		17.7
10	163	21.0	353	35.4		53.3	307	33.7		20.8	48	39.5		31.6	164	38.6		17.8
11	178	23.4	8	35.0	+5	52.1	322	34.5	-14	21.4	63	41.7	+21	31.6	179	41.2	-3	17.8
12	193	25.9	23	34.6	+5	51.0	337	35.3	-14	22.0	78	43.9	+21	31.5	194	43.8	-3	17.9
13	208	28.4	38	34.2		49.8	352	36.1		22.6	93	46.0		31.5	209	46.5		18.0
14	223	30.8	53	33.8		48.6	7	36.9		23.1	108	48.2		31.5	224	49.1		18.1
15	238	33.3	68	33.4		47.5	22	37.7		23.7	123	50.4		31.4	239	51.7		18.1
16	253	35.8	83	33.0		46.3	37	38.5		24.3	138	52.5		31.4	254	54.4		18.2
17	268	38.2	98	32.6	+5	45.1	52	39.3	-14	24.9	153	54.7	+21	31.3	269	57.0	-3	18.3
18	283	40.7	113	32.2	+5	44.0	67	40.1	-14	25.4	168	56.8	+21	31.3	284	59.6	-3	18.4
19	298	43.2	128	31.7		42.8	82	40.9		26.0	183	59.0		31.2	300	02.3		18.4
20	313	45.6	143	31.3		41.7	97	41.7		26.6	199	01.2		31.2	315	04.9		18.5
21	328	48.1	158	30.9		40.5	112	42.5		27.2	214	03.3		31.2	330	07.5		18.6
22	343	50.6	173	30.5		39.3	127	43.3		27.7	229	05.5		31.1	345	10.2		18.6
23	358	53.0	188	30.1		38.2	142	44.1		28.3	244	07.7		31.1	0	12.8		18.7
24	13	55.5	203	29.7	+5	37.0	157	44.9	-14	28.9	259	09.8	+21	31.0	15	15.4	-3	18.8
Dif	—		-4		-12		+8		-6		+22		0		+26		-1	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG: 11 ^h 48.3 ^m			Edad: 13.2 ^d PHE { 4 ^h : 59'4 12 ^h : 59'7 20 ^h : 59'9 PMG: 22 ^h 46 ^m R°: 51 ^m														
	hG ☉	Dec		hG ☾	Dif		Dec	Dif				Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	
0	182	52.6	-4	45.0	29	39.2	-7	15.0	165	60 N	17	20	18	01	18	53	0	
1	197	52.7		45.9	44	09.9	-6	58.5	166	58	22		01	47	51	5		
2	212	52.9		46.9	58	40.7		41.8	167	56	24		01	44	50	8		
3	227	53.1		47.9	73	11.4		25.2	166	54	26		01	42	49	11		
4	242	53.3		48.8	87	42.2	-6	08.5	167	52	28		01	40	48	13		
5	257	53.5	-4	49.8	102	12.9	-5	51.7	168	50	17	29	18	02	18	39	16	
6	272	53.7	-4	50.7	116	43.6	-5	34.8	169	45	17	33	18	02	18	36	16	
7	287	53.9		51.7	131	14.4		18.0	168	40	36		03	34	43	26	47	
8	302	54.1		52.7	145	45.1	-5	01.1	169	35	38		03	33	42	30	51	
9	317	54.3		53.6	160	15.8	-4	44.1	170	30	40		04	32	41	33	3	
10	332	54.4		54.6	174	46.5		27.1	170	20	44		07	32	38	40	67	
11	347	54.6	-4	55.5	189	17.2	-4	10.0	171	10 N	17	48	18	09	18	36	46	
12	2	54.8	-4	56.5	203	47.8	-3	52.9	171	0	17	52	18	12	18	36	51	
13	17	55.0		57.5	218	18.5		35.8	171	10 S	55		16	41	33	56	13	
14	32	55.2		58.4	232	49.1		18.6	172	20	17	59	21	47	31	61	18	
15	47	55.4	-4	59.4	247	19.7	-3	01.4	172	30	18	04	28	18	56	28	69	
16	62	55.6	-5	00.3	261	50.4	-2	44.2	172	35	07		32	19	02	27	72	
17	77	55.7	-5	01.3	276	20.9	-2	26.9	173	40	18	10	18	37	19	09	16	
18	92	55.9	-5	02.3	290	51.5	-2	09.6	173	45	18	13	18	43	19	19	16	
19	107	56.1		03.2	305	22.0	-1	52.3	173	50	18		51	30	22	87	38	
20	122	56.3		04.2	319	52.6		34.9	174	52	20		54	36	21	90	40	
21	137	56.5		05.1	334	23.1		17.5	174	54	22		18	58	42	20	93	
22	152	56.7		06.1	348	53.5	-1	00.1	174	56	24		19	03	49	19	96	
23	167	56.9		07.1	3	24.0	-0	42.7	174	58	27		08	19	58	17	101	
24	182	57.1	-5	08.0	17	54.4	-0	25.2	175	60 S	18	30	19	13	20	08	16	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 23 ^h 00.5 ^m		Mag: -3.9 PMG: 10 ^h 26 ^m			Mag: +1.5 PMG: 13 ^h 28 ^m			Mag: -2.1 PMG: 6 ^h 42 ^m			Mag: +0.6 PMG: 22 ^h 55 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	13	55.5	203	29.7	+5	37.0	157	44.9	-14	28.9	259	09.8	+21	31.0	15	15.4	-3	18.8
1	28	57.9	218	29.3		35.8	172	45.7		29.5	274	12.0		31.0	30	18.1		18.9
2	44	00.4	233	28.9		34.7	187	46.5		30.0	289	14.2		31.0	45	20.7		18.9
3	59	02.9	248	28.5		33.5	202	47.3		30.6	304	16.3		30.9	60	23.3		19.0
4	74	05.3	263	28.1		32.3	217	48.1		31.2	319	18.5		30.9	75	26.0		19.1
5	89	07.8	278	27.7	+5	31.2	232	48.9	-14	31.8	334	20.7	+21	30.8	90	28.6	-3	19.1
6	104	10.3	293	27.3	+5	30.0	247	49.7	-14	32.3	349	22.8	+21	30.8	105	31.2	-3	19.2
7	119	12.7	308	26.9		28.8	262	50.5		32.9	4	25.0		30.7	120	33.9		19.3
8	134	15.2	323	26.5		27.7	277	51.3		33.5	19	27.2		30.7	135	36.5		19.4
9	149	17.7	338	26.1		26.5	292	52.1		34.1	34	29.3		30.7	150	39.1		19.4
10	164	20.1	353	25.7		25.3	307	52.9		34.6	49	31.5		30.6	165	41.8		19.5
11	179	22.6	8	25.3	+5	24.2	322	53.7	-14	35.2	64	33.7	+21	30.6	180	44.4	-3	19.6
12	194	25.0	23	24.9	+5	23.0	337	54.5	-14	35.8	79	35.8	+21	30.5	195	47.0	-3	19.6
13	209	27.5	38	24.4		21.8	352	55.3		36.4	94	38.0		30.5	210	49.7		19.7
14	224	30.0	53	24.0		20.7	7	56.1		36.9	109	40.2		30.5	225	52.3		19.8
15	239	32.4	68	23.6		19.5	22	56.9		37.5	124	42.4		30.4	240	54.9		19.9
16	254	34.9	83	23.2		18.3	37	57.7		38.1	139	44.5		30.4	255	57.6		19.9
17	269	37.4	98	22.8	+5	17.1	52	58.5	-14	38.6	154	46.7	+21	30.3	271	00.2	-3	20.0
18	284	39.8	113	22.4	+5	16.0	67	59.2	-14	39.2	169	48.9	+21	30.3	286	02.8	-3	20.1
19	299	42.3	128	22.0		14.8	83	00.0		39.8	184	51.0		30.2	301	05.5		20.1
20	314	44.8	143	21.6		13.6	98	00.8		40.4	199	53.2		30.2	316	08.1		20.2
21	329	47.2	158	21.2		12.5	113	01.6		40.9	214	55.4		30.2	331	10.7		20.3
22	344	49.7	173	20.8		11.3	128	02.4		41.5	229	57.5		30.1	346	13.4		20.4
23	359	52.2	188	20.4		10.1	143	03.2		42.1	244	59.7		30.1	1	16.0		20.4
24	14	54.6	203	20.0	+5	08.9	158	04.0	-14	42.6	260	01.9	+21	30.0	16	18.6	-3	20.5
Dif	—		-4		-12		+8		-6		+22		0		+26		-	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna							
	SD: 16'0 PMG:11 ^h 48.1 ^m			Edad: 14.2 ^d PHE { 4 ^h : 60'1 12 ^h : 60'3 20 ^h : 60'5 PMG: 23 ^h 36 ^m R°: 52 ^m																				
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m					
0	182	57.1	-5	08.0	17	54.4		-0	25.2	60 N	4	48	5	36	6	18	16	52	**	5	04	106		
1	197	57.2		09.0	32	24.8	114	-0	07.7	58		51		36	15		54	4			04	101		
2	212	57.4		09.9	46	55.1	113	+0	09.8	56		53		36	13		56	7			03	97		
3	227	57.6		10.9	61	25.4	113		27.3	54		55		36	11		16	58	11		03	93		
4	242	57.8		11.8	75	55.7	113	+0	44.8	52		57		36	10		17	00	13		03	90		
5	257	58.0	-5	12.8	90	26.0	113	+1	02.3	50		4	58	5	36	6	08	17	02	15	5	02	88	
6	272	58.2	-5	13.8	104	56.2	112	+1	19.9	45		5	01	5	35	6	04	17	05	22	5	02	81	
7	287	58.3		14.7	119	26.4	112		37.4	40		03		34	6	01	08	26			01	76		
8	302	58.5		15.7	133	56.5	111	+1	55.0	35		04		33	5	59	11	30			00	72		
9	317	58.7		16.6	148	26.6	111	+2	12.6	30		05		32	56		13	34			5	00	68	
10	332	58.9		17.6	162	56.7	111		30.1	20		05		30	52		17	40			4	59	61	
11	347	59.1	-5	18.5	177	26.7	110	+2	47.7	10 N		5	03	5	27	5	48	17	20	47		4	58	56
12	2	59.3	-5	19.5	191	56.7	110	+3	05.3	0		5	00	5	24	5	45	17	24	51	4	58	50	
13	17	59.4		20.5	206	26.6	109		22.8	10 S		4	55		20	41		27	57			57	45	
14	32	59.6		21.4	220	56.5	109		40.4	20		49		15	37	31	62				56	39		
15	47	59.8		22.4	235	26.3	108	+3	58.0	30		40		08	32	35	69				55	33		
16	63	00.0		23.3	249	56.1	108	+4	15.5	35		34		5	04	29	38	73			54	30		
17	78	00.2	-5	24.3	264	25.9	108	+4	33.0	40		4	26	4	59	5	26	17	40	78	4	54	25	
18	93	00.4	-5	25.2	278	55.6	107	+4	50.6	45		4	17	4	53	5	22	17	44	83	4	53	21	
19	108	00.5		26.2	293	25.2	106	+5	08.1	50		05		45	18		48	89			52	15		
20	123	00.7		27.2	307	54.8	106		25.6	52		4	00		41	16	50	92			52	12		
21	138	00.9		28.1	322	24.3	105	+5	43.1	54		3	53		37	14	52	95			51	10		
22	153	01.1		29.1	336	53.8	105	+6	00.5	56		46		33	11		54	99			51	6		
23	168	01.3		30.0	351	23.2	104		18.0	58		38		28	08		57	103			50	3		
24	183	01.5	-5	31.0	5	52.6	104	+6	35.4	60 S		3	28	4	22	5	05	17	59	108	4	50	**	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 22 ^h 56.6 ^m			Mag: -3.9 PMG: 10 ^h 27 ^m			Mag: +1.5 PMG: 13 ^h 27 ^m			Mag: -2.2 PMG: 6 ^h 39 ^m			Mag: +0.6 PMG: 22 ^h 51 ^m											
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	14	54.6	203	20.0	+5	08.9	158	04.0	-14	42.6	260	01.9	+21	30.0	16	18.6	-3	20.5						
1	29	57.1	218	19.6		07.8	173	04.8		43.2	275	04.1		30.0	31	21.3		20.6						
2	44	59.5	233	19.2		06.6	188	05.6		43.8	290	06.2		30.0	46	23.9		20.6						
3	60	02.0	248	18.8		05.4	203	06.4		44.3	305	08.4		29.9	61	26.5		20.7						
4	75	04.5	263	18.4		04.3	218	07.2		44.9	320	10.6		29.9	76	29.2		20.8						
5	90	06.9	278	18.0	+5	03.1	233	08.0	-14	45.5	335	12.8	+21	29.8	91	31.8	-3	20.9						
6	105	09.4	293	17.6	+5	01.9	248	08.8	-14	46.1	350	14.9	+21	29.8	106	34.4	-3	20.9						
7	120	11.9	308	17.2	+5	00.7	263	09.5		46.6	5	17.1		29.8	121	37.1		21.0						
8	135	14.3	323	16.8	+4	59.6	278	10.3		47.2	20	19.3		29.7	136	39.7		21.1						
9	150	16.8	338	16.4		58.4	293	11.1		47.8	35	21.5		29.7	151	42.3		21.1						
10	165	19.3	353	16.0		57.2	308	11.9		48.3	50	23.6		29.6	166	45.0		21.2						
11	180	21.7	8	15.6	+4	56.0	323	12.7	-14	48.9	65	25.8	+21	29.6	181	47.6	-3	21.3						
12	195	24.2	23	15.2	+4	54.9	338	13.5	-14	49.5	80	28.0	+21	29.6	196	50.2	-3	21.3						
13	210	26.7	38	14.8		53.7	353	14.3		50.0	95	30.2		29.5	211	52.8		21.4						
14	225	29.1	53	14.4		52.5	8	15.1		50.6	110	32.3		29.5	226	55.5		21.5						
15	240	31.6	68	14.0		51.3	23	15.9		51.2	125	34.5		29.4	241	58.1		21.6						
16	255	34.0	83	13.6		50.2	38	16.6		51.7	140	36.7		29.4	257	00.7		21.6						
17	270	36.5	98	13.2	+4	49.0	53	17.4	-14	52.3	155	38.9	+21	29.4	272	03.4	-3	21.7						
18	285	39.0	113	12.8	+4	47.8	68	18.2	-14	52.9	170	41.0	+21	29.3	287	06.0	-3	21.8						
19	300	41.4	128	12.4		46.6	83	19.0		53.4	185	43.2		29.3	302	08.6		21.8						
20	315	43.9	143	12.0		45.4	98	19.8		54.0	200	45.4		29.2	317	11.3		21.9						
21	330	46.4	158	11.6		44.3	113	20.6		54.6	215	47.6		29.2	332	13.9		22.0						
22	345	48.8	173	11.2		43.1	128	21.4		55.1	230	49.7		29.1	347	16.5		22.1						
23	0	51.3	188	10.8		41.9	143	22.2		55.7	245	51.9		29.1	2	19.2		22.1						
24	15	53.8	203	10.4	+4	40.7	158	22.9	-14	56.3	260	54.1	+21	29.1	17	21.8	-3	22.2						
Dif	—		-4	-12			+8	-6			+22	0			+26	-1								

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16 ^h 0 PMG: 11 ^h 47.8 ^m			Edad: 15.2 ^d PHE { 4 ^h : 60 ^h /7 12 ^h : 60 ^h /8 20 ^h : 60 ^h /9 R°: **m								Civil			Náutico			Hora R°		Hora R°	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif														
h	° /	° /	° /	° /		° /		°		h m	h m	h m	h m	h m	m	h m	m	h m	m		
0	183	01.5	-5	31.0	5	52.6	+6	35.4	174	60 N	17 14	17 56	18 44	16 51	2	6 50	112				
1	198	01.6		31.9	20	21.9	+6	52.8	173	58	17	56	41	16 58	6	45	106				
2	213	01.8		32.9	34	51.2	+7	10.1	173	56	19	56	39	17 03	11	40	103				
3	228	02.0		33.8	49	20.3		27.4	173	54	21	57	37	09 14		36	99				
4	243	02.2		34.8	63	49.5	+7	44.7	173	52	23	57	36	13 18		33	95				
5	258	02.4	-5	35.8	78	18.5	+8	02.0	173	50	17 25	17 57	18 35	17 17	21	6 30	92				
6	273	02.5	-5	36.7	92	47.5	+8	19.2	172	45	17 29	17 58	18 32	17 27	26	6 23	85				
7	288	02.7		37.7	107	16.4		36.4	172	40	33	18 00	31	34 32		17	80				
8	303	02.9		38.6	121	45.3	+8	53.6	172	35	35	01	30	41 36		12	76				
9	318	03.1		39.6	136	14.1	+9	10.7	171	30	38	02	30	47 39		08	72				
10	333	03.3		40.5	150	42.8		27.7	170	20	43	05	30	17 57	46	6 00	66				
11	348	03.4	-5	41.5	165	11.4	+9	44.7	170	10 N	17 47	18 08	18 32	18 07	51	5 54	59				
12	3	03.6	-5	42.4	179	40.0	+10	01.7	170	0	17 51	18 12	18 36	18 15	56	5 48	54				
13	18	03.8		43.4	194	08.5		18.6	169	10 S	17 55	16	41	24 61		42	49				
14	33	04.0		44.3	208	37.0		35.5	169	20	18 00	22	48	33 67		35	44				
15	48	04.2		45.3	223	05.3	+10	52.3	168	30	05	29	18 58	44 74		28	37				
16	63	04.3		46.3	237	33.6	+11	09.1	168	35	08	34	19 04	51 77		24	33				
17	78	04.5	-5	47.2	252	01.8	+11	25.7	166	40	18 12	18 39	19 12	18 58	82	5 19	29				
18	93	04.7	-5	48.2	266	29.9	+11	42.4	167	45	18 16	18 46	19 21	19 07	86	5 14	24				
19	108	04.9		49.1	280	58.0	+11	58.9	165	50	21	54	34	17 94		07	18				
20	123	05.0		50.1	295	25.9	+12	15.4	165	52	23	18 58	40	22 97		04	16				
21	138	05.2		51.0	309	53.8		31.9	165	54	26	19 02	47	27 101		5 01	12				
22	153	05.4		52.0	324	21.6	+12	48.2	163	56	28	07	19 54	33 105		4 57	9				
23	168	05.6		52.9	338	49.3	+13	04.5	163	58	32	12	20 03	40 110		53	5				
24	183	05.8	-5	53.9	353	17.0	+13	20.7	162	60 S	18 35	19 19	20 14	19 47	116	4 49	1				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 22 ^h 52.7 ^m			Mag: -3.9 PMG: 10 ^h 28 ^m			Mag: +1.5 PMG: 13 ^h 26 ^m			Mag: -2.2 PMG: 6 ^h 35 ^m			Mag: +0.6 PMG: 22 ^h 47 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	15	53.8	203	10.4	+4	40.7	158	22.9	-14	56.3	260	54.1	+21	29.1	17	21.8					
1	30	56.2	218	10.0		39.6	173	23.7		56.8	275	56.3		29.0	32	24.4					
2	45	58.7	233	09.6		38.4	188	24.5		57.4	290	58.5		29.0	47	27.1					
3	61	01.1	248	09.2		37.2	203	25.3		58.0	306	00.6		28.9	62	29.7					
4	76	03.6	263	08.8		36.0	218	26.1		58.5	321	02.8		28.9	77	32.3					
5	91	06.1	278	08.4	+4	34.8	233	26.9	-14	59.1	336	05.0	+21	28.9	92	35.0					
6	106	08.5	293	08.0	+4	33.7	248	27.7	-14	59.7	351	07.2	+21	28.8	107	37.6					
7	121	11.0	308	07.6		32.5	263	28.4	-15	00.2	6	09.4		28.8	122	40.2					
8	136	13.5	323	07.2		31.3	278	29.2		00.8	21	11.5		28.7	137	42.8					
9	151	15.9	338	06.8		30.1	293	30.0		01.4	36	13.7		28.7	152	45.5					
10	166	18.4	353	06.4		28.9	308	30.8		01.9	51	15.9		28.7	167	48.1					
11	181	20.9	8	06.0	+4	27.7	323	31.6	-15	02.5	66	18.1	+21	28.6	182	50.7					
12	196	23.3	23	05.6	+4	26.6	338	32.4	-15	03.1	81	20.3	+21	28.6	197	53.4					
13	211	25.8	38	05.2		25.4	353	33.1		03.6	96	22.5		28.5	212	56.0					
14	226	28.3	53	04.8		24.2	8	33.9		04.2	111	24.6		28.5	227	58.6					
15	241	30.7	68	04.4		23.0	23	34.7		04.8	126	26.8		28.5	243	01.3					
16	256	33.2	83	04.0		21.8	38	35.5		05.3	141	29.0		28.4	258	03.9					
17	271	35.6	98	03.6	+4	20.6	53	36.3	-15	05.9	156	31.2	+21	28.4	273	06.5					
18	286	38.1	113	03.2	+4	19.5	68	37.0	-15	06.5	171	33.4	+21	28.3	288	09.1					
19	301	40.6	128	02.8		18.3	83	37.8		07.0	186	35.6		28.3	303	11.8					
20	316	43.0	143	02.4		17.1	98	38.6		07.6	201	37.7		28.3	318	14.4					
21	331	45.5	158	02.0		15.9	113	39.4		08.1	216	39.9		28.2	333	17.0					
22	346	48.0	173	01.6		14.7	128	40.2		08.7	231	42.1		28.2	348	19.7					
23	1	50.4	188	01.2		13.5	143	41.0		09.3	246	44.3		28.2	3	22.3					
24	16	52.9	203	00.8	+4	12.4	158	41.7	-15	09.8	261	46.5	+21	28.1	18	24.9					
Dif	—		-4	-12			+8	-6			+22	0			+26	-1					

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 0 PMG: 11 ^h 47.5 ^m			Edad: 16.2 ^d PHE { 4 ^h : 60 ^h 9 12 ^h : 60 ^h 9 20 ^h : 60 ^h 9 PMG: 0 ^h 28 ^m R°: 56 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	183	05.8	-5	53.9	353	17.0	+13	20.7	162	60 N	4 53	5 41	6 23	16 52	2		8 40	117	
1	198	05.9		54.8	7	44.5		36.9	162	58	55	41	20	17 03	9		30 110		
2	213	06.1		55.8	22	12.0	85	+13	52.9	160	56	57	40	17	13	14	21 105		
3	228	06.3		56.7	36	39.4	84	+14	08.9	160	54	4 59	40	15	22	18	13 101		
4	243	06.5		57.7	51	06.7	83		24.8	159	52	5 00	39	13	30	22	06 97		
5	258	06.6	-5	58.6	65	33.9	82	+14	40.6	158	50	5 01	5 39	6 11	17 37	25	8 00	93	
6	273	06.8	-5	59.6	80	01.0	81	+14	56.4	158	45	5 04	5 38	6 07	17 52	32	7 47	86	
7	288	07.0	-6	00.5	94	28.0	80	+15	12.0	156	40	05	36	03	18 05	36	36	81	
8	303	07.2		01.5	108	55.0	80		27.5	155	35	06	35	6 00	16 40		26 77		
9	318	07.3		02.4	123	21.8	78		43.0	155	30	06	34	5 58	25 44		18 73		
10	333	07.5		03.4	137	48.6	78	+15	58.3	153	20	05	31	53	42 49		7 04	67	
11	348	07.7	-6	04.4	152	15.2	76	+16	13.6	153	10 N	5 03	5 27	5 48	18 56	55	6 52	62	
12	3	07.9	-6	05.3	166	41.8	76	+16	28.7	151	0	4 59	5 23	5 44	19 10	59	6 41	56	
13	18	08.0		06.3	181	08.3	75		43.8	151	10 S	54	19	40	24 63		29 52		
14	33	08.2		07.2	195	34.7	74	+16	58.7	149	20	47	13	35	39 68		17 47		
15	48	08.4		08.2	210	01.0	73	+17	13.6	149	30	37	06	30	19 56	74	6 04	40	
16	63	08.6		09.1	224	27.2	72		28.3	147	35	31	5 01	27	20 06	78	5 56	37	
17	78	08.7	-6	10.1	238	53.3	71	+17	42.9	146	40	4 23	4 56	5 23	20 18	82	5 47	33	
18	93	08.9	-6	11.0	253	19.3	70	+17	57.4	145	45	4 13	4 49	5 19	20 32	87	5 37	28	
19	108	09.1		12.0	267	45.2	69	+18	11.8	144	50	4 01	41	14	49 93		24 22		
20	123	09.3		12.9	282	11.1	69		26.1	143	52	3 55	37	11	20 57	97	18 19		
21	138	09.4		13.9	296	36.8	67		40.2	141	54	48	32	09	21 06	101	12 15		
22	153	09.6		14.8	311	02.4	66	+18	54.2	140	56	40	27	06	16 106		5 05	11	
23	168	09.8		15.8	325	28.0	66	+19	08.1	139	58	31	22	5 03	28 112		4 57	6	
24	183	10.0	-6	16.7	339	53.4	64	+19	21.9	138	60 S	3 20	4 15	4 59	21 42	120	4 48	1	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 22 ^h 48.7 ^m		Mag: -3.9 PMG: 10 ^h 28 ^m			Mag: +1.5 PMG: 13 ^h 25 ^m			Mag: -2.2 PMG: 6 ^h 32 ^m			Mag: +0.7 PMG: 22 ^h 42 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	16	52.9	203	00.8	+4	12.4	158	41.7	-15	09.8	261	46.5	+21	28.1	18	24.9	-3	23.9	
1	31	55.4	218	00.4		11.2	173	42.5		10.4	276	48.7		28.1	33	27.6		23.9	
2	46	57.8	233	00.0		10.0	188	43.3		11.0	291	50.9		28.0	48	30.2		24.0	
3	62	00.3	247	59.6		08.8	203	44.1		11.5	306	53.0		28.0	63	32.8		24.1	
4	77	02.7	262	59.2		07.6	218	44.9		12.1	321	55.2		28.0	78	35.4		24.1	
5	92	05.2	277	58.8	+4	06.4	233	45.6	-15	12.6	336	57.4	+21	27.9	93	38.1	-3	24.2	
6	107	07.7	292	58.4	+4	05.2	248	46.4	-15	13.2	351	59.6	+21	27.9	108	40.7	-3	24.3	
7	122	10.1	307	58.0		04.0	263	47.2		13.8	7	01.8		27.8	123	43.3		24.4	
8	137	12.6	322	57.6		02.9	278	48.0		14.3	22	04.0		27.8	138	46.0		24.4	
9	152	15.1	337	57.2		01.7	293	48.7		14.9	37	06.2		27.8	153	48.6		24.5	
10	167	17.5	352	56.8	+4	00.5	308	49.5		15.4	52	08.4		27.7	168	51.2		24.6	
11	182	20.0	7	56.4	+3	59.3	323	50.3	-15	16.0	67	10.5	+21	27.7	183	53.9	-3	24.6	
12	197	22.5	22	56.0	+3	58.1	338	51.1	-15	16.6	82	12.7	+21	27.6	198	56.5	-3	24.7	
13	212	24.9	37	55.6		56.9	353	51.9		17.1	97	14.9		27.6	213	59.1		24.8	
14	227	27.4	52	55.2		55.7	8	52.6		17.7	112	17.1		27.6	229	01.7		24.8	
15	242	29.9	67	54.8		54.5	23	53.4		18.2	127	19.3		27.5	244	04.4		24.9	
16	257	32.3	82	54.4		53.4	38	54.2		18.8	142	21.5		27.5	259	07.0		25.0	
17	272	34.8	97	54.1	+3	52.2	53	55.0	-15	19.4	157	23.7	+21	27.4	274	09.6	-3	25.0	
18	287	37.2	112	53.7	+3	51.0	68	55.7	-15	19.9	172	25.9	+21	27.4	289	12.3	-3	25.1	
19	302	39.7	127	53.3		49.8	83	56.5		20.5	187	28.1		27.4	304	14.9		25.2	
20	317	42.2	142	52.9		48.6	98	57.3		21.0	202	30.3		27.3	319	17.5		25.2	
21	332	44.6	157	52.5		47.4	113	58.1		21.6	217	32.4		27.3	334	20.1		25.3	
22	347	47.1	172	52.1		46.2	128	58.8		22.2	232	34.6		27.3	349	22.8		25.4	
23	2	49.6	187	51.7		45.0	143	59.6		22.7	247	36.8		27.2	4	25.4		25.5	
24	17	52.0	202	51.3	+3	43.8	159	00.4	-15	23.3	262	39.0	+21	27.2	19	28.0	-3	25.5	
Dif	—		-4		-12		+8		-6		+22		0		+26		-1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:11 ^h 47.2 ^m			Edad: 17.2 ^d SD: 16'6 PMG: 1 ^h 24 ^m			PHE { 4 ^h : 60'9 12 ^h : 60'8 20 ^h : 60'7 R°: 61 ^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	183	10.0	-6	16.7	339	53.4	64	+19	21.9	137	17 08	17 50	18 38	16 54	10	10 37	122	
1	198	10.1		17.7	354	18.8	62		35.6	135	11	50	36	17 12	19	20 112		
2	213	10.3		18.6	8	44.0	62	+19	49.1	134	14	51	34	27 26	10	06 105		
3	228	10.5		19.6	23	09.2	60	+20	02.5	132	17	52	33	40 31	9	54 100		
4	243	10.6		20.5	37	34.2	60		15.7	131	19	53	32	17 52	34	43 96		
5	258	10.8	-6	21.5	51	59.2	60	+20	28.8	130	17 21	17 53	18 31	18 02	37	9 33	93	
6	273	11.0	-6	22.4	66	24.1	59	+20	41.8	128	17 26	17 55	18 29	18 24	42	9 13	87	
7	288	11.2		23.3	80	48.9	58	+20	54.6	127	29	56	28	41 47	8	57 82		
8	303	11.3		24.3	95	13.6	57	+21	07.3	126	33	17 58	27	18 56	50	43 78		
9	318	11.5		25.2	109	38.2	56		19.9	124	36	18 00	27	19 09	53	31 76		
10	333	11.7		26.2	124	02.7	55		32.3	122	41	03	29	31 57	8	11 70		
11	348	11.8	-6	27.1	138	27.1	54	+21	44.5	121	17 46	18 07	18 31	19 51	60	7 54	66	
12	3	12.0	-6	28.1	152	51.4	53	+21	56.6	120	17 50	18 11	18 35	20 09	64	7 37	63	
13	18	12.2		29.0	167	15.6	52	+22	08.6	117	17 55	16	41	27 67	21	58		
14	33	12.3		30.0	181	39.8	52		20.3	117	18 00	23	49	20 47	71	7 04	54	
15	48	12.5		30.9	196	03.8	50		32.0	115	06	30	18 59	21 10	75	6 44	49	
16	63	12.7		31.9	210	27.8	50		43.5	113	10	35	19 06	24 77	33	46		
17	78	12.9	-6	32.8	224	51.7	49	+22	54.8	111	18 14	18 41	19 14	21 40	80	6 20	42	
18	93	13.0	-6	33.8	239	15.5	48	+23	05.9	110	18 18	18 48	19 24	21 59	84	6 05	37	
19	108	13.2		34.7	253	39.2	47		16.9	109	24	18 57	38	22 22	90	5 46	31	
20	123	13.4		35.7	268	02.8	46		27.8	106	27	19 01	44	34 92	37	28		
21	138	13.5		36.6	282	26.3	45		38.4	105	29	06	51	22 47	96	27 24		
22	153	13.7		37.6	296	49.8	45		48.9	103	33	11	19 59	23 02	101	16 19		
23	168	13.9		38.5	311	13.1	43	+23	59.2	102	36	17	20 09	20 109	5	03 14		
24	183	14.0	-6	39.5	325	36.4	43	+24	09.4	102	18 40	19 24	20 20	23 42	121	4 49	5	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 22 ^h 44.8 ^m		Mag: -3.9 PMG: 10 ^h 29 ^m			Mag: +1.5 PMG: 13 ^h 23 ^m			Mag: -2.2 PMG: 6 ^h 28 ^m			Mag: +0.7 PMG: 22 ^h 38 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	
0	17	52.0	202	51.3	+3	43.8	159	00.4	-15	23.3	262	39.0	+21	27.2	19	28.0	-3	25.5
1	32	54.5	217	50.9		42.6	174	01.2		23.8	277	41.2		27.1	34	30.7		25.6
2	47	57.0	232	50.5		41.4	189	01.9		24.4	292	43.4		27.1	49	33.3		25.7
3	62	59.4	247	50.1		40.3	204	02.7		24.9	307	45.6		27.1	64	35.9		25.7
4	78	01.9	262	49.7		39.1	219	03.5		25.5	322	47.8		27.0	79	38.5		25.8
5	93	04.4	277	49.3	+3	37.9	234	04.2	-15	26.1	337	50.0	+21	27.0	94	41.2	-3	25.9
6	108	06.8	292	48.9	+3	36.7	249	05.0	-15	26.6	352	52.2	+21	26.9	109	43.8	-3	25.9
7	123	09.3	307	48.5		35.5	264	05.8		27.2	7	54.4		26.9	124	46.4		26.0
8	138	11.7	322	48.1		34.3	279	06.6		27.7	22	56.6		26.9	139	49.0		26.1
9	153	14.2	337	47.7		33.1	294	07.3		28.3	37	58.8		26.8	154	51.7		26.1
10	168	16.7	352	47.3		31.9	309	08.1		28.8	53	01.0		26.8	169	54.3		26.2
11	183	19.1	7	46.9	+3	30.7	324	08.9	-15	29.4	68	03.2	+21	26.8	184	56.9	-3	26.3
12	198	21.6	22	46.5	+3	29.5	339	09.6	-15	30.0	83	05.4	+21	26.7	199	59.6	-3	26.3
13	213	24.1	37	46.1		28.3	354	10.4		30.5	98	07.5		26.7	215	02.2		26.4
14	228	26.5	52	45.8		27.1	9	11.2		31.1	113	09.7		26.6	230	04.8		26.5
15	243	29.0	67	45.4		25.9	24	12.0		31.6	128	11.9		26.6	245	07.4		26.5
16	258	31.5	82	45.0		24.7	39	12.7		32.2	143	14.1		26.6	260	10.1		26.6
17	273	33.9	97	44.6	+3	23.5	54	13.5	-15	32.7	158	16.3	+21	26.5	275	12.7	-3	26.7
18	288	36.4	112	44.2	+3	22.3	69	14.3	-15	33.3	173	18.5	+21	26.5	290	15.3	-3	26.7
19	303	38.8	127	43.8		21.2	84	15.0		33.8	188	20.7		26.5	305	17.9		26.8
20	318	41.3	142	43.4		20.0	99	15.8		34.4	203	22.9		26.4	320	20.6		26.9
21	333	43.8	157	43.0		18.8	114	16.6		35.0	218	25.1		26.4	335	23.2		27.0
22	348	46.2	172	42.6		17.6	129	17.3		35.5	233	27.3		26.3	350	25.8		27.0
23	3	48.7	187	42.2		16.4	144	18.1		36.1	248	29.5		26.3	5	28.5		27.1
24	18	51.2	202	41.8	+3	15.2	159	18.9	-15	36.6	263	31.7	+21	26.3	20	31.1	-3	27.2
Dif	—		-4		-12		+8		-6		+22		0		+26		-1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:11 ^h 46.9 ^m			Edad: 18.2 ^d PHE { 4 ^h : 60'6 12 ^h : 60'4 20 ^h : 60'2 PMG: 2 ^h 23 ^m Rº: 63 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	183	14.0	-6	39.5	325	36.4	42	+24	09.4	100	4	58	5	46	6	28	17	03
1	198	14.2		40.4	339	59.6			19.4		4	59		45	24	30	37	12
2	213	14.4		41.3	354	22.7	41		29.2	98	5	01		44	21	17	52	42
3	228	14.5		42.3	8	45.8	40		38.8	96		02		43	19	18	09	46
4	243	14.7		43.2	23	08.8	40		48.2	94		03		43	16	24	49	
5	258	14.9	-6	44.2	37	31.7	39	+24	57.5	93	5	04	5	42	6	14	18	38
6	273	15.0	-6	45.1	51	54.5	38	+25	06.6	91	5	06	5	40	6	09	19	05
7	288	15.2		46.1	66	17.3	38		15.5	89		07		38	05	27	55	
8	303	15.4		47.0	80	40.0	37		24.2	87		07		37	6	02	19	45
9	318	15.5		48.0	95	02.6	36		32.8	86		07		35	5	59	20	00
10	333	15.7		48.9	109	25.2	36		41.1	83		06		31	53	27	61	
11	348	15.9	-6	49.8	123	47.7	35	+25	49.3	82	5	03	5	27	5	48	20	50
12	3	16.0	-6	50.8	138	10.1	34	+25	57.2	79	4	59	5	23	5	44	21	11
13	18	16.2		51.7	152	32.5	34	+26	05.0	78		53		18	39	33	65	
14	33	16.4		52.7	166	54.8	33		12.6	76		45		11	34	21	56	
15	48	16.5		53.6	181	17.1	33		20.0	74		35	5	03	27	22	23	
16	63	16.7		54.6	195	39.3	32		27.2	72		28	4	58	24		39	
17	78	16.9	-6	55.5	210	01.5	32	+26	34.3	71	4	20	4	52	5	20	22	58
18	93	17.0	-6	56.5	224	23.6	31	+26	41.1	68	4	09	4	45	5	15	23	21
19	108	17.2		57.4	238	45.7	31		47.7	66	3	56		36	09	23	50	
20	123	17.3		58.3	253	07.7	30	+26	54.1	64		49		32	07	**	**	
21	138	17.5	-6	59.3	267	29.7	30	+27	00.4	63		42		27	04	**	**	
22	153	17.7	-7	00.2	281	51.6	29		06.4	60		34		22	5	01	**	**
23	168	17.8		01.2	296	13.5	29		12.2	58		24		16	4	57	**	**
24	183	18.0	-7	02.1	310	35.4	29	+27	17.8	56	3	13	4	09	4	53	**	**
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 22 ^h 40.9 ^m		Mag: -3.9 PMG: 10 ^h 29 ^m			Mag: +1.5 PMG: 13 ^h 22 ^m			Mag: -2.2 PMG: 6 ^h 25 ^m			Mag: +0.7 PMG: 22 ^h 34 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	18	51.2	202	41.8	+3	15.2	159	18.9	-15	36.6	263	31.7	+21	26.3	20	31.1	-3	27.2
1	33	53.6	217	41.4		14.0	174	19.6		37.2	278	33.9		26.2	35	33.7		27.2
2	48	56.1	232	41.0		12.8	189	20.4		37.7	293	36.1		26.2	50	36.3		27.3
3	63	58.6	247	40.6		11.6	204	21.2		38.3	308	38.3		26.2	65	39.0		27.4
4	79	01.0	262	40.2		10.4	219	21.9		38.8	323	40.5		26.1	80	41.6		27.4
5	94	03.5	277	39.8	+3	09.2	234	22.7	-15	39.4	338	42.7	+21	26.1	95	44.2	-3	27.5
6	109	06.0	292	39.4	+3	08.0	249	23.5	-15	39.9	353	44.9	+21	26.0	110	46.8	-3	27.6
7	124	08.4	307	39.1		06.8	264	24.2		40.5	8	47.1		26.0	125	49.5		27.6
8	139	10.9	322	38.7		05.6	279	25.0		41.0	23	49.3		26.0	140	52.1		27.7
9	154	13.3	337	38.3		04.4	294	25.8		41.6	38	51.5		25.9	155	54.7		27.8
10	169	15.8	352	37.9		03.2	309	26.5		42.1	53	53.7		25.9	170	57.3		27.8
11	184	18.3	7	37.5	+3	02.0	324	27.3	-15	42.7	68	55.9	+21	25.9	186	00.0	-3	27.9
12	199	20.7	22	37.1	+3	00.8	339	28.1	-15	43.2	83	58.1	+21	25.8	201	02.6	-3	28.0
13	214	23.2	37	36.7	+2	59.6	354	28.8		43.8	99	00.3		25.8	216	05.2		28.0
14	229	25.7	52	36.3		58.4	9	29.6		44.4	114	02.5		25.7	231	07.8		28.1
15	244	28.1	67	35.9		57.2	24	30.4		44.9	129	04.8		25.7	246	10.5		28.2
16	259	30.6	82	35.5		56.0	39	31.1		45.5	144	07.0		25.7	261	13.1		28.2
17	274	33.1	97	35.1	+2	54.8	54	31.9	-15	46.0	159	09.2	+21	25.6	276	15.7	-3	28.3
18	289	35.5	112	34.7	+2	53.6	69	32.6	-15	46.6	174	11.4	+21	25.6	291	18.4	-3	28.4
19	304	38.0	127	34.3		52.4	84	33.4		47.1	189	13.6		25.6	306	21.0		28.4
20	319	40.5	142	33.9		51.2	99	34.2		47.7	204	15.8		25.5	321	23.6		28.5
21	334	42.9	157	33.6		50.0	114	34.9		48.2	219	18.0		25.5	336	26.2		28.6
22	349	45.4	172	33.2		48.8	129	35.7		48.8	234	20.2		25.5	351	28.9		28.6
23	4	47.8	187	32.8		47.6	144	36.5		49.3	249	22.4		25.4	6	31.5		28.7
24	19	50.3	202	32.4	+2	46.4	159	37.2	-15	49.9	264	24.6	+21	25.4	21	34.1	-3	28.8
Dif	—		-4		-12		+8		-6		+22		0		+26		-1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:11 ^h 46.7 ^m			Edad: 19.2 ^d SD: 16'4 PMG: 3 ^h 26 ^m PHE { 4 ^h : 60'0 12 ^h : 59'8 20 ^h : 59'6 R°: 66 ^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	183	18.0	-7	02.1	310	35.4	29	+27	17.8	55	60 N	17 02	17 44	18 32	17 29	69	14 25	66
1	198	18.2		03.1	324	57.3			23.3	52	58	06	45	30	18 07	69	13 47	67
2	213	18.3		04.0	339	19.1	28		28.5	50	56	09	46	29	34	68	13 21	66
3	228	18.5		04.9	353	40.9	28		33.5	49	54	12	47	28	18 55	68	12 59	67
4	243	18.6		05.9	8	02.6	27		38.4	46	52	14	48	27	19 13	67	42	66
5	258	18.8	-7	06.8	22	24.4	28	+27	43.0	44	50	17 17	17 49	18 26	19 28	67	12 27	66
6	273	19.0	-7	07.8	36	46.1	27	+27	47.4	42	45	17 22	17 51	18 25	19 58	67	11 56	67
7	288	19.1		08.7	51	07.8	27		51.6	40	40	26	53	25	20 22	67	33	66
8	303	19.3		09.6	65	29.5	27		55.6	39	35	30	55	25	42	66	11 13	66
9	318	19.4		10.6	79	51.2	27	+27	59.5	36	30	34	17 58	25	20 59	66	10 57	66
10	333	19.6		11.5	94	12.9	27	+28	03.1	34	20	39	18 02	27	21 28	65	28	66
11	348	19.8	-7	12.5	108	34.6	27	+28	06.5	32	10 N	17 45	18 06	18 30	21 52	65	10 04	66
12	3	19.9	-7	13.4	122	56.2	26	+28	09.7	30	0	17 50	18 11	18 35	22 15	64	9 42	65
13	18	20.1		14.3	137	17.9	27		12.7	27	10 S	17 55	16	41	22 38	63	9 19	65
14	33	20.2		15.3	151	39.6	27		15.4	26	20	18 01	23	18 49	23 03	62	8 55	64
15	48	20.4		16.2	166	01.3	27		18.0	24	30	08	32	19 00	32	61	27	63
16	63	20.6		17.2	180	23.0	27		20.4	22	35	11	37	08	23 49	61	8 10	63
17	78	20.7	-7	18.1	194	44.7	27	+28	22.6	20	40	18 16	18 43	19 16	** ** *	**	7 51	62
18	93	20.9	-7	19.0	209	06.4	27	+28	24.6	17	45	18 21	18 51	19 27	** ** *	**	7 28	61
19	108	21.0		20.0	223	28.1	27		26.3	16	50	27	19 01	41	** ** *	**	6 58	60
20	123	21.2		20.9	237	49.9	28		27.9	13	52	30	05	48	0 05	77	43	59
21	138	21.4		21.9	252	11.7	28		29.2	12	54	33	10	19 56	22	78	26	57
22	153	21.5		22.8	266	33.5	28		30.4	10	56	37	16	20 05	0 42	81	6 05	56
23	168	21.7		23.7	280	55.3	28		31.4	7	58	41	22	15	1 07	85	5 40	52
24	183	21.8	-7	24.7	295	17.2	29	+28	32.1	5	60 S	18 45	19 29	20 27	1 42	93	5 05	44
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 22 ^h 36.9 ^m		Mag: -3.9 PMG: 10 ^h 30 ^m			Mag: +1.5 PMG: 13 ^h 21 ^m			Mag: -2.2 PMG: 6 ^h 21 ^m			Mag: +0.7 PMG: 22 ^h 30 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	19	50.3	202	32.4	+2	46.4	159	37.2	-15	49.9	264	24.6	+21	25.4	21	34.1	-3	28.8
1	34	52.8	217	32.0		45.2	174	38.0		50.4	279	26.8		25.3	36	36.7		28.8
2	49	55.2	232	31.6		44.0	189	38.7		51.0	294	29.0		25.3	51	39.4		28.9
3	64	57.7	247	31.2		42.8	204	39.5		51.5	309	31.2		25.3	66	42.0		29.0
4	80	00.2	262	30.8		41.6	219	40.3		52.0	324	33.4		25.2	81	44.6		29.0
5	95	02.6	277	30.4	+2	40.4	234	41.0	-15	52.6	339	35.6	+21	25.2	96	47.2	-3	29.1
6	110	05.1	292	30.0	+2	39.2	249	41.8	-15	53.1	354	37.8	+21	25.2	111	49.9	-3	29.2
7	125	07.6	307	29.6		38.0	264	42.5		53.7	9	40.1		25.1	126	52.5		29.2
8	140	10.0	322	29.2		36.8	279	43.3		54.2	24	42.3		25.1	141	55.1		29.3
9	155	12.5	337	28.8		35.6	294	44.1		54.8	39	44.5		25.1	156	57.7		29.4
10	170	15.0	352	28.5		34.4	309	44.8		55.3	54	46.7		25.0	172	00.3		29.4
11	185	17.4	7	28.1	+2	33.2	324	45.6	-15	55.9	69	48.9	+21	25.0	187	03.0	-3	29.5
12	200	19.9	22	27.7	+2	32.0	339	46.3	-15	56.4	84	51.1	+21	24.9	202	05.6	-3	29.6
13	215	22.3	37	27.3		30.8	354	47.1		57.0	99	53.3		24.9	217	08.2		29.6
14	230	24.8	52	26.9		29.5	9	47.8		57.5	114	55.5		24.9	232	10.8		29.7
15	245	27.3	67	26.5		28.3	24	48.6		58.1	129	57.7		24.8	247	13.5		29.8
16	260	29.7	82	26.1		27.1	39	49.4		58.6	144	59.9		24.8	262	16.1		29.8
17	275	32.2	97	25.7	+2	25.9	54	50.1	-15	59.2	160	02.2	+21	24.8	277	18.7	-3	29.9
18	290	34.7	112	25.3	+2	24.7	69	50.9	-15	59.7	175	04.4	+21	24.7	292	21.3	-3	30.0
19	305	37.1	127	24.9		23.5	84	51.6	-16	00.3	190	06.6		24.7	307	24.0		30.0
20	320	39.6	142	24.5		22.3	99	52.4		00.8	205	08.8		24.7	322	26.6		30.1
21	335	42.1	157	24.1		21.1	114	53.1		01.3	220	11.0		24.6	337	29.2		30.2
22	350	44.5	172	23.8		19.9	129	53.9		01.9	235	13.2		24.6	352	31.8		30.2
23	5	47.0	187	23.4		18.7	144	54.7		02.4	250	15.4		24.6	7	34.5		30.3
24	20	49.5	202	23.0	+2	17.5	159	55.4	-16	03.0	265	17.6	+21	24.5	22	37.1	-3	30.4
Dif	—		-4		-12		+8		-5		+22		0		+26		-1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:11 ^h 46.4 ^m			Edad: 20.2 ^d SD: 16'2 PMG: 4 ^h 30 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	183	21.8	-7	24.7	295	17.2	+28	32.1	60 N	5 02	5 50	6 32	18 37	103	15 30	22	
1	198	22.0		25.6	309	39.1		32.7	58	04	49	29	19 14	92	14 52	33	
2	213	22.1		26.6	324	01.0		33.0	56	05	48	25	19 41	86	26	38	
3	228	22.3		27.5	338	23.0		33.2	54	06	47	22	20 02	82	14 05	42	
4	243	22.5		28.4	352	45.0		33.1	52	07	46	20	19 80		13 47	45	
5	258	22.6	-7	29.4	7	07.1	+28	32.9	50	5 07	5 45	6 17	20 34	77	13 32	47	
6	273	22.8	-7	30.3	21	29.2	+28	32.4	45	5 08	5 42	6 12	21 04	73	13 01	51	
7	288	22.9		31.2	35	51.3		31.8	40	09	40	07	28 70		12 38	52	
8	303	23.1		32.2	50	13.5		30.9	35	09	38	04	21 47	68	18	54	
9	318	23.2		33.1	64	35.8		29.9	30	08	36	6 00	22 03	67	12 01	56	
10	333	23.4		34.0	78	58.1		28.6	20	06	32	5 54	31 64		11 33	57	
11	348	23.5	-7	35.0	93	20.5	+28	27.2	10 N	5 03	5 27	5 48	22 55	62	11 08	60	
12	3	23.7	-7	35.9	107	43.0	+28	25.6	0	4 58	5 22	5 43	23 18	59	10 45	61	
13	18	23.9		36.9	122	05.5		23.7	10 S	52	17	38	23 40	57	10 22	63	
14	33	24.0		37.8	136	28.1		21.7	20	44	10	32	** ** *		9 58	64	
15	48	24.2		38.7	150	50.7		19.5	30	32	5 01	25	** ** *		29	66	
16	63	24.3		39.7	165	13.4		17.1	35	25	4 55	21	** ** *		9 12	67	
17	78	24.5	-7	40.6	179	36.2	+28	14.6	40	4 16	4 49	5 17	0 09	58	8 52	69	
18	93	24.6	-7	41.5	193	59.1	+28	11.8	45	4 05	4 41	5 11	0 33	58	8 28	70	
19	108	24.8		42.5	208	22.0		08.8	50	3 51	32	05	1 05	55	7 56	73	
20	123	24.9		43.4	222	45.1		05.7	52	44	27	5 02	20 55		40	75	
21	138	25.1		44.3	237	08.2	+28	02.4	54	37	22	4 59	1 39	52	22	76	
22	153	25.2		45.3	251	31.4	+27	58.9	56	28	16	55	2 01	51	7 00	79	
23	168	25.4		46.2	265	54.7		55.2	58	18	10	51	2 30	47	6 31	83	
24	183	25.5	-7	47.1	280	18.1	+27	51.3	60 S	3 06	4 03	4 47	3 13	37	5 48	92	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 ^h 33.0 ^m		Mag: -3.9 PMG: 10 ^h 31 ^m		Mag: +1.5 PMG: 13 ^h 20 ^m		Mag: -2.2 PMG: 6 ^h 18 ^m		Mag: +0.7 PMG: 22 ^h 26 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	20	49.5	202	23.0	+2	17.5	159	55.4	-16	03.0
1	35	51.9	217	22.6		16.3	174	56.2		03.5
2	50	54.4	232	22.2		15.1	189	56.9		04.1
3	65	56.8	247	21.8		13.9	204	57.7		04.6
4	80	59.3	262	21.4		12.7	219	58.4		05.2
5	96	01.8	277	21.0	+2	11.5	234	59.2	-16	05.7
6	111	04.2	292	20.6	+2	10.3	249	59.9	-16	06.2
7	126	06.7	307	20.2		09.0	265	00.7		06.8
8	141	09.2	322	19.8		07.8	280	01.4		07.3
9	156	11.6	337	19.4		06.6	295	02.2		07.9
10	171	14.1	352	19.1		05.4	310	02.9		08.4
11	186	16.6	7	18.7	+2	04.2	325	03.7	-16	09.0
12	201	19.0	22	18.3	+2	03.0	340	04.5	-16	09.5
13	216	21.5	37	17.9		01.8	355	05.2		10.0
14	231	23.9	52	17.5	+2	00.6	10	06.0		10.6
15	246	26.4	67	17.1	+1	59.4	25	06.7		11.1
16	261	28.9	82	16.7		58.2	40	07.5		11.7
17	276	31.3	97	16.3	+1	57.0	55	08.2	-16	12.2
18	291	33.8	112	15.9	+1	55.8	70	09.0	-16	12.8
19	306	36.3	127	15.5		54.6	85	09.7		13.3
20	321	38.7	142	15.1		53.3	100	10.5		13.8
21	336	41.2	157	14.8		52.1	115	11.2		14.4
22	351	43.7	172	14.4		50.9	130	12.0		14.9
23	6	46.1	187	14.0		49.7	145	12.7		15.5
24	21	48.6	202	13.6	+1	48.5	160	13.5	-16	16.0
Dif	—		-4		-12		+8		-5	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'0 PMG:11 ^h 46.2 ^m			Edad: 21.2 ^d PHE { 4 ^h : 58'6 12 ^h : 58'4 20 ^h : 58'1 R°: 59 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	183	25.5	-7	47.1	280	18.1	44	+27	51.3	40	60 N	16	56	17	38	18	26	20	108
1	198	25.7		48.1	294	41.5	46		47.3	43	58	17	00		40	25	20	46	100
2	213	25.8		49.0	309	05.1	46		43.0	44	56		04		41	24	21	07	93
3	228	26.0		49.9	323	28.7	46		38.6	44	54		07		43	23	24	89	23
4	243	26.1		50.9	337	52.5	48		34.1	45	52		10		44	23	39	85	30
5	258	26.3	-7	51.8	352	16.3	48	+27	29.3	48	50	17	13	17	45	18	22	21	51
6	273	26.4	-7	52.7		6	50	+27	24.4	49	45	17	18	17	48	18	22	22	17
7	288	26.6		53.7		21	50		19.3	51	40		23		50	22	38	73	38
8	303	26.7		54.6		35	51		14.0	53	35		27		53	22	22	55	70
9	318	26.9		55.5		49	53		08.6	54	30		31	17	55	23	23	10	67
10	333	27.0		56.5		64	53	+27	03.0	56	20		38	18	00	26	35	63	30
11	348	27.2	-7	57.4		78	55	+26	57.3	57	10 N	17	44	18	05	18	30	23	57
12		3	27.3	-7	58.3		56	+26	51.3	60	0	17	49	18	10	18	35	**	**
13	18	27.5	-7	59.3		107	56		45.2	61	10 S	17	55		17	41	**	**	**
14	33	27.6	-8	00.2		121	58		39.0	62	20	18	02		24	18	50	0	04
15	48	27.8		01.1		136	59		32.6	64	30		09	33	19	02	32	52	10
16	63	27.9		02.1		150	60		26.0	66	35		13	39		09	0	48	50
17	78	28.1	-8	03.0		165	61	+26	19.3	67	40	18	18	18	46	19	19	1	07
18	93	28.2	-8	03.9		179	63	+26	12.5	68	45	18	24	18	54	19	30	1	31
19	108	28.4		04.9		194	63	+26	05.4	71	50		30	19	04		45	2	00
20	123	28.5		05.8		208	65	+25	58.3	71	52		34	09	19	52		15	37
21	138	28.7		06.7		222	66		51.0	73	54		37	14	20	00		31	34
22	153	28.8		07.6		237	66		43.5	75	56		41	20	10		2	52	29
23	168	29.0		08.6		251	69		35.9	76	58		45	27	21		3	17	22
24	183	29.1	-8	09.5		266	69	+25	28.1	78	60 S	18	50	19	35	20	33	3	50

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 22 ^h 29.1 ^m		Mag: -3.9 PMG: 10 ^h 31 ^m		Mag: +1.5 PMG: 13 ^h 18 ^m		Mag: -2.2 PMG: 6 ^h 14 ^m		Mag: +0.7 PMG: 22 ^h 21 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	21	48.6	202	13.6	+1	48.5	160	13.5	-16	16.0
1	36	51.1	217	13.2		47.3	175	14.2		16.5
2	51	53.5	232	12.8		46.1	190	14.9		17.1
3	66	56.0	247	12.4		44.9	205	15.7		17.6
4	81	58.4	262	12.0		43.7	220	16.4		18.2
5	97	00.9	277	11.6	+1	42.5	235	17.2	-16	18.7
6	112	03.4	292	11.2	+1	41.2	250	17.9	-16	19.2
7	127	05.8	307	10.8		40.0	265	18.7		19.8
8	142	08.3	322	10.5		38.8	280	19.4		20.3
9	157	10.8	337	10.1		37.6	295	20.2		20.9
10	172	13.2	352	09.7		36.4	310	20.9		21.4
11	187	15.7	7	09.3	+1	35.2	325	21.7	-16	21.9
12	202	18.2	22	08.9	+1	34.0	340	22.4	-16	22.5
13	217	20.6	37	08.5		32.8	355	23.2		23.0
14	232	23.1	52	08.1		31.5	10	23.9		23.5
15	247	25.6	67	07.7		30.3	25	24.6		24.1
16	262	28.0	82	07.3		29.1	40	25.4		24.6
17	277	30.5	97	06.9	+1	27.9	55	26.1	-16	25.2
18	292	32.9	112	06.6	+1	26.7	70	26.9	-16	25.7
19	307	35.4	127	06.2		25.5	85	27.6		26.2
20	322	37.9	142	05.8		24.3	100	28.4		26.8
21	337	40.3	157	05.4		23.1	115	29.1		27.3
22	352	42.8	172	05.0		21.8	130	29.9		27.8
23	7	45.3	187	04.6		20.6	145	30.6		28.4
24	22	47.7	202	04.2	+1	19.4	160	31.3	-16	28.9
Dif	—		-4		-12		+7		-5	

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:11 ^h 45.7 ^m			Edad: 23.2 ^d SD: 15'6 PMG: 7 ^h 23 ^m PHE { 4 ^h : 57'1 12 ^h : 56'9 20 ^h : 56'7 R°: 49 ^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	183 32.5	-8 31.8	253 07.7	99	+21	43.3	108	60 N	16 51	17 33	18 21	23 48 95		16 02 1	
1	198 32.7	32.7	267 36.6	100		32.5	109	58	55	35	20	23 59 **		15 49 6	
2	213 32.8	33.6	282 05.6	102		21.6	110	56	16 59	36	19	** ** *		39 9	
3	228 33.0	34.5	296 34.8	102	+21	10.6	110	54	17 02	38	19	** ** *		29 13	
4	243 33.1	35.5	311 04.0	102	+20	59.5	111	52	06	40	19	** ** *		21 16	
5	258 33.2	-8 36.4	325 33.4	104	+20	48.3	112	50	17 09	17 41	18 18	** ** *		15 13 18	
6	273 33.4	-8 37.3	340 02.9	105	+20	37.1	112	45	17 15	17 44	18 18	** ** *		14 57 23	
7	288 33.5	38.2	354 32.5	106		25.7	114	40	20	48	19	** ** *		43 28	
8	303 33.6	39.1	9 02.2	107		14.2	115	35	25	50	20	0 04 67		32 31	
9	318 33.8	40.1	23 32.0	108	+20	02.6	116	30	29	53	21	16 64		22 34	
10	333 33.9	41.0	38 02.0	110	+19	51.0	116	20	36	17 59	24	36 59		14 04 40	
11	348 34.1	-8 41.9	52 32.0	110	+19	39.2	118	10 N	17 43	18 04	18 29	0 54 54		13 49 44	
12	3 34.2	-8 42.8	67 02.2	112	+19	27.4	118	0	17 49	18 10	18 34	1 10 51		13 34 49	
13	18 34.3	43.8	81 32.4	112		15.5	119	10 S	17 55	17	41	27 46		20 52	
14	33 34.5	44.7	96 02.8	114	+19	03.5	120	20	18 02	25	18 51	1 44 42		13 04 57	
15	48 34.6	45.6	110 33.3	115	+18	51.4	121	30	10	35	19 03	2 05 36		12 46 63	
16	63 34.7	46.5	125 03.9	116		39.3	121	35	15	41	11	16 34		35 66	
17	78 34.9	-8 47.4	139 34.5	116	+18	27.1	122	40	18 20	18 48	19 21	2 30 30		12 23 70	
18	93 35.0	-8 48.4	154 05.3	118	+18	14.8	123	45	18 26	18 57	19 33	2 45 26		12 09 74	
19	108 35.2	49.3	168 36.2	119	+18	02.4	124	50	34	19 07	49	3 05 20		11 51 80	
20	123 35.3	50.2	183 07.2	120	+17	49.9	125	52	37	13	19 57	14 18		42 83	
21	138 35.4	51.1	197 38.3	121		37.4	125	54	41	18	20 05	24 15		33 86	
22	153 35.6	52.0	212 09.5	122		24.8	126	56	45	25	15	35 12		22 90	
23	168 35.7	53.0	226 40.8	123	+17	12.1	127	58	50	32	27	3 49 6		11 10 94	
24	183 35.8	-8 53.9	241 12.2	124	+16	59.4	127	60 S	18 55	19 41	20 40	4 04 1		10 55 100	
UT	ARIES		VENUS		MARTE			JÚPITER			SATURNO				
	PMG 22 ^h 21.2 ^m		Mag: -3.9 PMG: 10 ^h 33 ^m		Mag: +1.5 PMG: 13 ^h 16 ^m			Mag: -2.2 PMG: 6 ^h 07 ^m			Mag: +0.7 PMG: 22 ^h 13 ^m				
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /			
0	23 46.9	201 54.8	+0 50.3	160 49.1	-16 41.7	267 57.8	+21 22.1	25 45.7	-3 35.0						
1	38 49.3	216 54.4	49.1	175 49.8	42.2	283 00.0	22.1	40 48.4	35.0						
2	53 51.8	231 54.1	47.8	190 50.5	42.8	298 02.3	22.0	55 51.0	35.1						
3	68 54.3	246 53.7	46.6	205 51.3	43.3	313 04.5	22.0	70 53.6	35.1						
4	83 56.7	261 53.3	45.4	220 52.0	43.8	328 06.8	22.0	85 56.2	35.2						
5	98 59.2	276 52.9	+0 44.2	235 52.7	-16 44.3	343 09.0	+21 21.9	100 58.8	-3 35.3						
6	114 01.7	291 52.5	+0 43.0	250 53.5	-16 44.9	358 11.2	+21 21.9	116 01.5	-3 35.3						
7	129 04.1	306 52.1	41.8	265 54.2	45.4	13 13.5	21.9	131 04.1	35.4						
8	144 06.6	321 51.7	40.5	280 54.9	45.9	28 15.7	21.8	146 06.7	35.5						
9	159 09.0	336 51.3	39.3	295 55.7	46.5	43 17.9	21.8	161 09.3	35.5						
10	174 11.5	351 50.9	38.1	310 56.4	47.0	58 20.2	21.8	176 11.9	35.6						
11	189 14.0	6 50.5	+0 36.9	325 57.1	-16 47.5	73 22.4	+21 21.7	191 14.5	-3 35.6						
12	204 16.4	21 50.1	+0 35.7	340 57.9	-16 48.0	88 24.7	+21 21.7	206 17.2	-3 35.7						
13	219 18.9	36 49.8	34.4	355 58.6	48.6	103 26.9	21.7	221 19.8	35.8						
14	234 21.4	51 49.4	33.2	10 59.3	49.1	118 29.1	21.6	236 22.4	35.8						
15	249 23.8	66 49.0	32.0	26 00.1	49.6	133 31.4	21.6	251 25.0	35.9						
16	264 26.3	81 48.6	30.8	41 00.8	50.2	148 33.6	21.6	266 27.6	36.0						
17	279 28.8	96 48.2	+0 29.6	56 01.5	-16 50.7	163 35.9	+21 21.5	281 30.2	-3 36.0						
18	294 31.2	111 47.8	+0 28.4	71 02.3	-16 51.2	178 38.1	+21 21.5	296 32.8	-3 36.1						
19	309 33.7	126 47.4	27.1	86 03.0	51.7	193 40.3	21.5	311 35.5	36.1						
20	324 36.2	141 47.0	25.9	101 03.7	52.3	208 42.6	21.4	326 38.1	36.2						
21	339 38.6	156 46.6	24.7	116 04.5	52.8	223 44.8	21.4	341 40.7	36.3						
22	354 41.1	171 46.2	23.5	131 05.2	53.3	238 47.1	21.4	356 43.3	36.3						
23	9 43.5	186 45.8	22.3	146 05.9	53.8	253 49.3	21.4	11 45.9	36.4						
24	24 46.0	201 45.5	+0 21.1	161 06.6	-16 54.4	268 51.5	+21 21.3	26 48.5	-3 36.4						
Dif	—	-4	-12	+7	-5	+22	0	+26	-1						

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h 0 PMG: 11 ^h 45.5 ^m			Edad: 24.2 ^d PHE { 4 ^h : 56.5 12 ^h : 56.3 20 ^h : 56.1 PMG: 8 ^h 11 ^m R°: 44 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	
0	183	35.8	-8	53.9	241	12.2	125	+16	59.4	128	5	12	6	42	**	**	**	16	02	**
1	198	36.0		54.8	255	43.7	126		46.6	129	12	5	58	38	**	**	**	15	54	3
2	213	36.1		55.7	270	15.3	127		33.7	129	13	56	34	0	09	85	47	6	0	
3	228	36.2		56.6	284	47.0	127		20.8	129	13	54	30	18	82	41	9	9	9	
4	243	36.4		57.6	299	18.8	128	+16	07.8	130	13	53	27	25	79	35	12	12	12	
5	258	36.5	-8	58.5	313	50.6	128	+15	54.7	131	5	14	5	51	6	32	77	15	30	14
6	273	36.6	-8	59.4	328	22.6	130	+15	41.6	131	5	13	5	48	6	17	0	47	71	15
7	288	36.8	-9	00.3	342	54.7	131		28.4	132	13	44	12	0	59	66	10	22	22	22
8	303	36.9		01.2	357	26.8	131		15.2	132	12	41	07	1	09	63	15	02	26	26
9	318	37.0		02.2	11	59.0	132	+15	01.9	133	11	38	6	03	18	60	14	55	29	29
10	333	37.1		03.1	26	31.4	134	+14	48.5	134	07	33	5	55	34	54	42	35	35	35
11	348	37.3	-9	04.0	41	03.8	134	+14	35.1	134	5	03	5	27	5	49	1	47	49	14
12	3	37.4	-9	04.9	55	36.3	135	+14	21.7	134	4	57	5	21	5	42	1	59	45	14
13	18	37.5		05.8	70	08.8	135	+14	08.2	135	50	14	36	2	12	41	11	48	48	48
14	33	37.7		06.7	84	41.5	137	+13	54.6	136	40	5	06	29	25	36	14	00	53	53
15	48	37.8		07.7	99	14.2	137		41.0	136	27	4	56	21	40	31	13	47	58	58
16	63	37.9		08.6	113	47.1	139		27.4	136	19	50	16	49	27	40	61	61	61	61
17	78	38.1	-9	09.5	128	20.0	139	+13	13.7	137	4	09	4	43	5	11	2	58	25	13
18	93	38.2	-9	10.4	142	53.0	140	+12	59.9	138	3	57	4	34	5	04	3	10	20	13
19	108	38.3		11.3	157	26.0	140		46.1	138	42	23	4	57	24	15	09	75	75	75
20	123	38.4		12.2	171	59.2	142		32.3	138	34	18	53	30	13	13	04	77	77	77
21	138	38.6		13.2	186	32.4	142		18.4	139	25	12	49	37	10	12	57	80	80	80
22	153	38.7		14.1	201	05.6	142	+12	04.5	139	15	4	05	45	45	7	50	84	84	84
23	168	38.8		15.0	215	39.0	144	+11	50.5	140	3	04	3	58	40	3	54	3	42	87
24	183	39.0	-9	15.9	230	12.4	144	+11	36.5	140	2	50	3	50	4	35	4	04	**	12

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 17.3 ^m		Mag: -3.9 PMG: 10 ^h 33 ^m		Mag: +1.5 PMG: 13 ^h 15 ^m		Mag: -2.2 PMG: 6 ^h 04 ^m		Mag: +0.7 PMG: 22 ^h 09 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	24	46.0	201	45.5	+0	21.1	161	06.6	-16	54.4	268	51.5	+21	21.3	26	48.5	-3	36.4
1	39	48.5	216	45.1		19.8	176	07.4		54.9	283	53.8		21.3	41	51.2		36.5
2	54	50.9	231	44.7		18.6	191	08.1		55.4	298	56.0		21.3	56	53.8		36.6
3	69	53.4	246	44.3		17.4	206	08.8		55.9	313	58.3		21.2	71	56.4		36.6
4	84	55.9	261	43.9		16.2	221	09.6		56.5	329	00.5		21.2	86	59.0		36.7
5	99	58.3	276	43.5	+0	15.0	236	10.3	-16	57.0	344	02.8	+21	21.2	102	01.6	-3	36.8
6	115	00.8	291	43.1	+0	13.7	251	11.0	-16	57.5	359	05.0	+21	21.1	117	04.2	-3	36.8
7	130	03.3	306	42.7		12.5	266	11.7		58.0	14	07.3		21.1	132	06.8		36.9
8	145	05.7	321	42.3		11.3	281	12.5		58.6	29	09.5		21.1	147	09.5		36.9
9	160	08.2	336	41.9		10.1	296	13.2		59.1	44	11.7		21.0	162	12.1		37.0
10	175	10.7	351	41.5		08.9	311	13.9	-16	59.6	59	14.0		21.0	177	14.7		37.1
11	190	13.1	6	41.1	+0	07.6	326	14.6	-17	00.1	74	16.2	+21	21.0	192	17.3	-3	37.1
12	205	15.6	21	40.8	+0	06.4	341	15.4	-17	00.7	89	18.5	+21	21.0	207	19.9	-3	37.2
13	220	18.0	36	40.4		05.2	356	16.1		01.2	104	20.7		20.9	222	22.5		37.2
14	235	20.5	51	40.0		04.0	11	16.8		01.7	119	23.0		20.9	237	25.1		37.3
15	250	23.0	66	39.6		02.8	26	17.5		02.2	134	25.2		20.9	252	27.8		37.4
16	265	25.4	81	39.2		01.5	41	18.3		02.7	149	27.5		20.8	267	30.4		37.4
17	280	27.9	96	38.8	+0	00.3	56	19.0	-17	03.3	164	29.7	+21	20.8	282	33.0	-3	37.5
18	295	30.4	111	38.4	-0	00.9	71	19.7	-17	03.8	179	32.0	+21	20.8	297	35.6	-3	37.5
19	310	32.8	126	38.0		02.1	86	20.4		04.3	194	34.2		20.7	312	38.2		37.6
20	325	35.3	141	37.6		03.3	101	21.2		04.8	209	36.5		20.7	327	40.8		37.7
21	340	37.8	156	37.2		04.6	116	21.9		05.4	224	38.7		20.7	342	43.4		37.7
22	355	40.2	171	36.8		05.8	131	22.6		05.9	239	41.0		20.7	357	46.1		37.8
23	10	42.7	186	36.4		07.0	146	23.3		06.4	254	43.2		20.6	12	48.7		37.8
24	25	45.1	201	36.1	-0	08.2	161	24.1	-17	06.9	269	45.5	+21	20.6	27	51.3	-3	37.9
Dif	—		-4	-12			+7	-5			+22	0			+26	-1		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna									
	SD: 16'0 PMG: 11 ^h 45.3 ^m				Edad: 25.2 ^d SD: 15'3 PMG: 8 ^h 55 ^m PHE { 4 ^h : 55'9 12 ^h : 55'7 20 ^h : 55'6 Rº: 43 ^m																						
	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	183	39.0	-9	15.9	230	12.4	+11	36.5	140	60 N	16 45	17 27	18 15	1 22	89	16 01	0										
1	198	39.1		16.8	244	45.9		22.5	140	58	50	30	15	28	86	15 57	3										
2	213	39.2		17.7	259	19.5	+11	08.4	141	56	54	32	15	34	83	53	6										
3	228	39.3		18.6	273	53.1	+10	54.3	141	54	16 58	34	15	40	79	50	8										
4	243	39.5		19.5	288	26.8		40.2	141	52	17 01	35	15	44	77	47	11										
5	258	39.6	-9	20.5	303	00.6	+10	26.0	142	50	17 04	17 37	18 15	1 49	74	15 44	13										
6	273	39.7	-9	21.4	317	34.4	+10	11.8	142	45	17 11	17 41	18 15	1 58	69	15 38	18										
7	288	39.8		22.3	332	08.3	+9	57.6	142	40	17	45	16	2 05	66	32	22										
8	303	40.0		23.2	346	42.3		43.3	143	35	22	48	17	12	61	28	25										
9	318	40.1		24.1	1	16.3		29.0	143	30	27	51	19	18	58	24	28										
10	333	40.2		25.0	15	50.4		14.7	143	20	35	17 57	23	28	52	17	34										
11	348	40.3	-9	25.9	30	24.5	+9	00.3	144	10 N	17 42	18 03	18 28	2 36	48	15 11	38										
12	3	40.5	-9	26.8	44	58.7	+8	46.0	143	0	17 49	18 10	18 34	2 44	44	15 05	43										
13	18	40.6		27.8	59	33.0		31.6	144	10 S	17 55	17	42	2 53	39	14 59	47										
14	33	40.7		28.7	74	07.3		17.1	145	20	18 03	25	18 52	3 01	35	53	52										
15	48	40.8		29.6	88	41.6	+8	02.7	144	30	11	36	19 05	11	29	45	58										
16	63	41.0		30.5	103	16.0	+7	48.2	145	35	16	42	13	16	26	41	61										
17	78	41.1	-9	31.4	117	50.5	+7	33.7	145	40	18 22	18 50	19 24	3 23	22	14 36	64										
18	93	41.2	-9	32.3	132	25.0	+7	19.2	145	45	18 29	18 59	19 37	3 30	19	14 31	68										
19	108	41.3		33.2	146	59.6	+7	04.7	145	50	37	19 11	19 53	39	13	24	73										
20	123	41.5		34.1	161	34.2	+6	50.2	145	52	41	16	20 01	43	11	21	76										
21	138	41.6		35.0	176	08.8		35.6	146	54	45	23	10	47	9	17	79										
22	153	41.7		36.0	190	43.5		21.0	146	56	49	29	21	52	6	14	81										
23	168	41.8		36.9	205	18.3	+6	06.4	146	58	18 54	37	33	3 57	4	09	85										
24	183	41.9	-9	37.8	219	53.0	+5	51.8	146	60 S	19 00	19 46	20 47	4 03	0	14 04	88										
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 22 ^h 13.3 ^m			Mag: -3.9 PMG: 10 ^h 34 ^m			Mag: +1.5 PMG: 13 ^h 14 ^m			Mag: -2.2 PMG: 6 ^h 00 ^m			Mag: +0.7 PMG: 22 ^h 05 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	25	45.1	201	36.1	-0	08.2	161	24.1	-17	06.9	269	45.5	+21	20.6	27	51.3	-3	37.9									
1	40	47.6	216	35.7		09.4	176	24.8		07.4	284	47.7		20.6	42	53.9		38.0									
2	55	50.1	231	35.3		10.7	191	25.5		08.0	299	50.0		20.5	57	56.5		38.0									
3	70	52.5	246	34.9		11.9	206	26.2		08.5	314	52.2		20.5	72	59.1		38.1									
4	85	55.0	261	34.5		13.1	221	26.9		09.0	329	54.5		20.5	88	01.7		38.1									
5	100	57.5	276	34.1	-0	14.3	236	27.7	-17	09.5	344	56.7	+21	20.4	103	04.3	-3	38.2									
6	115	59.9	291	33.7	-0	15.5	251	28.4	-17	10.0	359	59.0	+21	20.4	118	07.0	-3	38.3									
7	131	02.4	306	33.3		16.8	266	29.1		10.6	15	01.2		20.4	133	09.6		38.3									
8	146	04.9	321	32.9		18.0	281	29.8		11.1	30	03.5		20.4	148	12.2		38.4									
9	161	07.3	336	32.5		19.2	296	30.6		11.6	45	05.7		20.3	163	14.8		38.4									
10	176	09.8	351	32.1		20.4	311	31.3		12.1	60	08.0		20.3	178	17.4		38.5									
11	191	12.3	6	31.7	-0	21.6	326	32.0	-17	12.6	75	10.2	+21	20.3	193	20.0	-3	38.6									
12	206	14.7	21	31.3	-0	22.9	341	32.7	-17	13.1	90	12.5	+21	20.2	208	22.6	-3	38.6									
13	221	17.2	36	31.0		24.1	356	33.4		13.7	105	14.8		20.2	223	25.2		38.7									
14	236	19.6	51	30.6		25.3	11	34.1		14.2	120	17.0		20.2	238	27.9		38.7									
15	251	22.1	66	30.2		26.5	26	34.9		14.7	135	19.3		20.2	253	30.5		38.8									
16	266	24.6	81	29.8		27.7	41	35.6		15.2	150	21.5		20.1	268	33.1		38.9									
17	281	27.0	96	29.4	-0	29.0	56	36.3	-17	15.7	165	23.8	+21	20.1	283	35.7	-3	38.9									
18	296	29.5	111	29.0	-0	30.2	71	37.0	-17	16.2	180	26.0	+21	20.1	298	38.3	-3	39.0									
19	311	32.0	126	28.6		31.4	86	37.7		16.8	195	28.3		20.0	313	40.9		39.0									
20	326	34.4	141	28.2		32.6	101	38.5		17.3	210	30.5		20.0	328	43.5		39.1									
21	341	36.9	156	27.8		33.9	116	39.2		17.8	225	32.8		20.0	343	46.1		39.2									
22	356	39.4	171	27.4		35.1	131	39.9		18.3	240	35.1		19.9	358	48.7		39.2									
23	11	41.8	186	27.0		36.3	146	40.6		18.8	255	37.3		19.9	13	51.4		39.3									
24	26	44.3	201	26.6	-0	37.5	161	41.3	-17	19.3	270	39.6	+21	19.9	28	54.0	-3	39.3									
Dif	—			-4			-12			+7			-5			+23			0			+26			-1		

ALMANAQUE NÁUTICO PERSEUS

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16/1 PMG: 11 ^h 44.9 ^m				Edad: 27.2 ^d SD: 15/0 PMG: 10 ^h 17 ^m															
	hG ☉		Dec		hG ☾		Dif													
	h	°	'	°	'	h	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	183	44.8	-9	59.5	209	57.8	-0	00.6	60 N	16 39	17 22	18 10	4 15 86	15 58 0						
1	198	44.9	-10	00.4	224	33.2		15.2	58	44	24	10	15 82	16 00 4						
2	213	45.0		01.3	239	08.7		29.9	56	49	27	10	14 79	02 7						
3	228	45.1		02.2	253	44.3		44.5	54	53	29	10	13 77	04 9						
4	243	45.2		03.1	268	19.8	-0	59.2	52	16 57	31	10	13 74	06 11						
5	258	45.3	-10	04.0	282	55.3	-1	13.8	50	17 01	17 33	18 11	4 13 71	16 07 13						
6	273	45.5	-10	04.9	297	30.8	-1	28.4	45	17 08	17 38	18 12	4 12 66	16 10 18						
7	288	45.6		05.8	312	06.4		43.0	40	14	42	13	11 62	13 21						
8	303	45.7		06.7	326	42.0	-1	57.6	35	20	46	15	10 59	15 25						
9	318	45.8		07.6	341	17.5	-2	12.1	30	25	49	17	10 56	17 28						
10	333	45.9		08.5	355	53.1		26.7	20	33	17 56	21	09 50	21 33						
11	348	46.0	-10	09.4	10	28.7	-2	41.2	10 N	17 41	18 02	18 27	4 08 46	16 24 37						
12	3	46.1	-10	10.3	25	04.2	-2	55.7	0	17 48	18 09	18 34	4 07 42	16 27 41						
13	18	46.2		11.2	39	39.8	-3	10.2	10 S	17 56	17	42	07 37	29 47						
14	33	46.4		12.1	54	15.4		24.7	20	18 04	26	18 53	06 32	33 50						
15	48	46.5		13.0	68	50.9		39.2	30	13	37	19 07	05 27	36 56						
16	63	46.6		13.9	83	26.5	-3	53.6	35	18	44	15	04 25	38 59						
17	78	46.7	-10	14.8	98	02.1	-4	08.0	40	18 24	18 52	19 26	4 04 21	16 40 63						
18	93	46.8	-10	15.7	112	37.7	-4	22.4	45	18 32	19 02	19 40	4 03 18	16 43 67						
19	108	46.9		16.6	127	13.2		36.8	50	40	15	19 57	03 12	46 72						
20	123	47.0		17.5	141	48.8	-4	51.2	52	44	20	20 05	02 11	48 74						
21	138	47.1		18.4	156	24.3	-5	05.5	54	49	27	15	02 8	50 76						
22	153	47.2		19.3	170	59.9		19.8	56	54	34	26	02 5	51 80						
23	168	47.3		20.2	185	35.4		34.0	58	18 59	42	39	01 3	53 83						
24	183	47.5	-10	21.1	200	10.9	-5	48.3	60 S	19 05	19 52	20 55	4 01 0	16 56 86						
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 22 ^h 05.5 ^m		Mag: -3.9 PMG: 10 ^h 35 ^m		Mag: +1.5 PMG: 13 ^h 11 ^m		Mag: -2.2 PMG: 5 ^h 53 ^m		Mag: +0.7 PMG: 21 ^h 56 ^m											
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄											
	h	°	'	°	'	°	'	°	'	°	'									
0	27	43.4	201	17.2	-1	06.8	161	58.4	-17	31.6	271	33.9	+21	19.2	29	56.6	-3	40.7		
1	42	45.9	216	16.8		08.1	176	59.1		32.1	286	36.1		19.2	44	59.2		40.8		
2	57	48.3	231	16.4		09.3	191	59.8		32.7	301	38.4		19.2	60	01.8		40.8		
3	72	50.8	246	16.0		10.5	207	00.5		33.2	316	40.7		19.1	75	04.4		40.9		
4	87	53.3	261	15.6		11.7	222	01.3		33.7	331	42.9		19.1	90	07.0		41.0		
5	102	55.7	276	15.2	-1	13.0	237	02.0	-17	34.2	346	45.2	+21	19.1	105	09.6	-3	41.1		
6	117	58.2	291	14.8	-1	14.2	252	02.7	-17	34.7	1	47.5	+21	19.1	120	12.3	-3	41.1		
7	133	00.7	306	14.4		15.4	267	03.4		35.2	16	49.7		19.0	135	14.9		41.1		
8	148	03.1	321	14.0		16.6	282	04.1		35.7	31	52.0		19.0	150	17.5		41.2		
9	163	05.6	336	13.6		17.8	297	04.8		36.2	46	54.3		19.0	165	20.1		41.3		
10	178	08.1	351	13.2		19.1	312	05.5		36.7	61	56.5		18.9	180	22.7		41.3		
11	193	10.5	6	12.8	-1	20.3	327	06.2	-17	37.2	76	58.8	+21	18.9	195	25.3	-3	41.4		
12	208	13.0	21	12.4	-1	21.5	342	06.9	-17	37.7	92	01.1	+21	18.9	210	27.9	-3	41.4		
13	223	15.5	36	12.0		22.7	357	07.6		38.2	107	03.3		18.9	225	30.5		41.5		
14	238	17.9	51	11.6		24.0	12	08.3		38.8	122	05.6		18.8	240	33.1		41.5		
15	253	20.4	66	11.2		25.2	27	09.0		39.3	137	07.9		18.8	255	35.7		41.6		
16	268	22.8	81	10.8		26.4	42	09.7		39.8	152	10.2		18.8	270	38.3		41.7		
17	283	25.3	96	10.4	-1	27.6	57	10.4	-17	40.3	167	12.4	+21	18.8	285	40.9	-3	41.7		
18	298	27.8	111	10.1	-1	28.9	72	11.1	-17	40.8	182	14.7	+21	18.7	300	43.5	-3	41.8		
19	313	30.2	126	09.7		30.1	87	11.8		41.3	197	17.0		18.7	315	46.1		41.8		
20	328	32.7	141	09.3		31.3	102	12.6		41.8	212	19.2		18.7	330	48.8		41.9		
21	343	35.2	156	08.9		32.5	117	13.3		42.3	227	21.5		18.6	345	51.4		41.9		
22	358	37.6	171	08.5		33.7	132	14.0		42.8	242	23.8		18.6	0	54.0		42.0		
23	13	40.1	186	08.1		35.0	147	14.7		43.3	257	26.1		18.6	15	56.6		42.0		
24	28	42.6	201	07.7	-1	36.2	162	15.4	-17	43.8	272	28.3	+21	18.6	30	59.2	-3	42.1		
Dif	—		-4		-12		+7		-5		+23		0		+26		-			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG: 11 ^h 44.8 ^m				Edad: 28.2 ^d PHE { 4 ^h : 54 ^h 6 12 ^h : 54 ^h 5 20 ^h : 54 ^h 4 R°: 41 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	183	47.5	-10	21.1	200	10.9	-5	48.3	142	58	21	6	52	5	39	86	15	57	**	
1	198	47.6		22.0	214	46.5	-6	02.5	142	56	21	06	47		35	82	16	02	3	
2	213	47.7		22.9	229	22.0		16.7	142	54	20	04	42		32	78		07	6	
3	228	47.8		23.8	243	57.5		30.9	142	52	20	6	01	38	28	76		11	9	
4	243	47.9		24.7	258	32.9		45.0	141	50	20	5	59	34	25	73		15	11	
5	258	48.0	-10	25.6	273	08.4	-6	59.1	141	45	5	20	5	57	6	30	5	23	70	
6	273	48.1	-10	26.5	287	43.8	-7	13.1	140	40	17	5	53	6	22	5	17	65	16	
7	288	48.2		27.4	302	19.3		27.2	141	35	15		48	16	12	61		33	22	
8	303	48.3		28.3	316	54.7		41.2	140	30	13		45	10	08	58		39	25	
9	318	48.4		29.2	331	30.1	-7	55.1	139	20	08		41	6	05	5	04	55	44	
10	333	48.5		30.0	346	05.5	-8	09.1	140	10 N	5	03	5	57	4	58	50	16	52	
11	348	48.6	-10	30.9	0	40.8	-8	22.9	138	0	4	56	5	20	5	41	4	47	41	
12	3	48.7	-10	31.8	15	16.2	-8	36.8	139	10 S		48	13	34	42	37		14	46	
13	18	48.8		32.7	29	51.5	-8	50.6	138	20	37	5	03	26	37	32		22	50	
14	33	48.9		33.6	44	26.8	-9	04.4	138	30	23	4	52	16	31	27		31	55	
15	48	49.0		34.5	59	02.1		18.1	137	35	14		45	11	28	24		36	58	
16	63	49.1		35.4	73	37.3		31.8	137	40	4	03	4	37	5	05	4	24	21	
17	78	49.2	-10	36.3	88	12.5	-9	45.5	137	45	3	49	4	27	4	58	4	19	17	
18	93	49.3	-10	37.2	102	47.7	-9	59.1	136	50	32		14	49	14	13		17	56	
19	108	49.5		38.1	117	22.9	-10	12.7	136	52	23		09	45	12	10		18	00	
20	123	49.6		39.0	131	58.0		26.2	135	54	14	4	02	40	09	8		04	76	
21	138	49.7		39.9	146	33.1		39.7	135	56	3	03	3	55	35	06	5		09	
22	153	49.8		40.8	161	08.2	-10	53.1	134	58	2	50		46	30	4	03	2	14	
23	168	49.9		41.6	175	43.3	-11	06.5	134	60 S	2	34	3	37	4	23	3	59	**	
24	183	50.0	-10	42.5	190	18.3	-11	19.9	134											

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 ^h 01.5 ^m		Mag: -3.9 PMG: 10 ^h 36 ^m		Mag: +1.5 PMG: 13 ^h 10 ^m		Mag: -2.2 PMG: 5 ^h 49 ^m		Mag: +0.7 PMG: 21 ^h 52 ^m	
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	28	42.6	201	07.7	-1	36.2	162	15.4	-17	43.8
1	43	45.0	216	07.3		37.4	177	16.1		44.3
2	58	47.5	231	06.9		38.6	192	16.8		44.8
3	73	50.0	246	06.5		39.9	207	17.5		45.3
4	88	52.4	261	06.1		41.1	222	18.2		45.8
5	103	54.9	276	05.7	-1	42.3	237	18.9	-17	46.3
6	118	57.3	291	05.3	-1	43.5	252	19.6	-17	46.8
7	133	59.8	306	04.9		44.7	267	20.3		47.3
8	149	02.3	321	04.5		46.0	282	21.0		47.8
9	164	04.7	336	04.1		47.2	297	21.7		48.3
10	179	07.2	351	03.7		48.4	312	22.4		48.8
11	194	09.7	6	03.3	-1	49.6	327	23.1	-17	49.3
12	209	12.1	21	02.9	-1	50.9	342	23.8	-17	49.8
13	224	14.6	36	02.5		52.1	357	24.5		50.3
14	239	17.1	51	02.1		53.3	12	25.2		50.8
15	254	19.5	66	01.7		54.5	27	25.9		51.3
16	269	22.0	81	01.3		55.8	42	26.6		51.8
17	284	24.4	96	00.9	-1	57.0	57	27.3	-17	52.3
18	299	26.9	111	00.5	-1	58.2	72	28.0	-17	52.8
19	314	29.4	126	00.1	-1	59.4	87	28.7		53.3
20	329	31.8	140	59.7	-2	00.6	102	29.4		53.8
21	344	34.3	155	59.3		01.9	117	30.1		54.3
22	359	36.8	170	58.9		03.1	132	30.8		54.8
23	14	39.2	185	58.5		04.3	147	31.5		55.3
24	29	41.7	200	58.1	-2	05.5	162	32.2	-17	55.8
Dif	—		-4		-12		+7		-5	

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG: 11 ^h 44.6 ^m				Edad: 29.2 ^d PHE { 4 ^h : 54/3 12 ^h : 54/2 20 ^h : 54/2 R°: 45 ^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	50.0	-10	42.5	190	18.3	-11	19.9	133	60 N	16 33	17 16	18 05	7 05	89	15 56	1	
1	198	50.1		43.4	204	53.3		33.2	160	58	39	19	05	6 57	85	16 05	6	
2	213	50.2		44.3	219	28.2		46.4	132	56	44	22	05	50	81	13	9	
3	228	50.3		45.2	234	03.1	-11	59.6	132	54	49	25	06	44	78	20	11	
4	243	50.4		46.1	248	38.0	-12	12.8	132	52	53	27	07	38	75	26	15	
5	258	50.5	-10	47.0	263	12.9	-12	25.9	131	50	16 57	17 30	18 07	6 33	73	16 32	18	
6	273	50.6	-10	47.9	277	47.7	-12	38.9	130	45	17 05	17 35	18 09	6 22	68	16 45	22	
7	288	50.7		48.8	292	22.5	-12	51.9	130	40	12	39	11	13	64	16 55	26	
8	303	50.8		49.6	306	57.2	-13	04.8	129	35	18	43	13	6 06	60	17 04	29	
9	318	50.9		50.5	321	31.9		17.7	129	30	23	47	15	5 59	57	12	32	
10	333	51.0		51.4	336	06.5		30.6	129	20	32	17 54	20	48	52	25	37	
11	348	51.1	-10	52.3	350	41.2	-13	43.3	127	10 N	17 40	18 02	18 26	5 38	47	17 37	41	
12	3	51.2	-10	53.2	5	15.7	-13	56.1	128	0	17 48	18 09	18 33	5 28	44	17 48	45	
13	18	51.3		54.1	19	50.3	-14	08.7	126	10 S	17 56	17	42	19	40	18 00	48	
14	33	51.3		55.0	34	24.8		21.3	126	20	18 04	27	18 53	5 09	36	12	53	
15	48	51.4		55.9	48	59.2		33.9	126	30	14	39	19 08	4 58	31	26	57	
16	63	51.5		56.7	63	33.6		46.3	124	35	20	46	18	52	28	34	60	
17	78	51.6	-10	57.6	78	08.0	-14	58.8	125	40	18 27	18 55	19 29	4 45	24	18 43	64	
18	93	51.7	-10	58.5	92	42.3	-15	11.1	123	45	18 34	19 05	19 43	4 36	21	18 54	68	
19	108	51.8	-10	59.4	107	16.6		23.4	123	50	44	18	20 01	27	15	19 07	73	
20	123	51.9	-11	00.3	121	50.8		35.7	123	52	48	24	10	22	14	13	76	
21	138	52.0		01.2	136	25.0		47.8	121	54	53	31	20	17	11	20	79	
22	153	52.1		02.0	150	59.1	-15	59.9	121	56	18 58	39	32	11	8	28	82	
23	168	52.2		02.9	165	33.2	-16	12.0	121	58	19 04	48	20 46	4 05	5	37	86	
24	183	52.3	-11	03.8	180	07.2	-16	24.0	120	60 S	19 10	19 58	21 03	3 58	1	19 47	91	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 57.6 ^m		Mag: -3.9 PMG: 10 ^h 36 ^m		Mag: +1.5 PMG: 13 ^h 09 ^m		Mag: -2.2 PMG: 5 ^h 46 ^m		Mag: +0.7 PMG: 21 ^h 48 ^m									
	hG ♈	hG ♀			hG ♂			hG ♃			hG ♄							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	29	41.7	200	58.1	-2	05.5	162	32.2	-17	55.8	273	23.0	+21	18.0	32	01.7	-3	43.4
1	44	44.2	215	57.7		06.8	177	32.8		56.3	288	25.3		17.9	47	04.3		43.5
2	59	46.6	230	57.3		08.0	192	33.5		56.8	303	27.6		17.9	62	06.9		43.6
3	74	49.1	245	56.9		09.2	207	34.2		57.3	318	29.8		17.9	77	09.5		43.6
4	89	51.6	260	56.5		10.4	222	34.9		57.8	333	32.1		17.9	92	12.1		43.7
5	104	54.0	275	56.1	-2	11.6	237	35.6	-17	58.3	348	34.4	+21	17.8	107	14.7	-3	43.7
6	119	56.5	290	55.7	-2	12.9	252	36.3	-17	58.8	3	36.7	+21	17.8	122	17.3	-3	43.8
7	134	58.9	305	55.3		14.1	267	37.0		59.3	18	39.0		17.8	137	19.9		43.8
8	150	01.4	320	54.9		15.3	282	37.7	-17	59.8	33	41.3		17.8	152	22.5		43.9
9	165	03.9	335	54.5		16.5	297	38.4	-18	00.3	48	43.5		17.7	167	25.1		43.9
10	180	06.3	350	54.1		17.8	312	39.1		00.8	63	45.8		17.7	182	27.7		44.0
11	195	08.8	5	53.7	-2	19.0	327	39.8	-18	01.3	78	48.1	+21	17.7	197	30.3	-3	44.0
12	210	11.3	20	53.3	-2	20.2	342	40.5	-18	01.8	93	50.4	+21	17.7	212	32.9	-3	44.1
13	225	13.7	35	52.9		21.4	357	41.2		02.3	108	52.7		17.6	227	35.5		44.2
14	240	16.2	50	52.5		22.6	12	41.9		02.8	123	55.0		17.6	242	38.1		44.2
15	255	18.7	65	52.1		23.9	27	42.6		03.3	138	57.2		17.6	257	40.7		44.3
16	270	21.1	80	51.7		25.1	42	43.3		03.8	153	59.5		17.6	272	43.3		44.3
17	285	23.6	95	51.3	-2	26.3	57	43.9	-18	04.3	169	01.8	+21	17.5	287	45.9	-3	44.4
18	300	26.0	110	50.9	-2	27.5	72	44.6	-18	04.8	184	04.1	+21	17.5	302	48.5	-3	44.4
19	315	28.5	125	50.5		28.8	87	45.3		05.3	199	06.4		17.5	317	51.1		44.5
20	330	31.0	140	50.1		30.0	102	46.0		05.8	214	08.7		17.5	332	53.7		44.5
21	345	33.4	155	49.7		31.2	117	46.7		06.3	229	11.0		17.4	347	56.3		44.6
22	0	35.9	170	49.3		32.4	132	47.4		06.8	244	13.3		17.4	2	58.9		44.6
23	15	38.4	185	48.9		33.6	147	48.1		07.2	259	15.5		17.4	18	01.5		44.7
24	30	40.8	200	48.5	-2	34.9	162	48.8	-18	07.7	274	17.8	+21	17.4	33	04.1	-3	44.8
Dif	—		-4		-12		+7		-5		+23		0		+26		-1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16 ^h 1 PMG: 11 ^h 44.4 ^m			Edad: 0.5 ^d PHE { 4 ^h : 54 ^h 1 12 ^h : 54 ^h 1 20 ^h : 54 ^h 0 PMG: 12 ^h 21 ^m R°: 45 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m					
0	183	52.3	-11	03.8	180	07.2	-16	24.0	60 N	5	26	6	14	6	57	8	33	91	15	56	2
1	198	52.4		04.7	194	41.2	150	35.9	58	25	11	51	20	86	16	09	8				
2	213	52.5		05.6	209	15.1	149	47.7	56	25	08	46	10	81	21	11					
3	228	52.6		06.5	223	49.0	149	59.5	54	24	05	42	8	00	78	31	15				
4	243	52.7		07.3	238	22.9	149	11.2	52	23	03	37	7	52	74	40	18				
5	258	52.8	-11	08.2	252	56.6	147	22.8	50	5	23	6	00	6	33	7	44	72	16	48	21
6	273	52.9	-11	09.1	267	30.4	148	34.3	45	5	21	5	55	6	25	7	28	67	17	06	25
7	288	53.0		10.0	282	04.0	146	45.8	40	19	51	18	15	63	20	29					
8	303	53.1		10.9	296	37.6	146	57.2	35	17	46	12	7	04	60	32	32				
9	318	53.1		11.8	311	11.2	146	08.6	30	14	42	6	07	6	55	56	17	43	34		
10	333	53.2		12.6	325	44.7	145	19.8	20	09	35	5	57	38	52	18	01	39			
11	348	53.3	-11	13.5	340	18.2	145	31.0	10 N	5	03	5	28	5	49	6	24	48	18	17	42
12	3	53.4	-11	14.4	354	51.6	144	42.1	0	4	56	5	20	5	41	6	11	44	18	32	46
13	18	53.5		15.3	9	24.9	143	53.1	10 S	47	12	33	5	57	41	18	47	49			
14	33	53.6		16.2	23	58.2	143	04.1	20	35	5	02	24	44	37	19	03	53			
15	48	53.7		17.0	38	31.4	142	15.0	30	21	4	50	14	28	32	22	57				
16	63	53.8		17.9	53	04.6	142	25.7	35	11	42	09	18	30	33	59					
17	78	53.9	-11	18.8	67	37.7	141	36.5	40	4	00	4	34	5	02	5	08	27	19	45	63
18	93	54.0	-11	19.7	82	10.8	141	47.1	45	3	45	4	23	4	54	4	56	23	20	00	67
19	108	54.0		20.5	96	43.8	140	57.6	50	27	10	45	41	18	19	71					
20	123	54.1		21.4	111	16.7	139	08.1	52	18	4	04	40	34	16	27	75				
21	138	54.2		22.3	125	49.6	139	18.5	54	3	08	3	57	36	27	12	37	77			
22	153	54.3		23.2	140	22.4	138	28.7	56	2	56	49	30	18	10	20	48	81			
23	168	54.4		24.1	154	55.1	137	38.9	58	42	40	24	4	09	5	21	01	86			
24	183	54.5	-11	24.9	169	27.8	137	49.1	60 S	2	25	3	30	4	18	3	58	1	21	16	92

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 53.7 ^m		Mag: -3.9 PMG: 10 ^h 37 ^m		Mag: +1.5 PMG: 13 ^h 08 ^m		Mag: -2.3 PMG: 5 ^h 42 ^m		Mag: +0.7 PMG: 21 ^h 44 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	30	40.8	200	48.5	-2	34.9	162	48.8	-18	07.7	274	17.8	+21	17.4	33	04.1	-3	44.8
1	45	43.3	215	48.1		36.1	177	49.5		08.2	289	20.1		17.3	48	06.7		44.8
2	60	45.8	230	47.7		37.3	192	50.2		08.7	304	22.4		17.3	63	09.3		44.9
3	75	48.2	245	47.3		38.5	207	50.8		09.2	319	24.7		17.3	78	11.9		44.9
4	90	50.7	260	46.9		39.7	222	51.5		09.7	334	27.0		17.3	93	14.5		45.0
5	105	53.2	275	46.5	-2	41.0	237	52.2	-18	10.2	349	29.3	+21	17.2	108	17.1	-3	45.0
6	120	55.6	290	46.1	-2	42.2	252	52.9	-18	10.7	4	31.6	+21	17.2	123	19.7	-3	45.1
7	135	58.1	305	45.7		43.4	267	53.6		11.2	19	33.9		17.2	138	22.3		45.1
8	151	00.5	320	45.3		44.6	282	54.3		11.7	34	36.2		17.2	153	24.9		45.2
9	166	03.0	335	44.9		45.9	297	55.0		12.2	49	38.5		17.2	168	27.5		45.2
10	181	05.5	350	44.5		47.1	312	55.7		12.7	64	40.7		17.1	183	30.1		45.3
11	196	07.9	5	44.1	-2	48.3	327	56.3	-18	13.1	79	43.0	+21	17.1	198	32.7	-3	45.3
12	211	10.4	20	43.7	-2	49.5	342	57.0	-18	13.6	94	45.3	+21	17.1	213	35.3	-3	45.4
13	226	12.9	35	43.3		50.7	357	57.7		14.1	109	47.6		17.1	228	37.9		45.4
14	241	15.3	50	42.9		52.0	12	58.4		14.6	124	49.9		17.0	243	40.5		45.5
15	256	17.8	65	42.5		53.2	27	59.1		15.1	139	52.2		17.0	258	43.1		45.6
16	271	20.3	80	42.1		54.4	42	59.8		15.6	154	54.5		17.0	273	45.7		45.6
17	286	22.7	95	41.7	-2	55.6	58	00.5	-18	16.1	169	56.8	+21	17.0	288	48.3	-3	45.7
18	301	25.2	110	41.2	-2	56.8	73	01.1	-18	16.6	184	59.1	+21	16.9	303	50.9	-3	45.7
19	316	27.7	125	40.8		58.1	88	01.8		17.1	200	01.4		16.9	318	53.5		45.8
20	331	30.1	140	40.4	-2	59.3	103	02.5		17.5	215	03.7		16.9	333	56.1		45.8
21	346	32.6	155	40.0	-3	00.5	118	03.2		18.0	230	06.0		16.9	348	58.7		45.9
22	1	35.0	170	39.6		01.7	133	03.9		18.5	245	08.3		16.9	4	01.3		45.9
23	16	37.5	185	39.2		02.9	148	04.6		19.0	260	10.6		16.8	19	03.9		46.0
24	31	40.0	200	38.8	-3	04.2	163	05.2	-18	19.5	275	12.9	+21	16.8	34	06.5	-3	46.0
Dif	—			-4	-12			+7	-5			+23		0		+26		-1

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna									
	SD: 16/1 PMG: 11 ^h 44.3 ^m			Edad: 1.5 ^d SD: 14/7 PMG: 13 ^h 06 ^m								PHE { 4 ^h : 54/0 12 ^h : 54/0 20 ^h : 54/0 R°: 50 ^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	183	54.5	-11	24.9	169	27.8	-20	49.1	100	60 N	16 28	17 11	18 00	10 04	95	15 58	6										
1	198	54.6		25.8	184	00.5	-20	59.1	99	58	34	15	00	9 46	87	16 17	14										
2	213	54.7		26.7	198	33.1	-21	09.0	99	56	39	18	01	31 81		32	20										
3	228	54.7		27.6	213	05.6		18.9	97	54	44	21	02	18 77		46	23										
4	243	54.8		28.4	227	38.0		28.6	97	52	49	23	03	9 06	75	16 58	26										
5	258	54.9	-11	29.3	242	10.4	-21	38.3	97	50	16 53	17 26	18 04	8 56	72	17 09	28										
6	273	55.0	-11	30.2	256	42.7	-21	47.9	96	45	17 02	17 32	18 06	8 35	67	17 31	33										
7	288	55.1		31.1	271	15.0	-21	57.3	94	40	09	36	08	18 64		17 49	36										
8	303	55.2		31.9	285	47.2	-22	06.7	94	35	15	41	11	8 04	60	18 04	39										
9	318	55.3		32.8	300	19.4		16.0	93	30	21	45	13	7 51	59	17 41											
10	333	55.3		33.7	314	51.4		25.2	92	20	31	17 53	19	30 55		40	44										
11	348	55.4	-11	34.6	329	23.5	-22	34.3	91	10 N	17 39	18 01	18 26	7 12	52	18 59	48										
12	3	55.5	-11	35.4	343	55.4	-22	43.3	90	0	17 48	18 09	18 33	6 55	49	19 18	49										
13	18	55.6		36.3	358	27.3	-22	52.2	89	10 S	17 56	18	43	38 46		36	52										
14	33	55.7		37.2	12	59.1	-23	01.0	88	20	18 05	28	18 54	21 42		19 56	55										
15	48	55.8		38.0	27	30.9		09.7	87	30	16	40	19 10	6 00	39	20 19	58										
16	63	55.8		38.9	42	02.6		18.3	86	35	22	48	20	5 48	36	32	61										
17	78	55.9	-11	39.8	56	34.3	-23	26.8	85	40	18 29	18 57	19 31	5 35	33	20 48	63										
18	93	56.0	-11	40.7	71	05.9	-23	35.2	84	45	18 37	19 08	19 46	5 19	29	21 07	66										
19	108	56.1		41.5	85	37.4		43.5	83	50	47	22	20 05	4 59	25	30 70											
20	123	56.2		42.4	100	08.8		51.7	82	52	51	28	15	50 22		42	72										
21	138	56.2		43.3	114	40.2	-23	59.8	81	54	18 57	36	25	39 20		21 54	76										
22	153	56.3		44.1	129	11.6	-24	07.8	80	56	19 02	44	38	28 16		22 09	79										
23	168	56.4		45.0	143	42.8		15.7	79	58	08	19 53	20 53	4 14	12	27 84											
24	183	56.5	-11	45.9	158	14.0	-24	23.4	77	60 S	19 16	20 04	21 11	3 59	4	22 48	94										
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 21 ^h 49.7 ^m			Mag: -3.9 PMG: 10 ^h 38 ^m			Mag: +1.5 PMG: 13 ^h 07 ^m			Mag: -2.3 PMG: 5 ^h 38 ^m			Mag: +0.7 PMG: 21 ^h 40 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	'											
0	31	40.0	200	38.8	-3	04.2	163	05.2	-18	19.5	275	12.9	+21	16.8	34	06.5	-3	46.0									
1	46	42.4	215	38.4		05.4	178	05.9		20.0	290	15.2		16.8	49	09.1		46.1									
2	61	44.9	230	38.0		06.6	193	06.6		20.5	305	17.5		16.8	64	11.7		46.1									
3	76	47.4	245	37.6		07.8	208	07.3		21.0	320	19.8		16.7	79	14.3		46.2									
4	91	49.8	260	37.2		09.0	223	08.0		21.4	335	22.1		16.7	94	16.9		46.2									
5	106	52.3	275	36.8	-3	10.3	238	08.7	-18	21.9	350	24.4	+21	16.7	109	19.5	-3	46.3									
6	121	54.8	290	36.4	-3	11.5	253	09.3	-18	22.4	5	26.7	+21	16.7	124	22.1	-3	46.3									
7	136	57.2	305	36.0		12.7	268	10.0		22.9	20	29.0		16.7	139	24.7		46.4									
8	151	59.7	320	35.6		13.9	283	10.7		23.4	35	31.3		16.6	154	27.3		46.4									
9	167	02.1	335	35.2		15.1	298	11.4		23.9	50	33.6		16.6	169	29.9		46.5									
10	182	04.6	350	34.8		16.4	313	12.1		24.4	65	35.9		16.6	184	32.5		46.5									
11	197	07.1	5	34.4	-3	17.6	328	12.7	-18	24.8	80	38.2	+21	16.6	199	35.1	-3	46.6									
12	212	09.5	20	33.9	-3	18.8	343	13.4	-18	25.3	95	40.5	+21	16.5	214	37.7	-3	46.7									
13	227	12.0	35	33.5		20.0	358	14.1		25.8	110	42.8		16.5	229	40.3		46.7									
14	242	14.5	50	33.1		21.2	13	14.8		26.3	125	45.1		16.5	244	42.9		46.8									
15	257	16.9	65	32.7		22.5	28	15.5		26.8	140	47.4		16.5	259	45.5		46.8									
16	272	19.4	80	32.3		23.7	43	16.1		27.3	155	49.7		16.5	274	48.1		46.9									
17	287	21.9	95	31.9	-3	24.9	58	16.8	-18	27.7	170	52.0	+21	16.4	289	50.7	-3	46.9									
18	302	24.3	110	31.5	-3	26.1	73	17.5	-18	28.2	185	54.3	+21	16.4	304	53.3	-3	47.0									
19	317	26.8	125	31.1		27.3	88	18.2		28.7	200	56.6		16.4	319	55.9		47.0									
20	332	29.3	140	30.7		28.6	103	18.8		29.2	215	58.9		16.4	334	58.5		47.1									
21	347	31.7	155	30.3		29.8	118	19.5		29.7	231	01.2		16.3	350	01.1		47.1									
22	2	34.2	170	29.9		31.0	133	20.2		30.2	246	03.5		16.3	5	03.7		47.2									
23	17	36.6	185	29.5		32.2	148	20.9		30.6	261	05.8		16.3	20	06.3		47.2									
24	32	39.1	200	29.1	-3	33.4	163	21.6	-18	31.1	276	08.1	+21	16.3	35	08.9	-3	47.3									
Dif	—			-4			-12			+7			-5			+23			0			+26			-1		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16 ^h 1 PMG: 11 ^h 44.2 ^m			Edad: 2.5 ^d PHE { 4 ^h : 54 ⁰ 12 ^h : 54 ⁰ 20 ^h : 54 ⁰ R°: 50 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	°	'	°	'	°	°	h	m	h	m	h	m	m	h	m	m		
0	183	56.5	-11	158	14.0	-24	23.4	77	60 N	5	30	6	19	7	02	11	38	89	16	03	15
1	198	56.6		172	45.2		31.1	76	58	29	15	6	56	11	12	79			30	24	
2	213	56.6		187	16.3		38.7	74	56	28	12	50	10	51	74	16	51	29			
3	228	56.7		201	47.3		46.1	73	54	28	09	45	34	71	17	08	33				
4	243	56.8		216	18.3	-24	53.4	73	52	27	06	41	19	69	23	35					
5	258	56.9	-11	230	49.2	-25	00.7	73	50	5	26	6	03	6	37	10	07	66	17	36	37
6	273	57.0	-11	245	20.0	-25	07.8	71	45	5	23	5	58	6	28	9	41	62	18	03	40
7	288	57.0		259	50.8		14.8	70	40	21	53	20	20	60	24	20	60	24	42		
8	303	57.1		274	21.5		21.6	68	35	18	48	14	9	03	58	42	44				
9	318	57.2		288	52.2		28.4	67	30	16	44	6	08	8	48	57	18	57	45		
10	333	57.3		303	22.8		35.1	65	20	10	36	5	58	24	53	19	23	47			
11	348	57.3	-11	317	53.3	-25	41.6	65	10 N	5	03	5	49	8	02	52	19	45	49		
12	3	57.4	-11	332	23.8	-25	48.0	64	0	4	55	5	20	5	41	7	42	50	20	06	51
13	18	57.5		346	54.3	-25	54.3	63	10 S	46	11	32	23	47	27	52					
14	33	57.6		1	24.6	-26	00.5	62	20	34	5	00	23	7	02	45	20	50	53		
15	48	57.7		15	55.0		06.6	61	30	18	4	48	12	6	37	43	21	16	55		
16	63	57.7	-11	30	25.2		12.5	59	35	4	08	40	5	06	23	41	31	57			
17	78	57.8	-12	44	55.4	-26	18.4	59	40	3	56	4	31	4	59	6	07	38	21	49	58
18	93	57.9	-12	59	25.6	-26	24.1	57	45	3	42	4	20	4	51	5	47	36	22	11	60
19	108	58.0		73	55.7		29.7	56	50	22	4	06	41	23	32	39	62				
20	123	58.0		88	25.7		35.2	55	52	13	3	59	36	5	11	30	22	53	63		
21	138	58.1		102	55.7		40.5	53	54	3	02	52	31	4	58	27	23	08	66		
22	153	58.2		117	25.7		45.7	52	56	2	50	44	25	42	24	27	68				
23	168	58.2		131	55.5		50.8	51	58	35	34	19	24	18	23	50	72				
24	183	58.3	-12	146	25.4	-26	55.8	50	60 S	2	17	3	24	4	02	10	**	**	**		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 45.8 ^m		Mag: -3.9 PMG: 10 ^h 38 ^m		Mag: +1.5 PMG: 13 ^h 06 ^m		Mag: -2.3 PMG: 5 ^h 35 ^m		Mag: +0.7 PMG: 21 ^h 36 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	32	39.1	200	29.1	-3	33.4	163	21.6	-18	31.1	276	08.1	+21	16.3	35	08.9	-3	47.3
1	47	41.6	215	28.6		34.6	178	22.2		31.6	291	10.4		16.3	50	11.5		47.3
2	62	44.0	230	28.2		35.9	193	22.9		32.1	306	12.7		16.2	65	14.0		47.4
3	77	46.5	245	27.8		37.1	208	23.6		32.6	321	15.0		16.2	80	16.6		47.4
4	92	49.0	260	27.4		38.3	223	24.3		33.0	336	17.3		16.2	95	19.2		47.5
5	107	51.4	275	27.0	-3	39.5	238	24.9	-18	33.5	351	19.6	+21	16.2	110	21.8	-3	47.5
6	122	53.9	290	26.6	-3	40.7	253	25.6	-18	34.0	6	21.9	+21	16.2	125	24.4	-3	47.6
7	137	56.4	305	26.2		42.0	268	26.3		34.5	21	24.2		16.1	140	27.0		47.6
8	152	58.8	320	25.8		43.2	283	27.0		35.0	36	26.6		16.1	155	29.6		47.7
9	168	01.3	335	25.4		44.4	298	27.6		35.4	51	28.9		16.1	170	32.2		47.7
10	183	03.8	350	25.0		45.6	313	28.3		35.9	66	31.2		16.1	185	34.8		47.8
11	198	06.2	5	24.6	-3	46.8	328	29.0	-18	36.4	81	33.5	+21	16.1	200	37.4	-3	47.8
12	213	08.7	20	24.1	-3	48.0	343	29.6	-18	36.9	96	35.8	+21	16.0	215	40.0	-3	47.9
13	228	11.1	35	23.7		49.3	358	30.3		37.3	111	38.1		16.0	230	42.6		47.9
14	243	13.6	50	23.3		50.5	13	31.0		37.8	126	40.4		16.0	245	45.2		48.0
15	258	16.1	65	22.9		51.7	28	31.7		38.3	141	42.7		16.0	260	47.8		48.0
16	273	18.5	80	22.5		52.9	43	32.3		38.8	156	45.0		16.0	275	50.4		48.1
17	288	21.0	95	22.1	-3	54.1	58	33.0	-18	39.3	171	47.3	+21	15.9	290	53.0	-3	48.1
18	303	23.5	110	21.7	-3	55.3	73	33.7	-18	39.7	186	49.7	+21	15.9	305	55.6	-3	48.2
19	318	25.9	125	21.3		56.6	88	34.4		40.2	201	52.0		15.9	320	58.1		48.2
20	333	28.4	140	20.9		57.8	103	35.0		40.7	216	54.3		15.9	336	00.7		48.3
21	348	30.9	155	20.4	-3	59.0	118	35.7		41.2	231	56.6		15.8	351	03.3		48.3
22	3	33.3	170	20.0	-4	00.2	133	36.4		41.6	246	58.9		15.8	6	05.9		48.4
23	18	35.8	185	19.6		01.4	148	37.0		42.1	262	01.2		15.8	21	08.5		48.4
24	33	38.2	200	19.2	-4	02.6	163	37.7	-18	42.6	277	03.5	+21	15.8	36	11.1	-3	48.5
Dif	—		-4	-12			+7	-5			+23	0			+26	-1		

UT	SOL				 LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:11 ^h 44.1 ^m				Edad: 3.5 ^d PHE { 4 ^h : 54 ^h 0 12 ^h : 54 ^h 1 20 ^h : 54 ^h 1 R°: 53 ^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	183	58.3	-12	06.6	146	25.4	-26	55.8	60 N	16 22	17 06	17 55	13 07	69	16 18	41
1	198	58.4		07.5	160	55.2	-27	00.6	58	29	10	56	12 31	64	16 54	46
2	213	58.5		08.4	175	24.9		05.4	56	35	13	57	12 05	62	17 20	48
3	228	58.5		09.2	189	54.6		10.0	54	40	17	58	11 45	60	41	49
4	243	58.6		10.1	204	24.2		14.4	52	45	20	17 59	28 59	17 58	50	
5	258	58.7	-12	10.9	218	53.8	-27	18.8	50	16 49	17 22	18 00	11 13	59	18 13	50
6	273	58.7	-12	11.8	233	23.4	-27	23.0	45	16 58	17 28	18 03	10 43	58	18 43	51
7	288	58.8		12.7	247	52.9		27.1	40	17 06	34	06	20 57	19 06	52	
8	303	58.9		13.5	262	22.3		31.0	35	13	39	08	10 01	56	26	52
9	318	59.0		14.4	276	51.7		34.9	30	19	43	11	9 45	55	19 42	53
10	333	59.0		15.2	291	21.1		38.6	20	29	17 52	18	9 17	55	20 10	53
11	348	59.1	-12	16.1	305	50.4	-27	42.1	10 N	17 39	18 00	18 25	8 54	54	20 34	53
12	3 59.2	-12	16.9	320	19.7		-27	45.6	0	17 47	18 09	18 33	8 32	53	20 57	53
13	18 59.2		17.8	334	48.9			48.9	10 S	17 56	18	43	8 10	52	21 19	54
14	33 59.3		18.7	349	18.1			52.0	20	18 06	29	18 55	7 47	51	21 43	54
15	48 59.4		19.5	3 47.3				55.1	30	17	42	19 12	20 49	22 11	54	
16	63 59.4		20.4	18 16.4			-27	58.0	35	24	18 50	22	7 04	49	28 54	
17	78 59.5	-12	21.2	32 45.5			-28	00.8	40	18 31	19 00	19 34	6 45	48	22 47	54
18	93 59.6	-12	22.1	47 14.6			-28	03.4	45	18 40	19 11	19 50	6 23	46	23 11	54
19	108 59.6		22.9	61 43.6				05.9	50	50	25	20 10	5 55	44	41 54	
20	123 59.7		23.8	76 12.6				08.3	52	18 55	32	19	41 43	23 56	54	
21	138 59.8		24.7	90 41.5				10.5	54	19 00	40	31	25 41	** ** *	**	
22	153 59.8		25.5	105 10.5				12.6	56	07	49	20 44	5 06	39	** ** *	**
23	168 59.9		26.4	119 39.3				14.5	58	13	19 59	21 00	4 42	36	** ** *	**
24	184 00.0	-12	27.2	134 08.2			-28	16.4	60 S	19 21	20 10	21 19	4 12	27	0 20	82

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 21 ^h 41.9 ^m		Mag: -3.9 PMG: 10 ^h 39 ^m		Mag: +1.5 PMG: 13 ^h 05 ^m		Mag: -2.3 PMG: 5 ^h 31 ^m		Mag: +0.7 PMG: 21 ^h 32 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	33	38.2	200	19.2	-4	02.6	163	37.7	-18	42.6
1	48	40.7	215	18.8		03.9	178	38.4		43.1
2	63	43.2	230	18.4		05.1	193	39.0		43.5
3	78	45.6	245	18.0		06.3	208	39.7		44.0
4	93	48.1	260	17.6		07.5	223	40.4		44.5
5	108	50.6	275	17.1	-4	08.7	238	41.0	-18	45.0
6	123	53.0	290	16.7	-4	09.9	253	41.7	-18	45.4
7	138	55.5	305	16.3		11.2	268	42.4		45.9
8	153	58.0	320	15.9		12.4	283	43.1		46.4
9	169	00.4	335	15.5		13.6	298	43.7		46.9
10	184	02.9	350	15.1		14.8	313	44.4		47.3
11	199	05.4	5	14.7	-4	16.0	328	45.1	-18	47.8
12	214	07.8	20	14.2	-4	17.2	343	45.7	-18	48.3
13	229	10.3	35	13.8		18.4	358	46.4		48.7
14	244	12.7	50	13.4		19.7	13	47.1		49.2
15	259	15.2	65	13.0		20.9	28	47.7		49.7
16	274	17.7	80	12.6		22.1	43	48.4		50.2
17	289	20.1	95	12.2	-4	23.3	58	49.0	-18	50.6
18	304	22.6	110	11.7	-4	24.5	73	49.7	-18	51.1
19	319	25.1	125	11.3		25.7	88	50.4		51.6
20	334	27.5	140	10.9		26.9	103	51.0		52.0
21	349	30.0	155	10.5		28.2	118	51.7		52.5
22	4	32.5	170	10.1		29.4	133	52.4		53.0
23	19	34.9	185	09.7		30.6	148	53.0		53.4
24	34	37.4	200	09.2	-4	31.8	163	53.7	-18	53.9
Dif	—		-4		-12		+7		-5	

0	16 22	17 06	17 55	13 07	69	16 18	41
1	29	10	56	12 31	64	16 54	46
2	35	13	57	12 05	62	17 20	48
3	40	17	58	11 45	60	41	49
4	45	20	17 59	28 59	17 58	50	
5	16 49	17 22	18 00	11 13	59	18 13	50
6	16 58	17 28	18 03	10 43	58	18 43	51
7	17 06	34	06	20 57	19 06	52	
8	13	39	08	10 01	56	26	52
9	19	43	11	9 45	55	19 42	53
10	29	17 52	18	9 17	55	20 10	53
11	17 39	18 00	18 25	8 54	54	20 34	53
12	17 47	18 09	18 33	8 32	53	20 57	53
13	17 56	18	43	8 10	52	21 19	54
14	18 06	29	18 55	7 47	51	21 43	54
15	17	42	19 12	20 49	22 11	54	
16	24	18 50	22	7 04	49	28 54	
17	18 31	19 00	19 34	6 45	48	22 47	54
18	18 40	19 11	19 50	6 23	46	23 11	54
19	50	25	20 10	5 55	44	41 54	
20	18 55	32	19	41 43	23 56	54	
21	19 00	40	31	25 41	** ** *	**	
22	07	49	20 44	5 06	39	** ** *	**
23	13	19 59	21 00	4 42	36	** ** *	**
24	19 21	20 10	21 19	4 12	27	0 20	82

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG: 11 ^h 44.0 ^m			Edad: 4.5 ^d SD: 14'8 PMG: 15 ^h 36 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	184	00.0	-12	27.2	134	08.2	-28	16.4	60 N	5	35	6	23	7	07	14	15
1	199	00.0		28.1	148	37.0	98	18.1	58	33	19	7	01	13	34	40	17
2	214	00.1		28.9	163	05.8	98	19.6	56	32	16	6	55	13	06	43	18
3	229	00.2		29.8	177	34.6	98	21.0	54	31	12	49		12	44	44	28
4	244	00.2		30.6	192	03.4	98	22.3	52	30	09	44		26	46	18	46
5	259	00.3	-12	31.5	206	32.1	97	-28	50	5	29	6	07	6	40	12	11
6	274	00.4	-12	32.3	221	00.8	97	-28	45	5	26	6	00	6	30	11	40
7	289	00.4		33.2	235	29.5	97	25.3	40	23	5	55	22	11	16	49	19
8	304	00.5		34.0	249	58.2	97	26.0	35	20	50	16		10	56	50	20
9	319	00.5		34.9	264	26.8	96	26.6	30	17	45	6	10	39	50	20	33
10	334	00.6		35.7	278	55.5	97	27.0	20	10	36	5	59	10	11	51	21
11	349	00.7	-12	36.6	293	24.1	96	-28	10 N	5	03	5	28	9	46	52	21
12	4	00.7	-12	37.4	307	52.7	96	-28	0	4	55	5	19	5	41	9	23
13	19	00.8		38.3	322	21.2	95	27.5	10 S	45	5	10	32	9	01	52	22
14	34	00.9		39.1	336	49.8	96	27.4	20	32	4	59	22	8	36	54	22
15	49	00.9		40.0	351	18.4	96	27.2	30	16	46	11		8	08	54	23
16	64	01.0		40.8	5	46.9	95	26.8	35	4	06	37	5	04	7	51	54
17	79	01.0	-12	41.7	20	15.5	96	-28	40	3	53	4	28	4	56	7	32
18	94	01.1	-12	42.5	34	44.0	95	-28	45	3	38	4	16	4	48	7	08
19	109	01.2		43.4	49	12.5	95	24.7	50	18	4	02	37	6	37	56	**
20	124	01.2		44.2	63	41.0	95	23.8	52	3	08	3	55	32	22	56	**
21	139	01.3		45.1	78	09.5	95	22.7	54	2	57	47	27	6	05	56	0
22	154	01.3		45.9	92	38.0	95	21.4	56	43	39	21		5	43	57	0
23	169	01.4		46.7	107	06.5	95	20.0	58	27	29	14		5	16	58	1
24	184	01.4	-12	47.6	121	35.0	95	-28	60 S	2	08	3	17	4	06	4	38

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 21 ^h 38.0 ^m		Mag: -3.9 PMG: 10 ^h 40 ^m		Mag: +1.5 PMG: 13 ^h 04 ^m		Mag: -2.3 PMG: 5 ^h 27 ^m		Mag: +0.7 PMG: 21 ^h 27 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	34	37.4	200	09.2	-4	31.8	163	53.7	-18	53.9
1	49	39.9	215	08.8		33.0	178	54.4		54.4
2	64	42.3	230	08.4		34.2	193	55.0		54.8
3	79	44.8	245	08.0		35.4	208	55.7		55.3
4	94	47.2	260	07.6		36.6	223	56.3		55.8
5	109	49.7	275	07.2	-4	37.9	238	57.0	-18	56.3
6	124	52.2	290	06.7	-4	39.1	253	57.7	-18	56.7
7	139	54.6	305	06.3		40.3	268	58.3		57.2
8	154	57.1	320	05.9		41.5	283	59.0		57.7
9	169	59.6	335	05.5		42.7	298	59.6		58.1
10	185	02.0	350	05.1		43.9	314	00.3		58.6
11	200	04.5	5	04.7	-4	45.1	329	01.0	-18	59.1
12	215	07.0	20	04.2	-4	46.3	344	01.6	-18	59.5
13	230	09.4	35	03.8		47.6	359	02.3	-19	00.0
14	245	11.9	50	03.4		48.8	14	02.9	-19	00.4
15	260	14.4	65	03.0		50.0	29	03.6		00.9
16	275	16.8	80	02.6		51.2	44	04.3		01.4
17	290	19.3	95	02.1	-4	52.4	59	04.9	-19	01.8
18	305	21.7	110	01.7	-4	53.6	74	05.6	-19	02.3
19	320	24.2	125	01.3		54.8	89	06.2		02.8
20	335	26.7	140	00.9		56.0	104	06.9		03.2
21	350	29.1	155	00.5		57.2	119	07.6		03.7
22	5	31.6	170	00.0		58.5	134	08.2		04.2
23	20	34.1	184	59.6	-4	59.7	149	08.9		04.6
24	35	36.5	199	59.2	-5	00.9	164	09.5	-19	05.1
Dif	—		-4	-12		+7	-5	+23		0

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 1 PMG: 11 ^h 43.9 ^m		Edad: 5.5 ^d SD: 14 ^h 8 PMG: 16 ^h 28 ^m		PHE { 4 ^h : 54/6 12 ^h : 54/7 20 ^h : 54/9 Rº: 53 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	184	01.4	-12	47.6	121	35.0	95	-28	18.5	17	60 N	16 17	17 01	17 50	14 48	13	18 14
1	199	01.5		48.4	136	03.5	95		16.8	18	58	24	05	51	14 14	22	18 47
2	214	01.6		49.3	150	32.0	95		15.0	19	56	30	09	53	13 49	28	19 12
3	229	01.6		50.1	165	00.5	95		13.1	21	54	36	13	54	28 32		32 77
4	244	01.7		51.0	179	29.0	95		11.0	22	52	41	16	55	13 12	34	19 49
5	259	01.7	-12	51.8	193	57.5	95	-28	08.8	24	50	16 45	17 19	17 57	12 57	37	20 03
6	274	01.8	-12	52.7	208	26.0	95	-28	06.4	25	45	16 55	17 26	18 00	12 28	40	20 32
7	289	01.8		53.5	222	54.6	96		03.9	27	40	17 04	31	03	12 05	43	20 54
8	304	01.9		54.3	237	23.1	95	-28	01.2	28	35	11	37	06	11 46	45	21 13
9	319	01.9		55.2	251	51.6	95	-27	58.4	29	30	17	42	10	29 47		29 61
10	334	02.0		56.0	266	20.1	95		55.5	30	20	28	51	17	11 02	49	21 56
11	349	02.1	-12	56.9	280	48.7	96	-27	52.4	31	10 N	17 38	17 59	18 24	10 38	51	22 19
12	4	02.1	-12	57.7	295	17.3	96	-27	49.2	32	0	17 47	18 08	18 33	10 16	53	22 41
13	19	02.2		58.6	309	45.8	95		45.8	34	10 S	17 57	18	44	9 53	55	23 02
14	34	02.2	-12	59.4	324	14.4	96		42.3	35	20	18 07	30	18 56	30 56		25 47
15	49	02.3	-13	00.2	338	43.0	96		38.7	36	30	19	44	19 13	9 02	59	23 52
16	64	02.3		01.1	353	11.7	97		34.9	38	35	25	18 52	24	8 45	61	*** ** *
17	79	02.4	-13	01.9	7	40.3	96	-27	31.0	39	40	18 33	19 02	19 37	8 26	62	*** ** *
18	94	02.4	-13	02.8	22	08.9	96	-27	27.0	40	45	18 42	19 14	19 53	8 03	64	0 03
19	109	02.5		03.6	36	37.6	97		22.8	42	50	54	29	20 14	7 33	68	34 42
20	124	02.5		04.4	51	06.3	97		18.4	44	52	18 59	36	24	18 69	0	49 40
21	139	02.6		05.3	65	35.0	97		14.0	44	54	19 04	44	36	7 01	71	1 06
22	154	02.6		06.1	80	03.7	97		09.4	46	56	11	19 54	20 50	6 40	75	27 36
23	169	02.7		06.9	94	32.5	98	-27	04.6	48	58	18	20 04	21 07	6 14	79	1 53
24	184	02.7	-13	07.8	109	01.3	98	-26	59.7	49	60 S	19 26	20 16	21 28	5 37	88	2 30
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 21 ^h 34.0 ^m		Mag: -3.9 PMG: 10 ^h 40 ^m		Mag: +1.5 PMG: 13 ^h 03 ^m		Mag: -2.3 PMG: 5 ^h 23 ^m		Mag: +0.7 PMG: 21 ^h 23 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	35	36.5	199	59.2	-5	00.9	164	09.5	-19	05.1							
1	50	39.0	214	58.8		02.1	179	10.2		05.5							
2	65	41.5	229	58.3		03.3	194	10.8		06.0							
3	80	43.9	244	57.9		04.5	209	11.5		06.5							
4	95	46.4	259	57.5		05.7	224	12.2		06.9							
5	110	48.9	274	57.1	-5	06.9	239	12.8	-19	07.4							
6	125	51.3	289	56.7	-5	08.1	254	13.5	-19	07.9							
7	140	53.8	304	56.2		09.3	269	14.1		08.3							
8	155	56.2	319	55.8		10.5	284	14.8		08.8							
9	170	58.7	334	55.4		11.8	299	15.4		09.2							
10	186	01.2	349	55.0		13.0	314	16.1		09.7							
11	201	03.6	4	54.5	-5	14.2	329	16.7	-19	10.2							
12	216	06.1	19	54.1	-5	15.4	344	17.4	-19	10.6							
13	231	08.6	34	53.7		16.6	359	18.0		11.1							
14	246	11.0	49	53.3		17.8	14	18.7		11.5							
15	261	13.5	64	52.8		19.0	29	19.3		12.0							
16	276	16.0	79	52.4		20.2	44	20.0		12.5							
17	291	18.4	94	52.0	-5	21.4	59	20.6	-19	12.9							
18	306	20.9	109	51.6	-5	22.6	74	21.3	-19	13.4							
19	321	23.3	124	51.1		23.8	89	21.9		13.8							
20	336	25.8	139	50.7		25.0	104	22.6		14.3							
21	351	28.3	154	50.3		26.2	119	23.3		14.7							
22	6	30.7	169	49.9		27.4	134	23.9		15.2							
23	21	33.2	184	49.4		28.7	149	24.6		15.7							
24	36	35.7	199	49.0	-5	29.9	164	25.2	-19	16.1							
Dif	—		-4	-12			+7	-5									
							+23	0									
									+26	0							

UT	SOL			 LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG: 11 ^h 43.8 ^m			Edad: 6.5 ^d SD: 15 ^h 0 PMG: 17 ^h 20 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	PHE { 4 ^h : 55 ^h 1 12 ^h : 55 ^h 3 20 ^h : 55 ^h 5 R°: 50 ^m										
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	184	02.7	-13	07.8	109	01.3	-26	59.7	50	60 N	5	39	6	28	7	12	14	59
1	199	02.8		08.6	123	30.1		54.7	52	58	38		24	7	05		35	12
2	214	02.8		09.4	137	58.9		49.5	53	56	36		20	6	59		14	16
3	229	02.9		10.3	152	27.7		44.2	54	54	35		16	53	59	21	20	48
4	244	02.9		11.1	166	56.6		38.8	54	52	33		13	48		45	24	
5	259	03.0	-13	12.0	181	25.5	-26	33.2	56	50	5	32	6	10	6	43	13	33
6	274	03.0	-13	12.8	195	54.5	-26	27.5	57	45	5	28	6	03	6	33	13	07
7	289	03.1		13.6	210	23.4		21.7	58	40	25		5	57	25	12	47	35
8	304	03.1		14.5	224	52.4		15.7	60	35	22		51	17		29	38	
9	319	03.2		15.3	239	21.4		09.6	61	30	18		46	11		12	15	40
10	334	03.2		16.1	253	50.5	-26	03.4	62	20	11		37	6	00	11	50	44
11	349	03.3	-13	17.0	268	19.5	-25	57.0	64	10 N	5	03	5	28	5	50	11	28
12	4	03.3	-13	17.8	282	48.6	-25	50.5	65	0	4	54	5	19	5	40	11	07
13	19	03.4		18.6	297	17.8		43.9	66	10 S	44		5	09	31		10	47
14	34	03.4		19.5	311	47.0		37.1	68	20	31		4	58	21		25	57
15	49	03.4		20.3	326	16.2		30.2	69	30	14		44	09	10	00	60	**
16	64	03.5		21.1	340	45.4		23.1	71	35	4	03	35	5	02	9	45	62
17	79	03.5	-13	21.9	355	14.7	-25	16.0	71	40	3	50	4	25	4	54	9	27
18	94	03.6	-13	22.8	9	44.0	-25	08.7	73	45	3	34	4	13	4	45	9	06
19	109	03.6		23.6	24	13.3	-25	01.2	75	50	13		3	58	33		8	39
20	124	03.7		24.4	38	42.7	-24	53.7	75	52	3	03	51	28		26	77	28
21	139	03.7		25.3	53	12.1		46.0	77	54	2	51	42	22		8	11	80
22	154	03.8		26.1	67	41.6		38.2	78	56	37		33	16		7	53	84
23	169	03.8		26.9	82	11.1		30.2	80	58	2	20	23	09		32	89	23
24	184	03.8	-13	27.8	96	40.6	-24	22.2	80	60 S	1	59	3	11	4	00	7	04

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 30.1 ^m		Mag: -3.9 PMG: 10 ^h 41 ^m		Mag: +1.5 PMG: 13 ^h 02 ^m		Mag: -2.3 PMG: 5 ^h 20 ^m		Mag: +0.8 PMG: 21 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	36	35.7	199	49.0	-5	29.9	164	25.2	-19	16.1
1	51	38.1	214	48.6		31.1	179	25.9		16.6
2	66	40.6	229	48.2		32.3	194	26.5		17.0
3	81	43.1	244	47.7		33.5	209	27.2		17.5
4	96	45.5	259	47.3		34.7	224	27.8		17.9
5	111	48.0	274	46.9	-5	35.9	239	28.4	-19	18.4
6	126	50.5	289	46.5	-5	37.1	254	29.1	-19	18.8
7	141	52.9	304	46.0		38.3	269	29.7		19.3
8	156	55.4	319	45.6		39.5	284	30.4		19.7
9	171	57.8	334	45.2		40.7	299	31.0		20.2
10	187	00.3	349	44.7		41.9	314	31.7		20.7
11	202	02.8	4	44.3	-5	43.1	329	32.3	-19	21.1
12	217	05.2	19	43.9	-5	44.3	344	33.0	-19	21.6
13	232	07.7	34	43.4		45.5	359	33.6		22.0
14	247	10.2	49	43.0		46.7	14	34.3		22.5
15	262	12.6	64	42.6		47.9	29	34.9		22.9
16	277	15.1	79	42.2		49.1	44	35.6		23.4
17	292	17.6	94	41.7	-5	50.3	59	36.2	-19	23.8
18	307	20.0	109	41.3	-5	51.5	74	36.9	-19	24.3
19	322	22.5	124	40.9		52.7	89	37.5		24.7
20	337	25.0	139	40.4		53.9	104	38.1		25.2
21	352	27.4	154	40.0		55.1	119	38.8		25.6
22	7	29.9	169	39.6		56.3	134	39.4		26.1
23	22	32.3	184	39.1		57.5	149	40.1		26.5
24	37	34.8	199	38.7	-5	58.7	164	40.7	-19	27.0
Dif	—		-4		-12		+6		-5	
							+23		0	
									+26	

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG: 11 ^h 43.7 ^m				Edad: 8.5 ^d SD: 15'4 PMG: 18 ^h 58 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec		Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	184	04.8	-13	47.5	84	40.6	-20	31.8	60 N	5	44	6	33	7	18	15	05	0
1	199	04.8		48.3	99	11.1		20.7	58	42		28	10	14	54	4	18	93
2	214	04.8		49.2	113	41.6		09.5	56	40		24	7	03	44	8	27	89
3	229	04.9		50.0	128	12.1		58.3	54	38		20	6	57	35	11	35	86
4	244	04.9		50.8	142	42.7		46.9	52	36		16	52	27	14		42	83
5	259	04.9	-13	51.6	157	13.3		35.4	50	5	35	6	13	6	47	14	20	16
6	274	05.0	-13	52.4	171	44.0		23.8	45	5	31	6	05	6	36	14	04	22
7	289	05.0		53.2	186	14.7		12.1	40	27		5	59	27	13	52	26	***
8	304	05.0		54.1	200	45.4		00.3	35	23		53	19	41	30		***	***
9	319	05.1		54.9	215	16.2		48.3	30	20		48	12	31	33		***	***
10	334	05.1		55.7	229	47.0		36.3	20	12		38	6	01	15	38		***
11	349	05.1	-13	56.5	244	17.8		24.2	10 N	5	04	5	29	5	50	13	00	44
12	4	05.1	-13	57.3	258	48.7		11.9	0	4	54	5	19	5	40	12	47	47
13	19	05.2		58.1	273	19.5		59.6	10 S	43		5	09	30	33	52		37
14	34	05.2		58.9	287	50.5		47.2	20	30		4	57	19	19	56	0	54
15	49	05.2	-13	59.8	302	21.4		34.6	30	12		42	07	12	02	62	1	12
16	64	05.3	-14	00.6	316	52.4		22.0	35	4	01	33	5	00	11	52	65	23
17	79	05.3	-14	01.4	331	23.4		09.2	40	3	47	4	22	4	51	11	41	69
18	94	05.3	-14	02.2	345	54.5		56.4	45	3	30	4	10	4	42	11	27	74
19	109	05.4		03.0	0	25.5		43.5	50	3	08	3	54	30	11	79	2	08
20	124	05.4		03.8	14	56.7		30.4	52	2	58	46	24	11	03	82	17	15
21	139	05.4		04.6	29	27.8		17.3	54	45		38	18	10	54	86	26	13
22	154	05.4		05.4	43	58.9		04.1	56	30		28	11	45	89	36	10	
23	169	05.5		06.2	58	30.1		50.8	58	2	12	17	4	04	34	93	2	48
24	184	05.5	-14	07.1	73	01.3		37.4	60 S	1	49	3	04	3	55	10	21	98

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 22.2 ^m		Mag: -3.9 PMG: 10 ^h 42 ^m		Mag: +1.5 PMG: 13 ^h 00 ^m		Mag: -2.3 PMG: 5 ^h 12 ^m		Mag: +0.8 PMG: 21 ^h 11 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	38	33.9	199	28.3	-6	27.5	164	56.1	-19	37.7
1	53	36.4	214	27.8		28.7	179	56.7		38.1
2	68	38.9	229	27.4		29.9	194	57.4		38.6
3	83	41.3	244	27.0		31.1	209	58.0		39.0
4	98	43.8	259	26.5		32.3	224	58.6		39.4
5	113	46.3	274	26.1	-6	33.5	239	59.3	-19	39.9
6	128	48.7	289	25.6	-6	34.7	254	59.9	-19	40.3
7	143	51.2	304	25.2		35.9	270	00.5		40.8
8	158	53.7	319	24.8		37.1	285	01.2		41.2
9	173	56.1	334	24.3		38.3	300	01.8		41.7
10	188	58.6	349	23.9		39.5	315	02.4		42.1
11	204	01.1	4	23.4	-6	40.7	330	03.1	-19	42.5
12	219	03.5	19	23.0	-6	41.9	345	03.7	-19	43.0
13	234	06.0	34	22.6		43.1	0	04.3		43.4
14	249	08.4	49	22.1		44.2	15	05.0		43.9
15	264	10.9	64	21.7		45.4	30	05.6		44.3
16	279	13.4	79	21.2		46.6	45	06.2		44.7
17	294	15.8	94	20.8	-6	47.8	60	06.9	-19	45.2
18	309	18.3	109	20.4	-6	49.0	75	07.5	-19	45.6
19	324	20.8	124	19.9		50.2	90	08.1		46.0
20	339	23.2	139	19.5		51.4	105	08.8		46.5
21	354	25.7	154	19.0		52.6	120	09.4		46.9
22	9	28.2	169	18.6		53.8	135	10.0		47.4
23	24	30.6	184	18.1		55.0	150	10.7		47.8
24	39	33.1	199	17.7	-6	56.2	165	11.3	-19	48.2
Dif	—		-4		-12		+6		-4	
									+24	
									0	
									+26	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG:11 ^h 43.6 ^m				Edad: 9.5 ^d PHE { 4 ^h : 57.4 12 ^h : 57.7 20 ^h : 58.0 SD: 15 ^h 6 Rº: 48 ^m PMG: 19 ^h 46 ^m															
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	184	05.5	-14	07.1	73	01.3	-15	37.4	135	60 N	16	06	16	51	17	40	15	05	1	** ** *
1	199	05.5		07.9	87	32.6		23.9	135	58	14	16	56	43	14	58	4	** ** *		** ** *
2	214	05.5		08.7	102	03.8		10.3	136	56	21	17	01	45	52	7	** ** *		** ** *	
3	229	05.6		09.5	116	35.1		56.6	137	54	27	05	47	46	11	** ** *		** ** *		** ** *
4	244	05.6		10.3	131	06.4		42.8	138	52	33	09	48	41	14	** ** *		** ** *		** ** *
5	259	05.6	-14	11.1	145	37.7	-14	28.9	139	50	16	38	17	12	17	50	14	36	16	** ** *
6	274	05.6	-14	11.9	160	09.1	-14	15.0	139	45	16	49	17	20	17	55	14	26	22	0 02 76
7	289	05.7		12.7	174	40.4	-14	00.9	141	40	16	59	27	17	59	18	26	14	71	14 71
8	304	05.7		13.5	189	11.8	-13	46.8	141	35	17	07	33	18	03	11	29	23	67	23 67
9	319	05.7		14.3	203	43.2		32.6	142	30	14	38	07	14	04	33	31	64		31 64
10	334	05.7		15.1	218	14.6		18.3	143	20	26	49	15	13	53	39	46	58		46 58
11	349	05.8	-14	15.9	232	46.1	-13	03.9	144	10 N	17	37	17	58	18	23	13	44	43	0 58 53
12	4	05.8	-14	16.7	247	17.5	-12	49.5	144	0	17	47	18	08	18	33	13	34	49	1 10 48
13	19	05.8		17.5	261	49.0		34.9	146	10 S	17	57	19	45	25	53	21	44		21 44
14	34	05.8		18.4	276	20.4		20.3	146	20	18	09	32	18	59	15	59	33	39	33 39
15	49	05.8		19.2	290	51.9	-12	05.6	147	30	22	47	19	17	13	04	64	47	33	47 33
16	64	05.9		20.0	305	23.4	-11	50.8	148	35	29	18	56	28	12	57	68	1	55	30
17	79	05.9	-14	20.8	319	54.9	-11	36.0	148	40	18	38	19	07	19	42	12	50	72	2 04 26
18	94	05.9	-14	21.6	334	26.5	-11	21.0	150	45	18	48	19	20	20	00	12	41	77	2 14 22
19	109	05.9		22.4	348	58.0	-11	06.0	150	50	19	00	37	23	30	83	27	16		27 16
20	124	05.9		23.2	3	29.5	-10	51.0	150	52	06	45	34	25	85	32	15			32 15
21	139	06.0		24.0	18	01.1		35.8	152	54	13	19	53	20	47	20	88	39	11	39 11
22	154	06.0		24.8	32	32.6		20.6	152	56	20	20	04	21	03	14	91	46	8	46 8
23	169	06.0		25.6	47	04.2	-10	05.3	153	58	28	15	22	12	07	95	2	54	5	54 5
24	184	06.0	-14	26.4	61	35.7	-9	49.9	154	60 S	19	37	20	29	21	47	11	59	99	3 03 1
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 21 ^h 18.3 ^m		Mag: -3.9 PMG: 10 ^h 43 ^m		Mag: +1.5 PMG: 12 ^h 59 ^m		Mag: -2.3 PMG: 5 ^h 09 ^m		Mag: +0.8 PMG: 21 ^h 07 ^m											
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	39	33.1	199	17.7	-6	56.2	165	11.3	-19	48.2	282	40.2	+21	13.5	42	23.2	-3	55.0		
1	54	35.6	214	17.2		57.4	180	11.9		48.7	297	42.5		13.5	57	25.7		55.0		
2	69	38.0	229	16.8		58.5	195	12.5		49.1	312	44.9		13.5	72	28.3		55.1		
3	84	40.5	244	16.4	-6	59.7	210	13.2		49.5	327	47.3		13.5	87	30.9		55.1		
4	99	42.9	259	15.9	-7	00.9	225	13.8		50.0	342	49.6		13.5	102	33.5		55.2		
5	114	45.4	274	15.5	-7	02.1	240	14.4	-19	50.4	357	52.0	+21	13.5	117	36.0	-3	55.2		
6	129	47.9	289	15.0	-7	03.3	255	15.1	-19	50.8	12	54.4	+21	13.5	132	38.6	-3	55.2		
7	144	50.3	304	14.6		04.5	270	15.7		51.3	27	56.7		13.4	147	41.2		55.3		
8	159	52.8	319	14.1		05.7	285	16.3		51.7	42	59.1		13.4	162	43.7		55.3		
9	174	55.3	334	13.7		06.9	300	16.9		52.1	58	01.4		13.4	177	46.3		55.4		
10	189	57.7	349	13.2		08.1	315	17.6		52.6	73	03.8		13.4	192	48.9		55.4		
11	205	00.2	4	12.8	-7	09.2	330	18.2	-19	53.0	88	06.2	+21	13.4	207	51.5	-3	55.4		
12	220	02.7	19	12.3	-7	10.4	345	18.8	-19	53.4	103	08.5	+21	13.4	222	54.0	-3	55.5		
13	235	05.1	34	11.9		11.6	0	19.5		53.9	118	10.9		13.4	237	56.6		55.5		
14	250	07.6	49	11.4		12.8	15	20.1		54.3	133	13.3		13.4	252	59.2		55.6		
15	265	10.0	64	11.0		14.0	30	20.7		54.7	148	15.6		13.4	268	01.8		55.6		
16	280	12.5	79	10.6		15.2	45	21.3		55.2	163	18.0		13.4	283	04.3		55.6		
17	295	15.0	94	10.1	-7	16.4	60	22.0	-19	55.6	178	20.4	+21	13.3	298	06.9	-3	55.7		
18	310	17.4	109	09.7	-7	17.6	75	22.6	-19	56.0	193	22.8	+21	13.3	313	09.5	-3	55.7		
19	325	19.9	124	09.2		18.7	90	23.2		56.5	208	25.1		13.3	328	12.0		55.8		
20	340	22.4	139	08.8		19.9	105	23.8		56.9	223	27.5		13.3	343	14.6		55.8		
21	355	24.8	154	08.3		21.1	120	24.5		57.3	238	29.9		13.3	358	17.2		55.8		
22	10	27.3	169	07.9		22.3	135	25.1		57.7	253	32.2		13.3	13	19.8		55.9		
23	25	29.8	184	07.4		23.5	150	25.7		58.2	268	34.6		13.3	28	22.3		55.9		
24	40	32.2	199	07.0	-7	24.7	165	26.3	-19	58.6	283	37.0	+21	13.3	43	24.9	-3	55.9		
Dif	—		-4		-12		+6		-4		+24		0		+26					

UT	SOL				C LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG: 11 ^h 43.6 ^m				Edad: 10.5 ^d PHE { 4 ^h : 58'4 12 ^h : 58'7 20 ^h : 59'0 SD: 15'9 PMG: 20 ^h 33 ^m R°: 48 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	06.0	-14	26.4	61	35.7	-9	49.9	155	58	60 N	5 48	6 37	7 23	15 04	**	0 45	99	
1	199	06.0		27.2	76	07.3		34.4	155	58		46	32	15	15 01	3	51	94	
2	214	06.1		28.0	90	38.9		18.9	155	56		44	28	07	14 58	6	0 56	91	
3	229	06.1		28.8	105	10.4	-9	03.4	155	54		42	23	7 01	56	9	1 01	87	
4	244	06.1		29.6	119	42.0	-8	47.7	157	52		40	20	6 55	53	12	05	84	
5	259	06.1	-14	30.4	134	13.5	-8	32.0	157	50		5 38	6 16	6 50	14 51	14	1 09	81	
6	274	06.1	-14	31.2	148	45.1	-8	16.2	158	45		5 33	6 08	6 39	14 46	20	1 17	76	
7	289	06.1		32.0	163	16.6	-8	00.4	158	40		29	6 01	29	42	24	23	71	
8	304	06.2		32.8	177	48.2	-7	44.5	159	35		25	5 55	21	39	28	29	67	
9	319	06.2		33.6	192	19.7		28.6	159	30		21	49	14	36	31	34	63	
10	334	06.2		34.3	206	51.3	-7	12.5	161	20		13	39	6 02	31	37	42	58	
11	349	06.2	-14	35.1	221	22.8	-6	56.5	160	10 N		5 04	5 29	5 51	14 26	43	1 50	52	
12	4	06.2	-14	35.9	235	54.3	-6	40.3	162	0		4 54	5 19	5 40	14 21	48	1 57	47	
13	19	06.2		36.7	250	25.8		24.2	161	10 S		42	5 08	30	17	53	2 04	42	
14	34	06.2		37.5	264	57.3	-6	07.9	163	20		28	4 55	18	12	59	11	37	
15	49	06.3		38.3	279	28.7	-5	51.6	163	30		4 10	40	5 05	07	64	19	31	
16	64	06.3		39.1	294	00.2		35.3	163	35		3 58	31	4 58	04	68	24	27	
17	79	06.3	-14	39.9	308	31.6	-5	18.9	164	40		3 44	4 20	4 49	14 00	73	2 29	24	
18	94	06.3	-14	40.7	323	03.1	-5	02.4	165	45		3 27	4 06	4 39	13 56	77	2 35	19	
19	109	06.3		41.5	337	34.5	-4	45.9	165	50		3 04	3 50	26	51	83	42	14	
20	124	06.3		42.3	352	05.9		29.4	165	52		2 52	42	20	49	86	45	12	
21	139	06.3		43.1	6	37.2	-4	12.8	166	54		39	33	14	46	89	49	9	
22	154	06.3		43.9	21	08.6	-3	56.2	166	56		23	23	4 07	44	91	53	6	
23	169	06.4		44.7	35	39.9		39.5	167	58		2 04	3 11	3 59	41	95	2 57	3	
24	184	06.4	-14	45.4	50	11.2	-3	22.8	167	60 S		1 39	2 57	3 49	13 37	100	3 02	**	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 14.4 ^m		Mag: -3.9 PMG: 10 ^h 44 ^m		Mag: +1.5 PMG: 12 ^h 58 ^m		Mag: -2.3 PMG: 5 ^h 05 ^m		Mag: +0.8 PMG: 21 ^h 03 ^m									
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
h	°	'	°	'	°	'	°	'	°	'								
0	40	32.2	199	07.0	-7	24.7	165	26.3	-19	58.6	283	37.0	+21	13.3	43	24.9	-3	55.9
1	55	34.7	214	06.5		25.9	180	27.0		59.0	298	39.3		13.3	58	27.5		56.0
2	70	37.2	229	06.1		27.0	195	27.6		59.5	313	41.7		13.2	73	30.0		56.0
3	85	39.6	244	05.6		28.2	210	28.2	-19	59.9	328	44.1		13.2	88	32.6		56.1
4	100	42.1	259	05.1		29.4	225	28.8	-20	00.3	343	46.5		13.2	103	35.2		56.1
5	115	44.5	274	04.7	-7	30.6	240	29.4	-20	00.7	358	48.8	+21	13.2	118	37.8	-3	56.1
6	130	47.0	289	04.2	-7	31.8	255	30.1	-20	01.2	13	51.2	+21	13.2	133	40.3	-3	56.2
7	145	49.5	304	03.8		33.0	270	30.7		01.6	28	53.6		13.2	148	42.9		56.2
8	160	51.9	319	03.3		34.1	285	31.3		02.0	43	56.0		13.2	163	45.5		56.3
9	175	54.4	334	02.9		35.3	300	31.9		02.5	58	58.3		13.2	178	48.0		56.3
10	190	56.9	349	02.4		36.5	315	32.6		02.9	74	00.7		13.2	193	50.6		56.3
11	205	59.3	4	02.0	-7	37.7	330	33.2	-20	03.3	89	03.1	+21	13.2	208	53.2	-3	56.4
12	221	01.8	19	01.5	-7	38.9	345	33.8	-20	03.7	104	05.5	+21	13.2	223	55.7	-3	56.4
13	236	04.3	34	01.1		40.0	0	34.4		04.2	119	07.8		13.1	238	58.3		56.5
14	251	06.7	49	00.6		41.2	15	35.0		04.6	134	10.2		13.1	254	00.9		56.5
15	266	09.2	64	00.2		42.4	30	35.7		05.0	149	12.6		13.1	269	03.5		56.5
16	281	11.7	78	59.7		43.6	45	36.3		05.4	164	15.0		13.1	284	06.0		56.6
17	296	14.1	93	59.3	-7	44.8	60	36.9	-20	05.9	179	17.3	+21	13.1	299	08.6	-3	56.6
18	311	16.6	108	58.8	-7	45.9	75	37.5	-20	06.3	194	19.7	+21	13.1	314	11.2	-3	56.6
19	326	19.0	123	58.3		47.1	90	38.1		06.7	209	22.1		13.1	329	13.7		56.7
20	341	21.5	138	57.9		48.3	105	38.8		07.1	224	24.5		13.1	344	16.3		56.7
21	356	24.0	153	57.4		49.5	120	39.4		07.5	239	26.8		13.1	359	18.9		56.8
22	11	26.4	168	57.0		50.7	135	40.0		08.0	254	29.2		13.1	14	21.4		56.8
23	26	28.9	183	56.5		51.8	150	40.6		08.4	269	31.6		13.1	29	24.0		56.8
24	41	31.4	198	56.1	-7	53.0	165	41.2	-20	08.8	284	34.0	+21	13.0	44	26.6	-3	56.9
Dif	—		-5		-12		+6		-4		+24		0		+26		0	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 16'1 PMG:11 ^h 43.6 ^m		Edad: 11.5 ^d SD: 16'1 PMG: 21 ^h 21 ^m						Civil		Náutico	Hora	R°	Hora	R°							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif																
h	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m					
0	184	06.4	-14	45.4	50	11.2	-3	22.8	60 N	16	01	16	46	17	36	15	03	1	2	24	102	
1	199	06.4		46.2	64	42.4	-3	06.0	58	09		52		38		04	4		25	99		
2	214	06.4		47.0	79	13.7	-2	49.2	56	17		16	57	41		04	8		27	95		
3	229	06.4		47.8	93	44.9		32.4	54	23		17	01	43		05	11		28	92		
4	244	06.4		48.6	108	16.1	-2	15.5	52	29			05	45		05	14		29	89		
5	259	06.4	-14	49.4	122	47.2	-1	58.6	50													
6	274	06.4	-14	50.2	137	18.3	-1	41.7	45													
7	289	06.4		51.0	151	49.4		24.7	40													
8	304	06.4		51.8	166	20.4	-1	07.7	35													
9	319	06.4		52.5	180	51.5	-0	50.7	30													
10	334	06.4		53.3	195	22.4		33.7	20													
11	349	06.5	-14	54.1	209	53.3	-0	16.6	10 N	17	36	17	58	18	23	15	09	45	2	42	55	
12	4	06.5	-14	54.9	224	24.2	+0	00.5	0	17	47	18	08	18	33	15	09	51	2	44	50	
13	19	06.5		55.7	238	55.1		17.7	10 S	17	58		20	18	45	10	56		46	44		
14	34	06.5		56.5	253	25.9		34.8	20	18	10		33	19	00	11	62		48	39		
15	49	06.5		57.3	267	56.6	+0	52.0	30		23		49	19		11	69		50	33		
16	64	06.5		58.0	282	27.3	+1	09.2	35		31		18	58		31	12	72	51	30		
17	79	06.5	-14	58.8	296	58.0	+1	26.4	40		18	40	19	10	19	45	15	13	76	2	53	25
18	94	06.5	-14	59.6	311	28.6	+1	43.6	45		18	51	19	23	20	03	15	13	82	2	54	21
19	109	06.5	-15	00.4	325	59.2	+2	00.8	50		19	04		40	27	14	88		56	16		
20	124	06.5		01.2	340	29.7		18.0	52		10			49	39		15	90		57	13	
21	139	06.5		01.9	355	00.1		35.3	54		17		19	58	20	53	15	94		58	10	
22	154	06.5		02.7	9	30.5	+2	52.6	56		24		20	09	21	10	15	98		2	59	7
23	169	06.5		03.5	24	00.9	+3	09.8	58		33		21	31			16	101		3	00	4
24	184	06.5	-15	04.3	38	31.1	+3	27.1	60 S	19	42	20	35	21	58	15	17	105	3	01	1	
UT	ARIES PMG 21 ^h 10.4 ^m		VENUS Mag: -3.9 PMG: 10 ^h 45 ^m		MARTE Mag: +1.5 PMG: 12 ^h 57 ^m		JÚPITER Mag: -2.3 PMG: 5 ^h 01 ^m		SATURNO Mag: +0.8 PMG: 20 ^h 59 ^m													
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec												
h	°	'	°	'	°	'	°	'	°	'												
0	41	31.4	198	56.1	-7	53.0	165	41.2	-20	08.8	284	34.0	+21	13.0	44	26.6	-3	56.9				
1	56	33.8	213	55.6		54.2	180	41.8		09.2	299	36.4		13.0	59	29.1		56.9				
2	71	36.3	228	55.1		55.4	195	42.5		09.7	314	38.7		13.0	74	31.7		56.9				
3	86	38.8	243	54.7		56.6	210	43.1		10.1	329	41.1		13.0	89	34.3		57.0				
4	101	41.2	258	54.2		57.7	225	43.7		10.5	344	43.5		13.0	104	36.8		57.0				
5	116	43.7	273	53.8	-7	58.9	240	44.3	-20	10.9	359	45.9	+21	13.0	119	39.4	-3	57.1				
6	131	46.1	288	53.3	-8	00.1	255	44.9	-20	11.3	14	48.3	+21	13.0	134	42.0	-3	57.1				
7	146	48.6	303	52.8		01.3	270	45.5		11.8	29	50.6		13.0	149	44.5		57.1				
8	161	51.1	318	52.4		02.4	285	46.2		12.2	44	53.0		13.0	164	47.1		57.2				
9	176	53.5	333	51.9		03.6	300	46.8		12.6	59	55.4		13.0	179	49.7		57.2				
10	191	56.0	348	51.5		04.8	315	47.4		13.0	74	57.8		13.0	194	52.2		57.2				
11	206	58.5	3	51.0	-8	06.0	330	48.0	-20	13.4	90	00.2	+21	13.0	209	54.8	-3	57.3				
12	222	00.9	18	50.5	-8	07.1	345	48.6	-20	13.9	105	02.6	+21	12.9	224	57.4	-3	57.3				
13	237	03.4	33	50.1		08.3	0	49.2		14.3	120	04.9		12.9	239	59.9		57.4				
14	252	05.9	48	49.6		09.5	15	49.8		14.7	135	07.3		12.9	255	02.5		57.4				
15	267	08.3	63	49.2		10.7	30	50.4		15.1	150	09.7		12.9	270	05.1		57.4				
16	282	10.8	78	48.7		11.8	45	51.1		15.5	165	12.1		12.9	285	07.6		57.5				
17	297	13.3	93	48.2	-8	13.0	60	51.7	-20	15.9	180	14.5	+21	12.9	300	10.2	-3	57.5				
18	312	15.7	108	47.8	-8	14.2	75	52.3	-20	16.4	195	16.9	+21	12.9	315	12.8	-3	57.5				
19	327	18.2	123	47.3		15.3	90	52.9		16.8	210	19.3		12.9	330	15.3		57.6				
20	342	20.6	138	46.8		16.5	105	53.5		17.2	225	21.6		12.9	345	17.9		57.6				
21	357	23.1	153	46.4		17.7	120	54.1		17.6	240	24.0		12.9	0	20.5		57.6				
22	12	25.6	168	45.9		18.9	135	54.7		18.0	255	26.4		12.9	15	23.0		57.7				
23	27	28.0	183	45.4		20.0	150	55.3		18.4	270	28.8		12.9	30	25.6		57.7				
24	42	30.5	198	45.0	-8	21.2	165	56.0	-20	18.9	285	31.2	+21	12.9	45	28.2	-3	57.7				
Dif	—		-5		-12		+6		-4		+24		0		+26		0					

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG: 11 ^h 43.6 ^m			Edad: 12.5 ^d SD: 16'4 PMG: 22 ^h 11 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	184	06.5	-15	04.3	38	31.1	+3	27.1	60 N	5	52	6	42	7	28	15	03	
1	199	06.5		05.1	53	01.4	+3	44.4	58	50	37	19		07	5		02	
2	214	06.5		05.8	67	31.5	+4	01.6	56	47	32	12		11	8		4	
3	229	06.5		06.6	82	01.6		18.9	54	45	27	7	05	14	12	3	58	
4	244	06.5		07.4	96	31.7		36.2	52	43	23	6	59	17	15		56	
5	259	06.5	-15	08.2	111	01.6	+4	53.4	50	5	41	6	19	6	53	15	20	
6	274	06.5	-15	09.0	125	31.5	+5	10.7	45	5	36	6	11	6	41	15	26	
7	289	06.5		09.7	140	01.4		27.9	40	31	6	03	31	31	29		48	
8	304	06.5		10.5	154	31.1	+5	45.2	35	27	5	57	23	36	32		45	
9	319	06.5		11.3	169	00.8	+6	02.4	30	22		51	16	40	36		43	
10	334	06.5		12.1	183	30.5		19.6	20	14	40	6	02	47	42		39	
11	349	06.5	-15	12.8	198	00.0	+6	36.8	10 N	5	04	5	29	5	51	15	53	
12	4	06.5	-15	13.6	212	29.5	+6	54.0	0	4	54	5	19	5	40	15	59	
13	19	06.5		14.4	226	58.9	+7	11.2	10 S	42	5	07	29	16	05	58		
14	34	06.5		15.2	241	28.2		28.3	20	27	4	54	17	11	64		26	
15	49	06.5		15.9	255	57.5	+7	45.4	30	4	08	38	5	04	19	70		
16	64	06.5		16.7	270	26.7	+8	02.5	35	3	56	29	4	56	23	74		
17	79	06.5	-15	17.5	284	55.8	+8	19.6	40	3	41	4	17	4	46	16	28	
18	94	06.5	-15	18.3	299	24.8	+8	36.6	45	3	23	4	03	4	36	16	33	
19	109	06.5		19.0	313	53.7	+8	53.6	50	2	59	3	46	23	40	91		
20	124	06.5		19.8	328	22.5	+9	10.6	52	47	38	17		44	93		09	
21	139	06.5		20.6	342	51.3		27.5	54	33	28	10		47	97		07	
22	154	06.5		21.3	357	19.9	+9	44.4	56	2	17	18	4	02	51	101		
23	169	06.5		22.1	11	48.5	+10	01.3	58	1	56	3	05	3	54	16	55	
24	184	06.5	-15	22.9	26	17.0	+10	18.1	60 S	1	28	2	51	3	44	17	00	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 21 ^h 06.5 ^m			Mag: -3.9 PMG: 10 ^h 45 ^m			Mag: +1.5 PMG: 12 ^h 56 ^m			Mag: -2.3 PMG: 4 ^h 57 ^m			Mag: +0.8 PMG: 20 ^h 55 ^m					
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	42	30.5	198	45.0	-8	21.2	165	56.0	-20	18.9	285	31.2	+21	12.9	45	28.2	-3	57.7
1	57	33.0	213	44.5		22.4	180	56.6		19.3	300	33.6		12.9	60	30.7		57.8
2	72	35.4	228	44.1		23.5	195	57.2		19.7	315	36.0		12.8	75	33.3		57.8
3	87	37.9	243	43.6		24.7	210	57.8		20.1	330	38.4		12.8	90	35.8		57.9
4	102	40.4	258	43.1		25.9	225	58.4		20.5	345	40.7		12.8	105	38.4		57.9
5	117	42.8	273	42.7	-8	27.1	240	59.0	-20	20.9	0	43.1	+21	12.8	120	41.0	-3	57.9
6	132	45.3	288	42.2	-8	28.2	255	59.6	-20	21.3	15	45.5	+21	12.8	135	43.5	-3	58.0
7	147	47.7	303	41.7		29.4	271	00.2		21.8	30	47.9		12.8	150	46.1		58.0
8	162	50.2	318	41.3		30.6	286	00.8		22.2	45	50.3		12.8	165	48.7		58.0
9	177	52.7	333	40.8		31.7	301	01.4		22.6	60	52.7		12.8	180	51.2		58.1
10	192	55.1	348	40.3		32.9	316	02.1		23.0	75	55.1		12.8	195	53.8		58.1
11	207	57.6	3	39.8	-8	34.1	331	02.7	-20	23.4	90	57.5	+21	12.8	210	56.4	-3	58.1
12	223	00.1	18	39.4	-8	35.2	346	03.3	-20	23.8	105	59.9	+21	12.8	225	58.9	-3	58.2
13	238	02.5	33	38.9		36.4	1	03.9		24.2	121	02.3		12.8	241	01.5		58.2
14	253	05.0	48	38.4		37.6	16	04.5		24.6	136	04.7		12.8	256	04.0		58.2
15	268	07.5	63	38.0		38.7	31	05.1		25.0	151	07.0		12.8	271	06.6		58.3
16	283	09.9	78	37.5		39.9	46	05.7		25.5	166	09.4		12.8	286	09.2		58.3
17	298	12.4	93	37.0	-8	41.1	61	06.3	-20	25.9	181	11.8	+21	12.7	301	11.7	-3	58.4
18	313	14.9	108	36.6	-8	42.2	76	06.9	-20	26.3	196	14.2	+21	12.7	316	14.3	-3	58.4
19	328	17.3	123	36.1		43.4	91	07.5		26.7	211	16.6		12.7	331	16.8		58.4
20	343	19.8	138	35.6		44.6	106	08.1		27.1	226	19.0		12.7	346	19.4		58.5
21	358	22.2	153	35.1		45.7	121	08.7		27.5	241	21.4		12.7	1	22.0		58.5
22	13	24.7	168	34.7		46.9	136	09.3		27.9	256	23.8		12.7	16	24.5		58.5
23	28	27.2	183	34.2		48.1	151	09.9		28.3	271	26.2		12.7	31	27.1		58.6
24	43	29.6	198	33.7	-8	49.2	166	10.5	-20	28.7	286	28.6	+21	12.7	46	29.7	-3	58.6
Dif	—			-5	-12		+6	-4			+24	0			+26	0		

UT	SOL				☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16 ^h 1 PMG: 11 ^h 43.6 ^m				Edad: 13.5 ^d PHE { 4 ^h : 60'9 12 ^h : 61'1 20 ^h : 61'2 SD: 16 ^h 6 PMG: 23 ^h 05 ^m R°: 60 ^m																			
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	184	06.5	-15	22.9	26	17.0	94	+10	18.1	168	60 N	15	56	16	42	17	32	15	03	3	5			
1	199	06.4		23.7	40	45.4	93		34.9	167	58	16	05		48	35	12	8		44	110			
2	214	06.4		24.4	55	13.7	92	+10	51.6	167	56		13		53	37	19	14		38	105			
3	229	06.4		25.2	69	41.9	91	+11	08.3	166	54		20	16	58	40	26	17		32	101			
4	244	06.4		26.0	84	10.0	90		24.9	166	52		26	17	02	42	32	21		27	98			
5	259	06.4	-15	26.7	98	38.0		+11	41.4	165	50	16	32	17	06	17	44	15	38	23	5			
6	274	06.4	-15	27.5	113	06.0	90	+11	58.0	166	45	16	44	17	15	17	50	15	50	30	5			
7	289	06.4		28.3	127	33.8	88	+12	14.4	164	40	16	54		22	54	16	00	35	5	87			
8	304	06.4		29.0	142	01.5	87		30.8	164	35	17	03	29	17	59	08	39		4	58			
9	319	06.4		29.8	156	29.1	86	+12	47.1	163	30		11	35	18	04	16	43		52	73			
10	334	06.4		30.6	170	56.7	86	+13	03.4	163	20		24	47	13	29	49	41		68	68			
11	349	06.4	-15	31.3	185	24.1	84	+13	19.6	162	10 N	17	36	17	58	18	23	16	41	54	4			
12	4	06.3	-15	32.1	199	51.4	83	+13	35.7	161	0	17	47	18	09	18	33	16	52	59	4			
13	19	06.3		32.8	214	18.6	82	+13	51.8	161	10 S	17	58		20	18	46	17	03	64	15			
14	34	06.3		33.6	228	45.7	81	+14	07.8	160	20	18	11	34	19	01	15	70		4	06			
15	49	06.3		34.4	243	12.7	80		23.7	159	30		25	18	50	21	29	76		3	56			
16	64	06.3		35.1	257	39.6	79		39.5	158	35		33	19	00	33	37	80		50	36			
17	79	06.3	-15	35.9	272	06.4	78	+14	55.3	158	40	18	43	19	12	19	48	17	47	83	3			
18	94	06.3	-15	36.7	286	33.1	77	+15	10.9	156	45	18	54	19	26	20	07	17	58	89	3			
19	109	06.3		37.4	300	59.7	76		26.5	156	50	19	07		44	32	18	11	96	26	21			
20	124	06.2		38.2	315	26.1	74		42.0	155	52		14	19	53	44	17	100		22	18			
21	139	06.2		38.9	329	52.5	74	+15	57.4	154	54	21		20	03	20	59	24	104		17			
22	154	06.2		39.7	344	18.7	72	+16	12.7	153	56		28	14	21	17	32	108		12	11			
23	169	06.2		40.5	358	44.8	71		27.9	152	58		37	27	21	39	41	114		06	7			
24	184	06.2	-15	41.2	13	10.9	71	+16	43.0	151	60 S	19	48	20	42	22	10	18	51	121	3			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 21 ^h 02.6 ^m		Mag: -3.9 PMG: 10 ^h 46 ^m				Mag: +1.5 PMG: 12 ^h 55 ^m				Mag: -2.3 PMG: 4 ^h 53 ^m				Mag: +0.8 PMG: 20 ^h 50 ^m									
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	43	29.6	198	33.7	-8	49.2	166	10.5	-20	28.7	286	28.6	+21	12.7	46	29.7	-3	58.6						
1	58	32.1	213	33.3		50.4	181	11.1		29.1	301	31.0		12.7	61	32.2		58.6						
2	73	34.6	228	32.8		51.5	196	11.7		29.5	316	33.4		12.7	76	34.8		58.7						
3	88	37.0	243	32.3		52.7	211	12.3		29.9	331	35.8		12.7	91	37.3		58.7						
4	103	39.5	258	31.8		53.9	226	13.0		30.4	346	38.2		12.7	106	39.9		58.7						
5	118	42.0	273	31.4	-8	55.0	241	13.6	-20	30.8	1	40.6	+21	12.7	121	42.5	-3	58.8						
6	133	44.4	288	30.9	-8	56.2	256	14.2	-20	31.2	16	43.0	+21	12.7	136	45.0	-3	58.8						
7	148	46.9	303	30.4		57.3	271	14.8		31.6	31	45.4		12.7	151	47.6		58.8						
8	163	49.3	318	29.9		58.5	286	15.4		32.0	46	47.8		12.7	166	50.1		58.9						
9	178	51.8	333	29.5	-8	59.7	301	16.0		32.4	61	50.2		12.7	181	52.7		58.9						
10	193	54.3	348	29.0	-9	00.8	316	16.6		32.8	76	52.6		12.6	196	55.3		58.9						
11	208	56.7	3	28.5	-9	02.0	331	17.2	-20	33.2	91	55.0	+21	12.6	211	57.8	-3	59.0						
12	223	59.2	18	28.0	-9	03.1	346	17.8	-20	33.6	106	57.4	+21	12.6	227	00.4	-3	59.0						
13	239	01.7	33	27.6		04.3	1	18.4		34.0	121	59.8		12.6	242	02.9		59.0						
14	254	04.1	48	27.1		05.5	16	19.0		34.4	137	02.2		12.6	257	05.5		59.1						
15	269	06.6	63	26.6		06.6	31	19.6		34.8	152	04.6		12.6	272	08.1		59.1						
16	284	09.1	78	26.1		07.8	46	20.2		35.2	167	07.0		12.6	287	10.6		59.1						
17	299	11.5	93	25.6	-9	08.9	61	20.8	-20	35.6	182	09.4	+21	12.6	302	13.2	-3	59.2						
18	314	14.0	108	25.2	-9	10.1	76	21.4	-20	36.0	197	11.8	+21	12.6	317	15.7	-3	59.2						
19	329	16.5	123	24.7		11.3	91	22.0		36.4	212	14.2		12.6	332	18.3		59.2						
20	344	18.9	138	24.2		12.4	106	22.6		36.8	227	16.6		12.6	347	20.8		59.3						
21	359	21.4	153	23.7		13.6	121	23.2		37.2	242	19.0		12.6	2	23.4		59.3						
22	14	23.8	168	23.2		14.7	136	23.8		37.6	257	21.4		12.6	17	26.0		59.3						
23	29	26.3	183	22.8		15.9	151	24.4		38.0	272	23.8		12.6	32	28.5		59.4						
24	44	28.8	198	22.3	-9	17.0	166	25.0	-20	38.4	287	26.2	+21	12.6	47	31.1	-3	59.4						
Dif	—		-5				+6				+24				0				+26				0	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG: 11 ^h 43.6 ^m				Edad: 14.5 ^d SD: 16'7 PMG: **h **m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	06.2	-15	41.2	13	10.9	+16	43.0	151	58	57	6 47	7 33	15 05	6	7 46	122		
1	199	06.2		42.0	27	36.8	+16	58.1	149	58	54	41	24	19 14		33	113		
2	214	06.2		42.7	42	02.6	+17	13.0	149	56	51	35	16	31 20		22	107		
3	229	06.1		43.5	56	28.2		27.8	148	54	48	31	09	42 24		12	102		
4	244	06.1		44.3	70	53.8		42.5	147	52	46	26	7 02	15 51	28	7 03	98		
5	259	06.1	-15	45.0	85	19.3	+17	57.1	146	50	5 44	6 22	6 57	16 00	31	6 55	95		
6	274	06.1	-15	45.8	99	44.6	+18	11.5	144	45	5 38	6 13	6 44	16 18	38	6 39	88		
7	289	06.1		46.5	114	09.8		25.9	144	40	33	6 05	34	33 42		25	83		
8	304	06.1		47.3	128	34.9		40.1	142	35	28	5 59	25	46 46		14	79		
9	319	06.0		48.0	142	59.9	+18	54.3	142	30	24	52	17	16 57	49	6 04	75		
10	334	06.0		48.8	157	24.8	+19	08.3	140	20	14	41	6 03	17 17	54	5 47	70		
11	349	06.0	-15	49.5	171	49.5	+19	22.1	138	10 N	5 05	5 30	5 51	17 34	58	5 32	65		
12	4	06.0	-15	50.3	186	14.2	+19	35.9	138	0	4 54	5 19	5 40	17 50	62	5 19	60		
13	19	06.0		51.0	200	38.7	+19	49.5	136	10 S	41	5 07	29	18 06	66	5 05	56		
14	34	05.9		51.8	215	03.1	+20	03.0	135	20	26	4 53	16	23 71		4 51	50		
15	49	05.9		52.6	229	27.4		16.4	134	30	4 06	37	5 02	43 76		34	45		
16	64	05.9		53.3	243	51.6		29.6	132	35	3 54	27	4 54	18 55	79	24	42		
17	79	05.9	-15	54.1	258	15.7	+20	42.7	131	40	3 39	4 15	4 44	19 09	83	4 14	37		
18	94	05.9	-15	54.8	272	39.6	+20	55.6	129	45	3 20	4 00	4 33	19 25	88	4 01	32		
19	109	05.8		55.6	287	03.5	+21	08.4	128	50	2 55	3 42	19	46 94		3 45	26		
20	124	05.8		56.3	301	27.2		21.0	126	52	42	34	13	19 55	98	38	23		
21	139	05.8		57.1	315	50.8		33.5	125	54	28	24	4 06	20 06	102	30	19		
22	154	05.8		57.8	330	14.3		45.9	124	56	2 10	13	3 58	19 107		22	14		
23	169	05.7		58.6	344	37.7	+21	58.1	122	58	1 47	3 00	49	33 114		12	9		
24	184	05.7	-15	59.3	359	01.0	+22	10.1	120	60 S	1 17	2 44	3 39	20 51	124	3 00	3		

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG 20 ^h 58.6 ^m		Mag: -3.9 PMG: 10 ^h 47 ^m			Mag: +1.4 PMG: 12 ^h 54 ^m			Mag: -2.4 PMG: 4 ^h 49 ^m			Mag: +0.8 PMG: 20 ^h 46 ^m		
	hG ♂		hG ♀		Dec	hG ♂		Dec	hG ♀		Dec	hG ♀		Dec
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°
0	44	28.8	198	22.3	-9 17.0	166	25.0	-20 38.4	287	26.2	+21 12.6	47	31.1	-3 59.4
1	59	31.2	213	21.8	18.2	181	25.6	38.8	302	28.6	12.6	62	33.6	59.4
2	74	33.7	228	21.3	19.3	196	26.2	39.2	317	31.0	12.6	77	36.2	59.5
3	89	36.2	243	20.8	20.5	211	26.8	39.6	332	33.4	12.6	92	38.7	59.5
4	104	38.6	258	20.4	21.7	226	27.3	40.0	347	35.8	12.6	107	41.3	59.5
5	119	41.1	273	19.9	-9 22.8	241	27.9	-20 40.4	2	38.2	+21 12.6	122	43.9	-3 59.6
6	134	43.6	288	19.4	-9 24.0	256	28.5	-20 40.8	17	40.7	+21 12.6	137	46.4	-3 59.6
7	149	46.0	303	18.9	25.1	271	29.1	41.2	32	43.1	12.6	152	49.0	59.6
8	164	48.5	318	18.4	26.3	286	29.7	41.6	47	45.5	12.6	167	51.5	59.7
9	179	51.0	333	17.9	27.4	301	30.3	42.0	62	47.9	12.5	182	54.1	59.7
10	194	53.4	348	17.5	28.6	316	30.9	42.4	77	50.3	12.5	197	56.6	59.7
11	209	55.9	3	17.0	-9 29.7	331	31.5	-20 42.8	92	52.7	+21 12.5	212	59.2	-3 59.8
12	224	58.3	18	16.5	-9 30.9	346	32.1	-20 43.2	107	55.1	+21 12.5	228	01.8	-3 59.8
13	240	00.8	33	16.0	32.0	1	32.7	43.6	122	57.5	12.5	243	04.3	59.8
14	255	03.3	48	15.5	33.2	16	33.3	44.0	137	59.9	12.5	258	06.9	59.8
15	270	05.7	63	15.0	34.3	31	33.9	44.4	153	02.3	12.5	273	09.4	59.9
16	285	08.2	78	14.5	35.5	46	34.5	44.8	168	04.7	12.5	288	12.0	59.9
17	300	10.7	93	14.1	-9 36.6	61	35.1	-20 45.2	183	07.2	+21 12.5	303	14.5	-3 59.9
18	315	13.1	108	13.6	-9 37.8	76	35.7	-20 45.6	198	09.6	+21 12.5	318	17.1	-4 00.0
19	330	15.6	123	13.1	38.9	91	36.3	46.0	213	12.0	12.5	333	19.6	00.0
20	345	18.1	138	12.6	40.1	106	36.9	46.4	228	14.4	12.5	348	22.2	-4 00.0
21	0	20.5	153	12.1	41.2	121	37.5	46.7	243	16.8	12.5	3	24.8	-4 00.1
22	15	23.0	168	11.6	42.4	136	38.0	47.1	258	19.2	12.5	18	27.3	00.1
23	30	25.5	183	11.1	43.5	151	38.6	47.5	273	21.6	12.5	33	29.9	00.1
24	45	27.9	198	10.6	-9 44.7	166	39.2	-20 47.9	288	24.0	+21 12.5	48	32.4	-4 00.2
Dif	—		-5		-12	+6		-4	+24		0	+26		0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG: 11 ^h 43.6 ^m		Edad: 15.5 ^d SD: 16'7 PMG: 0 ^h 04 ^m		PHE { 4 ^h : 61'4 12 ^h : 61'4 20 ^h : 61'3 R°: 65 ^m										
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	184	05.7	-15	59.3	359	01.0	+22 10.1	60 N	15 51	16 37	17 28	15 11	18	9 48	120
1	199	05.7	-16	00.1	13	24.2	42 22.0	58	16 00	44	31	33	29	26	110
2	214	05.7		00.8	27	47.2	40 33.7	56	09	49	34	15	51	36	9 09
3	229	05.7		01.5	42	10.2	40 45.3	54	16	54	36	16	06	40	8 54
4	244	05.6		02.3	56	33.0	38 +22 56.7	52	22	16 59	39	19	44	41	95
5	259	05.6	-16	03.0	70	55.8	38 +23 07.9	50	16 28	17 03	17 41	16	31	46	8 30
6	274	05.6	-16	03.8	85	18.4	36 +23 19.0	45	16 41	17 12	17 47	16	56	51	8 07
7	289	05.5		04.5	99	40.9	35 29.9	40	16 52	20	53	17	15	55	7 48
8	304	05.5		05.3	114	03.4	35 40.6	35	17 01	27	17 58	32	57	33	79
9	319	05.5		06.0	128	25.7	33 +23 51.1	30	09	34	18 03	17	46	59	7 19
10	334	05.5		06.8	142	47.9	32 +24 01.5	20	23	46	12	18	11	62	6 57
11	349	05.4	-16	07.5	157	10.1	32 +24 11.7	10 N	17 35	17 57	18 22	18	32	65	6 37
12	4	05.4	-16	08.2	171	32.1	30 +24 21.7	0	17 47	18 09	18 34	18	52	67	6 19
13	19	05.4		09.0	185	54.1	30 31.5	10 S	17 59	21	18 47	19	12	70	6 01
14	34	05.4		09.7	200	15.9	28 41.2	20	18 12	35	19 02	34	72	5	41
15	49	05.3		10.5	214	37.7	28 50.6	30	26	18 52	23	19	59	75	19
16	64	05.3		11.2	228	59.4	27 +24 59.9	35	35	19 02	35	20	14	77	5
17	79	05.3	-16	12.0	243	21.0	26 +25 09.0	40	18 45	19 15	19 51	20	32	79	4
18	94	05.2	-16	12.7	257	42.5	25 +25 17.9	45	18 56	19 29	20 10	20	53	82	4
19	109	05.2		13.4	272	03.9	24 26.6	50	19 11	48	36	21	20	86	11
20	124	05.2		14.2	286	25.2	23 35.1	52	17	19 57	20 49	33	88	4	01
21	139	05.1		14.9	300	46.5	23 43.4	54	25	20 07	21 05	21	48	91	3
22	154	05.1		15.6	315	07.7	22 51.5	56	33	19	24	22	06	94	36
23	169	05.1		16.4	329	28.8	21 +25 59.4	58	42	32	21 48	27	101	21	20
24	184	05.0	-16	17.1	343	49.9	21 +26 07.1	60 S	19 53	20 49	22 23	22	55	113	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 20 ^h 54.7 ^m		Mag: -3.9 PMG: 10 ^h 48 ^m		Mag: +1.4 PMG: 12 ^h 53 ^m		Mag: -2.4 PMG: 4 ^h 46 ^m		Mag: +0.8 PMG: 20 ^h 42 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	45	27.9	198	10.6	-9	44.7	166	39.2	-20	47.9	288	24.0	+21	12.5	48	32.4	-4	00.2
1	60	30.4	213	10.2		45.8	181	39.8		48.3	303	26.5		12.5	63	35.0		00.2
2	75	32.8	228	09.7		46.9	196	40.4		48.7	318	28.9		12.5	78	37.5		00.2
3	90	35.3	243	09.2		48.1	211	41.0		49.1	333	31.3		12.5	93	40.1		00.3
4	105	37.8	258	08.7		49.2	226	41.6		49.5	348	33.7		12.5	108	42.6		00.3
5	120	40.2	273	08.2	-9	50.4	241	42.2	-20	49.9	3	36.1	+21	12.5	123	45.2	-4	00.3
6	135	42.7	288	07.7	-9	51.5	256	42.8	-20	50.3	18	38.5	+21	12.5	138	47.7	-4	00.3
7	150	45.2	303	07.2		52.7	271	43.4		50.7	33	40.9		12.5	153	50.3		00.4
8	165	47.6	318	06.7		53.8	286	43.9		51.1	48	43.4		12.5	168	52.8		00.4
9	180	50.1	333	06.2		55.0	301	44.5		51.4	63	45.8		12.5	183	55.4		00.4
10	195	52.6	348	05.7		56.1	316	45.1		51.8	78	48.2		12.5	198	57.9		00.5
11	210	55.0	3	05.2	-9	57.2	331	45.7	-20	52.2	93	50.6	+21	12.5	214	00.5	-4	00.5
12	225	57.5	18	04.7	-9	58.4	346	46.3	-20	52.6	108	53.0	+21	12.5	229	03.1	-4	00.5
13	240	59.9	33	04.2	-9	59.5	1	46.9		53.0	123	55.4		12.5	244	05.6		00.6
14	256	02.4	48	03.8	-10	00.7	16	47.5		53.4	138	57.9		12.5	259	08.2		00.6
15	271	04.9	63	03.3		01.8	31	48.1		53.8	154	00.3		12.5	274	10.7		00.6
16	286	07.3	78	02.8		02.9	46	48.7		54.2	169	02.7		12.5	289	13.3		00.6
17	301	09.8	93	02.3	-10	04.1	61	49.2	-20	54.6	184	05.1	+21	12.5	304	15.8	-4	00.7
18	316	12.3	108	01.8	-10	05.2	76	49.8	-20	54.9	199	07.5	+21	12.5	319	18.4	-4	00.7
19	331	14.7	123	01.3		06.4	91	50.4		55.3	214	10.0		12.5	334	20.9		00.7
20	346	17.2	138	00.8		07.5	106	51.0		55.7	229	12.4		12.5	349	23.5		00.8
21	1	19.7	153	00.3		08.6	121	51.6		56.1	244	14.8		12.5	4	26.0		00.8
22	16	22.1	167	59.8		09.8	136	52.2		56.5	259	17.2		12.5	19	28.6		00.8
23	31	24.6	182	59.3		10.9	151	52.8		56.9	274	19.6		12.5	34	31.1		00.9
24	46	27.1	197	58.8	-10	12.1	166	53.3	-20	57.3	289	22.1	+21	12.5	49	33.7	-4	00.9
Dif	—		-5		-11		+6		-4		+24		0		+26		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'1 PMG:11 ^h 43.7 ^m				Edad: 16.5 ^d SD: 16'7 PMG: 1 ^h 08 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	05.0	-16	17.1	343	49.9	+26	07.1	75	60 N	6 01	6 51	7 38	15 28	50	11 47	89		
1	199	05.0		17.9	358	10.8		14.6	73	58	5 58	45	29	16 01	56	11 15	83		
2	214	05.0		18.6	12	31.8		21.9	71	56	55	39	20	25 59		10 51	80		
3	229	04.9		19.3	26	52.6		29.0	69	54	52	34	13	16 45	60	31 79			
4	244	04.9		20.1	41	13.4		35.9	67	52	49	30	06	17 02	61	15 77			
5	259	04.9	-16	20.8	55	34.1	+26	42.6	67	50	5 47	6 25	7 00	17 16	62	10 01	76		
6	274	04.8	-16	21.5	69	54.8	+26	49.1	65	45	5 41	6 16	6 47	17 45	63	9 32	74		
7	289	04.8		22.3	84	15.4	+26	55.4	63	40	35	08	36	18 08	64	9 09	73		
8	304	04.8		23.0	98	36.0	+27	01.4	60	35	30	6 00	27	27 65		8 51	71		
9	319	04.7		23.7	112	56.6		07.3	59	30	25	5 54	19	18 44	65	35 71			
10	334	04.7		24.5	127	17.0		12.9	56	20	15	42	6 04	19 12	65	8 08	69		
11	349	04.7	-16	25.2	141	37.5	+27	18.3	54	10 N	5 05	5 30	5 52	19 36	65	7 45	67		
12	4	04.6	-16	25.9	155	57.9	+27	23.5	52	0	4 54	5 19	5 40	19 58	66	7 23	67		
13	19	04.6		26.7	170	18.3		28.5	50	10 S	41	5 06	28	20 21	66	7 02	65		
14	34	04.6		27.4	184	38.6		33.3	48	20	25	4 52	15	20 45	66	6 39	63		
15	49	04.5		28.1	198	59.0		37.9	46	30	4 04	35	5 01	21 13	67	6 12	61		
16	64	04.5		28.9	213	19.3		42.2	43	35	3 52	25	4 52	30 66		5 56	60		
17	79	04.4	-16	29.6	227	39.5	+27	46.3	41	40	3 36	4 12	4 42	21 50	66	5 38	59		
18	94	04.4	-16	30.3	241	59.8	+27	50.3	40	45	3 16	3 57	4 30	22 13	67	5 16	57		
19	109	04.4		31.0	256	20.0		53.9	36	50	2 50	39	16	44 66		4 48	54		
20	124	04.3		31.8	270	40.3	+27	57.4	35	52	37	30	09	22 59	66	35 51			
21	139	04.3		32.5	285	00.5	+28	00.7	33	54	22	19	4 02	23 17	66	19 49			
22	154	04.2		33.2	299	20.7		03.7	30	56	2 03	3 08	3 54	23 39	65	4 01	45		
23	169	04.2		33.9	313	41.0		06.5	28	58	1 39	2 54	44	** ** *	**	3 39	39		
24	184	04.2	-16	34.7	328	01.2	+28	09.2	27	60 S	1 04	2 38	3 34	** ** *	**	3 11	27		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 20 ^h 50.8 ^m		Mag: -3.9 PMG: 10 ^h 48 ^m		Mag: +1.4 PMG: 12 ^h 52 ^m		Mag: -2.4 PMG: 4 ^h 42 ^m		Mag: +0.8 PMG: 20 ^h 38 ^m									
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♀									
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	46	27.1	197	58.8	-10	12.1	166	53.3	-20	57.3	289	22.1	+21	12.5	49	33.7	-4	00.9
1	61	29.5	212	58.3		13.2	181	53.9		57.6	304	24.5		12.5	64	36.2		00.9
2	76	32.0	227	57.8		14.3	196	54.5		58.0	319	26.9		12.4	79	38.8		00.9
3	91	34.4	242	57.3		15.5	211	55.1		58.4	334	29.3		12.4	94	41.3		01.0
4	106	36.9	257	56.8		16.6	226	55.7		58.8	349	31.8		12.4	109	43.9		01.0
5	121	39.4	272	56.3	-10	17.7	241	56.3	-20	59.2	4	34.2	+21	12.4	124	46.4	-4	01.0
6	136	41.8	287	55.8	-10	18.9	256	56.8	-20	59.6	19	36.6	+21	12.4	139	49.0	-4	01.1
7	151	44.3	302	55.3		20.0	271	57.4	-20	59.9	34	39.0		12.4	154	51.5		01.1
8	166	46.8	317	54.8		21.1	286	58.0	-21	00.3	49	41.5		12.4	169	54.1		01.1
9	181	49.2	332	54.3		22.3	301	58.6		00.7	64	43.9		12.4	184	56.6		01.1
10	196	51.7	347	53.8		23.4	316	59.2		01.1	79	46.3		12.4	199	59.2		01.2
11	211	54.2	2	53.3	-10	24.5	331	59.8	-21	01.5	94	48.7	+21	12.4	215	01.7	-4	01.2
12	226	56.6	17	52.8	-10	25.7	347	00.3	-21	01.9	109	51.2	+21	12.4	230	04.3	-4	01.2
13	241	59.1	32	52.3		26.8	2	00.9		02.2	124	53.6		12.4	245	06.8		01.3
14	257	01.6	47	51.8		27.9	17	01.5		02.6	139	56.0		12.4	260	09.4		01.3
15	272	04.0	62	51.3		29.1	32	02.1		03.0	154	58.4		12.4	275	11.9		01.3
16	287	06.5	77	50.8		30.2	47	02.7		03.4	170	00.9		12.4	290	14.5		01.3
17	302	08.9	92	50.3	-10	31.3	62	03.2	-21	03.8	185	03.3	+21	12.4	305	17.0	-4	01.4
18	317	11.4	107	49.8	-10	32.5	77	03.8	-21	04.1	200	05.7	+21	12.4	320	19.6	-4	01.4
19	332	13.9	122	49.2		33.6	92	04.4		04.5	215	08.2		12.4	335	22.1		01.4
20	347	16.3	137	48.7		34.7	107	05.0		04.9	230	10.6		12.4	350	24.7		01.5
21	2	18.8	152	48.2		35.8	122	05.6		05.3	245	13.0		12.4	5	27.2		01.5
22	17	21.3	167	47.7		37.0	137	06.1		05.7	260	15.4		12.4	20	29.7		01.5
23	32	23.7	182	47.2		38.1	152	06.7		06.0	275	17.9		12.4	35	32.3		01.5
24	47	26.2	197	46.7	-10	39.2	167	07.3	-21	06.4	290	20.3	+21	12.4	50	34.8	-4	01.6
Dif	—		-5		-11		+6		-4		+24		0		+25			

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG: 11 ^h 43.8 ^m			Edad: 18.5 ^d SD: 16'4 PMG: 3 ^h 19 ^m PHE 4^h: 59'9 12^h: 59'6 20^h: 59'3 R°: 62^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	m	h	m	m	
0	184	03.1	-16	51.9	312	16.4	24	+28	07.0	27	6 05	6 56	7 43	17 54	110	13 55	12
1	199	03.0		52.7	326	37.8	25		04.3	29	6 02	49	33	18 24	100	25	22
2	214	03.0		53.4	340	59.3	25	+28	01.4	31	5 58	43	24	18 47	94	13 01	29
3	229	02.9		54.1	355	20.8	25	+27	58.3	31	55	38	17	19 05	90	12 43	32
4	244	02.9		54.8	9	42.5	27		55.0	33	52	33	10	21	86	27	35
5	259	02.8	-16	55.5	24	04.2	27	+27	51.5	35	5 49	6 28	7 03	19 34	84	12 13	38
6	274	02.8	-16	56.2	38	26.1	29	+27	47.8	37	5 43	6 18	6 50	20 02	78	11 44	44
7	289	02.7		56.9	52	48.0	29		43.9	39	37	10	38	24	74	22	47
8	304	02.6		57.6	67	10.1	31		39.8	41	32	6 02	29	42	71	11 03	50
9	319	02.6		58.3	81	32.2	31		35.5	43	27	5 55	20	20 57	69	10 47	52
10	334	02.5		59.1	95	54.4	32		31.1	44	16	43	6 06	21 23	65	10 20	55
11	349	02.5	-16	59.8	110	16.8	34	+27	26.4	47	5 05	5 31	5 53	21 46	61	9 57	57
12	4	02.4	-17	00.5	124	39.3	35	+27	21.6	48	4 54	5 19	5 40	22 07	57	9 35	60
13	19	02.4		01.2	139	01.8	35		16.6	50	40	5 06	28	28	54	9 13	63
14	34	02.3		01.9	153	24.5	37		11.4	52	24	4 51	5 15	22 50	51	8 49	66
15	49	02.3		02.6	167	47.3	38		06.0	54	4 03	34	4 59	23 16	46	21	69
16	64	02.2		03.3	182	10.3	40	+27	00.5	55	3 50	23	50	31	44	8 04	72
17	79	02.2	-17	04.0	196	33.3	40	+26	54.7	58	3 33	4 10	4 40	23 49	40	7 45	74
18	94	02.1	-17	04.7	210	56.5	42	+26	48.8	59	3 13	3 55	4 28	** ** *	**	7 22	77
19	109	02.0		05.4	225	19.7	42		42.8	60	2 46	35	13	** ** *	**	6 52	81
20	124	02.0		06.1	239	43.1	44		36.5	63	32	26	4 06	0 05	44	37	84
21	139	01.9		06.8	254	06.7	46		30.1	64	2 16	15	3 58	23	41	6 19	87
22	154	01.9		07.5	268	30.3	46		23.5	66	1 56	3 03	50	0 44	37	5 59	91
23	169	01.8		08.2	282	54.1	48		16.8	67	1 29	2 49	40	1 11	31	5 32	98
24	184	01.7	-17	08.9	297	18.0	49	+26	09.9	69	0 49	2 31	3 28	1 48	20	4 55	109

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 42.9 ^m		Mag: -3.9 PMG: 10 ^h 50 ^m		Mag: +1.4 PMG: 12 ^h 50 ^m		Mag: -2.4 PMG: 4 ^h 34 ^m		Mag: +0.8 PMG: 20 ^h 30 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	48	25.3	197	34.4	-11	06.2	167	21.1	-21	15.4	291	18.7	+21	12.5	51	35.9	-4	02.2
1	63	27.8	212	33.9		07.3	182	21.7		15.7	306	21.2		12.5	66	38.5		02.2
2	78	30.3	227	33.4		08.4	197	22.2		16.1	321	23.6		12.5	81	41.0		02.3
3	93	32.7	242	32.9		09.5	212	22.8		16.5	336	26.1		12.5	96	43.6		02.3
4	108	35.2	257	32.3		10.6	227	23.4		16.8	351	28.5		12.5	111	46.1		02.3
5	123	37.7	272	31.8	-11	11.7	242	24.0	-21	17.2	6	30.9	+21	12.5	126	48.6	-4	02.3
6	138	40.1	287	31.3	-11	12.8	257	24.5	-21	17.6	21	33.4	+21	12.5	141	51.2	-4	02.4
7	153	42.6	302	30.8		14.0	272	25.1		18.0	36	35.8		12.5	156	53.7		02.4
8	168	45.1	317	30.3		15.1	287	25.7		18.3	51	38.3		12.5	171	56.3		02.4
9	183	47.5	332	29.7		16.2	302	26.2		18.7	66	40.7		12.5	186	58.8		02.4
10	198	50.0	347	29.2		17.3	317	26.8		19.1	81	43.2		12.5	202	01.3		02.5
11	213	52.4	2	28.7	-11	18.4	332	27.4	-21	19.4	96	45.6	+21	12.5	217	03.9	-4	02.5
12	228	54.9	17	28.2	-11	19.5	347	27.9	-21	19.8	111	48.0	+21	12.5	232	06.4	-4	02.5
13	243	57.4	32	27.7		20.6	2	28.5		20.2	126	50.5		12.5	247	09.0		02.5
14	258	59.8	47	27.1		21.7	17	29.1		20.5	141	52.9		12.5	262	11.5		02.6
15	274	02.3	62	26.6		22.9	32	29.7		20.9	156	55.4		12.5	277	14.1		02.6
16	289	04.8	77	26.1		24.0	47	30.2		21.2	171	57.8		12.5	292	16.6		02.6
17	304	07.2	92	25.6	-11	25.1	62	30.8	-21	21.6	187	00.3	+21	12.5	307	19.1	-4	02.6
18	319	09.7	107	25.0	-11	26.2	77	31.4	-21	22.0	202	02.7	+21	12.5	322	21.7	-4	02.7
19	334	12.2	122	24.5		27.3	92	31.9		22.3	217	05.2		12.5	337	24.2		02.7
20	349	14.6	137	24.0		28.4	107	32.5		22.7	232	07.6		12.5	352	26.8		02.7
21	4	17.1	152	23.5		29.5	122	33.1		23.1	247	10.0		12.5	7	29.3		02.7
22	19	19.6	167	22.9		30.6	137	33.6		23.4	262	12.5		12.5	22	31.8		02.8
23	34	22.0	182	22.4		31.7	152	34.2		23.8	277	14.9		12.5	37	34.4		02.8
24	49	24.5	197	21.9	-11	32.8	167	34.8	-21	24.1	292	17.4	+21	12.5	52	36.9	-4	02.8
Dif	—		-5		-11		+6		-4		+24		0		+25			

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 16 ^h 1 PMG: 11 ^h 43.9 ^m				Edad: 19.5 ^d SD: 16 ^h 1 PMG: 4 ^h 21 ^m								PHE { 4 ^h : 59'0 12 ^h : 58'7 20 ^h : 58'4 R°: 58 ^m											
	hG ☉		Dec		hG ☾		Dif		Dec				Dif											
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m		
0	184	01.7	-17	08.9	297	18.0	50	+26	09.9	71	60 N	15	41	16	29	17	20	19	44	107	14	07	6	
1	199	01.7		09.6	311	42.0	52	+26	02.8	72	58	15	52		36	24	20	04	100	13	47	12		
2	214	01.6		10.3	326	06.2	53	+25	55.6	74	56	16	01	42	27	21	94		30	17				
3	229	01.6		11.0	340	30.5	54		48.2	76	54		09	48	30	35	90		15	2				
4	244	01.5		11.7	354	54.9	54		40.6	77	52		16	53	33	47	87		13	02	25			
5	259	01.4	-17	12.4	9	19.5	56	+25	32.9	77	50	16	22	16	57	17	36	20	58	83	12	51	28	
6	274	01.4	-17	13.1	23	44.2	57	+25	25.1	78	45	16	36	17	08	17	43	21	20	78	12	28	33	
7	289	01.3		13.8	38	09.0	58		17.1	80	40		48	17	49	38	73		12	09	37			
8	304	01.3		14.5	52	34.0	60		08.9	82	35	16	58	24	17	55	21	53	69	11	53	40		
9	319	01.2		15.2	66	59.1	61	+25	00.7	82	30	17	06	32	18	00	22	06	66		39	43		
10	334	01.1		15.9	81	24.3	62	+24	52.2	85	20		22	45	11	28	61		11	15	49			
11	349	01.1	-17	16.6	95	49.7	64	+24	43.6	86	10 N	17	35	17	57	18	22	22	47	57	10	54	53	
12	4	01.0	-17	17.3	110	15.2	65	+24	34.9	87	0	17	47	18	09	18	34	23	04	54	10	35	56	
13	19	00.9		18.0	124	40.9	67		26.1	88	10 S	18	00		22	18	48		22	49	10	16	59	
14	34	00.9		18.7	139	06.6	67		17.1	90	20		14	37	19	05	23	41	45	9	55	63		
15	49	00.8		19.4	153	32.6	70	+24	08.0	91	30	30	18	55	26	**	**	**		30	69			
16	64	00.7		20.1	167	58.6	70	+23	58.7	93	35	39	19	07	40	**	**	**		9	16	71		
17	79	00.7	-17	20.8	182	24.8	72	+23	49.3	94	40	18	50	19	20	19	57	**	**	**	8	59	75	
18	94	00.6	-17	21.5	196	51.2	74	+23	39.8	95	45	19	02	19	36	20	18	0	10	38	8	39	79	
19	109	00.5		22.2	211	17.6	74		30.2	96	50	17	19	56	20	46		36	33		13	85		
20	124	00.5		22.9	225	44.2	76		20.4	98	52	25	20	05	21	00	0	49	30	8	01	88		
21	139	00.4		23.5	240	11.0	78		10.5	99	54	33		16	17	1	04	26		7	46	92		
22	154	00.3		24.2	254	37.9	79	+23	00.5	100	56	42		29	21	39		21	22		30	96		
23	169	00.3		24.9	269	04.9	80	+22	50.4	101	58	19	52	20	44	22	08	1	42	15	7	10	103	
24	184	00.2	-17	25.6	283	32.0	81	+22	40.1	103	60 S	20	04	21	02	22	57	2	08	7	6	44	112	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO															
	PMG 20 ^h 39.0 ^m		Mag: -3.9 PMG: 10 ^h 51 ^m		Mag: +1.4 PMG: 12 ^h 49 ^m		Mag: -2.4 PMG: 4 ^h 30 ^m		Mag: +0.8 PMG: 20 ^h 26 ^m															
h	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄															
0	°	'	°	'	°	'	°	'	°	'														
1	49	24.5	197	21.9	-11	32.8	167	34.8	-21	24.1														
2	64	26.9	212	21.4		33.9	182	35.3		24.5														
3	79	29.4	227	20.8		35.0	197	35.9		24.9														
4	94	31.9	242	20.3		36.1	212	36.4		25.2														
5	109	34.3	257	19.8		37.2	227	37.0		25.6														
6	124	36.8	272	19.2	-11	38.4	242	37.6	-21	26.0														
7	139	39.3	287	18.7	-11	39.5	257	38.1	-21	26.3														
8	154	41.7	302	18.2		40.6	272	38.7		26.7														
9	169	44.2	317	17.7		41.7	287	39.3		27.0														
10	184	46.7	332	17.1		42.8	302	39.8		27.4														
11	199	49.1	347	16.6		43.9	317	40.4		27.7														
12	214	51.6	2	16.1	-11	45.0	332	41.0	-21	28.1														
13	229	54.1	17	15.5	-11	46.1	347	41.5	-21	28.5														
14	244	56.5	32	15.0		47.2	2	42.1		28.8														
15	259	59.0	47	14.5		48.3	17	42.6		29.2														
16	275	01.4	62	13.9		49.4	32	43.2		29.5														
17	290	03.9	77	13.4		50.5	47	43.8		29.9														
18	305	06.4	92	12.9	-11	51.6	62	44.3	-21	30.2														
19	320	08.8	107	12.3	-11	52.7	77	44.9	-21	30.6														
20	335	11.3	122	11.8		53.8	92	45.4		31.0														
21	350	13.8	137	11.3		54.9	107	46.0		31.3														
22	5	16.2	152	10.7		55.9	122	46.6		31.7														
23	20	18.7	167	10.2		57.0	137	47.1		32.0														
24	35	21.2	182	09.7		58.1	152	47.7		32.4														
Dif	—		-5		-11		+6		-4															

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16/2 PMG: 11 ^h 44.0 ^m				Edad: 20.5 ^d SD: 15/9 PMG: 5 ^h 17 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	00.2	-17	25.6	283	32.0	+22	40.1	103	60 N	6 09	7 00	7 48	21 30	97	14 11	2		
1	199	00.1		26.3	297	59.3		29.8	105	58	05	6 53	38		43	92	13 58	6	
2	214	00.1		27.0	312	26.8		19.3	106	56	6 02	47	29	21 54	87	46	10		
3	229	00.0		27.7	326	54.3	+22	08.7	106	54	5 58	41	20	22 03	85	35	14		
4	243	59.9		28.4	341	22.0	+21	58.0	107	52	55	36	13	12 81	26	16			
5	258	59.9	-17	29.1	355	49.9	+21	47.3	107	50	5 52	6 31	7 07	22 20	78	13 17	19		
6	273	59.8	-17	29.7	10	17.8	+21	36.4	109	45	5 46	6 21	6 52	22 36	73	12 59	25		
7	288	59.7		30.4	24	45.9		25.3	111	40	39	12	41	22 50	68	45	28		
8	303	59.7		31.1	39	14.2		14.2	111	35	34	6 04	31	23 01	65	32	32		
9	318	59.6		31.8	53	42.5	+21	03.0	112	30	28	5 57	22	11 61	21	35			
10	333	59.5		32.5	68	11.0	+20	51.7	113	20	17	44	6 07	28 56	12 02	41			
11	348	59.4	-17	33.2	82	39.7	+20	40.3	114	10 N	5 06	5 31	5 53	23 43	51	11 45	46		
12	3	59.4	-17	33.9	97	08.4	+20	28.8	115	0	4 54	5 19	5 41	23 56	47	11 30	49		
13	18	59.3		34.5	111	37.3		17.3	117	10 S	40	5 06	28	** ** *	**	11 14	54		
14	33	59.2		35.2	126	06.3	+20	05.6	117	20	23	4 51	5 14	** ** *	**	10 57	58		
15	48	59.1		35.9	140	35.5	+19	53.8	118	30	4 01	32	4 58	0 02	39	37	64		
16	63	59.1		36.6	155	04.8		42.0	118	35	3 48	21	49	15 35	26	66			
17	78	59.0	-17	37.3	169	34.2	+19	30.0	120	40	3 31	4 08	4 38	0 29	32	10 12	71		
18	93	58.9	-17	37.9	184	03.7	+19	18.0	120	45	3 10	3 52	4 25	0 47	27	9 57	75		
19	108	58.8		38.6	198	33.3	+19	05.9	121	50	2 42	32	10	1 08	21	37	81		
20	123	58.8		39.3	213	03.1	+18	53.7	122	52	27	22	4 03	18 19	28	83			
21	138	58.7		40.0	227	33.0		41.4	123	54	2 10	3 11	3 55	29 15	17	87			
22	153	58.6		40.7	242	03.0		29.1	124	56	1 49	2 58	46	41 12	9 05	91			
23	168	58.5		41.3	256	33.1		16.7	125	58	1 20	43	35	1 56	7	8 51	96		
24	183	58.5	-17	42.0	271	03.4	+18	04.2	125	60 S	0 30	2 25	3 23	2 13	2	8 35	102		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 20 ^h 35.0 ^m		Mag: -3.9 PMG: 10 ^h 52 ^m		Mag: +1.4 PMG: 12 ^h 48 ^m		Mag: -2.4 PMG: 4 ^h 26 ^m		Mag: +0.8 PMG: 20 ^h 22 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	50	23.6	197	09.1	-11	59.2	167	48.2	-21	32.7	293	16.2	+21	12.6	53	37.8	-4	03.4
1	65	26.1	212	08.6	-12	00.3	182	48.8		33.1	308	18.7		12.6	68	40.4		03.4
2	80	28.5	227	08.0		01.4	197	49.4		33.4	323	21.2		12.6	83	42.9		03.4
3	95	31.0	242	07.5		02.5	212	49.9		33.8	338	23.6		12.6	98	45.4		03.4
4	110	33.5	257	07.0		03.6	227	50.5		34.1	353	26.1		12.6	113	48.0		03.5
5	125	35.9	272	06.4	-12	04.7	242	51.0	-21	34.5	8	28.5	+21	12.7	128	50.5	-4	03.5
6	140	38.4	287	05.9	-12	05.8	257	51.6	-21	34.8	23	31.0	+21	12.7	143	53.0	-4	03.5
7	155	40.9	302	05.3		06.9	272	52.2		35.2	38	33.5		12.7	158	55.6		03.5
8	170	43.3	317	04.8		08.0	287	52.7		35.6	53	35.9		12.7	173	58.1		03.6
9	185	45.8	332	04.3		09.1	302	53.3		35.9	68	38.4		12.7	189	00.6		03.6
10	200	48.3	347	03.7		10.2	317	53.8		36.3	83	40.8		12.7	204	03.2		03.6
11	215	50.7	2	03.2	-12	11.2	332	54.4	-21	36.6	98	43.3	+21	12.7	219	05.7	-4	03.6
12	230	53.2	17	02.6	-12	12.3	347	54.9	-21	37.0	113	45.8	+21	12.7	234	08.2	-4	03.6
13	245	55.7	32	02.1		13.4	2	55.5		37.3	128	48.2		12.7	249	10.8		03.7
14	260	58.1	47	01.6		14.5	17	56.0		37.7	143	50.7		12.7	264	13.3		03.7
15	276	00.6	62	01.0		15.6	32	56.6		38.0	158	53.1		12.7	279	15.8		03.7
16	291	03.0	77	00.5		16.7	47	57.2		38.3	173	55.6		12.7	294	18.4		03.7
17	306	05.5	91	59.9	-12	17.8	62	57.7	-21	38.7	188	58.1	+21	12.7	309	20.9	-4	03.8
18	321	08.0	106	59.4	-12	18.9	77	58.3	-21	39.0	204	00.5	+21	12.7	324	23.4	-4	03.8
19	336	10.4	121	58.8		19.9	92	58.8		39.4	219	03.0		12.7	339	26.0		03.8
20	351	12.9	136	58.3		21.0	107	59.4		39.7	234	05.5		12.7	354	28.5		03.8
21	6	15.4	151	57.7		22.1	122	59.9		40.1	249	07.9		12.7	9	31.0		03.8
22	21	17.8	166	57.2		23.2	138	00.5		40.4	264	10.4		12.7	24	33.6		03.9
23	36	20.3	181	56.6		24.3	153	01.0		40.8	279	12.9		12.8	39	36.1		03.9
24	51	22.8	196	56.1	-12	25.4	168	01.6	-21	41.1	294	15.3	+21	12.8	54	38.6	-4	03.9
Dif	—		-5		-11		+6		-3		+25		0		+25			

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 44.2 ^m		Edad: 21.5 ^d SD: 15/6 PMG: 6 ^h 08 ^m PHE { 4 ^h : 57/2 12 ^h : 56/9 20 ^h : 56/6 R°: 47 ^m											
	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	m
0	183 58.5	-17 42.0	271 03.4		+18 04.2		60 N	15 37	16 25	17 16	23 07	91	14 13	1
1	198 58.4	42.7	285 33.7	113	+17 51.6	126	58	48	32	20	15 87		14 04	5
2	213 58.3	43.4	300 04.2	115	39.0	126	56	15 57	39	24	21 84		13 56	8
3	228 58.2	44.0	314 34.8	116	26.3	127	54	16 05	45	28	28 81		49 11	
4	243 58.2	44.7	329 05.5	117	13.5	128	52	13	50	31	33 78		42 14	
5	258 58.1	-17 45.4	343 36.4	119	+17 00.7	128	50	16 20	16 55	17 34	23 38	76	13 36	17
6	273 58.0	-17 46.1	358 07.3	119	+16 47.8	129	45	16 34	17 06	17 41	23 49	70	13 24	21
7	288 57.9	46.7	12 38.3	120	34.8	130	40	46	15	47	23 58	66	13 26	
8	303 57.8	47.4	27 09.5	122	21.8	130	35	16 56	23	53	** ** *		13 04	29
9	318 57.8	48.1	41 40.8	123	+16 08.7	131	30	17 05	31	17 59	** ** *		12 56	32
10	333 57.7	48.8	56 12.1	123	+15 55.5	132	20	21	44	18 11	** ** *		43 37	
11	348 57.6	-17 49.4	70 43.6	125	+15 42.3	132	10 N	17 35	17 57	18 22	** ** *		12 31	41
12	3 57.5	-17 50.1	85 15.2	126	+15 29.0	133	0	17 48	18 09	18 35	** ** *		12 19	46
13	18 57.4	50.8	99 46.9	127	15.7	133	10 S	18 01	23	18 49	0 10	44	12 08	50
14	33 57.3	51.4	114 18.7	128	+15 02.3	134	20	15	38	19 06	24 40		11 55	56
15	48 57.3	52.1	128 50.6	129	+14 48.9	134	30	31	18 57	28	41 34		41 61	
16	63 57.2	52.8	143 22.5	129	35.4	135	35	41	19 09	19 42	0 50	31	32 65	
17	78 57.1	-17 53.4	157 54.6	131	+14 21.9	135	40	18 52	19 22	20 00	1 01	27	11 23	68
18	93 57.0	-17 54.1	172 26.8	132	+14 08.3	136	45	19 05	19 39	20 21	1 14	23	11 12	72
19	108 56.9	54.8	186 59.1	133	+13 54.7	136	50	21	19 59	20 50	29 18		10 58	78
20	123 56.8	55.4	201 31.5	134	41.0	137	52	28	20 10	21 05	37 15		51 81	
21	138 56.8	56.1	216 03.9	134	27.3	137	54	37	21	24	44 13		44 84	
22	153 56.7	56.8	230 36.5	136	+13 13.6	137	56	46	34	21 46	1 53	10	36 87	
23	168 56.6	57.4	245 09.1	136	+12 59.8	138	58	19 57	20 50	22 18	2 03	6	27 91	
24	183 56.5	-17 58.1	259 41.9	138	+12 45.9	139	60 S	20 09	21 09	** ** *	2 15	1	10 17	95

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 31.1 ^m		Mag: -3.9 PMG: 10 ^h 53 ^m		Mag: +1.4 PMG: 12 ^h 47 ^m		Mag: -2.4 PMG: 4 ^h 22 ^m		Mag: +0.8 PMG: 20 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	51 22.8	196 56.1	-12 25.4		168 01.6	-21 41.1	294 15.3	+21 12.8	54 38.6	-4 03.9
1	66 25.2	211 55.5	26.4		183 02.1	41.5	309 17.8	12.8	69 41.2	03.9
2	81 27.7	226 55.0	27.5		198 02.7	41.8	324 20.3	12.8	84 43.7	03.9
3	96 30.2	241 54.4	28.6		213 03.2	42.2	339 22.7	12.8	99 46.2	04.0
4	111 32.6	256 53.9	29.7		228 03.8	42.5	354 25.2	12.8	114 48.8	04.0
5	126 35.1	271 53.4	-12 30.8		243 04.4	-21 42.8	9 27.7	+21 12.8	129 51.3	-4 04.0
6	141 37.5	286 52.8	-12 31.8		258 04.9	-21 43.2	24 30.1	+21 12.8	144 53.8	-4 04.0
7	156 40.0	301 52.2	32.9		273 05.5	43.5	39 32.6	12.8	159 56.4	04.0
8	171 42.5	316 51.7	34.0		288 06.0	43.9	54 35.1	12.8	174 58.9	04.1
9	186 44.9	331 51.1	35.1		303 06.6	44.2	69 37.5	12.8	190 01.4	04.1
10	201 47.4	346 50.6	36.2		318 07.1	44.6	84 40.0	12.8	205 04.0	04.1
11	216 49.9	1 50.0	-12 37.2		333 07.7	-21 44.9	99 42.5	+21 12.8	220 06.5	-4 04.1
12	231 52.3	16 49.5	-12 38.3		348 08.2	-21 45.2	114 44.9	+21 12.8	235 09.0	-4 04.1
13	246 54.8	31 48.9	39.4		3 08.8	45.6	129 47.4	12.8	250 11.5	04.2
14	261 57.3	46 48.4	40.5		18 09.3	45.9	144 49.9	12.9	265 14.1	04.2
15	276 59.7	61 47.8	41.5		33 09.9	46.3	159 52.3	12.9	280 16.6	04.2
16	292 02.2	76 47.3	42.6		48 10.4	46.6	174 54.8	12.9	295 19.1	04.2
17	307 04.6	91 46.7	-12 43.7		63 10.9	-21 46.9	189 57.3	+21 12.9	310 21.7	-4 04.2
18	322 07.1	106 46.2	-12 44.8		78 11.5	-21 47.3	204 59.8	+21 12.9	325 24.2	-4 04.3
19	337 09.6	121 45.6	45.8		93 12.0	47.6	220 02.2	12.9	340 26.7	04.3
20	352 12.0	136 45.1	46.9		108 12.6	48.0	235 04.7	12.9	355 29.3	04.3
21	7 14.5	151 44.5	48.0		123 13.1	48.3	250 07.2	12.9	10 31.8	04.3
22	22 17.0	166 43.9	49.0		138 13.7	48.6	265 09.7	12.9	25 34.3	04.3
23	37 19.4	181 43.4	50.1		153 14.2	49.0	280 12.1	12.9	40 36.8	04.4
24	52 21.9	196 42.8	-12 51.2		168 14.8	-21 49.3	295 14.6	+21 12.9	55 39.4	-4 04.4
Dif	—	-6	-11		+5	-3	+25	0	+25	0

ALMANAQUE NÁUTICO PERSEUS

UT	SOL		 LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 44.5 ^m		Edad: 23.5 ^d SD: 15/2 PMG: 7 ^h 36 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	183	54.3	-18	13.9	249	10.6	+7 04.5	60 N	15 32	16 21	17 13	0 37 87	14 11 1		
1	198	54.2		14.5	263	45.1 ¹⁵⁵	+6 49.9 ¹⁴⁶	58	44	29	17	41 83	10 3		
2	213	54.1		15.2	278	19.7 ¹⁵⁶	35.4 ¹⁴⁵	56	15 53	36	21	44 80	08 6		
3	228	54.0		15.8	292	54.3 ¹⁵⁶	20.9 ¹⁴⁵	54	16 02	42	25	47 78	06 9		
4	243	53.9		16.5	307	29.0 ¹⁵⁷	+6 06.4 ¹⁴⁵	52	10	47	28	50 75	05 11		
5	258	53.8	-18	17.1	322	03.7 ¹⁵⁷	+5 51.8 ¹⁴⁶	50	16 17	16 52	17 32	0 52 73	14 04 13		
6	273	53.7	-18	17.8	336	38.5 ¹⁵⁸	+5 37.3 ¹⁴⁵	45	16 32	17 04	17 39	0 58 68	14 01 17		
7	288	53.6		18.4	351	13.3 ¹⁵⁸	22.7 ¹⁴⁶	40	44	13	46	1 03 63	13 59 21		
8	303	53.5		19.1	5	48.2 ¹⁵⁹	+5 08.1 ¹⁴⁶	35	16 55	22	52	07 59	57 24		
9	318	53.4		19.7	20	23.1 ¹⁵⁹	+4 53.5 ¹⁴⁶	30	17 04	30	17 58	10 57	55 27		
10	333	53.3		20.4	34	58.0 ¹⁵⁹	38.9 ¹⁴⁶	20	20	44	18 10	16 51	52 32		
11	348	53.2	-18	21.0	49	33.0 ¹⁶⁰	+4 24.3 ¹⁴⁶	10 N	17 35	17 57	18 22	1 21 47	13 49 37		
12	3	53.1	-18	21.7	64	08.1 ¹⁶¹	+4 09.7 ¹⁴⁶	0	17 48	18 10	18 35	1 26 42	13 46 42		
13	18	53.0		22.3	78	43.1 ¹⁶⁰	+3 55.1 ¹⁴⁶	10 S	18 02	24	18 50	31 38	43 46		
14	33	52.9		22.9	93	18.2 ¹⁶¹	40.5 ¹⁴⁶	20	16	40	19 08	36 34	40 51		
15	48	52.8		23.6	107	53.4 ¹⁶²	25.9 ¹⁴⁶	30	33	18 59	30	42 28	37 56		
16	63	52.7		24.2	122	28.6 ¹⁶²	+3 11.3 ¹⁴⁶	35	43	19 11	19 45	46 25	35 59		
17	78	52.6	-18	24.9	137	03.8 ¹⁶²	+2 56.7 ¹⁴⁶	40	18 54	19 25	20 02	1 49 22	13 33 63		
18	93	52.5	-18	25.5	151	39.0 ¹⁶²	+2 42.1 ¹⁴⁶	45	19 08	19 42	20 25	1 54 18	13 30 67		
19	108	52.4		26.2	166	14.3 ¹⁶³	27.5 ¹⁴⁶	50	24	20 03	20 55	1 59 13	27 72		
20	123	52.3		26.8	180	49.6 ¹⁶³	+2 12.9 ¹⁴⁶	52	32	14	21 11	2 01 11	26 74		
21	138	52.2		27.4	195	25.0 ¹⁶⁴	+1 58.3 ¹⁴⁶	54	41	26	30	04 9	24 77		
22	153	52.1		28.1	210	00.4 ¹⁶⁴	43.7 ¹⁴⁶	56	19 50	40	21 55	07 6	22 80		
23	168	52.0		28.7	224	35.8 ¹⁶⁴	29.1 ¹⁴⁶	58	20 02	20 56	22 31	10 3	20 83		
24	183	51.9	-18	29.4	239	11.2 ¹⁶⁴	+1 14.5 ¹⁴⁶	60 S	20 14	21 17	** **	2 14 0	13 18 86		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 23.2 ^m		Mag: -3.9 PMG: 10 ^h 54 ^m		Mag: +1.4 PMG: 12 ^h 46 ^m		Mag: -2.4 PMG: 4 ^h 14 ^m		Mag: +0.8 PMG: 20 ^h 10 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	53	21.0	196	29.3	-13	16.7	168	27.8	-21	57.3
1	68	23.5	211	28.7		17.8	183	28.4		57.6
2	83	26.0	226	28.1		18.8	198	28.9		58.0
3	98	28.4	241	27.6		19.9	213	29.4		58.3
4	113	30.9	256	27.0		20.9	228	30.0		58.6
5	128	33.4	271	26.4	-13	22.0	243	30.5	-21	58.9
6	143	35.8	286	25.9	-13	23.0	258	31.1	-21	59.3
7	158	38.3	301	25.3		24.1	273	31.6		59.6
8	173	40.7	316	24.7		25.1	288	32.1	-21	59.9
9	188	43.2	331	24.1		26.2	303	32.7	-22	00.3
10	203	45.7	346	23.6		27.2	318	33.2		00.6
11	218	48.1	1	23.0	-13	28.3	333	33.7	-22	00.9
12	233	50.6	16	22.4	-13	29.3	348	34.3	-22	01.2
13	248	53.1	31	21.8		30.4	3	34.8		01.6
14	263	55.5	46	21.3		31.4	18	35.4		01.9
15	278	58.0	61	20.7		32.5	33	35.9		02.2
16	294	00.5	76	20.1		33.5	48	36.4		02.5
17	309	02.9	91	19.5	-13	34.6	63	37.0	-22	02.8
18	324	05.4	106	19.0	-13	35.6	78	37.5	-22	03.2
19	339	07.9	121	18.4		36.7	93	38.0		03.5
20	354	10.3	136	17.8		37.7	108	38.6		03.8
21	9	12.8	151	17.2		38.8	123	39.1		04.1
22	24	15.2	166	16.6		39.8	138	39.6		04.5
23	39	17.7	181	16.1		40.9	153	40.2		04.8
24	54	20.2	196	15.5	-13	41.9	168	40.7	-22	05.1
Dif	—		-6		-10		+5		-3	
								+25		0
									+25	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16/2 PMG: 11 ^h 44.6 ^m				Edad: 24.5 ^d SD: 15/0 PMG: 8 ^h 17 ^m																
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	183	51.9	-18	29.4	239	11.2	+1	14.5	60 N	6	17	7	09	7	58	2	02	84	14	10	**
1	198	51.8		30.0	253	46.6	+0	59.9	58	13	7	02	47		03	80		12	2		
2	213	51.7		30.6	268	22.1		45.3	56	09	6	55	37		03	77		13	4		
3	228	51.6		31.3	282	57.6		30.8	54	05	48	28	03		03	75		14	7		
4	243	51.5		31.9	297	33.1		16.2	52	6	01	43	20		03	72		15	9		
5	258	51.4	-18	32.5	312	08.6	+0	01.7	50	5	58	6	37	7	13	2	04	69	14	15	12
6	273	51.3	-18	33.2	326	44.2	-0	12.9	45	5	50	6	26	6	58	2	04	65	14	17	16
7	288	51.2		33.8	341	19.8		27.4	40	44		16	45		05	61		19	20		
8	303	51.1		34.4	355	55.3		41.9	35	37		08	35		05	57		20	23		
9	318	51.0		35.1	10	30.9	-0	56.4	30	31	6	00	25		05	55		21	26		
10	333	50.8		35.7	25	06.6	-1	10.9	20	19	5	46	6	09		06	49		23	31	
11	348	50.7	-18	36.3	39	42.2	-1	25.4	10 N	5	07	5	32	5	55	2	07	44	14	25	36
12	3	50.6	-18	37.0	54	17.8	-1	39.9	0	4	54	5	19	5	41	2	07	40	14	26	40
13	18	50.5		37.6	68	53.5	-1	54.3	10 S	39	5	05	27		08	35		28	44		
14	33	50.4		38.2	83	29.1	-2	08.7	20	4	21	4	49	5	13	08	31		30	49	
15	48	50.3		38.9	98	04.8		23.1	30	3	58	30	4	56		09	26		32	54	
16	63	50.2		39.5	112	40.5		37.5	35	44		18	46		09	23		33	57		
17	78	50.1	-18	40.1	127	16.1	-2	51.9	40	3	26	4	04	4	34	2	10	20	14	34	61
18	93	50.0	-18	40.7	141	51.8	-3	06.3	45	3	04	3	47	4	21	2	10	16	14	36	64
19	108	49.9		41.4	156	27.5		20.6	50	2	34	25	4	04		11	11		37	70	
20	123	49.7		42.0	171	03.2		34.9	52	2	18	15	3	57	11	10		38	72		
21	138	49.6		42.6	185	38.9	-3	49.2	54	1	59	3	03	48		11	8		39	74	
22	153	49.5		43.2	200	14.6	-4	03.5	56	1	34	2	49	38		12	4		40	77	
23	168	49.4		43.9	214	50.3		17.8	58	0	58	32	27		12	2		41	80		
24	183	49.3	-18	44.5	229	25.9	-4	32.0	60 S	**	**	2	12	3	14	2	13	**	14	42	84

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 19.3 ^m		Mag: -3.9 PMG: 10 ^h 55 ^m		Mag: +1.4 PMG: 12 ^h 45 ^m		Mag: -2.4 PMG: 4 ^h 10 ^m		Mag: +0.8 PMG: 20 ^h 06 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	54	20.2	196	15.5	-13	41.9	168	40.7	-22	05.1
1	69	22.6	211	14.9		42.9	183	41.2		05.4
2	84	25.1	226	14.3		44.0	198	41.8		05.7
3	99	27.6	241	13.7		45.0	213	42.3		06.1
4	114	30.0	256	13.2		46.1	228	42.8		06.4
5	129	32.5	271	12.6	-13	47.1	243	43.4	-22	06.7
6	144	35.0	286	12.0	-13	48.1	258	43.9	-22	07.0
7	159	37.4	301	11.4		49.2	273	44.4		07.3
8	174	39.9	316	10.8		50.2	288	45.0		07.6
9	189	42.4	331	10.2		51.3	303	45.5		08.0
10	204	44.8	346	09.7		52.3	318	46.0		08.3
11	219	47.3	1	09.1	-13	53.3	333	46.6	-22	08.6
12	234	49.7	16	08.5	-13	54.4	348	47.1	-22	08.9
13	249	52.2	31	07.9		55.4	3	47.6		09.2
14	264	54.7	46	07.3		56.4	18	48.2		09.5
15	279	57.1	61	06.7		57.5	33	48.7		09.9
16	294	59.6	76	06.1		58.5	48	49.2		10.2
17	310	02.1	91	05.5	-13	59.5	63	49.8	-22	10.5
18	325	04.5	106	05.0	-14	00.6	78	50.3	-22	10.8
19	340	07.0	121	04.4		01.6	93	50.8		11.1
20	355	09.5	136	03.8		02.6	108	51.3		11.4
21	10	11.9	151	03.2		03.7	123	51.9		11.7
22	25	14.4	166	02.6		04.7	138	52.4		12.1
23	40	16.8	181	02.0		05.7	153	52.9		12.4
24	55	19.3	196	01.4	-14	06.8	168	53.5	-22	12.7
Dif	—		-6		-10		+5		-3	
							+25		0	
									+25	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG: 11 ^h 44.8 ^m		Edad: 25.5 ^d SD: 14'9 PMG: 8 ^h 57 ^m											
	PHE { 4 ^h : 54'6 12 ^h : 54'5 20 ^h : 54'4 R°: 42 ^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	183 49.3	-18 44.5	229 25.9		-4 32.0		60 N	15 28	16 17	17 09	3 26 85		14 09 1	
1	198 49.2		244 01.6	167	-4 46.2	142	58	40	25	14	23 82		14 4	
2	213 49.1		258 37.3	167	-5 00.4	141	56	50	33	18	20 79		17 7	
3	228 49.0		273 13.0	167	14.5	141	54	15 59	39	22	18 76		21 10	
4	243 48.8		287 48.6	166	28.7	142	52	16 07	45	26	15 74		24 12	
5	258 48.7	-18 47.6	302 24.3	167	-5 42.8	141	50	16 14	16 50	17 30	3 13 71		14 27 14	
6	273 48.6	-18 48.2	316 59.9	166	-5 56.8	140	45	16 30	17 02	17 38	3 09 66		14 33 19	
7	288 48.5		331 35.6	167	-6 10.9	141	40	43	12	45	06 62		39 22	
8	303 48.4		346 11.2	166	24.9	140	35	16 54	21	51	02 59		43 26	
9	318 48.3		0 46.8	166	38.9	140	30	17 03	29	17 58	3 00 55		47 29	
10	333 48.1		15 22.4	166	-6 52.8	139	20	20	43	18 10	2 55 50		14 54 34	
11	348 48.0	-18 51.3	29 58.0	166	-7 06.8	140	10 N	17 35	17 57	18 22	2 51 46		15 01 38	
12	3 47.9	-18 51.9	44 33.6	166	-7 20.7	139	0	17 48	18 10	18 36	2 47 42		15 06 43	
13	18 47.8		59 09.1	165	34.5	138	10 S	18 02	25	18 51	43 38		12 47	
14	33 47.7		73 44.7	166	-7 48.3	138	20	17	18 41	19 09	39 34		19 50	
15	48 47.6		88 20.2	165	-8 02.1	138	30	35	19 01	32	35 28		26 56	
16	63 47.4		102 55.7	165	15.9	138	35	45	13	19 47	32 26		30 59	
17	78 47.3	-18 55.0	117 31.2	165	-8 29.6	137	40	18 57	19 27	20 05	2 30 21		15 35 62	
18	93 47.2	-18 55.6	132 06.6	164	-8 43.3	137	45	19 10	19 45	20 28	2 26 18		15 40 67	
19	108 47.1		146 42.1	165	-8 56.9	136	50	27	20 07	21 00	22 14		47 71	
20	123 47.0		161 17.5	164	-9 10.5	136	52	36	18	16	21 11		50 74	
21	138 46.8		175 52.9	164	24.1	136	54	45	30	21 36	19 9		53 77	
22	153 46.7		190 28.2	163	37.6	135	56	19 55	20 45	22 03	16 7		15 57 79	
23	168 46.6		205 03.6	164	-9 51.1	135	58	20 06	21 02	22 44	14 4		16 01 83	
24	183 46.5	-18 59.3	219 38.9	163	-10 04.5	134	60 S	20 20	21 24	** **	2 11 1		16 06 86	
UT	ARIES		VENUS		MARTE		JÚPITER			SATURNO				
	PMG: 20 ^h 15.4 ^m		Mag: -3.9 PMG: 10 ^h 56 ^m		Mag: +1.4 PMG: 12 ^h 44 ^m		Mag: -2.4 PMG: 4 ^h 06 ^m			Mag: +0.8 PMG: 20 ^h 02 ^m				
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec		
h	° /	° /	° /		° /		° /		° /		° /			
0	55 19.3	196 01.4	-14 06.8		168 53.5	-22 12.7	298 13.7	+21 13.7	58 41.0	-4 05.6				
1	70 21.8	211 00.8	07.8		183 54.0	13.0	313 16.2	13.7	73 43.5	05.6				
2	85 24.2	226 00.2	08.8		198 54.5	13.3	328 18.7	13.7	88 46.0	05.6				
3	100 26.7	240 59.6	09.8		213 55.0	13.6	343 21.2	13.7	103 48.6	05.6				
4	115 29.2	255 59.0	10.9		228 55.6	13.9	358 23.7	13.7	118 51.1	05.6				
5	130 31.6	270 58.4	-14 11.9		243 56.1	-22 14.2	13 26.2	+21 13.7	133 53.6	-4 05.6				
6	145 34.1	285 57.8	-14 12.9		258 56.6	-22 14.5	28 28.7	+21 13.7	148 56.1	-4 05.7				
7	160 36.6	300 57.3	13.9		273 57.1	14.9	43 31.2	13.8	163 58.6	05.7				
8	175 39.0	315 56.7	15.0		288 57.7	15.2	58 33.7	13.8	179 01.1	05.7				
9	190 41.5	330 56.1	16.0		303 58.2	15.5	73 36.2	13.8	194 03.6	05.7				
10	205 44.0	345 55.5	17.0		318 58.7	15.8	88 38.7	13.8	209 06.2	05.7				
11	220 46.4	0 54.9	-14 18.0		333 59.3	-22 16.1	103 41.2	+21 13.8	224 08.7	-4 05.7				
12	235 48.9	15 54.3	-14 19.1		348 59.8	-22 16.4	118 43.8	+21 13.8	239 11.2	-4 05.7				
13	250 51.3	30 53.7	20.1		4 00.3	16.7	133 46.3	13.8	254 13.7	05.8				
14	265 53.8	45 53.1	21.1		19 00.8	17.0	148 48.8	13.9	269 16.2	05.8				
15	280 56.3	60 52.5	22.1		34 01.3	17.3	163 51.3	13.9	284 18.7	05.8				
16	295 58.7	75 51.9	23.1		49 01.9	17.6	178 53.8	13.9	299 21.3	05.8				
17	311 01.2	90 51.3	-14 24.2		64 02.4	-22 17.9	193 56.3	+21 13.9	314 23.8	-4 05.8				
18	326 03.7	105 50.7	-14 25.2		79 02.9	-22 18.2	208 58.8	+21 13.9	329 26.3	-4 05.8				
19	341 06.1	120 50.1	26.2		94 03.4	18.5	224 01.3	13.9	344 28.8	05.8				
20	356 08.6	135 49.5	27.2		109 04.0	18.8	239 03.8	13.9	359 31.3	05.8				
21	11 11.1	150 48.9	28.2		124 04.5	19.1	254 06.3	14.0	14 33.8	05.9				
22	26 13.5	165 48.3	29.2		139 05.0	19.4	269 08.8	14.0	29 36.3	05.9				
23	41 16.0	180 47.7	30.3		154 05.5	19.8	284 11.3	14.0	44 38.8	05.9				
24	56 18.4	195 47.1	-14 31.3		169 06.1	-22 20.1	299 13.8	+21 14.0	59 41.4	-4 05.9				
Dif	—	-6	-10		+5	-3	+25	0	+25	0				

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:11 ^h 45.0 ^m				Edad: 26.5 ^d SD: 14'8 PMG: 9 ^h 37 ^m																
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	183	46.5	-18	59.3	219	38.9	-10	04.5	60 N	6	21	7	14	8	03	4	50	86	14 09 **		
1	198	46.3	-18	59.9	234	14.2		17.9	58	17	7	05	7	51	43	82	16	4			
2	213	46.2	-19	00.5	248	49.4		31.3	56	12	6	58	41	37	79	23	7				
3	228	46.1		01.1	263	24.7		44.6	54	08		52	32	32	76	29	1				
4	243	46.0		01.7	277	59.8	-10	57.9	52	04		46	24	27	73	35	13				
5	258	45.9	-19	02.3	292	35.0	-11	11.1	50	6	01	6	40	7	16	4	23	70	14 40 15		
6	273	45.7	-19	02.9	307	10.1	-11	24.3	45	5	53	6	29	7	01	4	14	65	14 51 20		
7	288	45.6		03.5	321	45.2		37.4	40	46		18	6	48	06	61	15	00	24		
8	303	45.5		04.2	336	20.3	-11	50.5	35	39		09	37	4	00	58	08	27			
9	318	45.4		04.8	350	55.3	-12	03.5	30	32	6	01	27	3	54	55	15	30			
10	333	45.2		05.4	5	30.3		16.5	20	20		5	47	6	10	44	50	27	34		
11	348	45.1	-19	06.0	20	05.3	-12	29.4	10 N	5	08	5	33	5	55	3	35	46	15 37 39		
12	3	45.0	-19	06.6	34	40.2	-12	42.3	0	4	54	5	20	5	41	3	27	42	15 47 43		
13	18	44.8		07.2	49	15.1	-12	55.1	10 S	39		5	05	27	20	37	15	57	47		
14	33	44.7		07.8	63	49.9	-13	07.9	20	4	21	4	49	5	12	11	34	16	08	51	
15	48	44.6		08.4	78	24.7		20.7	30	3	57	29	4	55	3	02	28	20	56		
16	63	44.5		09.0	92	59.5		33.3	35	42		16	45	2	56	26	28	58			
17	78	44.3	-19	09.6	107	34.2	-13	45.9	40	3	24	4	02	4	33	2	50	22	16	36	61
18	93	44.2	-19	10.2	122	08.9	-13	58.5	45	3	01	3	45	4	19	2	43	18	16	45	66
19	108	44.1		10.8	136	43.5	-14	11.0	50	2	30	22	4	02	34	14	16	57	71		
20	123	43.9		11.4	151	18.1		23.5	52	2	13	3	11	3	54	31	11	17	02	74	
21	138	43.8		12.0	165	52.6		35.9	54	1	53	2	59	45	26	9	08	76			
22	153	43.7		12.6	180	27.1	-14	48.2	56	1	26		44	35	22	6	15	79			
23	168	43.6		13.2	195	01.6	-15	00.5	58	0	45		27	23	16	4	23	83			
24	183	43.4	-19	13.8	209	36.0	-15	12.7	60 S	**	**	2	05	3	09	2	10	0	17	31	88

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 11.5 ^m		Mag: -3.9 PMG: 10 ^h 57 ^m		Mag: +1.4 PMG: 12 ^h 43 ^m		Mag: -2.4 PMG: 4 ^h 02 ^m		Mag: +0.9 PMG: 19 ^h 58 ^m	
	hG ♊		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	56	18.4	195	47.1	-14	31.3	299	13.8	+21	14.0
1	71	20.9	210	46.5		32.3	314	16.4		14.0
2	86	23.4	225	45.8		33.3	329	18.9		14.0
3	101	25.8	240	45.2		34.3	344	21.4		14.0
4	116	28.3	255	44.6		35.3	359	23.9		14.1
5	131	30.8	270	44.0	-14	36.3	14	26.4	+21	14.1
6	146	33.2	285	43.4	-14	37.3	29	28.9	+21	14.1
7	161	35.7	300	42.8		38.4	44	31.4		14.1
8	176	38.2	315	42.2		39.4	59	33.9		14.1
9	191	40.6	330	41.6		40.4	74	36.4		14.1
10	206	43.1	345	41.0		41.4	89	39.0		14.1
11	221	45.6	0	40.4	-14	42.4	104	41.5	+21	14.2
12	236	48.0	15	39.8	-14	43.4	119	44.0	+21	14.2
13	251	50.5	30	39.2		44.4	134	46.5		14.2
14	266	52.9	45	38.6		45.4	149	49.0		14.2
15	281	55.4	60	37.9		46.4	164	51.5		14.2
16	296	57.9	75	37.3		47.4	179	54.0		14.2
17	312	00.3	90	36.7	-14	48.4	194	56.6	+21	14.2
18	327	02.8	105	36.1	-14	49.4	209	59.1	+21	14.3
19	342	05.3	120	35.5		50.4	225	01.6		14.3
20	357	07.7	135	34.9		51.4	240	04.1		14.3
21	12	10.2	150	34.3		52.4	255	06.6		14.3
22	27	12.7	165	33.7		53.4	270	09.1		14.3
23	42	15.1	180	33.0		54.4	285	11.7		14.3
24	57	17.6	195	32.4	-14	55.4	300	14.2	+21	14.3
Dif	—		-6		-10		+25		0	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16/2 PMG: 11 ^h 45.2 ^m				Edad: 27.5 ^d SD: 14/7 PMG: 10 ^h 19 ^m														
	hG ☉		Dec		hG ☾		Dif				Dec		Dif		Civil	Náutico	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	183	43.4	-19	13.8	209	36.0	-15	12.7	60 N	15	24	16	14	17	06	6	16	92	14 08 3
1	198	43.3		14.4	224	10.3		24.8	58		36		22	11	6	05	86	20 8	
2	213	43.2		15.0	238	44.6		36.9	56		47		30	16	5	56	82	30 12	
3	228	43.0		15.5	253	18.9	-15	48.9	54	15	56	36	20	48	78	40	15	40 15	
4	243	42.9		16.1	267	53.1	-16	00.9	52	16	05	42	24	40	75	48	18	48 18	
5	258	42.8	-19	16.7	282	27.2	-16	12.8	50	16	12	16	48	17	28	5	33	73 14 55 20	
6	273	42.6	-19	17.3	297	01.3	-16	24.6	45	16	28	17	00	17	36	5	19	68 15 11 25	
7	288	42.5		17.9	311	35.4		36.4	40		41		11	43	5	07	64	24 29	
8	303	42.4		18.5	326	09.4		48.1	35	16	53	20	50	4	58	60	35	32	
9	318	42.2		19.1	340	43.3	-16	59.7	30	17	03	28	17	57	49	57	15	45 34	
10	333	42.1		19.7	355	17.2	-17	11.3	20		20	43	18	10	34	53	16	01 39	
11	348	42.0	-19	20.3	9	51.1	-17	22.8	10 N	17	35	17	57	18	22	4	21	49 16 16 43	
12	3	41.8	-19	20.9	24	24.8	-17	34.2	0	17	49	18	11	18	36	4	09	45 16 30 46	
13	18	41.7		21.5	38	58.6		45.6	10 S	18	03		26	18	52	3	57	42 44 50	
14	33	41.6		22.0	53	32.2	-17	56.9	20		19	18	42	19	10	45	37	16 59 53	
15	48	41.4		22.6	68	05.9	-18	08.1	30		36	19	03	34	30	33	17	16 58	
16	63	41.3		23.2	82	39.4		19.2	35		47	15	19	50	22	30	26	61	
17	78	41.1	-19	23.8	97	12.9	-18	30.2	40	18	59	19	30	20	08	3	12	27 17 37 64	
18	93	41.0	-19	24.4	111	46.4	-18	41.2	45	19	13	19	48	20	32	3	01	24 17 51 68	
19	108	40.9		25.0	126	19.7	-18	52.1	50		31	20	11	21	04	2	48	19 18 08 72	
20	123	40.7		25.6	140	53.1	-19	03.0	52		39		22	22		42	16	16 75	
21	138	40.6		26.1	155	26.3		13.7	54		48		35	21	43	35	14	24 79	
22	153	40.5		26.7	169	59.5		24.4	56	19	59	20	50	22	12	28	10	34 82	
23	168	40.3		27.3	184	32.7		35.0	58	20	11	21	08	23	01	20	6	46 86	
24	183	40.2	-19	27.9	199	05.7	-19	45.5	60 S	20	25	21	31	**	**	2	10	2 18 59 92	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 20 ^h 07.5 ^m		Mag: -3.9 PMG: 10 ^h 58 ^m		Mag: +1.4 PMG: 12 ^h 42 ^m		Mag: -2.4 PMG: 3 ^h 58 ^m		Mag: +0.9 PMG: 19 ^h 54 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	57	17.6	195	32.4	-14	55.4	169	18.5	-22	27.2	300	14.2	+21	14.3	60	41.6	-4	06.2	
1	72	20.1	210	31.8		56.4	184	19.0		27.5	315	16.7		14.4	75	44.1		06.2	
2	87	22.5	225	31.2		57.4	199	19.5		27.8	330	19.2		14.4	90	46.6		06.2	
3	102	25.0	240	30.6		58.4	214	20.1		28.1	345	21.7		14.4	105	49.2		06.2	
4	117	27.4	255	30.0	-14	59.4	229	20.6		28.4	0	24.3		14.4	120	51.7		06.2	
5	132	29.9	270	29.3	-15	00.4	244	21.1	-22	28.7	15	26.8	+21	14.4	135	54.2	-4	06.2	
6	147	32.4	285	28.7	-15	01.4	259	21.6	-22	29.0	30	29.3	+21	14.4	150	56.7	-4	06.2	
7	162	34.8	300	28.1		02.4	274	22.1		29.3	45	31.8		14.5	165	59.2		06.2	
8	177	37.3	315	27.5		03.4	289	22.6		29.6	60	34.3		14.5	181	01.7		06.2	
9	192	39.8	330	26.9		04.4	304	23.1		29.9	75	36.9		14.5	196	04.2		06.2	
10	207	42.2	345	26.2		05.4	319	23.7		30.1	90	39.4		14.5	211	06.7		06.3	
11	222	44.7	0	25.6	-15	06.4	334	24.2	-22	30.4	105	41.9	+21	14.5	226	09.2	-4	06.3	
12	237	47.2	15	25.0	-15	07.3	349	24.7	-22	30.7	120	44.4	+21	14.5	241	11.7	-4	06.3	
13	252	49.6	30	24.4		08.3	4	25.2		31.0	135	47.0		14.6	256	14.2		06.3	
14	267	52.1	45	23.8		09.3	19	25.7		31.3	150	49.5		14.6	271	16.7		06.3	
15	282	54.5	60	23.1		10.3	34	26.2		31.6	165	52.0		14.6	286	19.2		06.3	
16	297	57.0	75	22.5		11.3	49	26.7		31.9	180	54.5		14.6	301	21.7		06.3	
17	312	59.5	90	21.9	-15	12.3	64	27.2	-22	32.2	195	57.1	+21	14.6	316	24.3	-4	06.3	
18	328	01.9	105	21.3	-15	13.3	79	27.8	-22	32.5	210	59.6	+21	14.6	331	26.8	-4	06.3	
19	343	04.4	120	20.6		14.3	94	28.3		32.7	226	02.1		14.7	346	29.3		06.3	
20	358	06.9	135	20.0		15.2	109	28.8		33.0	241	04.6		14.7	1	31.8		06.3	
21	13	09.3	150	19.4		16.2	124	29.3		33.3	256	07.2		14.7	16	34.3		06.4	
22	28	11.8	165	18.8		17.2	139	29.8		33.6	271	09.7		14.7	31	36.8		06.4	
23	43	14.3	180	18.1		18.2	154	30.3		33.9	286	12.2		14.7	46	39.3		06.4	
24	58	16.7	195	17.5	-15	19.2	169	30.8	-22	34.2	301	14.7	+21	14.7	61	41.8	-4	06.4	
Dif	—		-6		-10		+5		-3		+25		0		+25		0		

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 45.4 ^m			Edad: 28.5 ^d SD: 14/7 PMG: 11 ^h 04 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	183	40.2	-19	27.9	199	05.7	-19	45.5	60 N	6 25	7 18	8 08	7 46	93	14 10	4
1	198	40.0		28.5	213	38.8 ¹⁴¹	-19	55.9 ¹⁰⁴	58	20	09	7 56	30	86	27	11
2	213	39.9		29.0	228	11.7 ¹³⁹	-20	06.3 ¹⁰²	56	16	7 02	45	16	81	41	16
3	228	39.8		29.6	242	44.6 ¹³⁹		16.5 ¹⁰²	54	11	6 55	36	7 04	77	14 53	20
4	243	39.6		30.2	257	17.4 ¹³⁸		26.7 ¹⁰¹	52	07	49	27	6 54	74	15 04	23
5	258	39.5	-19	30.8	271	50.2 ¹³⁸	-20	36.8 ¹⁰⁰	50	6 04	6 43	7 19	6 45	71	15 14	25
6	273	39.3	-19	31.4	286	22.9 ¹³⁷	-20	46.8 ⁹⁹	45	5 55	6 31	7 03	6 25	66	15 35	29
7	288	39.2		31.9	300	55.6 ¹³⁷	-20	56.7 ¹⁰⁰	40	48	21	6 50	6 10	62	15 51	34
8	303	39.0		32.5	315	28.1 ¹³⁵	-21	06.6 ⁹⁹	35	41	11	38	5 56	60	16 06	35
9	318	38.9		33.1	330	00.7 ¹³⁶		16.3 ⁹⁷	30	34	6 03	28	45	57	18	38
10	333	38.8		33.7	344	33.1 ¹³⁴		26.0 ⁹⁷	20	21	5 48	6 11	25	53	39	42
11	348	38.6	-19	34.2	359	05.5 ¹³⁴	-21	35.5 ⁹⁵	10 N	5 08	5 34	5 56	5 09	49	16 58	44
12	3	38.5	-19	34.8	13	37.8 ¹³³	-21	45.0 ⁹⁴	0	4 54	5 20	5 42	4 53	46	17 15	48
13	18	38.3		35.4	28	10.1 ¹³³	-21	54.4 ⁹³	10 S	39	5 05	27	37	43	32	51
14	33	38.2		36.0	42	42.3 ¹³²	-22	03.7 ⁹²	20	4 20	4 48	5 12	21	39	17 51	53
15	48	38.0		36.5	57	14.4 ¹³¹		12.9 ⁹¹	30	3 56	28	4 54	4 02	35	18 12	58
16	63	37.9		37.1	71	46.5 ¹³¹		22.0 ⁹¹	35	41	15	43	3 51	33	25	59
17	78	37.8	-19	37.7	86	18.5 ¹³⁰	-22	31.0 ⁹⁰	40	3 22	4 00	4 31	3 38	30	18 40	62
18	93	37.6	-19	38.2	100	50.4 ¹²⁹	-22	39.9 ⁸⁹	45	2 58	3 42	4 17	3 23	27	18 57	66
19	108	37.5		38.8	115	22.3 ¹²⁹		48.7 ⁸⁸	50	26	19	3 59	3 05	22	19 19	70
20	123	37.3		39.4	129	54.1 ¹²⁸	-22	57.4 ⁸⁷	52	2 09	3 08	51	2 57	19	29	73
21	138	37.2		40.0	144	25.8 ¹²⁷	-23	06.0 ⁸⁶	54	1 47	2 55	42	47	17	41	76
22	153	37.0		40.5	158	57.5 ¹²⁷		14.6 ⁸⁶	56	1 18	40	31	37	13	19 55	79
23	168	36.9		41.1	173	29.1 ¹²⁶		23.0 ⁸⁴	58	0 29	2 22	19	25	8	20 11	84
24	183	36.7	-19	41.7	188	00.7 ¹²⁶	-23	31.3 ⁸³	60 S	** **	1 59	3 05	2 11	3	20 30	92

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 20 ^h 03.6 ^m		Mag: -3.9 PMG: 10 ^h 59 ^m		Mag: +1.4 PMG: 12 ^h 42 ^m		Mag: -2.5 PMG: 3 ^h 54 ^m		Mag: +0.9 PMG: 19 ^h 50 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	58	16.7	195	17.5	-15	19.2	169	30.8	-22	34.2	301	14.7	+21	14.7	61	41.8	-4	06.4	
1	73	19.2	210	16.9		20.2	184	31.3		34.5	316	17.3		14.8	76	44.3		06.4	
2	88	21.7	225	16.3		21.1	199	31.8		34.7	331	19.8		14.8	91	46.8		06.4	
3	103	24.1	240	15.6		22.1	214	32.4		35.0	346	22.3		14.8	106	49.3		06.4	
4	118	26.6	255	15.0		23.1	229	32.9		35.3	1	24.8		14.8	121	51.8		06.4	
5	133	29.0	270	14.4	-15	24.1	244	33.4	-22	35.6	16	27.4	+21	14.8	136	54.3	-4	06.4	
6	148	31.5	285	13.7	-15	25.1	259	33.9	-22	35.9	31	29.9	+21	14.8	151	56.8	-4	06.4	
7	163	34.0	300	13.1		26.0	274	34.4		36.2	46	32.4		14.9	166	59.3		06.4	
8	178	36.4	315	12.5		27.0	289	34.9		36.4	61	35.0		14.9	182	01.8		06.4	
9	193	38.9	330	11.8		28.0	304	35.4		36.7	76	37.5		14.9	197	04.3		06.5	
10	208	41.4	345	11.2		29.0	319	35.9		37.0	91	40.0		14.9	212	06.8		06.5	
11	223	43.8	0	10.6	-15	29.9	334	36.4	-22	37.3	106	42.6	+21	14.9	227	09.3	-4	06.5	
12	238	46.3	15	09.9	-15	30.9	349	36.9	-22	37.6	121	45.1	+21	15.0	242	11.8	-4	06.5	
13	253	48.8	30	09.3		31.9	4	37.4		37.8	136	47.6		15.0	257	14.3		06.5	
14	268	51.2	45	08.7		32.9	19	37.9		38.1	151	50.2		15.0	272	16.8		06.5	
15	283	53.7	60	08.0		33.8	34	38.5		38.4	166	52.7		15.0	287	19.3		06.5	
16	298	56.2	75	07.4		34.8	49	39.0		38.7	181	55.2		15.0	302	21.9		06.5	
17	313	58.6	90	06.8	-15	35.8	64	39.5	-22	39.0	196	57.8	+21	15.0	317	24.4	-4	06.5	
18	329	01.1	105	06.1	-15	36.8	79	40.0	-22	39.2	212	00.3	+21	15.1	332	26.9	-4	06.5	
19	344	03.5	120	05.5		37.7	94	40.5		39.5	227	02.8		15.1	347	29.4		06.5	
20	359	06.0	135	04.9		38.7	109	41.0		39.8	242	05.4		15.1	2	31.9		06.5	
21	14	08.5	150	04.2		39.7	124	41.5		40.1	257	07.9		15.1	17	34.4		06.5	
22	29	10.9	165	03.6		40.6	139	42.0		40.4	272	10.4		15.1	32	36.9		06.6	
23	44	13.4	180	02.9		41.6	154	42.5		40.6	287	13.0		15.2	47	39.4		06.6	
24	59	15.9	195	02.3	-15	42.6	169	43.0	-22	40.9	302	15.5	+21	15.2	62	41.9	-4	06.6	
Dif	—		-6		-10		+5		-3		+25		0		+25				

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 45.7 ^m		Edad: 29.5 ^d SD: 14/7 PMG: 11 ^h 51 ^m PHE { 4 ^h : 53/9 12 ^h : 53/9 20 ^h : 53/9 R°: 51 ^m												
	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	183 36.7	-19 41.7	188 00.7		-23 31.3		60 N	15 20	16 11	17 03	9 19	92	14 14	13	
1	198 36.6		42.2	202 32.1	39.5	82	58	33	19	09	8 56	83		38	22
2	213 36.4		42.8	217 03.5	47.6	81	56	44	27	14	37 78		14 57	27	
3	228 36.3		43.4	231 34.9	55.6	80	54	15 53	34	18	21 74		15 13	31	
4	243 36.1		43.9	246 06.2	03.5	79	52	16 02	40	22	8 08 71		27	33	
5	258 36.0	-19 44.5	260 37.4		11.3	78	50	16 10	16 46	17 26	7 56 69		15 39	35	
6	273 35.8	-19 45.0	275 08.6		19.0	77	45	16 26	16 59	17 35	7 31 66		16 04	39	
7	288 35.7		45.6	289 39.7	26.5	75	40	40	17 09	42	7 12 62		25	41	
8	303 35.5		46.2	304 10.7	34.0	75	35	16 52	19	50	6 56 60		41	44	
9	318 35.4		46.7	318 41.7	41.4	74	30	17 02	27	17 56	42 58		16 56	45	
10	333 35.2		47.3	333 12.6	48.6	72	20	19	43	18 10	6 18 56		17 21	47	
11	348 35.1	-19 47.9	347 43.4		55.8	72	10 N	17 35	17 57	18 23	5 58 53		17 42	50	
12	3 34.9	-19 48.4	2 14.2		02.8	70	0	17 49	18 11	18 37	5 39 50		18 03	51	
13	18 34.8		49.0	16 44.9	09.7	69	10 S	18 04	26	18 53	20 48		23	53	
14	33 34.6		49.5	31 15.6	16.5	68	20	20	18 44	19 12	5 00 46		18 44	56	
15	48 34.5		50.1	45 46.2	23.2	67	30	38	19 05	36	4 37 42		19 10	57	
16	63 34.3		50.6	60 16.7	29.8	66	35	18 49	17	19 52	24 40		24	59	
17	78 34.1	-19 51.2	74 47.2		36.2	64	40	19 01	19 32	20 11	4 08 38		19 42	60	
18	93 34.0	-19 51.8	89 17.6		42.6	64	45	19 16	19 51	20 35	3 50 35		20 03	62	
19	108 33.8		52.3	103 48.0	48.8	62	50	34	20 14	21 09	27 31		29	66	
20	123 33.7		52.9	118 18.3	54.9	61	52	43	26	27	16 29		42	68	
21	138 33.5		53.4	132 48.5	00.9	60	54	19 52	39	21 50	3 04 26		20 57	70	
22	153 33.4		54.0	147 18.7	06.8	59	56	20 03	20 55	22 21	2 50 22		21 14	73	
23	168 33.2		54.5	161 48.9	12.5	57	58	16	21 14	23 28	33 17		21 35	77	
24	183 33.1	-19 55.1	176 18.9		18.1	56	60 S	20 30	21 38	** **	2 14 9		22 02	86	
UT	ARIES PMG 19 ^h 59.7 ^m		VENUS Mag: -3.9 PMG: 11 ^h 00 ^m		MARTE Mag: +1.4 PMG: 12 ^h 41 ^m		JÚPITER Mag: -2.5 PMG: 3 ^h 50 ^m		SATURNO Mag: +0.9 PMG: 19 ^h 46 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /		° /		° /		° /						
0	59 15.9	195 02.3	-15 42.6	169 43.0	-22 40.9	302 15.5	+21 15.2	62 41.9	-4 06.6						
1	74 18.3	210 01.7	43.5	184 43.5	41.2	317 18.0	15.2	77 44.4	06.6						
2	89 20.8	225 01.0	44.5	199 44.0	41.5	332 20.6	15.2	92 46.9	06.6						
3	104 23.3	240 00.4	45.5	214 44.5	41.7	347 23.1	15.2	107 49.4	06.6						
4	119 25.7	254 59.7	46.4	229 45.0	42.0	2 25.6	15.2	122 51.9	06.6						
5	134 28.2	269 59.1	-15 47.4	244 45.5	-22 42.3	17 28.2	+21 15.3	137 54.4	-4 06.6						
6	149 30.7	284 58.5	-15 48.3	259 46.0	-22 42.6	32 30.7	+21 15.3	152 56.9	-4 06.6						
7	164 33.1	299 57.8	49.3	274 46.5	42.8	47 33.3	15.3	167 59.4	06.6						
8	179 35.6	314 57.2	50.3	289 47.0	43.1	62 35.8	15.3	183 01.9	06.6						
9	194 38.0	329 56.5	51.2	304 47.5	43.4	77 38.3	15.3	198 04.4	06.6						
10	209 40.5	344 55.9	52.2	319 48.0	43.7	92 40.9	15.4	213 06.9	06.6						
11	224 43.0	359 55.2	-15 53.1	334 48.5	-22 43.9	107 43.4	+21 15.4	228 09.4	-4 06.6						
12	239 45.4	14 54.6	-15 54.1	349 49.0	-22 44.2	122 46.0	+21 15.4	243 11.9	-4 06.6						
13	254 47.9	29 53.9	55.1	4 49.5	44.5	137 48.5	15.4	258 14.4	06.6						
14	269 50.4	44 53.3	56.0	19 50.0	44.7	152 51.0	15.4	273 16.9	06.7						
15	284 52.8	59 52.6	57.0	34 50.5	45.0	167 53.6	15.5	288 19.4	06.7						
16	299 55.3	74 52.0	57.9	49 51.0	45.3	182 56.1	15.5	303 21.9	06.7						
17	314 57.8	89 51.4	-15 58.9	64 51.5	-22 45.5	197 58.7	+21 15.5	318 24.4	-4 06.7						
18	330 00.2	104 50.7	-15 59.8	79 52.0	-22 45.8	213 01.2	+21 15.5	333 26.9	-4 06.7						
19	345 02.7	119 50.1	-16 00.8	94 52.5	46.1	228 03.8	15.5	348 29.4	06.7						
20	0 05.1	134 49.4	01.7	109 53.0	46.4	243 06.3	15.6	3 31.9	06.7						
21	15 07.6	149 48.8	02.7	124 53.5	46.6	258 08.8	15.6	18 34.3	06.7						
22	30 10.1	164 48.1	03.6	139 54.0	46.9	273 11.4	15.6	33 36.8	06.7						
23	45 12.5	179 47.5	04.6	154 54.5	47.2	288 13.9	15.6	48 39.3	06.7						
24	60 15.0	194 46.8	-16 05.5	169 55.0	-22 47.4	303 16.5	+21 15.6	63 41.8	-4 06.7						
Dif	—	-6	-10	+5	-3	+25	0	+25	0						

ALMANAQUE NÁUTICO PERSEUS

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16 ^h /2 PMG: 11 ^h 46.2 ^m				Edad: 1.7 ^d PHE { 4 ^h : 54 ^m /1 12 ^h : 54 ^m /2 20 ^h : 54 ^m /2 PMG: 13 ^h 32 ^m R°: 53 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico	Hora R°		Hora R°		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	183	29.2	-20	08.1	164	06.2	99	-27	55.4	24	60 N	15 16	16 08	17 01	12 05	45	14 57	67				
1	198	29.0		08.7	178	35.1	100	-27	57.8	22	58	29	17	06	11 26	48	15 37	63				
2	213	28.9		09.2	193	04.1	99	-28	00.0	22	56	41	25	11	10 59	49	16 04	61				
3	228	28.7		09.7	207	33.0	99	-28	02.2	20	54	15 51	32	16	37 51		25 61					
4	243	28.5		10.3	222	01.9	99		04.2	19	52	16 00	38	20	20 50	43	60					
5	258	28.4	-20	10.8	236	30.7	98	-28	06.1	17	50	16 08	16 44	17 24	10 04	52	16 58	59				
6	273	28.2	-20	11.3	250	59.5	98	-28	07.8	16	45	16 25	16 57	17 33	9 34	52	17 29	58				
7	288	28.0		11.9	265	28.3	98		09.4	14	40	39	17 08	41	9 10	53	17 53	57				
8	303	27.9		12.4	279	57.1	98		10.8	14	35	16 51	18	49	8 51	52	18 12	57				
9	318	27.7		12.9	294	25.8	97		12.2	14	30	17 01	27	17 56	34 53		29 56					
10	333	27.5		13.5	308	54.6	98		13.3	11	20	19	43	18 10	8 06	53	18 57	55				
11	348	27.4	-20	14.0	323	23.3	97	-28	14.4	11	10 N	17 35	17 57	18 23	7 42	53	19 22	54				
12	3	27.2	-20	14.5	337	52.0	97	-28	15.3	9	0	17 50	18 12	18 37	7 19	54	19 44	54				
13	18	27.0		15.0	352	20.6	96		16.1	8	10 S	18 05	27	18 54	6 57	53	20 07	52				
14	33	26.9		15.6	6	49.3	96		16.7	6	20	21	18 45	19 13	33 53		31 52					
15	48	26.7		16.1	21	17.9	96		17.2	5	30	40	19 06	38	6 05	53	20 59	51				
16	63	26.5		16.6	35	46.6	97		17.5	3	35	18 51	19	19 54	5 48	54	21 16	50				
17	78	26.3	-20	17.1	50	15.2	96	-28	17.7	2	40	19 04	19 35	20 14	5 29	53	21 35	49				
18	93	26.2	-20	17.7	64	43.8	96	-28	17.8	1	45	19 19	19 54	20 39	5 06	53	21 59	47				
19	108	26.0		18.2	79	12.4	96		17.7	1	50	37	20 18	21 14	4 36	53	22 29	46				
20	123	25.8		18.7	93	40.9	95		17.5	2	52	46	30	32	21 53		22 44	44				
21	138	25.7		19.2	108	09.5	96		17.2	3	54	19 56	20 44	21 56	4 04	53	23 02	42				
22	153	25.5		19.8	122	38.1	96		16.7	5	56	20 07	21 00	22 31	3 44	52	23 40					
23	168	25.3		20.3	137	06.7	96		16.0	7	58	20	20	** **	3 18	51	23 49	37				
24	183	25.1	-20	20.8	151	35.2	95	-28	15.3	7	60 S	20 35	21 46	** **	2 42	50	** **	**				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 19 ^h 51.8 ^m			Mag: -3.9 PMG: 11 ^h 02 ^m			Mag: +1.4 PMG: 12 ^h 39 ^m			Mag: -2.5 PMG: 3 ^h 42 ^m			Mag: +0.9 PMG: 19 ^h 38 ^m									
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec							
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	'						
0	61	14.1	194	31.0	-16	28.1	170	06.9	-22	53.7	304	17.7	+21	16.1	64	41.7						
1	76	16.6	209	30.3		29.0	185	07.4		54.0	319	20.2		16.2	79	44.2						
2	91	19.1	224	29.7		30.0	200	07.9		54.2	334	22.8		16.2	94	46.7						
3	106	21.5	239	29.0		30.9	215	08.4		54.5	349	25.3		16.2	109	49.2						
4	121	24.0	254	28.4		31.8	230	08.9		54.8	4	27.9		16.2	124	51.7						
5	136	26.5	269	27.7	-16	32.7	245	09.4	-22	55.0	19	30.4	+21	16.3	139	54.2						
6	151	28.9	284	27.0	-16	33.7	260	09.9	-22	55.3	34	33.0	+21	16.3	154	56.7						
7	166	31.4	299	26.3		34.6	275	10.4		55.5	49	35.5		16.3	169	59.2						
8	181	33.9	314	25.7		35.5	290	10.9		55.8	64	38.1		16.3	185	01.7						
9	196	36.3	329	25.0		36.4	305	11.4		56.0	79	40.7		16.3	200	04.1						
10	211	38.8	344	24.3		37.4	320	11.9		56.3	94	43.2		16.4	215	06.6						
11	226	41.3	359	23.7	-16	38.3	335	12.4	-22	56.5	109	45.8	+21	16.4	230	09.1						
12	241	43.7	14	23.0	-16	39.2	350	12.8	-22	56.8	124	48.3	+21	16.4	245	11.6						
13	256	46.2	29	22.3		40.1	5	13.3		57.0	139	50.9		16.4	260	14.1						
14	271	48.6	44	21.7		41.1	20	13.8		57.3	154	53.4		16.5	275	16.6						
15	286	51.1	59	21.0		42.0	35	14.3		57.5	169	56.0		16.5	290	19.1						
16	301	53.6	74	20.3		42.9	50	14.8		57.8	184	58.6		16.5	305	21.6						
17	316	56.0	89	19.6	-16	43.8	65	15.3	-22	58.0	200	01.1	+21	16.5	320	24.1						
18	331	58.5	104	19.0	-16	44.7	80	15.8	-22	58.3	215	03.7	+21	16.5	335	26.6						
19	347	01.0	119	18.3		45.6	95	16.3		58.6	230	06.2		16.6	350	29.1						
20	2	03.4	134	17.6		46.6	110	16.8		58.8	245	08.8		16.6	5	31.5						
21	17	05.9	149	17.0		47.5	125	17.2		59.1	260	11.4		16.6	20	34.0						
22	32	08.4	164	16.3		48.4	140	17.7		59.3	275	13.9		16.6	35	36.5						
23	47	10.8	179	15.6		49.3	155	18.2		59.5	290	16.5		16.7	50	39.0						
24	62	13.3	194	14.9	-16	50.2	170	18.7	-22	59.8	305	19.0	+21	16.7	65	41.5						
Dif	—		-7		-9		+5		-3		+26		0		+25		0					

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16½ PMG: 11 ^h 46.5 ^m				Edad: 2.7 ^d SD: 14½ PMG: 14 ^h 24 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	183	25.1	-20	20.8	151	35.2	-28	15.3	9	60 N	6	33	7	26	8	18	12	48	17
1	198	25.0		21.3	166	03.8		14.4	11	58	27	17		8	04	12	13	26	
2	213	24.8		21.8	180	32.3		13.3	12	56	22	09		7	53	11	47	31	
3	228	24.6		22.4	195	00.9		12.1	13	54	17	7 02		43	26	35	24	72	
4	243	24.4		22.9	209	29.5		10.8	13	52	13	6 55		34	11	09	37	41	
5	258	24.3	-20	23.4	223	58.0	-28	09.3	15	50	6	09	6 49	7	26	10	54	39	
6	273	24.1	-20	23.9	238	26.6	-28	07.7	17	45	6	00	6 36	7	08	10	25	41	
7	288	23.9		24.4	252	55.2		06.0	16	40	5	52	25	6	54	10	01	44	
8	303	23.7		24.9	267	23.8		04.1	19	35	44	15		42	9	42	45	19	
9	318	23.6		25.5	281	52.4	-28	02.1	20	30	37	6 06		32	9	25	47	24	
10	333	23.4		26.0	296	21.0	-27	59.9	22	20	23	5 50		6	14	8	58	48	
11	348	23.2	-20	26.5	310	49.6	-27	57.6	23	10 N	5	10	5 35	5	58	8	34	50	
12	3	23.0	-20	27.0	325	18.2	-27	55.1	25	0	4	55	5 21	5	43	8	11	52	
13	18	22.9		27.5	339	46.8		52.5	26	10 S	39	5 05		28	7	49	53	20	
14	33	22.7		28.0	354	15.5		49.8	27	20	4	19	4 48	5	11	7	25	54	
15	48	22.5		28.5	8	44.1		47.0	28	30	3	54	26	4	53	6	57	56	
16	63	22.3		29.1	23	12.8		43.9	31	35	38	4 13		42	40	58	22	04	
17	78	22.1	-20	29.6	37	41.5	-27	40.8	31	40	3	19	3 58	4	29	6	21	59	
18	93	22.0	-20	30.1	52	10.2	-27	37.5	33	45	2	53	3 39	4	14	5	58	60	
19	108	21.8		30.6	66	39.0		34.1	34	50	19	14		3	55	28	62	23	
20	123	21.6		31.1	81	07.7		30.6	35	52	2	00	3 02	46	5	13	64	27	
21	138	21.4		31.6	95	36.5		26.9	37	54	1	36	2 48	36	4	55	66	23	
22	153	21.3		32.1	110	05.3		23.0	39	56	1	02	32	25	34	69	**	**	
23	168	21.1		32.6	124	34.1		19.1	39	58	**	**	2 12	3	12	4	08	72	
24	183	20.9	-20	33.1	139	03.0	-27	15.0	41	60 S	**	**	1 46	2	57	3	31	79	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 47.9 ^m		Mag: -3.9 PMG: 11 ^h 04 ^m		Mag: +1.4 PMG: 12 ^h 38 ^m		Mag: -2.5 PMG: 3 ^h 38 ^m		Mag: +0.9 PMG: 19 ^h 34 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	62	13.3	194	14.9	170	18.7	305	19.0	65	41.5
1	77	15.8	209	14.2	185	19.2	320	21.6	80	44.0
2	92	18.2	224	13.6	200	19.7	335	24.2	95	46.5
3	107	20.7	239	12.9	215	20.2	350	26.7	110	49.0
4	122	23.1	254	12.2	230	20.7	5	29.3	125	51.5
5	137	25.6	269	11.5	245	21.1	20	31.9	140	53.9
6	152	28.1	284	10.9	260	21.6	35	34.4	155	56.4
7	167	30.5	299	10.2	275	22.1	50	37.0	170	58.9
8	182	33.0	314	09.5	290	22.6	65	39.6	186	01.4
9	197	35.5	329	08.8	305	23.1	80	42.1	201	03.9
10	212	37.9	344	08.1	320	23.6	95	44.7	216	06.4
11	227	40.4	359	07.4	335	24.1	110	47.3	231	08.9
12	242	42.9	14	06.8	350	24.5	125	49.8	246	11.4
13	257	45.3	29	06.1	5	25.0	140	52.4	261	13.8
14	272	47.8	44	05.4	20	25.5	155	55.0	276	16.3
15	287	50.2	59	04.7	35	26.0	170	57.5	291	18.8
16	302	52.7	74	04.0	50	26.5	186	00.1	306	21.3
17	317	55.2	89	03.3	65	27.0	201	02.7	321	23.8
18	332	57.6	104	02.7	80	27.5	216	05.2	336	26.3
19	348	00.1	119	02.0	95	27.9	231	07.8	351	28.8
20	3	02.6	134	01.3	110	28.4	246	10.4	6	31.2
21	18	05.0	149	00.6	125	28.9	261	12.9	21	33.7
22	33	07.5	163	59.9	140	29.4	276	15.5	36	36.2
23	48	10.0	178	59.2	155	29.9	291	18.1	51	38.7
24	63	12.4	193	58.5	170	30.4	306	20.6	66	41.2
Dif	—		-7	-9	+5	-2	+26	0	+25	0

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16'2 PMG:11 ^h 46.8 ^m			Edad: 3.7 ^d PHE { 4 ^h : 54'7 12 ^h : 54'8 20 ^h : 54'9 PMG: 15 ^h 15 ^m R°: 51 ^m																	
	hG ☉	Dec		hG ☾	Dif		Dec		Dif			Civil	Náutico	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	
0	183	20.9	-20	33.1	139	03.0	99	-27	15.0	43	60 N	15 13	16 05	16 58	13 05	8	17 33	98			
1	198	20.7		33.6	153	31.9	99		10.7	43	58	26	14	17 04	12 39	16	17 59	90			
2	213	20.5		34.1	168	00.8	99		06.4	43	56	38	22	09	18 21		18 19	85			
3	228	20.3		34.6	182	29.7	99	-27	01.8	46	54	49	30	14	12 01	24	36	81			
4	243	20.2		35.1	196	58.7	100	-26	57.2	48	52	15 58	37	19	11 46	27	18 51	77			
5	258	20.0	-20	35.6	211	27.7	100	-26	52.4	48	50	16 06	16 43	17 23	11 33	30	19 03	75			
6	273	19.8	-20	36.1	225	56.7	100	-26	47.5	49	45	16 23	16 56	17 32	11 06	35	19 29	70			
7	288	19.6		36.6	240	25.8	101		42.5	50	40	38	17 07	41	10 45	38	19 50	66			
8	303	19.4		37.1	254	54.8	100		37.3	52	35	16 50	17	48	27	41	20 07	63			
9	318	19.2		37.6	269	24.0	102		32.0	53	30	17 01	26	17 56	10 12	43	22	61			
10	333	19.1		38.1	283	53.1	101		26.5	55	20	19	43	18 10	9 46	46	20 46	57			
11	348	18.9	-20	38.6	298	22.3	102	-26	21.0	55	10 N	17 35	17 58	18 23	9 24	49	21 08	53			
12	3	18.7	-20	39.1	312	51.6	103	-26	15.2	58	0	17 50	18 12	18 38	9 03	52	21 27	51			
13	18	18.5		39.6	327	20.8	102		09.4	58	10 S	18 06	28	18 55	8 42	54	21 47	48			
14	33	18.3		40.1	341	50.1	103	-26	03.4	60	20	22	18 46	19 15	8 19	58	22 08	44			
15	48	18.1		40.6	356	19.5	104	-25	57.3	61	30	41	19 08	40	7 53	61	32	41			
16	63	18.0		41.1	10	48.8	103		51.1	62	35	18 53	21	19 57	38	62	22 46	38			
17	78	17.8	-20	41.6	25	18.3	105	-25	44.8	63	40	19 06	19 37	20 17	7 20	65	23 03	35			
18	93	17.6	-20	42.1	39	47.7	104	-25	38.3	65	45	19 21	19 57	20 42	6 58	68	23 22	32			
19	108	17.4		42.6	54	17.2	105		31.7	66	50	40	20 21	21 18	30	73	47	26			
20	123	17.2		43.1	68	46.8	106		24.9	68	52	19 49	34	21 38	17	75	23 58	**			
21	138	17.0		43.6	83	16.3	105		18.1	70	54	20 00	20 48	22 03	6 01	78	**	**	**		
22	153	16.8		44.1	97	46.0	107		11.1	72	56	11	21 05	22 41	5 43	81	0 02	26			
23	168	16.6		44.5	112	15.6	106	-25	03.9	72	58	24	26	** **	5 20	87	25	21			
24	183	16.4	-20	45.0	126	45.3	107	-24	56.7	72	60 S	20 40	21 53	** **	4 50	95	0 55	13			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 19 ^h 43.9 ^m		Mag: -3.9 PMG: 11 ^h 05 ^m			Mag: +1.4 PMG: 12 ^h 38 ^m			Mag: -2.5 PMG: 3 ^h 34 ^m			Mag: +0.9 PMG: 19 ^h 30 ^m									
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	63	12.4	193	58.5	-17	11.9	170	30.4	-23	05.6	306	20.6	+21	17.3	66	41.2	-4	06.9			
1	78	14.9	208	57.8		12.8	185	30.8		05.9	321	23.2		17.3	81	43.7		06.9			
2	93	17.4	223	57.2		13.7	200	31.3		06.1	336	25.8		17.3	96	46.2		06.9			
3	108	19.8	238	56.5		14.6	215	31.8		06.4	351	28.4		17.3	111	48.6		06.9			
4	123	22.3	253	55.8		15.5	230	32.3		06.6	6	30.9		17.4	126	51.1		06.9			
5	138	24.7	268	55.1	-17	16.4	245	32.8	-23	06.8	21	33.5	+21	17.4	141	53.6	-4	06.9			
6	153	27.2	283	54.4	-17	17.2	260	33.2	-23	07.1	36	36.1	+21	17.4	156	56.1	-4	06.8			
7	168	29.7	298	53.7		18.1	275	33.7		07.3	51	38.7		17.4	171	58.6		06.8			
8	183	32.1	313	53.0		19.0	290	34.2		07.5	66	41.2		17.5	187	01.1		06.8			
9	198	34.6	328	52.3		19.9	305	34.7		07.8	81	43.8		17.5	202	03.5		06.8			
10	213	37.1	343	51.6		20.8	320	35.2		08.0	96	46.4		17.5	217	06.0		06.8			
11	228	39.5	358	50.9	-17	21.7	335	35.6	-23	08.3	111	48.9	+21	17.5	232	08.5	-4	06.8			
12	243	42.0	13	50.2	-17	22.6	350	36.1	-23	08.5	126	51.5	+21	17.6	247	11.0	-4	06.8			
13	258	44.5	28	49.5		23.5	5	36.6		08.7	141	54.1		17.6	262	13.5		06.8			
14	273	46.9	43	48.8		24.3	20	37.1		09.0	156	56.7		17.6	277	16.0		06.8			
15	288	49.4	58	48.1		25.2	35	37.6		09.2	171	59.3		17.6	292	18.4		06.8			
16	303	51.9	73	47.4		26.1	50	38.0		09.4	187	01.8		17.7	307	20.9		06.8			
17	318	54.3	88	46.7	-17	27.0	65	38.5	-23	09.7	202	04.4	+21	17.7	322	23.4	-4	06.8			
18	333	56.8	103	46.1	-17	27.9	80	39.0	-23	09.9	217	07.0	+21	17.7	337	25.9	-4	06.8			
19	348	59.2	118	45.4		28.7	95	39.5		10.1	232	09.6		17.7	352	28.4		06.8			
20	4	01.7	133	44.7		29.6	110	40.0		10.3	247	12.1		17.8	7	30.8		06.8			
21	19	04.2	148	44.0		30.5	125	40.4		10.6	262	14.7		17.8	22	33.3		06.8			
22	34	06.6	163	43.3		31.4	140	40.9		10.8	277	17.3		17.8	37	35.8		06.8			
23	49	09.1	178	42.6		32.2	155	41.4		11.0	292	19.9		17.8	52	38.3		06.8			
24	64	11.6	193	41.9	-17	33.1	170	41.9	-23	11.3	307	22.5	+21	17.9	67	40.8	-4	06.8			
Dif	—		-7		-9		+5		-2		+26		0		+25		0				

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG: 11 ^h 47.1 ^m				Edad: 4.7 ^d PHE { 4 ^h : 55 ^h /1 12 ^h : 55 ^h /3 20 ^h : 55 ^h /5 PMG: 16 ^h 05 ^m R°: 48 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	183	16.4	-20	45.0	126	45.3	-24	56.7	60 N	6 36	7 30	8 22	13 12	2	19 09	97		
1	198	16.3		45.5	141	15.1		49.3	58	30	21	8 09	12 53	8	27	91		
2	213	16.1		46.0	155	44.9		41.8	56	25	12	7 57	38 12		43	85		
3	228	15.9		46.5	170	14.7		34.2	54	20	7 05	46	24 16		19 56	82		
4	243	15.7		47.0	184	44.6		26.5	52	16	6 58	37	12 19		20 07	79		
5	258	15.5	-20	47.5	199	14.6	-24	18.6	50	6 11	6 52	7 29	12 02	21	20 17	76		
6	273	15.3	-20	48.0	213	44.5	-24	10.7	45	6 02	6 38	7 11	11 40	26	20 38	71		
7	288	15.1		48.4	228	14.6	-24	02.6	40	5 53	27	6 56	22 31		20 55	66		
8	303	14.9		48.9	242	44.6	-23	54.4	35	46	17	44	11 07	34	21 09	63		
9	318	14.7		49.4	257	14.8		46.0	30	38	6 08	33	10 53	37	21	60		
10	333	14.5		49.9	271	44.9		37.6	20	24	5 51	6 15	31 41		21 42	55		
11	348	14.4	-20	50.4	286	15.1	-23	29.0	10 N	5 10	5 36	5 59	10 12	44	22 00	51		
12	3	14.2	-20	50.9	300	45.4	-23	20.3	0	4 56	5 21	5 43	9 53	49	22 17	47		
13	18	14.0		51.3	315	15.7		11.5	10 S	39	5 05	28	35 52		33	44		
14	33	13.8		51.8	329	46.0	-23	02.6	20	4 19	4 47	5 11	9 15	56	22 51	39		
15	48	13.6		52.3	344	16.4	-22	53.5	30	3 53	25	4 52	8 52	60	23 11	35		
16	63	13.4		52.8	358	46.9		44.4	35	37	4 12	41	39 63		23	32		
17	78	13.2	-20	53.2	372	17.4	-22	35.1	40	3 17	3 56	4 28	8 23	66	23 36	29		
18	93	13.0	-20	53.7	386	17.9	-22	25.7	45	2 51	3 37	4 12	8 05	70	23 52	25		
19	108	12.8		54.2	400	18.5		16.3	50	2 15	12	3 53	7 41	75	** ** *	**		
20	123	12.6		54.7	414	19.1	-22	06.7	52	1 56	3 00	44	30 78		** ** *	**		
21	138	12.4		55.2	428	19.8	-21	56.9	54	1 30	2 45	34	17 81		0 11	20		
22	153	12.2		55.6	442	20.5		47.1	56	0 52	28	22	7 03	84	27	15		
23	168	12.0		56.1	456	21.3		37.2	58	** ** *	2 07	3 09	6 45	90	0 45	11		
24	183	11.8	-20	56.6	470	22.1	-21	27.2	60 S	** ** *	1 40	2 53	6 24	96	1 07	4		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 19 ^h 40.0 ^m		Mag: -3.9 PMG: 11 ^h 06 ^m				Mag: +1.4 PMG: 12 ^h 37 ^m				Mag: -2.5 PMG: 3 ^h 30 ^m				Mag: +0.9 PMG: 19 ^h 26 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	
0	64	11.6	193	41.9	-17	33.1	170	41.9	-23	11.3	307	22.5	+21	17.9	67	40.8	-4	06.8
1	79	14.0	208	41.1		34.0	185	42.3		11.5	322	25.0		17.9	82	43.2		06.8
2	94	16.5	223	40.4		34.9	200	42.8		11.7	337	27.6		17.9	97	45.7		06.8
3	109	19.0	238	39.7		35.7	215	43.3		12.0	352	30.2		17.9	112	48.2		06.8
4	124	21.4	253	39.0		36.6	230	43.8		12.2	7	32.8		18.0	127	50.7		06.8
5	139	23.9	268	38.3	-17	37.5	245	44.3	-23	12.4	22	35.4	+21	18.0	142	53.2	-4	06.8
6	154	26.4	283	37.6	-17	38.4	260	44.7	-23	12.6	37	37.9	+21	18.0	157	55.6	-4	06.8
7	169	28.8	298	36.9		39.2	275	45.2		12.9	52	40.5		18.0	172	58.1		06.8
8	184	31.3	313	36.2		40.1	290	45.7		13.1	67	43.1		18.1	188	00.6		06.8
9	199	33.7	328	35.5		41.0	305	46.2		13.3	82	45.7		18.1	203	03.1		06.8
10	214	36.2	343	34.8		41.8	320	46.6		13.5	97	48.3		18.1	218	05.6		06.8
11	229	38.7	358	34.1	-17	42.7	335	47.1	-23	13.8	112	50.9	+21	18.2	233	08.0	-4	06.8
12	244	41.1	373	33.4	-17	43.6	350	47.6	-23	14.0	127	53.4	+21	18.2	248	10.5	-4	06.8
13	259	43.6	388	32.7		44.4	5	48.1		14.2	142	56.0		18.2	263	13.0		06.8
14	274	46.1	403	32.0		45.3	20	48.5		14.4	157	58.6		18.2	278	15.5		06.8
15	289	48.5	418	31.3		46.2	35	49.0		14.7	173	01.2		18.3	293	18.0		06.8
16	304	51.0	433	30.6		47.0	50	49.5		14.9	188	03.8		18.3	308	20.4		06.8
17	319	53.5	448	29.9	-17	47.9	65	49.9	-23	15.1	203	06.4	+21	18.3	323	22.9	-4	06.8
18	334	55.9	463	29.1	-17	48.7	80	50.4	-23	15.3	218	08.9	+21	18.3	338	25.4	-4	06.8
19	349	58.4	478	28.4		49.6	95	50.9		15.6	233	11.5		18.4	353	27.9		06.8
20	5	00.9	493	27.7		50.5	110	51.4		15.8	248	14.1		18.4	8	30.3		06.8
21	20	03.3	508	27.0		51.3	125	51.8		16.0	263	16.7		18.4	23	32.8		06.7
22	35	05.8	523	26.3		52.2	140	52.3		16.2	278	19.3		18.5	38	35.3		06.7
23	50	08.2	538	25.6		53.0	155	52.8		16.4	293	21.9		18.5	53	37.8		06.7
24	65	10.7	553	24.9	-17	53.9	170	53.3	-23	16.7	308	24.5	+21	18.5	68	40.3	-4	06.7
Dif	—		-7		-9		+5		-2		+26		0		+25			

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna			Puesta de Luna					
	SD: 16/2 PMG: 11 ^h 47.4 ^m				Edad: 5.7 ^d SD: 15/1 PMG: 16 ^h 53 ^m PHE { 4 ^h : 55/7 12 ^h : 55/9 20 ^h : 56/1 R°: 47 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Civil	Náutico	Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m		
0	183	11.8	-20	56.6	114	52.1	119	-21	27.2	102	60 N	15	09	16	02	16	56	13	14	2	20	46	96	
1	198	11.6		57.0	129	23.0	119		17.0	102	58	24		12	17	02		13	01	7	20	58	91	
2	213	11.4		57.5	143	53.9	119	-21	06.8	102	56	36		20		08		12	50	10	21	08	88	
3	228	11.2		58.0	158	24.9	120	-20	56.4	104	54	46		28		13		40	14		18	84		
4	243	11.0		58.5	172	55.9	120		45.9	105	52	15	56	35		17		31	17		26	81		
5	258	10.8	-20	58.9	187	27.0	121	-20	35.4	105	50	16	04	16	41	17	22	12	23	19	21	33	78	
6	273	10.6	-20	59.4	201	58.1	121	-20	24.7	107	45	16	22	16	55	17	31	12	06	24	21	49	72	
7	288	10.4	-20	59.9	216	29.2	121		13.9	108	40	37		17	07		40	11	53	28	22	01	69	
8	303	10.2	-21	00.3	231	00.4	122	-20	03.0	109	35	16	49	17		48		41	31		12	65		
9	318	10.0		00.8	245	31.6	122	-19	52.1	109	30	17	00	26		17	55	30	35		21	62		
10	333	09.8		01.3	260	02.9	123		41.0	111	20	19		43		18	10	11	12	40	37	57		
11	348	09.6	-21	01.7	274	34.2	123	-19	29.8	112	10 N	17	35	17	58	18	24	10	56	44	22	51	52	
12	3	09.4	-21	02.2	289	05.6	124	-19	18.5	113	0	17	51	18	13	18	39	10	42	48	23	04	47	
13	18	09.2		02.7	303	37.0	124	-19	07.1	114	10 S	18	07	29		18	56		27	52		17	43	
14	33	09.0		03.1	318	08.4	124	-18	55.7	114	20	24		18	48	19	16	10	11	56		30	39	
15	48	08.8		03.6	332	39.9	125		44.1	116	30	43		19	10		42	9	52	62		46	33	
16	63	08.6		04.0	347	11.5	126		32.4	117	35	18	55	24		19	59		42	64		23	55	30
17	78	08.4	-21	04.5	1	43.0	125	-18	20.7	117	40	19	08	19	40	20	19	9	29	68	**	**	**	
18	93	08.2	-21	05.0	16	14.7	127	-18	08.8	119	45	19	24	19	59	20	46	9	15	72	**	**	**	
19	108	08.0		05.4	30	46.3	126	-17	56.9	119	50	43		20	25	21	23	8	56	79	0	12	20	
20	123	07.8		05.9	45	18.0	127		44.8	121	52	19	53	38		21	43	48	81		21	18		
21	138	07.6		06.3	59	49.7	127		32.7	121	54	20	03	20	52	22	10	38	84		31	15		
22	153	07.4		06.8	74	21.5	128		20.4	123	56	15		21	10	22	52	27	88		42	12		
23	168	07.2		07.3	88	53.3	128	-17	08.1	123	58	29		21	32	**	**	15	92		0	56	7	
24	183	07.0	-21	07.7	103	25.2	129	-16	55.7	124	60 S	20	45	22	00	**	**	8	00	97	1	11	3	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 19 ^h 36.1 ^m			Mag: -3.9 PMG: 11 ^h 07 ^m			Mag: +1.4 PMG: 12 ^h 36 ^m			Mag: -2.5 PMG: 3 ^h 26 ^m			Mag: +0.9 PMG: 19 ^h 22 ^m											
	hG ♈			hG ♀			hG ♂			hG ♃			hG ♄											
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	
0	65	10.7	193	24.9	-17	53.9	170	53.3	-23	16.7	308	24.5	+21	18.5	68	40.3	-4	06.7						
1	80	13.2	208	24.2		54.7	185	53.7		16.9	323	27.1		18.5	83	42.7		06.7						
2	95	15.6	223	23.4		55.6	200	54.2		17.1	338	29.6		18.6	98	45.2		06.7						
3	110	18.1	238	22.7		56.4	215	54.7		17.3	353	32.2		18.6	113	47.7		06.7						
4	125	20.6	253	22.0		57.3	230	55.1		17.5	8	34.8		18.6	128	50.2		06.7						
5	140	23.0	268	21.3	-17	58.1	245	55.6	-23	17.8	23	37.4	+21	18.6	143	52.6	-4	06.7						
6	155	25.5	283	20.6	-17	59.0	260	56.1	-23	18.0	38	40.0	+21	18.7	158	55.1	-4	06.7						
7	170	28.0	298	19.9	-17	59.8	275	56.6		18.2	53	42.6		18.7	173	57.6		06.7						
8	185	30.4	313	19.1	-18	00.7	290	57.0		18.4	68	45.2		18.7	189	00.1		06.7						
9	200	32.9	328	18.4		01.5	305	57.5		18.6	83	47.8		18.8	204	02.5		06.7						
10	215	35.3	343	17.7		02.4	320	58.0		18.8	98	50.4		18.8	219	05.0		06.7						
11	230	37.8	358	17.0	-18	03.2	335	58.4	-23	19.1	113	53.0	+21	18.8	234	07.5	-4	06.7						
12	245	40.3	13	16.3	-18	04.1	350	58.9	-23	19.3	128	55.5	+21	18.8	249	10.0	-4	06.7						
13	260	42.7	28	15.5		04.9	5	59.4		19.5	143	58.1		18.9	264	12.4		06.7						
14	275	45.2	43	14.8		05.8	20	59.8		19.7	159	00.7		18.9	279	14.9		06.7						
15	290	47.7	58	14.1		06.6	36	00.3		19.9	174	03.3		18.9	294	17.4		06.7						
16	305	50.1	73	13.4		07.4	51	00.8		20.1	189	05.9		19.0	309	19.9		06.7						
17	320	52.6	88	12.7	-18	08.3	66	01.3	-23	20.3	204	08.5	+21	19.0	324	22.3	-4	06.7						
18	335	55.1	103	11.9	-18	09.1	81	01.7	-23	20.5	219	11.1	+21	19.0	339	24.8	-4	06.6						
19	350	57.5	118	11.2		10.0	96	02.2		20.8	234	13.7		19.0	354	27.3		06.6						
20	6	00.0	133	10.5		10.8	111	02.7		21.0	249	16.3		19.1	9	29.7		06.6						
21	21	02.5	148	09.8		11.6	126	03.1		21.2	264	18.9		19.1	24	32.2		06.6						
22	36	04.9	163	09.0		12.5	141	03.6		21.4	279	21.5		19.1	39	34.7		06.6						
23	51	07.4	178	08.3		13.3	156	04.1		21.6	294	24.1		19.2	54	37.2		06.6						
24	66	09.8	193	07.6	-18	14.1	171	04.5	-23	21.8	309	26.7	+21	19.2	69	39.6	-4	06.6						
Dif	—			-7			-8			+5			-2			+26			0			+25		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h /2 PMG: 11 ^h 47.7 ^m			Edad: 6.7 ^d PHE { 4 ^h : 56/3 12 ^h : 56/6 20 ^h : 56/9 R°: 45 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil			Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	183	07.0	-21	07.7	103	25.2	-16	55.7	60 N	6	40	7	34	8	27	13	15	0
1	198	06.8		08.2	117	57.0		43.2	58	34	24		13	13	06	4	28	90
2	213	06.6		08.6	132	29.0		30.6	56	28	16		8	00	12	59	7	34
3	228	06.4		09.1	147	00.9		18.0	54	23	08		7	49	52	10	40	83
4	243	06.2		09.5	161	32.9	-16	05.2	52	18	7	01		40	46	13	45	81
5	258	06.0	-21	10.0	176	04.9	-15	52.4	50	6	14	6	54	7	31	12	41	15
6	273	05.8	-21	10.4	190	37.0	-15	39.4	45	6	04	6	41	7	13	12	29	20
7	288	05.6		10.9	205	09.0		26.4	40	5	55	29		6	59	19	24	08
8	303	05.4		11.3	219	41.1		13.3	35	47	19			46	11	27	15	64
9	318	05.2		11.8	234	13.3	-15	00.2	30	40	6	09		35	12	03	31	22
10	333	05.0		12.2	248	45.5	-14	46.9	20	25	5	53		16	11	50	37	32
11	348	04.8	-21	12.7	263	17.7	-14	33.6	10 N	5	11	5	37	6	00	11	39	41
12	3	04.5	-21	13.1	277	49.9	-14	20.1	0	4	56	5	22	5	44	11	28	46
13	18	04.3		13.6	292	22.1	-14	06.6	10 S	39	5	06		28	17	50	23	58
14	33	04.1		14.0	306	54.4	-13	53.1	20	4	19	4	47	5	11	11	06	55
15	48	03.9		14.5	321	26.7		39.4	30	3	53	25		4	52	10	53	60
16	63	03.7		14.9	335	59.1		25.7	35	36	4	11		40	45	64	**	**
17	78	03.5	-21	15.4	350	31.4	-13	11.9	40	3	16	3	55	4	27	10	36	67
18	93	03.3	-21	15.8	5	03.8	-12	58.0	45	2	49	3	35	4	11	10	26	72
19	108	03.1		16.3	19	36.2		44.0	50	2	12	3	10	3	51	13	77	31
20	123	02.9		16.7	34	08.6		30.0	52	1	52	2	57	42	07	80	38	13
21	138	02.7		17.1	48	41.0		15.9	54	1	25	42		32	10	01	83	45
22	153	02.5		17.6	63	13.5	-12	01.8	56	0	42	25		20	9	53	87	0
23	168	02.2		18.0	77	46.0	-11	47.5	58	**	**	2	03	3	06	45	90	1
24	183	02.0	-21	18.5	92	18.4	-11	33.2	60 S	**	**	1	34	2	49	9	36	94

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 32.1 ^m		Mag: -3.9 PMG: 11 ^h 08 ^m		Mag: +1.4 PMG: 12 ^h 35 ^m		Mag: -2.5 PMG: 3 ^h 22 ^m		Mag: +0.9 PMG: 19 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	66	09.8	193	07.6	-18	14.1	171	04.5	+21	19.2
1	81	12.3	208	06.9		15.0	186	05.0		19.2
2	96	14.8	223	06.1		15.8	201	05.5		19.2
3	111	17.2	238	05.4		16.6	216	05.9		19.3
4	126	19.7	253	04.7		17.5	231	06.4		19.3
5	141	22.2	268	03.9	-18	18.3	246	06.9	-23	22.9
6	156	24.6	283	03.2	-18	19.1	261	07.3	-23	23.1
7	171	27.1	298	02.5		20.0	276	07.8		23.3
8	186	29.6	313	01.8		20.8	291	08.3		23.5
9	201	32.0	328	01.0		21.6	306	08.7		23.7
10	216	34.5	343	00.3		22.4	321	09.2		23.9
11	231	37.0	357	59.6	-18	23.3	336	09.7	-23	24.1
12	246	39.4	12	58.8	-18	24.1	351	10.1	-23	24.3
13	261	41.9	27	58.1		24.9	6	10.6		24.5
14	276	44.3	42	57.4		25.7	21	11.0		24.7
15	291	46.8	57	56.6		26.6	36	11.5		24.9
16	306	49.3	72	55.9		27.4	51	12.0		25.1
17	321	51.7	87	55.2	-18	28.2	66	12.4	-23	25.3
18	336	54.2	102	54.4	-18	29.0	81	12.9	-23	25.5
19	351	56.7	117	53.7		29.8	96	13.4		25.7
20	6	59.1	132	53.0		30.7	111	13.8		25.9
21	22	01.6	147	52.2		31.5	126	14.3		26.1
22	37	04.1	162	51.5		32.3	141	14.8		26.3
23	52	06.5	177	50.7		33.1	156	15.2		26.5
24	67	09.0	192	50.0	-18	33.9	171	15.7	-23	26.7
Dif	—		-7		-8		+5		-2	
								+26		0
										+25
										0

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 48.0 ^m			Edad: 7.7 ^d SD: 15/5 PMG: 18 ^h 24 ^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	183	02.0	-21	18.5	92	18.4	-11	33.2	144	60 N	15 06	16 00	16 54	13 15	0	23 55 97	
1	198	01.8		18.9	106	50.9		18.8	144	58	21	10	17 00	10 4		23 58 93	
2	213	01.6		19.3	121	23.5	-11	04.4	144	56	34	19	06	06 7		** ** **	
3	228	01.4		19.8	135	56.0	-10	49.9	145	54	45	26	11	13 02	10	** ** **	
4	243	01.2		20.2	150	28.5		35.3	146	52	15 54	33	16	12 59	12	** ** **	
5	258	01.0	-21	20.7	165	01.1	-10	20.6	147	50	16 03	16 40	17 20	12 56	15	** ** **	
6	273	00.8	-21	21.1	179	33.6	-10	05.9	147	45	16 21	16 54	17 31	12 49	20	** ** **	
7	288	00.6		21.5	194	06.2	-9	51.2	147	40	36	17 06	39	43 25		** ** **	
8	303	00.3		22.0	208	38.8		36.3	149	35	16 49	16	48	38 28		** ** **	
9	318	00.1		22.4	223	11.4		21.4	149	30	17 00	26	17 55	34 31		** ** **	
10	332	59.9		22.8	237	44.0	-9	06.5	149	20	19	43	18 10	27 37		** ** **	
11	347	59.7	-21	23.3	252	16.6	-8	51.5	150	10 N	17 36	17 58	18 24	12 20	42	** ** **	
12	2	59.5	-21	23.7	266	49.2	-8	36.4	151	0	17 52	18 14	18 40	12 14	46	** ** **	
13	17	59.3		24.1	281	21.8		21.3	151	10 S	18 08	30	18 57	07 52		** ** **	
14	32	59.1		24.5	295	54.4	-8	06.1	152	20	25	18 49	19 18	12 01	56	0 07 38	
15	47	58.8		25.0	310	27.0	-7	50.9	152	30	45	19 12	19 44	11 53	63	18 31	
16	62	58.6		25.4	324	59.6		35.6	153	35	18 57	26	20 01	49 66		24 28	
17	77	58.4	-21	25.8	339	32.1	-7	20.2	154	40	19 10	19 42	20 22	11 43	70	0 30 25	
18	92	58.2	-21	26.3	354	04.7	-7	04.8	154	45	19 26	20 02	20 49	11 38	74	0 38 20	
19	107	58.0		26.7	8	37.3	-6	49.4	154	50	46	28	21 27	30 80		47 15	
20	122	57.8		27.1	23	09.9		33.9	155	52	19 56	41	21 48	27 83		51 13	
21	137	57.5		27.5	37	42.5		18.3	156	54	20 06	20 56	22 17	24 85		0 56 10	
22	152	57.3		28.0	52	15.0	-6	02.7	156	56	19	21 15	23 06	20 88		1 01 7	
23	167	57.1		28.4	66	47.6	-5	47.0	157	58	33	21 37	** ** *	15 92		06 5	
24	182	56.9	-21	28.8	81	20.1	-5	31.3	157	60 S	20 50	22 08	** ** *	11 10	96	1 13 0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 28.2 ^m		Mag: -3.9 PMG: 11 ^h 09 ^m		Mag: +1.4 PMG: 12 ^h 35 ^m		Mag: -2.5 PMG: 3 ^h 17 ^m		Mag: +0.9 PMG: 19 ^h 14 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	67	09.0	192	50.0	-18	33.9	171	15.7	-23	26.7
1	82	11.5	207	49.3		34.7	186	16.1		26.9
2	97	13.9	222	48.5		35.5	201	16.6		27.1
3	112	16.4	237	47.8		36.4	216	17.1		27.3
4	127	18.8	252	47.0		37.2	231	17.5		27.5
5	142	21.3	267	46.3	-18	38.0	246	18.0	-23	27.7
6	157	23.8	282	45.6	-18	38.8	261	18.5	-23	27.9
7	172	26.2	297	44.8		39.6	276	18.9		28.1
8	187	28.7	312	44.1		40.4	291	19.4		28.3
9	202	31.2	327	43.3		41.2	306	19.8		28.5
10	217	33.6	342	42.6		42.0	321	20.3		28.7
11	232	36.1	357	41.8	-18	42.8	336	20.8	-23	28.9
12	247	38.6	12	41.1	-18	43.6	351	21.2	-23	29.1
13	262	41.0	27	40.4		44.4	6	21.7		29.3
14	277	43.5	42	39.6		45.2	21	22.1		29.5
15	292	45.9	57	38.9		46.0	36	22.6		29.7
16	307	48.4	72	38.1		46.8	51	23.1		29.9
17	322	50.9	87	37.4	-18	47.6	66	23.5	-23	30.1
18	337	53.3	102	36.6	-18	48.4	81	24.0	-23	30.3
19	352	55.8	117	35.9		49.2	96	24.4		30.5
20	7	58.3	132	35.1		50.0	111	24.9		30.7
21	23	00.7	147	34.4		50.8	126	25.3		30.9
22	38	03.2	162	33.6		51.6	141	25.8		31.0
23	53	05.7	177	32.9		52.4	156	26.3		31.2
24	68	08.1	192	32.1	-18	53.2	171	26.7	-23	31.4
Dif	—		-7		-8		+5		-2	
							+26		0	
									+25	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG: 11 ^h 48.4 ^m			Edad: 8.7 ^d PHE { 4 ^h : 58'0 12 ^h : 58'3 20 ^h : 58'6 R°: 47 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	
0	182	56.9	-21	28.8	81	20.1	-5	31.3	60 N	6	43	7	38	8	31	13	14	**	
1	197	56.7		29.2	95	52.6	135	-5	15.6	58	37		27		16		13	3	
2	212	56.4		29.6	110	25.2	136	-4	59.8	56	31		19	8	04	12	6		
3	227	56.2		30.1	124	57.7	135		44.0	54	26		11	7	53	11	9		
4	242	56.0		30.5	139	30.1	134		28.1	52	21		7	04		43	10	12	
5	257	55.8	-21	30.9	154	02.6	135	-4	12.2	50	6	16	6	57	7	34	13	09	
6	272	55.6	-21	31.3	168	35.0	134	-3	56.2	45	6	06	6	43	7	16	13	08	
7	287	55.3		31.7	183	07.5	135		40.2	40	5	57	31	7	01	06	24	16	
8	302	55.1		32.2	197	39.8	133		24.2	35	49		20	6	48	05	27		
9	317	54.9		32.6	212	12.2	134	-3	08.1	30	41		6	11	37	04	31		
10	332	54.7		33.0	226	44.6	134	-2	52.0	20	27		5	54	17	02	37		
11	347	54.5	-21	33.4	241	16.9	133	-2	35.9	10 N	5	12	5	38	6	01	13	01	
12	2	54.2	-21	33.8	255	49.2	133	-2	19.7	0	4	57	5	22	5	45	12	59	
13	17	54.0		34.2	270	21.4	132	-2	03.5	10 S	39		5	06	29	58	51		
14	32	53.8		34.7	284	53.7	133	-1	47.3	20	4	19	4	47	5	11	56	57	
15	47	53.6		35.1	299	25.9	132		31.0	30	3	52	25	4	51	54	63		
16	62	53.4		35.5	313	58.1	132	-1	14.7	35	35		4	11	40	53	67		
17	77	53.1	-21	35.9	328	30.2	131	-0	58.4	40	3	14	3	54	4	26	12	52	
18	92	52.9	-21	36.3	343	02.3	131	-0	42.0	45	2	47	3	34	4	10	12	51	
19	107	52.7		36.7	357	34.3	130		25.7	50	2	09	3	08	3	50	49	81	
20	122	52.5		37.1	12	06.4	131	-0	09.3	52	1	48	2	55	40	48	84		
21	137	52.2		37.5	26	38.3	129	+0	07.2	54	1	19		40	30	47	87		
22	152	52.0		37.9	41	10.3	130		23.6	56	0	30		2	21	17	47	89	
23	167	51.8		38.3	55	42.2	129		40.1	58	**	**	1	59	3	03	46	93	
24	182	51.6	-21	38.7	70	14.0	128	+0	56.6	60 S	**	**	1	28	2	46	12	44	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 19 ^h 24.3 ^m			Mag: -3.9 PMG: 11 ^h 10 ^m			Mag: +1.4 PMG: 12 ^h 34 ^m			Mag: -2.5 PMG: 3 ^h 13 ^m			Mag: +0.9 PMG: 19 ^h 10 ^m						
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°				
0	68	08.1	192	32.1	-18	53.2	171	26.7	-23	31.4	311	31.7	+21	20.6	71	38.1			
1	83	10.6	207	31.4		54.0	186	27.2		31.6	326	34.3		20.7	86	40.6			
2	98	13.1	222	30.6		54.8	201	27.6		31.8	341	36.9		20.7	101	43.0			
3	113	15.5	237	29.9		55.6	216	28.1		32.0	356	39.6		20.7	116	45.5			
4	128	18.0	252	29.1		56.4	231	28.5		32.2	11	42.2		20.8	131	48.0			
5	143	20.4	267	28.4	-18	57.1	246	29.0	-23	32.4	26	44.8	+21	20.8	146	50.4			
6	158	22.9	282	27.6	-18	57.9	261	29.5	-23	32.6	41	47.4	+21	20.8	161	52.9			
7	173	25.4	297	26.8		58.7	276	29.9		32.7	56	50.0		20.9	176	55.4			
8	188	27.8	312	26.1	-18	59.5	291	30.4		32.9	71	52.6		20.9	191	57.8			
9	203	30.3	327	25.3	-19	00.3	306	30.8		33.1	86	55.3		20.9	207	00.3			
10	218	32.8	342	24.6		01.1	321	31.3		33.3	101	57.9		21.0	222	02.8			
11	233	35.2	357	23.8	-19	01.8	336	31.7	-23	33.5	117	00.5	+21	21.0	237	05.2			
12	248	37.7	12	23.1	-19	02.6	351	32.2	-23	33.7	132	03.1	+21	21.0	252	07.7			
13	263	40.2	27	22.3		03.4	6	32.7		33.9	147	05.7		21.1	267	10.1			
14	278	42.6	42	21.6		04.2	21	33.1		34.0	162	08.3		21.1	282	12.6			
15	293	45.1	57	20.8		05.0	36	33.6		34.2	177	11.0		21.1	297	15.1			
16	308	47.5	72	20.0		05.7	51	34.0		34.4	192	13.6		21.2	312	17.5			
17	323	50.0	87	19.3	-19	06.5	66	34.5	-23	34.6	207	16.2	+21	21.2	327	20.0			
18	338	52.5	102	18.5	-19	07.3	81	34.9	-23	34.8	222	18.8	+21	21.2	342	22.4			
19	353	54.9	117	17.8		08.1	96	35.4		35.0	237	21.4		21.3	357	24.9			
20	8	57.4	132	17.0		08.8	111	35.8		35.1	252	24.1		21.3	12	27.4			
21	23	59.9	147	16.2		09.6	126	36.3		35.3	267	26.7		21.3	27	29.8			
22	39	02.3	162	15.5		10.4	141	36.7		35.5	282	29.3		21.4	42	32.3			
23	54	04.8	177	14.7		11.2	156	37.2		35.7	297	31.9		21.4	57	34.7			
24	69	07.3	192	13.9	-19	11.9	171	37.6	-23	35.9	312	34.5	+21	21.4	72	37.2			
Dif	—		-8	-8			+5	-2			+26	0			+25	0			

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16/2 PMG: 11 ^h 48.7 ^m			Edad: 9.7 ^d SD: 16/0 PMG: 19 ^h 57 ^m			PHE { 4 ^h : 58/9 12 ^h : 59/2 20 ^h : 59/5 R°: 52 ^m														
	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	51.6	-21	38.7	70	14.0	128	+0	56.6	165	60 N	15 04	15 58	16 52	13 13	2	1 30	101			
1	197	51.3		39.1	84	45.8	128	+1	13.1	165	58	19	16 08	16 59	16	5	29	97			
2	212	51.1		39.5	99	17.6	127		29.6	165	56	32	17	17 05	18	9	29	93			
3	227	50.9		40.0	113	49.3	126	+1	46.1	165	54	43	25	10	20	12	28	90			
4	242	50.7		40.4	128	20.9	126	+2	02.7	166	52	15 53	32	15	22	14	28	87			
5	257	50.4	-21	40.8	142	52.5	126	+2	19.2	165	50	16 02	16 39	17 20	13 23	17	1 27	85			
6	272	50.2	-21	41.2	157	24.1	126	+2	35.8	166	45	16 20	16 53	17 30	13 27	22	1 26	79			
7	287	50.0		41.6	171	55.6	125	+2	52.4	166	40	36	17 05	39	30	27	25	74			
8	302	49.8		42.0	186	27.0	124	+3	09.0	166	35	16 48	16	47	32	31	25	69			
9	317	49.5		42.4	200	58.4	124		25.5	165	30	17 00	26	17 55	35	34	24	66			
10	332	49.3		42.8	215	29.7	123		42.1	166	20	19	43	18 10	39	40	23	60			
11	347	49.1	-21	43.2	230	01.0	123	+3	58.8	167	10 N	17 36	17 59	18 25	13 42	46	1 22	54			
12	2	48.8	-21	43.6	244	32.2	122	+4	15.4	166	0	17 52	18 15	18 41	13 46	51	1 21	49			
13	17	48.6		43.9	259	03.3	121		32.0	166	10 S	18 09	31	18 58	49	56	20	44			
14	32	48.4		44.3	273	34.4	121	+4	48.6	166	20	26	18 50	19 19	53	62	19	39			
15	47	48.2		44.7	288	05.4	120	+5	05.2	166	30	46	19 13	19 46	13 57	68	18	33			
16	62	47.9		45.1	302	36.3	119		21.8	166	35	18 58	27	20 03	14 00	72	17	30			
17	77	47.7	-21	45.5	317	07.2	119	+5	38.4	166	40	19 12	19 44	20 24	14 03	76	1 16	26			
18	92	47.5	-21	45.9	331	37.9	117	+5	55.0	165	45	19 29	20 05	20 52	14 06	81	1 15	22			
19	107	47.2		46.3	346	08.7	118	+6	11.5	166	50	49	31	21 31	10	87	14	16			
20	122	47.0		46.7	0	39.3	116		28.1	166	52	19 59	20 45	21 53	12	90	14	13			
21	137	46.8		47.1	15	09.9	116	+6	44.7	166	54	20 10	21 00	22 23	14	93	13	11			
22	152	46.5		47.5	29	40.4	115	+7	01.2	165	56	22	19	23 23	16	97	13	7			
23	167	46.3		47.9	44	10.8	114		17.7	165	58	37	21 43	** **	19 100	12	4				
24	182	46.1	-21	48.3	58	41.1	113	+7	34.2	165	60 S	20 54	22 15	** **	14 22 105	1 11	1				
UT	ARIES PMG 19 ^h 20.3 ^m			VENUS Mag: -3.9 PMG: 11 ^h 12 ^m			MARTE Mag: +1.3 PMG: 12 ^h 33 ^m			JÚPITER Mag: -2.5 PMG: 3 ^h 09 ^m			SATURNO Mag: +0.9 PMG: 19 ^h 06 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	69	07.3	192	13.9	-19	11.9	171	37.6	-23	35.9	312	34.5	+21	21.4	72	37.2	-4	06.0			
1	84	09.7	207	13.2		12.7	186	38.1		36.1	327	37.2		21.5	87	39.7		06.0			
2	99	12.2	222	12.4		13.5	201	38.6		36.2	342	39.8		21.5	102	42.1		06.0			
3	114	14.7	237	11.6		14.2	216	39.0		36.4	357	42.4		21.5	117	44.6		05.9			
4	129	17.1	252	10.9		15.0	231	39.5		36.6	12	45.0		21.6	132	47.0		05.9			
5	144	19.6	267	10.1	-19	15.8	246	39.9	-23	36.8	27	47.7	+21	21.6	147	49.5	-4	05.9			
6	159	22.0	282	09.4	-19	16.5	261	40.4	-23	36.9	42	50.3	+21	21.6	162	52.0	-4	05.9			
7	174	24.5	297	08.6		17.3	276	40.8		37.1	57	52.9		21.7	177	54.4		05.9			
8	189	27.0	312	07.8		18.1	291	41.3		37.3	72	55.5		21.7	192	56.9		05.9			
9	204	29.4	327	07.0		18.8	306	41.7		37.5	87	58.1		21.7	207	59.3		05.9			
10	219	31.9	342	06.3		19.6	321	42.2		37.7	103	00.8		21.8	223	01.8		05.9			
11	234	34.4	357	05.5	-19	20.4	336	42.6	-23	37.8	118	03.4	+21	21.8	238	04.3	-4	05.9			
12	249	36.8	12	04.7	-19	21.1	351	43.1	-23	38.0	133	06.0	+21	21.8	253	06.7	-4	05.8			
13	264	39.3	27	04.0		21.9	6	43.5		38.2	148	08.6		21.9	268	09.2		05.8			
14	279	41.8	42	03.2		22.6	21	44.0		38.4	163	11.3		21.9	283	11.6		05.8			
15	294	44.2	57	02.4		23.4	36	44.4		38.5	178	13.9		21.9	298	14.1		05.8			
16	309	46.7	72	01.7		24.1	51	44.9		38.7	193	16.5		22.0	313	16.5		05.8			
17	324	49.2	87	00.9	-19	24.9	66	45.3	-23	38.9	208	19.2	+21	22.0	328	19.0	-4	05.8			
18	339	51.6	102	00.1	-19	25.6	81	45.8	-23	39.0	223	21.8	+21	22.0	343	21.5	-4	05.8			
19	354	54.1	116	59.3		26.4	96	46.2		39.2	238	24.4		22.1	358	23.9		05.8			
20	9	56.5	131	58.6		27.2	111	46.7		39.4	253	27.0		22.1	13	26.4		05.7			
21	24	59.0	146	57.8		27.9	126	47.1		39.6	268	29.7		22.1	28	28.8		05.7			
22	40	01.5	161	57.0		28.7	141	47.6		39.7	283	32.3		22.2	43	31.3		05.7			
23	55	03.9	176	56.2		29.4	156	48.0		39.9	298	34.9		22.2	58	33.7		05.7			
24	70	06.4	191	55.5	-19	30.1	171	48.5	-23	40.1	313	37.6	+21	22.2	73	36.2	-4	05.7			
Dif	—			-8			+5			-2			+26			0			+25		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'2 PMG: 11 ^h 49.1 ^m			Edad: 10.7 ^d PHE { 4 ^h : 59'8 12 ^h : 60'1 20 ^h : 60'4 R°: 55 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	182	46.1	-21	58	41.1	+7	34.2	165	60 N	6 46	7 41	8 35	13 13	1	3	10	107	
1	197	45.9		73	11.3	+7	50.7	165	58	40	31	20	20	5		05	102	
2	212	45.6		87	41.5	+8	07.2	165	56	34	22	8 07	25	10	3	01	97	
3	227	45.4		102	11.6		23.7	165	54	28	14	7 56	30	14	2	57	94	
4	242	45.2		116	41.6		40.1	164	52	23	06	46	35	16		53	91	
5	257	44.9	-21	131	11.5	+8	56.5	164	50	6 19	7 00	7 37	13 39	19	2	50	88	
6	272	44.7	-21	145	41.3	+9	12.9	164	45	6 08	6 45	7 18	13 48	25	2	43	82	
7	287	44.5		160	11.0		29.2	163	40	5 59	33	7 03	13 55	30	38	76		
8	302	44.2		174	40.6	+9	45.5	163	35	51	22	6 50	14 02	34	33	72		
9	317	44.0		189	10.1	+10	01.8	163	30	43	6 12	38	08	37	29	68		
10	332	43.8		203	39.6		18.0	162	20	28	5 55	19	18	44	21	62		
11	347	43.5	-21	218	08.9	+10	34.3	163	10 N	5 13	5 39	6 02	14 27	49	2	15	56	
12	2	43.3	-21	232	38.2	+10	50.4	161	0	4 57	5 23	5 45	14 35	54	2	09	51	
13	17	43.1		247	07.3	+11	06.5	161	10 S	40	5 06	29	44	59	2	03	46	
14	32	42.8		261	36.4		22.6	161	20	4 19	4 47	5 12	14 53	65	1	57	41	
15	47	42.6		276	05.3		38.7	161	30	3 52	24	4 51	15 04	71	49	35		
16	62	42.3		290	34.1	+11	54.7	160	35	34	4 10	39	10	75	45	32		
17	77	42.1	-21	305	02.9	+12	10.6	159	40	3 13	3 53	4 25	15 17	79	1	41	27	
18	92	41.9	-21	319	31.5	+12	26.5	159	45	2 46	3 33	4 09	15 26	83	1	35	23	
19	107	41.6		334	00.0		42.4	159	50	2 06	3 06	3 49	36	90	29	17		
20	122	41.4		348	28.4	+12	58.1	157	52	1 44	2 53	39	40	94	26	14		
21	137	41.2		56.2	2 56.8	+13	13.9	158	54	1 14	37	28	46	97	23	11		
22	152	40.9		56.6	17 24.9		29.5	156	56	0 15	2 18	15	51	102	19	8		
23	167	40.7		57.0	31 53.0	+13	45.2	157	58	** **	1 55	3 01	15 58	106	15	4		
24	182	40.4	-21	57.4	46 21.0	+14	00.7	155	60 S	** **	1 22	2 43	16 05	112	1	11	0	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 19 ^h 16.4 ^m		Mag: -3.9 PMG: 11 ^h 13 ^m			Mag: +1.4 PMG: 12 ^h 32 ^m			Mag: -2.5 PMG: 3 ^h 05 ^m			Mag: +0.9 PMG: 19 ^h 02 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	'	°	°	'	°	°	'	°				
0	70	06.4	191	55.5	-19	30.1	171	48.5	-23	40.1	313	37.6	+21	22.2	73	36.2	-4	05.7
1	85	08.9	206	54.7		30.9	186	48.9		40.2	328	40.2		22.3	88	38.7		05.7
2	100	11.3	221	53.9		31.6	201	49.4		40.4	343	42.8		22.3	103	41.1		05.7
3	115	13.8	236	53.1		32.4	216	49.8		40.6	358	45.4		22.3	118	43.6		05.6
4	130	16.3	251	52.4		33.1	231	50.3		40.8	13	48.1		22.4	133	46.0		05.6
5	145	18.7	266	51.6	-19	33.9	246	50.7	-23	40.9	28	50.7	+21	22.4	148	48.5	-4	05.6
6	160	21.2	281	50.8	-19	34.6	261	51.1	-23	41.1	43	53.3	+21	22.4	163	50.9	-4	05.6
7	175	23.6	296	50.0		35.4	276	51.6		41.3	58	56.0		22.5	178	53.4		05.6
8	190	26.1	311	49.2		36.1	291	52.0		41.4	73	58.6		22.5	193	55.8		05.6
9	205	28.6	326	48.5		36.8	306	52.5		41.6	89	01.2		22.5	208	58.3		05.6
10	220	31.0	341	47.7		37.6	321	52.9		41.8	104	03.9		22.6	224	00.8		05.5
11	235	33.5	356	46.9	-19	38.3	336	53.4	-23	41.9	119	06.5	+21	22.6	239	03.2	-4	05.5
12	250	36.0	11	46.1	-19	39.1	351	53.8	-23	42.1	134	09.1	+21	22.6	254	05.7	-4	05.5
13	265	38.4	26	45.3		39.8	6	54.3		42.3	149	11.8		22.7	269	08.1		05.5
14	280	40.9	41	44.6		40.5	21	54.7		42.4	164	14.4		22.7	284	10.6		05.5
15	295	43.4	56	43.8		41.3	36	55.2		42.6	179	17.0		22.8	299	13.0		05.5
16	310	45.8	71	43.0		42.0	51	55.6		42.7	194	19.7		22.8	314	15.5		05.5
17	325	48.3	86	42.2	-19	42.7	66	56.1	-23	42.9	209	22.3	+21	22.8	329	17.9	-4	05.4
18	340	50.8	101	41.4	-19	43.5	81	56.5	-23	43.1	224	24.9	+21	22.9	344	20.4	-4	05.4
19	355	53.2	116	40.6		44.2	96	56.9		43.2	239	27.6		22.9	359	22.8		05.4
20	10	55.7	131	39.9		44.9	111	57.4		43.4	254	30.2		22.9	14	25.3		05.4
21	25	58.1	146	39.1		45.6	126	57.8		43.6	269	32.9		23.0	29	27.7		05.4
22	41	00.6	161	38.3		46.4	141	58.3		43.7	284	35.5		23.0	44	30.2		05.4
23	56	03.1	176	37.5		47.1	156	58.7		43.9	299	38.1		23.0	59	32.6		05.4
24	71	05.5	191	36.7	-19	47.8	171	59.2	-23	44.0	314	40.8	+21	23.1	74	35.1	-4	05.3
Dif	—		-8		-7		+4		-2		+26		0		+25			

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'2 PMG:11 ^h 49.5 ^m				Edad: 11.7 ^d SD: 16'5 PMG: 21 ^h 43 ^m						PHE { 4 ^h : 60'6 12 ^h : 60'8 20 ^h : 61'0 R°: 62 ^m								
	hG ☉	Dec			hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	m	h m	m		
0	182	40.4	-21	57.4	46	21.0	89	+14	00.7	155	15 01	15 56	16 51	13 14	6	4 57	117		
1	197	40.2		57.7	60	48.9	87		16.2	154	17	16 06	16 58	25	12	47	110		
2	212	40.0		58.1	75	16.6	86		31.6	153	30	16	17 04	35	17	38	105		
3	227	39.7		58.5	89	44.2	86	+14	46.9	153	41	24	09	44	20	31	100		
4	242	39.5		58.8	104	11.7	85	+15	02.2	153	15 51	31	14	51	24	24	97		
5	257	39.3	-21	59.2	118	39.1	84	+15	17.4	152	16 00	16 38	17 19	13 58	27	4 18	94		
6	272	39.0	-21	59.6	133	06.4	83	+15	32.5	151	16 19	16 53	17 29	14 13	34	4 05	87		
7	287	38.8	-21	59.9	147	33.5	81	+15	47.6	151	35	17 05	39	25	39	3 54	82		
8	302	38.5	-22	00.3	162	00.5	80	+16	02.5	149	16 48	16	47	36	42	45	78		
9	317	38.3		00.7	176	27.4	79		17.4	149	17 00	26	17 55	14 45	46	37	74		
10	332	38.1		01.0	190	54.2	78		32.2	148	20	43	18 11	15 02	51	23	68		
11	347	37.8	-22	01.4	205	20.9	77	+16	46.9	147	17 37	17 59	18 26	15 16	56	3 11	63		
12	2	37.6	-22	01.8	219	47.4	75	+17	01.5	146	17 53	18 16	18 41	15 29	61	3 00	58		
13	17	37.3		02.1	234	13.8	74		16.0	145	18 10	32	18 59	43	65	2 49	53		
14	32	37.1		02.5	248	40.1	73		30.5	145	20	27	18 52	19 21	15 58	70	38 47		
15	47	36.8		02.8	263	06.2	71		44.8	143	30	18 48	19 15	19 48	16 15	76	24 42		
16	62	36.6		03.2	277	32.2	70	+17	59.0	142	35	19 00	29	20 05	25	79	17 38		
17	77	36.4	-22	03.6	291	58.1	69	+18	13.1	141	40	19 14	19 46	20 27	16 36	83	2 08 34		
18	92	36.1	-22	03.9	306	23.9	68	+18	27.1	140	45	19 31	20 07	20 55	16 49	89	1 58 29		
19	107	35.9		04.3	320	49.5	66		41.1	140	50	19 52	35	21 35	17 06	95	46 23		
20	122	35.6		04.6	335	15.0	65	+18	54.9	138	52	20 02	20 48	21 58	14 99	40	20 20		
21	137	35.4		05.0	349	40.4	64	+19	08.5	136	54	13	21 04	22 30	23 103	34	17 17		
22	152	35.1		05.3	4	05.7	63		22.1	136	56	26	23	** **	33 107	27	13 13		
23	167	34.9		05.7	18	30.8	61		35.6	135	58	41	21 48	** **	44 114	19	9 9		
24	182	34.7	-22	06.0	32	55.8	60	+19	48.9	133	60 S	20 59	22 23	** **	17 57 122	1 11	2 2		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 19 ^h 12.5 ^m		Mag: -3.9 PMG: 11 ^h 14 ^m		Mag: +1.4 PMG: 12 ^h 32 ^m		Mag: -2.5 PMG: 3 ^h 01 ^m		Mag: +0.9 PMG: 18 ^h 59 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	71	05.5	191	36.7	-19	47.8	171	59.2	-23	44.0	314	40.8	+21	23.1	74	35.1	-4	05.3
1	86	08.0	206	35.9		48.5	186	59.6		44.2	329	43.4		23.1	89	37.5		05.3
2	101	10.5	221	35.1		49.3	202	00.1		44.4	344	46.0		23.1	104	40.0		05.3
3	116	12.9	236	34.3		50.0	217	00.5		44.5	359	48.7		23.2	119	42.4		05.3
4	131	15.4	251	33.5		50.7	232	00.9		44.7	14	51.3		23.2	134	44.9		05.3
5	146	17.9	266	32.8	-19	51.4	247	01.4	-23	44.8	29	54.0	+21	23.3	149	47.4	-4	05.3
6	161	20.3	281	32.0	-19	52.1	262	01.8	-23	45.0	44	56.6	+21	23.3	164	49.8	-4	05.3
7	176	22.8	296	31.2		52.9	277	02.3		45.2	59	59.2		23.3	179	52.3		05.2
8	191	25.3	311	30.4		53.6	292	02.7		45.3	75	01.9		23.4	194	54.7		05.2
9	206	27.7	326	29.6		54.3	307	03.2		45.5	90	04.5		23.4	209	57.2		05.2
10	221	30.2	341	28.8		55.0	322	03.6		45.6	105	07.2		23.4	224	59.6		05.2
11	236	32.6	356	28.0	-19	55.7	337	04.0	-23	45.8	120	09.8	+21	23.5	240	02.1	-4	05.2
12	251	35.1	11	27.2	-19	56.4	352	04.5	-23	45.9	135	12.4	+21	23.5	255	04.5	-4	05.2
13	266	37.6	26	26.4		57.2	7	04.9		46.1	150	15.1		23.5	270	07.0		05.1
14	281	40.0	41	25.6		57.9	22	05.4		46.2	165	17.7		23.6	285	09.4		05.1
15	296	42.5	56	24.8		58.6	37	05.8		46.4	180	20.4		23.6	300	11.9		05.1
16	311	45.0	71	24.0	-19	59.3	52	06.3		46.5	195	23.0		23.6	315	14.3		05.1
17	326	47.4	86	23.2	-20	00.0	67	06.7	-23	46.7	210	25.7	+21	23.7	330	16.8	-4	05.1
18	341	49.9	101	22.4	-20	00.7	82	07.1	-23	46.9	225	28.3	+21	23.7	345	19.2	-4	05.1
19	356	52.4	116	21.6		01.4	97	07.6		47.0	240	30.9		23.8	0	21.6		05.0
20	11	54.8	131	20.8		02.1	112	08.0		47.2	255	33.6		23.8	15	24.1		05.0
21	26	57.3	146	20.0		02.8	127	08.5		47.3	270	36.2		23.8	30	26.5		05.0
22	41	59.7	161	19.3		03.5	142	08.9		47.5	285	38.9		23.9	45	29.0		05.0
23	57	02.2	176	18.5		04.2	157	09.3		47.6	300	41.5		23.9	60	31.4		05.0
24	72	04.7	191	17.7	-20	04.9	172	09.8	-23	47.8	315	44.2	+21	23.9	75	33.9	-4	05.0
Dif	—		-8		-7		+4		-2		+26		0		+24		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'2 PMG: 11 ^h 49.9 ^m				Edad: 12.7 ^d PHE { 4 ^h : 61'1 12 ^h : 61'3 20 ^h : 61'4 R°: 65 ^m SD: 16'6 PMG: 22 ^h 44 ^m														
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m			
0	182	34.7	-22	06.0	32	55.8	58	+19	48.9	60 N	6 49	7 44	8 39	13 18	11	6 52 122			
1	197	34.4		06.4	47	20.6		+20	02.1	58	42	34	24	35	20	36 112			
2	212	34.2		06.8	61	45.3	57		15.2	56	36	25	8 10	13 50	26	22 105			
3	227	33.9		07.1	76	09.9	56		28.2	54	31	16	7 59	14 03	30	6 10 100			
4	242	33.7		07.5	90	34.4	55		41.0	52	26	09	49	14	34	5 59 97			
5	257	33.4	-22	07.8	104	58.7	53	+20	53.7	50	6 21	7 02	7 40	14 24	37	5 50 93			
6	272	33.2	-22	08.2	119	22.9	52	+21	06.3	45	6 10	6 47	7 20	14 45	43	5 30 87			
7	287	32.9		08.5	133	47.0	51		18.7	40	6 01	35	7 05	15 02	48	15 82			
8	302	32.7		08.8	148	10.9	49		31.0	35	5 52	24	6 51	17 51		5 01 79			
9	317	32.4		09.2	162	34.7	48		43.2	30	44	6 14	40	30 53		4 50 75			
10	332	32.2		09.5	176	58.4	47	+21	55.2	20	29	5 56	20	15 52	57	30 70			
11	347	32.0	-22	09.9	191	22.0	46	+22	07.1	10 N	5 14	5 40	6 03	16 11	61	4 13 66			
12	2	31.7	-22	10.2	205	45.4	44	+22	18.8	0	4 58	5 24	5 46	16 29	64	3 57 62			
13	17	31.5		10.6	220	08.7	43		30.3	10 S	40	5 07	30	16 47	68	41 58			
14	32	31.2		10.9	234	31.8	41		41.8	20	4 19	4 48	5 12	17 06	72	24 54			
15	47	31.0		11.3	248	54.9	41	+22	53.0	30	3 51	24	4 51	29 76		3 05 48			
16	62	30.7		11.6	263	17.8	39	+23	04.1	35	34	4 10	39	43 78		2 54 45			
17	77	30.5	-22	11.9	277	40.6	38	+23	15.0	40	3 12	3 53	4 25	17 58	81	2 41 41			
18	92	30.2	-22	12.3	292	03.2	36	+23	25.8	45	2 44	3 32	4 08	18 17	85	2 26 37			
19	107	30.0		12.6	306	25.8	36		36.4	50	2 04	3 05	3 47	40 91		2 07 31			
20	122	29.7		13.0	320	48.2	34		46.9	52	1 41	2 51	37	18 51	94	1 59 27			
21	137	29.5		13.3	335	10.5	33	+23	57.1	54	1 09	35	26	19 04	98	49 24			
22	152	29.2		13.6	349	32.7	32	+24	07.2	56	** **	2 16	3 13	19 103		38 19			
23	167	29.0		14.0	3	54.8	31		17.2	58	** **	1 51	2 58	37 109		26 13			
24	182	28.7	-22	14.3	18	16.7	29	+24	26.9	60 S	** **	1 16	2 40	19 58 122		1 12 5			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 19 ^h 08.5 ^m		Mag: -3.9 PMG: 11 ^h 15 ^m			Mag: +1.3 PMG: 12 ^h 31 ^m			Mag: -2.5 PMG: 2 ^h 57 ^m			Mag: +0.9 PMG: 18 ^h 55 ^m							
	hG ♂		hG ♀			hG ♂			hG ♀			hG ♀							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	72	04.7	191	17.7	-20	04.9	172	09.8	-23	47.8	315	44.2	+21	23.9	75	33.9	-4	05.0	
1	87	07.1	206	16.9		05.6	187	10.2		47.9	330	46.8		24.0	90	36.3		04.9	
2	102	09.6	221	16.1		06.3	202	10.7		48.1	345	49.5		24.0	105	38.8		04.9	
3	117	12.1	236	15.3		07.0	217	11.1		48.2	0	52.1		24.1	120	41.2		04.9	
4	132	14.5	251	14.4		07.7	232	11.5		48.4	15	54.8		24.1	135	43.7		04.9	
5	147	17.0	266	13.6	-20	08.4	247	12.0	-23	48.5	30	57.4	+21	24.1	150	46.1	-4	04.9	
6	162	19.5	281	12.8	-20	09.1	262	12.4	-23	48.6	46	00.0	+21	24.2	165	48.6	-4	04.9	
7	177	21.9	296	12.0		09.8	277	12.9		48.8	61	02.7		24.2	180	51.0		04.8	
8	192	24.4	311	11.2		10.5	292	13.3		48.9	76	05.3		24.2	195	53.5		04.8	
9	207	26.9	326	10.4		11.2	307	13.7		49.1	91	08.0		24.3	210	55.9		04.8	
10	222	29.3	341	09.6		11.9	322	14.2		49.2	106	10.6		24.3	225	58.4		04.8	
11	237	31.8	356	08.8	-20	12.6	337	14.6	-23	49.4	121	13.3	+21	24.3	241	00.8	-4	04.8	
12	252	34.2	11	08.0	-20	13.3	352	15.0	-23	49.5	136	15.9	+21	24.4	256	03.2	-4	04.8	
13	267	36.7	26	07.2		14.0	7	15.5		49.7	151	18.6		24.4	271	05.7		04.7	
14	282	39.2	41	06.4		14.6	22	15.9		49.8	166	21.2		24.5	286	08.1		04.7	
15	297	41.6	56	05.6		15.3	37	16.4		50.0	181	23.9		24.5	301	10.6		04.7	
16	312	44.1	71	04.8		16.0	52	16.8		50.1	196	26.5		24.5	316	13.0		04.7	
17	327	46.6	86	04.0	-20	16.7	67	17.2	-23	50.2	211	29.2	+21	24.6	331	15.5	-4	04.7	
18	342	49.0	101	03.2	-20	17.4	82	17.7	-23	50.4	226	31.8	+21	24.6	346	17.9	-4	04.6	
19	357	51.5	116	02.4		18.1	97	18.1		50.5	241	34.5		24.7	1	20.4		04.6	
20	12	54.0	131	01.6		18.8	112	18.5		50.7	256	37.1		24.7	16	22.8		04.6	
21	27	56.4	146	00.7		19.4	127	19.0		50.8	271	39.8		24.7	31	25.3		04.6	
22	42	58.9	160	59.9		20.1	142	19.4		51.0	286	42.4		24.8	46	27.7		04.6	
23	58	01.4	175	59.1		20.8	157	19.8		51.1	301	45.1		24.8	61	30.1		04.6	
24	73	03.8	190	58.3	-20	21.5	172	20.3	-23	51.2	316	47.8	+21	24.8	76	32.6	-4	04.5	
Dif	—		-8			-7	+4			-1	+26		0		+24			0	

UT	SOL				LUNA								Latitud	Puesta de Sol	Fin del crepúsculo				Salida de Luna			Puesta de Luna		
	SD: 16/2 PMG:11 ^h 50.3 ^m				Edad: 13.7 ^d SD: 16/7 PMG: 23 ^h 49 ^m PHE { 4 ^h : 61/4 12 ^h : 61/4 20 ^h : 61/4 R°: 69 ^m																			
	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	28.7	-22	14.3	18	16.7	29	+24	26.9	96	60 N	14	59	15	54	16	50	13	29	32	8	54	111	
1	197	28.5		14.6	32	38.6	27		36.5	94	58	15	15	16	05	16	56	13	55	42		28	101	
2	212	28.2		15.0	47	00.3	26		45.9	92	56	28		14	17	03	14	16	48		8	07	96	
3	227	28.0		15.3	61	21.9	25	+24	55.1	90	54	40	23		33	51	7	50	92					
4	242	27.7		15.6	75	43.4	25	+25	04.1	88	52	15	50	30	13	14	48	54		36	89			
5	257	27.5	-22	16.0	90	04.8	24	+25	12.9	87	50	16	00	16	37	17	18	15	01	56	7	23	87	
6	272	27.2	-22	16.3	104	26.1	23	+25	21.6	84	45	16	19	16	52	17	29	15	28	59	6	57	83	
7	287	27.0		16.6	118	47.3	22		30.0	83	40	35		17	05	39	15	50	61		37	80		
8	302	26.7		17.0	133	08.4	21		38.3	83	35	16	48	16		47	16	08	62		20	78		
9	317	26.5		17.3	147	29.4	20		46.4	81	30	17	00	26	17	56	23	64		6	05	76		
10	332	26.2		17.6	161	50.3	19	+25	54.3	79	20	20		17	44	18	11	16	49	66	5	40	73	
11	347	26.0	-22	17.9	176	11.1	18	+26	01.9	76	10 N	17	37	18	00	18	26	17	12	68	5	19	70	
12	2	25.7	-22	18.3	190	31.8	17	+26	09.4	75	0	17	54	18	16	18	42	17	33	69	4	59	68	
13	17	25.4		18.6	204	52.4	16		16.7	73	10 S	18	11	34	19	00	17	55	70		39	65		
14	32	25.2		18.9	219	13.0	16		23.7	70	20	29		18	53	22	18	18	72	4	18	62		
15	47	24.9		19.2	233	33.4	14		30.6	69	30	18	50	19	17	19	50	18	45	73	3	53	59	
16	62	24.7		19.6	247	53.8	14		37.3	67	35	19	02	31	20	07	19	01	74		39	57		
17	77	24.4	-22	19.9	262	14.1	13	+26	43.7	64	40	19	16	19	48	20	29	19	19	76	3	22	55	
18	92	24.2	-22	20.2	276	34.3	12	+26	50.0	63	45	19	33	20	10	20	58	19	42	77	3	03	51	
19	107	23.9		20.5	290	54.5	12	+26	56.0	60	50	19	54	37	21	39	20	11	79		2	38	46	
20	122	23.7		20.9	305	14.6	11	+27	01.8	58	52	20	04	20	51	22	03	25	80		26	44		
21	137	23.4		21.2	319	34.6	10		07.4	56	54	16		21	08	22	37	20	42	81	2	13	40	
22	152	23.2		21.5	333	54.6	10		12.8	54	56	29		28	**	**	21	02	83		1	57	36	
23	167	22.9		21.8	348	14.5	9		18.0	52	58	20	44	21	53	**	**	21	26	87		39	29	
24	182	22.6	-22	22.1	2	34.3	8	+27	23.0	50	60 S	21	03	22	30	**	**	22	00	93	1	17	17	

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 19 ^h 04.6 ^m		Mag: -3.9 PMG: 11 ^h 17 ^m				Mag: +1.3 PMG: 12 ^h 30 ^m				Mag: -2.6 PMG: 2 ^h 52 ^m				Mag: +0.9 PMG: 18 ^h 51 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	73	03.8	190	58.3	-20	21.5	172	20.3	-23	51.2	316	47.8	+21	24.8	76	32.6		
1	88	06.3	205	57.5		22.1	187	20.7		51.4	331	50.4		24.9	91	35.0		
2	103	08.7	220	56.7		22.8	202	21.2		51.5	346	53.1		24.9	106	37.5		
3	118	11.2	235	55.9		23.5	217	21.6		51.6	1	55.7		25.0	121	39.9		
4	133	13.7	250	55.1		24.2	232	22.0		51.8	16	58.4		25.0	136	42.4		
5	148	16.1	265	54.2	-20	24.8	247	22.5	-23	51.9	32	01.0	+21	25.0	151	44.8		
6	163	18.6	280	53.4	-20	25.5	262	22.9	-23	52.1	47	03.7	+21	25.1	166	47.2		
7	178	21.1	295	52.6		26.2	277	23.3		52.2	62	06.3		25.1	181	49.7		
8	193	23.5	310	51.8		26.9	292	23.8		52.3	77	09.0		25.1	196	52.1		
9	208	26.0	325	51.0		27.5	307	24.2		52.5	92	11.7		25.2	211	54.6		
10	223	28.5	340	50.2		28.2	322	24.6		52.6	107	14.3		25.2	226	57.0		
11	238	30.9	355	49.4	-20	28.9	337	25.1	-23	52.7	122	17.0	+21	25.3	241	59.5		
12	253	33.4	10	48.5	-20	29.5	352	25.5	-23	52.9	137	19.6	+21	25.3	257	01.9		
13	268	35.9	25	47.7		30.2	7	25.9		53.0	152	22.3		25.3	272	04.3		
14	283	38.3	40	46.9		30.9	22	26.4		53.1	167	24.9		25.4	287	06.8		
15	298	40.8	55	46.1		31.5	37	26.8		53.3	182	27.6		25.4	302	09.2		
16	313	43.2	70	45.3		32.2	52	27.2		53.4	197	30.3		25.5	317	11.7		
17	328	45.7	85	44.4	-20	32.8	67	27.7	-23	53.5	212	32.9	+21	25.5	332	14.1		
18	343	48.2	100	43.6	-20	33.5	82	28.1	-23	53.7	227	35.6	+21	25.5	347	16.5		
19	358	50.6	115	42.8		34.2	97	28.5		53.8	242	38.2		25.6	2	19.0		
20	13	53.1	130	42.0		34.8	112	29.0		53.9	257	40.9		25.6	17	21.4		
21	28	55.6	145	41.2		35.5	127	29.4		54.1	272	43.6		25.7	32	23.9		
22	43	58.0	160	40.3		36.1	142	29.8		54.2	287	46.2		25.7	47	26.3		
23	59	00.5	175	39.5		36.8	157	30.3		54.3	302	48.9		25.7	62	28.7		
24	74	03.0	190	38.7	-20	37.4	172	30.7	-23	54.5	317	51.5	+21	25.8	77	31.2		
Dif	—		-8		-7		+4		-1		+27		0		+24			

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 50.7 ^m			Edad: 14.7 ^d PHE { 4 ^h : 61/3 12 ^h : 61/2 20 ^h : 61/1 R°: **m SD: 16/7 PMG: **h **m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	22.6	-22	22.1	2	34.3	+27	23.0	47	60 N	6 52	7 47	8 43	14 00	77	10 44	64
1	197	22.4		22.4	16	54.1	8	27.7	45	58	45	37	27	14 36	75	10 08	66
2	212	22.1		22.8	31	13.9	8	32.2	43	56	39	27	13	15 02	74	9 42	67
3	227	21.9		23.1	45	33.6	7	36.5	43	54	33	19	8 02	23 73		21 67	
4	242	21.6		23.4	59	53.2	6	40.6	41	52	28	11	7 51	40 73		9 04	67
5	257	21.4	-22	23.7	74	12.9	7	+27 44.5	39	50	6 23	7 04	7 42	15 55	72	8 49	68
6	272	21.1	-22	24.0	88	32.5	6	+27 48.1	36	45	6 12	6 49	7 22	16 26	71	8 19	68
7	287	20.8		24.3	102	52.0	5	51.5	34	40	6 03	36	7 07	16 49	71	7 55	69
8	302	20.6		24.6	117	11.6	6	54.7	32	35	5 54	25	6 53	17 09	70	36	68
9	317	20.3		25.0	131	31.1	5	+27 57.7	30	30	46	6 15	41	25 70		7 20	68
10	332	20.1		25.3	145	50.6	5	+28 00.5	28	20	30	5 57	21	17 54	68	6 52	68
11	347	19.8	-22	25.6	160	10.0	4	+28 03.0	25	10 N	5 15	5 41	6 04	18 18	68	6 28	68
12	2	19.5	-22	25.9	174	29.5	5	+28 05.3	23	0	4 59	5 25	5 47	18 41	67	6 05	68
13	17	19.3		26.2	188	49.0	5	07.3	20	10 S	41	5 07	30	19 04	66	5 43	67
14	32	19.0		26.5	203	08.4	4	09.2	19	20	4 19	4 48	5 12	28 65		5 19	67
15	47	18.8		26.8	217	27.9	5	10.8	16	30	3 51	24	4 51	19 57	63	4 51	67
16	62	18.5		27.1	231	47.3	4	12.2	14	35	34	4 10	39	20 14	62	35	66
17	77	18.3	-22	27.4	246	06.8	5	+28 13.4	12	40	3 12	3 52	4 25	20 34	61	4 15	66
18	92	18.0	-22	27.7	260	26.3	5	+28 14.3	9	45	2 43	3 31	4 08	20 58	59	3 52	65
19	107	17.7		28.0	274	45.7	4	15.1	8	50	2 02	3 03	3 46	21 29	57	23 63	
20	122	17.5		28.3	289	05.3	6	15.6	5	52	1 38	2 49	36	21 44	56	3 08	63
21	137	17.2		28.6	303	24.8	5	15.8	2	54	1 04	33	25	22 02	54	2 51	62
22	152	16.9		28.9	317	44.3	5	15.9	1	56	** **	2 13	3 12	24 51		31 60	
23	167	16.7		29.2	332	03.9	6	15.7	2	58	** **	1 48	2 56	22 52	47	2 06	57
24	182	16.4	-22	29.5	346	23.6	7	+28 15.3	4	60 S	** **	1 11	2 38	23 32	**	1 32	51

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 19 ^h 00.7 ^m		Mag: -3.9 PMG: 11 ^h 18 ^m		Mag: +1.3 PMG: 12 ^h 30 ^m		Mag: -2.6 PMG: 2 ^h 48 ^m		Mag: +0.9 PMG: 18 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	74	03.0	190	38.7	-20	37.4	172	30.7	-23	54.5	317	51.5	+21	25.8	77	31.2	-4	04.1
1	89	05.4	205	37.9		38.1	187	31.1		54.6	332	54.2		25.8	92	33.6		04.0
2	104	07.9	220	37.0		38.7	202	31.6		54.7	347	56.9		25.8	107	36.1		04.0
3	119	10.4	235	36.2		39.4	217	32.0		54.8	2	59.5		25.9	122	38.5		04.0
4	134	12.8	250	35.4		40.0	232	32.4		55.0	18	02.2		25.9	137	40.9		04.0
5	149	15.3	265	34.6	-20	40.7	247	32.8	-23	55.1	33	04.8	+21	26.0	152	43.4	-4	04.0
6	164	17.7	280	33.7	-20	41.3	262	33.3	-23	55.2	48	07.5	+21	26.0	167	45.8	-4	03.9
7	179	20.2	295	32.9		42.0	277	33.7		55.3	63	10.2		26.0	182	48.3		03.9
8	194	22.7	310	32.1		42.6	292	34.1		55.5	78	12.8		26.1	197	50.7		03.9
9	209	25.1	325	31.3		43.3	307	34.6		55.6	93	15.5		26.1	212	53.1		03.9
10	224	27.6	340	30.4		43.9	322	35.0		55.7	108	18.2		26.2	227	55.6		03.9
11	239	30.1	355	29.6	-20	44.6	337	35.4	-23	55.8	123	20.8	+21	26.2	242	58.0	-4	03.8
12	254	32.5	10	28.8	-20	45.2	352	35.9	-23	56.0	138	23.5	+21	26.2	258	00.4	-4	03.8
13	269	35.0	25	27.9		45.8	7	36.3		56.1	153	26.2		26.3	273	02.9		03.8
14	284	37.5	40	27.1		46.5	22	36.7		56.2	168	28.8		26.3	288	05.3		03.8
15	299	39.9	55	26.3		47.1	37	37.1		56.3	183	31.5		26.4	303	07.8		03.7
16	314	42.4	70	25.5		47.8	52	37.6		56.5	198	34.2		26.4	318	10.2		03.7
17	329	44.9	85	24.6	-20	48.4	67	38.0	-23	56.6	213	36.8	+21	26.4	333	12.6	-4	03.7
18	344	47.3	100	23.8	-20	49.0	82	38.4	-23	56.7	228	39.5	+21	26.5	348	15.1	-4	03.7
19	359	49.8	115	23.0		49.7	97	38.9		56.8	243	42.2		26.5	3	17.5		03.7
20	14	52.2	130	22.1		50.3	112	39.3		57.0	258	44.8		26.6	18	19.9		03.6
21	29	54.7	145	21.3		50.9	127	39.7		57.1	273	47.5		26.6	33	22.4		03.6
22	44	57.2	160	20.5		51.6	142	40.1		57.2	288	50.2		26.6	48	24.8		03.6
23	59	59.6	175	19.6		52.2	157	40.6		57.3	303	52.8		26.7	63	27.2		03.6
24	75	02.1	190	18.8	-20	52.8	172	41.0	-23	57.4	318	55.5	+21	26.7	78	29.7	-4	03.5
Dif	—		-8		-6		+4		-1		+27		0		+24			

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:11 ^h 51.1 ^m			Edad: 15.7 ^d SD: 16'6 PMG: 0 ^h 57 ^m			PHE { 4 ^h : 60'9 12 ^h : 60'7 20 ^h : 60'5 Rº: 67 ^m												
	hG ☉	Dec		hG ☾	Dif		Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	182	16.4	-22	29.5	346	23.6	6	+28	15.3	6	60 N	14 57	15 53	16 49	15 17 112	11 48 25			
1	197	16.2		29.8	0	43.2	7		14.7	9	58	15 13	16 04	16 56	15 51 101	11 14 34			
2	212	15.9		30.1	15	02.9	8		13.8	10	56	27	13	17 02	16 16 95	10 49 40			
3	227	15.6		30.4	29	22.7	8		12.8	10	54	39	22	08	36 91	28 45			
4	242	15.4		30.7	43	42.5	8		11.5	13	52	49	30	13	16 53 88	10 11 47			
5	257	15.1	-22	31.0	58	02.3	8	+28	10.0	15	50	15 59	16 37	17 18	17 07 86	9 57 49			
6	272	14.8	-22	31.3	72	22.2	9	+28	08.3	17	45	16 19	16 52	17 29	17 37 81	9 27 53			
7	287	14.6		31.6	86	42.2	10		06.3	20	40	35	17 05	39	18 00 77	9 04 56			
8	302	14.3		31.9	101	02.2	10		04.2	21	35	16 48	16	47	19 75	8 44 58			
9	317	14.1		32.2	115	22.3	11	+28	01.8	24	30	17 00	26	17 56	18 35 73	28 60			
10	332	13.8		32.5	129	42.5	12	+27	59.2	26	20	20	17 44	18 11	19 02 70	8 00 62			
11	347	13.5	-22	32.8	144	02.7	12	+27	56.4	28	10 N	17 38	18 01	18 27	19 26 66	7 36 64			
12	2	13.3	-22	33.1	158	23.0	13	+27	53.4	30	0	17 55	18 17	18 43	19 48 63	7 13 66			
13	17	13.0		33.3	172	43.4	14		50.2	32	10 S	18 12	35	19 02	20 10 61	6 50 69			
14	32	12.7		33.6	187	03.9	15		46.7	36	20	30	18 54	23	20 33 58	6 26 70			
15	47	12.5		33.9	201	24.5	16		43.1	36	30	18 51	19 18	19 51	21 00 54	5 58 72			
16	62	12.2		34.2	215	45.1	16		39.3	38	35	19 04	33	20 09	16 52	41 74			
17	77	11.9	-22	34.5	230	05.9	18	+27	35.2	41	40	19 18	19 50	20 31	21 35 49	5 21 76			
18	92	11.7	-22	34.8	244	26.7	18	+27	30.9	43	45	19 35	20 12	21 00	21 57 46	4 57 78			
19	107	11.4		35.1	258	47.7	20		26.5	44	50	19 57	40	21 43	22 26 40	26 81			
20	122	11.1		35.4	273	08.7	20		21.8	47	52	20 07	20 54	22 07	40 37	4 11 82			
21	137	10.9		35.6	287	29.8	21		17.0	48	54	19	21 11	22 43	22 56 34	3 53 85			
22	152	10.6		35.9	301	51.1	23		11.9	51	56	32	31	** **	23 15 29	31 88			
23	167	10.3		36.2	316	12.4	23		06.7	52	58	20 48	21 58	** **	23 39 22	3 03 93			
24	182	10.1	-22	36.5	330	33.9	25	+27	01.2	55	60 S	21 06	22 37	** **	0 01 10	2 23 103			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 18 ^h 56.7 ^m		Mag: -3.9 PMG: 11 ^h 19 ^m			Mag: +1.3 PMG: 12 ^h 29 ^m			Mag: -2.6 PMG: 2 ^h 44 ^m			Mag: +0.9 PMG: 18 ^h 43 ^m							
	hG ♈	hG ♀		Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	75	02.1	190	18.8	-20	52.8	172	41.0	-23	57.4	318	55.5	+21	26.7					
1	90	04.6	205	18.0		53.4	187	41.4		57.5	333	58.2		26.8					
2	105	07.0	220	17.1		54.1	202	41.9		57.7	349	00.8		26.8					
3	120	09.5	235	16.3		54.7	217	42.3		57.8	4	03.5		26.8					
4	135	12.0	250	15.5		55.3	232	42.7		57.9	19	06.2		26.9					
5	150	14.4	265	14.6	-20	55.9	247	43.1	-23	58.0	34	08.8	+21	26.9					
6	165	16.9	280	13.8	-20	56.6	262	43.6	-23	58.1	49	11.5	+21	27.0					
7	180	19.4	295	12.9		57.2	277	44.0		58.3	64	14.2		27.0					
8	195	21.8	310	12.1		57.8	292	44.4		58.4	79	16.9		27.1					
9	210	24.3	325	11.3		58.4	307	44.8		58.5	94	19.5		27.1					
10	225	26.7	340	10.4		59.0	322	45.3		58.6	109	22.2		27.1					
11	240	29.2	355	09.6	-20	59.7	337	45.7	-23	58.7	124	24.9	+21	27.2					
12	255	31.7	10	08.7	-21	00.3	352	46.1	-23	58.8	139	27.6	+21	27.2					
13	270	34.1	25	07.9		00.9	7	46.5		58.9	154	30.2		27.3					
14	285	36.6	40	07.1		01.5	22	47.0		59.1	169	32.9		27.3					
15	300	39.1	55	06.2		02.1	37	47.4		59.2	184	35.6		27.3					
16	315	41.5	70	05.4		02.7	52	47.8		59.3	199	38.2		27.4					
17	330	44.0	85	04.5	-21	03.3	67	48.2	-23	59.4	214	40.9	+21	27.4					
18	345	46.5	100	03.7	-21	04.0	82	48.7	-23	59.5	229	43.6	+21	27.5					
19	0	48.9	115	02.8		04.6	97	49.1		59.6	244	46.3		27.5					
20	15	51.4	130	02.0		05.2	112	49.5		59.7	259	48.9		27.5					
21	30	53.9	145	01.2		05.8	127	49.9		59.8	274	51.6		27.6					
22	45	56.3	160	00.3		06.4	142	50.4	-23	59.9	289	54.3		27.6					
23	60	58.8	174	59.5		07.0	157	50.8	-24	00.0	304	57.0		27.7					
24	76	01.2	189	58.6	-21	07.6	172	51.2	-24	00.2	319	59.6	+21	27.7					
Dif	—		-8		-6		+4		-1		+27		0		+24		0		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 51.5 ^m				Edad: 16.7 ^d SD: 16/4 PMG: 2 ^h 03 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	182	10.1	-22	36.5	330	33.9			+27	01.2			6 55	7 50	8 46	17 07	112	12 11	8
1	197	09.8		36.8	344	55.5	26		+26	55.6	56	58	48	39	30	31 104	11 47	16	
2	212	09.5		37.0	359	17.2	27			49.8	58	56	41	30	16	17 50	98	28	21
3	227	09.3		37.3	13	39.0	28			43.8	60	54	35	21	8 04	18 06	93	11 11	26
4	242	09.0		37.6	28	00.9	29			37.6	62	52	30	13	7 54	20 89	10 57	29	
5	257	08.7	-22	37.9	42	23.0	31	+26		31.2	64	50	6 25	7 06	7 44	18 32	86	10 45	32
6	272	08.5	-22	38.2	56	45.1	31	+26		24.6	66	45	6 14	6 51	7 24	18 56	81	10 19	38
7	287	08.2		38.4	71	07.4	33			17.9	67	40	6 04	38	7 08	19 16	76	9 58	42
8	302	07.9		38.7	85	29.9	35			11.0	69	35	5 55	27	6 55	32 73		41	45
9	317	07.7		39.0	99	52.4	35	+26		03.9	71	30	47	6 17	43	19 46	70	26	48
10	332	07.4		39.2	114	15.1	37	+25		56.6	73	20	31	5 59	22	20 10	65	9 01	52
11	347	07.1	-22	39.5	128	37.9	38	+25		49.1	75	10 N	5 16	5 42	6 05	20 31	60	8 39	56
12	2	06.8	-22	39.8	143	00.9	40	+25		41.5	76	0	4 59	5 25	5 48	20 50	56	8 18	60
13	17	06.6		40.1	157	24.0	41			33.8	77	10 S	41	5 08	31	21 09	53	7 57	63
14	32	06.3		40.3	171	47.2	42			25.8	80	20	4 19	4 48	5 13	30 48		35	67
15	47	06.0		40.6	186	10.5	43			17.7	81	30	3 51	24	4 51	21 53	43	7 09	71
16	62	05.8		40.9	200	34.0	45			09.4	83	35	33	4 10	39	22 07	40	6 53	74
17	77	05.5	-22	41.1	214	57.7	47	+25		01.0	84	40	3 11	3 52	4 24	22 23	36	6 35	77
18	92	05.2	-22	41.4	229	21.5	48	+24		52.4	86	45	2 42	3 30	4 07	22 42	32	6 13	82
19	107	05.0		41.7	243	45.4	49			43.7	87	50	2 00	3 02	3 46	23 05	26	5 46	86
20	122	04.7		41.9	258	09.4	50			34.8	89	52	1 35	2 48	35	16 24		32	90
21	137	04.4		42.2	272	33.6	52			25.7	91	54	0 59	31	24	29 20	5	16	94
22	152	04.1		42.5	286	58.0	54			16.6	91	56	** **	2 11	3 10	23 43	16	4 58	98
23	167	03.9		42.7	301	22.5	55	+24		07.2	94	58	** **	1 45	2 55	** **	**	35	105
24	182	03.6	-22	43.0	315	47.1	56	+23		57.7	95	60 S	** **	1 06	2 36	0 09	11	4 04	116

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 52.8 ^m		Mag: -3.9 PMG: 11 ^h 21 ^m		Mag: +1.3 PMG: 12 ^h 28 ^m		Mag: -2.6 PMG: 2 ^h 40 ^m		Mag: +0.9 PMG: 18 ^h 39 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	76	01.2	189	58.6	-21	07.6	172	51.2	-24	00.2
1	91	03.7	204	57.8		08.2	187	51.6		00.3
2	106	06.2	219	56.9		08.8	202	52.1		00.4
3	121	08.6	234	56.1		09.4	217	52.5		00.5
4	136	11.1	249	55.2		10.0	232	52.9		00.6
5	151	13.6	264	54.4	-21	10.6	247	53.3	-24	00.7
6	166	16.0	279	53.5	-21	11.2	262	53.8	-24	00.8
7	181	18.5	294	52.7		11.8	277	54.2		00.9
8	196	21.0	309	51.8		12.4	292	54.6		01.0
9	211	23.4	324	51.0		13.0	307	55.0		01.1
10	226	25.9	339	50.1		13.6	322	55.4		01.2
11	241	28.4	354	49.3	-21	14.2	337	55.9	-24	01.3
12	256	30.8	9	48.4	-21	14.7	352	56.3	-24	01.4
13	271	33.3	24	47.6		15.3	7	56.7		01.5
14	286	35.7	39	46.7		15.9	22	57.1		01.6
15	301	38.2	54	45.9		16.5	37	57.6		01.7
16	316	40.7	69	45.0		17.1	52	58.0		01.8
17	331	43.1	84	44.2	-21	17.7	67	58.4	-24	01.9
18	346	45.6	99	43.3	-21	18.3	82	58.8	-24	02.0
19	1	48.1	114	42.5		18.9	97	59.2		02.1
20	16	50.5	129	41.6		19.4	112	59.7		02.2
21	31	53.0	144	40.8		20.0	128	00.1		02.3
22	46	55.5	159	39.9		20.6	143	00.5		02.4
23	61	57.9	174	39.0		21.2	158	00.9		02.5
24	77	00.4	189	38.2	-21	21.8	173	01.3	-24	02.6
Dif	—		-9		-6		+4		-1	
							+27		0	
									+24	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:11 ^h 52.0 ^m				Edad: 17.7 ^d SD: 16'2 PMG: 3 ^h 04 ^m													
	PHE { 4 ^h : 59'4 12 ^h : 59'1 20 ^h : 58'7 R°: 56 ^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	182	03.6	-22	43.0	315	47.1	+23	57.7	96	60 N	14 56	15 52	16 48	18 59	106	12 19	4	
1	197	03.3		43.3	330	11.9		48.1	97	58	15 12	16 03	16 55	19 15	99	12 03	10	
2	212	03.0		43.5	344	36.8		38.4	99	56	26	13	17 01	28 94	11 49	14		
3	227	02.8		43.8	359	01.9		28.5	101	54	38	21	07	39 91	37 18			
4	242	02.5		44.0	13	27.1		18.4	101	52	49	29	13	49 87	26 22			
5	257	02.2	-22	44.3	27	52.5	+23	08.3	101	50	15 58	16 36	17 18	19 58	84	11 17	24	
6	272	02.0	-22	44.6	42	18.0	+22	58.0	103	45	16 18	16 52	17 29	20 17	78	10 57	29	
7	287	01.7		44.8	56	43.6		47.6	104	40	35	17 05	39	32 74	40 34			
8	302	01.4		45.1	71	09.5		37.0	106	35	16 48	16	48	45 69	26 38			
9	317	01.1		45.3	85	35.4		26.4	106	30	17 00	26	17 56	20 56	66	10 14	41	
10	332	00.9		45.6	100	01.5		15.6	108	20	21	17 45	18 12	21 15	61	9 53	46	
11	347	00.6	-22	45.8	114	27.7	+22	04.7	109	10 N	17 39	18 01	18 28	21 31	56	9 35	51	
12	2	00.3	-22	46.1	128	54.1	+21	53.6	111	0	17 56	18 18	18 44	21 46	52	9 18	54	
13	17	00.0		46.3	143	20.7		42.5	111	10 S	18 13	36	19 03	22 02	47	9 00	59	
14	31	59.8		46.6	157	47.3		31.2	113	20	31	18 56	25	18 43	8 42	63		
15	46	59.5		46.8	172	14.2		19.9	113	30	18 53	19 20	19 53	36 38	20 69			
16	61	59.2		47.1	186	41.1	+21	08.4	115	35	19 05	35	20 11	47 34	8 07	72		
17	76	58.9	-22	47.3	201	08.2	+20	56.8	116	40	19 20	19 52	20 33	22 59	31	7 52	76	
18	91	58.7	-22	47.6	215	35.5	+20	45.1	117	45	19 37	20 14	21 03	23 14	26	7 35	80	
19	106	58.4		47.8	230	02.9		33.3	118	50	19 59	43	21 46	31 21	12 87			
20	121	58.1		48.1	244	30.4		21.5	118	52	20 09	20 57	22 11	40 17	7 02	90		
21	136	57.8		48.3	258	58.1	+20	09.5	120	54	21	21 14	22 49	49 14	6 50	94		
22	151	57.5		48.6	273	25.9	+19	57.4	121	56	35	21 35	** **	23 59	**	36 98		
23	166	57.3		48.8	287	53.9		45.2	122	58	20 51	22 02	** **	0 00	12	20 103		
24	181	57.0	-22	49.1	302	22.0	+19	33.0	122	60 S	21 10	22 43	** **	0 20	5	6 00	111	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG		Mag: -3.9			Mag: +1.3			Mag: -2.6			Mag: +0.9						
	18 ^h 48.9 ^m		PMG: 11 ^h 22 ^m			PMG: 12 ^h 28 ^m			PMG: 2 ^h 35 ^m			PMG: 18 ^h 35 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♊	Dec	hG ♋	Dec	hG ♏	Dec	hG ♐	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	77	00.4	189	38.2	-21	21.8	173	01.3	-24	02.6	321	04.0	+21	28.7	80	26.4	-4	02.4
1	92	02.9	204	37.3		22.3	188	01.8		02.7	336	06.7		28.8	95	28.8		02.4
2	107	05.3	219	36.5		22.9	203	02.2		02.8	351	09.3		28.8	110	31.2		02.3
3	122	07.8	234	35.6		23.5	218	02.6		02.9	6	12.0		28.9	125	33.7		02.3
4	137	10.2	249	34.8		24.1	233	03.0		03.0	21	14.7		28.9	140	36.1		02.3
5	152	12.7	264	33.9	-21	24.6	248	03.4	-24	03.1	36	17.4	+21	28.9	155	38.5	-4	02.3
6	167	15.2	279	33.0	-21	25.2	263	03.9	-24	03.2	51	20.1	+21	29.0	170	40.9	-4	02.2
7	182	17.6	294	32.2		25.8	278	04.3		03.3	66	22.8		29.0	185	43.4		02.2
8	197	20.1	309	31.3		26.3	293	04.7		03.4	81	25.5		29.1	200	45.8		02.2
9	212	22.6	324	30.5		26.9	308	05.1		03.5	96	28.1		29.1	215	48.2		02.2
10	227	25.0	339	29.6		27.5	323	05.5		03.6	111	30.8		29.2	230	50.6		02.1
11	242	27.5	354	28.7	-21	28.0	338	06.0	-24	03.7	126	33.5	+21	29.2	245	53.1	-4	02.1
12	257	30.0	9	27.9	-21	28.6	353	06.4	-24	03.8	141	36.2	+21	29.2	260	55.5	-4	02.1
13	272	32.4	24	27.0		29.2	8	06.8		03.9	156	38.9		29.3	275	57.9		02.0
14	287	34.9	39	26.2		29.7	23	07.2		04.0	171	41.6		29.3	291	00.3		02.0
15	302	37.3	54	25.3		30.3	38	07.6		04.0	186	44.3		29.4	306	02.8		02.0
16	317	39.8	69	24.4		30.9	53	08.0		04.1	201	47.0		29.4	321	05.2		02.0
17	332	42.3	84	23.6	-21	31.4	68	08.5	-24	04.2	216	49.7	+21	29.5	336	07.6	-4	01.9
18	347	44.7	99	22.7	-21	32.0	83	08.9	-24	04.3	231	52.3	+21	29.5	351	10.0	-4	01.9
19	2	47.2	114	21.8		32.5	98	09.3		04.4	246	55.0		29.5	6	12.5		01.9
20	17	49.7	129	21.0		33.1	113	09.7		04.5	261	57.7		29.6	21	14.9		01.9
21	32	52.1	144	20.1		33.6	128	10.1		04.6	277	00.4		29.6	36	17.3		01.8
22	47	54.6	159	19.2		34.2	143	10.6		04.7	292	03.1		29.7	51	19.7		01.8
23	62	57.1	174	18.4		34.7	158	11.0		04.8	307	05.8		29.7	66	22.2		01.8
24	77	59.5	189	17.5	-21	35.3	173	11.4	-24	04.8	322	08.5	+21	29.8	81	24.6	-4	01.8
Dif	—		-9		-6		+4		-1		+27		0		+24		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16/2 PMG:11 ^h 52.4 ^m			Edad: 18.7 ^d SD: 16/0 PMG: 3 ^h 59 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°				
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m	h	m		
0	181	57.0	-22	49.1	302	22.0	92	+19	33.0	124	60 N	6 57	7 53	8 50	20 43	95	12 22	0		
1	196	56.7		49.3	316	50.2	94		20.6	124	58	50	42	33	20 53	90	11	5		
2	211	56.4		49.6	331	18.6	95	+19	08.2	126	56	43	32	19	21 01	87	12 02	8		
3	226	56.2		49.8	345	47.1	95	+18	55.6	126	54	38	23	8 07	08 84	11 54	1	1		
4	241	55.9		50.0	0	15.7	96		43.0	126	52	32	16	7 56	15 81	46	15			
5	256	55.6	-22	50.3	14	44.5	98	+18	30.3	127	50	6 27	7 08	7 46	21 21	78	11 40	16		
6	271	55.3	-22	50.5	29	13.4	99	+18	17.5	128	45	6 16	6 53	7 26	21 34	72	11 25	22		
7	286	55.0		50.8	43	42.4	100	+18	04.7	128	40	6 06	40	7 10	44	68	13	27		
8	301	54.8		51.0	58	11.6	102	+17	51.8	129	35	5 57	28	6 56	21 53	64	11 03	30		
9	316	54.5		51.2	72	40.9	103		38.7	131	30	48	18	44	22 01	61	10 54	33		
10	331	54.2		51.5	87	10.4	105		25.7	130	20	32	6 00	24	14	55	38	39		
11	346	53.9	-22	51.7	101	39.9	105	+17	12.5	132	10 N	5 17	5 43	6 06	22 26	50	10 24	44		
12	1	53.6	-22	51.9	116	09.6	107	+16	59.3	132	0	5 00	5 26	5 49	22 37	46	10 11	48		
13	16	53.4		52.2	130	39.4	108		46.0	133	10 S	4 42	5 09	32	48	41	9 58	53		
14	31	53.1		52.4	145	09.4	110		32.7	133	20	4 20	4 49	5 13	22 59	37	44	57		
15	46	52.8		52.6	159	39.4	110		19.2	135	30	3 51	24	4 52	23 12	31	27	64		
16	61	52.5		52.9	174	09.6	112	+16	05.8	134	35	33	4 10	39	20 28	18	66			
17	76	52.2	-22	53.1	188	39.9	113	+15	52.2	136	40	3 11	3 52	4 24	23 28	25	9 07	70		
18	91	52.0	-22	53.3	203	10.3	114	+15	38.6	136	45	2 41	3 30	4 07	23 38	20	8 54	75		
19	106	51.7		53.6	217	40.9	116		25.0	136	50	1 58	3 01	3 45	50	15	38	81		
20	121	51.4		53.8	232	11.5	116	+15	11.3	137	52	1 33	2 47	35	23 56	12	30	84		
21	136	51.1		54.0	246	42.3	118	+14	57.5	138	54	0 55	30	23	**	**	**	22	87	
22	151	50.8		54.2	261	13.2	119		43.7	138	56	**	**	2 09	3 09	**	**	**	13	90
23	166	50.6		54.5	275	44.2	120		29.8	139	58	**	**	1 42	2 53	0 11	5	8 02	95	
24	181	50.3	-22	54.7	290	15.3	121	+14	15.9	139	60 S	**	**	1 01	2 34	0 24	1	7 49	100	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 18 ^h 45.0 ^m		Mag: -3.9 PMG: 11 ^h 23 ^m			Mag: +1.3 PMG: 12 ^h 27 ^m			Mag: -2.6 PMG: 2 ^h 31 ^m			Mag: +0.9 PMG: 18 ^h 31 ^m							
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°					
0	77	59.5	189	17.5	-21	35.3	173	11.4	-24	04.8	322	08.5	+21	29.8	81	24.6	-4	01.8	
1	93	02.0	204	16.6		35.8	188	11.8		04.9	337	11.2		29.8	96	27.0		01.7	
2	108	04.5	219	15.8		36.4	203	12.2		05.0	352	13.9		29.9	111	29.4		01.7	
3	123	06.9	234	14.9		36.9	218	12.6		05.1	7	16.6		29.9	126	31.9		01.7	
4	138	09.4	249	14.0		37.5	233	13.1		05.2	22	19.3		29.9	141	34.3		01.6	
5	153	11.8	264	13.2	-21	38.0	248	13.5	-24	05.3	37	21.9	+21	30.0	156	36.7	-4	01.6	
6	168	14.3	279	12.3	-21	38.6	263	13.9	-24	05.4	52	24.6	+21	30.0	171	39.1	-4	01.6	
7	183	16.8	294	11.4		39.1	278	14.3		05.4	67	27.3		30.1	186	41.5		01.6	
8	198	19.2	309	10.5		39.7	293	14.7		05.5	82	30.0		30.1	201	44.0		01.5	
9	213	21.7	324	09.7		40.2	308	15.1		05.6	97	32.7		30.2	216	46.4		01.5	
10	228	24.2	339	08.8		40.8	323	15.5		05.7	112	35.4		30.2	231	48.8		01.5	
11	243	26.6	354	07.9	-21	41.3	338	16.0	-24	05.8	127	38.1	+21	30.3	246	51.2	-4	01.4	
12	258	29.1	9	07.1	-21	41.8	353	16.4	-24	05.9	142	40.8	+21	30.3	261	53.7	-4	01.4	
13	273	31.6	24	06.2		42.4	8	16.8		05.9	157	43.5		30.3	276	56.1		01.4	
14	288	34.0	39	05.3		42.9	23	17.2		06.0	172	46.2		30.4	291	58.5		01.4	
15	303	36.5	54	04.4		43.4	38	17.6		06.1	187	48.9		30.4	307	00.9		01.3	
16	318	39.0	69	03.6		44.0	53	18.0		06.2	202	51.6		30.5	322	03.3		01.3	
17	333	41.4	84	02.7	-21	44.5	68	18.4	-24	06.3	217	54.3	+21	30.5	337	05.8	-4	01.3	
18	348	43.9	99	01.8	-21	45.0	83	18.9	-24	06.3	232	57.0	+21	30.6	352	08.2	-4	01.2	
19	3	46.3	114	00.9		45.6	98	19.3		06.4	247	59.7		30.6	7	10.6		01.2	
20	18	48.8	129	00.1		46.1	113	19.7		06.5	263	02.4		30.7	22	13.0		01.2	
21	33	51.3	143	59.2		46.6	128	20.1		06.6	278	05.1		30.7	37	15.4		01.2	
22	48	53.7	158	58.3		47.2	143	20.5		06.7	293	07.8		30.7	52	17.9		01.1	
23	63	56.2	173	57.4		47.7	158	20.9		06.7	308	10.5		30.8	67	20.3		01.1	
24	78	58.7	188	56.6	-21	48.2	173	21.3	-24	06.8	323	13.2	+21	30.8	82	22.7	-4	01.1	
Dif	—		-9		-5		+4		-1		+27		0		+24				

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16/2 PMG: 11 ^h 52.9 ^m				Edad: 19.7 ^d SD: 15/7 PMG: 4 ^h 48 ^m PHE { 4 ^h : 57/4 12 ^h : 57/1 20 ^h : 56/8 R°: 46 ^m																			
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	181	50.3	-22	54.7	290	15.3	+14	15.9	140	60 N	14	54	15	51	16	47	22	18	90	12	22	1		
1	196	50.0		54.9	304	46.6	+14	01.9	140	58	15	11	16	02	16	55	23	87		16	4			
2	211	49.7		55.1	319	17.9	+13	47.9	140	56	25		12	17	01	28	83		10	8				
3	226	49.4		55.4	333	49.3		33.9	140	54	38		21	07	32	80		05	11					
4	241	49.1		55.6	348	20.9		19.8	141	52	48		29	12	36	77		12	01	12				
5	256	48.9	-22	55.8	2	52.5	+13	05.6	142	50	15	58	16	36	17	18	22	39	75	11	56	15		
6	271	48.6	-22	56.0	17	24.3	+12	51.4	142	45	16	18	16	52	17	29	22	46	70	11	47	20		
7	286	48.3		56.2	31	56.1		37.2	142	40	35		17	05	39	52	66		40	24				
8	301	48.0		56.5	46	28.1		22.9	143	35	16	49		17	48	22	57	62		33	28			
9	316	47.7		56.7	61	00.1	+12	08.6	143	30	17	01		27	17	57	23	02	58	27	31			
10	331	47.4		56.9	75	32.3	+11	54.3	143	20	21		17	45	18	13	09	54		17	36			
11	346	47.2	-22	57.1	90	04.5	+11	39.9	144	10 N	17	40	18	02	18	29	23	16	49	11	08	41		
12	1	46.9	-22	57.3	104	36.9	+11	25.5	144	0	17	57	18	19	18	45	23	23	43	10	59	46		
13	16	46.6		57.6	119	09.3	+11	11.1	144	10 S	18	14		37	19	04		29	39		51	49		
14	31	46.3		57.8	133	41.8	+10	56.7	144	20	32		18	57	26	36	34		41	55				
15	46	46.0		58.0	148	14.5		42.2	145	30	18	54	19	21	19	55	43	30		31	60			
16	61	45.7		58.2	162	47.2		27.7	145	35	19	07		36	20	13	48	26		24	64			
17	76	45.5	-22	58.4	177	20.0	+10	13.1	146	40	19	21	19	54	20	35	23	53	22	10	17	68		
18	91	45.2	-22	58.6	191	52.8	+9	58.5	146	45	19	39	20	16	21	05	23	58	**	10	09	72		
19	106	44.9		58.8	206	25.8		44.0	145	50	20	01	20	45	21	49	**	**	**	9	59	77		
20	121	44.6		59.0	220	58.9		29.3	147	52	12	21	00	22	15	**	**	**	**	54	80			
21	136	44.3		59.2	235	32.0		14.7	146	54	24		17	22	55	0	02	11		49	82			
22	151	44.0		59.5	250	05.2	+9	00.1	146	56	37		21	38	**	**	09	8		43	86			
23	166	43.7		59.7	264	38.5	+8	45.4	147	58	20	54	22	06	**	**	16	5		37	89			
24	181	43.5	-22	59.9	279	11.9	+8	30.7	147	60 S	21	13	22	50	**	**	0	25	1	9	29	93		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 18 ^h 41.0 ^m			Mag: -3.9 PMG: 11 ^h 25 ^m			Mag: +1.3 PMG: 12 ^h 26 ^m			Mag: -2.6 PMG: 2 ^h 27 ^m			Mag: +1.0 PMG: 18 ^h 28 ^m											
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	78	58.7	188	56.6	-21	48.2	173	21.3	-24	06.8	323	13.2	+21	30.8	82	22.7	-4	01.1						
1	94	01.1	203	55.7		48.7	188	21.8		06.9	338	15.9		30.9	97	25.1		01.0						
2	109	03.6	218	54.8		49.3	203	22.2		07.0	353	18.6		30.9	112	27.5		01.0						
3	124	06.1	233	53.9		49.8	218	22.6		07.0	8	21.3		31.0	127	29.9		01.0						
4	139	08.5	248	53.0		50.3	233	23.0		07.1	23	24.0		31.0	142	32.4		01.0						
5	154	11.0	263	52.2	-21	50.8	248	23.4	-24	07.2	38	26.7	+21	31.1	157	34.8	-4	00.9						
6	169	13.5	278	51.3	-21	51.3	263	23.8	-24	07.3	53	29.4	+21	31.1	172	37.2	-4	00.9						
7	184	15.9	293	50.4		51.9	278	24.2		07.3	68	32.1		31.1	187	39.6		00.9						
8	199	18.4	308	49.5		52.4	293	24.6		07.4	83	34.8		31.2	202	42.0		00.8						
9	214	20.8	323	48.6		52.9	308	25.1		07.5	98	37.5		31.2	217	44.5		00.8						
10	229	23.3	338	47.8		53.4	323	25.5		07.5	113	40.2		31.3	232	46.9		00.8						
11	244	25.8	353	46.9	-21	53.9	338	25.9	-24	07.6	128	42.9	+21	31.3	247	49.3	-4	00.7						
12	259	28.2	8	46.0	-21	54.4	353	26.3	-24	07.7	143	45.6	+21	31.4	262	51.7	-4	00.7						
13	274	30.7	23	45.1		54.9	8	26.7		07.8	158	48.3		31.4	277	54.1		00.7						
14	289	33.2	38	44.2		55.4	23	27.1		07.8	173	51.0		31.5	292	56.5		00.7						
15	304	35.6	53	43.3		56.0	38	27.5		07.9	188	53.7		31.5	307	59.0		00.6						
16	319	38.1	68	42.5		56.5	53	27.9		08.0	203	56.4		31.6	323	01.4		00.6						
17	334	40.6	83	41.6	-21	57.0	68	28.3	-24	08.0	218	59.1	+21	31.6	338	03.8	-4	00.6						
18	349	43.0	98	40.7	-21	57.5	83	28.8	-24	08.1	234	01.8	+21	31.6	353	06.2	-4	00.5						
19	4	45.5	113	39.8		58.0	98	29.2		08.2	249	04.5		31.7	8	08.6		00.5						
20	19	47.9	128	38.9		58.5	113	29.6		08.2	264	07.2		31.7	23	11.0		00.5						
21	34	50.4	143	38.0		59.0	128	30.0		08.3	279	09.9		31.8	38	13.5		00.4						
22	49	52.9	158	37.1	-21	59.5	143	30.4		08.4	294	12.6		31.8	53	15.9		00.4						
23	64	55.3	173	36.3	-22	00.0	158	30.8		08.4	309	15.3		31.9	68	18.3		00.4						
24	79	57.8	188	35.4	-22	00.5	173	31.2	-24	08.5	324	18.0	+21	31.9	83	20.7	-4	00.3						
Dif	—			-9			-5			+4			-1			+27			0			+24		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 53.3 ^m				Edad: 20.7 ^d SD: 15/4 PMG: 5 ^h 33 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	181	43.5	−22	59.9	279	11.9	+8	30.7	60 N	6	59	7	56	8	52	23 47 85
1	196	43.2	−23	00.1	293	45.3		16.0	58		52	44		36	48	82
2	211	42.9		00.3	308	18.8	+8	01.3	56		45	34		21	49	79
3	226	42.6		00.5	322	52.4	+7	46.5	54		39	25		8	09	51
4	241	42.3		00.7	337	26.1		31.8	52		34	18		7	58	52
5	256	42.0	−23	00.9	351	59.8	+7	17.0	50		6	29	7	10	7	48
6	271	41.7	−23	01.1	6	33.6	+7	02.3	45		6	17	6	55	7	28
7	286	41.4		01.3	21	07.4	+6	47.5	40		6	07	41	7	12	23
8	301	41.2		01.5	35	41.4		32.7	35		5	58	30	6	58	55
9	316	40.9		01.7	50	15.4		17.9	30		50	19		46	23	59
10	331	40.6		01.9	64	49.4	+6	03.1	20		34	6	01	25	**	**
11	346	40.3	−23	02.1	79	23.5	+5	48.3	10 N		5	18	5	44	6	07
12	1	40.0	−23	02.3	93	57.7	+5	33.4	0		5	01	5	27	5	50
13	16	39.7		02.5	108	32.0		18.6	10 S		4	42	5	09	32	**
14	31	39.4		02.7	123	06.2	+5	03.8	20		4	20	4	49	5	14
15	46	39.1		02.9	137	40.6	+4	49.0	30		3	52	25	4	52	**
16	61	38.8		03.1	152	15.0		34.1	35		33	4	10	39	**	**
17	76	38.6	−23	03.3	166	49.5	+4	19.3	40		3	11	3	52	4	25
18	91	38.3	−23	03.4	181	24.0	+4	04.5	45		2	41	3	30	4	07
19	106	38.0		03.6	195	58.5	+3	49.7	50		1	57	3	01	3	45
20	121	37.7		03.8	210	33.1		34.8	52		1	31	2	46	34	0
21	136	37.4		04.0	225	07.8		20.0	54		0	51	29	22	12	8
22	151	37.1		04.2	239	42.5	+3	05.2	56		**	**	2	08	3	09
23	166	36.8		04.4	254	17.2	+2	50.4	58		**	**	1	40	2	52
24	181	36.5	−23	04.6	268	52.0	+2	35.6	60 S		**	**	0	56	2	33

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 18 ^h 37.1 ^m		Mag: −3.9 PMG: 11 ^h 26 ^m		Mag: +1.2 PMG: 12 ^h 26 ^m		Mag: −2.6 PMG: 2 ^h 22 ^m		Mag: +1.0 PMG: 18 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	79	57.8	188	35.4	−22	00.5	173	31.2	−24	08.5
1	95	00.3	203	34.5		01.0	188	31.6		08.6
2	110	02.7	218	33.6		01.5	203	32.0		08.6
3	125	05.2	233	32.7		02.0	218	32.4		08.7
4	140	07.7	248	31.8		02.5	233	32.9		08.8
5	155	10.1	263	30.9	−22	02.9	248	33.3	−24	08.8
6	170	12.6	278	30.0	−22	03.4	263	33.7	−24	08.9
7	185	15.1	293	29.1		03.9	278	34.1		09.0
8	200	17.5	308	28.3		04.4	293	34.5		09.0
9	215	20.0	323	27.4		04.9	308	34.9		09.1
10	230	22.4	338	26.5		05.4	323	35.3		09.1
11	245	24.9	353	25.6	−22	05.9	338	35.7	−24	09.2
12	260	27.4	8	24.7	−22	06.4	353	36.1	−24	09.3
13	275	29.8	23	23.8		06.8	8	36.5		09.3
14	290	32.3	38	22.9		07.3	23	36.9		09.4
15	305	34.8	53	22.0		07.8	38	37.4		09.4
16	320	37.2	68	21.1		08.3	53	37.8		09.5
17	335	39.7	83	20.2	−22	08.8	68	38.2	−24	09.6
18	350	42.2	98	19.3	−22	09.3	83	38.6	−24	09.6
19	5	44.6	113	18.4		09.7	98	39.0		09.7
20	20	47.1	128	17.5		10.2	113	39.4		09.7
21	35	49.6	143	16.6		10.7	128	39.8		09.8
22	50	52.0	158	15.7		11.1	143	40.2		09.8
23	65	54.5	173	14.8		11.6	158	40.6		09.9
24	80	56.9	188	13.9	−22	12.1	173	41.0	−24	10.0
Dif	—		−9		−5		+4		−1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG: 11 ^h 53.8 ^m				Edad: 21.7 ^d SD: 15 ^h /2 PMG: 6 ^h 15 ^m PHE { 4 ^h : 55 ^h /7 12 ^h : 55 ^h /5 20 ^h : 55 ^h /3 R°: 42 ^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	h m m	h m m			
0	181 36.5	-23 04.6	268 52.0		+2 35.6		60 N	14 54	15 51	16 47	** ** *		12 21 1						
1	196 36.2	04.8	283 26.8	158	+2 35.6	148	58	15 11	16 02	16 54	** ** *		21 4						
2	211 35.9	05.0	298 01.7	159	+2 06.0	148	56	25	12	17 01	** ** *		22 6						
3	226 35.7	05.1	312 36.6	159	+1 51.2	148	54	37	21	07	** ** *		22						
4	241 35.4	05.3	327 11.5	159		36.4 148	52	48	29	13	** ** *		22 11						
5	256 35.1	-23 05.5	341 46.5	160	+1 21.6	148	50	15 58	16 36	17 18	** ** *		12 22 14						
6	271 34.8	-23 05.7	356 21.5	160	+1 06.9	147	45	16 18	16 52	17 29	** ** *		12 23 17						
7	286 34.5	05.9	10 56.6	161	+0 52.1	148	40	35	17 05	39	** ** *		23 22						
8	301 34.2	06.1	25 31.7	161		37.4 147	35	16 49	17	49	** ** *		23 25						
9	316 33.9	06.2	40 06.8	161		22.7 147	30	17 01	27	17 57	** ** *		24 27						
10	331 33.6	06.4	54 41.9	161	+0 08.0	147	20	22	17 46	18 13	0 01 52		24 33						
11	346 33.3	-23 06.6	69 17.1	162	-0 06.7	147	10 N	17 40	18 03	18 29	0 03 47		12 24 38						
12	1 33.0	-23 06.8	83 52.3	162	-0 21.4	147	0	17 58	18 20	18 46	0 05 42		12 25 42						
13	16 32.7	06.9	98 27.5	162		36.1 147	10 S	18 15	38	19 05	07 38		25 46						
14	31 32.4	07.1	113 02.8	163	-0 50.7	146	20	34	18 58	27	09 33		25 51						
15	46 32.1	07.3	127 38.0	162	-1 05.3	146	30	18 55	19 23	19 56	11 28		26 56						
16	61 31.9	07.5	142 13.3	163		19.9 146	35	19 08	38	20 14	13 25		26 59						
17	76 31.6	-23 07.6	156 48.6	163	-1 34.5	146	40	19 23	19 56	20 37	0 14 22		12 26 63						
18	91 31.3	-23 07.8	171 24.0	164	-1 49.1	146	45	19 41	20 18	21 07	0 16 17		12 27 66						
19	106 31.0	08.0	185 59.3	163	-2 03.7	146	50	20 03	20 47	21 52	18 13		27 72						
20	121 30.7	08.2	200 34.7	164		18.2 145	52	14	21 02	22 18	19 11		27 74						
21	136 30.4	08.3	215 10.1	164		32.7 145	54	26	20	23 01	20 8		27 77						
22	151 30.1	08.5	229 45.5	164	-2 47.2	145	56	40	21 41	** ** *	21 6		27 80						
23	166 29.8	08.7	244 20.9	164	-3 01.6	144	58	20 56	22 10	** ** *	22 3		27 83						
24	181 29.5	-23 08.8	258 56.3	164	-3 16.1	145	60 S	21 16	22 56	** ** *	0 23 1		12 28 85						
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 18 ^h 33.2 ^m		Mag: -3.9 PMG: 11 ^h 28 ^m		Mag: +1.2 PMG: 12 ^h 25 ^m		Mag: -2.6 PMG: 2 ^h 18 ^m		Mag: +1.0 PMG: 18 ^h 20 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /									
0	80 56.9	188 13.9	-22 12.1	173 41.0	-24 10.0	325 23.0	+21 33.0	84 18.6	-3 59.6										
1	95 59.4	203 13.1	12.6	188 41.4	10.0	340 25.8	33.1	99 21.0	59.5										
2	111 01.9	218 12.2	13.0	203 41.8	10.1	355 28.5	33.1	114 23.4	59.5										
3	126 04.3	233 11.3	13.5	218 42.2	10.1	10 31.2	33.2	129 25.8	59.5										
4	141 06.8	248 10.4	14.0	233 42.6	10.2	25 33.9	33.2	144 28.3	59.4										
5	156 09.3	263 09.5	-22 14.4	248 43.0	-24 10.2	40 36.6	+21 33.3	159 30.7	-3 59.4										
6	171 11.7	278 08.6	-22 14.9	263 43.5	-24 10.3	55 39.3	+21 33.3	174 33.1	-3 59.4										
7	186 14.2	293 07.7	15.4	278 43.9	10.3	70 42.0	33.4	189 35.5	59.3										
8	201 16.7	308 06.8	15.8	293 44.3	10.4	85 44.8	33.4	204 37.9	59.3										
9	216 19.1	323 05.9	16.3	308 44.7	10.4	100 47.5	33.5	219 40.3	59.3										
10	231 21.6	338 05.0	16.7	323 45.1	10.5	115 50.2	33.5	234 42.7	59.2										
11	246 24.0	353 04.1	-22 17.2	338 45.5	-24 10.5	130 52.9	+21 33.6	249 45.1	-3 59.2										
12	261 26.5	8 03.2	-22 17.7	353 45.9	-24 10.6	145 55.6	+21 33.6	264 47.5	-3 59.2										
13	276 29.0	23 02.3	18.1	8 46.3	10.6	160 58.3	33.7	279 49.9	59.1										
14	291 31.4	38 01.4	18.6	23 46.7	10.7	176 01.1	33.7	294 52.3	59.1										
15	306 33.9	53 00.4	19.0	38 47.1	10.7	191 03.8	33.7	309 54.8	59.1										
16	321 36.4	67 59.5	19.5	53 47.5	10.8	206 06.5	33.8	324 57.2	59.0										
17	336 38.8	82 58.6	-22 19.9	68 47.9	-24 10.8	221 09.2	+21 33.8	339 59.6	-3 59.0										
18	351 41.3	97 57.7	-22 20.4	83 48.3	-24 10.9	236 11.9	+21 33.9	355 02.0	-3 59.0										
19	6 43.8	112 56.8	20.8	98 48.7	10.9	251 14.6	33.9	10 04.4	58.9										
20	21 46.2	127 55.9	21.3	113 49.1	11.0	266 17.4	34.0	25 06.8	58.9										
21	36 48.7	142 55.0	21.7	128 49.5	11.0	281 20.1	34.0	40 09.2	58.9										
22	51 51.2	157 54.1	22.2	143 49.9	11.1	296 22.8	34.1	55 11.6	58.8										
23	66 53.6	172 53.2	22.6	158 50.3	11.1	311 25.5	34.1	70 14.0	58.8										
24	81 56.1	187 52.3	-22 23.0	173 50.7	-24 11.1	326 28.2	+21 34.2	85 16.4	-3 58.8										
Dif	—	-9	-5	+4	0	+27	0	+24	0										

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 54.3 ^m			Edad: 22.7 ^d SD: 15/0 PMG: 6 ^h 56 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	29.5	-23	08.8	258	56.3	-3	16.1	60 N	7 01	7 58	8 55	1 12	84	12 20	0
1	196	29.2		09.0	273	31.7 ¹⁶⁴		30.5 ¹⁴⁴	58	6 54	46	38	10	80	24	2
2	211	28.9		09.2	288	07.2 ¹⁶⁵		44.9 ¹⁴⁴	56	47	36	23	08	77	27	5
3	226	28.6		09.3	302	42.6 ¹⁶⁴	-3	59.2 ¹⁴³	54	41	27	11	06	75	29	8
4	241	28.3		09.5	317	18.1 ¹⁶⁵	-4	13.6 ¹⁴⁴	52	36	19	8 00	05	72	32	10
5	256	28.0	-23	09.7	331	53.5 ¹⁶⁴	-4	27.9 ¹⁴³	50	6 31	7 12	7 50	1 03	70	12 34	13
6	271	27.7	-23	09.8	346	29.0 ¹⁶⁵	-4	42.1 ¹⁴²	45	6 19	6 56	7 30	1 01	65	12 39	17
7	286	27.4		10.0	1	04.5 ¹⁶⁵	-4	56.4 ¹⁴³	40	09	43	7 13	0 58	61	43	21
8	301	27.1		10.2	15	39.9 ¹⁶⁴	-5	10.6 ¹⁴²	35	6 00	31	6 59	56	58	47	24
9	316	26.8		10.3	30	15.4 ¹⁶⁵		24.8 ¹⁴²	30	5 51	21	47	54	55	50	27
10	331	26.6		10.5	44	50.9 ¹⁶⁵		39.0 ¹⁴²	20	35	6 02	26	51	49	12 56	32
11	346	26.3	-23	10.6	59	26.3 ¹⁶⁴	-5	53.1 ¹⁴¹	10 N	5 19	5 45	6 08	0 48	45	13 01	36
12	1	26.0	-23	10.8	74	01.8 ¹⁶⁵	-6	07.2 ¹⁴¹	0	5 02	5 28	5 51	0 46	40	13 05	41
13	16	25.7		11.0	88	37.3 ¹⁶⁵		21.2 ¹⁴⁰	10 S	4 43	5 10	33	43	37	10	45
14	31	25.4		11.1	103	12.7 ¹⁶⁴		35.3 ¹⁴¹	20	4 21	4 50	5 14	41	31	15	49
15	46	25.1		11.3	117	48.2 ¹⁶⁵	-6	49.3 ¹⁴⁰	30	3 52	25	4 53	38	26	21	54
16	61	24.8		11.4	132	23.6 ¹⁶⁴	-7	03.2 ¹³⁹	35	34	4 10	40	36	24	24	57
17	76	24.5	-23	11.6	146	59.1 ¹⁶⁵	-7	17.1 ¹³⁹	40	3 11	3 52	4 25	0 34	21	13 28	60
18	91	24.2	-23	11.7	161	34.5 ¹⁶⁴	-7	31.0 ¹³⁹	45	2 41	3 30	4 07	0 32	17	13 32	65
19	106	23.9		11.9	176	09.9 ¹⁶⁴		44.9 ¹³⁹	50	1 56	3 01	3 45	30	12	37	70
20	121	23.6		12.0	190	45.3 ¹⁶⁴	-7	58.7 ¹³⁸	52	1 29	2 46	34	28	10	40	72
21	136	23.3		12.2	205	20.7 ¹⁶⁴	-8	12.5 ¹³⁸	54	0 47	28	22	27	8	42	75
22	151	23.0		12.3	219	56.1 ¹⁶⁴		26.2 ¹³⁷	56	** **	2 07	3 08	26	5	45	78
23	166	22.7		12.5	234	31.4 ¹⁶³		39.9 ¹³⁷	58	** **	1 38	2 52	24	2	48	81
24	181	22.4	-23	12.6	249	06.8 ¹⁶⁴	-8	53.5 ¹³⁶	60 S	** **	0 52	2 32	0 22	**	13 52	85

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 18 ^h 29.2 ^m		Mag: -3.9 PMG: 11 ^h 29 ^m			Mag: +1.2 PMG: 12 ^h 24 ^m			Mag: -2.6 PMG: 2 ^h 14 ^m			Mag: +1.0 PMG: 18 ^h 16 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	81	56.1	187	52.3	-22	23.0	173	50.7	-24	11.1	326	28.2	+21	34.2	85	16.4	-3	58.8
1	96	58.5	202	51.4		23.5	188	51.1		11.2	341	31.0		34.2	100	18.8		58.7
2	112	01.0	217	50.5		23.9	203	51.5		11.2	356	33.7		34.3	115	21.2		58.7
3	127	03.5	232	49.6		24.4	218	52.0		11.3	11	36.4		34.3	130	23.6		58.7
4	142	05.9	247	48.7		24.8	233	52.4		11.3	26	39.1		34.4	145	26.1		58.6
5	157	08.4	262	47.8	-22	25.2	248	52.8	-24	11.4	41	41.8	+21	34.4	160	28.5	-3	58.6
6	172	10.9	277	46.9	-22	25.7	263	53.2	-24	11.4	56	44.6	+21	34.5	175	30.9	-3	58.6
7	187	13.3	292	46.0		26.1	278	53.6		11.4	71	47.3		34.5	190	33.3		58.5
8	202	15.8	307	45.0		26.6	293	54.0		11.5	86	50.0		34.6	205	35.7		58.5
9	217	18.3	322	44.1		27.0	308	54.4		11.5	101	52.7		34.6	220	38.1		58.5
10	232	20.7	337	43.2		27.4	323	54.8		11.6	116	55.4		34.7	235	40.5		58.4
11	247	23.2	352	42.3	-22	27.8	338	55.2	-24	11.6	131	58.2	+21	34.7	250	42.9	-3	58.4
12	262	25.6	7	41.4	-22	28.3	353	55.6	-24	11.6	147	00.9	+21	34.8	265	45.3	-3	58.4
13	277	28.1	22	40.5		28.7	8	56.0		11.7	162	03.6		34.8	280	47.7		58.3
14	292	30.6	37	39.6		29.1	23	56.4		11.7	177	06.3		34.8	295	50.1		58.3
15	307	33.0	52	38.7		29.6	38	56.8		11.8	192	09.1		34.9	310	52.5		58.2
16	322	35.5	67	37.8		30.0	53	57.2		11.8	207	11.8		34.9	325	54.9		58.2
17	337	38.0	82	36.8	-22	30.4	68	57.6	-24	11.8	222	14.5	+21	35.0	340	57.3	-3	58.2
18	352	40.4	97	35.9	-22	30.8	83	58.0	-24	11.9	237	17.2	+21	35.0	355	59.7	-3	58.1
19	7	42.9	112	35.0		31.3	98	58.4		11.9	252	20.0		35.1	11	02.1		58.1
20	22	45.4	127	34.1		31.7	113	58.8		11.9	267	22.7		35.1	26	04.5		58.1
21	37	47.8	142	33.2		32.1	128	59.2		12.0	282	25.4		35.2	41	06.9		58.0
22	52	50.3	157	32.3		32.5	143	59.6		12.0	297	28.1		35.2	56	09.3		58.0
23	67	52.8	172	31.4		32.9	159	00.0		12.0	312	30.9		35.3	71	11.7		58.0
24	82	55.2	187	30.5	-22	33.3	174	00.4	-24	12.1	327	33.6	+21	35.3	86	14.1	-3	57.9
Dif	—		-9		-4		+4		0		+27		0		+24		0	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:11 ^h 54.7 ^m				Edad: 23.7 ^d SD: 14'9 PMG: 7 ^h 36 ^m PHE { 4 ^h : 54'6 12 ^h : 54'4 20 ^h : 54'3 R°: 43 ^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	181	22.4	-23	12.6	249	06.8	-8	53.5	60 N	14 53	15 50	16 47	2 36 87	12 20 1				
1	196	22.1		12.8	263	42.1	-9	07.2	58	15 10	16 02	16 54	30 83	26 5				
2	211	21.8		12.9	278	17.4		20.7	56	25	12	17 01	25 80	32 8				
3	226	21.5		13.1	292	52.7		34.3	54	37	21	07	21 76	37 12				
4	241	21.2		13.2	307	28.0	-9	47.7	52	48	29	13	17 74	42 14				
5	256	20.9	-23	13.4	322	03.2	-10	01.2	50	15 58	16 37	17 18	2 13 72	12 47 15				
6	271	20.6	-23	13.5	336	38.5	-10	14.6	45	16 19	16 52	17 30	2 06 66	12 56 21				
7	286	20.3		13.7	351	13.7		27.9	40	35	17 06	40	1 59 62	13 04 25				
8	301	20.0		13.8	5	48.8		41.2	35	16 49	18	49	54 59	11 28				
9	316	19.7		13.9	20	24.0	-10	54.5	30	17 02	28	17 58	49 56	17 31				
10	331	19.4		14.1	34	59.1	-11	07.7	20	23	17 47	18 14	40 51	28 35				
11	346	19.1	-23	14.2	49	34.2	-11	20.9	10 N	17 41	18 04	18 30	1 33 47	13 37 40				
12	1	18.8	-23	14.4	64	09.3	-11	34.0	0	17 58	18 21	18 47	1 26 43	13 46 43				
13	16	18.5		14.5	78	44.3	-11	47.0	10 S	18 16	39	19 06	20 38	13 55 47				
14	31	18.2		14.6	93	19.3	-12	00.1	20	35	18 59	29	12 35	14 04 52				
15	46	17.9		14.8	107	54.3		13.0	30	18 57	19 24	19 57	04 30	15 56				
16	61	17.6		14.9	122	29.3		25.9	35	19 10	39	20 16	1 00 26	21 60				
17	76	17.3	-23	15.1	137	04.2	-12	38.8	40	19 25	19 57	20 39	0 55 23	14 28 63				
18	91	17.0	-23	15.2	151	39.1	-12	51.6	45	19 42	20 20	21 09	0 49 19	14 37 67				
19	106	16.7		15.3	166	13.9	-13	04.3	50	20 05	20 49	21 54	42 14	47 72				
20	121	16.4		15.5	180	48.7		17.0	52	16	21 04	22 21	38 13	52 74				
21	136	16.1		15.6	195	23.5		29.7	54	28	22	23 05	35 10	14 57 77				
22	151	15.8		15.7	209	58.2		42.3	56	42	21 44	** **	31 7	15 03 80				
23	166	15.5		15.9	224	32.9	-13	54.8	58	20 58	22 13	** **	26 5	09 84				
24	181	15.2	-23	16.0	239	07.5	-14	07.3	60 S	21 19	23 01	** **	0 21 1	15 17 88				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 18 ^h 25.3 ^m		Mag: -3.9 PMG: 11 ^h 31 ^m				Mag: +1.2 PMG: 12 ^h 24 ^m				Mag: -2.6 PMG: 2 ^h 09 ^m				Mag: +1.0 PMG: 18 ^h 12 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	82	55.2	187	30.5	-22	33.3	174	00.4	-24	12.1	327	33.6	+21	35.3	86	14.1	-3	57.9
1	97	57.7	202	29.5		33.8	189	00.8		12.1	342	36.3		35.4	101	16.5		57.9
2	113	00.1	217	28.6		34.2	204	01.2		12.1	357	39.0		35.4	116	18.9		57.8
3	128	02.6	232	27.7		34.6	219	01.6		12.2	12	41.8		35.5	131	21.3		57.8
4	143	05.1	247	26.8		35.0	234	02.0		12.2	27	44.5		35.5	146	23.7		57.8
5	158	07.5	262	25.9	-22	35.4	249	02.4	-24	12.2	42	47.2	+21	35.6	161	26.2	-3	57.7
6	173	10.0	277	25.0	-22	35.8	264	02.8	-24	12.3	57	49.9	+21	35.6	176	28.6	-3	57.7
7	188	12.5	292	24.0		36.2	279	03.2		12.3	72	52.7		35.7	191	31.0		57.7
8	203	14.9	307	23.1		36.6	294	03.6		12.3	87	55.4		35.7	206	33.4		57.6
9	218	17.4	322	22.2		37.0	309	04.0		12.3	102	58.1		35.8	221	35.8		57.6
10	233	19.9	337	21.3		37.4	324	04.4		12.4	118	00.9		35.8	236	38.2		57.6
11	248	22.3	352	20.4	-22	37.8	339	04.8	-24	12.4	133	03.6	+21	35.9	251	40.6	-3	57.5
12	263	24.8	7	19.5	-22	38.2	354	05.2	-24	12.4	148	06.3	+21	35.9	266	43.0	-3	57.5
13	278	27.3	22	18.5		38.6	9	05.6		12.5	163	09.1		36.0	281	45.4		57.4
14	293	29.7	37	17.6		39.0	24	06.0		12.5	178	11.8		36.0	296	47.8		57.4
15	308	32.2	52	16.7		39.4	39	06.4		12.5	193	14.5		36.1	311	50.2		57.4
16	323	34.6	67	15.8		39.8	54	06.8		12.5	208	17.2		36.1	326	52.6		57.3
17	338	37.1	82	14.9	-22	40.2	69	07.2	-24	12.6	223	20.0	+21	36.2	341	55.0	-3	57.3
18	353	39.6	97	13.9	-22	40.6	84	07.6	-24	12.6	238	22.7	+21	36.2	356	57.4	-3	57.3
19	8	42.0	112	13.0		41.0	99	08.0		12.6	253	25.4		36.3	11	59.8		57.2
20	23	44.5	127	12.1		41.4	114	08.4		12.6	268	28.2		36.3	27	02.2		57.2
21	38	47.0	142	11.2		41.8	129	08.8		12.7	283	30.9		36.4	42	04.6		57.1
22	53	49.4	157	10.2		42.2	144	09.2		12.7	298	33.6		36.4	57	07.0		57.1
23	68	51.9	172	09.3		42.6	159	09.6		12.7	313	36.4		36.5	72	09.4		57.1
24	83	54.4	187	08.4	-22	42.9	174	10.0	-24	12.7	328	39.1	+21	36.5	87	11.8	-3	57.0
Dif	—		-9		-4		+4		0		+27		0		+24		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16/2 PMG: 11 ^h 55.2 ^m				Edad: 24.7 ^d SD: 14/8 PMG: 8 ^h 18 ^m																	
	PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/1 R°: 43 ^m				hG ☉	Dec	hG ☾	Dif		Dec	Dif		Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	181	15.2	-23	16.0	239	07.5	-14	07.3	60 N	7	03	8	00	8	57	4	01	89	12	19	1	
1	196	14.9		16.1	253	42.2		19.7	58	6	56	7	48	40		3	52	83		30	5	
2	211	14.6		16.2	268	16.7		32.1	56	49		38		25		43	80		39	9		
3	226	14.3		16.4	282	51.3		44.4	54	43		29		13		36	76		47	13		
4	241	14.0		16.5	297	25.7	-14	56.6	52	37		21		8	02	29	74		12	54	16	
5	256	13.7	-23	16.6	312	00.2	-15	08.8	50	6	32	7	14	7	52	3	23	71	13	01	18	
6	271	13.4	-23	16.7	326	34.6	-15	20.9	45	6	20	6	58	7	31	3	11	65	13	15	23	
7	286	13.1		16.9	341	08.9		32.9	40	10		44		15		3	00	62		27	27	
8	301	12.8		17.0	355	43.2		44.9	35	6	01	32	7	01		2	51	59		37	30	
9	316	12.5		17.1	10	17.5	-15	56.8	30	5	52	22	6	48		43	56		13	46	32	
10	331	12.2		17.2	24	51.7	-16	08.7	20		36	6	03	27		30	51		14	02	36	
11	346	11.9	-23	17.4	39	25.9	-16	20.5	10 N	5	20	5	46	6	09	2	18	47	14	15	41	
12	1	11.6	-23	17.5	54	00.0	-16	32.2	0	5	03	5	29	5	51	2	07	43	14	28	44	
13	16	11.3		17.6	68	34.0		43.9	10 S	4	44	5	11	34		1	57	39		41	47	
14	31	11.0		17.7	83	08.0	-16	55.5	20	4	21	4	51	5	15	45	35		14	54	52	
15	46	10.7		17.8	97	42.0	-17	07.0	30	3	52	26	4	53		32	31		15	10	56	
16	61	10.4		17.9	112	15.9		18.5	35		34	4	11	40		25	28		19	59		
17	76	10.1	-23	18.1	126	49.7	-17	29.8	40	3	11	3	53	4	25	1	16	25	15	30	62	
18	91	09.8	-23	18.2	141	23.5	-17	41.1	45	2	41	3	30	4	07	1	07	20	15	42	66	
19	106	09.5		18.3	155	57.3	-17	52.4	50	1	56	3	01	3	45	0	55	16	15	57	71	
20	121	09.2		18.4	170	31.0	-18	03.6	52	1	28	2	46	34		49	14		16	05	73	
21	136	08.9		18.5	185	04.6		14.7	54	0	44	28		22		43	11		12	77		
22	151	08.6		18.6	199	38.2		25.7	56	**	**	2	06	3	08	37	8		21	80		
23	166	08.3		18.7	214	11.7		36.6	58	**	**	1	37	2	51	29	5		31	85		
24	181	08.0	-23	18.9	228	45.1	-18	47.5	60 S	**	**	0	49	2	31	0	21	0	16	43	90	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 21.4 ^m		Mag: -3.9 PMG: 11 ^h 32 ^m		Mag: +1.2 PMG: 12 ^h 23 ^m		Mag: -2.6 PMG: 2 ^h 05 ^m		Mag: +1.0 PMG: 18 ^h 08 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	83	54.4	187	08.4	-22	42.9	174	10.0	-24	12.7
1	98	56.8	202	07.5		43.3	189	10.4		12.8
2	113	59.3	217	06.6		43.7	204	10.8		12.8
3	129	01.7	232	05.6		44.1	219	11.2		12.8
4	144	04.2	247	04.7		44.5	234	11.6		12.8
5	159	06.7	262	03.8	-22	44.9	249	12.0	-24	12.8
6	174	09.1	277	02.9	-22	45.2	264	12.4	-24	12.9
7	189	11.6	292	01.9		45.6	279	12.8		12.9
8	204	14.1	307	01.0		46.0	294	13.2		12.9
9	219	16.5	322	00.1		46.4	309	13.6		12.9
10	234	19.0	336	59.2		46.8	324	14.0		12.9
11	249	21.5	351	58.2	-22	47.1	339	14.4	-24	12.9
12	264	23.9	6	57.3	-22	47.5	354	14.8	-24	13.0
13	279	26.4	21	56.4		47.9	9	15.2		13.0
14	294	28.9	36	55.4		48.2	24	15.6		13.0
15	309	31.3	51	54.5		48.6	39	15.9		13.0
16	324	33.8	66	53.6		49.0	54	16.3		13.0
17	339	36.2	81	52.7	-22	49.3	69	16.7	-24	13.0
18	354	38.7	96	51.7	-22	49.7	84	17.1	-24	13.1
19	9	41.2	111	50.8		50.1	99	17.5		13.1
20	24	43.6	126	49.9		50.4	114	17.9		13.1
21	39	46.1	141	48.9		50.8	129	18.3		13.1
22	54	48.6	156	48.0		51.2	144	18.7		13.1
23	69	51.0	171	47.1		51.5	159	19.1		13.1
24	84	53.5	186	46.2	-22	51.9	174	19.5	-24	13.1
Dif	—		-9		-4		+4		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 55.7 ^m				Edad: 25.7 ^d SD: 14/7 PMG: 9 ^h 01 ^m PHE { 4 ^h : 54/0 12 ^h : 54/0 20 ^h : 54/0 Rº: 48 ^m														
	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	h m m					
0	181	08.0	-23	18.9	228	45.1	-18	47.5	14 53	15 51	16 47	5 30 93	12 20 5						
1	196	07.7		19.0	243	18.5	-18	58.3	15 10	16 02	16 55	15 87	35 11						
2	211	07.4		19.1	257	51.9	-19	09.0	25	12	17 01	5 03 82	12 48 16						
3	226	07.0		19.2	272	25.2		19.6	38	21	08	4 52 78	13 00 19						
4	241	06.7		19.3	286	58.4		30.2	49	30	13	43 75	10 22						
5	256	06.4	-23	19.4	301	31.5	-19	40.7	15 59	16 37	17 19	4 34 73	13 19 24						
6	271	06.1	-23	19.5	316	04.6	-19	51.1	16 19	16 53	17 30	4 16 68	13 38 29						
7	286	05.8		19.6	330	37.7	-20	01.4	36	17 07	41	4 02 64	13 54 32						
8	301	05.5		19.7	345	10.7		11.6	50	18	50	3 50 60	14 07 35						
9	316	05.2		19.8	359	43.6		21.8	17 02	29	17 59	39 58	18 38						
10	331	04.9		19.9	14	16.4		31.8	24	17 48	18 15	21 54	38 42						
11	346	04.6	-23	20.0	28	49.2	-20	41.8	17 42	18 05	18 31	3 05 50	14 56 45						
12	1	04.3	-23	20.1	43	21.9	-20	51.7	17 59	18 22	18 48	2 50 47	15 12 48						
13	16	04.0		20.2	57	54.6	-21	01.5	18 17	18 40	19 07	36 43	28 52						
14	31	03.7		20.3	72	27.2		11.3	36	19 00	30	20 40	15 46 54						
15	46	03.4		20.4	86	59.7		20.9	18 58	25	19 59	2 03 35	16 06 59						
16	61	03.1		20.5	101	32.2		30.4	19 11	41	20 17	1 53 33	18 61						
17	76	02.8	-23	20.6	116	04.6	-21	39.9	19 26	19 59	20 40	1 41 30	16 32 63						
18	91	02.5	-23	20.7	130	36.9	-21	49.2	19 44	20 21	21 11	1 27 27	16 48 67						
19	106	02.2		20.8	145	09.2	-21	58.5	20 06	20 51	21 56	11 21	17 08 72						
20	121	01.9		20.9	159	41.4	-22	07.7	17	21 06	22 24	1 03 19	18 74						
21	136	01.6		21.0	174	13.6		16.8	29	24	23 10	0 54 17	29 77						
22	151	01.3		21.1	188	45.6		25.8	20 44	21 46	** **	45 13	41 81						
23	166	01.0		21.2	203	17.7		34.7	21 00	22 16	** **	34 9	17 56 86						
24	181	00.6	-23	21.3	217	49.6	-22	43.5	21 21	23 05	** **	0 21 4	18 13 93						
UT	ARIES		VENUS			MARTE			JÚPITER				SATURNO						
	PMG: 18 ^h 17.4 ^m		Mag: -3.9 PMG: 11 ^h 34 ^m			Mag: +1.2 PMG: 12 ^h 22 ^m			Mag: -2.6 PMG: 2 ^h 01 ^m				Mag: +1.0 PMG: 18 ^h 04 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	84	53.5	186	46.2	-22	51.9	174	19.5	-24	13.1	329	44.8	+21	37.7	88	09.3	-3	56.1	
1	99	56.0	201	45.2		52.2	189	19.9		13.1	344	47.5		37.8	103	11.7		56.1	
2	114	58.4	216	44.3		52.6	204	20.3		13.1	359	50.2		37.8	118	14.1		56.0	
3	130	00.9	231	43.4		52.9	219	20.7		13.2	14	53.0		37.9	133	16.5		56.0	
4	145	03.4	246	42.4		53.3	234	21.1		13.2	29	55.7		37.9	148	18.9		55.9	
5	160	05.8	261	41.5	-22	53.6	249	21.5	-24	13.2	44	58.5	+21	38.0	163	21.3	-3	55.9	
6	175	08.3	276	40.6	-22	54.0	264	21.9	-24	13.2	60	01.2	+21	38.0	178	23.6	-3	55.9	
7	190	10.7	291	39.6		54.3	279	22.3		13.2	75	03.9		38.1	193	26.0		55.8	
8	205	13.2	306	38.7		54.7	294	22.7		13.2	90	06.7		38.1	208	28.4		55.8	
9	220	15.7	321	37.8		55.0	309	23.1		13.2	105	09.4		38.2	223	30.8		55.7	
10	235	18.1	336	36.8		55.4	324	23.5		13.2	120	12.2		38.2	238	33.2		55.7	
11	250	20.6	351	35.9	-22	55.7	339	23.9	-24	13.2	135	14.9	+21	38.3	253	35.6	-3	55.7	
12	265	23.1	6	35.0	-22	56.1	354	24.3	-24	13.2	150	17.6	+21	38.3	268	38.0	-3	55.6	
13	280	25.5	21	34.0		56.4	9	24.6		13.2	165	20.4		38.4	283	40.4		55.6	
14	295	28.0	36	33.1		56.8	24	25.0		13.2	180	23.1		38.4	298	42.8		55.5	
15	310	30.5	51	32.2		57.1	39	25.4		13.2	195	25.9		38.5	313	45.2		55.5	
16	325	32.9	66	31.2		57.4	54	25.8		13.2	210	28.6		38.5	328	47.6		55.5	
17	340	35.4	81	30.3	-22	57.8	69	26.2	-24	13.3	225	31.4	+21	38.6	343	50.0	-3	55.4	
18	355	37.9	96	29.4	-22	58.1	84	26.6	-24	13.3	240	34.1	+21	38.6	358	52.4	-3	55.4	
19	10	40.3	111	28.4		58.5	99	27.0		13.3	255	36.9		38.7	13	54.7		55.3	
20	25	42.8	126	27.5		58.8	114	27.4		13.3	270	39.6		38.7	28	57.1		55.3	
21	40	45.2	141	26.6		59.1	129	27.8		13.3	285	42.3		38.8	43	59.5		55.2	
22	55	47.7	156	25.6		59.5	144	28.2		13.3	300	45.1		38.8	59	01.9		55.2	
23	70	50.2	171	24.7	-22	59.8	159	28.6		13.3	315	47.8		38.9	74	04.3		55.2	
24	85	52.6	186	23.7	-23	00.1	174	29.0	-24	13.3	330	50.6	+21	38.9	89	06.7	-3	55.1	
Dif	—		-9			-3			+4			+27		+1		+24			
									0							0			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG: 11 ^h 56.2 ^m			Edad: 26.7 ^d SD: 14'7 PMG: 9 ^h 47 ^m PHE 4^h: 54'0 12^h: 54'0 20^h: 54'0 Rº: 49^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	00.6	-23	21.3	217	49.6	-22	43.5	60 N	7	05	8	02	8	59	7	01
1	196	00.3		21.4	232	21.5	-22	52.2	58	6	57	7	50	42	6	40	84
2	211	00.0		21.4	246	53.3	-23	00.8	56		51		40	27	23	79	13
3	225	59.7		21.5	261	25.0		09.3	54		44		31	14	6	09	74
4	240	59.4		21.6	275	56.7		17.7	52		39		22	8	03	5	56
5	255	59.1	-23	21.7	290	28.3	-23	26.0	50	6	33	7	15	7	54	5	45
6	270	58.8	-23	21.8	304	59.8	-23	34.2	45	6	22	6	59	7	33	5	22
7	285	58.5		21.9	319	31.3		42.3	40		11		45	16	5	04	62
8	300	58.2		22.0	334	02.7		50.3	35	6	02		34	7	02	4	49
9	315	57.9		22.0	348	34.1	-23	58.2	30	5	53		23	6	50	3	6
10	330	57.6		22.1	3	05.3	-24	06.0	20		37	6	04	28	4	13	54
11	345	57.3	-23	22.2	17	36.6	-24	13.7	10 N	5	21	5	47	6	10	3	54
12	0	57.0	-23	22.3	32	07.7	-24	21.3	0	5	04	5	30	5	52	3	36
13	15	56.7		22.4	46	38.8		28.8	10 S	4	45	5	12	35	3	18	46
14	30	56.4		22.4	61	09.8		36.1	20	4	22	4	51	5	16	2	59
15	45	56.0		22.5	75	40.7		43.4	30	3	53		27	4	54	37	39
16	60	55.7		22.6	90	11.6		50.6	35		35	4	11	41	24	37	
17	75	55.4	-23	22.7	104	42.4	-24	57.6	40	3	11	3	53	4	26	2	10
18	90	55.1	-23	22.8	119	13.2	-25	04.5	45	2	41	3	31	4	08	1	52
19	105	54.8		22.8	133	43.9		11.3	50	1	56	3	01	3	45	31	27
20	120	54.5		22.9	148	14.5		18.1	52	1	28		24	35	21	24	
21	135	54.2		23.0	162	45.0		24.6	54	0	42		28	22	1	09	22
22	150	53.9		23.1	177	15.5		31.1	56	**	**	2	06	3	08	0	57
23	165	53.6		23.1	191	46.0		37.5	58	**	**	1	36	2	51	42	13
24	180	53.3	-23	23.2	206	16.3	-25	43.7	60 S	**	**	0	47	2	31	0	24

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 18 ^h 13.5 ^m		Mag: -3.9 PMG: 11 ^h 35 ^m			Mag: +1.2 PMG: 12 ^h 22 ^m			Mag: -2.6 PMG: 1 ^h 56 ^m			Mag: +1.0 PMG: 18 ^h 01 ^m				
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	85	52.6	186	23.7	-23	00.1	174	29.0	-24	13.3	330	50.6	+21	38.9		
1	100	55.1	201	22.8		00.4	189	29.4		13.3	345	53.3		39.0		
2	115	57.6	216	21.9		00.8	204	29.8		13.3	0	56.1		39.0		
3	131	00.0	231	20.9		01.1	219	30.2		13.3	15	58.8		39.1		
4	146	02.5	246	20.0		01.4	234	30.6		13.3	31	01.6		39.1		
5	161	05.0	261	19.0	-23	01.7	249	30.9	-24	13.3	46	04.3	+21	39.2		
6	176	07.4	276	18.1	-23	02.1	264	31.3	-24	13.3	61	07.0	+21	39.2		
7	191	09.9	291	17.2		02.4	279	31.7		13.3	76	09.8		39.3		
8	206	12.3	306	16.2		02.7	294	32.1		13.2	91	12.5		39.3		
9	221	14.8	321	15.3		03.0	309	32.5		13.2	106	15.3		39.4		
10	236	17.3	336	14.3		03.3	324	32.9		13.2	121	18.0		39.4		
11	251	19.7	351	13.4	-23	03.7	339	33.3	-24	13.2	136	20.8	+21	39.5		
12	266	22.2	6	12.5	-23	04.0	354	33.7	-24	13.2	151	23.5	+21	39.5		
13	281	24.7	21	11.5		04.3	9	34.1		13.2	166	26.3		39.6		
14	296	27.1	36	10.6		04.6	24	34.5		13.2	181	29.0		39.7		
15	311	29.6	51	09.6		04.9	39	34.9		13.2	196	31.8		39.7		
16	326	32.1	66	08.7		05.2	54	35.3		13.2	211	34.5		39.8		
17	341	34.5	81	07.8	-23	05.5	69	35.7	-24	13.2	226	37.3	+21	39.8		
18	356	37.0	96	06.8	-23	05.8	84	36.0	-24	13.2	241	40.0	+21	39.9		
19	11	39.5	111	05.9		06.1	99	36.4		13.2	256	42.8		39.9		
20	26	41.9	126	04.9		06.4	114	36.8		13.2	271	45.5		40.0		
21	41	44.4	141	04.0		06.7	129	37.2		13.2	286	48.3		40.0		
22	56	46.8	156	03.0		07.0	144	37.6		13.2	301	51.0		40.1		
23	71	49.3	171	02.1		07.3	159	38.0		13.1	316	53.8		40.1		
24	86	51.8	186	01.2	-23	07.6	174	38.4	-24	13.1	331	56.5	+21	40.2		
Dif	—		-9		-3		+4		0		+27		+1		+24	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG: 11 ^h 56.7 ^m				Edad: 27.7 ^d SD: 14'7 PMG: 10 ^h 36 ^m PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'1 Rº: 53 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico			Hora	Rº	Hora	Rº		
h	° /	° /	° /		° /		° N	h m	h m	h m	h m m	h m m	h m m	h m m	h m m	
0	180 53.3	-23 23.2	206 16.3		-25 43.7		60 N	14 53	15 51	16 48	8 33 84	12 33 26				
1	195 53.0	23.3	220 46.7	114	49.9	62	58	15 11	16 03	16 55	8 04 75	13 03 33				
2	210 52.7	23.3	235 16.9	112	-25 55.9	60	56	25	13	17 02	7 42 70	25 38				
3	225 52.4	23.4	249 47.1	112	-26 01.8	59	54	38	22	08	23 69	44 40				
4	240 52.1	23.5	264 17.2	111	07.5	57	52	49	30	14	7 08 66	13 59 43				
5	255 51.7	-23 23.5	278 47.3	111	-26 13.2	57	50	15 59	16 38	17 19	6 54 65	14 13 44				
6	270 51.4	-23 23.6	293 17.3	110	-26 18.7	55	45	16 20	16 54	17 31	6 27 62	14 41 46				
7	285 51.1	23.7	307 47.2	109	24.1	54	40	37	17 07	41	6 06 60	15 03 47				
8	300 50.8	23.7	322 17.1	109	29.4	53	35	16 51	19	51	5 48 58	21 49				
9	315 50.5	23.8	336 47.0	109	34.6	52	30	17 03	30	17 59	33 57	15 37 49				
10	330 50.2	23.9	351 16.7	107	39.7	51	20	24	17 48	18 16	5 07 55	16 04 51				
11	345 49.9	-23 23.9	5 46.5	108	-26 44.6	49	10 N	17 43	18 06	18 32	4 45 53	16 27 52				
12	0 49.6	-23 24.0	20 16.1	106	-26 49.4	48	0	18 00	18 23	18 49	4 24 52	16 48 53				
13	15 49.3	24.1	34 45.7	106	54.0	46	10 S	18	18 41	19 08	4 04 50	17 10 54				
14	30 49.0	24.1	49 15.3	106	-26 58.6	46	20	37	19 02	19 31	3 42 48	17 33 55				
15	45 48.7	24.2	63 44.8	105	-27 03.0	44	30	18 59	27	20 00	16 47	18 00 56				
16	60 48.3	24.2	78 14.3	105	07.3	43	35	19 12	19 42	19	3 01 45	16 57				
17	75 48.0	-23 24.3	92 43.7	104	-27 11.5	42	40	19 27	20 00	20 42	2 44 44	18 34 58				
18	90 47.7	-23 24.3	107 13.0	103	-27 15.5	40	45	19 45	20 23	21 12	2 24 41	18 57 58				
19	105 47.4	24.4	121 42.3	103	19.4	39	50	20 08	20 52	21 58	1 58 38	19 25 61				
20	120 47.1	24.5	136 11.6	103	23.2	38	52	19	21 08	22 26	45 36	40 61				
21	135 46.8	24.5	150 40.8	102	26.8	36	54	31	26	23 13	31 34	19 56 62				
22	150 46.5	24.6	165 10.0	102	30.3	35	56	20 45	21 48	** **	1 15 30	20 16 63				
23	165 46.2	24.6	179 39.1	101	33.7	34	58	21 02	22 18	** **	0 55 26	20 40 66				
24	180 45.9	-23 24.7	194 08.2	101	-27 37.0	33	60 S	21 22	23 08	** **	0 30 18	21 13 70				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 18 ^h 09.6 ^m		Mag: -3.9 PMG: 11 ^h 37 ^m		Mag: +1.2 PMG: 12 ^h 21 ^m		Mag: -2.6 PMG: 1 ^h 52 ^m		Mag: +1.0 PMG: 17 ^h 57 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /		° /		° /		° /							
0	86 51.8	186 01.2	-23 07.6		174 38.4	-24 13.1	331 56.5	+21 40.2	90 04.0	-3 54.1						
1	101 54.2	201 00.2	07.9		189 38.8	13.1	346 59.3	40.2	105 06.4	54.1						
2	116 56.7	215 59.3	08.2		204 39.2	13.1	2 02.0	40.3	120 08.8	54.0						
3	131 59.2	230 58.3	08.5		219 39.6	13.1	17 04.8	40.3	135 11.2	54.0						
4	147 01.6	245 57.4	08.8		234 40.0	13.1	32 07.5	40.4	150 13.6	53.9						
5	162 04.1	260 56.4	-23 09.1		249 40.4	-24 13.1	47 10.3	+21 40.4	165 16.0	-3 53.9						
6	177 06.6	275 55.5	-23 09.4		264 40.7	-24 13.1	62 13.0	+21 40.5	180 18.4	-3 53.8						
7	192 09.0	290 54.5	09.7		279 41.1	13.0	77 15.8	40.5	195 20.7	53.8						
8	207 11.5	305 53.6	10.0		294 41.5	13.0	92 18.5	40.6	210 23.1	53.8						
9	222 14.0	320 52.7	10.3		309 41.9	13.0	107 21.3	40.6	225 25.5	53.7						
10	237 16.4	335 51.7	10.6		324 42.3	13.0	122 24.1	40.7	240 27.9	53.7						
11	252 18.9	350 50.8	-23 10.9		339 42.7	-24 13.0	137 26.8	+21 40.7	255 30.3	-3 53.6						
12	267 21.3	5 49.8	-23 11.2		354 43.1	-24 13.0	152 29.6	+21 40.8	270 32.7	-3 53.6						
13	282 23.8	20 48.9	11.4		9 43.5	12.9	167 32.3	40.8	285 35.0	53.5						
14	297 26.3	35 47.9	11.7		24 43.9	12.9	182 35.1	40.9	300 37.4	53.5						
15	312 28.7	50 47.0	12.0		39 44.3	12.9	197 37.8	41.0	315 39.8	53.5						
16	327 31.2	65 46.0	12.3		54 44.6	12.9	212 40.6	41.0	330 42.2	53.4						
17	342 33.7	80 45.1	-23 12.6		69 45.0	-24 12.9	227 43.3	+21 41.1	345 44.6	-3 53.4						
18	357 36.1	95 44.1	-23 12.8		84 45.4	-24 12.9	242 46.1	+21 41.1	0 47.0	-3 53.3						
19	12 38.6	110 43.2	13.1		99 45.8	12.8	257 48.8	41.2	15 49.4	53.3						
20	27 41.1	125 42.2	13.4		114 46.2	12.8	272 51.6	41.2	30 51.7	53.2						
21	42 43.5	140 41.3	13.7		129 46.6	12.8	287 54.4	41.3	45 54.1	53.2						
22	57 46.0	155 40.3	13.9		144 47.0	12.8	302 57.1	41.3	60 56.5	53.1						
23	72 48.5	170 39.4	14.2		159 47.4	12.8	317 59.9	41.4	75 58.9	53.1						
24	87 50.9	185 38.4	-23 14.5		174 47.8	-24 12.7	333 02.6	+21 41.4	91 01.3	-3 53.1						
Dif	—	-9	-3		+4	0	+28	+1	+24	0						

UT	SOL				● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h /3 PMG:11 ^h 57.2 ^m				Edad: 28.7 ^d PHE { 4 ^h : 54 ^h /1 12 ^h : 54 ^h /2 20 ^h : 54 ^h /3 R°: 53 ^m														
	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	180	45.9	-23	24.7	194	08.2	-27	37.0	31	60 N	7 06	8 03	9 01	9 55 54	12 57 56				
1	195	45.6		24.7	208	37.2		40.1	30	58	6 59	7 51	8 43	9 18 53	13 35 55				
2	210	45.3		24.8	223	06.2		43.1	30	56	52	41	29	8 51 54	14 02 54				
3	225	44.9		24.8	237	35.2		45.9	28	54	46	32	16	30 54	23 54				
4	240	44.6		24.9	252	04.1		48.6	27	52	40	24	8 05	8 13 53	40 55				
5	255	44.3	-23	24.9	266	33.0	-27	51.2	26	50	6 35	7 16	7 55	7 58 53	14 55 55				
6	270	44.0	-23	25.0	281	01.9	-27	53.6	24	45	6 23	7 00	7 34	7 28 53	15 25 55				
7	285	43.7		25.0	295	30.7		55.9	23	40	13	6 47	17	7 04 54	15 49 54				
8	300	43.4		25.1	309	59.4	-27	58.1	22	35	6 03	35	7 03	6 45 53	16 08 54				
9	315	43.1		25.1	324	28.2	-28	00.2	21	30	5 54	24	6 51	29 53	25 54				
10	330	42.8		25.1	338	56.9		02.1	19	20	38	6 05	29	6 01 53	16 53 53				
11	345	42.5	-23	25.2	353	25.6	-28	03.8	17	10 N	5 22	5 48	6 11	5 37 52	17 17 53				
12	0	42.2	-23	25.2	7	54.2	-28	05.4	16	0	5 05	5 31	5 53	5 15 52	17 40 52				
13	15	41.9		25.3	22	22.9		06.9	15	10 S	4 46	5 13	36	4 53 51	18 02 52				
14	30	41.5		25.3	36	51.4		08.3	14	20	4 23	4 52	5 17	29 51	26 52				
15	45	41.2		25.4	51	20.0		09.5	12	30	3 54	27	4 55	4 01 51	18 55 50				
16	60	40.9		25.4	65	48.6		10.5	10	35	35	4 12	42	3 45 51	19 11 51				
17	75	40.6	-23	25.4	80	17.1	-28	11.5	10	40	3 12	3 54	4 27	3 26 50	19 31 49				
18	90	40.3	-23	25.5	94	45.6	-28	12.3	8	45	2 41	3 31	4 09	3 03 50	19 54 49				
19	105	40.0		25.5	109	14.1		12.9	6	50	1 56	3 01	3 46	2 34 49	20 24 48				
20	120	39.7		25.5	123	42.6		13.4	5	52	1 28	2 46	35	20 48	39 47				
21	135	39.4		25.6	138	11.0		13.8	4	54	0 41	28	23	2 03 47	20 57 46				
22	150	39.1		25.6	152	39.4		14.0	2	56	** **	2 06	3 09	1 44 45	21 18 44				
23	165	38.7		25.6	167	07.9		14.1	1	58	** **	1 36	2 52	1 19 44	21 44 42				
24	180	38.4	-23	25.7	181	36.3	-28	14.1	0	60 S	** **	0 45	2 31	0 46 39	22 22 37				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 18 ^h 05.6 ^m		Mag: -3.9 PMG: 11 ^h 38 ^m			Mag: +1.1 PMG: 12 ^h 20 ^m			Mag: -2.6 PMG: 1 ^h 47 ^m			Mag: +1.0 PMG: 17 ^h 53 ^m							
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	87	50.9	185	38.4	-23	14.5	174	47.8	-24	12.7	333	02.6	+21	41.4	91	01.3	-3	53.1	
1	102	53.4	200	37.5		14.7	189	48.1		12.7	348	05.4		41.5	106	03.7		53.0	
2	117	55.8	215	36.5		15.0	204	48.5		12.7	3	08.1		41.5	121	06.0		53.0	
3	132	58.3	230	35.6		15.3	219	48.9		12.7	18	10.9		41.6	136	08.4		52.9	
4	148	00.8	245	34.6		15.5	234	49.3		12.6	33	13.7		41.6	151	10.8		52.9	
5	163	03.2	260	33.7	-23	15.8	249	49.7	-24	12.6	48	16.4	+21	41.7	166	13.2	-3	52.8	
6	178	05.7	275	32.7	-23	16.1	264	50.1	-24	12.6	63	19.2	+21	41.7	181	15.6	-3	52.8	
7	193	08.2	290	31.8		16.3	279	50.5		12.6	78	21.9		41.8	196	17.9		52.7	
8	208	10.6	305	30.8		16.6	294	50.9		12.5	93	24.7		41.8	211	20.3		52.7	
9	223	13.1	320	29.9		16.9	309	51.3		12.5	108	27.5		41.9	226	22.7		52.6	
10	238	15.6	335	28.9		17.1	324	51.6		12.5	123	30.2		42.0	241	25.1		52.6	
11	253	18.0	350	28.0	-23	17.4	339	52.0	-24	12.5	138	33.0	+21	42.0	256	27.5	-3	52.6	
12	268	20.5	5	27.0	-23	17.6	354	52.4	-24	12.4	153	35.7	+21	42.1	271	29.8	-3	52.5	
13	283	23.0	20	26.1		17.9	9	52.8		12.4	168	38.5		42.1	286	32.2		52.5	
14	298	25.4	35	25.1		18.1	24	53.2		12.4	183	41.3		42.2	301	34.6		52.4	
15	313	27.9	50	24.2		18.4	39	53.6		12.3	198	44.0		42.2	316	37.0		52.4	
16	328	30.3	65	23.2		18.6	54	54.0		12.3	213	46.8		42.3	331	39.4		52.3	
17	343	32.8	80	22.2	-23	18.9	69	54.4	-24	12.3	228	49.5	+21	42.3	346	41.8	-3	52.3	
18	358	35.3	95	21.3	-23	19.1	84	54.8	-24	12.3	243	52.3	+21	42.4	1	44.1	-3	52.2	
19	13	37.7	110	20.3		19.4	99	55.1		12.2	258	55.1		42.4	16	46.5		52.2	
20	28	40.2	125	19.4		19.6	114	55.5		12.2	273	57.8		42.5	31	48.9		52.1	
21	43	42.7	140	18.4		19.9	129	55.9		12.2	289	00.6		42.5	46	51.3		52.1	
22	58	45.1	155	17.5		20.1	144	56.3		12.1	304	03.3		42.6	61	53.6		52.0	
23	73	47.6	170	16.5		20.4	159	56.7		12.1	319	06.1		42.6	76	56.0		52.0	
24	88	50.1	185	15.6	-23	20.6	174	57.1	-24	12.1	334	08.9	+21	42.7	91	58.4	-3	52.0	
Dif	—		-10			-3	+4			0	+28		+1	+24			0		

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16/3 PMG: 11 ^h 57.7 ^m				Edad: 29.7 ^d SD: 14/8 PMG: 12 ^h 20 ^m														
	hG ☉		Dec		hG ☾		Dif				Dec		Dif						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	38.4	-23	25.7	181	36.3	-28	14.1	2	60 N	14 54	15 52	16 49	10 49	24		13 53	87	
1	195	38.1		25.7	196	04.7		13.9	4	58	15 11	16 03	16 56	10 11	33		14 30	78	
2	210	37.8		25.7	210	33.0		13.5	5	56		14	17 03	9 45	37		14 56	74	
3	225	37.5		25.8	225	01.4		13.0	5	54		23	09	24	40		15 17	71	
4	240	37.2		25.8	239	29.8		12.4	6	52	15 50		31	9 06	42		35	68	
5	255	36.9	-23	25.8	253	58.1	-28	11.7	7	50	16 00	16 38	17 20	8 51	44		15 50	66	
6	270	36.6	-23	25.8	268	26.5	-28	10.8	9	45	16 21	16 55	17 32	8 21	46		16 20	63	
7	285	36.3		25.9	282	54.9		09.7	11	40		38	17 08	7 58	47		16 43	62	
8	300	36.0		25.9	297	23.2		08.5	12	35	16 52		20	17 52		38 49	17 02	60	
9	315	35.6		25.9	311	51.6		07.2	13	30	17 04		31	18 00		7 22 49		19 58	
10	330	35.3		26.0	326	19.9		05.7	15	20		25	17 49		17	6 54 51	17 46	57	
11	345	35.0	-23	26.0	340	48.3	-28	04.1	16	10 N	17 44	18 07	18 33	6 29	53		18 10	55	
12	0	34.7	-23	26.0	355	16.6	-28	02.4	17	0	18 01	18 24	18 50	6 07	54		18 32	53	
13	15	34.4		26.0	9	45.0	-28	00.5	19	10 S		19	18 42	5 44	55		18 54	52	
14	30	34.1		26.0	24	13.4	-27	58.4	21	20	18 38	19 03	19 32	5 20	56		19 18	50	
15	45	33.8		26.1	38	41.7		56.3	21	30	19 00	28	20 01	4 52	57		19 45	48	
16	60	33.5		26.1	53	10.1		53.9	24	35		13	19 43		20	36 58	20 02	45	
17	75	33.2	-23	26.1	67	38.5	-27	51.5	24	40	19 28	20 01	20 43	4 16	59		20 20	44	
18	90	32.8	-23	26.1	82	06.9	-27	48.9	26	45	19 46	20 24	21 14	3 53	60		20 43	42	
19	105	32.5		26.1	96	35.4		46.1	28	50	20 09	20 54	21 59	23	61		21 12	38	
20	120	32.2		26.1	111	03.8		43.3	28	52		20	21 09	3 08	62		26	36	
21	135	31.9		26.2	125	32.3		40.2	31	54		32	27	2 50	64		21 43	33	
22	150	31.6		26.2	140	00.7		37.1	31	56	20 46	21 49	** **		29 66		22 02	30	
23	165	31.3		26.2	154	29.2		33.8	33	58	21 03	22 19	** **		2 03 68		26	26	
24	180	31.0	-23	26.2	168	57.7	-27	30.3	35	60 S	21 24	23 11	** **	1 25	74		22 59	16	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 18 ^h 01.7 ^m		Mag: -3.9 PMG: 11 ^h 40 ^m		Mag: +1.1 PMG: 12 ^h 20 ^m		Mag: -2.6 PMG: 1 ^h 43 ^m		Mag: +1.0 PMG: 17 ^h 49 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	88	50.1	185	15.6	-23	20.6	174	57.1	-24	12.1
1	103	52.5	200	14.6		20.8	189	57.5		12.0
2	118	55.0	215	13.7		21.1	204	57.9		12.0
3	133	57.5	230	12.7		21.3	219	58.2		12.0
4	148	59.9	245	11.7		21.6	234	58.6		11.9
5	164	02.4	260	10.8	-23	21.8	249	59.0	-24	11.9
6	179	04.8	275	09.8	-23	22.0	264	59.4	-24	11.9
7	194	07.3	290	08.9		22.3	279	59.8		11.8
8	209	09.8	305	07.9		22.5	295	00.2		11.8
9	224	12.2	320	07.0		22.7	310	00.6		11.8
10	239	14.7	335	06.0		22.9	325	01.0		11.7
11	254	17.2	350	05.0	-23	23.2	340	01.3	-24	11.7
12	269	19.6	5	04.1	-23	23.4	355	01.7	-24	11.6
13	284	22.1	20	03.1		23.6	10	02.1		11.6
14	299	24.6	35	02.2		23.8	25	02.5		11.6
15	314	27.0	50	01.2		24.1	40	02.9		11.5
16	329	29.5	65	00.3		24.3	55	03.3		11.5
17	344	31.9	79	59.3	-23	24.5	70	03.7	-24	11.4
18	359	34.4	94	58.3	-23	24.7	85	04.0	-24	11.4
19	14	36.9	109	57.4		24.9	100	04.4		11.4
20	29	39.3	124	56.4		25.2	115	04.8		11.3
21	44	41.8	139	55.5		25.4	130	05.2		11.3
22	59	44.3	154	54.5		25.6	145	05.6		11.2
23	74	46.7	169	53.5		25.8	160	06.0		11.2
24	89	49.2	184	52.6	-23	26.0	175	06.4	-24	11.1
Dif	—		-10		-2		+4		0	
									+28	
									+1	
									+24	
									0	

UT	SOL			● LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h 3 PMG: 11 ^h 58.2 ^m			Edad: 0.9 ^d PHE { 4 ^h : 54 ^h /7 12 ^h : 54 ^h /8 20 ^h : 54 ^h /9 SD: 14 ^h 9 PMG: 13 ^h 12 ^m R°: 50 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	31.0	-23	26.2	168	57.7	-27	30.3	60 N	7 07	8 04	9 02	11 12	9	15 18	96		
1	195	30.7		26.2	183	26.3		26.7	58	7 00	7 53	8 44	10 43	17	15 47	87		
2	210	30.4		26.2	197	54.8		23.0	56	6 53	42	30	21 22		16 09	82		
3	225	30.0		26.2	212	23.4		19.2	54		47	33	17	10 02	27	27	78	
4	240	29.7		26.2	226	52.0		15.2	52		41	25	8 06	9 47	29	42	75	
5	255	29.4	-23	26.3	241	20.6	-27	11.0	50	6 36	7 17	7 56	9 33	32	16 55	73		
6	270	29.1	-23	26.3	255	49.3	-27	06.8	45	6 24	7 01	7 35	9 06	35	17 22	68		
7	285	28.8		26.3	270	18.0	-27	02.3	40		14	6 48	18	8 44	39	17 43	65	
8	300	28.5		26.3	284	46.7	-26	57.8	35	6 04		36	7 04	26	41	18 01	62	
9	315	28.2		26.3	299	15.4		53.1	30	5 55		25	6 52	8 10	43	16	60	
10	330	27.9		26.3	313	44.2		48.3	20		39	6 06	30	7 44	46	18 42	56	
11	345	27.6	-23	26.3	328	13.0	-26	43.3	10 N	5 23	5 49	6 12	7 21	48	19 04	53		
12	0	27.2	-23	26.3	342	41.8	-26	38.2	0	5 06	5 32	5 54	6 59	51	19 24	50		
13	15	26.9		26.3	357	10.7		33.0	10 S	4 47	5 14	37	38	53	19 44	48		
14	30	26.6		26.3	11	39.6		27.7	20	4 24	4 53	5 18	6 15	56	20 06	44		
15	45	26.3		26.3	26	08.6		22.2	30	3 55		28	4 56	5	48 59	31 41		
16	60	26.0		26.3	40	37.5		16.5	35		36	4 13	43	32	61	20 46	38	
17	75	25.7	-23	26.3	55	06.6	-26	10.8	40	3 13	3 55	4 28	5 14	63	21 03	35		
18	90	25.4	-23	26.3	69	35.6	-26	04.9	45	2 42	3 32	4 10	4 51	66	21 23	32		
19	105	25.1		26.3	84	04.7	-25	58.9	50	1 57	3 02	3 47	23	69	21 49	27		
20	120	24.7		26.3	98	33.9		52.7	52	1 29	2 47	36	4 09	72	22 01	25		
21	135	24.4		26.3	113	03.0		46.4	54	0 41		29	24	3 53	74	15 22		
22	150	24.1		26.3	127	32.3		40.0	56	** **	2 07	3 09		33 78		31 18		
23	165	23.8		26.3	142	01.5		33.5	58	** **	1 37	2 53	3 09	83	22 50	13		
24	180	23.5	-23	26.3	156	30.8	-25	26.8	60 S	** **	0 45	2 32	2 37	92	23 14	6		

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 17 ^h 57.8 ^m		Mag: -3.9 PMG: 11 ^h 41 ^m			Mag: +1.1 PMG: 12 ^h 19 ^m			Mag: -2.6 PMG: 1 ^h 39 ^m			Mag: +1.0 PMG: 17 ^h 45 ^m						
	hG ♊		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	89	49.2	184	52.6	-23	26.0	175	06.4	-24	11.1	335	15.2	+21	44.0	92	55.5	-3	50.8
1	104	51.7	199	51.6		26.2	190	06.7		11.1	350	18.0		44.0	107	57.8		50.8
2	119	54.1	214	50.7		26.4	205	07.1		11.0	5	20.8		44.1	123	00.2		50.7
3	134	56.6	229	49.7		26.6	220	07.5		11.0	20	23.5		44.1	138	02.6		50.7
4	149	59.1	244	48.7		26.8	235	07.9		11.0	35	26.3		44.2	153	04.9		50.6
5	165	01.5	259	47.8	-23	27.0	250	08.3	-24	10.9	50	29.1	+21	44.2	168	07.3	-3	50.6
6	180	04.0	274	46.8	-23	27.2	265	08.7	-24	10.9	65	31.8	+21	44.3	183	09.7	-3	50.5
7	195	06.4	289	45.9		27.4	280	09.1		10.8	80	34.6		44.4	198	12.1		50.5
8	210	08.9	304	44.9		27.6	295	09.4		10.8	95	37.4		44.4	213	14.4		50.4
9	225	11.4	319	43.9		27.8	310	09.8		10.7	110	40.1		44.5	228	16.8		50.4
10	240	13.8	334	43.0		28.0	325	10.2		10.7	125	42.9		44.5	243	19.2		50.3
11	255	16.3	349	42.0	-23	28.2	340	10.6	-24	10.6	140	45.7	+21	44.6	258	21.6	-3	50.3
12	270	18.8	4	41.0	-23	28.4	355	11.0	-24	10.6	155	48.5	+21	44.6	273	23.9	-3	50.2
13	285	21.2	19	40.1		28.6	10	11.4		10.5	170	51.2		44.7	288	26.3		50.2
14	300	23.7	34	39.1		28.8	25	11.8		10.5	185	54.0		44.7	303	28.7		50.1
15	315	26.2	49	38.2		29.0	40	12.1		10.4	200	56.8		44.8	318	31.1		50.1
16	330	28.6	64	37.2		29.2	55	12.5		10.4	215	59.5		44.8	333	33.4		50.0
17	345	31.1	79	36.2	-23	29.4	70	12.9	-24	10.3	231	02.3	+21	44.9	348	35.8	-3	50.0
18	0	33.6	94	35.3	-23	29.6	85	13.3	-24	10.3	246	05.1	+21	45.0	3	38.2	-3	49.9
19	15	36.0	109	34.3		29.8	100	13.7		10.2	261	07.9		45.0	18	40.5		49.9
20	30	38.5	124	33.3		30.0	115	14.1		10.2	276	10.6		45.1	33	42.9		49.8
21	45	40.9	139	32.4		30.1	130	14.4		10.1	291	13.4		45.1	48	45.3		49.8
22	60	43.4	154	31.4		30.3	145	14.8		10.1	306	16.2		45.2	63	47.7		49.7
23	75	45.9	169	30.5		30.5	160	15.2		10.0	321	18.9		45.2	78	50.0		49.7
24	90	48.3	184	29.5	-23	30.7	175	15.6	-24	09.9	336	21.7	+21	45.3	93	52.4	-3	49.6
Dif	—		-10		-2		+4		0		+28		+1		+24		0	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna				
	SD: 16 ^h 3 PMG: 11 ^h 58.7 ^m				Edad: 1.9 ^d PHE { 4 ^h : 55/0 12 ^h : 55/2 20 ^h : 55/3 Rº: 50 ^m																
	hG ☉		Dec		hG ☾		Dif														
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	23.5	-23	26.3	156	30.8	-25	26.8	68	60 N	14 55	15 53	16 50	11 21	4		16 54	99			
1	195	23.2		26.3	171	00.2		20.0	69	58	15 12	16 04	16 57	11 00	11		17 14	92			
2	210	22.9		26.2	185	29.6		13.1	71	56	27	15	17 04	10 43	16		31	87			
3	225	22.6		26.2	199	59.1	-25	06.0	71	54	40	24	10	29	19		45	87			
4	240	22.3		26.2	214	28.6	-24	58.9	73	52	15 51	32	16	16	22		17 57	80			
5	255	21.9	-23	26.2	228	58.1	-24	51.6	75	50	16 01	16 39	17 21	10 05	25		18 08	77			
6	270	21.6	-23	26.2	243	27.7	-24	44.1	75	45	16 22	16 56	17 33	9 41	30		18 30	72			
7	285	21.3		26.2	257	57.3		36.6	75	40	39	17 09	43	23	33		18 48	67			
8	300	21.0		26.2	272	27.0		28.9	77	35	16 53	21	17 53	9 07	37		19 03	64			
9	315	20.7		26.2	286	56.8		21.1	78	30	17 05	32	18 01	8 53	40		16	61			
10	330	20.4		26.1	301	26.5		13.2	79	20	26	17 50	18	30	43		38	57			
11	345	20.1	-23	26.1	315	56.4	-24	05.2	80	10 N	17 45	18 08	18 34	8 09	48		19 57	53			
12	0	19.8	-23	26.1	330	26.3	-23	57.0	82	0	18 02	18 25	18 51	7 50	51		20 14	49			
13	15	19.4		26.1	344	56.2		48.7	83	10 S	20	18 43	19 10	31	54		32	45			
14	30	19.1		26.1	359	26.2		40.3	84	20	18 39	19 04	19 33	7 11	57		20 50	42			
15	45	18.8		26.1	13	56.3		31.8	85	30	19 01	29	20 02	6 47	61		21 12	37			
16	60	18.5		26.0	28	26.4		23.2	86	35	14	19 44	21	33	64		24	34			
17	75	18.2	-23	26.0	42	56.5	-23	14.4	88	40	19 29	20 02	20 44	6 17	67		21 38	31			
18	90	17.9	-23	26.0	57	26.7	-23	05.6	88	45	19 47	20 25	21 15	5 57	71		21 55	27			
19	105	17.6		26.0	71	57.0	-22	56.6	90	50	20 10	20 55	22 00	32	76		22 16	22			
20	120	17.3		26.0	86	27.3		47.5	91	52	21	21 10	22 28	21	78		26	19			
21	135	17.0		25.9	100	57.6		38.3	92	54	33	28	23 15	5 07	82		37	16			
22	150	16.6		25.9	115	28.1		29.0	93	56	20 47	21 50	** **	4 51	86		22 49	13			
23	165	16.3		25.9	129	58.5		19.6	94	58	21 04	22 20	** **	32	91		23 03	9			
24	180	16.0	-23	25.8	144	29.0	-22	10.0	96	60 S	21 25	23 11	** **	4 09	98		23 20	4			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 17 ^h 53.8 ^m			Mag: -3.9 PMG: 11 ^h 43 ^m			Mag: +1.1 PMG: 12 ^h 19 ^m			Mag: -2.6 PMG: 1 ^h 34 ^m			Mag: +1.0 PMG: 17 ^h 42 ^m								
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec						
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°						
0	90	48.3	184	29.5	-23	30.7	175	15.6	-24	09.9	336	21.7	+21	45.3	93	52.4	-3	49.6			
1	105	50.8	199	28.5		30.9	190	16.0		09.9	351	24.5		45.3	108	54.8		49.6			
2	120	53.3	214	27.6		31.0	205	16.4		09.8	6	27.3		45.4	123	57.1		49.5			
3	135	55.7	229	26.6		31.2	220	16.8		09.8	21	30.0		45.4	138	59.5		49.5			
4	150	58.2	244	25.6		31.4	235	17.1		09.7	36	32.8		45.5	154	01.9		49.4			
5	166	00.7	259	24.7	-23	31.6	250	17.5	-24	09.7	51	35.6	+21	45.6	169	04.3	-3	49.4			
6	181	03.1	274	23.7	-23	31.8	265	17.9	-24	09.6	66	38.4	+21	45.6	184	06.6	-3	49.3			
7	196	05.6	289	22.7		31.9	280	18.3		09.5	81	41.1		45.7	199	09.0		49.3			
8	211	08.1	304	21.8		32.1	295	18.7		09.5	96	43.9		45.7	214	11.4		49.2			
9	226	10.5	319	20.8		32.3	310	19.1		09.4	111	46.7		45.8	229	13.7		49.2			
10	241	13.0	334	19.8		32.4	325	19.4		09.4	126	49.5		45.8	244	16.1		49.1			
11	256	15.4	349	18.9	-23	32.6	340	19.8	-24	09.3	141	52.2	+21	45.9	259	18.5	-3	49.1			
12	271	17.9	4	17.9	-23	32.8	355	20.2	-24	09.2	156	55.0	+21	45.9	274	20.8	-3	49.0			
13	286	20.4	19	16.9		32.9	10	20.6		09.2	171	57.8		46.0	289	23.2		49.0			
14	301	22.8	34	16.0		33.1	25	21.0		09.1	187	00.6		46.0	304	25.6		48.9			
15	316	25.3	49	15.0		33.3	40	21.4		09.1	202	03.3		46.1	319	27.9		48.9			
16	331	27.8	64	14.1		33.4	55	21.7		09.0	217	06.1		46.2	334	30.3		48.8			
17	346	30.2	79	13.1	-23	33.6	70	22.1	-24	08.9	232	08.9	+21	46.2	349	32.7	-3	48.8			
18	1	32.7	94	12.1	-23	33.7	85	22.5	-24	08.9	247	11.7	+21	46.3	4	35.1	-3	48.7			
19	16	35.2	109	11.2		33.9	100	22.9		08.8	262	14.4		46.3	19	37.4		48.7			
20	31	37.6	124	10.2		34.0	115	23.3		08.7	277	17.2		46.4	34	39.8		48.6			
21	46	40.1	139	09.2		34.2	130	23.7		08.7	292	20.0		46.4	49	42.2		48.6			
22	61	42.6	154	08.3		34.4	145	24.0		08.6	307	22.8		46.5	64	44.5		48.5			
23	76	45.0	169	07.3		34.5	160	24.4		08.5	322	25.6		46.5	79	46.9		48.5			
24	91	47.5	184	06.3	-23	34.7	175	24.8	-24	08.5	337	28.3	+21	46.6	94	49.3	-3	48.4			
Dif	—			-10			-2			+4			+1			+28			+1		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h 3 PMG:11 ^h 59.2 ^m				Edad: 2.9 ^d SD: 15 ^h 1 PMG: 14 ^h 51 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil	Hora	R°		Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	180	16.0	-23	25.8	144	29.0	-22	10.0	96	60 N	7 08	8 05	9 03	11 24	1	18 31	95		
1	195	15.7		25.8	158	59.6	-22	00.4	96	58	7 01	7 53	8 45	11 10	6	45	89		
2	210	15.4		25.8	173	30.3	-21	50.6	98	56	6 54	43	31	10 57	10	18 56	86		
3	225	15.1		25.8	188	00.9		40.8	98	54	48	34	18	47 13		19 06	82		
4	240	14.8		25.7	202	31.7		30.8	100	52	42	26	8 07	37 16		15 79			
5	255	14.5	-23	25.7	217	02.5	-21	20.7	101	50	6 37	7 18	7 57	10 28	19	19 23	76		
6	270	14.2	-23	25.7	231	33.3	-21	10.6	101	45	6 25	7 02	7 36	10 10	24	19 40	71		
7	285	13.8		25.6	246	04.2	-21	00.3	103	40	15	6 49	19	9 55	28	19 54	66		
8	300	13.5		25.6	260	35.2	-20	49.9	104	35	6 05	37	7 05	42 31		20 06	63		
9	315	13.2		25.6	275	06.2		39.4	105	30	5 56	26	6 53	31 34		16 60			
10	330	12.9		25.5	289	37.2		28.8	106	20	40	6 07	31	9 12	39	33 55			
11	345	12.6	-23	25.5	304	08.4	-20	18.1	107	10 N	5 24	5 50	6 13	8 55	43	20 48	50		
12	0	12.3	-23	25.5	318	39.5	-20	07.3	108	0	5 07	5 33	5 55	8 39	47	21 02	46		
13	15	12.0		25.4	333	10.7	-19	56.4	109	10 S	4 48	5 15	38	24 50		16 42			
14	30	11.7		25.4	347	42.0		45.4	110	20	4 25	4 54	5 19	8 07	55	31 37			
15	45	11.3		25.4	2	13.3		34.3	111	30	3 56	29	4 57	7 47	60	47 33			
16	60	11.0		25.3	16	44.7		23.2	111	35	37	4 14	44	35 63		21 57	29		
17	75	10.7	-23	25.3	31	16.1	-19	11.9	113	40	3 14	3 56	4 29	7 22	67	22 08	26		
18	90	10.4	-23	25.2	45	47.6	-19	00.5	114	45	2 43	3 33	4 11	7 06	71	22 21	22		
19	105	10.1		25.2	60	19.1	-18	49.0	115	50	1 58	3 03	3 48	6 47	76	37 16			
20	120	09.8		25.1	74	50.7		37.5	115	52	1 30	2 48	37	38 78		44 14			
21	135	09.5		25.1	89	22.3		25.8	117	54	0 43	30	25	27 82		22 52	11		
22	150	09.2		25.1	103	54.0		14.1	117	56	** **	2 08	3 10	15 86		23 01	8		
23	165	08.9		25.0	118	25.8	-18	02.2	119	58	** **	1 38	2 54	6 02	90	11 5			
24	180	08.5	-23	25.0	132	57.5	-17	50.3	119	60 S	** **	0 47	2 33	5 46	95	23 23	0		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 17 ^h 49.9 ^m		Mag: -3.9 PMG: 11 ^h 44 ^m				Mag: +1.1 PMG: 12 ^h 18 ^m				Mag: -2.6 PMG: 1 ^h 30 ^m				Mag: +1.0 PMG: 17 ^h 38 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	91	47.5	184	06.3	-23	34.7	175	24.8	-24	08.5	337	28.3	+21	46.6	94	49.3	-3	48.4	
1	106	49.9	199	05.3		34.8	190	25.2		08.4	352	31.1		46.6	109	51.6		48.4	
2	121	52.4	214	04.4		35.0	205	25.6		08.3	7	33.9		46.7	124	54.0		48.3	
3	136	54.9	229	03.4		35.1	220	26.0		08.3	22	36.7		46.8	139	56.4		48.3	
4	151	57.3	244	02.4		35.2	235	26.3		08.2	37	39.4		46.8	154	58.7		48.2	
5	166	59.8	259	01.5	-23	35.4	250	26.7	-24	08.1	52	42.2	+21	46.9	170	01.1	-3	48.2	
6	182	02.3	274	00.5	-23	35.5	265	27.1	-24	08.1	67	45.0	+21	46.9	185	03.5	-3	48.1	
7	197	04.7	288	59.5		35.7	280	27.5		08.0	82	47.8		47.0	200	05.8		48.1	
8	212	07.2	303	58.6		35.8	295	27.9		07.9	97	50.6		47.0	215	08.2		48.0	
9	227	09.7	318	57.6		36.0	310	28.3		07.9	112	53.3		47.1	230	10.6		48.0	
10	242	12.1	333	56.6		36.1	325	28.6		07.8	127	56.1		47.1	245	12.9		47.9	
11	257	14.6	348	55.7	-23	36.2	340	29.0	-24	07.7	142	58.9	+21	47.2	260	15.3	-3	47.9	
12	272	17.1	3	54.7	-23	36.4	355	29.4	-24	07.6	158	01.7	+21	47.2	275	17.7	-3	47.8	
13	287	19.5	18	53.7		36.5	10	29.8		07.6	173	04.5		47.3	290	20.0		47.8	
14	302	22.0	33	52.8		36.6	25	30.2		07.5	188	07.2		47.4	305	22.4		47.7	
15	317	24.4	48	51.8		36.8	40	30.6		07.4	203	10.0		47.4	320	24.7		47.6	
16	332	26.9	63	50.8		36.9	55	30.9		07.3	218	12.8		47.5	335	27.1		47.6	
17	347	29.4	78	49.9	-23	37.0	70	31.3	-24	07.3	233	15.6	+21	47.5	350	29.5	-3	47.5	
18	2	31.8	93	48.9	-23	37.1	85	31.7	-24	07.2	248	18.4	+21	47.6	5	31.8	-3	47.5	
19	17	34.3	108	47.9		37.3	100	32.1		07.1	263	21.1		47.6	20	34.2		47.4	
20	32	36.8	123	46.9		37.4	115	32.5		07.0	278	23.9		47.7	35	36.6		47.4	
21	47	39.2	138	46.0		37.5	130	32.8		07.0	293	26.7		47.7	50	38.9		47.3	
22	62	41.7	153	45.0		37.6	145	33.2		06.9	308	29.5		47.8	65	41.3		47.3	
23	77	44.2	168	44.0		37.8	160	33.6		06.8	323	32.3		47.9	80	43.7		47.2	
24	92	46.6	183	43.1	-23	37.9	175	34.0	-24	06.7	338	35.1	+21	47.9	95	46.0	-3	47.2	
Dif	—		-10		-1		+4		+1		+28		+1		+24		+1		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16'3 PMG: 11 ^h 59.7 ^m				Edad: 3.9 ^d SD: 15'2 PMG: 15 ^h 37 ^m								PHE { 4 ^h : 55'9 12 ^h : 56'1 20 ^h : 56'3 Rº: 46 ^m									
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	180	08.5	-23	25.0	132	57.5	-17	50.3	120	60 N	14	56	15	54	16	51	11	25	1	20	06	93
1	195	08.2		24.9	147	29.3		38.3	121	58	15	14	16	06	16	58		16	5		14	90
2	210	07.9		24.9	162	01.2		26.2	122	56	28		16	17	05		07	9		22	86	
3	225	07.6		24.8	176	33.1		14.0	123	54	41	25	11	11	00	11				28	83	
4	240	07.3		24.8	191	05.1	-17	01.7	123	52	15	52	33	17	10	53	14			34	80	
5	255	07.0	-23	24.7	205	37.1	-16	49.4	123	50	16	02	16	41	17	22	10	47	16	20	39	78
6	270	06.7	-23	24.7	220	09.2	-16	36.9	125	45	16	23	16	57	17	34	10	34	21	20	51	72
7	285	06.4		24.6	234	41.3		24.4	125	40	40		17	10	44	23	25		21	00	68	
8	300	06.1		24.6	249	13.4	-16	11.8	126	35	16	54	22	17	54	13	30			09	64	
9	315	05.7		24.5	263	45.6	-15	59.1	127	30	17	06	33	18	02	10	05	32		16	60	
10	330	05.4		24.5	278	17.8		46.4	127	20	27		17	51	19	9	51	37		28	55	
11	345	05.1	-23	24.4	292	50.1	-15	33.5	129	10 N	17	46	18	09	18	35	9	38	42	21	38	51
12	0	04.8	-23	24.3	307	22.4	-15	20.6	129	0	18	03	18	26	18	52	9	26	47	21	48	46
13	15	04.5		24.3	321	54.8	-15	07.6	130	10 S	21		18	44	19	11	14	51		21	58	41
14	30	04.2		24.2	336	27.1	-14	54.5	131	20	18	40	19	05	19	34	9	02	55	22	08	37
15	45	03.9		24.2	350	59.6		41.4	131	30	19	02	29	20	03	8	47	61		20	31	
16	60	03.6		24.1	5	32.0		28.2	132	35	15		19	45	22	38	64			26	28	
17	75	03.3	-23	24.1	20	04.6	-14	14.9	133	40	19	30	20	03	20	45	8	29	67	22	34	25
18	90	03.0	-23	24.0	34	37.1	-14	01.5	134	45	19	48	20	26	21	15	8	17	72	22	43	20
19	105	02.6		23.9	49	09.7	-13	48.1	134	50	20	11	20	55	22	01	8	03	78	53	16	
20	120	02.3		23.9	63	42.3		34.5	136	52	22		21	10	22	29	7	56	81	22	58	13
21	135	02.0		23.8	78	14.9		21.0	135	54	34		28		23	15	49	83		23	03	11
22	150	01.7		23.7	92	47.6	-13	07.3	137	56	20	48	21	51	** **		41	86		09	8	
23	165	01.4		23.7	107	20.3	-12	53.6	137	58	21	05	22	20	** **		32	90		16	4	
24	180	01.1	-23	23.6	121	53.1	-12	39.8	138	60 S	21	25	23	11	** **		7	21	95	23	23	1
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 17 ^h 46.0 ^m			Mag: -3.9 PMG: 11 ^h 46 ^m			Mag: +1.1 PMG: 12 ^h 17 ^m			Mag: -2.7 PMG: 1 ^h 25 ^m			Mag: +1.0 PMG: 17 ^h 34 ^m									
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec							
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°							
0	92	46.6	183	43.1	-23	37.9	175	34.0	-24	06.7	338	35.1	+21	47.9	95	46.0	-3	47.2				
1	107	49.1	198	42.1		38.0	190	34.4		06.7	353	37.8		48.0	110	48.4		47.1				
2	122	51.5	213	41.1		38.1	205	34.8		06.6	8	40.6		48.0	125	50.7		47.1				
3	137	54.0	228	40.2		38.2	220	35.1		06.5	23	43.4		48.1	140	53.1		47.0				
4	152	56.5	243	39.2		38.4	235	35.5		06.4	38	46.2		48.1	155	55.5		47.0				
5	167	58.9	258	38.2	-23	38.5	250	35.9	-24	06.3	53	49.0	+21	48.2	170	57.8	-3	46.9				
6	183	01.4	273	37.2	-23	38.6	265	36.3	-24	06.3	68	51.8	+21	48.2	186	00.2	-3	46.9				
7	198	03.9	288	36.3		38.7	280	36.7		06.2	83	54.5		48.3	201	02.6		46.8				
8	213	06.3	303	35.3		38.8	295	37.0		06.1	98	57.3		48.4	216	04.9		46.7				
9	228	08.8	318	34.3		38.9	310	37.4		06.0	114	00.1		48.4	231	07.3		46.7				
10	243	11.3	333	33.4		39.0	325	37.8		05.9	129	02.9		48.5	246	09.6		46.6				
11	258	13.7	348	32.4	-23	39.1	340	38.2	-24	05.9	144	05.7	+21	48.5	261	12.0	-3	46.6				
12	273	16.2	3	31.4	-23	39.2	355	38.6	-24	05.8	159	08.5	+21	48.6	276	14.4	-3	46.5				
13	288	18.7	18	30.4		39.3	10	39.0		05.7	174	11.2		48.6	291	16.7		46.5				
14	303	21.1	33	29.5		39.4	25	39.3		05.6	189	14.0		48.7	306	19.1		46.4				
15	318	23.6	48	28.5		39.5	40	39.7		05.5	204	16.8		48.7	321	21.5		46.4				
16	333	26.0	63	27.5		39.6	55	40.1		05.4	219	19.6		48.8	336	23.8		46.3				
17	348	28.5	78	26.6	-23	39.7	70	40.5	-24	05.4	234	22.4	+21	48.9	351	26.2	-3	46.3				
18	3	31.0	93	25.6	-23	39.8	85	40.9	-24	05.3	249	25.2	+21	48.9	6	28.5	-3	46.2				
19	18	33.4	108	24.6		39.9	100	41.2		05.2	264	28.0		49.0	21	30.9		46.2				
20	33	35.9	123	23.6		40.0	115	41.6		05.1	279	30.7		49.0	36	33.3		46.1				
21	48	38.4	138	22.7		40.1	130	42.0		05.0	294	33.5		49.1	51	35.6		46.0				
22	63	40.8	153	21.7		40.2	145	42.4		04.9	309	36.3		49.1	66	38.0		46.0				
23	78	43.3	168	20.7		40.3	160	42.8		04.8	324	39.1		49.2	81	40.3		45.9				
24	93	45.8	183	19.8	-23	40.4	175	43.1	-24	04.7	339	41.9	+21	49.2	96	42.7	-3	45.9				
Dif	—		-10		-1		+4		+1		+28		+1		+24		+1					

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h /3 PMG:12 ^h 00.2 ^m				Edad: 4.9 ^d SD: 15 ^h /4 PMG: 16 ^h 22 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	01.1	-23	23.6	121	53.1	-12	39.8	60 N	7 09	8 06	9 03	11 25	**	21 38	92			
1	195	00.8		23.5	136	25.8		26.0	58	7 01	7 54	8 46	19	3	42	89			
2	210	00.5		23.5	150	58.7	-12	12.0	56	6 55	44	31	14	6	46	85			
3	225	00.2		23.4	165	31.5	-11	58.1	54	49	35	19	10	9	50	82			
4	239	59.8		23.3	180	04.3		44.0	52	43	27	8 08	06	11	53	79			
5	254	59.5	-23	23.3	194	37.2	-11	29.9	50	6 38	7 19	7 58	11 02	14	21	56	76		
6	269	59.2	-23	23.2	209	10.1	-11	15.7	45	6 26	7 03	7 37	10 54	18	22	02	71		
7	284	58.9		23.1	223	43.1	-11	01.5	40	15	6 50	20	47	23	07	67			
8	299	58.6		23.1	238	16.0	-10	47.2	35	6 06	38	7 06	41	26	11	63			
9	314	58.3		23.0	252	49.0		32.9	30	5 57	27	6 54	36	29	15	60			
10	329	58.0		22.9	267	22.0		18.5	20	41	6 08	32	27	35	22	53			
11	344	57.7	-23	22.8	281	55.1	-10	04.0	10 N	5 25	5 51	6 14	10 19	40	22	27	49		
12	359	57.4	-23	22.8	296	28.1	-9	49.5	0	5 08	5 34	5 56	10 11	45	22	33	44		
13	14	57.1		22.7	311	01.2		34.9	10 S	4 49	5 16	39	10 04	49	38	39			
14	29	56.8		22.6	325	34.2		20.3	20	4 26	4 55	5 20	9 56	54	43	35			
15	44	56.4		22.5	340	07.3	-9	05.6	30	3 57	30	4 58	46	60	50	29			
16	59	56.1		22.4	354	40.5	-8	50.9	35	38	4 15	45	41	63	53	26			
17	74	55.8	-23	22.4	9	13.6	-8	36.1	40	3 15	3 57	4 30	9 35	67	22	57	22		
18	89	55.5	-23	22.3	23	46.7	-8	21.3	45	2 45	3 34	4 12	9 28	71	23	02	18		
19	104	55.2		22.2	38	19.9	-8	06.4	50	1 59	3 05	3 49	19	77	07	13			
20	119	54.9		22.1	52	53.0	-7	51.5	52	1 31	2 50	38	15	79	10	11			
21	134	54.6		22.0	67	26.2		36.5	54	0 45	32	26	11	81	13	8			
22	149	54.3		22.0	81	59.4		21.5	56	** **	2 09	3 12	06	85	16	5			
23	164	54.0		21.9	96	32.6	-7	06.4	58	** **	1 39	2 55	9 00	88	19	3			
24	179	53.7	-23	21.8	111	05.8	-6	51.3	60 S	** **	0 49	2 35	8 54	92	23	23	**		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 17 ^h 42.0 ^m		Mag: -3.9 PMG: 11 ^h 47 ^m				Mag: +1.1 PMG: 12 ^h 17 ^m				Mag: -2.7 PMG: 1 ^h 21 ^m				Mag: +1.0 PMG: 17 ^h 30 ^m				
	hG ♈		hG ♊		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	93	45.8	183	19.8	-23	40.4	175	43.1	-24	04.7	339	41.9	+21	49.2	96	42.7	-3	45.9	
1	108	48.2	198	18.8		40.5	190	43.5		04.6	354	44.7		49.3	111	45.1		45.8	
2	123	50.7	213	17.8		40.6	205	43.9		04.6	9	47.5		49.4	126	47.4		45.8	
3	138	53.2	228	16.8		40.7	220	44.3		04.5	24	50.2		49.4	141	49.8		45.7	
4	153	55.6	243	15.9		40.7	235	44.7		04.4	39	53.0		49.5	156	52.1		45.7	
5	168	58.1	258	14.9	-23	40.8	250	45.1	-24	04.3	54	55.8	+21	49.5	171	54.5	-3	45.6	
6	184	00.5	273	13.9	-23	40.9	265	45.4	-24	04.2	69	58.6	+21	49.6	186	56.8	-3	45.6	
7	199	03.0	288	13.0		41.0	280	45.8		04.1	85	01.4		49.6	201	59.2		45.5	
8	214	05.5	303	12.0		41.1	295	46.2		04.0	100	04.2		49.7	217	01.6		45.4	
9	229	07.9	318	11.0		41.1	310	46.6		03.9	115	07.0		49.7	232	03.9		45.4	
10	244	10.4	333	10.0		41.2	325	47.0		03.8	130	09.8		49.8	247	06.3		45.3	
11	259	12.9	348	09.1	-23	41.3	340	47.3	-24	03.7	145	12.6	+21	49.9	262	08.6	-3	45.3	
12	274	15.3	3	08.1	-23	41.4	355	47.7	-24	03.6	160	15.3	+21	49.9	277	11.0	-3	45.2	
13	289	17.8	18	07.1		41.4	10	48.1		03.5	175	18.1		50.0	292	13.4		45.2	
14	304	20.3	33	06.1		41.5	25	48.5		03.4	190	20.9		50.0	307	15.7		45.1	
15	319	22.7	48	05.2		41.6	40	48.9		03.4	205	23.7		50.1	322	18.1		45.1	
16	334	25.2	63	04.2		41.7	55	49.2		03.3	220	26.5		50.1	337	20.4		45.0	
17	349	27.6	78	03.2	-23	41.7	70	49.6	-24	03.2	235	29.3	+21	50.2	352	22.8	-3	44.9	
18	4	30.1	93	02.3	-23	41.8	85	50.0	-24	03.1	250	32.1	+21	50.3	7	25.1	-3	44.9	
19	19	32.6	108	01.3		41.9	100	50.4		03.0	265	34.9		50.3	22	27.5		44.8	
20	34	35.0	123	00.3		41.9	115	50.8		02.9	280	37.7		50.4	37	29.8		44.8	
21	49	37.5	137	59.3		42.0	130	51.1		02.8	295	40.5		50.4	52	32.2		44.7	
22	64	40.0	152	58.4		42.0	145	51.5		02.7	310	43.2		50.5	67	34.6		44.7	
23	79	42.4	167	57.4		42.1	160	51.9		02.6	325	46.0		50.5	82	36.9		44.6	
24	94	44.9	182	56.4	-23	42.2	175	52.3	-24	02.5	340	48.8	+21	50.6	97	39.3	-3	44.5	
Dif	—		-10		-1		+4		+1		+28		+1		+24		+1		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna						
	SD: 16 ^h 3 PMG:12 ^h 00.7 ^m				Edad: 5.9 ^d PHE { 4 ^h : 57/1 12 ^h : 57/4 20 ^h : 57/6 R°: 47 ^m																				
	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	53.7	-23	21.8	111	05.8			-6	51.3	151	60 N	14	58	15	56	16	52	11	24	1	23	10	96	
1	194	53.3		21.7	125	39.0	142			36.2	152	58	15	15	16	07	17	00		22	4		11	92	
2	209	53.0		21.6	140	12.2	142			21.0	152	56		30		17		06		20	7		11	89	
3	224	52.7		21.5	154	45.4	142		-6	05.7	153	54		43		26		13		19	9		12	85	
4	239	52.4		21.4	169	18.6	142		-5	50.5	152	52	15	54		35		18		17	12		12	83	
5	254	52.1	-23	21.3	183	51.8	142		-5	35.1	154	50	16	04	16	42	17	24	11	16	14	23	12	80	
6	269	51.8	-23	21.3	198	25.0	142		-5	19.8	153	45	16	24	16	58	17	35	11	12	20	23	13	75	
7	284	51.5		21.2	212	58.2	142		-5	04.4	154	40		41	17	11	46		10	23		14	70		
8	299	51.2		21.1	227	31.4	142		-4	49.0	154	35	16	55		23	17	55		07	28		14	66	
9	314	50.9		21.0	242	04.6	142			33.5	155	30	17	07		34	18	04		05	31		15	62	
10	329	50.6		20.9	256	37.8	142			18.0	155	20		29	17	53		20	11	02	36		15	57	
11	344	50.3	-23	20.8	271	11.0	142		-4	02.5	155	10 N	17	47	18	10	18	36	10	59	41	23	16	52	
12	359	50.0	-23	20.7	285	44.1	141		-3	46.9	156	0	18	04	18	27	18	53	10	56	46	23	17	46	
13	14	49.6		20.6	300	17.3	142			31.3	156	10 S		22	18	45	19	12		53	51		17	42	
14	29	49.3		20.5	314	50.4	141		-3	15.7	156	20	18	41	19	05	19	35		50	56		18	37	
15	44	49.0		20.4	329	23.6	142		-3	00.0	157	30	19	03		30	20	04		46	62		19	31	
16	59	48.7		20.3	343	56.7	141		-2	44.4	156	35		16	19	45		22		44	65		19	28	
17	74	48.4	-23	20.2	358	29.8	141		-2	28.7	157	40	19	31	20	04	20	45	10	42	69	23	19	24	
18	89	48.1	-23	20.1	13	02.9	141		-2	12.9	157	45	19	49	20	26	21	16	10	39	73	23	20	20	
19	104	47.8		20.0	27	36.0	141		-1	57.2	157	50	20	11	20	56	22	01		36	79		20	15	
20	119	47.5		19.9	42	09.0	140			41.4	158	52	22	22	21	11	22	28		34	82		21	12	
21	134	47.2		19.8	56	42.1	141			25.6	158	54		34		29	23	14		32	85		21	10	
22	149	46.9		19.7	71	15.1	140		-1	09.7	159	56	20	48	21	51	**	**		31	87		21	7	
23	164	46.6		19.6	85	48.1	140		-0	53.9	158	58	21	05	22	20	**	**		28	91		22	4	
24	179	46.3	-23	19.5	100	21.0	139		-0	38.0	159	60 S	21	25	23	09	**	**		10	26	95	23	22	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 17 ^h 38.1 ^m		Mag: -3.9 PMG: 11 ^h 49 ^m		Mag: +1.1 PMG: 12 ^h 16 ^m		Mag: -2.7 PMG: 1 ^h 17 ^m		Mag: +1.0 PMG: 17 ^h 27 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	94	44.9	182	56.4	-23	42.2	175	52.3	-24	02.5	340	48.8	+21	50.6	97	39.3	-3	44.5
1	109	47.4	197	55.4		42.2	190	52.7		02.4	355	51.6		50.6	112	41.6		44.5
2	124	49.8	212	54.5		42.3	205	53.1		02.3	10	54.4		50.7	127	44.0		44.4
3	139	52.3	227	53.5		42.3	220	53.4		02.2	25	57.2		50.8	142	46.3		44.4
4	154	54.8	242	52.5		42.4	235	53.8		02.1	41	00.0		50.8	157	48.7		44.3
5	169	57.2	257	51.5	-23	42.4	250	54.2	-24	02.0	56	02.8	+21	50.9	172	51.0	-3	44.3
6	184	59.7	272	50.6	-23	42.5	265	54.6	-24	01.9	71	05.6	+21	50.9	187	53.4	-3	44.2
7	200	02.1	287	49.6		42.5	280	55.0		01.8	86	08.4		51.0	202	55.8		44.2
8	215	04.6	302	48.6		42.6	295	55.3		01.7	101	11.2		51.0	217	58.1		44.1
9	230	07.1	317	47.6		42.6	310	55.7		01.5	116	14.0		51.1	233	00.5		44.0
10	245	09.5	332	46.7		42.7	325	56.1		01.4	131	16.7		51.1	248	02.8		44.0
11	260	12.0	347	45.7	-23	42.7	340	56.5	-24	01.3	146	19.5	+21	51.2	263	05.2	-3	43.9
12	275	14.5	2	44.7	-23	42.8	355	56.9	-24	01.2	161	22.3	+21	51.3	278	07.5	-3	43.9
13	290	16.9	17	43.8		42.8	10	57.2		01.1	176	25.1		51.3	293	09.9		43.8
14	305	19.4	32	42.8		42.9	25	57.6		01.0	191	27.9		51.4	308	12.2		43.8
15	320	21.9	47	41.8		42.9	40	58.0		00.9	206	30.7		51.4	323	14.6		43.7
16	335	24.3	62	40.8		42.9	55	58.4		00.8	221	33.5		51.5	338	16.9		43.6
17	350	26.8	77	39.9	-23	43.0	70	58.8	-24	00.7	236	36.3	+21	51.5	353	19.3	-3	43.6
18	5	29.3	92	38.9	-23	43.0	85	59.1	-24	00.6	251	39.1	+21	51.6	8	21.6	-3	43.5
19	20	31.7	107	37.9		43.0	100	59.5		00.5	266	41.9		51.7	23	24.0		43.5
20	35	34.2	122	36.9		43.1	115	59.9		00.4	281	44.7		51.7	38	26.4		43.4
21	50	36.6	137	36.0		43.1	131	00.3		00.3	296	47.5		51.8	53	28.7		43.4
22	65	39.1	152	35.0		43.1	146	00.7	-24	00.1	311	50.3		51.8	68	31.1		43.3
23	80	41.6	167	34.0		43.2	161	01.0	-24	00.0	326	53.1		51.9	83	33.4		43.2
24	95	44.0	182	33.0	-23	43.2	176	01.4	-23	59.9	341	55.9	+21	51.9	98	35.8	-3	43.2
Dif	—		-10		0		+4		+1		+28		+1		+24		+	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/3 PMG:12 ^h 01.2 ^m			Edad: 6.9 ^d PHE { 4 ^h : 57/8 12 ^h : 58/1 20 ^h : 58/3 PMG: 17 ^h 51 ^m R°: 47 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	h	m
0	179	46.3	-23	19.5	100	21.0	-0	38.0	60 N	7 09	8 06	9 04	11 24	**	**	**	**	
1	194	45.9		19.4	114	54.0		22.1	58	7 02	7 54	8 46	25	3	**	**	**	
2	209	45.6		19.3	129	26.9		06.2	56	6 55	44	32	26	6	**	**	**	
3	224	45.3		19.2	143	59.7		09.7	54	49	35	19	27	9	**	**	**	
4	239	45.0		19.1	158	32.6		25.6	52	43	27	8 08	28	12	**	**	**	
5	254	44.7	-23	19.0	173	05.4	+0	41.6	50	6 38	7 20	7 58	11 29	14	**	**	**	
6	269	44.4	-23	18.8	187	38.2	+0	57.5	45	6 26	7 04	7 38	11 31	19	**	**	**	
7	284	44.1		18.7	202	10.9	+1	13.5	40	16	6 50	21	32	24	**	**	**	
8	299	43.8		18.6	216	43.7		29.5	35	6 07	39	7 07	33	28	**	**	**	
9	314	43.5		18.5	231	16.3	+1	45.5	30	5 58	28	6 54	35	30	**	**	**	
10	329	43.2		18.4	245	49.0	+2	01.5	20	42	6 09	33	37	36	**	**	**	
11	344	42.9	-23	18.3	260	21.6	+2	17.5	10 N	5 26	5 52	6 15	11 39	41	**	**	**	
12	359	42.6	-23	18.2	274	54.1	+2	33.5	0	5 09	5 35	5 57	11 40	47	**	**	**	
13	14	42.3		18.1	289	26.6	+2	49.6	10 S	4 50	5 17	40	42	52	23	58	43	
14	29	42.0		17.9	303	59.1	+3	05.6	20	4 27	4 56	5 21	44	57	53	38		
15	44	41.7		17.8	318	31.5		21.6	30	3 58	32	4 59	46	63	48	32		
16	59	41.3		17.7	333	03.9		37.6	35	40	4 16	46	48	66	45	29		
17	74	41.0	-23	17.6	347	36.2	+3	53.7	40	3 17	3 58	4 31	11 49	70	23	42	25	
18	89	40.7	-23	17.5	2	08.5	+4	09.7	45	2 46	3 36	4 13	11 51	75	23	38	21	
19	104	40.4		17.3	16	40.7		25.7	50	2 01	3 06	3 51	53	81	34	15		
20	119	40.1		17.2	31	12.9		41.8	52	1 33	2 51	40	54	83	32	12		
21	134	39.8		17.1	45	45.0	+4	57.8	54	0 48	33	28	55	86	29	10		
22	149	39.5		17.0	60	17.1	+5	13.8	56	** **	2 11	3 14	56	90	27	7		
23	164	39.2		16.9	74	49.1		29.8	58	** **	1 42	2 57	58	92	24	4		
24	179	38.9	-23	16.7	89	21.0	+5	45.8	60 S	** **	0 53	2 37	11 59	97	23	21	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 17 ^h 34.2 ^m		Mag: -3.9 PMG: 11 ^h 51 ^m		Mag: +1.1 PMG: 12 ^h 16 ^m		Mag: -2.7 PMG: 1 ^h 12 ^m		Mag: +1.0 PMG: 17 ^h 23 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	95	44.0	182	33.0	-23	43.2	176	01.4	-23	59.9	341	55.9	+21	51.9	98	35.8	-3	43.2
1	110	46.5	197	32.1		43.2	191	01.8		59.8	356	58.7		52.0	113	38.1		43.1
2	125	49.0	212	31.1		43.3	206	02.2		59.7	12	01.4		52.0	128	40.5		43.1
3	140	51.4	227	30.1		43.3	221	02.6		59.6	27	04.2		52.1	143	42.8		43.0
4	155	53.9	242	29.1		43.3	236	02.9		59.5	42	07.0		52.2	158	45.2		43.0
5	170	56.4	257	28.2	-23	43.3	251	03.3	-23	59.4	57	09.8	+21	52.2	173	47.5	-3	42.9
6	185	58.8	272	27.2	-23	43.3	266	03.7	-23	59.3	72	12.6	+21	52.3	188	49.9	-3	42.8
7	201	01.3	287	26.2		43.4	281	04.1		59.1	87	15.4		52.3	203	52.2		42.8
8	216	03.7	302	25.2		43.4	296	04.5		59.0	102	18.2		52.4	218	54.6		42.7
9	231	06.2	317	24.3		43.4	311	04.8		58.9	117	21.0		52.4	233	56.9		42.7
10	246	08.7	332	23.3		43.4	326	05.2		58.8	132	23.8		52.5	248	59.3		42.6
11	261	11.1	347	22.3	-23	43.4	341	05.6	-23	58.7	147	26.6	+21	52.6	264	01.6	-3	42.5
12	276	13.6	2	21.3	-23	43.4	356	06.0	-23	58.6	162	29.4	+21	52.6	279	04.0	-3	42.5
13	291	16.1	17	20.4		43.5	11	06.4		58.4	177	32.2		52.7	294	06.3		42.4
14	306	18.5	32	19.4		43.5	26	06.7		58.3	192	35.0		52.7	309	08.7		42.4
15	321	21.0	47	18.4		43.5	41	07.1		58.2	207	37.8		52.8	324	11.0		42.3
16	336	23.5	62	17.4		43.5	56	07.5		58.1	222	40.6		52.8	339	13.4		42.2
17	351	25.9	77	16.5	-23	43.5	71	07.9	-23	58.0	237	43.4	+21	52.9	354	15.7	-3	42.2
18	6	28.4	92	15.5	-23	43.5	86	08.3	-23	57.8	252	46.2	+21	53.0	9	18.1	-3	42.1
19	21	30.9	107	14.5		43.5	101	08.6		57.7	267	49.0		53.0	24	20.4		42.1
20	36	33.3	122	13.5		43.5	116	09.0		57.6	282	51.8		53.1	39	22.8		42.0
21	51	35.8	137	12.6		43.5	131	09.4		57.5	297	54.6		53.1	54	25.1		42.0
22	66	38.2	152	11.6		43.5	146	09.8		57.4	312	57.4		53.2	69	27.5		41.9
23	81	40.7	167	10.6		43.5	161	10.1		57.2	328	00.2		53.2	84	29.8		41.8
24	96	43.2	182	09.7	-23	43.5	176	10.5	-23	57.1	343	03.0	+21	53.3	99	32.2	-3	41.8
Dif	—		-10		0		+4		+1		+28		+1		+23		+1	

UT	SOL				LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16/3 PMG:12 ^h 01.7 ^m				Edad: 7.9 ^d SD: 15/9 PMG: 18 ^h 38 ^m							PHE { 4 ^h : 58/5 12 ^h : 58/8 20 ^h : 59/0 R°: 53 ^m								
	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	38.9	-23	16.7	89	21.0		+5	45.8	60 N	15	00	15	57	16	54		11	23	2
1	194	38.6		16.6	103	52.9	129	+6	01.8	58	17	16	09	17	01	28	6		41	97
2	209	38.3		16.5	118	24.7	128		17.7	56	32		19	08	32	10		38	93	
3	224	38.0		16.4	132	56.5	128		33.7	54	44		28	14	36	13		36	88	
4	239	37.7		16.2	147	28.1	126	+6	49.6	52	15	55	36	20	40	15		33	86	
5	254	37.4	-23	16.1	161	59.8	127	+7	05.6	50	16	05	16	43	17	25	11	43	18	
6	269	37.1	-23	16.0	176	31.3	125	+7	21.5	45	16	26	16	59	17	37	11	50	23	
7	284	36.8		15.8	191	02.8	125		37.4	40	42	17	13	47	11	56	28	22	78	
8	299	36.5		15.7	205	34.2	124	+7	53.2	35	16	56	25	17	56	12	01	32		
9	314	36.2		15.6	220	05.6	124	+8	09.1	30	17	09	35	18	05	05	36	16	65	
10	329	35.8		15.4	234	36.8	122		24.9	20	30	17	54	21	13	41		11	59	
11	344	35.5	-23	15.3	249	08.0	122	+8	40.7	10 N	17	48	18	11	18	37	12	20	47	
12	359	35.2	-23	15.2	263	39.1	121	+8	56.5	0	18	05	18	28	18	54	12	27	51	
13	14	34.9		15.0	278	10.2	121	+9	12.3	10 S	23	18	46	19	13	34	56	**	**	
14	29	34.6		14.9	292	41.1	119		28.0	20	18	42	19	06	19	35	41	61	**	
15	44	34.3		14.8	307	12.0	119		43.7	30	19	04	31	20	04	49	67	**	**	
16	59	34.0		14.6	321	42.8	118	+9	59.3	35	16	19	46	23	54	71	**	**	**	
17	74	33.7	-23	14.5	336	13.5	117	+10	15.0	40	19	31	20	04	20	46	12	59	75	
18	89	33.4	-23	14.4	350	44.1	116	+10	30.5	45	19	49	20	26	21	16	13	06	80	
19	104	33.1		14.2	5	14.7	116	+10	46.1	50	20	12	20	56	22	01	14	86		
20	119	32.8		14.1	19	45.1	114	+11	01.6	52	22	21	11	22	28	17	89	44	17	
21	134	32.5		13.9	34	15.5	114		17.1	54	34		28	23	11	21	92	39	14	
22	149	32.2		13.8	48	45.7	112		32.5	56	20	48	21	50	**	**	26	95	34	
23	164	31.9		13.6	63	15.9	112	+11	47.9	58	21	05	22	19	**	**	30	101	28	
24	179	31.6	-23	13.5	77	46.0	111	+12	03.3	60 S	21	25	23	06	**	**	13	36	105	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 ^h 30.2 ^m		Mag: -3.9 PMG: 11 ^h 52 ^m		Mag: +1.1 PMG: 12 ^h 15 ^m		Mag: -2.7 PMG: 1 ^h 08 ^m		Mag: +1.0 PMG: 17 ^h 19 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	96	43.2	182	09.7	-23	43.5	176	10.5	-23	57.1
1	111	45.6	197	08.7		43.5	191	10.9		57.0
2	126	48.1	212	07.7		43.5	206	11.3		56.9
3	141	50.6	227	06.7		43.5	221	11.7		56.7
4	156	53.0	242	05.8		43.5	236	12.0		56.6
5	171	55.5	257	04.8	-23	43.5	251	12.4	-23	56.5
6	186	58.0	272	03.8	-23	43.5	266	12.8	-23	56.4
7	202	00.4	287	02.8		43.5	281	13.2		56.2
8	217	02.9	302	01.9		43.4	296	13.6		56.1
9	232	05.4	317	00.9		43.4	311	13.9		56.0
10	247	07.8	331	59.9		43.4	326	14.3		55.9
11	262	10.3	346	58.9	-23	43.4	341	14.7	-23	55.7
12	277	12.7	1	58.0	-23	43.4	356	15.1	-23	55.6
13	292	15.2	16	57.0		43.4	11	15.5		55.5
14	307	17.7	31	56.0		43.3	26	15.8		55.4
15	322	20.1	46	55.0		43.3	41	16.2		55.2
16	337	22.6	61	54.1		43.3	56	16.6		55.1
17	352	25.1	76	53.1	-23	43.3	71	17.0	-23	55.0
18	7	27.5	91	52.1	-23	43.2	86	17.4	-23	54.8
19	22	30.0	106	51.1		43.2	101	17.7		54.7
20	37	32.5	121	50.2		43.2	116	18.1		54.6
21	52	34.9	136	49.2		43.2	131	18.5		54.4
22	67	37.4	151	48.2		43.1	146	18.9		54.3
23	82	39.8	166	47.2		43.1	161	19.3		54.2
24	97	42.3	181	46.3	-23	43.1	176	19.6	-23	54.0
Dif	—		-10		0		+4		+1	
									+28	
									+1	
									+23	
									+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 02.1 ^m			Edad: 8.9 ^d SD: 16'1 PMG: 19 ^h 29 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	h	m
0	179	31.6	-23	13.5	77	46.0	+12	03.3	153	60 N	7	10	8	06	9	03	2
1	194	31.3		13.4	92	16.0		18.6	152	58	7	02	7	55	8	46	7
2	209	31.0		13.2	106	45.8		33.8	152	56	6	55		44	32	41	11
3	224	30.7		13.1	121	15.6	+12	49.0	152	54		49		36	19	48	15
4	239	30.4		12.9	135	45.3	+13	04.2	152	52		44		27	8	08	11
5	254	30.1	-23	12.8	150	14.9	+13	19.2	150	50	6	39	7	20	7	58	12
6	269	29.8	-23	12.6	164	44.4	+13	34.3	151	45	6	27	7	04	7	38	12
7	284	29.5		12.5	179	13.8	+13	49.3	150	40		17	6	51	21	23	32
8	299	29.2		12.3	193	43.0	+14	04.2	149	35	6	08		39	7	07	31
9	314	28.9		12.2	208	12.2		19.1	149	30	5	59		29	6	55	39
10	329	28.6		12.0	222	41.3		33.9	148	20		43	6	10	34	12	53
11	344	28.3	-23	11.9	237	10.2	+14	48.6	147	10 N	5	27	5	53	6	16	13
12	359	28.0	-23	11.7	251	39.1	+15	03.3	147	0	5	10	5	36	5	58	13
13	14	27.7		11.6	266	07.8		17.9	146	10 S	4	51	5	18	41	28	59
14	29	27.4		11.4	280	36.4		32.4	145	20		28		4	58	22	41
15	44	27.1		11.2	295	04.9	+15	46.8	144	30	4	00		33	5	00	13
16	59	26.8		11.1	309	33.3	+16	01.2	144	35	3	41		18	4	47	14
17	74	26.4	-23	10.9	324	01.6	+16	15.5	143	40	3	18	4	00	4	33	14
18	89	26.1	-23	10.8	338	29.8	+16	29.8	143	45	2	48	3	37	4	15	14
19	104	25.8		10.6	352	57.8		43.9	141	50	2	03	3	08	3	52	38
20	119	25.5		10.5	7	25.8	+16	58.0	141	52	1	36	2	53	42	45	92
21	134	25.2		10.3	21	53.6	+17	12.0	140	54	0	53		35	29	14	52
22	149	24.9		10.1	36	21.3		25.9	139	56	**	**	2	14	3	15	15
23	164	24.6		10.0	50	48.8		39.7	138	58	**	**	1	45	2	59	09
24	179	24.3	-23	09.8	65	16.3	+17	53.4	137	60 S	**	**	0	58	2	39	15

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 17 ^h 26.3 ^m		Mag: -3.9 PMG: 11 ^h 54 ^m			Mag: +1.1 PMG: 12 ^h 14 ^m			Mag: -2.7 PMG: 1 ^h 03 ^m			Mag: +1.0 PMG: 17 ^h 15 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°			
0	97	42.3	181	46.3	-23	43.1	176	19.6	-23	54.0	344	10.2	+21	54.7			
1	112	44.8	196	45.3		43.0	191	20.0		53.9	359	13.0		54.7			
2	127	47.2	211	44.3		43.0	206	20.4		53.8	14	15.8		54.8			
3	142	49.7	226	43.4		43.0	221	20.8		53.6	29	18.6		54.8			
4	157	52.2	241	42.4		42.9	236	21.2		53.5	44	21.4		54.9			
5	172	54.6	256	41.4	-23	42.9	251	21.5	-23	53.4	59	24.2	+21	54.9			
6	187	57.1	271	40.4	-23	42.8	266	21.9	-23	53.2	74	27.0	+21	55.0			
7	202	59.6	286	39.5		42.8	281	22.3		53.1	89	29.8		55.0			
8	218	02.0	301	38.5		42.8	296	22.7		53.0	104	32.6		55.1			
9	233	04.5	316	37.5		42.7	311	23.1		52.8	119	35.4		55.2			
10	248	07.0	331	36.5		42.7	326	23.4		52.7	134	38.2		55.2			
11	263	09.4	346	35.6	-23	42.6	341	23.8	-23	52.5	149	41.0	+21	55.3			
12	278	11.9	1	34.6	-23	42.6	356	24.2	-23	52.4	164	43.8	+21	55.3			
13	293	14.3	16	33.6		42.5	11	24.6		52.3	179	46.6		55.4			
14	308	16.8	31	32.6		42.5	26	24.9		52.1	194	49.4		55.4			
15	323	19.3	46	31.7		42.4	41	25.3		52.0	209	52.2		55.5			
16	338	21.7	61	30.7		42.4	56	25.7		51.8	224	55.0		55.6			
17	353	24.2	76	29.7	-23	42.3	71	26.1	-23	51.7	239	57.8	+21	55.6			
18	8	26.7	91	28.8	-23	42.3	86	26.5	-23	51.6	255	00.7	+21	55.7			
19	23	29.1	106	27.8		42.2	101	26.8		51.4	270	03.5		55.7			
20	38	31.6	121	26.8		42.1	116	27.2		51.3	285	06.3		55.8			
21	53	34.1	136	25.8		42.1	131	27.6		51.1	300	09.1		55.8			
22	68	36.5	151	24.9		42.0	146	28.0		51.0	315	11.9		55.9			
23	83	39.0	166	23.9		42.0	161	28.4		50.8	330	14.7		56.0			
24	98	41.5	181	22.9	-23	41.9	176	28.7	-23	50.7	345	17.5	+21	56.0			
Dif	—		-10		0		+4		+1		+28		+1		+23		+1

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna				
	SD: 16'3 PMG:12 ^h 02.6 ^m				Edad: 9.9 ^d SD: 16'3 PMG: 20 ^h 25 ^m						PHE $\left\{ \begin{array}{l} 4^{\text{h}}: 59'9 \\ 12^{\text{h}}: 60'1 \\ 20^{\text{h}}: 60'3 \\ \text{R}^{\circ}: 63^{\text{m}} \end{array} \right.$									
	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	24.3	-23	09.8	65	16.3	83	+17	53.4	15 02	15 59	16 56	11 26	7	4 11	117				
1	194	24.0		09.6	79	43.6	82	+18	07.0	19	16 11	17 03		40 15	3 58	109				
2	209	23.7		09.5	94	10.8	80		20.6	34	21	10	11 52	21	47	103				
3	224	23.4		09.3	108	37.8	80		34.0	46	30	16	12 03	25	37	98				
4	239	23.1		09.1	123	04.8	80	+18	47.3	15 57	38	21	13 28		28	94				
5	254	22.8	-23	09.0	137	31.6	78	+19	00.6	16 07	16 45	17 27	12 21	32	3 20	91				
6	269	22.5	-23	08.8	151	58.3	77	+19	13.7	16 27	17 01	17 38	12 40	37	3 03	85				
7	284	22.2		08.6	166	24.9	76		26.8	44	14	48	12 55	42	2 50	80				
8	299	21.9		08.5	180	51.3	74		39.7	16 58	26	17 57	13 08	45	38	76				
9	314	21.6		08.3	195	17.6	73	+19	52.5	17 10	36	18 06	19 48		28	73				
10	329	21.3		08.1	209	43.8	72	+20	05.2	31	17 55	22	38 54	2	11	67				
11	344	21.0	-23	08.0	224	09.9	71	+20	17.8	17 49	18 12	18 38	13 55	58	1 56	63				
12	359	20.7	-23	07.8	238	35.8	69	+20	30.3	18 06	18 29	18 55	14 11	62	1 42	59				
13	14	20.4		07.6	253	01.6	68		42.6	24	18 47	19 14		27 66	28	54				
14	29	20.1		07.4	267	27.2	66	+20	54.9	18 42	19 07	19 36	14 45	69	1 13	50				
15	44	19.8		07.3	281	52.8	66	+21	07.0	19 04	32	20 05	15 05	75	0 57	44				
16	59	19.5		07.1	296	18.2	64		19.0	17	19 47	23	17 77		47	41				
17	74	19.2	-23	06.9	310	43.4	62	+21	30.9	19 32	20 04	20 46	15 31	81	0 36	37				
18	89	18.9	-23	06.7	325	08.6	62	+21	42.6	19 49	20 27	21 16	15 47	86	0 23	32				
19	104	18.6		06.6	339	33.6	60	+21	54.2	20 12	20 56	22 00	16 07	92	07	27				
20	119	18.4		06.4	353	58.5	59	+22	05.7	22	21 11	22 27	17 95		0 00	23				
21	134	18.1		06.2	8	23.2	57		17.0	34	28	23 08	28 99	** ** *						
22	149	17.8		06.0	22	47.8	56		28.2	20 48	21 50	** ** *	40 104		23 57	26				
23	164	17.5		05.8	37	12.3	55		39.3	21 05	22 18	** ** *	16 55	111	42	20				
24	179	17.2	-23	05.7	51	36.7	54	+22	50.2	21 24	23 03	** ** *	17 12	121	23 24	10				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 17 ^h 22.4 ^m		Mag: -3.9 PMG: 11 ^h 55 ^m		Mag: +1.1 PMG: 12 ^h 14 ^m		Mag: -2.7 PMG: 0 ^h 59 ^m		Mag: +1.0 PMG: 17 ^h 12 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	98	41.5	181	22.9	-23	41.9	176	28.7	-23	50.7	345	17.5	+21	56.0	101	24.7	-3	38.9
1	113	43.9	196	22.0		41.8	191	29.1		50.6	0	20.3		56.1	116	27.0		38.8
2	128	46.4	211	21.0		41.8	206	29.5		50.4	15	23.1		56.1	131	29.4		38.7
3	143	48.8	226	20.0		41.7	221	29.9		50.3	30	25.9		56.2	146	31.7		38.7
4	158	51.3	241	19.0		41.6	236	30.3		50.1	45	28.7		56.2	161	34.1		38.6
5	173	53.8	256	18.1	-23	41.6	251	30.6	-23	50.0	60	31.5	+21	56.3	176	36.4	-3	38.5
6	188	56.2	271	17.1	-23	41.5	266	31.0	-23	49.8	75	34.3	+21	56.4	191	38.7	-3	38.5
7	203	58.7	286	16.1		41.4	281	31.4		49.7	90	37.1		56.4	206	41.1		38.4
8	219	01.2	301	15.1		41.3	296	31.8		49.5	105	39.9		56.5	221	43.4		38.4
9	234	03.6	316	14.2		41.3	311	32.2		49.4	120	42.7		56.5	236	45.8		38.3
10	249	06.1	331	13.2		41.2	326	32.5		49.2	135	45.5		56.6	251	48.1		38.2
11	264	08.6	346	12.2	-23	41.1	341	32.9	-23	49.1	150	48.3	+21	56.6	266	50.4	-3	38.2
12	279	11.0	1	11.3	-23	41.0	356	33.3	-23	48.9	165	51.2	+21	56.7	281	52.8	-3	38.1
13	294	13.5	16	10.3		41.0	11	33.7		48.8	180	54.0		56.8	296	55.1		38.0
14	309	16.0	31	09.3		40.9	26	34.1		48.6	195	56.8		56.8	311	57.4		38.0
15	324	18.4	46	08.3		40.8	41	34.4		48.5	210	59.6		56.9	326	59.8		37.9
16	339	20.9	61	07.4		40.7	56	34.8		48.3	226	02.4		56.9	342	02.1		37.8
17	354	23.3	76	06.4	-23	40.6	71	35.2	-23	48.2	241	05.2	+21	57.0	357	04.5	-3	37.8
18	9	25.8	91	05.4	-23	40.5	86	35.6	-23	48.0	256	08.0	+21	57.0	12	06.8	-3	37.7
19	24	28.3	106	04.5		40.4	101	35.9		47.9	271	10.8		57.1	27	09.1		37.7
20	39	30.7	121	03.5		40.4	116	36.3		47.7	286	13.6		57.2	42	11.5		37.6
21	54	33.2	136	02.5		40.3	131	36.7		47.5	301	16.4		57.2	57	13.8		37.5
22	69	35.7	151	01.5		40.2	146	37.1		47.4	316	19.2		57.3	72	16.2		37.5
23	84	38.1	166	00.6		40.1	161	37.5		47.2	331	22.0		57.3	87	18.5		37.4
24	99	40.6	180	59.6	-23	40.0	176	37.8	-23	47.1	346	24.8	+21	57.4	102	20.8	-3	37.3
Dif	—		-10		+1		+4		+2		+28		+1		+23		+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 03.1 ^m			Edad: 10.9 ^d SD: 16'4 PMG: 21 ^h 26 ^m PHE 4^h: 60'4 12^h: 60'6 20^h: 60'7 R°: 66^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	17.2	-23	05.7	51	36.7	52	+22	50.2	60 N	7 09	8 06	9 03	11 32	18	6 06	116
1	194	16.9		05.5	66	00.9	51	+23	01.0	58	7 02	7 54	8 46	11 54	27	5 45	106
2	209	16.6		05.3	80	25.0	50		11.6	56	6 56	44	31	12 12	33	28	99
3	224	16.3		05.1	94	49.0	48		22.1	54	50	36	19	27 38		14	94
4	239	16.0		04.9	109	12.8	47		32.4	52	44	28	8 08	40 41		5 01	91
5	254	15.7	-23	04.7	123	36.5	46	+23	42.6	50	6 39	7 20	7 59	12 52	44	4 50	88
6	269	15.4	-23	04.5	138	00.1	45	+23	52.6	45	6 27	7 05	7 38	13 16	49	4 27	82
7	284	15.1		04.4	152	23.6	43	+24	02.5	40	17	6 51	22	35 52		4 08	79
8	299	14.8		04.2	166	46.9	43		12.2	35	08	40	7 08	13 52	54	3 53	76
9	314	14.5		04.0	181	10.2	43		21.8	30	6 00	29	6 56	14 06	57	40	73
10	329	14.2		03.8	195	33.2	40		31.1	20	5 43	6 11	35	30 60		3 17	69
11	344	13.9	-23	03.6	209	56.2	40	+24	40.4	10 N	5 27	5 54	6 17	14 52	62	2 57	66
12	359	13.6	-23	03.4	224	19.1	39	+24	49.4	0	5 11	5 37	5 59	15 11	65	2 39	63
13	14	13.3		03.2	238	41.8	37	+24	58.3	10 S	4 52	5 19	42	31 68		21	59
14	29	13.0		03.0	253	04.4	36	+25	07.0	20	30	4 59	23	15 53	70	2 02	56
15	44	12.7		02.8	267	26.9	35		15.5	30	4 01	34	5 02	16 18	73	1 40	51
16	59	12.4		02.6	281	49.3	34		23.9	35	3 43	19	4 49	33 75		27	49
17	74	12.1	-23	02.4	296	11.6	33	+25	32.1	40	3 20	4 01	4 34	16 50	77	1 12	45
18	89	11.8	-23	02.2	310	33.8	32	+25	40.1	45	2 50	3 39	4 16	17 11	80	0 54	42
19	104	11.5		02.0	324	55.8	30		47.9	50	2 06	3 10	3 54	38 83		32	36
20	119	11.2		01.8	339	17.8	30	+25	55.5	52	1 39	2 55	44	17 51	85	22	33
21	134	10.9		01.6	353	39.6	28	+26	03.0	75	0 58	38	32	18 05	89	0 10	30
22	149	10.6		01.4	8	01.3	27		10.3	73	** **	2 16	18	23 92		** **	**
23	164	10.3		01.2	22	23.0	27		17.3	70	** **	1 48	3 01	18 44	99	** **	**
24	179	10.1	-23	01.0	36	44.5	25	+26	24.2	60 S	** **	1 03	2 42	19 11	110	23 33	27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 18.5 ^m		Mag: -3.9 PMG: 11 ^h 57 ^m		Mag: +1.1 PMG: 12 ^h 13 ^m		Mag: -2.7 PMG: 0 ^h 54 ^m		Mag: +1.0 PMG: 17 ^h 08 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	99	40.6	180	59.6	-23	40.0	176	37.8	-23	47.1
1	114	43.1	195	58.6		39.9	191	38.2		46.9
2	129	45.5	210	57.7		39.8	206	38.6		46.8
3	144	48.0	225	56.7		39.7	221	39.0		46.6
4	159	50.4	240	55.7		39.6	236	39.4		46.5
5	174	52.9	255	54.8	-23	39.5	251	39.7	-23	46.3
6	189	55.4	270	53.8	-23	39.4	266	40.1	-23	46.1
7	204	57.8	285	52.8		39.3	281	40.5		46.0
8	220	00.3	300	51.8		39.2	296	40.9		45.8
9	235	02.8	315	50.9		39.1	311	41.3		45.7
10	250	05.2	330	49.9		39.0	326	41.6		45.5
11	265	07.7	345	48.9	-23	38.9	341	42.0	-23	45.3
12	280	10.2	0	48.0	-23	38.8	356	42.4	-23	45.2
13	295	12.6	15	47.0		38.6	11	42.8		45.0
14	310	15.1	30	46.0		38.5	26	43.2		44.9
15	325	17.6	45	45.1		38.4	41	43.5		44.7
16	340	20.0	60	44.1		38.3	56	43.9		44.5
17	355	22.5	75	43.1	-23	38.2	71	44.3	-23	44.4
18	10	24.9	90	42.2	-23	38.1	86	44.7	-23	44.2
19	25	27.4	105	41.2		38.0	101	45.1		44.0
20	40	29.9	120	40.2		37.8	116	45.4		43.9
21	55	32.3	135	39.2		37.7	131	45.8		43.7
22	70	34.8	150	38.3		37.6	146	46.2		43.5
23	85	37.3	165	37.3		37.5	161	46.6		43.4
24	100	39.7	180	36.3	-23	37.3	176	47.0	-23	43.2
Dif	—		-10		+1		+4		+2	
							+28		+1	
									+23	
									+	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 03.6 ^m			Edad: 11.9 ^d SD: 16'5 PMG: 22 ^h 32 ^m PHE { 4 ^h : 60'8 12 ^h : 60'8 20 ^h : 60'9 R°: 69 ^m														
	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	179	10.1	-23	01.0		36	44.5	25	+26	24.2	67	60 N	15 05	16 02	16 58	11 50	52	
1	194	09.8		00.8		51	06.0	23		30.9	65	58	22	13	17 05	12 21	58	
2	209	09.5		00.6		65	27.3	23		37.4	63	56	36	23	12	12 45	61	
3	224	09.2		00.4		79	48.6	21		43.7	61	54	48	32	18	13 05	62	
4	239	08.9	-23	00.2		94	09.7	21		49.8	59	52	15 59	40	23	21 63	32	
5	254	08.6	-23	00.0		108	30.8	21	+26	55.7	59	50	16 09	16 47	17 28	13 36	63	
6	269	08.3	-22	59.8		122	51.8	20	+27	01.5	58	45	16 29	17 03	17 40	14 05	65	
7	284	08.0		59.6		137	12.7	19		07.0	55	40	45	16	50	27 66	27	
8	299	07.7		59.4		151	33.5	18		12.3	53	35	16 59	27	17 59	14 46	67	
9	314	07.4		59.2		165	54.3	18		17.4	51	30	17 11	38	18 07	15 03	67	
10	329	07.1		59.0		180	14.9	16		22.3	49	20	32	17 56	23	30 68	26	
11	344	06.8	-22	58.8		194	35.6	17	+27	27.0	47	10 N	17 50	18 13	18 39	15 54	68	
12	359	06.5	-22	58.6		208	56.1	15	+27	31.4	44	0	18 07	18 30	18 56	16 16	69	
13	14	06.2		58.3		223	16.6	15		35.7	43	10 S	25	18 47	19 14	16 39	68	
14	29	05.9		58.1		237	37.0	14		39.8	41	20	18 43	19 08	19 37	17 03	69	
15	44	05.6		57.9		251	57.3	13		43.6	38	30	19 05	32	20 05	31 69	31	
16	59	05.4		57.7		266	17.6	13		47.3	37	35	17	19 47	23	17 48	69	
17	74	05.1	-22	57.5		280	37.9	13	+27	50.7	34	40	19 32	20 05	20 46	18 07	69	
18	89	04.8	-22	57.3		294	58.1	12	+27	53.9	32	45	19 50	20 27	21 16	18 31	69	
19	104	04.5		57.1		309	18.2	11		56.9	30	50	20 12	20 55	21 59	19 01	69	
20	119	04.2		56.8		323	38.3	11	+27	59.7	28	52	22	21 10	22 25	16 69	0	
21	134	03.9		56.6		337	58.4	11	+28	02.2	25	54	34	27	23 04	34 69	40	
22	149	03.6		56.4		352	18.5	11		04.6	24	56	20 48	21 48	** **	19 55	69	
23	164	03.3		56.2		6	38.5	10		06.7	21	58	21 04	22 16	** **	20 23	67	
24	179	03.0	-22	56.0		20	58.4	9	+28	08.6	19	60 S	21 23	22 59	** **	21 01	66	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 17 ^h 14.5 ^m		Mag: -3.9 PMG: 11 ^h 58 ^m				Mag: +1.1 PMG: 12 ^h 13 ^m				Mag: -2.7 PMG: 0 ^h 50 ^m				Mag: +1.0 PMG: 17 ^h 04 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	° /		° /	° /		° /	° /		° /	° /		° /	° /		° /	° /		
0	100	39.7	180	36.3	-23	37.3		176	47.0	-23	43.2	347	32.3	+21	58.7	103	16.9	
1	115	42.2	195	35.4		37.2		191	47.3		43.0	2	35.1		58.8	118	19.2	
2	130	44.7	210	34.4		37.1		206	47.7		42.9	17	37.9		58.9	133	21.5	
3	145	47.1	225	33.4		37.0		221	48.1		42.7	32	40.7		58.9	148	23.9	
4	160	49.6	240	32.5		36.8		236	48.5		42.5	47	43.5		59.0	163	26.2	
5	175	52.1	255	31.5	-23	36.7		251	48.9	-23	42.4	62	46.3	+21	59.0	178	28.5	
6	190	54.5	270	30.5	-23	36.6		266	49.2	-23	42.2	77	49.1	+21	59.1	193	30.9	
7	205	57.0	285	29.6		36.4		281	49.6		42.0	92	52.0		59.1	208	33.2	
8	220	59.4	300	28.6		36.3		296	50.0		41.8	107	54.8		59.2	223	35.5	
9	236	01.9	315	27.6		36.2		311	50.4		41.7	122	57.6		59.3	238	37.9	
10	251	04.4	330	26.7		36.0		326	50.8		41.5	138	00.4		59.3	253	40.2	
11	266	06.8	345	25.7	-23	35.9		341	51.1	-23	41.3	153	03.2	+21	59.4	268	42.5	
12	281	09.3	0	24.7	-23	35.7		356	51.5	-23	41.2	168	06.0	+21	59.4	283	44.9	
13	296	11.8	15	23.8		35.6		11	51.9		41.0	183	08.8		59.5	298	47.2	
14	311	14.2	30	22.8		35.5		26	52.3		40.8	198	11.6		59.5	313	49.5	
15	326	16.7	45	21.8		35.3		41	52.7		40.6	213	14.4		59.6	328	51.9	
16	341	19.2	60	20.9		35.2		56	53.0		40.5	228	17.3		59.7	343	54.2	
17	356	21.6	75	19.9	-23	35.0		71	53.4	-23	40.3	243	20.1	+21	59.7	358	56.5	
18	11	24.1	90	18.9	-23	34.9		86	53.8	-23	40.1	258	22.9	+21	59.8	13	58.9	
19	26	26.6	105	18.0		34.7		101	54.2		39.9	273	25.7		59.8	29	01.2	
20	41	29.0	120	17.0		34.6		116	54.6		39.8	288	28.5		59.9	44	03.5	
21	56	31.5	135	16.0		34.4		131	54.9		39.6	303	31.3	+21	59.9	59	05.8	
22	71	33.9	150	15.1		34.3		146	55.3		39.4	318	34.1	+22	00.0	74	08.2	
23	86	36.4	165	14.1		34.1		161	55.7		39.2	333	37.0	+22	00.1	89	10.5	
24	101	38.9	180	13.2	-23	34.0		176	56.1	-23	39.1	348	39.8	+22	00.1	104	12.8	
Dif	—		-10		+1		+4		+2		+28		+1		+23		+1	

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'
1 - α And	<i>Alpheratz</i>	2.1	357	34.9	35.0	35.0	34.9	34.7	34.5	34.2	34.0	33.8	33.8	33.9
2 - β Cas	<i>Caph</i>	2.3	357	22.5	22.7	22.8	22.7	22.4	22.0	21.6	21.3	21.1	21.2	21.4
3 - γ Peg	<i>Algenib</i>	2.8	356	22.2	22.3	22.3	22.2	22.1	21.8	21.6	21.4	21.2	21.2	21.3
4 - α Phe	<i>Ankaa</i>	2.4	353	7.2	7.3	7.4	7.3	7.2	6.9	6.6	6.3	6.2	6.1	6.2
5 - α Cas	<i>Schedar</i>	2.2	349	31.2	31.4	31.5	31.4	31.2	30.8	30.4	30.1	29.9	29.8	30.0
6 - β Cet	<i>Diphda</i>	2.0	348	47.3	47.4	47.5	47.4	47.3	47.0	46.8	46.6	46.4	46.3	46.4
7 - γ Cas	<i>Navi</i>	2.4	345	26.7	27.0	27.1	27.1	26.8	26.5	26.0	25.7	25.4	25.3	25.5
8 - β And	<i>Mirach</i>	2.1	342	13.0	13.1	13.2	13.1	13.0	12.7	12.5	12.2	12.0	11.9	11.9
9 - α Eri	<i>Achernar</i>	0.5	335	20.1	20.4	20.5	20.6	20.5	20.2	19.9	19.5	19.2	19.1	19.3
10 - γ And	<i>Almak</i>	2.1	328	38.3	38.5	38.6	38.6	38.5	38.2	38.0	37.7	37.4	37.2	37.2
12 - α Ari	<i>Hamal</i>	2.0	327	51.1	51.2	51.3	51.3	51.2	51.0	50.8	50.5	50.3	50.2	50.1
11 - α UMi	<i>Polaris</i>	2.0	313	49.0	63.7	76.1	84.1	83.5	75.0	61.5	44.9	28.7	16.8	13.1
13 - θ Eri	<i>Acamar</i>	2.9	315	11.6	11.7	11.9	12.0	12.0	11.8	11.6	11.3	11.1	10.9	10.8
14 - α Cet	<i>Menkar</i>	2.5	314	6.0	6.1	6.2	6.2	6.2	6.0	5.8	5.6	5.4	5.2	5.1
15 - β Per	<i>Algol</i>	2.1	312	32.8	32.9	33.0	33.1	33.1	32.9	32.6	32.3	32.0	31.8	31.6
16 - α Per	<i>Mirfak</i>	1.8	308	28.0	28.1	28.3	28.4	28.4	28.2	27.9	27.5	27.2	26.9	26.7
17 - η Tau	<i>Alcyone</i>	2.9	302	45.1	45.2	45.4	45.4	45.4	45.3	45.1	44.8	44.6	44.3	44.1
18 - γ Eri	<i>Zaurak</i>	2.9	300	11.8	11.9	12.0	12.1	12.1	12.0	11.8	11.6	11.3	11.2	11.0
19 - α Tau	<i>Aldebaran</i>	0.9	290	39.3	39.4	39.5	39.6	39.7	39.6	39.4	39.1	38.9	38.7	38.5
20 - β Ori	<i>Rigel</i>	0.1	281	3.6	3.6	3.7	3.9	3.9	3.9	3.7	3.5	3.3	3.1	2.9
21 - α Aur	<i>Capella</i>	0.1	280	21.4	21.5	21.7	21.9	21.9	21.9	21.7	21.4	21.0	20.7	20.4
22 - γ Ori	<i>Bellatrix</i>	1.6	278	22.6	22.6	22.7	22.9	22.9	22.8	22.7	22.5	22.3	22.0	21.8
23 - β Tau	<i>Elnath</i>	1.7	278	1.5	1.6	1.7	1.8	1.9	1.8	1.6	1.4	1.2	0.9	0.7
24 - δ Ori	<i>Mintaka</i>	2.4	276	40.4	40.4	40.6	40.7	40.7	40.7	40.6	40.4	40.1	39.9	39.7
25 - ϵ Ori	<i>Alnilam</i>	1.7	275	37.4	37.5	37.6	37.7	37.8	37.7	37.6	37.4	37.2	36.9	36.6
26 - ζ Ori	<i>Alnitak</i>	1.8	274	29.3	29.4	29.5	29.6	29.7	29.6	29.5	29.3	29.1	28.9	28.5
27 - κ Ori	<i>Saiph</i>	2.1	272	45.5	45.6	45.7	45.8	45.9	45.8	45.7	45.5	45.3	45.1	44.8
28 - α Ori	<i>Betelgeuse</i>	0.4	270	51.7	51.8	51.9	52.0	52.1	52.0	51.9	51.7	51.5	51.3	50.9
29 - β Aur	<i>Menkalinan</i>	1.9	269	39.0	39.1	39.2	39.4	39.5	39.5	39.3	39.1	38.7	38.4	37.9
30 - β CMa	<i>Mirzam</i>	2.0	264	2.6	2.6	2.8	2.9	3.0	3.0	2.9	2.8	2.5	2.3	1.9
31 - α Car	<i>Canopus</i>	-0.7	263	51.9	52.0	52.2	52.5	52.7	52.8	52.7	52.6	52.3	52.0	51.5
32 - γ Gem	<i>Alhena</i>	1.9	260	12.3	12.3	12.4	12.5	12.6	12.6	12.5	12.3	12.1	11.8	11.4
33 - α CMa	<i>Sirius</i>	-1.5	258	25.9	25.9	26.0	26.2	26.3	26.3	26.2	26.1	25.8	25.6	25.2
34 - ϵ CMa	<i>Adhara</i>	1.5	255	5.5	5.5	5.6	5.8	5.9	6.0	5.9	5.8	5.6	5.3	4.9
35 - δ CMa	<i>Wezen</i>	1.8	252	38.5	38.5	38.6	38.8	38.9	38.9	38.9	38.8	38.6	38.3	37.9
36 - η CMa	<i>Aludra</i>	2.5	248	43.3	43.4	43.5	43.6	43.8	43.8	43.8	43.7	43.5	43.2	42.8
37 - α Gem	<i>Castor</i>	1.6	245	56.7	56.6	56.7	56.9	57.0	57.0	56.9	56.8	56.6	56.3	55.8
38 - α CMi	<i>Procyon</i>	0.4	244	50.5	50.4	50.5	50.6	50.7	50.8	50.7	50.6	50.4	50.2	49.7
39 - β Gem	<i>Pollux</i>	1.1	243	16.9	16.9	16.9	17.1	17.2	17.2	17.2	17.0	16.8	16.6	16.0
40 - ζ Pup	<i>Naos</i>	2.3	238	52.6	52.6	52.7	52.9	53.1	53.2	53.2	53.1	53.0	52.7	52.2
41 - γ Vel	<i>Regor</i>	1.8	237	25.0	25.0	25.1	25.4	25.6	25.7	25.7	25.7	25.5	25.2	24.6
42 - ϵ Car	<i>Avior</i>	1.9	234	14.1	14.1	14.3	14.6	14.9	15.1	15.2	15.2	15.0	14.6	13.9
43 - δ Velorum		2.0	228	38.6	38.6	38.7	39.0	39.2	39.4	39.5	39.5	39.3	39.0	38.4
44 - ζ Hydrae		3.1	225	48.9	48.8	48.9	49.0	49.1	49.1	49.1	49.1	48.9	48.7	48.2
45 - λ Vel	<i>Suhail</i>	2.2	222	45.9	45.8	45.9	46.0	46.2	46.3	46.4	46.4	46.3	46.1	45.5
46 - β Car	<i>Miaplacidus</i>	1.7	221	37.4	37.4	37.6	38.0	38.4	38.8	39.1	39.2	39.0	38.6	37.6
47 - ι Car	<i>Aspidiske</i>	2.3	220	33.2	33.1	33.2	33.5	33.7	34.0	34.1	34.2	34.0	33.7	33.0
48 - α Lyn	<i>Elvashak</i>	3.1	219	20.9	20.8	20.8	20.9	21.1	21.1	21.2	21.1	21.0	20.7	20.2
49 - α Hyd	<i>Alphard</i>	2.0	217	47.4	47.3	47.3	47.4	47.5	47.6	47.6	47.6	47.5	47.3	46.8
50 - α Leo	<i>Regulus</i>	1.4	207	34.1	34.0	34.0	34.0	34.1	34.2	34.2	34.2	34.1	34.0	33.5

ESTRELLAS, 2025
Posiciones aparentes377
DECLINACIÓN

Nº	NOMBRE	Mag		Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'	'
1 - α And	<i>Alpheratz</i>	2.1	+29	13.8	13.8	13.7	13.6	13.6	13.7	13.8	13.9	14.1	14.2	14.2	14.2
2 - β Cas	<i>Caph</i>	2.3	+59	17.5	17.4	17.3	17.2	17.1	17.1	17.2	17.4	17.5	17.7	17.8	17.9
3 - γ Peg	<i>Algenib</i>	2.8	+15	19.4	19.4	19.3	19.3	19.3	19.4	19.5	19.6	19.7	19.8	19.8	19.8
4 - α Phe	<i>Ankaa</i>	2.4	-42	10.4	10.4	10.3	10.1	10.0	9.8	9.7	9.7	9.8	9.9	10.0	10.1
5 - α Cas	<i>Schedar</i>	2.2	+56	40.7	40.7	40.5	40.4	40.4	40.4	40.4	40.6	40.7	40.9	41.0	41.1
6 - β Cet	<i>Diphda</i>	2.0	-17	51.1	51.1	51.0	51.0	50.8	50.7	50.6	50.6	50.5	50.6	50.6	50.7
7 - γ Cas	<i>Navi</i>	2.4	+60	51.4	51.3	51.2	51.1	51.0	51.0	51.1	51.2	51.3	51.5	51.7	51.8
8 - β And	<i>Mirach</i>	2.1	+35	45.4	45.3	45.2	45.2	45.1	45.2	45.2	45.3	45.5	45.6	45.7	45.7
9 - α Eri	<i>Achernar</i>	0.5	-57	6.9	6.8	6.7	6.5	6.4	6.2	6.1	6.1	6.1	6.2	6.4	6.5
10 - γ And	<i>Almak</i>	2.1	+42	27.2	27.2	27.1	27.0	26.9	26.9	27.0	27.1	27.2	27.3	27.4	27.5
12 - α Ari	<i>Hamal</i>	2.0	+23	34.9	34.9	34.9	34.8	34.8	34.9	34.9	35.0	35.1	35.2	35.2	35.3
11 - α UMi	<i>Polaris</i>	2.0	+89	22.5	22.5	22.5	22.3	22.2	22.1	22.0	22.0	22.1	22.2	22.4	22.6
13 - θ Eri	<i>Acamar</i>	2.9	-40	12.5	12.5	12.4	12.3	12.2	12.0	11.9	11.8	11.8	11.9	12.0	12.1
14 - α Cet	<i>Menkar</i>	2.5	+4	11.3	11.2	11.2	11.2	11.3	11.4	11.5	11.5	11.6	11.6	11.6	11.6
15 - β Per	<i>Algol</i>	2.1	+41	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.2	3.3	3.4	3.5
16 - α Per	<i>Mirfak</i>	1.8	+49	57.2	57.2	57.2	57.1	57.0	56.9	56.9	57.0	57.0	57.1	57.3	57.4
17 - η Tau	<i>Alcyone</i>	2.9	+24	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.1	11.1	11.2	11.2	11.2
18 - γ Eri	<i>Zaurak</i>	2.9	-13	26.3	26.4	26.4	26.3	26.2	26.1	26.0	25.9	25.9	25.9	26.0	26.1
19 - α Tau	<i>Aldebaran</i>	0.9	+16	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.7	33.7	33.7	33.7	33.7
20 - β Ori	<i>Rigel</i>	0.1	-8	10.4	10.5	10.5	10.5	10.4	10.3	10.2	10.1	10.1	10.1	10.2	10.3
21 - α Aur	<i>Capella</i>	0.1	+46	1.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.5
22 - γ Ori	<i>Bellatrix</i>	1.6	+6	22.3	22.3	22.3	22.3	22.3	22.4	22.4	22.5	22.5	22.5	22.5	22.4
23 - β Tau	<i>Elnath</i>	1.7	+28	37.8	37.8	37.8	37.8	37.7	37.7	37.7	37.7	37.7	37.7	37.8	37.8
24 - δ Ori	<i>Mintaka</i>	2.4	-0	16.9	16.9	16.9	16.9	16.9	16.8	16.7	16.7	16.6	16.6	16.7	16.8
25 - ϵ Ori	<i>Alnilam</i>	1.7	-1	11.2	11.2	11.2	11.2	11.2	11.1	11.1	11.0	11.0	11.0	11.0	11.1
26 - ζ Ori	<i>Alnitak</i>	1.8	-1	55.8	55.8	55.9	55.8	55.8	55.7	55.7	55.6	55.6	55.6	55.6	55.7
27 - κ Ori	<i>Saiph</i>	2.1	-9	39.7	39.8	39.8	39.8	39.7	39.6	39.5	39.4	39.4	39.4	39.5	39.6
28 - α Ori	<i>Betelgeuse</i>	0.4	+7	24.7	24.7	24.6	24.7	24.7	24.7	24.8	24.8	24.8	24.8	24.8	24.7
29 - β Aur	<i>Menkalinan</i>	1.9	+44	57.0	57.1	57.1	57.1	57.0	57.0	56.9	56.9	56.9	56.9	56.9	56.9
30 - β CMa	<i>Mirzam</i>	2.0	-17	58.1	58.2	58.3	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.9	58.1
31 - α Car	<i>Canopus</i>	-0.7	-52	42.6	42.7	42.8	42.8	42.7	42.6	42.4	42.2	42.2	42.2	42.3	42.4
32 - γ Gem	<i>Alhena</i>	1.9	+16	22.6	22.6	22.6	22.6	22.7	22.7	22.7	22.7	22.7	22.7	22.6	22.6
33 - α CMa	<i>Sirius</i>	-1.5	-16	45.1	45.2	45.2	45.2	45.2	45.1	45.0	44.9	44.8	44.8	44.9	45.0
34 - ϵ CMa	<i>Adhara</i>	1.5	-29	0.4	0.5	0.6	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.2	0.3
35 - δ CMa	<i>Wezen</i>	1.8	-26	26.0	26.1	26.2	26.2	26.1	26.0	25.9	25.8	25.7	25.7	25.8	26.0
36 - η CMa	<i>Aludra</i>	2.5	-29	21.1	21.3	21.3	21.3	21.3	21.2	21.1	21.0	20.9	20.9	21.0	21.1
37 - α Gem	<i>Castor</i>	1.6	+31	49.9	50.0	50.0	50.0	50.0	50.0	50.0	49.9	49.9	49.8	49.8	49.8
38 - α CMi	<i>Procyon</i>	0.4	+5	9.6	9.6	9.5	9.5	9.6	9.6	9.6	9.7	9.7	9.6	9.6	9.5
39 - β Gem	<i>Pollux</i>	1.1	+27	57.9	57.9	57.9	58.0	58.0	57.9	57.9	57.9	57.8	57.8	57.7	57.7
40 - ζ Pup	<i>Naos</i>	2.3	-40	4.4	4.5	4.6	4.7	4.7	4.6	4.5	4.3	4.2	4.2	4.3	4.4
41 - γ Vel	<i>Regor</i>	1.8	-47	24.6	24.7	24.8	24.9	24.9	24.8	24.7	24.5	24.4	24.4	24.4	24.6
42 - ϵ Car	<i>Avior</i>	1.9	-59	35.3	35.5	35.6	35.7	35.7	35.6	35.5	35.3	35.2	35.1	35.2	35.3
43 - δ Velorum		2.0	-54	47.9	48.1	48.3	48.3	48.4	48.3	48.2	48.0	47.9	47.8	47.9	48.0
44 - ζ Hydrae		3.1	+5	51.0	50.9	50.9	50.9	50.9	50.9	51.0	51.0	51.0	50.9	50.9	50.8
45 - λ Vel	<i>Suhail</i>	2.2	-43	31.9	32.1	32.2	32.3	32.3	32.3	32.2	32.0	31.9	31.9	31.9	32.0
46 - β Car	<i>Miaplacidus</i>	1.7	-69	49.0	49.2	49.4	49.5	49.6	49.5	49.4	49.2	49.1	49.0	49.0	49.1
47 - ι Car	<i>Aspidiske</i>	2.3	-59	22.7	22.9	23.0	23.1	23.2	23.1	23.0	22.9	22.7	22.6	22.7	22.8
48 - α Lyn	<i>Elvashak</i>	3.1	+34	17.1	17.1	17.2	17.2	17.2	17.2	17.2	17.1	17.0	16.9	16.9	16.8
49 - α Hyd	<i>Alphard</i>	2.0	-8	46.0	46.1	46.2	46.2	46.2	46.2	46.1	46.1	46.0	46.0	46.1	46.2
50 - α Leo	<i>Regulus</i>	1.4	+11	50.6	50.5	50.5	50.6	50.6	50.6	50.6	50.6	50.6	50.5	50.4	50.3

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	
			°	'	'	'	'	'	'	'	'	'	'	'	
51 - μ Velorum		2.7	198	2.0	1.8	1.8	1.9	2.0	2.2	2.3	2.4	2.4	2.2	1.9	1.6
52 - ν Hydrae		3.1	197	16.9	16.7	16.7	16.7	16.8	16.8	16.9	16.9	16.8	16.5	16.3	
53 - β UMa <i>Merak</i>		2.4	194	9.4	9.1	9.0	9.1	9.2	9.4	9.6	9.7	9.6	9.5	9.2	8.8
54 - α UMa <i>Dubhe</i>		1.8	193	40.5	40.2	40.1	40.2	40.4	40.7	40.9	41.0	40.9	40.7	40.4	40.0
55 - β Leo <i>Denebola</i>		2.1	182	24.8	24.6	24.5	24.5	24.5	24.6	24.6	24.7	24.7	24.6	24.4	24.2
56 - γ Crv <i>Gienah</i>		2.6	175	43.4	43.2	43.1	43.1	43.1	43.2	43.2	43.3	43.3	43.3	43.1	42.9
57 - α Cru <i>Acrux</i>		0.8	172	59.9	59.5	59.3	59.3	59.4	59.6	59.8	60.1	60.2	60.1	59.9	59.4
58 - γ Cru <i>Gacrux</i>		1.6	171	51.5	51.2	51.0	50.9	51.0	51.1	51.3	51.5	51.6	51.6	51.3	51.0
59 - γ Cen <i>Muhlifain</i>		2.2	169	16.4	16.1	15.9	15.9	15.9	16.0	16.1	16.3	16.4	16.3	16.1	15.8
60 - β Cru <i>Mimosa</i>		1.3	167	42.1	41.7	41.5	41.4	41.4	41.6	41.8	42.0	42.1	42.1	41.9	41.5
61 - ϵ UMa <i>Alioth</i>		1.8	166	12.8	12.5	12.3	12.2	12.3	12.4	12.6	12.8	13.0	12.9	12.8	12.5
62 - α^2 CVn <i>Cor Caroli</i>		2.9	165	41.9	41.6	41.4	41.4	41.4	41.5	41.6	41.7	41.8	41.8	41.7	41.4
63 - ϵ Vir <i>Vindemiatrix</i>		2.8	164	8.6	8.3	8.2	8.1	8.1	8.2	8.2	8.3	8.4	8.3	8.2	8.0
64 - ζ UMa <i>Mizar</i>		2.0	158	45.8	45.5	45.2	45.2	45.2	45.3	45.5	45.7	45.9	45.9	45.8	45.5
65 - α Vir <i>Spica</i>		1.0	158	22.3	22.0	21.9	21.8	21.8	21.8	21.8	21.9	22.0	22.0	21.9	21.7
66 - η UMa <i>Alkaid</i>		1.9	152	52.0	51.7	51.5	51.3	51.3	51.4	51.6	51.8	51.9	52.0	51.9	51.7
67 - β Cen <i>Hadad</i>		0.6	148	36.1	35.7	35.3	35.1	35.0	35.1	35.3	35.5	35.7	35.8	35.7	35.4
68 - θ Cen <i>Menkent</i>		2.1	147	57.7	57.4	57.2	57.0	56.9	57.0	57.0	57.2	57.3	57.3	57.2	57.0
69 - α Boo <i>Arcturus</i>		-0.1	145	47.9	47.7	47.5	47.4	47.3	47.4	47.4	47.5	47.6	47.7	47.6	47.4
70 - α^1 Cen <i>Rigel Kent.</i>		0.0	139	40.5	40.0	39.7	39.4	39.3	39.3	39.5	39.8	40.0	40.1	40.0	39.8
71 - α^2 Lib <i>Zubenelgenubi</i>		2.8	136	56.1	55.8	55.6	55.5	55.4	55.4	55.4	55.5	55.6	55.6	55.6	55.4
72 - β UMi <i>Kochab</i>		2.1	137	20.2	19.5	19.0	18.6	18.6	18.9	19.3	19.9	20.5	20.9	21.0	20.7
73 - β Lib <i>Zubeneschamali</i>		2.6	130	24.8	24.5	24.3	24.2	24.0	24.0	24.0	24.1	24.2	24.3	24.3	24.1
74 - α CrB <i>Alphecca</i>		2.2	126	3.9	3.6	3.4	3.3	3.1	3.1	3.2	3.3	3.4	3.5	3.5	3.4
75 - α Ser <i>Unukalhai</i>		2.6	123	37.6	37.4	37.2	37.0	36.9	36.8	36.8	36.9	37.0	37.1	37.1	37.0
76 - α Sco <i>Antares</i>		0.9	112	16.1	15.8	15.6	15.3	15.2	15.0	15.0	15.1	15.2	15.3	15.4	15.3
77 - α TrA <i>Atria</i>		1.9	107	10.7	10.2	9.6	9.0	8.6	8.4	8.4	8.6	9.0	9.3	9.5	9.4
78 - ϵ Scorpii		2.3	107	3.5	3.2	2.9	2.7	2.5	2.3	2.3	2.4	2.5	2.7	2.7	2.6
79 - η Oph <i>Sabik</i>		2.4	102	3.0	2.8	2.6	2.3	2.2	2.0	2.0	2.0	2.2	2.3	2.3	2.3
80 - α Her <i>Rasalgethi</i>		3.1	101	3.4	3.2	3.0	2.8	2.6	2.5	2.5	2.5	2.6	2.8	2.8	2.8
81 - λ Sco <i>Shaula</i>		1.6	96	10.7	10.4	10.2	9.9	9.6	9.5	9.4	9.5	9.6	9.7	9.8	9.8
82 - α Oph <i>Rasalhague</i>		2.1	95	58.8	58.6	58.4	58.2	58.0	57.9	57.8	57.9	58.0	58.1	58.2	58.2
83 - θ Sco <i>Sargas</i>		1.9	95	13.6	13.3	13.0	12.7	12.5	12.3	12.2	12.3	12.4	12.6	12.6	12.6
84 - γ Dra <i>Eltanin</i>		2.2	90	42.7	42.4	42.2	41.9	41.6	41.5	41.5	41.6	41.9	42.1	42.3	42.4
85 - ϵ Sgr <i>Kaus Australis</i>		1.8	83	32.9	32.6	32.4	32.1	31.9	31.6	31.5	31.6	31.7	31.8	31.9	31.9
86 - α Lyr <i>Vega</i>		0.0	80	33.6	33.5	33.2	33.0	32.7	32.6	32.5	32.6	32.7	32.9	33.1	33.1
87 - σ Sgr <i>Nunki</i>		2.1	75	48.1	47.9	47.7	47.4	47.2	47.0	46.8	46.8	46.9	47.0	47.2	47.2
88 - α Aql <i>Altair</i>		0.8	61	60.3	60.2	60.0	59.8	59.5	59.3	59.2	59.2	59.2	59.3	59.5	59.5
89 - γ Cyg <i>Sadr</i>		2.2	54	13.6	13.5	13.3	13.1	12.8	12.6	12.4	12.4	12.5	12.6	12.8	13.0
90 - α Pav <i>Peacock</i>		1.9	53	6.3	6.1	5.9	5.5	5.1	4.7	4.4	4.3	4.4	4.6	4.8	5.0
91 - α Cyg <i>Deneb</i>		1.3	49	26.3	26.2	26.1	25.8	25.5	25.2	25.1	25.0	25.1	25.3	25.5	25.6
92 - α Cep <i>Alderamin</i>		2.5	40	13.2	13.3	13.1	12.8	12.4	12.0	11.7	11.7	11.8	12.0	12.3	12.6
93 - ϵ Peg <i>Enif</i>		2.4	33	39.1	39.0	38.9	38.8	38.5	38.3	38.1	38.0	38.0	38.0	38.1	38.2
94 - δ Cap <i>Deneb Algedi</i>		2.8	32	54.0	53.9	53.8	53.6	53.4	53.1	52.9	52.8	52.8	52.8	52.9	53.0
95 - α Gru <i>Al Na'ir</i>		1.7	27	33.2	33.2	33.1	32.9	32.6	32.3	32.0	31.8	31.7	31.8	32.0	32.1
96 - β Gruis		2.1	18	57.9	57.9	57.9	57.7	57.4	57.1	56.8	56.6	56.5	56.5	56.7	56.8
97 - α PsA <i>Fomalhaut</i>		1.2	15	14.7	14.7	14.7	14.6	14.3	14.1	13.8	13.6	13.5	13.5	13.6	13.7
98 - β Peg <i>Scheat</i>		2.4	13	45.4	45.5	45.4	45.3	45.1	44.8	44.6	44.4	44.3	44.3	44.4	44.5
99 - α Peg <i>Markab</i>		2.5	13	30.1	30.1	30.1	30.0	29.8	29.5	29.3	29.1	29.0	29.0	29.1	29.2

ESTRELLAS, 2025
Posiciones aparentes379
DECLINACIÓN

Nº	NOMBRE	Mag		Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'	'
51 - μ	Velorum	2.7	-49	33.0	33.2	33.3	33.5	33.5	33.5	33.5	33.4	33.2	33.1	33.1	33.2
52 - ν	Hydrae	3.1	-16	19.5	19.6	19.7	19.7	19.7	19.7	19.7	19.6	19.6	19.5	19.6	19.7
53 - β	UMa <i>Merak</i>	2.4	+56	14.6	14.7	14.8	14.9	15.0	15.0	15.0	14.9	14.7	14.5	14.4	14.3
54 - α	UMa <i>Dubhe</i>	1.8	+61	36.7	36.8	36.9	37.0	37.1	37.1	37.0	36.9	36.8	36.6	36.4	36.3
55 - β	Leo <i>Denebola</i>	2.1	+14	25.8	25.7	25.7	25.8	25.8	25.8	25.9	25.9	25.8	25.7	25.6	25.5
56 - γ	Crv <i>Gienah</i>	2.6	-17	40.8	40.9	41.0	41.1	41.1	41.1	41.1	41.0	41.0	41.0	41.0	41.1
57 - α	Cru <i>Acrux</i>	0.8	-63	14.0	14.2	14.3	14.5	14.6	14.7	14.7	14.7	14.5	14.4	14.3	14.3
58 - γ	Cru <i>Gacrux</i>	1.6	-57	15.0	15.1	15.3	15.4	15.6	15.6	15.6	15.6	15.5	15.3	15.3	15.2
59 - γ	Cen <i>Muhlifain</i>	2.2	-49	5.6	5.8	5.9	6.1	6.2	6.2	6.2	6.2	6.1	6.0	5.9	5.9
60 - β	Cru <i>Mimosa</i>	1.3	-59	49.3	49.4	49.6	49.8	49.9	50.0	50.0	49.9	49.8	49.7	49.6	49.6
61 - ε	UMa <i>Alioth</i>	1.8	+55	49.1	49.1	49.2	49.3	49.5	49.5	49.5	49.5	49.3	49.2	49.0	48.8
62 - α^2	CVn <i>Cor Caroli</i>	2.9	+38	10.7	10.7	10.7	10.8	10.9	11.0	11.0	11.0	10.9	10.8	10.6	10.5
63 - ε	Vir <i>Vindemiatrix</i>	2.8	+10	49.3	49.3	49.2	49.3	49.3	49.4	49.4	49.4	49.4	49.3	49.2	49.1
64 - ζ	UMa <i>Mizar</i>	2.0	+54	47.3	47.3	47.4	47.5	47.7	47.8	47.8	47.7	47.6	47.5	47.3	47.1
65 - α	Vir <i>Spica</i>	1.0	-11	17.5	17.6	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.8
66 - η	UMa <i>Alkaid</i>	1.9	+49	11.0	10.9	11.0	11.1	11.2	11.3	11.4	11.4	11.3	11.1	10.9	10.8
67 - β	Cen <i>Hadar</i>	0.6	-60	29.4	29.5	29.6	29.7	29.9	30.0	30.0	30.0	29.9	29.8	29.7	29.7
68 - θ	Cen <i>Menkent</i>	2.1	-36	29.4	29.5	29.6	29.8	29.8	29.9	29.9	29.9	29.8	29.8	29.7	29.7
69 - α	Boo <i>Arcturus</i>	-0.1	+19	2.9	2.8	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.0	2.9	2.7
70 - α^1	Cen <i>Rigil Kent.</i>	0.0	-60	56.1	56.2	56.3	56.4	56.5	56.7	56.7	56.7	56.7	56.5	56.4	56.4
71 - α^2	Lib <i>Zubenelgenubi</i>	2.8	-16	8.7	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
72 - β	UMi <i>Kochab</i>	2.1	+74	2.8	2.7	2.8	2.9	3.1	3.2	3.3	3.3	3.2	3.0	2.8	2.6
73 - β	Lib <i>Zubeneshamali</i>	2.6	-9	28.5	28.6	28.7	28.7	28.7	28.7	28.7	28.6	28.6	28.6	28.6	28.7
74 - α	CrB <i>Alphecca</i>	2.2	+26	37.6	37.5	37.5	37.6	37.7	37.8	37.8	37.9	37.9	37.8	37.7	37.5
75 - α	Ser <i>Unukalhai</i>	2.6	+6	20.7	20.6	20.6	20.6	20.6	20.7	20.8	20.8	20.8	20.8	20.7	20.6
76 - α	Sco <i>Antares</i>	0.9	-26	29.2	29.2	29.3	29.3	29.3	29.4	29.4	29.4	29.4	29.4	29.3	29.3
77 - α	TrA <i>Atria</i>	1.9	-69	4.1	4.1	4.1	4.2	4.3	4.4	4.6	4.6	4.7	4.6	4.5	4.4
78 - ε	Scorpii	2.3	-34	20.2	20.3	20.3	20.3	20.4	20.4	20.5	20.5	20.5	20.4	20.4	20.4
79 - η	Oph <i>Sabik</i>	2.4	-15	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4
80 - α	Her <i>Rasalgethi</i>	3.1	+14	21.6	21.5	21.4	21.5	21.5	21.6	21.7	21.8	21.8	21.8	21.7	21.6
81 - λ	Sco <i>Shaula</i>	1.6	-37	7.3	7.3	7.3	7.3	7.3	7.3	7.4	7.4	7.4	7.4	7.4	7.3
82 - α	Oph <i>Rasalhague</i>	2.1	+12	32.4	32.3	32.2	32.3	32.3	32.4	32.5	32.6	32.6	32.6	32.6	32.5
83 - θ	Sco <i>Sargas</i>	1.9	-43	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	0.9	0.9	0.8
84 - γ	Dra <i>Eltanin</i>	2.2	+51	28.9	28.8	28.7	28.8	28.9	29.0	29.2	29.3	29.4	29.4	29.3	29.1
85 - ε	Sgr <i>Kaus Australis</i>	1.8	-34	22.4	22.3	22.3	22.3	22.3	22.3	22.3	22.4	22.4	22.4	22.4	22.3
86 - α	Lyr <i>Vega</i>	0.0	+38	48.3	48.1	48.1	48.1	48.2	48.3	48.5	48.6	48.7	48.7	48.6	48.5
87 - σ	Sgr <i>Nunki</i>	2.1	-26	16.0	16.0	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9
88 - α	Aql <i>Altair</i>	0.8	+8	56.0	55.9	55.9	55.9	56.0	56.1	56.2	56.3	56.3	56.3	56.3	56.3
89 - γ	Cyg <i>Sadr</i>	2.2	+40	20.2	20.0	19.9	19.9	20.0	20.1	20.3	20.4	20.5	20.6	20.6	20.5
90 - α	Pav <i>Peacock</i>	1.9	-56	39.4	39.2	39.1	39.0	39.0	39.0	39.0	39.1	39.2	39.3	39.3	39.2
91 - α	Cyg <i>Deneb</i>	1.3	+45	22.2	22.0	21.9	21.9	21.9	22.1	22.2	22.4	22.5	22.6	22.6	22.6
92 - α	Cep <i>Alderamin</i>	2.5	+62	41.6	41.4	41.3	41.2	41.2	41.3	41.5	41.7	41.8	42.0	42.0	42.0
93 - ε	Peg <i>Enif</i>	2.4	+9	59.4	59.3	59.3	59.3	59.3	59.4	59.5	59.6	59.7	59.8	59.8	59.7
94 - δ	Cap <i>Deneb Algedi</i>	2.8	-16	0.9	0.9	0.9	0.8	0.7	0.6	0.6	0.5	0.5	0.6	0.6	0.6
95 - α	Gru <i>Al Na'ir</i>	1.7	-46	50.6	50.5	50.4	50.2	50.1	50.0	50.0	50.1	50.2	50.2	50.3	50.3
96 - β	Gruis	2.1	-46	45.4	45.3	45.2	45.1	44.9	44.8	44.8	44.9	44.9	45.0	45.1	45.1
97 - α	PsA <i>Fomalhaut</i>	1.2	-29	29.6	29.5	29.4	29.3	29.2	29.1	29.0	29.0	29.1	29.1	29.2	29.2
98 - β	Peg <i>Scheat</i>	2.4	+28	13.2	13.1	13.0	13.0	13.0	13.1	13.2	13.4	13.5	13.6	13.6	13.6
99 - α	Peg <i>Markab</i>	2.5	+15	20.4	20.4	20.3	20.3	20.3	20.4	20.6	20.7	20.8	20.8	20.8	20.8

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 - α Andromedae	<i>Alpheratz</i>	2.1	17 23	15 21	13 31	11 29	9 31	7 30	5 32
2 - β Cassiopeae	<i>Caph</i>	2.3	17 24	15 22	13 32	11 30	9 32	7 30	5 32
6 - β Ceti	<i>Diphda</i>	2.0	17 58	15 56	14 06	12 04	10 06	8 05	6 07
9 - α Eridani	<i>Achernar</i>	0.5	18 52	16 50	15 00	12 58	11 00	8 58	7 00
12 - α Arietis	<i>Hamal</i>	2.0	19 22	17 20	15 30	13 28	11 30	9 28	7 30
13 - θ Eridani	<i>Acamar</i>	2.9	20 12	18 10	16 20	14 18	12 20	10 19	8 21
16 - α Persei	<i>Mirfak</i>	1.8	20 39	18 37	16 47	14 45	12 47	10 45	8 47
19 - α Tauri	<i>Aldebaran</i>	0.9	21 50	19 48	17 58	15 56	13 58	11 56	9 59
20 - β Orionis	<i>Rigel</i>	0.1	22 28	20 27	18 36	16 35	14 37	12 35	10 37
21 - α Aurigae	<i>Capella</i>	0.1	22 31	20 29	18 39	16 37	14 39	12 38	10 40
22 - γ Orionis	<i>Bellatrix</i>	1.6	22 39	20 37	18 47	16 45	14 47	12 45	10 47
28 - α Orionis	<i>Betelgeuse</i>	0.4	23 09	21 07	19 17	17 15	15 17	13 15	11 17
31 - α Carinae	<i>Canopus</i>	-0.7	23 37	21 35	19 45	17 43	15 45	13 43	11 45
33 - α Canis Majoris	<i>Sirius</i>	-1.5	0 03	21 57	20 07	18 05	16 07	14 05	12 07
34 - ϵ Canis Majoris	<i>Adhara</i>	1.5	0 16	22 10	20 20	18 18	16 20	14 18	12 20
38 - α Canis Minoris	<i>Procyon</i>	0.4	0 57	22 51	21 01	18 59	17 01	14 59	13 01
39 - β Geminorum	<i>Pollux</i>	1.1	1 03	22 57	21 07	19 05	17 07	15 05	13 07
42 - ϵ Carinae	<i>Avior</i>	1.9	1 39	23 33	21 43	19 41	17 43	15 41	13 44
45 - λ Velorum	<i>Suhail</i>	2.2	2 25	0 23	22 29	20 27	18 29	16 27	14 29
46 - β Carinae	<i>Miaplacidus</i>	1.7	2 29	0 28	22 34	20 32	18 34	16 32	14 34
49 - α Hydrae	<i>Alphard</i>	2.0	2 45	0 43	22 49	20 47	18 49	16 47	14 49
50 - α Leonis	<i>Regulus</i>	1.4	3 26	1 24	23 30	21 28	19 30	17 28	15 30
54 - α Ursae Majoris	<i>Dubhe</i>	1.8	4 21	2 19	0 29	22 23	20 25	18 23	16 25
55 - β Leonis	<i>Denebola</i>	2.1	5 06	3 04	1 14	23 08	21 10	19 08	17 10
57 - α Crucis	<i>Acrux</i>	0.8	5 43	3 42	1 52	23 46	21 48	19 46	17 48
58 - γ Crucis	<i>Gacrux</i>	1.6	5 48	3 46	1 56	23 50	21 52	19 50	17 52
60 - β Crucis	<i>Mimosa</i>	1.3	6 05	4 03	2 13	0 11	22 09	20 07	18 09
61 - ϵ Ursae Majoris	<i>Alioth</i>	1.8	6 11	4 09	2 19	0 17	22 15	20 13	18 15
64 - ζ Ursae Majoris	<i>Mizar</i>	2.0	6 40	4 38	2 48	0 46	22 45	20 43	18 45
65 - α Virginis	<i>Spica</i>	1.0	6 42	4 40	2 50	0 48	22 46	20 44	18 46
68 - θ Centauri	<i>Menkent</i>	2.1	7 23	5 21	3 31	1 30	23 28	21 26	19 28
69 - α Bootis	<i>Arcturus</i>	-0.1	7 32	5 30	3 40	1 38	23 36	21 34	19 36
70 - α^1 Centauri	<i>Rigil Kent.</i>	0.0	7 56	5 55	4 04	2 03	0 05	21 59	20 01
72 - β Ursae Minoris	<i>Kochab</i>	2.1	8 06	6 04	4 14	2 12	0 14	22 08	20 10
74 - α Coronae Borealis	<i>Alphecca</i>	2.2	8 51	6 49	4 59	2 57	0 59	22 53	20 55
76 - α Scorpii	<i>Antares</i>	0.9	9 46	7 44	5 54	3 52	1 54	23 48	21 50
77 - α Trianguli Aust.	<i>Atria</i>	1.9	10 06	8 04	6 14	4 12	2 14	0 12	22 11
81 - λ Scorpii	<i>Shaula</i>	1.6	10 50	8 48	6 58	4 56	2 58	0 56	22 54
82 - α Ophiuchi	<i>Rasalhague</i>	2.1	10 51	8 49	6 59	4 57	2 59	0 57	22 55
84 - γ Draconis	<i>Eltanin</i>	2.2	11 12	9 10	7 20	5 18	3 20	1 18	23 16
85 - ϵ Sagittarii	<i>Kaus Australis</i>	1.8	11 40	9 38	7 48	5 46	3 49	1 47	23 45
86 - α Lyrae	<i>Vega</i>	0.0	11 52	9 50	8 00	5 58	4 00	1 59	0 01
87 - σ Sagittarii	<i>Nunki</i>	2.1	12 11	10 09	8 19	6 17	4 19	2 18	0 20
88 - α Aquilae	<i>Altair</i>	0.8	13 06	11 04	9 14	7 12	5 14	3 13	1 15
90 - α Pavonis	<i>Peacock</i>	1.9	13 42	11 40	9 50	7 48	5 50	3 48	1 50
91 - α Cygni	<i>Deneb</i>	1.3	13 56	11 54	10 04	8 03	6 05	4 03	2 05
93 - ϵ Pegasi	<i>Enif</i>	2.4	14 59	12 57	11 07	9 05	7 08	5 06	3 08
95 - α Gruis	<i>Al Na'ir</i>	1.7	15 24	13 22	11 32	9 30	7 32	5 30	3 32
97 - α Piscis Austrini	<i>Fomalhaut</i>	1.2	16 13	14 11	12 21	10 19	8 21	6 19	4 21
99 - α Pegasi	<i>Markab</i>	2.5	16 20	14 18	12 28	10 26	8 28	6 26	4 28

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	Se restará para obtener la hora del paso en otro día del mismo mes.	
1 - α Andromedae	<i>Alpheratz</i>	2.1	3 30	1 28	23 26	21 24	19 26	Día	Corr.
2 - β Cassiopeae	<i>Caph</i>	2.3	3 31	1 29	23 27	21 25	19 27	h m	
6 - β Ceti	<i>Diphda</i>	2.0	4 05	2 03	0 05	21 59	20 01	1	0 00
9 - α Eridani	<i>Achernar</i>	0.5	4 58	2 57	0 59	22 53	20 55	2	0 04
12 - α Arietis	<i>Hamal</i>	2.0	5 28	3 26	1 28	23 23	21 25	3	0 08
13 - θ Eridani	<i>Acamar</i>	2.9	6 19	4 17	2 19	0 17	22 15	4	0 12
16 - α Persei	<i>Mirfak</i>	1.8	6 46	4 44	2 46	0 44	22 42	5	0 16
19 - α Tauri	<i>Aldebaran</i>	0.9	7 57	5 55	3 57	1 55	23 53	6	0 20
20 - β Orionis	<i>Rigel</i>	0.1	8 35	6 33	4 35	2 33	0 35	7	0 24
21 - α Aurigae	<i>Capella</i>	0.1	8 38	6 36	4 38	2 36	0 38	8	0 28
22 - γ Orionis	<i>Bellatrix</i>	1.6	8 46	6 44	4 46	2 44	0 46	9	0 31
28 - α Orionis	<i>Betelgeuse</i>	0.4	9 16	7 14	5 16	3 14	1 16	10	0 35
31 - α Carinae	<i>Canopus</i>	-0.7	9 43	7 42	5 44	3 42	1 44	11	0 39
33 - α Canis Majoris	<i>Sirius</i>	-1.5	10 05	8 03	6 05	4 03	2 06	12	0 43
34 - ϵ Canis Majoris	<i>Adhara</i>	1.5	10 18	8 17	6 19	4 17	2 19	13	0 47
38 - α Canis Minoris	<i>Procyon</i>	0.4	10 59	8 58	7 00	4 58	3 00	14	0 51
39 - β Geminorum	<i>Pollux</i>	1.1	11 06	9 04	7 06	5 04	3 06	15	0 55
42 - ϵ Carinae	<i>Avior</i>	1.9	11 42	9 40	7 42	5 40	3 42	16	0 59
45 - λ Velorum	<i>Suhail</i>	2.2	12 27	10 26	8 28	6 26	4 28	17	1 03
46 - β Carinae	<i>Miaplacidus</i>	1.7	12 32	10 30	8 32	6 30	4 32	18	1 07
49 - α Hydrae	<i>Alphard</i>	2.0	12 47	10 45	8 47	6 46	4 48	19	1 11
50 - α Leonis	<i>Regulus</i>	1.4	13 28	11 26	9 28	7 26	5 28	20	1 15
54 - α Ursae Majoris	<i>Dubhe</i>	1.8	14 23	12 22	10 24	8 22	6 24	21	1 19
55 - β Leonis	<i>Denebola</i>	2.1	15 08	13 07	11 09	9 07	7 09	22	1 23
57 - α Crucis	<i>Acrux</i>	0.8	15 46	13 44	11 46	9 44	7 46	23	1 27
58 - γ Crucis	<i>Gacrux</i>	1.6	15 51	13 49	11 51	9 49	7 51	24	1 30
60 - β Crucis	<i>Mimosa</i>	1.3	16 07	14 05	12 07	10 05	8 07	25	1 34
61 - ϵ Ursae Majoris	<i>Alioth</i>	1.8	16 13	14 11	12 13	10 11	8 13	26	1 38
64 - ζ Ursae Majoris	<i>Mizar</i>	2.0	16 43	14 41	12 43	10 41	8 43	27	1 42
65 - α Virginis	<i>Spica</i>	1.0	16 44	14 42	12 45	10 43	8 45	28	1 46
68 - θ Centauri	<i>Menkent</i>	2.1	17 26	15 24	13 26	11 24	9 26	29	1 50
69 - α Bootis	<i>Arcturus</i>	-0.1	17 35	15 33	13 35	11 33	9 35	30	1 54
70 - α^1 Centauri	<i>Rigil Kent.</i>	0.0	17 59	15 57	13 59	11 57	9 59	31	1 58
72 - β Ursae Minoris	<i>Kochab</i>	2.1	18 08	16 06	14 08	12 06	10 09	Si el resultado es negativo sumar a este 23 ^h 56 ^m	
74 - α Coronae Borealis	<i>Alphecca</i>	2.2	18 53	16 51	14 53	12 52	10 54	2ª CORRECCIÓN	
76 - α Scorpii	<i>Antares</i>	0.9	19 48	17 46	15 48	13 47	11 49	Se aplicará para tener la hora civil del paso por otro meridiano.	
77 - α Trianguli Aust.	<i>Atria</i>	1.9	20 09	18 07	16 09	14 07	12 09	Long	Corr.
81 - λ Scorpii	<i>Shaula</i>	1.6	20 53	18 51	16 53	14 51	12 53	o	m
82 - α Ophiuchi	<i>Rasalhague</i>	2.1	20 53	18 51	16 53	14 52	12 54	180 W	-2
84 - γ Draconis	<i>Eltanin</i>	2.2	21 14	19 12	17 14	15 13	13 15	138 W	-1
85 - ϵ Sagittarii	<i>Kaus Australis</i>	1.8	21 43	19 41	17 43	15 41	13 43	46 W	0
86 - α Lyrae	<i>Vega</i>	0.0	21 55	19 53	17 55	15 53	13 55	46 E	+1
87 - σ Sagittarii	<i>Nunki</i>	2.1	22 14	20 12	18 14	16 12	14 14	136 E	+2
88 - α Aquilae	<i>Altair</i>	0.8	23 09	21 07	19 09	17 07	15 09	180 E	
90 - α Pavonis	<i>Peacock</i>	1.9	23 44	21 42	19 45	17 43	15 45		
91 - α Cygni	<i>Deneb</i>	1.3	0 03	21 57	19 59	17 57	15 59		
93 - ϵ Pegasi	<i>Enif</i>	2.4	1 06	23 00	21 02	19 00	17 02		
95 - α Gruis	<i>Al Na'ir</i>	1.7	1 30	23 24	21 26	19 25	17 27		
97 - α Piscis Austrini	<i>Fomalhaut</i>	1.2	2 19	0 17	22 16	20 14	18 16		
99 - α Pegasi	<i>Markab</i>	2.5	2 26	0 24	22 22	20 21	18 23		

DETERMINACIÓN DE LA LATITUD
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2025

TABLA I

h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.
$\circ$ / ' / "	$\circ$ / ' / "	$\circ$ / ' / "	$\circ$ / ' / "	$\circ$ / ' / "	$\circ$ / ' / "	$\circ$ / ' / "
0 00 -26.1	26 00 -35.4	52 00 -37.5	78 00 -32.0	104 00 -20.1	130 00 - 4.1	156 00 +12.8
0 30 -26.3	26 30 -35.5	52 30 -37.5	78 30 -31.9	104 30 -19.8	130 30 - 3.7	156 30 +13.1
1 00 -26.6	27 00 -35.6	53 00 -37.4	79 00 -31.7	105 00 -19.5	131 00 - 3.4	157 00 +13.4
1 30 -26.8	27 30 -35.7	53 30 -37.4	79 30 -31.5	105 30 -19.2	131 30 - 3.1	157 30 +13.7
2 00 -27.0	28 00 -35.8	54 00 -37.3	80 00 -31.3	106 00 -18.9	132 00 - 2.7	158 00 +14.0
2 30 -27.3	28 30 -35.9	54 30 -37.3	80 30 -31.1	106 30 -18.7	132 30 - 2.4	158 30 +14.3
3 00 -27.5	29 00 -36.0	55 00 -37.2	81 00 -30.9	107 00 -18.4	133 00 - 2.1	159 00 +14.6
3 30 -27.7	29 30 -36.1	55 30 -37.2	81 30 -30.8	107 30 -18.1	133 30 - 1.8	159 30 +14.9
4 00 -27.9	30 00 -36.2	56 00 -37.1	82 00 -30.6	108 00 -17.8	134 00 - 1.4	160 00 +15.2
4 30 -28.1	30 30 -36.3	56 30 -37.1	82 30 -30.4	108 30 -17.5	134 30 - 1.1	160 30 +15.5
5 00 -28.4	31 00 -36.4	57 00 -37.0	83 00 -30.2	109 00 -17.2	135 00 - 0.8	161 00 +15.8
5 30 -28.6	31 30 -36.5	57 30 -37.0	83 30 -30.0	109 30 -16.9	135 30 - 0.4	161 30 +16.1
6 00 -28.8	32 00 -36.5	58 00 -36.9	84 00 -29.8	110 00 -16.6	136 00 - 0.1	162 00 +16.4
6 30 -29.0	32 30 -36.6	58 30 -36.8	84 30 -29.6	110 30 -16.3	136 30 + 0.2	162 30 +16.7
7 00 -29.2	33 00 -36.7	59 00 -36.7	85 00 -29.4	111 00 -16.0	137 00 + 0.5	163 00 +17.0
7 30 -29.4	33 30 -36.8	59 30 -36.7	85 30 -29.2	111 30 -15.7	137 30 + 0.9	163 30 +17.3
8 00 -29.6	34 00 -36.8	60 00 -36.6	86 00 -28.9	112 00 -15.4	138 00 + 1.2	164 00 +17.6
8 30 -29.8	34 30 -36.9	60 30 -36.5	86 30 -28.7	112 30 -15.1	138 30 + 1.5	164 30 +17.9
9 00 -30.0	35 00 -37.0	61 00 -36.4	87 00 -28.5	113 00 -14.8	139 00 + 1.9	165 00 +18.2
9 30 -30.2	35 30 -37.0	61 30 -36.3	87 30 -28.3	113 30 -14.5	139 30 + 2.2	165 30 +18.5
10 00 -30.4	36 00 -37.1	62 00 -36.3	88 00 -28.1	114 00 -14.2	140 00 + 2.5	166 00 +18.7
10 30 -30.6	36 30 -37.2	62 30 -36.2	88 30 -27.9	114 30 -13.9	140 30 + 2.8	166 30 +19.0
11 00 -30.8	37 00 -37.2	63 00 -36.1	89 00 -27.6	115 00 -13.6	141 00 + 3.2	167 00 +19.3
11 30 -31.0	37 30 -37.3	63 30 -36.0	89 30 -27.4	115 30 -13.3	141 30 + 3.5	167 30 +19.6
12 00 -31.2	38 00 -37.3	64 00 -35.9	90 00 -27.2	116 00 -13.0	142 00 + 3.8	168 00 +19.9
12 30 -31.4	38 30 -37.3	64 30 -35.8	90 30 -27.0	116 30 -12.7	142 30 + 4.1	168 30 +20.1
13 00 -31.5	39 00 -37.4	65 00 -35.7	91 00 -26.7	117 00 -12.4	143 00 + 4.5	169 00 +20.4
13 30 -31.7	39 30 -37.4	65 30 -35.6	91 30 -26.5	117 30 -12.1	143 30 + 4.8	169 30 +20.7
14 00 -31.9	40 00 -37.5	66 00 -35.5	92 00 -26.3	118 00 -11.8	144 00 + 5.1	170 00 +21.0
14 30 -32.1	40 30 -37.5	66 30 -35.3	92 30 -26.0	118 30 -11.4	144 30 + 5.5	170 30 +21.2
15 00 -32.2	41 00 -37.5	67 00 -35.2	93 00 -25.8	119 00 -11.1	145 00 + 5.8	171 00 +21.5
15 30 -32.4	41 30 -37.6	67 30 -35.1	93 30 -25.6	119 30 -10.8	145 30 + 6.1	171 30 +21.8
16 00 -32.6	42 00 -37.6	68 00 -35.0	94 00 -25.3	120 00 -10.5	146 00 + 6.4	172 00 +22.1
16 30 -32.7	42 30 -37.6	68 30 -34.9	94 30 -25.1	120 30 -10.2	146 30 + 6.7	172 30 +22.3
17 00 -32.9	43 00 -37.6	69 00 -34.7	95 00 -24.8	121 00 - 9.9	147 00 + 7.1	173 00 +22.6
17 30 -33.1	43 30 -37.6	69 30 -34.6	95 30 -24.6	121 30 - 9.6	147 30 + 7.4	173 30 +22.8
18 00 -33.2	44 00 -37.7	70 00 -34.5	96 00 -24.3	122 00 - 9.2	148 00 + 7.7	174 00 +23.1
18 30 -33.4	44 30 -37.7	70 30 -34.3	96 30 -24.1	122 30 - 8.9	148 30 + 8.0	174 30 +23.4
19 00 -33.5	45 00 -37.7	71 00 -34.2	97 00 -23.8	123 00 - 8.6	149 00 + 8.4	175 00 +23.6
19 30 -33.7	45 30 -37.7	71 30 -34.1	97 30 -23.6	123 30 - 8.3	149 30 + 8.7	175 30 +23.9
20 00 -33.8	46 00 -37.7	72 00 -33.9	98 00 -23.3	124 00 - 8.0	150 00 + 9.0	176 00 +24.1
20 30 -34.0	46 30 -37.7	72 30 -33.8	98 30 -23.0	124 30 - 7.6	150 30 + 9.3	176 30 +24.4
21 00 -34.1	47 00 -37.7	73 00 -33.6	99 00 -22.8	125 00 - 7.3	151 00 + 9.6	177 00 +24.6
21 30 -34.2	47 30 -37.7	73 30 -33.5	99 30 -22.5	125 30 - 7.0	151 30 +10.0	177 30 +24.9
22 00 -34.4	48 00 -37.7	74 00 -33.3	100 00 -22.2	126 00 - 6.7	152 00 +10.3	178 00 +25.1
22 30 -34.5	48 30 -37.7	74 30 -33.2	100 30 -22.0	126 30 - 6.3	152 30 +10.6	178 30 +25.4
23 00 -34.6	49 00 -37.6	75 00 -33.0	101 00 -21.7	127 00 - 6.0	153 00 +10.9	179 00 +25.6
23 30 -34.8	49 30 -37.6	75 30 -32.9	101 30 -21.4	127 30 - 5.7	153 30 +11.2	179 30 +25.9
24 00 -34.9	50 00 -37.6	76 00 -32.7	102 00 -21.2	128 00 - 5.4	154 00 +11.5	180 00 +26.1
24 30 -35.0	50 30 -37.6	76 30 -32.5	102 30 -20.9	128 30 - 5.0	154 30 +11.8	180 30 +26.3
25 00 -35.1	51 00 -37.6	77 00 -32.4	103 00 -20.6	129 00 - 4.7	155 00 +12.2	181 00 +26.6
25 30 -35.3	51 30 -37.5	77 30 -32.2	103 30 -20.4	129 30 - 4.4	155 30 +12.5	181 30 +26.8
26 00 -35.4	52 00 -37.5	78 00 -32.0	104 00 -20.1	130 00 - 4.1	156 00 +12.8	182 00 +27.0

TABLA I

h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.	h.L. $\cap$ Corr.
$\circ$ / /	$\circ$ / /	$\circ$ / /	$\circ$ / /	$\circ$ / /	$\circ$ / /	$\circ$ / /	$\circ$ / /
182 00 +27.0	208 00 +35.8	234 00 +37.3	260 00 +31.3	286 00 +18.9	312 00 + 2.7	338 00 -14.0	
182 30 +27.3	208 30 +35.9	234 30 +37.3	260 30 +31.1	286 30 +18.7	312 30 + 2.4	338 30 -14.3	
183 00 +27.5	209 00 +36.0	235 00 +37.2	261 00 +30.9	287 00 +18.4	313 00 + 2.1	339 00 -14.6	
183 30 +27.7	209 30 +36.1	235 30 +37.2	261 30 +30.8	287 30 +18.1	313 30 + 1.8	339 30 -14.9	
184 00 +27.9	210 00 +36.2	236 00 +37.1	262 00 +30.6	288 00 +17.8	314 00 + 1.4	340 00 -15.2	
184 30 +28.1	210 30 +36.3	236 30 +37.1	262 30 +30.4	288 30 +17.5	314 30 + 1.1	340 30 -15.5	
185 00 +28.4	211 00 +36.4	237 00 +37.0	263 00 +30.2	289 00 +17.2	315 00 + 0.8	341 00 -15.8	
185 30 +28.6	211 30 +36.5	237 30 +37.0	263 30 +30.0	289 30 +16.9	315 30 + 0.4	341 30 -16.1	
186 00 +28.8	212 00 +36.5	238 00 +36.9	264 00 +29.8	290 00 +16.6	316 00 + 0.1	342 00 -16.4	
186 30 +29.0	212 30 +36.6	238 30 +36.8	264 30 +29.6	290 30 +16.3	316 30 - 0.2	342 30 -16.7	
187 00 +29.2	213 00 +36.7	239 00 +36.7	265 00 +29.4	291 00 +16.0	317 00 - 0.5	343 00 -17.0	
187 30 +29.4	213 30 +36.8	239 30 +36.7	265 30 +29.2	291 30 +15.7	317 30 - 0.9	343 30 -17.3	
188 00 +29.6	214 00 +36.8	240 00 +36.6	266 00 +28.9	292 00 +15.4	318 00 - 1.2	344 00 -17.6	
188 30 +29.8	214 30 +36.9	240 30 +36.5	266 30 +28.7	292 30 +15.1	318 30 - 1.5	344 30 -17.9	
189 00 +30.0	215 00 +37.0	241 00 +36.4	267 00 +28.5	293 00 +14.8	319 00 - 1.9	345 00 -18.2	
189 30 +30.2	215 30 +37.0	241 30 +36.3	267 30 +28.3	293 30 +14.5	319 30 - 2.2	345 30 -18.5	
190 00 +30.4	216 00 +37.1	242 00 +36.3	268 00 +28.1	294 00 +14.2	320 00 - 2.5	346 00 -18.7	
190 30 +30.6	216 30 +37.2	242 30 +36.2	268 30 +27.9	294 30 +13.9	320 30 - 2.8	346 30 -19.0	
191 00 +30.8	217 00 +37.2	243 00 +36.1	269 00 +27.6	295 00 +13.6	321 00 - 3.2	347 00 -19.3	
191 30 +31.0	217 30 +37.3	243 30 +36.0	269 30 +27.4	295 30 +13.3	321 30 - 3.5	347 30 -19.6	
192 00 +31.2	218 00 +37.3	244 00 +35.9	270 00 +27.2	296 00 +13.0	322 00 - 3.8	348 00 -19.9	
192 30 +31.4	218 30 +37.3	244 30 +35.8	270 30 +27.0	296 30 +12.7	322 30 - 4.1	348 30 -20.1	
193 00 +31.5	219 00 +37.4	245 00 +35.7	271 00 +26.7	297 00 +12.4	323 00 - 4.5	349 00 -20.4	
193 30 +31.7	219 30 +37.4	245 30 +35.6	271 30 +26.5	297 30 +12.1	323 30 - 4.8	349 30 -20.7	
194 00 +31.9	220 00 +37.5	246 00 +35.5	272 00 +26.3	298 00 +11.8	324 00 - 5.1	350 00 -21.0	
194 30 +32.1	220 30 +37.5	246 30 +35.3	272 30 +26.0	298 30 +11.4	324 30 - 5.5	350 30 -21.2	
195 00 +32.2	221 00 +37.5	247 00 +35.2	273 00 +25.8	299 00 +11.1	325 00 - 5.8	351 00 -21.5	
195 30 +32.4	221 30 +37.6	247 30 +35.1	273 30 +25.6	299 30 +10.8	325 30 - 6.1	351 30 -21.8	
196 00 +32.6	222 00 +37.6	248 00 +35.0	274 00 +25.3	300 00 +10.5	326 00 - 6.4	352 00 -22.1	
196 30 +32.7	222 30 +37.6	248 30 +34.9	274 30 +25.1	300 30 +10.2	326 30 - 6.7	352 30 -22.3	
197 00 +32.9	223 00 +37.6	249 00 +34.7	275 00 +24.8	301 00 + 9.9	327 00 - 7.1	353 00 -22.6	
197 30 +33.1	223 30 +37.6	249 30 +34.6	275 30 +24.6	301 30 + 9.6	327 30 - 7.4	353 30 -22.8	
198 00 +33.2	224 00 +37.7	250 00 +34.5	276 00 +24.3	302 00 + 9.2	328 00 - 7.7	354 00 -23.1	
198 30 +33.4	224 30 +37.7	250 30 +34.3	276 30 +24.1	302 30 + 8.9	328 30 - 8.0	354 30 -23.4	
199 00 +33.5	225 00 +37.7	251 00 +34.2	277 00 +23.8	303 00 + 8.6	329 00 - 8.4	355 00 -23.6	
199 30 +33.7	225 30 +37.7	251 30 +34.1	277 30 +23.6	303 30 + 8.3	329 30 - 8.7	355 30 -23.9	
200 00 +33.8	226 00 +37.7	252 00 +33.9	278 00 +23.3	304 00 + 8.0	330 00 - 9.0	356 00 -24.1	
200 30 +34.0	226 30 +37.7	252 30 +33.8	278 30 +23.0	304 30 + 7.6	330 30 - 9.3	356 30 -24.4	
201 00 +34.1	227 00 +37.7	253 00 +33.6	279 00 +22.8	305 00 + 7.3	331 00 - 9.6	357 00 -24.6	
201 30 +34.2	227 30 +37.7	253 30 +33.5	279 30 +22.5	305 30 + 7.0	331 30 -10.0	357 30 -24.9	
202 00 +34.4	228 00 +37.7	254 00 +33.3	280 00 +22.2	306 00 + 6.7	332 00 -10.3	358 00 -25.1	
202 30 +34.5	228 30 +37.7	254 30 +33.2	280 30 +22.0	306 30 + 6.3	332 30 -10.6	358 30 -25.4	
203 00 +34.6	229 00 +37.6	255 00 +33.0	281 00 +21.7	307 00 + 6.0	333 00 -10.9	359 00 -25.6	
203 30 +34.8	229 30 +37.6	255 30 +32.9	281 30 +21.4	307 30 + 5.7	333 30 -11.2	359 30 -25.9	
204 00 +34.9	230 00 +37.6	256 00 +32.7	282 00 +21.2	308 00 + 5.4	334 00 -11.5	360 00 -26.1	
204 30 +35.0	230 30 +37.6	256 30 +32.5	282 30 +20.9	308 30 + 5.0	334 30 -11.8		
205 00 +35.1	231 00 +37.6	257 00 +32.4	283 00 +20.6	309 00 + 4.7	335 00 -12.2		
205 30 +35.3	231 30 +37.5	257 30 +32.2	283 30 +20.4	309 30 + 4.4	335 30 -12.5		
206 00 +35.4	232 00 +37.5	258 00 +32.0	284 00 +20.1	310 00 + 4.1	336 00 -12.8		
206 30 +35.5	232 30 +37.5	258 30 +31.9	284 30 +19.8	310 30 + 3.7	336 30 -13.1		
207 00 +35.6	233 00 +37.4	259 00 +31.7	285 00 +19.5	311 00 + 3.4	337 00 -13.4		
207 30 +35.7	233 30 +37.4	259 30 +31.5	285 30 +19.2	311 30 + 3.1	337 30 -13.7		
208 00 +35.8	234 00 +37.3	260 00 +31.3	286 00 +18.9	312 00 + 2.7	338 00 -14.0		

DETERMINACIÓN DE LA LATITUD
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2025

TABLA II
(SIEMPRE POSITIVA)

hL [°]	ALTURA											
	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°
°	/	/	/	/	/	/	/	/	/	/	/	/
0	0.0	0.0	0.0	0.1	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	0.1	0.1	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	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
100	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
120	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
140	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
160	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4
180	0.0	0.0	0.0	0.1	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	0.1	0.1	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	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
280	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
300	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
320	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
340	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4
360	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2

TABLA III

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

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 ^m	10 ^m	15 ^m	20 ^m	25 ^m	30 ^m	35 ^m	40 ^m	45 ^m	50 ^m	55 ^m	60 ^m	65 ^m	70 ^m	75 ^m	80 ^m	85 ^m	90 ^m
°	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, 2025**

387

TABLA A				TABLA B = SOL (LIMBO INFERIOR)									
DEPRESIÓN DEL HORIZONTE				SEMIDIÁMETRO, REFRACCIÓN Y PARALAJE									
Elevación observador	Corrección	Elevación observador	Corrección	Altura apte.	Corrección	Altura apte.	Corrección	Altura apte.	Corrección	Altura apte.	Corrección	Correc. adicional 2025	
m	'	m	'	°	'	°	'	°	'	°	'		
1.6	-2.3	12.7	-6.4	6 15	+8.2	8 45	+10.2	13 23	+12.2	25 59	+14.2	Ene 1	+0'3
1.7	-2.4	13.1	-6.5	6 21	+8.3	8 54	+10.3	13 44	+12.3	27 12	+14.3	Ene 30	+0'2
1.9	-2.5	13.6	-6.6	6 27	+8.4	9 05	+10.4	14 06	+12.4	28 32	+14.4	Mar 6	+0'1
2.0	-2.6	14.0	-6.7	6 33	+8.5	9 15	+10.5	14 29	+12.5	29 59	+14.5	Mar 30	0'0
2.2	-2.7	14.4	-6.8	6 40	+8.6	9 26	+10.6	14 53	+12.6	31 34	+14.6	Abr 21	-0'1
2.3	-2.8	14.8	-6.9	6 46	+8.7	9 37	+10.7	15 18	+12.7	33 19	+14.7	May 15	-0'2
2.5	-2.9	15.3	-7.0	6 53	+8.8	9 47	+10.8	15 45	+12.8	35 16	+14.8	Jun 21	-0'3
2.7	-3.0	15.7	-7.1	7 00	+8.9	10 00	+10.9	16 13	+12.9	37 25	+14.9	Ago 4	-0'2
2.9	-3.1	16.2	-7.2	7 06	+9.0	10 12	+11.0	16 43	+13.0	39 49	+15.0	Sep 9	-0'1
3.1	-3.2	16.6	-7.3	7 14	+9.1	10 25	+11.1	17 14	+13.1	42 30	+15.1	Oct 3	0'0
3.3	-3.3	17.1	-7.4	7 21	+9.2	10 38	+11.2	17 47	+13.2	45 30	+15.2	Oct 25	+0'1
3.5	-3.4	17.6	-7.5	7 28	+9.3	10 52	+11.3	18 23	+13.3	48 53	+15.3	Nov 18	+0'2
3.7	-3.5	18.0	-7.6	7 36	+9.4	11 06	+11.4	19 01	+13.4	52 43	+15.4	Dic 24	+0'3
3.9	-3.6	18.5	-7.7	7 44	+9.5	11 21	+11.5	19 41	+13.5	57 01	+15.5	Dic 31	
4.2	-3.7	19.0	-7.8	7 52	+9.6	11 36	+11.6	20 24	+13.6	61 51	+15.6		
4.4	-3.8	19.5	-7.9	8 00	+9.7	11 52	+11.7	21 10	+13.7	67 16	+15.7		
4.7	-3.9	20.0	-8.0	8 08	+9.8	12 09	+11.8	21 59	+13.8	73 14	+15.8		
4.9	-4.0	20.5	-8.1	8 17	+9.9	12 26	+11.9	22 53	+13.9	79 42	+15.9		
5.2	-4.1	21.0	-8.2	8 26	+10.0	12 44	+12.0	23 50	+14.0	86 30	+16.0		
5.4	-4.2	21.5	-8.3	8 35	+10.1	13 03	+12.1	24 52	+14.1	90 00			
5.7	-4.3	22.1	-8.4	8 45	+10.2	13 23	+12.2	25 59	+14.2				
6.0	-4.4	22.6	-8.5										
6.2	-4.5	23.1	-8.6										
6.5	-4.6	23.7	-8.7										
6.8	-4.7	24.2	-8.8										
7.1	-4.8	24.8	-8.9										
7.4	-4.9	25.4	-9.0										
7.7	-5.0	25.9	-9.1										
8.0	-5.1	26.5	-9.2										
8.4	-5.2	27.1	-9.3										
8.7	-5.3	27.7	-9.4										
9.0	-5.4	28.3	-9.5										
9.4	-5.5	28.9	-9.6										
9.7	-5.6	29.5	-9.7										
10.1	-5.7	30.1	-9.8										
10.4	-5.8	30.7	-9.9										
10.8	-5.9	31.3	-10.0										
11.2	-6.0	32.0	-10.1										
11.6	-6.1	32.6	-10.2										
11.9	-6.2	33.3	-10.3										
12.3	-6.3	33.9	-10.4										
12.7		34.6											

TABLA C = PLANETAS Y ESTRELLAS									
REFRACCIÓN					PARALAJE (2025)				
Altura apte.	Corrección	Altura apte.	Corrección		Fechas	Venus para cualquier altura	Marte		
°	'	°	'				Altura aparente		
							< 30°	> 30° < 60°	> 60°
6 30	-7.8	14 00	-3.8	Ene 1	+0'2	+0'2	+0'2	+0'1	
6 40	-7.6	15 00	-3.6	Ene 30	+0'3	+0'2	+0'2	+0'1	
6 50	-7.5	16 00	-3.3	Feb 2	+0'3	+0'2	+0'1	+0'1	
7 15	-7.1	18 00	-3.0	Feb 22	+0'4	+0'2	+0'1	+0'1	
7 30	-6.9	19 00	-2.8	Mar 7	+0'4	+0'1	+0'1	+0'1	
7 45	-6.7	20 00	-2.6	Mar 12	+0'5	+0'1	+0'1	+0'1	
8 00	-6.5	21 00	-2.5	Mar 17	+0'5	+0'1	+0'1	0'0	
8 15	-6.3	22 00	-2.4	Abr 1	+0'4	+0'1	+0'1	0'0	
8 30	-6.2	24 00	-2.2	Abr 19	+0'3	+0'1	+0'1	0'0	
8 45	-6.0	26 00	-2.0	May 10	+0'2	+0'1	+0'1	0'0	
9 00	-5.9	28 00	-1.8	Jun 24	+0'1	+0'1	+0'1	0'0	
9 20	-5.7	32 00	-1.6	Jul 23	+0'1	+0'1	0'0	0'0	
9 40	-5.5	36 00	-1.3	Dic 31					
9 40	-5.5	36 00	-1.3						
10 00	-5.3	40 00	-1.2						
10 30	-5.1	45 00	-1.0						
11 00	-4.8	50 00	-0.8						
11 30	-4.6	60 00	-0.6						
12 00	-4.5	70 00	-0.4						
12 30	-4.3	80 00	-0.2						
13 00	-4.1	90 00	0.0						

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

**CORRECCIÓN POR REFRACCIÓN, PARALAJE Y SEMIDIÁMETRO
A APLICAR A LA ALTURA APARENTE DE LA LUNA**

Altura ap. °	LIMBO INFERIOR Paralaje Horizontal								Altura ap. °	LIMBO SUPERIOR Paralaje Horizontal							
	54'	55'	56'	57'	58'	59'	60'	61'		54'	55'	56'	57'	58'	59'	60'	61'
10	62.6	63.9	65.1	66.4	67.7	68.9	70.2	71.4	10	33.1	33.8	34.5	35.2	36.0	36.7	37.4	38.1
11	62.9	64.2	65.4	66.7	67.9	69.2	70.4	71.7	11	33.4	34.1	34.8	35.5	36.2	36.9	37.7	38.4
12	63.1	64.4	65.6	66.9	68.1	69.4	70.6	71.9	12	33.6	34.3	35.0	35.7	36.4	37.1	37.8	38.5
13	63.3	64.5	65.7	67.0	68.2	69.5	70.7	72.0	13	33.7	34.4	35.1	35.8	36.5	37.2	37.9	38.6
14	63.3	64.6	65.8	67.1	68.3	69.5	70.8	72.0	14	33.8	34.5	35.2	35.9	36.6	37.3	38.0	38.7
15	63.3	64.6	65.8	67.1	68.3	69.5	70.8	72.0	15	33.8	34.5	35.2	35.9	36.6	37.3	38.0	38.7
16	63.3	64.6	65.8	67.0	68.3	69.5	70.7	72.0	16	33.8	34.5	35.2	35.9	36.6	37.2	37.9	38.6
17	63.3	64.5	65.7	66.9	68.2	69.4	70.6	71.9	17	33.7	34.4	35.1	35.8	36.5	37.2	37.8	38.5
18	63.2	64.4	65.6	66.8	68.1	69.3	70.5	71.7	18	33.6	34.3	35.0	35.7	36.4	37.0	37.7	38.4
19	63.0	64.2	65.5	66.7	67.9	69.1	70.3	71.5	19	33.5	34.2	34.9	35.5	36.2	36.9	37.5	38.2
20	62.9	64.1	65.3	66.5	67.7	68.9	70.1	71.3	20	33.3	34.0	34.7	35.3	36.0	36.7	37.3	38.0
21	62.7	63.9	65.1	66.3	67.5	68.7	69.9	71.1	21	33.1	33.8	34.5	35.1	35.8	36.4	37.1	37.8
22	62.4	63.6	64.8	66.0	67.2	68.4	69.6	70.8	22	32.9	33.6	34.2	34.9	35.5	36.2	36.8	37.5
23	62.2	63.4	64.6	65.8	67.0	68.2	69.4	70.5	23	32.7	33.3	34.0	34.6	35.3	35.9	36.6	37.2
24	61.9	63.1	64.3	65.5	66.7	67.9	69.0	70.2	24	32.4	33.0	33.7	34.3	35.0	35.6	36.2	36.9
25	61.6	62.8	64.0	65.2	66.3	67.5	68.7	69.9	25	32.1	32.7	33.4	34.0	34.6	35.3	35.9	36.5
26	61.3	62.5	63.7	64.8	66.0	67.2	68.3	69.5	26	31.8	32.4	33.0	33.7	34.3	34.9	35.5	36.2
27	61.0	62.1	63.3	64.5	65.6	66.8	68.0	69.1	27	31.5	32.1	32.7	33.3	33.9	34.5	35.2	35.8
28	60.6	61.8	62.9	64.1	65.2	66.4	67.6	68.7	28	31.1	31.7	32.3	32.9	33.5	34.2	34.8	35.4
29	60.2	61.4	62.5	63.7	64.8	66.0	67.1	68.3	29	30.7	31.3	31.9	32.5	33.1	33.7	34.3	34.9
30	59.8	61.0	62.1	63.3	64.4	65.5	66.7	67.8	30	30.3	30.9	31.5	32.1	32.7	33.3	33.9	34.5
31	59.4	60.6	61.7	62.8	64.0	65.1	66.2	67.3	31	29.9	30.5	31.1	31.7	32.3	32.8	33.4	34.0
32	59.0	60.1	61.2	62.4	63.5	64.6	65.7	66.8	32	29.5	30.1	30.6	31.2	31.8	32.4	32.9	33.5
33	58.6	59.7	60.8	61.9	63.0	64.1	65.2	66.3	33	29.0	29.6	30.2	30.7	31.3	31.9	32.4	33.0
34	58.1	59.2	60.3	61.4	62.5	63.6	64.7	65.8	34	28.6	29.1	29.7	30.2	30.8	31.4	31.9	32.5
35	57.6	58.7	59.8	60.9	62.0	63.1	64.2	65.3	35	28.1	28.6	29.2	29.7	30.3	30.8	31.4	31.9
36	57.1	58.2	59.3	60.4	61.4	62.5	63.6	64.7	36	27.6	28.1	28.7	29.2	29.7	30.3	30.8	31.3
37	56.6	57.7	58.7	59.8	60.9	62.0	63.0	64.1	37	27.1	27.6	28.1	28.7	29.2	29.7	30.2	30.8
38	56.1	57.1	58.2	59.3	60.3	61.4	62.4	63.5	38	26.6	27.1	27.6	28.1	28.6	29.1	29.6	30.2
39	55.5	56.6	57.6	58.7	59.7	60.8	61.8	62.9	39	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5
40	55.0	56.0	57.0	58.1	59.1	60.2	61.2	62.2	40	25.5	25.9	26.4	26.9	27.4	27.9	28.4	28.9
41	54.4	55.4	56.4	57.5	58.5	59.5	60.6	61.6	41	24.9	25.4	25.8	26.3	26.8	27.3	27.8	28.3
42	53.8	54.8	55.8	56.9	57.9	58.9	59.9	60.9	42	24.3	24.8	25.2	25.7	26.2	26.6	27.1	27.6
43	53.2	54.2	55.2	56.2	57.2	58.2	59.2	60.2	43	23.7	24.2	24.6	25.1	25.5	26.0	26.4	26.9
44	52.6	53.6	54.6	55.6	56.6	57.6	58.6	59.5	44	23.1	23.5	24.0	24.4	24.9	25.3	25.8	26.2
45	52.0	52.9	53.9	54.9	55.9	56.9	57.9	58.8	45	22.5	22.9	23.3	23.8	24.2	24.6	25.1	25.5
46	51.3	52.3	53.3	54.2	55.2	56.2	57.1	58.1	46	21.8	22.2	22.7	23.1	23.5	23.9	24.3	24.8
47	50.7	51.6	52.6	53.5	54.5	55.5	56.4	57.4	47	21.2	21.6	22.0	22.4	22.8	23.2	23.6	24.0
48	50.0	51.0	51.9	52.8	53.8	54.7	55.7	56.6	48	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3
49	49.3	50.3	51.2	52.1	53.1	54.0	54.9	55.8	49	19.8	20.2	20.6	21.0	21.4	21.7	22.1	22.5
50	48.7	49.6	50.5	51.4	52.3	53.2	54.1	55.1	50	19.1	19.5	19.9	20.2	20.6	21.0	21.4	21.7
51	48.0	48.9	49.8	50.7	51.6	52.5	53.4	54.3	51	18.4	18.8	19.2	19.5	19.9	20.2	20.6	20.9
52	47.2	48.1	49.0	49.9	50.8	51.7	52.6	53.5	52	17.7	18.1	18.4	18.8	19.1	19.4	19.8	20.1
53	46.5	47.4	48.3	49.1	50.0	50.9	51.8	52.6	53	17.0	17.3	17.7	18.0	18.3	18.7	19.0	19.3
54	45.8	46.7	47.5	48.4	49.2	50.1	51.0	51.8	54	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5
55	45.0	45.9	46.7	47.6	48.4	49.3	50.1	51.0	55	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6

**CORRECCIÓN POR REFRACCIÓN, PARALAJE Y SEMIDIÁMETRO
A APLICAR A LA ALTURA APARENTE DE LA LUNA**

389

Altura ap. °	LIMBO INFERIOR Paralaje Horizontal								Altura ap. °	LIMBO SUPERIOR Paralaje Horizontal							
	54'	55'	56'	57'	58'	59'	60'	61'		54'	55'	56'	57'	58'	59'	60'	61'
55	45.0	45.9	46.7	47.6	48.4	49.3	50.1	51.0	55	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6
56	44.3	45.1	46.0	46.8	47.6	48.5	49.3	50.1	56	14.8	15.1	15.4	15.6	15.9	16.2	16.5	16.8
57	43.5	44.4	45.2	46.0	46.8	47.6	48.4	49.3	57	14.0	14.3	14.6	14.8	15.1	15.4	15.7	15.9
58	42.8	43.6	44.4	45.2	46.0	46.8	47.6	48.4	58	13.3	13.5	13.8	14.0	14.3	14.5	14.8	15.0
59	42.0	42.8	43.6	44.3	45.1	45.9	46.7	47.5	59	12.5	12.7	13.0	13.2	13.4	13.7	13.9	14.2
60	41.2	42.0	42.7	43.5	44.3	45.1	45.8	46.6	60	11.7	11.9	12.1	12.4	12.6	12.8	13.0	13.3
61	40.4	41.2	41.9	42.7	43.4	44.2	44.9	45.7	61	10.9	11.1	11.3	11.5	11.7	11.9	12.2	12.4
62	39.6	40.3	41.1	41.8	42.6	43.3	44.0	44.8	62	10.1	10.3	10.5	10.7	10.9	11.1	11.3	11.5
63	38.8	39.5	40.2	41.0	41.7	42.4	43.1	43.9	63	9.3	9.4	9.6	9.8	10.0	10.2	10.3	10.5
64	38.0	38.7	39.4	40.1	40.8	41.5	42.2	42.9	64	8.4	8.6	8.8	8.9	9.1	9.3	9.4	9.6
65	37.1	37.8	38.5	39.2	39.9	40.6	41.3	42.0	65	7.6	7.8	7.9	8.1	8.2	8.4	8.5	8.7
66	36.3	37.0	37.6	38.3	39.0	39.7	40.4	41.0	66	6.8	6.9	7.0	7.2	7.3	7.4	7.6	7.7
67	35.4	36.1	36.8	37.4	38.1	38.8	39.4	40.1	67	5.9	6.0	6.2	6.3	6.4	6.5	6.6	6.8
68	34.6	35.2	35.9	36.5	37.2	37.8	38.5	39.1	68	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8
69	33.7	34.4	35.0	35.6	36.3	36.9	37.5	38.2	69	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.8
70	32.9	33.5	34.1	34.7	35.3	35.9	36.6	37.2	70	3.4	3.4	3.5	3.6	3.6	3.7	3.8	3.8
71	32.0	32.6	33.2	33.8	34.4	35.0	35.6	36.2	71	2.5	2.5	2.6	2.6	2.7	2.8	2.8	2.9
72	31.1	31.7	32.3	32.9	33.5	34.0	34.6	35.2	72	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.9
73	30.2	30.8	31.4	31.9	32.5	33.1	33.6	34.2	73	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9
74	29.4	29.9	30.5	31.0	31.6	32.1	32.7	33.2	74	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
75	28.5	29.0	29.5	30.1	30.6	31.1	31.7	32.2	75	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
76	27.6	28.1	28.6	29.1	29.6	30.2	30.7	31.2	76	-1.9	-2.0	-2.0	-2.0	-2.1	-2.1	-2.1	-2.2
77	26.7	27.2	27.7	28.2	28.7	29.2	29.7	30.2	77	-2.8	-2.9	-2.9	-3.0	-3.0	-3.1	-3.1	-3.2
78	25.8	26.3	26.7	27.2	27.7	28.2	28.7	29.1	78	-3.7	-3.8	-3.9	-3.9	-4.0	-4.1	-4.1	-4.2
79	24.9	25.3	25.8	26.3	26.7	27.2	27.7	28.1	79	-4.6	-4.7	-4.8	-4.9	-5.0	-5.1	-5.1	-5.2
80	24.0	24.4	24.9	25.3	25.7	26.2	26.6	27.1	80	-5.6	-5.6	-5.7	-5.8	-5.9	-6.0	-6.1	-6.2

La altura aparente es la observada corregida por depresión del horizonte con los datos de la tabla A de la página 387.

PARTES PROPORCIONALES

Variación tabular por grado de altura																	
(corrección sustractiva, excepto para alturas <15°, que es aditiva)																	
Minutos de altura		0'0	0'1	0'2	0'3	0'4	0'5	0'6	0'7	0'8	0'9	1'0	1'1	1'2	1'3	Minutos de paralaje	
	00'	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0	0'0		0'0
	06'	0'0	0'0	0'0	0'0	0'0	0'1	0'1	0'1	0'1	0'1	0'1	0'1	0'1	0'1		0'1
	12'	0'0	0'0	0'0	0'1	0'1	0'1	0'1	0'1	0'2	0'2	0'2	0'2	0'2	0'3		0'2
	18'	0'0	0'0	0'1	0'1	0'1	0'2	0'2	0'2	0'2	0'3	0'3	0'3	0'4	0'4		0'3
	24'	0'0	0'0	0'1	0'1	0'2	0'2	0'2	0'3	0'3	0'4	0'4	0'4	0'5	0'5		0'4
	30'	0'0	0'1	0'1	0'2	0'2	0'3	0'3	0'4	0'4	0'5	0'5	0'6	0'6	0'7		0'5
	36'	0'0	0'1	0'1	0'2	0'2	0'3	0'4	0'4	0'5	0'5	0'6	0'7	0'7	0'8		0'6
	42'	0'0	0'1	0'1	0'2	0'3	0'4	0'4	0'5	0'6	0'6	0'7	0'8	0'8	0'9		0'7
	48'	0'0	0'1	0'2	0'2	0'3	0'4	0'5	0'6	0'6	0'7	0'8	0'9	1'0	1'0		0'8
54'	0'0	0'1	0'2	0'3	0'4	0'5	0'5	0'6	0'7	0'8	0'9	1'0	1'1	1'2	0'9		
60'	0'0	0'1	0'2	0'3	0'4	0'5	0'6	0'7	0'8	0'9	1'0	1'1	1'2	1'3	1'0		
Variación tabular por minuto de paralaje																	
(corrección aditiva)																	