

A photograph of three men on the deck of a sailing ship. The man in the foreground is shirtless, wearing sunglasses and black shorts, and is using a sextant. Behind him, a man in a light blue shirt is also using a sextant. To the left, another man in a white shirt is holding a camera. The ship's rigging and the blue ocean are visible in the background.

**ALMANAQUE NÁUTICO
PERSEIS
2024**

ALMANAQUE NÁUTICO PERSEIS 2024

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

Imagen de portada: *Navigation Class. Taking the noon sight.* Anoldent. Flickr files. Imagen de dominio público.

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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, 2024

Estaciones			
Hemisferio N	Inicio (hora UT)	Duración (días)	Hemisferio S
Primavera	20 de marzo a las 03 ^h 06 ^m	92.74	Otoño
Verano	20 de junio a las 20 ^h 51 ^m	93.66	Invierno
Otoño	22 de septiembre a las 12 ^h 44 ^m	89.86	Primavera
Invierno	21 de diciembre a las 09 ^h 21 ^m	88.99	Verano

Órbita terrestre		
Ápside	Fecha (hora UT)	Distancia (ua)
Perihelio	3 de enero a las 00 ^h 39 ^m	0.983307
Afelio	5 de julio a las 05 ^h 06 ^m	1.016726

Fases de la Luna (hora UT)			
Luna Nueva	Cuarto Creciente	Luna Llena	Cuarto Menguante
			04 ene 03:30
11 ene 11:57	18 ene 03:53	25 ene 17:54	02 feb 23:18
09 feb 22:59	16 feb 15:01	24 feb 12:30	03 mar 15:23
10 mar 09:00	17 mar 04:11	25 mar 07:00	02 abr 03:15
08 abr 18:21	15 abr 19:13	23 abr 23:49	01 may 11:27
08 may 03:22	15 may 11:48	23 may 13:53	30 may 17:13
06 jun 12:38	14 jun 05:18	22 jun 01:08	28 jun 21:53
05 jul 22:57	13 jul 22:49	21 jul 10:17	28 jul 02:52
04 ago 11:13	12 ago 15:19	19 ago 18:26	26 ago 09:26
03 sep 01:56	11 sep 06:06	18 sep 02:34	24 sep 18:50
02 oct 18:49	10 oct 18:55	17 oct 11:26	24 oct 08:03
01 nov 12:47	09 nov 05:55	15 nov 21:29	23 nov 01:28
01 dic 06:21	08 dic 15:27	15 dic 09:02	22 dic 22:18
30 dic 22:27			

Eclipses

- I Eclipse penumbral de Luna, el lunes 25 de marzo.
- II Eclipse total de Sol, el lunes 8 de abril.
- III Eclipse parcial de Luna, el miércoles 18 de septiembre.
- IV Eclipse anular de Sol, el miércoles 2 de octubre.

FENÓMENOS ASTRONÓMICOS RELEVANTES, 2024

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 ua = 149 597 870.7 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.

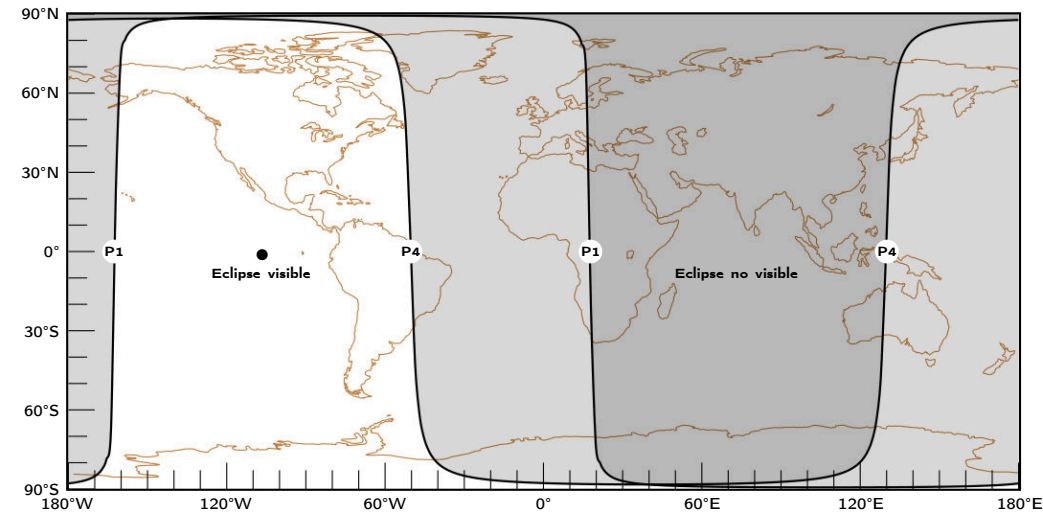
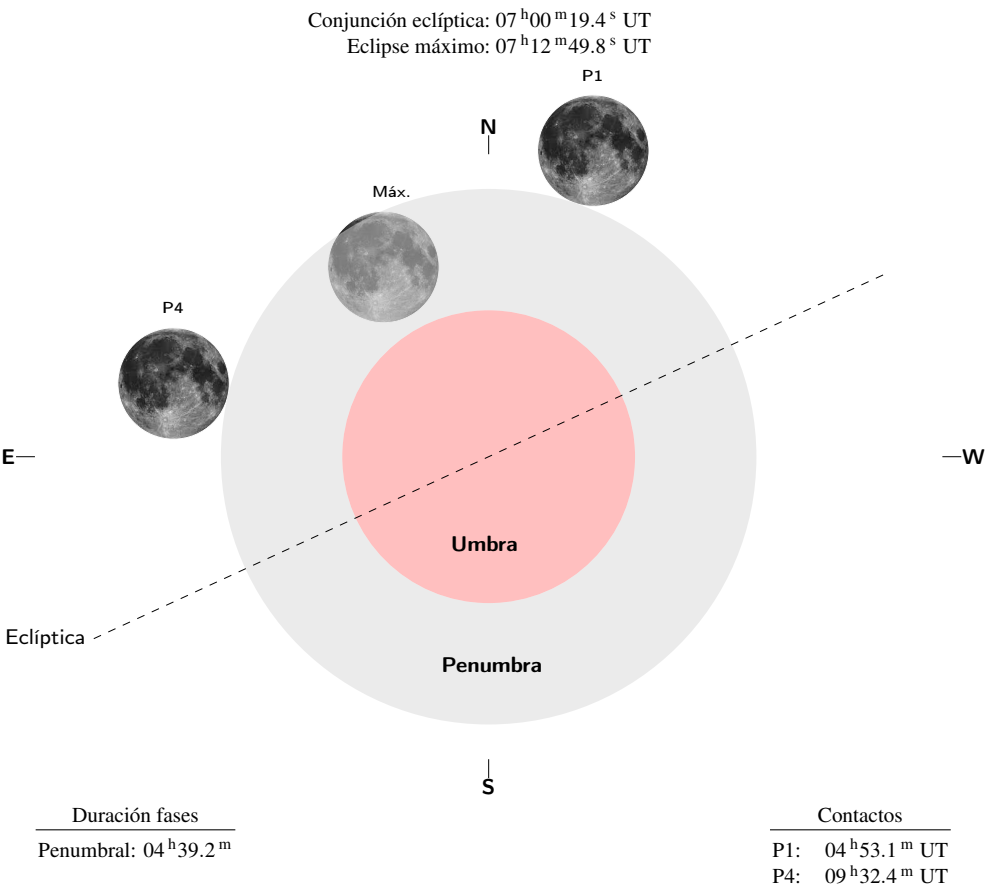
Eclipses

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 penumbral de Luna del 25 de marzo de 2024

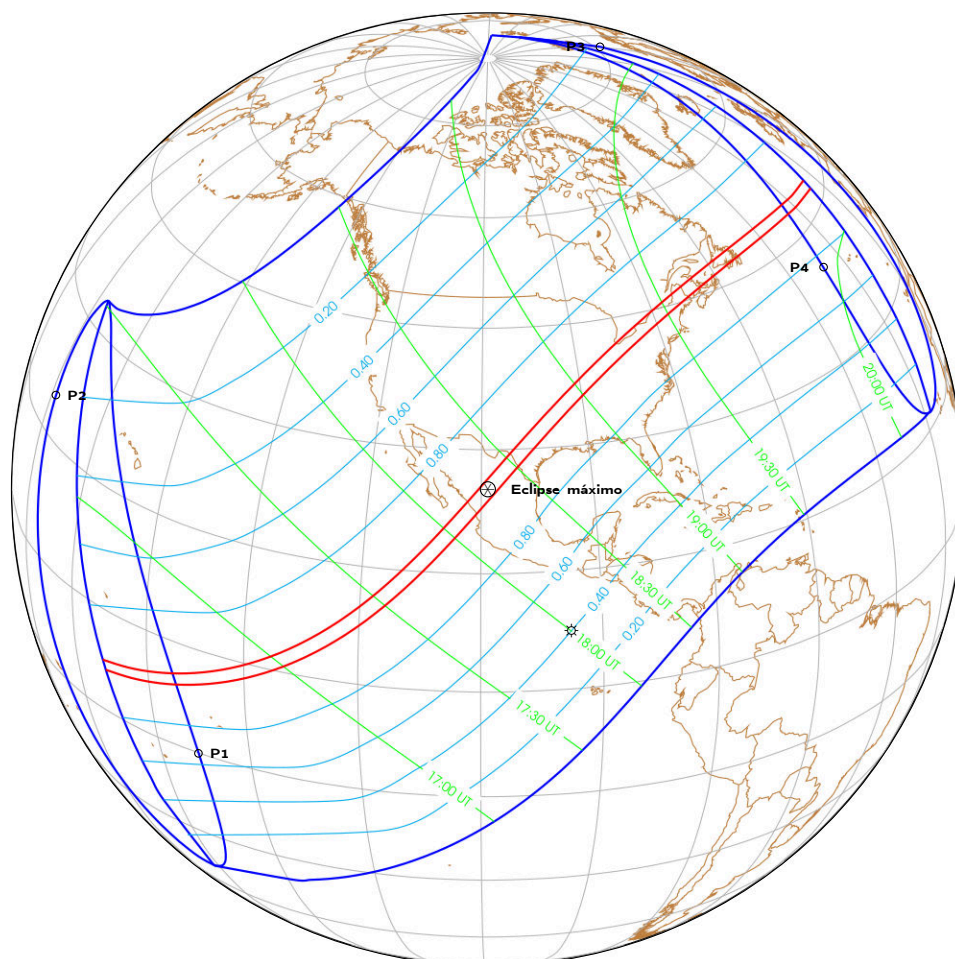


Eclipse total de Sol del 8 de abril de 2024

Conjunción eclíptica: 18^h20^m51.7^s UT

Eclipse máximo: 18^h17^m20.3^s UT

Magnitud: 1.0565

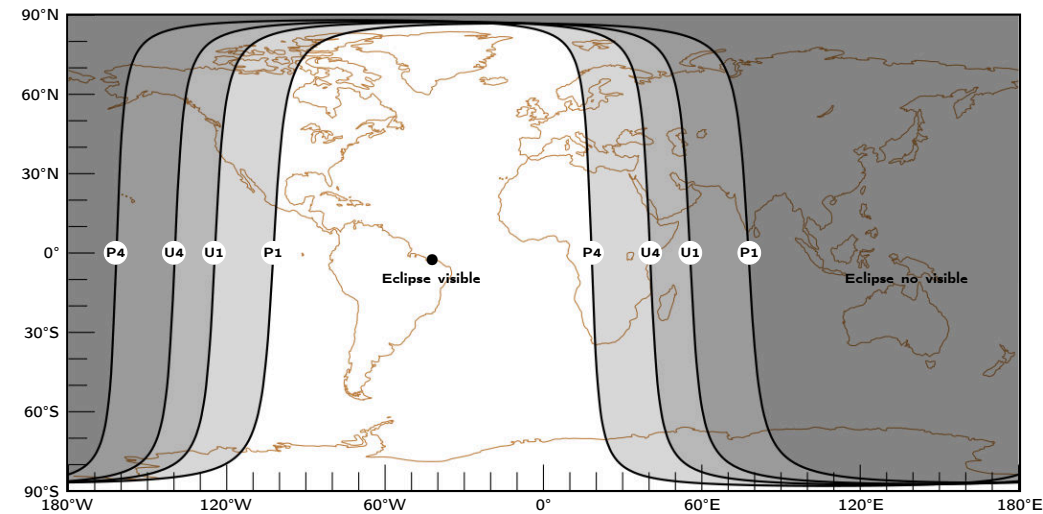
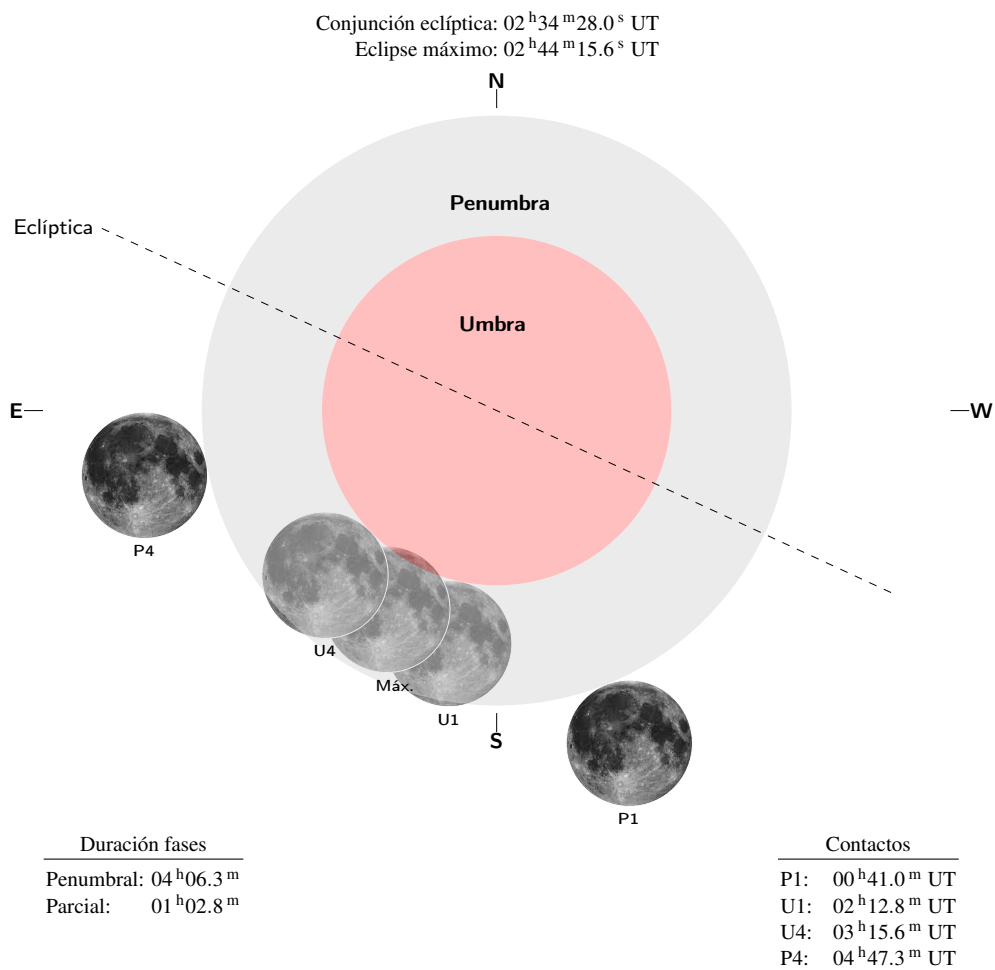


Contactos penumbra	
P1:	15 ^h 42.2 ^m UT
P2:	17 ^h 45.0 ^m UT
P3:	18 ^h 49.2 ^m UT
P4:	20 ^h 52.3 ^m UT

Eclipse máximo	
Latitud:	25° 17'3" N
Longitud:	104° 8'9" W
Anchura:	197.5 km
Duración:	04 ^m 27.9 ^s

Contactos umbra	
U1:	16 ^h 38.8 ^m UT
U2:	16 ^h 41.1 ^m UT
U3:	19 ^h 53.3 ^m UT
U4:	19 ^h 55.6 ^m UT

Eclipse parcial de Luna del 18 de septiembre de 2024

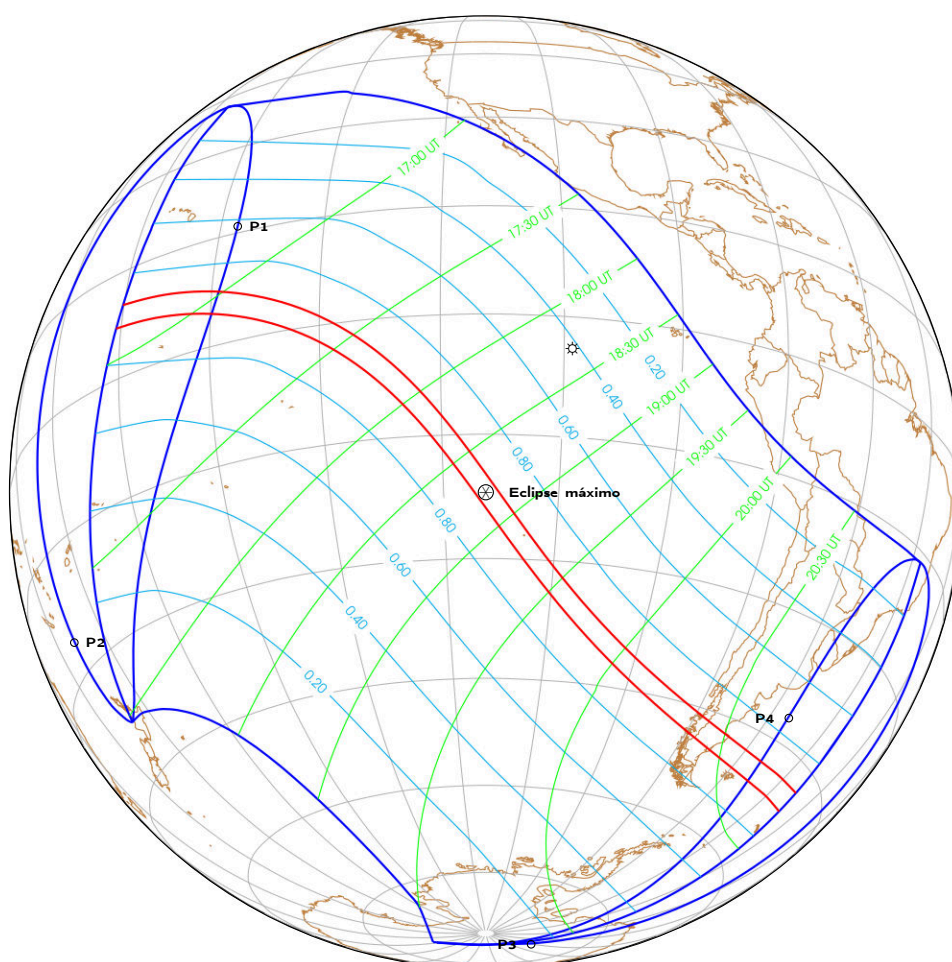


Eclipse anular de Sol del 2 de octubre de 2024

Conjunción eclíptica: 18^h49^m17.0^s UT

Eclipse máximo: 18^h45^m04.1^s UT

Magnitud: 0.9326



Contactos penumbra

P1:	15 ^h 42.9 ^m UT
P2:	18 ^h 15.7 ^m UT
P3:	19 ^h 13.8 ^m UT
P4:	21 ^h 47.0 ^m UT

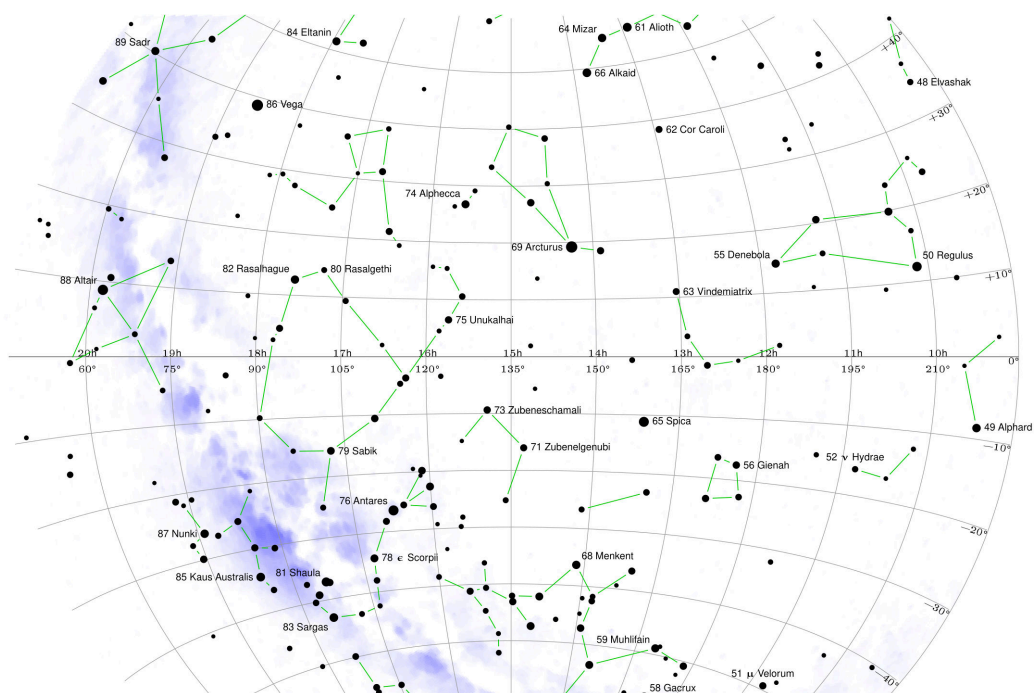
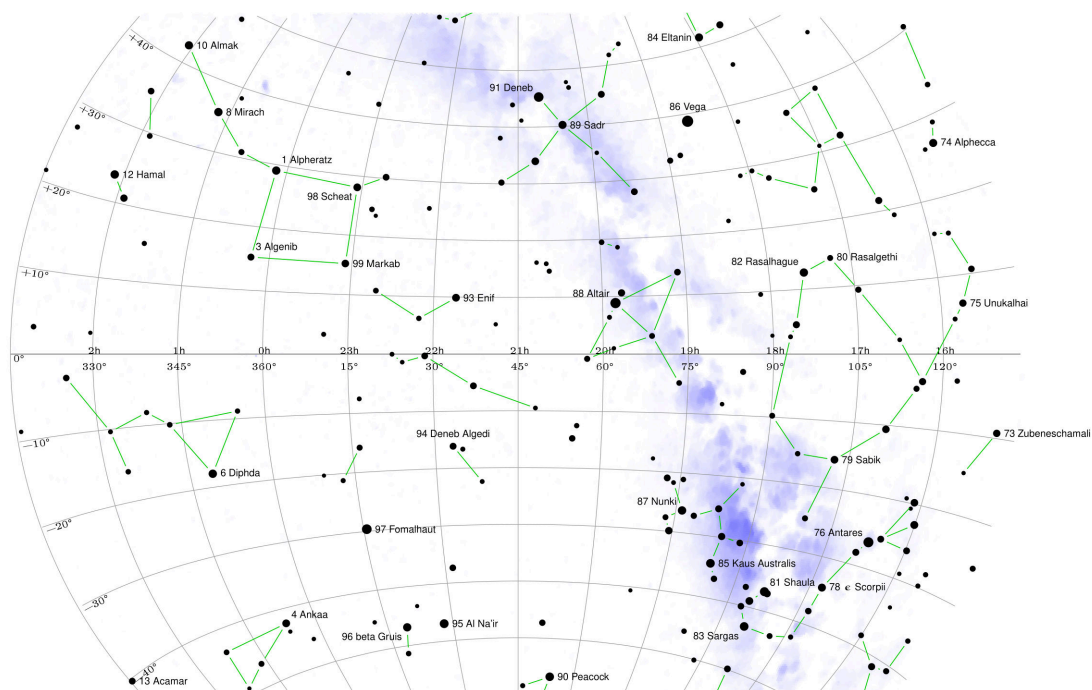
Eclipse máximo

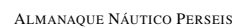
Latitud:	21° 57'1 S
Longitud:	114° 31'1 W
Anchura:	266.5 km
Duración:	07 ^m 24.9 ^s

Contactos umbra

U1:	16 ^h 50.6 ^m UT
U2:	16 ^h 56.7 ^m UT
U3:	20 ^h 33.1 ^m UT
U4:	20 ^h 39.3 ^m UT

Mapas estelares





UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 03.3 ^m			Edad: 19.0 ^d PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'2 PMG: 4 ^h 03 ^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	13.8	-23	03.5	301	02.0	+12	37.6	60 N	7	09	8	06	9	02	21	36
1	194	13.5		03.3	315	37.0		24.9	58	7	02	7	54	8	46	41	78
2	209	13.2		03.1	330	12.2	+12	12.1	56	6	56		44	31	45	75	16
3	224	12.9		02.9	344	47.3	+11	59.3	54	50		36	19	48	73	11	8
4	239	12.6		02.7	359	22.6		46.5	52	44		28	8	08	51	70	07
5	254	12.3	-23	02.5	13	57.8	+11	33.6	50	6	39	7	20	7	59	21	54
6	269	12.0	-23	02.3	28	33.1	+11	20.6	45	6	27	7	05	7	38	22	01
7	284	11.7		02.1	43	08.5	+11	07.6	40	17		6	51	22	06	59	48
8	299	11.4		01.9	57	43.9	+10	54.6	35	08		40	7	08	11	55	42
9	314	11.2		01.7	72	19.4		41.6	30	6	00	29	6	56	15	52	37
10	329	10.9		01.5	86	54.9		28.5	20	5	44	6	11	35	21	48	28
11	344	10.6	-23	01.3	101	30.4	+10	15.4	10 N	5	28	5	54	6	17	22	27
12	359	10.3	-23	01.1	116	06.0	+10	02.2	0	5	11	5	37	6	00	22	33
13	14	10.0		00.9	130	41.6	+9	49.0	10 S	4	52	5	19	5	42	39	35
14	29	09.7		00.7	145	17.2		35.8	20	30		4	59	24	45	30	9
15	44	09.4		00.5	159	52.9		22.5	30	4	01	35	5	02	51	26	47
16	59	09.1		00.3	174	28.7	+9	09.2	35	3	43	20	4	49	55	23	41
17	74	08.8	-23	00.1	189	04.4	+8	55.9	40	3	20	4	02	4	34	22	59
18	89	08.5	-22	59.9	203	40.2	+8	42.5	45	2	50	3	40	4	17	23	05
19	104	08.2		59.7	218	16.1		29.1	50	2	06	3	11	3	55	11	11
20	119	07.9		59.5	232	51.9		15.7	52	1	40	2	56	44	13	10	15
21	134	07.6		59.3	247	27.8	+8	02.2	54	0	59		38	32	16	8	10
22	149	07.3		59.1	262	03.7	+7	48.8	56	**	**		2	17	18	20	5
23	164	07.0		58.9	276	39.7		35.3	58	**	**	1	49	3	02	23	2
24	179	06.7	-22	58.7	291	15.7	+7	21.7	60 S	**	**	1	04	2	42	23	27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 17 ^h 16.6 ^m		Mag: -4.0 PMG: 9 ^h 24 ^m		Mag: +1.4 PMG: 11 ^h 07 ^m		Mag: -2.6 PMG: 19 ^h 31 ^m		Mag: +0.9 PMG: 15 ^h 40 ^m		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	
0	100	09.1	219	12.0	193	05.8	-23	57.7	66	27.9	
1	115	11.5	234	11.4	208	06.2		57.7	81	30.4	
2	130	14.0	249	10.7	223	06.7		57.8	96	32.9	
3	145	16.5	264	10.0	238	07.1		57.9	111	35.3	
4	160	18.9	279	09.4	253	07.6		57.9	126	37.8	
5	175	21.4	294	08.7	268	08.0	-23	58.0	141	40.2	
6	190	23.9	309	08.0	283	08.4	-23	58.0	156	42.7	
7	205	26.3	324	07.3	298	08.9		58.1	171	45.2	
8	220	28.8	339	06.7	313	09.3		58.2	186	47.6	
9	235	31.3	354	06.0	328	09.7		58.2	201	50.1	
10	250	33.7	9	05.3	343	10.2		58.3	216	52.5	
11	265	36.2	24	04.6	358	10.6	-23	58.3	231	55.0	
12	280	38.6	39	04.0	13	11.0	-23	58.4	246	57.5	
13	295	41.1	54	03.3	28	11.5		58.5	261	59.9	
14	310	43.6	69	02.6	43	11.9		58.5	277	02.4	
15	325	46.0	84	01.9	58	12.3		58.6	292	04.8	
16	340	48.5	99	01.3	73	12.8		58.6	307	07.3	
17	355	51.0	114	00.6	88	13.2	-23	58.7	322	09.7	
18	10	53.4	128	59.9	103	13.7	-23	58.7	337	12.2	
19	25	55.9	143	59.2	118	14.1		58.8	352	14.6	
20	40	58.4	158	58.6	133	14.5		58.8	7	17.1	
21	56	00.8	173	57.9	148	15.0		58.9	22	19.5	
22	71	03.3	188	57.2	163	15.4		58.9	37	22.0	
23	86	05.7	203	56.5	178	15.8		59.0	52	24.5	
24	101	08.2	218	55.8	193	16.3	-23	59.1	67	26.9	
Dif	—		-7	-6	+4	-1			+25	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 03.8 ^m				Edad: 20.0 ^d SD: 14'8 PMG: 4 ^h 42 ^m						PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'3 Rº: 39 ^m							
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	179	06.7	-22	58.7	291	15.7	+7	21.7	60 N	15	06	16	02	16	59	22	58	
1	194	06.4		58.5	305	51.7	+7	08.2	58	23	14	17	06	22	59	78	23	
2	209	06.1		58.2	320	27.7	+6	54.6	56	37	24	12	23	00	75	21	5	
3	224	05.9		58.0	335	03.8		41.0	54	15	49	32	18	01	72	19		
4	239	05.6		57.8	349	39.9		27.3	52	16	00	40	24	01	71	17	9	
5	254	05.3	-22	57.6	4	16.0	+6	13.7	50	16	09	16	47	17	29	23	02	
6	269	05.0	-22	57.4	18	52.1	+6	00.0	45	16	29	17	03	17	40	23	04	
7	284	04.7		57.2	33	28.2	+5	46.3	40	16	46	16	50	05	60	08	20	
8	299	04.4		57.0	48	04.4		32.6	35	17	00	28	17	59	06	56	06	
9	314	04.1		56.7	62	40.6		18.8	30	12	38	18	08	07	53	11	03	
10	329	03.8		56.5	77	16.8	+5	05.0	20	32	17	56	24	09	48	10	59	
11	344	03.5	-22	56.3	91	53.0	+4	51.3	10 N	17	50	18	13	18	40	23	11	
12	359	03.2	-22	56.1	106	29.2	+4	37.4	0	18	08	18	30	18	56	23	12	
13	14	02.9		55.9	121	05.4		23.6	10 S	25	18	48	19	15	14	35	48	
14	29	02.6		55.6	135	41.7	+4	09.8	20	18	43	19	08	19	37	15	31	
15	44	02.3		55.4	150	17.9	+3	55.9	30	19	05	32	20	05	17	26	40	
16	59	02.1		55.2	164	54.2		42.0	35	17	19	47	23	18	23	38	55	
17	74	01.8	-22	55.0	179	30.5	+3	28.1	40	19	32	20	05	20	46	23	19	
18	89	01.5	-22	54.7	194	06.8	+3	14.2	45	19	50	20	27	21	15	23	20	
19	104	01.2		54.5	208	43.1	+3	00.3	50	20	11	20	55	21	59	22	11	
20	119	00.9		54.3	223	19.4	+2	46.4	52	22	21	10	22	24	23	9	25	
21	134	00.6		54.1	237	55.7		32.4	54	34	27	23	03	24	7	23	73	
22	149	00.3		53.8	252	32.0		18.5	56	20	47	21	48	**	**	25	4	
23	164	00.0		53.6	267	08.3	+2	04.5	58	21	04	22	15	**	**	25	3	
24	178	59.7	-22	53.4	281	44.6	+1	50.5	60 S	21	23	22	58	**	**	23	27	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 ^h 12.6 ^m		Mag: -4.0 PMG: 9 ^h 25 ^m		Mag: +1.4 PMG: 11 ^h 07 ^m		Mag: -2.6 PMG: 19 ^h 27 ^m		Mag: +0.9 PMG: 15 ^h 37 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	101	08.2	218	55.8	-19	01.8	193	16.3	-23	59.1
1	116	10.7	233	55.2		02.4	208	16.7		59.1
2	131	13.1	248	54.5		03.0	223	17.1		59.2
3	146	15.6	263	53.8		03.7	238	17.6		59.2
4	161	18.1	278	53.1		04.3	253	18.0		59.3
5	176	20.5	293	52.4	-19	04.9	268	18.4	-23	59.3
6	191	23.0	308	51.7	-19	05.6	283	18.9	-23	59.4
7	206	25.5	323	51.1		06.2	298	19.3		59.4
8	221	27.9	338	50.4		06.8	313	19.7		59.5
9	236	30.4	353	49.7		07.5	328	20.2		59.5
10	251	32.9	8	49.0		08.1	343	20.6		59.5
11	266	35.3	23	48.3	-19	08.7	358	21.0	-23	59.6
12	281	37.8	38	47.6	-19	09.4	13	21.5	-23	59.6
13	296	40.2	53	46.9		10.0	28	21.9		59.7
14	311	42.7	68	46.2		10.6	43	22.3		59.7
15	326	45.2	83	45.6		11.3	58	22.8		59.8
16	341	47.6	98	44.9		11.9	73	23.2		59.8
17	356	50.1	113	44.2	-19	12.5	88	23.6	-23	59.9
18	11	52.6	128	43.5	-19	13.1	103	24.1	-23	59.9
19	26	55.0	143	42.8		13.8	118	24.5	-24	00.0
20	41	57.5	158	42.1		14.4	133	24.9		00.0
21	57	00.0	173	41.4		15.0	148	25.3	-24	00.0
22	72	02.4	188	40.7		15.6	163	25.8	-24	00.1
23	87	04.9	203	40.0		16.2	178	26.2		00.1
24	102	07.4	218	39.3	-19	16.9	193	26.6	-24	00.2
Dif	—		-7		-6		+4		0	
									+24	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 04.3 ^m				Edad: 21.0 ^d SD: 14'8 PMG: 5 ^h 21 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	59.7	-22	53.4	281	44.6	+1	50.5	60	N	7	09	8	05	9	01	**	**	**
1	193	59.4		53.1	296	20.9		36.5	58		7	02	7	54	8	45	**	**	**
2	208	59.1		52.9	310	57.2		22.5	56		6	55	44	31			**	**	**
3	223	58.9		52.7	325	33.5	+1	08.5	54		49	35	19				**	**	**
4	238	58.6		52.5	340	09.8	+0	54.5	52		44	27	8	08			**	**	**
5	253	58.3	-22	52.2	354	46.0	+0	40.4	50		6	39	7	20	7	58	**	**	**
6	268	58.0	-22	52.0	9	22.3	+0	26.4	45		6	28	7	05	7	38	**	**	**
7	283	57.7		51.7	23	58.6	+0	12.3	40		18	6	52	22			**	**	**
8	298	57.4		51.5	38	34.8	-0	01.7	35		09	40	7	08			**	**	**
9	313	57.1		51.3	53	11.1		15.8	30		6	00	30	6	56		**	**	**
10	328	56.8		51.0	67	47.3		29.8	20		5	44	6	12	36		23	57	49
11	343	56.5	-22	50.8	82	23.5	-0	43.9	10	N	5	29	5	55	6	18	23	54	45
12	358	56.3	-22	50.6	96	59.8	-0	58.0	0		5	12	5	38	6	01	23	51	41
13	13	56.0		50.3	111	36.0	-1	12.1	10	S	4	53	20	5	43		49	36	
14	28	55.7		50.1	126	12.1		26.1	20		31	5	00	25			46	32	
15	43	55.4		49.8	140	48.3		40.2	30		4	03	4	36	5	03	43	26	
16	58	55.1		49.6	155	24.4	-1	54.3	35		3	45	21	4	51		41	24	
17	73	54.8	-22	49.4	170	00.5	-2	08.4	40		3	22	4	04	4	36	23	39	20
18	88	54.5	-22	49.1	184	36.6	-2	22.5	45		2	53	3	42	4	19	23	36	17
19	103	54.2		48.9	199	12.7		36.5	50		2	09	3	13	3	57	33	13	
20	118	53.9		48.6	213	48.8	-2	50.6	52		1	44	2	58	46		32	10	
21	133	53.7		48.4	228	24.8	-3	04.7	54		1	05	41	34			31	8	
22	148	53.4		48.1	243	00.8		18.8	56		**	**	2	20	21		29	6	
23	163	53.1		47.9	257	36.8		32.8	58		**	**	1	53	3	05	28	2	
24	178	52.8	-22	47.6	272	12.7	-3	46.9	60	S	**	**	1	11	2	45	23	26	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 08.7 ^m		Mag: -4.0 PMG: 9 ^h 26 ^m		Mag: +1.4 PMG: 11 ^h 06 ^m		Mag: -2.6 PMG: 19 ^h 23 ^m		Mag: +1.0 PMG: 15 ^h 33 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	102	07.4	218	39.3	193	26.6	68	25.7	126	10.5
1	117	09.8	233	38.6	208	27.1	83	28.1	141	12.7
2	132	12.3	248	37.9	223	27.5	98	30.6	156	15.0
3	147	14.7	263	37.2	238	27.9	113	33.0	171	17.2
4	162	17.2	278	36.6	253	28.4	128	35.4	186	19.5
5	177	19.7	293	35.9	268	28.8	143	37.9	201	21.7
6	192	22.1	308	35.2	283	29.2	158	40.3	216	24.0
7	207	24.6	323	34.5	298	29.7	173	42.8	231	26.2
8	222	27.1	338	33.8	313	30.1	188	45.2	246	28.5
9	237	29.5	353	33.1	328	30.5	203	47.7	261	30.7
10	252	32.0	8	32.4	343	31.0	218	50.1	276	33.0
11	267	34.5	23	31.7	358	31.4	233	52.5	291	35.2
12	282	36.9	38	31.0	13	31.8	248	55.0	306	37.5
13	297	39.4	53	30.3	28	32.2	263	57.4	321	39.7
14	312	41.8	68	29.6	43	32.7	278	59.9	336	42.0
15	327	44.3	83	28.9	58	33.1	294	02.3	351	44.2
16	342	46.8	98	28.2	73	33.5	309	04.7	6	46.5
17	357	49.2	113	27.5	88	34.0	324	07.2	21	48.7
18	12	51.7	128	26.8	103	34.4	339	09.6	36	50.9
19	27	54.2	143	26.1	118	34.8	354	12.1	51	53.2
20	42	56.6	158	25.4	133	35.2	9	14.5	66	55.4
21	57	59.1	173	24.7	148	35.7	24	16.9	81	57.7
22	73	01.6	188	24.0	163	36.1	39	19.4	96	59.9
23	88	04.0	203	23.2	178	36.5	54	21.8	112	02.2
24	103	06.5	218	22.5	193	37.0	69	24.2	127	04.4
Dif	—		-7	-6	+4	0	+24	0	+22	+

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/3 PMG:12 ^h 04.7 ^m			Edad: 22.0 ^d SD: 14'9 PMG: 6 ^h 01 ^m PHE { 4 ^h : 54/7 12 ^h : 54/8 20 ^h : 55/0 R°: 41 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°
h	°	/	°	/	°	/	°	/	°	h m	h m	h m	h m m	h m m	h m m
0	178	52.8	-22	47.6	272	12.7	-3	46.9	60 N	15 09	16 05	17 01	0 19 84	11 24	**
1	193	52.5		47.4	286	48.6	-4	01.0	58	25	16	08	17 81	27	3
2	208	52.2		47.1	301	24.5		15.0	56	39	26	15	15 78	30	6
3	223	51.9		46.9	316	00.3		29.1	54	15 51	35	20	13 75	33	9
4	238	51.7		46.6	330	36.1		43.1	52	16 02	42	26	12 72	36	11
5	253	51.4	-22	46.4	345	11.9	-4	57.2	50	16 11	16 49	17 31	0 10 70	11 38	13
6	268	51.1	-22	46.1	359	47.7	-5	11.2	45	16 31	17 05	17 42	0 07 65	11 43	18
7	283	50.8		45.9	14	23.4		25.2	40	16 48	18	17 52	05 60	48	21
8	298	50.5		45.6	28	59.0		39.2	35	17 01	29	18 01	02 58	51	25
9	313	50.2		45.4	43	34.6	-5	53.2	30	13	39	09	0 00 55	11 55	27
10	328	49.9		45.1	58	10.2	-6	07.2	20	34	17 58	25	** ** *	12 01	32
11	343	49.7	-22	44.8	72	45.8	-6	21.2	10 N	17 52	18 14	18 41	** ** *	12 06	37
12	358	49.4	-22	44.6	87	21.2	-6	35.1	0	18 08	18 31	18 57	** ** *	12 10	42
13	13	49.1		44.3	101	56.7	-6	49.1	10 S	25	18 48	19 15	** ** *	15	46
14	28	48.8		44.1	116	32.1	-7	03.0	20	18 44	19 08	19 37	** ** *	20	51
15	43	48.5		43.8	131	07.4		16.9	30	19 05	32	20 05	** ** *	26	56
16	58	48.2		43.5	145	42.7		30.8	35	18	19 47	23	** ** *	30	58
17	73	48.0	-22	43.3	160	18.0	-7	44.7	40	19 32	20 05	20 46	23 59 23	12 34	62
18	88	47.7	-22	43.0	174	53.2	-7	58.6	45	19 49	20 26	21 15	23 53 19	12 38	66
19	103	47.4		42.8	189	28.3	-8	12.4	50	20 11	20 55	21 57	46 14	44	71
20	118	47.1		42.5	204	03.4		26.2	52	21	21 09	22 22	42 12	46	74
21	133	46.8		42.2	218	38.5		40.0	54	33	26	22 59	39 9	49	76
22	148	46.5		42.0	233	13.5	-8	53.8	56	20 47	21 46	** ** *	35 6	52	79
23	163	46.3		41.7	247	48.4	-9	07.6	58	21 02	22 13	** ** *	30 4	55	83
24	178	46.0	-22	41.4	262	23.2	-9	21.3	60 S	21 21	22 53	** ** *	23 25 0	12 59	86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 ^h 04.8 ^m		Mag: -4.0 PMG: 9 ^h 27 ^m		Mag: +1.4 PMG: 11 ^h 05 ^m		Mag: -2.6 PMG: 19 ^h 19 ^m		Mag: +1.0 PMG: 15 ^h 29 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	/	°	/	°	/	°	/	°	/
0	103	06.5	218	22.5	-19	31.5	193	37.0	-24	01.0
1	118	09.0	233	21.8		32.1	208	37.4		01.1
2	133	11.4	248	21.1		32.7	223	37.8		01.1
3	148	13.9	263	20.4		33.3	238	38.3		01.1
4	163	16.3	278	19.7		33.9	253	38.7		01.2
5	178	18.8	293	19.0	-19	34.5	268	39.1	-24	01.2
6	193	21.3	308	18.3	-19	35.1	283	39.5	-24	01.2
7	208	23.7	323	17.6		35.7	298	40.0		01.2
8	223	26.2	338	16.9		36.2	313	40.4		01.3
9	238	28.7	353	16.2		36.8	328	40.8		01.3
10	253	31.1	8	15.5		37.4	343	41.2		01.3
11	268	33.6	23	14.8	-19	38.0	358	41.7	-24	01.3
12	283	36.1	38	14.0	-19	38.6	13	42.1	-24	01.4
13	298	38.5	53	13.3		39.2	28	42.5		01.4
14	313	41.0	68	12.6		39.8	43	43.0		01.4
15	328	43.5	83	11.9		40.4	58	43.4		01.4
16	343	45.9	98	11.2		40.9	73	43.8		01.5
17	358	48.4	113	10.5	-19	41.5	88	44.2	-24	01.5
18	13	50.8	128	09.8	-19	42.1	103	44.7	-24	01.5
19	28	53.3	143	09.1		42.7	118	45.1		01.5
20	43	55.8	158	08.3		43.3	133	45.5		01.6
21	58	58.2	173	07.6		43.9	148	45.9		01.6
22	74	00.7	188	06.9		44.4	163	46.4		01.6
23	89	03.2	203	06.2		45.0	178	46.8		01.6
24	104	05.6	218	05.5	-19	45.6	193	47.2	-24	01.6
Dif	—		-7		-6		+4		0	
									+24	0
										+22
										+

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16/3 PMG:12 ^h 05.2 ^m				Edad: 23.0 ^d SD: 15/0 PMG: 6 ^h 42 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	46.0	-22	41.4	262	23.2	-9	21.3	60 N	7 08	8 04	9 00	1 43	90	11 23	0			
1	193	45.7		41.2	276	58.0		35.1	58	7 01	7 53	8 44	38 85		30	4			
2	208	45.4		40.9	291	32.8	-9	48.8	56	6 55	43	30	33 81		36	8			
3	223	45.1		40.6	306	07.4	-10	02.4	54	49	35	18	28 78		42	10			
4	238	44.8		40.3	320	42.1		16.1	52	44	27	8 07	24 75		47	13			
5	253	44.6	-22	40.1	335	16.6	-10	29.7	50	6 39	7 20	7 58	1 20	73	11 51	16			
6	268	44.3	-22	39.8	349	51.1	-10	43.3	45	6 28	7 05	7 38	1 12	68	12 01	21			
7	283	44.0		39.5	4	25.5	-10	56.8	40	18	6 52	22	05 64		09	25			
8	298	43.7		39.3	18	59.8	-11	10.4	35	09	41	7 08	1 00	60	16	28			
9	313	43.4		39.0	33	34.1		23.9	30	6 01	30	6 57	0 55	57	22	32			
10	328	43.2		38.7	48	08.3		37.3	20	5 45	6 12	36	46 52		33	37			
11	343	42.9	-22	38.4	62	42.4	-11	50.8	10 N	5 29	5 56	6 18	0 39	47	12 43	41			
12	358	42.6	-22	38.2	77	16.4	-12	04.2	0	5 13	5 39	6 01	0 32	43	12 52	45			
13	13	42.3		37.9	91	50.4		17.5	10 S	4 55	22	5 44	25 39		13 01	49			
14	28	42.0		37.6	106	24.3		30.9	20	33	5 02	26	18 34		11 53				
15	43	41.7		37.3	120	58.1		44.2	30	4 05	4 38	5 05	09 30		22 58				
16	58	41.5		37.0	135	31.9	-12	57.4	35	3 47	23	4 52	0 05	26	28 62				
17	73	41.2	-22	36.8	150	05.5	-13	10.6	40	3 24	4 05	4 38	** ** *	**	13 36	65			
18	88	40.9	-22	36.5	164	39.1	-13	23.8	45	2 55	3 44	4 21	** ** *	**	13 44	70			
19	103	40.6		36.2	179	12.6		36.9	50	2 13	15	3 59	** ** *	**	13 55	75			
20	118	40.4		35.9	193	46.0	-13	50.0	52	1 48	3 01	49	23 54	16	14 00	77			
21	133	40.1		35.6	208	19.3	-14	03.1	54	1 11	2 44	37	48 13		05 80				
22	148	39.8		35.3	222	52.5		16.1	56	** ** *	2 24	24	41 10		11 84				
23	163	39.5		35.1	237	25.6		29.1	58	** ** *	1 57	3 08	34 5		18 87				
24	178	39.2	-22	34.8	251	58.7	-14	42.0	60 S	** ** *	1 17	2 49	23 25	1	14 25	93			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 17 ^h 00.8 ^m			Mag: -4.0 PMG: 9 ^h 28 ^m			Mag: +1.4 PMG: 11 ^h 05 ^m			Mag: -2.6 PMG: 19 ^h 15 ^m			Mag: +1.0 PMG: 15 ^h 26 ^m						
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	104	05.6	218	05.5	-19	45.6	193	47.2	-24	01.6	70	22.6	+12	17.8	127	58.3			
1	119	08.1	233	04.8		46.2	208	47.7		01.7	85	25.0		17.8	143	00.6			
2	134	10.6	248	04.0		46.7	223	48.1		01.7	100	27.5		17.8	158	02.8			
3	149	13.0	263	03.3		47.3	238	48.5		01.7	115	29.9		17.9	173	05.1			
4	164	15.5	278	02.6		47.9	253	48.9		01.7	130	32.3		17.9	188	07.3			
5	179	17.9	293	01.9	-19	48.5	268	49.4	-24	01.7	145	34.7	+12	17.9	203	09.5			
6	194	20.4	308	01.2	-19	49.0	283	49.8	-24	01.8	160	37.2	+12	17.9	218	11.8			
7	209	22.9	323	00.4		49.6	298	50.2		01.8	175	39.6		18.0	233	14.0			
8	224	25.3	337	59.7		50.2	313	50.6		01.8	190	42.0		18.0	248	16.3			
9	239	27.8	352	59.0		50.8	328	51.1		01.8	205	44.4		18.0	263	18.5			
10	254	30.3	7	58.3		51.3	343	51.5		01.8	220	46.9		18.1	278	20.8			
11	269	32.7	22	57.6	-19	51.9	358	51.9	-24	01.8	235	49.3	+12	18.1	293	23.0			
12	284	35.2	37	56.8	-19	52.5	13	52.3	-24	01.9	250	51.7	+12	18.1	308	25.3			
13	299	37.7	52	56.1		53.0	28	52.8		01.9	265	54.1		18.1	323	27.5			
14	314	40.1	67	55.4		53.6	43	53.2		01.9	280	56.6		18.2	338	29.7			
15	329	42.6	82	54.7		54.2	58	53.6		01.9	295	59.0		18.2	353	32.0			
16	344	45.1	97	53.9		54.7	73	54.0		01.9	311	01.4		18.2	8	34.2			
17	359	47.5	112	53.2	-19	55.3	88	54.5	-24	01.9	326	03.8	+12	18.3	23	36.5			
18	14	50.0	127	52.5	-19	55.8	103	54.9	-24	01.9	341	06.2	+12	18.3	38	38.7			
19	29	52.4	142	51.8		56.4	118	55.3		01.9	356	08.7		18.3	53	41.0			
20	44	54.9	157	51.0		57.0	133	55.7		02.0	11	11.1		18.3	68	43.2			
21	59	57.4	172	50.3		57.5	148	56.2		02.0	26	13.5		18.4	83	45.4			
22	74	59.8	187	49.6		58.1	163	56.6		02.0	41	15.9		18.4	98	47.7			
23	90	02.3	202	48.9		58.6	178	57.0		02.0	56	18.3		18.4	113	49.9			
24	105	04.8	217	48.1	-19	59.2	193	57.4	-24	02.0	71	20.8	+12	18.4	128	52.2			
Dif	—		-7		-6		+4		0		+24		0		+22		+		

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 16/3 PMG:12 ^h 05.6 ^m			Edad: 24.0 ^d SD: 15'2 PMG: 7 ^h 26 ^m							PHE { 4 ^h : 55/9 12 ^h : 56/1 20 ^h : 56/4 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	h m m	h m m							
0	178	39.2	-22	34.8	251	58.7	-14	42.0	60 N	15 12	16 08	17 04	3 13	96	11 23	2							
1	193	39.0		34.5	266	31.6	139	-14	54.8	58	28	19	11	3 03	91	34	7						
2	208	38.7		34.2	281	04.5	139	-15	07.7	56	42	28	17	2 54	87	44	11						
3	223	38.4		33.9	295	37.3	138		20.4	54	15 54	37	23	46	83	11 52	15						
4	238	38.1		33.6	310	10.0	137		33.1	52	16 04	45	28	39	80	12 00	18						
5	253	37.8	-22	33.3	324	42.5	135	-15	45.8	50	16 14	16 52	17 33	2 33	77	12 07	20						
6	268	37.6	-22	33.0	339	15.0	135	-15	58.4	45	16 33	17 07	17 44	2 20	72	12 22	25						
7	283	37.3		32.7	353	47.4	134	-16	11.0	40	16 49	20	17 53	09	67	34	30						
8	298	37.0		32.5	8	19.7	133		23.5	35	17 03	31	18 02	2 00	63	44	34						
9	313	36.7		32.2	22	51.9	132		35.9	30	15	41	10	1 52	60	12 54	36						
10	328	36.5		31.9	37	24.0	131	-16	48.3	20	35	17 59	26	38	55	13 10	41						
11	343	36.2	-22	31.6	51	55.9	129	-17	00.6	10 N	17 53	18 15	18 42	1 26	51	13 24	45						
12	358	35.9	-22	31.3	66	27.8	129	-17	12.9	0	18 09	18 32	18 58	1 15	47	13 37	49						
13	13	35.6		31.0	80	59.6	128		25.1	10 S	26	18 49	19 16	1 04	43	13 50	53						
14	28	35.4		30.7	95	31.2	126		37.2	20	18 44	19 09	19 38	0 52	39	14 04	57						
15	43	35.1		30.4	110	02.8	126	-17	49.3	30	19 05	33	20 05	39	33	20	63						
16	58	34.8		30.1	124	34.2	124	-18	01.3	35	18	19 47	23	31	31	30	65						
17	73	34.5	-22	29.8	139	05.6	124	-18	13.2	40	19 32	20 04	20 45	0 22	27	14 41	69						
18	88	34.3	-22	29.5	153	36.8	122	-18	25.1	45	19 49	20 26	21 14	0 12	23	14 54	73						
19	103	34.0		29.2	168	07.9	121		36.9	50	20 10	20 54	21 56	0 00	18	15 10	78						
20	118	33.7		28.9	182	38.9	120	-18	48.6	52	21	21 08	22 20	** ** *	**	17	81						
21	133	33.4		28.6	197	09.8	119	-19	00.3	54	32	24	22 54	** ** *	**	25	85						
22	148	33.2		28.3	211	40.6	118		11.9	56	20 45	21 44	** ** *	23 51	15	35	88						
23	163	32.9		28.0	226	11.3	117		23.4	58	21 01	22 10	** ** *	39	11	45	94						
24	178	32.6	-22	27.7	240	41.8	115	-19	34.8	60 S	21 19	22 48	** ** *	23 26	5	15 58	99						
UT	ARIES PMG 16 ^h 56.9 ^m			VENUS Mag: -4.0 PMG: 9 ^h 29 ^m			MARTE Mag: +1.4 PMG: 11 ^h 04 ^m			JÚPITER Mag: -2.6 PMG: 19 ^h 12 ^m			SATURNO Mag: +1.0 PMG: 15 ^h 22 ^m										
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°						
0	105	04.8	217	48.1	-19	59.2	193	57.4	-24	02.0	71	20.8	+12	18.4	128	52.2	-11	40.1					
1	120	07.2	232	47.4	-19	59.7	208	57.9		02.0	86	23.2		18.5	143	54.4		40.0					
2	135	09.7	247	46.7	-20	00.3	223	58.3		02.0	101	25.6		18.5	158	56.6		39.9					
3	150	12.2	262	45.9		00.8	238	58.7		02.0	116	28.0		18.5	173	58.9		39.8					
4	165	14.6	277	45.2		01.4	253	59.1		02.0	131	30.4		18.6	189	01.1		39.7					
5	180	17.1	292	44.5	-20	02.0	268	59.6	-24	02.0	146	32.9	+12	18.6	204	03.4	-11	39.6					
6	195	19.6	307	43.7	-20	02.5	284	00.0	-24	02.1	161	35.3	+12	18.6	219	05.6	-11	39.6					
7	210	22.0	322	43.0		03.1	299	00.4		02.1	176	37.7		18.7	234	07.9		39.5					
8	225	24.5	337	42.3		03.6	314	00.8		02.1	191	40.1		18.7	249	10.1		39.4					
9	240	26.9	352	41.5		04.1	329	01.3		02.1	206	42.5		18.7	264	12.3		39.3					
10	255	29.4	7	40.8		04.7	344	01.7		02.1	221	44.9		18.7	279	14.6		39.2					
11	270	31.9	22	40.1	-20	05.2	359	02.1	-24	02.1	236	47.4	+12	18.8	294	16.8	-11	39.1					
12	285	34.3	37	39.3	-20	05.8	14	02.5	-24	02.1	251	49.8	+12	18.8	309	19.1	-11	39.0					
13	300	36.8	52	38.6		06.3	29	02.9		02.1	266	52.2		18.8	324	21.3		38.9					
14	315	39.3	67	37.9		06.9	44	03.4		02.1	281	54.6		18.9	339	23.5		38.8					
15	330	41.7	82	37.1		07.4	59	03.8		02.1	296	57.0		18.9	354	25.8		38.8					
16	345	44.2	97	36.4		08.0	74	04.2		02.1	311	59.4		18.9	9	28.0		38.7					
17	0	46.7	112	35.7	-20	08.5	89	04.6	-24	02.1	327	01.8	+12	19.0	24	30.3	-11	38.6					
18	15	49.1	127	34.9	-20	09.0	104	05.1	-24	02.1	342	04.3	+12	19.0	39	32.5	-11	38.5					
19	30	51.6	142	34.2		09.6	119	05.5		02.1	357	06.7		19.0	54	34.7		38.4					
20	45	54.0	157	33.5		10.1	134	05.9		02.1	12	09.1		19.1	69	37.0		38.3					
21	60	56.5	172	32.7		10.6	149	06.3		02.1	27	11.5		19.1	84	39.2		38.2					
22	75	59.0	187	32.0		11.2	164	06.7		02.1	42	13.9		19.1	99	41.5		38.1					
23	91	01.4	202	31.2		11.7	179	07.2		02.1	57	16.3		19.1	114	43.7		38.0					
24	106	03.9	217	30.5	-20	12.3	194	07.6	-24	02.1	72	18.7	+12	19.2	129	45.9	-11	38.0					
Dif	—			-7			-5			+4			0			+24		0		+22		+	

UT	SOL			☾ LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 06.0 ^m			Edad: 25.0 ^d SD: 15'4 PMG: 8 ^h 14 ^m										
	PHE { 4 ^h : 56'7 12 ^h : 56'9 20 ^h : 57'2			R°: 53 ^m										
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	178	32.6	-22	27.7	240	41.8	-19	34.8	60 N	7 07	8 03	8 58	4 49	104
1	193	32.3		27.4	255	12.3	115	46.1	58	7 01	7 52	42	34	96
2	208	32.1		27.1	269	42.6	113	57.4	56	6 54	43	29	21	90
3	223	31.8		26.8	284	12.8	112	08.6	54	49	34	17	4 09	87
4	238	31.5		26.4	298	42.9	111	19.7	52	43	27	8 07	3 59	83
5	253	31.2	-22	26.1	313	12.8	109	30.7	50	6 39	7 20	7 57	3 50	80
6	268	31.0	-22	25.8	327	42.6	108	41.6	45	6 28	7 05	7 38	3 32	74
7	283	30.7		25.5	342	12.4	108	52.4	40	18	6 52	22	16	71
8	298	30.4		25.2	356	42.0	106	03.2	35	09	41	7 09	3 03	67
9	313	30.2		24.9	11	11.4	104	13.8	30	6 01	31	6 57	2 52	64
10	328	29.9		24.6	25	40.8	104	24.4	20	5 45	6 13	37	33	60
11	343	29.6	-22	24.3	40	10.0	102	34.8	10 N	5 30	5 56	6 19	2 17	55
12	358	29.3	-22	24.0	54	39.1	101	45.2	0	5 14	5 40	6 02	2 02	52
13	13	29.1		23.6	69	08.1	100	55.5	10 S	4 56	23	5 46	1 47	48
14	28	28.8		23.3	83	36.9	98	05.7	20	34	5 03	27	31	44
15	43	28.5		23.0	98	05.6	97	15.7	30	4 06	4 39	5 06	12	40
16	58	28.3		22.7	112	34.2	96	25.7	35	3 49	25	4 54	1 02	37
17	73	28.0	-22	22.4	127	02.7	95	35.5	40	3 27	4 07	4 40	0 49	34
18	88	27.7	-22	22.1	141	31.1	94	45.3	45	2 58	3 46	4 23	0 35	30
19	103	27.4		21.7	155	59.3	92	54.9	50	2 16	18	4 01	18	24
20	118	27.2		21.4	170	27.4	91	04.5	52	1 52	3 04	3 51	10	22
21	133	26.9		21.1	184	55.3	89	13.9	54	1 17	2 48	40	0 01	19
22	148	26.6		20.8	199	23.2	89	23.2	56	** ** *	28	27	** ** *	
23	163	26.4		20.5	213	50.9	87	32.4	58	** ** *	2 02	3 11	23 50	19
24	178	26.1	-22	20.1	228	18.4	85	41.5	60 S	** ** *	1 24	2 53	23 31	11

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 53.0 ^m		Mag: -4.0 PMG: 9 ^h 30 ^m		Mag: +1.4 PMG: 11 ^h 03 ^m		Mag: -2.6 PMG: 19 ^h 08 ^m		Mag: +1.0 PMG: 15 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	106	03.9	217	30.5	-20	12.3	194	07.6	-24	02.1
1	121	06.4	232	29.8		12.8	209	08.0		02.1
2	136	08.8	247	29.0		13.3	224	08.4		02.1
3	151	11.3	262	28.3		13.8	239	08.9		02.1
4	166	13.8	277	27.5		14.4	254	09.3		02.1
5	181	16.2	292	26.8	-20	14.9	269	09.7	-24	02.1
6	196	18.7	307	26.1	-20	15.4	284	10.1	-24	02.1
7	211	21.2	322	25.3		16.0	299	10.5		02.1
8	226	23.6	337	24.6		16.5	314	11.0		02.1
9	241	26.1	352	23.8		17.0	329	11.4		02.1
10	256	28.5	7	23.1		17.5	344	11.8		02.1
11	271	31.0	22	22.3	-20	18.1	359	12.2	-24	02.1
12	286	33.5	37	21.6	-20	18.6	14	12.7	-24	02.1
13	301	35.9	52	20.9		19.1	29	13.1		02.1
14	316	38.4	67	20.1		19.6	44	13.5		02.0
15	331	40.9	82	19.4		20.1	59	13.9		02.0
16	346	43.3	97	18.6		20.7	74	14.3		02.0
17	1	45.8	112	17.9	-20	21.2	89	14.8	-24	02.0
18	16	48.3	127	17.1	-20	21.7	104	15.2	-24	02.0
19	31	50.7	142	16.4		22.2	119	15.6		02.0
20	46	53.2	157	15.6		22.7	134	16.0		02.0
21	61	55.7	172	14.9		23.2	149	16.4		02.0
22	76	58.1	187	14.1		23.8	164	16.9		02.0
23	92	00.6	202	13.4		24.3	179	17.3		02.0
24	107	03.0	217	12.6	-20	24.8	194	17.7	-24	01.9
Dif	—		-7	-5			+4		0	
								+24	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 06.5 ^m				Edad: 26.0 ^d SD: 15'6 PMG: 9 ^h 07 ^m PHE { 4 ^h : 57'5 12 ^h : 57'8 20 ^h : 58'1 Rº: 58 ^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	26.1	-22	20.1	228	18.4		-23	41.5	89	15 16	16 11	17 07	6 33	105	11 31	16	
1	193	25.8		19.8	242	45.9			50.4	89	32	22	13	6 10	95	11 54	27	
2	208	25.6		19.5	257	13.2		-23	59.3	87	45	31	19	5 51	89	12 14	32	
3	223	25.3		19.2	271	40.4		-24	08.0	86	15 57	39	25	36	84	30	36	
4	238	25.0		18.8	286	07.5			16.6	86	16 07	47	30	22	81	44	39	
5	253	24.8	-22	18.5	300	34.4		-24	25.0	84	16 16	16 54	17 35	5 10	79	12 56	42	
6	268	24.5	-22	18.2	315	01.2		-24	33.4	84	16 36	17 09	17 46	4 46	74	13 21	46	
7	283	24.2		17.8	329	27.9			41.6	82	16 51	21	17 55	27	70	42	48	
8	298	23.9		17.5	343	54.5			49.6	80	17 05	32	18 04	4 10	69	13 59	51	
9	313	23.7		17.2	358	20.9		-24	57.6	80	16	17 42	12	3 56	67	14 13	53	
10	328	23.4		16.9	12	47.2		-25	05.4	78	36	18 00	27	33	63	14 38	56	
11	343	23.1	-22	16.5	27	13.4		-25	13.1	77	17 54	18 16	18 42	3 12	60	15 00	58	
12	358	22.9	-22	16.2	41	39.4		-25	20.6	75	18 10	18 33	18 59	2 54	57	15 20	60	
13	13	22.6		15.9	56	05.4			28.0	72	27	18 50	19 16	35	55	15 41	61	
14	28	22.3		15.5	70	31.2			35.2	71	18 45	19 09	19 38	2 15	52	16 03	63	
15	43	22.1		15.2	84	56.8			42.3	70	19 05	33	20 05	1 52	48	28	66	
16	58	21.8		14.9	99	22.4			49.3	70	18	19 47	23	39	46	16 43	68	
17	73	21.6	-22	14.5	113	47.8		-25	56.1	68	19 32	20 04	20 45	1 23	43	17 00	70	
18	88	21.3	-22	14.2	128	13.2		-26	02.8	67	19 49	20 25	21 13	1 05	40	17 21	72	
19	103	21.0		13.8	142	38.4			09.3	65	20 10	20 53	21 54	0 42	36	17 48	75	
20	118	20.8		13.5	157	03.4			15.7	64	20	21 06	22 17	32	32	18 01	77	
21	133	20.5		13.2	171	28.4			21.9	62	31	22	22 50	20	29	16	79	
22	148	20.2		12.8	185	53.3			27.9	60	44	21 42	** **	0 06	25	33	82	
23	163	20.0		12.5	200	18.0			33.8	59	20 59	22 07	** **	** **	**	18 54	87	
24	178	19.7	-22	12.1	214	42.6		-26	39.6	58	21 17	22 42	** **	23 42	31	19 22	95	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 16 ^h 49.0 ^m		Mag: -4.0 PMG: 9 ^h 32 ^m			Mag: +1.4 PMG: 11 ^h 03 ^m			Mag: -2.6 PMG: 19 ^h 04 ^m			Mag: +1.0 PMG: 15 ^h 15 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	
0	107	03.0	217	12.6	-20	24.8	194	17.7	-24	01.9	73	16.5	+12	20.0	130	39.7	-11	35.8
1	122	05.5	232	11.9		25.3	209	18.1		01.9	88	18.9		20.0	145	41.9		35.7
2	137	08.0	247	11.1		25.8	224	18.5		01.9	103	21.3		20.0	160	44.1		35.6
3	152	10.4	262	10.4		26.3	239	19.0		01.9	118	23.7		20.1	175	46.4		35.5
4	167	12.9	277	09.6		26.8	254	19.4		01.9	133	26.1		20.1	190	48.6		35.5
5	182	15.4	292	08.9	-20	27.3	269	19.8	-24	01.9	148	28.5	+12	20.1	205	50.8	-11	35.4
6	197	17.8	307	08.1	-20	27.8	284	20.2	-24	01.9	163	30.9	+12	20.2	220	53.1	-11	35.3
7	212	20.3	322	07.4		28.3	299	20.6		01.9	178	33.3		20.2	235	55.3		35.2
8	227	22.8	337	06.6		28.8	314	21.1		01.8	193	35.7		20.3	250	57.5		35.1
9	242	25.2	352	05.9		29.3	329	21.5		01.8	208	38.1		20.3	265	59.8		35.0
10	257	27.7	7	05.1		29.8	344	21.9		01.8	223	40.5		20.3	281	02.0		34.9
11	272	30.2	22	04.3	-20	30.3	359	22.3	-24	01.8	238	42.9	+12	20.4	296	04.3	-11	34.8
12	287	32.6	37	03.6	-20	30.8	14	22.7	-24	01.8	253	45.3	+12	20.4	311	06.5	-11	34.7
13	302	35.1	52	02.8		31.3	29	23.2		01.8	268	47.7		20.4	326	08.7		34.6
14	317	37.5	67	02.1		31.8	44	23.6		01.7	283	50.1		20.5	341	11.0		34.6
15	332	40.0	82	01.3		32.3	59	24.0		01.7	298	52.5		20.5	356	13.2		34.5
16	347	42.5	97	00.6		32.8	74	24.4		01.7	313	54.9		20.5	11	15.4		34.4
17	2	44.9	111	59.8	-20	33.3	89	24.8	-24	01.7	328	57.3	+12	20.6	26	17.7	-11	34.3
18	17	47.4	126	59.0	-20	33.8	104	25.3	-24	01.7	343	59.7	+12	20.6	41	19.9	-11	34.2
19	32	49.9	141	58.3		34.3	119	25.7		01.6	359	02.1		20.6	56	22.1		34.1
20	47	52.3	156	57.5		34.8	134	26.1		01.6	14	04.5		20.7	71	24.4		34.0
21	62	54.8	171	56.8		35.3	149	26.5		01.6	29	06.9		20.7	86	26.6		33.9
22	77	57.3	186	56.0		35.8	164	26.9		01.6	44	09.3		20.8	101	28.8		33.8
23	92	59.7	201	55.3		36.3	179	27.3		01.6	59	11.7		20.8	116	31.1		33.7
24	108	02.2	216	54.5	-20	36.8	194	27.8	-24	01.5	74	14.1	+12	20.8	131	33.3	-11	33.6
Dif	—		-8		-5		+4		0		+24		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 06.9 ^m				Edad: 27.0 ^d PHE { 4 ^h : 58/4 12 ^h : 58/7 20 ^h : 58/9 PMG: 10 ^h 05 ^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	
0	178	19.7	-22	12.1	214	42.6	55	-26	39.6	56	60 N	7 06	8 01	8 56	8 18	82	11 47	50			
1	193	19.4		11.8	229	07.1			45.2	54	58	7 00	7 51	41	7 45	76	12 21	55			
2	208	19.2		11.5	243	31.5	54		50.6	52	56	6 54	42	27	20 74	12 46	57				
3	223	18.9		11.1	257	55.8	53	-26	55.8	52	54	48	33	16	7 00	72	13 06	58			
4	238	18.6		10.8	272	20.0	52	-27	00.9	51	52	43	26	8 06	6 43	71	23 59				
5	253	18.4	-22	10.4	286	44.0	50	-27	05.8	49	50	6 38	7 19	7 57	6 29	70	13 38	59			
6	268	18.1	-22	10.1	301	08.0	50	-27	10.6	48	45	6 27	7 04	7 37	6 00	68	14 07	61			
7	283	17.9		09.7	315	31.9	49		15.2	46	40	18	6 52	22	5 37	68	30 62				
8	298	17.6		09.4	329	55.6	47		19.6	44	35	09	41	7 09	19 66	14 50	61				
9	313	17.3		09.0	344	19.3	47		23.8	42	30	6 01	31	6 57	5 03 65	15 06 62					
10	328	17.1		08.7	358	42.9	46		27.9	41	20	5 46	6 13	37	4 36 64	34 62					
11	343	16.8	-22	08.3	13	06.3	44	-27	31.8	39	10 N	5 31	5 57	6 20	4 12 63	15 58 63					
12	358	16.6	-22	08.0	27	29.7	44	-27	35.5	37	0	5 15	5 41	6 03	3 51 62	16 20 63					
13	13	16.3		07.6	41	53.0	43		39.0	35	10 S	4 57	24	5 47	30 60	16 42 64					
14	28	16.0		07.3	56	16.2	42		42.3	33	20	36	5 04	29	3 07 59	17 06 64					
15	43	15.8		06.9	70	39.3	41		45.5	32	30	4 08	4 41	5 08	2 40 58	34 63					
16	58	15.5		06.6	85	02.3	40		48.5	30	35	3 51	27	4 56	25 56	17 51 63					
17	73	15.2	-22	06.2	99	25.3	40	-27	51.3	28	40	3 29	4 10	4 42	2 06 56	18 10 63					
18	88	15.0	-22	05.9	113	48.1	38	-27	53.9	26	45	3 01	3 48	4 25	1 45 53	18 33 63					
19	103	14.7		05.5	128	10.9	38		56.3	24	50	2 20	21	4 04	18 50	19 03 63					
20	118	14.5		05.2	142	33.6	37	-27	58.6	23	52	1 57	3 07	3 54	1 04 49	18 62					
21	133	14.2		04.8	156	56.3	37	-28	00.6	20	54	1 24	2 51	43	0 49 47	35 62					
22	148	14.0		04.4	171	18.8	35		02.5	19	56	** **	32	30	31 44	19 55 62					
23	163	13.7		04.1	185	41.3	35		04.2	17	58	** **	2 07	3 15	0 09 40	20 21 61					
24	178	13.4	-22	03.7	200	03.7	34	-28	05.6	14	60 S	** **	1 31	2 57	** **	**	20 57 59				
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO				
	PMG 16 ^h 45.1 ^m				Mag: -4.0 PMG: 9 ^h 33 ^m				Mag: +1.4 PMG: 11 ^h 02 ^m				Mag: -2.6 PMG: 19 ^h 00 ^m				Mag: +1.0 PMG: 15 ^h 12 ^m				
	hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♀		Dec		hG ♀		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	108	02.2	216	54.5	-20	36.8			194	27.8	-24	01.5	74	14.1	+12	20.8	131	33.3	-11	33.6	
1	123	04.7	231	53.7		37.2			209	28.2		01.5	89	16.4		20.9	146	35.5		33.6	
2	138	07.1	246	53.0		37.7			224	28.6		01.5	104	18.8		20.9	161	37.8		33.5	
3	153	09.6	261	52.2		38.2			239	29.0		01.5	119	21.2		20.9	176	40.0		33.4	
4	168	12.0	276	51.4		38.7			254	29.4		01.4	134	23.6		21.0	191	42.2		33.3	
5	183	14.5	291	50.7	-20	39.2			269	29.9	-24	01.4	149	26.0	+12	21.0	206	44.5	-11	33.2	
6	198	17.0	306	49.9	-20	39.7			284	30.3	-24	01.4	164	28.4	+12	21.1	221	46.7	-11	33.1	
7	213	19.4	321	49.2		40.1			299	30.7		01.4	179	30.8		21.1	236	49.0		33.0	
8	228	21.9	336	48.4		40.6			314	31.1		01.3	194	33.2		21.1	251	51.2		32.9	
9	243	24.4	351	47.6		41.1			329	31.5		01.3	209	35.6		21.2	266	53.4		32.8	
10	258	26.8	6	46.9		41.6			344	31.9		01.3	224	38.0		21.2	281	55.7		32.7	
11	273	29.3	21	46.1	-20	42.1			359	32.4	-24	01.3	239	40.4	+12	21.3	296	57.9	-11	32.6	
12	288	31.8	36	45.3	-20	42.5			14	32.8	-24	01.2	254	42.8	+12	21.3	312	00.1	-11	32.6	
13	303	34.2	51	44.6		43.0			29	33.2		01.2	269	45.2		21.3	327	02.4		32.5	
14	318	36.7	66	43.8		43.5			44	33.6		01.2	284	47.5		21.4	342	04.6		32.4	
15	333	39.2	81	43.0		44.0			59	34.0		01.2	299	49.9		21.4	357	06.8		32.3	
16	348	41.6	96	42.3		44.4			74	34.5		01.1	314	52.3		21.4	12	09.1		32.2	
17	3	44.1	111	41.5	-20	44.9			89	34.9	-24	01.1	329	54.7	+12	21.5	27	11.3	-11	32.1	
18	18	46.5	126	40.7	-20	45.4			104	35.3	-24	01.1	344	57.1	+12	21.5	42	13.5	-11	32.0	
19	33	49.0	141	40.0		45.8			119	35.7		01.0	359	59.5		21.6	57	15.8		31.9	
20	48	51.5	156	39.2		46.3			134	36.1		01.0	15	01.9		21.6	72	18.0		31.8	
21	63	53.9	171	38.4		46.8			149	36.5		01.0	30	04.3		21.6	87	20.2		31.7	
22	78	56.4	186	37.7		47.2			164	37.0		00.9	45	06.6		21.7	102	22.4		31.6	
23	93	58.9	201	36.9		47.7			179	37.4		00.9	60	09.0		21.7	117	24.7		31.6	
24	109	01.3	216	36.1	-20	48.2			194	37.8	-24	00.9	75	11.4	+12	21.8	132	26.9	-11	31.5	
Dif	—		-8		-5		+4		0		+24		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 07.3 ^m			Edad: 28.0 ^d SD: 16'1 PMG: 11 ^h 08 ^m								PHE { 4 ^h : 59'2 12 ^h : 59'4 20 ^h : 59'7 R°: 64 ^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	13.4	-22	03.7	200	03.7	-28	05.6	60 N	15 20	16 14	17 09	9 40 37	12 37 97						
1	193	13.2		03.4	214	26.1		06.9	58	35	25	16	9 01 45	13 16 88						
2	208	12.9		03.0	228	48.4		08.0	56	15 48	34	22	8 34 49	13 43 84						
3	223	12.7		02.6	243	10.7		08.9	54	16 00	42	27	8 12 52	14 04 82						
4	238	12.4		02.3	257	32.9		09.6	52	10	50	32	7 54 54	22 79						
5	253	12.1	-22	01.9	271	55.0	-28	10.1	50	16 19	16 56	17 37	7 39 55	14 37 78						
6	268	11.9	-22	01.5	286	17.1	-28	10.4	45	16 38	17 11	17 48	7 08 58	15 08 75						
7	283	11.6		01.2	300	39.1		10.6	40	16 53	23	17 57	6 45 58	32 72						
8	298	11.4		00.8	315	01.1		10.5	35	17 06	34	18 05	25 60	15 51 71						
9	313	11.1		00.5	329	23.1		10.2	30	18	17 44	13	6 08 61	16 08 70						
10	328	10.9	-22	00.1	343	45.0		09.7	20	38	18 01	29	5 40 62	16 36 68						
11	343	10.6	-21	59.7	358	06.9	-28	09.0	10 N	17 55	18 17	18 43	5 15 63	17 01 65						
12	358	10.4	-21	59.3	12	28.8	-28	08.1	0	18 11	18 33	18 59	4 53 64	17 23 64						
13	13	10.1		59.0	26	50.6		07.0	10 S	27	18 50	19 17	30 65	17 46 61						
14	28	09.8		58.6	41	12.4		05.8	20	18 45	19 09	19 38	4 06 65	18 10 59						
15	43	09.6		58.2	55	34.2		04.3	30	19 06	33	20 05	3 38 66	37 58						
16	58	09.3		57.9	69	56.0		02.6	35	18	19 47	22	21 67	18 54 56						
17	73	09.1	-21	57.5	84	17.7	-28	00.7	40	19 31	20 04	20 44	3 02 67	19 13 54						
18	88	08.8	-21	57.1	98	39.4	-27	58.6	45	19 48	20 24	21 12	2 38 68	19 36 51						
19	103	08.6		56.7	113	01.2		56.3	50	20 09	20 51	21 51	2 08 69	20 06 47						
20	118	08.3		56.4	127	22.9		53.8	52	18	21 05	22 14	1 53 70	20 45						
21	133	08.1		56.0	141	44.6		51.1	54	30	20	22 45	36 70	37 42						
22	148	07.8		55.6	156	06.3		48.2	56	42	21 39	** **	1 15 71	20 57 39						
23	163	07.6		55.2	170	28.0		45.1	58	20 57	22 03	** **	0 49 73	21 22 33						
24	178	07.3	-21	54.9	184	49.7	-27	41.8	60 S	21 15	22 37	** **	0 13 75	21 56 23						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG 16 ^h 41.2 ^m			Mag: -4.0 PMG: 9 ^h 34 ^m			Mag: +1.4 PMG: 11 ^h 01 ^m			Mag: -2.6 PMG: 18 ^h 56 ^m			Mag: +1.0 PMG: 15 ^h 08 ^m							
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°					
0	109	01.3	216	36.1	-20	48.2	194	37.8	-24	00.9	75	11.4	+12	21.8	132	26.9	-11	31.5		
1	124	03.8	231	35.3		48.6	209	38.2		00.8	90	13.8		21.8	147	29.1		31.4		
2	139	06.3	246	34.6		49.1	224	38.6		00.8	105	16.2		21.8	162	31.4		31.3		
3	154	08.7	261	33.8		49.6	239	39.0		00.8	120	18.6		21.9	177	33.6		31.2		
4	169	11.2	276	33.0		50.0	254	39.5		00.7	135	21.0		21.9	192	35.8		31.1		
5	184	13.6	291	32.3	-20	50.5	269	39.9	-24	00.7	150	23.3	+12	22.0	207	38.1	-11	31.0		
6	199	16.1	306	31.5	-20	50.9	284	40.3	-24	00.7	165	25.7	+12	22.0	222	40.3	-11	30.9		
7	214	18.6	321	30.7		51.4	299	40.7		00.6	180	28.1		22.0	237	42.5		30.8		
8	229	21.0	336	29.9		51.8	314	41.1		00.6	195	30.5		22.1	252	44.8		30.7		
9	244	23.5	351	29.2		52.3	329	41.5		00.6	210	32.9		22.1	267	47.0		30.6		
10	259	26.0	6	28.4		52.8	344	42.0		00.5	225	35.3		22.2	282	49.2		30.5		
11	274	28.4	21	27.6	-20	53.2	359	42.4	-24	00.5	240	37.6	+12	22.2	297	51.5	-11	30.4		
12	289	30.9	36	26.8	-20	53.7	14	42.8	-24	00.4	255	40.0	+12	22.3	312	53.7	-11	30.4		
13	304	33.4	51	26.1		54.1	29	43.2		00.4	270	42.4		22.3	327	55.9		30.3		
14	319	35.8	66	25.3		54.6	44	43.6		00.4	285	44.8		22.3	342	58.2		30.2		
15	334	38.3	81	24.5		55.0	59	44.0		00.3	300	47.2		22.4	358	00.4		30.1		
16	349	40.8	96	23.7		55.5	74	44.4		00.3	315	49.6		22.4	13	02.6		30.0		
17	4	43.2	111	22.9	-20	55.9	89	44.9	-24	00.2	330	51.9	+12	22.5	28	04.8	-11	29.9		
18	19	45.7	126	22.2	-20	56.4	104	45.3	-24	00.2	345	54.3	+12	22.5	43	07.1	-11	29.8		
19	34	48.1	141	21.4		56.8	119	45.7		00.2	0	56.7		22.5	58	09.3		29.7		
20	49	50.6	156	20.6		57.2	134	46.1		00.1	15	59.1		22.6	73	11.5		29.6		
21	64	53.1	171	19.8		57.7	149	46.5	-24	00.1	31	01.5		22.6	88	13.8		29.5		
22	79	55.5	186	19.1		58.1	164	46.9	-24	00.0	46	03.8		22.7	103	16.0		29.4		
23	94	58.0	201	18.3		58.6	179	47.4	-24	00.0	61	06.2		22.7	118	18.2		29.3		
24	110	00.5	216	17.5	-20	59.0	194	47.8	-23	59.9	76	08.6	+12	22.8	133	20.5	-11	29.2		
Dif	—		-8		-5		+4		0		+24		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 07.7 ^m				Edad: 29.0 ^d SD: 16'3 PMG: 12 ^h 12 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	178	07.3	-21	54.9	184	49.7	-27	41.8	60 N	7 05	8 00	8 54	10 17	12	14 14	118
1	193	07.1		54.5	199	11.4		38.2	58	6 58	7 49	39	9 46	23	14 44	107
2	208	06.8		54.1	213	33.2		34.5	56	52	40	26	23	29	15 07	100
3	223	06.5		53.7	227	54.9		30.6	54	47	32	14	9 04	33	26	95
4	238	06.3		53.3	242	16.7		26.5	52	42	25	8 05	8 48	37	41	92
5	253	06.0	-21	53.0	256	38.5	-27	22.2	50	6 37	7 18	7 56	8 34	40	15 55	89
6	268	05.8	-21	52.6	271	00.3	-27	17.6	45	6 27	7 04	7 37	8 06	44	16 23	83
7	283	05.5		52.2	285	22.1		12.9	40	18	6 51	21	7 43	49	16 44	79
8	298	05.3		51.8	299	44.0		08.0	35	09	41	7 08	25	51	17 02	76
9	313	05.0		51.4	314	05.9	-27	02.9	30	6 01	31	6 57	7 09	53	18	73
10	328	04.8		51.1	328	27.8	-26	57.6	20	5 46	6 14	37	6 42	57	17 44	68
11	343	04.5	-21	50.7	342	49.7	-26	52.1	10 N	5 32	5 58	6 20	6 18	60	18 06	65
12	358	04.3	-21	50.3	357	11.7	-26	46.4	0	5 16	5 42	6 04	5 57	62	18 27	61
13	13	04.0		49.9	11	33.8		40.4	10 S	4 58	25	5 48	35	65	18 47	58
14	28	03.8		49.5	25	55.9		34.3	20	37	5 06	30	5 11	69	19 09	54
15	43	03.5		49.1	40	18.0		28.1	30	4 10	4 43	5 10	4 44	72	35	49
16	58	03.3		48.7	54	40.2		21.6	35	3 53	29	4 58	28	74	19 50	46
17	73	03.0	-21	48.3	69	02.4	-26	14.9	40	3 31	4 12	4 44	4 09	76	20 07	43
18	88	02.8	-21	47.9	83	24.7	-26	08.0	45	3 04	3 51	4 27	3 46	80	20 27	39
19	103	02.5		47.6	97	47.0	-26	01.0	50	2 24	24	4 07	17	84	20 53	33
20	118	02.3		47.2	112	09.4	-25	53.7	52	2 02	3 11	3 57	3 03	86	21 05	31
21	133	02.1		46.8	126	31.9		46.3	54	1 31	2 55	46	2 46	90	19	27
22	148	01.8		46.4	140	54.4		38.6	56	0 25	36	33	26	94	36	22
23	163	01.6		46.0	155	17.0		30.8	58	** **	2 12	18	2 02	99	21 55	17
24	178	01.3	-21	45.6	169	39.6	-25	22.8	60 S	** **	1 39	3 01	1 28	110	22 19	8

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 37.2 ^m		Mag: -4.0 PMG: 9 ^h 35 ^m		Mag: +1.4 PMG: 11 ^h 01 ^m		Mag: -2.6 PMG: 18 ^h 52 ^m		Mag: +1.0 PMG: 15 ^h 04 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	110	00.5	216	17.5	-20	59.0	194	47.8	-23	59.2
1	125	02.9	231	16.7		59.5	209	48.2		59.2
2	140	05.4	246	15.9	-20	59.9	224	48.6		59.9
3	155	07.9	261	15.2	-21	00.3	239	49.0		59.8
4	170	10.3	276	14.4		00.8	254	49.4		59.8
5	185	12.8	291	13.6	-21	01.2	269	49.9	-23	59.7
6	200	15.3	306	12.8	-21	01.6	284	50.3	-23	59.7
7	215	17.7	321	12.0		02.1	299	50.7		59.6
8	230	20.2	336	11.2		02.5	314	51.1		59.6
9	245	22.6	351	10.5		02.9	329	51.5		59.5
10	260	25.1	6	09.7		03.4	344	51.9		59.5
11	275	27.6	21	08.9	-21	03.8	359	52.3	-23	59.4
12	290	30.0	36	08.1	-21	04.2	14	52.8	-23	59.4
13	305	32.5	51	07.3		04.6	29	53.2		59.3
14	320	35.0	66	06.5		05.1	44	53.6		59.3
15	335	37.4	81	05.7		05.5	59	54.0		59.2
16	350	39.9	96	05.0		05.9	74	54.4		59.2
17	5	42.4	111	04.2	-21	06.3	89	54.8	-23	59.1
18	20	44.8	126	03.4	-21	06.8	104	55.2	-23	59.1
19	35	47.3	141	02.6		07.2	119	55.7		59.0
20	50	49.8	156	01.8		07.6	134	56.1		59.0
21	65	52.2	171	01.0		08.0	149	56.5		58.9
22	80	54.7	186	00.2		08.4	164	56.9		58.9
23	95	57.1	200	59.4		08.9	179	57.3		58.8
24	110	59.6	215	58.7	-21	09.3	194	57.7	-23	58.8
Dif	—		-8		-4		+4		0	
									+24	
									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 08.1 ^m			Edad: 30.0 ^d PHE { 4 ^h : 60 ^h 3 12 ^h : 60 ^h 4 20 ^h : 60 ^h 5 PMG: 13 ^h 14 ^m R°: 58 ^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 01.3	-21 45.6	169 39.6	38	-25 22.8	81	60 N	15 24	16 18	17 13	10 29	4	16 12	116						
1	193 01.1	45.2	184 02.4	38	14.7	84	58	39	28	19	10 09	11	31	109						
2	208 00.8	44.8	198 25.2	38	-25 06.3	85	56	15 52	37	25	9 52	17	16	47						
3	223 00.6	44.4	212 48.0	40	-24 57.8	87	54	16 03	45	30	37 22	17	01	99						
4	238 00.3	44.0	227 11.0	40	49.1	89	52	13	52	35	25 25	13	95							
5	253 00.1	-21 43.6	241 34.0	40	-24 40.2	91	50	16 22	16 59	17 40	9 14	28	17	24						
6	267 59.8	-21 43.2	255 57.1	41	-24 31.1	93	45	16 40	17 13	17 50	8 50	35	17	46						
7	282 59.6	42.8	270 20.3	42	21.8	94	40	16 55	25	17 59	32 38	18	03	80						
8	297 59.4	42.4	284 43.5	44	12.4	96	35	17 08	36	18 07	16 42	18	76							
9	312 59.1	42.0	299 06.9	44	-24 02.8	97	30	19	17 45	15	8 02	46	31	72						
10	327 58.9	41.6	313 30.3	44	-23 53.1	99	20	39	18 03	30	7 39	51	18	52						
11	342 58.6	-21 41.2	327 53.8	45	-23 43.2	101	10 N	17 56	18 18	18 44	7 18	56	19	11						
12	357 58.4	-21 40.8	342 17.4	46	-23 33.1	103	0	18 12	18 34	19 00	6 59	60	19	28						
13	12 58.1	40.4	356 41.1	47	22.8	104	10 S	28	18 51	17	40 64	19	45	53						
14	27 57.9	40.0	11 04.9	48	12.4	106	20	18 45	19 09	19 38	6 20	68	20	03						
15	42 57.6	39.6	25 28.7	50	-23 01.8	107	30	19 05	32	20 05	5 56	73	24	42						
16	57 57.4	39.2	39 52.7	50	-22 51.1	109	35	17	19 46	22	42 76	36	39							
17	72 57.2	-21 38.8	54 16.7	50	-22 40.2	110	40	19 31	20 03	20 43	5 25	80	20	50						
18	87 56.9	-21 38.3	68 40.9	52	-22 29.2	112	45	19 47	20 23	21 10	5 06	84	21	06						
19	102 56.7	37.9	83 05.1	54	18.0	114	50	20 07	20 50	21 49	4 41	91	26	24						
20	117 56.4	37.5	97 29.5	54	-22 06.6	115	52	17	21 03	22 10	29 94	36	21							
21	132 56.2	37.1	111 53.9	55	-21 55.1	116	54	28	18	22 39	16 98	46	18							
22	147 56.0	36.7	126 18.4	57	43.5	118	56	40	36	23 31	4 00	102	21	58						
23	162 55.7	36.3	140 43.1	57	31.7	120	58	20 55	21 59	** **	3 41	109	22	12						
24	177 55.5	-21 35.9	155 07.8	57	-21 19.7	120	60 S	21 12	22 31	** **	3 18	117	22	27						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 33.3 ^m		Mag: -4.0 PMG: 9 ^h 37 ^m		Mag: +1.4 PMG: 11 ^h 00 ^m		Mag: -2.6 PMG: 18 ^h 49 ^m		Mag: +1.0 PMG: 15 ^h 01 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	110 59.6	215 58.7	-21 09.3	194 57.7	-23 58.8	77 05.6	+12 23.8	134 14.0	-11 27.0	
1	126 02.1	230 57.9	09.7	209 58.1	58.7	92 07.9	23.9	149 16.2	26.9	
2	141 04.5	245 57.1	10.1	224 58.6	58.7	107 10.3	23.9	164 18.4	26.8	
3	156 07.0	260 56.3	10.5	239 59.0	58.6	122 12.7	24.0	179 20.6	26.7	
4	171 09.5	275 55.5	10.9	254 59.4	58.5	137 15.0	24.0	194 22.9	26.6	
5	186 11.9	290 54.7	-21 11.3	269 59.8	-23 58.5	152 17.4	+12 24.1	209 25.1	-11 26.6	
6	201 14.4	305 53.9	-21 11.8	285 00.2	-23 58.4	167 19.8	+12 24.1	224 27.3	-11 26.5	
7	216 16.9	320 53.1	12.2	300 00.6	58.4	182 22.1	24.1	239 29.5	26.4	
8	231 19.3	335 52.3	12.6	315 01.0	58.3	197 24.5	24.2	254 31.8	26.3	
9	246 21.8	350 51.5	13.0	330 01.5	58.3	212 26.9	24.2	269 34.0	26.2	
10	261 24.3	5 50.7	13.4	345 01.9	58.2	227 29.2	24.3	284 36.2	26.1	
11	276 26.7	20 49.9	-21 13.8	0 02.3	-23 58.1	242 31.6	+12 24.3	299 38.5	-11 26.0	
12	291 29.2	35 49.2	-21 14.2	15 02.7	-23 58.1	257 34.0	+12 24.4	314 40.7	-11 25.9	
13	306 31.6	50 48.4	14.6	30 03.1	58.0	272 36.3	24.4	329 42.9	25.8	
14	321 34.1	65 47.6	15.0	45 03.5	58.0	287 38.7	24.5	344 45.1	25.7	
15	336 36.6	80 46.8	15.4	60 03.9	57.9	302 41.1	24.5	359 47.4	25.6	
16	351 39.0	95 46.0	15.8	75 04.4	57.8	317 43.4	24.6	14 49.6	25.5	
17	6 41.5	110 45.2	-21 16.2	90 04.8	-23 57.8	332 45.8	+12 24.6	29 51.8	-11 25.4	
18	21 44.0	125 44.4	-21 16.6	105 05.2	-23 57.7	347 48.2	+12 24.7	44 54.0	-11 25.3	
19	36 46.4	140 43.6	17.0	120 05.6	57.6	2 50.5	24.7	59 56.3	25.2	
20	51 48.9	155 42.8	17.4	135 06.0	57.6	17 52.9	24.8	74 58.5	25.1	
21	66 51.4	170 42.0	17.8	150 06.4	57.5	32 55.3	24.8	90 00.7	25.0	
22	81 53.8	185 41.2	18.2	165 06.8	57.5	47 57.6	24.9	105 02.9	25.0	
23	96 56.3	200 40.4	18.6	180 07.2	57.4	63 00.0	24.9	120 05.2	24.9	
24	111 58.8	215 39.6	-21 19.0	195 07.7	-23 57.3	78 02.3	+12 25.0	135 07.4	-11 24.8	
Dif	—	-8	-4	+4	+1	+24	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 08.5 ^m				Edad: 1.5 ^d PHE { 4 ^h : 60'5 12 ^h : 60'5 20 ^h : 60'5 PMG: 14 ^h 12 ^m R°: 54 ^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	55.5	-21	35.9	155	07.8	58	-21	19.7	120	60 N	7 03	7 58	8 51	10 33	1	18 08	110						
1	192	55.2		35.5	169	32.6	59	-21	07.7	123	58	6 57	48	37	20	6	20 105							
2	207	55.0		35.1	183	57.5	61	-20	55.4	123	56	51	39	24	10 09	11	31 100							
3	222	54.8		34.6	198	22.6	61		43.1	125	54	46	31	13	9 59	14	40 96							
4	237	54.5		34.2	212	47.7	61		30.6	125	52	41	24	8 03	50	18	48 92							
5	252	54.3	-21	33.8	227	12.9	62	-20	18.0	126	50	6 37	7 17	7 54	9 42	21	18 55	90						
6	267	54.0	-21	33.4	241	38.2	63	-20	05.2	128	45	6 26	7 03	7 36	9 25	26	19 11	83						
7	282	53.8		33.0	256	03.7	65	-19	52.3	129	40	17	6 51	21	9 10	32	23 78							
8	297	53.6		32.6	270	29.2	65		39.3	130	35	09	40	7 08	8 58	36	34 73							
9	312	53.3		32.1	284	54.8	66		26.2	131	30	6 02	31	6 57	48	39	43 70							
10	327	53.1		31.7	299	20.6	68	-19	12.9	133	20	5 47	6 14	38	30	45	19 59	64						
11	342	52.8	-21	31.3	313	46.4	68	-18	59.5	134	10 N	5 32	5 58	6 21	8 14	50	20 13	58						
12	357	52.6	-21	30.9	328	12.3	69	-18	46.0	135	0	5 17	5 43	6 05	7 59	55	20 25	54						
13	12	52.4		30.4	342	38.4	71		32.4	136	10 S	4 59	26	5 49	44	60	38 48							
14	27	52.1		30.0	357	04.5	71		18.6	138	20	39	5 07	31	28	65	20 51	43						
15	42	51.9		29.6	11	30.7	72	-18	04.8	138	30	4 12	4 44	11	7 09	71	21 06	37						
16	57	51.7		29.2	25	57.1	74	-17	50.8	140	35	3 55	31	5 00	6 58	75	15 33							
17	72	51.4	-21	28.8	40	23.5	74	-17	36.8	140	40	3 34	4 14	4 46	6 45	79	21 25	29						
18	87	51.2	-21	28.3	54	50.0	75	-17	22.6	142	45	3 07	3 54	4 30	6 30	85	21 37	24						
19	102	51.0		27.9	69	16.7	77	-17	08.3	143	50	2 28	27	10	12	91	50 19							
20	117	50.7		27.5	83	43.4	77	-16	53.9	144	52	2 07	3 14	4 00	6 03	94	21 57	16						
21	132	50.5		27.0	98	10.2	78		39.4	145	54	1 38	2 59	3 49	5 54	97	22 04	13						
22	147	50.3		26.6	112	37.2	80		24.9	145	56	0 46	41	37	42 102		12 9							
23	162	50.0		26.2	127	04.2	80	-16	10.2	147	58	** **	2 18	22	30 106		21 5							
24	177	49.8	-21	25.8	141	31.3	81	-15	55.4	148	60 S	** **	1 46	3 05	5 15 113		22 31	1						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 16 ^h 29.4 ^m			Mag: -4.0 PMG: 9 ^h 38 ^m			Mag: +1.4 PMG: 10 ^h 59 ^m			Mag: -2.6 PMG: 18 ^h 45 ^m			Mag: +1.0 PMG: 14 ^h 57 ^m											
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec									
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°						
0	111	58.8	215	39.6	-21	19.0	195	07.7	-23	57.3	78	02.3	+12	25.0	135	07.4	-11	24.8						
1	127	01.2	230	38.8		19.4	210	08.1		57.3	93	04.7		25.0	150	09.6		24.7						
2	142	03.7	245	38.0		19.7	225	08.5		57.2	108	07.1		25.1	165	11.8		24.6						
3	157	06.1	260	37.2		20.1	240	08.9		57.1	123	09.4		25.1	180	14.1		24.5						
4	172	08.6	275	36.4		20.5	255	09.3		57.1	138	11.8		25.1	195	16.3		24.4						
5	187	11.1	290	35.6	-21	20.9	270	09.7	-23	57.0	153	14.1	+12	25.2	210	18.5	-11	24.3						
6	202	13.5	305	34.8	-21	21.3	285	10.1	-23	56.9	168	16.5	+12	25.2	225	20.7	-11	24.2						
7	217	16.0	320	34.0		21.7	300	10.6		56.9	183	18.9		25.3	240	23.0		24.1						
8	232	18.5	335	33.2		22.1	315	11.0		56.8	198	21.2		25.3	255	25.2		24.0						
9	247	20.9	350	32.4		22.4	330	11.4		56.7	213	23.6		25.4	270	27.4		23.9						
10	262	23.4	5	31.6		22.8	345	11.8		56.6	228	25.9		25.4	285	29.6		23.8						
11	277	25.9	20	30.8	-21	23.2	0	12.2	-23	56.6	243	28.3	+12	25.5	300	31.9	-11	23.7						
12	292	28.3	35	30.0	-21	23.6	15	12.6	-23	56.5	258	30.7	+12	25.5	315	34.1	-11	23.6						
13	307	30.8	50	29.2		24.0	30	13.0		56.4	273	33.0		25.6	330	36.3		23.5						
14	322	33.3	65	28.4		24.3	45	13.4		56.4	288	35.4		25.6	345	38.5		23.4						
15	337	35.7	80	27.6		24.7	60	13.9		56.3	303	37.7		25.7	0	40.8		23.4						
16	352	38.2	95	26.8		25.1	75	14.3		56.2	318	40.1		25.7	15	43.0		23.3						
17	7	40.6	110	26.0	-21	25.5	90	14.7	-23	56.1	333	42.4	+12	25.8	30	45.2	-11	23.2						
18	22	43.1	125	25.2	-21	25.8	105	15.1	-23	56.1	348	44.8	+12	25.8	45	47.4	-11	23.1						
19	37	45.6	140	24.4		26.2	120	15.5		56.0	3	47.1		25.9	60	49.7		23.0						
20	52	48.0	155	23.6		26.6	135	15.9		55.9	18	49.5		25.9	75	51.9		22.9						
21	67	50.5	170	22.7		26.9	150	16.3		55.9	33	51.9		26.0	90	54.1		22.8						
22	82	53.0	185	21.9		27.3	165	16.7		55.8	48	54.2		26.0	105	56.3		22.7						
23	97	55.4	200	21.1		27.7	180	17.2		55.7	63	56.6		26.1	120	58.6		22.6						
24	112	57.9	215	20.3	-21	28.0	195	17.6	-23	55.6	78	58.9	+12	26.1	136	00.8	-11	22.5						
Dif	—			-8			+4			+1			+24			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 08.9 ^m		Edad: 2.5 ^d SD: 16/5 PMG: 15 ^h 06 ^m						Civil		Náutico		Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	177	49.8	-21	25.8	141	31.3	-15	55.4	60 N	15	28	16	22	17	16
1	192	49.6		25.3	155	58.5		40.5	58		43	31	22	26	5
2	207	49.3		24.9	170	25.9		25.6	56	15	55	40	28	20	7
3	222	49.1		24.5	184	53.3	-15	10.5	54	16	06	48	33	13	11
4	237	48.9		24.0	199	20.8	-14	55.4	52	16		16	55	08	14
5	252	48.6	-21	23.6	213	48.4	-14	40.2	50	16	24	17	01	17	42
6	267	48.4	-21	23.2	228	16.1	-14	24.9	45	16	43	17	15	17	52
7	282	48.2		22.7	242	43.8	-14	09.5	40	16	57	27	18	01	42
8	297	47.9		22.3	257	11.7	-13	54.1	35	17	10	38	09	34	31
9	312	47.7		21.9	271	39.7		38.6	30	21		17	47	16	27
10	327	47.5		21.4	286	07.7		22.9	20	40		18	04	31	15
11	342	47.2	-21	21.0	300	35.9	-13	07.3	10 N	17	57	18	19	18	45
12	357	47.0	-21	20.5	315	04.1	-12	51.5	0	18	13	18	35	19	01
13	12	46.8		20.1	329	32.4		35.7	10 S		28	18	51	18	44
14	27	46.6		19.7	344	00.8		19.8	20	18	45	19	10	19	38
15	42	46.3		19.2	358	29.3	-12	03.9	30	19	05	32	20	04	20
16	57	46.1		18.8	12	57.8	-11	47.9	35	17		19	46	21	13
17	72	45.9	-21	18.3	27	26.5	-11	31.9	40	19	30	20	02	20	42
18	87	45.6	-21	17.9	41	55.2	-11	15.7	45	19	46	20	22	21	08
19	102	45.4		17.4	56	24.0	-10	59.6	50	20	06	20	48	21	46
20	117	45.2		17.0	70	52.9		43.3	52	15		21	01	22	07
21	132	45.0		16.6	85	21.9		27.1	54	26		15		22	34
22	147	44.7		16.1	99	50.9	-10	10.7	56	38		33		23	18
23	162	44.5		15.7	114	20.0	-9	54.4	58	20	52	21	55	** **	** **
24	177	44.3	-21	15.2	128	49.2	-9	37.9	60 S	21	09	22	25	** **	** **

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 25.4 ^m		Mag: -4.0 PMG: 9 ^h 39 ^m		Mag: +1.4 PMG: 10 ^h 59 ^m		Mag: -2.6 PMG: 18 ^h 41 ^m		Mag: +1.0 PMG: 14 ^h 54 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	112	57.9	215	20.3	-21	28.0	195	17.6	-23	55.6
1	128	00.4	230	19.5		28.4	210	18.0		55.5
2	143	02.8	245	18.7		28.8	225	18.4		55.5
3	158	05.3	260	17.9		29.1	240	18.8		55.4
4	173	07.7	275	17.1		29.5	255	19.2		55.3
5	188	10.2	290	16.3	-21	29.9	270	19.6	-23	55.2
6	203	12.7	305	15.5	-21	30.2	285	20.0	-23	55.2
7	218	15.1	320	14.7		30.6	300	20.5		55.1
8	233	17.6	335	13.9		30.9	315	20.9		55.0
9	248	20.1	350	13.1		31.3	330	21.3		54.9
10	263	22.5	5	12.2		31.7	345	21.7		54.8
11	278	25.0	20	11.4	-21	32.0	0	22.1	-23	54.8
12	293	27.5	35	10.6	-21	32.4	15	22.5	-23	54.7
13	308	29.9	50	09.8		32.7	30	22.9		54.6
14	323	32.4	65	09.0		33.1	45	23.3		54.5
15	338	34.9	80	08.2		33.4	60	23.7		54.4
16	353	37.3	95	07.4		33.8	75	24.2		54.3
17	8	39.8	110	06.6	-21	34.1	90	24.6	-23	54.3
18	23	42.2	125	05.8	-21	34.5	105	25.0	-23	54.2
19	38	44.7	140	04.9		34.8	120	25.4		54.1
20	53	47.2	155	04.1		35.2	135	25.8		54.0
21	68	49.6	170	03.3		35.5	150	26.2		53.9
22	83	52.1	185	02.5		35.8	165	26.6		53.8
23	98	54.6	200	01.7		36.2	180	27.0		53.8
24	113	57.0	215	00.9	-21	36.5	195	27.5	-23	53.7
Dif	—		-8		-4		+4		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 3 PMG:12 ^h 09.2 ^m				Edad: 3.5 ^d PHE { 4 ^h : 60'2 12 ^h : 60'0 20 ^h : 59'9 R°: 48 ^m													
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	177	44.3	-21	15.2	128	49.2		-9	37.9	60 N	7 01	7 55	8 48	10 34	0	21 42 100		
1	192	44.0		14.8	143	18.5	103		21.5	58	6 55	46	34	31	3	44 96		
2	207	43.8		14.3	157	47.8	103	-9	05.0	56	50	37	22	27	7	46 92		
3	222	43.6		13.9	172	17.2	104	-8	48.4	54	45	29	11	24	10	48 89		
4	237	43.4		13.4	186	46.7	105		31.8	52	40	22	8 02	22	12	49 86		
5	252	43.1	-21	13.0	201	16.2	105	-8	15.2	50	6 36	7 16	7 53	10 19	15	21 51 83		
6	267	42.9	-21	12.5	215	45.8	106	-7	58.5	45	6 26	7 02	7 35	10 14	20	21 54 77		
7	282	42.7		12.1	230	15.5	107		41.8	40	17	6 50	20	09	25	56 73		
8	297	42.5		11.6	244	45.3	108		25.1	35	09	40	7 08	05	29	21 58 69		
9	312	42.2		11.2	259	15.1	108	-7	08.4	30	6 01	31	6 57	10 02	32	22 00 65		
10	327	42.0		10.7	273	44.9	108	-6	51.6	20	5 47	6 14	38	9 56	38	03 59		
11	342	41.8	-21	10.3	288	14.8	109	-6	34.8	10 N	5 33	5 59	6 21	9 50	44	22 06 53		
12	357	41.6	-21	09.8	302	44.8	110	-6	18.0	0	5 18	5 43	6 06	9 45	49	22 08 49		
13	12	41.4		09.3	317	14.8	110	-6	01.1	10 S	5 01	27	5 50	40	54	11 43		
14	27	41.1		08.9	331	44.9	111	-5	44.2	20	4 40	5 09	33	35	59	14 37		
15	42	40.9		08.4	346	15.1	112		27.3	30	4 14	4 46	13	28	66	17 31		
16	57	40.7		08.0	0	45.3	112	-5	10.4	35	3 57	33	5 01	25	69	18 28		
17	72	40.5	-21	07.5	15	15.5	112	-4	53.5	40	3 37	4 16	4 48	9 21	73	22 20 24		
18	87	40.2	-21	07.1	29	45.8	113	-4	36.6	45	3 10	3 56	4 32	9 16	79	22 22 20		
19	102	40.0		06.6	44	16.2	114		19.6	50	2 33	31	13	10	85	25 14		
20	117	39.8		06.1	58	46.6	114	-4	02.7	52	2 12	18	4 03	08	87	26 12		
21	132	39.6		05.7	73	17.0	114	-3	45.7	54	1 45	3 03	3 53	05	90	27 10		
22	147	39.4		05.2	87	47.5	115		28.7	56	1 00	2 45	41	9 01	94	29 6		
23	162	39.1		04.7	102	18.1	116	-3	11.7	58	** **	2 23	27	8 58	97	30 3		
24	177	38.9	-21	04.3	116	48.6	115	-2	54.8	60 S	** **	1 54	3 10	8 54	101	22 32 **		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 16 ^h 21.5 ^m		Mag: -4.0 PMG: 9 ^h 40 ^m				Mag: +1.4 PMG: 10 ^h 58 ^m				Mag: -2.5 PMG: 18 ^h 37 ^m				Mag: +1.0 PMG: 14 ^h 50 ^m			
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♀		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	113	57.0	215	00.9	-21	36.5	195	27.5	-23	53.7	79	55.3	+12	27.4	136	54.1	-11	20.2
1	128	59.5	230	00.1		36.9	210	27.9		53.6	94	57.7		27.5	151	56.3		20.1
2	144	02.0	244	59.2		37.2	225	28.3		53.5	110	00.0		27.5	166	58.6		20.0
3	159	04.4	259	58.4		37.5	240	28.7		53.4	125	02.3		27.6	182	00.8		19.9
4	174	06.9	274	57.6		37.9	255	29.1		53.3	140	04.7		27.6	197	03.0		19.8
5	189	09.4	289	56.8	-21	38.2	270	29.5	-23	53.2	155	07.0	+12	27.7	212	05.2	-11	19.7
6	204	11.8	304	56.0	-21	38.5	285	29.9	-23	53.1	170	09.4	+12	27.7	227	07.5	-11	19.6
7	219	14.3	319	55.2		38.9	300	30.3		53.0	185	11.7		27.8	242	09.7		19.5
8	234	16.7	334	54.3		39.2	315	30.7		53.0	200	14.1		27.8	257	11.9		19.4
9	249	19.2	349	53.5		39.5	330	31.2		52.9	215	16.4		27.9	272	14.1		19.3
10	264	21.7	4	52.7		39.9	345	31.6		52.8	230	18.7		27.9	287	16.3		19.2
11	279	24.1	19	51.9	-21	40.2	0	32.0	-23	52.7	245	21.1	+12	28.0	302	18.6	-11	19.2
12	294	26.6	34	51.1	-21	40.5	15	32.4	-23	52.6	260	23.4	+12	28.1	317	20.8	-11	19.1
13	309	29.1	49	50.3		40.9	30	32.8		52.5	275	25.8		28.1	332	23.0		19.0
14	324	31.5	64	49.4		41.2	45	33.2		52.4	290	28.1		28.2	347	25.2		18.9
15	339	34.0	79	48.6		41.5	60	33.6		52.3	305	30.5		28.2	2	27.4		18.8
16	354	36.5	94	47.8		41.8	75	34.0		52.2	320	32.8		28.3	17	29.7		18.7
17	9	38.9	109	47.0	-21	42.2	90	34.4	-23	52.1	335	35.1	+12	28.3	32	31.9	-11	18.6
18	24	41.4	124	46.2	-21	42.5	105	34.9	-23	52.0	350	37.5	+12	28.4	47	34.1	-11	18.5
19	39	43.8	139	45.3		42.8	120	35.3		51.9	5	39.8		28.4	62	36.3		18.4
20	54	46.3	154	44.5		43.1	135	35.7		51.8	20	42.1		28.5	77	38.5		18.3
21	69	48.8	169	43.7		43.4	150	36.1		51.7	35	44.5		28.6	92	40.8		18.2
22	84	51.2	184	42.9		43.8	165	36.5		51.6	50	46.8		28.6	107	43.0		18.1
23	99	53.7	199	42.1		44.1	180	36.9		51.5	65	49.2		28.7	122	45.2		18.0
24	114	56.2	214	41.2	-21	44.4	195	37.3	-23	51.5	80	51.5	+12	28.7	137	47.4	-11	17.9
Dif	—		-8		-3		+4		+1		+23		+1		+22		+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 09.6 ^m				Edad: 4.5 ^d SD: 16'3 PMG: 16 ^h 45 ^m						PHE { 4 ^h : 59'7 12 ^h : 59'5 20 ^h : 59'3 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				
0	177	38.9	-21	04.3	116	48.6	-2	54.8	60 N	15 33	16 25	17 19	10 34 0	23 22 99					
1	192	38.7		03.8	131	19.2		37.8	58	47	35	25	34 3	20 95					
2	207	38.5		03.3	145	49.9		20.8	56	15 59	43	31	34 6	18 92					
3	222	38.3		02.9	160	20.6		03.8	54	16 10	51	36	34 9	17 88					
4	237	38.0		02.4	174	51.3		46.8	52	19	16 58	40	34 12	15 85					
5	252	37.8	-21	01.9	189	22.1		29.8	50	16 27	17 04	17 45	10 34 14	23 14 82					
6	267	37.6	-21	01.5	203	52.9		12.9	45	16 45	17 18	17 54	10 34 20	23 11 77					
7	282	37.4		01.0	218	23.7		55.9	40	17 00	29	18 03	34 24	09 72					
8	297	37.2		00.5	232	54.6		38.9	35	12	39	11	34 28	07 67					
9	312	37.0	-21	00.1	247	25.5		22.0	30	23	17 49	18	34 31	05 64					
10	327	36.7	-20	59.6	261	56.4		05.1	20	41	18 05	32	34 37	23 02 58					
11	342	36.5	-20	59.1	276	27.3		11.9	10 N	17 58	18 20	18 46	10 34 43	22 59 53					
12	357	36.3	-20	58.7	290	58.3		28.8	0	18 13	18 35	19 01	10 34 48	22 57 47					
13	12	36.1		58.2	305	29.3		45.7	10 S	29	18 51	18	34 53	54 43					
14	27	35.9		57.7	320	00.3		02.5	20	18 46	19 10	19 38	34 58	51 38					
15	42	35.7		57.2	334	31.3		19.4	30	19 05	32	20 04	34 65	48 32					
16	57	35.4		56.8	349	02.4		36.2	35	16	19 45	20	34 68	46 29					
17	72	35.2	-20	56.3	3	33.5		53.0	40	19 29	20 01	20 40	10 34 72	22 44 25					
18	87	35.0	-20	55.8	18	04.6		09.8	45	19 45	20 21	21 06	10 35 76	22 42 20					
19	102	34.8		55.3	32	35.7		26.6	50	20 04	46	21 43	35 82	39 15					
20	117	34.6		54.8	47	06.8		43.3	52	14	20 58	22 03	35 85	38 12					
21	132	34.4		54.4	61	37.9		00.0	54	24	21 13	22 29	35 88	37 9					
22	147	34.2		53.9	76	09.1		16.7	56	36	30	23 08	35 91	35 7					
23	162	34.0		53.4	90	40.2		33.3	58	20 49	21 51	** **	35 95	33 4					
24	177	33.7	-20	52.9	105	11.4		49.9	60 S	21 05	22 19	** **	10 35 99	22 31 0					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 16 ^h 17.6 ^m		Mag: -4.0 PMG: 9 ^h 42 ^m		Mag: +1.4 PMG: 10 ^h 57 ^m		Mag: -2.5 PMG: 18 ^h 34 ^m		Mag: +1.0 PMG: 14 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	114	56.2	214	41.2	195	37.3	-23	51.5	80	51.5	+12	28.7	137	47.4	-11	17.9		
1	129	58.6	229	40.4		44.7	210	37.7		51.4	95	53.8		28.8	152	49.6		17.8
2	145	01.1	244	39.6		45.0	225	38.1		51.3	110	56.2		28.8	167	51.9		17.7
3	160	03.6	259	38.8		45.3	240	38.6		51.2	125	58.5		28.9	182	54.1		17.6
4	175	06.0	274	37.9		45.6	255	39.0		51.1	141	00.8		29.0	197	56.3		17.5
5	190	08.5	289	37.1	-21	46.0	270	39.4	-23	51.0	156	03.2	+12	29.0	212	58.5	-11	17.4
6	205	11.0	304	36.3	-21	46.3	285	39.8	-23	50.9	171	05.5	+12	29.1	228	00.7	-11	17.3
7	220	13.4	319	35.5		46.6	300	40.2		50.8	186	07.9		29.1	243	02.9		17.2
8	235	15.9	334	34.6		46.9	315	40.6		50.7	201	10.2		29.2	258	05.2		17.1
9	250	18.3	349	33.8		47.2	330	41.0		50.6	216	12.5		29.2	273	07.4		17.0
10	265	20.8	4	33.0		47.5	345	41.4		50.5	231	14.9		29.3	288	09.6		16.9
11	280	23.3	19	32.2	-21	47.8	0	41.8	-23	50.3	246	17.2	+12	29.4	303	11.8	-11	16.8
12	295	25.7	34	31.3	-21	48.1	15	42.3	-23	50.2	261	19.5	+12	29.4	318	14.0	-11	16.7
13	310	28.2	49	30.5		48.4	30	42.7		50.1	276	21.9		29.5	333	16.3		16.6
14	325	30.7	64	29.7		48.7	45	43.1		50.0	291	24.2		29.5	348	18.5		16.5
15	340	33.1	79	28.9		49.0	60	43.5		49.9	306	26.5		29.6	3	20.7		16.4
16	355	35.6	94	28.0		49.3	75	43.9		49.8	321	28.9		29.6	18	22.9		16.4
17	10	38.1	109	27.2	-21	49.6	90	44.3	-23	49.7	336	31.2	+12	29.7	33	25.1	-11	16.3
18	25	40.5	124	26.4	-21	49.9	105	44.7	-23	49.6	351	33.5	+12	29.8	48	27.4	-11	16.2
19	40	43.0	139	25.6		50.2	120	45.1		49.5	6	35.9		29.8	63	29.6		16.1
20	55	45.5	154	24.7		50.5	135	45.5		49.4	21	38.2		29.9	78	31.8		16.0
21	70	47.9	169	23.9		50.8	150	46.0		49.3	36	40.5		29.9	93	34.0		15.9
22	85	50.4	184	23.1		51.1	165	46.4		49.2	51	42.8		30.0	108	36.2		15.8
23	100	52.8	199	22.2		51.3	180	46.8		49.1	66	45.2		30.1	123	38.4		15.7
24	115	55.3	214	21.4	-21	51.6	195	47.2	-23	49.0	81	47.5	+12	30.1	138	40.7	-11	15.6
Dif	—		-8	-3		+4	+1		+23	+1		+22		+1				+1

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 09.9 ^m				Edad: 5.5 ^d PHE { 4 ^h : 59'1 12 ^h : 58'9 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	
0	177	33.7	-20	52.9	105	11.4	+3	49.9	166	60 N	6 59	7 53	8 45	10 34	0	**	**	**		
1	192	33.5		52.4	119	42.6	+4	06.5	166	58	53	44	31	37	4	**	**	**		
2	207	33.3		52.0	134	13.7		23.1	165	56	48	35	19	40	8	**	**	**		
3	222	33.1		51.5	148	44.9		39.6	165	54	43	28	09	43	11	**	**	**		
4	237	32.9		51.0	163	16.1	+4	56.1	165	52	39	21	8 00	46	13	**	**	**		
5	252	32.7	-20	50.5	177	47.3	+5	12.5	164	50	6 34	7 15	7 51	10 48	16	**	**	**		
6	267	32.5	-20	50.0	192	18.5	+5	28.9	164	45	6 25	7 01	7 34	10 54	20	**	**	**		
7	282	32.3		49.5	206	49.7	+5	45.2	163	40	16	6 50	19	10 58	25	**	**	**		
8	297	32.1		49.1	221	20.9	+6	01.5	163	35	09	40	7 07	11 02	29	**	**	**		
9	312	31.8		48.6	235	52.0		17.8	163	30	6 01	31	6 56	05	33	**	**	**		
10	327	31.6		48.1	250	23.2		34.0	162	20	5 47	6 14	38	11 38		**	**	**		
11	342	31.4	-20	47.6	264	54.4	+6	50.2	162	10 N	5 33	5 59	6 22	11 17	43	23	52	53		
12	357	31.2	-20	47.1	279	25.6	+7	06.3	161	0	5 18	5 44	6 06	11 22	48	23	44	49		
13	12	31.0		46.6	293	56.7		22.4	161	10 S	5 02	28	5 51	27	53	37	44			
14	27	30.8		46.1	308	27.9		38.4	160	20	4 42	5 10	34	32	58	29	39			
15	42	30.6		45.6	322	59.0	+7	54.4	160	30	16	4 48	15	39	64	20	33			
16	57	30.4		45.1	337	30.1	+8	10.3	159	35	4 00	35	5 03	42	68	15	30			
17	72	30.2	-20	44.6	352	01.3	+8	26.2	159	40	3 39	4 19	4 50	11 46	72	23	09	26		
18	87	30.0	-20	44.2	6	32.4	+8	42.0	158	45	3 13	3 59	4 35	11 51	77	23	02	22		
19	102	29.8		43.7	21	03.4	+8	57.7	157	50	2 37	34	16	11 57	82	22	54	17		
20	117	29.6		43.2	35	34.5	+9	13.4	157	52	2 17	22	4 06	12 00	85	50	14			
21	132	29.4		42.7	50	05.6		29.0	156	54	1 51	3 07	3 56	03	88	46	11			
22	147	29.2		42.2	64	36.6	+9	44.6	156	56	1 12	2 50	44	06	91	42	8			
23	162	28.9		41.7	79	07.6	+10	00.1	155	58	** **	29	31	10	95	37	4			
24	177	28.7	-20	41.2	93	38.6	+10	15.6	155	60 S	** **	2 01	3 15	12 14	100	22	31	0		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 16 ^h 13.6 ^m		Mag: -4.0 PMG: 9 ^h 43 ^m				Mag: +1.4 PMG: 10 ^h 57 ^m				Mag: -2.5 PMG: 18 ^h 30 ^m				Mag: +1.0 PMG: 14 ^h 43 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	115	55.3	214	21.4	-21	51.6	195	47.2	-23	49.0	81	47.5	+12	30.1	138	40.7	-11	15.6		
1	130	57.8	229	20.6		51.9	210	47.6		48.9	96	49.8		30.2	153	42.9		15.5		
2	146	00.2	244	19.8		52.2	225	48.0		48.8	111	52.2		30.2	168	45.1		15.4		
3	161	02.7	259	18.9		52.5	240	48.4		48.6	126	54.5		30.3	183	47.3		15.3		
4	176	05.2	274	18.1		52.8	255	48.8		48.5	141	56.8		30.3	198	49.5		15.2		
5	191	07.6	289	17.3	-21	53.1	270	49.2	-23	48.4	156	59.1	+12	30.4	213	51.7	-11	15.1		
6	206	10.1	304	16.4	-21	53.4	285	49.7	-23	48.3	172	01.5	+12	30.5	228	54.0	-11	15.0		
7	221	12.6	319	15.6		53.6	300	50.1		48.2	187	03.8		30.5	243	56.2		14.9		
8	236	15.0	334	14.8		53.9	315	50.5		48.1	202	06.1		30.6	258	58.4		14.8		
9	251	17.5	349	13.9		54.2	330	50.9		48.0	217	08.5		30.6	274	00.6		14.7		
10	266	19.9	4	13.1		54.5	345	51.3		47.9	232	10.8		30.7	289	02.8		14.6		
11	281	22.4	19	12.3	-21	54.8	0	51.7	-23	47.8	247	13.1	+12	30.8	304	05.0	-11	14.5		
12	296	24.9	34	11.4	-21	55.0	15	52.1	-23	47.6	262	15.4	+12	30.8	319	07.3	-11	14.4		
13	311	27.3	49	10.6		55.3	30	52.5		47.5	277	17.8		30.9	334	09.5		14.3		
14	326	29.8	64	09.8		55.6	45	52.9		47.4	292	20.1		30.9	349	11.7		14.2		
15	341	32.3	79	08.9		55.9	60	53.3		47.3	307	22.4		31.0	4	13.9		14.1		
16	356	34.7	94	08.1		56.1	75	53.8		47.2	322	24.7		31.1	19	16.1		14.0		
17	11	37.2	109	07.3	-21	56.4	90	54.2	-23	47.1	337	27.1	+12	31.1	34	18.3	-11	13.9		
18	26	39.7	124	06.4	-21	56.7	105	54.6	-23	46.9	352	29.4	+12	31.2	49	20.6	-11	13.8		
19	41	42.1	139	05.6		56.9	120	55.0		46.8	7	31.7		31.2	64	22.8		13.7		
20	56	44.6	154	04.8		57.2	135	55.4		46.7	22	34.0		31.3	79	25.0		13.6		
21	71	47.1	169	03.9		57.5	150	55.8		46.6	37	36.4		31.4	94	27.2		13.5		
22	86	49.5	184	03.1		57.7	165	56.2		46.5	52	38.7		31.4	109	29.4		13.4		
23	101	52.0	199	02.3		58.0	180	56.6		46.4	67	41.0		31.5	124	31.6		13.3		
24	116	54.4	214	01.4	-21	58.3	195	57.0	-23	46.2	82	43.3	+12	31.6	139	33.9	-11	13.2		
Dif	—		-8		-3		+4		+1		+23		+1		+22		+			

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'3 PMG: 12 ^h 10.6 ^m				Edad: 7.5 ^d PHE { 4 ^h : 57'9 12 ^h : 57'7 20 ^h : 57'5 R°: 52 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	177	23.9	-20	29.0	81	53.2	+16	04.1	135	17.6	60 N	6 57	7 50	8 42	10 35	3	2 41	103	
1	192	23.7		28.5	96	23.3			134	31.0	58	51	41	28	47	9	30	97	
2	207	23.5		28.0	110	53.4			133	44.3	56	46	33	17	10 57	14	21	91	
3	222	23.3		27.5	125	23.5			132	57.5	54	42	26	8 07	11 06	18	12	88	
4	237	23.1		27.0	139	53.4	+16	57.5	131	10.6	52	37	19	7 58	15	20	2 05	84	
5	252	22.9	-20	26.5	154	23.4	+17	10.6	129	23.5	50	6 33	7 13	7 50	11 22	23	1 58	82	
6	267	22.8	-20	25.9	168	53.3	+17	23.5	128	36.4	45	6 24	7 00	7 33	11 38	29	1 44	75	
7	282	22.6		25.4	183	23.1			127	49.2	40	16	6 49	18	11 51	33	32	71	
8	297	22.4		24.9	197	52.9	+17	49.2	126	01.9	35	08	39	7 06	12 03	36	22	67	
9	312	22.2		24.4	212	22.7	+18	01.9	125	14.5	30	6 01	30	6 56	13	39	1 13	65	
10	327	22.0		23.9	226	52.4			124	27.0	20	5 47	14	38	30	44	0 58	59	
11	342	21.8	-20	23.4	241	22.0	+18	27.0	121	39.4	10 N	5 34	6 00	6 22	12 45	48	0 45	55	
12	357	21.6	-20	22.8	255	51.6	+18	39.4	120	51.7	0	5 19	5 45	6 07	12 59	52	0 33	50	
13	12	21.4		22.3	270	21.2	+18	51.7	119	03.8	10 S	5 03	29	5 52	13 13	56	21	46	
14	27	21.2		21.8	284	50.6	+19	03.8	118	15.9	20	4 43	5 12	35	29 59		0 08	42	
15	42	21.0		21.3	299	20.1			117	27.8	30	18	4 50	17	47 64		** ** *		
16	57	20.8		20.7	313	49.5			116	39.7	35	4 02	37	5 05	13 57	67	** ** *		
17	72	20.6	-20	20.2	328	18.8	+19	39.7	115	51.4	40	3 42	4 21	4 53	14 09	71	** ** *		
18	87	20.4	-20	19.7	342	48.1	+19	51.4	114	03.0	45	3 17	4 02	4 37	14 24	74	23 50	32	
19	102	20.2		19.2	357	17.3	+20	03.0	113	14.5	50	2 42	3 38	19	41 81		31	26	
20	117	20.1		18.6	11	46.5			112	25.9	52	2 23	26	10	49 84		22	24	
21	132	19.9		18.1	26	15.6			111	37.2	54	1 58	3 12	4 00	14 59	87	12	21	
22	147	19.7		17.6	40	44.6			110	48.3	56	1 23	2 55	3 48	15 09	91	23 01	16	
23	162	19.5		17.0	55	13.7			109	59.4	58	** ** *	35	35	21 97		22 48	11	
24	177	19.3	-20	16.5	69	42.6	+20	59.4	111		60 S	** ** *	2 09	3 20	15 35	104	22 33	4	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 16 ^h 05.8 ^m		Mag: -4.0 PMG: 9 ^h 46 ^m				Mag: +1.4 PMG: 10 ^h 55 ^m				Mag: -2.5 PMG: 18 ^h 23 ^m				Mag: +1.0 PMG: 14 ^h 36 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	117	53.6	213	41.3	-22	04.2	196	06.9	-23	43.2	83	38.9	+12	33.1	140	27.0	-11	10.9	
1	132	56.0	228	40.5		04.5	211	07.3		43.1	98	41.3		33.1	155	29.2		10.8	
2	147	58.5	243	39.6		04.7	226	07.7		43.0	113	43.6		33.2	170	31.4		10.7	
3	163	01.0	258	38.8		05.0	241	08.1		42.9	128	45.9		33.3	185	33.6		10.6	
4	178	03.4	273	37.9		05.2	256	08.5		42.7	143	48.2		33.3	200	35.9		10.5	
5	193	05.9	288	37.1	-22	05.4	271	08.9	-23	42.6	158	50.5	+12	33.4	215	38.1	-11	10.4	
6	208	08.4	303	36.3	-22	05.6	286	09.4	-23	42.5	173	52.8	+12	33.4	230	40.3	-11	10.3	
7	223	10.8	318	35.4		05.9	301	09.8		42.3	188	55.1		33.5	245	42.5		10.2	
8	238	13.3	333	34.6		06.1	316	10.2		42.2	203	57.4		33.6	260	44.7		10.1	
9	253	15.8	348	33.7		06.3	331	10.6		42.1	218	59.8		33.6	275	46.9		10.0	
10	268	18.2	3	32.9		06.6	346	11.0		41.9	234	02.1		33.7	290	49.1		09.9	
11	283	20.7	18	32.0	-22	06.8	1	11.4	-23	41.8	249	04.4	+12	33.8	305	51.4	-11	09.8	
12	298	23.2	33	31.2	-22	07.0	16	11.8	-23	41.7	264	06.7	+12	33.8	320	53.6	-11	09.7	
13	313	25.6	48	30.3		07.2	31	12.2		41.5	279	09.0		33.9	335	55.8		09.6	
14	328	28.1	63	29.5		07.4	46	12.6		41.4	294	11.3		34.0	350	58.0		09.5	
15	343	30.5	78	28.7		07.7	61	13.0		41.2	309	13.6		34.0	6	00.2		09.4	
16	358	33.0	93	27.8		07.9	76	13.5		41.1	324	15.9		34.1	21	02.4		09.3	
17	13	35.5	108	27.0	-22	08.1	91	13.9	-23	41.0	339	18.2	+12	34.2	36	04.6	-11	09.2	
18	28	37.9	123	26.1	-22	08.3	106	14.3	-23	40.8	354	20.5	+12	34.2	51	06.8	-11	09.1	
19	43	40.4	138	25.3		08.5	121	14.7		40.7	9	22.9		34.3	66	09.1		09.0	
20	58	42.9	153	24.4		08.8	136	15.1		40.6	24	25.2		34.4	81	11.3		08.9	
21	73	45.3	168	23.6		09.0	151	15.5		40.4	39	27.5		34.4	96	13.5		08.8	
22	88	47.8	183	22.7		09.2	166	15.9		40.3	54	29.8		34.5	111	15.7		08.7	
23	103	50.3	198	21.9		09.4	181	16.3		40.1	69	32.1		34.6	126	17.9		08.6	
24	118	52.7	213	21.0	-22	09.6	196	16.7	-23	40.0	84	34.4	+12	34.6	141	20.1	-11	08.5	
Dif	—		-8		-2		+4		+1		+23		+1		+22		+1		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 10.9 ^m				Edad: 8.5 ^d PHE { 4 ^h : 57'3 12 ^h : 57'1 20 ^h : 56'9 Rº: 55 ^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	19.3	-20	16.5	69	42.6	99	+20	59.4	109	60 N	15 42	16 34	17 27	10 38	8	4 24	103			
1	192	19.1		16.0	84	11.5		+21	10.3	108	58	15 55	42	32	10 56	15	4 07	95			
2	207	18.9		15.5	98	40.3	98		21.1	107	56	16 07	50	37	11 11	21	3 52	90			
3	222	18.7		14.9	113	09.1	98		31.8	105	54	17	16 57	42	24 25	40	85				
4	237	18.5		14.4	127	37.9	98		42.3	105	52	25	17 04	46	35 28	29	82				
5	252	18.4	-20	13.9	142	06.5	96	+21	52.8	105	50	16 33	17 10	17 50	11 45	31	3 20	79			
6	267	18.2	-20	13.3	156	35.2	97	+22	03.1	103	45	16 50	17 23	17 59	12 07	35	2 59	74			
7	282	18.0		12.8	171	03.7	95		13.3	102	40	17 04	34	18 07	24 39	43	70				
8	297	17.8		12.3	185	32.2	95		23.3	100	35	16	43	14	39 42	29	67				
9	312	17.6		11.7	200	00.7	94		33.3	98	30	26	17 52	21	12 52	44	2 18	64			
10	327	17.4		11.2	214	29.1	94		43.1	98	20	17 44	18 08	34	13 14	47	1 57	60			
11	342	17.2	-20	10.7	228	57.5	94	+22	52.8	97	10 N	18 00	18 22	18 48	13 33	51	1 40	56			
12	357	17.1	-20	10.1	243	25.8	93	+23	02.3	95	0	18 14	18 37	19 02	13 51	54	1 23	53			
13	12	16.9		09.6	257	54.0	92		11.7	94	10 S	29	18 52	18	14 09	56	1 07	50			
14	27	16.7		09.0	272	22.2	92		21.0	93	20	18 45	19 09	19 38	28 60	0 50	46				
15	42	16.5		08.5	286	50.3	91		30.2	92	30	19 04	30	20 02	14 51	63	30	42			
16	57	16.3		08.0	301	18.4	91		39.2	90	35	15	43	18	15 04	66	19	38			
17	72	16.1	-20	07.4	315	46.4	90	+23	48.1	89	40	19 27	19 59	20 37	15 20	68	0 05	36			
18	87	15.9	-20	06.9	330	14.4	90	+23	56.8	87	45	19 42	20 17	21 02	15 38	72	** ** *				
19	102	15.8		06.3	344	42.3	89	+24	05.5	85	50	20 01	41	36	16 02	76	23 57	36			
20	117	15.6		05.8	359	10.2	89		14.0	85	52	09	20 53	21 54	13 79		46	33			
21	132	15.4		05.2	13	38.0	88		22.3	83	54	19	21 06	22 17	26 81		33	30			
22	147	15.2		04.7	28	05.8	88		30.5	82	56	30	22	22 50	40 86		23 17	27			
23	162	15.0		04.2	42	33.5	87		38.6	81	58	43	21 42	** ** *	16 58	92	22 59	21			
24	177	14.9	-20	03.6	57	01.2	87	+24	46.5	79	60 S	20 58	22 06	** ** *	17 19 101	22 37	12				
UT	ARIES PMG 16 ^h 01.9 ^m				VENUS Mag: -4.0 PMG: 9 ^h 47 ^m				MARTE Mag: +1.4 PMG: 10 ^h 55 ^m				JÚPITER Mag: -2.5 PMG: 18 ^h 19 ^m				SATURNO Mag: +1.0 PMG: 14 ^h 33 ^m				
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec			
h	°	'	°	'	°	'		°	'		°	'	°	'	°	'	°	'			
0	118	52.7	213	21.0	-22	09.6		196	16.7	-23	40.0	84	34.4	+12	34.6	141	20.1	-11	08.5		
1	133	55.2	228	20.2		09.8		211	17.1		39.9	99	36.7		34.7	156	22.3		08.4		
2	148	57.7	243	19.3		10.0		226	17.6		39.7	114	39.0		34.8	171	24.5		08.3		
3	164	00.1	258	18.5		10.2		241	18.0		39.6	129	41.3		34.8	186	26.8		08.2		
4	179	02.6	273	17.7		10.4		256	18.4		39.4	144	43.6		34.9	201	29.0		08.1		
5	194	05.0	288	16.8	-22	10.6		271	18.8	-23	39.3	159	45.9	+12	35.0	216	31.2	-11	08.0		
6	209	07.5	303	16.0	-22	10.8		286	19.2	-23	39.1	174	48.2	+12	35.0	231	33.4	-11	07.9		
7	224	10.0	318	15.1		11.0		301	19.6		39.0	189	50.5		35.1	246	35.6		07.8		
8	239	12.4	333	14.3		11.2		316	20.0		38.9	204	52.8		35.2	261	37.8		07.7		
9	254	14.9	348	13.4		11.4		331	20.4		38.7	219	55.1		35.2	276	40.0		07.6		
10	269	17.4	3	12.6		11.6		346	20.8		38.6	234	57.4		35.3	291	42.2		07.5		
11	284	19.8	18	11.7	-22	11.8		1	21.3	-23	38.4	249	59.7	+12	35.4	306	44.4	-11	07.4		
12	299	22.3	33	10.9	-22	12.0		16	21.7	-23	38.3	265	02.0	+12	35.4	321	46.7	-11	07.3		
13	314	24.8	48	10.0		12.2		31	22.1		38.1	280	04.3		35.5	336	48.9		07.2		
14	329	27.2	63	09.2		12.4		46	22.5		38.0	295	06.6		35.6	351	51.1		07.1		
15	344	29.7	78	08.3		12.6		61	22.9		37.8	310	08.9		35.6	6	53.3		07.0		
16	359	32.1	93	07.5		12.8		76	23.3		37.7	325	11.2		35.7	21	55.5		06.9		
17	14	34.6	108	06.6	-22	13.0		91	23.7	-23	37.5	340	13.5	+12	35.8	36	57.7	-11	06.8		
18	29	37.1	123	05.8	-22	13.2		106	24.1	-23	37.4	355	15.8	+12	35.8	51	59.9	-11	06.7		
19	44	39.5	138	04.9		13.4		121	24.5		37.2	10	18.1		35.9	67	02.1		06.6		
20	59	42.0	153	04.1		13.6		136	24.9		37.1	25	20.4		36.0	82	04.3		06.5		
21	74	44.5	168	03.2		13.8		151	25.4		36.9	40	22.7		36.1	97	06.5		06.4		
22	89	46.9	183	02.4		13.9		166	25.8		36.8	55	25.0		36.1	112	08.8		06.3		
23	104	49.4	198	01.5		14.1		181	26.2		36.6	70	27.3		36.2	127	11.0		06.2		
24	119	51.9	213	00.7	-22	14.3		196	26.6	-23	36.5	85	29.6	+12	36.3	142	13.2	-11	06.1		
Dif	—				-8				-2				+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 11.2 ^m				Edad: 9.5 ^d PHE { 4 ^h : 56 ^h 7 12 ^h : 56 ^h 5 20 ^h : 56 ^h 3 R°: 55 ^m															
	hG ☉	Dec			hG ☾	Dif			Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	177	14.9	-20	03.6	57	01.2	87	+24	46.5	78	60 N	6	54	7	47	8	38	10	46	20
1	192	14.7		03.1	71	28.9	85	+24	54.3	77	58	49		39		25	11	11	30	5
2	207	14.5		02.5	85	56.4	86	+25	02.0	75	56	44		31		14		32	34	22
3	222	14.3		02.0	100	24.0	86		09.5	75	54	40		24		8	04	11	49	37
4	237	14.1		01.4	114	51.5	85		16.8	73	52	36		17		7	56	12	03	40
5	252	14.0	-20	00.9	129	18.9	84	+25	24.1	73	50	6	32	7	12	7	48	12	16	41
6	267	13.8	-20	00.3	143	46.3	84	+25	31.1	70	45	6	23	6	59	7	31	12	42	45
7	282	13.6	-19	59.8	158	13.7	84		38.1	70	40	15		48		17	13	03	47	3
8	297	13.4		59.2	172	41.0	83		44.9	68	35	08		38		7	06		21	48
9	312	13.2		58.7	187	08.3	83		51.5	66	30	6	01	30		6	55	13	36	50
10	327	13.1		58.1	201	35.5	82	+25	58.0	65	20	5	47	14		38	14	01	52	2
11	342	12.9	-19	57.6	216	02.7	82	+26	04.4	64	10 N	5	34	6	00	6	22	14	24	53
12	357	12.7	-19	57.0	230	29.9	82	+26	10.6	62	0	5	20	5	46	6	08	14	45	55
13	12	12.5		56.5	244	57.0	81		16.6	60	10 S	5	04		30	5	53	15	05	57
14	27	12.4		55.9	259	24.1	81		22.5	59	20	4	45	5	13		37		28	58
15	42	12.2		55.4	273	51.1	80		28.3	58	30		20	4	52	18	15	54	60	1
16	57	12.0		54.8	288	18.1	80		33.9	56	35	4	04		39	5	07	16	10	61
17	72	11.8	-19	54.2	302	45.1	80	+26	39.3	54	40	3	45	4	24	4	55	16	28	62
18	87	11.6	-19	53.7	317	12.1	80	+26	44.7	51	45	3	20	4	05	4	40	16	50	64
19	102	11.5		53.1	331	39.0	79		49.8	50	50	2	46	3	41	22	17	18	67	**
20	117	11.3		52.6	346	05.9	79		54.8	50	52		28		30	13		32	68	**
21	132	11.1		52.0	0	32.8	79	+26	59.7	49	54	2	05		16	4	04	17	47	70
22	147	11.0		51.5	14	59.6	78	+27	04.4	47	56	1	33	3	00	3	53	18	06	73
23	162	10.8		50.9	29	26.4	78		08.9	45	58	**	**	2	41		40	18	30	76
24	177	10.6	-19	50.3	43	53.2	78	+27	13.3	44	60 S	**	**	2	16	3	25	19	00	84

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 57.9 ^m		Mag: -4.0 PMG: 9 ^h 49 ^m		Mag: +1.4 PMG: 10 ^h 54 ^m		Mag: -2.5 PMG: 18 ^h 15 ^m		Mag: +1.0 PMG: 14 ^h 29 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	119	51.9	213	00.7	-22	14.3	196	26.6	-23	36.5
1	134	54.3	227	59.8		14.5	211	27.0		36.3
2	149	56.8	242	58.9		14.7	226	27.4		36.2
3	164	59.3	257	58.1		14.9	241	27.8		36.0
4	180	01.7	272	57.2		15.0	256	28.2		35.9
5	195	04.2	287	56.4	-22	15.2	271	28.6	-23	35.7
6	210	06.6	302	55.5	-22	15.4	286	29.1	-23	35.6
7	225	09.1	317	54.7		15.6	301	29.5		35.4
8	240	11.6	332	53.8		15.7	316	29.9		35.3
9	255	14.0	347	53.0		15.9	331	30.3		35.1
10	270	16.5	2	52.1		16.1	346	30.7		34.9
11	285	19.0	17	51.3	-22	16.2	1	31.1	-23	34.8
12	300	21.4	32	50.4	-22	16.4	16	31.5	-23	34.6
13	315	23.9	47	49.6		16.6	31	31.9		34.5
14	330	26.4	62	48.7		16.8	46	32.3		34.3
15	345	28.8	77	47.8		16.9	61	32.7		34.2
16	0	31.3	92	47.0		17.1	76	33.2		34.0
17	15	33.8	107	46.1	-22	17.3	91	33.6	-23	33.8
18	30	36.2	122	45.3	-22	17.4	106	34.0	-23	33.7
19	45	38.7	137	44.4		17.6	121	34.4		33.5
20	60	41.1	152	43.6		17.7	136	34.8		33.4
21	75	43.6	167	42.7		17.9	151	35.2		33.2
22	90	46.1	182	41.9		18.1	166	35.6		33.0
23	105	48.5	197	41.0		18.2	181	36.0		32.9
24	120	51.0	212	40.1	-22	18.4	196	36.4	-23	32.7
Dif	—		-9		-2		+4		+2	

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'3 PMG:12 ^h 11.4 ^m		Edad: 10.5 ^d SD: 15'3 PMG: 21 ^h 53 ^m PHE { 4 ^h : 56'2 12 ^h : 56'0 20 ^h : 55'8 R°: 55 ^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	177	10.6	-19	50.3	43	53.2	78	+27	13.3	42	60 N	15 47	16 38	17 31	11 06	49	7 41	66
1	192	10.4		49.8	58	20.0	78		17.5	41	58	16 00	46	36	11 41	51	7 07	63
2	207	10.3		49.2	72	46.8	77		21.6	39	56	11	16 54	40	12 06	52	6 42	62
3	222	10.1		48.7	87	13.5	77		25.5	38	54	20	17 01	45	26	53	22	61
4	237	09.9		48.1	101	40.2	77		29.3	36	52	29	07	49	43	54	6 05	61
5	252	09.7	-19	47.5	116	06.9	77	+27	32.9	35	50	16 37	17 13	17 53	12 57	54	5 51	60
6	267	09.6	-19	47.0	130	33.6	77	+27	36.4	33	45	16 53	17 25	18 01	13 27	54	5 21	60
7	282	09.4		46.4	145	00.2	76		39.7	31	40	17 06	36	09	13 50	55	4 59	58
8	297	09.2		45.8	159	26.9	77		42.8	30	35	18	45	16	14 09	55	40	58
9	312	09.1		45.3	173	53.6	77		45.8	29	30	28	17 54	23	26	55	4 24	57
10	327	08.9		44.7	188	20.2	76		48.7	27	20	17 45	18 09	36	14 53	56	3 56	57
11	342	08.7	-19	44.1	202	46.8	76	+27	51.4	25	10 N	18 01	18 23	18 49	15 17	56	3 33	56
12	357	08.6	-19	43.6	217	13.4	76	+27	53.9	24	0	18 15	18 37	19 03	15 40	55	3 11	55
13	12	08.4		43.0	231	40.1	76		56.3	22	10 S	30	18 52	18	16 02	55	2 49	55
14	27	08.2		42.4	246	06.7	76	+27	58.5	20	20	18 45	19 09	19 37	26	55	2 26	54
15	42	08.0		41.9	260	33.3	76	+28	00.5	19	30	19 03	30	20 01	16 54	55	1 59	52
16	57	07.9		41.3	274	59.9	76		02.4	18	35	14	42	17	17 11	55	43	52
17	72	07.7	-19	40.7	289	26.5	76	+28	04.2	16	40	19 26	19 57	20 35	17 30	55	1 24	51
18	87	07.5	-19	40.1	303	53.2	77	+28	05.8	14	45	19 41	20 15	21 00	17 54	54	1 02	49
19	102	07.4		39.6	318	19.8	76		07.2	13	50	19 58	38	32	18 25	53	0 33	48
20	117	07.2		39.0	332	46.4	76		08.5	11	52	20 07	20 50	21 50	40	53	19	47
21	132	07.0		38.4	347	13.1	77		09.6	9	54	16	21 03	22 12	18 57	53	0 03	45
22	147	06.9		37.8	1	39.7	76		10.5	8	56	27	18	22 41	19 19	51	** ** *	**
23	162	06.7		37.3	16	06.4	77		11.3	7	58	39	21 37	23 34	19 46	50	** ** *	**
24	177	06.5	-19	36.7	30	33.1	77	+28	12.0		60 S	20 53	22 00	** **	20 24	47	23 21	67

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 54.0 ^m		Mag: -3.9 PMG: 9 ^h 50 ^m		Mag: +1.3 PMG: 10 ^h 53 ^m		Mag: -2.5 PMG: 18 ^h 12 ^m		Mag: +1.0 PMG: 14 ^h 25 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	120	51.0	212	40.1	-22	18.4	196	36.4	-23	32.7
1	135	53.5	227	39.3		18.5	211	36.9		32.6
2	150	55.9	242	38.4		18.7	226	37.3		32.4
3	165	58.4	257	37.6		18.8	241	37.7		32.2
4	181	00.9	272	36.7		19.0	256	38.1		32.1
5	196	03.3	287	35.9	-22	19.1	271	38.5	-23	31.9
6	211	05.8	302	35.0	-22	19.3	286	38.9	-23	31.7
7	226	08.3	317	34.1		19.4	301	39.3		31.6
8	241	10.7	332	33.3		19.6	316	39.7		31.4
9	256	13.2	347	32.4		19.7	331	40.1		31.2
10	271	15.6	2	31.6		19.9	346	40.6		31.1
11	286	18.1	17	30.7	-22	20.0	1	41.0	-23	30.9
12	301	20.6	32	29.9	-22	20.2	16	41.4	-23	30.7
13	316	23.0	47	29.0		20.3	31	41.8		30.6
14	331	25.5	62	28.1		20.4	46	42.2		30.4
15	346	28.0	77	27.3		20.6	61	42.6		30.2
16	1	30.4	92	26.4		20.7	76	43.0		30.1
17	16	32.9	107	25.6	-22	20.8	91	43.4	-23	29.9
18	31	35.4	122	24.7	-22	21.0	106	43.8	-23	29.7
19	46	37.8	137	23.8		21.1	121	44.3		29.6
20	61	40.3	152	23.0		21.3	136	44.7		29.4
21	76	42.8	167	22.1		21.4	151	45.1		29.2
22	91	45.2	182	21.3		21.5	166	45.5		29.0
23	106	47.7	197	20.4		21.6	181	45.9		28.9
24	121	50.1	212	19.5	-22	21.8	196	46.3	-23	28.7
Dif	—		-9		-1		+4		+2	
							+23		+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 11.7 ^m			Edad: 11.5 ^d PHE { 4 ^h : 55'7 12 ^h : 55'5 20 ^h : 55'4 PMG: 22 ^h 48 ^m R°: 53 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	m
0	177	06.5	-19	36.7	30	33.1	77	+28	12.0	5	60 N	6 52	7 44	8 34	11 55	82	8 47	32	
1	192	06.4		36.1	44	59.8	77		12.5	3	58	47	36	22	12 32	74	8 10	39	
2	207	06.2		35.5	59	26.5	77		12.8	2	56	42	28	11	12 58	71	7 44	42	
3	222	06.1		35.0	73	53.2	77		13.0	0	54	38	21	8 02	13 19	68	23	44	
4	237	05.9		34.4	88	20.0	78		13.0	1	52	34	15	7 53	37 66	7 06	45		
5	252	05.7	-19	33.8	102	46.8	78	+28	12.9	3	50	6 30	7 10	7 46	13 51	65	6 51	46	
6	267	05.6	-19	33.2	117	13.6	78	+28	12.6	4	45	6 22	6 57	7 29	14 21	63	6 21	48	
7	282	05.4		32.6	131	40.4	78		12.2	6	40	14	47	16	14 45	60	5 57	50	
8	297	05.2		32.1	146	07.3	79		11.6	7	35	07	38	7 05	15 04	59	38	51	
9	312	05.1		31.5	160	34.1	78		10.9	9	30	6 00	29	6 55	21 58	5 21	52		
10	327	04.9		30.9	175	01.1	80		10.0	11	20	5 47	14	38	15 49	56	4 53	53	
11	342	04.8	-19	30.3	189	28.0	79	+28	08.9	12	10 N	5 34	6 00	6 22	16 13	54	4 29	54	
12	357	04.6	-19	29.7	203	55.0	80	+28	07.7	13	0	5 21	5 46	6 08	16 35	53	4 06	55	
13	12	04.4		29.1	218	22.0	80		06.4	16	10 S	5 05	31	5 54	16 57	52	3 44	55	
14	27	04.3		28.6	232	49.1	81		04.8	18	20	4 46	5 14	38	17 21	50	3 20	56	
15	42	04.1		28.0	247	16.1	80		03.2	20	30	22	4 54	20	17 49	48	2 51	57	
16	57	04.0		27.4	261	43.3	82	+28	01.4	22	35	4 07	41	5 10	18 06	46	35	57	
17	72	03.8	-19	26.8	276	10.4	81	+27	59.4	24	40	3 48	4 26	4 57	18 25	45	2 15	58	
18	87	03.6	-19	26.2	290	37.7	83	+27	57.3	26	45	3 24	4 08	4 43	18 48	43	1 51	59	
19	102	03.5		25.6	305	04.9	82		55.1	27	50	2 51	3 45	25	19 18	40	21	60	
20	117	03.3		25.0	319	32.2	83		52.7	28	52	34	34	17	33 37	1 06	60		
21	132	03.2		24.5	333	59.6	84		50.1	29	54	2 12	21	4 07	19 50	35	0 48	61	
22	147	03.0		23.9	348	27.0	84		47.4	30	56	1 42	3 05	3 57	20 10	32	27	62	
23	162	02.8		23.3	2	54.4	84		44.6		58	0 49	2 47	45	20 36	27	0 00	64	
24	177	02.7	-19	22.7	17	21.9	85	+27	41.6		60 S	** **	2 24	3 30	21 11	18	** **	**	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 15 ^h 50.1 ^m		Mag: -3.9 PMG: 9 ^h 51 ^m		Mag: +1.3 PMG: 10 ^h 53 ^m		Mag: -2.5 PMG: 18 ^h 08 ^m		Mag: +1.0 PMG: 14 ^h 22 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	121	50.1	212	19.5	-22	21.8	196	46.3	-23	28.7	87	19.6	+12	39.7	143	59.2	-11	01.2
1	136	52.6	227	18.7		21.9	211	46.7		28.5	102	21.9		39.8	159	01.4		01.1
2	151	55.1	242	17.8		22.0	226	47.1		28.4	117	24.2		39.8	174	03.6		01.0
3	166	57.5	257	17.0		22.2	241	47.5		28.2	132	26.5		39.9	189	05.8		00.9
4	182	00.0	272	16.1		22.3	256	48.0		28.0	147	28.7		40.0	204	08.0		00.8
5	197	02.5	287	15.2	-22	22.4	271	48.4	-23	27.8	162	31.0	+12	40.1	219	10.2	-11	00.7
6	212	04.9	302	14.4	-22	22.5	286	48.8	-23	27.7	177	33.3	+12	40.1	234	12.4	-11	00.6
7	227	07.4	317	13.5		22.6	301	49.2		27.5	192	35.6		40.2	249	14.6		00.5
8	242	09.9	332	12.6		22.8	316	49.6		27.3	207	37.9		40.3	264	16.8		00.4
9	257	12.3	347	11.8		22.9	331	50.0		27.1	222	40.1		40.4	279	19.0		00.3
10	272	14.8	2	10.9		23.0	346	50.4		26.9	237	42.4		40.4	294	21.2		00.2
11	287	17.3	17	10.1	-22	23.1	1	50.8	-23	26.8	252	44.7	+12	40.5	309	23.5	-11	00.1
12	302	19.7	32	09.2	-22	23.2	16	51.2	-23	26.6	267	47.0	+12	40.6	324	25.7	-11	00.0
13	317	22.2	47	08.3		23.3	31	51.7		26.4	282	49.3		40.7	339	27.9	-10	59.9
14	332	24.6	62	07.5		23.5	46	52.1		26.2	297	51.5		40.7	354	30.1		59.8
15	347	27.1	77	06.6		23.6	61	52.5		26.1	312	53.8		40.8	9	32.3		59.7
16	2	29.6	92	05.7		23.7	76	52.9		25.9	327	56.1		40.9	24	34.5		59.6
17	17	32.0	107	04.9	-22	23.8	91	53.3	-23	25.7	342	58.4	+12	41.0	39	36.7	-10	59.5
18	32	34.5	122	04.0	-22	23.9	106	53.7	-23	25.5	358	00.7	+12	41.0	54	38.9	-10	59.4
19	47	37.0	137	03.2		24.0	121	54.1		25.3	13	02.9		41.1	69	41.1		59.3
20	62	39.4	152	02.3		24.1	136	54.5		25.2	28	05.2		41.2	84	43.3		59.2
21	77	41.9	167	01.4		24.2	151	54.9		25.0	43	07.5		41.3	99	45.5		59.1
22	92	44.4	182	00.6		24.3	166	55.4		24.8	58	09.8		41.3	114	47.7		59.0
23	107	46.8	196	59.7		24.4	181	55.8		24.6	73	12.0		41.4	129	49.9		58.9
24	122	49.3	211	58.8	-22	24.5	196	56.2	-23	24.4	88	14.3	+12	41.5	144	52.1	-10	58.8
Dif	—		-9		-1		+4		+2		+23		+1		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16/2 PMG:12 ^h 11.9 ^m			Edad: 12.5 ^d SD: 15/1 PMG: 23 ^h 41 ^m PHE { 4 ^h : 55/3 12 ^h : 55/1 20 ^h : 55/0 R°: 49 ^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	02.7	-19	22.7	17	21.9	86	+27	41.6	31	60 N	15 52	16 42	17 34	13 17	93	9 19	12			
1	192	02.5		22.1	31	49.5	86		38.5	33	58	16 04	50	39	13 46	86	8 49	20			
2	207	02.4		21.5	46	17.1	86		35.2	34	56	15	16 58	44	14 09	80	26	25			
3	222	02.2		20.9	60	44.7	86		31.8	36	54	24	17 04	48	27 77		8 07	29			
4	237	02.1		20.3	75	12.4	87		28.2	36	52	32	10	52	43 73		7 51	32			
5	252	01.9	-19	19.7	89	40.2	88	+27	24.5	37	50	16 40	17 16	17 55	14 56	71	7 37	34			
6	267	01.8	-19	19.1	104	08.0	88	+27	20.7	38	45	16 56	17 28	18 04	15 24	67	7 09	38			
7	282	01.6		18.5	118	35.9	89		16.7	40	40	17 09	38	11	15 45	64	6 47	41			
8	297	01.4		17.9	133	03.9	90		12.5	42	35	20	47	18	16 03	62	29	43			
9	312	01.3		17.3	147	31.9	90		08.3	42	30	30	17 55	24	19 59		6 13	45			
10	327	01.1		16.7	162	00.0	91	+27	03.9	44	20	17 47	18 10	37	16 45	56	5 46	47			
11	342	01.0	-19	16.1	176	28.1	91	+26	59.3	46	10 N	18 02	18 24	18 49	17 07	53	5 23	50			
12	357	00.8	-19	15.5	190	56.3	92	+26	54.7	46	0	18 16	18 37	19 03	17 28	51	5 01	52			
13	12	00.7		14.9	205	24.6	93		49.8	49	10 S	30	18 52	18	17 49	48	4 39	54			
14	27	00.5		14.3	219	53.0	94		44.9	49	20	18 45	19 09	19 37	18 11	45	4 16	56			
15	42	00.4		13.7	234	21.4	94		39.8	51	30	19 03	29	20 00	37 41		3 48	59			
16	57	00.2		13.1	248	49.9	95		34.6	52	35	13	41	15	18 52	40	32	61			
17	72	00.1	-19	12.5	263	18.4	95	+26	29.3	53	40	19 25	19 56	20 34	19 10	37	3 13	63			
18	86	59.9	-19	11.9	277	47.0	96	+26	23.8	55	45	19 39	20 13	20 57	19 31	33	2 50	65			
19	101	59.8		11.3	292	15.7	97		18.2	56	50	19 56	36	21 29	19 58	28	21	69			
20	116	59.6		10.7	306	44.5	98		12.5	57	52	20 04	47	21 45	20 10	27	2 06	71			
21	131	59.5		10.1	321	13.4	99		06.6	59	54	13	20 59	22 06	25 23		1 49	74			
22	146	59.3		09.5	335	42.3	99	+26	00.6	60	56	24	21 14	22 33	20 42	20	29	77			
23	161	59.2		08.9	350	11.3	100	+25	54.5	61	58	35	32	23 17	21 03	15	1 04	81			
24	176	59.0	-19	08.3	4	40.3	100	+25	48.3	62	60 S	20 49	21 54	** **	21 29	7	0 28	92			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 15 ^h 46.1 ^m			Mag: -3.9 PMG: 9 ^h 53 ^m			Mag: +1.3 PMG: 10 ^h 52 ^m			Mag: -2.5 PMG: 18 ^h 04 ^m			Mag: +1.0 PMG: 14 ^h 18 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	° /			° /	° /		° /	° /		° /	° /		° /	° /							
0	122	49.3		211	58.8	-22	24.5	196	56.2	-23	24.4	88	14.3	+12	41.5	144	52.1	-10	58.8		
1	137	51.7		226	58.0		24.6	211	56.6		24.2	103	16.6		41.6	159	54.3		58.7		
2	152	54.2		241	57.1		24.7	226	57.0		24.1	118	18.9		41.7	174	56.5		58.6		
3	167	56.7		256	56.2		24.8	241	57.4		23.9	133	21.1		41.7	189	58.7		58.5		
4	182	59.1		271	55.4		24.9	256	57.8		23.7	148	23.4		41.8	205	00.9		58.4		
5	198	01.6		286	54.5	-22	25.0	271	58.2	-23	23.5	163	25.7	+12	41.9	220	03.2	-10	58.3		
6	213	04.1		301	53.6	-22	25.1	286	58.7	-23	23.3	178	28.0	+12	42.0	235	05.4	-10	58.2		
7	228	06.5		316	52.8		25.2	301	59.1		23.1	193	30.2		42.0	250	07.6		58.1		
8	243	09.0		331	51.9		25.3	316	59.5		22.9	208	32.5		42.1	265	09.8		58.0		
9	258	11.5		346	51.1		25.4	331	59.9		22.8	223	34.8		42.2	280	12.0		57.9		
10	273	13.9		1	50.2		25.5	347	00.3		22.6	238	37.1		42.3	295	14.2		57.8		
11	288	16.4		16	49.3	-22	25.6	2	00.7	-23	22.4	253	39.3	+12	42.3	310	16.4	-10	57.7		
12	303	18.9		31	48.5	-22	25.7	17	01.1	-23	22.2	268	41.6	+12	42.4	325	18.6	-10	57.6		
13	318	21.3		46	47.6		25.7	32	01.5		22.0	283	43.9		42.5	340	20.8		57.5		
14	333	23.8		61	46.7		25.8	47	01.9		21.8	298	46.1		42.6	355	23.0		57.4		
15	348	26.2		76	45.9		25.9	62	02.4		21.6	313	48.4		42.7	10	25.2		57.3		
16	3	28.7		91	45.0		26.0	77	02.8		21.4	328	50.7		42.7	25	27.4		57.2		
17	18	31.2		106	44.1	-22	26.1	92	03.2	-23	21.2	343	53.0	+12	42.8	40	29.6	-10	57.1		
18	33	33.6		121	43.3	-22	26.2	107	03.6	-23	21.0	358	55.2	+12	42.9	55	31.8	-10	57.0		
19	48	36.1		136	42.4		26.2	122	04.0		20.9	13	57.5		43.0	70	34.0		56.9		
20	63	38.6		151	41.5		26.3	137	04.4		20.7	28	59.8		43.0	85	36.2		56.7		
21	78	41.0		166	40.7		26.4	152	04.8		20.5	44	02.0		43.1	100	38.4		56.6		
22	93	43.5		181	39.8		26.5	167	05.2		20.3	59	04.3		43.2	115	40.6		56.5		
23	108	46.0		196	38.9		26.5	182	05.7		20.1	74	06.6		43.3	130	42.8		56.4		
24	123	48.4		211	38.1	-22	26.6	197	06.1	-23	19.9	89	08.8	+12	43.4	145	45.0	-10	56.3		
Dif	—			-9			-1			+4			+2			+23			+1		

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16'2 PMG:12 ^h 12.2 ^m				Edad: 13.5 ^d PHE { 4 ^h : 54'9 12 ^h : 54'8 20 ^h : 54'7 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	176	59.0	-19	08.3	4	40.3	+25	48.3	64	60 N	6	49	7	41	8	30	14	50	94	9	31	4
1	191	58.9		07.7	19	09.5		41.9	65	58	44		33	18	15	12	87	9	09	11		
2	206	58.7		07.1	33	38.7		35.4	66	56	40		25	8	08	29	82	8	51	16		
3	221	58.6		06.5	48	08.0		28.8	66	54	35		19	7	59	44	78		36	19		
4	236	58.4		05.9	62	37.4		22.1	67	52	32		13	51	15	56	76		23	22		
5	251	58.3	-19	05.3	77	06.9	+25	15.2	69	50	6	28	7	08	7	43	16	07	73	8	11	25
6	266	58.1	-19	04.7	91	36.4	+25	08.3	69	45	6	20	6	56	7	28	16	31	67	7	47	30
7	281	58.0		04.1	106	06.0	+25	01.2	71	40	13		46	15	16	49	64		28	33		
8	296	57.8		03.5	120	35.7	+24	54.0	72	35	06		37	7	04	17	05	60	7	12	36	
9	311	57.7		02.8	135	05.5		46.7	73	30	6	00	29	6	54	18	58		6	58	38	
10	326	57.6		02.2	149	35.4		39.2	75	20	5	47	14	37	17	41	54		33	43		
11	341	57.4	-19	01.6	164	05.3	+24	31.7	75	10 N	5	35	6	00	6	23	18	00	51	6	13	45
12	356	57.3	-19	01.0	178	35.3	+24	24.0	77	0	5	21	5	47	6	09	18	19	46	5	53	49
13	11	57.1	-19	00.4	193	05.5		16.3	79	10 S	5	06	32	5	55		37	43		33	52	
14	26	57.0	-18	59.8	207	35.6		08.4	80	20	4	48	5	16	39	18	56	40	5	12	55	
15	41	56.8		59.2	222	05.9	+24	00.4	80	30	24		56	22	19	18	36		4	47	59	
16	56	56.7		58.5	236	36.3	+23	52.3	81	35	4	09	43	12		32	32		33	61		
17	71	56.5	-18	57.9	251	06.7	+23	44.1	82	40	3	51	4	29	5	00	19	47	29	4	16	64
18	86	56.4	-18	57.3	265	37.2	+23	35.8	83	45	3	28	4	11	4	46	20	04	26	3	55	68
19	101	56.3		56.7	280	07.8		27.4	84	50	2	56	3	49	29	26	21		30	72		
20	116	56.1		56.1	294	38.5		18.8	86	52	39		38	20	37	18		17	75			
21	131	56.0		55.5	309	09.3		10.2	86	54	2	19	25	11	20	48	16	3	03	78		
22	146	55.8		54.8	323	40.2	+23	01.5	87	56	1	51	3	11	4	01	21	02	12	2	46	82
23	161	55.7		54.2	338	11.1	+22	52.7	88	58	1	08	2	53	3	49	18	7		25	88	
24	176	55.6	-18	53.6	352	42.1	+22	43.7	90	60 S	**	**	2	31	3	36	21	36	2	2	00	95

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 42.2 ^m		Mag: -3.9 PMG: 9 ^h 54 ^m		Mag: +1.3 PMG: 10 ^h 51 ^m		Mag: -2.5 PMG: 18 ^h 01 ^m		Mag: +1.0 PMG: 14 ^h 15 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	123	48.4	211	38.1	-22	26.6	197	06.1	-23	19.9
1	138	50.9	226	37.2		26.7	212	06.5		19.7
2	153	53.4	241	36.3		26.8	227	06.9		19.5
3	168	55.8	256	35.5		26.8	242	07.3		19.3
4	183	58.3	271	34.6		26.9	257	07.7		19.1
5	199	00.7	286	33.7	-22	27.0	272	08.1	-23	18.9
6	214	03.2	301	32.9	-22	27.0	287	08.5	-23	18.7
7	229	05.7	316	32.0		27.1	302	09.0		18.5
8	244	08.1	331	31.1		27.2	317	09.4		18.3
9	259	10.6	346	30.3		27.2	332	09.8		18.1
10	274	13.1	1	29.4		27.3	347	10.2		17.9
11	289	15.5	16	28.5	-22	27.4	2	10.6	-23	17.7
12	304	18.0	31	27.6	-22	27.4	17	11.0	-23	17.5
13	319	20.5	46	26.8		27.5	32	11.4		17.3
14	334	22.9	61	25.9		27.5	47	11.8		17.1
15	349	25.4	76	25.0		27.6	62	12.3		16.9
16	4	27.9	91	24.2		27.6	77	12.7		16.7
17	19	30.3	106	23.3	-22	27.7	92	13.1	-23	16.5
18	34	32.8	121	22.4	-22	27.8	107	13.5	-23	16.3
19	49	35.2	136	21.6		27.8	122	13.9		16.1
20	64	37.7	151	20.7		27.9	137	14.3		15.9
21	79	40.2	166	19.8		27.9	152	14.7		15.7
22	94	42.6	181	19.0		28.0	167	15.2		15.5
23	109	45.1	196	18.1		28.0	182	15.6		15.3
24	124	47.6	211	17.2	-22	28.1	197	16.0	-23	15.1
Dif	—		-9		-1		+4		+2	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 16/2 PMG:12 ^h 12.4 ^m				Edad: 14.5 ^d SD: 14/9 PMG: 0 ^h 30 ^m								PHE { 4 ^h : 54/6 12 ^h : 54/5 20 ^h : 54/4 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	176	55.6	-18	53.6	352	42.1	+22	43.7	90	58	60 N	15 57	16 47	17 39	16 24	90	9 35	2				
1	191	55.4		53.0	7	13.3		34.7	91	58		16 09	16 54	43	39	84	20	6				
2	206	55.3		52.4	21	44.4		25.6	92	56		19	17 01	47	16 51	81	9 07	10				
3	221	55.1		51.7	36	15.7		16.4	93	54		28	08	51	17 02	77	8 55	14				
4	236	55.0		51.1	50	47.1	+22	07.1	94	52		36	14	55	12 74		45	16				
5	251	54.9	-18	50.5	65	18.5	+21	57.7	95	50		16 43	17 19	17 58	17 20	72	8 36	19				
6	266	54.7	-18	49.9	79	50.1	+21	48.2	96	45		16 59	17 30	18 06	17 38	67	8 17	23				
7	281	54.6		49.2	94	21.7		38.6	97	40		17 11	40	13	17 53	63	8 01	27				
8	296	54.4		48.6	108	53.4		28.9	98	35		22	49	20	18 05	60	7 48	30				
9	311	54.3		48.0	123	25.1		19.1	98	30		31	17 57	26	16 56		36	33				
10	326	54.2		47.4	137	57.0	+21	09.3	98	20		17 48	18 11	38	35 51		7 16	37				
11	341	54.0	-18	46.7	152	28.9	+20	59.3	100	10 N		18 02	18 24	18 50	18 51	47	6 58	42				
12	356	53.9	-18	46.1	167	00.9	+20	49.3	100	0		18 16	18 38	19 03	19 05	44	6 42	45				
13	11	53.8		45.5	181	33.0		39.2	101	10 S		30	18 52	18	20 40		25	49				
14	26	53.6		44.9	196	05.2		29.0	102	20		18 45	19 08	36	36 36		6 07	53				
15	41	53.5		44.2	210	37.5		18.7	103	30		19 02	28	19 59	19 54	31	5 46	58				
16	56	53.4		43.6	225	09.8	+20	08.3	104	35		12	40	20 14	20 04	29	34	60				
17	71	53.2	-18	43.0	239	42.3	+19	57.9	104	40		19 23	19 54	20 32	20 16	25	5 20	63				
18	86	53.1	-18	42.3	254	14.8	+19	47.4	105	45		19 37	20 11	20 54	20 30	22	5 03	68				
19	101	52.9		41.7	268	47.3		36.7	107	50		19 54	33	21 25	47 17		4 42	73				
20	116	52.8		41.1	283	20.0		26.1	106	52		20 01	43	21 41	20 55	14	32	76				
21	131	52.7		40.4	297	52.7		15.3	108	54		10	20 56	22 00	21 04	12	21	78				
22	146	52.6		39.8	312	25.6	+19	04.5	108	56		20	21 10	22 26	14 8		4 08	82				
23	161	52.4		39.2	326	58.5	+18	53.6	109	58		31	26	23 03	25 5		3 53	87				
24	176	52.3	-18	38.5	341	31.4	+18	42.6	110	60 S		20 45	21 47	** **	21 38	1	3 35	92				

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 15 ^h 38.3 ^m		Mag: -3.9 PMG: 9 ^h 55 ^m				Mag: +1.3 PMG: 10 ^h 51 ^m				Mag: -2.5 PMG: 17 ^h 57 ^m				Mag: +1.0 PMG: 14 ^h 11 ^m			
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	124	47.6	211	17.2	-22	28.1	197	16.0	-23	15.1	90	03.2	+12	45.3	146	37.9	-10	53.9
1	139	50.0	226	16.4		28.1	212	16.4		14.9	105	05.5		45.4	161	40.1		53.8
2	154	52.5	241	15.5		28.1	227	16.8		14.7	120	07.7		45.4	176	42.3		53.7
3	169	55.0	256	14.6		28.2	242	17.2		14.5	135	10.0		45.5	191	44.5		53.6
4	184	57.4	271	13.7		28.2	257	17.6		14.3	150	12.2		45.6	206	46.7		53.4
5	199	59.9	286	12.9	-22	28.3	272	18.0	-23	14.1	165	14.5	+12	45.7	221	48.9	-10	53.3
6	215	02.4	301	12.0	-22	28.3	287	18.5	-23	13.9	180	16.8	+12	45.8	236	51.1	-10	53.2
7	230	04.8	316	11.1		28.3	302	18.9		13.7	195	19.0		45.8	251	53.3		53.1
8	245	07.3	331	10.3		28.4	317	19.3		13.4	210	21.3		45.9	266	55.5		53.0
9	260	09.7	346	09.4		28.4	332	19.7		13.2	225	23.5		46.0	281	57.7		52.9
10	275	12.2	1	08.5		28.5	347	20.1		13.0	240	25.8		46.1	296	59.9		52.8
11	290	14.7	16	07.7	-22	28.5	2	20.5	-23	12.8	255	28.1	+12	46.2	312	02.1	-10	52.7
12	305	17.1	31	06.8	-22	28.5	17	20.9	-23	12.6	270	30.3	+12	46.3	327	04.3	-10	52.6
13	320	19.6	46	05.9		28.5	32	21.4		12.4	285	32.6		46.3	342	06.5		52.5
14	335	22.1	61	05.0		28.6	47	21.8		12.2	300	34.8		46.4	357	08.7		52.4
15	350	24.5	76	04.2		28.6	62	22.2		12.0	315	37.1		46.5	12	10.9		52.3
16	5	27.0	91	03.3		28.6	77	22.6		11.8	330	39.3		46.6	27	13.1		52.2
17	20	29.5	106	02.4	-22	28.7	92	23.0	-23	11.6	345	41.6	+12	46.7	42	15.3	-10	52.1
18	35	31.9	121	01.6	-22	28.7	107	23.4	-23	11.3	0	43.9	+12	46.8	57	17.5	-10	52.0
19	50	34.4	136	00.7		28.7	122	23.8		11.1	15	46.1		46.8	72	19.7		51.9
20	65	36.8	150	59.8		28.7	137	24.3		10.9	30	48.4		46.9	87	21.9		51.8
21	80	39.3	165	58.9		28.8	152	24.7		10.7	45	50.6		47.0	102	24.1		51.7
22	95	41.8	180	58.1		28.8	167	25.1		10.5	60	52.9		47.1	117	26.3		51.6
23	110	44.2	195	57.2		28.8	182	25.5		10.3	75	55.1		47.2	132	28.5		51.5
24	125	46.7	210	56.3	-22	28.8	197	25.9	-23	10.1	90	57.4	+12	47.3	147	30.7	-10	51.4
Dif	—		-9		0		+4		+2		+23		+1		+22		+	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16 ^h 2 PMG:12 ^h 12.6 ^m				Edad: 15.5 ^d PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 2 20 ^h : 54 ^h 2 PMG: 1 ^h 16 ^m 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	176	52.3	-18	38.5	341	31.4	+18	42.6	111	60 N	6	46	7	37	8	26	17	54	85	9	37	0
1	191	52.2		37.9	356	04.5		31.5	111	58	41	29		15	18	03	81		26	4		
2	206	52.0		37.3	10	37.6		20.4	111	56	37	23		8	05	12	77		17	7		
3	221	51.9		36.6	25	10.8	+18	09.2	112	54	33	16		7	56	19	75		09	10		
4	236	51.8		36.0	39	44.1	+17	57.9	113	52	30	11		48	26	72		9	01	13		
5	251	51.6	-18	35.4	54	17.4	+17	46.6	113	50	6	26	7	05	7	41	18	32	70	8	55	14
6	266	51.5	-18	34.7	68	50.8	+17	35.2	114	45	6	18	6	54	7	26	18	45	65	8	40	20
7	281	51.4		34.1	83	24.3		23.7	115	40	12	44		13	18	56	60		28	24		
8	296	51.2		33.4	97	57.9		12.2	115	35	6	05	36	7	03	19	05	57		18	27	
9	311	51.1		32.8	112	31.5	+17	00.5	117	30	5	59	28	6	53	12	55		8	09	29	
10	326	51.0		32.2	127	05.2	+16	48.9	116	20	47	14		37	26	49		7	53	35		
11	341	50.9	-18	31.5	141	39.0	+16	37.2	117	10 N	5	35	6	00	6	23	19	38	45	7	40	38
12	356	50.7	-18	30.9	156	12.8	+16	25.4	118	0	5	22	5	47	6	09	19	49	41	7	27	42
13	11	50.6		30.2	170	46.7		13.5	119	10 S	5	07	33	5	55	20	00	37		14	46	
14	26	50.5		29.6	185	20.7	+16	01.6	119	20	4	49	5	17	41	12	32		7	00	50	
15	41	50.3		29.0	199	54.7	+15	49.6	120	30	26	4	58	24	25	28		6	44	55		
16	56	50.2		28.3	214	28.9		37.6	120	35	4	12	46	14	33	25		34	59			
17	71	50.1	-18	27.7	229	03.0	+15	25.5	121	40	3	54	4	32	5	02	20	41	22	6	23	62
18	86	50.0	-18	27.0	243	37.3	+15	13.4	121	45	3	31	4	15	4	49	20	52	17	6	11	65
19	101	49.8		26.4	258	11.6	+15	01.2	122	50	3	01	3	53	32	21	04	13		5	55	71
20	116	49.7		25.7	272	45.9	+14	48.9	123	52	2	45	42	24	09	11	48		73			
21	131	49.6		25.1	287	20.4		36.6	123	54	25	30		15	16	8		39	76			
22	146	49.5		24.4	301	54.8		24.3	123	56	2	00	3	16	4	06		22	6	30	79	
23	161	49.3		23.8	316	29.4	+14	11.9	124	58	1	23	2	59	3	54	30	3		20	83	
24	176	49.2	-18	23.1	331	04.0	+13	59.4	125	60 S	**	**	2	38	3	41	21	39	**	5	07	88

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 34.3 ^m		Mag: -3.9 PMG: 9 ^h 57 ^m		Mag: +1.3 PMG: 10 ^h 50 ^m		Mag: -2.5 PMG: 17 ^h 53 ^m		Mag: +1.0 PMG: 14 ^h 08 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	125	46.7	210	56.3	-22	28.8	197	25.9	-23	10.1
1	140	49.2	225	55.5		28.8	212	26.3		09.8
2	155	51.6	240	54.6		28.9	227	26.7		09.6
3	170	54.1	255	53.7		28.9	242	27.1		09.4
4	185	56.6	270	52.9		28.9	257	27.6		09.2
5	200	59.0	285	52.0	-22	28.9	272	28.0	-23	09.0
6	216	01.5	300	51.1	-22	28.9	287	28.4	-23	08.8
7	231	04.0	315	50.2		28.9	302	28.8		08.5
8	246	06.4	330	49.4		28.9	317	29.2		08.3
9	261	08.9	345	48.5		28.9	332	29.6		08.1
10	276	11.3	0	47.6		28.9	347	30.0		07.9
11	291	13.8	15	46.7	-22	28.9	2	30.5	-23	07.7
12	306	16.3	30	45.9	-22	29.0	17	30.9	-23	07.4
13	321	18.7	45	45.0		29.0	32	31.3		07.2
14	336	21.2	60	44.1		29.0	47	31.7		07.0
15	351	23.7	75	43.3		29.0	62	32.1		06.8
16	6	26.1	90	42.4		29.0	77	32.5		06.6
17	21	28.6	105	41.5	-22	29.0	92	33.0	-23	06.3
18	36	31.1	120	40.6	-22	29.0	107	33.4	-23	06.1
19	51	33.5	135	39.8		29.0	122	33.8		05.9
20	66	36.0	150	38.9		28.9	137	34.2		05.7
21	81	38.5	165	38.0		28.9	152	34.6		05.4
22	96	40.9	180	37.2		28.9	167	35.0		05.2
23	111	43.4	195	36.3		28.9	182	35.4		05.0
24	126	45.8	210	35.4	-22	28.9	197	35.9	-23	04.8
Dif	—		-9		0		+4		+2	
							+23		+1	
									+22	
									+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:12 ^h 12.8 ^m				Edad: 16.5 ^d SD: 14'7 PMG: 1 ^h 59 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1 R°: 41 ^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	49.2	-18	23.1	331	04.0	+13	59.4	60 N	16 02	16 51	17 43	19 19	82	9 37	**
1	191	49.1		22.5	345	38.7		46.9	58	13	16 59	47	24 79		30	3
2	206	49.0		21.8	0	13.4		34.3	56	23	17 05	51	29 76		24	6
3	221	48.8		21.2	14	48.2		21.7	54	32	11	55	34 73		19	8
4	236	48.7		20.5	29	23.0	+13	09.1	52	40	17	17 58	38 70		14	10
5	251	48.6	-18	19.9	43	57.9	+12	56.4	50	16 46	17 22	18 01	19 42	68	9 09	13
6	266	48.5	-18	19.2	58	32.9	+12	43.6	45	17 01	17 33	18 08	19 50	63	9 00	17
7	281	48.4		18.6	73	07.9		30.9	40	14	42	15	19 56	60	8 52	20
8	296	48.2		17.9	87	42.9		18.0	35	24	51	21	20 02	56	45	23
9	311	48.1		17.3	102	18.0	+12	05.2	30	33	17 58	27	07 53		38	27
10	326	48.0		16.6	116	53.2	+11	52.3	20	17 49	18 12	39	15 48		28	31
11	341	47.9	-18	16.0	131	28.4	+11	39.3	10 N	18 03	18 25	18 51	20 23	44	8 18	36
12	356	47.8	-18	15.3	146	03.6	+11	26.3	0	18 16	18 38	19 03	20 30	39	8 09	40
13	11	47.6		14.7	160	39.0		13.3	10 S	30	18 52	18	37 35		8 00	44
14	26	47.5		14.0	175	14.3	+11	00.2	20	18 44	19 08	35	44 31		7 50	49
15	41	47.4		13.4	189	49.7	+10	47.1	30	19 01	27	19 58	53 26		39	54
16	56	47.3		12.7	204	25.1		33.9	35	10	38	20 12	20 58	23	33	56
17	71	47.2	-18	12.0	219	00.6	+10	20.8	40	19 22	19 52	20 29	21 03	20	7 25	60
18	86	47.0	-18	11.4	233	36.2	+10	07.5	45	19 35	20 09	20 51	21 09	17	7 16	64
19	101	46.9		10.7	248	11.7	+9	54.3	50	51	30	21 21	17 12		06	69
20	116	46.8		10.1	262	47.3		41.0	52	19 59	40	36	20 10		7 01	71
21	131	46.7		09.4	277	23.0		27.7	54	20 07	20 52	21 55	24 8		6 55	74
22	146	46.6		08.7	291	58.7		14.3	56	17	21 05	22 18	28 5		49	77
23	161	46.5		08.1	306	34.4	+9	01.0	58	27	21	22 51	33 2		43	79
24	176	46.3	-18	07.4	321	10.2	+8	47.6	60 S	20 40	21 41	** **	21 38	**	6 35	83

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 30.4 ^m		Mag: -3.9 PMG: 9 ^h 58 ^m		Mag: +1.3 PMG: 10 ^h 49 ^m		Mag: -2.4 PMG: 17 ^h 50 ^m		Mag: +1.0 PMG: 14 ^h 04 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	126	45.8	210	35.4	-22	28.9	197	35.9	-23	04.8
1	141	48.3	225	34.5		28.9	212	36.3		04.5
2	156	50.8	240	33.7		28.9	227	36.7		04.3
3	171	53.2	255	32.8		28.9	242	37.1		04.1
4	186	55.7	270	31.9		28.9	257	37.5		03.9
5	201	58.2	285	31.0	-22	28.9	272	37.9	-23	03.6
6	217	00.6	300	30.2	-22	28.8	287	38.3	-23	03.4
7	232	03.1	315	29.3		28.8	302	38.8		03.2
8	247	05.6	330	28.4		28.8	317	39.2		02.9
9	262	08.0	345	27.6		28.8	332	39.6		02.7
10	277	10.5	0	26.7		28.8	347	40.0		02.5
11	292	12.9	15	25.8	-22	28.7	2	40.4	-23	02.3
12	307	15.4	30	24.9	-22	28.7	17	40.8	-23	02.0
13	322	17.9	45	24.1		28.7	32	41.3		01.8
14	337	20.3	60	23.2		28.7	47	41.7		01.6
15	352	22.8	75	22.3		28.6	62	42.1		01.3
16	7	25.3	90	21.4		28.6	77	42.5		01.1
17	22	27.7	105	20.6	-22	28.6	92	42.9	-23	00.9
18	37	30.2	120	19.7	-22	28.5	107	43.3	-23	00.6
19	52	32.7	135	18.8		28.5	122	43.8		00.4
20	67	35.1	150	18.0		28.5	137	44.2	-23	00.2
21	82	37.6	165	17.1		28.5	152	44.6	-22	59.9
22	97	40.1	180	16.2		28.4	167	45.0		59.7
23	112	42.5	195	15.3		28.4	182	45.4		59.5
24	127	45.0	210	14.5	-22	28.3	197	45.8	-22	59.2
Dif	—		-9		0		+4		+2	
									+22	+1
										+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 13.0 ^m				Edad: 17.5 ^d SD: 14 ^h 7 PMG: 2 ^h 40 ^m																	
	PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'1 Rº: 39 ^m				hG ☾ Dif		Dec Dif															
	hG ☉	Dec			hG ☾	Dif			Dec		Dif		Náutico	Civil		Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m			
0	176	46.3	-18	07.4	321	10.2	+8	47.6	135	60 N	6	42	7	34	8	22	20	41	81	9	36	**
1	191	46.2		06.8	335	46.0		34.1	135	58	38	26		11		43	78		33	2		
2	206	46.1		06.1	350	21.8		20.6	135	56	34	20	8	01		45	75		30	4		
3	221	46.0		05.4	4	57.7	+8	07.2	134	54	31	14	7	53		47	72		27			
4	236	45.9		04.8	19	33.6	+7	53.6	136	52	27	08		45		48	70		24	10		
5	251	45.8	-18	04.1	34	09.6	+7	40.1	135	50	6	24	7	03	7	38	20	50	67	9	22	11
6	266	45.7	-18	03.4	48	45.5	+7	26.5	136	45	6	17	6	52	7	24	20	53	63	9	17	15
7	281	45.5		02.8	63	21.5	+7	12.9	136	40	10	43		12		56	59		12	20		
8	296	45.4		02.1	77	57.6	+6	59.3	136	35	6	04	35	7	01	20	58	55		08	23	
9	311	45.3		01.4	92	33.6		45.6	137	30	5	58	27	6	52	21	00	52	9	05	26	
10	326	45.2		00.8	107	09.7		32.0	136	20	47	13		36		03	48		8	59	31	
11	341	45.1	-18	00.1	121	45.8	+6	18.3	137	10 N	5	35	6	01	6	23	21	07	42	8	54	35
12	356	45.0	-17	59.4	136	22.0	+6	04.5	138	0	5	22	5	48	6	09	21	09	39	8	49	39
13	11	44.9		58.8	150	58.1	+5	50.8	137	10 S	5	08	34	5	56		12	35		44	43	
14	26	44.8		58.1	165	34.3		37.1	137	20	4	51	5	18	42	15	31		39	47		
15	41	44.7		57.4	180	10.5		23.3	138	30	28	4	59	25	19	25		33	52			
16	56	44.5		56.7	194	46.8	+5	09.5	138	35	4	14	48	16		21	22		29	56		
17	71	44.4	-17	56.1	209	23.0	+4	55.7	138	40	3	57	4	34	5	05	21	23	19	8	25	59
18	86	44.3	-17	55.4	223	59.3	+4	41.8	139	45	3	35	4	18	4	52	21	26	15	8	20	63
19	101	44.2		54.7	238	35.6		28.0	139	50	3	06	3	57	35	29	11		15	67		
20	116	44.1		54.1	253	11.9		14.1	139	52	2	50	46	28	30	9		12	70			
21	131	44.0		53.4	267	48.2	+4	00.3	138	54	32	35	19		32	7		09	72			
22	146	43.9		52.7	282	24.5	+3	46.4	139	56	2	08	21	4	10	33	5		06	75		
23	161	43.8		52.0	297	00.9		32.5	139	58	1	35	3	05	3	59	35	2	8	02	78	
24	176	43.7	-17	51.4	311	37.2	+3	18.6	139	60 S	**	**	2	46	3	47	21	37	**	7	58	82

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 15 ^h 26.5 ^m		Mag: -3.9 PMG: 10 ^h 00 ^m		Mag: +1.3 PMG: 10 ^h 49 ^m		Mag: -2.4 PMG: 17 ^h 46 ^m		Mag: +1.0 PMG: 14 ^h 01 ^m									
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	127	45.0	210	14.5	-22	28.3	197	45.8	-22	59.2	92	45.2	+12	51.4	149	16.3	-10	46.4
1	142	47.4	225	13.6		28.3	212	46.3		59.0	107	47.5		51.4	164	18.5		46.3
2	157	49.9	240	12.7		28.3	227	46.7		58.7	122	49.7		51.5	179	20.7		46.1
3	172	52.4	255	11.8		28.2	242	47.1		58.5	137	51.9		51.6	194	22.9		46.0
4	187	54.8	270	11.0		28.2	257	47.5		58.3	152	54.2		51.7	209	25.1		45.9
5	202	57.3	285	10.1	-22	28.1	272	47.9	-22	58.0	167	56.4	+12	51.8	224	27.3	-10	45.8
6	217	59.8	300	09.2	-22	28.1	287	48.3	-22	57.8	182	58.7	+12	51.9	239	29.5	-10	45.7
7	233	02.2	315	08.4		28.1	302	48.7		57.6	198	00.9		52.0	254	31.7		45.6
8	248	04.7	330	07.5		28.0	317	49.2		57.3	213	03.1		52.1	269	33.9		45.5
9	263	07.2	345	06.6		28.0	332	49.6		57.1	228	05.4		52.2	284	36.1		45.4
10	278	09.6	0	05.7		27.9	347	50.0		56.8	243	07.6		52.2	299	38.3		45.3
11	293	12.1	15	04.9	-22	27.9	2	50.4	-22	56.6	258	09.8	+12	52.3	314	40.5	-10	45.2
12	308	14.6	30	04.0	-22	27.8	17	50.8	-22	56.3	273	12.1	+12	52.4	329	42.6	-10	45.1
13	323	17.0	45	03.1		27.8	32	51.3		56.1	288	14.3		52.5	344	44.8		45.0
14	338	19.5	60	02.2		27.7	47	51.7		55.9	303	16.6		52.6	359	47.0		44.9
15	353	21.9	75	01.4		27.6	62	52.1		55.6	318	18.8		52.7	14	49.2		44.8
16	8	24.4	90	00.5		27.6	77	52.5		55.4	333	21.0		52.8	29	51.4		44.7
17	23	26.9	104	59.6	-22	27.5	92	52.9	-22	55.1	348	23.3	+12	52.9	44	53.6	-10	44.6
18	38	29.3	119	58.7	-22	27.5	107	53.3	-22	54.9	3	25.5	+12	53.0	59	55.8	-10	44.5
19	53	31.8	134	57.9		27.4	122	53.8		54.6	18	27.7		53.0	74	58.0		44.4
20	68	34.3	149	57.0		27.4	137	54.2		54.4	33	30.0		53.1	90	00.2		44.3
21	83	36.7	164	56.1		27.3	152	54.6		54.2	48	32.2		53.2	105	02.4		44.1
22	98	39.2	179	55.3		27.2	167	55.0		53.9	63	34.4		53.3	120	04.6		44.0
23	113	41.7	194	54.4		27.2	182	55.4		53.7	78	36.7		53.4	135	06.8		43.9
24	128	44.1	209	53.5	-22	27.1	197	55.8	-22	53.4	93	38.9	+12	53.5	150	09.0	-10	43.8
Dif	—		-9		+1		+4		+2		+22		+1		+22		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.2 ^m				Edad: 18.5 ^d SD: 14'7 PMG: 3 ^h 19 ^m													
	PHE		R°: 39 ^m															
	hG ☉	Dec	hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m m	h m m	h m m	h m m	
0	176	43.7	-17	51.4	311	37.2	+3	18.6	140	60 N	16 08	16 56	17 47	22 02	82	9 35	**	
1	191	43.6		50.7	326	13.6	+3	04.6	140	58	18	17 03	51	01	78	35	2	
2	206	43.5		50.0	340	50.0	+2	50.7	139	56	28	09	54	22	00	75	34	5
3	221	43.4		49.3	355	26.4		36.7	140	54	36	15	17 58	21 59	73	34	7	
4	236	43.3		48.7	10	02.8		22.8	139	52	43	20	18 01	58	71	34	9	
5	251	43.1	-17	48.0	24	39.2	+2	08.8	140	50	16 50	17 25	18 04	21 57	69	9 33	11	
6	266	43.0	-17	47.3	39	15.6	+1	54.8	140	45	17 04	17 36	18 11	21 56	63	9 32	16	
7	281	42.9		46.6	53	52.0		40.8	140	40	16	45	17	55	59	32	19	
8	296	42.8		45.9	68	28.4		26.8	140	35	26	17 53	23	53	57	31	23	
9	311	42.7		45.3	83	04.8	+1	12.8	140	30	35	18 00	29	52	54	31	25	
10	326	42.6		44.6	97	41.3	+0	58.8	140	20	17 50	13	40	51	48	30	30	
11	341	42.5	-17	43.9	112	17.7	+0	44.8	140	10 N	18 04	18 26	18 51	21 49	44	9 29	35	
12	356	42.4	-17	43.2	126	54.1	+0	30.8	140	0	18 17	18 38	19 04	21 48	40	9 28	39	
13	11	42.3		42.5	141	30.5		16.8	140	10 S	30	18 52	18	47	35	27	43	
14	26	42.2		41.8	156	07.0	+0	02.7	140	20	18 44	19 07	35	46	30	26	48	
15	41	42.1		41.2	170	43.4	-0	11.3	140	30	19 00	26	19 56	44	26	25	53	
16	56	42.0		40.5	185	19.8		25.3	140	35	09	37	20 10	43	23	25	55	
17	71	41.9	-17	39.8	199	56.2	-0	39.3	140	40	19 20	19 50	20 27	21 42	20	9 24	59	
18	86	41.8	-17	39.1	214	32.6	-0	53.4	141	45	19 33	20 06	20 48	21 41	16	9 23	63	
19	101	41.7		38.4	229	09.0	-1	07.4	140	50	48	26	21 17	40	11	22	68	
20	116	41.6		37.7	243	45.4		21.4	140	52	19 55	36	31	39	10	22	70	
21	131	41.5		37.0	258	21.7		35.5	141	54	20 04	20 48	21 49	39	7	21	73	
22	146	41.4		36.4	272	58.1	-1	49.5	140	56	13	21 01	22 11	38	5	21	75	
23	161	41.3		35.7	287	34.4	-2	03.5	140	58	23	16	22 40	37	2	20	78	
24	176	41.2	-17	35.0	302	10.7	-2	17.5	140	60 S	20 35	21 34	23 34	21 36	**	9 20	81	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 15 ^h 22.5 ^m		Mag: -3.9 PMG: 10 ^h 01 ^m			Mag: +1.3 PMG: 10 ^h 48 ^m			Mag: -2.4 PMG: 17 ^h 43 ^m			Mag: +1.0 PMG: 13 ^h 57 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	128	44.1	209	53.5	-22	27.1	197	55.8	-22	53.4	93	38.9	+12	53.5	150	09.0	-10	43.8
1	143	46.6	224	52.6		27.0	212	56.3		53.2	108	41.1		53.6	165	11.2		43.7
2	158	49.0	239	51.8		27.0	227	56.7		52.9	123	43.4		53.7	180	13.4		43.6
3	173	51.5	254	50.9		26.9	242	57.1		52.7	138	45.6		53.8	195	15.6		43.5
4	188	54.0	269	50.0		26.8	257	57.5		52.4	153	47.8		53.8	210	17.8		43.4
5	203	56.4	284	49.1	-22	26.8	272	57.9	-22	52.2	168	50.1	+12	53.9	225	20.0	-10	43.3
6	218	58.9	299	48.3	-22	26.7	287	58.3	-22	51.9	183	52.3	+12	54.0	240	22.2	-10	43.2
7	234	01.4	314	47.4		26.6	302	58.8		51.7	198	54.5		54.1	255	24.4		43.1
8	249	03.8	329	46.5		26.5	317	59.2		51.4	213	56.7		54.2	270	26.6		43.0
9	264	06.3	344	45.7		26.5	332	59.6		51.2	228	59.0		54.3	285	28.8		42.9
10	279	08.8	359	44.8		26.4	348	00.0		50.9	244	01.2		54.4	300	31.0		42.8
11	294	11.2	14	43.9	-22	26.3	3	00.4	-22	50.7	259	03.4	+12	54.5	315	33.2	-10	42.7
12	309	13.7	29	43.0	-22	26.2	18	00.9	-22	50.4	274	05.7	+12	54.6	330	35.4	-10	42.6
13	324	16.2	44	42.2		26.1	33	01.3		50.2	289	07.9		54.7	345	37.6		42.5
14	339	18.6	59	41.3		26.1	48	01.7		49.9	304	10.1		54.8	0	39.8		42.3
15	354	21.1	74	40.4		26.0	63	02.1		49.7	319	12.3		54.8	15	41.9		42.2
16	9	23.5	89	39.5		25.9	78	02.5		49.4	334	14.6		54.9	30	44.1		42.1
17	24	26.0	104	38.7	-22	25.8	93	02.9	-22	49.2	349	16.8	+12	55.0	45	46.3	-10	42.0
18	39	28.5	119	37.8	-22	25.7	108	03.4	-22	48.9	4	19.0	+12	55.1	60	48.5	-10	41.9
19	54	30.9	134	36.9		25.6	123	03.8		48.6	19	21.3		55.2	75	50.7		41.8
20	69	33.4	149	36.1		25.6	138	04.2		48.4	34	23.5		55.3	90	52.9		41.7
21	84	35.9	164	35.2		25.5	153	04.6		48.1	49	25.7		55.4	105	55.1		41.6
22	99	38.3	179	34.3		25.4	168	05.0		47.9	64	27.9		55.5	120	57.3		41.5
23	114	40.8	194	33.4		25.3	183	05.5		47.6	79	30.2		55.6	135	59.5		41.4
24	129	43.3	209	32.6	-22	25.2	198	05.9	-22	47.4	94	32.4	+12	55.7	151	01.7	-10	41.3
Dif	—		-9		+1		+4		+3		+22		+1		+22		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.3 ^m				Edad: 19.5 ^d SD: 14'8 PMG: 3 ^h 58 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	41.2	-17	35.0	302	10.7	-2	17.5	141	17.5	141	60 N	6 39	7 30	8 17	23 24	85	9 34	**
1	191	41.1		34.3	316	47.1		31.6	140	31.6	140	58	35	23	8 07	19 82	37	2	
2	206	41.0		33.6	331	23.4		45.6	140	45.6	140	56	31	16	7 58	15 79	39	5	
3	221	40.9		32.9	345	59.6		59.6	140	59.6	140	54	28	11	50	12 75	41		
4	236	40.8		32.2	0	35.9		13.6	140	13.6	140	52	25	05	42	09 72	43	10	
5	251	40.7	-17	31.5	15	12.1		27.6	140	27.6	140	50	6 22	7 01	7 36	23 06	70	9 44	12
6	266	40.6	-17	30.8	29	48.4		41.6	140	41.6	140	45	6 15	6 50	7 22	22 59	66	9 48	16
7	281	40.5		30.1	44	24.6		55.6	140	55.6	140	40	09	41	10	54 61	51	20	
8	296	40.4		29.5	59	00.7		09.5	139	09.5	139	35	6 03	33	7 00	50 58	54	23	
9	311	40.3		28.8	73	36.9		23.5	140	23.5	140	30	5 57	26	6 51	46 55	9 56	26	
10	326	40.2		28.1	88	13.0		37.4	139	37.4	139	20	46	13	36	39 50	10 00	31	
11	341	40.1	-17	27.4	102	49.1		51.4	140	51.4	140	10 N	5 35	6 01	6 22	22 33	45	10 04	35
12	356	40.1	-17	26.7	117	25.2		05.3	139	05.3	139	0	5 23	5 48	6 10	22 28	41	10 07	40
13	11	40.0		26.0	132	01.2		19.2	139	19.2	139	10 S	5 09	35	5 57	22 37	10	45	
14	26	39.9		25.3	146	37.2		33.1	139	33.1	139	20	4 52	20	43	16 33	14	49	
15	41	39.8		24.6	161	13.2		47.0	139	47.0	139	30	30	5 01	27	10 27	18	54	
16	56	39.7		23.9	175	49.1		00.9	139	00.9	139	35	17	4 50	18	06 25	20	57	
17	71	39.6	-17	23.2	190	25.0		14.8	139	14.8	139	40	4 00	4 37	5 07	22 02	21	10 23	60
18	86	39.5	-17	22.5	205	00.9		28.6	138	28.6	138	45	3 39	4 21	4 54	21 57	18	10 26	65
19	101	39.4		21.8	219	36.8		42.4	138	42.4	138	50	3 10	4 01	39	51 13	30	69	
20	116	39.3		21.1	234	12.6		56.2	138	56.2	138	52	2 56	3 51	32	49 10	32	71	
21	131	39.2		20.4	248	48.3		10.0	138	10.0	138	54	38	40	24	46 8	34	74	
22	146	39.1		19.7	263	24.0		23.8	138	23.8	138	56	2 16	27	14	43 5	36	77	
23	161	39.0		19.0	277	59.7		37.6	138	37.6	138	58	1 47	3 11	4 04	39 3	38	80	
24	176	38.9	-17	18.3	292	35.4		51.3	137	51.3	137	60 S	0 53	2 53	3 52	21 35	0	10 41	83

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 18.6 ^m		Mag: -3.9 PMG: 10 ^h 02 ^m		Mag: +1.3 PMG: 10 ^h 47 ^m		Mag: -2.4 PMG: 17 ^h 39 ^m		Mag: +1.0 PMG: 13 ^h 54 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	129	43.3	209	32.6	-22	25.2	198	05.9	-22	47.4
1	144	45.7	224	31.7		25.1	213	06.3		47.1
2	159	48.2	239	30.8		25.0	228	06.7		46.8
3	174	50.6	254	29.9		24.9	243	07.1		46.6
4	189	53.1	269	29.1		24.8	258	07.6		46.3
5	204	55.6	284	28.2	-22	24.7	273	08.0	-22	46.1
6	219	58.0	299	27.3	-22	24.6	288	08.4	-22	45.8
7	235	00.5	314	26.5		24.5	303	08.8		45.6
8	250	03.0	329	25.6		24.4	318	09.2		45.3
9	265	05.4	344	24.7		24.3	333	09.7		45.0
10	280	07.9	359	23.8		24.2	348	10.1		44.8
11	295	10.4	14	23.0	-22	24.1	3	10.5	-22	44.5
12	310	12.8	29	22.1	-22	24.0	18	10.9	-22	44.2
13	325	15.3	44	21.2		23.9	33	11.3		44.0
14	340	17.8	59	20.4		23.8	48	11.8		43.7
15	355	20.2	74	19.5		23.7	63	12.2		43.5
16	10	22.7	89	18.6		23.5	78	12.6		43.2
17	25	25.1	104	17.7	-22	23.4	93	13.0	-22	42.9
18	40	27.6	119	16.9	-22	23.3	108	13.4	-22	42.7
19	55	30.1	134	16.0		23.2	123	13.9		42.4
20	70	32.5	149	15.1		23.1	138	14.3		42.1
21	85	35.0	164	14.2		23.0	153	14.7		41.9
22	100	37.5	179	13.4		22.8	168	15.1		41.6
23	115	39.9	194	12.5		22.7	183	15.5		41.3
24	130	42.4	209	11.6	-22	22.6	198	16.0	-22	41.1
Dif	—		-9		+1		+4		+3	
							+22		+1	
									+22	
									+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.5 ^m				Edad: 20.5 ^d SD: 14'8 PMG: 4 ^h 37 ^m		PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'9 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	176	38.9	-17	18.3	292	35.4	-7	51.3	137	60 N	16 13	17 00	17 51	** ** *		9 33	0	
1	191	38.9		17.6	307	11.0	-8	05.0	137	58	23	07	55	** ** *		39	3	
2	206	38.8		16.9	321	46.5		18.7	137	56	32	13	17 58	** ** *		44	6	
3	221	38.7		16.2	336	22.0		32.4	137	54	40	19	18 01	** ** *		48	10	
4	236	38.6		15.5	350	57.5		46.0	136	52	47	24	04	** ** *		53	11	
5	251	38.5	-17	14.8	5	32.9	-8	59.6	136	50	16 53	17 28	18 07	** ** *		9 56	14	
6	266	38.4	-17	14.1	20	08.2	-9	13.2	136	45	17 07	17 38	18 14	** ** *		10 04	19	
7	281	38.3		13.4	34	43.5		26.8	136	40	18	47	19	23 55	65	11	23	
8	296	38.2		12.7	49	18.8		40.3	135	35	28	17 55	25	48 60		17	26	
9	311	38.1		12.0	63	54.0	-9	53.9	136	30	37	18 02	30	41 57		22	29	
10	326	38.1		11.2	78	29.2	-10	07.3	134	20	17 52	15	41	29 52		31	34	
11	341	38.0	-17	10.5	93	04.3	-10	20.8	135	10 N	18 05	18 27	18 52	23 18	48	10 39	39	
12	356	37.9	-17	09.8	107	39.3	-10	34.2	134	0	18 17	18 39	19 04	23 09	44	10 47	42	
13	11	37.8		09.1	122	14.3	-10	47.6	134	10 S	29	18 52	17	22 59	40	10 55	46	
14	26	37.7		08.4	136	49.2	-11	01.0	134	20	43	19 06	34	49 36		11 03	51	
15	41	37.6		07.7	151	24.1		14.3	133	30	18 58	24	19 55	37 31		12	56	
16	56	37.5		07.0	165	58.9		27.6	133	35	19 08	35	20 08	31 28		17	59	
17	71	37.5	-17	06.3	180	33.6	-11	40.9	133	40	19 18	19 48	20 25	22 23	25	11 23	63	
18	86	37.4	-17	05.6	195	08.3	-11	54.1	132	45	19 30	20 03	20 45	22 15	20	11 31	66	
19	101	37.3		04.9	209	42.9	-12	07.3	132	50	45	23	21 12	22 04	16	39	72	
20	116	37.2		04.1	224	17.4		20.5	132	52	19 52	33	26	21 59	14	43	74	
21	131	37.1		03.4	238	51.9		33.6	131	54	20 00	43	21 43	54 11		48	77	
22	146	37.0		02.7	253	26.3		46.7	131	56	09	20 56	22 04	48 8		53	80	
23	161	37.0		02.0	268	00.6	-12	59.7	130	58	19	21 10	22 31	42 4		11 58	84	
24	176	36.9	-17	01.3	282	34.9	-13	12.7	130	60 S	20 30	21 28	23 13	21 35	0	12 04	88	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 15 ^h 14.7 ^m		Mag: -3.9 PMG: 10 ^h 04 ^m				Mag: +1.3 PMG: 10 ^h 47 ^m				Mag: -2.4 PMG: 17 ^h 36 ^m				Mag: +1.0 PMG: 13 ^h 50 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	130	42.4	209	11.6	-22	22.6	198	16.0	-22	41.1	95	25.7	+12	57.9	151	54.4	-10	38.7
1	145	44.9	224	10.8		22.5	213	16.4		40.8	110	27.9		58.0	166	56.6		38.6
2	160	47.3	239	09.9		22.4	228	16.8		40.5	125	30.2		58.1	181	58.8		38.5
3	175	49.8	254	09.0		22.2	243	17.2		40.3	140	32.4		58.2	197	00.9		38.4
4	190	52.3	269	08.1		22.1	258	17.6		40.0	155	34.6		58.3	212	03.1		38.3
5	205	54.7	284	07.3	-22	22.0	273	18.1	-22	39.7	170	36.8	+12	58.4	227	05.3	-10	38.2
6	220	57.2	299	06.4	-22	21.9	288	18.5	-22	39.4	185	39.0	+12	58.5	242	07.5	-10	38.1
7	235	59.6	314	05.5		21.7	303	18.9		39.2	200	41.2		58.6	257	09.7		38.0
8	251	02.1	329	04.7		21.6	318	19.3		38.9	215	43.5		58.7	272	11.9		37.9
9	266	04.6	344	03.8		21.5	333	19.7		38.6	230	45.7		58.8	287	14.1		37.8
10	281	07.0	359	02.9		21.3	348	20.2		38.4	245	47.9		58.9	302	16.3		37.7
11	296	09.5	14	02.1	-22	21.2	3	20.6	-22	38.1	260	50.1	+12	59.0	317	18.5	-10	37.6
12	311	12.0	29	01.2	-22	21.1	18	21.0	-22	37.8	275	52.3	+12	59.0	332	20.7	-10	37.5
13	326	14.4	44	00.3		20.9	33	21.4		37.5	290	54.5		59.1	347	22.9		37.3
14	341	16.9	58	59.4		20.8	48	21.8		37.3	305	56.8		59.2	2	25.1		37.2
15	356	19.4	73	58.6		20.7	63	22.3		37.0	320	59.0		59.3	17	27.3		37.1
16	11	21.8	88	57.7		20.5	78	22.7		36.7	336	01.2		59.4	32	29.5		37.0
17	26	24.3	103	56.8	-22	20.4	93	23.1	-22	36.5	351	03.4	+12	59.5	47	31.7	-10	36.9
18	41	26.7	118	56.0	-22	20.2	108	23.5	-22	36.2	6	05.6	+12	59.6	62	33.8	-10	36.8
19	56	29.2	133	55.1		20.1	123	24.0		35.9	21	07.8		59.7	77	36.0		36.7
20	71	31.7	148	54.2		19.9	138	24.4		35.6	36	10.0		59.8	92	38.2		36.6
21	86	34.1	163	53.3		19.8	153	24.8		35.3	51	12.2	+12	59.9	107	40.4		36.5
22	101	36.6	178	52.5		19.6	168	25.2		35.1	66	14.5	+13	00.0	122	42.6		36.4
23	116	39.1	193	51.6		19.5	183	25.6		34.8	81	16.7	+13	00.1	137	44.8		36.3
24	131	41.5	208	50.7	-22	19.4	198	26.1	-22	34.5	96	18.9	+13	00.2	152	47.0	-10	36.2
Dif	—		-9		+1		+4		+3		+22		+1		+22		+	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h /2 PMG:12 ^h 13.6 ^m			Edad: 21.5 ^d PHE { 4 ^h : 55 ^h /1 12 ^h : 55 ^h /3 20 ^h : 55 ^h /5 SD: 15 ^h /0 PMG: 5 ^h 19 ^m R°: 45 ^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	36.9	-17	01.3	282	34.9	-13	12.7	60 N	6	35	7	26	8	13	0	49	92	
1	191	36.8	-17	00.6	297	09.1		25.7	58	31	19		8	03	41	87	42	5	
2	206	36.7	-16	59.9	311	43.2		38.6	56	28	13		7	54	34	82	50	9	
3	221	36.6		59.1	326	17.2	-13	51.5	54	25	08			46	27	79	9	58	
4	236	36.5		58.4	340	51.2	-14	04.3	52	22	7	03		39	21	77	10	04	
5	251	36.5	-16	57.7	355	25.1	-14	17.1	50	6	19	6	58	7	33	0	16	74	
6	266	36.4	-16	57.0	9	58.9	-14	29.9	45	6	13	6	48	7	19	0	05	68	
7	281	36.3		56.3	24	32.6		42.6	40	07	40		7	08	**	**	**	34	
8	296	36.2		55.6	39	06.3	-14	55.2	35	6	02	32	6	58	**	**	**	43	
9	311	36.1		54.8	53	39.8	-15	07.8	30	5	56	25		50	**	**	**	10	
10	326	36.1		54.1	68	13.3		20.4	20	46	12			35	**	**	**	11	
11	341	36.0	-16	53.4	82	46.7	-15	32.9	10 N	5	35	6	00	6	22	**	**	**	11
12	356	35.9	-16	52.7	97	20.0	-15	45.3	0	5	23	5	48	6	10	23	53	48	
13	11	35.8		52.0	111	53.3	-15	57.7	10 S	5	10	36		5	58	39	45	41	
14	26	35.8		51.2	126	26.4	-16	10.0	20	4	53	21		44	25	40	11	54	
15	41	35.7		50.5	140	59.5		22.3	30	32	5	03	29	23	08	36	12	08	
16	56	35.6		49.8	155	32.4		34.5	35	19	4	52	20	22	59	33	16	62	
17	71	35.5	-16	49.1	170	05.3	-16	46.7	40	4	03	4	40	5	10	22	48	30	
18	86	35.5	-16	48.3	184	38.1	-16	58.8	45	3	42	4	24	4	57	22	35	26	
19	101	35.4		47.6	199	10.8	-17	10.9	50	15	4	05		42	20	20		70	
20	116	35.3		46.9	213	43.4		22.9	52	3	01	3	55		35	13	18	12	
21	131	35.2		46.2	228	15.9		34.8	54	2	45	44		28	22	05	15	13	
22	146	35.2		45.4	242	48.3		46.6	56	2	24	32		19	21	56	12	12	
23	161	35.1		44.7	257	20.6	-17	58.4	58	1	57	17	4	09	46	8		89	
24	176	35.0	-16	44.0	271	52.8	-18	10.2	60 S	1	15	3	00	3	58	21	35	2	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 15 ^h 10.7 ^m		Mag: -3.9 PMG: 10 ^h 05 ^m			Mag: +1.3 PMG: 10 ^h 46 ^m			Mag: -2.4 PMG: 17 ^h 32 ^m			Mag: +1.0 PMG: 13 ^h 47 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	131	41.5	208	50.7	-22	19.4	198	26.1	-22	34.5	96	18.9	+13	00.2	152	47.0	-10	36.2	
1	146	44.0	223	49.9		19.2	213	26.5		34.2	111	21.1		00.3	167	49.2		36.1	
2	161	46.5	238	49.0		19.1	228	26.9		34.0	126	23.3		00.4	182	51.4		36.0	
3	176	48.9	253	48.1		18.9	243	27.3		33.7	141	25.5		00.5	197	53.6		35.8	
4	191	51.4	268	47.3		18.7	258	27.8		33.4	156	27.7		00.6	212	55.8		35.7	
5	206	53.9	283	46.4	-22	18.6	273	28.2	-22	33.1	171	29.9	+13	00.7	227	58.0	-10	35.6	
6	221	56.3	298	45.5	-22	18.4	288	28.6	-22	32.8	186	32.1	+13	00.8	243	00.2	-10	35.5	
7	236	58.8	313	44.6		18.3	303	29.0		32.6	201	34.4		00.9	258	02.3		35.4	
8	252	01.2	328	43.8		18.1	318	29.4		32.3	216	36.6		01.0	273	04.5		35.3	
9	267	03.7	343	42.9		18.0	333	29.9		32.0	231	38.8		01.1	288	06.7		35.2	
10	282	06.2	358	42.0		17.8	348	30.3		31.7	246	41.0		01.2	303	08.9		35.1	
11	297	08.6	13	41.2	-22	17.6	3	30.7	-22	31.4	261	43.2	+13	01.3	318	11.1	-10	35.0	
12	312	11.1	28	40.3	-22	17.5	18	31.1	-22	31.1	276	45.4	+13	01.4	333	13.3	-10	34.9	
13	327	13.6	43	39.4		17.3	33	31.6		30.9	291	47.6		01.5	348	15.5		34.8	
14	342	16.0	58	38.6		17.1	48	32.0		30.6	306	49.8		01.6	3	17.7		34.7	
15	357	18.5	73	37.7		17.0	63	32.4		30.3	321	52.0		01.6	18	19.9		34.6	
16	12	21.0	88	36.8		16.8	78	32.8		30.0	336	54.2		01.7	33	22.1		34.4	
17	27	23.4	103	36.0	-22	16.6	93	33.3	-22	29.7	351	56.4	+13	01.8	48	24.3	-10	34.3	
18	42	25.9	118	35.1	-22	16.5	108	33.7	-22	29.4	6	58.6	+13	01.9	63	26.5	-10	34.2	
19	57	28.4	133	34.2		16.3	123	34.1		29.2	22	00.9		02.0	78	28.6		34.1	
20	72	30.8	148	33.4		16.1	138	34.5		28.9	37	03.1		02.1	93	30.8		34.0	
21	87	33.3	163	32.5		16.0	153	34.9		28.6	52	05.3		02.2	108	33.0		33.9	
22	102	35.7	178	31.6		15.8	168	35.4		28.3	67	07.5		02.3	123	35.2		33.8	
23	117	38.2	193	30.8		15.6	183	35.8		28.0	82	09.7		02.4	138	37.4		33.7	
24	132	40.7	208	29.9	-22	15.4	198	36.2	-22	27.7	97	11.9	+13	02.5	153	39.6	-10	33.6	
Dif	—		-9			+2	+4			+3	+22		+1		+22			+1	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.7 ^m				Edad: 22.5 ^d SD: 15'1 PMG: 6 ^h 04 ^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	35.0	-16	44.0	271	52.8	-18	10.2	60 N	16 18	17 05	17 55	2 21	98	9 33	3	
1	191	34.9		43.3	286	24.9		21.8	58	28	11	17 59	2 08	92	47	9	
2	206	34.9		42.5	300	56.9		33.4	56	36	17	18 02	1 56	87	9 59	14	
3	221	34.8		41.8	315	28.8		45.0	54	44	22	05	46	83	10 10	18	
4	236	34.7		41.1	330	00.6	-18	56.4	52	51	27	08	38	79	19	21	
5	251	34.6	-16	40.4	344	32.3	-19	07.8	50	16 57	17 31	18 10	1 30	77	10 28	24	
6	266	34.6	-16	39.6	359	03.9	-19	19.1	45	17 10	17 41	18 16	1 13	72	10 46	29	
7	281	34.5		38.9	13	35.4		30.4	40	21	49	22	1 00	67	11 01	33	
8	296	34.4		38.2	28	06.7		41.5	35	30	17 57	27	0 48	64	13	36	
9	311	34.4		37.4	42	38.0	-19	52.6	30	38	18 03	32	38	61	24	39	
10	326	34.3		36.7	57	09.2	-20	03.6	20	17 53	16	42	21	56	11 43	43	
11	341	34.2	-16	36.0	71	40.2	-20	14.5	10 N	18 05	18 27	18 52	0 06	52	12 00	47	
12	356	34.1	-16	35.2	86	11.2	-20	25.4	0	18 17	18 39	19 04	**	**	**	12 15	51
13	11	34.1		34.5	100	42.0		36.2	10 S	29	18 51	17	**	**	**	31	54
14	26	34.0		33.8	115	12.7		46.8	20	42	19 05	33	**	**	**	12 48	57
15	41	33.9		33.0	129	43.4	-20	57.4	30	18 57	23	19 53	23	44	43	13 07	62
16	56	33.9		32.3	144	13.9	-21	07.9	35	19 06	33	20 06		32	40	18	65
17	71	33.8	-16	31.6	158	44.2	-21	18.4	40	19 16	19 46	20 22	23	18	37	13 31	69
18	86	33.7	-16	30.8	173	14.5	-21	28.7	45	19 28	20 01	20 42	23	01	34	13 47	72
19	101	33.7		30.1	187	44.7		38.9	50	42	20	21 08	22	40	29	14 06	78
20	116	33.6		29.4	202	14.7		49.1	52	49	29	22	31	26	15	81	
21	131	33.5		28.6	216	44.6	-21	59.2	54	19 56	39	37	20	23	26	83	
22	146	33.5		27.9	231	14.4	-22	09.1	56	20 05	20 51	21 56	22	08	19	37	88
23	161	33.4		27.1	245	44.1		19.0	58	14	21 05	22 21	21	54	13	14 51	93
24	176	33.3	-16	26.4	260	13.7	-22	28.7	60 S	20 25	21 21	22 57	21	37	6	15 06	101

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 06.8 ^m		Mag: -3.9 PMG: 10 ^h 07 ^m		Mag: +1.3 PMG: 10 ^h 45 ^m		Mag: -2.4 PMG: 17 ^h 29 ^m		Mag: +1.0 PMG: 13 ^h 43 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	132	40.7	208	29.9	-22	15.4	198	36.2	-22	27.7
1	147	43.1	223	29.0		15.3	213	36.6		27.4
2	162	45.6	238	28.2		15.1	228	37.1		27.1
3	177	48.1	253	27.3		14.9	243	37.5		26.8
4	192	50.5	268	26.4		14.7	258	37.9		26.6
5	207	53.0	283	25.6	-22	14.5	273	38.3	-22	26.3
6	222	55.5	298	24.7	-22	14.3	288	38.8	-22	26.0
7	237	57.9	313	23.8		14.2	303	39.2		25.7
8	253	00.4	328	23.0		14.0	318	39.6		25.4
9	268	02.8	343	22.1		13.8	333	40.0		25.1
10	283	05.3	358	21.2		13.6	348	40.5		24.8
11	298	07.8	13	20.4	-22	13.4	3	40.9	-22	24.5
12	313	10.2	28	19.5	-22	13.2	18	41.3	-22	24.2
13	328	12.7	43	18.6		13.0	33	41.7		23.9
14	343	15.2	58	17.8		12.8	48	42.2		23.6
15	358	17.6	73	16.9		12.6	63	42.6		23.3
16	13	20.1	88	16.0		12.4	78	43.0		23.0
17	28	22.6	103	15.2	-22	12.2	93	43.4	-22	22.8
18	43	25.0	118	14.3	-22	12.0	108	43.9	-22	22.5
19	58	27.5	133	13.4		11.9	123	44.3		22.2
20	73	30.0	148	12.6		11.7	138	44.7		21.9
21	88	32.4	163	11.7		11.4	153	45.1		21.6
22	103	34.9	178	10.8		11.2	168	45.6		21.3
23	118	37.3	193	10.0		11.0	183	46.0		21.0
24	133	39.8	208	09.1	-22	10.8	198	46.4	-22	20.7
Dif	—		-9		+2		+4		+3	
							+22		+1	
									+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: 23.5 ^d PHE { 4 ^h : 56 ^h 5 12 ^h : 56 ^h 8 20 ^h : 57 ^h 1 PMG: 6 ^h 53 ^m R°: 55 ^m												
	hG ☉	Dec			hG ☾	Dif											
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	176	33.3	-16	26.4	260	13.7	-22	28.7	60 N	6	31	7	21	8	08	3	59 104
1	191	33.3		25.7	274	43.1		38.4	58	28	15	7	58		40	94	9 56 19
2	206	33.2		24.9	289	12.5		48.0	56	25	09	50		23	89		10 13 24
3	221	33.1		24.2	303	41.7	-22	57.4	54	22	04	43		3	09 85		28 28
4	236	33.1		23.4	318	10.8	-23	06.8	52	19	7 00	36		2	57 81		40 32
5	251	33.0	-16	22.7	332	39.7	-23	16.1	50	6	17	6 55	7	30	2	47 78	10 52 34
6	266	32.9	-16	22.0	347	08.6	-23	25.2	45	6	11	6 46	7	17	2	25 72	11 15 39
7	281	32.9		21.2	1	37.3		34.3	40	05	38	7 06	2	07 69		34	42
8	296	32.8		20.5	16	05.9		43.2	35	6	00	30	6 57	1	52 66	11	49 45
9	311	32.8		19.7	30	34.4	-23	52.0	30	5	55	24	49		39 64	12	03 47
10	326	32.7		19.0	45	02.7	-24	00.7	20	45	12	35	1	17 60		26	51
11	341	32.6	-16	18.2	59	31.0	-24	09.3	10 N	5	35	6 00	6	22	0	58 57	12 47 53
12	356	32.6	-16	17.5	73	59.1	-24	17.8	0	5	24	5 49	6	10	0	41 53	13 06 56
13	11	32.5		16.8	88	27.1		26.1	10 S	5	11	36	5	58		24 50	25 58
14	26	32.5		16.0	102	55.0		34.4	20	4	55	22	46		0 05 47	13	45 62
15	41	32.4		15.3	117	22.7		42.5	30	34	5	05	31	**	** *	**	14 09 65
16	56	32.3		14.5	131	50.3		50.5	35	22	4	55	22	**	** *	**	23 67
17	71	32.3	-16	13.8	146	17.8	-24	58.4	40	4	06	4 42	5	12	23	55 48	14 40 68
18	86	32.2	-16	13.0	160	45.2	-25	06.1	45	3	46	4 27	5	00	23	35 45	14 59 72
19	101	32.2		12.3	175	12.5		13.7	50	20	4	08	4	46	23	09 42	15 24 76
20	116	32.1		11.5	189	39.6		21.2	52	3	07	3 59	39	22	57 39		36 78
21	131	32.0		10.8	204	06.6		28.6	54	2	51	49	32		43 36	15	49 82
22	146	32.0		10.0	218	33.5		35.8	56	32	37	23	23		27 32	16	05 85
23	161	31.9		09.3	233	00.3		42.9	58	2	07	23	14	22	07 28	24	91
24	176	31.9	-16	08.5	247	26.9	-25	49.8	60 S	1	31	3 07	4	03	21	43 18	16 47 101

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 02.9 ^m		Mag: -3.9 PMG: 10 ^h 08 ^m		Mag: +1.3 PMG: 10 ^h 45 ^m		Mag: -2.4 PMG: 17 ^h 25 ^m		Mag: +1.0 PMG: 13 ^h 40 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	133	39.8	208	09.1	-22	10.8	198	46.4	-22	20.7
1	148	42.3	223	08.2		10.6	213	46.8		20.4
2	163	44.7	238	07.4		10.4	228	47.3		20.1
3	178	47.2	253	06.5		10.2	243	47.7		19.8
4	193	49.7	268	05.6		10.0	258	48.1		19.5
5	208	52.1	283	04.8	-22	09.8	273	48.5	-22	19.2
6	223	54.6	298	03.9	-22	09.6	288	49.0	-22	18.9
7	238	57.1	313	03.0		09.4	303	49.4		18.6
8	253	59.5	328	02.2		09.2	318	49.8		18.3
9	269	02.0	343	01.3		08.9	333	50.2		18.0
10	284	04.5	358	00.5		08.7	348	50.7		17.7
11	299	06.9	12	59.6	-22	08.5	3	51.1	-22	17.4
12	314	09.4	27	58.7	-22	08.3	18	51.5	-22	17.1
13	329	11.8	42	57.9		08.1	33	52.0		16.8
14	344	14.3	57	57.0		07.9	48	52.4		16.5
15	359	16.8	72	56.1		07.6	63	52.8		16.1
16	14	19.2	87	55.3		07.4	78	53.2		15.8
17	29	21.7	102	54.4	-22	07.2	93	53.7	-22	15.5
18	44	24.2	117	53.6	-22	07.0	108	54.1	-22	15.2
19	59	26.6	132	52.7		06.7	123	54.5		14.9
20	74	29.1	147	51.8		06.5	138	54.9		14.6
21	89	31.6	162	51.0		06.3	153	55.4		14.3
22	104	34.0	177	50.1		06.0	168	55.8		14.0
23	119	36.5	192	49.2		05.8	183	56.2		13.7
24	134	38.9	207	48.4	-22	05.6	198	56.7	-22	13.4
Dif	—		-9		+2		+4		+3	
									+22	
									+1	
									+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: 24.5 ^d SD: 15/6 PMG: 7 ^h 48 ^m PHE { 4 ^h : 57/4 12 ^h : 57/7 20 ^h : 58/1 Rº: 59 ^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	h m m		
0	176	31.9	-16	08.5	247	26.9	75	-25	49.8	68	58	16 23	17 10	18 00	5 43	96	9 45	28
1	191	31.8		07.8	261	53.4	74	-25	56.6	67	56	32	16	03	5 14	86	10 15	37
2	206	31.8		07.0	276	19.8	73	-26	03.3	66	54	41	21	06	4 52	81	37	43
3	221	31.7		06.3	290	46.1	72		09.9	66	52	48	26	08	34	77	10 56	46
4	236	31.6		05.5	305	12.3	70		16.2	63	50	16 54	30	11	18	75	11 12	48
5	251	31.6	-16	04.8	319	38.3	70	-26	22.5	63	45	17 00	17 35	18 13	4 05	73	11 26	49
6	266	31.5	-16	04.0	334	04.3	68	-26	28.6	61	40	17 13	17 44	18 19	3 37	70	11 54	52
7	281	31.5		03.3	348	30.1	67		34.6	60	35	23	52	24	3 16	68	12 16	54
8	296	31.4		02.5	2	55.8	66		40.4	58	30	32	17 59	29	2 58	66	34	55
9	311	31.4		01.7	17	21.4	64		46.0	56	20	40	18 05	33	43	64	12 50	56
10	326	31.3		01.0	31	46.8	64		51.5	55	10	17 54	17	43	2 17	62	13 17	58
11	341	31.3	-16	00.2	46	12.2	62	-26	56.9	54	0	18 06	18 28	18 53	1 55	60	13 40	59
12	356	31.2	-15	59.5	60	37.4	62	-27	02.1	52	0	18 17	18 39	19 04	1 34	59	14 02	60
13	11	31.1		58.7	75	02.6	60		07.1	50	10 S	29	18 51	17	1 14	56	23	62
14	26	31.1		58.0	89	27.6	59		12.0	49	20	41	19 05	32	0 52	54	14 47	62
15	41	31.0		57.2	103	52.5	58		16.8	48	30	18 56	21	19 52	27	51	15 14	63
16	56	31.0		56.4	118	17.3	57		21.3	45	35	19 04	32	20 04	0 12	50	30	64
17	71	30.9	-15	55.7	132	42.0	56	-27	25.7	44	40	19 14	19 43	20 20	** ** *	**	15 48	66
18	86	30.9	-15	54.9	147	06.6	55	-27	30.0	43	45	19 25	19 58	20 39	** ** *	**	16 11	67
19	101	30.8		54.2	161	31.1	54		34.0	40	50	39	20 16	21 04	23 51	58	40	68
20	116	30.8		53.4	175	55.5	53		38.0	40	52	46	25	17	36	58	16 54	69
21	131	30.7		52.6	190	19.8	52		41.7	37	54	19 53	35	31	23	19	58	70
22	146	30.7		51.9	204	44.0	51		45.3	36	56	20 01	46	21 50	22 59	57	30	72
23	161	30.6		51.1	219	08.1	50		48.7	34	58	10	20 59	22 12	35	54	17 55	74
24	176	30.6	-15	50.4	233	32.1	50	-27	51.9	32	60 S	20 20	21 15	22 44	22 01	50	18 28	78

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 58.9 ^m		Mag: -3.9 PMG: 10 ^h 09 ^m		Mag: +1.3 PMG: 10 ^h 44 ^m		Mag: -2.4 PMG: 17 ^h 22 ^m		Mag: +1.0 PMG: 13 ^h 36 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /		° /		° /		° /									
0	134	38.9	207	48.4	-22	05.6	198	56.7	-22	13.4	98	57.4	+13	07.4	155	24.7	-10	28.4
1	149	41.4	222	47.5		05.3	213	57.1		13.1	113	59.6		07.5	170	26.9		28.3
2	164	43.9	237	46.7		05.1	228	57.5		12.8	129	01.8		07.6	185	29.1		28.2
3	179	46.3	252	45.8		04.9	243	57.9		12.5	144	04.0		07.7	200	31.3		28.1
4	194	48.8	267	44.9		04.6	258	58.4		12.1	159	06.1		07.8	215	33.5		28.0
5	209	51.3	282	44.1	-22	04.4	273	58.8	-22	11.8	174	08.3	+13	07.9	230	35.7	-10	27.9
6	224	53.7	297	43.2	-22	04.2	288	59.2	-22	11.5	189	10.5	+13	08.0	245	37.9	-10	27.7
7	239	56.2	312	42.4		03.9	303	59.7		11.2	204	12.7		08.1	260	40.1		27.6
8	254	58.7	327	41.5		03.7	319	00.1		10.9	219	14.9		08.2	275	42.2		27.5
9	270	01.1	342	40.6		03.4	334	00.5		10.6	234	17.1		08.3	290	44.4		27.4
10	285	03.6	357	39.8		03.2	349	00.9		10.3	249	19.3		08.4	305	46.6		27.3
11	300	06.1	12	38.9	-22	03.0	4	01.4	-22	10.0	264	21.5	+13	08.5	320	48.8	-10	27.2
12	315	08.5	27	38.1	-22	02.7	19	01.8	-22	09.6	279	23.7	+13	08.6	335	51.0	-10	27.1
13	330	11.0	42	37.2		02.5	34	02.2		09.3	294	25.9		08.7	350	53.2		27.0
14	345	13.4	57	36.3		02.2	49	02.7		09.0	309	28.0		08.8	5	55.4		26.9
15	0	15.9	72	35.5		02.0	64	03.1		08.7	324	30.2		08.9	20	57.6		26.8
16	15	18.4	87	34.6		01.7	79	03.5		08.4	339	32.4		09.0	35	59.7		26.7
17	30	20.8	102	33.8	-22	01.5	94	03.9	-22	08.1	354	34.6	+13	09.1	51	01.9	-10	26.5
18	45	23.3	117	32.9	-22	01.2	109	04.4	-22	07.8	9	36.8	+13	09.2	66	04.1	-10	26.4
19	60	25.8	132	32.0		01.0	124	04.8		07.4	24	39.0		09.3	81	06.3		26.3
20	75	28.2	147	31.2		00.7	139	05.2		07.1	39	41.2		09.4	96	08.5		26.2
21	90	30.7	162	30.3		00.4	154	05.7		06.8	54	43.3		09.5	111	10.7		26.1
22	105	33.2	177	29.5	-22	00.2	169	06.1		06.5	69	45.5		09.6	126	12.9		26.0
23	120	35.6	192	28.6	-21	59.9	184	06.5		06.2	84	47.7		09.7	141	15.1		25.9
24	135	38.1	207	27.8	-21	59.7	199	06.9	-22	05.9	99	49.9	+13	09.8	156	17.3	-10	25.8
Dif	—		-9		+2		+4		+3		+22		+1		+22		+	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:12 ^h 14.0 ^m				Edad: 25.5 ^d SD: 15'9 PMG: 8 ^h 47 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	176	30.6	-15	50.4	233	32.1	-27	51.9	60 N	6 27	7 17	8 03	7 19	57	10 13	74		
1	191	30.5		49.6	247	56.0		54.9	58	24	11	7 54	6 40	60	10 52	72		
2	206	30.5		48.8	262	19.8	48	-27	57.8	21	06	46	6 13	60	11 20	70		
3	221	30.4		48.1	276	43.5	47	-28	00.5	19	7 01	39	5 51	61	11 42	69		
4	236	30.4		47.3	291	07.2	47		03.0	16	6 57	33		33	62	12 00	68	
5	251	30.3	-15	46.5	305	30.7	45	-28	05.4	6 14	6 52	7 27	5 18	62	12 15	68		
6	266	30.3	-15	45.8	319	54.2	45	-28	07.5	6 09	6 44	7 14	4 47	63	12 46	67		
7	281	30.3		45.0	334	17.6	44		09.5	6 04	36	7 04		24	62	13 10	66	
8	296	30.2		44.2	348	40.9	43		11.3	5 59	29	6 55	4 04	63		29	66	
9	311	30.2		43.5	3	04.1	42		12.9	54	23	47	3 47	63	13 46	66		
10	326	30.1		42.7	17	27.2	41		14.4	45	11	34	3 19	63	14 15	64		
11	341	30.1	-15	41.9	31	50.3	41	-28	15.6	5 35	6 00	6 22	2 55	62	14 39	64		
12	356	30.0	-15	41.2	46	13.3	40	-28	16.7	5 24	5 49	6 11	2 33	62	15 02	63		
13	11	30.0		40.4	60	36.3	40		17.5	5 12	37	5 59	2 10	62		25	62	
14	26	29.9		39.6	74	59.1	38		18.2	4 56	24	47	1 46	62	15 49	61		
15	41	29.9		38.9	89	21.9	38		18.7	36	5 07	32		18	62	16 17	60	
16	56	29.9		38.1	103	44.7	38		19.0	24	4 57	24	1 02	61		34	59	
17	71	29.8	-15	37.3	118	07.4	37	-28	19.1	4 09	4 45	5 14	0 43	60	16 54	58		
18	86	29.8	-15	36.6	132	30.0	36	-28	19.0	3 50	4 31	5 03	0 20	60	17 18	56		
19	101	29.7		35.8	146	52.6	36		18.7	25	12	4 50	**	**	**	17 48	54	
20	116	29.7		35.0	161	15.1	35		18.3	3 12	4 04	43	**	**	**	18 03	53	
21	131	29.6		34.2	175	37.6	35		17.6	2 57	3 54	36	**	**	**		21 51	
22	146	29.6		33.5	190	00.0	34		16.7	39	43	28	23	56	83	18 42	48	
23	161	29.6		32.7	204	22.4	34		15.7	2 16	29	19	23	29	88	19 09	44	
24	176	29.5	-15	31.9	218	44.8	34	-28	14.4	1 45	3 14	4 09	22	51	96	19 46	37	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 14 ^h 55.0 ^m		Mag: -3.9 PMG: 10 ^h 11 ^m			Mag: +1.3 PMG: 10 ^h 43 ^m			Mag: -2.4 PMG: 17 ^h 18 ^m			Mag: +1.0 PMG: 13 ^h 33 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	135	38.1	207	27.8	-21	59.7	199	06.9	-22	05.9	99	49.9	+13	09.8	156	17.3	-10	25.8
1	150	40.6	222	26.9		59.4	214	07.4		05.5	114	52.1		09.9	171	19.4		25.7
2	165	43.0	237	26.0		59.1	229	07.8		05.2	129	54.3		10.0	186	21.6		25.6
3	180	45.5	252	25.2		58.9	244	08.2		04.9	144	56.5		10.1	201	23.8		25.5
4	195	47.9	267	24.3		58.6	259	08.7		04.6	159	58.6		10.3	216	26.0		25.3
5	210	50.4	282	23.5	-21	58.3	274	09.1	-22	04.3	175	00.8	+13	10.4	231	28.2	-10	25.2
6	225	52.9	297	22.6	-21	58.1	289	09.5	-22	03.9	190	03.0	+13	10.5	246	30.4	-10	25.1
7	240	55.3	312	21.8		57.8	304	10.0		03.6	205	05.2		10.6	261	32.6		25.0
8	255	57.8	327	20.9		57.5	319	10.4		03.3	220	07.4		10.7	276	34.8		24.9
9	271	00.3	342	20.1		57.3	334	10.8		03.0	235	09.6		10.8	291	36.9		24.8
10	286	02.7	357	19.2		57.0	349	11.3		02.6	250	11.7		10.9	306	39.1		24.7
11	301	05.2	12	18.3	-21	56.7	4	11.7	-22	02.3	265	13.9	+13	11.0	321	41.3	-10	24.6
12	316	07.7	27	17.5	-21	56.5	19	12.1	-22	02.0	280	16.1	+13	11.1	336	43.5	-10	24.5
13	331	10.1	42	16.6		56.2	34	12.5		01.7	295	18.3		11.2	351	45.7		24.4
14	346	12.6	57	15.8		55.9	49	13.0		01.3	310	20.5		11.3	6	47.9		24.3
15	1	15.1	72	14.9		55.6	64	13.4		01.0	325	22.6		11.4	21	50.1		24.1
16	16	17.5	87	14.1		55.4	79	13.8		00.7	340	24.8		11.5	36	52.3		24.0
17	31	20.0	102	13.2	-21	55.1	94	14.3	-22	00.4	355	27.0	+13	11.6	51	54.4	-10	23.9
18	46	22.4	117	12.4	-21	54.8	109	14.7	-22	00.0	10	29.2	+13	11.7	66	56.6	-10	23.8
19	61	24.9	132	11.5		54.5	124	15.1	-21	59.7	25	31.4		11.8	81	58.8		23.7
20	76	27.4	147	10.6		54.2	139	15.6		59.4	40	33.5		11.9	97	01.0		23.6
21	91	29.8	162	09.8		53.9	154	16.0		59.1	55	35.7		12.0	112	03.2		23.5
22	106	32.3	177	08.9		53.7	169	16.4		58.7	70	37.9		12.1	127	05.4		23.4
23	121	34.8	192	08.1		53.4	184	16.9		58.4	85	40.1		12.3	142	07.6		23.3
24	136	37.2	207	07.2	-21	53.1	199	17.3	-21	58.1	100	42.3	+13	12.4	157	09.8	-10	23.2
Dif	—		-9		+3		+4		+3		+22		+1		+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: 26.5 ^d SD: 16'1 PMG: 9 ^h 50 ^m								PHE { 4 ^h : 59'3 12 ^h : 59'6 20 ^h : 59'9 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 m	h m m	h m m	h m m	
0	176	29.5	-15	31.9	218	44.8			-28	14.4	15	60 N	16 29	17 14	18 04	8 16	20	11 27	113		
1	191	29.5		31.2	233	07.1	33			12.9	16	58	37	20	07	7 40	31	12 04	101		
2	206	29.4		30.4	247	29.3	32			11.3	19	56	45	25	09	7 13	38	30	94		
3	221	29.4		29.6	261	51.6	33			09.4	20	54	52	30	12	6 52	42	12 51	90		
4	236	29.4		28.8	276	13.8	32			07.4	23	52	16 58	34	14	35	44	13 08	87		
5	251	29.3	-15	28.1	290	36.0	32	-28	05.1		23	50	17 04	17 38	18 16	6 20	47	13 23	84		
6	266	29.3	-15	27.3	304	58.1	31	-28	02.7	24	27	45	17 16	17 46	18 21	5 50	50	13 53	79		
7	281	29.2		26.5	319	20.3	32	-28	00.0	28	24	40	26	17 54	26	26	53	14 16	76		
8	296	29.2		25.7	333	42.4	31	-27	57.2	31	28	35	34	18 00	31	5 07	55	35	74		
9	311	29.2		24.9	348	04.5	31		54.1	31	31	30	42	07	35	4 50	57	14 52	71		
10	326	29.1		24.2	2	26.6	31		50.9	32	32	20	17 55	18	44	4 22	59	15 19	69		
11	341	29.1	-15	23.4	16	48.6	30	-27	47.4	35	35	10 N	18 07	18 28	18 53	3 57	62	15 43	65		
12	356	29.1	-15	22.6	31	10.7	31	-27	43.8	36	36	0	18 18	18 39	19 04	3 35	63	16 05	63		
13	11	29.0		21.8	45	32.8	31		39.9	39	39	10 S	29	18 50	16	3 12	65	27	60		
14	26	29.0		21.1	59	54.8	30		35.9	40	40	20	41	19 04	31	2 48	67	16 50	57		
15	41	28.9		20.3	74	16.9	31		31.6	43	43	30	18 54	20	19 50	20	69	17 17	54		
16	56	28.9		19.5	88	38.9	30		27.1	45	45	35	19 03	30	20 02	2 03	70	33	51		
17	71	28.9	-15	18.7	103	01.0	31	-27	22.5	46	46	40	19 12	19 41	20 17	1 43	72	17 52	48		
18	86	28.8	-15	17.9	117	23.1	31	-27	17.6	49	49	45	19 23	19 55	20 35	1 20	74	18 14	45		
19	101	28.8		17.1	131	45.2	31		12.6	50	50	50	36	20 12	20 59	0 49	77	42	40		
20	116	28.8		16.4	146	07.3	31		07.3	53	53	52	42	21	21 12	34	79	18 56	37		
21	131	28.7		15.6	160	29.4	31	-27	01.9	54	54	54	49	30	26	0 17	80	19 12	33		
22	146	28.7		14.8	174	51.5	31	-26	56.2	57	57	56	19 56	41	21 43	** ** *	**	30	29		
23	161	28.7		14.0	189	13.7	32		50.4	58	58	58	20 05	20 54	22 04	** ** *	**	19 53	23		
24	176	28.6	-15	13.2	203	35.9	32	-26	44.3	61	61	60 S	20 15	21 08	22 32	** ** *	**	20 23	13		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 14 ^h 51.1 ^m			Mag: -3.9 PMG: 10 ^h 12 ^m			Mag: +1.3 PMG: 10 ^h 43 ^m			Mag: -2.4 PMG: 17 ^h 15 ^m			Mag: +1.0 PMG: 13 ^h 29 ^m		
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	136	37.2	207 07.2	-21 53.1	199 17.3	-21 58.1	100 42.3	+13 12.4	157 09.8	-10 23.2					
1	151	39.7	222 06.4	52.8	214 17.7	57.8	115 44.4	12.5	172 11.9	23.1					
2	166	42.2	237 05.5	52.5	229 18.2	57.4	130 46.6	12.6	187 14.1	22.9					
3	181	44.6	252 04.7	52.2	244 18.6	57.1	145 48.8	12.7	202 16.3	22.8					
4	196	47.1	267 03.8	51.9	259 19.0	56.8	160 51.0	12.8	217 18.5	22.7					
5	211	49.6	282 03.0	-21 51.6	274 19.5	-21 56.4	175 53.1	+13 12.9	232 20.7	-10 22.6					
6	226	52.0	297 02.1	-21 51.3	289 19.9	-21 56.1	190 55.3	+13 13.0	247 22.9	-10 22.5					
7	241	54.5	312 01.3	51.0	304 20.3	55.8	205 57.5	13.1	262 25.1	22.4					
8	256	56.9	327 00.4	50.7	319 20.8	55.4	220 59.7	13.2	277 27.2	22.3					
9	271	59.4	341 59.6	50.4	334 21.2	55.1	236 01.8	13.3	292 29.4	22.2					
10	287	01.9	356 58.7	50.2	349 21.6	54.8	251 04.0	13.4	307 31.6	22.1					
11	302	04.3	11 57.9	-21 49.9	4 22.1	-21 54.4	266 06.2	+13 13.5	322 33.8	-10 22.0					
12	317	06.8	26 57.0	-21 49.6	19 22.5	-21 54.1	281 08.4	+13 13.6	337 36.0	-10 21.8					
13	332	09.3	41 56.2	49.2	34 22.9	53.8	296 10.5	13.8	352 38.2	21.7					
14	347	11.7	56 55.3	48.9	49 23.4	53.4	311 12.7	13.9	7 40.4	21.6					
15	2	14.2	71 54.5	48.6	64 23.8	53.1	326 14.9	14.0	22 42.6	21.5					
16	17	16.7	86 53.6	48.3	79 24.2	52.8	341 17.1	14.1	37 44.7	21.4					
17	32	19.1	101 52.8	-21 48.0	94 24.7	-21 52.4	356 19.2	+13 14.2	52 46.9	-10 21.3					
18	47	21.6	116 51.9	-21 47.7	109 25.1	-21 52.1	11 21.4	+13 14.3	67 49.1	-10 21.2					
19	62	24.1	131 51.1	47.4	124 25.5	51.8	26 23.6	14.4	82 51.3	21.1					
20	77	26.5	146 50.2	47.1	139 26.0	51.4	41 25.8	14.5	97 53.5	21.0					
21	92	29.0	161 49.4	46.8	154 26.4	51.1	56 27.9	14.6	112 55.7	20.9					
22	107	31.4	176 48.5	46.5	169 26.8	50.7	71 30.1	14.7	127 57.9	20.7					
23	122	33.9	191 47.7	46.2	184 27.3	50.4	86 32.3	14.8	143 00.0	20.6					
24	137	36.4	206 46.8	-21 45.9	199 27.7	-21 50.1	101 34.5	+13 14.9	158 02.2	-10 20.5					
Dif	—		-9 +3		+4 +3		+22 +1		+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: 27.5 ^d PHE { 4 ^h : 60'2 12 ^h : 60'4 20 ^h : 60'6 PMG: 10 ^h 53 ^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
0	176	28.6	-15	13.2	203	35.9	-26	44.3	60 N	6	23	7	12	7	58	8	36
1	191	28.6		12.4	217	58.1		38.1	58	20	07	49		8	11	15	13
2	206	28.6		11.7	232	20.3		31.6	56	18	7	02	42	7	51	21	14
3	221	28.5		10.9	246	42.6		25.0	54	15	6	57	35		34	26	21
4	236	28.5		10.1	261	04.9		18.2	52	13	53	29		19	30		35
5	251	28.5	-15	09.3	275	27.2	-26	11.1	50	6	11	6	49	7	07	33	14
6	266	28.4	-15	08.5	289	49.6	-26	03.9	45	6	06	6	41	7	12	6	40
7	281	28.4		07.7	304	12.0	-25	56.5	40	6	02	34	7	02		19	44
8	296	28.4		06.9	318	34.4		48.9	35	5	57	27	6	53	6	02	47
9	311	28.4		06.2	332	56.9		41.1	30	53	21	46		5	47	49	16
10	326	28.3		05.4	347	19.5		33.1	20	44	10	33		5	21	54	28
11	341	28.3	-15	04.6	1	42.1	-25	24.9	10 N	5	35	6	00	6	22	4	59
12	356	28.3	-15	03.8	16	04.7	-25	16.6	0	5	24	5	49	6	11	4	38
13	11	28.2		03.0	30	27.4	-25	08.0	10 S	5	12	38	6	00	4	17	65
14	26	28.2		02.2	44	50.2	-24	59.3	20	4	58	25	5	48	3	55	69
15	41	28.2		01.4	59	13.0		50.4	30	38	5	09	34		29	73	18
16	56	28.2	-15	00.6	73	35.9		41.3	35	26	4	59	26		3	13	77
17	71	28.1	-14	59.8	87	58.8	-24	32.0	40	4	12	4	48	5	17	2	55
18	86	28.1	-14	59.0	102	21.8	-24	22.5	45	3	53	4	34	5	06	2	34
19	101	28.1		58.2	116	44.9		12.9	50	29	16	4	53		2	06	90
20	116	28.1		57.4	131	08.0	-24	03.1	52	17	4	08	47		1	53	92
21	131	28.0		56.7	145	31.2	-23	53.1	54	3	03	3	59	40		37	96
22	146	28.0		55.9	159	54.4		42.9	56	2	46	48	33		1	19	101
23	161	28.0		55.1	174	17.8		32.6	58	2	25	35	24		0	57	107
24	176	28.0	-14	54.3	188	41.2	-23	22.0	60 S	1	57	3	21	4	14	0	27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 47.1 ^m		Mag: -3.9 PMG: 10 ^h 13 ^m		Mag: +1.3 PMG: 10 ^h 42 ^m		Mag: -2.4 PMG: 17 ^h 11 ^m		Mag: +1.0 PMG: 13 ^h 26 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	137	36.4	206	46.8	-21	45.9	199	27.7	-21	50.1	101	34.5	+13	14.9	158	02.2	-10	20.5
1	152	38.8	221	46.0		45.5	214	28.1		49.7	116	36.6		15.0	173	04.4		20.4
2	167	41.3	236	45.1		45.2	229	28.6		49.4	131	38.8		15.2	188	06.6		20.3
3	182	43.8	251	44.3		44.9	244	29.0		49.0	146	41.0		15.3	203	08.8		20.2
4	197	46.2	266	43.4		44.6	259	29.4		48.7	161	43.1		15.4	218	11.0		20.1
5	212	48.7	281	42.6	-21	44.3	274	29.9	-21	48.4	176	45.3	+13	15.5	233	13.2	-10	20.0
6	227	51.2	296	41.7	-21	43.9	289	30.3	-21	48.0	191	47.5	+13	15.6	248	15.3	-10	19.9
7	242	53.6	311	40.9		43.6	304	30.7		47.7	206	49.6		15.7	263	17.5		19.8
8	257	56.1	326	40.1		43.3	319	31.2		47.3	221	51.8		15.8	278	19.7		19.7
9	272	58.6	341	39.2		43.0	334	31.6		47.0	236	54.0		15.9	293	21.9		19.5
10	288	01.0	356	38.4		42.6	349	32.0		46.7	251	56.2		16.0	308	24.1		19.4
11	303	03.5	11	37.5	-21	42.3	4	32.5	-21	46.3	266	58.3	+13	16.1	323	26.3	-10	19.3
12	318	05.9	26	36.7	-21	42.0	19	32.9	-21	46.0	282	00.5	+13	16.2	338	28.5	-10	19.2
13	333	08.4	41	35.8		41.7	34	33.4		45.6	297	02.7		16.4	353	30.6		19.1
14	348	10.9	56	35.0		41.3	49	33.8		45.3	312	04.8		16.5	8	32.8		19.0
15	3	13.3	71	34.1		41.0	64	34.2		44.9	327	07.0		16.6	23	35.0		18.9
16	18	15.8	86	33.3		40.7	79	34.7		44.6	342	09.2		16.7	38	37.2		18.8
17	33	18.3	101	32.4	-21	40.3	94	35.1	-21	44.2	357	11.3	+13	16.8	53	39.4	-10	18.7
18	48	20.7	116	31.6	-21	40.0	109	35.5	-21	43.9	12	13.5	+13	16.9	68	41.6	-10	18.5
19	63	23.2	131	30.8		39.7	124	36.0		43.6	27	15.7		17.0	83	43.8		18.4
20	78	25.7	146	29.9		39.3	139	36.4		43.2	42	17.8		17.1	98	45.9		18.3
21	93	28.1	161	29.1		39.0	154	36.8		42.9	57	20.0		17.2	113	48.1		18.2
22	108	30.6	176	28.2		38.6	169	37.3		42.5	72	22.2		17.3	128	50.3		18.1
23	123	33.0	191	27.4		38.3	184	37.7		42.2	87	24.3		17.4	143	52.5		18.0
24	138	35.5	206	26.5	-21	38.0	199	38.2	-21	41.8	102	26.5	+13	17.6	158	54.7	-10	17.9
Dif	—		-8		+3		+4		+3		+22		+1		+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: 28.5 ^d SD: 16'5 PMG: 11 ^h 54 ^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	28.0	-14	54.3	188	41.2			-23	22.0			60 N	16 34	17 19	18 09	8 43	2	15 20	117		
1	191	27.9		53.5	203	04.7	45			11.4	106		58	42	24	11	26	9	36	110		
2	206	27.9		52.7	217	28.2	45		-23	00.5	109		56	49	29	13	12	14	15	49	105	
3	221	27.9		51.9	231	51.8	46		-22	49.5	110		54	16 56	33	15	8 00	18	16	00	10	
4	236	27.9		51.1	246	15.5	47			38.3	112		52	17 02	37	17	7 49	22		11	96	
5	251	27.8	-14	50.3	260	39.3	48		-22	27.0	113		50	17 07	17 41	18 19	7 40	24	16	19	94	
6	266	27.8	-14	49.5	275	03.2	49		-22	15.4	116		45	17 18	17 49	18 24	7 19	31	16	38	87	
7	281	27.8		48.7	289	27.1	49		-22	03.8	116		40	28	17 56	28	7 03	35	16	54	81	
8	296	27.8		47.9	303	51.1	50		-21	51.9	119		35	36	18 02	32	6 49	39	17	06	77	
9	311	27.7		47.1	318	15.2	51			40.0	119		30	43	08	36	36	43		17	74	
10	326	27.7		46.3	332	39.4	52			27.8	122		20	17 56	19	45	6 15	49	36	67		
11	341	27.7	-14	45.5	347	03.7	53		-21	15.5	123		10 N	18 07	18 29	18 54	5 57	54	17	53	61	
12	356	27.7	-14	44.7	1	28.1	54		-21	03.1	124		0	18 18	18 39	19 04	5 40	58	18	08	56	
13	11	27.7		43.9	15	52.5	54		-20	50.5	126		10 S	28	18 50	15	22	63	23	51		
14	26	27.6		43.1	30	17.0	55			37.7	128		20	40	19 03	30	5 04	68	39	46		
15	41	27.6		42.3	44	41.6	56			24.9	128		30	18 53	18	19 48	4 42	74	18	57	40	
16	56	27.6		41.5	59	06.3	57		-20	11.8	131		35	19 01	28	20 00	30	77	19	07	37	
17	71	27.6	-14	40.7	73	31.1	58		-19	58.7	131		40	19 09	19 39	20 14	4 15	81	19	19	33	
18	86	27.6	-14	39.9	87	56.0	59		-19	45.4	133		45	19 20	19 52	20 32	3 57	87	19	33	28	
19	101	27.6		39.1	102	20.9	59			31.9	135		50	32	20 09	20 55	36	93	50	21		
20	116	27.5		38.3	116	46.0	61			18.3	136		52	38	17	21 06	25	97	19	58	18	
21	131	27.5		37.5	131	11.1	61		-19	04.6	137		54	45	26	20	13	101	20	07	15	
22	146	27.5		36.7	145	36.3	62		-18	50.8	138		56	19 52	36	36	3 00	105	17	11		
23	161	27.5		35.9	160	01.6	63			36.8	140		58	20 00	20 48	21 56	2 44	111	28	7		
24	176	27.5	-14	35.1	174	27.0	64		-18	22.7	141		60 S	20 10	21 02	22 21	2 25	118	20	41	1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 43.2 ^m		Mag: -3.9 PMG: 10 ^h 15 ^m		Mag: +1.3 PMG: 10 ^h 41 ^m		Mag: -2.4 PMG: 17 ^h 08 ^m		Mag: +1.0 PMG: 13 ^h 22 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	138	35.5	206	26.5	199	38.2	102	26.5	158	54.7
1	153	38.0	221	25.7	214	38.6	117	28.7	173	56.9
2	168	40.4	236	24.9	229	39.0	132	30.8	188	59.0
3	183	42.9	251	24.0	244	39.5	147	33.0	204	01.2
4	198	45.4	266	23.2	259	39.9	162	35.2	219	03.4
5	213	47.8	281	22.3	274	40.3	177	37.3	234	05.6
6	228	50.3	296	21.5	289	40.8	192	39.5	249	07.8
7	243	52.8	311	20.7	304	41.2	207	41.6	264	10.0
8	258	55.2	326	19.8	319	41.7	222	43.8	279	12.2
9	273	57.7	341	19.0	334	42.1	237	46.0	294	14.3
10	289	00.2	356	18.1	349	42.5	252	48.1	309	16.5
11	304	02.6	11	17.3	4	43.0	267	50.3	324	18.7
12	319	05.1	26	16.5	19	43.4	282	52.5	339	20.9
13	334	07.5	41	15.6	34	43.8	297	54.6	354	23.1
14	349	10.0	56	14.8	49	44.3	312	56.8	9	25.3
15	4	12.5	71	13.9	64	44.7	327	58.9	24	27.5
16	19	14.9	86	13.1	79	45.2	343	01.1	39	29.6
17	34	17.4	101	12.3	94	45.6	358	03.3	54	31.8
18	49	19.9	116	11.4	109	46.0	13	05.4	69	34.0
19	64	22.3	131	10.6	124	46.5	28	07.6	84	36.2
20	79	24.8	146	09.8	139	46.9	43	09.7	99	38.4
21	94	27.3	161	08.9	154	47.4	58	11.9	114	40.6
22	109	29.7	176	08.1	169	47.8	73	14.1	129	42.7
23	124	32.2	191	07.2	184	48.2	88	16.2	144	44.9
24	139	34.7	206	06.4	199	48.7	103	18.4	159	47.1
Dif	—		-8		+4		+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: 0.0 ^d PHE { 4 ^h : 61'2 12 ^h : 61'2 20 ^h : 61'2 Rº: 54 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	176	27.5	-14	35.1	174	27.0		-18	22.7		142	60 N	6 18	7 08	7 53	8 45	0	17	17	111
1	191	27.4		34.3	188	52.5		-18	08.5		144	58	16	7 03	45	35	5		26	106
2	206	27.4		33.4	203	18.1		-17	54.1		144	56	14	6 58	38	26	9		34	101
3	221	27.4		32.6	217	43.8			39.7		146	54	12	54	31	18	12		41	97
4	236	27.4		31.8	232	09.5			25.1		146	52	10	50	26	11	15		47	94
5	251	27.4	-14	31.0	246	35.4		-17	10.4		147	50	6 08	6 46	7 20	8 04	19	17	53	91
6	266	27.4	-14	30.2	261	01.3		-16	55.6		148	45	6 04	6 38	7 09	7 50	25	18	05	84
7	281	27.4		29.4	275	27.3			40.6		150	40	6 00	32	7 00	38	30		15	79
8	296	27.3		28.6	289	53.4			25.6		150	35	5 56	25	6 52	28	34		23	75
9	311	27.3		27.8	304	19.6		-16	10.4		152	30	52	20	44	19	38		31	70
10	326	27.3		27.0	318	45.9		-15	55.2		152	20	43	6 09	32	7 04	44		43	64
11	341	27.3	-14	26.2	333	12.3		-15	39.8		154	10 N	5 34	5 59	6 21	6 51	49	18	54	59
12	356	27.3	-14	25.4	347	38.7		-15	24.4		154	0	5 25	5 49	6 11	6 38	55	19	04	53
13	11	27.3		24.6	2	05.2		-15	08.8		156	10 S	5 13	38	6 00	25	60		14	48
14	26	27.3		23.7	16	31.9		-14	53.2		156	20	4 59	26	5 49	6 12	65		25	42
15	41	27.3		22.9	30	58.6			37.5		157	30	40	11	36	5 56	72		37	36
16	56	27.2		22.1	45	25.4			21.6		159	35	29	5 01	28	47	76		44	32
17	71	27.2	-14	21.3	59	52.2		-14	05.7		159	40	4 15	4 50	5 19	5 36	81	19	52	28
18	86	27.2	-14	20.5	74	19.2		-13	49.7		160	45	3 57	4 37	5 09	5 24	86	20	01	23
19	101	27.2		19.7	88	46.2			33.6		161	50	34	20	4 57	09	92		11	18
20	116	27.2		18.9	103	13.4			17.4		162	52	23	12	51	5 02	95		16	15
21	131	27.2		18.0	117	40.6		-13	01.2		162	54	3 09	4 03	44	4 54	99		22	11
22	146	27.2		17.2	132	07.8		-12	44.8		164	56	2 53	3 53	37	45	103		28	8
23	161	27.2		16.4	146	35.2			28.4		164	58	34	41	29	35	107		35	4
24	176	27.2	-14	15.6	161	02.6		-12	11.9		165	60 S	2 08	3 27	4 20	4 23	113	20	42	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 39.3 ^m		Mag: -3.9 PMG: 10 ^h 16 ^m		Mag: +1.3 PMG: 10 ^h 40 ^m		Mag: -2.4 PMG: 17 ^h 04 ^m		Mag: +1.0 PMG: 13 ^h 19 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♀	
h	°	'	°	'	°	'	°	'	°	'
0	139	34.7	206	06.4	-21	29.4	199	48.7	-21	33.3
1	154	37.1	221	05.6		29.1	214	49.1		33.0
2	169	39.6	236	04.7		28.7	229	49.6		32.6
3	184	42.0	251	03.9		28.3	244	50.0		32.3
4	199	44.5	266	03.1		28.0	259	50.4		31.9
5	214	47.0	281	02.2	-21	27.6	274	50.9	-21	31.5
6	229	49.4	296	01.4	-21	27.2	289	51.3	-21	31.2
7	244	51.9	311	00.6		26.8	304	51.8		30.8
8	259	54.4	325	59.7		26.5	319	52.2		30.5
9	274	56.8	340	58.9		26.1	334	52.6		30.1
10	289	59.3	355	58.1		25.7	349	53.1		29.7
11	305	01.8	10	57.2	-21	25.3	4	53.5	-21	29.4
12	320	04.2	25	56.4	-21	24.9	19	54.0	-21	29.0
13	335	06.7	40	55.6		24.5	34	54.4		28.6
14	350	09.2	55	54.7		24.2	49	54.8		28.3
15	5	11.6	70	53.9		23.8	64	55.3		27.9
16	20	14.1	85	53.1		23.4	79	55.7		27.5
17	35	16.5	100	52.2	-21	23.0	94	56.2	-21	27.2
18	50	19.0	115	51.4	-21	22.6	109	56.6	-21	26.8
19	65	21.5	130	50.6		22.2	124	57.1		26.4
20	80	23.9	145	49.7		21.8	139	57.5		26.1
21	95	26.4	160	48.9		21.4	154	57.9		25.7
22	110	28.9	175	48.1		21.1	169	58.4		25.3
23	125	31.3	190	47.3		20.7	184	58.8		25.0
24	140	33.8	205	46.4	-21	20.3	199	59.3	-21	24.6
Dif	—		-8		+4		+4		+4	
							+22		+1	
									+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: 1.0 ^d PHE { 4 ^h : 61:2 12 ^h : 61:2 20 ^h : 61:1 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	176	27.2	-14	15.6	161	02.6	86	-12	11.9	165	60 N	16 39	17 24	18 13	8 45	0	19 08	105	
1	191	27.2		14.8	175	30.2	85	-11	55.4	165	58	47	29	15	40	3	12 10	101	
2	206	27.2		14.0	189	57.7	87		38.7	167	56	16 54	33	17	35	7	15 98		
3	221	27.2		13.2	204	25.4	87		22.0	167	54	17 00	37	19	30	11	18 94		
4	236	27.1		12.3	218	53.2	88	-11	05.3	167	52	05	41	21	26	14	21 91		
5	251	27.1	-14	11.5	233	21.0	88	-10	48.5	168	50	17 10	17 44	18 22	8 23	16	19 24	88	
6	266	27.1	-14	10.7	247	48.9	89	-10	31.6	169	45	17 21	17 52	18 26	8 15	21	19 29	82	
7	281	27.1		09.9	262	16.8	89	-10	14.6	170	40	30	17 58	30	08 26	34	77		
8	296	27.1		09.1	276	44.9	91	-9	57.6	170	35	38	18 04	34	8 02	31	38 72		
9	311	27.1		08.2	291	13.0	91		40.6	171	30	45	10	38	7 57	34	41 69		
10	326	27.1		07.4	305	41.1	91		23.5	170	20	17 57	20	46	48 41		47 62		
11	341	27.1	-14	06.6	320	09.4	93	-9	06.3	172	10 N	18 08	18 29	18 54	7 40	47	19 53	56	
12	356	27.1	-14	05.8	334	37.7	93	-8	49.1	172	0	18 18	18 39	19 04	7 33	51	19 57	51	
13	11	27.1		05.0	349	06.0	95		31.9	173	10 S	28	18 49	15	25 57		20 02	46	
14	26	27.1		04.1	3	34.5	95	-8	14.6	173	20	39	19 02	29	17 63		07 40		
15	41	27.1		03.3	18	03.0	95	-7	57.2	174	30	51	16	46	08 70		13 33		
16	56	27.1		02.5	32	31.5	95		39.9	173	35	18 59	25	19 58	7 03	73	16 30		
17	71	27.1	-14	01.7	47	00.2	97	-7	22.5	174	40	19 07	19 36	20 11	6 57	78	20 20	25	
18	86	27.1	-14	00.9	61	28.8	96	-7	05.0	175	45	19 17	19 49	20 28	6 50	83	20 24	21	
19	101	27.1	-14	00.0	75	57.6	98	-6	47.5	175	50	29	20 05	20 50	41 89		29 15		
20	116	27.1	-13	59.2	90	26.4	98		30.0	175	52	35	13	21 01	37 92		31 13		
21	131	27.1		58.4	104	55.2	98	-6	12.5	175	54	41	21	14	33 95		33 10		
22	146	27.1		57.6	119	24.1	99	-5	54.9	176	56	48	31	29	28 99		36 7		
23	161	27.1		56.7	133	53.1	100		37.4	175	58	19 55	42	21 48	22 104		39 3		
24	176	27.1	-13	55.9	148	22.1	100	-5	19.7	177	60 S	20 04	20 55	22 11	6 16	108	20 42	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 35.4 ^m		Mag: -3.9 PMG: 10 ^h 17 ^m		Mag: +1.3 PMG: 10 ^h 40 ^m		Mag: -2.3 PMG: 17 ^h 01 ^m		Mag: +1.0 PMG: 13 ^h 15 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	140	33.8	205	46.4	-21	20.3	199	59.3	-21	24.6
1	155	36.3	220	45.6		19.9	214	59.7		24.2
2	170	38.7	235	44.8		19.5	230	00.2		23.9
3	185	41.2	250	43.9		19.1	245	00.6		23.5
4	200	43.6	265	43.1		18.7	260	01.0		23.1
5	215	46.1	280	42.3	-21	18.3	275	01.5	-21	22.8
6	230	48.6	295	41.5	-21	17.9	290	01.9	-21	22.4
7	245	51.0	310	40.6		17.5	305	02.4		22.0
8	260	53.5	325	39.8		17.1	320	02.8		21.7
9	275	56.0	340	39.0		16.7	335	03.3		21.3
10	290	58.4	355	38.1		16.3	350	03.7		20.9
11	306	00.9	10	37.3	-21	15.8	5	04.1	-21	20.5
12	321	03.4	25	36.5	-21	15.4	20	04.6	-21	20.2
13	336	05.8	40	35.7		15.0	35	05.0		19.8
14	351	08.3	55	34.8		14.6	50	05.5		19.4
15	6	10.8	70	34.0		14.2	65	05.9		19.0
16	21	13.2	85	33.2		13.8	80	06.4		18.7
17	36	15.7	100	32.4	-21	13.4	95	06.8	-21	18.3
18	51	18.1	115	31.5	-21	13.0	110	07.3	-21	17.9
19	66	20.6	130	30.7		12.6	125	07.7		17.5
20	81	23.1	145	29.9		12.1	140	08.1		17.2
21	96	25.5	160	29.1		11.7	155	08.6		16.8
22	111	28.0	175	28.3		11.3	170	09.0		16.4
23	126	30.5	190	27.4		10.9	185	09.5		16.0
24	141	32.9	205	26.6	-21	10.5	200	09.9	-21	15.7
Dif	—		-8		+4		+4		+4	
							+21		+1	
									+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: 2.0 ^d SD: 16'6 PMG: 14 ^h 36 ^m																		
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m				
0	176	27.1	-13	55.9	148	22.1		-5	19.7	176	60 N	6	14	7	03	7	48	8	45	**			
1	191	27.1		55.1	162	51.2	101	-5	02.1	176	58	12	6	58		40	43	4		53	99		
2	206	27.1		54.3	177	20.3	101	-4	44.5	176	56	10		54	33	42	7			53	95		
3	221	27.1		53.4	191	49.5	102		26.8	177	54	08		50	27	41	9			52	92		
4	236	27.1		52.6	206	18.7	102	-4	09.1	177	52	07		46	22	40	12			52	89		
5	251	27.1	-13	51.8	220	47.9	102	-3	51.4	177	50	6	05	6	43	7	17	8	39	14	20	52	86
6	266	27.1	-13	51.0	235	17.2	103	-3	33.7	177	45	6	01	6	36	7	06	8	36	21	20	51	80
7	281	27.1		50.1	249	46.6	104	-3	16.0	177	40	5	58	29	6	57	34	26			51	75	
8	296	27.1		49.3	264	16.0	104	-2	58.3	177	35	54		24	50	33	29			50	71		
9	311	27.1		48.5	278	45.4	104		40.6	177	30	50		18	43	31	33			50	67		
10	326	27.1		47.6	293	14.9	105		22.9	177	20	42	6	08	31	29	39			49	61		
11	341	27.1	-13	46.8	307	44.4	105	-2	05.2	177	10 N	5	34	5	59	6	21	8	27	44	20	49	55
12	356	27.1	-13	46.0	322	13.9	105	-1	47.4	178	0	5	25	5	49	6	11	8	24	50	20	48	50
13	11	27.1		45.1	336	43.5	106		29.7	177	10 S	14		39	6	01	22	56			48	44	
14	26	27.1		44.3	351	13.1	106	-1	12.0	177	20	5	00	27	5	50	20	61			47	39	
15	41	27.1		43.5	5	42.8	107	-0	54.3	177	30	4	42	12	37	18	67			46	33		
16	56	27.1		42.7	20	12.4	106		36.6	177	35	31	5	03	30	16	72			46	29		
17	71	27.1	-13	41.8	34	42.2	108	-0	18.9	177	40	4	18	4	53	5	22	8	15	75	20	45	25
18	86	27.1	-13	41.0	49	11.9	107	-0	01.3	177	45	4	01	4	40	5	12	8	13	80	20	45	20
19	101	27.1		40.2	63	41.7	108	+0	16.4	176	50	3	39	24	5	00	10	87			44	15	
20	116	27.1		39.3	78	11.5	108		34.0	176	52	28		17	4	55	09	90			44	12	
21	131	27.2		38.5	92	41.3	108	+0	51.7	177	54	15	4	08	49	08	93			43	10		
22	146	27.2		37.7	107	11.1	108	+1	09.3	176	56	3	00	3	58	42	07	96			43	6	
23	161	27.2		36.8	121	41.0	109		26.9	176	58	2	42	47	34	06	99			42	4		
24	176	27.2	-13	36.0	136	10.9	109	+1	44.4	175	60 S	2	18	3	34	4	25	8	04	104	20	42	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 31.4 ^m		Mag: -3.9 PMG: 10 ^h 19 ^m		Mag: +1.3 PMG: 10 ^h 39 ^m		Mag: -2.3 PMG: 16 ^h 57 ^m		Mag: +1.0 PMG: 13 ^h 12 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	141	32.9	205	26.6	-21	10.5	200	09.9	-21	15.7
1	156	35.4	220	25.8		10.0	215	10.4		15.3
2	171	37.9	235	25.0		09.6	230	10.8		14.9
3	186	40.3	250	24.1		09.2	245	11.3		14.5
4	201	42.8	265	23.3		08.8	260	11.7		14.1
5	216	45.2	280	22.5	-21	08.3	275	12.2	-21	13.8
6	231	47.7	295	21.7	-21	07.9	290	12.6	-21	13.4
7	246	50.2	310	20.9		07.5	305	13.0		13.0
8	261	52.6	325	20.0		07.0	320	13.5		12.6
9	276	55.1	340	19.2		06.6	335	13.9		12.2
10	291	57.6	355	18.4		06.2	350	14.4		11.9
11	307	00.0	10	17.6	-21	05.8	5	14.8	-21	11.5
12	322	02.5	25	16.8	-21	05.3	20	15.3	-21	11.1
13	337	05.0	40	15.9		04.9	35	15.7		10.7
14	352	07.4	55	15.1		04.4	50	16.2		10.3
15	7	09.9	70	14.3		04.0	65	16.6		09.9
16	22	12.4	85	13.5		03.6	80	17.1		09.6
17	37	14.8	100	12.7	-21	03.1	95	17.5	-21	09.2
18	52	17.3	115	11.9	-21	02.7	110	18.0	-21	08.8
19	67	19.7	130	11.0		02.2	125	18.4		08.4
20	82	22.2	145	10.2		01.8	140	18.9		08.0
21	97	24.7	160	09.4		01.4	155	19.3		07.6
22	112	27.1	175	08.6		00.9	170	19.8		07.3
23	127	29.6	190	07.8	-21	00.5	185	20.2		06.9
24	142	32.1	205	07.0	-21	00.0	200	20.7	-21	06.5
Dif	—		-8		+4		+4		+4	
							+21		+1	
									+22	
									+	

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: 3.0 ^d PHE { 4 ^h : 60/4 12 ^h : 60/2 20 ^h : 59/9 PMG: 15 ^h 26 ^m 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	176	27.2	-13	36.0	136	10.9	+1	44.4	60 N	16 44	17 29	18 18	8 44	0	22 37	103	
1	191	27.2		35.2	150	40.8	+2	01.9	58	52	33	20	47	3	32	99	
2	206	27.2		34.3	165	10.7		19.4	56	16 58	37	21	49	6	28	95	
3	221	27.2		33.5	179	40.7		36.9	54	17 04	41	23	50	10	24	91	
4	236	27.2		32.6	194	10.6	+2	54.4	52	09	44	24	52	13	21	88	
5	251	27.2	-13	31.8	208	40.6	+3	11.8	50	17 14	17 48	18 26	8 53	16	22 18	85	
6	266	27.2	-13	31.0	223	10.6	+3	29.2	45	17 24	17 55	18 29	8 57	21	22 11	79	
7	281	27.2		30.1	237	40.6	+3	46.5	40	33	18 01	33	9 00	25	06	74	
8	296	27.3		29.3	252	10.6	+4	03.8	35	40	06	36	02	29	22 01	70	
9	311	27.3		28.5	266	40.6		21.1	30	47	11	39	04	33	21 57	66	
10	326	27.3		27.6	281	10.7		38.3	20	17 58	21	47	08	39	50	60	
11	341	27.3	-13	26.8	295	40.7	+4	55.5	10 N	18 08	18 30	18 55	9 11	45	21 44	55	
12	356	27.3	-13	25.9	310	10.7	+5	12.6	0	18 18	18 39	19 04	9 14	50	21 38	50	
13	11	27.3		25.1	324	40.8		29.7	10 S	27	18 49	14	18	54	32	45	
14	26	27.3		24.3	339	10.8	+5	46.8	20	38	19 00	27	21	60	26	40	
15	41	27.3		23.4	353	40.9	+6	03.8	30	50	15	44	25	67	19	34	
16	56	27.3		22.6	8	11.0		20.7	35	18 57	23	19 55	28	70	15	30	
17	71	27.4	-13	21.7	22	41.0	+6	37.6	40	19 05	19 33	20 08	9 30	75	21 10	27	
18	86	27.4	-13	20.9	37	11.1	+6	54.5	45	19 14	19 46	20 25	9 33	80	21 05	22	
19	101	27.4		20.1	51	41.1	+7	11.2	50	25	20 01	46	37	86	20 59	16	
20	116	27.4		19.2	66	11.2		28.0	52	31	08	20 56	39	88	56	14	
21	131	27.4		18.4	80	41.2	+7	44.7	54	36	16	21 08	41	91	53	11	
22	146	27.4		17.5	95	11.3	+8	01.3	56	43	26	23	43	95	49	8	
23	161	27.4		16.7	109	41.3		17.8	58	50	36	21 40	45	99	46	4	
24	176	27.5	-13	15.8	124	11.3	+8	34.3	60 S	19 59	20 49	22 01	9 48	103	20 41	0	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 14 ^h 27.5 ^m		Mag: -3.9 PMG: 10 ^h 20 ^m		Mag: +1.3 PMG: 10 ^h 38 ^m		Mag: -2.3 PMG: 16 ^h 54 ^m		Mag: +1.0 PMG: 13 ^h 08 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	142	32.1	205	07.0	-21	00.0	200	20.7	-21	06.5							
1	157	34.5	220	06.1	-20	59.6	215	21.1		06.1							
2	172	37.0	235	05.3		59.1	230	21.6		05.7							
3	187	39.5	250	04.5		58.7	245	22.0		05.3							
4	202	41.9	265	03.7		58.2	260	22.4		04.9							
5	217	44.4	280	02.9	-20	57.8	275	22.9	-21	04.5							
6	232	46.9	295	02.1	-20	57.3	290	23.3	-21	04.1							
7	247	49.3	310	01.3		56.9	305	23.8		03.8							
8	262	51.8	325	00.5		56.4	320	24.2		03.4							
9	277	54.2	339	59.6		55.9	335	24.7		03.0							
10	292	56.7	354	58.8		55.5	350	25.1		02.6							
11	307	59.2	9	58.0	-20	55.0	5	25.6	-21	02.2							
12	323	01.6	24	57.2	-20	54.6	20	26.0	-21	01.8							
13	338	04.1	39	56.4		54.1	35	26.5		01.4							
14	353	06.6	54	55.6		53.6	50	26.9		01.0							
15	8	09.0	69	54.8		53.2	65	27.4		00.6							
16	23	11.5	84	54.0		52.7	80	27.8	-21	00.2							
17	38	14.0	99	53.2	-20	52.2	95	28.3	-20	59.8							
18	53	16.4	114	52.4	-20	51.8	110	28.7	-20	59.4							
19	68	18.9	129	51.5		51.3	125	29.2		59.0							
20	83	21.3	144	50.7		50.8	140	29.7		58.6							
21	98	23.8	159	49.9		50.4	155	30.1		58.3							
22	113	26.3	174	49.1		49.9	170	30.6		57.9							
23	128	28.7	189	48.3		49.4	185	31.0		57.5							
24	143	31.2	204	47.5	-20	49.0	200	31.5	-20	57.1							
Dif	—		-8		+5		+5		+4								
									+21	+1							
										+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 14.2 ^m				Edad: 4.0 ^d PHE { 4 ^h : 59 ^h /7 12 ^h : 59 ^h /4 20 ^h : 59 ^h /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	176	27.5	-13	15.8	124	11.3	+8	34.3	164	60 N	6 09	6 58	7 42	8 44	0	**	**	**	**	**
1	191	27.5		15.0	138	41.3	+8	50.7	164	58	08	54	35	50	5	**	**	**	**	**
2	206	27.5		14.2	153	11.3	+9	07.1	164	56	06	50	29	8 55	9	**	**	**	**	**
3	221	27.5		13.3	167	41.3		23.4	163	54	05	46	23	9 00	12	23	55	9		
4	236	27.5		12.5	182	11.3		39.6	162	52	03	43	18	05 15		49	87			
5	251	27.5	-13	11.6	196	41.3	+9	55.8	162	50	6 02	6 40	7 13	9 09	17	23	43	84		
6	266	27.6	-13	10.8	211	11.2	+10	11.9	161	45	5 59	6 33	7 03	9 18	23	23	30	79		
7	281	27.6		09.9	225	41.2		27.9	160	40	55	27	6 55	25 28		20	73			
8	296	27.6		09.1	240	11.1		43.8	159	35	52	22	48	31 32		11	70			
9	311	27.6		08.2	254	41.0	+10	59.7	159	30	49	17	41	37 35		23	03	67		
10	326	27.6		07.4	269	10.9	+11	15.5	158	20	42	6 08	30	47 41		22	50	61		
11	341	27.7	-13	06.5	283	40.7	+11	31.2	157	10 N	5 34	5 59	6 20	9 56	45	22	39	55		
12	356	27.7	-13	05.7	298	10.6	+11	46.8	156	0	5 25	5 50	6 11	10 04	50	22	28	51		
13	11	27.7		04.8	312	40.4	+12	02.4	156	10 S	14	40	6 01	12 56		17	47			
14	26	27.7		04.0	327	10.2		17.8	154	20	5 01	28	5 51	21 61		22	06	42		
15	41	27.7		03.1	341	40.0		33.2	154	30	4 44	14	39	32 66		21	53	36		
16	56	27.8		02.3	356	09.7	+12	48.5	153	35	34	5 05	32	38 70		45	33			
17	71	27.8	-13	01.4	10	39.4	+13	03.7	152	40	4 21	4 55	5 24	10 45	74	21	37	29		
18	86	27.8	-13	00.6	25	09.1	+13	18.9	152	45	4 04	4 43	5 15	10 53	78	21	27	25		
19	101	27.8	-12	59.7	39	38.8		33.9	150	50	3 43	28	5 04	11 03	84	15	19			
20	116	27.9		58.9	54	08.4	+13	48.9	150	52	33	21	4 58	07 88		10	16			
21	131	27.9		58.0	68	38.0	+14	03.7	148	54	21	13	53	12 91		21	04	13		
22	146	27.9		57.2	83	07.6		18.5	148	56	3 07	4 03	46	18 95		20	57	10		
23	161	27.9		56.3	97	37.2		33.1	146	58	2 49	3 53	39	24 99		50	50	5		
24	176	27.9	-12	55.5	112	06.7	+14	47.7	146	60 S	2 28	3 40	4 31	11 31	105	20	41	1		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG 14 ^h 23.6 ^m		Mag: -3.9 PMG: 10 ^h 21 ^m				Mag: +1.3 PMG: 10 ^h 38 ^m				Mag: -2.3 PMG: 16 ^h 51 ^m				Mag: +1.0 PMG: 13 ^h 05 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	143	31.2	204	47.5	-20	49.0	200	31.5	-20	57.1	106	44.4	+13	31.3	163	16.6	-10	04.6		
1	158	33.7	219	46.7		48.5	215	31.9		56.7	121	46.6		31.4	178	18.8		04.5		
2	173	36.1	234	45.9		48.0	230	32.4		56.3	136	48.7		31.5	193	21.0		04.3		
3	188	38.6	249	45.1		47.5	245	32.8		55.9	151	50.8		31.7	208	23.2		04.2		
4	203	41.1	264	44.3		47.1	260	33.3		55.5	166	53.0		31.8	223	25.4		04.1		
5	218	43.5	279	43.5	-20	46.6	275	33.7	-20	55.1	181	55.1	+13	31.9	238	27.6	-10	04.0		
6	233	46.0	294	42.7	-20	46.1	290	34.2	-20	54.7	196	57.2	+13	32.0	253	29.7	-10	03.9		
7	248	48.5	309	41.9		45.6	305	34.6		54.3	211	59.4		32.1	268	31.9		03.8		
8	263	50.9	324	41.1		45.1	320	35.1		53.9	227	01.5		32.2	283	34.1		03.7		
9	278	53.4	339	40.3		44.7	335	35.5		53.5	242	03.6		32.4	298	36.3		03.6		
10	293	55.8	354	39.5		44.2	350	36.0		53.1	257	05.8		32.5	313	38.5		03.5		
11	308	58.3	9	38.7	-20	43.7	5	36.4	-20	52.7	272	07.9	+13	32.6	328	40.6	-10	03.3		
12	324	00.8	24	37.8	-20	43.2	20	36.9	-20	52.3	287	10.0	+13	32.7	343	42.8	-10	03.2		
13	339	03.2	39	37.0		42.7	35	37.3		51.9	302	12.2		32.8	358	45.0		03.1		
14	354	05.7	54	36.2		42.2	50	37.8		51.5	317	14.3		33.0	13	47.2		03.0		
15	9	08.2	69	35.4		41.7	65	38.2		51.1	332	16.4		33.1	28	49.4		02.9		
16	24	10.6	84	34.6		41.2	80	38.7		50.7	347	18.6		33.2	43	51.5		02.8		
17	39	13.1	99	33.8	-20	40.8	95	39.2	-20	50.3	2	20.7	+13	33.3	58	53.7	-10	02.7		
18	54	15.6	114	33.0	-20	40.3	110	39.6	-20	49.9	17	22.8	+13	33.4	73	55.9	-10	02.6		
19	69	18.0	129	32.2		39.8	125	40.1		49.5	32	24.9		33.6	88	58.1		02.4		
20	84	20.5	144	31.4		39.3	140	40.5		49.0	47	27.1		33.7	104	00.3		02.3		
21	99	22.9	159	30.6		38.8	155	41.0		48.6	62	29.2		33.8	119	02.5		02.2		
22	114	25.4	174	29.8		38.3	170	41.4		48.2	77	31.3		33.9	134	04.6		02.1		
23	129	27.9	189	29.0		37.8	185	41.9		47.8	92	33.5		34.0	149	06.8		02.0		
24	144	30.3	204	28.2	-20	37.3	200	42.3	-20	47.4	107	35.6	+13	34.2	164	09.0	-10	01.9		
Dif	—		-8		+5		+5		+4		+21		+1		+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: 5.0 ^d PHE { 4 ^h : 58/8 12 ^h : 58/5 20 ^h : 58/3 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	176	27.9	-12	55.5	112	06.7	+14	47.7	60 N	16 50	17 34	18 23	8 44	2	0 20	105		
1	191	28.0		54.6	126	36.2	+15	02.2	58	16 57	38	24	8 55	7	11	99		
2	206	28.0		53.8	141	05.6		16.6	56	17 03	42	25	9 04	12	0 03	94		
3	221	28.0		52.9	155	35.1		30.9	54	08	45	26	12 16		** ** *			
4	236	28.0		52.1	170	04.4		45.1	52	13	48	28	20 19		** ** *			
5	251	28.1	-12	51.2	184	33.8	+15	59.1	50	17 17	17 51	18 29	9 26	22	** ** *			
6	266	28.1	-12	50.4	199	03.1	+16	13.1	45	17 27	17 57	18 32	9 41	27	** ** *			
7	281	28.1		49.5	213	32.4		27.0	40	35	18 03	35	9 53	31	** ** *			
8	296	28.1		48.6	228	01.6		40.8	35	42	08	38	10 03	35	** ** *			
9	311	28.2		47.8	242	30.8	+16	54.4	30	48	13	41	12 38		** ** *			
10	326	28.2		46.9	257	00.0	+17	08.0	20	17 59	21	47	28 43		23 51	60		
11	341	28.2	-12	46.1	271	29.1	+17	21.5	10 N	18 08	18 30	18 55	10 41	48	23 34	57		
12	356	28.3	-12	45.2	285	58.2	+17	34.8	0	18 18	18 39	19 03	10 54	53	23 19	53		
13	11	28.3		44.4	300	27.2	+17	48.0	10 S	27	48	13	11 08	56	23 04	49		
14	26	28.3		43.5	314	56.3	+18	01.2	20	37	18 59	26	22 60		22 48	45		
15	41	28.3		42.6	329	25.2		14.2	30	48	19 13	42	38 66		29 41			
16	56	28.4		41.8	343	54.1		27.1	35	18 55	21	19 53	48 69		18 38			
17	71	28.4	-12	40.9	358	23.0	+18	39.9	40	19 02	19 31	20 05	11 59	72	22 06	35		
18	86	28.4	-12	40.1	12	51.9	+18	52.5	45	19 11	19 42	20 21	12 11	78	21 52	30		
19	101	28.5		39.2	27	20.7	+19	05.1	50	22	19 57	41	27 84		34 25			
20	116	28.5		38.4	41	49.4		17.5	52	27	20 04	20 51	35 86		26 22			
21	131	28.5		37.5	56	18.1		29.8	54	32	12	21 03	43 90		17 19			
22	146	28.5		36.6	70	46.8		42.0	56	38	20	16	12 53	94	21 07	14		
23	161	28.6		35.8	85	15.4	+19	54.1	58	45	31	32	13 03	100	20 55	10		
24	176	28.6	-12	34.9	99	44.0	+20	06.0	60 S	19 53	20 42	21 52	13 16	106	20 42	3		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 14 ^h 19.6 ^m		Mag: -3.9 PMG: 10 ^h 23 ^m			Mag: +1.3 PMG: 10 ^h 37 ^m			Mag: -2.3 PMG: 16 ^h 47 ^m			Mag: +1.0 PMG: 13 ^h 02 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	144	30.3	204	28.2	-20	37.3	200	42.3	-20	47.4	107	35.6	+13	34.2	164	09.0	-10	01.9
1	159	32.8	219	27.4		36.8	215	42.8		47.0	122	37.7		34.3	179	11.2		01.8
2	174	35.3	234	26.6		36.3	230	43.2		46.6	137	39.8		34.4	194	13.4		01.7
3	189	37.7	249	25.9		35.8	245	43.7		46.2	152	42.0		34.5	209	15.5		01.6
4	204	40.2	264	25.1		35.3	260	44.2		45.8	167	44.1		34.6	224	17.7		01.4
5	219	42.7	279	24.3	-20	34.8	275	44.6	-20	45.4	182	46.2	+13	34.8	239	19.9	-10	01.3
6	234	45.1	294	23.5	-20	34.3	290	45.1	-20	45.0	197	48.4	+13	34.9	254	22.1	-10	01.2
7	249	47.6	309	22.7		33.8	305	45.5		44.6	212	50.5		35.0	269	24.3		01.1
8	264	50.1	324	21.9		33.3	320	46.0		44.2	227	52.6		35.1	284	26.4		01.0
9	279	52.5	339	21.1		32.7	335	46.4		43.8	242	54.7		35.3	299	28.6		00.9
10	294	55.0	354	20.3		32.2	350	46.9		43.3	257	56.9		35.4	314	30.8		00.8
11	309	57.4	9	19.5	-20	31.7	5	47.3	-20	42.9	272	59.0	+13	35.5	329	33.0	-10	00.7
12	324	59.9	24	18.7	-20	31.2	20	47.8	-20	42.5	288	01.1	+13	35.6	344	35.2	-10	00.5
13	340	02.4	39	17.9		30.7	35	48.3		42.1	303	03.2		35.7	359	37.3		00.4
14	355	04.8	54	17.1		30.2	50	48.7		41.7	318	05.4		35.9	14	39.5		00.3
15	10	07.3	69	16.3		29.7	65	49.2		41.3	333	07.5		36.0	29	41.7		00.2
16	25	09.8	84	15.5		29.2	80	49.6		40.9	348	09.6		36.1	44	43.9	-10	00.1
17	40	12.2	99	14.7	-20	28.6	95	50.1	-20	40.5	3	11.7	+13	36.2	59	46.1	-10	00.0
18	55	14.7	114	13.9	-20	28.1	110	50.5	-20	40.1	18	13.9	+13	36.3	74	48.2	-9	59.9
19	70	17.2	129	13.1		27.6	125	51.0		39.6	33	16.0		36.5	89	50.4		59.8
20	85	19.6	144	12.3		27.1	140	51.5		39.2	48	18.1		36.6	104	52.6		59.6
21	100	22.1	159	11.6		26.6	155	51.9		38.8	63	20.2		36.7	119	54.8		59.5
22	115	24.6	174	10.8		26.0	170	52.4		38.4	78	22.3		36.8	134	57.0		59.4
23	130	27.0	189	10.0		25.5	185	52.8		38.0	93	24.5		37.0	149	59.1		59.3
24	145	29.5	204	09.2	-20	25.0	200	53.3	-20	37.6	108	26.6	+13	37.1	165	01.3	-9	59.2
Dif	—		-8		+5		+5		+4		+21		+1		+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 14.1 ^m				Edad: 6.0 ^d PHE { 4 ^h : 58 ⁰ 12 ^h : 57 ⁷ 20 ^h : 57 ⁴ Rº: 55 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	176	28.6	-12	34.9	99	44.0	+20	06.0	119	17.9	60 N	6 04	6 53	7 37	8 46	6	2 05	106		
1	191	28.6		34.1	114	12.6		95	117	29.6	58	03	49	30	9 02	13	1 50	98		
2	206	28.7		33.2	128	41.1		94	116	41.2	56	02	46	24	16 18		37	92		
3	221	28.7		32.3	143	09.5		94	114	52.6	54	01	42	19	28 22		26	88		
4	236	28.7		31.5	157	37.9	+20	94	114	04.0	52	6 00	39	14	39 25		16	84		
5	251	28.8	-12	30.6	172	06.3	+21	94	112	15.2	50	5 59	6 36	7 10	9 48	28	1 07	82		
6	266	28.8	-12	29.7	186	34.6	+21	93	110	26.2	45	5 56	6 30	7 00	10 08	34	0 49	75		
7	281	28.8		28.9	201	02.9		93	110	37.2	40	53	25	6 52	24 38		33	72		
8	296	28.9		28.0	215	31.1		92	110	48.0	35	50	20	46	38 41		21	68		
9	311	28.9		27.1	229	59.3		92	108	58.7	30	47	15	39	10 50	43	0 10	65		
10	326	28.9		26.3	244	27.4	+21	91	107	09.2	20	41	6 06	29	11 11	47	**	**		
11	341	29.0	-12	25.4	258	55.5	+22	91	105	19.7	10 N	5 33	5 58	6 20	11 29	51	**	**		
12	356	29.0	-12	24.6	273	23.6	+22	90	102	29.9	0	5 25	5 49	6 11	11 47	53	**	**		
13	11	29.1		23.7	287	51.6		90	100	40.1	10 S	15	40	6 02	12 04	57	23	53		
14	26	29.1		22.8	302	19.6		89	99	50.1	20	5 02	29	5 52	22 61		33	49		
15	41	29.1		22.0	316	47.5	+22	89	99	00.0	30	4 46	16	41	44 64		23	10		
16	56	29.2		21.1	331	15.4	+23	89	97	09.7	35	36	5 08	34	12 57	67	22	56		
17	71	29.2	-12	20.2	345	43.2	+23	88	97	19.4	40	4 23	4 58	5 27	13 11	70	22	41		
18	86	29.2	-12	19.4	0	11.0	+23	88	94	28.8	45	4 08	4 46	5 18	13 29	74	22	22		
19	101	29.3		18.5	14	38.7		87	93	38.1	50	3 48	32	07	13 51	79	21	59		
20	116	29.3		17.6	29	06.5		88	92	47.3	52	38	25	5 02	14 01	82	48	30		
21	131	29.3		16.7	43	34.1		86	91	56.4	54	26	17	4 57	13 85		36	27		
22	146	29.4		15.9	58	01.8	+23	87	89	05.3	56	3 13	4 09	51	27 89		21	23		
23	161	29.4		15.0	72	29.3	+24	85	88	14.1	58	2 57	3 59	44	14 43	95	21	05		
24	176	29.5	-12	14.1	86	56.9	+24	86			60 S	2 37	3 47	4 36	15 02	105	20	45		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 15.7 ^m		Mag: -3.9 PMG: 10 ^h 24 ^m		Mag: +1.3 PMG: 10 ^h 36 ^m		Mag: -2.3 PMG: 16 ^h 44 ^m		Mag: +1.0 PMG: 12 ^h 58 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	145	29.5	204	09.2	-20	25.0	200	53.3	-20	37.6
1	160	31.9	219	08.4		24.5	215	53.7		37.2
2	175	34.4	234	07.6		23.9	230	54.2		36.7
3	190	36.9	249	06.8		23.4	245	54.7		36.3
4	205	39.3	264	06.0		22.9	260	55.1		35.9
5	220	41.8	279	05.2	-20	22.4	275	55.6	-20	35.5
6	235	44.3	294	04.5	-20	21.8	290	56.0	-20	35.1
7	250	46.7	309	03.7		21.3	305	56.5		34.6
8	265	49.2	324	02.9		20.8	320	57.0		34.2
9	280	51.7	339	02.1		20.2	335	57.4		33.8
10	295	54.1	354	01.3		19.7	350	57.9		33.4
11	310	56.6	9	00.5	-20	19.2	5	58.3	-20	33.0
12	325	59.0	23	59.7	-20	18.6	20	58.8	-20	32.6
13	341	01.5	38	59.0		18.1	35	59.3		32.1
14	356	04.0	53	58.2		17.6	50	59.7		31.7
15	11	06.4	68	57.4		17.0	66	00.2		31.3
16	26	08.9	83	56.6		16.5	81	00.6		30.9
17	41	11.4	98	55.8	-20	15.9	96	01.1	-20	30.4
18	56	13.8	113	55.0	-20	15.4	111	01.6	-20	30.0
19	71	16.3	128	54.3		14.8	126	02.0		29.6
20	86	18.8	143	53.5		14.3	141	02.5		29.2
21	101	21.2	158	52.7		13.8	156	02.9		28.8
22	116	23.7	173	51.9		13.2	171	03.4		28.3
23	131	26.2	188	51.1		12.7	186	03.9		27.9
24	146	28.6	203	50.3	-20	12.1	201	04.3	-20	27.5
Dif	—		-8		+5		+5		+4	
							+21		+1	
									+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: 7.0 ^d PHE { 4 ^h : 57'2 12 ^h : 56'9 20 ^h : 56'7 SD: 15'6 PMG: 18 ^h 54 ^m Rº: 55 ^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	176	29.5	-12	14.1	86	56.9		+24	14.1	86	60 N	16 55	17 39	18 27	8 52	14	3 51 100							
1	191	29.5		13.3	101	24.4			22.7	86	58	17 01	42	28	9 15	24	28 90							
2	206	29.5		12.4	115	51.9			31.2	85	56	07	46	29	34	30	3 09 85							
3	221	29.6		11.5	130	19.3			39.5	83	54	12	49	30	9 50	34	2 54 80							
4	236	29.6		10.7	144	46.7			47.7	82	52	17	52	31	10 04	36	40 78							
5	251	29.7	-12	09.8	159	14.0		+24	55.7	80	50	17 21	17 54	18 32	10 16	39	2 29 75							
6	266	29.7	-12	08.9	173	41.4		+25	03.6	79	45	17 30	18 00	18 34	10 42	42	2 04 71							
7	281	29.7		08.0	188	08.6			11.4	78	40	37	05	37	11 02	45	1 45 68							
8	296	29.8		07.2	202	35.9			19.0	76	35	44	10	39	19 47		29 65							
9	311	29.8		06.3	217	03.1			26.4	74	30	17 50	14	42	33 49		1 15 63							
10	326	29.9		05.4	231	30.3			33.7	73	20	18 00	22	48	11 58	51	0 51 60							
11	341	29.9	-12	04.6	245	57.4		+25	40.9	72	10 N	18 09	18 30	18 55	12 20	53	0 31 57							
12	356	30.0	-12	03.7	260	24.5		+25	47.9	70	0	18 17	18 39	19 03	12 40	55	0 12 55							
13	11	30.0		02.8	274	51.6		+25	54.8	69	10 S	26	48	13	13 01	57	** ** *							
14	26	30.0		01.9	289	18.7		+26	01.5	67	20	35	18 58	25	23 59		** ** *							
15	41	30.1		01.1	303	45.7			08.0	65	30	46	19 11	40	13 48	62	23 56 51							
16	56	30.1	-12	00.2	318	12.7			14.4	64	35	52	19	19 50	14 04	62	40 50							
17	71	30.2	-11	59.3	332	39.7		+26	20.7	63	40	18 59	19 28	20 02	14 21	65	23 22 48							
18	86	30.2	-11	58.4	347	06.6		+26	26.8	61	45	19 08	19 39	20 17	14 43	66	23 00 46							
19	101	30.3		57.6	1	33.5			32.7	59	50	18	53	36	15 10	70	22 32 44							
20	116	30.3		56.7	16	00.4			38.5	58	52	23	19 59	46	23 72		18 43							
21	131	30.4		55.8	30	27.3			44.2	57	54	28	20 07	20 57	38 74		22 03 40							
22	146	30.4		54.9	44	54.2			49.6	54	56	34	15	21 10	15 56	78	21 44 38							
23	161	30.5		54.1	59	21.0		+26	55.0	54	58	40	25	25	16 18	83	21 22 32							
24	176	30.5	-11	53.2	73	47.8		+27	00.2	52	60 S	19 47	20 36	21 43	16 47	92	20 53 23							
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 14 ^h 11.8 ^m			Mag: -3.9 PMG: 10 ^h 25 ^m			Mag: +1.3 PMG: 10 ^h 35 ^m			Mag: -2.3 PMG: 16 ^h 40 ^m			Mag: +1.0 PMG: 12 ^h 55 ^m											
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'		°	'		°	'		°	'		°	'										
0	146	28.6		203	50.3	-20	201	04.3	-20	27.5	109	17.5	+13	40.0	165	53.6	-9	56.5						
1	161	31.1		218	49.6		216	04.8		27.1	124	19.6		40.1	180	55.8		56.4						
2	176	33.5		233	48.8		231	05.2		26.6	139	21.7		40.3	195	58.0		56.3						
3	191	36.0		248	48.0		246	05.7		26.2	154	23.8		40.4	211	00.2		56.2						
4	206	38.5		263	47.2		261	06.2		25.8	169	25.9		40.5	226	02.4		56.1						
5	221	40.9		278	46.4	-20	276	06.6	-20	25.4	184	28.0	+13	40.6	241	04.5	-9	55.9						
6	236	43.4		293	45.7	-20	291	07.1	-20	24.9	199	30.2	+13	40.8	256	06.7	-9	55.8						
7	251	45.9		308	44.9		306	07.6		24.5	214	32.3		40.9	271	08.9		55.7						
8	266	48.3		323	44.1		321	08.0		24.1	229	34.4		41.0	286	11.1		55.6						
9	281	50.8		338	43.3		336	08.5		23.6	244	36.5		41.1	301	13.3		55.5						
10	296	53.3		353	42.6		351	08.9		23.2	259	38.6		41.3	316	15.4		55.4						
11	311	55.7		8	41.8	-20	6	09.4	-20	22.8	274	40.7	+13	41.4	331	17.6	-9	55.3						
12	326	58.2		23	41.0	-20	21	09.9	-20	22.4	289	42.8	+13	41.5	346	19.8	-9	55.2						
13	342	00.7		38	40.2		36	10.3		21.9	304	45.0		41.6	1	22.0		55.0						
14	357	03.1		53	39.5		51	10.8		21.5	319	47.1		41.8	16	24.2		54.9						
15	12	05.6		68	38.7		66	11.3		21.1	334	49.2		41.9	31	26.3		54.8						
16	27	08.0		83	37.9		81	11.7		20.6	349	51.3		42.0	46	28.5		54.7						
17	42	10.5		98	37.1	-20	96	12.2	-20	20.2	4	53.4	+13	42.1	61	30.7	-9	54.6						
18	57	13.0		113	36.4	-20	111	12.7	-20	19.8	19	55.5	+13	42.3	76	32.9	-9	54.5						
19	72	15.4		128	35.6		126	13.1		19.3	34	57.6		42.4	91	35.0		54.4						
20	87	17.9		143	34.8		141	13.6		18.9	49	59.7		42.5	106	37.2		54.3						
21	102	20.4		158	34.0	-20	156	14.0		18.5	65	01.9		42.6	121	39.4		54.1						
22	117	22.8		173	33.3	-19	171	14.5		18.0	80	04.0		42.7	136	41.6		54.0						
23	132	25.3		188	32.5		186	15.0		17.6	95	06.1		42.9	151	43.8		53.9						
24	147	27.8		203	31.7	-19	201	15.4	-20	17.2	110	08.2	+13	43.0	166	45.9	-9	53.8						
Dif	—			-8			+6			+5			+21			+1			+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: 8.0 ^d SD: 15'4 PMG: 19 ^h 49 ^m PHE { 4 ^h : 56'4 12 ^h : 56'2 20 ^h : 56'0 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	176	30.5	-11	53.2	73	47.8	+27	00.2	60 N	5	59	6	48	7	31	9	06
1	191	30.5		52.3	88	14.6		05.2	58	59	44	25	9	39	44	4	58
2	206	30.6		51.4	102	41.4		10.1	56	58	41	20	10	04	47		34
3	221	30.6		50.5	117	08.1		14.8	54	57	38	15	24	48		4	14
4	236	30.7		49.7	131	34.9		19.3	52	56	35	10	40	50		3	58
5	251	30.7	-11	48.8	146	01.6	+27	23.7	50	5	55	6	33	7	06	10	55
6	266	30.8	-11	47.9	160	28.3	+27	28.0	45	5	53	6	27	6	57	11	24
7	281	30.8		47.0	174	55.0		32.1	40	51	22	50	11	47	52		3
8	296	30.9		46.1	189	21.7		36.0	35	48	18	43	12	06	53		2
9	311	30.9		45.3	203	48.4		39.8	30	45	13	38	22	53			2
10	326	31.0		44.4	218	15.1		43.4	20	39	6	05	28	12	49		
11	341	31.0	-11	43.5	232	41.8	+27	46.8	10 N	5	33	5	58	6	19	13	13
12	356	31.1	-11	42.6	247	08.5	+27	50.2	0	5	25	5	49	6	11	13	35
13	11	31.1		41.7	261	35.1		53.3	10 S	15	41	6	02	13	58		
14	26	31.2		40.9	276	01.8		56.3	20	5	04	30	5	53	14	22	56
15	41	31.2		40.0	290	28.5	+27	59.1	30	4	48	17	42	14	50		
16	56	31.3		39.1	304	55.1	+28	01.8	35		38	10	36	15	06		
17	71	31.3	-11	38.2	319	21.8	+28	04.3	40	4	26	5	01	5	29	15	26
18	86	31.4	-11	37.3	333	48.5	+28	06.7	45	4	11	4	49	5	21	15	49
19	101	31.4		36.5	348	15.2		08.9	50	3	52	36	11	16	20		
20	116	31.5		35.6	2	41.9		10.9	52	43	29	06	35	57	23	01	56
21	131	31.5		34.7	17	08.6		12.8	54	32	22	5	01	16	52		
22	146	31.6		33.8	31	35.3		14.6	56	19	14	4	55	17	14		
23	161	31.7		32.9	46	02.0		16.2	58	3	04	4	04	49	17	41	
24	176	31.7	-11	32.0	60	28.8	+28	17.6	60 S	2	46	3	53	4	42	18	19

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 07.8 ^m		Mag: -3.9 PMG: 10 ^h 26 ^m		Mag: +1.3 PMG: 10 ^h 35 ^m		Mag: -2.3 PMG: 16 ^h 37 ^m		Mag: +1.0 PMG: 12 ^h 51 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	147	27.8	203	31.7	-19	58.6	201	15.4	-20	17.2
1	162	30.2	218	31.0		58.1	216	15.9		16.7
2	177	32.7	233	30.2		57.5	231	16.4		16.3
3	192	35.2	248	29.4		56.9	246	16.8		15.9
4	207	37.6	263	28.6		56.3	261	17.3		15.4
5	222	40.1	278	27.9	-19	55.7	276	17.8	-20	15.0
6	237	42.5	293	27.1	-19	55.2	291	18.2	-20	14.6
7	252	45.0	308	26.3		54.6	306	18.7		14.1
8	267	47.5	323	25.6		54.0	321	19.2		13.7
9	282	49.9	338	24.8		53.4	336	19.6		13.3
10	297	52.4	353	24.0		52.8	351	20.1		12.8
11	312	54.9	8	23.3	-19	52.3	6	20.6	-20	12.4
12	327	57.3	23	22.5	-19	51.7	21	21.0	-20	11.9
13	342	59.8	38	21.7		51.1	36	21.5		11.5
14	358	02.3	53	21.0		50.5	51	22.0		11.1
15	13	04.7	68	20.2		49.9	66	22.4		10.6
16	28	07.2	83	19.4		49.3	81	22.9		10.2
17	43	09.7	98	18.7	-19	48.7	96	23.4	-20	09.8
18	58	12.1	113	17.9	-19	48.1	111	23.8	-20	09.3
19	73	14.6	128	17.1		47.5	126	24.3		08.9
20	88	17.0	143	16.4		47.0	141	24.8		08.4
21	103	19.5	158	15.6		46.4	156	25.2		08.0
22	118	22.0	173	14.8		45.8	171	25.7		07.5
23	133	24.4	188	14.1		45.2	186	26.2		07.1
24	148	26.9	203	13.3	-19	44.6	201	26.6	-20	06.7
Dif	—		-8		+6		+5		+4	
							+21		+1	
									+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: 9.0 ^d SD: 15/2 PMG: 20 ^h 44 ^m						Civil			Náutico			Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m	m			h m	m	h m	m	h m	m			
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m		
0	176	31.7	-11	32.0	60	28.8	+28	17.6	12	60 N	17 00	17 43	18 32	9 45	73	6 48	39		
1	191	31.8		31.1	74	55.5		18.8	12	58	06	47	32	10 23	69	6 09	45		
2	206	31.8		30.3	89	22.3		20.0	9	56	11	50	33	10 51	65	5 42	47		
3	221	31.9		29.4	103	49.1		20.9	8	54	16	52	34	11 12	64	21	48		
4	236	31.9		28.5	118	15.9		21.7	7	52	20	55	34	30	62	5 03	49		
5	251	32.0	-11	27.6	132	42.7	+28	22.4	4	50	17 24	17 57	18 35	11 45	61	4 48	50		
6	266	32.0	-11	26.7	147	09.5	+28	22.8	7	45	17 33	18 03	18 37	12 15	60	4 17	52		
7	281	32.1		25.8	161	36.4		23.2	4	40	40	07	39	39	59	3 54	52		
8	296	32.2		24.9	176	03.3		23.4	2	35	46	12	41	12 59	57	34	53		
9	311	32.2		24.1	190	30.2		23.4	0	30	17 51	16	44	13 15	57	3 17	53		
10	326	32.3		23.2	204	57.2		23.3	1	20	18 01	23	49	13 44	55	2 49	54		
11	341	32.3	-11	22.3	219	24.2	+28	23.0	3	10 N	18 09	18 31	18 55	14 08	55	2 25	54		
12	356	32.4	-11	21.4	233	51.2	+28	22.5	5	0	18 17	18 38	19 03	14 31	53	2 02	55		
13	11	32.4		20.5	248	18.2		22.0	8	10 S	25	47	12	14 53	53	1 39	55		
14	26	32.5		19.6	262	45.3		21.2	5	20	34	18 57	23	15 18	51	1 15	55		
15	41	32.6		18.7	277	12.4		20.3	9	30	44	19 09	38	15 46	50	0 47	55		
16	56	32.6		17.8	291	39.6		19.3	10	35	50	16	48	16 03	48	30	56		
17	71	32.7	-11	16.9	306	06.8	+28	18.1	12	40	18 57	19 25	19 59	16 22	48	0 10	56		
18	86	32.7	-11	16.0	320	34.0	+28	16.8	13	45	19 05	19 36	20 13	16 46	46	** ** *	**		
19	101	32.8		15.2	335	01.2		15.3	15	50	14	49	32	17 17	43	** ** *	**		
20	116	32.9		14.3	349	28.6		13.6	17	52	19	19 55	41	32	41	23 57	68		
21	131	32.9		13.4	3	55.9		11.8	18	54	23	20 02	20 51	17 50	39	40	70		
22	146	33.0		12.5	18	23.3		09.9	19	56	29	10	21 03	18 11	37	23 18	74		
23	161	33.0		11.6	32	50.7		07.8	21	58	35	19	17	18 38	33	22 51	78		
24	176	33.1	-11	10.7	47	18.2	+28	05.6	22	60 S	19 42	20 29	21 34	19 17	23	22 12	88		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 03.9 ^m		Mag: -3.9 PMG: 10 ^h 28 ^m		Mag: +1.3 PMG: 10 ^h 34 ^m		Mag: -2.3 PMG: 16 ^h 34 ^m		Mag: +1.0 PMG: 12 ^h 48 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	148	26.9	203	13.3	-19	44.6	201	26.6	-20	06.7
1	163	29.4	218	12.6		44.0	216	27.1		06.2
2	178	31.8	233	11.8		43.4	231	27.6		05.8
3	193	34.3	248	11.0		42.8	246	28.0		05.3
4	208	36.8	263	10.3		42.2	261	28.5		04.9
5	223	39.2	278	09.5	-19	41.6	276	29.0	-20	04.4
6	238	41.7	293	08.8	-19	41.0	291	29.4	-20	04.0
7	253	44.1	308	08.0		40.4	306	29.9		03.6
8	268	46.6	323	07.2		39.8	321	30.4		03.1
9	283	49.1	338	06.5		39.1	336	30.9		02.7
10	298	51.5	353	05.7		38.5	351	31.3		02.2
11	313	54.0	8	05.0	-19	37.9	6	31.8	-20	01.8
12	328	56.5	23	04.2	-19	37.3	21	32.3	-20	01.3
13	343	58.9	38	03.5		36.7	36	32.7		00.9
14	359	01.4	53	02.7		36.1	51	33.2	-20	00.4
15	14	03.9	68	01.9		35.5	66	33.7	-20	00.0
16	29	06.3	83	01.2		34.9	81	34.1	-19	59.5
17	44	08.8	98	00.4	-19	34.3	96	34.6	-19	59.1
18	59	11.3	112	59.7	-19	33.6	111	35.1	-19	58.6
19	74	13.7	127	58.9		33.0	126	35.6		58.2
20	89	16.2	142	58.2		32.4	141	36.0		57.7
21	104	18.6	157	57.4		31.8	156	36.5		57.3
22	119	21.1	172	56.7		31.2	171	37.0		56.8
23	134	23.6	187	55.9		30.5	186	37.4		56.4
24	149	26.0	202	55.2	-19	29.9	201	37.9	-19	55.9
Dif	—		-8		+6		+5		+4	
	—		-8		+6		+5		+4	

UT	SOL		C 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: 10.0 ^d PHE { 4 ^h : 55 ^h 2 12 ^h : 55 ^h 1 20 ^h : 54 ^h 9 PMG: 21 ^h 37 ^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	h	m
0	176	33.1	-11	10.7	47	18.2	+28	05.6	24	60 N	5 54	6 43	7 26	10 58	93	7 27	15
1	191	33.2		09.8	61	45.8		03.2	25	58	54	40	20	11 32	83	6 54	24
2	206	33.2		08.9	76	13.4	+28	00.7	27	56	54	37	15	11 56	78	29	29
3	221	33.3		08.0	90	41.0	+27	58.0	27	54	53	34	10	12 16	74	6 09	32
4	236	33.3		07.1	105	08.7		55.2	28	52	52	32	06	32	72	5 52	35
5	251	33.4	-11	06.2	119	36.4	+27	52.2	30	50	5 52	6 29	7 02	12 46	70	5 38	37
6	266	33.5	-11	05.3	134	04.2	+27	49.1	31	45	5 50	6 24	6 54	13 15	66	5 09	40
7	281	33.5		04.4	148	32.1		45.9	32	40	48	20	47	38	62	4 46	43
8	296	33.6		03.6	163	00.0		42.5	34	35	46	15	41	13 56	61	27	45
9	311	33.7		02.7	177	28.0		39.0	35	30	44	12	36	14 12	59	4 10	47
10	326	33.7		01.8	191	56.0		35.3	37	20	38	6 04	26	14 39	56	3 43	48
11	341	33.8	-11	00.9	206	24.1	+27	31.5	38	10 N	5 32	5 57	6 18	15 03	53	3 19	51
12	356	33.9	-11	00.0	220	52.2	+27	27.6	39	0	5 25	5 49	6 10	15 24	51	2 57	52
13	11	33.9	-10	59.1	235	20.5		23.5	41	10 S	16	41	6 02	15 46	48	34	54
14	26	34.0		58.2	249	48.7		19.3	42	20	5 05	31	5 54	16 09	46	2 10	56
15	41	34.0		57.3	264	17.1		14.9	44	30	4 50	19	44	36	42	1 42	59
16	56	34.1		56.4	278	45.5		10.4	45	35	40	12	38	16 51	41	26	59
17	71	34.2	-10	55.5	293	13.9	+27	05.8	46	40	4 29	5 03	5 31	17 10	38	1 06	61
18	86	34.2	-10	54.6	307	42.5	+27	01.1	47	45	4 15	4 53	5 24	17 32	35	0 43	63
19	101	34.3		53.7	322	11.1	+26	56.2	49	50	3 56	40	14	18 00	31	0 12	67
20	116	34.4		52.8	336	39.7		51.1	51	52	48	33	10	13	29	** ** *	**
21	131	34.4		51.9	351	08.5		46.0	51	54	37	26	05	29	26	** ** *	**
22	146	34.5		51.0	5	37.3		40.7	53	56	25	19	5 00	18 48	22	** ** *	**
23	161	34.6		50.1	20	06.2		35.3	54	58	3 11	4 10	4 54	19 11	16	** ** *	**
24	176	34.7	-10	49.2	34	35.1	+26	29.8	55	60 S	2 54	3 59	4 47	19 40	8	23 40	96

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 00.0 ^m		Mag: -3.9 PMG: 10 ^h 29 ^m		Mag: +1.3 PMG: 10 ^h 33 ^m		Mag: -2.3 PMG: 16 ^h 30 ^m		Mag: +1.0 PMG: 12 ^h 44 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	149	26.0	202	55.2	-19	29.9	201	37.9	-19	55.9
1	164	28.5	217	54.4		29.3	216	38.4		55.5
2	179	31.0	232	53.7		28.7	231	38.9		55.0
3	194	33.4	247	52.9		28.1	246	39.3		54.6
4	209	35.9	262	52.2		27.4	261	39.8		54.1
5	224	38.4	277	51.4	-19	26.8	276	40.3	-19	53.7
6	239	40.8	292	50.7	-19	26.2	291	40.7	-19	53.2
7	254	43.3	307	49.9		25.5	306	41.2		52.8
8	269	45.8	322	49.2		24.9	321	41.7		52.3
9	284	48.2	337	48.4		24.3	336	42.2		51.8
10	299	50.7	352	47.7		23.7	351	42.6		51.4
11	314	53.1	7	46.9	-19	23.0	6	43.1	-19	50.9
12	329	55.6	22	46.2	-19	22.4	21	43.6	-19	50.5
13	344	58.1	37	45.4		21.8	36	44.1		50.0
14	0	00.5	52	44.7		21.1	51	44.5		49.6
15	15	03.0	67	43.9		20.5	66	45.0		49.1
16	30	05.5	82	43.2		19.9	81	45.5		48.7
17	45	07.9	97	42.4	-19	19.2	96	46.0	-19	48.2
18	60	10.4	112	41.7	-19	18.6	111	46.4	-19	47.7
19	75	12.9	127	41.0		17.9	126	46.9		47.3
20	90	15.3	142	40.2		17.3	141	47.4		46.8
21	105	17.8	157	39.5		16.7	156	47.9		46.4
22	120	20.3	172	38.7		16.0	171	48.3		45.9
23	135	22.7	187	38.0		15.4	186	48.8		45.4
24	150	25.2	202	37.2	-19	14.7	201	49.3	-19	45.0
Dif	—		-7		+6		+5		+5	
							+21		+1	
									+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: 11.0 ^d SD: 14/9 PMG: 22 ^h 27 ^m PHE { 4 ^h : 54/8 12 ^h : 54/7 20 ^h : 54/6 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	176	34.7	-10	49.2	34	35.1	+26	29.8	60 N	17	05	17	48	18	37		12	31	94
1	191	34.7		48.3	49	04.2		24.1	58	11		51		37			12	55	87
2	206	34.8		47.4	63	33.2		18.3	56	16		54		37			13	14	82
3	221	34.9		46.5	78	02.4		12.4	54	20		56		37			30	78	41
4	236	34.9		45.6	92	31.7		06.3	52	24		17	59	38			44	75	27
5	251	35.0	-10	44.7	107	01.0	+26	00.2	50	17	28	18	01	18	38		13	56	72
6	266	35.1	-10	43.8	121	30.4	+25	53.9	45	17	36	18	05	18	40		14	21	67
7	281	35.1		42.9	135	59.8		47.5	63	42		10		41			40	64	5
8	296	35.2		42.0	150	29.4		40.9	66	48		13		43			14	57	61
9	311	35.3		41.1	164	59.0		34.3	66	17	53	17		45			15	11	58
10	326	35.3		40.2	179	28.7		27.5	68	18	02	24		50			35	54	31
11	341	35.4	-10	39.3	193	58.5	+25	20.6	69	18	10	18	31	18	56		15	56	50
12	356	35.5	-10	38.4	208	28.3	+25	13.6	70	18	17	18	38	19	02		16	15	48
13	11	35.6		37.5	222	58.3	+25	06.5	71	25		46		11			34	45	28
14	26	35.6		36.6	237	28.3	+24	59.2	73	33		18	55	22			16	55	41
15	41	35.7		35.7	251	58.4		51.9	73	42		19	07	36			17	18	37
16	56	35.8		34.8	266	28.5		44.4	75	48		14		45			32	35	25
17	71	35.9	-10	33.9	280	58.8	+24	36.8	76	18	54	19	22	19	56		17	48	32
18	86	35.9	-10	33.0	295	29.1	+24	29.1	77	19	01	19	32	20	10		18	07	28
19	101	36.0		32.1	309	59.5		21.3	78	10		45		27			31	23	19
20	116	36.1		31.2	324	30.0		13.4	79	52		14		51			36	42	20
21	131	36.1		30.2	339	00.5	+24	05.4	80	19		19	57	45			18	55	17
22	146	36.2		29.3	353	31.2	+23	57.3	81	24		20	05	20	57		19	10	13
23	161	36.3		28.4	8	01.9		49.0	83	30		13		21	10		27	9	0
24	176	36.4	-10	27.5	22	32.7	+23	40.7	83	19	36	20	23	21	26		19	48	3
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 13 ^h 56.0 ^m		Mag: -3.9 PMG: 10 ^h 30 ^m			Mag: +1.3 PMG: 10 ^h 32 ^m			Mag: -2.3 PMG: 16 ^h 27 ^m			Mag: +1.0 PMG: 12 ^h 41 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/			
0	150	25.2	202	37.2	-19	14.7	201	49.3	-19	45.0	112	39.6	+13	52.2	169	22.8			
1	165	27.6	217	36.5		14.1	216	49.8		44.5	127	41.7		52.3	184	25.0			
2	180	30.1	232	35.8		13.4	231	50.2		44.1	142	43.8		52.4	199	27.2			
3	195	32.6	247	35.0		12.8	246	50.7		43.6	157	45.9		52.5	214	29.3			
4	210	35.0	262	34.3		12.1	261	51.2		43.1	172	47.9		52.7	229	31.5			
5	225	37.5	277	33.5	-19	11.5	276	51.7	-19	42.7	187	50.0	+13	52.8	244	33.7			
6	240	40.0	292	32.8	-19	10.8	291	52.1	-19	42.2	202	52.1	+13	52.9	259	35.9			
7	255	42.4	307	32.1		10.2	306	52.6		41.8	217	54.2		53.1	274	38.0			
8	270	44.9	322	31.3		09.5	321	53.1		41.3	232	56.3		53.2	289	40.2			
9	285	47.4	337	30.6		08.9	336	53.6		40.8	247	58.4		53.3	304	42.4			
10	300	49.8	352	29.8		08.2	351	54.0		40.4	263	00.5		53.4	319	44.6			
11	315	52.3	7	29.1	-19	07.6	6	54.5	-19	39.9	278	02.6	+13	53.6	334	46.8			
12	330	54.7	22	28.4	-19	06.9	21	55.0	-19	39.4	293	04.7	+13	53.7	349	48.9			
13	345	57.2	37	27.6		06.2	36	55.5		39.0	308	06.8		53.8	4	51.1			
14	0	59.7	52	26.9		05.6	51	55.9		38.5	323	08.9		54.0	19	53.3			
15	16	02.1	67	26.2		04.9	66	56.4		38.0	338	11.0		54.1	34	55.5			
16	31	04.6	82	25.4		04.3	81	56.9		37.6	353	13.0		54.2	49	57.6			
17	46	07.1	97	24.7	-19	03.6	96	57.4	-19	37.1	8	15.1	+13	54.4	64	59.8			
18	61	09.5	112	24.0	-19	02.9	111	57.9	-19	36.6	23	17.2	+13	54.5	80	02.0			
19	76	12.0	127	23.2		02.3	126	58.3		36.2	38	19.3		54.6	95	04.2			
20	91	14.5	142	22.5		01.6	141	58.8		35.7	53	21.4		54.8	110	06.4			
21	106	16.9	157	21.8		01.0	156	59.3		35.2	68	23.5		54.9	125	08.5			
22	121	19.4	172	21.0	-19	00.3	171	59.8		34.8	83	25.6		55.0	140	10.7			
23	136	21.9	187	20.3	-18	59.6	187	00.2		34.3	98	27.7		55.1	155	12.9			
24	151	24.3	202	19.6	-18	59.0	202	00.7	-19	33.8	113	29.8	+13	55.3	170	15.1			
Dif	—		-7		+7		+5		+5		+21		+1		+22		+		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'2 PMG:12 ^h 13.5 ^m			Edad: 12.0 ^d PHE { 4 ^h : 54'5 12 ^h : 54'4 20 ^h : 54'3 PMG: 23 ^h 14 ^m R°: 43 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	176	36.4	-10	27.5	22	32.7	+23	40.7	60 N	5	49	6	37	7	20	14	05	
1	191	36.4		26.6	37	03.6		32.3	58	49		35	15	22	85		30	
2	206	36.5		25.7	51	34.6		23.7	56	49		32	10	36	81		15	
3	221	36.6		24.8	66	05.6		15.1	54	49		30	06	48	78		7	
4	236	36.7		23.9	80	36.7	+23	06.3	52	48		28	7	02	14	59	74	
5	251	36.7	-10	23.0	95	07.9	+22	57.5	50	5	48	6	26	6	58	15	08	
6	266	36.8	-10	22.1	109	39.2	+22	48.6	45	5	47	6	21	6	51	15	28	
7	281	36.9		21.2	124	10.6		39.5	40	45		17	44	44	63		6	
8	296	37.0		20.3	138	42.0		30.4	35	44		13	39	15	58		5	
9	311	37.1		19.4	153	13.6		21.1	30	42		10	34	16	09		57	
10	326	37.1		18.5	167	45.2		11.8	20	37	6	03	25	29	52		5	
11	341	37.2	-10	17.5	182	16.8	+22	02.4	10 N	5	32	5	56	6	17	16	46	
12	356	37.3	-10	16.6	196	48.6	+21	52.9	0	5	25	5	49	6	10	17	03	
13	11	37.4		15.7	211	20.4		43.3	10 S	16		41	6	03	19	40		
14	26	37.4		14.8	225	52.4		33.6	20	5	06	32	5	55	36	36		
15	41	37.5		13.9	240	24.4		23.8	30	4	52	21	45	17	55	32		
16	56	37.6		13.0	254	56.4		13.9	35	43		14	40	18	07	29		
17	71	37.7	-10	12.1	269	28.6	+21	03.9	40	4	32	5	06	5	34	18	20	
18	86	37.8	-10	11.2	284	00.8	+20	53.9	45	4	18	4	56	5	26	18	35	
19	101	37.8		10.3	298	33.1		43.8	50	4	01	43	18	18	54		17	
20	116	37.9		09.3	313	05.5		33.5	52	3	52	37	14	19	02		15	
21	131	38.0		08.4	327	38.0		23.2	54	43		31	09	12	12		2	
22	146	38.1		07.5	342	10.5		12.9	56	31		24	5	04	23		9	
23	161	38.2		06.6	356	43.1	+20	02.4	58	18		15	4	59	36		5	
24	176	38.3	-10	05.7	11	15.8	+19	51.8	60 S	3	02	4	05	4	52	19	51	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 13 ^h 52.1 ^m		Mag: -3.9 PMG: 10 ^h 31 ^m			Mag: +1.3 PMG: 10 ^h 32 ^m			Mag: -2.3 PMG: 16 ^h 24 ^m			Mag: +1.0 PMG: 12 ^h 37 ^m								
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	151	24.3	202	19.6	-18	59.0	202	00.7	-19	33.8	113	29.8	+13	55.3	170	15.1				
1	166	26.8	217	18.8		58.3	217	01.2		33.4	128	31.9		55.4	185	17.2				
2	181	29.2	232	18.1		57.6	232	01.7		32.9	143	33.9		55.5	200	19.4				
3	196	31.7	247	17.4		56.9	247	02.2		32.4	158	36.0		55.7	215	21.6				
4	211	34.2	262	16.6		56.3	262	02.6		31.9	173	38.1		55.8	230	23.8				
5	226	36.6	277	15.9	-18	55.6	277	03.1	-19	31.5	188	40.2	+13	55.9	245	26.0				
6	241	39.1	292	15.2	-18	54.9	292	03.6	-19	31.0	203	42.3	+13	56.1	260	28.1				
7	256	41.6	307	14.4		54.3	307	04.1		30.5	218	44.4		56.2	275	30.3				
8	271	44.0	322	13.7		53.6	322	04.6		30.1	233	46.5		56.3	290	32.5				
9	286	46.5	337	13.0		52.9	337	05.0		29.6	248	48.6		56.4	305	34.7				
10	301	49.0	352	12.3		52.2	352	05.5		29.1	263	50.6		56.6	320	36.8				
11	316	51.4	7	11.5	-18	51.5	7	06.0	-19	28.6	278	52.7	+13	56.7	335	39.0				
12	331	53.9	22	10.8	-18	50.9	22	06.5	-19	28.2	293	54.8	+13	56.8	350	41.2				
13	346	56.4	37	10.1		50.2	37	07.0		27.7	308	56.9		57.0	5	43.4				
14	1	58.8	52	09.4		49.5	52	07.4		27.2	323	59.0		57.1	20	45.6				
15	17	01.3	67	08.6		48.8	67	07.9		26.8	339	01.1		57.2	35	47.7				
16	32	03.7	82	07.9		48.1	82	08.4		26.3	354	03.2		57.4	50	49.9				
17	47	06.2	97	07.2	-18	47.5	97	08.9	-19	25.8	9	05.2	+13	57.5	65	52.1				
18	62	08.7	112	06.5	-18	46.8	112	09.4	-19	25.3	24	07.3	+13	57.6	80	54.3				
19	77	11.1	127	05.7		46.1	127	09.8		24.9	39	09.4		57.8	95	56.4				
20	92	13.6	142	05.0		45.4	142	10.3		24.4	54	11.5		57.9	110	58.6				
21	107	16.1	157	04.3		44.7	157	10.8		23.9	69	13.6		58.0	126	00.8				
22	122	18.5	172	03.6		44.0	172	11.3		23.4	84	15.7		58.2	141	03.0				
23	137	21.0	187	02.8		43.3	187	11.8		22.9	99	17.8		58.3	156	05.2				
24	152	23.5	202	02.1	-18	42.6	202	12.3	-19	22.5	114	19.8	+13	58.4	171	07.3				
Dif	—		-7			+7			+5			+21			+1			+22		

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG:12 ^h 13.4 ^m				Edad: 13.0 ^d SD: 14'8 PMG: 23 ^h 57 ^m PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'1 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	h m m	h m m				
0	176	38.3	-10	05.7	11	15.8	+19	51.8	60 N	17 11	17 53	18 41	15 36	87	7 49	0		
1	191	38.3		04.8	25	48.6		41.2	58	16	56	41	47	83	37	4		
2	206	38.4		03.9	40	21.4		30.5	56	20	17 58	41	15 57	79	27	7		
3	221	38.5		03.0	54	54.4		19.7	54	24	18 00	41	16 06	75	17	1		
4	236	38.6		02.0	69	27.3	+19	08.9	52	28	02	41	13	73	09	13		
5	251	38.7	-10	01.1	84	00.4	+18	57.9	50	17 31	18 04	18 41	16 20	71	7 01	16		
6	266	38.7	-10	00.2	98	33.5	+18	46.9	45	17 38	18 08	18 42	16 35	65	6 45	21		
7	281	38.8	-9	59.3	113	06.7		35.8	40	44	12	43	47	61	32	24		
8	296	38.9		58.4	127	40.0		24.7	35	50	15	45	16 57	58	21	27		
9	311	39.0		57.5	142	13.4		13.5	30	17 54	19	46	17 06	55	6 11	30		
10	326	39.1		56.6	156	46.8	+18	02.2	20	18 03	25	51	21	50	5 54	35		
11	341	39.2	-9	55.6	171	20.3	+17	50.8	10 N	18 10	18 31	18 56	17 35	45	5 39	39		
12	356	39.3	-9	54.7	185	53.8	+17	39.4	0	18 17	18 38	19 02	17 47	42	5 24	43		
13	11	39.3		53.8	200	27.4		27.9	10 S	24	45	10	17 59	38	5 10	47		
14	26	39.4		52.9	215	01.1		16.3	20	31	18 54	20	18 12	34	4 55	51		
15	41	39.5		52.0	229	34.9	+17	04.7	30	40	19 05	34	27	29	37	56		
16	56	39.6		51.1	244	08.7	+16	53.0	35	45	11	42	36	26	26	59		
17	71	39.7	-9	50.1	258	42.6	+16	41.2	40	18 51	19 19	19 53	18 46	22	4 15	62		
18	86	39.8	-9	49.2	273	16.6	+16	29.4	45	18 58	19 29	20 06	18 57	19	4 00	67		
19	101	39.9		48.3	287	50.6		17.5	50	19 06	40	22	19 11	14	3 43	71		
20	116	39.9		47.4	302	24.7	+16	05.5	52	10	46	30	17	12	35	74		
21	131	40.0		46.5	316	58.8	+15	53.5	54	14	52	40	24	10	25	77		
22	146	40.1		45.6	331	33.0		41.5	56	19	19 59	20 50	32	7	15	80		
23	161	40.2		44.6	346	07.3		29.3	58	24	20 07	21 03	41	3	3 03	84		
24	176	40.3	-9	43.7	0	41.6	+15	17.1	60 S	19 30	20 16	21 18	19 51	0	2 49	89		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 13 ^h 48.2 ^m		Mag: -3.9 PMG: 10 ^h 32 ^m		Mag: +1.3 PMG: 10 ^h 31 ^m		Mag: -2.3 PMG: 16 ^h 20 ^m		Mag: +1.0 PMG: 12 ^h 34 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	152	23.5	202	02.1	-18	42.6	202	12.3	-19	22.5	114	19.8	+13	58.4	171	07.3	-9	40.2
1	167	25.9	217	01.4		41.9	217	12.7		22.0	129	21.9		58.6	186	09.5		40.1
2	182	28.4	232	00.7		41.3	232	13.2		21.5	144	24.0		58.7	201	11.7		40.0
3	197	30.9	247	00.0		40.6	247	13.7		21.0	159	26.1		58.8	216	13.9		39.9
4	212	33.3	261	59.2		39.9	262	14.2		20.6	174	28.2		58.9	231	16.0		39.8
5	227	35.8	276	58.5	-18	39.2	277	14.7	-19	20.1	189	30.2	+13	59.1	246	18.2	-9	39.7
6	242	38.2	291	57.8	-18	38.5	292	15.2	-19	19.6	204	32.3	+13	59.2	261	20.4	-9	39.6
7	257	40.7	306	57.1		37.8	307	15.6		19.1	219	34.4		59.3	276	22.6		39.4
8	272	43.2	321	56.4		37.1	322	16.1		18.6	234	36.5		59.5	291	24.8		39.3
9	287	45.6	336	55.6		36.4	337	16.6		18.2	249	38.6		59.6	306	26.9		39.2
10	302	48.1	351	54.9		35.7	352	17.1		17.7	264	40.7		59.7	321	29.1		39.1
11	317	50.6	6	54.2	-18	35.0	7	17.6	-19	17.2	279	42.7	+13	59.9	336	31.3	-9	39.0
12	332	53.0	21	53.5	-18	34.3	22	18.1	-19	16.7	294	44.8	+14	00.0	351	33.5	-9	38.9
13	347	55.5	36	52.8		33.6	37	18.5		16.2	309	46.9	+14	00.1	6	35.6		38.8
14	2	58.0	51	52.1		32.9	52	19.0		15.7	324	49.0		00.3	21	37.8		38.7
15	18	00.4	66	51.4		32.2	67	19.5		15.3	339	51.1		00.4	36	40.0		38.5
16	33	02.9	81	50.6		31.5	82	20.0		14.8	354	53.1		00.5	51	42.2		38.4
17	48	05.3	96	49.9	-18	30.8	97	20.5	-19	14.3	9	55.2	+14	00.7	66	44.3	-9	38.3
18	63	07.8	111	49.2	-18	30.0	112	21.0	-19	13.8	24	57.3	+14	00.8	81	46.5	-9	38.2
19	78	10.3	126	48.5		29.3	127	21.5		13.3	39	59.4		00.9	96	48.7		38.1
20	93	12.7	141	47.8		28.6	142	21.9		12.8	55	01.5		01.1	111	50.9		38.0
21	108	15.2	156	47.1		27.9	157	22.4		12.4	70	03.5		01.2	126	53.1		37.9
22	123	17.7	171	46.4		27.2	172	22.9		11.9	85	05.6		01.3	141	55.2		37.8
23	138	20.1	186	45.7		26.5	187	23.4		11.4	100	07.7		01.5	156	57.4		37.6
24	153	22.6	201	44.9	-18	25.8	202	23.9	-19	10.9	115	09.8	+14	01.6	171	59.6	-9	37.5
Dif	—		-7		+7		+5		+5		+21		+1		+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 13.2 ^m			Edad: 14.0 ^d PHE { 4 ^h : 54 ^h /1 12 ^h : 54 ^h /0 20 ^h : 54 ^h /0 R°: *** ^m SD: 14 ^h /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	176	40.3	-9	43.7	0	41.6	+15	17.1	60 N	5	44	6	32	7	15	17	03
1	191	40.4		42.8	15	16.0	+15	04.9	58	44		30	10	10	79	41	3
2	206	40.5		41.9	29	50.5	+14	52.6	56	44		27	05	16	76	34	6
3	221	40.6		41.0	44	25.0		40.3	54	45		25	7	01	74	28	8
4	236	40.6		40.0	58	59.5		27.8	52	45		24	6	58	26	71	22
5	251	40.7	-9	39.1	73	34.2	+14	15.4	50	5	44	6	22	6	55	17	31
6	266	40.8	-9	38.2	88	08.9	+14	02.9	45	5	44	6	18	6	47	17	40
7	281	40.9		37.3	102	43.6	+13	50.3	40	43		14	42	48	60	6	56
8	296	41.0		36.4	117	18.4		37.7	35	41		11	36	17	55	56	48
9	311	41.1		35.4	131	53.2		25.1	30	40		08	32	18	01	53	41
10	326	41.2		34.5	146	28.1	+13	12.3	20	36		6	02	24	11	49	29
11	341	41.3	-9	33.6	161	03.1	+12	59.6	10 N	5	31	5	55	6	17	18	20
12	356	41.4	-9	32.7	175	38.1	+12	46.8	0	5	25	5	49	6	10	18	29
13	11	41.5		31.8	190	13.1		33.9	10 S	17		42	6	03	37	36	5
14	26	41.6		30.8	204	48.2		21.1	20	5	07	33	5	55	46	31	46
15	41	41.6		29.9	219	23.4	+12	08.1	30	4	53	22	47	18	56	26	33
16	56	41.7		29.0	233	58.6	+11	55.1	35	45		16	42	19	02	23	25
17	71	41.8	-9	28.1	248	33.8	+11	42.1	40	4	34	5	08	5	36	19	08
18	86	41.9	-9	27.1	263	09.1	+11	29.1	45	4	22	4	59	5	29	19	16
19	101	42.0		26.2	277	44.5		15.9	50	4	05	47	21	25	12	4	54
20	116	42.1		25.3	292	19.8	+11	02.8	52	3	57	41	17	29	10	49	72
21	131	42.2		24.4	306	55.3	+10	49.6	54	48		35	13	34	7	42	75
22	146	42.3		23.4	321	30.7		36.4	56	37		28	09	39	5	35	78
23	161	42.4		22.5	336	06.2		23.2	58	25		20	5	03	44	2	27
24	176	42.5	-9	21.6	350	41.8	+10	09.9	60 S	3	10	4	11	4	58	19	51

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 44.2 ^m		Mag: -3.9 PMG: 10 ^h 34 ^m		Mag: +1.3 PMG: 10 ^h 30 ^m		Mag: -2.3 PMG: 16 ^h 17 ^m		Mag: +1.0 PMG: 12 ^h 30 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	153	22.6	201	44.9	-18	25.8	202	23.9	-19	10.9
1	168	25.1	216	44.2		25.1	217	24.4		10.4
2	183	27.5	231	43.5		24.4	232	24.9		09.9
3	198	30.0	246	42.8		23.6	247	25.3		09.4
4	213	32.5	261	42.1		22.9	262	25.8		09.0
5	228	34.9	276	41.4	-18	22.2	277	26.3	-19	08.5
6	243	37.4	291	40.7	-18	21.5	292	26.8	-19	08.0
7	258	39.8	306	40.0		20.8	307	27.3		07.5
8	273	42.3	321	39.3		20.0	322	27.8		07.0
9	288	44.8	336	38.6		19.3	337	28.3		06.5
10	303	47.2	351	37.9		18.6	352	28.8		06.0
11	318	49.7	6	37.2	-18	17.9	7	29.2	-19	05.5
12	333	52.2	21	36.4	-18	17.2	22	29.7	-19	05.0
13	348	54.6	36	35.7		16.4	37	30.2		04.5
14	3	57.1	51	35.0		15.7	52	30.7		04.1
15	18	59.6	66	34.3		15.0	67	31.2		03.6
16	34	02.0	81	33.6		14.3	82	31.7		03.1
17	49	04.5	96	32.9	-18	13.5	97	32.2	-19	02.6
18	64	06.9	111	32.2	-18	12.8	112	32.7	-19	02.1
19	79	09.4	126	31.5		12.1	127	33.1		01.6
20	94	11.9	141	30.8		11.3	142	33.6		01.1
21	109	14.3	156	30.1		10.6	157	34.1		00.6
22	124	16.8	171	29.4		09.9	172	34.6	-19	00.1
23	139	19.3	186	28.7		09.1	187	35.1	-18	59.6
24	154	21.7	201	28.0	-18	08.4	202	35.6	-18	59.1
Dif	—		-7		+7		+5		+5	

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ALMANAQUE NÁUTICO PERSEUS

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h /2 PMG: 12 ^h 12.9 ^m			Edad: 16.0 ^d PHE { 4 ^h : 54 ⁰ 12 ^h : 54 ⁰ 20 ^h : 54 ⁰ PMG: 1 ^h 18 ^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	44.8	-8	59.3	341	04.9	+4	42.0	60 N	5	39	6	27	7	09	19	47	82
1	191	44.9		58.4	355	41.2		28.1	58	39	25		04	47	78	46	1	
2	206	45.0		57.5	10	17.5		14.1	56	40	23		7	00	47	75	44	
3	221	45.1		56.5	24	53.8	+4	00.2	54	40	21		6	57	47	73	43	
4	236	45.2		55.6	39	30.1	+3	46.2	52	40	19		54	47	70	42	9	
5	251	45.3	-8	54.7	54	06.5	+3	32.2	50	5	41	6	18	6	51	19	47	
6	266	45.4	-8	53.7	68	42.8	+3	18.2	45	5	41	6	15	6	44	19	47	
7	281	45.5		52.8	83	19.2	+3	04.1	40	40	11		39	47	59	37	19	
8	296	45.6		51.9	97	55.6	+2	50.1	35	39	08		34	47	56	35	23	
9	311	45.7		50.9	112	31.9		36.1	30	38	06		30	47	53	34	25	
10	326	45.8		50.0	127	08.3		22.0	20	35	6	00	22	47	48	31	31	
11	341	45.9	-8	49.1	141	44.7	+2	07.9	10 N	5	30	5	55	6	16	19	47	
12	356	46.0	-8	48.1	156	21.1	+1	53.9	0	5	24	5	49	6	10	19	47	
13	11	46.1		47.2	170	57.5		39.8	10 S	17	42		6	03	47	35	25	
14	26	46.2		46.3	185	34.0		25.7	20	5	08	34	5	56	47	31	23	
15	41	46.4		45.3	200	10.4	+1	11.6	30	4	55	24	48	47	26	20	53	
16	56	46.5		44.4	214	46.8	+0	57.5	35	47	18		44	47	23	18	56	
17	71	46.6	-8	43.5	229	23.2	+0	43.4	40	4	37	5	10	5	38	19	48	
18	86	46.7	-8	42.5	243	59.6	+0	29.3	45	4	25	5	02	5	32	19	48	
19	101	46.8		41.6	258	36.1		15.2	50	09	4	51	25	48	11	12	68	
20	116	46.9		40.7	273	12.5	+0	01.0	52	4	01	45	21	48	9	11	70	
21	131	47.0		39.7	287	48.9	-0	13.1	54	3	53	40	17	48	7	10	72	
22	146	47.1		38.8	302	25.3		27.2	56	43	33		13	48	4	08	75	
23	161	47.2		37.9	317	01.7		41.3	58	31	26		08	48	2	07	78	
24	176	47.3	-8	36.9	331	38.1	-0	55.4	60 S	3	17	4	17	5	03	19	48	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 13 ^h 36.4 ^m		Mag: -3.9 PMG: 10 ^h 36 ^m			Mag: +1.3 PMG: 10 ^h 28 ^m			Mag: -2.3 PMG: 16 ^h 10 ^m			Mag: +0.9 PMG: 12 ^h 23 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	155	20.9	201	11.3	-17	50.5	202	47.4	-18	47.2	116	49.3	+14	08.1				
1	170	23.3	216	10.7		49.7	217	47.9		46.7	131	51.4		08.2				
2	185	25.8	231	10.0		49.0	232	48.4		46.2	146	53.4		08.3				
3	200	28.3	246	09.3		48.2	247	48.9		45.6	161	55.5		08.5				
4	215	30.7	261	08.6		47.5	262	49.4		45.1	176	57.6		08.6				
5	230	33.2	276	07.9	-17	46.7	277	49.9	-18	44.6	191	59.6	+14	08.7				
6	245	35.7	291	07.2	-17	45.9	292	50.4	-18	44.1	207	01.7	+14	08.9				
7	260	38.1	306	06.5		45.2	307	50.8		43.6	222	03.8		09.0				
8	275	40.6	321	05.9		44.4	322	51.3		43.1	237	05.8		09.1				
9	290	43.0	336	05.2		43.6	337	51.8		42.6	252	07.9		09.3				
10	305	45.5	351	04.5		42.9	352	52.3		42.1	267	10.0		09.4				
11	320	48.0	6	03.8	-17	42.1	7	52.8	-18	41.6	282	12.0	+14	09.5				
12	335	50.4	21	03.1	-17	41.3	22	53.3	-18	41.1	297	14.1	+14	09.7				
13	350	52.9	36	02.4		40.6	37	53.8		40.6	312	16.1		09.8				
14	5	55.4	51	01.7		39.8	52	54.3		40.1	327	18.2		10.0				
15	20	57.8	66	01.1		39.0	67	54.8		39.6	342	20.3		10.1				
16	36	00.3	81	00.4		38.3	82	55.3		39.1	357	22.3		10.2				
17	51	02.8	95	59.7	-17	37.5	97	55.8	-18	38.6	12	24.4	+14	10.4				
18	66	05.2	110	59.0	-17	36.7	112	56.3	-18	38.0	27	26.5	+14	10.5				
19	81	07.7	125	58.3		36.0	127	56.8		37.5	42	28.5		10.6				
20	96	10.2	140	57.7		35.2	142	57.3		37.0	57	30.6		10.8				
21	111	12.6	155	57.0		34.4	157	57.8		36.5	72	32.7		10.9				
22	126	15.1	170	56.3		33.6	172	58.3		36.0	87	34.7		11.0				
23	141	17.5	185	55.6		32.9	187	58.8		35.5	102	36.8		11.2				
24	156	20.0	200	54.9	-17	32.1	202	59.3	-18	35.0	117	38.9	+14	11.3				
Dif	—		-7		+8	+5		+5	+21		+1		+22		+1			

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'2 PMG:12 ^h 12.8 ^m			Edad: 17.0 ^d SD: 14'7 PMG: 1 ^h 57 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'2 Rº: 39 ^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	47.3	-8	331	38.1	-0	55.4	141	60 N	17 21	18 03	18 51	21 09	84	7 46	**		
1	191	47.4		346	14.5	-1	09.5	141	58	25	05	50	05	81	47	2		
2	206	47.5		0	50.9	174	23.7	142	56	29	06	49	02	78	49	4		
3	221	47.6		15	27.3	174	37.8	141	54	32	08	49	21	00	74	50		
4	236	47.7		30	03.6	173	-1	51.9	52	35	09	48	20	57	72	51	9	
5	251	47.8	-8	44	40.0	174	-2	06.0	50	17 38	18 10	18 48	20 55	70	7 52	11		
6	266	47.9	-8	59	16.4	174	-2	20.1	45	17 44	18 13	18 47	20 50	65	7 54	16		
7	281	48.0		73	52.7	173		34.2	40	49	16	48	46	61	56	20		
8	296	48.2		88	29.0	173	-2	48.3	35	53	19	48	43	57	58	23		
9	311	48.3		103	05.3	173	-3	02.4	30	17 57	21	49	40	54	7 59	26		
10	326	48.4		117	41.6	173		16.4	20	18 04	26	52	35	49	8 02	30		
11	341	48.5	-8	132	17.9	173	-3	30.5	10 N	18 10	18 31	18 56	20 30	45	8 04	35		
12	356	48.6	-8	146	54.1	172	-3	44.5	0	18 16	18 37	19 01	20 26	40	8 06	39		
13	11	48.7		161	30.4	173	-3	58.6	10 S	22	43	08	22	36	08	44		
14	26	48.8		176	06.6	172	-4	12.6	20	29	18 51	17	18	31	10	48		
15	41	48.9		190	42.8	172		26.7	30	36	19 00	29	13	26	13	53		
16	56	49.0		205	18.9	171		40.7	35	40	06	37	10	24	14	56		
17	71	49.1	-8	219	55.1	172	-4	54.7	40	18 45	19 13	19 46	20 07	20	8 16	59		
18	86	49.2	-8	234	31.2	171	-5	08.6	45	18 51	19 21	19 58	20 03	17	8 18	63		
19	101	49.4		249	07.3	171		22.6	50	18 58	32	20 13	19 59	12	20	68		
20	116	49.5		263	43.4	171		36.6	52	19 01	37	20	57	10	21	71		
21	131	49.6		278	19.4	170	-5	50.5	54	05	42	28	55	7	22	73		
22	146	49.7		292	55.4	170	-6	04.4	56	09	48	38	52	5	23	76		
23	161	49.8		307	31.4	170		18.3	58	13	19 55	20 49	50	2	25	79		
24	176	49.9	-8	322	07.4	170	-6	32.2	60 S	19 18	20 03	21 02	19 47	**	8 26	83		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 13 ^h 32.4 ^m		Mag: -3.9 PMG: 10 ^h 37 ^m			Mag: +1.3 PMG: 10 ^h 28 ^m			Mag: -2.2 PMG: 16 ^h 07 ^m			Mag: +0.9 PMG: 12 ^h 20 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	156	20.0	200	54.9	-17	32.1	202	59.3	-18	35.0	117	38.9	+14	11.3	174	36.3	-9	29.4
1	171	22.5	215	54.3		31.3	217	59.8		34.5	132	40.9		11.5	189	38.5		29.2
2	186	24.9	230	53.6		30.5	233	00.3		34.0	147	43.0		11.6	204	40.7		29.1
3	201	27.4	245	52.9		29.7	248	00.8		33.5	162	45.0		11.7	219	42.9		29.0
4	216	29.9	260	52.2		29.0	263	01.3		32.9	177	47.1		11.9	234	45.0		28.9
5	231	32.3	275	51.6	-17	28.2	278	01.8	-18	32.4	192	49.2	+14	12.0	249	47.2	-9	28.8
6	246	34.8	290	50.9	-17	27.4	293	02.3	-18	31.9	207	51.2	+14	12.1	264	49.4	-9	28.7
7	261	37.3	305	50.2		26.6	308	02.8		31.4	222	53.3		12.3	279	51.6		28.6
8	276	39.7	320	49.5		25.8	323	03.3		30.9	237	55.4		12.4	294	53.8		28.5
9	291	42.2	335	48.9		25.0	338	03.8		30.4	252	57.4		12.5	309	55.9		28.3
10	306	44.6	350	48.2		24.3	353	04.3		29.9	267	59.5		12.7	324	58.1		28.2
11	321	47.1	5	47.5	-17	23.5	8	04.8	-18	29.3	283	01.5	+14	12.8	340	00.3	-9	28.1
12	336	49.6	20	46.8	-17	22.7	23	05.3	-18	28.8	298	03.6	+14	13.0	355	02.5	-9	28.0
13	351	52.0	35	46.2		21.9	38	05.8		28.3	313	05.7		13.1	10	04.6		27.9
14	6	54.5	50	45.5		21.1	53	06.3		27.8	328	07.7		13.2	25	06.8		27.8
15	21	57.0	65	44.8		20.3	68	06.8		27.3	343	09.8		13.4	40	09.0		27.7
16	36	59.4	80	44.2		19.5	83	07.3		26.8	358	11.8		13.5	55	11.2		27.5
17	52	01.9	95	43.5	-17	18.7	98	07.8	-18	26.2	13	13.9	+14	13.6	70	13.3	-9	27.4
18	67	04.4	110	42.8	-17	17.9	113	08.3	-18	25.7	28	16.0	+14	13.8	85	15.5	-9	27.3
19	82	06.8	125	42.1		17.1	128	08.8		25.2	43	18.0		13.9	100	17.7		27.2
20	97	09.3	140	41.5		16.3	143	09.3		24.7	58	20.1		14.1	115	19.9		27.1
21	112	11.8	155	40.8		15.6	158	09.8		24.2	73	22.1		14.2	130	22.1		27.0
22	127	14.2	170	40.1		14.8	173	10.3		23.7	88	24.2		14.3	145	24.2		26.9
23	142	16.7	185	39.5		14.0	188	10.8		23.1	103	26.2		14.5	160	26.4		26.7
24	157	19.1	200	38.8	-17	13.2	203	11.3	-18	22.6	118	28.3	+14	14.6	175	28.6	-9	26.6
Dif	—		-7		+8	+5		+5	+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 12.6 ^m				Edad: 18.0 ^d SD: 14 ^h 8 PMG: 2 ^h 36 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	49.9	-8	14.4	322	07.4			-6	32.2			60 N	5 33	6 21	7 03	22 33	88	7 45 **
1	191	50.0		13.4	336	43.3				46.1			58	34	19	6 59	26 84		49 3
2	206	50.1		12.5	351	19.2			-6	59.9			56	35	18	55	20 80		53 6
3	221	50.2		11.6	5	55.1			-7	13.8			54	36	17	52	14 77		7 57 8
4	236	50.4		10.6	20	30.9				27.6			52	36	15	49	09 74		8 00 11
5	251	50.5	-8	09.7	35	06.7			-7	41.4			50	5 37	6 14	6 47	22 05	71	8 03 13
6	266	50.6	-8	08.7	49	42.4			-7	55.1			45	5 37	6 11	6 41	21 55	67	8 10 18
7	281	50.7		07.8	64	18.1			-8	08.9			40	37	09	36	47 62		16 21
8	296	50.8		06.8	78	53.8				22.6			35	37	06	31	40 59		21 24
9	311	50.9		05.9	93	29.4				36.3			30	36	6 04	28	34 56		25 28
10	326	51.0		05.0	108	05.0			-8	49.9			20	33	5 59	21	24 51		32 33
11	341	51.2	-8	04.0	122	40.5			-9	03.6			10 N	5 29	5 54	6 15	21 15	46	8 39 37
12	356	51.3	-8	03.1	137	16.0			-9	17.2			0	5 24	5 48	6 09	21 06	43	8 45 41
13	11	51.4		02.1	151	51.5				30.7			10 S	17	42	6 03	20 58	38	52 45
14	26	51.5		01.2	166	26.9				44.3			20	5 09	35	5 57	49 34		8 58 50
15	41	51.6	-8	00.2	181	02.3			-9	57.8			30	4 57	25	50	39 29		9 06 55
16	56	51.7	-7	59.3	195	37.6			-10	11.3			35	49	20	45	34 26		10 58
17	71	51.8	-7	58.4	210	12.9			-10	24.7			40	4 40	5 13	5 41	20 27	23	9 15 62
18	86	52.0	-7	57.4	224	48.1			-10	38.2			45	4 28	5 05	5 35	20 20	19	9 21 66
19	101	52.1		56.5	239	23.2			-10	51.6			50	13	4 54	28	11 14		28 71
20	116	52.2		55.5	253	58.4			-11	04.9			52	4 06	49	25	07 12		32 72
21	131	52.3		54.6	268	33.4				18.2			54	3 58	44	21	20 02	10	35 76
22	146	52.4		53.6	283	08.4				31.5			56	48	38	17	19 57	7	39 79
23	161	52.5		52.7	297	43.4				44.8			58	37	31	13	52 3		44 82
24	176	52.7	-7	51.7	312	18.3			-11	58.0			60 S	3 25	4 23	5 08	19 46	**	9 49 86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 28.5 ^m		Mag: -3.9 PMG: 10 ^h 38 ^m		Mag: +1.3 PMG: 10 ^h 27 ^m		Mag: -2.2 PMG: 16 ^h 04 ^m		Mag: +1.0 PMG: 12 ^h 16 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	157	19.1	200	38.8	-17	13.2	203	11.3	-18	22.6
1	172	21.6	215	38.1		12.4	218	11.8		22.1
2	187	24.1	230	37.5		11.6	233	12.3		21.6
3	202	26.5	245	36.8		10.8	248	12.8		21.1
4	217	29.0	260	36.1		10.0	263	13.3		20.5
5	232	31.5	275	35.5	-17	09.2	278	13.8	-18	20.0
6	247	33.9	290	34.8	-17	08.4	293	14.3	-18	19.5
7	262	36.4	305	34.1		07.6	308	14.8		19.0
8	277	38.9	320	33.5		06.7	323	15.3		18.5
9	292	41.3	335	32.8		05.9	338	15.8		17.9
10	307	43.8	350	32.2		05.1	353	16.3		17.4
11	322	46.2	5	31.5	-17	04.3	8	16.8	-18	16.9
12	337	48.7	20	30.8	-17	03.5	23	17.3	-18	16.4
13	352	51.2	35	30.2		02.7	38	17.8		15.8
14	7	53.6	50	29.5		01.9	53	18.3		15.3
15	22	56.1	65	28.8		01.1	68	18.8		14.8
16	37	58.6	80	28.2	-17	00.3	83	19.3		14.3
17	53	01.0	95	27.5	-16	59.5	98	19.8	-18	13.7
18	68	03.5	110	26.9	-16	58.7	113	20.3	-18	13.2
19	83	06.0	125	26.2		57.8	128	20.8		12.7
20	98	08.4	140	25.5		57.0	143	21.3		12.2
21	113	10.9	155	24.9		56.2	158	21.8		11.6
22	128	13.4	170	24.2		55.4	173	22.3		11.1
23	143	15.8	185	23.6		54.6	188	22.8		10.6
24	158	18.3	200	22.9	-16	53.8	203	23.3	-18	10.1
Dif	—		-7	+8			+5	+5		
								+21		+1
									+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 12.4 ^m			Edad: 19.0 ^d SD: 14 ^h 9 PMG: 3 ^h 16 ^m PHE { 4 ^h : 54 ^m 6 12 ^h : 54 ^m 7 20 ^h : 54 ^m 9 Rº: 43 ^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	176	52.7	-7	51.7	312	18.3	-11	58.0	131	60 N	17 26	18 08	18 56	** ** *	7 44	**		
1	191	52.8		50.8	326	53.1	158	-12	11.1	132	58	30	09	55	23 50	89	52 4	
2	206	52.9		49.8	341	27.9	158		24.3	131	56	33	10	53	40 84		7 59 7	
3	221	53.0		48.9	356	02.6	157		37.4	131	54	36	12	52	31 81		8 05 11	
4	236	53.1		47.9	10	37.3	157	-12	50.4	130	52	39	13	52	23 78		11 13	
5	251	53.2	-7	47.0	25	11.9	156	-13	03.4	130	50	17 41	18 14	18 51	23 16	75	8 16 16	
6	266	53.4	-7	46.1	39	46.4	155	-13	16.4	130	45	17 47	18 16	18 50	23 02	69	8 28 20	
7	281	53.5		45.1	54	20.9	155		29.3	129	40	51	18	50	22 49	65	37 25	
8	296	53.6		44.2	68	55.3	154		42.2	129	35	55	21	50	39 62		45 28	
9	311	53.7		43.2	83	29.6	153	-13	55.0	128	30	17 59	23	50	30 59		8 53 30	
10	326	53.8		42.3	98	03.9	153	-14	07.8	128	20	18 05	27	53	15 53		9 05 36	
11	341	54.0	-7	41.3	112	38.1	152	-14	20.5	127	10 N	18 10	18 32	18 56	22 01	50	9 16 40	
12	356	54.1	-7	40.4	127	12.2	151	-14	33.2	127	0	18 16	18 37	19 01	21 49	46	9 26 44	
13	11	54.2		39.4	141	46.3	151		45.8	126	10 S	21	42	07	36 42		37 48	
14	26	54.3		38.5	156	20.3	150	-14	58.4	126	20	27	49	15	23 38		9 48 52	
15	41	54.4		37.5	170	54.2	149	-15	11.0	126	30	34	18 58	27	08 34		10 01 57	
16	56	54.6		36.6	185	28.0	148		23.4	124	35	38	19 04	34	21 00	30	08 60	
17	71	54.7	-7	35.6	200	01.8	148	-15	35.9	125	40	18 42	19 10	19 43	20 50	27	10 17 63	
18	86	54.8	-7	34.7	214	35.5	147	-15	48.2	123	45	18 48	19 18	19 54	20 39	23	10 27 67	
19	101	54.9		33.7	229	09.1	146	-16	00.6	124	50	54	27	20 08	25 18		39 73	
20	116	55.0		32.8	243	42.7	146		12.8	122	52	18 57	32	15	19 15		44 76	
21	131	55.2		31.8	258	16.2	145		25.0	122	54	19 00	37	23	12 12		51 78	
22	146	55.3		30.9	272	49.5	143		37.2	122	56	04	43	32	20 04	9	10 58 82	
23	161	55.4		29.9	287	22.8	143	-16	49.3	121	58	08	49	42	19 55	6	11 06 86	
24	176	55.5	-7	29.0	301	56.1	143	-17	01.3	120	60 S	19 12	19 57	20 54	19 45	1	11 15 91	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 13 ^h 24.6 ^m		Mag: -3.9 PMG: 10 ^h 39 ^m			Mag: +1.3 PMG: 10 ^h 26 ^m			Mag: -2.2 PMG: 16 ^h 01 ^m			Mag: +1.0 PMG: 12 ^h 13 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	158	18.3	200	22.9	-16	53.8	203	23.3	-18	10.1	119	17.6	+14	17.9	176	20.8	-9	23.9
1	173	20.7	215	22.3		52.9	218	23.8		09.5	134	19.7		18.1	191	23.0		23.8
2	188	23.2	230	21.6		52.1	233	24.3		09.0	149	21.7		18.2	206	25.2		23.7
3	203	25.7	245	21.0		51.3	248	24.8		08.5	164	23.8		18.3	221	27.4		23.6
4	218	28.1	260	20.3		50.5	263	25.3		08.0	179	25.8		18.5	236	29.5		23.5
5	233	30.6	275	19.6	-16	49.7	278	25.9	-18	07.4	194	27.9	+14	18.6	251	31.7	-9	23.3
6	248	33.1	290	19.0	-16	48.8	293	26.4	-18	06.9	209	29.9	+14	18.8	266	33.9	-9	23.2
7	263	35.5	305	18.3		48.0	308	26.9		06.4	224	32.0		18.9	281	36.1		23.1
8	278	38.0	320	17.7		47.2	323	27.4		05.8	239	34.1		19.0	296	38.2		23.0
9	293	40.5	335	17.0		46.4	338	27.9		05.3	254	36.1		19.2	311	40.4		22.9
10	308	42.9	350	16.4		45.5	353	28.4		04.8	269	38.2		19.3	326	42.6		22.8
11	323	45.4	5	15.7	-16	44.7	8	28.9	-18	04.2	284	40.2	+14	19.5	341	44.8	-9	22.7
12	338	47.8	20	15.1	-16	43.9	23	29.4	-18	03.7	299	42.3	+14	19.6	356	47.0	-9	22.6
13	353	50.3	35	14.4		43.0	38	29.9		03.2	314	44.3		19.7	11	49.1		22.4
14	8	52.8	50	13.8		42.2	53	30.4		02.7	329	46.4		19.9	26	51.3		22.3
15	23	55.2	65	13.1		41.4	68	30.9		02.1	344	48.4		20.0	41	53.5		22.2
16	38	57.7	80	12.5		40.6	83	31.4		01.6	359	50.5		20.2	56	55.7		22.1
17	54	00.2	95	11.8	-16	39.7	98	31.9	-18	01.1	14	52.5	+14	20.3	71	57.8	-9	22.0
18	69	02.6	110	11.2	-16	38.9	113	32.4	-18	00.5	29	54.6	+14	20.4	87	00.0	-9	21.9
19	84	05.1	125	10.5		38.1	128	32.9	-18	00.0	44	56.6		20.6	102	02.2		21.8
20	99	07.6	140	09.9		37.2	143	33.5	-17	59.5	59	58.7		20.7	117	04.4		21.6
21	114	10.0	155	09.2		36.4	158	34.0		58.9	75	00.7		20.9	132	06.5		21.5
22	129	12.5	170	08.6		35.5	173	34.5		58.4	90	02.8		21.0	147	08.7		21.4
23	144	15.0	185	07.9		34.7	188	35.0		57.9	105	04.8		21.1	162	10.9		21.3
24	159	17.4	200	07.3	-16	33.9	203	35.5	-17	57.3	120	06.8	+14	21.3	177	13.1	-9	21.2
Dif	—		-7		+8		+5		+5		+21		+1		+22		+	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG:12 ^h 12.2 ^m			Edad: 20.0 ^d SD: 15'0 PMG: 3 ^h 59 ^m PHE { 4 ^h : 55'0 12 ^h : 55'2 20 ^h : 55'4 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
0	176	55.5	-7	29.0	301	56.1	-17	01.3	60 N	5	27	6	15	6	57	0	01	95
1	191	55.7		28.0	316	29.2		13.2	58	29		14		54	**	**	**	
2	206	55.8		27.1	331	02.3		25.1	56	30		13		50	**	**	**	
3	221	55.9		26.1	345	35.3		37.0	54	31		12		47	**	**	**	
4	236	56.0		25.2	0	08.1	-17	48.7	52	32		11		45	**	**	**	
5	251	56.1	-7	24.2	14	41.0	-18	00.5	50	5	33	6	10	6	42	**	**	**
6	266	56.3	-7	23.3	29	13.7	-18	12.1	45	5	34	6	08	6	37	**	**	**
7	281	56.4		22.3	43	46.3		23.7	40	34		06		33	23	54	67	
8	296	56.5		21.3	58	18.9		35.2	35	34		04		29	41	63		
9	311	56.6		20.4	72	51.3		46.6	30	34	6	02		26	29	61		
10	326	56.8		19.4	87	23.7	-18	58.0	20	32	5	57	19	23	08	57		
11	341	56.9	-7	18.5	101	55.9	-19	09.2	10 N	5	28	5	53	6	14	22	51	
12	356	57.0	-7	17.5	116	28.1	-19	20.5	0	5	24	5	48	6	09	22	35	
13	11	57.1		16.6	131	00.2		31.6	10 S	18		42		6	04	18	47	
14	26	57.3		15.6	145	32.2		42.7	20	5	10	36	5	58	22	01	43	
15	41	57.4		14.7	160	04.1	-19	53.6	30	4	58	27	51	21	42	38		
16	56	57.5		13.7	174	35.9	-20	04.6	35	51		22	47	30	36			
17	71	57.6	-7	12.8	189	07.6	-20	15.4	40	4	42	5	15	5	43	21	17	
18	86	57.8	-7	11.8	203	39.2	-20	26.1	45	4	31	5	07	5	38	21	02	
19	101	57.9		10.9	218	10.7		36.8	50	17	4	58	31	20	43	24		
20	116	58.0		09.9	232	42.2		47.4	52	10		53	28	34	22			
21	131	58.1		09.0	247	13.5	-20	57.9	54	4	03	48	25	24	19			
22	146	58.3		08.0	261	44.7	-21	08.3	56	3	54	43	22	13	15			
23	161	58.4		07.0	276	15.8		18.6	58	44		36	18	20	01			
24	176	58.5	-7	06.1	290	46.8	-21	28.9	60 S	3	32	4	29	5	13	19	46	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 20.6 ^m		Mag: -3.8 PMG: 10 ^h 40 ^m		Mag: +1.3 PMG: 10 ^h 25 ^m		Mag: -2.2 PMG: 15 ^h 57 ^m		Mag: +1.0 PMG: 12 ^h 09 ^m	
	hG ♊		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	159	17.4	200	07.3	-16	33.9	203	35.5	-17	57.3
1	174	19.9	215	06.7		33.0	218	36.0		56.8
2	189	22.3	230	06.0		32.2	233	36.5		56.2
3	204	24.8	245	05.4		31.4	248	37.0		55.7
4	219	27.3	260	04.7		30.5	263	37.5		55.2
5	234	29.7	275	04.1	-16	29.7	278	38.0	-17	54.6
6	249	32.2	290	03.4	-16	28.8	293	38.5	-17	54.1
7	264	34.7	305	02.8		28.0	308	39.1		53.6
8	279	37.1	320	02.2		27.1	323	39.6		53.0
9	294	39.6	335	01.5		26.3	338	40.1		52.5
10	309	42.1	350	00.9		25.4	353	40.6		52.0
11	324	44.5	5	00.2	-16	24.6	8	41.1	-17	51.4
12	339	47.0	19	59.6	-16	23.8	23	41.6	-17	50.9
13	354	49.5	34	59.0		22.9	38	42.1		50.3
14	9	51.9	49	58.3		22.1	53	42.6		49.8
15	24	54.4	64	57.7		21.2	68	43.1		49.3
16	39	56.8	79	57.0		20.4	83	43.6		48.7
17	54	59.3	94	56.4	-16	19.5	98	44.2	-17	48.2
18	70	01.8	109	55.8	-16	18.7	113	44.7	-17	47.6
19	85	04.2	124	55.1		17.8	128	45.2		47.1
20	100	06.7	139	54.5		16.9	143	45.7		46.6
21	115	09.2	154	53.9		16.1	158	46.2		46.0
22	130	11.6	169	53.2		15.2	173	46.7		45.5
23	145	14.1	184	52.6		14.4	188	47.2		44.9
24	160	16.6	199	52.0	-16	13.5	203	47.7	-17	44.4
Dif	—		-6		+8		+5		+5	
							+20		+1	
									+22	
									+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 12.0 ^m			Edad: 21.0 ^d SD: 15'1 PMG: 4 ^h 46 ^m PHE { 4 ^h : 55'6 12 ^h : 55'9 20 ^h : 56'1 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	
0	176	58.5	-7	06.1	290	46.8	-21	28.9	101	60 N	17 31	18 13	19 01	1 36	101	7 44	5
1	191	58.7		05.1	305	17.7		39.0	101	58	34	14	18 59	19 92		8 02	13
2	206	58.8		04.2	319	48.6		49.1	99	56	37	15	58	1 04	87	18	18
3	221	58.9		03.2	334	19.3		59.0	99	54	40	15	56	0 52	82	31	22
4	236	59.0		02.3	348	49.9		08.9	99	52	42	16	55	41	79	42	26
5	251	59.2	-7	01.3	3	20.4		18.7	98	50	17 44	18 17	18 54	0 31	76	8 52	29
6	266	59.3	-7	00.3	17	50.8		28.4	97	45	17 49	18 19	18 53	0 11	71	9 14	33
7	281	59.4	-6	59.4	32	21.1		38.0	96	40	53	20	52	**	**	31	37
8	296	59.6		58.4	46	51.3		47.4	94	35	17 57	22	52	**	**	46	40
9	311	59.7		57.5	61	21.4		56.8	94	30	18 00	24	52	**	**	9 59	42
10	326	59.8		56.5	75	51.3		06.1	93	20	06	28	53	**	**	10 21	46
11	341	59.9	-6	55.6	90	21.2		15.3	92	10 N	18 11	18 32	18 56	23 44	57	10 40	49
12	357	00.1	-6	54.6	104	51.0		24.4	91	0	18 15	18 36	19 00	23 25	54	10 58	52
13	12	00.2		53.6	119	20.6		33.4	90	10 S	20	41	06	23 05	52	11 16	55
14	27	00.3		52.7	133	50.2		42.2	88	20	25	48	14	22 44	50	35	59
15	42	00.5		51.7	148	19.6		51.0	88	30	32	18 56	24	20	47	11 58	62
16	57	00.6		50.8	162	49.0		59.7	87	35	35	19 01	31	22 06	45	12 11	64
17	72	00.7	-6	49.8	177	18.2		08.2	85	40	18 39	19 07	19 40	21 50	42	12 26	67
18	87	00.9	-6	48.9	191	47.3		16.6	84	45	18 44	19 14	19 50	21 31	39	12 45	70
19	102	01.0		47.9	206	16.3		25.0	84	50	50	23	20 03	21 07	35	13 07	76
20	117	01.1		46.9	220	45.2		33.2	82	52	53	27	10	20 56	32	18	78
21	132	01.2		46.0	235	14.0		41.3	81	54	56	32	17	43	29	31	81
22	147	01.4		45.0	249	42.7		49.2	79	56	18 59	37	26	28	25	13 45	85
23	162	01.5		44.1	264	11.3		57.1	79	58	19 02	44	35	20 11	19	14 02	91
24	177	01.6	-6	43.1	278	39.7		04.8	77	60 S	19 06	19 50	20 46	19 49	11	14 23	100

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 13 ^h 16.7 ^m		Mag: -3.8 PMG: 10 ^h 41 ^m		Mag: +1.3 PMG: 10 ^h 24 ^m		Mag: -2.2 PMG: 15 ^h 54 ^m		Mag: +1.0 PMG: 12 ^h 06 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	160	16.6	199	52.0	-16	13.5	203	47.7	-17	44.4	120	55.9	+14	24.7	178	05.3	-9	18.5
1	175	19.0	214	51.3		12.7	218	48.3		43.8	135	58.0		24.8	193	07.5		18.3
2	190	21.5	229	50.7		11.8	233	48.8		43.3	151	00.0		24.9	208	09.7		18.2
3	205	23.9	244	50.1		10.9	248	49.3		42.8	166	02.1		25.1	223	11.9		18.1
4	220	26.4	259	49.4		10.1	263	49.8		42.2	181	04.1		25.2	238	14.0		18.0
5	235	28.9	274	48.8	-16	09.2	278	50.3	-17	41.7	196	06.2	+14	25.4	253	16.2	-9	17.9
6	250	31.3	289	48.2	-16	08.4	293	50.8	-17	41.1	211	08.2	+14	25.5	268	18.4	-9	17.8
7	265	33.8	304	47.5		07.5	308	51.3		40.6	226	10.2		25.6	283	20.6		17.7
8	280	36.3	319	46.9		06.6	323	51.8		40.0	241	12.3		25.8	298	22.7		17.6
9	295	38.7	334	46.3		05.8	338	52.4		39.5	256	14.3		25.9	313	24.9		17.4
10	310	41.2	349	45.6		04.9	353	52.9		38.9	271	16.4		26.1	328	27.1		17.3
11	325	43.7	4	45.0	-16	04.0	8	53.4	-17	38.4	286	18.4	+14	26.2	343	29.3	-9	17.2
12	340	46.1	19	44.4	-16	03.2	23	53.9	-17	37.8	301	20.5	+14	26.3	358	31.4	-9	17.1
13	355	48.6	34	43.7		02.3	38	54.4		37.3	316	22.5		26.5	13	33.6		17.0
14	10	51.1	49	43.1		01.4	53	54.9		36.8	331	24.5		26.6	28	35.8		16.9
15	25	53.5	64	42.5	-16	00.6	68	55.4		36.2	346	26.6		26.8	43	38.0		16.8
16	40	56.0	79	41.9	-15	59.7	83	56.0		35.7	1	28.6		26.9	58	40.2		16.6
17	55	58.4	94	41.2	-15	58.8	98	56.5	-17	35.1	16	30.7	+14	27.1	73	42.3	-9	16.5
18	71	00.9	109	40.6	-15	58.0	113	57.0	-17	34.6	31	32.7	+14	27.2	88	44.5	-9	16.4
19	86	03.4	124	40.0		57.1	128	57.5		34.0	46	34.7		27.3	103	46.7		16.3
20	101	05.8	139	39.4		56.2	143	58.0		33.5	61	36.8		27.5	118	48.9		16.2
21	116	08.3	154	38.7		55.3	158	58.5		32.9	76	38.8		27.6	133	51.0		16.1
22	131	10.8	169	38.1		54.5	173	59.1		32.4	91	40.9		27.8	148	53.2		16.0
23	146	13.2	184	37.5		53.6	188	59.6		31.8	106	42.9		27.9	163	55.4		15.9
24	161	15.7	199	36.9	-15	52.7	204	00.1	-17	31.3	121	44.9	+14	28.0	178	57.6	-9	15.7
Dif	—		-6		+9		+5		+5		+20		+1		+22		+	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h 1 PMG: 12 ^h 11.8 ^m			Edad: 22.0 ^d PHE { 4 ^h : 56 ^h 3 12 ^h : 56 ^h 6 20 ^h : 56 ^h 9 PMG: 5 ^h 37 ^m R°: 56 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil			Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	177	01.6	-6	43.1	278	39.7	94	-25	04.8	60 N	5	22	6	10	6	51	3	17
1	192	01.8		42.1	293	08.1	92		12.5	58	24	09	48	2	51	89	8	15
2	207	01.9		41.2	307	36.3	92		20.0	56	25	08	45	31	83	36	32	
3	222	02.0		40.2	322	04.5	92		27.3	54	27	07	43	14	79	8	53	
4	237	02.2		39.3	336	32.5	90		34.6	52	28	07	40	2	00	76	9	08
5	252	02.3	-6	38.3	351	00.4	89	-25	41.7	50	5	29	6	06	6	38	1	47
6	267	02.4	-6	37.3	5	28.2	88	-25	48.7	45	5	30	6	04	6	34	1	22
7	282	02.6		36.4	19	55.9	87	-25	55.5	40	31	03	30	1	01	67	10	08
8	297	02.7		35.4	34	23.5	86	-26	02.3	35	32	6	01	26	0	44	65	26
9	312	02.8		34.5	48	51.0	85		08.9	30	32	5	59	23	30	62	10	41
10	327	03.0		33.5	63	18.4	84		15.3	20	30		56	18	0	05	60	11
11	342	03.1	-6	32.5	77	45.7	83	-26	21.7	10 N	5	28	5	52	6	13	**	**
12	357	03.2	-6	31.6	92	12.9	82	-26	27.9	0	5	24	5	48	6	08	**	**
13	12	03.4		30.6	106	39.9	80		33.9	10 S	18		43	6	04	23	57	
14	27	03.5		29.7	121	06.9	80		39.8	20	10		36	5	59	34	56	
15	42	03.6		28.7	135	33.8	79		45.6	30	5	00	28	53	23	07		
16	57	03.8		27.7	150	00.5	77		51.3	35	4	53	23	49	22	51		
17	72	03.9	-6	26.8	164	27.2	77	-26	56.8	40	4	45	5	17	5	45		
18	87	04.1	-6	25.8	178	53.7	75	-27	02.1	45	4	34	5	10	5	40		
19	102	04.2		24.8	193	20.2	74		07.3	50	21	5	01	35	21	42		
20	117	04.3		23.9	207	46.6	74		12.4	52	15	4	57	32	28	47		
21	132	04.5		22.9	222	12.8	72		17.3	49	4	07	53	29	21	12		
22	147	04.6		22.0	236	39.0	72		22.0	47	3	59	47	26	20	53		
23	162	04.7		21.0	251	05.0	70		26.6	58	50		41	22	30	39		
24	177	04.9	-6	20.0	265	31.0	70	-27	31.1	60 S	3	38	4	34	5	18		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 12.8 ^m		Mag: -3.8 PMG: 10 ^h 42 ^m		Mag: +1.3 PMG: 10 ^h 24 ^m		Mag: -2.2 PMG: 15 ^h 51 ^m		Mag: +1.0 PMG: 12 ^h 02 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	161	15.7	199	36.9	-15	52.7	204	00.1	-17	31.3
1	176	18.2	214	36.2		51.8	219	00.6		30.7
2	191	20.6	229	35.6		51.0	234	01.1		30.2
3	206	23.1	244	35.0		50.1	249	01.6		29.6
4	221	25.6	259	34.4		49.2	264	02.2		29.1
5	236	28.0	274	33.8	-15	48.3	279	02.7	-17	28.5
6	251	30.5	289	33.1	-15	47.4	294	03.2	-17	28.0
7	266	32.9	304	32.5		46.6	309	03.7		27.4
8	281	35.4	319	31.9		45.7	324	04.2		26.8
9	296	37.9	334	31.3		44.8	339	04.7		26.3
10	311	40.3	349	30.7		43.9	354	05.3		25.7
11	326	42.8	4	30.0	-15	43.0	9	05.8	-17	25.2
12	341	45.3	19	29.4	-15	42.1	24	06.3	-17	24.6
13	356	47.7	34	28.8		41.2	39	06.8		24.1
14	11	50.2	49	28.2		40.4	54	07.3		23.5
15	26	52.7	64	27.6		39.5	69	07.9		23.0
16	41	55.1	79	27.0		38.6	84	08.4		22.4
17	56	57.6	94	26.3	-15	37.7	99	08.9	-17	21.9
18	72	00.1	109	25.7	-15	36.8	114	09.4	-17	21.3
19	87	02.5	124	25.1		35.9	129	09.9		20.7
20	102	05.0	139	24.5		35.0	144	10.4		20.2
21	117	07.4	154	23.9		34.1	159	11.0		19.6
22	132	09.9	169	23.3		33.2	174	11.5		19.1
23	147	12.4	184	22.7		32.3	189	12.0		18.5
24	162	14.8	199	22.0	-15	31.5	204	12.5	-17	18.0
Dif	—		-6		+9		+5		+6	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:12 ^h 11.6 ^m			Edad: 23.0 ^d SD: 15'5 PMG: 6 ^h 33 ^m PHE { 4 ^h : 57/2 12 ^h : 57/5 20 ^h : 57/8 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	177 04.9	-6 20.0	265 31.0	69	-27 31.1	43		60 N	17 36	18 18	19 06	4 57 75	8 05 48			
1	192 05.0		279 56.9	67		35.4	41	58	39	18	04	4 20 71	8 42 53			
2	207 05.1	18.1	294 22.6	67		39.5	40	56	41	19	02	3 54 68	9 08 55			
3	222 05.3	17.1	308 48.3	66		43.5	39	54	44	19	00	33 67	29 56			
4	237 05.4	16.2	323 13.9	65		47.4	36	52	46	20	59	16 66	9 47 57			
5	252 05.6	-6 15.2	337 39.4	64	-27 51.0			50	17 48	18 20	58	3 01 65	10 02 57			
6	267 05.7	-6 14.2	352 04.8	63	-27 54.5	35		45	17 52	18 21	55	2 31 64	10 32 58			
7	282 05.8	13.3	6 30.1	63	-27 57.9	34		40	56	23	54	2 08 63	10 55 59			
8	297 06.0	12.3	20 55.4	61	-28 01.1	32		35	17 59	24	53	1 49 62	11 15 59			
9	312 06.1	11.3	35 20.5	61		04.1	30	30	18 01	25	53	32 62	11 32 59			
10	327 06.2	10.4	49 45.6	59		07.0	29	20	06	28	54	1 05 60	12 00 60			
11	342 06.4	-6 09.4	64 10.5	59	-28 09.7	27		10 N	18 11	18 32	56	0 41 60	12 24 60			
12	357 06.5	-6 08.5	78 35.4	59	-28 12.2	25		0	18 15	18 36	59	0 19 59	12 47 60			
13	12 06.7	07.5	93 00.3	57		14.6	24	10 S	19	40	05	** ** *	13 09 60			
14	27 06.8	06.5	107 25.0	57		16.8	22	20	24	46	12	** ** *	13 34 60			
15	42 06.9	05.6	121 49.7	57		18.8	20	30	29	54	22	** ** *	14 02 60			
16	57 07.1	04.6	136 14.3	56		20.6	18	35	33	58	28	23 45 64	19 60			
17	72 07.2	-6 03.6	150 38.8	55	-28 22.3	17		40	18 36	19 04	36	23 25 65	14 38 60			
18	87 07.4	-6 02.7	165 03.2	54	-28 23.8	15		45	18 41	19 10	46	23 01 66	15 02 59			
19	102 07.5	01.7	179 27.6	54		25.1	13	50	46	19	59	22 31 66	33 58			
20	117 07.6	-6 00.7	193 51.9	53		26.3	12	52	48	23	05	22 15 68	15 48 58			
21	132 07.8	-5 59.8	208 16.2	53		27.3	10	54	51	27	12	21 58 68	16 06 57			
22	147 07.9	58.8	222 40.4	52		28.1	8	56	54	32	19	36 69	27 57			
23	162 08.1	57.8	237 04.5	51		28.7	6	58	57	38	28	21 09 71	16 54 56			
24	177 08.2	-5 56.9	251 28.5	50	-28 29.1	4		60 S	19 00	19 44	30	20 30 74	17 33 52			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 08.9 ^m		Mag: -3.8 PMG: 10 ^h 43 ^m		Mag: +1.3 PMG: 10 ^h 23 ^m		Mag: -2.2 PMG: 15 ^h 48 ^m		Mag: +1.0 PMG: 11 ^h 59 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	162 14.8	199 22.0	-15 31.5	204 12.5	-17 18.0	122 33.8	+14 31.5	179 49.8	-9 13.0	
1	177 17.3	214 21.4	30.6	219 13.0	17.4	137 35.8	31.6	194 52.0	12.9	
2	192 19.8	229 20.8	29.7	234 13.6	16.8	152 37.9	31.8	209 54.2	12.8	
3	207 22.2	244 20.2	28.8	249 14.1	16.3	167 39.9	31.9	224 56.4	12.7	
4	222 24.7	259 19.6	27.9	264 14.6	15.7	182 41.9	32.0	239 58.5	12.6	
5	237 27.2	274 19.0	-15 27.0	279 15.1	-17 15.2	197 44.0	+14 32.2	255 00.7	-9 12.4	
6	252 29.6	289 18.4	-15 26.1	294 15.6	-17 14.6	212 46.0	+14 32.3	270 02.9	-9 12.3	
7	267 32.1	304 17.8	25.2	309 16.2	14.0	227 48.0	32.5	285 05.1	12.2	
8	282 34.5	319 17.2	24.3	324 16.7	13.5	242 50.1	32.6	300 07.2	12.1	
9	297 37.0	334 16.6	23.4	339 17.2	12.9	257 52.1	32.8	315 09.4	12.0	
10	312 39.5	349 15.9	22.5	354 17.7	12.4	272 54.1	32.9	330 11.6	11.9	
11	327 41.9	4 15.3	-15 21.6	9 18.3	-17 11.8	287 56.2	+14 33.0	345 13.8	-9 11.8	
12	342 44.4	19 14.7	-15 20.7	24 18.8	-17 11.2	302 58.2	+14 33.2	0 16.0	-9 11.7	
13	357 46.9	34 14.1	19.8	39 19.3	10.7	318 00.2	33.3	15 18.1	11.5	
14	12 49.3	49 13.5	18.9	54 19.8	10.1	333 02.3	33.5	30 20.3	11.4	
15	27 51.8	64 12.9	17.9	69 20.3	09.6	348 04.3	33.6	45 22.5	11.3	
16	42 54.3	79 12.3	17.0	84 20.9	09.0	3 06.3	33.8	60 24.7	11.2	
17	57 56.7	94 11.7	-15 16.1	99 21.4	-17 08.4	18 08.3	+14 33.9	75 26.8	-9 11.1	
18	72 59.2	109 11.1	-15 15.2	114 21.9	-17 07.9	33 10.4	+14 34.0	90 29.0	-9 11.0	
19	88 01.7	124 10.5	14.3	129 22.4	07.3	48 12.4	34.2	105 31.2	10.9	
20	103 04.1	139 09.9	13.4	144 23.0	06.7	63 14.4	34.3	120 33.4	10.7	
21	118 06.6	154 09.3	12.5	159 23.5	06.2	78 16.5	34.5	135 35.5	10.6	
22	133 09.0	169 08.7	11.6	174 24.0	05.6	93 18.5	34.6	150 37.7	10.5	
23	148 11.5	184 08.1	10.7	189 24.5	05.0	108 20.5	34.8	165 39.9	10.4	
24	163 14.0	199 07.5	-15 09.8	204 25.1	-17 04.5	123 22.6	+14 34.9	180 42.1	-9 10.3	
Dif	—	-6	+9	+5	+6	+20	+1	+22	+	

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			☾ LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG:12 ^h 11.1 ^m			Edad: 25.0 ^d SD: 16'0 PMG: 8 ^h 33 ^m PHE { 4 ^h : 59'0 12 ^h : 59'4 20 ^h : 59'7 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			
0	177	11.6	-5 33.6	236 53.6	42	-27 44.5	42	60 N	17 41	18 23	19 11	6 44	9	10 30	117			
1	192	11.8	32.6	251 16.8	43	40.3	45	58	43	23	08	6 12	21	11 02	105			
2	207	11.9	31.7	265 40.1	43	35.8	45	56	46	23	06	5 48	27	25	99			
3	222	12.1	30.7	280 03.3	42	31.2	46	54	48	23	04	29	31	11 44	94			
4	237	12.2	29.7	294 26.6	43	26.5	50	52	49	23	02	5 12	36	12 00	90			
5	252	12.4	-5 28.7	308 49.8	42	-27 21.5	52	50	17 51	18 23	19 01	4 58	38	12 14	87			
6	267	12.5	-5 27.8	323 13.1	43	-27 16.3	53	45	17 55	18 24	18 58	4 29	44	12 42	82			
7	282	12.7	26.8	337 36.4	43	11.0	56	40	17 58	25	56	4 07	47	13 04	78			
8	297	12.8	25.8	351 59.7	43	-27 05.4	57	35	18 00	26	55	3 48	49	22	75			
9	312	12.9	24.9	6 23.0	43	-26 59.7	59	30	03	27	54	32	52	13 38	72			
10	327	13.1	23.9	20 46.3	43	53.8	61	20	07	29	55	3 04	56	14 04	68			
11	342	13.2	-5 22.9	35 09.6	43	-26 47.7	63	10 N	18 11	18 32	18 56	2 41	58	14 27	64			
12	357	13.4	-5 21.9	49 32.9	43	-26 41.4	65	0	18 14	18 35	18 59	2 19	61	14 48	60			
13	12	13.5	21.0	63 56.3	44	34.9	67	10 S	18	39	19 04	1 57	63	15 09	57			
14	27	13.7	20.0	78 19.7	44	28.2	68	20	22	44	10	33	66	31	53			
15	42	13.8	19.0	92 43.1	44	21.4	71	30	27	51	19	1 05	70	15 57	48			
16	57	14.0	18.1	107 06.5	44	14.3	72	35	30	18 55	25	0 49	72	16 12	46			
17	72	14.1	-5 17.1	121 30.0	45	-26 07.1	74	40	18 33	19 01	19 33	0 30	74	16 29	43			
18	87	14.3	-5 16.1	135 53.5	45	-25 59.7	76	45	18 37	19 07	19 42	0 07	77	16 50	38			
19	102	14.4	15.1	150 17.0	46	52.1	78	50	41	14	19 54	** ** *	**	17 16	33			
20	117	14.6	14.2	164 40.6	46	44.3	80	52	44	18	20 00	** ** *	**	29	29			
21	132	14.7	13.2	179 04.1	45	36.3	81	54	46	22	06	** ** *	**	17 43	26			
22	147	14.9	12.2	193 27.8	47	28.2	83	56	48	27	13	** ** *	**	18 00	21			
23	162	15.0	11.2	207 51.4	46	19.9	86	58	51	32	22	23 58	108	20	15			
24	177	15.2	-5 10.3	222 15.1	47	-25 11.3		60 S	18 54	19 38	20 32	23 33	118	18 45	6			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 13 ^h 01.0 ^m		Mag: -3.8 PMG: 10 ^h 45 ^m			Mag: +1.2 PMG: 10 ^h 21 ^m			Mag: -2.2 PMG: 15 ^h 41 ^m			Mag: +1.0 PMG: 11 ^h 52 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'			°	'	°	'	°	'	°	'		
0	164	13.1	198 53.2	-14 47.6	204 37.7	-16 50.8			124 11.2	+14 38.4			181 34.3	-9 07.6				
1	179	15.6	213 52.6	46.7	219 38.2	50.2			139 13.2	38.5			196 36.5	07.5				
2	194	18.0	228 52.0	45.8	234 38.7	49.7			154 15.3	38.7			211 38.7	07.3				
3	209	20.5	243 51.4	44.9	249 39.3	49.1			169 17.3	38.8			226 40.9	07.2				
4	224	23.0	258 50.8	43.9	264 39.8	48.5			184 19.3	39.0			241 43.1	07.1				
5	239	25.4	273 50.2	-14 43.0	279 40.3	-16 48.0			199 21.3	+14 39.1			256 45.2	-9 07.0				
6	254	27.9	288 49.7	-14 42.1	294 40.9	-16 47.4			214 23.4	+14 39.2			271 47.4	-9 06.9				
7	269	30.4	303 49.1	41.1	309 41.4	46.8			229 25.4	39.4			286 49.6	06.8				
8	284	32.8	318 48.5	40.2	324 41.9	46.2			244 27.4	39.5			301 51.8	06.7				
9	299	35.3	333 47.9	39.3	339 42.4	45.7			259 29.4	39.7			316 53.9	06.6				
10	314	37.8	348 47.3	38.3	354 43.0	45.1			274 31.4	39.8			331 56.1	06.4				
11	329	40.2	3 46.7	-14 37.4	9 43.5	-16 44.5			289 33.5	+14 40.0			346 58.3	-9 06.3				
12	344	42.7	18 46.1	-14 36.4	24 44.0	-16 43.9			304 35.5	+14 40.1			2 00.5	-9 06.2				
13	359	45.2	33 45.6	35.5	39 44.6	43.3			319 37.5	40.3			17 02.7	06.1				
14	14	47.6	48 45.0	34.6	54 45.1	42.8			334 39.5	40.4			32 04.8	06.0				
15	29	50.1	63 44.4	33.6	69 45.6	42.2			349 41.6	40.6			47 07.0	05.9				
16	44	52.5	78 43.8	32.7	84 46.2	41.6			4 43.6	40.7			62 09.2	05.8				
17	59	55.0	93 43.2	-14 31.7	99 46.7	-16 41.0			19 45.6	+14 40.8			77 11.4	-9 05.6				
18	74	57.5	108 42.6	-14 30.8	114 47.2	-16 40.5			34 47.6	+14 41.0			92 13.5	-9 05.5				
19	89	59.9	123 42.1	29.9	129 47.7	39.9			49 49.6	41.1			107 15.7	05.4				
20	105	02.4	138 41.5	28.9	144 48.3	39.3			64 51.7	41.3			122 17.9	05.3				
21	120	04.9	153 40.9	28.0	159 48.8	38.7			79 53.7	41.4			137 20.1	05.2				
22	135	07.3	168 40.3	27.0	174 49.3	38.1			94 55.7	41.6			152 22.3	05.1				
23	150	09.8	183 39.7	26.1	189 49.9	37.6			109 57.7	41.7			167 24.4	05.0				
24	165	12.3	198 39.2	-14 25.1	204 50.4	-16 37.0			124 59.8	+14 41.9			182 26.6	-9 04.9				
Dif	—		-6		+9		+5		+6		+20		+1		+22		+1	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16'1 PMG:12 ^h 10.9 ^m			Edad: 26.0 ^d SD: 16'3 PMG: 9 ^h 34 ^m PHE { 4 ^h : 59'9 12 ^h : 60'2 20 ^h : 60'5 Rº: 58 ^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	177	15.2	-5	10.3	222	15.1	-25	11.3	60 N	5	10	5	58	6	39		6	53	3
1	192	15.3		09.3	236	38.9	-25	02.7	58		13		58		37		33	10	12 47 111
2	207	15.5		08.3	251	02.7	-24	53.8	56		15		58		35		15	16	13 04 105
3	222	15.6		07.4	265	26.5		44.8	54		17		58		33		6	00	21 18 100
4	237	15.8		06.4	279	50.4		35.5	52		19		58		32		5	48	24 30 96
5	252	15.9	-5	05.4	294	14.3	-24	26.1	50		5	20	5	58	6	30	5	36	28 13 41 93
6	267	16.1	-5	04.4	308	38.3	-24	16.6	45		5	23	5	57	6	27	5	13	33 14 04 85
7	282	16.2		03.5	323	02.3	-24	06.8	40		25		57		24		4	54	38 22 80
8	297	16.4		02.5	337	26.4	-23	56.9	35		27		56		21		37	43	37 76
9	312	16.5		01.5	351	50.5		46.8	30		27		55		19		24	45	14 50 73
10	327	16.7	-5	00.5	6	14.7		36.6	20		27		53		15		4	00	50 15 12 67
11	342	16.8	-4	59.6	20	39.0	-23	26.2	10 N		5	26	5	50	6	11	3	39	55 15 31 62
12	357	17.0	-4	58.6	35	03.3	-23	15.6	0		5	23	5	47	6	08	3	20	59 15 48 58
13	12	17.1		57.6	49	27.6	-23	04.8	10 S			18		43		04	3	00	63 16 06 53
14	27	17.3		56.6	63	52.0	-22	53.9	20		12		38		6	00	2	39	68 24 48
15	42	17.4		55.7	78	16.5		42.8	30		5	03	31		5	55	15	73	45 43
16	57	17.6		54.7	92	41.0		31.6	35		4	57	27		53		2	01	76 16 58 39
17	72	17.7	-4	53.7	107	05.6	-22	20.2	40		4	50	5	22	5	49	1	44	80 17 12 35
18	87	17.9	-4	52.7	121	30.3	-22	08.6	45		4	41	5	16	5	46	1	24	85 17 28 30
19	102	18.0		51.8	135	55.0	-21	56.9	50		29		08		41		0	59	91 49 23
20	117	18.2		50.8	150	19.8		45.0	52		23		05		39		47	94	17 58 21
21	132	18.3		49.8	164	44.6		32.9	54		17		01		37		33	98	18 09 17
22	147	18.5		48.8	179	09.5		20.8	56		09		4	56	35		0	17	102 21 13
23	162	18.6		47.9	193	34.5	-21	08.4	58		4	01		51	32		**	**	** 35 8
24	177	18.8	-4	46.9	207	59.5	-20	55.9	60 S		3	51	4	45	5	29	**	**	** 18 51 3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 57.1 ^m		Mag: -3.8 PMG: 10 ^h 46 ^m		Mag: +1.2 PMG: 10 ^h 20 ^m		Mag: -2.2 PMG: 15 ^h 38 ^m		Mag: +1.0 PMG: 11 ^h 49 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	165	12.3	198	39.2	204	50.4	124	59.8	182	26.6
1	180	14.7	213	38.6	219	50.9	140	01.8	197	28.8
2	195	17.2	228	38.0	234	51.5	155	03.8	212	31.0
3	210	19.6	243	37.4	249	52.0	170	05.8	227	33.1
4	225	22.1	258	36.8	264	52.5	185	07.8	242	35.3
5	240	24.6	273	36.3	279	53.1	200	09.8	257	37.5
6	255	27.0	288	35.7	294	53.6	215	11.9	272	39.7
7	270	29.5	303	35.1	309	54.1	230	13.9	287	41.9
8	285	32.0	318	34.5	324	54.7	245	15.9	302	44.0
9	300	34.4	333	34.0	339	55.2	260	17.9	317	46.2
10	315	36.9	348	33.4	354	55.7	275	19.9	332	48.4
11	330	39.4	3	32.8	9	56.3	290	22.0	347	50.6
12	345	41.8	18	32.2	24	56.8	305	24.0	2	52.7
13	0	44.3	33	31.7	39	57.3	320	26.0	17	54.9
14	15	46.8	48	31.1	54	57.9	335	28.0	32	57.1
15	30	49.2	63	30.5	69	58.4	350	30.0	47	59.3
16	45	51.7	78	29.9	84	58.9	5	32.1	63	01.5
17	60	54.1	93	29.4	99	59.5	20	34.1	78	03.6
18	75	56.6	108	28.8	115	00.0	35	36.1	93	05.8
19	90	59.1	123	28.2	130	00.5	50	38.1	108	08.0
20	106	01.5	138	27.7	145	01.1	65	40.1	123	10.2
21	121	04.0	153	27.1	160	01.6	80	42.1	138	12.4
22	136	06.5	168	26.5	175	02.1	95	44.2	153	14.5
23	151	08.9	183	25.9	190	02.7	110	46.2	168	16.7
24	166	11.4	198	25.4	205	03.2	125	48.2	183	18.9
Dif	—		-6	+10	+5	+6	+20	+1	+22	+1

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'1 PMG:12 ^h 10.6 ^m			Edad: 27.0 ^d PHE { 4 ^h : 60'7 12 ^h : 60'9 20 ^h : 61'1 SD: 16'5 PMG: 10 ^h 32 ^m 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				
0	177	18.8	-4	46.9	207	59.5	62	-20	55.9	17 46	18 28	19 16	6 56	1	14 25	115				
1	192	18.9		45.9	222	24.7	61		43.3	48	27	13	43	6	38	108				
2	207	19.1		44.9	236	49.8	63		30.5	50	27	10	31	11	49	103				
3	222	19.3		43.9	251	15.1	63		17.6	51	27	08	21	15	14	58				
4	237	19.4		43.0	265	40.4	63	-20	04.5	53	27	06	12	18	15	06				
5	252	19.6	-4	42.0	280	05.8	64	-19	51.3	17 54	18 27	19 04	6 04	21	15	14				
6	267	19.7	-4	41.0	294	31.2	64	-19	37.9	17 57	18 27	19 01	5 46	27	15	29				
7	282	19.9		40.0	308	56.7	65		24.4	18 00	27	18 58	32	32	42	81				
8	297	20.0		39.1	323	22.3	66	-19	10.8	02	27	57	20	36	15	53				
9	312	20.2		38.1	337	48.0	67	-18	57.0	04	28	56	5 09	40	16	03				
10	327	20.3		37.1	352	13.7	67		43.1	08	30	55	4 50	46	19	65				
11	342	20.5	-4	36.1	6	39.5	68	-18	29.1	18 11	18 32	18 56	4 34	51	16	33				
12	357	20.6	-4	35.2	21	05.3	68	-18	14.9	18 14	18 35	18 59	4 19	56	16	46				
13	12	20.8		34.2	35	31.3	70	-18	00.6	17	38	19 03	4 03	62	16	59				
14	27	21.0		33.2	49	57.3	70	-17	46.2	21	43	09	3 47	66	17	12				
15	42	21.1		32.2	64	23.3	70		31.6	25	49	17	28	73	28	37				
16	57	21.3		31.2	78	49.5	72		17.0	27	53	23	17	76	37	34				
17	72	21.4	-4	30.3	93	15.7	72	-17	02.2	18 30	18 57	19 30	3 04	81	17	47				
18	87	21.6	-4	29.3	107	41.9	72	-16	47.3	18 33	19 03	19 38	2 49	86	17	58				
19	102	21.7		28.3	122	08.3	74		32.3	37	10	49	30	93	18	12				
20	117	21.9		27.3	136	34.7	74		17.1	39	13	19 55	21	96	19	16				
21	132	22.0		26.3	151	01.2	75	-16	01.9	41	17	20 01	2 11	100	26	13				
22	147	22.2		25.4	165	27.7	75	-15	46.5	43	21	07	1 59	105	34	9				
23	162	22.4		24.4	179	54.3	76		31.1	46	26	15	46	110	43	5				
24	177	22.5	-4	23.4	194	21.0	77	-15	15.5	18 48	19 31	20 25	1 31	116	18	54				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 12 ^h 53.1 ^m		Mag: -3.8 PMG: 10 ^h 47 ^m			Mag: +1.2 PMG: 10 ^h 19 ^m			Mag: -2.2 PMG: 15 ^h 35 ^m			Mag: +1.0 PMG: 11 ^h 45 ^m								
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	166	11.4	198	25.4	-14	02.2	205	03.2	-16	23.0	125	48.2	+14	45.4	183	18.9	-9	02.1		
1	181	13.9	213	24.8		01.2	220	03.8		22.4	140	50.2		45.5	198	21.1		02.0		
2	196	16.3	228	24.2	-14	00.3	235	04.3		21.8	155	52.2		45.7	213	23.2		01.9		
3	211	18.8	243	23.7	-13	59.3	250	04.8		21.2	170	54.2		45.8	228	25.4		01.8		
4	226	21.3	258	23.1		58.3	265	05.4		20.6	185	56.2		46.0	243	27.6		01.7		
5	241	23.7	273	22.5	-13	57.4	280	05.9	-16	20.1	200	58.3	+14	46.1	258	29.8	-9	01.6		
6	256	26.2	288	22.0	-13	56.4	295	06.4	-16	19.5	216	00.3	+14	46.3	273	32.0	-9	01.5		
7	271	28.6	303	21.4		55.4	310	07.0		18.9	231	02.3		46.4	288	34.1		01.4		
8	286	31.1	318	20.8		54.5	325	07.5		18.3	246	04.3		46.5	303	36.3		01.2		
9	301	33.6	333	20.3		53.5	340	08.0		17.7	261	06.3		46.7	318	38.5		01.1		
10	316	36.0	348	19.7		52.5	355	08.6		17.1	276	08.3		46.8	333	40.7		01.0		
11	331	38.5	3	19.1	-13	51.6	10	09.1	-16	16.5	291	10.3	+14	47.0	348	42.9	-9	00.9		
12	346	41.0	18	18.6	-13	50.6	25	09.7	-16	15.9	306	12.4	+14	47.1	3	45.0	-9	00.8		
13	1	43.4	33	18.0		49.6	40	10.2		15.3	321	14.4		47.3	18	47.2		00.7		
14	16	45.9	48	17.5		48.7	55	10.7		14.7	336	16.4		47.4	33	49.4		00.6		
15	31	48.4	63	16.9		47.7	70	11.3		14.2	351	18.4		47.6	48	51.6		00.5		
16	46	50.8	78	16.3		46.7	85	11.8		13.6	6	20.4		47.7	63	53.7		00.3		
17	61	53.3	93	15.8	-13	45.7	100	12.4	-16	13.0	21	22.4	+14	47.9	78	55.9	-9	00.2		
18	76	55.8	108	15.2	-13	44.8	115	12.9	-16	12.4	36	24.4	+14	48.0	93	58.1	-9	00.1		
19	91	58.2	123	14.6		43.8	130	13.4		11.8	51	26.5		48.2	109	00.3	-9	00.0		
20	107	00.7	138	14.1		42.8	145	14.0		11.2	66	28.5		48.3	124	02.5	-8	59.9		
21	122	03.1	153	13.5		41.8	160	14.5		10.6	81	30.5		48.5	139	04.6		59.8		
22	137	05.6	168	13.0		40.9	175	15.1		10.0	96	32.5		48.6	154	06.8		59.7		
23	152	08.1	183	12.4		39.9	190	15.6		09.4	111	34.5		48.8	169	09.0		59.5		
24	167	10.5	198	11.9	-13	38.9	205	16.1	-16	08.8	126	36.5	+14	48.9	184	11.2	-8	59.4		
Dif	—		-6	+10		+5	+6		+20	+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 10.4 ^m			Edad: 28.0 ^d PHE { 4 ^h : 61 ^h 2 12 ^h : 61 ^h 3 20 ^h : 61 ^h 4 R°: 53 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	
0	177	22.5	-4	23.4	194	21.0	78	-15	15.5	60 N	5 04	5 52	6 34	6 57	0	16 20	109	
1	192	22.7		22.4	208	47.8	78	-14	59.8	58	07	53	32	49	4	26	105	
2	207	22.8		21.5	223	14.6	79		44.0	56	10	53	30	42	8	32	101	
3	222	23.0		20.5	237	41.5	79		28.2	54	12	53	28	36	11	37	97	
4	237	23.1		19.5	252	08.4	79	-14	12.2	52	14	53	27	30	14	42	94	
5	252	23.3	-4	18.5	266	35.4	80	-13	56.1	50	5 16	5 54	6 26	6 25	17	16 46	91	
6	267	23.5	-4	17.5	281	02.5	81	-13	40.0	45	5 20	5 54	6 23	6 13	23	16 55	85	
7	282	23.6		16.6	295	29.6	81		23.7	40	22	54	20	6 04	28	17 03	79	
8	297	23.8		15.6	309	56.8	82	-13	07.3	35	24	53	18	5 56	32	09	75	
9	312	23.9		14.6	324	24.1	83	-12	50.9	30	25	53	16	49	36	15	70	
10	327	24.1		13.6	338	51.4	83		34.4	20	26	51	13	36	43	24	64	
11	342	24.2	-4	12.6	353	18.7	83	-12	17.8	10 N	5 25	5 49	6 10	5 25	48	17 33	58	
12	357	24.4	-4	11.7	7	46.2	85	-12	01.1	0	5 22	5 46	6 07	5 15	53	17 40	53	
13	12	24.6		10.7	22	13.7	85	-11	44.3	10 S	18	43	04	5 05	58	48	47	
14	27	24.7		09.7	36	41.2	85		27.5	20	13	39	6 01	4 53	65	17 56	41	
15	42	24.9		08.7	51	08.8	86	-11	10.6	30	5 04	33	5 57	41	71	18 05	35	
16	57	25.0		07.7	65	36.5	87	-10	53.6	35	4 59	29	54	33	75	11	31	
17	72	25.2	-4	06.8	80	04.2	87	-10	36.5	40	4 52	5 24	5 52	4 25	79	18 16	27	
18	87	25.4	-4	05.8	94	32.0	88	-10	19.4	45	4 44	5 19	5 48	4 15	85	18 23	22	
19	102	25.5		04.8	108	59.8	88	-10	02.2	50	33	12	45	4 03	91	31	16	
20	117	25.7		03.8	123	27.7	89	-9	44.9	52	27	09	43	3 57	95	35	13	
21	132	25.8		02.8	137	55.7	90		27.6	54	21	05	41	51	98	39	10	
22	147	26.0		01.9	152	23.6	89	-9	10.2	56	14	5 01	39	44	102	43	8	
23	162	26.2	-4	00.9	166	51.7	91	-8	52.7	58	4 07	4 56	36	36	106	48	4	
24	177	26.3	-3	59.9	181	19.8	91	-8	35.2	60 S	3 58	4 51	5 34	3 27	111	18 54	**	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 12 ^h 49.2 ^m		Mag: -3.8 PMG: 10 ^h 48 ^m			Mag: +1.2 PMG: 10 ^h 19 ^m			Mag: -2.2 PMG: 15 ^h 31 ^m			Mag: +1.0 PMG: 11 ^h 42 ^m						
	hG ♊		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	167	10.5	198	11.9	-13	38.9	205	16.1	-16	08.8	126	36.5	+14	48.9	184	11.2	-8	59.4
1	182	13.0	213	11.3		37.9	220	16.7		08.2	141	38.5		49.0	199	13.4		59.3
2	197	15.5	228	10.7		36.9	235	17.2		07.6	156	40.5		49.2	214	15.5		59.2
3	212	17.9	243	10.2		36.0	250	17.8		07.0	171	42.5		49.3	229	17.7		59.1
4	227	20.4	258	09.6		35.0	265	18.3		06.4	186	44.6		49.5	244	19.9		59.0
5	242	22.9	273	09.1	-13	34.0	280	18.8	-16	05.9	201	46.6	+14	49.6	259	22.1	-8	58.9
6	257	25.3	288	08.5	-13	33.0	295	19.4	-16	05.3	216	48.6	+14	49.8	274	24.2	-8	58.8
7	272	27.8	303	08.0		32.0	310	19.9		04.7	231	50.6		49.9	289	26.4		58.6
8	287	30.2	318	07.4		31.0	325	20.5		04.1	246	52.6		50.1	304	28.6		58.5
9	302	32.7	333	06.8		30.1	340	21.0		03.5	261	54.6		50.2	319	30.8		58.4
10	317	35.2	348	06.3		29.1	355	21.5		02.9	276	56.6		50.4	334	33.0		58.3
11	332	37.6	3	05.7	-13	28.1	10	22.1	-16	02.3	291	58.6	+14	50.5	349	35.1	-8	58.2
12	347	40.1	18	05.2	-13	27.1	25	22.6	-16	01.7	307	00.6	+14	50.7	4	37.3	-8	58.1
13	2	42.6	33	04.6		26.1	40	23.2		01.1	322	02.6		50.8	19	39.5		58.0
14	17	45.0	48	04.1		25.1	55	23.7	-16	00.5	337	04.7		51.0	34	41.7		57.9
15	32	47.5	63	03.5		24.1	70	24.3	-15	59.9	352	06.7		51.1	49	43.9		57.7
16	47	50.0	78	03.0		23.1	85	24.8		59.3	7	08.7		51.3	64	46.0		57.6
17	62	52.4	93	02.4	-13	22.2	100	25.3	-15	58.7	22	10.7	+14	51.4	79	48.2	-8	57.5
18	77	54.9	108	01.9	-13	21.2	115	25.9	-15	58.1	37	12.7	+14	51.6	94	50.4	-8	57.4
19	92	57.4	123	01.3		20.2	130	26.4		57.5	52	14.7		51.7	109	52.6		57.3
20	107	59.8	138	00.8		19.2	145	27.0		56.9	67	16.7		51.9	124	54.8		57.2
21	123	02.3	153	00.2		18.2	160	27.5		56.3	82	18.7		52.0	139	56.9		57.1
22	138	04.7	167	59.7		17.2	175	28.1		55.7	97	20.7		52.2	154	59.1		57.0
23	153	07.2	182	59.1		16.2	190	28.6		55.1	112	22.7		52.3	170	01.3		56.8
24	168	09.7	197	58.6	-13	15.2	205	29.1	-15	54.5	127	24.7	+14	52.4	185	03.5	-8	56.7
Dif	—		-6		+10		+5		+6		+20		+1		+22		+1	

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 10.1 ^m			Edad: 29.0 ^d SD: 16'7 PMG: 12 ^h 21 ^m PHE { 4 ^h : 61'4 12 ^h : 61'4 20 ^h : 61'4 R°: 51 ^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	177	26.3	-3	59.9	181	19.8	91	-8	35.2	175	60 N	17 51	18 32	19 21	6 57	**	18 09	108
1	192	26.5		58.9	195	47.9	92		17.7	176	58	53	32	18	53	3	11	103
2	207	26.6		57.9	210	16.1	92	-8	00.1	177	56	54	31	14	50	6	13	99
3	222	26.8		56.9	224	44.3	93	-7	42.4	177	54	55	31	12	47	10	14	96
4	237	27.0		56.0	239	12.6	93		24.7	177	52	56	30	09	44	13	16	92
5	252	27.1	-3	55.0	253	40.9	93	-7	07.0	177	50	17 58	18 30	19 07	6 42	15	18 17	89
6	267	27.3	-3	54.0	268	09.2	93	-6	49.2	178	45	18 00	18 29	19 03	6 36	22	18 20	83
7	282	27.4		53.0	282	37.6	94		31.4	178	40	02	29	19 00	32	26	22	78
8	297	27.6		52.0	297	06.1	94	-6	13.5	179	35	04	29	18 58	28	30	24	73
9	312	27.8		51.1	311	34.5	95	-5	55.6	179	30	05	29	57	25	34	25	70
10	327	27.9		50.1	326	03.0	95		37.7	179	20	08	30	56	19	40	28	63
11	342	28.1	-3	49.1	340	31.6	96	-5	19.7	180	10 N	18 11	18 32	18 56	6 13	47	18 31	57
12	357	28.2	-3	48.1	355	00.2	96	-5	01.7	180	0	18 13	18 34	18 58	6 08	52	18 33	51
13	12	28.4		47.1	9	28.8	96	-4	43.7	180	10 S	16	37	19 02	6 03	58	35	46
14	27	28.6		46.1	23	57.5	96		25.6	181	20	19	41	07	5 58	63	37	41
15	42	28.7		45.2	38	26.1	96	-4	07.5	181	30	22	46	15	52	70	40	34
16	57	28.9		44.2	52	54.9	98	-3	49.5	180	35	25	50	20	48	74	42	29
17	72	29.1	-3	43.2	67	23.6	97	-3	31.3	182	40	18 27	18 54	19 26	5 44	79	18 43	26
18	87	29.2	-3	42.2	81	52.4	98	-3	13.2	181	45	18 30	18 59	19 34	5 40	83	18 45	21
19	102	29.4		41.2	96	21.2	98	-2	55.1	181	50	33	19 06	45	34	90	47	15
20	117	29.5		40.3	110	50.0	98		36.9	182	52	34	09	50	32	93	48	13
21	132	29.7		39.3	125	18.9	99		18.7	182	54	36	12	19 55	29	96	49	10
22	147	29.9		38.3	139	47.8	99	-2	00.6	181	56	38	16	20 02	26	99	51	6
23	162	30.0		37.3	154	16.7	99	-1	42.4	182	58	40	20	09	22	104	52	3
24	177	30.2	-3	36.3	168	45.6	99	-1	24.2	182	60 S	18 42	19 25	20 17	5 18	108	18 53	0
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 12 ^h 45.3 ^m		Mag: -3.8 PMG: 10 ^h 48 ^m			Mag: +1.2 PMG: 10 ^h 18 ^m			Mag: -2.2 PMG: 15 ^h 28 ^m			Mag: +1.0 PMG: 11 ^h 38 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	168	09.7	197	58.6	-13	15.2	205	29.1	-15	54.5	127	24.7	+14	52.4	185	03.5	-8	56.7
1	183	12.1	212	58.0		14.2	220	29.7		53.9	142	26.7		52.6	200	05.6		56.6
2	198	14.6	227	57.5		13.2	235	30.2		53.3	157	28.8		52.7	215	07.8		56.5
3	213	17.1	242	56.9		12.2	250	30.8		52.7	172	30.8		52.9	230	10.0		56.4
4	228	19.5	257	56.4		11.2	265	31.3		52.1	187	32.8		53.0	245	12.2		56.3
5	243	22.0	272	55.9	-13	10.2	280	31.9	-15	51.5	202	34.8	+14	53.2	260	14.4	-8	56.2
6	258	24.5	287	55.3	-13	09.2	295	32.4	-15	50.9	217	36.8	+14	53.3	275	16.5	-8	56.1
7	273	26.9	302	54.8		08.2	310	33.0		50.3	232	38.8		53.5	290	18.7		55.9
8	288	29.4	317	54.2		07.2	325	33.5		49.7	247	40.8		53.6	305	20.9		55.8
9	303	31.8	332	53.7		06.2	340	34.0		49.1	262	42.8		53.8	320	23.1		55.7
10	318	34.3	347	53.1		05.2	355	34.6		48.5	277	44.8		53.9	335	25.3		55.6
11	333	36.8	2	52.6	-13	04.2	10	35.1	-15	47.9	292	46.8	+14	54.1	350	27.4	-8	55.5
12	348	39.2	17	52.0	-13	03.2	25	35.7	-15	47.3	307	48.8	+14	54.2	5	29.6	-8	55.4
13	3	41.7	32	51.5		02.4	40	36.2		46.7	322	50.8		54.4	20	31.8		55.3
14	18	44.2	47	51.0		01.2	55	36.8		46.1	337	52.8		54.5	35	34.0		55.2
15	33	46.6	62	50.4	-13	00.2	70	37.3		45.5	352	54.8		54.7	50	36.2		55.0
16	48	49.1	77	49.9	-12	59.2	85	37.9		44.9	7	56.8		54.8	65	38.3		54.9
17	63	51.6	92	49.3	-12	58.2	100	38.4	-15	44.2	22	58.8	+14	55.0	80	40.5	-8	54.8
18	78	54.0	107	48.8	-12	57.2	115	39.0	-15	43.6	38	00.8	+14	55.1	95	42.7	-8	54.7
19	93	56.5	122	48.3		56.2	130	39.5		43.0	53	02.8		55.3	110	44.9		54.6
20	108	59.0	137	47.7		55.2	145	40.1		42.4	68	04.9		55.4	125	47.1		54.5
21	124	01.4	152	47.2		54.2	160	40.6		41.8	83	06.9		55.6	140	49.2		54.4
22	139	03.9	167	46.6		53.2	175	41.2		41.2	98	08.9		55.7	155	51.4		54.3
23	154	06.3	182	46.1		52.2	190	41.7		40.6	113	10.9		55.9	170	53.6		54.1
24	169	08.8	197	45.6	-12	51.2	205	42.2	-15	40.0	128	12.9	+14	56.0	185	55.8	-8	54.0
Dif	—		-5		+10		+5		+6		+20		+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 09.9 ^m			Edad: 0.6 ^d PHE { 4 ^h : 61/3 12 ^h : 61/2 20 ^h : 61/0 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	h m	m		
0	177	30.2	-3	36.3	168	45.6	99	-1	24.2	182	4 58	5 46	6 28	6 56	**	19 57	107	
1	192	30.4		35.3	183	14.5		-1	06.0	182	5 01	47	26	56	3	54	103	
2	207	30.5		34.4	197	43.5	100	-0	47.8	182	05	48	25	56	7	52	99	
3	222	30.7		33.4	212	12.5	100		29.6	182	07	48	24	57	9	50	95	
4	237	30.8		32.4	226	41.5	100	-0	11.4	182	10	49	22	57	13	48	92	
5	252	31.0	-3	31.4	241	10.5	100	+0	06.7	181	5 12	5 49	6 21	6 57	15	19 46	89	
6	267	31.2	-3	30.4	255	39.5	100	+0	24.9	182	5 16	5 50	6 19	6 58	20	19 43	82	
7	282	31.3		29.4	270	08.6	101	+0	43.1	182	19	50	17	58	26	40	77	
8	297	31.5		28.5	284	37.6	100	+1	01.2	181	21	50	16	58	30	37	73	
9	312	31.7		27.5	299	06.7	101		19.3	181	23	50	14	59	33	35	69	
10	327	31.8		26.5	313	35.8	101		37.4	181	24	49	11	6 59	40	31	63	
11	342	32.0	-3	25.5	328	04.9	101	+1	55.5	181	5 24	5 48	6 09	7 00	45	19 28	56	
12	357	32.2	-3	24.5	342	34.0	101	+2	13.6	181	5 22	5 46	6 07	7 00	51	19 24	52	
13	12	32.3		23.5	357	03.1	101		31.6	180	19	43	04	01	56	21	46	
14	27	32.5		22.6	11	32.2	101	+2	49.7	181	13	39	6 01	01	63	18	40	
15	42	32.7		21.6	26	01.3	101	+3	07.7	180	06	34	5 58	02	69	14	34	
16	57	32.8		20.6	40	30.4	101		25.6	179	5 01	31	56	02	74	11	31	
17	72	33.0	-3	19.6	54	59.5	101	+3	43.6	180	4 54	5 27	5 54	7 03	77	19 09	26	
18	87	33.2	-3	18.6	69	28.6	101	+4	01.5	178	4 46	5 22	5 51	7 03	83	19 06	22	
19	102	33.3		17.6	83	57.7	101		19.3	179	36	15	48	04	89	02	16	
20	117	33.5		16.6	98	26.8	101		37.2	179	31	12	46	05	91	19 01	13	
21	132	33.7		15.7	112	55.9	101	+4	55.0	178	26	09	45	05	95	18 59	10	
22	147	33.8		14.7	127	25.0	101	+5	12.7	177	19	05	43	05	99	57	7	
23	162	34.0		13.7	141	54.1	101		30.4	177	12	5 01	41	06	102	55	3	
24	177	34.2	-3	12.7	156	23.2	101	+5	48.1	177	4 04	4 56	5 39	7 06	107	18 53	**	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 12 ^h 41.3 ^m		Mag: -3.8 PMG: 10 ^h 49 ^m			Mag: +1.2 PMG: 10 ^h 17 ^m			Mag: -2.2 PMG: 15 ^h 25 ^m			Mag: +1.0 PMG: 11 ^h 35 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	169	08.8	197	45.6	-12	51.2	205	42.2	-15	40.0	128	12.9	+14	56.0	185	55.8	-8	54.0
1	184	11.3	212	45.0		50.2	220	42.8		39.4	143	14.9		56.2	200	58.0		53.9
2	199	13.7	227	44.5		49.1	235	43.3		38.8	158	16.9		56.3	216	00.1		53.8
3	214	16.2	242	44.0		48.1	250	43.9		38.2	173	18.9		56.5	231	02.3		53.7
4	229	18.7	257	43.4		47.1	265	44.4		37.6	188	20.9		56.6	246	04.5		53.6
5	244	21.1	272	42.9	-12	46.1	280	45.0	-15	37.0	203	22.9	+14	56.8	261	06.7	-8	53.5
6	259	23.6	287	42.3	-12	45.1	295	45.5	-15	36.4	218	24.9	+14	56.9	276	08.9	-8	53.4
7	274	26.1	302	41.8		44.1	310	46.1		35.8	233	26.9		57.1	291	11.0		53.2
8	289	28.5	317	41.3		43.1	325	46.6		35.1	248	28.9		57.2	306	13.2		53.1
9	304	31.0	332	40.7		42.1	340	47.2		34.5	263	30.9		57.4	321	15.4		53.0
10	319	33.4	347	40.2		41.0	355	47.7		33.9	278	32.9		57.5	336	17.6		52.9
11	334	35.9	2	39.7	-12	40.0	10	48.3	-15	33.3	293	34.9	+14	57.6	351	19.8	-8	52.8
12	349	38.4	17	39.1	-12	39.0	25	48.8	-15	32.7	308	36.9	+14	57.8	6	21.9	-8	52.7
13	4	40.8	32	38.6		38.0	40	49.4		32.1	323	38.9		57.9	21	24.1		52.6
14	19	43.3	47	38.1		37.0	55	49.9		31.5	338	40.9		58.1	36	26.3		52.5
15	34	45.8	62	37.6		36.0	70	50.5		30.9	353	42.9		58.2	51	28.5		52.4
16	49	48.2	77	37.0		34.9	85	51.0		30.3	8	44.9		58.4	66	30.7		52.2
17	64	50.7	92	36.5	-12	33.9	100	51.6	-15	29.6	23	46.9	+14	58.5	81	32.8	-8	52.1
18	79	53.2	107	36.0	-12	32.9	115	52.1	-15	29.0	38	48.9	+14	58.7	96	35.0	-8	52.0
19	94	55.6	122	35.4		31.9	130	52.7		28.4	53	50.9		58.8	111	37.2		51.9
20	109	58.1	137	34.9		30.9	145	53.2		27.8	68	52.9		59.0	126	39.4		51.8
21	125	00.6	152	34.4		29.8	160	53.8		27.2	83	54.9		59.1	141	41.6		51.7
22	140	03.0	167	33.8		28.8	175	54.3		26.6	98	56.9		59.3	156	43.7		51.6
23	155	05.5	182	33.3		27.8	190	54.9		26.0	113	58.9		59.4	171	45.9		51.5
24	170	07.9	197	32.8	-12	26.8	205	55.5	-15	25.4	129	00.9	+14	59.6	186	48.1	-8	51.3
Dif	—		-5	+10			+6	+6			+20	+1		+22		+1		

UT	SOL			● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 09.6 ^m			Edad: 1.6 ^d PHE { 4 ^h : 60'9 12 ^h : 60'6 20 ^h : 60'4 PMG: 14 ^h 04 ^m 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	177 34.2	-3 12.7		156 23.2		+5 48.1		60 N	17 56	18 37	19 26	6 55 0		21 44 109		
1	192 34.3	11.7		170 52.3	101	+6 05.7	176	58	57	36	22	6 59 4		37 103		
2	207 34.5	10.7		185 21.4	101		23.3	56	58	35	19	7 03 8		31 98		
3	222 34.7	09.8		199 50.4	100		40.8	54	17 59	34	16	06 12		25 95		
4	237 34.8	08.8		214 19.5	101	+6 58.3	175	52	18 00	34	13	10 14		20 91		
5	252 35.0	-3 07.8		228 48.5	100	+7 15.7	174	50	18 01	18 33	19 11	7 12 17		21 15 89		
6	267 35.2	-3 06.8		243 17.5	100	+7 33.0	173	45	18 03	18 32	19 06	7 18 23		21 05 82		
7	282 35.3	05.8		257 46.5	100	+7 50.3	173	40	04	31	03	24 27		20 57 77		
8	297 35.5	04.8		272 15.5	100	+8 07.6	173	35	05	31	19 00	28 32		50 73		
9	312 35.7	03.8		286 44.5	100		24.7	30	07	31	18 58	32 35		44 69		
10	327 35.8	02.9		301 13.5	100		41.9	20	09	31	56	39 42		34 62		
11	342 36.0	-3 01.9		315 42.4	99	+8 58.9	170	10 N	18 11	18 32	18 56	7 45 47		20 24 58		
12	357 36.2	-3 00.9		330 11.3	99	+9 15.9	170	0	18 13	18 34	18 58	7 51 52		20 16 52		
13	12 36.3	-2 59.9		344 40.2	99		32.8	10 S	15	36	19 00	7 57 57		20 07 48		
14	27 36.5	58.9		359 09.1	99	+9 49.6	168	20	17	39	05	8 04 62		19 58 43		
15	42 36.7	57.9		13 38.0	99	+10 06.4	168	30	20	44	12	11 69		48 36		
16	57 36.8	56.9		28 06.8	98		23.1	35	22	47	17	16 72		42 33		
17	72 37.0	-2 56.0		42 35.6	98	+10 39.7	166	40	18 24	18 51	19 23	8 20 78		19 35 29		
18	87 37.2	-2 55.0		57 04.4	98	+10 56.3	166	45	18 26	18 55	19 30	8 26 82		19 28 24		
19	102 37.3	54.0		71 33.1	97	+11 12.7	164	50	29	19 01	40	33 89		18 18		
20	117 37.5	53.0		86 01.9	98		29.1	52	30	04	44	36 92		14 15		
21	132 37.7	52.0		100 30.6	97	+11 45.4	163	54	31	07	50	40 95		09 13		
22	147 37.9	51.0		114 59.3	97	+12 01.6	162	56	33	10	19 56	44 99		19 04 9		
23	162 38.0	50.0		129 27.9	96		17.8	58	34	14	20 03	48 104		18 58 5		
24	177 38.2	-2 49.1		143 56.5	96	+12 33.8	160	60 S	18 36	19 19	20 10	8 53 109		18 52 0		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 12 ^h 37.4 ^m		Mag: -3.8 PMG: 10 ^h 50 ^m		Mag: +1.2 PMG: 10 ^h 16 ^m		Mag: -2.2 PMG: 15 ^h 22 ^m		Mag: +1.0 PMG: 11 ^h 31 ^m							
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	170 07.9		197 32.8	-12 26.8	205 55.5	-15 25.4	129 00.9	+14 59.6	186 48.1	-8 51.3						
1	185 10.4		212 32.3	25.7	220 56.0	24.7	144 02.9	59.7	201 50.3	51.2						
2	200 12.9		227 31.7	24.7	235 56.6	24.1	159 04.9	+14 59.9	216 52.5	51.1						
3	215 15.3		242 31.2	23.7	250 57.1	23.5	174 06.9	+15 00.0	231 54.6	51.0						
4	230 17.8		257 30.7	22.7	265 57.7	22.9	189 08.9	+15 00.2	246 56.8	50.9						
5	245 20.3		272 30.2	-12 21.6	280 58.2	-15 22.3	204 10.9	+15 00.3	261 59.0	-8 50.8						
6	260 22.7		287 29.6	-12 20.6	295 58.8	-15 21.7	219 12.9	+15 00.5	277 01.2	-8 50.7						
7	275 25.2		302 29.1	19.6	310 59.3	21.1	234 14.9	00.6	292 03.4	50.6						
8	290 27.7		317 28.6	18.6	325 59.9	20.4	249 16.9	00.8	307 05.5	50.4						
9	305 30.1		332 28.1	17.5	341 00.4	19.8	264 18.9	00.9	322 07.7	50.3						
10	320 32.6		347 27.5	16.5	356 01.0	19.2	279 20.9	01.1	337 09.9	50.2						
11	335 35.1		2 27.0	-12 15.5	11 01.5	-15 18.6	294 22.9	+15 01.2	352 12.1	-8 50.1						
12	350 37.5		17 26.5	-12 14.4	26 02.1	-15 18.0	309 24.9	+15 01.4	7 14.3	-8 50.0						
13	5 40.0		32 26.0	13.4	41 02.6	17.4	324 26.9	01.5	22 16.4	49.9						
14	20 42.4		47 25.5	12.4	56 03.2	16.7	339 28.9	01.7	37 18.6	49.8						
15	35 44.9		62 24.9	11.3	71 03.8	16.1	354 30.9	01.8	52 20.8	49.7						
16	50 47.4		77 24.4	10.3	86 04.3	15.5	9 32.8	02.0	67 23.0	49.5						
17	65 49.8		92 23.9	-12 09.3	101 04.9	-15 14.9	24 34.8	+15 02.1	82 25.2	-8 49.4						
18	80 52.3		107 23.4	-12 08.2	116 05.4	-15 14.3	39 36.8	+15 02.3	97 27.3	-8 49.3						
19	95 54.8		122 22.9	07.2	131 06.0	13.7	54 38.8	02.4	112 29.5	49.2						
20	110 57.2		137 22.3	06.2	146 06.5	13.0	69 40.8	02.6	127 31.7	49.1						
21	125 59.7		152 21.8	05.1	161 07.1	12.4	84 42.8	02.7	142 33.9	49.0						
22	141 02.2		167 21.3	04.1	176 07.6	11.8	99 44.8	02.9	157 36.1	48.9						
23	156 04.6		182 20.8	03.1	191 08.2	11.2	114 46.8	03.0	172 38.2	48.8						
24	171 07.1		197 20.3	-12 02.0	206 08.8	-15 10.6	129 48.8	+15 03.2	187 40.4	-8 48.7						
Dif	—		-5	+10	+6	+6	+20	+1	+22	+						

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG:12 ^h 09.3 ^m			Edad: 2.6 ^d PHE { 4 ^h : 60 ^h 1 12 ^h : 59 ^h 9 20 ^h : 59 ^h 6 Rº: 54 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	
0	177	38.2	-2	49.1	143	56.5	96	+12	33.8	60 N	4	51	5	40	6	22	6	55	
1	192	38.4		48.1	158	25.1	95	+12	49.8	58		56		42	20	7	03	6	
2	207	38.5		47.1	172	53.6	96	+13	05.6	56	4	59		43	20	11	10		
3	222	38.7		46.1	187	22.2	96		21.4	54	5	02		44	19	18	14	23	
4	237	38.9		45.1	201	50.7	95		37.1	52		05		44	18	24	17	22	
5	252	39.0	-2	44.1	216	19.1	94	+13	52.6	50	5	07	5	45	6	17	7	29	
6	267	39.2	-2	43.1	230	47.5	94	+14	08.1	45	5	12	5	46	6	16	7	41	
7	282	39.4		42.2	245	15.9	94		23.5	40		16		47	14	7	51	31	
8	297	39.6		41.2	259	44.2	93		38.8	35		18		48	13	8	00	34	
9	312	39.7		40.2	274	12.6	94	+14	54.0	30		20		48	12	07	38	21	
10	327	39.9		39.2	288	40.8	92	+15	09.1	20		22		48	10	21	43	36	
11	342	40.1	-2	38.2	303	09.1	93	+15	24.0	10 N	5	23	5	47	6	08	8	32	
12	357	40.2	-2	37.2	317	37.3	92	+15	38.9	0	5	21	5	45	6	06	8	43	
13	12	40.4		36.2	332	05.4	91	+15	53.7	10 S		19		43	04	8	54	58	
14	27	40.6		35.3	346	33.5	91	+16	08.3	20		14		40	6	02	9	06	
15	42	40.8		34.3	1	01.6	91		22.9	30		07		35	5	59	20	69	
16	57	40.9		33.3	15	29.6	90		37.3	35	5	03		32	58	28	73	15	
17	72	41.1	-2	32.3	29	57.6	90	+16	51.6	40	4	57	5	29	5	56	9	38	
18	87	41.3	-2	31.3	44	25.6	90	+17	05.8	45	4	49	5	24	5	54	9	48	
19	102	41.4		30.3	58	53.5	89		19.9	50		40		19	51	10	02	88	
20	117	41.6		29.3	73	21.4	89		33.9	52		35		16	50	08	91	29	
21	132	41.8		28.3	87	49.2	88	+17	47.7	54		30		13	49	15	94	22	
22	147	42.0		27.4	102	17.0	88	+18	01.4	56		24		10	47	23	99	13	
23	162	42.1		26.4	116	44.7	87		15.1	58		17		06	46	32	103	19	
24	177	42.3	-2	25.4	131	12.4	87	+18	28.5	60 S	4	10	5	01	5	44	10	42	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 12 ^h 33.5 ^m		Mag: -3.8 PMG: 10 ^h 51 ^m			Mag: +1.2 PMG: 10 ^h 15 ^m			Mag: -2.2 PMG: 15 ^h 19 ^m			Mag: +1.0 PMG: 11 ^h 28 ^m					
	hG ♊		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	171	07.1	197	20.3	-12	02.0	206	08.8	-15	10.6	129	48.8	+15	03.2	187	40.4	
1	186	09.5	212	19.7	-12	01.0	221	09.3		09.9	144	50.8		03.3	202	42.6	
2	201	12.0	227	19.2	-11	59.9	236	09.9		09.3	159	52.8		03.5	217	44.8	
3	216	14.5	242	18.7		58.9	251	10.4		08.7	174	54.8		03.6	232	47.0	
4	231	16.9	257	18.2		57.9	266	11.0		08.1	189	56.8		03.8	247	49.2	
5	246	19.4	272	17.7	-11	56.8	281	11.5	-15	07.5	204	58.8	+15	03.9	262	51.3	
6	261	21.9	287	17.2	-11	55.8	296	12.1	-15	06.8	220	00.8	+15	04.1	277	53.5	
7	276	24.3	302	16.7		54.7	311	12.7		06.2	235	02.8		04.2	292	55.7	
8	291	26.8	317	16.1		53.7	326	13.2		05.6	250	04.8		04.4	307	57.9	
9	306	29.3	332	15.6		52.7	341	13.8		05.0	265	06.8		04.5	323	00.1	
10	321	31.7	347	15.1		51.6	356	14.3		04.3	280	08.8		04.7	338	02.2	
11	336	34.2	2	14.6	-11	50.6	11	14.9	-15	03.7	295	10.7	+15	04.8	353	04.4	
12	351	36.7	17	14.1	-11	49.5	26	15.4	-15	03.1	310	12.7	+15	05.0	8	06.6	
13	6	39.1	32	13.6		48.5	41	16.0		02.5	325	14.7		05.1	23	08.8	
14	21	41.6	47	13.1		47.4	56	16.6		01.9	340	16.7		05.3	38	11.0	
15	36	44.0	62	12.6		46.4	71	17.1		01.2	355	18.7		05.4	53	13.1	
16	51	46.5	77	12.0		45.3	86	17.7	-15	00.6	10	20.7		05.6	68	15.3	
17	66	49.0	92	11.5	-11	44.3	101	18.2	-15	00.0	25	22.7	+15	05.7	83	17.5	
18	81	51.4	107	11.0	-11	43.3	116	18.8	-14	59.4	40	24.7	+15	05.9	98	19.7	
19	96	53.9	122	10.5		42.2	131	19.4		58.7	55	26.7		06.0	113	21.9	
20	111	56.4	137	10.0		41.2	146	19.9		58.1	70	28.7		06.2	128	24.0	
21	126	58.8	152	09.5		40.1	161	20.5		57.5	85	30.7		06.3	143	26.2	
22	142	01.3	167	09.0		39.1	176	21.0		56.9	100	32.7		06.5	158	28.4	
23	157	03.8	182	08.5		38.0	191	21.6		56.2	115	34.7		06.6	173	30.6	
24	172	06.2	197	08.0	-11	37.0	206	22.2	-14	55.6	130	36.6	+15	06.8	188	32.8	
Dif	—		-5		+10		+6		+6		+20		+2		+22		+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/1 PMG:12 ^h 09.0 ^m			Edad: 3.6 ^d PHE { 4 ^h : 59/3 12 ^h : 59/0 20 ^h : 58/6 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	177	42.3	-2	25.4	131	12.4	87	+18	28.5	18 01	18 42	19 32	6 56	3	**	**	**
1	192	42.5		24.4	145	40.1	86		41.9	02	41	27	7 09	11	**	**	**
2	207	42.6		23.4	160	07.7	86	+18	55.1	02	39	23	21	16	**	**	**
3	222	42.8		22.4	174	35.3	86	+19	08.2	03	38	20	32	20	**	**	**
4	237	43.0		21.4	189	02.8	85		21.2	03	37	17	41	23	**	**	**
5	252	43.2	-2	20.4	203	30.3	85	+19	34.1	18 04	18 36	19 14	7 49	27	**	**	**
6	267	43.3	-2	19.5	217	57.7	84	+19	46.8	18 05	18 34	19 09	8 07	32	23	48	75
7	282	43.5		18.5	232	25.1	84	+19	59.4	06	33	05	22	36	30	72	
8	297	43.7		17.5	246	52.5	84	+20	11.9	07	32	02	34	40	15	69	
9	312	43.9		16.5	261	19.8	83		24.2	08	32	19 00	8 45	43	23	02	66
10	327	44.0		15.5	275	47.0	82		36.4	09	31	18 57	9 04	48	22	40	62
11	342	44.2	-2	14.5	290	14.2	82	+20	48.4	18 11	18 32	18 56	9 21	51	22	21	59
12	357	44.4	-2	13.5	304	41.4	82	+21	00.3	18 12	18 33	18 57	9 37	55	22	03	56
13	12	44.5		12.5	319	08.5	81		12.1	14	35	18 59	9 52	59	21	45	53
14	27	44.7		11.6	333	35.6	81		23.8	16	38	19 03	10 09	63	26	50	
15	42	44.9		10.6	348	02.7	81		35.3	18	42	10	29	68	21	05	45
16	57	45.1		09.6	2	29.7	80		46.6	19	44	14	41	70	20	52	43
17	72	45.2	-2	08.6	16	56.6	79	+21	57.8	18 20	18 48	19 19	10 54	74	20	37	40
18	87	45.4	-2	07.6	31	23.6	80	+22	08.9	18 22	18 52	19 26	11 10	78	20	20	36
19	102	45.6		06.6	45	50.4	78		19.8	24	57	35	30	84	19	59	31
20	117	45.8		05.6	60	17.3	79		30.6	25	59	39	39	87	49	28	
21	132	45.9		04.6	74	44.1	78		41.3	26	59	44	11	49	92	38	24
22	147	46.1		03.7	89	10.8	77	+22	51.8	28	05	50	12	02	95	25	20
23	162	46.3		02.7	103	37.5	77	+23	02.1	29	08	19 56	15 102	19	11	13	
24	177	46.5	-2	01.7	118	04.2	77	+23	12.3	18 30	19 12	20 04	12 32	111	18	53	5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 12 ^h 29.5 ^m		Mag: -3.8 PMG: 10 ^h 52 ^m		Mag: +1.2 PMG: 10 ^h 14 ^m		Mag: -2.2 PMG: 15 ^h 16 ^m		Mag: +1.0 PMG: 11 ^h 24 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	172	06.2	197	08.0	-11	37.0	206	22.2	-14	55.6	130	36.6	+15	06.8	188	32.8	-8	46.0
1	187	08.7	212	07.5		35.9	221	22.7		55.0	145	38.6		06.9	203	35.0		45.9
2	202	11.1	227	07.0		34.9	236	23.3		54.4	160	40.6		07.1	218	37.1		45.7
3	217	13.6	242	06.5		33.8	251	23.8		53.7	175	42.6		07.2	233	39.3		45.6
4	232	16.1	257	05.9		32.8	266	24.4		53.1	190	44.6		07.4	248	41.5		45.5
5	247	18.5	272	05.4	-11	31.7	281	25.0	-14	52.5	205	46.6	+15	07.6	263	43.7	-8	45.4
6	262	21.0	287	04.9	-11	30.6	296	25.5	-14	51.8	220	48.6	+15	07.7	278	45.9	-8	45.3
7	277	23.5	302	04.4		29.6	311	26.1		51.2	235	50.6		07.9	293	48.0		45.2
8	292	25.9	317	03.9		28.5	326	26.6		50.6	250	52.6		08.0	308	50.2		45.1
9	307	28.4	332	03.4		27.5	341	27.2		50.0	265	54.6		08.2	323	52.4		45.0
10	322	30.9	347	02.9		26.4	356	27.8		49.3	280	56.5		08.3	338	54.6		44.9
11	337	33.3	2	02.4	-11	25.4	11	28.3	-14	48.7	295	58.5	+15	08.5	353	56.8	-8	44.7
12	352	35.8	17	01.9	-11	24.3	26	28.9	-14	48.1	311	00.5	+15	08.6	8	59.0	-8	44.6
13	7	38.3	32	01.4		23.3	41	29.5		47.4	326	02.5		08.8	24	01.1		44.5
14	22	40.7	47	00.9		22.2	56	30.0		46.8	341	04.5		08.9	39	03.3		44.4
15	37	43.2	62	00.4		21.1	71	30.6		46.2	356	06.5		09.1	54	05.5		44.3
16	52	45.6	76	59.9		20.1	86	31.1		45.6	11	08.5		09.2	69	07.7		44.2
17	67	48.1	91	59.4	-11	19.0	101	31.7	-14	44.9	26	10.5	+15	09.4	84	09.9	-8	44.1
18	82	50.6	106	58.9	-11	18.0	116	32.3	-14	44.3	41	12.5	+15	09.5	99	12.0	-8	44.0
19	97	53.0	121	58.4		16.9	131	32.8		43.7	56	14.4		09.7	114	14.2		43.9
20	112	55.5	136	57.9		15.8	146	33.4		43.0	71	16.4		09.8	129	16.4		43.7
21	127	58.0	151	57.4		14.8	161	34.0		42.4	86	18.4		10.0	144	18.6		43.6
22	143	00.4	166	56.9		13.7	176	34.5		41.8	101	20.4		10.1	159	20.8		43.5
23	158	02.9	181	56.4		12.6	191	35.1		41.1	116	22.4		10.3	174	23.0		43.4
24	173	05.4	196	55.9	-11	11.6	206	35.7	-14	40.5	131	24.4	+15	10.4	189	25.1	-8	43.3
Dif	—		-5		+11		+6		+6		+20		+2		+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 08.8 ^m			Edad: 4.6 ^d PHE { 4 ^h : 58 ^h /3 12 ^h : 58 ^h /0 20 ^h : 57 ^h /7 R°: 57 ^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	177	46.5	-2	01.7	118	04.2	+23	12.3	60 N	4 45	5 34	6 16	6 59 10	1 24 107			
1	192	46.6	-2	00.7	132	30.9		22.3	58	50	36	15	7 20 19	1 04 97			
2	207	46.8	-1	59.7	146	57.4		32.2	56	54	37	14	37 25	0 47 92			
3	222	47.0		58.7	161	24.0		42.0	54	57	39	14	7 52 29	33 87			
4	237	47.2		57.7	175	50.5	+23	51.6	52	00	40	13	8 04 33	21 84			
5	252	47.3	-1	56.7	190	17.0	+24	01.0	50	03	5 41	6 13	8 16 35	0 10 81			
6	267	47.5	-1	55.8	204	43.5	+24	10.3	45	08	5 43	6 12	8 39 40	*** ** *			
7	282	47.7		54.8	219	09.9		19.4	40	13	44	11	8 58 43	*** ** *			
8	297	47.9		53.8	233	36.3		28.4	35	16	45	10	9 14 46	*** ** *			
9	312	48.1		52.8	248	02.6		37.2	30	18	46	09	28 48	*** ** *			
10	327	48.2		51.8	262	28.9		45.9	20	21	46	08	9 52 51	23 42 60			
11	342	48.4	-1	50.8	276	55.2	+24	54.4	10 N	5 21	5 46	6 07	10 12 54	23 20 58			
12	357	48.6	-1	49.8	291	21.5	+25	02.8	0	5 21	5 45	6 05	10 32 56	22 59 57			
13	12	48.8		48.8	305	47.7		10.9	10 S	19	43	04	10 51 59	38 55			
14	27	48.9		47.8	320	13.9		19.0	20	15	40	02	11 12 62	22 16 53			
15	42	49.1		46.9	334	40.0		26.9	30	09	37	6 01	37 65	21 50 50			
16	57	49.3		45.9	349	06.2		34.6	35	04	34	5 59	11 51 67	35 49			
17	72	49.5	-1	44.9	3	32.3	+25	42.1	40	4 59	5 31	5 58	12 08 69	21 17 47			
18	87	49.6	-1	43.9	17	58.4	+25	49.5	45	4 52	5 27	5 56	12 28 72	20 56 45			
19	102	49.8		42.9	32	24.4	+25	56.7	50	43	22	54	12 54 76	30 40			
20	117	50.0		41.9	46	50.5	+26	03.8	52	39	20	54	13 06 79	17 38			
21	132	50.2		40.9	61	16.5		10.7	54	34	17	53	21 81	20 02 36			
22	147	50.3		39.9	75	42.5		17.5	56	29	14	51	37 86	19 45 32			
23	162	50.5		39.0	90	08.5		24.1	58	23	11	50	13 57 92	19 24 27			
24	177	50.7	-1	38.0	104	34.4	+26	30.5	60 S	4 15	5 07	5 49	14 23 103	18 58 16			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 ^h 25.6 ^m		Mag: -3.8 PMG: 10 ^h 53 ^m		Mag: +1.2 PMG: 10 ^h 13 ^m		Mag: -2.2 PMG: 15 ^h 12 ^m		Mag: +1.0 PMG: 11 ^h 21 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	173	05.4	196	55.9	-11	11.6	206	35.7	-14	40.5
1	188	07.8	211	55.4		10.5	221	36.2		39.9
2	203	10.3	226	54.9		09.5	236	36.8		39.2
3	218	12.8	241	54.4		08.4	251	37.3		38.6
4	233	15.2	256	53.9		07.3	266	37.9		38.0
5	248	17.7	271	53.4	-11	06.3	281	38.5	-14	37.3
6	263	20.1	286	52.9	-11	05.2	296	39.0	-14	36.7
7	278	22.6	301	52.4		04.1	311	39.6		36.1
8	293	25.1	316	51.9		03.1	326	40.2		35.4
9	308	27.5	331	51.4		02.0	341	40.7		34.8
10	323	30.0	346	51.0	-11	00.9	356	41.3		34.2
11	338	32.5	1	50.5	-10	59.8	11	41.9	-14	33.5
12	353	34.9	16	50.0	-10	58.8	26	42.4	-14	32.9
13	8	37.4	31	49.5		57.7	41	43.0		32.3
14	23	39.9	46	49.0		56.6	56	43.6		31.6
15	38	42.3	61	48.5		55.6	71	44.1		31.0
16	53	44.8	76	48.0		54.5	86	44.7		30.4
17	68	47.3	91	47.5	-10	53.4	101	45.3	-14	29.7
18	83	49.7	106	47.0	-10	52.3	116	45.8	-14	29.1
19	98	52.2	121	46.5		51.3	131	46.4		28.5
20	113	54.6	136	46.0		50.2	146	47.0		27.8
21	128	57.1	151	45.5		49.1	161	47.5		27.2
22	143	59.6	166	45.1		48.0	176	48.1		26.5
23	159	02.0	181	44.6		47.0	191	48.7		25.9
24	174	04.5	196	44.1	-10	45.9	206	49.2	-14	25.3
Dif	—		-5		+11		+6		+6	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG:12 ^h 08.5 ^m			Edad: 5.6 ^d PHE { 4 ^h : 57.4 12 ^h : 57.1 20 ^h : 56.8 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	h m m				
0	177	50.7	-1	38.0	104	34.4	70	+26	30.5	62	60 N	18 06	18 47	19 37	7 09	28	3 11	91		
1	192	50.9		37.0	119	00.4	69		36.7	61	58	06	45	32	7 39	37	2 41	82		
2	207	51.1		36.0	133	26.3	69		42.8	60	56	06	44	27	8 02	41	19	77		
3	222	51.2		35.0	147	52.2	69		48.8	57	54	07	42	24	21	44	2 00	74		
4	237	51.4		34.0	162	18.1	69	+26	54.5	56	52	07	41	20	37	46	1 45	72		
5	252	51.6	-1	33.0	176	44.0	69	+27	00.1	56	50	18 07	18 39	19 17	8 51	47	1 31	70		
6	267	51.8	-1	32.0	191	09.9	69	+27	05.5	54	45	18 08	18 37	19 11	9 19	50	1 03	68		
7	282	51.9		31.0	205	35.8	69		10.8	53	40	08	35	07	9 41	51	0 42	65		
8	297	52.1		30.1	220	01.7	69		15.9	51	35	09	34	03	10 00	52	24	63		
9	312	52.3		29.1	234	27.5	69		20.9	50	30	09	33	19 01	16	53	0 08	63		
10	327	52.5		28.1	248	53.4	69		25.6	47	20	10	32	18 58	10 43	54	** ** *	**		
11	342	52.7	-1	27.1	263	19.2	68	+27	30.2	46	10 N	18 11	18 32	18 56	11 06	56	** ** *	**		
12	357	52.8	-1	26.1	277	45.1	69	+27	34.7	45	0	18 12	18 32	18 56	11 28	57	23 56	56		
13	12	53.0		25.1	292	10.9	68		39.0	43	10 S	13	34	18 58	11 50	58	33	56		
14	27	53.2		24.1	306	36.8	69		43.1	41	20	14	36	19 02	12 14	58	23 09	55		
15	42	53.4		23.1	321	02.6	68		47.0	39	30	15	39	07	42	59	22 40	56		
16	57	53.6		22.1	335	28.5	69		50.8	38	35	16	41	11	12 58	60	24	55		
17	72	53.7	-1	21.2	349	54.4	69	+27	54.4	36	40	18 17	18 44	19 16	13 17	61	22 04	55		
18	87	53.9	-1	20.2	4	20.2	68	+27	57.8	34	45	18 18	18 48	19 22	13 40	62	21 41	54		
19	102	54.1		19.2	18	46.1	69	+28	01.1	33	50	20	52	31	14 10	63	21 10	54		
20	117	54.3		18.2	33	12.0	69		04.2	31	52	21	54	35	25	64	20 55	53		
21	132	54.5		17.2	47	37.9	69		07.2	30	54	21	57	39	14 42	65	38	52		
22	147	54.6		16.2	62	03.8	69		10.0	28	56	22	18 59	44	15 03	66	20 17	51		
23	162	54.8		15.2	76	29.8	70		12.6	26	58	23	19 03	50	15 29	69	19 51	49		
24	177	55.0	-1	14.2	90	55.7	69	+28	15.1	25	60 S	18 24	19 06	19 57	16 06	74	19 14	44		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 12 ^h 21.7 ^m		Mag: -3.8 PMG: 10 ^h 53 ^m			Mag: +1.2 PMG: 10 ^h 12 ^m			Mag: -2.2 PMG: 15 ^h 09 ^m			Mag: +1.0 PMG: 11 ^h 17 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'								
0	174	04.5	196	44.1	-10	45.9	206	49.2	-14	25.3	132	12.0	+15	14.1	190	17.5	-8	40.6		
1	189	07.0	211	43.6		44.8	221	49.8		24.6	147	14.0		14.2	205	19.7		40.5		
2	204	09.4	226	43.1		43.7	236	50.4		24.0	162	16.0		14.4	220	21.9		40.4		
3	219	11.9	241	42.6		42.7	251	51.0		23.3	177	18.0		14.5	235	24.1		40.3		
4	234	14.4	256	42.1		41.6	266	51.5		22.7	192	19.9		14.7	250	26.2		40.2		
5	249	16.8	271	41.6	-10	40.5	281	52.1	-14	22.1	207	21.9	+15	14.8	265	28.4	-8	40.1		
6	264	19.3	286	41.2	-10	39.4	296	52.7	-14	21.4	222	23.9	+15	15.0	280	30.6	-8	40.0		
7	279	21.7	301	40.7		38.4	311	53.2		20.8	237	25.9		15.1	295	32.8		39.9		
8	294	24.2	316	40.2		37.3	326	53.8		20.2	252	27.9		15.3	310	35.0		39.7		
9	309	26.7	331	39.7		36.2	341	54.4		19.5	267	29.9		15.4	325	37.2		39.6		
10	324	29.1	346	39.2		35.1	356	54.9		18.9	282	31.8		15.6	340	39.3		39.5		
11	339	31.6	1	38.7	-10	34.0	11	55.5	-14	18.2	297	33.8	+15	15.7	355	41.5	-8	39.4		
12	354	34.1	16	38.2	-10	32.9	26	56.1	-14	17.6	312	35.8	+15	15.9	10	43.7	-8	39.3		
13	9	36.5	31	37.8		31.9	41	56.7		16.9	327	37.8		16.0	25	45.9		39.2		
14	24	39.0	46	37.3		30.8	56	57.2		16.3	342	39.8		16.2	40	48.1		39.1		
15	39	41.5	61	36.8		29.7	71	57.8		15.7	357	41.7		16.3	55	50.3		39.0		
16	54	43.9	76	36.3		28.6	86	58.4		15.0	12	43.7		16.5	70	52.4		38.9		
17	69	46.4	91	35.8	-10	27.5	101	58.9	-14	14.4	27	45.7	+15	16.6	85	54.6	-8	38.7		
18	84	48.9	106	35.3	-10	26.4	116	59.5	-14	13.7	42	47.7	+15	16.8	100	56.8	-8	38.6		
19	99	51.3	121	34.9		25.4	132	00.1		13.1	57	49.7		17.0	115	59.0		38.5		
20	114	53.8	136	34.4		24.3	147	00.7		12.5	72	51.6		17.1	131	01.2		38.4		
21	129	56.2	151	33.9		23.2	162	01.2		11.8	87	53.6		17.3	146	03.4		38.3		
22	144	58.7	166	33.4		22.1	177	01.8		11.2	102	55.6		17.4	161	05.5		38.2		
23	160	01.2	181	32.9		21.0	192	02.4		10.5	117	57.6		17.6	176	07.7		38.1		
24	175	03.6	196	32.5	-10	19.9	207	02.9	-14	09.9	132	59.6	+15	17.7	191	09.9	-8	38.0		
Dif	—		-5		+11		+6		+6		+20		+2		+22		+			

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG:12 ^h 08.2 ^m			Edad: 6.6 ^d PHE { 4 ^h : 56/5 12 ^h : 56/2 20 ^h : 56/0 SD: 15 ^h 4 PMG: 18 ^h 38 ^m 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	177	55.0	-1	14.2	90	55.7	70	+28	15.1	22	60 N	4	39	5	28	6	09	7	37
1	192	55.2		13.3	105	21.7	70		17.3	22	58		44		30	09	8	16	62
2	207	55.4		12.3	119	47.7	70		19.5	19	56		48		32	09	8	43	61
3	222	55.5		11.3	134	13.7	70		21.4	19	54		52		34	09	9	05	60
4	237	55.7		10.3	148	39.7	70		23.2	18	52		56		35	09		23	59
5	252	55.9	-1	09.3	163	05.8	71	+28	24.9	17	50	4	59	5	36	6	08	9	38
6	267	56.1	-1	08.3	177	31.8	70	+28	26.3	14	45	5	05	5	39	6	08	10	09
7	282	56.3		07.3	191	58.0	72		27.7	14	40		09		41	08		32	58
8	297	56.4		06.3	206	24.1	71		28.8	11	35		13		42	07		10	52
9	312	56.6		05.3	220	50.3	72		29.8	10	30		15		43	07		11	09
10	327	56.8		04.4	235	16.5	72		30.6	8	20		19		44	06		11	37
11	342	57.0	-1	03.4	249	42.7	72	+28	31.3	7	10 N	5	20	5	45	6	06	12	02
12	357	57.2	-1	02.4	264	09.0	73	+28	31.8	5	0	5	20	5	44	6	05	12	25
13	12	57.3		01.4	278	35.3	73		32.1	3	10 S	19		43	04		12	48	54
14	27	57.5	-1	00.4	293	01.6	73		32.3	2	20	15		41	03		13	12	54
15	42	57.7	-0	59.4	307	28.0	74		32.3	0	30	10		38	02		41	52	
16	57	57.9		58.4	321	54.4	74		32.2	1	35	06		36	01		13	58	52
17	72	58.1	-0	57.4	336	20.9	75	+28	31.9	3	40	5	01	5	33	6	00	14	18
18	87	58.2	-0	56.4	350	47.4	75	+28	31.4	5	45	4	55	5	30	5	59	14	42
19	102	58.4		55.5	5	14.0	76		30.8	6	50	47		25	58		15	13	48
20	117	58.6		54.5	19	40.6	76		30.1	7	52	43		23	57		29	47	
21	132	58.8		53.5	34	07.2	76		29.1	10	54	39		21	56		15	47	45
22	147	59.0		52.5	48	33.9	77		28.1	10	56	33		18	56		16	09	43
23	162	59.1		51.5	63	00.7	78		26.8	13	58	28		15	55		16	38	39
24	177	59.3	-0	50.5	77	27.5	78	+28	25.5	13	60 S	4	21	5	12	5	54	17	20

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 12 ^h 17.7 ^m		Mag: -3.8 PMG: 10 ^h 54 ^m		Mag: +1.2 PMG: 10 ^h 11 ^m		Mag: -2.1 PMG: 15 ^h 06 ^m		Mag: +1.0 PMG: 11 ^h 14 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	175	03.6	196	32.5	-10	19.9	207	02.9	-14	09.9	132	59.6	+15	17.7	191	09.9	-8	38.0
1	190	06.1	211	32.0		18.8	222	03.5		09.2	148	01.5		17.9	206	12.1		37.9
2	205	08.6	226	31.5		17.7	237	04.1		08.6	163	03.5		18.0	221	14.3		37.7
3	220	11.0	241	31.0		16.7	252	04.7		07.9	178	05.5		18.2	236	16.5		37.6
4	235	13.5	256	30.6		15.6	267	05.2		07.3	193	07.5		18.3	251	18.7		37.5
5	250	16.0	271	30.1	-10	14.5	282	05.8	-14	06.7	208	09.5	+15	18.5	266	20.8	-8	37.4
6	265	18.4	286	29.6	-10	13.4	297	06.4	-14	06.0	223	11.4	+15	18.6	281	23.0	-8	37.3
7	280	20.9	301	29.1		12.3	312	07.0		05.4	238	13.4		18.8	296	25.2		37.2
8	295	23.4	316	28.6		11.2	327	07.5		04.7	253	15.4		18.9	311	27.4		37.1
9	310	25.8	331	28.2		10.1	342	08.1		04.1	268	17.4		19.1	326	29.6		37.0
10	325	28.3	346	27.7		09.0	357	08.7		03.4	283	19.4		19.2	341	31.8		36.9
11	340	30.7	1	27.2	-10	07.9	12	09.3	-14	02.8	298	21.3	+15	19.4	356	33.9	-8	36.7
12	355	33.2	16	26.7	-10	06.8	27	09.8	-14	02.1	313	23.3	+15	19.5	11	36.1	-8	36.6
13	10	35.7	31	26.3		05.7	42	10.4		01.5	328	25.3		19.7	26	38.3		36.5
14	25	38.1	46	25.8		04.6	57	11.0		00.8	343	27.3		19.8	41	40.5		36.4
15	40	40.6	61	25.3		03.6	72	11.5	-14	00.2	358	29.2		20.0	56	42.7		36.3
16	55	43.1	76	24.8		02.5	87	12.1	-13	59.5	13	31.2		20.2	71	44.9		36.2
17	70	45.5	91	24.4	-10	01.4	102	12.7	-13	58.9	28	33.2	+15	20.3	86	47.0	-8	36.1
18	85	48.0	106	23.9	-10	00.3	117	13.3	-13	58.3	43	35.2	+15	20.5	101	49.2	-8	36.0
19	100	50.5	121	23.4	-9	59.2	132	13.9		57.6	58	37.1		20.6	116	51.4		35.9
20	115	52.9	136	23.0		58.1	147	14.4		57.0	73	39.1		20.8	131	53.6		35.8
21	130	55.4	151	22.5		57.0	162	15.0		56.3	88	41.1		20.9	146	55.8		35.6
22	145	57.9	166	22.0		55.9	177	15.6		55.7	103	43.1		21.1	161	58.0		35.5
23	161	00.3	181	21.5		54.8	192	16.2		55.0	118	45.1		21.2	177	00.1		35.4
24	176	02.8	196	21.1	-9	53.7	207	16.7	-13	54.4	133	47.0	+15	21.4	192	02.3	-8	35.3
Dif	—		-5		+11		+6		+6		+20		+2		+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 07.9 ^m			Edad: 7.6 ^d SD: 15 ^h 2 PMG: 19 ^h 33 ^m			PHE { 4 ^h : 55/7 12 ^h : 55/5 20 ^h : 55/3 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	177	59.3	-0	50.5	77	27.5	78	+28	25.5	16	60 N	18	11	18	52	19	42	8	41	90
1	192	59.5		49.5	91	54.3	79		23.9	17	58	11		50	37		9	18	80	
2	207	59.7		48.5	106	21.2	80		22.2	18	56	11		48	32		9	44	76	
3	222	59.9		47.5	120	48.2	80		20.4	18	54	11		46	28		10	05	72	
4	238	00.1		46.6	135	15.2	80		18.4	20	52	10		44	24		22	70		
5	253	00.2	-0	45.6	149	42.3	81	+28	16.2	22	50	18	10	18	43	19	21	10	37	68
6	268	00.4	-0	44.6	164	09.4	81	+28	14.0	22	45	18	10	18	40	19	14	11	07	64
7	283	00.6		43.6	178	36.6	82		11.5	25	40	10		37	09		30	62		
8	298	00.8		42.6	193	03.9	83		08.9	26	35	10		36	05		11	49	61	
9	313	01.0		41.6	207	31.2	83		06.2	27	30	10		34	19	02	12	06	59	
10	328	01.2		40.6	221	58.6	84		03.3	29	20	11		33	18	58	34	56		
11	343	01.3	-0	39.6	236	26.1	85	+28	00.3	30	10 N	18	11	18	32	18	56	12	58	54
12	358	01.5	-0	38.6	250	53.6	85	+27	57.1	32	0	18	11	18	32	18	56	13	20	52
13	13	01.7		37.7	265	21.2	86		53.8	33	10 S	12		33	18	57	13	42	50	
14	28	01.9		36.7	279	48.8	86		50.3	35	20	12		34	19	00	14	06	48	
15	43	02.1		35.7	294	16.6	88		46.7	36	30	13		37	05		33	45		
16	58	02.2		34.7	308	44.4	88		43.0	37	35	13		39	08		14	50	43	
17	73	02.4	-0	33.7	323	12.2	88	+27	39.1	39	40	18	14	18	41	19	13	15	09	41
18	88	02.6	-0	32.7	337	40.2	90	+27	35.1	40	45	18	15	18	44	19	18	15	32	38
19	103	02.8		31.7	352	08.2	90		30.9	42	50	16		48	26		16	01	35	
20	118	03.0		30.7	6	36.3	91		26.6	43	52	16		50	30		16	32		
21	133	03.2		29.7	21	04.4	91		22.2	44	54	16		52	34		32	30		
22	148	03.3		28.8	35	32.7	93		17.6	46	56	17		54	38		16	52	26	
23	163	03.5		27.8	50	01.0	93		12.9	47	58	18		57	44		17	17	20	
24	178	03.7	-0	26.8	64	29.4	94	+27	08.1	48	60 S	18	18	19	00	19	50	17	51	10

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 ^h 13.8 ^m		Mag: -3.8 PMG: 10 ^h 55 ^m		Mag: +1.2 PMG: 10 ^h 10 ^m		Mag: -2.1 PMG: 15 ^h 03 ^m		Mag: +1.0 PMG: 11 ^h 10 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	176	02.8	196	21.1	-9	53.7	207	16.7	-13	54.4
1	191	05.2	211	20.6		52.6	222	17.3		53.7
2	206	07.7	226	20.1		51.5	237	17.9		53.1
3	221	10.2	241	19.7		50.4	252	18.5		52.4
4	236	12.6	256	19.2		49.3	267	19.0		51.8
5	251	15.1	271	18.7	-9	48.2	282	19.6	-13	51.1
6	266	17.6	286	18.2	-9	47.1	297	20.2	-13	50.5
7	281	20.0	301	17.8		46.0	312	20.8		49.8
8	296	22.5	316	17.3		44.9	327	21.3		49.2
9	311	25.0	331	16.8		43.8	342	21.9		48.5
10	326	27.4	346	16.4		42.7	357	22.5		47.9
11	341	29.9	1	15.9	-9	41.6	12	23.1	-13	47.2
12	356	32.3	16	15.4	-9	40.5	27	23.7	-13	46.5
13	11	34.8	31	15.0		39.3	42	24.2		45.9
14	26	37.3	46	14.5		38.2	57	24.8		45.2
15	41	39.7	61	14.0		37.1	72	25.4		44.6
16	56	42.2	76	13.6		36.0	87	26.0		43.9
17	71	44.7	91	13.1	-9	34.9	102	26.6	-13	43.3
18	86	47.1	106	12.7	-9	33.8	117	27.1	-13	42.6
19	101	49.6	121	12.2		32.7	132	27.7		42.0
20	116	52.1	136	11.7		31.6	147	28.3		41.3
21	131	54.5	151	11.3		30.5	162	28.9		40.7
22	146	57.0	166	10.8		29.4	177	29.5		40.0
23	161	59.5	181	10.3		28.3	192	30.0		39.4
24	177	01.9	196	09.9	-9	27.2	207	30.6	-13	38.7
Dif	—		-5		+11		+6		+7	

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna											
	SD: 16 ^h 1 PMG:12 ^h 07.3 ^m			Edad: 9.6 ^d		PHE		SD: 14 ^h 9 PMG: 21 ^h 12 ^m				4 ^h : 54 ^h 6 12 ^h : 54 ^h 5 20 ^h : 54 ^h 4 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											
0	178	08.1	-0	52	15.0	+24	34.3	78	60 N	18 16	18 57	19 48	11 47 92	6 00 2													
1	193	08.3		66	45.4		26.5	80	58	15	54	42	12 06 86	5 41 8													
2	208	08.5		81	16.0		18.5	81	56	15	52	36	21 82	24 13													
3	223	08.7	-0	95	46.6		10.4	81	54	14	50	32	35 78	5 10 16													
4	238	08.9	+0	110	17.3	+24	02.2	82	52	14	48	28	47 74	4 58 19													
5	253	09.1	+0	124	48.1	+23	53.9	83	50	18 14	18 46	19 24	12 57 72	4 47 22													
6	268	09.3	+0	139	19.0	+23	45.6	83	45	18 13	18 42	19 17	13 19 67	4 25 26													
7	283	09.4		153	49.9		37.1	85	40	12	39	11	36 63	4 06 30													
8	298	09.6		168	21.0		28.5	86	35	12	37	07	13 50 60	3 51 33													
9	313	09.8		182	52.1		19.8	87	30	12	36	19 03	14 03 57	3 37 36													
10	328	10.0		197	23.3		11.0	88	20	11	33	18 59	25 52	3 14 40													
11	343	10.2	+0	211	54.6	+23	02.1	89	10 N	18 11	18 32	18 56	14 43 49	2 54 44													
12	358	10.4	+0	226	26.0	+22	53.1	90	0	18 11	18 31	18 55	15 00 45	2 36 47													
13	13	10.6		240	57.4		44.0	91	10 S	10	31	56	18 41	2 17 50													
14	28	10.7		255	29.0		34.8	92	20	10	32	18 58	36 38	1 57 53													
15	43	10.9		270	00.6		25.6	92	30	11	34	19 02	15 57 33	33 58													
16	58	11.1		284	32.3		16.2	94	35	11	36	05	16 09 31	19 61													
17	73	11.3	+0	299	04.1	+22	06.7	95	40	18 11	18 38	19 09	16 23 28	1 03 63													
18	88	11.5	+0	313	36.0	+21	57.2	95	45	18 11	18 40	19 15	16 40 23	0 43 68													
19	103	11.7		328	08.0		47.5	97	50	11	43	21	17 00 19	19 73													
20	118	11.9		342	40.0		37.8	97	52	11	45	25	10 16	0 07 76													
21	133	12.0		357	12.1		28.0	98	54	12	47	28	21 13	** ** *													
22	148	12.2		11	44.3		18.1	99	56	12	49	33	33 10	** ** *													
23	163	12.4		26	16.6	+21	08.1	100	58	12	51	38	17 47 6	** ** *													
24	178	12.6	+0	40	49.0	+20	58.0	101	60 S	18 12	18 54	19 43	18 04 0	** ** *													
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 12 ^h 05.9 ^m			Mag: -3.8 PMG: 10 ^h 56 ^m			Mag: +1.2 PMG: 10 ^h 09 ^m			Mag: -2.1 PMG: 14 ^h 57 ^m			Mag: +1.1 PMG: 11 ^h 03 ^m														
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°											
0	178	01.1	195	58.9	-9	00.4	207	44.6	-13	22.9	135	21.7	+15	28.7	193	47.2	-8	30.0									
1	193	03.5	210	58.4	-8	59.3	222	45.2		22.3	150	23.7		28.9	208	49.4		29.9									
2	208	06.0	225	58.0		58.1	237	45.8		21.6	165	25.6		29.0	223	51.6		29.8									
3	223	08.5	240	57.5		57.0	252	46.3		20.9	180	27.6		29.2	238	53.8		29.7									
4	238	10.9	255	57.1		55.9	267	46.9		20.3	195	29.6		29.4	253	56.0		29.6									
5	253	13.4	270	56.6	-8	54.8	282	47.5	-13	19.6	210	31.5	+15	29.5	268	58.2	-8	29.5									
6	268	15.8	285	56.2	-8	53.7	297	48.1	-13	19.0	225	33.5	+15	29.7	284	00.3	-8	29.4									
7	283	18.3	300	55.7		52.5	312	48.7		18.3	240	35.5		29.8	299	02.5		29.3									
8	298	20.8	315	55.3		51.4	327	49.3		17.6	255	37.4		30.0	314	04.7		29.2									
9	313	23.2	330	54.8		50.3	342	49.9		17.0	270	39.4		30.1	329	06.9		29.0									
10	328	25.7	345	54.4		49.2	357	50.4		16.3	285	41.4		30.3	344	09.1		28.9									
11	343	28.2	0	53.9	-8	48.0	12	51.0	-13	15.6	300	43.3	+15	30.4	359	11.3	-8	28.8									
12	358	30.6	15	53.5	-8	46.9	27	51.6	-13	15.0	315	45.3	+15	30.6	14	13.5	-8	28.7									
13	13	33.1	30	53.0		45.8	42	52.2		14.3	330	47.3		30.7	29	15.6		28.6									
14	28	35.6	45	52.6		44.7	57	52.8		13.6	345	49.2		30.9	44	17.8		28.5									
15	43	38.0	60	52.1		43.5	72	53.4		13.0	0	51.2		31.0	59	20.0		28.4									
16	58	40.5	75	51.7		42.4	87	54.0		12.3	15	53.2		31.2	74	22.2		28.3									
17	73	42.9	90	51.2	-8	41.3	102	54.5	-13	11.7	30	55.1	+15	31.4	89	24.4	-8	28.2									
18	88	45.4	105	50.8	-8	40.1	117	55.1	-13	11.0	45	57.1	+15	31.5	104	26.6	-8	28.1									
19	103	47.9	120	50.3		39.0	132	55.7		10.3	60	59.1		31.7	119	28.8		28.0									
20	118	50.3	135	49.9		37.9	147	56.3		09.7	76	01.0		31.8	134	31.0		27.8									
21	133	52.8	150	49.4		36.8	162	56.9		09.0	91	03.0		32.0	149	33.1		27.7									
22	148	55.3	165	49.0		35.6	177	57.5		08.3	106	05.0		32.1	164	35.3		27.6									
23	163	57.7	180	48.5		34.5	192	58.1		07.7	121	06.9		32.3	179	37.5		27.5									
24	179	00.2	195	48.1	-8	33.4	207	58.7	-13	07.0	136	08.9	+15	32.4	194	39.7	-8	27.4									
Dif	—			-5			+11			+6			+7			+20			+2			+22			+		

UT	SOL			O LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG:12 ^h 07.0 ^m			Edad: 10.6 ^d PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 2 20 ^h : 54 ^h 1 R°: 42 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	12.6	+0	20.6	40	49.0	+20	58.0	60 N	4	26	5	16	5	57	13	19
1	193	12.8		21.6	55	21.4		47.9	58	32		19	58	32	83	5	49
2	208	13.0		22.6	69	53.9		37.6	56	37		21	58	43	79	37	8
3	223	13.2		23.6	84	26.5		27.3	54	42		24	59	13	53	76	26
4	238	13.3		24.6	98	59.2		16.9	52	46		26	5	59	14	01	74
5	253	13.5	+0	25.6	113	31.9	+20	06.4	50	4	49	5	28	6	00	14	09
6	268	13.7	+0	26.6	128	04.8	+19	55.8	45	4	57	5	31	6	01	14	26
7	283	13.9		27.6	142	37.7		45.2	40	5	03	34	01		39	62	36
8	298	14.1		28.5	157	10.6		34.5	35	07		37	02	14	50	59	24
9	313	14.3		29.5	171	43.7		23.7	30	11		38	02	15	00	56	4
10	328	14.5		30.5	186	16.8		12.8	20	15		41	03	17	51		3
11	343	14.7	+0	31.5	200	50.0	+19	01.8	10 N	5	18	5	42	6	03	15	32
12	358	14.8	+0	32.5	215	23.3	+18	50.8	0	5	19	5	43	6	04	15	45
13	13	15.0		33.5	229	56.6		39.7	10 S	19		43	04	15	59	38	3
14	28	15.2		34.5	244	30.0		28.5	20	17		42	04	16	14	34	2
15	43	15.4		35.4	259	03.5		17.3	30	13		40	04	30	29		31
16	58	15.6		36.4	273	37.1	+18	06.0	35	10		39	04	40	26		20
17	73	15.8	+0	37.4	288	10.7	+17	54.6	40	5	06	5	37	6	04	16	51
18	88	16.0	+0	38.4	302	44.4	+17	43.2	45	5	00	5	35	6	04	17	03
19	103	16.2		39.4	317	18.2		31.7	50	4	54	32	04		19	14	
20	118	16.3		40.4	331	52.0		20.1	52	50		30	04	26	12		23
21	133	16.5		41.4	346	25.9	+17	08.4	54	47		29	04	34	10		12
22	148	16.7		42.4	0	59.8	+16	56.7	56	42		27	04	43	7		1
23	163	16.9		43.3	15	33.9		45.0	58	38		24	04	17	53	3	0
24	178	17.1	+0	44.3	30	07.9	+16	33.1	60 S	4	32	5	22	6	03	18	04

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 02.0 ^m		Mag: -3.8 PMG: 10 ^h 57 ^m		Mag: +1.2 PMG: 10 ^h 08 ^m		Mag: -2.1 PMG: 14 ^h 53 ^m		Mag: +1.1 PMG: 11 ^h 00 ^m	
	hG ♊		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	179	00.2	195	48.1	-8	33.4	207	58.7	-13	07.0
1	194	02.7	210	47.6		32.2	222	59.2		06.3
2	209	05.1	225	47.2		31.1	237	59.8		05.7
3	224	07.6	240	46.7		30.0	253	00.4		05.0
4	239	10.1	255	46.3		28.8	268	01.0		04.3
5	254	12.5	270	45.8	-8	27.7	283	01.6	-13	03.7
6	269	15.0	285	45.4	-8	26.6	298	02.2	-13	03.0
7	284	17.4	300	45.0		25.5	313	02.8		02.3
8	299	19.9	315	44.5		24.3	328	03.4		01.7
9	314	22.4	330	44.1		23.2	343	04.0		01.0
10	329	24.8	345	43.6		22.0	358	04.5	-13	00.3
11	344	27.3	0	43.2	-8	20.9	13	05.1	-12	59.7
12	359	29.8	15	42.7	-8	19.8	28	05.7	-12	59.0
13	14	32.2	30	42.3		18.6	43	06.3		58.3
14	29	34.7	45	41.9		17.5	58	06.9		57.7
15	44	37.2	60	41.4		16.4	73	07.5		57.0
16	59	39.6	75	41.0		15.2	88	08.1		56.3
17	74	42.1	90	40.5	-8	14.1	103	08.7	-12	55.7
18	89	44.6	105	40.1	-8	13.0	118	09.3	-12	55.0
19	104	47.0	120	39.7		11.8	133	09.9		54.3
20	119	49.5	135	39.2		10.7	148	10.5		53.6
21	134	51.9	150	38.8		09.5	163	11.0		53.0
22	149	54.4	165	38.3		08.4	178	11.6		52.3
23	164	56.9	180	37.9		07.3	193	12.2		51.6
24	179	59.3	195	37.5	-8	06.1	208	12.8	-12	51.0
Dif	—		-4		+11		+6		+7	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG: 12 ^h 06.7 ^m			Edad: 11.6 ^d PHE { 4 ^h : 54 ^m 1 12 ^h : 54 ^m 0 20 ^h : 54 ^m 0 Rº: 39 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m		h m m		
0	178	17.1	+0	44.3	30	07.9	+16	33.1	119	18 21	19 02	19 53	14 47 84		6 02 0		
1	193	17.3		45.3	44	42.1		21.2	119	20	18 59	46	14 55 80		5 53 3		
2	208	17.5		46.3	59	16.3	+16	09.3	119	19	56	41	15 02 77		45 6		
3	223	17.7		47.3	73	50.6	+15	57.2	121	18	53	36	09 74		38 8		
4	238	17.8		48.3	88	24.9		45.2	120	17	51	31	15 71		31 11		
5	253	18.0	+0	49.3	102	59.3	+15	33.0	122	18 17	18 49	19 27	15 20 69		5 25 13		
6	268	18.2	+0	50.2	117	33.8	+15	20.8	122	18 16	18 45	19 19	15 31 65		5 12 18		
7	283	18.4		51.2	132	08.3	+15	08.6	122	14	42	13	41 60		5 02 21		
8	298	18.6		52.2	146	42.9	+14	56.3	123	14	39	08	49 56		4 52 25		
9	313	18.8		53.2	161	17.5		43.9	124	13	37	19 05	15 56 53		44 28		
10	328	19.0		54.2	175	52.2		31.5	124	12	34	18 59	16 08 48		30 33		
11	343	19.2	+0	55.2	190	26.9	+14	19.1	124	18 11	18 32	18 56	16 18 44		4 18 37		
12	358	19.3	+0	56.2	205	01.7	+14	06.5	126	18 10	18 31	18 55	16 28 40		4 06 41		
13	13	19.5		57.1	219	36.6	+13	54.0	125	09	30	55	37 36		3 54 46		
14	28	19.7		58.1	234	11.5		41.3	127	09	31	18 56	48 31		42 49		
15	43	19.9	+0	59.1	248	46.4		28.7	126	08	32	19 00	16 59 27		27 55		
16	58	20.1	+1	00.1	263	21.4		16.0	127	08	33	02	17 06 24		19 57		
17	73	20.3	+1	01.1	277	56.5	+13	03.2	128	18 08	18 34	19 06	17 14 20		3 09 61		
18	88	20.5	+1	02.1	292	31.6	+12	50.4	128	18 07	18 36	19 11	17 23 16		2 58 65		
19	103	20.7		03.1	307	06.7		37.5	129	07	39	17	33 13		44 70		
20	118	20.8		04.0	321	41.9		24.6	129	07	40	20	38 10		37 72		
21	133	21.0		05.0	336	17.2	+12	11.7	129	07	42	23	44 7		30 75		
22	148	21.2		06.0	350	52.5	+11	58.7	130	06	43	27	50 5		22 78		
23	163	21.4		07.0	5	27.8		45.6	131	06	45	32	17 56 2		12 82		
24	178	21.6	+1	08.0	20	03.2	+11	32.5	131	18 06	18 48	19 37	18 04 **		2 02 86		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 11 ^h 58.1 ^m		Mag: -3.8 PMG: 10 ^h 58 ^m			Mag: +1.2 PMG: 10 ^h 07 ^m			Mag: -2.1 PMG: 14 ^h 50 ^m			Mag: +1.1 PMG: 10 ^h 56 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	179	59.3	195	37.5	-8	06.1	208	12.8	-12	51.0	136	56.0	+15	36.1	195	32.2	
1	195	01.8	210	37.0		05.0	223	13.4		50.3	151	58.0		36.3	210	34.4	
2	210	04.3	225	36.6		03.8	238	14.0		49.6	166	59.9		36.4	225	36.6	
3	225	06.7	240	36.1		02.7	253	14.6		48.9	182	01.9		36.6	240	38.8	
4	240	09.2	255	35.7		01.6	268	15.2		48.3	197	03.9		36.8	255	41.0	
5	255	11.7	270	35.3	-8	00.4	283	15.8	-12	47.6	212	05.8	+15	36.9	270	43.1	
6	270	14.1	285	34.8	-7	59.3	298	16.4	-12	46.9	227	07.8	+15	37.1	285	45.3	
7	285	16.6	300	34.4		58.1	313	17.0		46.3	242	09.7		37.2	300	47.5	
8	300	19.0	315	34.0		57.0	328	17.6		45.6	257	11.7		37.4	315	49.7	
9	315	21.5	330	33.5		55.9	343	18.2		44.9	272	13.7		37.5	330	51.9	
10	330	24.0	345	33.1		54.7	358	18.7		44.2	287	15.6		37.7	345	54.1	
11	345	26.4	0	32.6	-7	53.6	13	19.3	-12	43.6	302	17.6	+15	37.8	0	56.3	
12	0	28.9	15	32.2	-7	52.4	28	19.9	-12	42.9	317	19.5	+15	38.0	15	58.5	
13	15	31.4	30	31.8		51.3	43	20.5		42.2	332	21.5		38.1	31	00.7	
14	30	33.8	45	31.3		50.1	58	21.1		41.5	347	23.5		38.3	46	02.8	
15	45	36.3	60	30.9		49.0	73	21.7		40.9	2	25.4		38.5	61	05.0	
16	60	38.8	75	30.5		47.8	88	22.3		40.2	17	27.4		38.6	76	07.2	
17	75	41.2	90	30.0	-7	46.7	103	22.9	-12	39.5	32	29.3	+15	38.8	91	09.4	
18	90	43.7	105	29.6	-7	45.6	118	23.5	-12	38.9	47	31.3	+15	38.9	106	11.6	
19	105	46.2	120	29.2		44.4	133	24.1		38.2	62	33.3		39.1	121	13.8	
20	120	48.6	135	28.7		43.3	148	24.7		37.5	77	35.2		39.2	136	16.0	
21	135	51.1	150	28.3		42.1	163	25.3		36.8	92	37.2		39.4	151	18.2	
22	150	53.5	165	27.9		41.0	178	25.9		36.2	107	39.1		39.5	166	20.3	
23	165	56.0	180	27.4		39.8	193	26.5		35.5	122	41.1		39.7	181	22.5	
24	180	58.5	195	27.0	-7	38.7	208	27.1	-12	34.8	137	43.0	+15	39.8	196	24.7	
Dif	—		-4		+11		+6		+7		+20		+2		+22		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h 0 PMG: 12 ^h 06.4 ^m			Edad: 12.6 ^d PHE { 4 ^h : 54 ^h 0 12 ^h : 54 ^h 0 20 ^h : 54 ^h 0 PMG: 23 ^h 17 ^m R°: 39 ^m														
	hG ☉	Dec		hG ☾	Dif		Dec		Dif		Náutico	Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	21.6	+1	08.0	20	03.2	+11	32.5	131	60 N	4	19	5	10	5	51	16	
1	193	21.8		09.0	34	38.6		19.4	131	58	26	13	52	15	79	5	56	
2	208	22.0		10.0	49	14.1	+11	06.3	131	56	31	16	53	19	76	51	5	
3	223	22.2		10.9	63	49.6	+10	53.1	132	54	36	19	54	23	73	46	8	
4	238	22.4		11.9	78	25.1		39.8	133	52	41	21	55	26	71	42	10	
5	253	22.5	+1	12.9	93	00.7	+10	26.5	133	50	4	45	5	23	5	55	16	
6	268	22.7	+1	13.9	107	36.4	+10	13.2	133	45	4	53	5	28	5	57	16	
7	283	22.9		14.9	122	12.0	+9	59.9	133	40	4	59	31	58	41	59	23	
8	298	23.1		15.9	136	47.7		46.5	134	35	5	04	34	5	59	45	56	
9	313	23.3		16.8	151	23.5		33.1	134	30	08	36	6	00	49	53	12	
10	328	23.5		17.8	165	59.2		19.6	135	20	14	39	01	16	56	48	5	
11	343	23.7	+1	18.8	180	35.0	+9	06.1	135	10 N	5	17	5	41	6	02	17	
12	358	23.9	+1	19.8	195	10.9	+8	52.6	135	0	5	18	5	42	6	03	17	
13	13	24.1		20.8	209	46.7		39.0	136	10 S	19	43	04	13	35	40	43	
14	28	24.2		21.8	224	22.6		25.4	136	20	17	43	05	19	31	31	48	
15	43	24.4		22.8	238	58.6	+8	11.8	136	30	14	42	05	26	26	22	53	
16	58	24.6		23.7	253	34.5	+7	58.2	136	35	11	41	06	30	23	16	56	
17	73	24.8	+1	24.7	268	10.5	+7	44.5	137	40	5	08	5	39	6	06	17	
18	88	25.0	+1	25.7	282	46.5	+7	30.8	137	45	5	03	5	37	6	07	17	
19	103	25.2		26.7	297	22.6		17.1	137	50	4	57	35	07	46	11	3	
20	118	25.4		27.7	311	58.6	+7	03.3	138	52	54	34	07	48	9	49	71	
21	133	25.6		28.7	326	34.7	+6	49.5	138	54	51	32	08	51	7	45	73	
22	148	25.8		29.6	341	10.8		35.7	138	56	47	31	08	55	4	40	76	
23	163	25.9		30.6	355	47.0		21.9	138	58	42	29	08	17	58	2	34	
24	178	26.1	+1	31.6	10	23.1	+6	08.0	139	60 S	4	37	5	27	6	08	18	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 11 ^h 54.1 ^m		Mag: -3.8 PMG: 10 ^h 59 ^m		Mag: +1.2 PMG: 10 ^h 06 ^m		Mag: -2.1 PMG: 14 ^h 47 ^m		Mag: +1.1 PMG: 10 ^h 53 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	180	58.5	195	27.0	-7	38.7	208	27.1	-12	34.8								
1	196	00.9	210	26.6		37.5	223	27.7		34.1								
2	211	03.4	225	26.1		36.4	238	28.3		33.4								
3	226	05.9	240	25.7		35.2	253	28.9		32.8								
4	241	08.3	255	25.3		34.1	268	29.5		32.1								
5	256	10.8	270	24.9	-7	32.9	283	30.1	-12	31.4								
6	271	13.3	285	24.4	-7	31.8	298	30.7	-12	30.7								
7	286	15.7	300	24.0		30.6	313	31.2		30.1								
8	301	18.2	315	23.6		29.5	328	31.8		29.4								
9	316	20.6	330	23.1		28.3	343	32.4		28.7								
10	331	23.1	345	22.7		27.2	358	33.0		28.0								
11	346	25.6	0	22.3	-7	26.0	13	33.6	-12	27.4								
12	1	28.0	15	21.8	-7	24.9	28	34.2	-12	26.7								
13	16	30.5	30	21.4		23.7	43	34.8		26.0								
14	31	33.0	45	21.0		22.5	58	35.4		25.3								
15	46	35.4	60	20.6		21.4	73	36.0		24.6								
16	61	37.9	75	20.1		20.2	88	36.6		24.0								
17	76	40.4	90	19.7	-7	19.1	103	37.2	-12	23.3								
18	91	42.8	105	19.3	-7	17.9	118	37.8	-12	22.6								
19	106	45.3	120	18.9		16.8	133	38.4		21.9								
20	121	47.8	135	18.4		15.6	148	39.0		21.2								
21	136	50.2	150	18.0		14.5	163	39.6		20.6								
22	151	52.7	165	17.6		13.3	178	40.2		19.9								
23	166	55.1	180	17.2		12.2	193	40.8		19.2								
24	181	57.6	195	16.7	-7	11.0	208	41.4	-12	18.5								
Dif	—		-4		+12		+6		+7		+20		+2		+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 06.1 ^m			Edad: 13.6 ^d SD: 14 ^h 7 PMG: 23 ^h 56 ^m PHE { 4 ^h : 54 ^h 0 12 ^h : 54 ^h 0 20 ^h : 54 ^h 0 R°: 39 ^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	178 26.1	+1 31.6	10 23.1	+6 08.0	172	+5 54.2	138	60 N	18 25	19 07	19 59	17 33	82	6 00	**					
1	193 26.3		24 59.3				140	58	24	04	52	34	78	5 58	1					
2	208 26.5		39 35.5				140	56	23	19 00	45	35	75	56	4					
3	223 26.7		54 11.7				139	54	22	18 57	40	36	72	54	6					
4	238 26.9		68 47.9	+5 12.4	139	+4 58.4	140	52	21	55	35	37	70	52	9					
5	253 27.1	+1 36.5	83 24.2	+4			140	50	18 20	18 52	19 31	17 37	68	5 50	11					
6	268 27.3	+1 37.5	98 00.5	+4 44.4	140		140	45	18 18	18 47	19 22	17 39	63	5 46	16					
7	283 27.5		112 36.7				140	40	17	44	15	40	59	43	19					
8	298 27.6		127 13.0				140	35	15	41	10	41	56	41	22					
9	313 27.8		141 49.3	+4 02.4	141	+3 48.3	141	30	14	38	06	42	53	38	25					
10	328 28.0		156 25.6	+3			141	20	12	34	19 00	44	48	34	30					
11	343 28.2	+1 42.4	171 02.0	+3 34.3	140		140	10 N	18 11	18 32	18 56	17 45	44	5 30	35					
12	358 28.4	+1 43.4	185 38.3	+3 20.2	141		141	0	18 09	18 30	18 54	17 47	39	5 27	39					
13	13 28.6		200 14.7	+3 06.1	141		141	10 S	08	29	53	48	35	23	43					
14	28 28.8		214 51.0	+2 52.0	141		141	20	07	29	54	50	30	19	48					
15	43 29.0		229 27.4				141	30	06	30	18 57	52	25	15	53					
16	58 29.2		244 03.7				142	35	05	30	19 00	53	22	12	56					
17	73 29.3	+1 48.3	258 40.1	+2 09.6	141		141	40	18 04	18 31	19 03	17 54	19	5 10	59					
18	88 29.5	+1 49.3	273 16.5	+1 55.5	141		142	45	18 03	18 33	19 07	17 55	15	5 06	63					
19	103 29.7		287 52.9				142	50	03	35	12	57	10	02	68					
20	118 29.9		302 29.2				142	52	02	36	15	57	9	5 00	70					
21	133 30.1		317 05.6	+1 13.0	141		142	54	02	37	18	58	7	4 58	73					
22	148 30.3		331 42.0	+0 58.8	142		142	56	01	38	22	17 59	4	56	75					
23	163 30.5		346 18.4				142	58	01	40	26	18 00	1	53	79					
24	178 30.7	+1 55.2	0 54.8	+0 30.4	142		142	60 S	18 00	18 41	19 30	18 01	**	4 50	82					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG 11 ^h 50.2 ^m		Mag: -3.8 PMG: 10 ^h 59 ^m		Mag: +1.2 PMG: 10 ^h 05 ^m		Mag: -2.1 PMG: 14 ^h 44 ^m		Mag: +1.1 PMG: 10 ^h 49 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /										
0	181 57.6	195 16.7	-7 11.0	208 41.4	-12 18.5	138 30.0	+15 43.6	197 17.3	-8 19.6											
1	197 00.1	210 16.3	09.8	223 42.0	17.8	153 32.0	43.7	212 19.5	19.5											
2	212 02.5	225 15.9	08.7	238 42.6	17.2	168 33.9	43.9	227 21.7	19.4											
3	227 05.0	240 15.5	07.5	253 43.2	16.5	183 35.9	44.0	242 23.8	19.3											
4	242 07.5	255 15.0	06.4	268 43.8	15.8	198 37.8	44.2	257 26.0	19.2											
5	257 09.9	270 14.6	-7 05.2	283 44.4	-12 15.1	213 39.8	+15 44.3	272 28.2	-8 19.1											
6	272 12.4	285 14.2	-7 04.0	298 45.0	-12 14.4	228 41.7	+15 44.5	287 30.4	-8 18.9											
7	287 14.9	300 13.8	02.9	313 45.6	13.7	243 43.7	44.7	302 32.6	18.8											
8	302 17.3	315 13.3	01.7	328 46.2	13.1	258 45.6	44.8	317 34.8	18.7											
9	317 19.8	330 12.9	-7 00.6	343 46.8	12.4	273 47.6	45.0	332 37.0	18.6											
10	332 22.2	345 12.5	-6 59.4	358 47.4	11.7	288 49.5	45.1	347 39.2	18.5											
11	347 24.7	0 12.1	-6 58.2	13 48.0	-12 11.0	303 51.5	+15 45.3	2 41.4	-8 18.4											
12	2 27.2	15 11.6	-6 57.1	28 48.6	-12 10.3	318 53.5	+15 45.4	17 43.6	-8 18.3											
13	17 29.6	30 11.2	55.9	43 49.2	09.6	333 55.4	45.6	32 45.7	18.2											
14	32 32.1	45 10.8	54.8	58 49.8	09.0	348 57.4	45.7	47 47.9	18.1											
15	47 34.6	60 10.4	53.6	73 50.4	08.3	3 59.3	45.9	62 50.1	18.0											
16	62 37.0	75 10.0	52.4	88 51.0	07.6	19 01.3	46.0	77 52.3	17.9											
17	77 39.5	90 09.5	-6 51.3	103 51.6	-12 06.9	34 03.2	+15 46.2	92 54.5	-8 17.8											
18	92 42.0	105 09.1	-6 50.1	118 52.2	-12 06.2	49 05.2	+15 46.4	107 56.7	-8 17.7											
19	107 44.4	120 08.7	48.9	133 52.8	05.5	64 07.1	46.5	122 58.9	17.5											
20	122 46.9	135 08.3	47.8	148 53.4	04.9	79 09.1	46.7	138 01.1	17.4											
21	137 49.4	150 07.9	46.6	163 54.0	04.2	94 11.0	46.8	153 03.3	17.3											
22	152 51.8	165 07.4	45.5	178 54.6	03.5	109 13.0	47.0	168 05.5	17.2											
23	167 54.3	180 07.0	44.3	193 55.2	02.8	124 14.9	47.1	183 07.7	17.1											
24	182 56.7	195 06.6	-6 43.1	208 55.8	-12 02.1	139 16.9	+15 47.3	198 09.8	-8 17.0											
Dif	—	-4	+12	+6	+7	+20	+2	+22	+1											

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16'0 PMG: 12 ^h 05.5 ^m			Edad: 15.6 ^d SD: 14'8 PMG: 0 ^h 35 ^m								PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'4 Rº: 41 ^m									
	hG ☉	Dec		hG ☾	Dif		Dec		Dif			Civil	Náutico	Hora	Rº	Hora	Rº				
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	m	
0	178	35.2	+2	18.7	351	24.6		-5	09.9	140	60 N	18	30	19	13	20	04	20	18	88	
1	193	35.4		19.7	6	00.6	170		23.9	140	58	28		08	19	57	12	84	6	01	
2	208	35.6		20.7	20	36.6	170		38.0	141	56	27		05	50	07	80		04	5	
3	223	35.8		21.7	35	12.5	169	-5	52.0	140	54	26	19	01	44	20	03	76		07	8
4	238	36.0		22.7	49	48.4	169	-6	06.1	141	52	24	18	58	39	19	58	74		10	10
5	253	36.2	+2	23.6	64	24.3	169	-6	20.1	140	50	18	23	18	56	19	34	19	55	71	
6	268	36.4	+2	24.6	79	00.2	169	-6	34.1	140	45	18	21	18	50	19	25	19	47	66	
7	283	36.5		25.6	93	36.0	168	-6	48.0	139	40	19		46	18	40	62		22	20	
8	298	36.7		26.6	108	11.8	168	-7	02.0	140	35	17		42	12	34	59		25	24	
9	313	36.9		27.6	122	47.5	167		15.9	139	30	15		39	07	29	56		29	27	
10	328	37.1		28.5	137	23.2	167		29.8	139	20	13		35	19	01	20	51		35	32
11	343	37.3	+2	29.5	151	58.9	167	-7	43.7	139	10 N	18	11	18	32	18	56	19	13	46	
12	358	37.5	+2	30.5	166	34.5	166	-7	57.6	139	0	18	09	18	29	18	53	19	06	41	
13	13	37.7		31.5	181	10.1	166	-8	11.4	138	10 S	07		28	52	18	59	37		50	45
14	28	37.9		32.5	195	45.7	166		25.3	139	20	05		27	53	51	34		6	55	49
15	43	38.1		33.4	210	21.2	165		39.1	138	30	03		27	55	43	28		7	01	55
16	58	38.3		34.4	224	56.7	165	-8	52.8	137	35	02		27	57	38	25		04	58	
17	73	38.4	+2	35.4	239	32.1	164	-9	06.6	138	40	18	01	18	28	18	59	18	33	22	
18	88	38.6	+2	36.4	254	07.5	164	-9	20.3	137	45	18	00	18	29	19	03	18	26	19	
19	103	38.8		37.3	268	42.8	163		33.9	136	50	17	58		30	08	19	13		19	70
20	118	39.0		38.3	283	18.1	163	-9	47.6	137	52	57		31	10	16	11		21	73	
21	133	39.2		39.3	297	53.4	163	-10	01.2	136	54	57		32	13	12	8		24	75	
22	148	39.4		40.3	312	28.6	162		14.8	136	56	56		33	16	08	6		27	78	
23	163	39.6		41.3	327	03.7	161		28.3	135	58	55		34	20	18	03	3		31	81
24	178	39.8	+2	42.2	341	38.8	161	-10	41.9	136	60 S	17	54	18	35	19	24	17	58	**	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 11 ^h 42.4 ^m		Mag: -3.8 PMG: 11 ^h 01 ^m			Mag: +1.2 PMG: 10 ^h 03 ^m			Mag: -2.1 PMG: 14 ^h 38 ^m			Mag: +1.1 PMG: 10 ^h 42 ^m									
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	183	55.9	194	56.6	-6	15.1	209	10.4	-11	45.6	140	03.7	+15	51.0	199	02.4					
1	198	58.3	209	56.2		13.9	224	11.0		44.9	155	05.6		51.2	214	04.6					
2	214	00.8	224	55.8		12.7	239	11.6		44.2	170	07.6		51.3	229	06.8					
3	229	03.3	239	55.4		11.6	254	12.2		43.5	185	09.5		51.5	244	09.0					
4	244	05.7	254	55.0		10.4	269	12.8		42.8	200	11.5		51.6	259	11.2					
5	259	08.2	269	54.6	-6	09.2	284	13.4	-11	42.2	215	13.4	+15	51.8	274	13.4					
6	274	10.7	284	54.2	-6	08.0	299	14.0	-11	41.5	230	15.4	+15	52.0	289	15.6					
7	289	13.1	299	53.8		06.9	314	14.6		40.8	245	17.3		52.1	304	17.8					
8	304	15.6	314	53.3		05.7	329	15.2		40.1	260	19.3		52.3	319	20.0					
9	319	18.1	329	52.9		04.5	344	15.8		39.4	275	21.2		52.4	334	22.2					
10	334	20.5	344	52.5		03.3	359	16.4		38.7	290	23.2		52.6	349	24.4					
11	349	23.0	359	52.1	-6	02.2	14	17.0	-11	38.0	305	25.1	+15	52.7	4	26.6					
12	4	25.5	14	51.7	-6	01.0	29	17.7	-11	37.3	320	27.1	+15	52.9	19	28.8					
13	19	27.9	29	51.3	-5	59.8	44	18.3		36.6	335	29.0		53.0	34	31.0					
14	34	30.4	44	50.9		58.6	59	18.9		35.9	350	30.9		53.2	49	33.1					
15	49	32.8	59	50.5		57.5	74	19.5		35.2	5	32.9		53.4	64	35.3					
16	64	35.3	74	50.1		56.3	89	20.1		34.5	20	34.8		53.5	79	37.5					
17	79	37.8	89	49.7	-5	55.1	104	20.7	-11	33.8	35	36.8	+15	53.7	94	39.7					
18	94	40.2	104	49.2	-5	53.9	119	21.3	-11	33.1	50	38.7	+15	53.8	109	41.9					
19	109	42.7	119	48.8		52.7	134	21.9		32.5	65	40.7		54.0	124	44.1					
20	124	45.2	134	48.4		51.6	149	22.5		31.8	80	42.6		54.1	139	46.3					
21	139	47.6	149	48.0		50.4	164	23.1		31.1	95	44.6		54.3	154	48.5					
22	154	50.1	164	47.6		49.2	179	23.7		30.4	110	46.5		54.4	169	50.7					
23	169	52.6	179	47.2		48.0	194	24.4		29.7	125	48.5		54.6	184	52.9					
24	184	55.0	194	46.8	-5	46.8	209	25.0	-11	29.0	140	50.4	+15	54.8	199	55.1					
Dif	—		-4		+12		+6		+7		+19		+2		+22						

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'0 PMG:12 ^h 05.2 ^m			Edad: 16.6 ^d PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 42 ^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	39.8	+2	42.2	341	38.8	161	-10	41.9	134	4 05	4 57	5 39	21 46	93	5 56	**	
1	193	40.0		43.2	356	13.9	161	-10	55.3	135	13	5 01	41	36	87	6 03	3	
2	208	40.1		44.2	10	48.9	160	-11	08.8	135	20	05	43	27	83	09	7	
3	223	40.3		45.2	25	23.8	159		22.2	134	26	09	44	19	80	15	9	
4	238	40.5		46.1	39	58.7	159		35.6	134	31	12	45	12	77	20	12	
5	253	40.7	+2	47.1	54	33.6	159	-11	48.9	133	4 36	5 14	5 47	21 06	74	6 24	15	
6	268	40.9	+2	48.1	69	08.4	158	-12	02.2	133	4 45	5 20	5 49	20 53	68	6 34	19	
7	283	41.1		49.1	83	43.1	157		15.5	133	52	24	52	42	64	42	24	
8	298	41.3		50.1	98	17.8	157		28.7	132	4 58	28	53	33	61	49	27	
9	313	41.5		51.0	112	52.4	156		41.9	132	5 03	31	55	25	57	6	56	29
10	328	41.7		52.0	127	26.9	155	-12	55.0	131	10	36	5 58	20 11	53	7 07	34	
11	343	41.9	+2	53.0	142	01.4	155	-13	08.1	131	5 14	5 39	6 00	19 59	48	7 16	39	
12	358	42.0	+2	54.0	156	35.8	154	-13	21.1	130	5 17	5 41	6 02	19 47	45	7 25	43	
13	13	42.2		54.9	171	10.2	154		34.1	130	18	43	04	36	41	35	47	
14	28	42.4		55.9	185	44.5	153	-13	47.1	130	18	44	06	25	36	44	52	
15	43	42.6		56.9	200	18.7	152	-14	00.0	129	16	44	08	11	32	7	56	56
16	58	42.8		57.9	214	52.9	152	-14	12.8	128	14	44	09	19 03	29	8 02	60	
17	73	43.0	+2	58.8	229	27.0	151	-14	25.6	128	5 12	5 43	6 10	18 55	25	8 09	64	
18	88	43.2	+2	59.8	244	01.1	151	-14	38.4	128	5 08	5 43	6 12	18 45	21	8 18	68	
19	103	43.4	+3	00.8	258	35.0	149	-14	51.1	127	04	41	13	32	17	29	72	
20	118	43.6		01.8	273	08.9	149	-15	03.7	126	5 01	41	14	27	14	34	75	
21	133	43.7		02.8	287	42.8	149		16.3	126	4 59	40	15	20	12	39	78	
22	148	43.9		03.7	302	16.5	147		28.9	126	55	39	16	14	8	45	81	
23	163	44.1		04.7	316	50.2	147		41.3	124	52	38	17	18 06	4	8	52	85
24	178	44.3	+3	05.7	331	23.8	146	-15	53.8	125	4 48	5 37	6 18	17 57	0	9 00	89	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 11 ^h 38.4 ^m		Mag: -3.8 PMG: 11 ^h 01 ^m			Mag: +1.2 PMG: 10 ^h 02 ^m			Mag: -2.1 PMG: 14 ^h 35 ^m			Mag: +1.1 PMG: 10 ^h 39 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	184	55.0	194	46.8	-5	46.8	209	25.0	-11	29.0	140	50.4	+15	54.8	199	55.1	-8	11.9
1	199	57.5	209	46.4		45.7	224	25.6		28.3	155	52.4		54.9	214	57.3		11.8
2	214	59.9	224	46.0		44.5	239	26.2		27.6	170	54.3		55.1	229	59.5		11.7
3	230	02.4	239	45.6		43.3	254	26.8		26.9	185	56.2		55.2	245	01.7		11.6
4	245	04.9	254	45.2		42.1	269	27.4		26.2	200	58.2		55.4	260	03.8		11.4
5	260	07.3	269	44.8	-5	40.9	284	28.0	-11	25.5	216	00.1	+15	55.5	275	06.0	-8	11.3
6	275	09.8	284	44.4	-5	39.8	299	28.6	-11	24.8	231	02.1	+15	55.7	290	08.2	-8	11.2
7	290	12.3	299	44.0		38.6	314	29.2		24.1	246	04.0		55.8	305	10.4		11.1
8	305	14.7	314	43.6		37.4	329	29.8		23.4	261	06.0		56.0	320	12.6		11.0
9	320	17.2	329	43.1		36.2	344	30.5		22.7	276	07.9		56.2	335	14.8		10.9
10	335	19.7	344	42.7		35.0	359	31.1		22.0	291	09.9		56.3	350	17.0		10.8
11	350	22.1	359	42.3	-5	33.9	14	31.7	-11	21.3	306	11.8	+15	56.5	5	19.2	-8	10.7
12	5	24.6	14	41.9	-5	32.7	29	32.3	-11	20.6	321	13.7	+15	56.6	20	21.4	-8	10.6
13	20	27.1	29	41.5		31.5	44	32.9		19.9	336	15.7		56.8	35	23.6		10.5
14	35	29.5	44	41.1		30.3	59	33.5		19.2	351	17.6		56.9	50	25.8		10.4
15	50	32.0	59	40.7		29.1	74	34.1		18.5	6	19.6		57.1	65	28.0		10.3
16	65	34.4	74	40.3		27.9	89	34.7		17.8	21	21.5		57.2	80	30.2		10.2
17	80	36.9	89	39.9	-5	26.8	104	35.4	-11	17.1	36	23.5	+15	57.4	95	32.4	-8	10.1
18	95	39.4	104	39.5	-5	25.6	119	36.0	-11	16.4	51	25.4	+15	57.6	110	34.6	-8	10.0
19	110	41.8	119	39.1		24.4	134	36.6		15.7	66	27.3		57.7	125	36.8		09.9
20	125	44.3	134	38.7		23.2	149	37.2		15.0	81	29.3		57.9	140	39.0		09.8
21	140	46.8	149	38.3		22.0	164	37.8		14.4	96	31.2		58.0	155	41.1		09.6
22	155	49.2	164	37.9		20.8	179	38.4		13.7	111	33.2		58.2	170	43.3		09.5
23	170	51.7	179	37.5		19.6	194	39.0		13.0	126	35.1		58.3	185	45.5		09.4
24	185	54.2	194	37.1	-5	18.5	209	39.6	-11	12.3	141	37.1	+15	58.5	200	47.7	-8	09.3
Dif	—		-4		+12		+6		+7		+19		+2		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 12 ^h 04.9 ^m			Edad: 17.6 ^d SD: 14'9 PMG: 1 ^h 58 ^m PHE { 4 ^h : 54'8 12 ^h : 55'0 20 ^h : 55'1 Rº: 45 ^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	178 44.3	+3 05.7	331 23.8	146	-15 53.8	123	60 N	18 35	19 18	20 10	23 19	98	5 55	0			
1	193 44.5	06.7	345 57.4	145	-16 06.1	124	58	33	13	20 02	23 03	92	6 06	6			
2	208 44.7	07.6	0 30.9	144	18.5	122	56	31	09	19 55	22 50	86	16	9			
3	223 44.9	08.6	15 04.3	143	30.7	122	54	29	05	48	39	82	24	13			
4	238 45.1	09.6	29 37.6	142	42.9	121	52	28	19 02	43	29	78	32	16			
5	253 45.3	+3 10.6	44 10.8	142	-16 55.0	121	50	18 26	18 59	19 38	22 20	76	6 39	18			
6	268 45.4	+3 11.5	58 44.0	142	-17 07.1	121	45	18 23	18 53	19 28	22 01	71	6 53	24			
7	283 45.6	12.5	73 17.1	141	19.1	120	40	21	48	20	21 46	66	7 06	27			
8	298 45.8	13.5	87 50.1	140	31.0	119	35	18	44	14	34	62	16	31			
9	313 46.0	14.5	102 23.0	139	42.9	119	30	17	41	09	22	61	25	34			
10	328 46.2	15.4	116 55.9	139	-17 54.7	118	20	13	35	19 01	21 04	55	41	39			
11	343 46.4	+3 16.4	131 28.6	137	-18 06.4	117	10 N	18 11	18 32	18 56	20 47	52	7 55	43			
12	358 46.6	+3 17.4	146 01.3	137	-18 18.1	117	0	18 08	18 29	18 53	20 32	48	8 08	47			
13	13 46.8	18.4	160 33.9	136	29.7	116	10 S	06	27	51	17	45	22	50			
14	28 47.0	19.3	175 06.5	136	41.2	115	20	03	25	51	20 01	41	36	54			
15	43 47.1	20.3	189 38.9	134	-18 52.6	114	30	18 01	25	52	19 43	36	8 52	59			
16	58 47.3	21.3	204 11.3	134	-19 04.0	114	35	17 59	25	54	32	34	9 02	62			
17	73 47.5	+3 22.3	218 43.5	132	-19 15.3	113	40	17 58	18 25	18 56	19 20	31	9 13	65			
18	88 47.7	+3 23.2	233 15.7	132	-19 26.5	112	45	17 56	18 25	18 59	19 06	27	9 26	69			
19	103 47.9	24.2	247 47.8	131	37.7	112	50	54	26	19 03	18 49	21	41	75			
20	118 48.1	25.2	262 19.8	130	48.7	110	52	53	26	06	41	19	49	77			
21	133 48.3	26.1	276 51.7	129	-19 59.7	110	54	52	27	08	32	16	9 57	81			
22	148 48.5	27.1	291 23.6	129	-20 10.6	109	56	51	28	11	22	12	10 06	85			
23	163 48.7	28.1	305 55.3	127	21.4	108	58	49	28	14	18 10	8	17	89			
24	178 48.8	+3 29.1	320 26.9	126	-20 32.2	108	60 S	17 48	18 29	19 18	17 57	2	10 29	95			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 11 ^h 34.5 ^m		Mag: -3.8 PMG: 11 ^h 02 ^m			Mag: +1.2 PMG: 10 ^h 01 ^m			Mag: -2.1 PMG: 14 ^h 32 ^m			Mag: +1.1 PMG: 10 ^h 35 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	185 54.2	194 37.1	-5 18.5	209 39.6	-11 12.3	141 37.1	+15 58.5	200 47.7	-8 09.3								
1	200 56.6	209 36.7	17.3	224 40.3	11.6	156 39.0	58.7	215 49.9	09.2								
2	215 59.1	224 36.3	16.1	239 40.9	10.9	171 40.9	58.8	230 52.1	09.1								
3	231 01.5	239 35.9	14.9	254 41.5	10.2	186 42.9	59.0	245 54.3	09.0								
4	246 04.0	254 35.5	13.7	269 42.1	09.5	201 44.8	59.1	260 56.5	08.9								
5	261 06.5	269 35.1	-5 12.5	284 42.7	-11 08.8	216 46.8	+15 59.3	275 58.7	-8 08.8								
6	276 08.9	284 34.7	-5 11.3	299 43.3	-11 08.1	231 48.7	+15 59.4	291 00.9	-8 08.7								
7	291 11.4	299 34.3	10.2	314 43.9	07.4	246 50.7	59.6	306 03.1	08.6								
8	306 13.9	314 33.9	09.0	329 44.6	06.7	261 52.6	59.7	321 05.3	08.5								
9	321 16.3	329 33.5	07.8	344 45.2	06.0	276 54.5	+15 59.9	336 07.5	08.4								
10	336 18.8	344 33.1	06.6	359 45.8	05.3	291 56.5	+16 00.1	351 09.7	08.3								
11	351 21.3	359 32.7	-5 05.4	14 46.4	-11 04.6	306 58.4	+16 00.2	6 11.9	-8 08.2								
12	6 23.7	14 32.3	-5 04.2	29 47.0	-11 03.8	322 00.4	+16 00.4	21 14.1	-8 08.1								
13	21 26.2	29 31.9	03.0	44 47.6	03.1	337 02.3	00.5	36 16.3	08.0								
14	36 28.7	44 31.5	01.8	59 48.3	02.4	352 04.2	00.7	51 18.5	07.8								
15	51 31.1	59 31.1	-5 00.6	74 48.9	01.7	7 06.2	00.8	66 20.7	07.7								
16	66 33.6	74 30.7	-4 59.5	89 49.5	01.0	22 08.1	01.0	81 22.9	07.6								
17	81 36.0	89 30.3	-4 58.3	104 50.1	-11 00.3	37 10.1	+16 01.1	96 25.0	-8 07.5								
18	96 38.5	104 29.9	-4 57.1	119 50.7	-10 59.6	52 12.0	+16 01.3	111 27.2	-8 07.4								
19	111 41.0	119 29.5	55.9	134 51.3	58.9	67 13.9	01.5	126 29.4	07.3								
20	126 43.4	134 29.1	54.7	149 51.9	58.2	82 15.9	01.6	141 31.6	07.2								
21	141 45.9	149 28.7	53.5	164 52.6	57.5	97 17.8	01.8	156 33.8	07.1								
22	156 48.4	164 28.3	52.3	179 53.2	56.8	112 19.8	01.9	171 36.0	07.0								
23	171 50.8	179 27.9	51.1	194 53.8	56.1	127 21.7	02.1	186 38.2	06.9								
24	186 53.3	194 27.5	-4 49.9	209 54.4	-10 55.4	142 23.6	+16 02.2	201 40.4	-8 06.8								
Dif	—	-4	+12	+6	+7	+19	+2	+22	+1								

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 04.6 ^m			Edad: 18.6 ^d PHE { 4 ^h : 55'3 12 ^h : 55'4 20 ^h : 55'6 R°: 50 ^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 48.8	+3 29.1		320 26.9		-20 32.2		60 N	3 58	4 51	5 33	** ** *	** ** *	5 55 3			
1	193 49.0		30.0	334 58.5	126	42.8	106	58	4 07	4 55	35	** ** *	** ** *	6 12 10			
2	208 49.2		31.0	349 30.0	125	-20 53.4	106	56	14	5 00	37	** ** *	** ** *	8 25 16			
3	223 49.4		32.0	4 01.4	124	-21 03.9	105	54	20	03	39	** ** *	** ** *	37 19			
4	238 49.6		33.0	18 32.6	122	14.2	103	52	26	07	41	23 47 77		48 22			
5	253 49.8	+3 33.9		33 03.8	122	-21 24.5	103	50	4 31	5 10	5 42	23 36 74		6 57 25			
6	268 50.0	+3 34.9		47 34.9	121	-21 34.8	103	45	4 41	5 16	5 46	23 12 69		7 17 30			
7	283 50.2		35.9	62 05.9	120	44.9	101	40	49	21	48	22 52 67		33 35			
8	298 50.4		36.8	76 36.9	120	-21 54.9	100	35	4 55	25	51	36 64		47 37			
9	313 50.5		37.8	91 07.7	118	-22 04.8	99	30	5 00	29	53	22 23 61		7 59 40			
10	328 50.7		38.8	105 38.4	117	14.7	99	20	08	34	56	21 59 58		8 20 44			
11	343 50.9	+3 39.8		120 09.0	116	-22 24.4	97	10 N	5 13	5 38	5 59	21 39 55		8 38 47			
12	358 51.1	+3 40.7		134 39.6	116	-22 34.1	97	0	5 17	5 41	6 01	21 20 53		8 55 50			
13	13 51.3		41.7	149 10.0	114	43.6	95	10 S	18	43	04	21 02 50		9 12 53			
14	28 51.5		42.7	163 40.4	114	-22 53.1	95	20	19	44	06	20 42 47		30 57			
15	43 51.7		43.6	178 10.6	112	-23 02.4	93	30	17	45	09	19 44		9 51 61			
16	58 51.9		44.6	192 40.8	112	11.6	92	35	16	45	11	20 06 41		10 04 63			
17	73 52.0	+3 45.6		207 10.8	110	-23 20.8	92	40	5 14	5 45	6 12	19 51 38		10 18 66			
18	88 52.2	+3 46.6		221 40.8	110	-23 29.8	90	45	5 11	5 45	6 14	19 33 35		10 35 70			
19	103 52.4		47.5	236 10.6	108	38.7	89	50	07	44	17	10 31		10 56 75			
20	118 52.6		48.5	250 40.4	108	47.5	88	52	05	44	18	19 00 27		11 06 78			
21	133 52.8		49.5	265 10.1	107	-23 56.2	87	54	02	44	19	18 48 24		18 81			
22	148 53.0		50.4	279 39.6	105	-24 04.8	86	56	5 00	43	20	34 21		31 85			
23	163 53.2		51.4	294 09.1	105	13.3	85	58	4 56	42	21	18 18 15		11 46 91			
24	178 53.4	+3 52.4		308 38.5	104	-24 21.7	84	60 S	4 53	5 41	6 23	17 59 7		12 04 100			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 11 ^h 30.6 ^m		Mag: -3.8 PMG: 11 ^h 02 ^m			Mag: +1.2 PMG: 10 ^h 00 ^m			Mag: -2.1 PMG: 14 ^h 29 ^m			Mag: +1.1 PMG: 10 ^h 32 ^m					
	hG ♈		hG ♊	Dec		hG ♊	Dec		hG ♃	Dec		hG ♄	Dec				
h	° /	° /		° /		° /		° /	° /	° /		° /	° /				
0	186 53.3	194 27.5	-4 49.9	209 54.4	-10 55.4	142 23.6	+16 02.2	201 40.4	-8 06.8								
1	201 55.8	209 27.1	48.7	224 55.0	54.7	157 25.6	02.4	216 42.6	06.7								
2	216 58.2	224 26.7	47.5	239 55.7	54.0	172 27.5	02.6	231 44.8	06.6								
3	232 00.7	239 26.3	46.3	254 56.3	53.3	187 29.5	02.7	246 47.0	06.5								
4	247 03.2	254 25.9	45.2	269 56.9	52.6	202 31.4	02.9	261 49.2	06.4								
5	262 05.6	269 25.5	-4 44.0	284 57.5	-10 51.9	217 33.3	+16 03.0	276 51.4	-8 06.3								
6	277 08.1	284 25.1	-4 42.8	299 58.1	-10 51.2	232 35.3	+16 03.2	291 53.6	-8 06.2								
7	292 10.5	299 24.7	41.6	314 58.7	50.5	247 37.2	03.3	306 55.8	06.1								
8	307 13.0	314 24.3	40.4	329 59.4	49.8	262 39.1	03.5	321 58.0	05.9								
9	322 15.5	329 24.0	39.2	345 00.0	49.1	277 41.1	03.6	337 00.2	05.8								
10	337 17.9	344 23.6	38.0	0 00.6	48.4	292 43.0	03.8	352 02.4	05.7								
11	352 20.4	359 23.2	-4 36.8	15 01.2	-10 47.7	307 45.0	+16 04.0	7 04.6	-8 05.6								
12	7 22.9	14 22.8	-4 35.6	30 01.8	-10 47.0	322 46.9	+16 04.1	22 06.8	-8 05.5								
13	22 25.3	29 22.4	34.4	45 02.4	46.3	337 48.8	04.3	37 09.0	05.4								
14	37 27.8	44 22.0	33.2	60 03.1	45.6	352 50.8	04.4	52 11.2	05.3								
15	52 30.3	59 21.6	32.0	75 03.7	44.8	7 52.7	04.6	67 13.4	05.2								
16	67 32.7	74 21.2	30.8	90 04.3	44.1	22 54.6	04.7	82 15.6	05.1								
17	82 35.2	89 20.8	-4 29.6	105 04.9	-10 43.4	37 56.6	+16 04.9	97 17.8	-8 05.0								
18	97 37.6	104 20.4	-4 28.4	120 05.5	-10 42.7	52 58.5	+16 05.1	112 19.9	-8 04.9								
19	112 40.1	119 20.0	27.2	135 06.2	42.0	68 00.5	05.2	127 22.1	04.8								
20	127 42.6	134 19.6	26.0	150 06.8	41.3	83 02.4	05.4	142 24.3	04.7								
21	142 45.0	149 19.2	24.8	165 07.4	40.6	98 04.3	05.5	157 26.5	04.6								
22	157 47.5	164 18.8	23.6	180 08.0	39.9	113 06.3	05.7	172 28.7	04.5								
23	172 50.0	179 18.4	22.4	195 08.6	39.2	128 08.2	05.8	187 30.9	04.4								
24	187 52.4	194 18.0	-4 21.3	210 09.3	-10 38.5	143 10.1	+16 06.0	202 33.1	-8 04.3								
Dif	—		-4	+12	+6	+7	+19	+2	+22			+1					

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 16'0 PMG: 12 ^h 04.3 ^m			Edad: 19.6 ^d SD: 15'2 PMG: 3 ^h 33 ^m			PHE { 4 ^h : 55'8 12 ^h : 56'0 20 ^h : 56'2 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					
0	178	53.4	+3	52.4	308	38.5		-24	21.7	83	60 N	18	40	19	23	20	16	0	57	101					
1	193	53.5		53.4	323	07.8	103		30.0	81	58	37	18	20	07		35	90	6	22	20				
2	208	53.7		54.3	337	37.0	102		38.1	80	56	35	13	19	59		16	84	41	26					
3	223	53.9		55.3	352	06.1	101		46.1	80	54	33	09		53		0	01	80	6	56	33			
4	238	54.1		56.3	6	35.0	99	-24	54.1	80	52	31	05		47	**	**	**		7	10	33			
5	253	54.3	+3	57.2	21	03.9	99	-25	01.8	77	50	18	29	19	02		**	**	**		7	22	36		
6	268	54.5	+3	58.2	35	32.7	98	-25	09.5	77	45	18	26	18	55		19	31	**	**	**		7	47	40
7	283	54.7	+3	59.2	50	01.4	97		17.1	76	40	23	50		22	23	59	63		8	08	42			
8	298	54.9	+4	00.1	64	30.0	96		24.5	74	35	20	45	15			40	62			24	45			
9	313	55.0		01.1	78	58.6	96		31.8	73	30	18	42	10		23	24	61		8	39	47			
10	328	55.2		02.1	93	27.0	94		39.0	72	20	14	36	19	02	22	57	59		9	04	49			
11	343	55.4	+4	03.1	107	55.3	93	-25	46.0	70	10 N	18	11	18	32	18	56	22	34	58		9	25	52	
12	358	55.6	+4	04.0	122	23.5	92	-25	53.0	70	0	18	08	18	28	18	52	22	13	56		9	45	54	
13	13	55.8		05.0	136	51.6	91	-25	59.8	68	10 S		05		26		50	21	52	54		10	05	57	
14	28	56.0		06.0	151	19.7	91	-26	06.4	66	20	18	02	24		49		29	53			27	59		
15	43	56.2		06.9	165	47.6	89		13.0	66	30	17	58	22		50	21	03	51		10	52	62		
16	58	56.4		07.9	180	15.5	89		19.4	64	35		57	22		51	20	47	50		11	07	63		
17	73	56.5	+4	08.9	194	43.2	87	-26	25.6	62	40	17	55	18	22	18	53	20	29	48		11	24	65	
18	88	56.7	+4	09.8	209	10.9	87	-26	31.8	62	45	17	52	18	21	18	55	20	08	46		11	45	68	
19	103	56.9		10.8	223	38.5	86		37.8	60	50		50	22		18	59	19	41	42		12	11	72	
20	118	57.1		11.8	238	06.0	85		43.6	58	52	48	22		19	01		27	41			24	74		
21	133	57.3		12.7	252	33.4	84		49.3	57	54	47	22		03		19	12	39			39	76		
22	148	57.5		13.7	267	00.7	83	-26	54.9	56	56	45	22		06		18	55	35		12	56	80		
23	163	57.7		14.7	281	27.9	82	-27	00.4	55	58	44	23		08		33	30		13	17	85			
24	178	57.9	+4	15.6	295	55.0	81	-27	05.7	53	60 S	17	42	18	23	19	12	18	06	20		13	44	95	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO													
	PMG 11 ^h 26.6 ^m		Mag: -3.8 PMG: 11 ^h 03 ^m			Mag: +1.2 PMG: 9 ^h 59 ^m			Mag: -2.1 PMG: 14 ^h 25 ^m			Mag: +1.1 PMG: 10 ^h 28 ^m													
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'									
0	187	52.4	194	18.0	-4	21.3	210	09.3	-10	38.5	143	10.1	+16	06.0	202	33.1									
1	202	54.9	209	17.7		20.1	225	09.9		37.8	158	12.1		06.1	217	35.3									
2	217	57.4	224	17.3		18.9	240	10.5		37.1	173	14.0		06.3	232	37.5									
3	232	59.8	239	16.9		17.7	255	11.1		36.4	188	15.9		06.5	247	39.7									
4	248	02.3	254	16.5		16.5	270	11.7		35.7	203	17.9		06.6	262	41.9									
5	263	04.8	269	16.1	-4	15.3	285	12.4	-10	34.9	218	19.8	+16	06.8	277	44.1									
6	278	07.2	284	15.7	-4	14.1	300	13.0	-10	34.2	233	21.8	+16	06.9	292	46.3									
7	293	09.7	299	15.3		12.9	315	13.6		33.5	248	23.7		07.1	307	48.5									
8	308	12.1	314	14.9		11.7	330	14.2		32.8	263	25.6		07.2	322	50.7									
9	323	14.6	329	14.5		10.5	345	14.9		32.1	278	27.6		07.4	337	52.9									
10	338	17.1	344	14.1		09.3	0	15.5		31.4	293	29.5		07.6	352	55.1									
11	353	19.5	359	13.7	-4	08.1	15	16.1	-10	30.7	308	31.4	+16	07.7	7	57.3									
12	8	22.0	14	13.3	-4	06.9	30	16.7	-10	30.0	323	33.4	+16	07.9	22	59.5									
13	23	24.5	29	13.0		05.7	45	17.3		29.3	338	35.3		08.0	38	01.7									
14	38	26.9	44	12.6		04.5	60	18.0		28.6	353	37.2		08.2	53	03.9									
15	53	29.4	59	12.2		03.3	75	18.6		27.9	8	39.2		08.3	68	06.1									
16	68	31.9	74	11.8		02.1	90	19.2		27.1	23	41.1		08.5	83	08.3									
17	83	34.3	89	11.4	-4	00.9	105	19.8	-10	26.4	38	43.0	+16	08.6	98	10.5									
18	98	36.8	104	11.0	-3	59.7	120	20.5	-10	25.7	53	45.0	+16	08.8	113	12.7									
19	113	39.3	119	10.6		58.5	135	21.1		25.0	68	46.9		09.0	128	14.9									
20	128	41.7	134	10.2		57.3	150	21.7		24.3	83	48.8		09.1	143	17.1									
21	143	44.2	149	09.8		56.1	165	22.3		23.6	98	50.8		09.3	158	19.3									
22	158	46.6	164	09.5		54.9	180	22.9		22.9	113	52.7		09.4	173	21.5									
23	173	49.1	179	09.1		53.7	195	23.6		22.2	128	54.6		09.6	188	23.7									
24	188	51.6	194	08.7	-3	52.5	210	24.2	-10	21.5	143	56.6	+16	09.7	203	25.9									
Dif	—		-4		+12		+6		+7		+19		+2		+22		+1								

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'0 PMG:12 ^h 04.0 ^m			Edad: 20.6 ^d PHE { 4 ^h : 56'4 12 ^h : 56'6 20 ^h : 56'8 PMG: 4 ^h 26 ^m R°: 57 ^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	+4	15.6	295	55.0	81	-27	05.7	51	60 N	3 51	4 44	5 27	2 38	87	6 08	32
1	193	58.0		16.6	310	22.1			10.8	51	58	4 00	50	30	2 05	77	6 42	41
2	208	58.2		17.6	324	49.0	79		15.9	51	56	08	54	32	1 40	74	7 07	45
3	223	58.4		18.5	339	15.9	79		20.7	48	54	15	4 58	34	21	70	27	47
4	238	58.6		19.5	353	42.7	78		25.4	47	52	21	5 02	36	1 04	69	43	49
5	253	58.8	+4	20.5	8	09.4	77	-27	30.0	46	50	4 26	5 05	5 38	0 50	67	7 58	50
6	268	59.0	+4	21.4	22	36.1	77	-27	34.4	44	45	4 37	5 12	5 42	0 21	65	8 27	52
7	283	59.2		22.4	37	02.6	75		38.7	43	40	46	18	45	** ** *	**	8 50	53
8	298	59.3		23.4	51	29.1	75		42.9	42	35	52	22	48	** ** *	**	9 09	54
9	313	59.5		24.3	65	55.5	74		46.8	39	30	4 58	26	50	** ** *	**	26	55
10	328	59.7		25.3	80	21.8	73		50.6	38	20	5 06	32	54	23 56 59		9 53	56
11	343	59.9	+4	26.3	94	48.0	72	-27	54.3	37	10 N	5 12	5 37	5 58	23 32 58		10 17	57
12	359	00.1	+4	27.2	109	14.2	72	-27	57.8	35	0	5 16	5 40	6 01	23 09 59		10 39	58
13	14	00.3		28.2	123	40.3	71	-28	01.2	34	10 S	18	43	04	22 46 59		11 02	58
14	29	00.5		29.2	138	06.3	70		04.4	30	20	19	45	07	22 22 59		26	58
15	44	00.6		30.1	152	32.3	70		07.4	30	30	19	46	10	21 54 58		11 54	59
16	59	00.8		31.1	166	58.1	68		10.3	29	35	18	47	12	37 59		12 10	60
17	74	01.0	+4	32.1	181	23.9	68	-28	13.0	27	40	5 16	5 47	6 14	21 17 59		12 29	61
18	89	01.2	+4	33.0	195	49.7	68	-28	15.6	26	45	5 14	5 48	6 17	20 54 58		12 53	61
19	104	01.4		34.0	210	15.4	66		18.0	24	50	10	47	20	23 59		13 23	61
20	119	01.6		35.0	224	41.0	66		20.3	23	52	08	47	21	20 08 58		38	62
21	134	01.8		35.9	239	06.5	65		22.3	20	54	06	47	22	19 51 58		13 55	62
22	149	01.9		36.9	253	32.0	65		24.2	19	56	04	47	24	30 57		14 16	63
23	164	02.1		37.8	267	57.5	65		26.0	18	58	5 01	47	26	19 03 57		14 42	64
24	179	02.3	+4	38.8	282	22.9	64	-28	27.6	16	60 S	4 58	5 46	6 28	18 26 55		15 19	67

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 11 ^h 22.7 ^m		Mag: -3.8 PMG: 11 ^h 04 ^m		Mag: +1.2 PMG: 9 ^h 58 ^m		Mag: -2.1 PMG: 14 ^h 22 ^m		Mag: +1.1 PMG: 10 ^h 25 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	188	51.6	194	08.7	-3	52.5	210	24.2	-10	21.5	143	56.6	+16	09.7	203	25.9	-8	01.8
1	203	54.0	209	08.3		51.2	225	24.8		20.7	158	58.5		09.9	218	28.1		01.6
2	218	56.5	224	07.9		50.0	240	25.4		20.0	174	00.4		10.1	233	30.3		01.5
3	233	59.0	239	07.5		48.8	255	26.1		19.3	189	02.4		10.2	248	32.5		01.4
4	249	01.4	254	07.1		47.6	270	26.7		18.6	204	04.3		10.4	263	34.7		01.3
5	264	03.9	269	06.7	-3	46.4	285	27.3	-10	17.9	219	06.2	+16	10.5	278	36.9	-8	01.2
6	279	06.4	284	06.4	-3	45.2	300	27.9	-10	17.2	234	08.2	+16	10.7	293	39.1	-8	01.1
7	294	08.8	299	06.0		44.0	315	28.6		16.5	249	10.1		10.8	308	41.3		01.0
8	309	11.3	314	05.6		42.8	330	29.2		15.8	264	12.0		11.0	323	43.5		00.9
9	324	13.8	329	05.2		41.6	345	29.8		15.0	279	14.0		11.1	338	45.7		00.8
10	339	16.2	344	04.8		40.4	0	30.4		14.3	294	15.9		11.3	353	47.9		00.7
11	354	18.7	359	04.4	-3	39.2	15	31.1	-10	13.6	309	17.8	+16	11.5	8	50.1	-8	00.6
12	9	21.1	14	04.0	-3	38.0	30	31.7	-10	12.9	324	19.8	+16	11.6	23	52.3	-8	00.5
13	24	23.6	29	03.6		36.8	45	32.3		12.2	339	21.7		11.8	38	54.5		00.4
14	39	26.1	44	03.3		35.6	60	32.9		11.5	354	23.6		11.9	53	56.7		00.3
15	54	28.5	59	02.9		34.4	75	33.6		10.8	9	25.6		12.1	68	58.9		00.2
16	69	31.0	74	02.5		33.2	90	34.2		10.0	24	27.5		12.2	84	01.1	-8	00.1
17	84	33.5	89	02.1	-3	32.0	105	34.8	-10	09.3	39	29.4	+16	12.4	99	03.3	-8	00.0
18	99	35.9	104	01.7	-3	30.8	120	35.4	-10	08.6	54	31.4	+16	12.6	114	05.5	-7	59.9
19	114	38.4	119	01.3		29.6	135	36.1		07.9	69	33.3		12.7	129	07.7		59.8
20	129	40.9	134	00.9		28.4	150	36.7		07.2	84	35.2		12.9	144	09.9		59.7
21	144	43.3	149	00.6		27.2	165	37.3		06.5	99	37.1		13.0	159	12.0		59.6
22	159	45.8	164	00.2		25.9	180	37.9		05.8	114	39.1		13.2	174	14.2		59.5
23	174	48.2	178	59.8		24.7	195	38.6		05.0	129	41.0		13.3	189	16.4		59.4
24	189	50.7	193	59.4	-3	23.5	210	39.2	-10	04.3	144	42.9	+16	13.5	204	18.6	-7	59.3
Dif	—		-4	+12			+6	+7			+19	+2			+22	+1		

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG:12 ^h 03.7 ^m			Edad: 21.6 ^d SD: 15'5 PMG: 5 ^h 23 ^m PHE { 4 ^h : 57'1 12 ^h : 57'3 20 ^h : 57'6 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	179	02.3	+4 38.8	282	22.9	63	−28 27.6	14	60 N	18 45	19 28	20 22	4 05 44	6 40 79					
1	194	02.5		296	48.2	63	29.0	12	58	42	22	12	3 22 51	7 23 72					
2	209	02.7		311	13.4	62	30.2	11	56	39	17	20 04	2 54 52	7 52 70					
3	224	02.9		325	38.7	63	31.3	9	54	37	13	19 57	31 54	8 14 68					
4	239	03.1		340	03.8	61	32.2	8	52	35	09	51	2 13 55	32 68					
5	254	03.2	+4 43.6	354	28.9	61	−28 33.0	6	50	18 33	19 05	19 45	1 57 56	8 48 66					
6	269	03.4	+4 44.6	8	54.0	61	−28 33.6	4	45	18 28	18 58	19 33	1 26 57	9 19 65					
7	284	03.6		23	19.0	60	34.0	2	40	25	52	24	1 02 57	9 43 64					
8	299	03.8		37	44.0	60	34.2	1	35	22	47	17	0 42 57	10 03 63					
9	314	04.0		47.5	52 09.0	60	34.3	1	30	19	43	11	0 25 58	21 62					
10	329	04.2		48.4	66 33.9	59	34.2	1	20	14	37	19 02	** ** *	10 49 61					
11	344	04.4	+4 49.4	80	58.7	58	−28 33.9	3	10 N	18 11	18 32	18 56	** ** *	11 14 60					
12	359	04.5	+4 50.4	95	23.5	58	−28 33.4	5	0	18 07	18 28	18 52	** ** *	11 37 59					
13	14	04.7		109	48.3	58	32.8	6	10 S	04	25	49	23 45 61	12 00 58					
14	29	04.9		52.3	124 13.1	58	32.0	8	20	18 00	22	48	23 21 63	24 57					
15	44	05.1		53.3	138 37.8	57	31.0	10	30	17 56	20	48	22 52 66	12 53 55					
16	59	05.3		54.2	153 02.5	57	29.9	11	35	54	19	48	36 66	13 10 54					
17	74	05.5	+4 55.2	167	27.2	57	−28 28.5	14	40	17 51	18 18	18 50	22 16 69	13 30 52					
18	89	05.6	+4 56.1	181	51.8	56	−28 27.0	15	45	17 49	18 18	18 52	21 52 71	13 54 51					
19	104	05.8		57.1	196 16.5	57	25.3	17	50	45	17	55	22 74	14 24 49					
20	119	06.0		58.1	210 41.1	56	23.5	18	52	44	17	56	21 06 76	40 46					
21	134	06.2	+4 59.0	225	05.7	56	21.4	21	54	42	17	18 58	20 49 78	14 57 45					
22	149	06.4	+5 00.0	239	30.2	55	19.2	22	56	40	17	19 00	27 82	15 19 42					
23	164	06.6	+5 00.9	253	54.8	56	16.8	24	58	38	17	03	20 00 86	15 46 38					
24	179	06.8	+5 01.9	268	19.3	55	−28 14.3	25	60 S	17 36	18 17	19 06	19 21 96	16 26 27					
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 11 ^h 18.8 ^m		Mag: −3.8 PMG: 11 ^h 04 ^m			Mag: +1.2 PMG: 9 ^h 57 ^m			Mag: −2.1 PMG: 14 ^h 19 ^m			Mag: +1.1 PMG: 10 ^h 21 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	189	50.7	193 59.4	−3 23.5	210 39.2	−10 04.3	144 42.9	+16 13.5	204 18.6	−7 59.3									
1	204	53.2	208 59.0	22.3	225 39.8	03.6	159 44.9	13.7	219 20.8	59.2									
2	219	55.6	223 58.6	21.1	240 40.5	02.9	174 46.8	13.8	234 23.0	59.0									
3	234	58.1	238 58.3	19.9	255 41.1	02.2	189 48.7	14.0	249 25.2	58.9									
4	250	00.6	253 57.9	18.7	270 41.7	01.5	204 50.7	14.1	264 27.4	58.8									
5	265	03.0	268 57.5	−3 17.5	285 42.3	−10 00.7	219 52.6	+16 14.3	279 29.6	−7 58.7									
6	280	05.5	283 57.1	−3 16.3	300 43.0	−10 00.0	234 54.5	+16 14.4	294 31.8	−7 58.6									
7	295	08.0	298 56.7	15.1	315 43.6	−9 59.3	249 56.4	14.6	309 34.0	58.5									
8	310	10.4	313 56.3	13.9	330 44.2	58.6	264 58.4	14.7	324 36.2	58.4									
9	325	12.9	328 55.9	12.7	345 44.9	57.9	280 00.3	14.9	339 38.4	58.3									
10	340	15.4	343 55.6	11.5	0 45.5	57.2	295 02.2	15.1	354 40.6	58.2									
11	355	17.8	358 55.2	−3 10.2	15 46.1	−9 56.4	310 04.2	+16 15.2	9 42.8	−7 58.1									
12	10	20.3	13 54.8	−3 09.0	30 46.7	−9 55.7	325 06.1	+16 15.4	24 45.0	−7 58.0									
13	25	22.7	28 54.4	07.8	45 47.4	55.0	340 08.0	15.5	39 47.2	57.9									
14	40	25.2	43 54.0	06.6	60 48.0	54.3	355 09.9	15.7	54 49.4	57.8									
15	55	27.7	58 53.7	05.4	75 48.6	53.6	10 11.9	15.8	69 51.6	57.7									
16	70	30.1	73 53.3	04.2	90 49.3	52.9	25 13.8	16.0	84 53.9	57.6									
17	85	32.6	88 52.9	−3 03.0	105 49.9	−9 52.1	40 15.7	+16 16.2	99 56.1	−7 57.5									
18	100	35.1	103 52.5	−3 01.8	120 50.5	−9 51.4	55 17.7	+16 16.3	114 58.3	−7 57.4									
19	115	37.5	118 52.1	−3 00.6	135 51.1	50.7	70 19.6	16.5	130 00.5	57.3									
20	130	40.0	133 51.7	−2 59.4	150 51.8	50.0	85 21.5	16.6	145 02.7	57.2									
21	145	42.5	148 51.4	58.1	165 52.4	49.3	100 23.4	16.8	160 04.9	57.1									
22	160	44.9	163 51.0	56.9	180 53.0	48.5	115 25.4	16.9	175 07.1	57.0									
23	175	47.4	178 50.6	55.7	195 53.7	47.8	130 27.3	17.1	190 09.3	56.9									
24	190	49.9	193 50.2	−2 54.5	210 54.3	−9 47.1	145 29.2	+16 17.3	205 11.5	−7 56.8									
Dif	—		−4	+12	+6		+7	+19	+2	+22		+1							

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna										
	SD: 16'0 PMG:12 ^h 03.4 ^m			Edad: 22.6 ^d PHE { 4 ^h : 57'9 12 ^h : 58'1 20 ^h : 58'4 R°: 59 ^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	06.8	+5	01.9	268	19.3	55	-28	14.3	28	60 N	3 44	4 38	5 21	4 49 15	7 59 109											
1	194	06.9		02.9	282	43.8	55		11.5	29	58	3 54	44	24	4 13 25	8 35 97											
2	209	07.1		03.8	297	08.3	56		08.6	31	56	4 02	49	27	3 46 32	9 02 90											
3	224	07.3		04.8	311	32.9	56		05.5	34	54	09	53	29	25 37	22 86											
4	239	07.5		05.7	325	57.4	55	-28	02.2	33	52	16	4 57	32	3 08 39	40 82											
5	254	07.7	+5	06.7	340	21.8	54	-27	58.8	34	50	4 21	5 01	5 34	2 53 41	9 54 80											
6	269	07.9	+5	07.7	354	46.3	55	-27	55.2	36	45	4 33	5 08	5 38	2 23 45	10 24 76											
7	284	08.0		08.6	9	10.8	55		51.3	39	40	42	14	42	1 59 48	10 47 72											
8	299	08.2		09.6	23	35.3	55		47.4	39	35	49	19	45	39 51	11 06 70											
9	314	08.4		10.5	37	59.8	55		43.2	42	30	4 55	24	48	1 23 52	23 67											
10	329	08.6		11.5	52	24.3	55		38.8	44	20	5 04	30	52	0 55 54	11 50 64											
11	344	08.8	+5	12.5	66	48.9	56	-27	34.3	45	10 N	5 11	5 35	5 56	0 30 57	12 14 61											
12	359	09.0	+5	13.4	81	13.4	55	-27	29.6	47	0	5 15	5 39	6 00	0 08 59	12 36 58											
13	14	09.1		14.4	95	37.9	55		24.8	48	10 S	18	43	04	** ** *	12 58 56											
14	29	09.3		15.3	110	02.4	55		19.7	51	20	20	45	07	** ** *	13 21 53											
15	44	09.5		16.3	124	27.0	56		14.5	52	30	20	48	11	23 58 69	13 48 49											
16	59	09.7		17.3	138	51.6	56		09.1	54	35	19	48	14	42 72	14 04 47											
17	74	09.9	+5	18.2	153	16.2	56	-27	03.5	56	40	5 18	5 49	6 16	23 25 74	14 22 45											
18	89	10.1	+5	19.2	167	40.8	56	-26	57.7	58	45	5 16	5 50	6 19	23 03 79	14 45 40											
19	104	10.2		20.1	182	05.4	56		51.8	59	50	13	51	23	22 36 84	15 13 35											
20	119	10.4		21.1	196	30.1	57		45.7	61	52	12	51	24	22 88	26 33											
21	134	10.6		22.0	210	54.7	56		39.4	63	54	10	51	26	22 07 91	15 42 30											
22	149	10.8		23.0	225	19.4	57		33.0	64	56	08	51	28	21 49 95	16 01 25											
23	164	11.0		24.0	239	44.2	58		26.3	67	58	05	51	30	21 26 102	24 18											
24	179	11.1	+5	24.9	254	08.9	57	-26	19.5	68	60 S	5 03	5 51	6 33	20 57 112	16 53 9											
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 11 ^h 14.8 ^m			Mag: -3.8 PMG: 11 ^h 05 ^m			Mag: +1.2 PMG: 9 ^h 56 ^m			Mag: -2.1 PMG: 14 ^h 16 ^m			Mag: +1.1 PMG: 10 ^h 18 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	190	49.9	193	50.2	-2	54.5	210	54.3	-9	47.1	145	29.2	+16	17.3	205	11.5	-7	56.8									
1	205	52.3	208	49.8		53.3	225	54.9		46.4	160	31.2		17.4	220	13.7		56.7									
2	220	54.8	223	49.5		52.1	240	55.5		45.7	175	33.1		17.6	235	15.9		56.6									
3	235	57.2	238	49.1		50.9	255	56.2		44.9	190	35.0		17.7	250	18.1		56.5									
4	250	59.7	253	48.7		49.7	270	56.8		44.2	205	36.9		17.9	265	20.3		56.4									
5	266	02.2	268	48.3	-2	48.5	285	57.4	-9	43.5	220	38.9	+16	18.0	280	22.5	-7	56.3									
6	281	04.6	283	47.9	-2	47.2	300	58.1	-9	42.8	235	40.8	+16	18.2	295	24.7	-7	56.2									
7	296	07.1	298	47.5		46.0	315	58.7		42.1	250	42.7		18.3	310	26.9		56.1									
8	311	09.6	313	47.2		44.8	330	59.3		41.3	265	44.6		18.5	325	29.1		55.9									
9	326	12.0	328	46.8		43.6	346	00.0		40.6	280	46.6		18.7	340	31.3		55.8									
10	341	14.5	343	46.4		42.4	1	00.6		39.9	295	48.5		18.8	355	33.5		55.7									
11	356	17.0	358	46.0	-2	41.2	16	01.2	-9	39.2	310	50.4	+16	19.0	10	35.7	-7	55.6									
12	11	19.4	13	45.6	-2	40.0	31	01.9	-9	38.5	325	52.4	+16	19.1	25	37.9	-7	55.5									
13	26	21.9	28	45.3		38.8	46	02.5		37.7	340	54.3		19.3	40	40.1		55.4									
14	41	24.4	43	44.9		37.5	61	03.1		37.0	355	56.2		19.4	55	42.3		55.3									
15	56	26.8	58	44.5		36.3	76	03.8		36.3	10	58.1		19.6	70	44.5		55.2									
16	71	29.3	73	44.1		35.1	91	04.4		35.6	26	00.1		19.8	85	46.7		55.1									
17	86	31.7	88	43.7	-2	33.9	106	05.0	-9	34.9	41	02.0	+16	19.9	100	48.9	-7	55.0									
18	101	34.2	103	43.4	-2	32.7	121	05.7	-9	34.1	56	03.9	+16	20.1	115	51.1	-7	54.9									
19	116	36.7	118	43.0		31.5	136	06.3		33.4	71	05.8		20.2	130	53.3		54.8									
20	131	39.1	133	42.6		30.3	151	06.9		32.7	86	07.8		20.4	145	55.5		54.7									
21	146	41.6	148	42.2		29.0	166	07.6		32.0	101	09.7		20.5	160	57.7		54.6									
22	161	44.1	163	41.9		27.8	181	08.2		31.2	116	11.6		20.7	175	59.9		54.5									
23	176	46.5	178	41.5		26.6	196	08.8		30.5	131	13.5		20.9	191	02.1		54.4									
24	191	49.0	193	41.1	-2	25.4	211	09.5	-9	29.8	146	15.5	+16	21.0	206	04.3	-7	54.3									
Dif	—			-4			+12			+6			+7			+19			+2			+22			+1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 12 ^h 03.1 ^m			Edad: 23.6 ^d SD: 15'9 PMG: 7 ^h 21 ^m PHE { 4 ^h : 58'7 12 ^h : 58'9 20 ^h : 59'2 Rº: 57 ^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	179	11.1	+5 24.9	254	08.9	58	-26 19.5	69	60 N	18 50	19 33	20 28	5 04	4	9 48	114	
1	194	11.3		268	33.7	58		12.6	58	46	27	18	4 38	14	10 12	106	
2	209	11.5		282	58.5	59	-26 05.4	72	56	43	22	09	18 19		32 99		
3	224	11.7		297	23.4	58	-25 58.1	73	54	40	17	20 01	4 02	23	10 48	95	
4	239	11.9		311	48.2	58		50.6	52	38	13	19 55	3 47	27	11 02	91	
5	254	12.1	+5 29.7	326	13.2	60	-25 42.9	77	50	18 36	19 09	19 49	3 34	31	11 14	88	
6	269	12.2	+5 30.7	340	38.1	59	-25 35.1	78	45	18 31	19 01	19 36	3 08	36	11 40	81	
7	284	12.4		355	03.1	60		27.1	40	27	18 54	27	2 47	41	11 59	77	
8	299	12.6		369	28.1	60		19.0	35	23	49	19	30 44		12 16	73	
9	314	12.8		383	23.2	61		10.6	30	20	44	13	2 15	46	30 70		
10	329	13.0		397	18.3	61	-25 02.1	85	20	15	37	19 03	1 49	51	12 54	65	
11	344	13.2	+5 35.4	411	13.5	62	-24 53.5	86	10 N	18 10	18 32	18 56	1 27	55	13 15	61	
12	359	13.3	+5 36.4	425	08.7	62	-24 44.6	89	0	18 06	18 27	18 51	1 07	57	13 34	57	
13	14	13.5		439	33.9	62		35.6	0 S	18 02	23	48	0 46	61	13 54	52	
14	29	13.7		453	59.2	63		26.5	20	17 58	20	46	0 24	64	14 14	48	
15	44	13.9		467	24.6	64		17.2	30	54	18	45	** ** *	**	37 44		
16	59	14.1		481	50.0	64	-24 07.7	95	35	51	16	46	** ** *	**	14 51	40	
17	74	14.2	+5 41.2	495	15.4	64	-23 58.1	96	40	17 48	18 15	18 47	** ** *	**	15 07	36	
18	89	14.4	+5 42.1	509	40.9	65	-23 48.3	98	45	17 45	18 14	18 48	** ** *	**	15 25	32	
19	104	14.6		523	06.4	65		38.3	50	41	13	51	** ** *	**	48 26		
20	119	14.8		537	32.0	66		28.2	52	39	13	52	23 50	92	15 59	23	
21	134	15.0		551	57.6	66		17.9	54	37	12	53	38 96		16 12	19	
22	149	15.1		565	23.3	67	-23 07.5	104	56	35	12	55	24 101		26 15		
23	164	15.3		579	49.1	68	-22 56.9	106	58	33	12	18 57	23 08 106		16 42	10	
24	179	15.5	+5 47.8	593	14.9	68	-22 46.2	107	60 S	17 30	18 12	19 00	22 49 113		17 02	3	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 11 ^h 10.9 ^m		Mag: -3.8 PMG: 11 ^h 06 ^m			Mag: +1.2 PMG: 9 ^h 55 ^m			Mag: -2.1 PMG: 14 ^h 13 ^m			Mag: +1.1 PMG: 10 ^h 14 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	191	49.0	193	41.1	-2 25.4	211	09.5	-9 29.8	146	15.5	+16 21.0	206	04.3	-7 54.3			
1	206	51.5	208	40.7	24.2	226	10.1	29.1	161	17.4	21.2	221	06.5	54.2			
2	221	53.9	223	40.3	23.0	241	10.7	28.4	176	19.3	21.3	236	08.7	54.1			
3	236	56.4	238	40.0	21.8	256	11.4	27.6	191	21.2	21.5	251	10.9	54.0			
4	251	58.9	253	39.6	20.5	271	12.0	26.9	206	23.2	21.6	266	13.1	53.9			
5	267	01.3	268	39.2	-2 19.3	286	12.6	-9 26.2	221	25.1	+16 21.8	281	15.3	-7 53.8			
6	282	03.8	283	38.8	-2 18.1	301	13.3	-9 25.5	236	27.0	+16 21.9	296	17.5	-7 53.7			
7	297	06.2	298	38.4	16.9	316	13.9	24.7	251	28.9	22.1	311	19.7	53.6			
8	312	08.7	313	38.1	15.7	331	14.5	24.0	266	30.9	22.3	326	21.9	53.5			
9	327	11.2	328	37.7	14.5	346	15.2	23.3	281	32.8	22.4	341	24.1	53.4			
10	342	13.6	343	37.3	13.3	1 15.8	22.6	22.6	296	34.7	22.6	356	26.3	53.3			
11	357	16.1	358	36.9	-2 12.0	16 16.4	-9 21.8	21.8	311	36.6	+16 22.7	11 28.5	-7 53.2				
12	12 18.6		13 36.6	-2 10.8		31 17.1	-9 21.1		326	38.5	+16 22.9	26 30.7	-7 53.1				
13	27 21.0		28 36.2	09.6		46 17.7	20.4		341	40.5	23.0	41 32.9	53.0				
14	42 23.5		43 35.8	08.4		61 18.3	19.7		356	42.4	23.2	56 35.1	52.9				
15	57 26.0		58 35.4	07.2		76 19.0	18.9		11 44.3	23.4		71 37.3	52.8				
16	72 28.4		73 35.1	06.0		91 19.6	18.2		26 46.2	23.5		86 39.5	52.7				
17	87 30.9		88 34.7	-2 04.7		106 20.2	-9 17.5		41 48.2	+16 23.7		101 41.7	-7 52.6				
18	102 33.3		103 34.3	-2 03.5		121 20.9	-9 16.8		56 50.1	+16 23.8		116 44.0	-7 52.5				
19	117 35.8		118 33.9	02.3		136 21.5	16.0		71 52.0	24.0		131 46.2	52.4				
20	132 38.3		133 33.5	-2 01.1		151 22.1	15.3		86 53.9	24.1		146 48.4	52.3				
21	147 40.7		148 33.2	-1 59.9		166 22.8	14.6		101 55.9	24.3		161 50.6	52.2				
22	162 43.2		163 32.8	58.7		181 23.4	13.9		116 57.8	24.5		176 52.8	52.1				
23	177 45.7		178 32.4	57.4		196 24.1	13.1		131 59.7	24.6		191 55.0	52.0				
24	192 48.1		193 32.0	-1 56.2		211 24.7	-9 12.4		147 01.6	+16 24.8		206 57.2	-7 51.9				
Dif	—		-4 +12		+6 +7		+19 +2		+22 +1								

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 02.8 ^m			Edad: 24.6 ^d SD: 16'2 PMG: 8 ^h 18 ^m PHE { 4 ^h : 59'5 12 ^h : 59'7 20 ^h : 60'0 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	h m m	h m m	
0	179	15.5	+5	47.8	240	14.9	68	-22	46.2	109	60 N	3 37	4 32	5 15	5 08 1	11 42 113
1	194	15.7		48.8	254	40.7	69		35.3	110	58	47	38	19	4 52 7	11 58 106
2	209	15.9		49.7	269	06.6	70		24.3	112	56	3 56	43	22	37 12	12 11 101
3	224	16.0		50.7	283	32.6	70		13.1	113	54	4 04	48	25	25 16	23 96
4	239	16.2		51.6	297	58.6	71	-22	01.8	115	52	11	53	27	14 20	33 93
5	254	16.4	+5	52.6	312	24.7	71	-21	50.3	117	50	4 17	4 56	5 29	4 05 22	12 42 90
6	269	16.6	+5	53.5	326	50.8	72	-21	38.6	117	45	4 29	5 05	5 34	3 44 29	13 01 83
7	284	16.8		54.5	341	17.0	72		26.9	117	40	39	11	39	28 33	16 78
8	299	16.9		55.4	355	43.2	73		15.0	119	35	47	17	42	14 37	29 74
9	314	17.1		56.4	10	09.5	74	-21	02.9	121	30	4 53	21	45	3 01 41	40 71
10	329	17.3		57.3	24	35.9	74	-20	50.7	122	20	5 03	29	51	2 40 46	13 59 65
11	344	17.5	+5	58.3	39	02.3	74	-20	38.4	123	10 N	5 10	5 34	5 55	2 22 51	14 16 59
12	359	17.7	+5	59.3	53	28.8	75	-20	25.9	125	0	5 15	5 39	6 00	2 04 56	14 31 54
13	14	17.8	+6	00.2	67	55.3	75		13.3	126	10 S	18	43	04	1 47 60	14 46 50
14	29	18.0		01.2	82	21.9	76	-20	00.5	128	20	20	46	08	28 65	15 02 44
15	44	18.2		02.1	96	48.6	77	-19	47.7	128	30	21	49	13	1 07 70	21 38
16	59	18.4		03.1	111	15.3	77		34.6	131	35	21	50	15	0 54 74	31 35
17	74	18.6	+6	04.0	125	42.0	77	-19	21.5	131	40	5 20	5 51	6 18	0 39 78	15 43 31
18	89	18.7	+6	05.0	140	08.9	79	-19	08.2	133	45	5 18	5 52	6 22	0 22 83	15 57 26
19	104	18.9		05.9	154	35.8	79	-18	54.8	134	50	16	54	26	0 00 89	16 14 20
20	119	19.1		06.9	169	02.7	80		41.3	135	52	15	54	28	** ** *	22 18
21	134	19.3		07.8	183	29.7	81		27.6	137	54	14	54	30	** ** *	31 14
22	149	19.5		08.7	197	56.8	81	-18	13.9	137	56	12	55	32	** ** *	41 10
23	164	19.6		09.7	212	23.9	81	-18	00.0	139	58	10	55	35	** ** *	16 52 6
24	179	19.8	+6	10.6	226	51.0	81	-17	45.9	141	60 S	5 07	5 56	6 37	** ** *	17 05 1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 11 ^h 07.0 ^m		Mag: -3.8 PMG: 11 ^h 06 ^m		Mag: +1.2 PMG: 9 ^h 54 ^m		Mag: -2.1 PMG: 14 ^h 10 ^m		Mag: +1.1 PMG: 10 ^h 11 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	192	48.1	193	32.0	-1	56.2	211	24.7	-9	12.4	147	01.6	+16	24.8	206	57.2	-7	51.9
1	207	50.6	208	31.7		55.0	226	25.3		11.7	162	03.5		24.9	221	59.4		51.7
2	222	53.1	223	31.3		53.8	241	26.0		11.0	177	05.5		25.1	237	01.6		51.6
3	237	55.5	238	30.9		52.6	256	26.6		10.2	192	07.4		25.2	252	03.8		51.5
4	252	58.0	253	30.5		51.3	271	27.2		09.5	207	09.3		25.4	267	06.0		51.4
5	268	00.5	268	30.2	-1	50.1	286	27.9	-9	08.8	222	11.2	+16	25.5	282	08.2	-7	51.3
6	283	02.9	283	29.8	-1	48.9	301	28.5	-9	08.0	237	13.1	+16	25.7	297	10.4	-7	51.2
7	298	05.4	298	29.4		47.7	316	29.1		07.3	252	15.1		25.9	312	12.6		51.1
8	313	07.8	313	29.0		46.5	331	29.8		06.6	267	17.0		26.0	327	14.8		51.0
9	328	10.3	328	28.7		45.3	346	30.4		05.9	282	18.9		26.2	342	17.0		50.9
10	343	12.8	343	28.3		44.0	1	31.1		05.1	297	20.8		26.3	357	19.2		50.8
11	358	15.2	358	27.9	-1	42.8	16	31.7	-9	04.4	312	22.8	+16	26.5	12	21.4	-7	50.7
12	13	17.7	13	27.5	-1	41.6	31	32.3	-9	03.7	327	24.7	+16	26.6	27	23.6	-7	50.6
13	28	20.2	28	27.2		40.4	46	33.0		03.0	342	26.6		26.8	42	25.8		50.5
14	43	22.6	43	26.8		39.2	61	33.6		02.2	357	28.5		27.0	57	28.0		50.4
15	58	25.1	58	26.4		37.9	76	34.2		01.5	12	30.4		27.1	72	30.2		50.3
16	73	27.6	73	26.0		36.7	91	34.9	-9	00.8	27	32.4		27.3	87	32.4		50.2
17	88	30.0	88	25.7	-1	35.5	106	35.5	-9	00.0	42	34.3	+16	27.4	102	34.7	-7	50.1
18	103	32.5	103	25.3	-1	34.3	121	36.2	-8	59.3	57	36.2	+16	27.6	117	36.9	-7	50.0
19	118	35.0	118	24.9		33.1	136	36.8		58.6	72	38.1		27.7	132	39.1		49.9
20	133	37.4	133	24.5		31.8	151	37.4		57.9	87	40.0		27.9	147	41.3		49.8
21	148	39.9	148	24.2		30.6	166	38.1		57.1	102	42.0		28.1	162	43.5		49.7
22	163	42.3	163	23.8		29.4	181	38.7		56.4	117	43.9		28.2	177	45.7		49.6
23	178	44.8	178	23.4		28.2	196	39.4		55.7	132	45.8		28.4	192	47.9		49.5
24	193	47.3	193	23.0	-1	27.0	211	40.0	-8	54.9	147	47.7	+16	28.5	207	50.1	-7	49.4
Dif	—		-4		+12		+6		+7		+19		+2		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 02.5 ^m			Edad: 25.6 ^d SD: 16'4 PMG: 9 ^h 13 ^m			PHE { 4 ^h : 60'2 12 ^h : 60'4 20 ^h : 60'6 Rº: 52 ^m										
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	19.8	+6	10.6	226	51.0	83	-17	45.9	141	60 N	18 55	19 39	20 35	5 09	0	13 35 109
1	194	20.0		11.6	241	18.3	83		31.8	141	58	51	32	23	4 59	4	44 104
2	209	20.2		12.5	255	45.6	83		17.5	143	56	47	26	14	49	9	52 100
3	224	20.3		13.5	270	12.9	83	-17	03.2	143	54	44	21	20 06	41 12		13 59 96
4	239	20.5		14.4	284	40.3	84	-16	48.7	145	52	41	16	19 59	34 15		14 06 92
5	254	20.7	+6	15.4	299	07.8	85	-16	34.1	146	50	18 39	19 12	19 52	4 27	18	14 12 89
6	269	20.9	+6	16.3	313	35.3	85	-16	19.4	147	45	18 33	19 03	19 39	4 13	24	14 24 83
7	284	21.1		17.3	328	02.8	85	-16	04.5	149	40	29	18 56	29 4	01 29		34 78
8	299	21.2		18.2	342	30.5	87	-15	49.6	150	35	25	50	21	3 51	33	43 73
9	314	21.4		19.2	356	58.1	86		34.6	152	30	21	46	14	42 36		14 51 69
10	329	21.6		20.1	11	25.8	87		19.4	152	20	15	38	19 04	26 43		15 04 63
11	344	21.8	+6	21.1	25	53.6	88	-15	04.2	152	10 N	18 10	18 32	18 56	3 13	48	15 15 57
12	359	21.9	+6	22.0	40	21.5	89	-14	48.8	154	0	18 06	18 27	18 51	3 00	53	15 25 52
13	14	22.1		23.0	54	49.3	88		33.4	154	10 S	18 01	22	47	2 47	58	36 46
14	29	22.3		23.9	69	17.3	90		17.8	156	20	17 57	19	44	33	64	46 42
15	44	22.5		24.9	83	45.2	89	-14	02.2	156	30	51	15	43	17 70		15 59 35
16	59	22.7		25.8	98	13.3	91	-13	46.5	157	35	48	14	43	2 08	74	16 06 31
17	74	22.8	+6	26.7	112	41.4	91	-13	30.6	159	40	17 45	18 12	18 43	1 57	78	16 14 27
18	89	23.0	+6	27.7	127	09.5	91	-13	14.7	159	45	17 41	18 11	18 45	1 45	83	16 23 23
19	104	23.2		28.6	141	37.7	92	-12	58.7	160	50	37	09	46	29 90		34 17
20	119	23.4		29.6	156	05.9	92		42.6	161	52	35	08	47	22 93		40 13
21	134	23.5		30.5	170	34.1	92		26.4	162	54	32	08	49	14 96		45 11
22	149	23.7		31.5	185	02.5	94	-12	10.2	162	56	30	07	50	1 05	100	51 8
23	164	23.9		32.4	199	30.8	93	-11	53.8	164	58	27	06	52	0 54	105	16 58 4
24	179	24.1	+6	33.4	213	59.2	94	-11	37.4	164	60 S	17 24	18 06	18 54	0 42	111	17 06 0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 ^h 03.0 ^m		Mag: -3.8 PMG: 11 ^h 07 ^m		Mag: +1.2 PMG: 9 ^h 53 ^m		Mag: -2.1 PMG: 14 ^h 07 ^m		Mag: +1.1 PMG: 10 ^h 07 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	193	47.3	193	23.0	211	40.0	147	47.7	207	50.1
1	208	49.7	208	22.7	226	40.6	162	49.6	222	52.3
2	223	52.2	223	22.3	241	41.3	177	51.6	237	54.5
3	238	54.7	238	21.9	256	41.9	192	53.5	252	56.7
4	253	57.1	253	21.5	271	42.6	207	55.4	267	58.9
5	268	59.6	268	21.2	286	43.2	222	57.3	283	01.1
6	284	02.1	283	20.8	301	43.8	237	59.2	298	03.3
7	299	04.5	298	20.4	316	44.5	253	01.1	313	05.5
8	314	07.0	313	20.1	331	45.1	268	03.1	328	07.7
9	329	09.4	328	19.7	346	45.8	283	05.0	343	09.9
10	344	11.9	343	19.3	1	46.4	298	06.9	358	12.1
11	359	14.4	358	18.9	16	47.0	313	08.8	13	14.4
12	14	16.8	13	18.6	31	47.7	328	10.7	28	16.6
13	29	19.3	28	18.2	46	48.3	343	12.7	43	18.8
14	44	21.8	43	17.8	61	49.0	358	14.6	58	21.0
15	59	24.2	58	17.4	76	49.6	13	16.5	73	23.2
16	74	26.7	73	17.1	91	50.2	28	18.4	88	25.4
17	89	29.2	88	16.7	106	50.9	43	20.3	103	27.6
18	104	31.6	103	16.3	121	51.5	58	22.2	118	29.8
19	119	34.1	118	16.0	136	52.2	73	24.2	133	32.0
20	134	36.6	133	15.6	151	52.8	88	26.1	148	34.2
21	149	39.0	148	15.2	166	53.5	103	28.0	163	36.4
22	164	41.5	163	14.8	181	54.1	118	29.9	178	38.6
23	179	43.9	178	14.5	196	54.7	133	31.8	193	40.8
24	194	46.4	193	14.1	211	55.4	148	33.7	208	43.0
Dif	—		-4	+12	+6	+7	+19	+2	+22	+1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 02.3 ^m			Edad: 26.6 ^d PHE { 4 ^h : 60'7 12 ^h : 60'9 20 ^h : 61'0 PMG: 10 ^h 05 ^m R°: 51 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m
0	179	24.1	+6	33.4	213	59.2	94	-11	37.4	60 N	3	29	4	25	5	09	**
1	194	24.2		34.3	228	27.6	94		20.9	58	40	32	13	5	03	3	28 103
2	209	24.4		35.2	242	56.1	95	-11	04.3	56	50	38	16	4	58	7	32 98
3	224	24.6		36.2	257	24.6	95	-10	47.6	54	3	58	43	20	53	10	35 95
4	239	24.8		37.1	271	53.2	96		30.9	52	4	05	48	23	49	13	38 92
5	254	24.9	+6	38.1	286	21.8	96	-10	14.1	50	4	12	4	52	5	25	15 41 89
6	269	25.1	+6	39.0	300	50.4	96	-9	57.2	45	4	25	5	01	4	37	21 15 47 83
7	284	25.3		40.0	315	19.1	97		40.3	40	35	08	35	30	26		52 78
8	299	25.5		40.9	329	47.8	97		23.2	35	44	14	39	24	30	15	56 73
9	314	25.6		41.8	344	16.5	97	-9	06.2	30	4	50	19	43	18	34	16 00 69
10	329	25.8		42.8	358	45.3	98	-8	49.0	20	5	01	27	49	09	40	07 62
11	344	26.0	+6	43.7	13	14.1	98	-8	31.8	10 N	5	08	5	33	5	54	4 01 46 16 12 57
12	359	26.2	+6	44.7	27	43.0	99	-8	14.6	0	5	14	5	38	5	59	3 53 51 16 17 51
13	14	26.3		45.6	42	11.8	98	-7	57.3	10 S	18	43	6	04	45	57	22 46
14	29	26.5		46.6	56	40.7	99		39.9	20	21	46	08	37	62		28 40
15	44	26.7		47.5	71	09.7	100		22.5	30	22	50	14	27	69		34 33
16	59	26.9		48.4	85	38.6	99	-7	05.0	35	22	52	17	22	73		37 30
17	74	27.0	+6	49.4	100	07.6	100	-6	47.5	40	5	22	5	53	6	20	3 15 78 16 41 26
18	89	27.2	+6	50.3	114	36.6	100	-6	30.0	45	5	21	5	55	6	24	3 08 83 16 46 20
19	104	27.4		51.3	129	05.6	100	-6	12.3	50	19	57	29	2	59	89	51 15
20	119	27.6		52.2	143	34.7	101	-5	54.7	52	18	57	31	55	92		53 13
21	134	27.7		53.1	158	03.7	100		37.0	54	17	58	34	50	95		56 10
22	149	27.9		54.1	172	32.8	101		19.3	56	16	5	59	36	45	99	16 59 6
23	164	28.1		55.0	187	01.9	101	-5	01.5	58	14	6	00	39	39	103	17 02 3
24	179	28.3	+6	56.0	201	31.0	101	-4	43.7	60 S	5	12	6	00	6	42	2 33 107 17 06 **

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 10 ^h 59.1 ^m		Mag: -3.8 PMG: 11 ^h 07 ^m		Mag: +1.2 PMG: 9 ^h 52 ^m		Mag: -2.1 PMG: 14 ^h 04 ^m		Mag: +1.1 PMG: 10 ^h 04 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	194	46.4	193	14.1	-0	57.6	211	55.4	-8	37.4	148	33.7	+16	32.3	208	43.0	-7	47.0
1	209	48.9	208	13.7		56.4	226	56.0		36.7	163	35.7		32.4	223	45.2		46.9
2	224	51.3	223	13.3		55.2	241	56.7		35.9	178	37.6		32.6	238	47.5		46.8
3	239	53.8	238	13.0		54.0	256	57.3		35.2	193	39.5		32.7	253	49.7		46.7
4	254	56.3	253	12.6		52.8	271	58.0		34.5	208	41.4		32.9	268	51.9		46.6
5	269	58.7	268	12.2	-0	51.5	286	58.6	-8	33.7	223	43.3	+16	33.1	283	54.1	-7	46.5
6	285	01.2	283	11.9	-0	50.3	301	59.2	-8	33.0	238	45.2	+16	33.2	298	56.3	-7	46.4
7	300	03.7	298	11.5		49.1	316	59.9		32.3	253	47.2		33.4	313	58.5		46.3
8	315	06.1	313	11.1		47.9	332	00.5		31.5	268	49.1		33.5	329	00.7		46.2
9	330	08.6	328	10.7		46.6	347	01.2		30.8	283	51.0		33.7	344	02.9		46.1
10	345	11.1	343	10.4		45.4	2	01.8		30.0	298	52.9		33.8	359	05.1		46.0
11	0	13.5	358	10.0	-0	44.2	17	02.5	-8	29.3	313	54.8	+16	34.0	14	07.3	-7	45.9
12	15	16.0	13	09.6	-0	43.0	32	03.1	-8	28.6	328	56.7	+16	34.2	29	09.5	-7	45.8
13	30	18.4	28	09.3		41.8	47	03.7		27.8	343	58.7		34.3	44	11.7		45.7
14	45	20.9	43	08.9		40.5	62	04.4		27.1	359	00.6		34.5	59	13.9		45.6
15	60	23.4	58	08.5		39.3	77	05.0		26.4	14	02.5		34.6	74	16.1		45.5
16	75	25.8	73	08.1		38.1	92	05.7		25.6	29	04.4		34.8	89	18.4		45.4
17	90	28.3	88	07.8	-0	36.9	107	06.3	-8	24.9	44	06.3	+16	34.9	104	20.6	-7	45.3
18	105	30.8	103	07.4	-0	35.6	122	07.0	-8	24.2	59	08.2	+16	35.1	119	22.8	-7	45.2
19	120	33.2	118	07.0		34.4	137	07.6		23.4	74	10.1		35.3	134	25.0		45.1
20	135	35.7	133	06.7		33.2	152	08.3		22.7	89	12.1		35.4	149	27.2		45.0
21	150	38.2	148	06.3		32.0	167	08.9		22.0	104	14.0		35.6	164	29.4		44.9
22	165	40.6	163	05.9		30.7	182	09.5		21.2	119	15.9		35.7	179	31.6		44.8
23	180	43.1	178	05.5		29.5	197	10.2		20.5	134	17.8		35.9	194	33.8		44.7
24	195	45.5	193	05.2	-0	28.3	212	10.8	-8	19.8	149	19.7	+16	36.0	209	36.0	-7	44.6
Dif	—		-4	+12		+6	+7			+19	+2			+22		+1		

UT	SOL			● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 02.0 ^m			Edad: 27.6 ^d SD: 16'6 PMG: 10 ^h 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	179 28.3	+6 56.0		201 31.0		-4 43.7	178	60 N	19 00	19 44	20 41	5 08 **	17 11 107		
1	194 28.4		56.9	216 00.2	102		25.9	58	18 55	37	29	06 3	11 102		
2	209 28.6		57.8	230 29.3	101	-4 08.0	179	56	51	30	19	05 6	10 99		
3	224 28.8		58.8	244 58.5	102	-3 50.1	179	54	48	25	10	03 10	10 96		
4	239 29.0	+6 59.7		259 27.7	102		32.2	52	45	20	20 03	02 12	10 92		
5	254 29.1	+7 00.7		273 56.9	102	-3 14.2	180	50	18 42	19 15	19 56	5 01 15	17 10 89		
6	269 29.3	+7 01.6		288 26.1	102	-2 56.3	179	45	18 36	19 06	19 42	4 58 21	17 10 83		
7	284 29.5		02.5	302 55.3	102		38.3	40	31	18 58	31	56 25	10 77		
8	299 29.7		03.5	317 24.5	102		20.3	35	26	52	23	54 30	09 74		
9	314 29.8		04.4	331 53.8	103	-2 02.3	180	30	23	47	15	52 34	09 70		
10	329 30.0		05.3	346 23.0	102	-1 44.2	181	20	16	38	19 04	49 40	09 63		
11	344 30.2	+7 06.3	0 52.2	0 52.2	102	-1 26.2	180	10 N	18 10	18 32	18 56	4 47 45	17 09 56		
12	359 30.3	+7 07.2		15 21.5	103	-1 08.1	181	0	18 05	18 26	18 50	4 44 51	17 08 52		
13	14 30.5		08.2	29 50.7	102	-0 50.0	181	10 S	18 00	21	46	42 56	08 46		
14	29 30.7		09.1	44 20.0	103		31.9	20	17 55	17	43	39 63	08 40		
15	44 30.9		10.0	58 49.2	102	-0 13.8	181	30	49	13	41	36 70	07 34		
16	59 31.0		11.0	73 18.5	103	+0 04.2	180	35	46	11	40	35 73	07 30		
17	74 31.2	+7 11.9		87 47.7	102	+0 22.3	181	40	17 42	18 09	18 40	4 33 77	17 07 26		
18	89 31.4	+7 12.8		102 16.9	102	+0 40.4	181	45	17 38	18 07	18 41	4 31 82	17 06 21		
19	104 31.6		13.8	116 46.2	103	+0 58.5	181	50	33	05	42	28 89	06 15		
20	119 31.7		14.7	131 15.4	102	+1 16.6	181	52	30	04	43	27 92	06 12		
21	134 31.9		15.6	145 44.6	102		34.7	54	28	03	44	25 95	06 9		
22	149 32.1		16.6	160 13.8	102	+1 52.7	180	56	25	02	45	24 98	05 7		
23	164 32.2		17.5	174 43.0	102	+2 10.8	181	58	22	01	46	22 103	05 3		
24	179 32.4	+7 18.4		189 12.2	102	+2 28.8	180	60 S	17 18	18 00	18 48	4 20 107	17 05 **		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG 10 ^h 55.2 ^m		Mag: -3.8 PMG: 11 ^h 08 ^m		Mag: +1.2 PMG: 9 ^h 51 ^m		Mag: -2.1 PMG: 14 ^h 01 ^m		Mag: +1.1 PMG: 10 ^h 00 ^m						
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /		° /		° /		° /		° /						
0	195 45.5		193 05.2	-0 28.3	212 10.8	-8 19.8	149 19.7	+16 36.0	209 36.0	-7 44.6					
1	210 48.0		208 04.8		227 11.5	19.0	164 21.6	36.2	224 38.2	44.5					
2	225 50.5		223 04.4		242 12.1	18.3	179 23.5	36.3	239 40.4	44.4					
3	240 52.9		238 04.1		257 12.8	17.6	194 25.5	36.5	254 42.7	44.3					
4	255 55.4		253 03.7		272 13.4	16.8	209 27.4	36.7	269 44.9	44.2					
5	270 57.9		268 03.3	-0 22.2	287 14.1	-8 16.1	224 29.3	+16 36.8	284 47.1	-7 44.1					
6	286 00.3		283 02.9	-0 20.9	302 14.7	-8 15.3	239 31.2	+16 37.0	299 49.3	-7 44.0					
7	301 02.8		298 02.6		317 15.4	14.6	254 33.1	37.1	314 51.5	43.9					
8	316 05.3		313 02.2		332 16.0	13.9	269 35.0	37.3	329 53.7	43.8					
9	331 07.7		328 01.8		347 16.7	13.1	284 36.9	37.4	344 55.9	43.7					
10	346 10.2		343 01.5		2 17.3	12.4	299 38.9	37.6	359 58.1	43.6					
11	1 12.7		358 01.1	-0 14.8	17 17.9	-8 11.7	314 40.8	+16 37.8	15 00.3	-7 43.5					
12	16 15.1		13 00.7	-0 13.6	32 18.6	-8 10.9	329 42.7	+16 37.9	30 02.5	-7 43.4					
13	31 17.6		28 00.4		47 19.2	10.2	344 44.6	38.1	45 04.7	43.3					
14	46 20.0		43 00.0		62 19.9	09.4	359 46.5	38.2	60 07.0	43.2					
15	61 22.5		57 59.6		77 20.5	08.7	14 48.4	38.4	75 09.2	43.1					
16	76 25.0		72 59.2		92 21.2	08.0	29 50.3	38.5	90 11.4	43.0					
17	91 27.4		87 58.9	-0 07.5	107 21.8	-8 07.2	44 52.2	+16 38.7	105 13.6	-7 42.9					
18	106 29.9		102 58.5	-0 06.3	122 22.5	-8 06.5	59 54.2	+16 38.8	120 15.8	-7 42.8					
19	121 32.4		117 58.1		137 23.1	05.8	74 56.1	39.0	135 18.0	42.7					
20	136 34.8		132 57.8		152 23.8	05.0	89 58.0	39.2	150 20.2	42.6					
21	151 37.3		147 57.4		167 24.4	04.3	104 59.9	39.3	165 22.4	42.5					
22	166 39.8		162 57.0		182 25.1	03.5	120 01.8	39.5	180 24.6	42.4					
23	181 42.2		177 56.6	-0 00.1	197 25.7	02.8	135 03.7	39.6	195 26.8	42.3					
24	196 44.7		192 56.3	+0 01.1	212 26.4	-8 02.1	150 05.6	+16 39.8	210 29.1	-7 42.2					
Dif	—		-4	+12	+6	+7	+19	+2	+22	+1					

ALMANAQUE NÁUTICO PERSEIS

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 01.4 ^m			Edad: 29.6 ^d SD: 16'6 PMG: 12 ^h 40 ^m PHE { 4 ^h : 60'8 12 ^h : 60'6 20 ^h : 60'4 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			
0	179 36.5	+7 40.8	176 46.4	96	+9	32.4	171	60 N	19 04	19 49	20 48	5 07 0		20 48 113			
1	194 36.7	41.7	191 15.0	95	+9	49.5	169	58	19 00	42	35	13 5		38 106			
2	209 36.8	42.7	205 43.5	94	+10	06.4	170	56	18 55	35	24	18 9		29 102			
3	224 37.0	43.6	220 11.9	95		23.4	168	54	52	29	15	23 13		22 97			
4	239 37.2	44.5	234 40.4	93		40.2	168	52	48	24	07	27 16		15 94			
5	254 37.3	+7 45.4	249 08.7	94	+10	57.0	168	50	18 45	19 19	20 00	5 32 18		20 09 90			
6	269 37.5	+7 46.4	263 37.1	93	+11	13.7	167	45	18 38	19 09	19 45	5 40 25		19 56 84			
7	284 37.7	47.3	278 05.4	92		30.3	166	40	33	19 01	34	48 29		46 78			
8	299 37.8	48.2	292 33.6	92	+11	46.8	165	35	28	18 54	24	5 54 34		37 74			
9	314 38.0	49.2	307 01.8	92	+12	03.3	165	30	24	48	17	6 00 37		29 70			
10	329 38.2	50.1	321 30.0	91		19.7	164	20	17	39	19 05	10 43		15 65			
11	344 38.3	+7 51.0	335 58.1	90	+12	36.0	163	10 N	18 10	18 32	18 56	6 19 48		19 03 60			
12	359 38.5	+7 51.9	350 26.2	91	+12	52.2	162	0	18 05	18 26	18 50	6 27 54		18 52 55			
13	14 38.7	52.9	4 54.2	90	+13	08.3	161	10 S	17 59	20	45	36 58		41 50			
14	29 38.8	53.8	19 22.1	89		24.3	160	20	53	15	41	45 64		30 45			
15	44 39.0	54.7	33 50.1	90		40.3	160	30	47	11	39	6 55 71		16 40			
16	59 39.2	55.6	48 17.9	88	+13	56.1	158	35	43	08	38	7 01 75		09 35			
17	74 39.3	+7 56.6	62 45.7	88	+14	11.9	158	40	17 39	18 06	18 37	7 08 79		18 00 32			
18	89 39.5	+7 57.5	77 13.5	88	+14	27.6	157	45	17 34	18 04	18 37	7 17 83		17 50 27			
19	104 39.7	58.4	91 41.2	87		43.1	155	50	28	01	38	26 91		38 21			
20	119 39.8	+7 59.3	106 08.9	87	+14	58.6	155	52	26	18 00	39	31 94		33 17			
21	134 40.0	+8 00.3	120 36.5	86	+15	14.0	154	54	23	17 58	39	36 97		26 15			
22	149 40.2	01.2	135 04.0	85		29.2	152	56	20	57	40	42 101		20 10			
23	164 40.3	02.1	149 31.5	85		44.4	152	58	16	56	41	48 106		12 6			
24	179 40.5	+8 03.0	163 59.0	85	+15	59.4	150	60 S	17 12	17 54	18 42	7 56 111		17 03 1			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 10 ^h 47.3 ^m		Mag: -3.8 PMG: 11 ^h 09 ^m		Mag: +1.2 PMG: 9 ^h 49 ^m		Mag: -2.1 PMG: 13 ^h 55 ^m		Mag: +1.1 PMG: 9 ^h 53 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	197 43.8	192 47.4	+0 30.5	212 42.0	-7 44.3	150 51.5	+16 43.5	211 22.1	-7 39.8								
1	212 46.3	207 47.0	31.7	227 42.6	43.6	165 53.4	43.7	226 24.3	39.7								
2	227 48.7	222 46.7	32.9	242 43.3	42.8	180 55.3	43.8	241 26.5	39.6								
3	242 51.2	237 46.3	34.2	257 43.9	42.1	195 57.2	44.0	256 28.8	39.5								
4	257 53.7	252 45.9	35.4	272 44.6	41.3	210 59.1	44.2	271 31.0	39.4								
5	272 56.1	267 45.6	+0 36.6	287 45.2	-7 40.6	226 01.0	+16 44.3	286 33.2	-7 39.3								
6	287 58.6	282 45.2	+0 37.9	302 45.9	-7 39.9	241 02.9	+16 44.5	301 35.4	-7 39.2								
7	303 01.1	297 44.8	39.1	317 46.5	39.1	256 04.8	44.6	316 37.6	39.1								
8	318 03.5	312 44.4	40.3	332 47.2	38.4	271 06.7	44.8	331 39.8	39.0								
9	333 06.0	327 44.1	41.5	347 47.8	37.6	286 08.7	44.9	346 42.0	38.9								
10	348 08.5	342 43.7	42.8	2 48.5	36.9	301 10.6	45.1	1 44.2	38.8								
11	3 10.9	357 43.3	+0 44.0	17 49.1	-7 36.1	316 12.5	+16 45.2	16 46.5	-7 38.8								
12	18 13.4	12 43.0	+0 45.2	32 49.8	-7 35.4	331 14.4	+16 45.4	31 48.7	-7 38.7								
13	33 15.9	27 42.6	46.4	47 50.4	34.7	346 16.3	45.6	46 50.9	38.6								
14	48 18.3	42 42.2	47.7	62 51.1	33.9	1 18.2	45.7	61 53.1	38.5								
15	63 20.8	57 41.9	48.9	77 51.8	33.2	16 20.1	45.9	76 55.3	38.4								
16	78 23.2	72 41.5	50.1	92 52.4	32.4	31 22.0	46.0	91 57.5	38.3								
17	93 25.7	87 41.1	+0 51.3	107 53.1	-7 31.7	46 23.9	+16 46.2	106 59.7	-7 38.2								
18	108 28.2	102 40.8	+0 52.6	122 53.7	-7 30.9	61 25.8	+16 46.3	122 01.9	-7 38.1								
19	123 30.6	117 40.4	53.8	137 54.4	30.2	76 27.7	46.5	137 04.2	38.0								
20	138 33.1	132 40.0	55.0	152 55.0	29.5	91 29.6	46.7	152 06.4	37.9								
21	153 35.6	147 39.6	56.2	167 55.7	28.7	106 31.5	46.8	167 08.6	37.8								
22	168 38.0	162 39.3	57.5	182 56.3	28.0	121 33.5	47.0	182 10.8	37.7								
23	183 40.5	177 38.9	58.7	197 57.0	27.2	136 35.4	47.1	197 13.0	37.6								
24	198 43.0	192 38.5	+0 59.9	212 57.6	-7 26.5	151 37.3	+16 47.3	212 15.2	-7 37.5								
Dif	—	-4	+12	+7	+7	+19	+2	+22	+1								

UT	SOL			● LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'0 PMG:12 ^h 01.2 ^m			Edad: 1.2 ^d PHE { 4 ^h : 60'2 12 ^h : 60'0 20 ^h : 59'7 PMG: 13 ^h 34 ^m R°: 56 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	179	40.5	+8	03.0	163	59.0	+15	59.4	60 N	3	14	4	12	4	57	5	07		
1	194	40.7		04.0	178	26.4	+16	14.4	58	27		20	5	02	18	8			
2	209	40.8		04.9	192	53.7		29.2	56	38		27	06	27	13	22	11		
3	224	41.0		05.8	207	21.0		43.9	54	47		33	10	36	17	21	59		
4	239	41.2		06.7	221	48.2	+16	58.5	52	3	55	38	14	43	21	49	90		
5	254	41.3	+8	07.6	236	15.4	+17	13.0	50	4	02	4	43	5	17	5	50		
6	269	41.5	+8	08.6	250	42.5	+17	27.4	45	4	17	4	53	5	24	6	05		
7	284	41.7		09.5	265	09.6		41.6	40	28		5	02	29	17	35	21		
8	299	41.8		10.4	279	36.6	+17	55.8	35	38		08	34	28	38	20	51		
9	314	42.0		11.3	294	03.5	+18	09.8	30	45		14	38	37	42	39	70		
10	329	42.2		12.3	308	30.4		23.7	20	4	57	23	46	6	53	47	20		
11	344	42.3	+8	13.2	322	57.2	+18	37.4	10 N	5	06	5	31	5	52	7	07		
12	359	42.5	+8	14.1	337	24.0	+18	51.0	0	5	13	5	37	5	58	7	21		
13	14	42.7		15.0	351	50.7	+19	04.5	10 S	18		42	6	04	34	61	31		
14	29	42.8		15.9	6	17.4		17.9	20	22		47	10	7	49	65	19		
15	44	43.0		16.9	20	44.0		31.2	30	24		52	16	8	06	70	18		
16	59	43.1		17.8	35	10.5		44.3	35	25		55	20	16	74	44	42		
17	74	43.3	+8	18.7	49	37.0	+19	57.2	40	5	26	5	57	6	24	8	27		
18	89	43.5	+8	19.6	64	03.4	+20	10.1	45	5	26	6	00	6	29	8	40		
19	104	43.6		20.5	78	29.8		22.8	50	25		03	35	8	57	89	17		
20	119	43.8		21.4	92	56.1		35.3	52	25		04	38	9	05	92	50		
21	134	44.0		22.4	107	22.4	+20	47.8	54	24		05	41	13	97	41	20		
22	149	44.1		23.3	121	48.6	+21	00.1	56	24		07	44	23	101	30	16		
23	164	44.3		24.2	136	14.8		12.2	58	23		08	48	34	107	18	10		
24	179	44.5	+8	25.1	150	40.9	+21	24.2	60 S	5	22	6	10	6	52	9	47		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 43.4 ^m		Mag: -3.8 PMG: 11 ^h 10 ^m		Mag: +1.2 PMG: 9 ^h 48 ^m		Mag: -2.1 PMG: 13 ^h 52 ^m		Mag: +1.1 PMG: 9 ^h 50 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	198	43.0	192	38.5	+0	59.9	212	57.6	+16	47.3
1	213	45.4	207	38.2	+1	01.1	227	58.3		47.4
2	228	47.9	222	37.8		02.4	242	58.9		47.6
3	243	50.4	237	37.4		03.6	257	59.6		47.7
4	258	52.8	252	37.1		04.8	273	00.3		47.9
5	273	55.3	267	36.7	+1	06.0	288	00.9	+16	48.1
6	288	57.7	282	36.3	+1	07.3	303	01.6	+16	48.2
7	304	00.2	297	36.0		08.5	318	02.2		48.4
8	319	02.7	312	35.6		09.7	333	02.9		48.5
9	334	05.1	327	35.2		10.9	348	03.5		48.7
10	349	07.6	342	34.8		12.2	3	04.2		48.8
11	4	10.1	357	34.5	+1	13.4	18	04.8	+16	49.0
12	19	12.5	12	34.1	+1	14.6	33	05.5	+16	49.1
13	34	15.0	27	33.7		15.8	48	06.2		49.3
14	49	17.5	42	33.4		17.1	63	06.8		49.5
15	64	19.9	57	33.0		18.3	78	07.5		49.6
16	79	22.4	72	32.6		19.5	93	08.1		49.8
17	94	24.8	87	32.3	+1	20.7	108	08.8	+16	49.9
18	109	27.3	102	31.9	+1	22.0	123	09.4	+16	50.1
19	124	29.8	117	31.5		23.2	138	10.1		50.2
20	139	32.2	132	31.1		24.4	153	10.7		50.4
21	154	34.7	147	30.8		25.6	168	11.4		50.6
22	169	37.2	162	30.4		26.9	183	12.1		50.7
23	184	39.6	177	30.0		28.1	198	12.7		50.9
24	199	42.1	192	29.7	+1	29.3	213	13.4	+16	51.0
Dif	—		-4		+12		+7		+19	+2

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:12 ^h 00.9 ^m			Edad: 2.2 ^d SD: 16'2 PMG: 14 ^h 30 ^m			PHE { 4 ^h : 59'4 12 ^h : 59'1 20 ^h : 58'8 R°: 59 ^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	h m m
0	179	44.5	+8	25.1	150	40.9	70	+21	24.2	118	19 09	19 55	20 54	5 09	6	**	**
1	194	44.6		26.0	165	06.9	70		36.0	117	04	47	41	26	15	**	**
2	209	44.8		27.0	179	32.9	69		47.7	116	19 00	39	29	40	21	23	49
3	224	44.9		27.9	193	58.8	69	+21	59.3	114	18 55	33	20	5	53	25	33
4	239	45.1		28.8	208	24.7	69	+22	10.7	114	52	27	11	6	04	29	19
5	254	45.3	+8	29.7	222	50.6	69	+22	21.9	112	18 48	19 22	20 04	6	14	31	23
6	269	45.4	+8	30.6	237	16.3	67	+22	33.0	111	18 41	19 11	19 48	6	35	37	22
7	284	45.6		31.5	251	42.1	68		44.0	110	35	19 03	36	6	52	41	21
8	299	45.8		32.5	266	07.8	67	+22	54.8	108	30	18 56	26	7	06	44	22
9	314	45.9		33.4	280	33.4	66	+23	05.4	106	25	49	18	19	46	21	49
10	329	46.1		34.3	294	59.0	66		15.9	105	17	40	19 06	40	51	25	64
11	344	46.2	+8	35.2	309	24.5	65	+23	26.2	103	18 10	18 32	18 57	7	59	55	21
12	359	46.4	+8	36.1	323	50.0	65	+23	36.4	102	18 04	18 25	18 49	8	17	58	20
13	14	46.6		37.0	338	15.5	64		46.4	100	17 58	19	44	35	61	25	56
14	29	46.7		37.9	352	40.9	63	+23	56.2	98	52	14	40	8	54	65	20
15	44	46.9		38.9	7	06.2	63	+24	05.9	97	45	09	36	9	16	69	19
16	59	47.0		39.8	21	31.6	64		15.4	95	40	06	35	30	71	26	47
17	74	47.2	+8	40.7	35	56.8	62	+24	24.8	94	17 36	18 03	18 34	9	45	74	19
18	89	47.4	+8	41.6	50	22.1	63	+24	34.0	92	17 31	18 00	18 34	10	03	78	18
19	104	47.5		42.5	64	47.3	62		43.0	90	24	17 57	34	26	84	26	37
20	119	47.7		43.4	79	12.4	61	+24	51.9	89	21	55	34	37	87	14	35
21	134	47.9		44.3	93	37.5	61	+25	00.6	87	18	54	35	10	50	90	18
22	149	48.0		45.2	108	02.6	61		09.1	85	15	52	35	11	04	95	17
23	164	48.2		46.2	122	27.7	61		17.5	84	11	51	36	21	102	28	20
24	179	48.3	+8	47.1	136	52.7	60	+25	25.7	82	17 06	17 49	18 37	11	42	113	17

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 39.4 ^m		Mag: -3.8 PMG: 11 ^h 10 ^m		Mag: +1.2 PMG: 9 ^h 47 ^m		Mag: -2.1 PMG: 13 ^h 49 ^m		Mag: +1.1 PMG: 9 ^h 46 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	199	42.1	192	29.7	+1	29.3	213	13.4	-7	08.6
1	214	44.6	207	29.3		30.5	228	14.0		07.8
2	229	47.0	222	28.9		31.8	243	14.7		07.1
3	244	49.5	237	28.6		33.0	258	15.3		06.4
4	259	52.0	252	28.2		34.2	273	16.0		05.6
5	274	54.4	267	27.8	+1	35.4	288	16.7	-7	04.9
6	289	56.9	282	27.5	+1	36.7	303	17.3	-7	04.1
7	304	59.3	297	27.1		37.9	318	18.0		03.4
8	320	01.8	312	26.7		39.1	333	18.6		02.6
9	335	04.3	327	26.3		40.3	348	19.3		01.9
10	350	06.7	342	26.0		41.6	3	20.0		01.1
11	5	09.2	357	25.6	+1	42.8	18	20.6	-7	00.4
12	20	11.7	12	25.2	+1	44.0	33	21.3	-6	59.6
13	35	14.1	27	24.9		45.2	48	21.9		58.9
14	50	16.6	42	24.5		46.5	63	22.6		58.1
15	65	19.1	57	24.1		47.7	78	23.2		57.4
16	80	21.5	72	23.8		48.9	93	23.9		56.6
17	95	24.0	87	23.4	+1	50.1	108	24.6	-6	55.9
18	110	26.5	102	23.0	+1	51.4	123	25.2	-6	55.1
19	125	28.9	117	22.6		52.6	138	25.9		54.4
20	140	31.4	132	22.3		53.8	153	26.5		53.6
21	155	33.8	147	21.9		55.0	168	27.2		52.9
22	170	36.3	162	21.5		56.3	183	27.9		52.1
23	185	38.8	177	21.2		57.5	198	28.5		51.4
24	200	41.2	192	20.8	+1	58.7	213	29.2	-6	50.7
Dif	—		-4		+12		+7		+7	
									+19	
									+2	
									+22	
										+1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna										
	SD: 16'0 PMG:12 ^h 00.7 ^m			Edad: 3.2 ^d PHE { 4 ^h : 58'5 12 ^h : 58'2 20 ^h : 57'9 R°: 58 ^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	48.3	+8	47.1	136	52.7	60	+25	25.7	80	3	06	4	51	5	15	18	0	34	105							
1	194	48.5		48.0	151	17.7	60		33.7	78	20	14	4	56	5	41	28	0	09	94							
2	209	48.7		48.9	165	42.7	60		41.5	77	31	21	5	01	6	01	34	**	**	**							
3	224	48.8		49.8	180	07.6	59		49.2	75	41	28	05		18	38		**	**	**							
4	239	49.0		50.7	194	32.5	59	+25	56.7	74	50	34	09		33	41		**	**	**							
5	254	49.1	+8	51.6	208	57.4	59	+26	04.1	74	3	57	4	39	5	13	6	45	43	**	**	**					
6	269	49.3	+8	52.5	223	22.2	58	+26	11.2	71	4	13	4	50	5	20	7	12	46	23	55	63					
7	284	49.4		53.4	237	47.1	59		18.2	70	25	4	58	26	33	49		32	62								
8	299	49.6		54.4	252	11.9	58		25.0	68	35	5	06	31	7	50	51	23	13	61							
9	314	49.8		55.3	266	36.7	58		31.7	67	30	43	12	36	8	05	53	22	56	61							
10	329	49.9		56.2	281	01.4	57		38.1	64	20	4	56	22	44	31	55	29	60								
11	344	50.1	+8	57.1	295	26.2	58	+26	44.4	63	10 N	5	05	5	30	5	51	8	54	57	22	05	59				
12	359	50.2	+8	58.0	309	50.9	57	+26	50.5	61	0	5	12	5	36	5	57	9	15	58	21	43	58				
13	14	50.4		58.9	324	15.7	58	+26	56.5	60	10 S	18	42	6	04	36	60	21	21	57							
14	29	50.6	+8	59.8	338	40.4	57	+27	02.3	58	20	22	48	10	9	59	62	20	57	57							
15	44	50.7	+9	00.7	353	05.1	57		07.8	55	30	26	53	18	10	25	64	30	55								
16	59	50.9		01.6	7	29.8	57		13.3	55	35	27	56	22	41	65	20	13	55								
17	74	51.0	+9	02.5	21	54.5	57	+27	18.5	52	40	5	28	5	59	6	26	10	59	67	19	55	53				
18	89	51.2	+9	03.4	36	19.2	57	+27	23.6	48	45	5	28	6	02	6	32	11	21	69	19	32	52				
19	104	51.3		04.3	50	43.9	56		28.4	47	50	28	06	38	11	50	71	19	03	49							
20	119	51.5		05.3	65	08.5	56		33.1	47	52	28	07	41	12	04	73	18	49	48							
21	134	51.7		06.2	79	33.2	57		37.7	46	54	28	09	45	20	75	32	47									
22	149	51.8		07.1	93	57.9	57		42.0	42	56	27	10	48	12	39	78	18	13	43							
23	164	52.0		08.0	108	22.6	57		46.2	42	58	27	12	52	13	03	83	17	48	40							
24	179	52.1	+9	08.9	122	47.3	57	+27	50.2	40	60 S	5	26	6	14	6	57	13	35	93	17	16	30				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 10 ^h 35.5 ^m			Mag: -3.8 PMG: 11 ^h 11 ^m			Mag: +1.2 PMG: 9 ^h 46 ^m			Mag: -2.1 PMG: 13 ^h 46 ^m			Mag: +1.1 PMG: 9 ^h 42 ^m														
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	200	41.2	192	20.8	+1	58.7	213	29.2	-6	50.7	153	08.7	+16	54.8	214	01.6	-7	32.8									
1	215	43.7	207	20.4	+1	59.9	228	29.8		49.9	168	10.6		54.9	229	03.8		32.7									
2	230	46.2	222	20.0	+2	01.2	243	30.5		49.2	183	12.5		55.1	244	06.0		32.6									
3	245	48.6	237	19.7		02.4	258	31.2		48.4	198	14.4		55.2	259	08.2		32.5									
4	260	51.1	252	19.3		03.6	273	31.8		47.7	213	16.3		55.4	274	10.4		32.4									
5	275	53.6	267	18.9	+2	04.8	288	32.5	-6	46.9	228	18.2	+16	55.5	289	12.7	-7	32.3									
6	290	56.0	282	18.6	+2	06.1	303	33.1	-6	46.2	243	20.1	+16	55.7	304	14.9	-7	32.3									
7	305	58.5	297	18.2		07.3	318	33.8		45.4	258	22.0		55.8	319	17.1		32.2									
8	321	00.9	312	17.8		08.5	333	34.5		44.7	273	23.9		56.0	334	19.3		32.1									
9	336	03.4	327	17.5		09.7	348	35.1		43.9	288	25.8		56.2	349	21.5		32.0									
10	351	05.9	342	17.1		11.0	3	35.8		43.2	303	27.7		56.3	4	23.7		31.9									
11	6	08.3	357	16.7	+2	12.2	18	36.4	-6	42.4	318	29.6	+16	56.5	19	26.0	-7	31.8									
12	21	10.8	12	16.3	+2	13.4	33	37.1	-6	41.7	333	31.5	+16	56.6	34	28.2	-7	31.7									
13	36	13.3	27	16.0		14.6	48	37.8		40.9	348	33.4		56.8	49	30.4		31.6									
14	51	15.7	42	15.6		15.8	63	38.4		40.2	3	35.3		56.9	64	32.6		31.5									
15	66	18.2	57	15.2		17.1	78	39.1		39.4	18	37.2		57.1	79	34.8		31.4									
16	81	20.7	72	14.9		18.3	93	39.8		38.7	33	39.1		57.2	94	37.1		31.3									
17	96	23.1	87	14.5	+2	19.5	108	40.4	-6	37.9	48	41.0	+16	57.4	109	39.3	-7	31.2									
18	111	25.6	102	14.1	+2	20.7	123	41.1	-6	37.2	63	42.9	+16	57.6	124	41.5	-7	31.1									
19	126	28.1	117	13.7		22.0	138	41.7		36.4	78	44.8		57.7	139	43.7		31.0									
20	141	30.5	132	13.4		23.2	153	42.4		35.7	93	46.7		57.9	154	45.9		30.9									
21	156	33.0	147	13.0		24.4	168	43.1		34.9	108	48.6		58.0	169	48.1		30.8									
22	171	35.4	162	12.6		25.6	183	43.7		34.2	123	50.5		58.2	184	50.4		30.7									
23	186	37.9	177	12.3		26.9	198	44.4		33.4	138	52.4		58.3	199	52.6		30.6									
24	201	40.4	192	11.9	+2	28.1	213	45.0	-6	32.7	153	54.3	+16	58.5	214	54.8	-7	30.5									
Dif	—			-4			+12			+7			+7			+19			+2			+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 00.4 ^m			Edad: 4.2 ^d SD: 15 ^h 7 PMG: 16 ^h 27 ^m PHE { 4 ^h : 57/6 12 ^h : 57/3 20 ^h : 57/0 Rº: 57 ^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	179 52.1	+9 08.9	122 47.3	57	+27 50.2	38	60 N	19 14	20 00	21 01	5 33 50	2 19 72				
1	194 52.3	09.8	137 12.0	58	54.0	37	58	09	19 51	20 47	6 09 53	1 43 68				
2	209 52.4	10.7	151 36.8	57	+27 57.7	34	56	19 04	44	35	35 55	1 17 67				
3	224 52.6	11.6	166 01.5	57	+28 01.1	33	54	18 59	37	24	6 56 55	0 57 65				
4	239 52.8	12.5	180 26.2	58	04.4	32	52	55	31	15	7 14 55	40 64				
5	254 52.9	+9 13.4	194 51.0	58	+28 07.6	29	50	18 51	19 25	20 07	7 28 56	0 25 64				
6	269 53.1	+9 14.3	209 15.8	58	+28 10.5	28	45	18 43	19 14	19 51	7 58 57	** ** *				
7	284 53.2	15.2	223 40.6	58	13.3	26	40	37	19 05	38	8 22 57	** ** *				
8	299 53.4	16.1	238 05.4	58	15.9	24	35	31	18 57	28	41 58	** ** *				
9	314 53.5	17.0	252 30.3	59	18.3	22	30	26	51	20	8 58 57	23 57 53				
10	329 53.7	17.9	266 55.2	59	20.5	21	20	18	40	19 07	9 26 58	29 54				
11	344 53.9	+9 18.8	281 20.1	59	+28 22.6	19	10 N	18 10	18 32	18 57	9 51 57	23 04 56				
12	359 54.0	+9 19.7	295 45.0	60	+28 24.5	17	0	18 04	18 25	18 49	10 13 58	22 41 57				
13	14 54.2	20.6	310 10.0	60	26.2	15	10 S	17 57	18	43	10 36 58	22 18 57				
14	29 54.3	21.5	324 35.0	60	27.7	14	20	50	12	38	11 01 57	21 54 58				
15	44 54.5	22.4	339 00.0	60	29.1	12	30	42	06	34	29 57	25 59				
16	59 54.6	23.3	353 25.1	61	30.3	10	35	38	03	33	11 46 57	21 08 59				
17	74 54.8	+9 24.2	7 50.2	61	+28 31.3	9	40	17 33	18 00	18 32	12 06 57	20 48 60				
18	89 54.9	+9 25.1	22 15.3	61	+28 32.2	6	45	17 27	17 57	18 31	12 30 56	20 24 61				
19	104 55.1	26.0	36 40.5	62	32.8	6	50	20	53	30	13 01 56	19 52 63				
20	119 55.2	26.9	51 05.8	63	33.4	6	52	17	51	30	17 55	37 63				
21	134 55.4	27.8	65 31.1	63	33.7	3	54	14	49	30	35 55	19 19 63				
22	149 55.6	28.7	79 56.4	63	33.9	2	56	10	47	30	13 57 54	18 56 65				
23	164 55.7	29.6	94 21.8	64	33.9	0	58	05	45	31	14 26 52	18 28 67				
24	179 55.9	+9 30.5	108 47.2	64	+28 33.7	2	60 S	17 01	17 43	18 31	15 08 48	17 46 71				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 31.6 ^m		Mag: -3.8 PMG: 11 ^h 11 ^m		Mag: +1.2 PMG: 9 ^h 45 ^m		Mag: -2.0 PMG: 13 ^h 43 ^m		Mag: +1.2 PMG: 9 ^h 39 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	201 40.4	192 11.9	+2 28.1	213 45.0	-6 32.7	153 54.3	+16 58.5	214 54.8	-7 30.5	
1	216 42.8	207 11.5	29.3	228 45.7	31.9	168 56.2	58.6	229 57.0	30.4	
2	231 45.3	222 11.1	30.5	243 46.4	31.2	183 58.1	58.8	244 59.2	30.3	
3	246 47.8	237 10.8	31.7	258 47.0	30.4	199 00.0	59.0	260 01.5	30.2	
4	261 50.2	252 10.4	33.0	273 47.7	29.6	214 01.9	59.1	275 03.7	30.2	
5	276 52.7	267 10.0	+2 34.2	288 48.4	-6 28.9	229 03.8	+16 59.3	290 05.9	-7 30.1	
6	291 55.2	282 09.7	+2 35.4	303 49.0	-6 28.1	244 05.7	+16 59.4	305 08.1	-7 30.0	
7	306 57.6	297 09.3	36.6	318 49.7	27.4	259 07.6	59.6	320 10.3	29.9	
8	322 00.1	312 08.9	37.9	333 50.4	26.6	274 09.5	59.7	335 12.6	29.8	
9	337 02.6	327 08.5	39.1	348 51.0	25.9	289 11.4	+16 59.9	350 14.8	29.7	
10	352 05.0	342 08.2	40.3	3 51.7	25.1	304 13.3	+17 00.0	5 17.0	29.6	
11	7 07.5	357 07.8	+2 41.5	18 52.3	-6 24.4	319 15.2	+17 00.2	20 19.2	-7 29.5	
12	22 09.9	12 07.4	+2 42.7	33 53.0	-6 23.6	334 17.1	+17 00.3	35 21.4	-7 29.4	
13	37 12.4	27 07.1	44.0	48 53.7	22.9	349 19.0	00.5	50 23.7	29.3	
14	52 14.9	42 06.7	45.2	63 54.3	22.1	4 20.9	00.7	65 25.9	29.2	
15	67 17.3	57 06.3	46.4	78 55.0	21.4	19 22.8	00.8	80 28.1	29.1	
16	82 19.8	72 05.9	47.6	93 55.7	20.6	34 24.7	01.0	95 30.3	29.0	
17	97 22.3	87 05.6	+2 48.9	108 56.3	-6 19.9	49 26.6	+17 01.1	110 32.5	-7 28.9	
18	112 24.7	102 05.2	+2 50.1	123 57.0	-6 19.1	64 28.5	+17 01.3	125 34.8	-7 28.8	
19	127 27.2	117 04.8	51.3	138 57.7	18.4	79 30.4	01.4	140 37.0	28.7	
20	142 29.7	132 04.4	52.5	153 58.3	17.6	94 32.3	01.6	155 39.2	28.6	
21	157 32.1	147 04.1	53.7	168 59.0	16.9	109 34.2	01.7	170 41.4	28.5	
22	172 34.6	162 03.7	55.0	183 59.7	16.1	124 36.1	01.9	185 43.6	28.4	
23	187 37.1	177 03.3	56.2	199 00.3	15.4	139 38.0	02.1	200 45.9	28.4	
24	202 39.5	192 03.0	+2 57.4	214 01.0	-6 14.6	154 39.9	+17 02.2	215 48.1	-7 28.3	
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 15'9 PMG:12 ^h 00.2 ^m			Edad: 5.2 ^d PHE { 4 ^h : 56'7 12 ^h : 56'4 20 ^h : 56'1 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	179	55.9	+9	30.5	108	47.2	65	+28	33.7	3	2	58	3	59	4	45	6	23	85	3	31	30
1	194	56.0		31.4	123	12.7	65		33.4	5	3	13	4	08	51	7	02	77	2	51	39	
2	209	56.2		32.3	137	38.2	66		32.9	7	25	16	4	56	30	73			24	42		
3	224	56.3		33.2	152	03.8	66		32.2	8	35	23	5	01	7	51	71		2	02	45	
4	239	56.5		34.1	166	29.5	67		31.4	10	45	29	05	8	09	68			1	44	47	
5	254	56.6	+9	35.0	180	55.2	67	+28	30.4	11	3	53	4	34	5	08	8	24	67	1	29	48
6	269	56.8	+9	35.9	195	21.0	68	+28	29.3	14	4	09	4	46	5	16	8	55	64	0	58	50
7	284	56.9		36.8	209	46.8	68		27.9	14	22	4	55	23	9	19	62		34	51		
8	299	57.1		37.7	224	12.7	69		26.5	17	32	5	03	29	39	60			0	14	53	
9	314	57.2		38.6	238	38.7	70		24.8	18	41	09	34	9	55	60			**	**	**	
10	329	57.4		39.5	253	04.7	70		23.0	18	4	54	20	43	10	24	58		**	**	**	
11	344	57.5	+9	40.4	267	30.8	71	+28	21.1	19	5	04	5	29	5	50	10	48	56	**	**	**
12	359	57.7	+9	41.3	281	57.0	72	+28	19.0	21	5	12	5	36	5	57	11	11	54	23	38	52
13	14	57.8		42.2	296	23.2	72		16.7	23	18		42	6	04	34	53		23	15	55	
14	29	58.0		43.1	310	49.5	73		14.3	24	23		48	11	11	58	51		22	52	57	
15	44	58.1		44.0	325	15.9	74		11.7	26	27		55	19	12	26	49		24	60		
16	59	58.3		44.9	339	42.4	75		09.0	27	28	5	58	23	12	43	48		22	07	62	
17	74	58.5	+9	45.8	354	08.9	75	+28	06.1	29	5	30	6	01	6	28	13	03	45	21	48	64
18	89	58.6	+9	46.7	8	35.5	76	+28	03.0	31	5	31	6	05	6	34	13	26	44	21	25	66
19	104	58.8		47.6	23	02.2	77	+27	59.8	32	31		09	41	13	57	40		20	55	70	
20	119	58.9		48.4	37	29.0	78		56.5	33	31		10	45	14	12	38		40	72		
21	134	59.1		49.3	51	55.8	78		53.0	35	31		12	48	30	35			22	76		
22	149	59.2		50.2	66	22.8	80		49.4	36	31		14	52	14	51	32		20	01	79	
23	164	59.4		51.1	80	49.8	80		45.6	38	31		16	6	57	15	18	26		19	35	85
24	179	59.5	+9	52.0	95	16.9	81	+27	41.6	40	5	31	6	19	7	01	15	56	15	18	57	96

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 10 ^h 27.6 ^m		Mag: -3.8 PMG: 11 ^h 12 ^m		Mag: +1.2 PMG: 9 ^h 44 ^m		Mag: -2.0 PMG: 13 ^h 40 ^m		Mag: +1.2 PMG: 9 ^h 35 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	202	39.5	192	03.0	+2	57.4	214	01.0	-6	14.6	154	39.9	+17	02.2	215	48.1	-7	28.3
1	217	42.0	207	02.6		58.6	229	01.6		13.9	169	41.8		02.4	230	50.3		28.2
2	232	44.4	222	02.2	+2	59.8	244	02.3		13.1	184	43.7		02.5	245	52.5		28.1
3	247	46.9	237	01.8	+3	01.1	259	03.0		12.3	199	45.6		02.7	260	54.7		28.0
4	262	49.4	252	01.5		02.3	274	03.6		11.6	214	47.5		02.8	275	57.0		27.9
5	277	51.8	267	01.1	+3	03.5	289	04.3	-6	10.8	229	49.4	+17	03.0	290	59.2	-7	27.8
6	292	54.3	282	00.7	+3	04.7	304	05.0	-6	10.1	244	51.3	+17	03.1	306	01.4	-7	27.7
7	307	56.8	297	00.3		05.9	319	05.6		09.3	259	53.2		03.3	321	03.6		27.6
8	322	59.2	312	00.0		07.2	334	06.3		08.6	274	55.1		03.5	336	05.9		27.5
9	338	01.7	326	59.6		08.4	349	07.0		07.8	289	57.0		03.6	351	08.1		27.4
10	353	04.2	341	59.2		09.6	4	07.6		07.1	304	58.9		03.8	6	10.3		27.3
11	8	06.6	356	58.8	+3	10.8	19	08.3	-6	06.3	320	00.8	+17	03.9	21	12.5	-7	27.2
12	23	09.1	11	58.5	+3	12.0	34	09.0	-6	05.6	335	02.7	+17	04.1	36	14.7	-7	27.1
13	38	11.6	26	58.1		13.3	49	09.6		04.8	350	04.6		04.2	51	17.0		27.0
14	53	14.0	41	57.7		14.5	64	10.3		04.1	5	06.5		04.4	66	19.2		26.9
15	68	16.5	56	57.4		15.7	79	11.0		03.3	20	08.4		04.5	81	21.4		26.8
16	83	18.9	71	57.0		16.9	94	11.6		02.6	35	10.3		04.7	96	23.6		26.7
17	98	21.4	86	56.6	+3	18.1	109	12.3	-6	01.8	50	12.1	+17	04.8	111	25.9	-7	26.7
18	113	23.9	101	56.2	+3	19.4	124	13.0	-6	01.0	65	14.0	+17	05.0	126	28.1	-7	26.6
19	128	26.3	116	55.9		20.6	139	13.6	-6	00.3	80	15.9		05.2	141	30.3		26.5
20	143	28.8	131	55.5		21.8	154	14.3	-5	59.5	95	17.8		05.3	156	32.5		26.4
21	158	31.3	146	55.1		23.0	169	15.0		58.8	110	19.7		05.5	171	34.7		26.3
22	173	33.7	161	54.7		24.2	184	15.6		58.0	125	21.6		05.6	186	37.0		26.2
23	188	36.2	176	54.4		25.5	199	16.3		57.3	140	23.5		05.8	201	39.2		26.1
24	203	38.7	191	54.0	+3	26.7	214	17.0	-5	56.5	155	25.4	+17	05.9	216	41.4	-7	26.0
Dif	—		-4		+12		+7		+8		+19		+2		+22		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 15/9 PMG: 11 ^h 59.9 ^m			Edad: 6.2 ^d SD: 15/2 PMG: 18 ^h 18 ^m		PHE { 4 ^h : 55/9 12 ^h : 55/6 20 ^h : 55/4 Rº: 50 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº							
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m							
0	179	59.5	+9	52.0	95	16.9	82	+27	41.6	40	60 N	19	19	20	06	21	09	7	48	97	4	01	10	
1	194	59.7		52.9	109	44.1	82		37.6	42	58	13	19	56	20	53	8	19	88	3	30	19		
2	209	59.8		53.8	124	11.3	84		33.4	44	56	08		48		40	8	43	81	3	06	25		
3	225	00.0		54.7	138	38.7	84		29.0	45	54	19	03	41		29	9	02	77	2	47	28		
4	240	00.1		55.6	153	06.1	84		24.5	47	52	18	58	35		20		17	75		31	31		
5	255	00.3	+9	56.5	167	33.7	86	+27	19.8	45	50	18	55	19	29	20	11	9	31	73	2	17	33	
6	270	00.4	+9	57.4	182	01.3	86	+27	15.1	47	45	18	46	19	17	19	54	9	59	68	1	48	38	
7	285	00.6		58.3	196	29.0	87		10.1	50	40	39	19	07		41	10	21	65		25	41		
8	300	00.7	+9	59.1	210	56.8	88	+27	05.1	50	35	33	18	59		30		39	62		1	07	43	
9	315	00.8	+10	00.0	225	24.7	89	+26	59.9	52	30	27		52		21	10	55	60		0	50	46	
10	330	01.0	+10	00.9	239	52.7	90		54.6	53	20	18		41		19	07	11	22	56		23	48	
11	345	01.1	+10	01.8	254	20.7	90	+26	49.1	55	10 N	18	11	18	32	18	57	11	44	54		0	00	50
12	0	01.3	+10	02.7	268	48.9	92	+26	43.5	56	0	18	03	18	24	18	49	12	05	51	**	**	**	
13	15	01.4		03.6	283	17.2	93		37.8	57	10 S	17	56		17		42		27	47	**	**	**	
14	30	01.6		04.5	297	45.5	93		31.9	59	20	49		11		37	12	49	45		23	49	55	
15	45	01.7		05.4	312	14.0	95		25.9	60	30	40		04		32	13	15	42		24	59		
16	60	01.9		06.3	326	42.5	95		19.8	61	35	35		18	01	30		31	39		23	09	62	
17	75	02.0	+10	07.1	341	11.1	96	+26	13.6	62	40	17	30	17	57	18	29	13	48	37		22	52	65
18	90	02.2	+10	08.0	355	39.9	98	+26	07.2	64	45	17	24	17	53	18	27	14	10	33		22	31	69
19	105	02.3		08.9	10	08.7	98	+26	00.8	64	50	16		49		26		37	28		22	05	74	
20	120	02.5		09.8	24	37.6	99	+25	54.1	67	52	13		47		26		14	50	26		21	52	77
21	135	02.6		10.7	39	06.6	100		47.4	67	54	09		45		26		15	05	23		38	79	
22	150	02.8		11.6	53	35.8	102		40.6	68	56	05		43		26		23	18		20	84		
23	165	02.9		12.5	68	05.0	102		33.6	70	58	17	00		40	26		15	44	13		21	00	89
24	180	03.1	+10	13.3	82	34.3	103	+25	26.5	71	60 S	16	55	17	38	18	26	16	11	5		20	33	98

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 10 ^h 23.7 ^m		Mag: -3.8 PMG: 11 ^h 13 ^m		Mag: +1.2 PMG: 9 ^h 42 ^m		Mag: -2.0 PMG: 13 ^h 37 ^m		Mag: +1.2 PMG: 9 ^h 32 ^m										
h	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
0	203	38.7	191	54.0	+3	26.7	214	17.0	-5	56.5	155	25.4	+17	05.9	216	41.4	-7	26.0	
1	218	41.1	206	53.6		27.9	229	17.6		55.8	170	27.3		06.1	231	43.6		25.9	
2	233	43.6	221	53.2		29.1	244	18.3		55.0	185	29.2		06.2	246	45.9		25.8	
3	248	46.1	236	52.9		30.3	259	19.0		54.3	200	31.1		06.4	261	48.1		25.7	
4	263	48.5	251	52.5		31.5	274	19.7		53.5	215	33.0		06.5	276	50.3		25.6	
5	278	51.0	266	52.1	+3	32.8	289	20.3	-5	52.7	230	34.9	+17	06.7	291	52.5	-7	25.5	
6	293	53.4	281	51.7	+3	34.0	304	21.0	-5	52.0	245	36.8	+17	06.9	306	54.7	-7	25.4	
7	308	55.9	296	51.4		35.2	319	21.7		51.2	260	38.7		07.0	321	57.0		25.3	
8	323	58.4	311	51.0		36.4	334	22.3		50.5	275	40.6		07.2	336	59.2		25.3	
9	339	00.8	326	50.6		37.6	349	23.0		49.7	290	42.5		07.3	352	01.4		25.2	
10	354	03.3	341	50.2		38.8	4	23.7		49.0	305	44.4		07.5	7	03.6		25.1	
11	9	05.8	356	49.9	+3	40.1	19	24.3	-5	48.2	320	46.3	+17	07.6	22	05.9	-7	25.0	
12	24	08.2	11	49.5	+3	41.3	34	25.0	-5	47.5	335	48.2	+17	07.8	37	08.1	-7	24.9	
13	39	10.7	26	49.1		42.5	49	25.7		46.7	350	50.1		07.9	52	10.3		24.8	
14	54	13.2	41	48.7		43.7	64	26.3		45.9	5	52.0		08.1	67	12.5		24.7	
15	69	15.6	56	48.3		44.9	79	27.0		45.2	20	53.9		08.2	82	14.8		24.6	
16	84	18.1	71	48.0		46.1	94	27.7		44.4	35	55.7		08.4	97	17.0		24.5	
17	99	20.5	86	47.6	+3	47.4	109	28.3	-5	43.7	50	57.6	+17	08.6	112	19.2	-7	24.4	
18	114	23.0	101	47.2	+3	48.6	124	29.0	-5	42.9	65	59.5	+17	08.7	127	21.4	-7	24.3	
19	129	25.5	116	46.8		49.8	139	29.7		42.2	81	01.4		08.9	142	23.7		24.2	
20	144	27.9	131	46.5		51.0	154	30.4		41.4	96	03.3		09.0	157	25.9		24.1	
21	159	30.4	146	46.1		52.2	169	31.0		40.6	111	05.2		09.2	172	28.1		24.0	
22	174	32.9	161	45.7		53.4	184	31.7		39.9	126	07.1		09.3	187	30.3		24.0	
23	189	35.3	176	45.3		54.7	199	32.4		39.1	141	09.0		09.5	202	32.6		23.9	
24	204	37.8	191	45.0	+3	55.9	214	33.0	-5	38.4	156	10.9	+17	09.6	217	34.8	-7	23.8	
Dif	—		-4		+12		+7		+8		+19		+2		+22		+1		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG:11 ^h 59.7 ^m			Edad: 7.2 ^d PHE { 4 ^h : 55'2 12 ^h : 55'0 20 ^h : 54'8 SD: 15'1 PMG: 19 ^h 08 ^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
0	180	03.1	+10	13.3	82	34.3	+25	26.5	72	60 N	2	50	3	53	4	39	9	25
1	195	03.2		14.2	97	03.7		19.3	73	58	3	06	4	02	45	9	47	88
2	210	03.4		15.1	111	33.2		12.0	75	56	19	10	51	10	04	83	31	15
3	225	03.5		16.0	126	02.8	+25	04.5	75	54	30	18	4	56	19	79	15	19
4	240	03.6		16.9	140	32.5	+24	57.0	77	52	39	24	5	00	32	76	3	02
5	255	03.8	+10	17.8	155	02.3	+24	49.3	77	50	3	48	4	30	5	04	10	44
6	270	03.9	+10	18.6	169	32.1	+24	41.6	77	45	4	05	4	42	5	13	11	07
7	285	04.1		19.5	184	02.1		33.7	79	40	18	4	52	20	26	64	2	06
8	300	04.2		20.4	198	32.2		25.7	80	35	29	5	00	26	41	61	1	50
9	315	04.4		21.3	213	02.4		17.6	81	30	38	07	32	11	55	58	36	38
10	330	04.5		22.2	227	32.7		09.4	82	20	4	52	18	41	12	18	54	1
11	345	04.7	+10	23.1	242	03.0	+24	01.1	83	10 N	5	03	5	28	5	49	12	38
12	0	04.8	+10	23.9	256	33.5	+23	52.6	85	0	5	11	5	35	5	56	12	56
13	15	05.0		24.8	271	04.0		44.1	85	10 S	18	42	6	04	13	14	44	0
14	30	05.1		25.7	285	34.7		35.5	86	20	23	49	11	34	40	**	**	**
15	45	05.2		26.6	300	05.4		26.8	87	30	28	56	20	13	57	35	**	**
16	60	05.4		27.5	314	36.3		18.0	88	35	30	5	59	25	14	10	32	**
17	75	05.5	+10	28.3	329	07.2	+23	09.0	90	40	5	31	6	03	6	30	14	25
18	90	05.7	+10	29.2	343	38.3	+23	00.0	90	45	5	33	6	07	6	37	14	43
19	105	05.8		30.1	358	09.4	+22	50.9	91	50	34	12	44	15	05	20	19	72
20	120	06.0		31.0	12	40.6		41.7	92	52	34	14	48	16	18	23	09	75
21	135	06.1		31.9	27	11.9		32.4	93	54	35	16	52	28	14	22	57	79
22	150	06.2		32.7	41	43.3		23.0	94	56	35	18	6	56	41	11	44	82
23	165	06.4		33.6	56	14.8		13.5	95	58	35	21	7	01	15	57	7	29
24	180	06.5	+10	34.5	70	46.4	+22	03.9	96	60 S	5	35	6	23	7	06	16	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 10 ^h 19.8 ^m		Mag: -3.8 PMG: 11 ^h 13 ^m		Mag: +1.1 PMG: 9 ^h 41 ^m		Mag: -2.0 PMG: 13 ^h 34 ^m		Mag: +1.2 PMG: 9 ^h 28 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	204	37.8	191	45.0	+3	55.9	214	33.0	-5	38.4	156	10.9	+17	09.6	217	34.8	-7	23.8
1	219	40.3	206	44.6		57.1	229	33.7		37.6	171	12.8		09.8	232	37.0		23.7
2	234	42.7	221	44.2		58.3	244	34.4		36.9	186	14.7		09.9	247	39.2		23.6
3	249	45.2	236	43.8	+3	59.5	259	35.0		36.1	201	16.6		10.1	262	41.5		23.5
4	264	47.7	251	43.4	+4	00.7	274	35.7		35.4	216	18.5		10.3	277	43.7		23.4
5	279	50.1	266	43.1	+4	02.0	289	36.4	-5	34.6	231	20.4	+17	10.4	292	45.9	-7	23.3
6	294	52.6	281	42.7	+4	03.2	304	37.1	-5	33.8	246	22.3	+17	10.6	307	48.1	-7	23.2
7	309	55.0	296	42.3		04.4	319	37.7		33.1	261	24.2		10.7	322	50.4		23.1
8	324	57.5	311	41.9		05.6	334	38.4		32.3	276	26.0		10.9	337	52.6		23.0
9	340	00.0	326	41.6		06.8	349	39.1		31.6	291	27.9		11.0	352	54.8		22.9
10	355	02.4	341	41.2		08.0	4	39.7		30.8	306	29.8		11.2	7	57.0		22.8
11	10	04.9	356	40.8	+4	09.2	19	40.4	-5	30.1	321	31.7	+17	11.3	22	59.3	-7	22.7
12	25	07.4	11	40.4	+4	10.5	34	41.1	-5	29.3	336	33.6	+17	11.5	38	01.5	-7	22.7
13	40	09.8	26	40.0		11.7	49	41.8		28.5	351	35.5		11.6	53	03.7		22.6
14	55	12.3	41	39.7		12.9	64	42.4		27.8	6	37.4		11.8	68	05.9		22.5
15	70	14.8	56	39.3		14.1	79	43.1		27.0	21	39.3		12.0	83	08.2		22.4
16	85	17.2	71	38.9		15.3	94	43.8		26.3	36	41.2		12.1	98	10.4		22.3
17	100	19.7	86	38.5	+4	16.5	109	44.4	-5	25.5	51	43.1	+17	12.3	113	12.6	-7	22.2
18	115	22.2	101	38.2	+4	17.7	124	45.1	-5	24.7	66	45.0	+17	12.4	128	14.8	-7	22.1
19	130	24.6	116	37.8		18.9	139	45.8		24.0	81	46.9		12.6	143	17.1		22.0
20	145	27.1	131	37.4		20.2	154	46.5		23.2	96	48.8		12.7	158	19.3		21.9
21	160	29.5	146	37.0		21.4	169	47.1		22.5	111	50.7		12.9	173	21.5		21.8
22	175	32.0	161	36.6		22.6	184	47.8		21.7	126	52.5		13.0	188	23.8		21.7
23	190	34.5	176	36.3		23.8	199	48.5		21.0	141	54.4		13.2	203	26.0		21.6
24	205	36.9	191	35.9	+4	25.0	214	49.2	-5	20.2	156	56.3	+17	13.3	218	28.2	-7	21.6
Dif	—		-4	+12			+7	+8			+19	+2			+22	+1		

UT	SOL				☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG:11 ^h 59.5 ^m				Edad: 8.2 ^d SD: 14'9 PMG: 19 ^h 53 ^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	h m	m	h m	m	h m	m	
0	180 06.5	+ 10 34.5	70 46.4	127	+ 22 03.9	96	60 N	19 24	20 12	21 16	11 00	90		4 14	1			
1	195 06.7		35.4	85 18.1	+ 21 54.3	98	58	18	20 02	20 59	15 84			3 59	5			
2	210 06.8		36.2	99 49.8		100	56	12	19 53	46	27 81			46	9			
3	225 07.0		37.1	114 21.7		100	54	07		45	34	77		34	1			
4	240 07.1		38.0	128 53.6		100	52	19 02		38	24	74		24	15			
5	255 07.2	+ 10 38.9	143 25.7	131	+ 21 14.7	100	50	18 58	19 32	20 15	11 57	71		3 15	17			
6	270 07.4	+ 10 39.8	157 57.8	131	+ 21 04.6	101	45	18 48	19 19	19 57	12 15	66		2 55	23			
7	285 07.5		40.6	172 30.0	+ 20 54.4	102	40	41		09 43	30 62			39	27			
8	300 07.7		41.5	187 02.3		102	35	34	19 01		32 42	59		26	30			
9	315 07.8		42.4	201 34.7		104	30	29	18 53		23 12	53	56	2 14	32			
10	330 08.0		43.3	216 07.1		104	20	19		42 19	08 13	12 51		1 53	38			
11	345 08.1	+ 10 44.1	230 39.7	136	+ 20 12.9	105	10 N	18 11	18 32	18 57	13 28	47		1 36	41			
12	0 08.2	+ 10 45.0	245 12.3	136	+ 20 02.3	106	0	18 03	18 24	18 48	13 43	43		1 19	45			
13	15 08.4		45.9	259 45.0	+ 19 51.6	107	10 S	17 55		16 41	13 58	39		1 02	49			
14	30 08.5		46.8	274 17.8		107	20	47		09 35	14 14	35		0 44	53			
15	45 08.7		47.6	288 50.7		109	30	38	18 02		30 32	30		23	57			
16	60 08.8		48.5	303 23.6		108	35	33	17 58		28 42	28		0 11	60			
17	75 08.9	+ 10 49.4	317 56.7	141	+ 19 08.2	110	40	17 27	17 54	18 26	14 54	25		** ** *	** ** *			
18	90 09.1	+ 10 50.2	332 29.8	141	+ 18 57.2	110	45	17 20	17 50	18 24	15 08	21		** ** *	** ** *			
19	105 09.2		51.1	347 03.0		112	50	12		45 23	25 16			** ** *	** ** *			
20	120 09.4		52.0	1 36.3		111	52	08		43 22	34 13			** ** *	** ** *			
21	135 09.5		52.9	16 09.6		113	54	04		41 22	42 11			** ** *	** ** *			
22	150 09.6		53.7	30 43.1		113	56	17 00		38 21	15 52	8		** ** *	** ** *			
23	165 09.8		54.6	45 16.6	+ 18 00.9	114	58	16 55		35 21	16 04	4		23 56	83			
24	180 09.9	+ 10 55.5	59 50.1	145	+ 17 49.5	114	60 S	16 49	17 32	18 20	16 17	0		23 43	88			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 10 ^h 15.9 ^m		Mag: -3.8 PMG: 11 ^h 14 ^m			Mag: +1.1 PMG: 9 ^h 40 ^m			Mag: -2.0 PMG: 13 ^h 31 ^m			Mag: +1.2 PMG: 9 ^h 25 ^m						
	hG ♈	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	°	° /	° /	° /	° /	° /	° /					
0	205 36.9	191 35.9	+4 25.0	214 49.2	-5 20.2	156 56.3	+17 13.3	218 28.2	-7 21.6									
1	220 39.4	206 35.5	26.2	229 49.8	19.4	171 58.2	13.5	233 30.4	21.5									
2	235 41.9	221 35.1	27.4	244 50.5	18.7	187 00.1	13.7	248 32.7	21.4									
3	250 44.3	236 34.7	28.6	259 51.2	17.9	202 02.0	13.8	263 34.9	21.3									
4	265 46.8	251 34.4	29.9	274 51.8	17.2	217 03.9	14.0	278 37.1	21.2									
5	280 49.3	266 34.0	+4 31.1	289 52.5	-5 16.4	232 05.8	+17 14.1	293 39.3	-7 21.1									
6	295 51.7	281 33.6	+4 32.3	304 53.2	-5 15.7	247 07.7	+17 14.3	308 41.6	-7 21.0									
7	310 54.2	296 33.2	33.5	319 53.9	14.9	262 09.6	14.4	323 43.8	20.9									
8	325 56.6	311 32.8	34.7	334 54.5	14.1	277 11.5	14.6	338 46.0	20.8									
9	340 59.1	326 32.4	35.9	349 55.2	13.4	292 13.4	14.7	353 48.2	20.7									
10	356 01.6	341 32.1	37.1	4 55.9	12.6	307 15.2	14.9	8 50.5	20.6									
11	11 04.0	356 31.7	+4 38.3	19 56.6	-5 11.9	322 17.1	+17 15.0	23 52.7	-7 20.5									
12	26 06.5	11 31.3	+4 39.5	34 57.2	-5 11.1	337 19.0	+17 15.2	38 54.9	-7 20.5									
13	41 09.0	26 30.9	40.7	49 57.9	10.3	352 20.9	15.3	53 57.2	20.4									
14	56 11.4	41 30.5	42.0	64 58.6	09.6	7 22.8	15.5	68 59.4	20.3									
15	71 13.9	56 30.2	43.2	79 59.3	08.8	22 24.7	15.7	84 01.6	20.2									
16	86 16.4	71 29.8	44.4	94 59.9	08.1	37 26.6	15.8	99 03.8	20.1									
17	101 18.8	86 29.4	+4 45.6	110 00.6	-5 07.3	52 28.5	+17 16.0	114 06.1	-7 20.0									
18	116 21.3	101 29.0	+4 46.8	125 01.3	-5 06.5	67 30.4	+17 16.1	129 08.3	-7 19.9									
19	131 23.8	116 28.6	48.0	140 02.0	05.8	82 32.3	16.3	144 10.5	19.8									
20	146 26.2	131 28.2	49.2	155 02.6	05.0	97 34.2	16.4	159 12.8	19.7									
21	161 28.7	146 27.9	50.4	170 03.3	04.3	112 36.0	16.6	174 15.0	19.6									
22	176 31.1	161 27.5	51.6	185 04.0	03.5	127 37.9	16.7	189 17.2	19.5									
23	191 33.6	176 27.1	52.8	200 04.6	02.7	142 39.8	16.9	204 19.4	19.4									
24	206 36.1	191 26.7	+4 54.0	215 05.3	-5 02.0	157 41.7	+17 17.0	219 21.7	-7 19.4									
Dif	—	-4	+12	+7	+8	+19	+2	+22	+1									

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 59.2 ^m				Edad: 9.2 ^d PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'2 R°: 40 ^m PMG: 20 ^h 36 ^m													
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	180	09.9	+10	55.5	59	50.1	+17	49.5	116	37.9	115	26.4	2	42	3	46	4	33
1	195	10.1		56.3	74	23.8		37.9	116	37.9	115	26.4	2	58	3	56	40	39
2	210	10.2		57.2	88	57.5		26.4	117	14.7	117	14.7	3	12	4	05	46	48
3	225	10.3		58.1	103	31.3		14.7	117	14.7	117	14.7	24		13	51	12	55
4	240	10.5		58.9	118	05.2	+17	03.0	118	03.0	118	03.0	34		20	4	56	13
5	255	10.6	+10	59.8	132	39.1	+16	51.2	118	51.2	118	51.2	3	43	4	26	5	00
6	270	10.7	+11	00.7	147	13.1	+16	39.4	118	39.4	118	39.4	4	01	4	39	5	10
7	285	10.9		01.6	161	47.2		27.5	119	27.5	119	27.5	15		49	17	32	61
8	300	11.0		02.4	176	21.3		15.5	120	15.5	120	15.5	26		4	58	24	41
9	315	11.2		03.3	190	55.6	+16	03.5	120	03.5	120	03.5	36		5	05	30	13
10	330	11.3		04.2	205	29.8	+15	51.5	120	51.5	120	51.5	4	50		17	39	14
11	345	11.4	+11	05.0	220	04.2	+15	39.3	122	39.3	122	39.3	5	02	5	27	5	48
12	0	11.6	+11	05.9	234	38.6	+15	27.1	122	27.1	122	27.1	5	10	5	35	5	56
13	15	11.7		06.8	249	13.0		14.9	123	14.9	123	14.9	18		42	6	04	37
14	30	11.8		07.6	263	47.6	+15	02.6	123	02.6	123	02.6	24		50	12	14	49
15	45	12.0		08.5	278	22.1	+14	50.3	123	50.3	123	50.3	29		57	21	15	02
16	60	12.1		09.4	292	56.8		37.9	124	37.9	124	37.9	31		6	01	26	10
17	75	12.2	+11	10.2	307	31.5	+14	25.4	125	25.4	125	25.4	5	33	6	05	6	32
18	90	12.4	+11	11.1	322	06.3	+14	12.9	125	12.9	125	12.9	5	35	6	09	6	39
19	105	12.5		11.9	336	41.1	+14	00.3	126	00.3	126	00.3	37		14	48	41	13
20	120	12.7		12.8	351	15.9	+13	47.7	126	47.7	126	47.7	37		17	51	47	10
21	135	12.8		13.7	5	50.9		35.1	126	35.1	126	35.1	38		19	6	56	15
22	150	12.9		14.5	20	25.9		22.4	127	22.4	127	22.4	39		22	7	00	16
23	165	13.1		15.4	35	00.9	+13	09.6	128	09.6	128	09.6	39		25	05	08	2
24	180	13.2	+11	16.3	49	36.0	+12	56.8	128	56.8	128	56.8	5	39	6	28	7	11

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 11.9 ^m		Mag: -3.8 PMG: 11 ^h 15 ^m		Mag: +1.1 PMG: 9 ^h 39 ^m		Mag: -2.0 PMG: 13 ^h 28 ^m		Mag: +1.2 PMG: 9 ^h 21 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	206	36.1	191	26.7	+4	54.0	215	05.3	-5	02.0
1	221	38.5	206	26.3		55.3	230	06.0		01.2
2	236	41.0	221	26.0		56.5	245	06.7	-5	00.5
3	251	43.5	236	25.6		57.7	260	07.3	-4	59.7
4	266	45.9	251	25.2	+4	58.9	275	08.0		58.9
5	281	48.4	266	24.8	+5	00.1	290	08.7	-4	58.2
6	296	50.9	281	24.4	+5	01.3	305	09.4	-4	57.4
7	311	53.3	296	24.0		02.5	320	10.1		56.7
8	326	55.8	311	23.6		03.7	335	10.7		55.9
9	341	58.3	326	23.3		04.9	350	11.4		55.1
10	357	00.7	341	22.9		06.1	5	12.1		54.4
11	12	03.2	356	22.5	+5	07.3	20	12.8	-4	53.6
12	27	05.6	11	22.1	+5	08.5	35	13.4	-4	52.9
13	42	08.1	26	21.7		09.7	50	14.1		52.1
14	57	10.6	41	21.3		10.9	65	14.8		51.3
15	72	13.0	56	21.0		12.2	80	15.5		50.6
16	87	15.5	71	20.6		13.4	95	16.1		49.8
17	102	18.0	86	20.2	+5	14.6	110	16.8	-4	49.1
18	117	20.4	101	19.8	+5	15.8	125	17.5	-4	48.3
19	132	22.9	116	19.4		17.0	140	18.2		47.5
20	147	25.4	131	19.0		18.2	155	18.8		46.8
21	162	27.8	146	18.6		19.4	170	19.5		46.0
22	177	30.3	161	18.3		20.6	185	20.2		45.3
23	192	32.7	176	17.9		21.8	200	20.9		44.5
24	207	35.2	191	17.5	+5	23.0	215	21.5	-4	43.7
Dif	—		-4		+12		+7		+8	
								+19		+2
										+22
										+1

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 59.0 ^m				Edad: 10.2 ^d SD: 14'7 PMG: 21 ^h 16 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1 R°: 39 ^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	13.2	+11	16.3	49	36.0	+12	56.8	128	60 N	19 29	20 17	21 24	13 55	82	4 14	**				
1	195	13.3		17.1	64	11.1		44.0	129	58	22	20 07	21 06	14 00	79	08	2				
2	210	13.5		18.0	78	46.3		31.1	129	56	16	19 57	20 51	06 75		4 02	5				
3	225	13.6		18.8	93	21.6		18.2	129	54	10	49	39	10 73	3 56	8					
4	240	13.7		19.7	107	56.8	+12	05.2	130	52	05	42	28	14 71	51	10					
5	255	13.9	+11	20.6	122	32.2	+11	52.2	130	50	19 01	19 36	20 19	14 18	68	3 47	12				
6	270	14.0	+11	21.4	137	07.6	+11	39.2	130	45	18 51	19 22	20 00	14 26	63	3 37	16				
7	285	14.1		22.3	151	43.0		26.1	131	40	43	11	19 46	33 59	29 20						
8	300	14.3		23.2	166	18.5	+11	12.9	132	35	36	19 02	34 38	56 22	23						
9	315	14.4		24.0	180	54.0	+10	59.7	132	30	30	18 55	24 43	53 15	27						
10	330	14.5		24.9	195	29.5		46.5	132	20	20	42	19 09	14 52	48 3	04	32				
11	345	14.7	+11	25.7	210	05.1	+10	33.3	132	10 N	18 11	18 32	18 57	15 00	43 2	55	36				
12	0	14.8	+11	26.6	224	40.7	+10	20.0	133	0	18 02	18 23	18 48	15 07	39 2	46	40				
13	15	14.9		27.4	239	16.4	+10	06.7	133	10 S	17 54	16 40	14 35	37	44						
14	30	15.1		28.3	253	52.1	+9	53.3	134	20	46	08 34	21 31	27	48						
15	45	15.2		29.2	268	27.9		39.9	134	30	36	18 00	28 30	25 16	53						
16	60	15.3		30.0	283	03.7		26.5	134	35	30	17 56	26 35	22 09	57						
17	75	15.5	+11	30.9	297	39.5	+9	13.0	135	40	17 24	17 52	18 23	15 40	20 2	02	60				
18	90	15.6	+11	31.7	312	15.3	+8	59.5	135	45	17 17	17 47	18 21	15 46	16 1	53	64				
19	105	15.7		32.6	326	51.2		46.0	135	50	08 41	19 54	11 42	69							
20	120	15.9		33.4	341	27.1		32.4	136	52	04 39	18 15	57 10	37 71							
21	135	16.0		34.3	356	03.1		18.8	136	54	17 00	36 17	16 01	7 32	73						
22	150	16.1		35.2	10	39.0	+8	05.2	136	56	16 55	33 17	06 4	26	76						
23	165	16.2		36.0	25	15.1	+7	51.6	136	58	50 30	16 10	2 19	80							
24	180	16.4	+11	36.9	39	51.1	+7	37.9	137	60 S	16 44	17 27	18 15	16 15	**	1 11	84				
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO				
	PMG 10 ^h 08.0 ^m				Mag: -3.8 PMG: 11 ^h 15 ^m				Mag: +1.1 PMG: 9 ^h 38 ^m				Mag: -2.0 PMG: 13 ^h 25 ^m				Mag: +1.2 PMG: 9 ^h 18 ^m				
	hG ♈	Dec			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	207	35.2	191	17.5	+5	23.0	215	21.5	-4	43.7	158	27.1	+17	20.7	220	15.2	-7	17.2			
1	222	37.7	206	17.1		24.2	230	22.2		43.0	173	28.9		20.9	235	17.4		17.1			
2	237	40.1	221	16.7		25.4	245	22.9		42.2	188	30.8		21.0	250	19.7		17.0			
3	252	42.6	236	16.3		26.6	260	23.6		41.5	203	32.7		21.2	265	21.9		16.9			
4	267	45.1	251	15.9		27.8	275	24.3		40.7	218	34.6		21.3	280	24.1		16.8			
5	282	47.5	266	15.5	+5	29.0	290	24.9	-4	39.9	233	36.5	+17	21.5	295	26.3	-7	16.7			
6	297	50.0	281	15.2	+5	30.2	305	25.6	-4	39.2	248	38.4	+17	21.6	310	28.6	-7	16.6			
7	312	52.5	296	14.8		31.4	320	26.3		38.4	263	40.3		21.8	325	30.8		16.6			
8	327	54.9	311	14.4		32.6	335	27.0		37.6	278	42.2		21.9	340	33.0		16.5			
9	342	57.4	326	14.0		33.8	350	27.6		36.9	293	44.0		22.1	355	35.3		16.4			
10	357	59.9	341	13.6		35.0	5	28.3		36.1	308	45.9		22.3	10	37.5		16.3			
11	13	02.3	356	13.2	+5	36.2	20	29.0	-4	35.4	323	47.8	+17	22.4	25	39.7	-7	16.2			
12	28	04.8	11	12.8	+5	37.4	35	29.7	-4	34.6	338	49.7	+17	22.6	40	42.0	-7	16.1			
13	43	07.2	26	12.4		38.6	50	30.4		33.8	353	51.6		22.7	55	44.2		16.0			
14	58	09.7	41	12.1		39.8	65	31.0		33.1	8	53.5		22.9	70	46.4		15.9			
15	73	12.2	56	11.7		41.0	80	31.7		32.3	23	55.4		23.0	85	48.7		15.8			
16	88	14.6	71	11.3		42.2	95	32.4		31.6	38	57.3		23.2	100	50.9		15.8			
17	103	17.1	86	10.9	+5	43.4	110	33.1	-4	30.8	53	59.1	+17	23.3	115	53.1	-7	15.7			
18	118	19.6	101	10.5	+5	44.6	125	33.8	-4	30.0	69	01.0	+17	23.5	130	55.4	-7	15.6			
19	133	22.0	116	10.1		45.8	140	34.4		29.3	84	02.9		23.6	145	57.6		15.5			
20	148	24.5	131	09.7		47.0	155	35.1		28.5	99	04.8		23.8	160	59.8		15.4			
21	163	27.0	146	09.3		48.2	170	35.8		27.7	114	06.7		23.9	176	02.1		15.3			
22	178	29.4	161	08.9		49.4	185	36.5		27.0	129	08.6		24.1	191	04.3		15.2			
23	193	31.9	176	08.5		50.6	200	37.1		26.2	144	10.5		24.2	206	06.5		15.1			
24	208	34.3	191	08.2	+5	51.8	215	37.8	-4	25.5	159	12.4	+17	24.4	221	08.8	-7	15.0			
Dif	—		-4		+12		+7		+8		+19		+2		+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 58.8 ^m			Edad: 11.2 ^d PHE { 4 ^h : 54 ^h /1 12 ^h : 54 ^h /1 20 ^h : 54 ^h /1 PMG: 21 ^h 55 ^m R°: 39 ^m													
	hG ☉	Dec		hG ☾	Dif		Dec	Dif			Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	16.4	+11	36.9	39	51.1	+7	37.9	137	60 N	2	33	3	40	4	28	15
1	195	16.5		37.7	54	27.1		24.2	137	58	2	51	3	50	35	19	79
2	210	16.6		38.6	69	03.2		10.4	138	56	3	06	4	00	41	21	76
3	225	16.8		39.4	83	39.3		56.7	137	54		18		08	47	23	73
4	240	16.9		40.3	98	15.5		42.9	138	52		29		15	52	25	70
5	255	17.0	+11	41.1	112	51.6	+6	29.1	138	50	3	38	4	21	4	56	15
6	270	17.2	+11	42.0	127	27.8	+6	15.3	138	45	3	57	4	35	5	06	15
7	285	17.3		42.8	142	04.0	+6	01.4	139	40	4	12		46	14	32	59
8	300	17.4		43.7	156	40.2	+5	47.5	139	35		24	4	55	21	34	56
9	315	17.5		44.5	171	16.4		33.6	139	30		33	5	03	27	36	53
10	330	17.7		45.4	185	52.7		19.7	139	20	4	49		15	38	40	48
11	345	17.8	+11	46.2	200	28.9	+5	05.8	139	10 N	5	00	5	26	5	47	15
12	0	17.9	+11	47.1	215	05.2	+4	51.8	140	0	5	10	5	34	5	55	15
13	15	18.1		48.0	229	41.5		37.8	140	10 S		18		42	6	04	49
14	30	18.2		48.8	244	17.8		23.8	140	20		24		50	13	52	30
15	45	18.3		49.7	258	54.1	+4	09.8	140	30		30	5	58	22	55	26
16	60	18.4		50.5	273	30.4	+3	55.8	140	35		33	6	02	28	15	
17	75	18.6	+11	51.3	288	06.8	+3	41.7	141	40	5	35	6	07	6	34	16
18	90	18.7	+11	52.2	302	43.1	+3	27.7	141	45	5	37	6	12	6	42	16
19	105	18.8		53.0	317	19.5	+3	13.6	141	50		40		17	51	05	11
20	120	18.9		53.9	331	55.8	+2	59.5	141	52		41		20	55	07	9
21	135	19.1		54.7	346	32.2		45.4	141	54		41		23	6	59	08
22	150	19.2		55.6	1	08.6		31.3	141	56		42		26	7	04	10
23	165	19.3		56.4	15	44.9		17.1	142	58		43		29	10	12	1
24	180	19.5	+11	57.3	30	21.3	+2	03.0	141	60 S	5	44	6	32	7	16	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 04.1 ^m		Mag: -3.9 PMG: 11 ^h 16 ^m		Mag: +1.1 PMG: 9 ^h 37 ^m		Mag: -2.0 PMG: 13 ^h 21 ^m		Mag: +1.2 PMG: 9 ^h 14 ^m	
h	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	208	34.3	191	08.2	+5	51.8	215	37.8	-4	25.5
1	223	36.8	206	07.8		53.0	230	38.5		24.7
2	238	39.3	221	07.4		54.2	245	39.2		23.9
3	253	41.7	236	07.0		55.4	260	39.9		23.2
4	268	44.2	251	06.6		56.6	275	40.5		22.4
5	283	46.7	266	06.2	+5	57.8	290	41.2	-4	21.6
6	298	49.1	281	05.8	+5	59.0	305	41.9	-4	20.9
7	313	51.6	296	05.4	+6	00.2	320	42.6		20.1
8	328	54.1	311	05.0		01.4	335	43.3		19.4
9	343	56.5	326	04.6		02.6	350	43.9		18.6
10	358	59.0	341	04.2		03.8	5	44.6		17.8
11	14	01.5	356	03.8	+6	05.0	20	45.3	-4	17.1
12	29	03.9	11	03.5	+6	06.2	35	46.0	-4	16.3
13	44	06.4	26	03.1		07.4	50	46.7		15.5
14	59	08.8	41	02.7		08.6	65	47.3		14.8
15	74	11.3	56	02.3		09.8	80	48.0		14.0
16	89	13.8	71	01.9		11.0	95	48.7		13.3
17	104	16.2	86	01.5	+6	12.2	110	49.4	-4	12.5
18	119	18.7	101	01.1	+6	13.4	125	50.1	-4	11.7
19	134	21.2	116	00.7		14.6	140	50.8		11.0
20	149	23.6	131	00.3		15.8	155	51.4		10.2
21	164	26.1	145	59.9		17.0	170	52.1		09.4
22	179	28.6	160	59.5		18.2	185	52.8		08.7
23	194	31.0	175	59.1		19.3	200	53.5		07.9
24	209	33.5	190	58.7	+6	20.5	215	54.2	-4	07.2
Dif	—		-4	+12		+7	+8		+19	+2

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: 12.2 ^d SD: 14'7 PMG: 22 ^h 34 ^m PHE { 4 ^h : 54'1 12 ^h : 54'2 20 ^h : 54'2 R°: 40 ^m															
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m		
0	180	19.5	+11	57.3	30	21.3	+2	03.0	60 N	19	34	20	23	21	32	16	39	4	12	
1	195	19.6		58.1	44	57.7	+1	48.8	58	27	12	21	13	38	79			11	2	
2	210	19.7		59.0	59	34.0		34.7	56	20	20	02	20	57	37	76			11	4
3	225	19.8	+11	59.8	74	10.4		20.5	54	14	19	53		44	36	73			10	7
4	240	20.0	+12	00.7	88	46.8	+1	06.3	52	09		46		33	35	71			10	9
5	255	20.1	+12	01.5	103	23.2	+0	52.1	50	19	04	19	39	20	23	16	34	69	4	10
6	270	20.2	+12	02.4	117	59.5	+0	37.9	45	18	54	19	25	20	03	16	33	64	4	09
7	285	20.3		03.2	132	35.9		23.7	40	45		14	19	48	31	60			08	15
8	300	20.5		04.0	147	12.2	+0	09.5	35	38	19	04		36	30	57			08	22
9	315	20.6		04.9	161	48.6	-0	04.7	30	31	18	56		26	29	54			07	25
10	330	20.7		05.7	176	24.9		18.9	20	20		43	19	10	28	48			06	31
11	345	20.8	+12	06.6	191	01.2	-0	33.1	10 N	18	11	18	32	18	57	16	26	44	4	05
12	0	20.9	+12	07.4	205	37.6	-0	47.3	0	18	02	18	23	18	48	16	25	39	4	05
13	15	21.1		08.3	220	13.9	-1	01.6	10 S	17	53		15	40	24	35			04	43
14	30	21.2		09.1	234	50.2		15.8	20	44		18	07	32	22	31			03	48
15	45	21.3		09.9	249	26.4		30.0	30	34	17	58		26	21	25			02	53
16	60	21.4		10.8	264	02.7		44.2	35	28		54		23	20	23			01	56
17	75	21.6	+12	11.6	278	39.0	-1	58.5	40	17	21	17	49	18	21	16	19	19	4	01
18	90	21.7	+12	12.5	293	15.2	-2	12.7	45	17	14	17	44	18	18	16	18	15	4	00
19	105	21.8		13.3	307	51.4		26.9	50		04		38	15	16	12			3	59
20	120	21.9		14.1	322	27.6		41.1	52	17	00		35	14	16	9			59	60
21	135	22.1		15.0	337	03.8	-2	55.3	54	16	55		32	13	15	7			58	73
22	150	22.2		15.8	351	39.9	-3	09.5	56		50		29	12	14	5			58	75
23	165	22.3		16.7	6	16.1		23.7	58		44		25	11	13	2			57	79
24	180	22.4	+12	17.5	20	52.2	-3	37.9	60 S	16	38	17	22	18	10	16	12	**	3	56
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 10 ^h 00.1 ^m		Mag: -3.9 PMG: 11 ^h 16 ^m			Mag: +1.1 PMG: 9 ^h 36 ^m			Mag: -2.0 PMG: 13 ^h 18 ^m			Mag: +1.2 PMG: 9 ^h 10 ^m								
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	209	33.5	190	58.7	+6	20.5	215	54.2	-4	07.2	159	57.6	+17	28.1	222	02.4	-7	12.9		
1	224	36.0	205	58.3		21.7	230	54.8		06.4	174	59.5		28.2	237	04.6		12.8		
2	239	38.4	220	57.9		22.9	245	55.5		05.6	190	01.4		28.4	252	06.9		12.7		
3	254	40.9	235	57.5		24.1	260	56.2		04.9	205	03.3		28.5	267	09.1		12.6		
4	269	43.3	250	57.1		25.3	275	56.9		04.1	220	05.1		28.7	282	11.3		12.6		
5	284	45.8	265	56.7	+6	26.5	290	57.6	-4	03.3	235	07.0	+17	28.8	297	13.6	-7	12.5		
6	299	48.3	280	56.3	+6	27.7	305	58.2	-4	02.6	250	08.9	+17	29.0	312	15.8	-7	12.4		
7	314	50.7	295	56.0		28.9	320	58.9		01.8	265	10.8		29.1	327	18.0		12.3		
8	329	53.2	310	55.6		30.1	335	59.6		01.0	280	12.7		29.3	342	20.3		12.2		
9	344	55.7	325	55.2		31.3	351	00.3	-4	00.3	295	14.6		29.4	357	22.5		12.1		
10	359	58.1	340	54.8		32.5	6	01.0	-3	59.5	310	16.5		29.6	12	24.7		12.0		
11	15	00.6	355	54.4	+6	33.7	21	01.7	-3	58.8	325	18.3	+17	29.7	27	27.0	-7	11.9		
12	30	03.1	10	54.0	+6	34.8	36	02.3	-3	58.0	340	20.2	+17	29.9	42	29.2	-7	11.9		
13	45	05.5	25	53.6		36.0	51	03.0		57.2	355	22.1		30.0	57	31.4		11.8		
14	60	08.0	40	53.2		37.2	66	03.7		56.5	10	24.0		30.2	72	33.7		11.7		
15	75	10.4	55	52.8		38.4	81	04.4		55.7	25	25.9		30.3	87	35.9		11.6		
16	90	12.9	70	52.4		39.6	96	05.1		54.9	40	27.8		30.5	102	38.2		11.5		
17	105	15.4	85	52.0	+6	40.8	111	05.8	-3	54.2	55	29.6	+17	30.7	117	40.4	-7	11.4		
18	120	17.8	100	51.6	+6	42.0	126	06.4	-3	53.4	70	31.5	+17	30.8	132	42.6	-7	11.3		
19	135	20.3	115	51.2		43.2	141	07.1		52.6	85	33.4		31.0	147	44.9		11.2		
20	150	22.8	130	50.8		44.4	156	07.8		51.9	100	35.3		31.1	162	47.1		11.2		
21	165	25.2	145	50.4		45.6	171	08.5		51.1	115	37.2		31.3	177	49.3		11.1		
22	180	27.7	160	50.0		46.7	186	09.2		50.3	130	39.1		31.4	192	51.6		11.0		
23	195	30.2	175	49.6		47.9	201	09.8		49.6	145	40.9		31.6	207	53.8		10.9		
24	210	32.6	190	49.2	+6	49.1	216	10.5	-3	48.8	160	42.8	+17	31.7	222	56.1	-7	10.8		
Dif	—		-4		+12	+7		+8		+19		+2		+22		+1				

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG:11 ^h 58.4 ^m			Edad: 13.2 ^d PHE { 4 ^h : 54'3 12 ^h : 54'4 20 ^h : 54'5 PMG: 23 ^h 14 ^m 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	22.4	+12	17.5	20	52.2	171	-3	37.9	142	60 N	2 24	3 33	4 22	18 02	86	4 10 **	
1	195	22.5		18.3	35	28.3	170	-3	52.1	142	58	44	44	29	17 57	83	13 2	
2	210	22.7		19.2	50	04.3	171	-4	06.3	141	56	2 59	3 54	36	53 79	15	5	
3	225	22.8		20.0	64	40.4	170		20.4	142	54	3 12	4 03	42	49 77	17		
4	240	22.9		20.8	79	16.4	170		34.6	142	52	24	10	48	46 74	19	10	
5	255	23.0	+12	21.7	93	52.4	170	-4	48.8	142	50	3 33	4 17	4 52	17 43	71	4 21 11	
6	270	23.1	+12	22.5	108	28.3	169	-5	02.9	141	45	3 53	4 32	5 03	17 37	66	4 24 17	
7	285	23.3		23.4	123	04.2	169		17.0	141	40	4 09	43	12	31 62	27	21	
8	300	23.4		24.2	137	40.1	169		31.1	141	35	21	4 52	19	27 58	30	24	
9	315	23.5		25.0	152	16.0	169		45.2	141	30	31	5 01	25	23 55	32	27	
10	330	23.6		25.9	166	51.8	168	-5	59.3	141	20	47	14	37	16 50	37	31	
11	345	23.7	+12	26.7	181	27.6	168	-6	13.4	141	10 N	4 59	5 25	5 46	17 10	46	4 40 36	
12	0	23.9	+12	27.5	196	03.4	168	-6	27.4	140	0	5 09	5 34	5 55	17 04	42	4 44 40	
13	15	24.0		28.4	210	39.1	167		41.4	140	10 S	18	42	6 04	16 59	37	47 45	
14	30	24.1		29.2	225	14.8	167	-6	55.5	140	20	25	51	13	53 33	51	49	
15	45	24.2		30.0	239	50.4	166	-7	09.5	140	30	31	5 59	24	46 28	55	54	
16	60	24.3		30.9	254	26.0	166		23.4	139	35	34	6 04	30	43 24	4 57	58	
17	75	24.5	+12	31.7	269	01.6	166	-7	37.4	140	40	5 37	6 09	6 36	16 38	22	5 00 61	
18	90	24.6	+12	32.5	283	37.1	165	-7	51.3	139	45	5 40	6 14	6 44	16 33	18	5 03 65	
19	105	24.7		33.4	298	12.6	165	-8	05.2	139	50	42	20	54	28 12	07	70	
20	120	24.8		34.2	312	48.0	164		19.1	139	52	44	23	6 58	25 10	09	72	
21	135	24.9		35.0	327	23.4	164		33.0	139	54	45	26	7 03	22 8	11	75	
22	150	25.0		35.9	341	58.7	163	-8	46.8	138	56	46	29	08	19 5	13	78	
23	165	25.2		36.7	356	34.0	163	-9	00.6	138	58	47	33	14	15 3	16	80	
24	180	25.3	+12	37.5	11	09.3	163	-9	14.4	138	60 S	5 48	6 37	7 21	16 11 **	5 18	85	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 56.2 ^m		Mag: -3.9 PMG: 11 ^h 17 ^m			Mag: +1.1 PMG: 9 ^h 35 ^m			Mag: -2.0 PMG: 13 ^h 15 ^m			Mag: +1.2 PMG: 9 ^h 07 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	210	32.6	190	49.2	+6	49.1	216	10.5	-3	48.8	160	42.8	+17	31.7	222	56.1	-7	10.8
1	225	35.1	205	48.8		50.3	231	11.2		48.1	175	44.7		31.9	237	58.3		10.7
2	240	37.6	220	48.4		51.5	246	11.9		47.3	190	46.6		32.0	253	00.5		10.6
3	255	40.0	235	48.0		52.7	261	12.6		46.5	205	48.5		32.2	268	02.8		10.5
4	270	42.5	250	47.6		53.9	276	13.3		45.8	220	50.4		32.3	283	05.0		10.5
5	285	44.9	265	47.2	+6	55.1	291	13.9	-3	45.0	235	52.2	+17	32.5	298	07.2	-7	10.4
6	300	47.4	280	46.8	+6	56.2	306	14.6	-3	44.2	250	54.1	+17	32.6	313	09.5	-7	10.3
7	315	49.9	295	46.4		57.4	321	15.3		43.5	265	56.0		32.8	328	11.7		10.2
8	330	52.3	310	46.0		58.6	336	16.0		42.7	280	57.9		32.9	343	14.0		10.1
9	345	54.8	325	45.6	+6	59.8	351	16.7		41.9	295	59.8		33.1	358	16.2		10.0
10	0	57.3	340	45.2	+7	01.0	6	17.4		41.2	311	01.7		33.2	13	18.4		09.9
11	15	59.7	355	44.8	+7	02.2	21	18.1	-3	40.4	326	03.5	+17	33.4	28	20.7	-7	09.9
12	31	02.2	10	44.4	+7	03.4	36	18.7	-3	39.6	341	05.4	+17	33.5	43	22.9	-7	09.8
13	46	04.7	25	44.0		04.5	51	19.4		38.9	356	07.3		33.7	58	25.1		09.7
14	61	07.1	40	43.6		05.7	66	20.1		38.1	11	09.2		33.8	73	27.4		09.6
15	76	09.6	55	43.2		06.9	81	20.8		37.3	26	11.1		34.0	88	29.6		09.5
16	91	12.0	70	42.8		08.1	96	21.5		36.6	41	12.9		34.1	103	31.9		09.4
17	106	14.5	85	42.4	+7	09.3	111	22.2	-3	35.8	56	14.8	+17	34.3	118	34.1	-7	09.3
18	121	17.0	100	41.9	+7	10.5	126	22.8	-3	35.1	71	16.7	+17	34.4	133	36.3	-7	09.2
19	136	19.4	115	41.5		11.6	141	23.5		34.3	86	18.6		34.6	148	38.6		09.2
20	151	21.9	130	41.1		12.8	156	24.2		33.5	101	20.5		34.8	163	40.8		09.1
21	166	24.4	145	40.7		14.0	171	24.9		32.8	116	22.4		34.9	178	43.1		09.0
22	181	26.8	160	40.3		15.2	186	25.6		32.0	131	24.2		35.1	193	45.3		08.9
23	196	29.3	175	39.9		16.4	201	26.3		31.2	146	26.1		35.2	208	47.5		08.8
24	211	31.8	190	39.5	+7	17.5	216	27.0	-3	30.5	161	28.0	+17	35.4	223	49.8	-7	08.7
Dif	—		-4		+12		+7		+8		+19		+2		+22		+	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 15'9 PMG: 11 ^h 58.2 ^m			Edad: 14.2 ^d SD: 14'8 PMG: 23 ^h 56 ^m PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'8 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	180	25.3	+12	37.5	11	09.3	162	-9	14.4	138	60 N	19 39	20 29	21 40	19 28	92	4 09	**						
1	195	25.4		38.3	25	44.5	161		28.2	137	58	31	17	19	20	87	15	2						
2	210	25.5		39.2	40	19.6	161		41.9	137	56	24	20 07	21 03	12	83	20	6						
3	225	25.6		40.0	54	54.7	161	-9	55.6	137	54	18	19 58	20 49	06	79	24	9						
4	240	25.7		40.8	69	29.8	161	-10	09.3	137	52	12	50	37	19 00	76	29	11						
5	255	25.9	+12	41.7	84	04.8	160	-10	22.9	136	50	19 07	19 43	20 27	18 54	74	4 32	14						
6	270	26.0	+12	42.5	98	39.7	159	-10	36.5	136	45	18 56	19 28	20 06	18 43	68	4 41	18						
7	285	26.1		43.3	113	14.6	159	-10	50.1	136	40	47	16	19 50	33	65	48	22						
8	300	26.2		44.1	127	49.4	158	-11	03.6	135	35	39	19 06	38	25	61	54	26						
9	315	26.3		45.0	142	24.2	158		17.1	135	30	33	18 57	27	18	58	4 59	29						
10	330	26.4		45.8	156	58.9	157		30.6	135	20	21	44	19 10	18 06	53	5 08	34						
11	345	26.6	+12	46.6	171	33.6	157	-11	44.0	134	10 N	18 11	18 32	18 58	17 56	48	5 16	39						
12	0	26.7	+12	47.4	186	08.2	156	-11	57.4	134	0	18 02	18 23	18 47	17 46	44	5 24	42						
13	15	26.8		48.3	200	42.7	155	-12	10.8	134	10 S	17 52	14	39	36	40	32	46						
14	30	26.9		49.1	215	17.2	155		24.1	133	20	43	18 05	31	26	35	40	51						
15	45	27.0		49.9	229	51.6	154		37.4	133	30	32	17 56	24	14	31	49	57						
16	60	27.1		50.7	244	26.0	154	-12	50.6	132	35	26	52	21	07	28	5 55	59						
17	75	27.2	+12	51.6	259	00.3	153	-13	03.8	132	40	17 19	17 46	18 18	17 00	24	6 01	63						
18	90	27.3	+12	52.4	273	34.5	152	-13	16.9	131	45	17 10	17 41	18 15	16 51	20	6 08	67						
19	105	27.5		53.2	288	08.7	152		30.0	131	50	17 01	34	12	40	16	17	72						
20	120	27.6		54.0	302	42.8	151		43.1	131	52	16 56	31	11	35	13	21	75						
21	135	27.7		54.9	317	16.8	150	-13	56.1	130	54	51	28	09	30	10	26	77						
22	150	27.8		55.7	331	50.7	149	-14	09.0	129	56	46	24	08	24	7	31	80						
23	165	27.9		56.5	346	24.6	149		21.9	129	58	39	21	07	18	3	36	85						
24	180	28.0	+12	57.3	0	58.4	148	-14	34.8	129	60 S	16 32	17 16	18 05	16 10	0	6 43	88						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 9 ^h 52.3 ^m			Mag: -3.9 PMG: 11 ^h 18 ^m			Mag: +1.1 PMG: 9 ^h 34 ^m			Mag: -2.0 PMG: 13 ^h 12 ^m			Mag: +1.2 PMG: 9 ^h 03 ^m											
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec							
h	° /			° /	° /		° /	° /		° /	° /		° /	° /		° /	° /							
0	211	31.8		190	39.5	+7	17.5	216	27.0	-3	30.5	161	28.0	+17	35.4	223	49.8	-7	08.7					
1	226	34.2		205	39.1		18.7	231	27.6		29.7	176	29.9		35.5	238	52.0		08.6					
2	241	36.7		220	38.7		19.9	246	28.3		28.9	191	31.8		35.7	253	54.3		08.6					
3	256	39.2		235	38.3		21.1	261	29.0		28.2	206	33.6		35.8	268	56.5		08.5					
4	271	41.6		250	37.9		22.3	276	29.7		27.4	221	35.5		36.0	283	58.7		08.4					
5	286	44.1		265	37.5	+7	23.5	291	30.4	-3	26.6	236	37.4	+17	36.1	299	01.0	-7	08.3					
6	301	46.5		280	37.1	+7	24.6	306	31.1	-3	25.9	251	39.3	+17	36.3	314	03.2	-7	08.2					
7	316	49.0		295	36.7		25.8	321	31.8		25.1	266	41.2		36.4	329	05.5		08.1					
8	331	51.5		310	36.3		27.0	336	32.4		24.3	281	43.0		36.6	344	07.7		08.0					
9	346	53.9		325	35.9		28.2	351	33.1		23.6	296	44.9		36.7	359	09.9		08.0					
10	1	56.4		340	35.5		29.4	6	33.8		22.8	311	46.8		36.9	14	12.2		07.9					
11	16	58.9		355	35.0	+7	30.5	21	34.5	-3	22.0	326	48.7	+17	37.0	29	14.4	-7	07.8					
12	32	01.3		10	34.6	+7	31.7	36	35.2	-3	21.3	341	50.6	+17	37.2	44	16.7	-7	07.7					
13	47	03.8		25	34.2		32.9	51	35.9		20.5	356	52.5		37.3	59	18.9		07.6					
14	62	06.3		40	33.8		34.1	66	36.6		19.7	11	54.3		37.5	74	21.1		07.5					
15	77	08.7		55	33.4		35.2	81	37.2		19.0	26	56.2		37.6	89	23.4		07.4					
16	92	11.2		70	33.0		36.4	96	37.9		18.2	41	58.1		37.8	104	25.6		07.4					
17	107	13.7		85	32.6	+7	37.6	111	38.6	-3	17.4	57	00.0	+17	37.9	119	27.9	-7	07.3					
18	122	16.1		100	32.2	+7	38.8	126	39.3	-3	16.7	72	01.9	+17	38.1	134	30.1	-7	07.2					
19	137	18.6		115	31.8		39.9	141	40.0		15.9	87	03.7		38.2	149	32.3		07.1					
20	152	21.0		130	31.4		41.1	156	40.7		15.1	102	05.6		38.4	164	34.6		07.0					
21	167	23.5		145	31.0		42.3	171	41.4		14.4	117	07.5		38.5	179	36.8		06.9					
22	182	26.0		160	30.6		43.5	186	42.0		13.6	132	09.4		38.7	194	39.1		06.8					
23	197	28.4		175	30.1		44.6	201	42.7		12.9	147	11.3		38.8	209	41.3		06.8					
24	212	30.9		190	29.7	+7	45.8	216	43.4	-3	12.1	162	13.1	+17	39.0	224	43.6	-7	06.7					
Dif	—			-4			+12			+7			+19			+2			+22			+		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG:11 ^h 58.0 ^m			Edad: 15.2 ^d PHE { 4 ^h : 54'9 12 ^h : 55'0 20 ^h : 55'2 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	180	28.0	+12	57.3	0	58.4	-14	34.8	128	60 N	2	15	3	26	4	16	21 00 98
1	195	28.1		58.1	15	32.2	-14	47.6	128	58		36	39	24	20	47	91
2	210	28.2		59.0	30	05.9	-15	00.3	127	56	2	53	49	31	35	86	26
3	225	28.4	+12	59.8	44	39.5		13.0	127	54	3	07	3	58	38	25	82
4	240	28.5	+13	00.6	59	13.0		25.7	127	52		18	4	06	43	16	79
5	255	28.6	+13	01.4	73	46.4	-15	38.3	126	50	3	29	4	13	4	49	20 08 76
6	270	28.7	+13	02.2	88	19.8	-15	50.8	125	45	3	49	4	28	5	00	19 51 71
7	285	28.8		03.1	102	53.1	-16	03.3	125	40	4	05	40	09	38	66	5
8	300	28.9		03.9	117	26.3		15.7	124	35		18	50	17	26	63	20
9	315	29.0		04.7	131	59.5		28.0	123	30		29	4	58	23	19	16
10	330	29.1		05.5	146	32.5		40.3	123	20		46	5	12	35	18	59
11	345	29.2	+13	06.3	161	05.5	-16	52.6	123	10 N	4	58	5	24	5	45	18 44 51
12	0	29.3	+13	07.1	175	38.4	-17	04.7	121	0	5	09	5	33	5	55	18 30 47
13	15	29.5		08.0	190	11.2		16.8	121	10 S		18	42	6	04	16	44
14	30	29.6		08.8	204	44.0		28.9	121	20		25	5	51	14	18	01
15	45	29.7		09.6	219	16.6		40.8	119	30		32	6	00	25	17	45
16	60	29.8		10.4	233	49.2	-17	52.7	119	35		35	05	31	35	32	6
17	75	29.9	+13	11.2	248	21.7	-18	04.6	119	40	5	39	6	11	6	38	17
18	90	30.0	+13	12.0	262	54.1	-18	16.3	117	45	5	42	6	16	6	47	17
19	105	30.1		12.8	277	26.4		28.0	117	50		45	23	6	57	16	56
20	120	30.2		13.7	291	58.7		39.6	116	52		47	26	7	01	48	18
21	135	30.3		14.5	306	30.8	-18	51.2	116	54		48	29	06	40	15	43
22	150	30.4		15.3	321	02.9	-19	02.6	114	56		49	33	12	31	11	7
23	165	30.5		16.1	335	34.9		14.0	114	58		51	37	18	21	7	8
24	180	30.6	+13	16.9	350	06.7	-19	25.3	113	60 S	5	52	6	41	7	25	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 48.3 ^m		Mag: -3.9 PMG: 11 ^h 18 ^m		Mag: +1.1 PMG: 9 ^h 33 ^m		Mag: -2.0 PMG: 13 ^h 09 ^m		Mag: +1.2 PMG: 9 ^h 00 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	212	30.9	190	29.7	+7	45.8	216	43.4	-3	12.1
1	227	33.4	205	29.3		47.0	231	44.1		11.3
2	242	35.8	220	28.9		48.2	246	44.8		10.6
3	257	38.3	235	28.5		49.3	261	45.5		09.8
4	272	40.8	250	28.1		50.5	276	46.2		09.0
5	287	43.2	265	27.7	+7	51.7	291	46.9	-3	08.3
6	302	45.7	280	27.3	+7	52.9	306	47.5	-3	07.5
7	317	48.1	295	26.8		54.0	321	48.2		06.7
8	332	50.6	310	26.4		55.2	336	48.9		06.0
9	347	53.1	325	26.0		56.4	351	49.6		05.2
10	2	55.5	340	25.6		57.6	6	50.3		04.4
11	17	58.0	355	25.2	+7	58.7	21	51.0	-3	03.7
12	33	00.5	10	24.8	+7	59.9	36	51.7	-3	02.9
13	48	02.9	25	24.4	+8	01.1	51	52.4		02.1
14	63	05.4	40	24.0		02.2	66	53.0		01.4
15	78	07.9	55	23.5		03.4	81	53.7	-3	00.6
16	93	10.3	70	23.1		04.6	96	54.4	-2	59.8
17	108	12.8	85	22.7	+8	05.8	111	55.1	-2	59.1
18	123	15.3	100	22.3	+8	06.9	126	55.8	-2	58.3
19	138	17.7	115	21.9		08.1	141	56.5		57.5
20	153	20.2	130	21.5		09.3	156	57.2		56.8
21	168	22.6	145	21.0		10.4	171	57.9		56.0
22	183	25.1	160	20.6		11.6	186	58.6		55.2
23	198	27.6	175	20.2		12.8	201	59.2		54.5
24	213	30.0	190	19.8	+8	13.9	216	59.9	-2	53.7
Dif	—		-4		+12		+7		+8	

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: 16.2 ^d SD: 15'0 PMG: 0 ^h 41 ^m														
					PHE { 4 ^h : 55'3 12 ^h : 55'4 20 ^h : 55'6 R ^o : 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	h m m	h m m
0	180	30.6	+13	16.9	350	06.7	-19	25.3	112	58	60 N	19 44	20 35	21 49	22 38 102	4 08 2	22 9	2	
1	195	30.8		17.7	4	38.5		36.5	112	58		36	22	27	18 92		22 9		
2	210	30.9		18.5	19	10.2		47.7	112	56		28	11	21 09	22 01 86		34 14		
3	225	31.0		19.3	33	41.9		58.8	111	54		21	20 02	20 54	21 47 82		45 17		
4	240	31.1		20.2	48	13.4		09.8	110	52		16	19 53	42	35 78		4 55 20		
5	255	31.2	+13	21.0	62	44.8		20.7	109	50		19 10	19 46	20 31	21 24 76		5 03 23		
6	270	31.3	+13	21.8	77	16.2		31.5	108	45		18 59	19 30	20 10	21 02 71		5 22 28		
7	285	31.4		22.6	91	47.4		42.2	107	40		49	18	19 53	20 44 67		37 32		
8	300	31.5		23.4	106	18.6		52.8	106	35		41	19 08	40	29 64		5 49 36		
9	315	31.6		24.2	120	49.7		03.4	106	30		34	18 59	29	20 16 62		6 00 38		
10	330	31.7		25.0	135	20.6		13.9	105	20		22	44	19 11	19 54 58		20 42		
11	345	31.8	+13	25.8	149	51.5		24.2	103	10 N	18 11	18 33	18 58	19 35 55		6 36 47			
12	0	31.9	+13	26.6	164	22.3		34.5	103	0	18 01	18 23	18 47	19 17 52		6 52 50			
13	15	32.0		27.4	178	53.0		44.7	102	10 S	17 52	13	38	19 00 48		7 08 53			
14	30	32.1		28.2	193	23.6		54.8	101	20	41	18 04	30	18 41 46		25 57			
15	45	32.2		29.0	207	54.1		04.8	100	30	30	17 54	23	20 41		45 61			
16	60	32.3		29.9	222	24.5		14.7	99	35	23	49	19	18 07 39		7 56 64			
17	75	32.4	+13	30.7	236	54.8		24.5	98	40	17 16	17 44	18 16	17 53 36		8 09 67			
18	90	32.5	+13	31.5	251	25.0		34.2	97	45	17 07	17 38	18 12	17 36 33		8 25 71			
19	105	32.6		32.3	265	55.2		43.8	96	50	16 57	30	08	16 27		44 76			
20	120	32.7		33.1	280	25.2		53.3	95	52	52	27	07	17 06 25		8 54 78			
21	135	32.8		33.9	294	55.1		02.7	94	54	47	24	05	16 55 22		9 04 82			
22	150	32.9		34.7	309	25.0		11.9	92	56	41	20	04	42 18		16 86			
23	165	33.0		35.5	323	54.7		21.1	92	58	34	16	02	28 13		29 92			
24	180	33.1	+13	36.3	338	24.4		30.2	91	60 S	16 27	17 11	18 00	16 11 5		9 46 99			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 9 ^h 44.4 ^m		Mag: -3.9 PMG: 11 ^h 19 ^m				Mag: +1.1 PMG: 9 ^h 32 ^m				Mag: -2.0 PMG: 13 ^h 06 ^m				Mag: +1.2 PMG: 8 ^h 56 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	213	30.0	190	19.8	+8	13.9	216	59.9	-2	53.7	162	58.2	+17	42.6	225	37.4	-7	04.6	
1	228	32.5	205	19.4		15.1	232	00.6		52.9	178	00.1		42.8	240	39.6		04.6	
2	243	35.0	220	19.0		16.3	247	01.3		52.2	193	02.0		42.9	255	41.9		04.5	
3	258	37.4	235	18.5		17.4	262	02.0		51.4	208	03.9		43.1	270	44.1		04.4	
4	273	39.9	250	18.1		18.6	277	02.7		50.6	223	05.7		43.2	285	46.4		04.3	
5	288	42.4	265	17.7	+8	19.8	292	03.4	-2	49.9	238	07.6	+17	43.4	300	48.6	-7	04.2	
6	303	44.8	280	17.3	+8	20.9	307	04.1	-2	49.1	253	09.5	+17	43.5	315	50.9	-7	04.1	
7	318	47.3	295	16.9		22.1	322	04.8		48.3	268	11.4		43.7	330	53.1		04.1	
8	333	49.7	310	16.5		23.3	337	05.4		47.6	283	13.3		43.8	345	55.3		04.0	
9	348	52.2	325	16.0		24.4	352	06.1		46.8	298	15.1		44.0	0	57.6		03.9	
10	3	54.7	340	15.6		25.6	7	06.8		46.0	313	17.0		44.1	15	59.8		03.8	
11	18	57.1	355	15.2	+8	26.8	22	07.5	-2	45.3	328	18.9	+17	44.3	31	02.1	-7	03.7	
12	33	59.6	10	14.8	+8	27.9	37	08.2	-2	44.5	343	20.8	+17	44.4	46	04.3	-7	03.6	
13	49	02.1	25	14.4		29.1	52	08.9		43.7	358	22.6		44.6	61	06.6		03.5	
14	64	04.5	40	13.9		30.2	67	09.6		43.0	13	24.5		44.7	76	08.8		03.5	
15	79	07.0	55	13.5		31.4	82	10.3		42.2	28	26.4		44.9	91	11.1		03.4	
16	94	09.5	70	13.1		32.6	97	11.0		41.4	43	28.3		45.0	106	13.3		03.3	
17	109	11.9	85	12.7	+8	33.7	112	11.6	-2	40.7	58	30.2	+17	45.2	121	15.6	-7	03.2	
18	124	14.4	100	12.2	+8	34.9	127	12.3	-2	39.9	73	32.0	+17	45.3	136	17.8	-7	03.1	
19	139	16.9	115	11.8		36.1	142	13.0		39.1	88	33.9		45.5	151	20.0		03.0	
20	154	19.3	130	11.4		37.2	157	13.7		38.4	103	35.8		45.6	166	22.3		03.0	
21	169	21.8	145	11.0		38.4	172	14.4		37.6	118	37.7		45.8	181	24.5		02.9	
22	184	24.2	160	10.6		39.5	187	15.1		36.8	133	39.5		45.9	196	26.8		02.8	
23	199	26.7	175	10.1		40.7	202	15.8		36.1	148	41.4		46.1	211	29.0		02.7	
24	214	29.2	190	09.7	+8	41.9	217	16.5	-2	35.3	163	43.3	+17	46.2	226	31.3	-7	02.6	
Dif	—		-4		+12		+7		+8		+19		+2		+22		+1		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15°9 PMG:11 ^h 57.7 ^m			Edad: 17.2 ^d PHE { 4 ^h : 55'7 12 ^h : 55'9 20 ^h : 56'1 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	180	33.1	+13	36.3	338	24.4	-23	30.2	89	60 N	2 06	3 20	4 11	**	**	**	4 10 7
1	195	33.2		37.1	352	53.9		39.1	89	58	28	33	19	23	50	83	4 31 16
2	210	33.3		37.9	7	23.4		48.0	89	56	2 46	44	27	27	78		4 48 22
3	225	33.5		38.7	21	52.7	-23	56.7	87	54	3 01	3 53	33	23	09	74	5 02 22
4	240	33.6		39.5	36	22.0	-24	05.3	86	52	13	4 02	39	22	53	73	15 30
5	255	33.7	+13	40.3	50	51.2	-24	13.8	85	50	3 24	4 09	4 45	22	40	70	5 26 33
6	270	33.8	+13	41.1	65	20.2	-24	22.2	84	45	3 46	4 25	4 56	22	13	67	5 50 37
7	285	33.9		41.9	79	49.2		30.5	83	40	4 02	37	5 06	21	51	65	6 09 40
8	300	34.0		42.7	94	18.1		38.7	82	35	16	48	14	33	63		25 42
9	315	34.1		43.5	108	46.9		46.7	80	30	27	4 56	21	21	18	61	6 38 45
10	330	34.2		44.3	123	15.6	-24	54.6	79	20	44	5 11	34	20	52	59	7 02 48
11	345	34.3	+13	45.1	137	44.2	-25	02.4	78	10 N	4 57	5 23	5 44	20	30	57	7 23 50
12	0	34.4	+13	45.9	152	12.7	-25	10.1	77	0	5 08	5 33	5 54	20	09	55	7 42 53
13	15	34.4		46.7	166	41.1		17.6	75	10 S	18	43	6 04	19	48	54	8 01 56
14	30	34.5		47.5	181	09.5		25.0	74	20	26	5 52	14	27	51		22 58
15	45	34.6		48.3	195	37.7		32.3	73	30	33	6 01	26	19	01	49	8 46 61
16	60	34.7		49.1	210	05.8		39.5	72	35	37	07	33	18	46	47	9 00 63
17	75	34.8	+13	49.9	224	33.9	-25	46.5	70	40	5 41	6 12	6 40	18	29	45	9 16 66
18	90	34.9	+13	50.7	239	01.9	-25	53.4	69	45	5 44	6 19	6 49	18	09	42	9 36 69
19	105	35.0		51.5	253	29.7	-26	00.2	68	50	48	26	7 00	17	43	39	10 00 74
20	120	35.1		52.3	267	57.5		06.8	66	52	50	29	05	31	36		12 76
21	135	35.2		53.1	282	25.2		13.3	65	54	51	33	10	17	33		26 79
22	150	35.3		53.8	296	52.8		19.7	64	56	53	37	16	17	00	30	10 42 83
23	165	35.4		54.6	311	20.4		25.9	62	58	55	41	23	16	41	24	11 01 89
24	180	35.5	+13	55.4	325	47.8	-26	32.0	61	60 S	5 56	6 46	7 30	16	16	15	11 25 99

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO		
	PMG: 9 ^h 40.5 ^m		Mag: -3.9 PMG: 11 ^h 20 ^m		Mag: +1.1 PMG: 9 ^h 30 ^m		Mag: -2.0 PMG: 13 ^h 03 ^m		Mag: +1.2 PMG: 8 ^h 53 ^m		
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	
0	214	29.2	190	09.7	+8	41.9	217	16.5	-2	35.3	
1	229	31.6	205	09.3		43.0	232	17.2		34.5	
2	244	34.1	220	08.9		44.2	247	17.9		33.7	
3	259	36.6	235	08.4		45.3	262	18.5		33.0	
4	274	39.0	250	08.0		46.5	277	19.2		32.2	
5	289	41.5	265	07.6	+8	47.7	292	19.9	-2	31.4	
6	304	44.0	280	07.2	+8	48.8	307	20.6	-2	30.7	
7	319	46.4	295	06.7		50.0	322	21.3		29.9	
8	334	48.9	310	06.3		51.1	337	22.0		29.1	
9	349	51.4	325	05.9		52.3	352	22.7		28.4	
10	4	53.8	340	05.5		53.4	7	23.4		27.6	
11	19	56.3	355	05.0	+8	54.6	22	24.1	-2	26.8	
12	34	58.7	10	04.6	+8	55.7	37	24.8	-2	26.1	
13	50	01.2	25	04.2		56.9	52	25.5		25.3	
14	65	03.7	40	03.8		58.1	67	26.1		24.5	
15	80	06.1	55	03.3	+8	59.2	82	26.8		23.8	
16	95	08.6	70	02.9	+9	00.4	97	27.5		23.0	
17	110	11.1	85	02.5	+9	01.5	112	28.2	-2	22.2	
18	125	13.5	100	02.0	+9	02.7	127	28.9	-2	21.5	
19	140	16.0	115	01.6		03.8	142	29.6		20.7	
20	155	18.5	130	01.2		05.0	157	30.3		19.9	
21	170	20.9	145	00.8		06.1	172	31.0		19.2	
22	185	23.4	160	00.3		07.3	187	31.7		18.4	
23	200	25.9	174	59.9		08.4	202	32.4		17.6	
24	215	28.3	189	59.5	+9	09.6	217	33.1	-2	16.9	
Dif	—		-4	+12		+7	+8	+19	+1	+22	+1

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 57.6 ^m				Edad: 18.2 ^d SD: 15'3 PMG: 2 ^h 22 ^m PHE { 4 ^h : 56/2 12 ^h : 56/4 20 ^h : 56/6 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	h m m	
0	180	35.5	+13	55.4	325	47.8	84	-26	32.0	60	60 N	19 49	20 41	21 58	0 20 93	4 17 23		
1	195	35.6		56.2	340	15.2	82		38.0	58	58	40	27	34	** ** *	4 47 34		
2	210	35.7		57.0	354	42.4	82		43.8	57	56	32	16	21 15	** ** *	5 10 39		
3	225	35.8		57.8	9	09.6	81		49.5	55	54	25	20 06	20 59	** ** *	29 42		
4	240	35.9		58.6	23	36.7	81	-26	55.0	54	52	19	19 57	46	** ** *	45 44		
5	255	36.0	+13	59.4	38	03.8	81	-27	00.4	54	50	19 13	19 49	20 35	23 50 59	5 59 45		
6	270	36.1	+14	00.2	52	30.7	79	-27	05.6	52	45	19 01	19 33	20 13	23 20 59	6 27 48		
7	285	36.2		01.0	66	57.6	79		10.7	51	40	18 51	20	19 55	22 56 59	6 49 50		
8	300	36.3		01.8	81	24.4	78		15.7	50	35	43	09	42	36 59	7 07 52		
9	315	36.4		02.6	95	51.1	77		20.5	48	30	35	19 00	30	22 19 59	23 53		
10	330	36.5		03.3	110	17.7	76		25.1	46	20	22	18 45	19 12	21 51 58	7 50 54		
11	345	36.6	+14	04.1	124	44.3	76	-27	29.6	45	10 N	18 11	18 33	18 58	21 27 58	8 13 56		
12	0	36.7	+14	04.9	139	10.8	75	-27	34.0	44	0	18 01	18 22	18 47	21 04 58	8 35 57		
13	15	36.8		05.7	153	37.2	74		38.2	42	10 S	17 51	12	37	20 42 57	8 57 58		
14	30	36.9		06.5	168	03.5	73		42.2	39	20	40	18 03	29	20 18 57	9 20 59		
15	45	36.9		07.3	182	29.8	73		46.1	38	30	28	17 53	21	19 50 56	9 47 61		
16	60	37.0		08.1	196	56.0	72		49.9	38	35	21	47	17	33 56	10 03 62		
17	75	37.1	+14	08.9	211	22.2	72	-27	53.4	35	40	17 13	17 41	18 13	19 14 56	10 22 62		
18	90	37.2	+14	09.7	225	48.3	71	-27	56.9	35	45	17 04	17 35	18 09	18 51 55	10 45 63		
19	105	37.3		10.4	240	14.3	70	-28	00.1	32	50	16 53	27	05	22 53	11 14 65		
20	120	37.4		11.2	254	40.2	69		03.2	31	52	48	24	03	18 07 53	28 66		
21	135	37.5		12.0	269	06.1	69		06.2	30	54	43	20	02	17 50 52	11 45 67		
22	150	37.6		12.8	283	32.0	69		09.0	28	56	36	16	18 00	30 50	12 05 69		
23	165	37.7		13.6	297	57.8	68		11.6	26	58	29	11	17 58	17 05 48	12 30 72		
24	180	37.8	+14	14.4	312	23.5	67	-28	14.1	25	60 S	16 22	17 06	17 56	16 31 42	13 04 77		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 36.5 ^m		Mag: -3.9 PMG: 11 ^h 20 ^m		Mag: +1.1 PMG: 9 ^h 29 ^m		Mag: -2.0 PMG: 13 ^h 00 ^m		Mag: +1.2 PMG: 8 ^h 49 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	215	28.3	189	59.5	+9	09.6	217	33.1	-2	16.9	164	28.3	+17	49.8	227	25.2	-7	00.6
1	230	30.8	204	59.0		10.7	232	33.8		16.1	179	30.2		50.0	242	27.5		00.6
2	245	33.2	219	58.6		11.9	247	34.4		15.3	194	32.1		50.1	257	29.7		00.5
3	260	35.7	234	58.2		13.0	262	35.1		14.6	209	33.9		50.3	272	32.0		00.4
4	275	38.2	249	57.8		14.2	277	35.8		13.8	224	35.8		50.4	287	34.2		00.3
5	290	40.6	264	57.3	+9	15.3	292	36.5	-2	13.0	239	37.7	+17	50.6	302	36.5	-7	00.2
6	305	43.1	279	56.9	+9	16.5	307	37.2	-2	12.3	254	39.6	+17	50.7	317	38.7	-7	00.2
7	320	45.6	294	56.5		17.6	322	37.9		11.5	269	41.4		50.9	332	41.0	-7	00.1
8	335	48.0	309	56.0		18.8	337	38.6		10.7	284	43.3		51.0	347	43.2	-7	00.0
9	350	50.5	324	55.6		19.9	352	39.3		10.0	299	45.2		51.2	2	45.5	-6	59.9
10	5	53.0	339	55.2		21.1	7	40.0		09.2	314	47.1		51.3	17	47.7		59.8
11	20	55.4	354	54.7	+9	22.2	22	40.7	-2	08.4	329	48.9	+17	51.5	32	50.0	-6	59.7
12	35	57.9	9	54.3	+9	23.4	37	41.4	-2	07.7	344	50.8	+17	51.6	47	52.2	-6	59.7
13	51	00.4	24	53.9		24.5	52	42.1		06.9	359	52.7		51.8	62	54.5		59.6
14	66	02.8	39	53.4		25.7	67	42.8		06.1	14	54.6		51.9	77	56.7		59.5
15	81	05.3	54	53.0		26.8	82	43.4		05.3	29	56.4		52.1	92	59.0		59.4
16	96	07.7	69	52.6		28.0	97	44.1		04.6	44	58.3		52.2	108	01.2		59.3
17	111	10.2	84	52.1	+9	29.1	112	44.8	-2	03.8	60	00.2	+17	52.4	123	03.5	-6	59.3
18	126	12.7	99	51.7	+9	30.3	127	45.5	-2	03.0	75	02.1	+17	52.5	138	05.7	-6	59.2
19	141	15.1	114	51.2		31.4	142	46.2		02.3	90	03.9		52.7	153	08.0		59.1
20	156	17.6	129	50.8		32.5	157	46.9		01.5	105	05.8		52.8	168	10.2		59.0
21	171	20.1	144	50.4		33.7	172	47.6	-2	00.7	120	07.7		52.9	183	12.5		58.9
22	186	22.5	159	49.9		34.8	187	48.3	-2	00.0	135	09.6		53.1	198	14.7		58.8
23	201	25.0	174	49.5		36.0	202	49.0	-1	59.2	150	11.4		53.2	213	17.0		58.8
24	216	27.5	189	49.1	+9	37.1	217	49.7	-1	58.4	165	13.3	+17	53.4	228	19.2	-6	58.7
Dif	—		-4		+11		+7		+8		+19		+1		+22		+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15°9 PMG:11 ^h 57.4 ^m			Edad: 19.2 ^d PHE { 4 ^h : 56'8 12 ^h : 56'9 20 ^h : 57'1 PMG: 3 ^h 18 ^m 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	180	37.8	+14	14.4	312	23.5	67	-28	14.1	23	60 N	1 56	3 13	4 05	1 53	58	4 40	64	
1	195	37.9		15.1	326	49.2			16.4		58	2 20	27	14	1 13	59	5 21	62	
2	210	38.0		15.9	341	14.8	66		18.5	21	56	39	38	22	0 45	59	5 49	62	
3	225	38.0		16.7	355	40.4	66		20.5	20	54	2 55	48	29	23	60	6 11	61	
4	240	38.1		17.5	10	05.9	65		22.3	18	52	3 08	3 57	35	0 06	59	29	61	
5	255	38.2	+14	18.3	24	31.4	65	-28	24.0	17	50	3 19	4 05	4 41	**	**	**	6 44	61
6	270	38.3	+14	19.1	38	56.8	64	-28	25.5	15	45	3 42	4 21	4 53	**	**	**	7 15	61
7	285	38.4		19.8	53	22.2	64		26.8	13	40	3 59	34	5 03	23	55	50	39	60
8	300	38.5		20.6	67	47.5	63		27.9	11	35	4 13	45	12	35	52	7 59	60	
9	315	38.6		21.4	82	12.9	64		28.9	10	30	24	4 54	20	23	18	53	8 16	59
10	330	38.7		22.2	96	38.1	62		29.7	8	20	43	5 10	32	22	49	56	8 44	60
11	345	38.8	+14	23.0	111	03.4	63	-28	30.4	7	10 N	4 56	5 22	5 44	22	25	57	9 09	59
12	0	38.8	+14	23.7	125	28.6	62	-28	30.9	5	0	5 08	5 33	5 54	22	02	58	9 32	58
13	15	38.9		24.5	139	53.7	61		31.2	3	10 S	18	43	6 04	21	39	60	9 55	57
14	30	39.0		25.3	154	18.9	62		31.3	1	20	26	5 52	15	21	15	61	10 19	57
15	45	39.1		26.1	168	44.0	61		31.3	0	30	34	6 03	27	20	46	63	10 48	56
16	60	39.2		26.8	183	09.1	61		31.1	2	35	38	08	34	29	64		11 05	55
17	75	39.3	+14	27.6	197	34.1	60	-28	30.7	4	40	5 42	6 14	6 42	20	10	65	11 24	55
18	90	39.4	+14	28.4	211	59.2	61	-28	30.1	6	45	5 46	6 21	6 52	19	46	66	11 48	54
19	105	39.5		29.2	226	24.2	60		29.4	7	50	51	29	7 03	15	69		12 19	52
20	120	39.5		30.0	240	49.2	60		28.5	9	52	52	32	08	19	00	70	34	52
21	135	39.6		30.7	255	14.2	60		27.5	10	54	54	36	14	18	42	71	12 52	50
22	150	39.7		31.5	269	39.2	60		26.3	12	56	56	40	20	18	20	74	13 14	48
23	165	39.8		32.3	284	04.1	59		24.8	15	58	5 58	45	27	17	53	77	13 42	44
24	180	39.9	+14	33.1	298	29.1	60	-28	23.3	15	60 S	6 00	6 50	7 35	17	13	84	14 21	38

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 9 ^h 32.6 ^m		Mag: -3.9 PMG: 11 ^h 21 ^m		Mag: +1.1 PMG: 9 ^h 28 ^m		Mag: -2.0 PMG: 12 ^h 57 ^m		Mag: +1.2 PMG: 8 ^h 45 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	216	27.5	189	49.1	+9	37.1	217	49.7	-1	58.4	165	13.3	+17	53.4	228	19.2	-6	58.7
1	231	29.9	204	48.6		38.3	232	50.4		57.7	180	15.2		53.5	243	21.5		58.6
2	246	32.4	219	48.2		39.4	247	51.1		56.9	195	17.1		53.7	258	23.7		58.5
3	261	34.8	234	47.8		40.5	262	51.8		56.1	210	18.9		53.8	273	26.0		58.4
4	276	37.3	249	47.3		41.7	277	52.5		55.4	225	20.8		54.0	288	28.2		58.4
5	291	39.8	264	46.9	+9	42.8	292	53.2	-1	54.6	240	22.7	+17	54.1	303	30.5	-6	58.3
6	306	42.2	279	46.4	+9	44.0	307	53.8	-1	53.8	255	24.6	+17	54.3	318	32.7	-6	58.2
7	321	44.7	294	46.0		45.1	322	54.5		53.1	270	26.4		54.4	333	35.0		58.1
8	336	47.2	309	45.6		46.3	337	55.2		52.3	285	28.3		54.6	348	37.2		58.0
9	351	49.6	324	45.1		47.4	352	55.9		51.5	300	30.2		54.7	3	39.5		58.0
10	6	52.1	339	44.7		48.5	7	56.6		50.8	315	32.0		54.9	18	41.7		57.9
11	21	54.6	354	44.2	+9	49.7	22	57.3	-1	50.0	330	33.9	+17	55.0	33	44.0	-6	57.8
12	36	57.0	9	43.8	+9	50.8	37	58.0	-1	49.2	345	35.8	+17	55.2	48	46.2	-6	57.7
13	51	59.5	24	43.4		51.9	52	58.7		48.5	0	37.7		55.3	63	48.5		57.6
14	67	02.0	39	42.9		53.1	67	59.4		47.7	15	39.5		55.5	78	50.7		57.6
15	82	04.4	54	42.5		54.2	83	00.1		46.9	30	41.4		55.6	93	53.0		57.5
16	97	06.9	69	42.0		55.4	98	00.8		46.2	45	43.3		55.8	108	55.2		57.4
17	112	09.3	84	41.6	+9	56.5	113	01.5	-1	45.4	60	45.2	+17	55.9	123	57.5	-6	57.3
18	127	11.8	99	41.1	+9	57.6	128	02.2	-1	44.6	75	47.0	+17	56.1	138	59.8	-6	57.2
19	142	14.3	114	40.7		58.8	143	02.9		43.8	90	48.9		56.2	154	02.0		57.2
20	157	16.7	129	40.3	+9	59.9	158	03.6		43.1	105	50.8		56.4	169	04.3		57.1
21	172	19.2	144	39.8	+10	01.0	173	04.3		42.3	120	52.7		56.5	184	06.5		57.0
22	187	21.7	159	39.4		02.2	188	05.0		41.5	135	54.5		56.7	199	08.8		56.9
23	202	24.1	174	38.9		03.3	203	05.6		40.8	150	56.4		56.8	214	11.0		56.8
24	217	26.6	189	38.5	+10	04.4	218	06.3	-1	40.0	165	58.3	+17	57.0	229	13.3	-6	56.8
Dif	—		-4		+11		+7		+8		+19		+1		+23		+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: 20.2 ^d SD: 15'6 PMG: 4 ^h 16 ^m PHE { 4 ^h : 57'3 12 ^h : 57'5 20 ^h : 57'7 Rº: 58 ^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	39.9	+14	33.1	298	29.1	59	-28	23.3	18	60 N	19 54	20 47	22 08	2 51 21	5 44 101												
1	195	40.0		33.8	312	54.0	59		21.5	19	58	45	33	21 41	2 12 32	6 23 89												
2	210	40.1		34.6	327	18.9	59		19.6	21	56	36	21	21	1 44 38	6 51 83												
3	225	40.1		35.4	341	43.8	59		17.5	23	54	29	10	21 05	23 40	7 12 80												
4	240	40.2		36.1	356	08.8	60		15.2	24	52	22	20 01	20 51	1 05 43	30 77												
5	255	40.3	+14	36.9	10	33.7	59	-28	12.8	26	50	19 16	19 53	20 39	0 49 45	7 45 75												
6	270	40.4	+14	37.7	24	58.6	59	-28	10.2	28	45	19 04	19 36	20 16	0 19 48	8 16 71												
7	285	40.5		38.5	39	23.5	59		07.4	30	40	18 53	22	19 58	** ** *	39 69												
8	300	40.6		39.2	53	48.5	60		04.4	31	35	44	11	44	** ** *	8 59 66												
9	315	40.6		40.0	68	13.4	59	-28	01.3	33	30	36	19 02	32	** ** *	9 15 65												
10	330	40.7		40.8	82	38.3	59	-27	58.0	35	20	23	18 46	19 13	23 45 51	9 44 62												
11	345	40.8	+14	41.5	97	03.3	60	-27	54.5	36	10 N	18 11	18 33	18 59	23 22 54	10 08 60												
12	0	40.9	+14	42.3	111	28.2	59	-27	50.9	36	0	18 01	18 22	18 47	23 00 57	10 30 58												
13	15	41.0		43.1	125	53.2	60		47.1	38	10 S	17 50	12	37	22 39 60	10 52 56												
14	30	41.1		43.8	140	18.2	60		43.1	40	20	39	18 02	28	22 16 63	11 16 53												
15	45	41.1		44.6	154	43.2	60		38.9	42	30	26	17 51	19	21 49 67	11 44 50												
16	60	41.2		45.4	169	08.3	61		34.6	43	35	19	45	15	33 69	12 00 49												
17	75	41.3	+14	46.1	183	33.3	60	-27	30.1	45	40	17 11	17 39	18 11	21 15 71	12 19 46												
18	90	41.4	+14	46.9	197	58.4	61	-27	25.4	47	45	17 01	17 32	18 06	20 52 75	12 42 43												
19	105	41.5		47.7	212	23.5	61		20.5	50	50	16 50	24	02	24 80	13 11 39												
20	120	41.5		48.4	226	48.6	61		15.5	52	52	44	20	18 00	20 10 82	26 36												
21	135	41.6		49.2	241	13.7	61		10.3	52	54	38	16	17 58	19 53 86	13 42 33												
22	150	41.7		50.0	255	38.9	62	-27	05.0	53	56	32	12	56	34 90	14 02 29												
23	165	41.8		50.7	270	04.1	62	-26	59.5	55	58	25	07	53	19 10 96	26 23												
24	180	41.9	+14	51.5	284	29.4	63	-26	53.8	57	60 S	16 16	17 02	17 51	18 37 107	14 59 13												
UT	ARIES PMG 9 ^h 28.7 ^m				VENUS Mag: -3.9 PMG: 11 ^h 22 ^m				MARTE Mag: +1.1 PMG: 9 ^h 27 ^m				JÚPITER Mag: -2.0 PMG: 12 ^h 55 ^m				SATURNO Mag: +1.2 PMG: 8 ^h 42 ^m											
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	217	26.6	189	38.5	+10	04.4	218	06.3	-1	40.0	165	58.3	+17	57.0	229	13.3	-6	56.8										
1	232	29.1	204	38.0		05.6	233	07.0		39.2	181	00.1		57.1	244	15.5		56.7										
2	247	31.5	219	37.6		06.7	248	07.7		38.5	196	02.0		57.3	259	17.8		56.6										
3	262	34.0	234	37.1		07.8	263	08.4		37.7	211	03.9		57.4	274	20.0		56.5										
4	277	36.5	249	36.7		09.0	278	09.1		36.9	226	05.8		57.6	289	22.3		56.4										
5	292	38.9	264	36.3	+10	10.1	293	09.8	-1	36.2	241	07.6	+17	57.7	304	24.5	-6	56.4										
6	307	41.4	279	35.8	+10	11.2	308	10.5	-1	35.4	256	09.5	+17	57.9	319	26.8	-6	56.3										
7	322	43.8	294	35.4		12.4	323	11.2		34.6	271	11.4		58.0	334	29.0		56.2										
8	337	46.3	309	34.9		13.5	338	11.9		33.9	286	13.2		58.2	349	31.3		56.1										
9	352	48.8	324	34.5		14.6	353	12.6		33.1	301	15.1		58.3	4	33.6		56.0										
10	7	51.2	339	34.0		15.8	8	13.3		32.3	316	17.0		58.4	19	35.8		56.0										
11	22	53.7	354	33.6	+10	16.9	23	14.0	-1	31.6	331	18.9	+17	58.6	34	38.1	-6	55.9										
12	37	56.2	9	33.1	+10	18.0	38	14.7	-1	30.8	346	20.7	+17	58.7	49	40.3	-6	55.8										
13	52	58.6	24	32.7		19.1	53	15.4		30.0	1	22.6		58.9	64	42.6		55.7										
14	68	01.1	39	32.2		20.3	68	16.1		29.3	16	24.5		59.0	79	44.8		55.6										
15	83	03.6	54	31.8		21.4	83	16.8		28.5	31	26.4		59.2	94	47.1		55.6										
16	98	06.0	69	31.3		22.5	98	17.5		27.7	46	28.2		59.3	109	49.3		55.5										
17	113	08.5	84	30.9	+10	23.6	113	18.2	-1	26.9	61	30.1	+17	59.5	124	51.6	-6	55.4										
18	128	11.0	99	30.4	+10	24.8	128	18.9	-1	26.2	76	32.0	+17	59.6	139	53.9	-6	55.3										
19	143	13.4	114	30.0		25.9	143	19.5		25.4	91	33.8		59.8	154	56.1		55.2										
20	158	15.9	129	29.5		27.0	158	20.2		24.6	106	35.7	+17	59.9	169	58.4		55.2										
21	173	18.3	144	29.1		28.2	173	20.9		23.9	121	37.6	+18	00.1	185	00.6		55.1										
22	188	20.8	159	28.6		29.3	188	21.6		23.1	136	39.5		00.2	200	02.9		55.0										
23	203	23.3	174	28.2		30.4	203	22.3		22.3	151	41.3		00.4	215	05.1		54.9										
24	218	25.7	189	27.7	+10	31.5	218	23.0	-1	21.6	166	43.2	+18	00.5	230	07.4	-6	54.8										
Dif	—				-4				+11				+19				+1				+23				+			

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15'9 PMG:11 ^h 57.1 ^m			Edad: 21.2 ^d PHE { 4 ^h : 57'9 12 ^h : 58'1 20 ^h : 58'3 R°: 57 ^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	41.9	+14	51.5	284	29.4	62	-26	53.8	59	60 N	1 45	3 07	3 59	3 12	7	7 25	110	
1	195	41.9		52.3	298	54.6	63		47.9	60	58	2 12	21	4 09	2 44	16	7 52	102	
2	210	42.0		53.0	313	19.9	64		41.9	62	56	33	33	17	22	22	8 14	95	
3	225	42.1		53.8	327	45.3	64		35.7	62	54	2 49	44	25	2 03	27	32	90	
4	240	42.2		54.6	342	10.7	64		29.4	63	52	3 03	3 53	31	1 48	30	8 47	86	
5	255	42.3	+14	55.3	356	36.1	64	-26	22.8	66	50	3 14	4 01	4 37	1 34	33	9 00	83	
6	270	42.3	+14	56.1	11	01.5	64	-26	16.1	67	45	3 38	4 18	4 50	1 07	38	9 27	78	
7	285	42.4		56.8	25	27.0	65		09.3	68	40	3 56	32	5 01	0 45	42	9 48	74	
8	300	42.5		57.6	39	52.6	66	-26	02.3	70	35	4 10	43	10	27	45	10 05	71	
9	315	42.6		58.4	54	18.2	66	-25	55.1	72	30	22	4 52	18	0 11	47	20	68	
10	330	42.7		59.1	68	43.8	66		47.8	73	20	41	5 08	31	** ** *	**	10 46	63	
11	345	42.7	+14	59.9	83	09.5	67	-25	40.3	75	10 N	4 56	5 21	5 43	** ** *	**	11 08	59	
12	0	42.8	+15	00.6	97	35.2	67	-25	32.6	77	0	5 07	5 32	5 54	23 57	55	11 28	56	
13	15	42.9		01.4	112	01.0	68		24.8	78	10 S	18	43	6 04	39	58	11 48	52	
14	30	43.0		02.2	126	26.8	68		16.9	79	20	27	5 53	16	23 19	63	12 09	49	
15	45	43.0		02.9	140	52.7	69		08.7	82	30	35	6 04	29	22 56	68	34	44	
16	60	43.1		03.7	155	18.6	69	-25	00.4	83	35	40	10	36	42	71	12 49	41	
17	75	43.2	+15	04.4	169	44.6	70	-24	52.0	84	40	5 44	6 16	6 44	22 26	75	13 05	38	
18	90	43.3	+15	05.2	184	10.6	70	-24	43.4	86	45	5 49	6 23	6 54	22 07	80	13 25	34	
19	105	43.3		05.9	198	36.7	71		34.7	87	50	53	32	7 06	21 44	85	13 50	28	
20	120	43.4		06.7	213	02.8	71		25.8	89	52	55	35	11	32	88	14 02	25	
21	135	43.5		07.5	227	29.0	72		16.7	91	54	5 57	39	17	19	92	15	22	
22	150	43.6		08.2	241	55.3	73	-24	07.5	92	56	6 00	44	24	21 04	96	31	17	
23	165	43.6		09.0	256	21.6	73	-23	58.1	94	58	02	49	31	20 46	102	14 49	12	
24	180	43.7	+15	09.7	270	48.0	74	-23	48.6	95	60 S	6 04	6 54	7 40	20 24	110	15 12	5	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 24.7 ^m		Mag: -3.9 PMG: 11 ^h 22 ^m		Mag: +1.1 PMG: 9 ^h 26 ^m		Mag: -2.0 PMG: 12 ^h 52 ^m		Mag: +1.2 PMG: 8 ^h 38 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	218	25.7	189	27.7	+10	31.5	218	23.0	-1	21.6
1	233	28.2	204	27.3		32.6	233	23.7		20.8
2	248	30.7	219	26.8		33.8	248	24.4		20.0
3	263	33.1	234	26.3		34.9	263	25.1		19.3
4	278	35.6	249	25.9		36.0	278	25.8		18.5
5	293	38.1	264	25.4	+10	37.1	293	26.5	-1	17.7
6	308	40.5	279	25.0	+10	38.3	308	27.2	-1	17.0
7	323	43.0	294	24.5		39.4	323	27.9		16.2
8	338	45.5	309	24.1		40.5	338	28.6		15.4
9	353	47.9	324	23.6		41.6	353	29.3		14.7
10	8	50.4	339	23.2		42.7	8	30.0		13.9
11	23	52.8	354	22.7	+10	43.9	23	30.7	-1	13.1
12	38	55.3	9	22.3	+10	45.0	38	31.4	-1	12.4
13	53	57.8	24	21.8		46.1	53	32.1		11.6
14	69	00.2	39	21.3		47.2	68	32.8		10.8
15	84	02.7	54	20.9		48.3	83	33.5		10.1
16	99	05.2	69	20.4		49.5	98	34.2		09.3
17	114	07.6	84	20.0	+10	50.6	113	34.9	-1	08.5
18	129	10.1	99	19.5	+10	51.7	128	35.6	-1	07.7
19	144	12.6	114	19.0		52.8	143	36.3		07.0
20	159	15.0	129	18.6		53.9	158	37.0		06.2
21	174	17.5	144	18.1		55.0	173	37.7		05.4
22	189	19.9	159	17.7		56.1	188	38.4		04.7
23	204	22.4	174	17.2		57.3	203	39.0		03.9
24	219	24.9	189	16.7	+10	58.4	218	39.7	-1	03.1
Dif	—		-5	+11		+7	+8	+19	+1	+23
										+1

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 15'9 PMG: 11 ^h 57.0 ^m				Edad: 22.2 ^d SD: 15'9 PMG: 6 ^h 11 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico		Hora R°					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m		
0	180	43.7	+15	09.7	270	48.0	74	-23	48.6	96	60 N	19 59	20 53	22 19	3 19	2	9	15	110					
1	195	43.8		10.5	285	14.4	75		39.0	98	58	49	38	21 49	3 00	8	34	102						
2	210	43.9		11.2	299	40.9	75		29.2	100	56	40	25	28	2 44	13	9	49	97					
3	225	43.9		12.0	314	07.4	76		19.2	100	54	33	14	21 10	30	18	10	02	93					
4	240	44.0		12.7	328	34.0	76	-23	09.2	100	52	26	20 05	20 56	18	21	13	90						
5	255	44.1	+15	13.5	343	00.7	77	-22	58.9	103	50	19 19	19 56	20 43	2 07	24	10	23	87					
6	270	44.2	+15	14.2	357	27.4	77	-22	48.5	104	45	19 06	19 39	20 19	1 45	30	10	45	80					
7	285	44.2		15.0	11	54.2	78		38.0	105	40	18 55	25	20 00	27	34	11	02	75					
8	300	44.3		15.7	26	21.1	79		27.4	106	35	46	13	19 46	1 12	38	16	71						
9	315	44.4		16.5	40	48.0	79		16.6	108	30	38	19 03	33	0 58	41	28	68						
10	330	44.4		17.2	55	14.9	79	-22	05.6	110	20	24	18 47	19 14	36	46	11	49	62					
11	345	44.5	+15	18.0	69	42.0	81	-21	54.6	110	10 N	18 12	18 34	18 59	0 16	50	12	07	58					
12	0	44.6	+15	18.7	84	09.1	81	-21	43.4	112	0	18 00	18 22	18 47	** ** *		12	24	53					
13	15	44.7		19.5	98	36.2	81		32.0	114	10 S	17 49	11	36	** ** *		40	49						
14	30	44.7		20.2	113	03.5	83		20.6	114	20	38	18 00	27	** ** *		12	58	44					
15	45	44.8		21.0	127	30.7	82	-21	09.0	116	30	24	17 49	18	** ** *		13	18	39					
16	60	44.9		21.7	141	58.1	84	-20	57.2	118	35	17	43	13	23 53	71	30	35						
17	75	44.9	+15	22.5	156	25.5	84	-20	45.4	118	40	17 08	17 37	18 09	23 41	75	13	43	32					
18	90	45.0	+15	23.2	170	53.0	85	-20	33.4	120	45	16 58	17 29	18 04	23 27	80	13	59	27					
19	105	45.1		24.0	185	20.5	85		21.2	122	50	46	20	17 59	09	86	14	18	21					
20	120	45.1		24.7	199	48.1	86	-20	09.0	122	52	41	16	57	23	00	90	27	18					
21	135	45.2		25.4	214	15.8	87	-19	56.6	124	54	34	12	54	22	51	93	37	15					
22	150	45.3		26.2	228	43.5	87		44.1	125	56	28	08	52	40	97	14	48	12					
23	165	45.3		26.9	243	11.3	88		31.5	126	58	20	17 03	49	28	102	15	01	7					
24	180	45.4	+15	27.7	257	39.1	88	-19	18.8	127	60 S	16 11	16 57	17 47	22 14	107	15	17	1					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 9 ^h 20.8 ^m			Mag: -3.9 PMG: 11 ^h 23 ^m			Mag: +1.1 PMG: 9 ^h 25 ^m			Mag: -2.0 PMG: 12 ^h 49 ^m			Mag: +1.2 PMG: 8 ^h 35 ^m											
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	219	24.9	189	16.7	+10	58.4	218	39.7	-1	03.1	167	28.1	+18	04.1	231	01.6	-6	53.0						
1	234	27.3	204	16.3	+10	59.5	233	40.4		02.4	182	30.0		04.2	246	03.8		52.9						
2	249	29.8	219	15.8	+11	00.6	248	41.1		01.6	197	31.8		04.4	261	06.1		52.8						
3	264	32.3	234	15.4		01.7	263	41.8		00.8	212	33.7		04.5	276	08.3		52.7						
4	279	34.7	249	14.9		02.8	278	42.5	-1	00.1	227	35.6		04.7	291	10.6		52.6						
5	294	37.2	264	14.4	+11	03.9	293	43.2	-0	59.3	242	37.4	+18	04.8	306	12.9	-6	52.6						
6	309	39.7	279	14.0	+11	05.0	308	43.9	-0	58.5	257	39.3	+18	04.9	321	15.1	-6	52.5						
7	324	42.1	294	13.5		06.2	323	44.6		57.8	272	41.2		05.1	336	17.4		52.4						
8	339	44.6	309	13.0		07.3	338	45.3		57.0	287	43.0		05.2	351	19.6		52.3						
9	354	47.1	324	12.6		08.4	353	46.0		56.2	302	44.9		05.4	6	21.9		52.3						
10	9	49.5	339	12.1		09.5	8	46.7		55.5	317	46.8		05.5	21	24.2		52.2						
11	24	52.0	354	11.7	+11	10.6	23	47.4	-0	54.7	332	48.7	+18	05.7	36	26.4	-6	52.1						
12	39	54.4	9	11.2	+11	11.7	38	48.1	-0	53.9	347	50.5	+18	05.8	51	28.7	-6	52.0						
13	54	56.9	24	10.7		12.8	53	48.8		53.2	2	52.4		06.0	66	30.9		52.0						
14	69	59.4	39	10.3		13.9	68	49.5		52.4	17	54.3		06.1	81	33.2		51.9						
15	85	01.8	54	09.8		15.0	83	50.2		51.6	32	56.1		06.3	96	35.4		51.8						
16	100	04.3	69	09.3		16.1	98	50.9		50.9	47	58.0		06.4	111	37.7		51.7						
17	115	06.8	84	08.9	+11	17.2	113	51.6	-0	50.1	62	59.9	+18	06.6	126	40.0	-6	51.6						
18	130	09.2	99	08.4	+11	18.3	128	52.3	-0	49.3	78	01.7	+18	06.7	141	42.2	-6	51.6						
19	145	11.7	114	07.9		19.4	143	53.0		48.6	93	03.6		06.9	156	44.5		51.5						
20	160	14.2	129	07.5		20.6	158	53.7		47.8	108	05.5		07.0	171	46.8		51.4						
21	175	16.6	144	07.0		21.7	173	54.4		47.0	123	07.3		07.2	186	49.0		51.3						
22	190	19.1	159	06.5		22.8	188	55.1		46.2	138	09.2		07.3	201	51.3		51.3						
23	205	21.6	174	06.0		23.9	203	55.8		45.5	153	11.1		07.4	216	53.5		51.2						
24	220	24.0	189	05.6	+11	25.0	218	56.5	-0	44.7	168	13.0	+18	07.6	231	55.8	-6	51.1						
Dif	—			-5			+11			+7			+19			+1			+23			+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: 23.2 ^d SD: 16'1 PMG: 7 ^h 04 ^m PHE 4^h: 59'1 12^h: 59'3 20^h: 59'5 R°: 52^m																			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m							
0	180	45.4	+15	27.7	257	39.1	89	-19	18.8	129	60 N	1	34	3	54	3	21	0	11	05	106		
1	195	45.5		28.4	272	07.0	90	-19	05.9	129	58	2	04	15	4	04	3	08	5	16	101		
2	210	45.6		29.2	286	35.0	90	-18	53.0	131	56	26	28	13	2	57	10	26	97				
3	225	45.6		29.9	301	03.0	90		39.9	132	54	43	39	21	48	13	35	93					
4	240	45.7		30.6	315	31.1	91		26.7	132	52	2	58	49	28	39	16	43	89				
5	255	45.8	+15	31.4	329	59.3	92	-18	13.3	134	50	3	10	3	57	4	34	2	31	19	11	50	86
6	270	45.8	+15	32.1	344	27.5	92	-17	59.9	134	45	3	34	4	15	4	47	2	15	24	12	05	80
7	285	45.9		32.9	358	55.8	93		46.4	135	40	3	53	29	4	58	2	01	29	17	75		
8	300	46.0		33.6	13	24.1	93		32.7	137	35	4	08	41	5	08	1	50	33	27	71		
9	315	46.0		34.3	27	52.5	94		19.0	137	30	20	4	51	16	39	37	36	67				
10	330	46.1		35.1	42	20.9	94	-17	05.1	139	20	40	5	07	30	22	42	12	51	61			
11	345	46.1	+15	35.8	56	49.4	95	-16	51.1	140	10 N	4	55	5	20	5	42	1	06	48	13	05	55
12	0	46.2	+15	36.6	71	18.0	96	-16	37.0	141	0	5	07	5	32	5	53	0	52	52	13	17	51
13	15	46.3		37.3	85	46.6	96		22.9	141	10 S	18	43	6	05	37	57	29	46				
14	30	46.3		38.0	100	15.3	97	-16	08.6	143	20	27	5	54	16	22	61	42	41				
15	45	46.4		38.8	114	44.0	97	-15	54.2	144	30	37	6	05	30	0	04	67	13	57	34		
16	60	46.5		39.5	129	12.8	98		39.7	145	35	41	11	38	38	***	***	***	14	05	31		
17	75	46.5	+15	40.2	143	41.6	98	-15	25.1	146	40	5	46	6	18	6	46	***	***	***	14	15	27
18	90	46.6	+15	41.0	158	10.5	99	-15	10.5	146	45	5	51	6	26	6	56	***	***	***	14	26	22
19	105	46.7		41.7	172	39.4	99	-14	55.7	148	50	56	34	7	09	***	***	***	39	17			
20	120	46.7		42.4	187	08.4	100		40.9	148	52	5	58	38	14	***	***	***	45	15			
21	135	46.8		43.2	201	37.5	101		25.9	150	54	6	00	43	21	***	***	***	14	52	12		
22	150	46.9		43.9	216	06.5	100	-14	10.9	150	56	03	47	28	36	***	***	***	15	00	8		
23	165	46.9		44.7	230	35.7	102	-13	55.7	152	58	06	53	36	28	***	***	***	08	5			
24	180	47.0	+15	45.4	245	04.9	102	-13	40.5	152	60 S	6	08	6	58	7	44	***	***	***	15	18	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 9 ^h 16.9 ^m		Mag: -3.9 PMG: 11 ^h 24 ^m		Mag: +1.1 PMG: 9 ^h 24 ^m		Mag: -2.0 PMG: 12 ^h 46 ^m		Mag: +1.2 PMG: 8 ^h 31 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	220	24.0	189	05.6	+11	25.0	218	56.5	-0	44.7	168	13.0	+18	07.6	231	55.8	-6	51.1	
1	235	26.5	204	05.1		26.1	233	57.2		43.9	183	14.8		07.7	246	58.1		51.0	
2	250	28.9	219	04.6		27.2	248	57.9		43.2	198	16.7		07.9	262	00.3		51.0	
3	265	31.4	234	04.2		28.3	263	58.6		42.4	213	18.6		08.0	277	02.6		50.9	
4	280	33.9	249	03.7		29.4	278	59.3		41.6	228	20.4		08.2	292	04.8		50.8	
5	295	36.3	264	03.2	+11	30.5	294	00.0	-0	40.9	243	22.3	+18	08.3	307	07.1	-6	50.7	
6	310	38.8	279	02.8	+11	31.6	309	00.7	-0	40.1	258	24.2	+18	08.5	322	09.4	-6	50.6	
7	325	41.3	294	02.3		32.7	324	01.4		39.3	273	26.0		08.6	337	11.6		50.6	
8	340	43.7	309	01.8		33.8	339	02.1		38.6	288	27.9		08.8	352	13.9		50.5	
9	355	46.2	324	01.3		34.9	354	02.8		37.8	303	29.8		08.9	7	16.1		50.4	
10	10	48.7	339	00.9		36.0	9	03.5		37.0	318	31.6		09.1	22	18.4		50.3	
11	25	51.1	354	00.4	+11	37.1	24	04.2	-0	36.3	333	33.5	+18	09.2	37	20.7	-6	50.3	
12	40	53.6	8	59.9	+11	38.2	39	04.9	-0	35.5	348	35.4	+18	09.3	52	22.9	-6	50.2	
13	55	56.1	23	59.4		39.3	54	05.6		34.7	3	37.2		09.5	67	25.2		50.1	
14	70	58.5	38	59.0		40.4	69	06.3		34.0	18	39.1		09.6	82	27.5		50.0	
15	86	01.0	53	58.5		41.5	84	07.0		33.2	33	41.0		09.8	97	29.7		50.0	
16	101	03.4	68	58.0		42.6	99	07.7		32.4	48	42.8		09.9	112	32.0		49.9	
17	116	05.9	83	57.5	+11	43.6	114	08.4	-0	31.7	63	44.7	+18	10.1	127	34.2	-6	49.8	
18	131	08.4	98	57.1	+11	44.7	129	09.1	-0	30.9	78	46.6	+18	10.2	142	36.5	-6	49.7	
19	146	10.8	113	56.6		45.8	144	09.8		30.1	93	48.4		10.4	157	38.8		49.7	
20	161	13.3	128	56.1		46.9	159	10.5		29.4	108	50.3		10.5	172	41.0		49.6	
21	176	15.8	143	55.6		48.0	174	11.2		28.6	123	52.2		10.7	187	43.3		49.5	
22	191	18.2	158	55.2		49.1	189	11.9		27.8	138	54.1		10.8	202	45.6		49.4	
23	206	20.7	173	54.7		50.2	204	12.6		27.1	153	55.9		11.0	217	47.8		49.4	
24	221	23.2	188	54.2	+11	51.3	219	13.3	-0	26.3	168	57.8	+18	11.1	232	50.1	-6	49.3	
Dif	—		-5	+11			+7	+8			+19	+1			+23		+1		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna								
	SD: 15'9 PMG: 11 ^h 56.8 ^m				Edad: 24.2 ^d SD: 16'2 PMG: 7 ^h 56 ^m								PHE { 4 ^h : 59'6 12 ^h : 59'8 20 ^h : 59'9 Rº: 50 ^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	h	m	m	h	m	m	h	m	m
0	180	47.0	+15	45.4	245	04.9			-13	40.5			60 N	20 04	20 59	22 31			3 21	**		12 51	104				
1	195	47.0		46.1	259	34.1	102			25.2	153		58	19 53	43	21 58			13	4		12 57	100				
2	210	47.1		46.8	274	03.4	103			09.8	154		56	44	30	34			07	7		13 03	95				
3	225	47.2		47.6	288	32.7	103			54.4	154		54	36	19	16			3 01	10		08	92				
4	240	47.2		48.3	303	02.0	103			38.8	156		52	29	09	21 01			2 55	13		12	89				
5	255	47.3	+15	49.0	317	31.5	105			23.2	157		50	19 22	20 00	20 48			2 50	16		13 16	86				
6	270	47.3	+15	49.8	332	00.9	104			07.5	157		45	19 09	19 41	20 22			2 39	22		13 25	80				
7	285	47.4		50.5	346	30.4	105			51.7	158		40	18 57	27	20 03			30 26			32	75				
8	300	47.5		51.2	0	59.9	105			35.9	158		35	47	15	19 48			23 30			38	71				
9	315	47.5		52.0	15	29.5	106			19.9	160		30	39	19 04	35			16 33			43	67				
10	330	47.6		52.7	29	59.1	106			03.9	160		20	24	18 48	19 15			2 04	40		13 52	61				
11	345	47.6	+15	53.4	44	28.8	107			47.9	160		10 N	18 12	18 34	18 59			1 54	45		14 00	55				
12	0	47.7	+15	54.1	58	58.4	106			31.7	162		0	18 00	18 22	18 47			1 44	50		14 08	49				
13	15	47.8		54.9	73	28.1	107			15.5	162		10 S	17 49	18 11	36			34 55			15	44				
14	30	47.8		55.6	87	57.9	108			59.2	163		20	37	17 59	26			23 61			23	39				
15	45	47.9		56.3	102	27.7	108			42.9	163		30	23	48	16			11 67			31	33				
16	60	47.9		57.0	116	57.5	108			26.5	164		35	15	41	11			1 04	71		36	30				
17	75	48.0	+15	57.8	131	27.3	108			10.0	165		40	17 06	17 34	18 06			0 56	75		14 42	25				
18	90	48.1	+15	58.5	145	57.2	109			53.5	165		45	16 55	17 26	18 01			0 47	80		14 48	21				
19	105	48.1		59.2	160	27.1	109			37.0	165		50	43	17	17 56			35 86			14 56	15				
20	120	48.2	+15	59.9	174	57.0	109			20.3	167		52	37	13	53			30 89			15 00	12				
21	135	48.2	+16	00.7	189	27.0	110			03.6	167		54	30	09	51			24 92			04	9				
22	150	48.3		01.4	203	57.0	110			46.9	167		56	23	17 04	48			17 96			08	6				
23	165	48.3		02.1	218	27.0	110			30.1	168		58	15	16 58	45			10 100			13	3				
24	180	48.4	+16	02.8	232	57.0	110			7	168		60 S	16 06	16 52	17 42			0 01	105		15 18	**				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO												
	PMG 9 ^h 12.9 ^m		Mag: -3.9 PMG: 11 ^h 25 ^m				Mag: +1.1 PMG: 9 ^h 23 ^m				Mag: -2.0 PMG: 12 ^h 43 ^m				Mag: +1.2 PMG: 8 ^h 27 ^m												
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec										
	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'									
0	221	23.2	188	54.2	+11	51.3	219	13.3	-0	26.3	168	57.8	+18	11.1	232	50.1	-6	49.3									
1	236	25.6	203	53.7		52.4	234	14.0		25.5	183	59.7		11.2	247	52.4		49.2									
2	251	28.1	218	53.2		53.5	249	14.7		24.8	199	01.5		11.4	262	54.6		49.1									
3	266	30.5	233	52.8		54.6	264	15.4		24.0	214	03.4		11.5	277	56.9		49.0									
4	281	33.0	248	52.3		55.7	279	16.1		23.2	229	05.3		11.7	292	59.1		49.0									
5	296	35.5	263	51.8	+11	56.7	294	16.8	-0	22.5	244	07.1	+18	11.8	308	01.4	-6	48.9									
6	311	37.9	278	51.3	+11	57.8	309	17.5	-0	21.7	259	09.0	+18	12.0	323	03.7	-6	48.8									
7	326	40.4	293	50.8	+11	58.9	324	18.2		20.9	274	10.9		12.1	338	05.9		48.7									
8	341	42.9	308	50.4	+12	00.0	339	18.9		20.2	289	12.7		12.3	353	08.2		48.7									
9	356	45.3	323	49.9	+12	01.1	354	19.6		19.4	304	14.6		12.4	8	10.5		48.6									
10	11	47.8	338	49.4		02.2	9	20.3		18.6	319	16.5		12.6	23	12.7		48.5									
11	26	50.3	353	48.9	+12	03.3	24	21.0	-0	17.9	334	18.3	+18	12.7	38	15.0	-6	48.4									
12	41	52.7	8	48.4	+12	04.4	39	21.7	-0	17.1	349	20.2	+18	12.9	53	17.3	-6	48.4									
13	56	55.2	23	48.0		05.4	54	22.4		16.3	4	22.1		13.0	68	19.5		48.3									
14	71	57.7	38	47.5		06.5	69	23.1		15.6	19	23.9		13.1	83	21.8		48.2									
15	87	00.1	53	47.0		07.6	84	23.8		14.8	34	25.8		13.3	98	24.1		48.1									
16	102	02.6	68	46.5		08.7	99	24.5		14.0	49	27.7		13.4	113	26.3		48.1									
17	117	05.0	83	46.0	+12	09.8	114	25.2	-0	13.3	64	29.5	+18	13.6	128	28.6	-6	48.0									
18	132	07.5	98	45.5	+12	10.9	129	25.9	-0	12.5	79	31.4	+18	13.7	143	30.9	-6	47.9									
19	147	10.0	113	45.0		11.9	144	26.6		11.7	94	33.3		13.9	158	33.1		47.8									
20	162	12.4	128	44.6		13.0	159	27.3		11.0	109	35.1		14.0	173	35.4		47.8									
21	177	14.9	143	44.1		14.1	174	28.0		10.2	124	37.0		14.2	188	37.6		47.7									
22	192	17.4	158	43.6		15.2	189	28.7		09.4	139	38.9		14.3	203	39.9		47.6									
23	207	19.8	173	43.1		16.3	204	29.4		08.7	154	40.7		14.5	218	42.2		47.5									
24	222	22.3	188	42.6	+12	17.4	219	30.1	-0	07.9	169	42.6	+18	14.6	233	44.4	-6	47.5									
Dif	—		-5		+11		+7		+8		+19		+1		+23		+1										

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG:11 ^h 56.7 ^m				Edad: 25.2 ^d SD: 16'3 PMG: 8 ^h 46 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	180	48.4	+16	02.8	232	57.0		-7	13.3	169	60 N	1 22	2 54	3 49	3 20	**	14 35	103
1	195	48.5		03.6	247	27.0	110	-6	56.4	170	58	1 55	3 09	3 59	17	3	37	99
2	210	48.5		04.3	261	57.1	111		39.4	169	56	2 19	23	4 09	14	6	38	96
3	225	48.6		05.0	276	27.2	111		22.5	171	54	37	34	17	11	9	40	92
4	240	48.6		05.7	290	57.3	111	-6	05.4	170	52	2 52	44	24	08	12	41	89
5	255	48.7	+16	06.4	305	27.4	111	-5	48.4	171	50	3 05	3 53	4 30	3 06	14	14	86
6	270	48.7	+16	07.2	319	57.5	111	-5	31.3	171	45	3 31	4 12	4 44	3 01	20	14	85
7	285	48.8		07.9	334	27.7	112	-5	14.1	172	40	3 50	26	4 56	2 56	25	47	75
8	300	48.8		08.6	348	57.8	111	-4	56.9	172	35	4 06	38	5 06	53	29	49	70
9	315	48.9		09.3	3	28.0	112		39.7	172	30	18	4 49	14	49	33	50	67
10	330	48.9		10.0	17	58.2	112		22.5	172	20	38	5 06	29	44	38	53	60
11	345	49.0	+16	10.7	32	28.4	112	-4	05.2	173	10 N	4 54	5 20	5 42	2 39	44	14	55
12	0	49.1	+16	11.5	46	58.6	112	-3	47.9	173	0	5 07	5 32	5 53	2 34	49	14	50
13	15	49.1		12.2	61	28.8	112		30.6	173	10 S	18	43	6 05	29	55	14	59
14	30	49.2		12.9	75	59.0	112	-3	13.2	174	20	28	5 54	17	24	60	15	02
15	45	49.2		13.6	90	29.2	112	-2	55.8	174	30	38	6 06	31	18	67	04	38
16	60	49.3		14.3	104	59.4	112		38.4	174	35	43	13	39	15	70	06	28
17	75	49.3	+16	15.0	119	29.6	112	-2	21.0	174	40	5 48	6 20	6 48	2 11	75	15	07
18	90	49.4	+16	15.7	133	59.8	112	-2	03.5	175	45	5 53	6 28	6 59	2 07	80	15	09
19	105	49.4		16.5	148	30.0	112	-1	46.0	175	50	5 59	37	7 12	2 01	86	11	15
20	120	49.5		17.2	163	00.2	112		28.6	174	52	6 01	41	18	1 59	88	12	12
21	135	49.5		17.9	177	30.4	112	-1	11.0	176	54	04	46	24	56	92	13	9
22	150	49.6		18.6	192	00.6	112	-0	53.5	175	56	06	51	32	53	95	14	7
23	165	49.6		19.3	206	30.8	112		36.0	175	58	09	6 56	40	50	99	16	2
24	180	49.7	+16	20.0	221	01.0	112	-0	18.5	175	60 S	6 12	7 03	7 49	1 46	103	15	17
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 9 ^h 09.0 ^m		Mag: -3.9 PMG: 11 ^h 26 ^m				Mag: +1.1 PMG: 9 ^h 22 ^m				Mag: -2.0 PMG: 12 ^h 40 ^m				Mag: +1.2 PMG: 8 ^h 24 ^m			
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	222	22.3	188	42.6	+12	17.4	219	30.1	-0	07.9	169	42.6	+18	14.6	233	44.4	-6	47.5
1	237	24.8	203	42.1		18.4	234	30.8		07.1	184	44.5		14.7	248	46.7		47.4
2	252	27.2	218	41.6		19.5	249	31.5		06.4	199	46.3		14.9	263	49.0		47.3
3	267	29.7	233	41.1		20.6	264	32.2		05.6	214	48.2		15.0	278	51.2		47.3
4	282	32.1	248	40.7		21.7	279	32.9		04.8	229	50.1		15.2	293	53.5		47.2
5	297	34.6	263	40.2	+12	22.7	294	33.6	-0	04.1	244	51.9	+18	15.3	308	55.8	-6	47.1
6	312	37.1	278	39.7	+12	23.8	309	34.3	-0	03.3	259	53.8	+18	15.5	323	58.0	-6	47.0
7	327	39.5	293	39.2		24.9	324	35.0		02.5	274	55.7		15.6	339	00.3		47.0
8	342	42.0	308	38.7		26.0	339	35.7		01.8	289	57.5		15.8	354	02.6		46.9
9	357	44.5	323	38.2		27.0	354	36.4		01.0	304	59.4		15.9	9	04.8		46.8
10	12	46.9	338	37.7		28.1	9	37.1	-0	00.2	320	01.3		16.0	24	07.1		46.7
11	27	49.4	353	37.2	+12	29.2	24	37.8	+0	00.5	335	03.1	+18	16.2	39	09.4	-6	46.7
12	42	51.9	8	36.7	+12	30.3	39	38.5	+0	01.3	350	05.0	+18	16.3	54	11.6	-6	46.6
13	57	54.3	23	36.2		31.3	54	39.2		02.1	5	06.9		16.5	69	13.9		46.5
14	72	56.8	38	35.7		32.4	69	39.9		02.8	20	08.7		16.6	84	16.2		46.4
15	87	59.3	53	35.3		33.5	84	40.6		03.6	35	10.6		16.8	99	18.5		46.4
16	103	01.7	68	34.8		34.6	99	41.3		04.4	50	12.4		16.9	114	20.7		46.3
17	118	04.2	83	34.3	+12	35.6	114	42.0	+0	05.1	65	14.3	+18	17.1	129	23.0	-6	46.2
18	133	06.6	98	33.8	+12	36.7	129	42.7	+0	05.9	80	16.2	+18	17.2	144	25.3	-6	46.1
19	148	09.1	113	33.3		37.8	144	43.4		06.7	95	18.0		17.4	159	27.5		46.1
20	163	11.6	128	32.8		38.8	159	44.1		07.4	110	19.9		17.5	174	29.8		46.0
21	178	14.0	143	32.3		39.9	174	44.8		08.2	125	21.8		17.6	189	32.1		45.9
22	193	16.5	158	31.8		41.0	189	45.5		09.0	140	23.6		17.8	204	34.3		45.8
23	208	19.0	173	31.3		42.0	204	46.2		09.7	155	25.5		17.9	219	36.6		45.8
24	223	21.4	188	30.8	+12	43.1	219	46.9	+0	10.5	170	27.4	+18	18.1	234	38.9	-6	45.7
Dif	—		-5		+11		+7		+8		+19		+1		+23		+	

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: 26.2 ^d SD: 16'4 PMG: 9 ^h 35 ^m						PHE { 4 ^h : 60'3 12 ^h : 60'4 20 ^h : 60'4 Rº: 50 ^m							
	hG ☉	Dec			hG ☾	Dif					Dec	Dif	Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	180	49.7	+16	20.0	221	01.0		-0	18.5	176	60 N	20 09	21 05	22 44	3 19	0	16 18	106
1	195	49.7		20.7	235	31.1	111	-0	00.9	176	58	19 58	20 49	22 06	20	3	16 10	101
2	210	49.8		21.4	250	01.3	111	+0	16.6	176	56	48	35	21 41	20	6	14 97	
3	225	49.8		22.1	264	31.4	111		34.2	176	54	40	23	21	20	10	12 93	
4	240	49.9		22.8	279	01.6	112	+0	51.7	175	52	32	12	21 05	20	13	10 90	
5	255	49.9	+16	23.6	293	31.7	111	+1	09.3	176	50	19 25	20 03	20 52	3 20	15	16 08	88
6	270	50.0	+16	24.3	308	01.8	111	+1	26.8	175	45	19 11	19 44	20 25	3 21	20	16 05	81
7	285	50.0		25.0	322	31.9	111	+1	44.4	176	40	18 59	29	20 05	21 25	16 02	76	
8	300	50.1		25.7	337	01.9	110	+2	01.9	175	35	49	16	19 50	22 29	15 59	72	
9	315	50.1		26.4	351	32.0	111		19.5	176	30	40	19 06	37	22 33	57	68	
10	330	50.2		27.1	6	02.0	110		37.0	175	20	25	18 48	16	22 39	53	62	
11	345	50.2	+16	27.8	20	32.0	110	+2	54.5	175	10 N	18 12	18 34	19 00	3 23	45	15 50	56
12	0	50.3	+16	28.5	35	02.0	110	+3	12.0	175	0	18 00	18 22	18 47	3 23	50	15 47	51
13	15	50.3		29.2	49	32.0	110		29.5	175	10 S	17 48	18 10	35	24 55	44 45		
14	30	50.4		29.9	64	01.9	109	+3	47.0	175	20	36	17 58	25	24 61	40 40		
15	45	50.4		30.6	78	31.8	109	+4	04.5	175	30	21	46	15	25 68	36 34		
16	60	50.4		31.3	93	01.6	108		21.9	174	35	13	39	10	25 72	34 30		
17	75	50.5	+16	32.0	107	31.5	109	+4	39.4	175	40	17 04	17 32	18 04	3 26	76	15 32	26
18	90	50.5	+16	32.7	122	01.3	108	+4	56.8	174	45	16 53	17 24	17 59	3 27	80	15 29	21
19	105	50.6		33.4	136	31.1	108	+5	14.1	173	50	40	14	53	27 87	26 15		
20	120	50.6		34.1	151	00.8	107		31.5	174	52	33	10	50	27 90	24 13		
21	135	50.7		34.8	165	30.5	107	+5	48.8	173	54	27	05	48	28 93	22 10		
22	150	50.7		35.5	180	00.2	107	+6	06.1	173	56	19	17 00	45	28 96	21 6		
23	165	50.8		36.2	194	29.8	106		23.3	172	58	11	16 54	41	29 100	18 4		
24	180	50.8	+16	36.9	208	59.4	106	+6	40.6	173	60 S	16 01	16 48	17 38	3 29	105	15 16	**
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 05.1 ^m		Mag: -3.9 PMG: 11 ^h 26 ^m			Mag: +1.1 PMG: 9 ^h 20 ^m			Mag: -2.0 PMG: 12 ^h 37 ^m			Mag: +1.2 PMG: 8 ^h 20 ^m						
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	223	21.4	188	30.8	+12	43.1	219	46.9	+0	10.5	170	27.4	+18	18.1	234	38.9	-6	45.7
1	238	23.9	203	30.3		44.2	234	47.6		11.3	185	29.2		18.2	249	41.1		45.6
2	253	26.4	218	29.8		45.2	249	48.3		12.0	200	31.1		18.4	264	43.4		45.6
3	268	28.8	233	29.3		46.3	264	49.0		12.8	215	33.0		18.5	279	45.7		45.5
4	283	31.3	248	28.8		47.4	279	49.7		13.6	230	34.8		18.7	294	47.9		45.4
5	298	33.8	263	28.3	+12	48.4	294	50.4	+0	14.3	245	36.7	+18	18.8	309	50.2	-6	45.3
6	313	36.2	278	27.8	+12	49.5	309	51.1	+0	15.1	260	38.6	+18	18.9	324	52.5	-6	45.3
7	328	38.7	293	27.3		50.6	324	51.8		15.9	275	40.4		19.1	339	54.8		45.2
8	343	41.1	308	26.8		51.6	339	52.5		16.6	290	42.3		19.2	354	57.0		45.1
9	358	43.6	323	26.3		52.7	354	53.2		17.4	305	44.2		19.4	9	59.3		45.0
10	13	46.1	338	25.8		53.8	9	53.9		18.2	320	46.0		19.5	25	01.6		45.0
11	28	48.5	353	25.3	+12	54.8	24	54.6	+0	18.9	335	47.9	+18	19.7	40	03.8	-6	44.9
12	43	51.0	8	24.8	+12	55.9	39	55.3	+0	19.7	350	49.8	+18	19.8	55	06.1	-6	44.8
13	58	53.5	23	24.3		56.9	54	56.0		20.5	5	51.6		20.0	70	08.4		44.8
14	73	55.9	38	23.8		58.0	69	56.7		21.2	20	53.5		20.1	85	10.6		44.7
15	88	58.4	53	23.3	+12	59.1	84	57.4		22.0	35	55.3		20.2	100	12.9		44.6
16	104	00.9	68	22.8	+13	00.1	99	58.1		22.8	50	57.2		20.4	115	15.2		44.5
17	119	03.3	83	22.3	+13	01.2	114	58.8	+0	23.5	65	59.1	+18	20.5	130	17.5	-6	44.5
18	134	05.8	98	21.8	+13	02.2	129	59.5	+0	24.3	81	00.9	+18	20.7	145	19.7	-6	44.4
19	149	08.2	113	21.3		03.3	145	00.2		25.1	96	02.8		20.8	160	22.0		44.3
20	164	10.7	128	20.8		04.4	160	00.9		25.8	111	04.7		21.0	175	24.3		44.2
21	179	13.2	143	20.3		05.4	175	01.6		26.6	126	06.5		21.1	190	26.5		44.2
22	194	15.6	158	19.8		06.5	190	02.3		27.3	141	08.4		21.3	205	28.8		44.1
23	209	18.1	173	19.3		07.5	205	03.0		28.1	156	10.3		21.4	220	31.1		44.0
24	224	20.6	188	18.8	+13	08.6	220	03.7	+0	28.9	171	12.1	+18	21.5	235	33.4	-6	44.0
Dif	—		-5			+11	+7			+8	+19		+1		+23		+	

ALMANAQUE NÁUTICO PERSEIS

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: 28.2 ^d SD: 16'4 PMG: 11 ^h 18 ^m PHE 4^h: 60'2 12^h: 60'1 20^h: 59'9 R°: 55^m															
	hG ☉	Dec			hG ☾	Dif			Dec	Dif										
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	51.8	+16	53.6	196	35.3		+13	18.8	158	60 N	20 14	21 12	23 00		3 18	1	19 54	114	
1	195	51.8		54.2	211	03.6			34.6	156	58	20 02	20 54	22 15		27 6		42 106		
2	210	51.9		54.9	225	31.8		+13	50.2	156	56	19 52	39	21 48		34 11		31 101		
3	225	51.9		55.6	240	00.0		+14	05.8	155	54		43	27		41 14		21 96		
4	240	51.9		56.3	254	28.1			21.3	155	52		36	16	21 10		47 18		13 92	
5	255	52.0	+16	57.0	268	56.1		+14	36.7	154	50	19 28	20 06	20 56		3 52	21	19 05	89	
6	270	52.0	+16	57.7	283	24.0		+14	52.1	154	45	19 13	19 47	20 29		4 04	27	18 49	83	
7	285	52.1		58.4	297	51.9		+15	07.3	152	40	19 01	31	20 08		14 31		36 78		
8	300	52.1		59.0	312	19.8			22.4	151	35	18 51	18	19 52		22 36		25 74		
9	315	52.1	+16	59.7	326	47.5			37.5	151	30		42	19 07		30 39		18 15	71	
10	330	52.2	+17	00.4	341	15.2		+15	52.4	149	20		26	18 49		17 43		17 58	66	
11	345	52.2	+17	01.1	355	42.8		+16	07.3	149	10 N	18 12	18 35	19 00		4 54	50	17 44	61	
12	0	52.2	+17	01.8	10	10.4		+16	22.0	147	0	18 00	18 22	18 47		5 05	55	17 31	56	
13	15	52.3		02.4	24	37.9			36.6	146	10 S	17 48	18 10	35		16 59		17 52		
14	30	52.3		03.1	39	05.3		+16	51.2	146	20		35	17 58		28 64		17 03	47	
15	45	52.3		03.8	53	32.6		+17	05.6	144	30	20	45	13		42 70		16 47	41	
16	60	52.4		04.5	67	59.9			19.9	143	35	11	38	08		50 74		38 38		
17	75	52.4	+17	05.2	82	27.1		+17	34.1	142	40	17 01	17 30	18 02		5 59	78	16 27	34	
18	90	52.4	+17	05.8	96	54.2		+17	48.2	141	45	16 50	17 21	17 57		6 09	84	16 15	29	
19	105	52.5		06.5	111	21.2		+18	02.2	140	50		36	11	50		23 89		16 00	23
20	120	52.5		07.2	125	48.2			16.0	138	52	30	07	47		29 93		15 53	20	
21	135	52.5		07.9	140	15.1			29.8	138	54	23	17 02	44		36 96		45 17		
22	150	52.6		08.6	154	42.0			43.4	136	56	15	16 56	41		43 101		36 13		
23	165	52.6		09.2	169	08.7		+18	56.9	135	58	16 06	50	38		6 52	106	27 7		
24	180	52.6	+17	09.9	183	35.4		+19	10.3	134	60 S	15 56	16 43	17 34		7 02	113	15 15	2	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 8 ^h 57.2 ^m		Mag: -3.9 PMG: 11 ^h 28 ^m		Mag: +1.1 PMG: 9 ^h 18 ^m		Mag: -2.0 PMG: 12 ^h 31 ^m		Mag: +1.2 PMG: 8 ^h 13 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	225	19.7	188	06.5	+13	33.7	220	20.6	+0	47.2	171	56.9	+18	25.0	236	27.9	-6	42.2	
1	240	22.2	203	06.0		34.8	235	21.3		48.0	186	58.7		25.1	251	30.2		42.2	
2	255	24.6	218	05.4		35.8	250	22.0		48.8	202	00.6		25.3	266	32.5		42.1	
3	270	27.1	233	04.9		36.8	265	22.7		49.5	217	02.4		25.4	281	34.7		42.0	
4	285	29.6	248	04.4		37.9	280	23.4		50.3	232	04.3		25.6	296	37.0		42.0	
5	300	32.0	263	03.9	+13	38.9	295	24.1	+0	51.1	247	06.2	+18	25.7	311	39.3	-6	41.9	
6	315	34.5	278	03.4	+13	40.0	310	24.8	+0	51.8	262	08.0	+18	25.8	326	41.6	-6	41.8	
7	330	37.0	293	02.9		41.0	325	25.5		52.6	277	09.9		26.0	341	43.8		41.7	
8	345	39.4	308	02.3		42.0	340	26.3		53.3	292	11.8		26.1	356	46.1		41.7	
9	0	41.9	323	01.8		43.1	355	27.0		54.1	307	13.6		26.3	11	48.4		41.6	
10	15	44.3	338	01.3		44.1	10	27.7		54.9	322	15.5		26.4	26	50.7		41.5	
11	30	46.8	353	00.8	+13	45.1	25	28.4	+0	55.6	337	17.4	+18	26.6	41	52.9	-6	41.5	
12	45	49.3	8	00.2	+13	46.2	40	29.1	+0	56.4	352	19.2	+18	26.7	56	55.2	-6	41.4	
13	60	51.7	22	59.7		47.2	55	29.8		57.2	7	21.1		26.8	71	57.5		41.3	
14	75	54.2	37	59.2		48.2	70	30.5		57.9	22	22.9		27.0	86	59.8		41.3	
15	90	56.7	52	58.7		49.3	85	31.2		58.7	37	24.8		27.1	102	02.0		41.2	
16	105	59.1	67	58.2		50.3	100	31.9	+0	59.5	52	26.7		27.3	117	04.3		41.1	
17	121	01.6	82	57.6	+13	51.3	115	32.6	+1	00.2	67	28.5	+18	27.4	132	06.6	-6	41.0	
18	136	04.1	97	57.1	+13	52.4	130	33.3	+1	01.0	82	30.4	+18	27.6	147	08.9	-6	41.0	
19	151	06.5	112	56.6		53.4	145	34.0		01.7	97	32.3		27.7	162	11.1		40.9	
20	166	09.0	127	56.1		54.4	160	34.7		02.5	112	34.1		27.8	177	13.4		40.8	
21	181	11.5	142	55.5		55.5	175	35.4		03.3	127	36.0		28.0	192	15.7		40.8	
22	196	13.9	157	55.0		56.5	190	36.1		04.0	142	37.8		28.1	207	18.0		40.7	
23	211	16.4	172	54.5		57.5	205	36.8		04.8	157	39.7		28.3	222	20.2		40.6	
24	226	18.8	187	54.0	+13	58.5	220	37.5	+1	05.6	172	41.6	+18	28.4	237	22.5	-6	40.6	
Dif	—		-5		+10		+7		+8		+19		+1		+23		+1		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna								
	SD: 15/8 PMG:11 ^h 56.5 ^m			Edad: 29.2 ^d PHE { 4 ^h : 59/8 12 ^h : 59/6 20 ^h : 59/4 SD: 16/3 PMG: 12 ^h 13 ^m R°: 58 ^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	52.6	+17	09.9	183	35.4	+19	10.3	60 N	0 52	2 40	3 38	3 19	5	21 48	112								
1	195	52.7		10.6	198	02.0		23.5	58	1 37	2 58	3 50	33	11	28	102								
2	210	52.7		11.3	212	28.6		36.6	56	2 05	3 13	4 00	45	17	21	12 95								
3	225	52.7		11.9	226	55.0	+19	49.6	54	25	25	09	3 55	21	20	57 99								
4	240	52.8		12.6	241	21.4	+20	02.5	52	42	36	17	4 05	24	45	88								
5	255	52.8	+17	13.3	255	47.8	+20	15.2	50	2 56	3 46	4 24	4 13	27	20	34 85								
6	270	52.8	+17	14.0	270	14.0	+20	27.9	45	3 24	4 06	4 39	4 31	33	20	12 79								
7	285	52.9		14.6	284	40.2		40.3	40	3 45	21	4 51	45	38	19	54 75								
8	300	52.9		15.3	299	06.3	+20	52.6	35	4 01	34	5 02	4 58	41	39	72								
9	315	52.9		16.0	313	32.4	+21	04.8	30	15	4 45	11	5 09	44	26	70								
10	330	53.0		16.6	327	58.4		16.9	20	36	5 03	27	28	49	19	04 65								
11	345	53.0	+17	17.3	342	24.3	+21	28.8	10 N	4 52	5 18	5 40	5 44	54	18	45 62								
12	0	53.0	+17	18.0	356	50.1	+21	40.6	0	5 06	5 31	5 53	6 00	57	18	27 59								
13	15	53.0		18.6	11	15.9	+21	52.2	10 S	18	44	6 05	15	62	18	09 56								
14	30	53.1		19.3	25	41.6	+22	03.7	20	29	5 56	19	32	66	17	50 52								
15	45	53.1		20.0	40	07.2		15.0	30	40	6 09	34	6 52	71	28	48								
16	60	53.1		20.7	54	32.8		26.2	35	45	16	42	7 04	73	16	45								
17	75	53.2	+17	21.3	68	58.3	+22	37.2	40	5 51	6 23	6 52	7 17	77	17	01 42								
18	90	53.2	+17	22.0	83	23.7	+22	48.1	45	5 57	6 32	7 04	7 33	82	16	44 38								
19	105	53.2		22.7	97	49.1	+22	58.8	50	6 04	43	18	7 52	88	23	32								
20	120	53.2		23.3	112	14.4	+23	09.4	52	06	47	24	8 02	91	13	29								
21	135	53.3		24.0	126	39.6		19.8	54	09	52	31	12	95	16	02 25								
22	150	53.3		24.6	141	04.8		30.1	56	13	6 58	39	24	100	15	49 21								
23	165	53.3		25.3	155	30.0		40.2	58	16	7 04	48	38	106	34	15								
24	180	53.3	+17	26.0	169	55.0	+23	50.1	60 S	6 20	7 11	7 58	8 55	115	15	17 6								
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 8 ^h 53.3 ^m			Mag: -3.9 PMG: 11 ^h 29 ^m			Mag: +1.1 PMG: 9 ^h 17 ^m			Mag: -2.0 PMG: 12 ^h 28 ^m			Mag: +1.2 PMG: 8 ^h 09 ^m											
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	'								
0	226	18.8	187	54.0	+13	58.5	220	37.5	+1	05.6	172	41.6	+18	28.4	237	22.5	-6	40.6						
1	241	21.3	202	53.4	+13	59.6	235	38.2		06.3	187	43.4		28.6	252	24.8		40.5						
2	256	23.8	217	52.9	+14	00.6	250	38.9		07.1	202	45.3		28.7	267	27.1		40.4						
3	271	26.2	232	52.4		01.6	265	39.6		07.9	217	47.2		28.8	282	29.4		40.3						
4	286	28.7	247	51.8		02.6	280	40.3		08.6	232	49.0		29.0	297	31.6		40.3						
5	301	31.2	262	51.3	+14	03.7	295	41.0	+1	09.4	247	50.9	+18	29.1	312	33.9	-6	40.2						
6	316	33.6	277	50.8	+14	04.7	310	41.7	+1	10.1	262	52.7	+18	29.3	327	36.2	-6	40.1						
7	331	36.1	292	50.3		05.7	325	42.4		10.9	277	54.6		29.4	342	38.5		40.1						
8	346	38.6	307	49.7		06.7	340	43.2		11.7	292	56.5		29.6	357	40.7		40.0						
9	1	41.0	322	49.2		07.8	355	43.9		12.4	307	58.3		29.7	12	43.0		39.9						
10	16	43.5	337	48.7		08.8	10	44.6		13.2	323	00.2		29.8	27	45.3		39.9						
11	31	46.0	352	48.1	+14	09.8	25	45.3	+1	14.0	338	02.1	+18	30.0	42	47.6	-6	39.8						
12	46	48.4	7	47.6	+14	10.8	40	46.0	+1	14.7	353	03.9	+18	30.1	57	49.9	-6	39.7						
13	61	50.9	22	47.1		11.8	55	46.7		15.5	8	05.8		30.3	72	52.1		39.7						
14	76	53.3	37	46.5		12.9	70	47.4		16.2	23	07.6		30.4	87	54.4		39.6						
15	91	55.8	52	46.0		13.9	85	48.1		17.0	38	09.5		30.5	102	56.7		39.5						
16	106	58.3	67	45.5		14.9	100	48.8		17.8	53	11.4		30.7	117	59.0		39.4						
17	122	00.7	82	44.9	+14	15.9	115	49.5	+1	18.5	68	13.2	+18	30.8	133	01.2	-6	39.4						
18	137	03.2	97	44.4	+14	16.9	130	50.2	+1	19.3	83	15.1	+18	31.0	148	03.5	-6	39.3						
19	152	05.7	112	43.9		18.0	145	50.9		20.1	98	16.9		31.1	163	05.8		39.2						
20	167	08.1	127	43.3		19.0	160	51.6		20.8	113	18.8		31.3	178	08.1		39.2						
21	182	10.6	142	42.8		20.0	175	52.3		21.6	128	20.7		31.4	193	10.4		39.1						
22	197	13.1	157	42.3		21.0	190	53.0		22.3	143	22.5		31.5	208	12.6		39.0						
23	212	15.5	172	41.7		22.0	205	53.7		23.1	158	24.4		31.7	223	14.9		39.0						
24	227	18.0	187	41.2	+14	23.0	220	54.4	+1	23.9	173	26.3	+18	31.8	238	17.2	-6	38.9						
Dif	—			-5			+10			+7			+19			+1			+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: 30.2 ^d SD: 16'1 PMG: 13 ^h 11 ^m PHE { 4 ^h : 59'2 12 ^h : 58'9 20 ^h : 58'7 Rº: 60 ^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	53.3	+17	26.0	169	55.0	60	+23	50.1	98	20 19	21 18	23 22	3 24	11	23 40	93		
1	195	53.4		26.6	184	20.0	60	+23	59.9	96	20 07	21 00	22 25	3 44	22	23 10	84		
2	210	53.4		27.3	198	45.0	59	+24	09.5	95	19 56	20 44	21 55	4 02	27	22 47	79		
3	225	53.4		28.0	213	09.9	58		19.0	93	47	31	33	16	32	28	77		
4	240	53.4		28.6	227	34.7	58		28.3	91	39	20	15	29	35	22 13	74		
5	255	53.5	+17	29.3	241	59.5	58	+24	37.4	90	19 31	20 10	21 00	4 40	38	21 59	73		
6	270	53.5	+17	29.9	256	24.2	57	+24	46.4	88	19 16	19 49	20 32	5 04	43	21 31	70		
7	285	53.5		30.6	270	48.9	57	+24	55.2	86	19 03	33	20 10	23	46	21 09	68		
8	300	53.5		31.3	285	13.5	56	+25	03.8	85	18 52	20	19 54	39	49	20 51	67		
9	315	53.6		31.9	299	38.1	56		12.3	83	43	19 09	40	5	53	36	65		
10	330	53.6		32.6	314	02.7	56		20.6	81	27	18 50	18	6	17	20 09	64		
11	345	53.6	+17	33.2	328	27.2	55	+25	28.7	79	18 13	18 35	19 01	6	38	19 47	61		
12	0	53.6	+17	33.9	342	51.6	54	+25	36.6	78	18 00	18 22	18 47	6	57	19 26	60		
13	15	53.7		34.6	357	16.0	54		44.4	76	17 47	18 09	35	7	17	62	58		
14	30	53.7		35.2	11	40.4	53		52.0	74	34	17 57	23	7	38	65	57		
15	45	53.7		35.9	26	04.7	53	+25	59.4	73	18	43	12	8	03	68	54		
16	60	53.7		36.5	40	29.0	53	+26	06.7	71	17 09	36	06	17	70	18 01	52		
17	75	53.8	+17	37.2	54	53.3	52	+26	13.8	68	16 59	17 28	18 01	8	34	17 43	51		
18	90	53.8	+17	37.8	69	17.5	52	+26	20.6	68	16 48	17 19	17 54	8	55	17 22	48		
19	105	53.8		38.5	83	41.7	52		27.4	65	33	08	47	9	20	16	55	45	
20	120	53.8		39.1	98	05.9	52		33.9	64	27	17 04	44	33	82	42	42		
21	135	53.8		39.8	112	30.0	51		40.3	62	19	16 58	41	9	47	85	40		
22	150	53.9		40.4	126	54.1	51		46.5	60	11	53	38	10	04	89	36		
23	165	53.9		41.1	141	18.2	51		52.5	58	16 02	46	34	24	96	15	49	30	
24	180	53.9	+17	41.7	155	42.3	51	+26	58.3	58	15 51	16 39	17 30	10	50	108	15	23	18
UT	ARIES PMG 8 ^h 49.4 ^m			VENUS Mag: -3.9 PMG: 11 ^h 30 ^m			MARTE Mag: +1.1 PMG: 9 ^h 16 ^m			JÚPITER Mag: -2.0 PMG: 12 ^h 25 ^m			SATURNO Mag: +1.2 PMG: 8 ^h 06 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	227	18.0		187	41.2	+14	23.0	220	54.4	+1	23.9	173	26.3	+18	31.8				
1	242	20.4		202	40.7		24.0	235	55.1		24.6	188	28.1		32.0				
2	257	22.9		217	40.1		25.0	250	55.8		25.4	203	30.0		32.1				
3	272	25.4		232	39.6		26.1	265	56.6		26.1	218	31.8		32.2				
4	287	27.8		247	39.0		27.1	280	57.3		26.9	233	33.7		32.4				
5	302	30.3		262	38.5	+14	28.1	295	58.0	+1	27.7	248	35.6	+18	32.5				
6	317	32.8		277	38.0	+14	29.1	310	58.7	+1	28.4	263	37.4	+18	32.7				
7	332	35.2		292	37.4		30.1	325	59.4		29.2	278	39.3		32.8				
8	347	37.7		307	36.9		31.1	341	00.1		30.0	293	41.1		33.0				
9	2	40.2		322	36.3		32.1	356	00.8		30.7	308	43.0		33.1				
10	17	42.6		337	35.8		33.1	11	01.5		31.5	323	44.9		33.2				
11	32	45.1		352	35.3	+14	34.1	26	02.2	+1	32.2	338	46.7	+18	33.4				
12	47	47.6		7	34.7	+14	35.1	41	02.9	+1	33.0	353	48.6	+18	33.5				
13	62	50.0		22	34.2		36.1	56	03.6		33.8	8	50.5		33.7				
14	77	52.5		37	33.6		37.1	71	04.3		34.5	23	52.3		33.8				
15	92	54.9		52	33.1		38.1	86	05.0		35.3	38	54.2		33.9				
16	107	57.4		67	32.5		39.2	101	05.7		36.0	53	56.0		34.1				
17	122	59.9		82	32.0	+14	40.2	116	06.4	+1	36.8	68	57.9	+18	34.2				
18	138	02.3		97	31.5	+14	41.2	131	07.1	+1	37.6	83	59.8	+18	34.4				
19	153	04.8		112	30.9		42.2	146	07.8		38.3	99	01.6		34.5				
20	168	07.3		127	30.4		43.2	161	08.5		39.1	114	03.5		34.6				
21	183	09.7		142	29.8		44.2	176	09.3		39.9	129	05.3		34.8				
22	198	12.2		157	29.3		45.2	191	10.0		40.6	144	07.2		34.9				
23	213	14.7		172	28.7		46.2	206	10.7		41.4	159	09.1		35.1				
24	228	17.1		187	28.2	+14	47.2	221	11.4	+1	42.1	174	10.9	+18	35.2				
Dif	—			-5		+10		+7		+8		+19		+1		+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: 1.9 ^d PHE { 4 ^h : 58 ^h 4 12 ^h : 58 ^h 1 20 ^h : 57 ^h 8 R°: 60 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	°	'	°	'	°		h	m	m	h	m	m	h	m
0	180	53.9	+17	41.7	155	42.3	51	+26	58.3	56	0	30	2	34	3	35	34
1	195	53.9		42.4	170	06.4	50	+27	03.9	55	1	27	2	53	4	06	42
2	210	53.9		43.0	184	30.4	50		09.4	53	1	57	3	08	29	46	
3	225	54.0		43.7	198	54.4	50		14.7	51	2	20	21	4	05	4	48
4	240	54.0		44.3	213	18.4	50		19.8	49	3	37	32	13	5	04	50
5	255	54.0	+17	45.0	227	42.4	50	+27	24.7	47	2	52	3	42	4	21	5
6	270	54.0	+17	45.6	242	06.4	50	+27	29.4	46	3	21	4	03	4	36	5
7	285	54.0		46.3	256	30.4	50		34.0	44	4	42	19	4	49	6	09
8	300	54.1		46.9	270	54.3	50		38.4	41	3	59	32	5	00	28	56
9	315	54.1		47.6	285	18.3	50		42.5	40	4	13	4	44	10	6	44
10	330	54.1		48.2	299	42.3	50		46.5	39	3	55	5	02	26	7	11
11	345	54.1	+17	48.9	314	06.3	50	+27	50.4	36	4	52	5	18	5	40	7
12	0	54.1	+17	49.5	328	30.2	49	+27	54.0	35	5	06	5	31	5	53	7
13	15	54.2		50.2	342	54.2	50	+27	57.5	32	18	18	44	6	06	8	19
14	30	54.2		50.8	357	18.2	50	+28	00.7	31	30	5	56	19	8	43	61
15	45	54.2		51.5	11	42.2	50		03.8	29	41	6	10	35	9	11	62
16	60	54.2		52.1	26	06.2	50		06.7	28	47	17	44	27	63	18	53
17	75	54.2	+17	52.7	40	30.3	51	+28	09.5	25	5	53	6	25	6	54	9
18	90	54.2	+17	53.4	54	54.3	50	+28	12.0	24	5	59	6	34	7	06	10
19	105	54.2		54.0	69	18.4	51		14.4	22	6	06	45	20	40	65	17
20	120	54.3		54.7	83	42.5	51		16.6	20	09	50	27	10	55	65	24
21	135	54.3		55.3	98	06.6	51		18.6	18	12	6	55	35	11	12	66
22	150	54.3		55.9	112	30.7	51		20.4	16	16	7	01	43	11	33	67
23	165	54.3		56.6	126	54.9	52		22.0	15	20	08	7	52	12	00	68
24	180	54.3	+17	57.2	141	19.1	52	+28	23.5	15	6	24	7	15	8	03	12
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 8 ^h 45.4 ^m		Mag: -3.9 PMG: 11 ^h 31 ^m		Mag: +1.1 PMG: 9 ^h 15 ^m		Mag: -2.0 PMG: 12 ^h 22 ^m		Mag: +1.2 PMG: 8 ^h 02 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	228	17.1	187	28.2	+14	47.2	221	11.4	+1	42.1							
1	243	19.6	202	27.6		48.2	236	12.1		42.9							
2	258	22.1	217	27.1		49.1	251	12.8		43.7							
3	273	24.5	232	26.5		50.1	266	13.5		44.4							
4	288	27.0	247	26.0		51.1	281	14.2		45.2							
5	303	29.4	262	25.4	+14	52.1	296	14.9	+1	45.9							
6	318	31.9	277	24.9	+14	53.1	311	15.6	+1	46.7							
7	333	34.4	292	24.3		54.1	326	16.3		47.5							
8	348	36.8	307	23.8		55.1	341	17.0		48.2							
9	3	39.3	322	23.2		56.1	356	17.7		49.0							
10	18	41.8	337	22.7		57.1	11	18.4		49.7							
11	33	44.2	352	22.1	+14	58.1	26	19.1	+1	50.5							
12	48	46.7	7	21.6	+14	59.1	41	19.8	+1	51.3							
13	63	49.2	22	21.0	+15	00.1	56	20.6		52.0							
14	78	51.6	37	20.5		01.1	71	21.3		52.8							
15	93	54.1	52	19.9		02.1	86	22.0		53.5							
16	108	56.6	67	19.4		03.0	101	22.7		54.3							
17	123	59.0	82	18.8	+15	04.0	116	23.4	+1	55.1							
18	139	01.5	97	18.3	+15	05.0	131	24.1	+1	55.8							
19	154	03.9	112	17.7		06.0	146	24.8		56.6							
20	169	06.4	127	17.1		07.0	161	25.5		57.3							
21	184	08.9	142	16.6		08.0	176	26.2		58.1							
22	199	11.3	157	16.0		09.0	191	26.9		58.9							
23	214	13.8	172	15.5		09.9	206	27.6	+1	59.6							
24	229	16.3	187	14.9	+15	10.9	221	28.3	+2	00.4							
Dif	—		-6	+10		+7	+8		+19	+1							
									+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 56.4 ^m		Edad: 2.9 ^d SD: 15 ^h 7 PMG: 15 ^h 11 ^m		PHE { 4 ^h : 57/6 12 ^h : 57/3 20 ^h : 57/0 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	180	54.3	+17	57.2	141	19.1	53	+28	23.5	12	60 N	20 24	21 25	** ** *	4 09	73	1 13	48	
1	195	54.3		57.9	155	43.4	52		24.7	11	58	11	21 05	22 36	4 48	69	0 34	52	
2	210	54.4		58.5	170	07.6	53		25.8	10	56	20 00	20 49	22 02	5 15	67	0 06	54	
3	225	54.4		59.1	184	31.9	54		26.8	7	54	19 50	35	21 38	36 66	** ** *	** ** *	** ** *	
4	240	54.4	+17	59.8	198	56.3	54		27.5	6	52	42	23	20	5 54	65	** ** *	** ** *	
5	255	54.4	+18	00.4	213	20.7	54	+28	28.1	3	50	19 34	20 13	21 04	6 10	64	** ** *	** ** *	
6	270	54.4	+18	01.0	227	45.1	54	+28	28.4	3	45	19 18	19 52	20 35	6 40	63	23 38	44	
7	285	54.4		01.7	242	09.6	55		28.7	0	40	19 05	35	20 13	7 04	62	23 15	47	
8	300	54.4		02.3	256	34.1	55		28.7	2	35	18 54	22	19 56	24 61	22 56	48		
9	315	54.4		03.0	270	58.7	56		28.5	3	30	44	19 10	41	7 41	60	39	50	
10	330	54.5		03.6	285	23.3	56		28.2	5	20	28	18 51	19	8 09	60	22 11	52	
11	345	54.5	+18	04.2	299	48.0	57	+28	27.7	6	10 N	18 13	18 35	19 01	8 34	58	21 47	54	
12	0	54.5	+18	04.8	314	12.8	58	+28	27.1	9	0	18 00	18 22	18 47	8 57	57	21 24	56	
13	15	54.5		05.5	328	37.6	58		26.2	10	0 S	17 47	18 09	34	9 19	57	21 02	57	
14	30	54.5		06.1	343	02.4	58		25.2	12	20	33	17 56	22	9 44	55	20 38	59	
15	45	54.5		06.7	357	27.3	59		24.0	13	30	17	42	11	10 13	54	20 09	62	
16	60	54.5		07.4	11	52.3	60		22.7	15	35	17 08	35	18 05	30 53	19 52	63		
17	75	54.5	+18	08.0	26	17.4	61	+28	21.2	17	40	16 57	17 26	17 59	10 49	52	19 33	64	
18	90	54.5	+18	08.6	40	42.5	61	+28	19.5	19	45	16 45	17 17	17 52	11 14	50	19 09	66	
19	105	54.6		09.3	55	07.7	62		17.6	20	50	30	06	45	11 45	47	18 38	69	
20	120	54.6		09.9	69	32.9	62		15.6	22	52	24	17 01	42	12 00	46	22	71	
21	135	54.6		10.5	83	58.3	64		13.4	23	54	16	16 55	38	18 45	18 04	73		
22	150	54.6		11.1	98	23.7	64		11.1	25	56	16 07	49	35	12 40	42	17 43	76	
23	165	54.6		11.8	112	49.2	65		08.6	27	58	15 58	43	31	13 08	37	17 15	80	
24	180	54.6	+18	12.4	127	14.7	65	+28	05.9	27	60 S	15 47	16 35	17 27	13 49	28	16 34	90	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 8 ^h 41.5 ^m		Mag: -3.9 PMG: 11 ^h 31 ^m		Mag: +1.1 PMG: 9 ^h 14 ^m		Mag: -2.0 PMG: 12 ^h 19 ^m		Mag: +1.2 PMG: 7 ^h 58 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	/	°	/	°	/	°	/	°	/								
0	229	16.3	187	14.9	+15	10.9	221	28.3	+2	00.4	174	55.6	+18	38.6	240	06.8	-6	35.7
1	244	18.7	202	14.4		11.9	236	29.0		01.1	189	57.4		38.7	255	09.1		35.6
2	259	21.2	217	13.8		12.9	251	29.7		01.9	204	59.3		38.9	270	11.3		35.5
3	274	23.7	232	13.2		13.9	266	30.4		02.6	220	01.2		39.0	285	13.6		35.5
4	289	26.1	247	12.7		14.8	281	31.2		03.4	235	03.0		39.1	300	15.9		35.4
5	304	28.6	262	12.1	+15	15.8	296	31.9	+2	04.2	250	04.9	+18	39.3	315	18.2	-6	35.3
6	319	31.1	277	11.6	+15	16.8	311	32.6	+2	04.9	265	06.7	+18	39.4	330	20.5	-6	35.3
7	334	33.5	292	11.0		17.8	326	33.3		05.7	280	08.6		39.6	345	22.8		35.2
8	349	36.0	307	10.4		18.8	341	34.0		06.4	295	10.5		39.7	0	25.1		35.1
9	4	38.4	322	09.9		19.7	356	34.7		07.2	310	12.3		39.8	15	27.3		35.1
10	19	40.9	337	09.3		20.7	11	35.4		08.0	325	14.2		40.0	30	29.6		35.0
11	34	43.4	352	08.7	+15	21.7	26	36.1	+2	08.7	340	16.0	+18	40.1	45	31.9	-6	34.9
12	49	45.8	7	08.2	+15	22.7	41	36.8	+2	09.5	355	17.9	+18	40.3	60	34.2	-6	34.9
13	64	48.3	22	07.6		23.6	56	37.5		10.2	10	19.8		40.4	75	36.5		34.8
14	79	50.8	37	07.1		24.6	71	38.2		11.0	25	21.6		40.5	90	38.8		34.8
15	94	53.2	52	06.5		25.6	86	38.9		11.8	40	23.5		40.7	105	41.1		34.7
16	109	55.7	67	05.9		26.6	101	39.6		12.5	55	25.3		40.8	120	43.4		34.6
17	124	58.2	82	05.4	+15	27.5	116	40.3	+2	13.3	70	27.2	+18	41.0	135	45.6	-6	34.6
18	140	00.6	97	04.8	+15	28.5	131	41.1	+2	14.0	85	29.0	+18	41.1	150	47.9	-6	34.5
19	155	03.1	112	04.2		29.5	146	41.8		14.8	100	30.9		41.2	165	50.2		34.4
20	170	05.6	127	03.7		30.4	161	42.5		15.5	115	32.8		41.4	180	52.5		34.4
21	185	08.0	142	03.1		31.4	176	43.2		16.3	130	34.6		41.5	195	54.8		34.3
22	200	10.5	157	02.5		32.4	191	43.9		17.1	145	36.5		41.7	210	57.1		34.2
23	215	12.9	172	02.0		33.3	206	44.6		17.8	160	38.3		41.8	225	59.4		34.2
24	230	15.4	187	01.4	+15	34.3	221	45.3	+2	18.6	175	40.2	+18	41.9	241	01.7	-6	34.1
Dif	—		-6		+10		+7		+8		+19		+1		+23		+	

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: 3.9 ^d SD: 15'5 PMG: 16 ^h 07 ^m	PHE	$\left\{ \begin{array}{l} 4^h: 56'7 \\ 12^h: 56'5 \\ 20^h: 56'2 \\ R^{\circ}: 53^m \end{array} \right.$		Dec	Dif								
	hG ☉	Dec	hG ☾	Dif								Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	180	54.6	+18	12.4	127	14.7	+28	05.9	28	60 N	** **	2 27	3 28	5 22	96	2 01	17	
1	195	54.6		13.0	141	40.4		03.1	30	58	1 16	2 47	41	5 57	86	1 26	27	
2	210	54.6		13.6	156	06.1	+28	00.1	32	56	1 50	3 03	3 52	6 22	81	1 00	33	
3	225	54.6		14.3	170	31.9	+27	56.9	33	54	2 14	17	4 02	42	77	0 40	36	
4	240	54.6		14.9	184	57.8		53.6	35	52	32	29	10	6 59	75	23	38	
5	255	54.6	+18	15.5	199	23.7	+27	50.1	33	50	2 48	3 39	4 18	7 14	72	0 08	41	
6	270	54.7	+18	16.1	213	49.8	+27	46.5	36	45	3 17	4 00	4 34	7 43	68	**	**	**
7	285	54.7		16.8	228	15.9		42.7	38	40	39	17	47	8 06	65	**	**	**
8	300	54.7		17.4	242	42.2		38.8	39	35	3 57	31	4 59	25	63	23	44	40
9	315	54.7		18.0	257	08.5		34.7	41	30	4 11	4 42	5 08	8 41	62	29	42	
10	330	54.7		18.6	271	34.9		30.5	42	20	34	5 01	25	9 09	58	23	03	46
11	345	54.7	+18	19.3	286	01.4	+27	26.1	44	10 N	4 51	5 17	5 39	9 32	56	22	41	49
12	0	54.7	+18	19.9	300	28.0	+27	21.6	45	0	5 06	5 31	5 53	9 54	54	22	20	52
13	15	54.7		20.5	314	54.7		16.9	47	10 S	19	44	6 06	10 16	51	21	59	55
14	30	54.7		21.1	329	21.5		12.1	48	20	30	5 57	20	10 39	49	37	57	
15	45	54.7		21.7	343	48.4		07.1	50	30	42	6 11	36	11 07	45	21	11	61
16	60	54.7		22.3	358	15.3	+27	02.0	51	35	48	19	45	23	43	20	55	63
17	75	54.7	+18	23.0	12	42.4	+26	56.8	52	40	5 54	6 27	6 56	11 41	41	20	37	66
18	90	54.7	+18	23.6	27	09.6	+26	51.4	54	45	6 01	6 37	7 08	12 04	38	20	15	69
19	105	54.7		24.2	41	36.9		45.8	56	50	08	48	23	32	34	19	47	74
20	120	54.7		24.8	56	04.2		40.2	56	52	12	53	30	12 46	31	33	77	
21	135	54.7		25.4	70	31.7		34.4	58	54	15	6 58	38	13 03	28	19	17	81
22	150	54.7		26.0	84	59.3		28.4	60	56	19	7 04	47	22	24	18	59	84
23	165	54.7		26.7	99	27.0		22.4	60	58	23	11	7 56	13 45	19	35	91	
24	180	54.7	+18	27.3	113	54.8	+26	16.2	62	60 S	6 27	7 19	8 08	14 17	8	18	04	101

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 37.6 ^m		Mag: -3.9 PMG: 11 ^h 32 ^m		Mag: +1.1 PMG: 9 ^h 13 ^m		Mag: -2.0 PMG: 12 ^h 16 ^m		Mag: +1.2 PMG: 7 ^h 55 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	230	15.4	187	01.4	+15	34.3	221	45.3	+2	18.6	175	40.2	+18	41.9	241	01.7	-6	34.1
1	245	17.9	202	00.8		35.3	236	46.0		19.3	190	42.1		42.1	256	04.0		34.0
2	260	20.3	217	00.2		36.2	251	46.7		20.1	205	43.9		42.2	271	06.2		34.0
3	275	22.8	231	59.7		37.2	266	47.4		20.8	220	45.8		42.4	286	08.5		33.9
4	290	25.3	246	59.1		38.2	281	48.1		21.6	235	47.6		42.5	301	10.8		33.8
5	305	27.7	261	58.5	+15	39.1	296	48.8	+2	22.4	250	49.5	+18	42.6	316	13.1	-6	33.8
6	320	30.2	276	58.0	+15	40.1	311	49.5	+2	23.1	265	51.4	+18	42.8	331	15.4	-6	33.7
7	335	32.7	291	57.4		41.1	326	50.2		23.9	280	53.2		42.9	346	17.7		33.7
8	350	35.1	306	56.8		42.0	341	51.0		24.6	295	55.1		43.1	1	20.0		33.6
9	5	37.6	321	56.2		43.0	356	51.7		25.4	310	56.9		43.2	16	22.3		33.5
10	20	40.0	336	55.7		43.9	11	52.4		26.1	325	58.8		43.3	31	24.6		33.5
11	35	42.5	351	55.1	+15	44.9	26	53.1	+2	26.9	341	00.7	+18	43.5	46	26.8	-6	33.4
12	50	45.0	6	54.5	+15	45.9	41	53.8	+2	27.7	356	02.5	+18	43.6	61	29.1	-6	33.3
13	65	47.4	21	53.9		46.8	56	54.5		28.4	11	04.4		43.8	76	31.4		33.3
14	80	49.9	36	53.4		47.8	71	55.2		29.2	26	06.2		43.9	91	33.7		33.2
15	95	52.4	51	52.8		48.7	86	55.9		29.9	41	08.1		44.0	106	36.0		33.1
16	110	54.8	66	52.2		49.7	101	56.6		30.7	56	10.0		44.2	121	38.3		33.1
17	125	57.3	81	51.6	+15	50.6	116	57.3	+2	31.4	71	11.8	+18	44.3	136	40.6	-6	33.0
18	140	59.8	96	51.1	+15	51.6	131	58.0	+2	32.2	86	13.7	+18	44.4	151	42.9	-6	32.9
19	156	02.2	111	50.5		52.6	146	58.7		33.0	101	15.5		44.6	166	45.2		32.9
20	171	04.7	126	49.9		53.5	161	59.4		33.7	116	17.4		44.7	181	47.5		32.8
21	186	07.2	141	49.3		54.5	177	00.2		34.5	131	19.2		44.9	196	49.7		32.8
22	201	09.6	156	48.8		55.4	192	00.9		35.2	146	21.1		45.0	211	52.0		32.7
23	216	12.1	171	48.2		56.4	207	01.6		36.0	161	23.0		45.1	226	54.3		32.6
24	231	14.5	186	47.6	+15	57.3	222	02.3	+2	36.7	176	24.8	+18	45.3	241	56.6	-6	32.6
Dif	—		-6	+10		+7	+8				+19	+1			+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: 4.9 ^d SD: 15/3 PMG: 17 ^h 00 ^m PHE { 4 ^h : 55/9 12 ^h : 55/7 20 ^h : 55/5 R°: 48 ^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	h m m	h m m			
0	180 54.7	+18 27.3	113 54.8	88	+26 16.2	64	60 N	20 28	21 31	** **	6 58 98	2 18 6								
1	195 54.7	27.9	128 22.6	90		09.8	58	15	21 10	22 48	7 23 90	1 53 14								
2	210 54.7	28.5	142 50.6	91	+26 03.4	64	56	20 04	20 53	22 10	43 85	33 19								
3	225 54.8	29.1	157 18.7	92	+25 56.8	66	54	19 54	39	21 44	7 59 81	16 23								
4	240 54.8	29.7	171 46.9	93		50.0	52	45	27	25	8 14 77	1 01 26								
5	255 54.8	+18 30.3	186 15.2	94	+25 43.2	68	50	19 37	20 16	21 09	8 26 74	0 49 28								
6	270 54.8	+18 30.9	200 43.6	95	+25 36.2	70	45	19 21	19 55	20 38	8 51 70	0 22 34								
7	285 54.8	31.5	215 12.1	97		29.1	40	19 07	38	20 15	9 11 66	0 02 36								
8	300 54.8	32.1	229 40.8	97		21.9	35	18 55	23	19 57	28 63	** ** *								
9	315 54.8	32.8	244 09.5	98		14.6	30	45	19 12	43	9 43 60	** ** *								
10	330 54.8	33.4	258 38.3	99	+25 07.1	75	20	28	18 52	20	10 07 56	23 49 40								
11	345 54.8	+18 34.0	273 07.2	101	+24 59.5	76	10 N	18 14	18 36	19 02	10 28 52	23 30 43								
12	0 54.8	+18 34.6	287 36.3	101	+24 51.8	77	0	18 00	18 22	18 47	10 48 49	23 12 47								
13	15 54.8	35.2	302 05.4	103		44.0	10 S	17 46	18 08	34	11 07 46	22 54 50								
14	30 54.8	35.8	316 34.7	103		36.1	20	32	17 55	22	28 42	34 55								
15	45 54.8	36.4	331 04.0	105		28.1	30	16	41	10	11 52 38	22 12 59								
16	60 54.8	37.0	345 33.5	105		19.9	35	17 06	33	18 04	12 06 36	21 58 62								
17	75 54.8	+18 37.6	0 03.1	106	+24 11.7	82	40	16 55	17 24	17 57	12 22 33	21 43 65								
18	90 54.8	+18 38.2	14 32.7	106	+24 03.3	84	45	16 43	17 15	17 50	12 42 29	21 24 70								
19	105 54.8	38.8	29 02.5	108	+23 54.8	85	50	28	17 03	42	13 06 24	21 01 75								
20	120 54.8	39.4	43 32.4	109		46.3	52	20	16 58	39	17 22	20 50 77								
21	135 54.8	40.0	58 02.4	110		37.6	54	13	52	36	31 18	38 80								
22	150 54.7	40.6	72 32.5	111		28.8	56	16 04	46	32	13 46 14	23 84								
23	165 54.7	41.2	87 02.7	112		19.9	58	15 54	39	28	14 04 9	20 06 89								
24	180 54.7	+18 41.8	101 33.0	113	+23 10.9	90	60 S	15 42	16 31	17 23	14 25 3	19 45 96								
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 8 ^h 33.6 ^m			Mag: -3.9 PMG: 11 ^h 33 ^m			Mag: +1.1 PMG: 9 ^h 11 ^m			Mag: -2.0 PMG: 12 ^h 13 ^m			Mag: +1.2 PMG: 7 ^h 51 ^m							
	hG ♈	hG ♀	Dec	hG ♂	Dec		hG ♃	Dec	hG ♄	Dec	hG ♅	Dec								
h	° /	° /	° /	° /	° /		° /	° /	° /	° /	° /	° /								
0	231 14.5	186 47.6	+15 57.3	222 02.3	+2 36.7		176 24.8	+18 45.3	241 56.6	-6 32.6										
1	246 17.0	201 47.0	58.3	237 03.0	37.5		191 26.7	45.4	256 58.9	32.5										
2	261 19.5	216 46.4	+15 59.2	252 03.7	38.2		206 28.5	45.6	272 01.2	32.4										
3	276 21.9	231 45.8	+16 00.2	267 04.4	39.0		221 30.4	45.7	287 03.5	32.4										
4	291 24.4	246 45.3	01.1	282 05.1	39.8		236 32.3	45.8	302 05.8	32.3										
5	306 26.9	261 44.7	+16 02.1	297 05.8	+2 40.5		251 34.1	+18 46.0	317 08.1	-6 32.3										
6	321 29.3	276 44.1	+16 03.0	312 06.5	+2 41.3		266 36.0	+18 46.1	332 10.4	-6 32.2										
7	336 31.8	291 43.5	03.9	327 07.2	42.0		281 37.8	46.2	347 12.7	32.1										
8	351 34.3	306 42.9	04.9	342 07.9	42.8		296 39.7	46.4	2 15.0	32.1										
9	6 36.7	321 42.4	05.8	357 08.7	43.5		311 41.6	46.5	17 17.2	32.0										
10	21 39.2	336 41.8	06.8	12 09.4	44.3		326 43.4	46.7	32 19.5	31.9										
11	36 41.7	351 41.2	+16 07.7	27 10.1	+2 45.0		341 45.3	+18 46.8	47 21.8	-6 31.9										
12	51 44.1	6 40.6	+16 08.7	42 10.8	+2 45.8		356 47.1	+18 46.9	62 24.1	-6 31.8										
13	66 46.6	21 40.0	09.6	57 11.5	46.6		11 49.0	47.1	77 26.4	31.7										
14	81 49.0	36 39.4	10.5	72 12.2	47.3		26 50.8	47.2	92 28.7	31.7										
15	96 51.5	51 38.8	11.5	87 12.9	48.1		41 52.7	47.4	107 31.0	31.6										
16	111 54.0	66 38.3	12.4	102 13.6	48.8		56 54.6	47.5	122 33.3	31.6										
17	126 56.4	81 37.7	+16 13.4	117 14.3	+2 49.6		71 56.4	+18 47.6	137 35.6	-6 31.5										
18	141 58.9	96 37.1	+16 14.3	132 15.0	+2 50.3		86 58.3	+18 47.8	152 37.9	-6 31.4										
19	157 01.4	111 36.5	15.2	147 15.7	51.1		102 00.1	47.9	167 40.2	31.4										
20	172 03.8	126 35.9	16.2	162 16.4	51.8		117 02.0	48.0	182 42.5	31.3										
21	187 06.3	141 35.3	17.1	177 17.2	52.6		132 03.9	48.2	197 44.8	31.2										
22	202 08.8	156 34.7	18.0	192 17.9	53.3		147 05.7	48.3	212 47.1	31.2										
23	217 11.2	171 34.1	19.0	207 18.6	54.1		162 07.6	48.5	227 49.4	31.1										
24	232 13.7	186 33.5	+16 19.9	222 19.3	+2 54.8		177 09.4	+18 48.6	242 51.7	-6 31.1										
Dif	—	-6	+9	+7	+8		+19	+1	+23	+1										

ALMANAQUE NÁUTICO PERSEUS

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: 6.9 ^d SD: 14'9 PMG: 18 ^h 32 ^m		PHE { 4 ^h : 54'8 12 ^h : 54'6 20 ^h : 54'5 R°: 41 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	54.6	+18	56.1	90	10.2	+19	08.0	60 N	20 33	21 38	** **		10 09	87	2 26	0	
1	195	54.6		56.6	104	42.9 ¹³⁷	+18	56.9 ¹¹¹	58	19	21 16	23 01		20 83		14	4	
2	210	54.6		57.2	119	15.8 ¹³⁹		45.7 ¹¹²	56	20 08	20 58	22 18		30 79		2 03	8	
3	225	54.6		57.8	133	48.7 ¹³⁹		34.4 ¹¹³	54	19 57	43	21 50		39 76		1 54	10	
4	240	54.6		58.4	148	21.6 ¹³⁹		23.1 ¹¹³	52	48		31		47 73		45	13	
5	255	54.6	+18	59.0	162	54.7 ¹⁴¹	+18	11.7 ¹¹⁴	50	19 40	20 20	21 13		10 54	71	1 37	16	
6	270	54.6	+18	59.6	177	27.9 ¹⁴²	+18	00.2 ¹¹⁵	45	19 23	19 57	20 41		11 09	65	1 21	21	
7	285	54.5	+19	00.1	192	01.1 ¹⁴²	+17	48.7 ¹¹⁵	40	19 09		40		20 18		21 61		
8	300	54.5		00.7	206	34.4 ¹⁴³		37.1 ¹¹⁶	35	18 57		25		19 59		31 58		
9	315	54.5		01.3	221	07.8 ¹⁴⁴		25.4 ¹¹⁷	30	47	19 13		44		40 56		46 31	
10	330	54.5		01.9	235	41.3 ¹⁴⁵		13.7 ¹¹⁷	20	29	18 53		21		11 56	50		
11	345	54.5	+19	02.5	250	14.9 ¹⁴⁶	+17	01.9 ¹¹⁸	10 N	18 14	18 36	19 03		12 09	46	0 13	40	
12	0	54.5	+19	03.0	264	48.5 ¹⁴⁶	+16	50.1 ¹¹⁸	0	18 00	18 22	18 47		12 22	42	** **	**	
13	15	54.5		03.6	279	22.2 ¹⁴⁷		38.2 ¹¹⁹	10 S	17 46	18 08		34		34 38	** **	**	
14	30	54.5		04.2	293	56.0 ¹⁴⁸		26.2 ¹²⁰	20	31	17 54		21		12 48	33	** **	
15	45	54.5		04.8	308	29.9 ¹⁴⁹		14.2 ¹²⁰	30	14		40		09		13 03	28	** **
16	60	54.4		05.4	323	03.8 ¹⁴⁹	+16	02.1 ¹²¹	35	17 05		32		18 02		12 25	** **	
17	75	54.4	+19	05.9	337	37.8 ¹⁵⁰	+15	50.0 ¹²¹	40	16 54	17 23	17 56		13 21	23	23 51	61	
18	90	54.4	+19	06.5	352	11.9 ¹⁵¹	+15	37.8 ¹²²	45	16 41	17 13	17 48		13 33	19	23 41	64	
19	105	54.4		07.1	6	46.1 ¹⁵²		25.5 ¹²³	50	25	17 01		40		47 14		28 70	
20	120	54.4		07.7	21	20.3 ¹⁵²		13.2 ¹²³	52	18	16 55		37		13 54	11	22 72	
21	135	54.4		08.2	35	54.6 ¹⁵³	+15	00.9 ¹²³	54	09		49		33		14 01	9	
22	150	54.4		08.8	50	29.0 ¹⁵⁴	+14	48.5 ¹²⁴	56	16 00		43		29		09 6	09 77	
23	165	54.3		09.4	65	03.4 ¹⁵⁴		36.0 ¹²⁵	58	15 50		36		24		18 3	23 00	
24	180	54.3	+19	10.0	79	37.9 ¹⁵⁵	+14	23.5 ¹²⁵	60 S	15 38	16 27	17 20		14 28	**	22 51	85	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 25.8 ^m		Mag: -3.9 PMG: 11 ^h 35 ^m		Mag: +1.1 PMG: 9 ^h 09 ^m		Mag: -2.0 PMG: 12 ^h 07 ^m		Mag: +1.2 PMG: 7 ^h 44 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	233	12.8	186	19.2	+16	42.1	222	36.3	+3	12.9	177	54.0	+18	51.9	243	46.8	-6	29.6
1	248	15.3	201	18.6		43.0	237	37.0		13.7	192	55.9		52.0	258	49.0		29.5
2	263	17.8	216	18.0		43.9	252	37.7		14.4	207	57.7		52.2	273	51.3		29.5
3	278	20.2	231	17.4		44.8	267	38.4		15.2	222	59.6		52.3	288	53.6		29.4
4	293	22.7	246	16.8		45.8	282	39.1		15.9	238	01.4		52.4	303	55.9		29.3
5	308	25.1	261	16.2	+16	46.7	297	39.8	+3	16.7	253	03.3	+18	52.6	318	58.2	-6	29.3
6	323	27.6	276	15.6	+16	47.6	312	40.5	+3	17.4	268	05.2	+18	52.7	334	00.5	-6	29.2
7	338	30.1	291	15.0		48.5	327	41.3		18.2	283	07.0		52.8	349	02.8		29.2
8	353	32.5	306	14.4		49.4	342	42.0		18.9	298	08.9		53.0	4	05.1		29.1
9	8	35.0	321	13.8		50.3	357	42.7		19.7	313	10.7		53.1	19	07.4		29.0
10	23	37.5	336	13.2		51.2	12	43.4		20.4	328	12.6		53.3	34	09.7		29.0
11	38	39.9	351	12.6	+16	52.1	27	44.1	+3	21.2	343	14.5	+18	53.4	49	12.0	-6	28.9
12	53	42.4	6	11.9	+16	53.0	42	44.8	+3	21.9	358	16.3	+18	53.5	64	14.3	-6	28.9
13	68	44.9	21	11.3		53.9	57	45.5		22.7	13	18.2		53.7	79	16.6		28.8
14	83	47.3	36	10.7		54.8	72	46.2		23.4	28	20.0		53.8	94	18.9		28.7
15	98	49.8	51	10.1		55.8	87	46.9		24.2	43	21.9		53.9	109	21.2		28.7
16	113	52.3	66	09.5		56.7	102	47.6		24.9	58	23.7		54.1	124	23.5		28.6
17	128	54.7	81	08.9	+16	57.6	117	48.3	+3	25.7	73	25.6	+18	54.2	139	25.8	-6	28.6
18	143	57.2	96	08.3	+16	58.5	132	49.1	+3	26.4	88	27.5	+18	54.3	154	28.1	-6	28.5
19	158	59.6	111	07.7	+16	59.4	147	49.8		27.2	103	29.3		54.5	169	30.4		28.4
20	174	02.1	126	07.1	+17	00.3	162	50.5		27.9	118	31.2		54.6	184	32.7		28.4
21	189	04.6	141	06.5		01.2	177	51.2		28.7	133	33.0		54.8	199	35.0		28.3
22	204	07.0	156	05.8		02.1	192	51.9		29.4	148	34.9		54.9	214	37.3		28.3
23	219	09.5	171	05.2		03.0	207	52.6		30.2	163	36.7		55.0	229	39.6		28.2
24	234	12.0	186	04.6	+17	03.9	222	53.3	+3	30.9	178	38.6	+18	55.2	244	41.9	-6	28.1
Dif	—		-6		+9		+7		+8		+19		+1		+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: 7.9 ^d PHE { 4 ^h : 54/4 12 ^h : 54/3 20 ^h : 54/3 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	54.3	+19	10.0	79	37.9	+14	23.5	126	60 N	**	**	2	14	3	19	11	36	83	
1	195	54.3		10.5	94	12.4	+14	10.9	126	58	0	51	36	33	43	80	18	3		
2	210	54.3		11.1	108	47.1	+13	58.3	126	56	1	35	2	54	45	49	77	11	5	
3	225	54.3		11.7	123	21.7		45.7	126	54	2	02	3	09	3	55	11	55	74	
4	240	54.3		12.3	137	56.5		33.0	127	52	23	22	4	04	12	00	71	1	58	
5	255	54.3	+19	12.8	152	31.3	+13	20.2	128	50	2	39	3	33	4	12	12	05	68	
6	270	54.2	+19	13.4	167	06.2	+13	07.4	128	45	3	11	3	55	4	29	12	14	64	
7	285	54.2		14.0	181	41.1	+12	54.6	128	40	35	4	13	44	22	60	32	21		
8	300	54.2		14.5	196	16.1		41.7	129	35	3	53	27	4	55	29	57	24	24	
9	315	54.2		15.1	210	51.1		28.8	129	30	4	08	4	40	5	06	36	53	17	
10	330	54.2		15.7	225	26.2		15.9	129	20	32	5	00	23	46	48	1	04	32	
11	345	54.2	+19	16.2	240	01.3	+12	02.9	130	10 N	4	50	5	16	5	39	12	55	44	
12	0	54.1	+19	16.8	254	36.5	+11	49.8	131	0	5	06	5	31	5	53	13	04	40	
13	15	54.1		17.4	269	11.8		36.7	131	10 S	19	45	6	07	12	36	32	45		
14	30	54.1		17.9	283	47.1		23.6	131	20	32	5	58	22	21	32	20	50		
15	45	54.1		18.5	298	22.4	+11	10.5	131	30	44	6	13	39	31	27	07	55		
16	60	54.1		19.1	312	57.8	+10	57.3	132	35	51	21	6	49	37	24	0	00		
17	75	54.1	+19	19.6	327	33.3	+10	44.0	133	40	5	58	6	30	7	00	13	44		
18	90	54.0	+19	20.2	342	08.8	+10	30.8	132	45	6	05	6	41	7	13	13	52		
19	105	54.0		20.7	356	44.3		17.5	133	50	13	53	29	14	01	12	**	**		
20	120	54.0		21.3	11	19.9	+10	04.1	134	52	17	6	58	36	05	10	**	**		
21	135	54.0		21.9	25	55.5	+9	50.8	133	54	21	7	04	44	10	7	**	**		
22	150	54.0		22.4	40	31.1		37.4	134	56	25	11	7	54	15	5	**	**		
23	165	53.9		23.0	55	06.8		23.9	135	58	29	18	8	04	21	2	**	**		
24	180	53.9	+19	23.6	69	42.6	+9	10.5	134	60 S	6	34	7	26	8	16	14	27		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 ^h 21.8 ^m		Mag: -3.9 PMG: 11 ^h 36 ^m		Mag: +1.1 PMG: 9 ^h 08 ^m		Mag: -2.0 PMG: 12 ^h 04 ^m		Mag: +1.2 PMG: 7 ^h 40 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	234	12.0	186	04.6	+17	03.9	222	53.3	+3	30.9
1	249	14.4	201	04.0		04.8	237	54.0		31.7
2	264	16.9	216	03.4		05.7	252	54.7		32.4
3	279	19.4	231	02.8		06.6	267	55.4		33.2
4	294	21.8	246	02.2		07.5	282	56.1		33.9
5	309	24.3	261	01.5	+17	08.3	297	56.9	+3	34.7
6	324	26.8	276	00.9	+17	09.2	312	57.6	+3	35.4
7	339	29.2	291	00.3		10.1	327	58.3		36.2
8	354	31.7	305	59.7		11.0	342	59.0		36.9
9	9	34.1	320	59.1		11.9	357	59.7		37.7
10	24	36.6	335	58.5		12.8	13	00.4		38.4
11	39	39.1	350	57.8	+17	13.7	28	01.1	+3	39.2
12	54	41.5	5	57.2	+17	14.6	43	01.8	+3	39.9
13	69	44.0	20	56.6		15.5	58	02.5		40.7
14	84	46.5	35	56.0		16.4	73	03.2		41.4
15	99	48.9	50	55.4		17.2	88	04.0		42.2
16	114	51.4	65	54.7		18.1	103	04.7		42.9
17	129	53.9	80	54.1	+17	19.0	118	05.4	+3	43.7
18	144	56.3	95	53.5	+17	19.9	133	06.1	+3	44.4
19	159	58.8	110	52.9		20.8	148	06.8		45.2
20	175	01.2	125	52.2		21.7	163	07.5		45.9
21	190	03.7	140	51.6		22.5	178	08.2		46.7
22	205	06.2	155	51.0		23.4	193	08.9		47.4
23	220	08.6	170	50.4		24.3	208	09.6		48.2
24	235	11.1	185	49.7	+17	25.2	223	10.3	+3	48.9
Dif	—		-6	+9			+7	+7		
									+19	+1
										+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: 8.9 ^d SD: 14'8 PMG: 19 ^h 53 ^m PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'2 R°: 39 ^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
0	180	53.9	+19	23.6	69	42.6	+9	10.5	60 N	20 38	21 44	** **	12 59	82	2 25
1	195	53.9		24.1	84	18.4	+8	57.0	58	23	21	23 19	13 03	78	21 1
2	210	53.9		24.7	98	54.2		43.4	56	11	21 03	22 26	06 75		16 5
3	225	53.9		25.2	113	30.0		29.9	54	20 01	20 47	21 56	09 72		13 7
4	240	53.8		25.8	128	05.9		16.3	52	19 51	34	34	11 70		09 9
5	255	53.8	+19	26.3	142	41.8	+8	02.7	50	19 43	20 23	21 17	13 13	68	2 06
6	270	53.8	+19	26.9	157	17.8	+7	49.0	45	19 25	20 00	20 44	13 18	63	1 59
7	285	53.8		27.5	171	53.8		35.4	40	19 11	19 42	20	22 60		53 20
8	300	53.8		28.0	186	29.8		21.7	35	18 59	27	20 01	26 56		48 23
9	315	53.7		28.6	201	05.8	+7	08.0	30	48	19 14	19 46	29 53		44 26
10	330	53.7		29.1	215	41.9	+6	54.2	20	30	18 54	22	34 48		36 31
11	345	53.7	+19	29.7	230	18.0	+6	40.5	10 N	18 14	18 37	19 03	13 39	43	1 29
12	0	53.7	+19	30.2	244	54.1	+6	26.7	0	18 00	18 22	18 47	13 44	38	1 23
13	15	53.6		30.8	259	30.2	+6	12.9	10 S	17 46	18 08	34	48 35		17 43
14	30	53.6		31.3	274	06.4	+5	59.1	20	31	17 54	21	53 30		10 47
15	45	53.6		31.9	288	42.6		45.2	30	13	39	08	13 58	25	1 02
16	60	53.6		32.4	303	18.8		31.3	35	17 03	30	18 01	14 01	22	0 57
17	75	53.6	+19	33.0	317	55.0	+5	17.4	40	16 52	17 21	17 54	14 04	19	0 52
18	90	53.5	+19	33.5	332	31.3	+5	03.5	45	16 39	17 11	17 47	14 08	16	0 45
19	105	53.5		34.1	347	07.5	+4	49.6	50	22	16 58	38	13 11		38 68
20	120	53.5		34.6	1	43.8		35.7	52	15	53	34	15 9		34 71
21	135	53.5		35.2	16	20.1		21.7	54	16 06	47	30	17 7		31 73
22	150	53.4		35.7	30	56.4	+4	07.7	56	15 57	40	26	20 4		26 76
23	165	53.4		36.3	45	32.7	+3	53.7	58	46	32	21	23 2		22 78
24	180	53.4	+19	36.8	60	09.1	+3	39.7	60 S	15 34	16 24	17 16	14 26	**	0 16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 17.9 ^m		Mag: -3.9 PMG: 11 ^h 37 ^m		Mag: +1.1 PMG: 9 ^h 07 ^m		Mag: -2.0 PMG: 12 ^h 01 ^m		Mag: +1.2 PMG: 7 ^h 36 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	235	11.1	185	49.7	+17	25.2	223	10.3	+3	48.9	179	23.2	+18	58.4	245	37.2	-6	26.7
1	250	13.6	200	49.1		26.1	238	11.0		49.7	194	25.0		58.5	260	39.5		26.7
2	265	16.0	215	48.5		26.9	253	11.8		50.4	209	26.9		58.7	275	41.8		26.6
3	280	18.5	230	47.9		27.8	268	12.5		51.2	224	28.7		58.8	290	44.1		26.6
4	295	21.0	245	47.2		28.7	283	13.2		51.9	239	30.6		59.0	305	46.4		26.5
5	310	23.4	260	46.6	+17	29.6	298	13.9	+3	52.6	254	32.4	+18	59.1	320	48.7	-6	26.5
6	325	25.9	275	46.0	+17	30.5	313	14.6	+3	53.4	269	34.3	+18	59.2	335	51.0	-6	26.4
7	340	28.4	290	45.4		31.3	328	15.3		54.1	284	36.2		59.4	350	53.3		26.3
8	355	30.8	305	44.7		32.2	343	16.0		54.9	299	38.0		59.5	5	55.6		26.3
9	10	33.3	320	44.1		33.1	358	16.7		55.6	314	39.9		59.6	20	57.9		26.2
10	25	35.7	335	43.5		33.9	13	17.4		56.4	329	41.7		59.8	36	00.2		26.2
11	40	38.2	350	42.8	+17	34.8	28	18.1	+3	57.1	344	43.6	+18	59.9	51	02.5	-6	26.1
12	55	40.7	5	42.2	+17	35.7	43	18.9	+3	57.9	359	45.4	+19	00.0	66	04.8	-6	26.0
13	70	43.1	20	41.6		36.6	58	19.6		58.6	14	47.3	+19	00.2	81	07.1		26.0
14	85	45.6	35	40.9		37.4	73	20.3	+3	59.4	29	49.2		00.3	96	09.4		25.9
15	100	48.1	50	40.3		38.3	88	21.0	+4	00.1	44	51.0		00.4	111	11.7		25.9
16	115	50.5	65	39.7		39.2	103	21.7		00.9	59	52.9		00.6	126	14.0		25.8
17	130	53.0	80	39.0	+17	40.0	118	22.4	+4	01.6	74	54.7	+19	00.7	141	16.3	-6	25.8
18	145	55.5	95	38.4	+17	40.9	133	23.1	+4	02.4	89	56.6	+19	00.8	156	18.7	-6	25.7
19	160	57.9	110	37.8		41.8	148	23.8		03.1	104	58.4		01.0	171	21.0		25.6
20	176	00.4	125	37.1		42.6	163	24.5		03.8	120	00.3		01.1	186	23.3		25.6
21	191	02.8	140	36.5		43.5	178	25.2		04.6	135	02.2		01.2	201	25.6		25.5
22	206	05.3	155	35.9		44.3	193	26.0		05.3	150	04.0		01.4	216	27.9		25.5
23	221	07.8	170	35.2		45.2	208	26.7		06.1	165	05.9		01.5	231	30.2		25.4
24	236	10.2	185	34.6	+17	46.1	223	27.4	+4	06.8	180	07.7	+19	01.6	246	32.5	-6	25.4
Dif	—		-6		+9		+7		+7		+19		+1		+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 56.5 ^m			Edad: 9.9 ^d SD: 14 ^h 8 PMG: 20 ^h 32 ^m PHE { 4 ^h : 54 ^h /2 12 ^h : 54 ^h /2 20 ^h : 54 ^h /3 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	180	53.4	+19	36.8	60	09.1	+3	39.7	60 N	** **	2 08	3 15	14 21	82	2 24	**											
1	195	53.4		37.4	74	45.4		25.7	58	0 33	31	29	21 78		22	2											
2	210	53.3		37.9	89	21.7	+3	11.7	56	1 27	2 50	41	21 76		21	4											
3	225	53.3		38.4	103	58.1	+2	57.6	54	1 56	3 05	3 52	21 73		20	6											
4	240	53.3		39.0	118	34.5		43.6	52	2 18	18	4 01	21 71		18	9											
5	255	53.2	+19	39.5	133	10.8	+2	29.5	50	2 36	3 30	4 10	14 21	69	2 17	11											
6	270	53.2	+19	40.1	147	47.2	+2	15.4	45	3 08	3 53	4 27	14 21	64	2 15	15											
7	285	53.2		40.6	162	23.6	+2	01.3	40	32	4 11	42	22 59		13	19											
8	300	53.2		41.2	177	00.0	+1	47.2	35	3 51	26	4 54	22 56		11	23											
9	315	53.1		41.7	191	36.4		33.1	30	4 07	38	5 05	22 53		10	25											
10	330	53.1		42.2	206	12.8		19.0	20	31	4 59	23	22 48		07	30											
11	345	53.1	+19	42.8	220	49.1	+1	04.8	10 N	4 50	5 16	5 38	14 22	44	2 05	34											
12	0	53.1	+19	43.3	235	25.5	+0	50.7	0	5 05	5 31	5 53	14 22	40	2 02	39											
13	15	53.0		43.8	250	01.9		36.6	10 S	19	45	6 07	23 35		2 00	43											
14	30	53.0		44.4	264	38.3		22.4	20	32	5 59	23	23 30		1 57	48											
15	45	53.0		44.9	279	14.6	+0	08.3	30	45	6 14	40	23 26		55	52											
16	60	52.9		45.5	293	51.0	-0	05.9	35	52	23	6 50	23 23		53	56											
17	75	52.9	+19	46.0	308	27.4	-0	20.0	40	5 59	6 32	7 01	14 23	20	1 51	59											
18	90	52.9	+19	46.5	323	03.7	-0	34.2	45	6 07	6 43	7 15	14 24	15	1 49	63											
19	105	52.9		47.1	337	40.0	-0	48.4	50	15	6 55	31	24 11		46	68											
20	120	52.8		47.6	352	16.4	-1	02.5	52	19	7 01	39	24 9		45	70											
21	135	52.8		48.1	6	52.7		16.7	54	23	07	48	24 7		44	72											
22	150	52.8		48.7	21	29.0		30.9	56	28	14	7 57	24 5		42	75											
23	165	52.7		49.2	36	05.3		45.0	58	32	22	8 08	25 1		40	78											
24	180	52.7	+19	49.7	50	41.5	-1	59.2	60 S	6 37	7 30	8 21	14 25	**	1 38	82											
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 8 ^h 14.0 ^m			Mag: -3.9 PMG: 11 ^h 38 ^m			Mag: +1.1 PMG: 9 ^h 06 ^m			Mag: -2.0 PMG: 11 ^h 58 ^m			Mag: +1.2 PMG: 7 ^h 33 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m											
0	236	10.2	185	34.6	+17	46.1	223	27.4	+4	06.8	180	07.7	+19	01.6	246	32.5	-6	25.4									
1	251	12.7	200	34.0		46.9	238	28.1		07.6	195	09.6		01.8	261	34.8		25.3									
2	266	15.2	215	33.3		47.8	253	28.8		08.3	210	11.4		01.9	276	37.1		25.3									
3	281	17.6	230	32.7		48.6	268	29.5		09.1	225	13.3		02.0	291	39.4		25.2									
4	296	20.1	245	32.0		49.5	283	30.2		09.8	240	15.2		02.2	306	41.7		25.1									
5	311	22.6	260	31.4	+17	50.4	298	30.9	+4	10.6	255	17.0	+19	02.3	321	44.0	-6	25.1									
6	326	25.0	275	30.8	+17	51.2	313	31.6	+4	11.3	270	18.9	+19	02.4	336	46.3	-6	25.0									
7	341	27.5	290	30.1		52.1	328	32.3		12.0	285	20.7		02.6	351	48.6		25.0									
8	356	30.0	305	29.5		52.9	343	33.1		12.8	300	22.6		02.7	6	50.9		24.9									
9	11	32.4	320	28.8		53.8	358	33.8		13.5	315	24.4		02.8	21	53.3		24.9									
10	26	34.9	335	28.2		54.6	13	34.5		14.3	330	26.3		03.0	36	55.6		24.8									
11	41	37.3	350	27.6	+17	55.5	28	35.2	+4	15.0	345	28.1	+19	03.1	51	57.9	-6	24.7									
12	56	39.8	5	26.9	+17	56.3	43	35.9	+4	15.8	0	30.0	+19	03.2	67	00.2	-6	24.7									
13	71	42.3	20	26.3		57.2	58	36.6		16.5	15	31.9		03.4	82	02.5		24.6									
14	86	44.7	35	25.6		58.0	73	37.3		17.3	30	33.7		03.5	97	04.8		24.6									
15	101	47.2	50	25.0		58.9	88	38.0		18.0	45	35.6		03.6	112	07.1		24.5									
16	116	49.7	65	24.3	+17	59.7	103	38.7		18.7	60	37.4		03.8	127	09.4		24.5									
17	131	52.1	80	23.7	+18	00.6	118	39.4	+4	19.5	75	39.3	+19	03.9	142	11.7	-6	24.4									
18	146	54.6	95	23.1	+18	01.4	133	40.2	+4	20.2	90	41.1	+19	04.0	157	14.0	-6	24.4									
19	161	57.1	110	22.4		02.3	148	40.9		21.0	105	43.0		04.2	172	16.3		24.3									
20	176	59.5	125	21.8		03.1	163	41.6		21.7	120	44.9		04.3	187	18.6		24.2									
21	192	02.0	140	21.1		04.0	178	42.3		22.5	135	46.7		04.4	202	21.0		24.2									
22	207	04.5	155	20.5		04.8	193	43.0		23.2	150	48.6		04.6	217	23.3		24.1									
23	222	06.9	170	19.8		05.6	208	43.7		23.9	165	50.4		04.7	232	25.6		24.1									
24	237	09.4	185	19.2	+18	06.5	223	44.4	+4	24.7	180	52.3	+19	04.8	247	27.9	-6	24.0									
Dif	—			-6			+9			+7			+7			+19			+1			+23			+1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.5 ^m			Edad: 10.9 ^d SD: 14'8 PMG: 21 ^h 11 ^m PHE { 4 ^h : 54'3 12 ^h : 54'4 20 ^h : 54'5 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	h m m	h m m	
0	180	52.7	+19 49.7	50	41.5	-1 59.2	142	60 N	20 42	21 51	** **	** **	15 43	85	2 23	**	
1	195	52.7		65	17.8	-2 13.4	141	58	27	26	** **	** **	39	82	24	2	
2	210	52.6		79	54.0		27.5	56	15	21 07	22 34		37	78	25	5	
3	225	52.6		94	30.2		41.7	54	20 04	20 51	22 02		34	75	26	7	
4	240	52.6		109	06.4	-2 55.8	141	52	19 54	38	21 39		32	72	27	10	
5	255	52.5	+19 52.4	123	42.6	-3 10.0	142	50	19 46	20 26	21 21		15 30	70	2 28	12	
6	270	52.5	+19 52.9	138	18.7	-3 24.1	141	45	19 27	20 02	20 47		15 25	65	2 30	16	
7	285	52.5		152	54.8		38.3	40	13	19 44	22		21	61	32	20	
8	300	52.4		167	30.9	-3 52.4	141	35	19 00	29	20 03		18	57	34	23	
9	315	52.4		182	07.0	-4 06.5	141	30	18 49	19 16	19 48		15	54	35	26	
10	330	52.4		196	43.1		20.6	20	31	18 55	23		10	49	37	31	
11	345	52.3	+19 55.5	211	19.1	-4 34.7	141	10 N	18 15	18 37	19 04		15 06	44	2 39	36	
12	0	52.3	+19 56.1	225	55.1	-4 48.8	141	0	18 00	18 22	18 48		15 02	40	2 41	40	
13	15	52.3		240	31.0	-5 02.9	141	10 S	17 45	18 08	33		14 58	36	43	44	
14	30	52.2		255	07.0		17.0	20	30	17 53	20		53	32	45	49	
15	45	52.2		269	42.8		31.0	30	12	38	07		49	26	47	54	
16	60	52.2		284	18.7		45.1	35	17 02	29	18 00		46	24	49	56	
17	75	52.1	+19 58.7	298	54.5	-5 59.1	140	40	16 50	17 20	17 53		14 43	20	2 50	60	
18	90	52.1	+19 59.2	313	30.3	-6 13.1	140	45	16 37	17 09	17 45		14 39	17	2 52	64	
19	105	52.1	+19 59.7	328	06.1		27.1	50	20	16 56	36		35	12	54	69	
20	120	52.0	+20 00.2	342	41.8		41.1	52	12	50	32		33	10	55	71	
21	135	52.0		357	17.5	-6 55.1	140	54	16 03	44	28		31	8	56	74	
22	150	52.0		11	53.1	-7 09.0	139	56	15 54	37	24		29	5	57	77	
23	165	51.9		26	28.7		23.0	58	42	29	19		26	2	2 58	80	
24	180	51.9	+20 02.3	41	04.2	-7 36.9	139	60 S	15 30	16 20	17 13		14 23	**	3 00	83	
UT	ARIES PMG 8 ^h 10.0 ^m			VENUS Mag: -3.9 PMG: 11 ^h 39 ^m			MARTE Mag: +1.1 PMG: 9 ^h 05 ^m			JÚPITER Mag: -2.0 PMG: 11 ^h 55 ^m			SATURNO Mag: +1.2 PMG: 7 ^h 29 ^m				
	hG ♈		Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	°	'	°	'	°	'	°	'						
0	237	09.4	185 19.2	+18 06.5	223 44.4	+4 24.7	180 52.3	+19 04.8	247 27.9	-6 24.0							
1	252	11.8	200 18.5		238 45.1	25.4	195 54.1	05.0	262 30.2	24.0							
2	267	14.3	215 17.9		253 45.8	26.2	210 56.0	05.1	277 32.5	23.9							
3	282	16.8	230 17.2		268 46.5	26.9	225 57.9	05.2	292 34.8	23.9							
4	297	19.2	245 16.6		283 47.3	27.7	240 59.7	05.4	307 37.1	23.8							
5	312	21.7	260 15.9	+18 10.7	298 48.0	+4 28.4	256 01.6	+19 05.5	322 39.4	-6 23.7							
6	327	24.2	275 15.3	+18 11.5	313 48.7	+4 29.1	271 03.4	+19 05.6	337 41.7	-6 23.7							
7	342	26.6	290 14.6		328 49.4	29.9	286 05.3	05.8	352 44.1	23.6							
8	357	29.1	305 14.0		343 50.1	30.6	301 07.1	05.9	7 46.4	23.6							
9	12	31.6	320 13.3		358 50.8	31.4	316 09.0	06.0	22 48.7	23.5							
10	27	34.0	335 12.7		13 51.5	32.1	331 10.8	06.2	37 51.0	23.5							
11	42	36.5	350 12.0	+18 15.7	28 52.2	+4 32.9	346 12.7	+19 06.3	52 53.3	-6 23.4							
12	57	38.9	5 11.4	+18 16.5	43 52.9	+4 33.6	1 14.6	+19 06.4	67 55.6	-6 23.4							
13	72	41.4	20 10.7		58 53.6	34.3	16 16.4	06.6	82 57.9	23.3							
14	87	43.9	35 10.1		73 54.4	35.1	31 18.3	06.7	98 00.2	23.3							
15	102	46.3	50 09.4		88 55.1	35.8	46 20.1	06.8	113 02.5	23.2							
16	117	48.8	65 08.7		103 55.8	36.6	61 22.0	07.0	128 04.9	23.1							
17	132	51.3	80 08.1	+18 20.7	118 56.5	+4 37.3	76 23.8	+19 07.1	143 07.2	-6 23.1							
18	147	53.7	95 07.4	+18 21.5	133 57.2	+4 38.0	91 25.7	+19 07.2	158 09.5	-6 23.0							
19	162	56.2	110 06.8		148 57.9	38.8	106 27.6	07.4	173 11.8	23.0							
20	177	58.7	125 06.1		163 58.6	39.5	121 29.4	07.5	188 14.1	22.9							
21	193	01.1	140 05.5		178 59.3	40.3	136 31.3	07.6	203 16.4	22.9							
22	208	03.6	155 04.8		194 00.0	41.0	151 33.1	07.8	218 18.7	22.8							
23	223	06.1	170 04.1		209 00.7	41.7	166 35.0	07.9	233 21.0	22.8							
24	238	08.5	185 03.5	+18 26.4	224 01.5	+4 42.5	181 36.8	+19 08.0	248 23.4	-6 22.7							
Dif	—		-7	+8	+7	+7	+19	+1	+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: 11.9 ^d PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'8 PMG: 21 ^h 52 ^m R°: 44 ^m																				
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico		Civil		Hora		R°				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m			
0	180	51.9	+20	02.3	41	04.2		-7	36.9		139	60 N	**	**	2	02	3	10	17	08	90	2	21	**	
1	195	51.9		02.8	55	39.7	165	-7	50.8		138	58	**	**		26	25	17	01	85		26		2	
2	210	51.8		03.3	70	15.2	165	-8	04.6		139	56	1	18	2	45	38	16	55	81		30		5	
3	225	51.8		03.9	84	50.6	164		18.5		139	54	1	50	3	01	49		49	79		33		9	
4	240	51.7		04.4	99	26.0	164		32.3		138	52	2	13		15	3	58		44	76		37		11
5	255	51.7	+20	04.9	114	01.3	163	-8	46.1		138	50	2	32	3	27	4	07	16	40	73	2	40		13
6	270	51.7	+20	05.4	128	36.5	162	-8	59.9		138	45	3	06	3	50	4	25	16	30	68	2	46		18
7	285	51.6		05.9	143	11.8	163	-9	13.6		137	40		30	4	09	40		22	64		52		22	
8	300	51.6		06.4	157	46.9	161		27.4		138	35	3	50		24	4	53		15	60	2	57		25
9	315	51.6		06.9	172	22.0	161		41.1		137	30	4	05		37	5	04	16	09	57	3	01		28
10	330	51.5		07.5	186	57.1	161	-9	54.7		136	20		30	4	58	22		15	59	52	08		33	
11	345	51.5	+20	08.0	201	32.1	160	-10	08.4		137	10 N	4	49	5	16	5	38	15	50	48	3	15		37
12	0	51.4	+20	08.5	216	07.0	159	-10	22.0		136	0	5	05	5	31	5	53	15	42	43	3	21		41
13	15	51.4		09.0	230	41.9	159		35.6		136	10 S		20	5	45	6	08		34	39		27		46
14	30	51.4		09.5	245	16.8	159	-10	49.1		135	20		33	6	00	23		25	35		34		50	
15	45	51.3		10.0	259	51.5	157	-11	02.6		135	30		46		16	41		15	30		41		56	
16	60	51.3		10.5	274	26.2	157		16.1		135	35	5	53		24	6	51		10	26		45		59
17	75	51.2	+20	11.0	289	00.9	157	-11	29.6		135	40	6	01	6	34	7	03	15	03	24	3	50		62
18	90	51.2	+20	11.5	303	35.5	156	-11	43.0		134	45	6	09	6	45	7	17	14	56	19	3	56		66
19	105	51.2		12.0	318	10.0	155	-11	56.3		133	50		18	6	58		34		47	15	4	03		71
20	120	51.1		12.5	332	44.5	155	-12	09.7		134	52		22	7	03	42		43	12		06		74	
21	135	51.1		13.0	347	18.9	154		23.0		133	54		26		10	7	51		39	9	10		76	
22	150	51.0		13.5	1	53.2	153		36.2		132	56		30		17	8	01		34	7	14		79	
23	165	51.0		14.0	16	27.4	152	-12	49.5		133	58		35		25	12		28	4		18		83	
24	180	50.9	+20	14.5	31	01.6	152	-13	02.6		131	60 S	6	41	7	34	8	25	14	22	0	4	23		87

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 8 ^h 06.1 ^m		Mag: -3.9 PMG: 11 ^h 40 ^m				Mag: +1.1 PMG: 9 ^h 03 ^m				Mag: -2.0 PMG: 11 ^h 52 ^m				Mag: +1.2 PMG: 7 ^h 25 ^m			
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	238	08.5	185	03.5	+18	26.4	224	01.5	+4	42.5	181	36.8	+19	08.0	248	23.4	-6	22.7
1	253	11.0	200	02.8		27.3	239	02.2		43.2	196	38.7		08.2	263	25.7		22.7
2	268	13.4	215	02.2		28.1	254	02.9		44.0	211	40.5		08.3	278	28.0		22.6
3	283	15.9	230	01.5		28.9	269	03.6		44.7	226	42.4		08.4	293	30.3		22.6
4	298	18.4	245	00.8		29.7	284	04.3		45.4	241	44.3		08.6	308	32.6		22.5
5	313	20.8	260	00.2	+18	30.5	299	05.0	+4	46.2	256	46.1	+19	08.7	323	34.9	-6	22.4
6	328	23.3	274	59.5	+18	31.3	314	05.7	+4	46.9	271	48.0	+19	08.8	338	37.2	-6	22.4
7	343	25.8	289	58.8		32.2	329	06.4		47.7	286	49.8		09.0	353	39.5		22.3
8	358	28.2	304	58.2		33.0	344	07.1		48.4	301	51.7		09.1	8	41.9		22.3
9	13	30.7	319	57.5		33.8	359	07.8		49.1	316	53.5		09.2	23	44.2		22.2
10	28	33.2	334	56.9		34.6	14	08.6		49.9	331	55.4		09.4	38	46.5		22.2
11	43	35.6	349	56.2	+18	35.4	29	09.3	+4	50.6	346	57.2	+19	09.5	53	48.8	-6	22.1
12	58	38.1	4	55.5	+18	36.2	44	10.0	+4	51.4	1	59.1	+19	09.6	68	51.1	-6	22.1
13	73	40.5	19	54.9		37.0	59	10.7		52.1	17	01.0		09.8	83	53.4		22.0
14	88	43.0	34	54.2		37.8	74	11.4		52.8	32	02.8		09.9	98	55.7		22.0
15	103	45.5	49	53.5		38.7	89	12.1		53.6	47	04.7		10.0	113	58.1		21.9
16	118	47.9	64	52.9		39.5	104	12.8		54.3	62	06.5		10.1	129	00.4		21.9
17	133	50.4	79	52.2	+18	40.3	119	13.5	+4	55.1	77	08.4	+19	10.3	144	02.7	-6	21.8
18	148	52.9	94	51.5	+18	41.1	134	14.2	+4	55.8	92	10.2	+19	10.4	159	05.0	-6	21.8
19	163	55.3	109	50.8		41.9	149	14.9		56.5	107	12.1		10.5	174	07.3		21.7
20	178	57.8	124	50.2		42.7	164	15.7		57.3	122	14.0		10.7	189	09.6		21.6
21	194	00.3	139	49.5		43.5	179	16.4		58.0	137	15.8		10.8	204	12.0		21.6
22	209	02.7	154	48.8		44.3	194	17.1		58.8	152	17.7		10.9	219	14.3		21.5
23	224	05.2	169	48.2		45.1	209	17.8	+4	59.5	167	19.5		11.1	234	16.6		21.5
24	239	07.7	184	47.5	+18	45.9	224	18.5	+5	00.2	182	21.4	+19	11.2	249	18.9	-6	21.4
Dif	—		-7		+8		+7		+7		+19		+1		+23		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.6 ^m				Edad: 12.9 ^d SD: 15'0 PMG: 22 ^h 36 ^m PHE { 4 ^h : 55'0 12 ^h : 55'1 20 ^h : 55'3 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	h m m	
0	180	50.9	+20	14.5	31	01.6	-13	02.6	132	60 N	20 47	21 58	** **	18 38	96	2 20	0	
1	195	50.9		15.1	45	35.8		15.8	131	58	31	32	** **	26	91	28	4	
2	210	50.9		15.6	60	09.8		28.9	130	56	18	21 11	22 43	16	86	35	8	
3	225	50.8		16.1	74	43.8		41.9	130	54	20 07	20 55	22 08	08	81	42	11	
4	240	50.8		16.6	89	17.7	-13	54.9	130	52	19 57	41	21 44	18 00	78	48	13	
5	255	50.7	+20	17.1	103	51.5	-14	07.9	130	50	19 48	20 29	21 25	17 53	76	2 53	16	
6	270	50.7	+20	17.6	118	25.3	-14	20.8	129	45	19 29	20 05	20 50	17 38	70	3 04	21	
7	285	50.6		18.1	132	59.0		33.6	128	40	14	19 46	25	26	66	14	25	
8	300	50.6		18.6	147	32.6		46.4	128	35	19 02	30	20 05	15	63	22	28	
9	315	50.6		19.0	162	06.1	-14	59.2	128	30	18 50	19 17	19 49	17 06	60	29	31	
10	330	50.5		19.5	176	39.6	-15	11.9	127	20	32	18 56	24	16 51	55	41	37	
11	345	50.5	+20	20.0	191	12.9	-15	24.6	127	10 N	18 15	18 38	19 04	16 38	50	3 52	41	
12	0	50.4	+20	20.5	205	46.2	-15	37.1	125	0	18 00	18 22	18 48	16 25	47	4 02	45	
13	15	50.4		21.0	220	19.4	-15	49.7	126	10 S	17 45	18 08	33	13	43	13	49	
14	30	50.3		21.5	234	52.6	-16	02.2	125	20	29	17 53	20	16 00	39	24	53	
15	45	50.3		22.0	249	25.6		14.6	124	30	11	37	18 06	15 45	34	37	58	
16	60	50.2		22.5	263	58.6		27.0	124	35	17 01	28	17 59	36	31	44	61	
17	75	50.2	+20	23.0	278	31.5	-16	39.3	123	40	16 49	17 18	17 52	15 27	27	4 52	65	
18	90	50.2	+20	23.5	293	04.2	-16	51.5	122	45	16 35	17 07	17 43	15 15	24	5 02	69	
19	105	50.1		24.0	307	36.9	-17	03.7	122	50	18	16 54	34	15 02	18	14	75	
20	120	50.1		24.5	322	09.6		15.8	121	52	10	48	30	14 55	16	20	77	
21	135	50.0		25.0	336	42.1		27.9	121	54	16 01	42	26	48	13	26	80	
22	150	50.0		25.5	351	14.5		39.9	120	56	15 51	34	21	41	9	33	84	
23	165	49.9		26.0	5	46.9	-17	51.8	119	58	39	26	16	32	6	41	88	
24	180	49.9	+20	26.4	20	19.2	-18	03.7	119	60 S	15 26	16 17	17 11	14 22	1	5 50	93	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG 8 ^h 02.2 ^m			Mag: -3.9 PMG: 11 ^h 41 ^m			Mag: +1.1 PMG: 9 ^h 02 ^m			Mag: -2.0 PMG: 11 ^h 49 ^m			Mag: +1.2 PMG: 7 ^h 22 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	239	07.7	184	47.5	+18	45.9	224	18.5	+5	00.2	182	21.4	+19	11.2	249	18.9	-6	21.4
1	254	10.1	199	46.8		46.7	239	19.2		01.0	197	23.2		11.3	264	21.2		21.4
2	269	12.6	214	46.2		47.5	254	19.9		01.7	212	25.1		11.5	279	23.5		21.3
3	284	15.0	229	45.5		48.3	269	20.6		02.4	227	26.9		11.6	294	25.8		21.3
4	299	17.5	244	44.8		49.1	284	21.3		03.2	242	28.8		11.7	309	28.2		21.2
5	314	20.0	259	44.1	+18	49.9	299	22.1	+5	03.9	257	30.7	+19	11.9	324	30.5	-6	21.2
6	329	22.4	274	43.5	+18	50.7	314	22.8	+5	04.7	272	32.5	+19	12.0	339	32.8	-6	21.1
7	344	24.9	289	42.8		51.5	329	23.5		05.4	287	34.4		12.1	354	35.1		21.1
8	359	27.4	304	42.1		52.3	344	24.2		06.1	302	36.2		12.3	9	37.4		21.0
9	14	29.8	319	41.4		53.1	359	24.9		06.9	317	38.1		12.4	24	39.7		21.0
10	29	32.3	334	40.8		53.9	14	25.6		07.6	332	39.9		12.5	39	42.1		20.9
11	44	34.8	349	40.1	+18	54.7	29	26.3	+5	08.3	347	41.8	+19	12.6	54	44.4	-6	20.9
12	59	37.2	4	39.4	+18	55.4	44	27.0	+5	09.1	2	43.6	+19	12.8	69	46.7	-6	20.8
13	74	39.7	19	38.7		56.2	59	27.7		09.8	17	45.5		12.9	84	49.0		20.8
14	89	42.2	34	38.0		57.0	74	28.4		10.5	32	47.4		13.0	99	51.3		20.7
15	104	44.6	49	37.4		57.8	89	29.2		11.3	47	49.2		13.2	114	53.7		20.7
16	119	47.1	64	36.7		58.6	104	29.9		12.0	62	51.1		13.3	129	56.0		20.6
17	134	49.5	79	36.0	+18	59.4	119	30.6	+5	12.8	77	52.9	+19	13.4	144	58.3	-6	20.6
18	149	52.0	94	35.3	+19	00.2	134	31.3	+5	13.5	92	54.8	+19	13.6	160	00.6	-6	20.5
19	164	54.5	109	34.6		01.0	149	32.0		14.2	107	56.6		13.7	175	02.9		20.4
20	179	56.9	124	34.0		01.7	164	32.7		15.0	122	58.5		13.8	190	05.2		20.4
21	194	59.4	139	33.3		02.5	179	33.4		15.7	138	00.3		14.0	205	07.6		20.3
22	210	01.9	154	32.6		03.3	194	34.1		16.4	153	02.2		14.1	220	09.9		20.3
23	225	04.3	169	31.9		04.1	209	34.8		17.2	168	04.1		14.2	235	12.2		20.2
24	240	06.8	184	31.2	+19	04.9	224	35.5	+5	17.9	183	05.9	+19	14.3	250	14.5	-6	20.2
Dif	—		-7		+8		+7		+7		+19		+1		+23		+	

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:11 ^h 56.7 ^m			Edad: 13.9 ^d PHE { 4 ^h : 55'4 12 ^h : 55'6 20 ^h : 55'7 PMG: 23 ^h 24 ^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
0	180	49.9	+20	26.4	20	19.2	-18	03.7	60 N	** **	1 55	3 06	20 14 102	2 20 2				
1	195	49.8		26.9	34	51.3		15.4	58	** **	2 21	21	19 57 93	32 8				
2	210	49.8		27.4	49	23.4		27.2	56	1 10	41	35	42 88	43 12				
3	225	49.7		27.9	63	55.4		38.8	54	1 45	2 58	46	29 84	2 53 15				
4	240	49.7		28.4	78	27.3	-18	50.4	52	2 09	3 12	3 56	18 80	3 01 19				
5	255	49.6	+20	28.9	92	59.1	-19	01.9	50	2 28	3 24	4 05	19 09 77	3 09 21				
6	270	49.6	+20	29.4	107	30.8	-19	13.3	45	3 03	3 48	4 24	18 48 72	3 25 26				
7	285	49.5		29.8	122	02.4		24.6	40	28	4 07	39	32 68	39 30				
8	300	49.5		30.3	136	33.9		35.9	35	3 48	23	4 52	18 65	3 50 34				
9	315	49.4		30.8	151	05.4		47.1	30	4 04	36	5 03	18 06 62	4 00 37				
10	330	49.4		31.3	165	36.7	-19	58.2	20	29	4 58	22	17 46 58	18 41				
11	345	49.3	+20	31.8	180	07.9	-20	09.2	10 N	4 49	5 15	5 38	17 28 55	4 33 45				
12	0	49.3	+20	32.3	194	39.0	-20	20.1	0	5 05	5 31	5 53	17 12 51	4 47 49				
13	15	49.2		32.7	209	10.1		31.0	10 S	20	5 46	6 08	16 56 47	5 02 52				
14	30	49.2		33.2	223	41.0		41.7	20	34	6 01	24	39 43	17 56				
15	45	49.1		33.7	238	11.8	-20	52.4	30	47	17	42	19 39	35 61				
16	60	49.1		34.2	252	42.6	-21	03.0	35	5 55	26	6 53	16 07 37	45 64				
17	75	49.0	+20	34.7	267	13.2	-21	13.5	40	6 02	6 35	7 05	15 54 34	5 57 67				
18	90	49.0	+20	35.1	281	43.7	-21	23.9	45	6 10	6 47	7 19	15 39 30	6 11 72				
19	105	48.9		35.6	296	14.2		34.2	50	20	7 00	36	20 25	29 76				
20	120	48.9		36.1	310	44.5		44.4	52	24	06	45	11 23	37 80				
21	135	48.8		36.6	325	14.7	-21	54.5	54	28	12	7 54	15 01 20	46 83				
22	150	48.8		37.0	339	44.9	-22	04.5	56	33	20	8 04	14 50 16	6 57 86				
23	165	48.7		37.5	354	14.9		14.4	58	38	28	16	38 10	7 09 91				
24	180	48.7	+20	38.0	8	44.8	-22	24.3	60 S	6 44	7 37	8 29	14 23 4	7 23 98				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 7 ^h 58.2 ^m		Mag: -3.9 PMG: 11 ^h 42 ^m		Mag: +1.1 PMG: 9 ^h 01 ^m		Mag: -2.0 PMG: 11 ^h 46 ^m		Mag: +1.2 PMG: 7 ^h 18 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	240	06.8	184	31.2	+19	04.9	224	35.5	+5	17.9								
1	255	09.3	199	30.6		05.6	239	36.3		18.6								
2	270	11.7	214	29.9		06.4	254	37.0		19.4								
3	285	14.2	229	29.2		07.2	269	37.7		20.1								
4	300	16.7	244	28.5		08.0	284	38.4		20.8								
5	315	19.1	259	27.8	+19	08.8	299	39.1	+5	21.6								
6	330	21.6	274	27.1	+19	09.5	314	39.8	+5	22.3								
7	345	24.0	289	26.4		10.3	329	40.5		23.0								
8	0	26.5	304	25.8		11.1	344	41.2		23.8								
9	15	29.0	319	25.1		11.8	359	41.9		24.5								
10	30	31.4	334	24.4		12.6	14	42.6		25.2								
11	45	33.9	349	23.7	+19	13.4	29	43.4	+5	26.0								
12	60	36.4	4	23.0	+19	14.2	44	44.1	+5	26.7								
13	75	38.8	19	22.3		14.9	59	44.8		27.4								
14	90	41.3	34	21.6		15.7	74	45.5		28.2								
15	105	43.8	49	20.9		16.5	89	46.2		28.9								
16	120	46.2	64	20.2		17.2	104	46.9		29.6								
17	135	48.7	79	19.6	+19	18.0	119	47.6	+5	30.4								
18	150	51.1	94	18.9	+19	18.8	134	48.3	+5	31.1								
19	165	53.6	109	18.2		19.5	149	49.0		31.8								
20	180	56.1	124	17.5		20.3	164	49.7		32.6								
21	195	58.5	139	16.8		21.0	179	50.5		33.3								
22	211	01.0	154	16.1		21.8	194	51.2		34.0								
23	226	03.5	169	15.4		22.6	209	51.9		34.8								
24	241	05.9	184	14.7	+19	23.3	224	52.6	+5	35.5								
Dif	—		-7		+8		+7		+7									
							+19		+1									
							+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 56.8 ^m			Edad: 14.9 ^d SD: 15 ^h 2 PMG: ** ^h *** ^m														
				PHE { 4 ^h : 55/9 12 ^h : 56/1 20 ^h : 56/3 R°: *** ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /		° /		° /		h m	h m	h m	h m m		h m m			
0	180	48.7	+20	38.0	8	44.8	109	-22	24.3	97	60 N	20 51	22 04	** **	21 56	99	2 22	5
1	195	48.6		38.5	23	14.7	109		34.0	96	58	35	21 37	** **	30 89		40	13
2	210	48.6		38.9	37	44.4	107		43.6	95	56	22	21 16	22 53	21 10	82	2 55	19
3	225	48.5		39.4	52	14.0	106	-22	53.1	95	54	10	20 59	22 14	20 53	79	3 08	23
4	240	48.5		39.9	66	43.5	105	-23	02.5	94	52	20 00	44	21 49	38 76		20	26
5	255	48.4	+20	40.3	81	12.9	104	-23	11.8	93	50	19 51	20 32	21 29	20 26	74	3 30	29
6	270	48.4	+20	40.8	95	42.2	103	-23	21.0	92	45	19 32	20 07	20 53	20 00	70	3 51	35
7	285	48.3		41.3	110	11.5	103		30.1	91	40	16	19 48	27	19 40	67	4 09	38
8	300	48.2		41.8	124	40.6	101		39.1	90	35	19 03	32	20 07	23 65		24	40
9	315	48.2		42.2	139	09.6	100		47.9	88	30	18 52	19 18	19 51	19 08	63	37	43
10	330	48.1		42.7	153	38.5	99	-23	56.7	88	20	32	18 56	25	18 44	60	4 59	47
11	345	48.1	+20	43.2	168	07.3	98	-24	05.3	86	10 N	18 16	18 38	19 05	18 23	57	5 18	50
12	0	48.0	+20	43.6	182	36.0	97	-24	13.8	85	0	18 00	18 23	18 48	18 03	55	5 36	53
13	15	48.0		44.1	197	04.6	96		22.2	84	10 S	17 45	18 08	33	17 43	53	5 54	56
14	30	47.9		44.6	211	33.1	95		30.5	83	20	29	17 52	19	17 22	51	6 13	59
15	45	47.9		45.0	226	01.5	94		38.6	81	30	10	36	18 05	16 58	47	36	62
16	60	47.8		45.5	240	29.8	93		46.6	80	35	17 00	27	17 58	44 45		6 49	65
17	75	47.7	+20	45.9	254	58.0	92	-24	54.6	80	40	16 48	17 17	17 50	16 28	43	7 04	68
18	90	47.7	+20	46.4	269	26.1	91	-25	02.3	77	45	16 33	17 06	17 42	16 09	40	7 23	71
19	105	47.6		46.9	283	54.1	90		10.0	75	50	16	16 52	32	15 45	35	45	76
20	120	47.6		47.3	298	22.0	89		17.5	75	52	16 07	46	28	34 32		7 57	78
21	135	47.5		47.8	312	49.8	88		24.9	74	54	15 58	39	24	21 29		8 09	82
22	150	47.5		48.3	327	17.6	88		32.2	73	56	48	32	19	15 06	26	23	86
23	165	47.4		48.7	341	45.2	86		39.3	71	58	36	24	14	14 48	20	8 40	92
24	180	47.3	+20	49.2	356	12.7	85	-25	46.3	70	60 S	15 22	16 14	17 08	14 27	11	9 01	101

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 54.3 ^m		Mag: -3.9 PMG: 11 ^h 44 ^m		Mag: +1.1 PMG: 9 ^h 00 ^m		Mag: -2.0 PMG: 11 ^h 43 ^m		Mag: +1.2 PMG: 7 ^h 14 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	241	05.9	184	14.7	+19	23.3	224	52.6	+5	35.5	183	50.4	+19	17.5	251	10.2	-6	19.0
1	256	08.4	199	14.0		24.1	239	53.3		36.2	198	52.3		17.6	266	12.5		18.9
2	271	10.9	214	13.3		24.8	254	54.0		37.0	213	54.1		17.7	281	14.9		18.9
3	286	13.3	229	12.6		25.6	269	54.7		37.7	228	56.0		17.9	296	17.2		18.8
4	301	15.8	244	11.9		26.4	284	55.4		38.4	243	57.9		18.0	311	19.5		18.8
5	316	18.3	259	11.2	+19	27.1	299	56.1	+5	39.2	258	59.7	+19	18.1	326	21.8	-6	18.7
6	331	20.7	274	10.5	+19	27.9	314	56.8	+5	39.9	274	01.6	+19	18.2	341	24.2	-6	18.7
7	346	23.2	289	09.8		28.6	329	57.6		40.6	289	03.4		18.4	356	26.5		18.6
8	1	25.6	304	09.1		29.4	344	58.3		41.4	304	05.3		18.5	11	28.8		18.6
9	16	28.1	319	08.4		30.1	359	59.0		42.1	319	07.1		18.6	26	31.1		18.5
10	31	30.6	334	07.7		30.9	14	59.7		42.8	334	09.0		18.8	41	33.4		18.5
11	46	33.0	349	07.0	+19	31.6	30	00.4	+5	43.6	349	10.8	+19	18.9	56	35.8	-6	18.4
12	61	35.5	4	06.3	+19	32.4	45	01.1	+5	44.3	4	12.7	+19	19.0	71	38.1	-6	18.4
13	76	38.0	19	05.6		33.1	60	01.8		45.0	19	14.6		19.1	86	40.4		18.3
14	91	40.4	34	04.9		33.9	75	02.5		45.7	34	16.4		19.3	101	42.7		18.3
15	106	42.9	49	04.2		34.6	90	03.2		46.5	49	18.3		19.4	116	45.1		18.2
16	121	45.4	64	03.5		35.3	105	03.9		47.2	64	20.1		19.5	131	47.4		18.2
17	136	47.8	79	02.8	+19	36.1	120	04.6	+5	47.9	79	22.0	+19	19.7	146	49.7	-6	18.1
18	151	50.3	94	02.1	+19	36.8	135	05.4	+5	48.7	94	23.8	+19	19.8	161	52.0	-6	18.1
19	166	52.8	109	01.4		37.6	150	06.1		49.4	109	25.7		19.9	176	54.4		18.0
20	181	55.2	124	00.7		38.3	165	06.8		50.1	124	27.5		20.0	191	56.7		18.0
21	196	57.7	139	00.0		39.1	180	07.5		50.9	139	29.4		20.2	206	59.0		18.0
22	212	00.1	153	59.3		39.8	195	08.2		51.6	154	31.3		20.3	222	01.3		17.9
23	227	02.6	168	58.6		40.5	210	08.9		52.3	169	33.1		20.4	237	03.7		17.9
24	242	05.1	183	57.9	+19	41.3	225	09.6	+5	53.0	184	35.0	+19	20.6	252	06.0	-6	17.8
Dif	—		-7		+7		+7		+7		+19		+1		+23			

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/8 PMG: 11 ^h 56.9 ^m			Edad: 15.9 ^d PHE { 4 ^h : 56/4 12 ^h : 56/6 20 ^h : 56/8 PMG: 0 ^h 16 ^m R°: 56 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	47.3	+20	49.2	356	12.7	84	-25	46.3	69	60 N	1 49	3 02	23 35	73	2 27	17	
1	195	47.3		49.6	10	40.1			53.2	69	58	2 16	18	22 59	68	2 53	28	
2	210	47.2		50.1	25	07.4	83	-25	59.9	67	56	1 00	37	32	32 67	3 14	33	
3	225	47.2		50.5	39	34.7	83	-26	06.5	66	54	1 39	2 55	43	22 12	65	31 37	
4	240	47.1		51.0	54	01.8	81		13.0	65	52	2 05	3 09	3 53	21 54	65	46 40	
5	255	47.1	+20	51.5	68	28.9	81	-26	19.3	63	50	2 24	3 21	4 03	21 40	64	3 59 42	
6	270	47.0	+20	51.9	82	55.9	80	-26	25.5	62	45	3 01	3 46	4 22	21 10	63	4 26 45	
7	285	46.9		52.4	97	22.7	78		31.5	60	40	27	4 06	37	20 47	62	4 47 47	
8	300	46.9		52.8	111	49.5	78		37.4	59	35	3 47	22	4 50	28 61		5 04 50	
9	315	46.8		53.3	126	16.2	77		43.1	57	30	4 03	35	5 02	20 11	61	20 50	
10	330	46.8		53.7	140	42.8	76		48.7	56	20	29	4 57	21	19 44	59	5 46 53	
11	345	46.7	+20	54.2	155	09.4	76	-26	54.2	55	10 N	4 49	5 15	5 38	19 20	59	6 08 55	
12	0	46.6	+20	54.6	169	35.8	74	-26	59.5	53	0	5 05	5 31	5 53	18 58	58	6 29 56	
13	15	46.6		55.1	184	02.2	74	-27	04.6	51	10 S	20	5 46	6 09	36 57		6 50 58	
14	30	46.5		55.5	198	28.4	72		09.6	50	20	34	6 01	25	18 13	56	7 12 60	
15	45	46.4		56.0	212	54.6	72		14.5	49	30	48	18	44	17 45	55	38 62	
16	60	46.4		56.4	227	20.8	72		19.2	47	35	5 56	27	6 54	29 54		7 54 63	
17	75	46.3	+20	56.9	241	46.8	70	-27	23.7	45	40	6 04	6 37	7 07	17 11	53	8 12 65	
18	90	46.3	+20	57.3	256	12.8	70	-27	28.1	44	45	6 12	6 48	7 21	16 49	51	8 34 66	
19	105	46.2		57.8	270	38.7	69		32.3	42	50	22	7 02	39	20 49		9 01 70	
20	120	46.1		58.2	285	04.5	68		36.4	41	52	26	08	47	16 06	48	15 71	
21	135	46.1		58.7	299	30.3	68		40.3	39	54	30	15	7 56	15 50	47	31 73	
22	150	46.0		59.1	313	55.9	66		44.1	38	56	35	23	8 07	32 43		9 49 76	
23	165	46.0	+20	59.6	328	21.6	67		47.7	36	58	41	31	19	15 08	40	10 12 80	
24	180	45.9	+21	00.0	342	47.1	65	-27	51.1	34	60 S	6 47	7 40	8 33	14 38	32	10 42 88	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 7 ^h 50.4 ^m		Mag: -3.9 PMG: 11 ^h 45 ^m				Mag: +1.1 PMG: 8 ^h 59 ^m				Mag: -2.0 PMG: 11 ^h 40 ^m				Mag: +1.2 PMG: 7 ^h 10 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	242	05.1	183	57.9	+19	41.3	225	09.6	+5	53.0	184	35.0	+19	20.6	252	06.0		
1	257	07.5	198	57.2		42.0	240	10.3		53.8	199	36.8		20.7	267	08.3		
2	272	10.0	213	56.5		42.7	255	11.0		54.5	214	38.7		20.8	282	10.6		
3	287	12.5	228	55.8		43.5	270	11.7		55.2	229	40.5		20.9	297	13.0		
4	302	14.9	243	55.1		44.2	285	12.5		56.0	244	42.4		21.1	312	15.3		
5	317	17.4	258	54.4	+19	44.9	300	13.2	+5	56.7	259	44.2	+19	21.2	327	17.6		
6	332	19.9	273	53.6	+19	45.7	315	13.9	+5	57.4	274	46.1	+19	21.3	342	19.9		
7	347	22.3	288	52.9		46.4	330	14.6		58.2	289	48.0		21.5	357	22.3		
8	2	24.8	303	52.2		47.1	345	15.3		58.9	304	49.8		21.6	12	24.6		
9	17	27.3	318	51.5		47.9	0	16.0	+5	59.6	319	51.7		21.7	27	26.9		
10	32	29.7	333	50.8		48.6	15	16.7	+6	00.3	334	53.5		21.8	42	29.3		
11	47	32.2	348	50.1	+19	49.3	30	17.4	+6	01.1	349	55.4	+19	22.0	57	31.6		
12	62	34.6	3	49.4	+19	50.0	45	18.1	+6	01.8	4	57.2	+19	22.1	72	33.9		
13	77	37.1	18	48.7		50.8	60	18.8		02.5	19	59.1		22.2	87	36.2		
14	92	39.6	33	48.0		51.5	75	19.6		03.2	35	00.9		22.4	102	38.6		
15	107	42.0	48	47.2		52.2	90	20.3		04.0	50	02.8		22.5	117	40.9		
16	122	44.5	63	46.5		52.9	105	21.0		04.7	65	04.7		22.6	132	43.2		
17	137	47.0	78	45.8	+19	53.7	120	21.7	+6	05.4	80	06.5	+19	22.7	147	45.5		
18	152	49.4	93	45.1	+19	54.4	135	22.4	+6	06.2	95	08.4	+19	22.9	162	47.9		
19	167	51.9	108	44.4		55.1	150	23.1		06.9	110	10.2		23.0	177	50.2		
20	182	54.4	123	43.7		55.8	165	23.8		07.6	125	12.1		23.1	192	52.5		
21	197	56.8	138	43.0		56.5	180	24.5		08.3	140	13.9		23.3	207	54.9		
22	212	59.3	153	42.2		57.3	195	25.2		09.1	155	15.8		23.4	222	57.2		
23	228	01.8	168	41.5		58.0	210	25.9		09.8	170	17.6		23.5	237	59.5		
24	243	04.2	183	40.8	+19	58.7	225	26.6	+6	10.5	185	19.5	+19	23.6	253	01.8		
Dif	—		-7		+7		+7		+7		+19		+1		+23			

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 57.0 ^m				Edad: 16.9 ^d SD: 15'5 PMG: 1 ^h 12 ^m PHE { 4 ^h : 57'0 12 ^h : 57'1 20 ^h : 57'3 R°: 58 ^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	45.9	+21	00.0	342	47.1		-27	51.1	33	60 N	20 55	22 11	** **	** **	** **	** **	** **	2 44	50		
1	195	45.8	+21	00.4	357	12.6		-27	54.4	31	58	39	21 42	** **	** **	** **	** **	** **	3 21	54		
2	210	45.8		00.9	11	38.0		-27	57.5	30	56	25	20	23 03	23 39	44			3 47	55		
3	225	45.7		01.3	26	03.4		-28	00.5	28	54	13	21 02	22 20	23 17	47			4 08	56		
4	240	45.6		01.8	40	28.7		-28	03.3	26	52	20 02	20 48	21 53	22 59	49			26	56		
5	255	45.6	+21	02.2	54	53.9		-28	05.9	24	50	19 53	20 35	21 33	22 44	50			4 41	57		
6	270	45.5	+21	02.7	69	19.1		-28	08.3	23	45	19 34	20 09	20 55	22 13	52			5 11	57		
7	285	45.4		03.1	83	44.3			10.6	23	40	18	19 49	20	21 49	53			34	58		
8	300	45.4		03.5	98	09.4			12.7	21	35	19 04	33	20 09	29	55			5 54	58		
9	315	45.3		04.0	112	34.4			14.7	20	30	18 53	19 20	19 52	21 12	56			6 10	59		
10	330	45.2		04.4	126	59.4			16.5	18	20	33	18 57	26	20 43	57			6 39	58		
11	345	45.2	+21	04.8	141	24.3		-28	18.1	16	10 N	18 16	18 39	19 06	20 19	58			7 03	59		
12	0	45.1	+21	05.3	155	49.2		-28	19.5	14	0	18 01	18 23	18 49	19 56	59			7 25	59		
13	15	45.0		05.7	170	14.1			20.8	13	10 S	17 45	18 07	33	33	60			7 48	59		
14	30	45.0		06.2	184	38.9			21.9	11	20	29	17 52	19	19 09	61			8 12	59		
15	45	44.9		06.6	199	03.7			22.8	9	30	17 10	36	18 05	18 40	62			40	59		
16	60	44.8		07.0	213	28.4			23.6	8	35	16 59	26	17 57	23	63			8 57	59		
17	75	44.8	+21	07.5	227	53.2		-28	24.2	6	40	16 46	17 16	17 49	18 04	63			9 17	58		
18	90	44.7	+21	07.9	242	17.8		-28	24.6	4	45	16 32	17 04	17 41	17 40	64			9 40	58		
19	105	44.6		08.3	256	42.5			24.8	2	50	14	16 51	31	17 09	66			10 11	57		
20	120	44.6		08.8	271	07.1			24.8	0	52	16 05	44	27	16 54	66			26	57		
21	135	44.5		09.2	285	31.7			24.7	1	54	15 56	37	22	37	66			10 44	56		
22	150	44.4		09.6	299	56.3			24.4	3	56	45	30	17	16 15	68			11 05	55		
23	165	44.4		10.0	314	20.9			24.0	4	58	33	21	11	15 48	70			11 32	54		
24	180	44.3	+21	10.5	328	45.4		-28	23.3	7	60 S	15 19	16 11	17 05	15 10	73			12 10	51		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 7 ^h 46.4 ^m				Mag: -3.9 PMG: 11 ^h 46 ^m				Mag: +1.1 PMG: 8 ^h 58 ^m				Mag: -2.0 PMG: 11 ^h 37 ^m				Mag: +1.2 PMG: 7 ^h 07 ^m					
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	243	04.2	183	40.8	+19	58.7	225	26.6	+6	10.5	185	19.5	+19	23.6	253	01.8	-6	16.7				
1	258	06.7	198	40.1	+19	59.4	240	27.4		11.2	200	21.3		23.8	268	04.2		16.6				
2	273	09.1	213	39.4	+20	00.1	255	28.1		12.0	215	23.2		23.9	283	06.5		16.6				
3	288	11.6	228	38.6		00.8	270	28.8		12.7	230	25.1		24.0	298	08.8		16.5				
4	303	14.1	243	37.9		01.5	285	29.5		13.4	245	26.9		24.1	313	11.2		16.5				
5	318	16.5	258	37.2	+20	02.3	300	30.2	+6	14.1	260	28.8	+19	24.3	328	13.5	-6	16.4				
6	333	19.0	273	36.5	+20	03.0	315	30.9	+6	14.9	275	30.6	+19	24.4	343	15.8	-6	16.4				
7	348	21.5	288	35.8		03.7	330	31.6		15.6	290	32.5		24.5	358	18.1		16.3				
8	3	23.9	303	35.0		04.4	345	32.3		16.3	305	34.3		24.7	13	20.5		16.3				
9	18	26.4	318	34.3		05.1	0	33.0		17.0	320	36.2		24.8	28	22.8		16.2				
10	33	28.9	333	33.6		05.8	15	33.7		17.8	335	38.0		24.9	43	25.1		16.2				
11	48	31.3	348	32.9	+20	06.5	30	34.4	+6	18.5	350	39.9	+19	25.0	58	27.5	-6	16.2				
12	63	33.8	3	32.2	+20	07.2	45	35.2	+6	19.2	5	41.8	+19	25.2	73	29.8	-6	16.1				
13	78	36.2	18	31.4		07.9	60	35.9		19.9	20	43.6		25.3	88	32.1		16.1				
14	93	38.7	33	30.7		08.6	75	36.6		20.7	35	45.5		25.4	103	34.5		16.0				
15	108	41.2	48	30.0		09.3	90	37.3		21.4	50	47.3		25.5	118	36.8		16.0				
16	123	43.6	63	29.3		10.0	105	38.0		22.1	65	49.2		25.7	133	39.1		15.9				
17	138	46.1	78	28.5	+20	10.7	120	38.7	+6	22.8	80	51.0	+19	25.8	148	41.5	-6	15.9				
18	153	48.6	93	27.8	+20	11.4	135	39.4	+6	23.6	95	52.9	+19	25.9	163	43.8	-6	15.8				
19	168	51.0	108	27.1		12.1	150	40.1		24.3	110	54.7		26.1	178	46.1		15.8				
20	183	53.5	123	26.4		12.8	165	40.8		25.0	125	56.6		26.2	193	48.4		15.7				
21	198	56.0	138	25.6		13.5	180	41.5		25.7	140	58.5		26.3	208	50.8		15.7				
22	213	58.4	153	24.9		14.2	195	42.2		26.5	156	00.3		26.4	223	53.1		15.6				
23	229	00.9	168	24.2		14.9	210	43.0		27.2	171	02.2		26.6	238	55.4		15.6				
24	244	03.4	183	23.4	+20	15.6	225	43.7	+6	27.9	186	04.0	+19	26.7	253	57.8	-6	15.6				
Dif	—				-7				+7				+19				+23					

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:11 ^h 57.1 ^m				Edad: 17.9 ^d PHE { 4 ^h : 57'5 12 ^h : 57'6 20 ^h : 57'8 SD: 15'6 PMG: 2 ^h 10 ^m R°: 59 ^m													
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h m	h m	h m	h m m	h m m	h m m
0	180	44.3	+21	10.5	328	45.4	56	-28	23.3	8	60 N	** **	1 43	2 58	0 48	30	3 34	93
1	195	44.2		10.9	343	10.0			22.5	10	58	** **	2 12	3 15	0 07	40	4 15	83
2	210	44.2		11.3	357	34.5	55		21.5	11	56	0 50	34	29	** **	**	4 42	79
3	225	44.1		11.8	11	59.0	55		20.4	11	54	1 33	2 51	41	** **	**	5 04	76
4	240	44.0		12.2	26	23.5	55		19.0	14	52	2 01	3 06	3 51	23 48	33	22	74
5	255	44.0	+21	12.6	40	48.0	55	-28	17.5	15	50	2 21	3 19	4 01	23 34	36	5 38	72
6	270	43.9	+21	13.0	55	12.4	54	-28	15.8	17	45	2 58	3 45	4 20	23 05	41	6 08	70
7	285	43.8		13.5	69	36.9	55		13.9	19	40	3 25	4 04	36	22 42	45	32	68
8	300	43.8		13.9	84	01.4	55		11.9	20	35	3 45	21	4 49	24 47		6 52	66
9	315	43.7		14.3	98	25.9	55		09.6	23	30	4 02	34	5 01	22 08	49	7 09	64
10	330	43.6		14.7	112	50.4	55		07.2	24	20	28	4 57	21	21 40	53	7 37	63
11	345	43.5	+21	15.1	127	14.9	55	-28	04.6	26	10 N	4 48	5 15	5 38	21 17	55	8 02	60
12	0	43.5	+21	15.6	141	39.4	55	-28	01.9	27	0	5 06	5 31	5 53	20 55	58	8 24	59
13	15	43.4		16.0	156	03.9	55	-27	59.0	29	10 S	21	5 47	6 09	33 60		8 47	57
14	30	43.3		16.4	170	28.4	55		55.8	32	20	35	6 02	26	20 10	63	9 11	55
15	45	43.3		16.8	184	53.0	56		52.6	32	30	49	19	45	19 42	66	39	53
16	60	43.2		17.2	199	17.5	55		49.1	35	35	5 57	28	6 56	26 68		9 56	51
17	75	43.1	+21	17.7	213	42.1	56	-27	45.5	36	40	6 05	6 38	7 08	19 07	70	10 15	49
18	90	43.0	+21	18.1	228	06.7	56	-27	41.7	38	45	6 14	6 50	7 23	18 44	73	10 38	47
19	105	43.0		18.5	242	31.3	56		37.7	40	50	24	7 04	41	15 77		11 08	43
20	120	42.9		18.9	256	55.9	56		33.5	42	52	28	11	50	18 00	80	23	41
21	135	42.8		19.3	271	20.6	57		29.2	43	54	33	18	7 59	17 43	83	11 40	38
22	150	42.8		19.7	285	45.3	57		24.7	47	56	38	25	8 10	17 23	87	12 00	35
23	165	42.7		20.2	300	10.0	57		20.0	47	58	43	34	22	16 58	92	12 26	29
24	180	42.6	+21	20.6	314	34.8	58	-27	15.2	48	60 S	6 49	7 44	8 37	16 23	103	13 01	19
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 7 ^h 42.5 ^m		Mag: -3.9 PMG: 11 ^h 47 ^m				Mag: +1.1 PMG: 8 ^h 57 ^m				Mag: -2.0 PMG: 11 ^h 34 ^m				Mag: +1.2 PMG: 7 ^h 03 ^m			
	hG ♀		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	244	03.4	183	23.4	+20	15.6	225	43.7	+6	27.9	186	04.0	+19	26.7	253	57.8	-6	15.6
1	259	05.8	198	22.7		16.3	240	44.4		28.6	201	05.9		26.8	269	00.1		15.5
2	274	08.3	213	22.0		17.0	255	45.1		29.4	216	07.7		26.9	284	02.4		15.5
3	289	10.7	228	21.3		17.6	270	45.8		30.1	231	09.6		27.1	299	04.8		15.4
4	304	13.2	243	20.5		18.3	285	46.5		30.8	246	11.4		27.2	314	07.1		15.4
5	319	15.7	258	19.8	+20	19.0	300	47.2	+6	31.5	261	13.3	+19	27.3	329	09.4	-6	15.3
6	334	18.1	273	19.1	+20	19.7	315	47.9	+6	32.2	276	15.2	+19	27.5	344	11.8	-6	15.3
7	349	20.6	288	18.3		20.4	330	48.6		33.0	291	17.0		27.6	359	14.1		15.2
8	4	23.1	303	17.6		21.1	345	49.3		33.7	306	18.9		27.7	14	16.4		15.2
9	19	25.5	318	16.9		21.8	0	50.0		34.4	321	20.7		27.8	29	18.8		15.1
10	34	28.0	333	16.1		22.4	15	50.8		35.1	336	22.6		28.0	44	21.1		15.1
11	49	30.5	348	15.4	+20	23.1	30	51.5	+6	35.9	351	24.4	+19	28.1	59	23.4	-6	15.1
12	64	32.9	3	14.7	+20	23.8	45	52.2	+6	36.6	6	26.3	+19	28.2	74	25.8	-6	15.0
13	79	35.4	18	13.9		24.5	60	52.9		37.3	21	28.1		28.3	89	28.1		15.0
14	94	37.9	33	13.2		25.2	75	53.6		38.0	36	30.0		28.5	104	30.4		14.9
15	109	40.3	48	12.5		25.8	90	54.3		38.7	51	31.9		28.6	119	32.8		14.9
16	124	42.8	63	11.7		26.5	105	55.0		39.5	66	33.7		28.7	134	35.1		14.8
17	139	45.2	78	11.0	+20	27.2	120	55.7	+6	40.2	81	35.6	+19	28.8	149	37.4	-6	14.8
18	154	47.7	93	10.2	+20	27.9	135	56.4	+6	40.9	96	37.4	+19	29.0	164	39.8	-6	14.7
19	169	50.2	108	09.5		28.5	150	57.1		41.6	111	39.3		29.1	179	42.1		14.7
20	184	52.6	123	08.8		29.2	165	57.8		42.3	126	41.1		29.2	194	44.4		14.7
21	199	55.1	138	08.0		29.9	180	58.6		43.1	141	43.0		29.3	209	46.8		14.6
22	214	57.6	153	07.3		30.6	195	59.3		43.8	156	44.8		29.5	224	49.1		14.6
23	230	00.0	168	06.5		31.2	211	00.0		44.5	171	46.7		29.6	239	51.5		14.5
24	245	02.5	183	05.8	+20	31.9	226	00.7	+6	45.2	186	48.5	+19	29.7	254	53.8	-6	14.5
Dif	—		-7		+7		+7		+7		+19		+1		+23		0	

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna								
	SD: 15'8 PMG: 11 ^h 57.2 ^m				Edad: 18.9 ^d SD: 15'8 PMG: 3 ^h 09 ^m PHE { 4 ^h : 57'9 12 ^h : 58'1 20 ^h : 58'2 Rº: 57 ^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	180	42.6	+21	20.6	314	34.8			-27	15.2	51	60 N	20 59	22 18	** **	1 18	10		5 07	110								
1	195	42.5		21.0	328	59.6	58			10.1	51	58	42	21 47	** **	0 47	20		5 38	99								
2	210	42.5		21.4	343	24.4	59		-27	05.0	54	56	28	24	23 16		23 26		6 01	93								
3	225	42.4		21.8	357	49.3	59		-26	59.6	55	54	16	21 06	22 26	0 04	30		20	88								
4	240	42.3		22.2	12	14.2	59			54.1	55	52	20 05	20 51	21 58	** **	** **		36	85								
5	255	42.2	+21	22.6	26	39.1	59		-26	48.4	57	50	19 55	20 38	21 36	** **	** **		6 50	82								
6	270	42.2	+21	23.0	41	04.1	60		-26	42.5	59	45	19 35	20 11	20 58	23 46	32		7 18	76								
7	285	42.1		23.5	55	29.2	61			36.5	60	40	19	19 51	31	27	36		40	72								
8	300	42.0		23.9	69	54.3	61			30.3	62	35	19 06	35	20 10	23 11	40		7 58	70								
9	315	41.9		24.3	84	19.4	61			23.9	64	30	18 54	19 21	19 53	22 57	43		8 13	68								
10	330	41.9		24.7	98	44.6	62			17.4	65	20	34	18 58	27	33	48		8 40	63								
11	345	41.8	+21	25.1	113	09.8	62		-26	10.7	67	10 N	18 17	18 40	19 06	22 12	52		9 02	60								
12	0	41.7	+21	25.5	127	35.1	63		-26	03.8	69	0	18 01	18 23	18 49	21 53	55		9 23	57								
13	15	41.6		25.9	142	00.4	63		-25	56.8	70	10 S	17 45	18 08	34	33	59		9 44	53								
14	30	41.6		26.3	156	25.8	64			49.6	72	20	28	17 52	19	21 13	63		10 06	50								
15	45	41.5		26.7	170	51.2	64			42.3	73	30	17 09	35	18 04	20 48	68		32	46								
16	60	41.4		27.1	185	16.7	65			34.8	75	35	16 58	25	17 57	34	71		10 47	43								
17	75	41.3	+21	27.5	199	42.3	66		-25	27.1	77	40	16 45	17 15	17 48	20 17	74		11 04	40								
18	90	41.3	+21	27.9	214	07.9	66		-25	19.3	78	45	16 30	17 03	17 40	19 57	79		11 25	36								
19	105	41.2		28.3	228	33.6	67			11.3	80	50	12	16 49	29	32	84		11 51	31								
20	120	41.1		28.7	242	59.3	67		-25	03.2	81	52	16 03	42	25	20	87		12 04	28								
21	135	41.0		29.1	257	25.1	68		-24	54.9	83	54	15 53	35	20	19 06	91		18	25								
22	150	40.9		29.5	271	51.0	69			46.5	84	56	43	27	15	18 50	95		35	20								
23	165	40.9		29.9	286	16.9	69			37.9	86	58	30	19	09	30	101		12 55	15								
24	180	40.8	+21	30.3	300	42.9	70		-24	29.1	88	60 S	15 15	16 09	17 03	18 06	109		13 20	6								
UT	ARIES PMG 7 ^h 38.6 ^m				VENUS Mag: -4.0 PMG: 11 ^h 48 ^m				MARTE Mag: +1.1 PMG: 8 ^h 56 ^m				JÚPITER Mag: -2.0 PMG: 11 ^h 31 ^m				SATURNO Mag: +1.2 PMG: 6 ^h 59 ^m											
	hG ♊	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec										
h	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'	º	'								
0	245	02.5	183	05.8	+20	31.9			226	00.7	+6	45.2	186	48.5	+19	29.7	254	53.8	-6	14.5								
1	260	05.0	198	05.1		32.6			241	01.4		45.9	201	50.4		29.8	269	56.1		14.4								
2	275	07.4	213	04.3		33.2			256	02.1		46.7	216	52.3		30.0	284	58.5		14.4								
3	290	09.9	228	03.6		33.9			271	02.8		47.4	231	54.1		30.1	300	00.8		14.3								
4	305	12.4	243	02.8		34.6			286	03.5		48.1	246	56.0		30.2	315	03.1		14.3								
5	320	14.8	258	02.1	+20	35.2			301	04.2	+6	48.8	261	57.8	+19	30.3	330	05.5	-6	14.3								
6	335	17.3	273	01.4	+20	35.9			316	04.9	+6	49.5	276	59.7	+19	30.5	345	07.8	-6	14.2								
7	350	19.7	288	00.6		36.6			331	05.6		50.3	292	01.5		30.6	0	10.1		14.2								
8	5	22.2	302	59.9		37.2			346	06.3		51.0	307	03.4		30.7	15	12.5		14.1								
9	20	24.7	317	59.1		37.9			1	07.1		51.7	322	05.2		30.8	30	14.8		14.1								
10	35	27.1	332	58.4		38.5			16	07.8		52.4	337	07.1		31.0	45	17.1		14.0								
11	50	29.6	347	57.6	+20	39.2			31	08.5	+6	53.1	352	09.0	+19	31.1	60	19.5	-6	14.0								
12	65	32.1	2	56.9	+20	39.9			46	09.2	+6	53.9	7	10.8	+19	31.2	75	21.8	-6	14.0								
13	80	34.5	17	56.1		40.5			61	09.9		54.6	22	12.7		31.4	90	24.2		13.9								
14	95	37.0	32	55.4		41.2			76	10.6		55.3	37	14.5		31.5	105	26.5		13.9								
15	110	39.5	47	54.7		41.8			91	11.3		56.0	52	16.4		31.6	120	28.8		13.8								
16	125	41.9	62	53.9		42.5			106	12.0		56.7	67	18.2		31.7	135	31.2		13.8								
17	140	44.4	77	53.2	+20	43.1			121	12.7	+6	57.4	82	20.1	+19	31.9	150	33.5	-6	13.7								
18	155	46.9	92	52.4	+20	43.8			136	13.4	+6	58.2	97	21.9	+19	32.0	165	35.8	-6	13.7								
19	170	49.3	107	51.7		44.4			151	14.1		58.9	112	23.8		32.1	180	38.2		13.7								
20	185	51.8	122	50.9		45.1			166	14.8	+6	59.6	127	25.7		32.2	195	40.5		13.6								
21	200	54.2	137	50.2		45.7			181	15.6	+7	00.3	142	27.5		32.4	210	42.9		13.6								
22	215	56.7	152	49.4		46.4			196	16.3		01.0	157	29.4		32.5	225	45.2		13.5								
23	230	59.2	167	48.7		47.0			211	17.0		01.7	172	31.2		32.6	240	47.5		13.5								
24	246	01.6	182	47.9	+20	47.7			226	17.7	+7	02.5	187	33.1	+19	32.7	255	49.9	-6	13.4								
Dif	—				-7				+7				+7				+19				+1				+23			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15'8 PMG:11 ^h 57.3 ^m			Edad: 19.9 ^d PHE { SD: 15'9 PMG: 4 ^h 06 ^m 4 ^h : 58'3 12 ^h : 58'5 20 ^h : 58'6 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	180	40.8	+21	30.3	300	42.9	71	-24	29.1	89	60 N	** **	1 37	2 55	1 28	3	6 57	109	
1	195	40.7		30.7	315	09.0	71		20.2	90	58	** **	2 07	3 12	1 07	10	7 17	102	
2	210	40.6		31.1	329	35.1	72		11.2	92	56	0 38	30	26	0 49	16	34	97	
3	225	40.6		31.5	344	01.3	72	-24	02.0	93	54	1 28	2 48	38	34	20	7 48	92	
4	240	40.5		31.9	358	27.6	73	-23	52.7	95	52	1 57	3 04	49	21	24	8 01	88	
5	255	40.4	+21	32.3	12	53.9	73	-23	43.2	93	50	2 18	3 17	3 59	0 10	26	8 12	85	
6	270	40.3	+21	32.7	27	20.3	74	-23	33.6	96	45	2 56	3 43	4 19	** **	** **	8 34	79	
7	285	40.2		33.1	41	46.8	75		23.8	98	40	3 23	4 03	35	** **	** **	8 52	75	
8	300	40.2		33.5	56	13.4	76		13.9	99	35	3 44	20	4 49	23 51	34	9 08	70	
9	315	40.1		33.9	70	40.0	76	-23	03.8	101	30	4 01	33	5 00	40	37	21	67	
10	330	40.0		34.3	85	06.7	77	-22	53.6	102	20	28	4 56	20	21	42	9 43	62	
11	345	39.9	+21	34.7	99	33.5	78	-22	43.3	103	10 N	4 48	5 15	5 38	23 04	47	10 02	58	
12	0	39.8	+21	35.0	114	00.3	78	-22	32.8	105	0	5 06	5 32	5 54	22 48	52	10 20	53	
13	15	39.8		35.4	128	27.2	79		22.2	106	10 S	21	5 47	6 10	32	57	37	50	
14	30	39.7		35.8	142	54.2	80		11.5	107	20	36	6 03	27	22 16	61	10 56	45	
15	45	39.6		36.2	157	21.2	80	-22	00.6	109	30	50	20	46	21 56	67	11 18	39	
16	60	39.5		36.6	171	48.4	82	-21	49.6	110	35	5 58	29	6 57	45	70	30	37	
17	75	39.4	+21	37.0	186	15.6	82	-21	38.5	111	40	6 06	6 40	7 10	21 31	75	11 44	33	
18	90	39.3	+21	37.4	200	42.9	83	-21	27.2	113	45	6 15	6 52	7 25	21 16	79	12 01	29	
19	105	39.3		37.8	215	10.2	83		15.8	114	50	26	7 06	43	20 56	86	22	23	
20	120	39.2		38.1	229	37.7	85	-21	04.3	115	52	30	13	7 52	47	89	32	20	
21	135	39.1		38.5	244	05.2	85	-20	52.6	117	54	35	20	8 02	37	92	43	16	
22	150	39.0		38.9	258	32.7	85		40.9	117	56	40	28	13	25	96	12 55	13	
23	165	38.9		39.3	273	00.4	87		29.0	119	58	46	37	26	20 11	101	13 10	8	
24	180	38.9	+21	39.7	287	28.1	87	-20	17.0	120	60 S	6 52	7 47	8 40	19 55	107	13 26	3	
UT	ARIES		VENUS			MARTE			JÚPITER				SATURNO						
	PMG: 7 ^h 34.6 ^m		Mag: -4.0 PMG: 11 ^h 49 ^m			Mag: +1.1 PMG: 8 ^h 54 ^m			Mag: -2.0 PMG: 11 ^h 28 ^m				Mag: +1.2 PMG: 6 ^h 56 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	246	01.6	182	47.9	+20	47.7	226	17.7	+7	02.5	187	33.1	+19	32.7	255	49.9	-6	13.4	
1	261	04.1	197	47.2		48.3	241	18.4		03.2	202	34.9		32.9	270	52.2		13.4	
2	276	06.6	212	46.4		49.0	256	19.1		03.9	217	36.8		33.0	285	54.6		13.4	
3	291	09.0	227	45.7		49.6	271	19.8		04.6	232	38.6		33.1	300	56.9		13.3	
4	306	11.5	242	44.9		50.2	286	20.5		05.3	247	40.5		33.2	315	59.2		13.3	
5	321	14.0	257	44.2	+20	50.9	301	21.2	+7	06.0	262	42.4	+19	33.3	331	01.6	-6	13.2	
6	336	16.4	272	43.4	+20	51.5	316	21.9	+7	06.8	277	44.2	+19	33.5	346	03.9	-6	13.2	
7	351	18.9	287	42.6		52.2	331	22.6		07.5	292	46.1		33.6	1	06.3		13.1	
8	6	21.4	302	41.9		52.8	346	23.3		08.2	307	47.9		33.7	16	08.6		13.1	
9	21	23.8	317	41.1		53.4	1	24.1		08.9	322	49.8		33.8	31	10.9		13.1	
10	36	26.3	332	40.4		54.1	16	24.8		09.6	337	51.6		34.0	46	13.3		13.0	
11	51	28.7	347	39.6	+20	54.7	31	25.5	+7	10.3	352	53.5	+19	34.1	61	15.6	-6	13.0	
12	66	31.2	2	38.9	+20	55.3	46	26.2	+7	11.0	7	55.3	+19	34.2	76	18.0	-6	12.9	
13	81	33.7	17	38.1		56.0	61	26.9		11.8	22	57.2		34.3	91	20.3		12.9	
14	96	36.1	32	37.4		56.6	76	27.6		12.5	37	59.1		34.5	106	22.6		12.9	
15	111	38.6	47	36.6		57.2	91	28.3		13.2	53	00.9		34.6	121	25.0		12.8	
16	126	41.1	62	35.8		57.9	106	29.0		13.9	68	02.8		34.7	136	27.3		12.8	
17	141	43.5	77	35.1	+20	58.5	121	29.7	+7	14.6	83	04.6	+19	34.8	151	29.7	-6	12.7	
18	156	46.0	92	34.3	+20	59.1	136	30.4	+7	15.3	98	06.5	+19	35.0	166	32.0	-6	12.7	
19	171	48.5	107	33.6	+20	59.8	151	31.1		16.0	113	08.3		35.1	181	34.3		12.6	
20	186	50.9	122	32.8	+21	00.4	166	31.8		16.8	128	10.2		35.2	196	36.7		12.6	
21	201	53.4	137	32.0		01.0	181	32.6		17.5	143	12.0		35.3	211	39.0		12.6	
22	216	55.8	152	31.3		01.6	196	33.3		18.2	158	13.9		35.5	226	41.4		12.5	
23	231	58.3	167	30.5		02.3	211	34.0		18.9	173	15.8		35.6	241	43.7		12.5	
24	247	00.8	182	29.8	+21	02.9	226	34.7	+7	19.6	188	17.6	+19	35.7	256	46.0	-6	12.4	
Dif	—		-8		+6		+7		+7		+19		+1		+23		0		

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 57.5 ^m		Edad: 20.9 ^d SD: 16'0 PMG: 5 ^h 01 ^m		PHE { 4 ^h : 58'7 12 ^h : 58'8 20 ^h : 58'9 R°: 51 ^m									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /		° /		°	h m	h m	h m	h m m	h m m	h m m	
0	180 38.9	+21 39.7	287 28.1		-20 17.0		60 N	21 03	22 24	** **	1 31	1	8 46 105	
1	195 38.8		301 55.9	88	-20 04.8	122	58	20 46	21 51	** **	17 6		8 59 100	
2	210 38.7		316 23.8	89	-19 52.6	124	56	31	28	23 32	1 05	10	9 11 95	
3	225 38.6		330 51.7	89		124	54	18	21 09	22 32	0 54	14	20 92	
4	240 38.5		345 19.8	91		125	52	20 07	20 54	22 02	45 17		29 88	
5	255 38.4	+21 41.6	359 47.9	91	-19 15.1	126	50	19 58	20 40	21 40	0 36	20	9 37 85	
6	270 38.3	+21 42.0	14 16.0	91	-19 02.4	127	45	19 37	20 13	21 01	0 18	26	9 53 79	
7	285 38.3		28 44.3	93	-18 49.6	128	40	21	19 53	20 33	0 03	31	10 07 74	
8	300 38.2		42.7 43	93		129	35	19 07	36	20 12	** **	** *	18 70	
9	315 38.1		43.1 57	94		131	30	18 55	19 22	19 55	** **	** **	28 67	
10	330 38.0		43.5 72	94	-18 10.5	131	20	35	18 59	28	** **	** **	10 45 61	
11	345 37.9	+21 43.9	86 37.9	95	-17 57.2	133	10 N	18 17	18 40	19 07	23 51	45	11 00 55	
12	0 37.8	+21 44.2	101 06.5	96	-17 43.9	133	0	18 01	18 23	18 49	23 40	50	11 13 51	
13	15 37.8		115 35.2	97		135	10 S	17 45	18 08	34	29 54		27 46	
14	30 37.7		130 03.9	97		135	20	28	17 52	19	17 60		41 41	
15	45 37.6		144 32.7	98	-17 03.2	137	30	17 08	34	18 04	23 03	66	11 57 36	
16	60 37.5		159 01.6	99	-16 49.5	137	35	16 57	25	17 56	22 55	69	12 07 32	
17	75 37.4	+21 46.1	173 30.6	100	-16 35.6	139	40	16 44	17 14	17 48	22 46	73	12 17 28	
18	90 37.3	+21 46.5	187 59.6	100	-16 21.7	139	45	16 29	17 02	17 39	22 35	78	12 30 23	
19	105 37.2		202 28.6	100	-16 07.6	141	50	10	16 47	28	22 84		45 18	
20	120 37.1		216 57.8	102	-15 53.5	141	52	16 01	41	24	16 87		52 15	
21	135 37.1		231 27.0	102		142	54	15 51	34	19	09 90		12 59 13	
22	150 37.0		245 56.2	102		144	56	40	26	13	22 01	94	13 08 9	
23	165 36.9		260 25.5	103	-15 10.5	144	58	27	17	07	21 52	98	18 5	
24	180 36.8	+21 48.7	274 54.9	104	-14 56.1	144	60 S	15 12	16 06	17 01	21 42	103	13 29 0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 ^h 30.7 ^m		Mag: -4.0 PMG: 11 ^h 51 ^m		Mag: +1.1 PMG: 8 ^h 53 ^m		Mag: -2.0 PMG: 11 ^h 25 ^m		Mag: +1.2 PMG: 6 ^h 52 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /	° /	° /	° /	° /	° /
0	247 00.8		182 29.8	+21 02.9	226 34.7	+7 19.6	188 17.6	+19 35.7	256 46.0	-6 12.4
1	262 03.2		197 29.0	03.5	241 35.4	20.3	203 19.5	35.8	271 48.4	12.4
2	277 05.7		212 28.2	04.1	256 36.1	21.0	218 21.3	36.0	286 50.7	12.4
3	292 08.2		227 27.5	04.7	271 36.8	21.8	233 23.2	36.1	301 53.1	12.3
4	307 10.6		242 26.7	05.4	286 37.5	22.5	248 25.0	36.2	316 55.4	12.3
5	322 13.1		257 25.9	+21 06.0	301 38.2	+7 23.2	263 26.9	+19 36.3	331 57.8	-6 12.2
6	337 15.6		272 25.2	+21 06.6	316 38.9	+7 23.9	278 28.7	+19 36.4	347 00.1	-6 12.2
7	352 18.0		287 24.4	07.2	331 39.6	24.6	293 30.6	36.6	2 02.4	12.2
8	7 20.5		302 23.6	07.8	346 40.3	25.3	308 32.5	36.7	17 04.8	12.1
9	22 23.0		317 22.9	08.4	1 41.0	26.0	323 34.3	36.8	32 07.1	12.1
10	37 25.4		332 22.1	09.0	16 41.7	26.7	338 36.2	36.9	47 09.5	12.0
11	52 27.9		347 21.3	+21 09.7	31 42.5	+7 27.4	353 38.0	+19 37.1	62 11.8	-6 12.0
12	67 30.3		2 20.6	+21 10.3	46 43.2	+7 28.2	8 39.9	+19 37.2	77 14.2	-6 12.0
13	82 32.8		17 19.8	10.9	61 43.9	28.9	23 41.7	37.3	92 16.5	11.9
14	97 35.3		32 19.0	11.5	76 44.6	29.6	38 43.6	37.4	107 18.9	11.9
15	112 37.7		47 18.3	12.1	91 45.3	30.3	53 45.4	37.6	122 21.2	11.8
16	127 40.2		62 17.5	12.7	106 46.0	31.0	68 47.3	37.7	137 23.5	11.8
17	142 42.7		77 16.7	+21 13.3	121 46.7	+7 31.7	83 49.2	+19 37.8	152 25.9	-6 11.8
18	157 45.1		92 16.0	+21 13.9	136 47.4	+7 32.4	98 51.0	+19 37.9	167 28.2	-6 11.7
19	172 47.6		107 15.2	14.5	151 48.1	33.1	113 52.9	38.1	182 30.6	11.7
20	187 50.1		122 14.4	15.1	166 48.8	33.8	128 54.7	38.2	197 32.9	11.6
21	202 52.5		137 13.7	15.7	181 49.5	34.6	143 56.6	38.3	212 35.3	11.6
22	217 55.0		152 12.9	16.3	196 50.2	35.3	158 58.4	38.4	227 37.6	11.6
23	232 57.5		167 12.1	16.9	211 50.9	36.0	174 00.3	38.5	242 40.0	11.5
24	247 59.9		182 11.3	+21 17.5	226 51.7	+7 36.7	189 02.1	+19 38.7	257 42.3	-6 11.5
Dif	—		-8	+6	+7	+7	+19	+1	+23	0

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 57.6 ^m				Edad: 21.9 ^d SD: 16'1 PMG: 5 ^h 52 ^m													
					PHE { 4 ^h : 59'0 12 ^h : 59'1 20 ^h : 59'2 R°: 49 ^m													
	hG ☉	Dec			hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	36.8	+21	48.7	274	54.9	-14	56.1	60 N	**	**	1	31	2	52	1	32	
1	195	36.7		49.0	289	24.4		41.5	58	**	**	2	03	3	09	23	4	
2	210	36.6		49.4	303	53.9		26.8	56	0	23	27	24	15	8	46	93	
3	225	36.5		49.8	318	23.5	-14	12.1	54	1	23	2	46	36	08	11	52	
4	240	36.4		50.1	332	53.1	-13	57.3	52	1	53	3	01	47	1	02	13	
5	255	36.4	+21	50.5	347	22.8	-13	42.4	50	2	15	3	15	3	57	0	56	
6	270	36.3	+21	50.9	1	52.5	-13	27.4	45	2	54	3	41	4	18	0	44	
7	285	36.2		51.2	16	22.3	-13	12.3	40	3	22	4	02	34	34	26	21	
8	300	36.1		51.6	30	52.1	-12	57.2	35	3	43	19	4	48	25	30	28	
9	315	36.0		51.9	45	22.1		42.0	30	4	00	33	5	00	17	34	35	
10	330	35.9		52.3	59	52.0		26.7	20		27	4	56	20	0	03	40	
11	345	35.8	+21	52.7	74	22.0	-12	11.4	10 N	4	48	5	15	5	38	**	**	
12	0	35.7	+21	53.0	88	52.1	-11	56.0	0	5	06	5	32	5	54	**	**	
13	15	35.6		53.4	103	22.2		40.5	10 S	22	5	48	6	10	**	**		
14	30	35.6		53.7	117	52.3		24.9	20	36	6	04	27	**	**	**		
15	45	35.5		54.1	132	22.5	-11	09.3	30	51	21	47	**	**	**	**		
16	60	35.4		54.5	146	52.8	-10	53.6	35	5	59	31	6	58	**	**		
17	75	35.3	+21	54.8	161	23.1	-10	37.9	40	6	08	6	41	7	11	23	59	
18	90	35.2	+21	55.2	175	53.4	-10	22.1	45	6	17	6	54	7	27	23	53	
19	105	35.1		55.5	190	23.8	-10	06.2	50	27	7	08	46	46	83	13	03	
20	120	35.0		55.9	204	54.2	-9	50.3	52	32	15	7	54	43	86	07	15	
21	135	34.9		56.2	219	24.6		34.4	54	37	22	8	04	39	89	12	9	
22	150	34.8		56.6	233	55.1		18.3	56	42	30	16	35	92	17	7		
23	165	34.7		56.9	248	25.7	-9	02.3	58	48	39	29	30	97	23	3		
24	180	34.6	+21	57.3	262	56.2	-8	46.1	60 S	6	55	7	50	8	44	23	25	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 7 ^h 26.8 ^m		Mag: -4.0 PMG: 11 ^h 52 ^m		Mag: +1.1 PMG: 8 ^h 52 ^m		Mag: -2.0 PMG: 11 ^h 22 ^m		Mag: +1.2 PMG: 6 ^h 48 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	247	59.9	182	11.3	+21	17.5	226	51.7	+7	36.7
1	263	02.4	197	10.6		18.1	241	52.4		37.4
2	278	04.8	212	09.8		18.7	256	53.1		38.1
3	293	07.3	227	09.0		19.3	271	53.8		38.8
4	308	09.8	242	08.2		19.9	286	54.5		39.5
5	323	12.2	257	07.5	+21	20.5	301	55.2	+7	40.2
6	338	14.7	272	06.7	+21	21.1	316	55.9	+7	40.9
7	353	17.2	287	05.9		21.7	331	56.6		41.6
8	8	19.6	302	05.1		22.2	346	57.3		42.4
9	23	22.1	317	04.4		22.8	1	58.0		43.1
10	38	24.6	332	03.6		23.4	16	58.7		43.8
11	53	27.0	347	02.8	+21	24.0	31	59.4	+7	44.5
12	68	29.5	2	02.0	+21	24.6	47	00.1	+7	45.2
13	83	32.0	17	01.3		25.2	62	00.8		45.9
14	98	34.4	32	00.5		25.8	77	01.5		46.6
15	113	36.9	46	59.7		26.3	92	02.3		47.3
16	128	39.3	61	58.9		26.9	107	03.0		48.0
17	143	41.8	76	58.1	+21	27.5	122	03.7	+7	48.7
18	158	44.3	91	57.4	+21	28.1	137	04.4	+7	49.4
19	173	46.7	106	56.6		28.7	152	05.1		50.1
20	188	49.2	121	55.8		29.2	167	05.8		50.8
21	203	51.7	136	55.0		29.8	182	06.5		51.5
22	218	54.1	151	54.2		30.4	197	07.2		52.3
23	233	56.6	166	53.5		31.0	212	07.9		53.0
24	248	59.1	181	52.7	+21	31.5	227	08.6	+7	53.7
Dif	—		-8		+6		+7		+7	
							+19		+1	
									+23	
										0

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /		° /		°	h m	h m	h m	h m m		h m m	
0	180 34.6	+21 57.3	262 56.2		-8 46.1		60 N	21 07	22 31	** **	1 31 0		12 13 100	
1	195 34.5		277 26.9	117		162	58	20 49	21 56	** **	27 3		16 96	
2	210 34.5	58.0	291 57.5	116	-8 13.7	162	56	34	32	** **	23 6		19 92	
3	225 34.4	58.3	306 28.2	117	-7 57.4	163	54	21	21 12	22 38	19 9		21 89	
4	240 34.3	58.7	320 58.9	117	41.1	163	52	10	20 56	22 06	15 12		24 86	
5	255 34.2	+21 59.0	335 29.6	117	-7 24.8	163	50	20 00	20 43	21 43	1 12 15		12 26 83	
6	270 34.1	+21 59.4	350 00.4	118	-7 08.3	165	45	19 39	20 15	21 03	1 06 19		12 30 78	
7	285 34.0	+21 59.7	4 31.2	118	-6 51.9	164	40	22	19 55	20 35	1 00 24		34 73	
8	300 33.9	+22 00.1	19 02.0	118	35.4	165	35	19 08	38	20 13	0 55 28		37 69	
9	315 33.8	00.4	33 32.8	118	18.9	165	30	18 56	23	19 56	51 31		40 65	
10	330 33.7	00.8	48 03.7	119	-6 02.3	166	20	36	19 00	29	43 38		45 58	
11	345 33.6	+22 01.1	62 34.6	119	-5 45.7	166	10 N	18 18	18 41	19 07	0 36 43		12 49 53	
12	0 33.5	+22 01.5	77 05.5	119	-5 29.1	166	0	18 01	18 24	18 50	0 30 48		12 53 48	
13	15 33.4	01.8	91 36.4	119	-5 12.4	167	10 S	17 45	18 08	34	23 54		12 57 42	
14	30 33.3	02.1	106 07.3	119	-4 55.7	167	20	28	17 52	19	17 58		13 01 37	
15	45 33.2	02.5	120 38.3	120	39.0	167	30	17 08	34	18 04	09 65		05 31	
16	60 33.1	02.8	135 09.3	120	22.2	168	35	16 56	24	17 56	0 04 69		08 27	
17	75 33.0	+22 03.2	149 40.3	120	-4 05.4	168	40	16 43	17 13	17 47	** ** *		13 10 24	
18	90 32.9	+22 03.5	164 11.3	120	-3 48.6	168	45	16 28	17 01	17 38	** ** *		13 14 19	
19	105 32.8	03.8	178 42.3	120	31.8	168	50	09	16 46	27	** ** *		18 14	
20	120 32.8	04.2	193 13.3	120	-3 14.9	169	52	16 00	39	22	** ** *		20 11	
21	135 32.7	04.5	207 44.4	121	-2 58.1	168	54	15 50	32	17	** ** *		21 9	
22	150 32.6	04.8	222 15.4	120	41.2	169	56	38	24	12	** ** *		24 6	
23	165 32.5	05.2	236 46.5	121	24.3	169	58	25	15	17 06	** ** *		26 3	
24	180 32.4	+22 05.5	251 17.5	120	-2 07.3	170	60 S	15 10	16 04	16 59	** ** *		13 29 **	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG		Mag: -4.0		Mag: +1.1		Mag: -2.0		Mag: +1.2					
	7h 22.9m		PMG: 11h 53m		PMG: 8h 51m		PMG: 11h 19m		PMG: 6h 44m					
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec		
h	° /	° /	° /		° /		° /		° /		° /			
0	248 59.1	181 52.7	+21 31.5		227 08.6	+7 53.7	189 46.7	+19 41.6	258 38.6	-6 10.5				
1	264 01.5	196 51.9		32.1	242 09.3	54.4	204 48.5	41.7	273 41.0	10.5				
2	279 04.0	211 51.1		32.7	257 10.0	55.1	219 50.4	41.8	288 43.3	10.5				
3	294 06.4	226 50.3		33.2	272 10.7	55.8	234 52.3	42.0	303 45.7	10.4				
4	309 08.9	241 49.5		33.8	287 11.4	56.5	249 54.1	42.1	318 48.0	10.4				
5	324 11.4	256 48.8	+21 34.4		302 12.1	+7 57.2	264 56.0	+19 42.2	333 50.4	-6 10.4				
6	339 13.8	271 48.0	+21 34.9		317 12.9	+7 57.9	279 57.8	+19 42.3	348 52.7	-6 10.3				
7	354 16.3	286 47.2		35.5	332 13.6	58.6	294 59.7	42.4	3 55.1	10.3				
8	9 18.8	301 46.4		36.1	347 14.3	+7 59.3	310 01.5	42.6	18 57.4	10.2				
9	24 21.2	316 45.6		36.6	2 15.0	+8 00.0	325 03.4	42.7	33 59.8	10.2				
10	39 23.7	331 44.8		37.2	17 15.7	+8 00.7	340 05.2	42.8	49 02.1	10.2				
11	54 26.2	346 44.0	+21 37.8		32 16.4	+8 01.4	355 07.1	+19 42.9	64 04.5	-6 10.1				
12	69 28.6	1 43.2	+21 38.3		47 17.1	+8 02.1	10 09.0	+19 43.1	79 06.8	-6 10.1				
13	84 31.1	16 42.5		38.9	62 17.8	02.8	25 10.8	43.2	94 09.2	10.1				
14	99 33.6	31 41.7		39.4	77 18.5	03.5	40 12.7	43.3	109 11.5	10.0				
15	114 36.0	46 40.9		40.0	92 19.2	04.2	55 14.5	43.4	124 13.9	10.0				
16	129 38.5	61 40.1		40.6	107 19.9	04.9	70 16.4	43.5	139 16.2	09.9				
17	144 40.9	76 39.3	+21 41.1		122 20.6	+8 05.6	85 18.2	+19 43.7	154 18.6	-6 09.9				
18	159 43.4	91 38.5	+21 41.7		137 21.3	+8 06.3	100 20.1	+19 43.8	169 20.9	-6 09.9				
19	174 45.9	106 37.7		42.2	152 22.0	07.0	115 22.0	43.9	184 23.3	09.8				
20	189 48.3	121 36.9		42.8	167 22.7	07.7	130 23.8	44.0	199 25.6	09.8				
21	204 50.8	136 36.1		43.3	182 23.4	08.4	145 25.7	44.1	214 28.0	09.8				
22	219 53.3	151 35.3		43.9	197 24.2	09.1	160 27.5	44.3	229 30.3	09.7				
23	234 55.7	166 34.6		44.4	212 24.9	09.8	175 29.4	44.4	244 32.7	09.7				
24	249 58.2	181 33.8	+21 45.0		227 25.6	+8 10.6	190 31.2	+19 44.5	259 35.1	-6 09.7				
Dif	—	-8	+6		+7	+7	+19	+1	+24	0				

UT	SOL			☾ LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15 ^h 8 PMG:11 ^h 57.9 ^m			Edad: 23.9 ^d SD: 16 ^h 2 PMG: 7 ^h 29 ^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	
0	180	32.4	+22 05.5	251	17.5	-2 07.3	169	60 N	** **	1 25	2 49	1 31 **	13 53 101	
1	195	32.3	05.9	265	48.6	-1 50.4	170	58	** **	1 59	3 07	30 3	52 97	
2	210	32.2	06.2	280	19.6	33.4	169	56	** **	2 24	22	29 6	51 93	
3	225	32.1	06.5	294	50.7	-1 16.5	169	54	1 17	43	34	28 9	50 90	
4	240	32.0	06.9	309	21.8	-0 59.5	170	52	1 49	2 59	46	27 12	50 87	
5	255	31.9	+22 07.2	323	52.8	-0 42.5	170	50	2 12	3 13	3 56	1 27 14	13 49 84	
6	270	31.8	+22 07.5	338	23.9	-0 25.5	170	45	2 52	3 40	4 16	1 25 20	13 48 78	
7	285	31.7	07.8	352	54.9	-0 08.5	170	40	3 21	4 01	33	24 24	47 73	
8	300	31.6	08.2	7	26.0	+0 08.5	170	35	3 42	18	47	23 28	46 69	
9	315	31.5	08.5	21	57.0	25.5	170	30	4 00	32	4 59	22 32	45 65	
10	330	31.4	08.8	36	28.0	42.5	170	20	27	4 56	5 20	21 37	43 59	
11	345	31.3	+22 09.2	50	59.1	+0 59.5	170	10 N	4 48	5 15	5 38	1 19 43	13 42 54	
12	0	31.2	+22 09.5	65	30.1	+1 16.5	170	0	5 06	5 32	5 54	1 18 48	13 41 48	
13	15	31.1	09.8	80	01.1	33.5	170	10 S	22	5 48	6 11	17 53	39 44	
14	30	31.0	10.1	94	32.0	+1 50.5	170	20	37	6 04	28	15 59	38 38	
15	45	30.9	10.5	109	03.0	+2 07.5	170	30	5 52	22	48	14 65	36 32	
16	60	30.8	10.8	123	34.0	24.5	170	35	6 00	32	6 59	13 69	35 29	
17	75	30.7	+22 11.1	138	04.9	+2 41.5	170	40	6 09	6 43	7 13	1 12 73	13 34 25	
18	90	30.6	+22 11.4	152	35.8	+2 58.4	169	45	6 18	6 55	7 28	1 11 78	13 33 20	
19	105	30.5	11.8	167	06.7	+3 15.4	169	50	29	7 10	48	09 84	32 14	
20	120	30.4	12.1	181	37.5	32.3	169	52	34	17	7 57	09 86	31 12	
21	135	30.3	12.4	196	08.4	+3 49.2	169	54	39	24	8 07	08 89	30 10	
22	150	30.2	12.7	210	39.2	+4 06.2	170	56	44	33	18	07 93	30 6	
23	165	30.1	13.0	225	10.0	23.0	168	58	50	42	32	07 96	29 3	
24	180	30.0	+22 13.4	239	40.8	+4 39.9	169	60 S	6 57	7 52	8 47	1 06 100	13 28 **	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 7 ^h 18.9 ^m		Mag: -4.0 PMG: 11 ^h 54 ^m		Mag: +1.1 PMG: 8 ^h 50 ^m		Mag: -2.0 PMG: 11 ^h 17 ^m		Mag: +1.2 PMG: 6 ^h 41 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	249	58.2	181 33.8	+21 45.0	227 25.6	+8 10.6	190 31.2	+19 44.5	259 35.1	-6 09.7
1	265	00.7	196 33.0	45.5	242 26.3	11.3	205 33.1	44.6	274 37.4	09.6
2	280	03.1	211 32.2	46.1	257 27.0	12.0	220 34.9	44.7	289 39.8	09.6
3	295	05.6	226 31.4	46.6	272 27.7	12.7	235 36.8	44.9	304 42.1	09.5
4	310	08.0	241 30.6	47.1	287 28.4	13.4	250 38.7	45.0	319 44.5	09.5
5	325	10.5	256 29.8	+21 47.7	302 29.1	+8 14.1	265 40.5	+19 45.1	334 46.8	-6 09.5
6	340	13.0	271 29.0	+21 48.2	317 29.8	+8 14.8	280 42.4	+19 45.2	349 49.2	-6 09.4
7	355	15.4	286 28.2	48.8	332 30.5	15.5	295 44.2	45.3	4 51.5	09.4
8	10	17.9	301 27.4	49.3	347 31.2	16.2	310 46.1	45.5	19 53.9	09.4
9	25	20.4	316 26.6	49.8	2 31.9	16.9	325 47.9	45.6	34 56.2	09.3
10	40	22.8	331 25.8	50.4	17 32.6	17.6	340 49.8	45.7	49 58.6	09.3
11	55	25.3	346 25.0	+21 50.9	32 33.3	+8 18.3	355 51.7	+19 45.8	65 00.9	-6 09.3
12	70	27.8	1 24.2	+21 51.5	47 34.0	+8 19.0	10 53.5	+19 45.9	80 03.3	-6 09.2
13	85	30.2	16 23.4	52.0	62 34.7	19.7	25 55.4	46.1	95 05.6	09.2
14	100	32.7	31 22.6	52.5	77 35.4	20.4	40 57.2	46.2	110 08.0	09.1
15	115	35.2	46 21.8	53.1	92 36.2	21.1	55 59.1	46.3	125 10.4	09.1
16	130	37.6	61 21.0	53.6	107 36.9	21.8	71 00.9	46.4	140 12.7	09.1
17	145	40.1	76 20.2	+21 54.1	122 37.6	+8 22.5	86 02.8	+19 46.5	155 15.1	-6 09.0
18	160	42.5	91 19.4	+21 54.6	137 38.3	+8 23.2	101 04.7	+19 46.7	170 17.4	-6 09.0
19	175	45.0	106 18.6	55.2	152 39.0	23.9	116 06.5	46.8	185 19.8	09.0
20	190	47.5	121 17.8	55.7	167 39.7	24.6	131 08.4	46.9	200 22.1	08.9
21	205	49.9	136 17.0	56.2	182 40.4	25.2	146 10.2	47.0	215 24.5	08.9
22	220	52.4	151 16.2	56.7	197 41.1	25.9	161 12.1	47.1	230 26.8	08.9
23	235	54.9	166 15.4	57.3	212 41.8	26.6	176 13.9	47.3	245 29.2	08.8
24	250	57.3	181 14.6	+21 57.8	227 42.5	+8 27.3	191 15.8	+19 47.4	260 31.6	-6 08.8
Dif	—		-8	+5	+7	+7	+19	+1	+24	0

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15 ^h 8 PMG: 11 ^h 58.1 ^m				Edad: 24.9 ^d SD: 16 ^h 2 PMG: 8 ^h 18 ^m PHE { 4 ^h : 59 ^h 6 12 ^h : 59 ^h 6 20 ^h : 59 ^h 5 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	180	30.0	+22	13.4	239	40.8	+4	39.9	60 N	21	10	22	37	** **	1	30	0	15	34	105	
1	195	29.9		13.7	254	11.5	+4	56.7	58	20	52	22	00	** **		33	3		29	100	
2	210	29.8		14.0	268	42.2	+5	13.6	56		36	21	35	** **		35	7		24	96	
3	225	29.7		14.3	283	12.9		30.4	54	23	21	22	44	** **		37	10		20	92	
4	240	29.6		14.6	297	43.5	+5	47.1	52		12	20	59	22	10		39	13		17	88
5	255	29.5	+22	15.0	312	14.1	+6	03.9	50	20	02	20	45	21	46	1	41	15	15	13	86
6	270	29.4	+22	15.3	326	44.7	+6	20.6	45	19	41	20	17	21	05	1	45	21	15	06	80
7	285	29.3		15.6	341	15.2		37.3	40		24	19	56	20	37		48	26	15	00	75
8	300	29.2		15.9	355	45.7	+6	53.9	35	19	10	39	20	15	51	30		14	55	70	
9	315	29.1		16.2	10	16.1	+7	10.5	30	18	57	24	19	57	54	33		50	67		
10	330	29.0		16.5	24	46.6		27.1	20		36	19	01	30	1	58	39		42	61	
11	345	28.9	+22	16.8	39	16.9	+7	43.6	10 N	18	18	18	41	19	08	2	02	45	14	36	55
12	0	28.8	+22	17.1	53	47.3	+8	00.1	0	18	02	18	24	18	50	2	06	49	14	29	51
13	15	28.7		17.5	68	17.5		16.6	10 S	17	45	18	08		34		10	54		23	45
14	30	28.6		17.8	82	47.8		33.0	20		28	17	51		19		14	60		16	40
15	45	28.5		18.1	97	18.0	+8	49.4	30	17	08		34	18	03		19	66		08	35
16	60	28.4		18.4	111	48.1	+9	05.7	35	16	56		24	17	55		22	70	14	04	31
17	75	28.2	+22	18.7	126	18.2	+9	22.0	40	16	43	17	13	17	46	2	25	74	13	59	27
18	90	28.1	+22	19.0	140	48.2	+9	38.2	45	16	27	17	00	17	37	2	29	79	13	53	22
19	105	28.0		19.3	155	18.2	+9	54.3	50	16	07	16	45		26	33	85		46	17	
20	120	27.9		19.6	169	48.2	+10	10.5	52	15	58		38	21	35	88		43	14		
21	135	27.8		19.9	184	18.0		26.5	54		48		31	16	37	91		40	11		
22	150	27.7		20.2	198	47.9		42.5	56		36		22	10	40	94		36	8		
23	165	27.6		20.5	213	17.7	+10	58.5	58		23	13	17	04	43	98		32	4		
24	180	27.5	+22	20.8	227	47.4	+11	14.4	60 S	15	07	16	02	16	58	2	46	103	13	27	0

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 7 ^h 15.0 ^m		Mag: -4.0 PMG: 11 ^h 56 ^m				Mag: +1.1 PMG: 8 ^h 49 ^m				Mag: -2.0 PMG: 11 ^h 14 ^m				Mag: +1.2 PMG: 6 ^h 37 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	250	57.3	181	14.6	+21	57.8	227	42.5	+8	27.3	191	15.8	+19	47.4	260	31.6	-6	08.8
1	265	59.8	196	13.8		58.3	242	43.2		28.0	206	17.6		47.5	275	33.9		08.8
2	281	02.3	211	13.0		58.8	257	43.9		28.7	221	19.5		47.6	290	36.3		08.7
3	296	04.7	226	12.2		59.3	272	44.6		29.4	236	21.4		47.7	305	38.6		08.7
4	311	07.2	241	11.4	+21	59.9	287	45.3		30.1	251	23.2		47.9	320	41.0		08.7
5	326	09.7	256	10.6	+22	00.4	302	46.0	+8	30.8	266	25.1	+19	48.0	335	43.3	-6	08.6
6	341	12.1	271	09.8	+22	00.9	317	46.7	+8	31.5	281	26.9	+19	48.1	350	45.7	-6	08.6
7	356	14.6	286	09.0		01.4	332	47.4		32.2	296	28.8		48.2	5	48.1		08.6
8	11	17.0	301	08.2		01.9	347	48.1		32.9	311	30.6		48.3	20	50.4		08.5
9	26	19.5	316	07.4		02.4	2	48.9		33.6	326	32.5		48.5	35	52.8		08.5
10	41	22.0	331	06.6		03.0	17	49.6		34.3	341	34.4		48.6	50	55.1		08.4
11	56	24.4	346	05.8	+22	03.5	32	50.3	+8	35.0	356	36.2	+19	48.7	65	57.5	-6	08.4
12	71	26.9	1	05.0	+22	04.0	47	51.0	+8	35.7	11	38.1	+19	48.8	80	59.8	-6	08.4
13	86	29.4	16	04.1		04.5	62	51.7		36.4	26	39.9		48.9	96	02.2		08.3
14	101	31.8	31	03.3		05.0	77	52.4		37.1	41	41.8		49.1	111	04.6		08.3
15	116	34.3	46	02.5		05.5	92	53.1		37.8	56	43.6		49.2	126	06.9		08.3
16	131	36.8	61	01.7		06.0	107	53.8		38.5	71	45.5		49.3	141	09.3		08.2
17	146	39.2	76	00.9	+22	06.5	122	54.5	+8	39.2	86	47.4	+19	49.4	156	11.6	-6	08.2
18	161	41.7	91	00.1	+22	07.0	137	55.2	+8	39.9	101	49.2	+19	49.5	171	14.0	-6	08.2
19	176	44.1	105	59.3		07.5	152	55.9		40.6	116	51.1		49.7	186	16.3		08.1
20	191	46.6	120	58.5		08.0	167	56.6		41.3	131	52.9		49.8	201	18.7		08.1
21	206	49.1	135	57.7		08.5	182	57.3		42.0	146	54.8		49.9	216	21.1		08.1
22	221	51.5	150	56.9		09.0	197	58.0		42.7	161	56.6		50.0	231	23.4		08.0
23	236	54.0	165	56.0		09.5	212	58.7		43.3	176	58.5		50.1	246	25.8		08.0
24	251	56.5	180	55.2	+22	10.0	227	59.4	+8	44.0	192	00.4	+19	50.2	261	28.1	-6	08.0
Dif	—		-8		+5		+7		+7		+19		+1		+24			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15'8 PMG:11 ^h 58.3 ^m				Edad: 25.9 ^d PHE { 4 ^h : 59'5 12 ^h : 59'5 20 ^h : 59'4 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	180	27.5	+22	20.8	227	47.4	+11	14.4	158	58	60 N	** **	1 19	2 46	1 30	0	17 19	110		
1	195	27.4		21.1	242	17.0		30.2	158	58		** **	1 56	3 04	36	5		09	103	
2	210	27.3		21.4	256	46.6	+11	46.0	157	56		** **	2 21	20	42	9	17 00	98		
3	225	27.2		21.7	271	16.2	+12	01.7	156	54		1 12	41	33	47	13	16 52	94		
4	240	27.1		22.0	285	45.6		17.3	156	52		1 46	2 57	44	52	16	45	91		
5	255	27.0	+22	22.3	300	15.1	+12	32.9	156	50		2 10	3 11	3 54	1 56	19	16 39	88		
6	270	26.9	+22	22.6	314	44.4	+12	48.4	155	45		2 51	3 39	4 15	2 06	24	16 26	81		
7	285	26.8		22.9	329	13.7	+13	03.8	154	40		3 19	4 00	32	14	29	15	76		
8	300	26.7		23.2	343	42.9		19.2	154	35		41	17	47	21	32	16 05	73		
9	315	26.6		23.5	358	12.1		34.5	153	30		3 59	32	4 59	27	36	15 57	69		
10	330	26.5		23.8	12	41.2	+13	49.7	152	20		4 27	4 56	5 20	37	42	43	63		
11	345	26.4	+22	24.1	27	10.2	+14	04.8	151	10 N		4 48	5 15	5 38	2 47	47	15 31	58		
12	0	26.2	+22	24.4	41	39.2	+14	19.9	151	0		5 06	5 32	5 55	2 55	52	15 20	53		
13	15	26.1		24.7	56	08.0		34.8	149	10 S		22	5 49	6 11	3 04	57	15 08	49		
14	30	26.0		25.0	70	36.9	+14	49.7	149	20		38	6 05	29	14	62	14 56	44		
15	45	25.9		25.3	85	05.6	+15	04.5	148	30		5 53	23	6 49	25	68	43	38		
16	60	25.8		25.6	99	34.3		19.2	147	35		6 01	33	7 01	32	71	35	35		
17	75	25.7	+22	25.9	114	02.9	+15	33.9	147	40		6 10	6 44	7 14	3 39	76	14 26	31		
18	90	25.6	+22	26.2	128	31.4	+15	48.4	145	45		6 20	6 57	7 30	3 48	80	14 15	27		
19	105	25.5		26.5	142	59.9	+16	02.9	145	50		31	7 12	49	3 58	87	14 03	21		
20	120	25.4		26.7	157	28.2		17.2	143	52		35	19	7 59	4 03	90	13 57	18		
21	135	25.3		27.0	171	56.6		31.5	143	54		41	26	8 09	08	94	51	14		
22	150	25.2		27.3	186	24.8		45.6	141	56		46	35	21	14	98	44	11		
23	165	25.1		27.6	200	52.9	+16	59.7	141	58		53	44	34	21	102	36	6		
24	180	25.0	+22	27.9	215	21.0	+17	13.6	139	60 S		6 59	7 55	8 50	4 29	108	13 27	1		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 7 ^h 11.1 ^m		Mag: -4.0 PMG: 11 ^h 57 ^m		Mag: +1.0 PMG: 8 ^h 48 ^m		Mag: -2.0 PMG: 11 ^h 11 ^m		Mag: +1.2 PMG: 6 ^h 33 ^m											
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄											
h	°	'	°	'	°	'	°	'	°	'										
0	251	56.5	180	55.2	+22	10.0	227	59.4	+8	44.0										
1	266	58.9	195	54.4		10.5	243	00.1		44.7										
2	282	01.4	210	53.6		11.0	258	00.8		45.4										
3	297	03.9	225	52.8		11.5	273	01.5		46.1										
4	312	06.3	240	52.0		12.0	288	02.2		46.8										
5	327	08.8	255	51.2	+22	12.5	303	02.9	+8	47.5										
6	342	11.3	270	50.4	+22	12.9	318	03.7	+8	48.2										
7	357	13.7	285	49.5		13.4	333	04.4		48.9										
8	12	16.2	300	48.7		13.9	348	05.1		49.6										
9	27	18.6	315	47.9		14.4	3	05.8		50.3										
10	42	21.1	330	47.1		14.9	18	06.5		51.0										
11	57	23.6	345	46.3	+22	15.4	33	07.2	+8	51.7										
12	72	26.0	0	45.5	+22	15.9	48	07.9	+8	52.4										
13	87	28.5	15	44.7		16.3	63	08.6		53.0										
14	102	31.0	30	43.8		16.8	78	09.3		53.7										
15	117	33.4	45	43.0		17.3	93	10.0		54.4										
16	132	35.9	60	42.2		17.8	108	10.7		55.1										
17	147	38.4	75	41.4	+22	18.3	123	11.4	+8	55.8										
18	162	40.8	90	40.6	+22	18.7	138	12.1	+8	56.5										
19	177	43.3	105	39.8		19.2	153	12.8		57.2										
20	192	45.8	120	38.9		19.7	168	13.5		57.9										
21	207	48.2	135	38.1		20.1	183	14.2		58.6										
22	222	50.7	150	37.3		20.6	198	14.9		59.3										
23	237	53.1	165	36.5		21.1	213	15.6	+8	59.9										
24	252	55.6	180	35.7	+22	21.6	228	16.3	+9	00.6										
Dif	—		-8		+5		+7		+7											

UT	SOL		● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna				
	SD: 15'8 PMG: 11 ^h 58.4 ^m		Edad: 26.9 ^d PHE { 4 ^h : 59'3 12 ^h : 59'2 20 ^h : 59'1 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	180	25.0	+22	27.9	215	21.0	90	+17	13.6	60 N	21 13	22 43	** **		1 30	3	19 09	112		
1	195	24.8		28.2	229	49.0			27.5	58	20 54	22 04	** **		41	9	18 52	104		
2	210	24.7		28.5	244	17.0	90		41.3	56	39	21 38	** **		1 51	14	38	98		
3	225	24.6		28.7	258	44.8	88	+17	54.9	54	26	18	22 50		2 00	17	26	93		
4	240	24.5		29.0	273	12.6	88	+18	08.5	52	14	21 01	22 14		08	21	16	89		
5	255	24.4	+22	29.3	287	40.3	87	+18	21.9	50	20 04	20 47	21 49		2 15	24	18 07	85		
6	270	24.3	+22	29.6	302	07.9	86	+18	35.2	45	19 42	20 19	21 07		2 30	30	17 47	80		
7	285	24.2		29.9	316	35.4	85	+18	48.4	40	25	19 58	20 38		43	34	31	76		
8	300	24.1		30.2	331	02.9	85	+19	01.5	35	19 11	40	20 16		2 53	38	18	72		
9	315	24.0		30.4	345	30.3	84		14.5	30	18 58	25	19 58		3 03	41	17 06	69		
10	330	23.9		30.7	359	57.6	83		27.4	20	37	19 02	30		19	47	16 46	65		
11	345	23.7	+22	31.0	14	24.8	82	+19	40.1	10 N	18 19	18 42	19 09		3 34	51	16 29	61		
12	0	23.6	+22	31.3	28	51.9	81	+19	52.8	0	18 02	18 24	18 51		3 47	56	16 13	57		
13	15	23.5		31.6	43	19.0	81	+20	05.3	10 S	17 45	18 08	34		4 01	60	15 57	53		
14	30	23.4		31.8	57	46.0	80		17.7	20	28	17 51	19		16	64	40	49		
15	45	23.3		32.1	72	12.9	79		29.9	30	17 07	33	18 03		33	69	21	44		
16	60	23.2		32.4	86	39.7	78		42.0	35	16 55	23	17 55		43	73	15 10	41		
17	75	23.1	+22	32.7	101	06.4	77	+20	54.1	40	16 42	17 12	17 46		4 55	76	14 57	38		
18	90	23.0	+22	32.9	115	33.1	77	+21	05.9	45	16 26	16 59	17 36		5 08	81	14 42	33		
19	105	22.9		33.2	129	59.7	76		17.7	50	16 06	44	25		25	87	24	27		
20	120	22.7		33.5	144	26.2	75		29.3	52	15 57	37	20		33	91	15	25		
21	135	22.6		33.8	158	52.6	74		40.8	54	47	29	15		42	94	14 05	21		
22	150	22.5		34.0	173	19.0	74	+21	52.1	56	35	21	09		5 52	99	13 55	16		
23	165	22.4		34.3	187	45.2	72	+22	03.3	58	21	11	17 03		6 03	105	42	11		
24	180	22.3	+22	34.6	202	11.4	72	+22	14.4	60 S	15 05	16 00	16 56		6 17	112	13 28	4		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG 7 ^h 07.1 ^m		Mag: -4.0 PMG: 11 ^h 58 ^m				Mag: +1.0 PMG: 8 ^h 46 ^m				Mag: -2.0 PMG: 11 ^h 08 ^m				Mag: +1.2 PMG: 6 ^h 29 ^m					
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	252	55.6	180	35.7	+22	21.6	228	16.3	+9	00.6	192	44.9	+19	53.1	262	24.8	-6	07.2		
1	267	58.1	195	34.8		22.0	243	17.0		01.3	207	46.8		53.2	277	27.2		07.2		
2	283	00.5	210	34.0		22.5	258	17.7		02.0	222	48.6		53.3	292	29.5		07.1		
3	298	03.0	225	33.2		23.0	273	18.4		02.7	237	50.5		53.4	307	31.9		07.1		
4	313	05.5	240	32.4		23.4	288	19.1		03.4	252	52.4		53.5	322	34.3		07.1		
5	328	07.9	255	31.6	+22	23.9	303	19.9	+9	04.1	267	54.2	+19	53.7	337	36.6	-6	07.0		
6	343	10.4	270	30.7	+22	24.3	318	20.6	+9	04.8	282	56.1	+19	53.8	352	39.0	-6	07.0		
7	358	12.9	285	29.9		24.8	333	21.3		05.5	297	57.9		53.9	7	41.4		07.0		
8	13	15.3	300	29.1		25.2	348	22.0		06.1	312	59.8		54.0	22	43.7		06.9		
9	28	17.8	315	28.3		25.7	3	22.7		06.8	328	01.6		54.1	37	46.1		06.9		
10	43	20.2	330	27.4		26.1	18	23.4		07.5	343	03.5		54.2	52	48.5		06.9		
11	58	22.7	345	26.6	+22	26.6	33	24.1	+9	08.2	358	05.4	+19	54.4	67	50.8	-6	06.8		
12	73	25.2	0	25.8	+22	27.0	48	24.8	+9	08.9	13	07.2	+19	54.5	82	53.2	-6	06.8		
13	88	27.6	15	24.9		27.5	63	25.5		09.6	28	09.1		54.6	97	55.5		06.8		
14	103	30.1	30	24.1		28.0	78	26.2		10.3	43	10.9		54.7	112	57.9		06.7		
15	118	32.6	45	23.3		28.4	93	26.9		11.0	58	12.8		54.8	128	00.3		06.7		
16	133	35.0	60	22.4		28.9	108	27.6		11.6	73	14.7		54.9	143	02.6		06.7		
17	148	37.5	75	21.6	+22	29.3	123	28.3	+9	12.3	88	16.5	+19	55.1	158	05.0	-6	06.7		
18	163	40.0	90	20.7	+22	29.8	138	29.0	+9	13.0	103	18.4	+19	55.2	173	07.4	-6	06.6		
19	178	42.4	105	19.9		30.2	153	29.7		13.7	118	20.2		55.3	188	09.7		06.6		
20	193	44.9	120	19.0		30.7	168	30.4		14.4	133	22.1		55.4	203	12.1		06.6		
21	208	47.4	135	18.2		31.1	183	31.1		15.1	148	23.9		55.5	218	14.5		06.5		
22	223	49.8	150	17.4		31.6	198	31.8		15.8	163	25.8		55.6	233	16.8		06.5		
23	238	52.3	165	16.6		32.0	213	32.5		16.4	178	27.7		55.8	248	19.2		06.5		
24	253	54.7	180	15.7	+22	32.5	228	33.2	+9	17.1	193	29.5	+19	55.9	263	21.6	-6	06.4		
Dif	—		-8		+5		+7		+7		+19		+1		+24		0			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:11 ^h 58.6 ^m				Edad: 27.9 ^d PHE { 4 ^h : 59'0 12 ^h : 58'8 20 ^h : 58'6 R°: 59 ^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	22.3	+22	34.6	202	11.4	+22	14.4	109	60 N	** **	1 14	2 43	1 33	8	21 01	103
1	195	22.2		34.8	216	37.6		25.3	108	58	** **	1 52	3 02	1 50	16	20 36	93
2	210	22.1		35.1	231	03.6		36.1	106	56	** **	2 19	18	2 05	22	20 16	87
3	225	22.0		35.4	245	29.6		46.7	105	54	1 07	39	31	17	27	19 59	84
4	240	21.8		35.6	259	55.5	+22	57.2	103	52	1 43	2 56	43	29	29	45	80
5	255	21.7	+22	35.9	274	21.3	+23	07.5	103	50	2 07	3 10	3 53	2 39	32	19 32	79
6	270	21.6	+22	36.2	288	47.1	+23	17.7	102	45	2 49	3 38	4 15	3 00	38	19 07	74
7	285	21.5		36.4	303	12.8		27.8	101	40	3 18	3 59	32	17	42	18 47	71
8	300	21.4		36.7	317	38.4		37.7	99	35	41	4 17	46	31	45	30	69
9	315	21.3		37.0	332	03.9		47.4	97	30	3 58	31	4 59	3 44	47	18 15	68
10	330	21.2		37.2	346	29.4	+23	57.0	96	20	4 26	4 55	5 20	4 06	51	17 51	64
11	345	21.1	+22	37.5	0	54.8	+24	06.5	95	10 N	4 48	5 15	5 38	4 25	55	17 30	61
12	0	20.9	+22	37.8	15	20.1	+24	15.8	93	0	5 06	5 33	5 55	4 43	58	17 10	59
13	15	20.8		38.0	29	45.4		24.9	91	10 S	23	5 49	6 12	5 01	61	16 50	57
14	30	20.7		38.3	44	10.6		33.9	90	20	38	6 06	30	20	65	29	55
15	45	20.6		38.5	58	35.7		42.7	88	30	5 54	24	6 50	42	69	16 05	51
16	60	20.5		38.8	73	00.8		51.3	86	35	6 02	34	7 02	5 56	71	15 51	49
17	75	20.4	+22	39.1	87	25.8	+24	59.8	85	40	6 11	6 45	7 15	6 11	74	15 35	46
18	90	20.3	+22	39.3	101	50.8	+25	08.2	84	45	6 21	6 58	7 31	6 29	78	15 15	43
19	105	20.1		39.6	116	15.7		16.3	81	50	32	7 13	7 51	6 52	84	14 51	38
20	120	20.0		39.8	130	40.5		24.3	80	52	37	20	8 01	7 04	86	40	35
21	135	19.9		40.1	145	05.3		32.2	79	54	42	28	11	16	90	26	33
22	150	19.8		40.3	159	30.1		39.8	76	56	48	37	23	31	94	14 11	28
23	165	19.7		40.6	173	54.7		47.3	75	58	6 54	46	37	7 48	101	13 53	22
24	180	19.6	+22	40.8	188	19.4	+25	54.6	73	60 S	7 01	7 57	8 53	8 09	111	13 32	11
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 7 ^h 03.2 ^m		Mag: -4.0 PMG: 12 ^h 00 ^m		Mag: +1.0 PMG: 8 ^h 45 ^m		Mag: -2.0 PMG: 11 ^h 05 ^m		Mag: +1.2 PMG: 6 ^h 26 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	253	54.7	180	15.7	+22	32.5	228	33.2	+9	17.1							
1	268	57.2	195	14.9		32.9	243	33.9		17.8							
2	283	59.7	210	14.1		33.4	258	34.6		18.5							
3	299	02.1	225	13.3		33.8	273	35.3		19.2							
4	314	04.6	240	12.4		34.3	288	36.0		19.9							
5	329	07.1	255	11.6	+22	34.7	303	36.7	+9	20.6							
6	344	09.5	270	10.8	+22	35.2	318	37.4	+9	21.2							
7	359	12.0	285	09.9		35.6	333	38.1		21.9							
8	14	14.5	300	09.1		36.0	348	38.8		22.6							
9	29	16.9	315	08.3		36.5	3	39.6		23.3							
10	44	19.4	330	07.4		36.9	18	40.3		24.0							
11	59	21.9	345	06.6	+22	37.3	33	41.0	+9	24.7							
12	74	24.3	0	05.8	+22	37.8	48	41.7	+9	25.3							
13	89	26.8	15	05.0		38.2	63	42.4		26.0							
14	104	29.2	30	04.1		38.6	78	43.1		26.7							
15	119	31.7	45	03.3		39.0	93	43.8		27.4							
16	134	34.2	60	02.5		39.5	108	44.5		28.1							
17	149	36.6	75	01.6	+22	39.9	123	45.2	+9	28.8							
18	164	39.1	90	00.8	+22	40.3	138	45.9	+9	29.4							
19	179	41.6	104	59.9		40.7	153	46.6		30.1							
20	194	44.0	119	59.1		41.2	168	47.3		30.8							
21	209	46.5	134	58.3		41.6	183	48.0		31.5							
22	224	49.0	149	57.4		42.0	198	48.7		32.2							
23	239	51.4	164	56.6		42.4	213	49.4		32.8							
24	254	53.9	179	55.8	+22	42.8	228	50.1	+9	33.5							
Dif	—		-8		+4		+7		+7								

UT	SOL			● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15/8 PMG: 11 ^h 58.8 ^m			Edad: 28.9 ^d SD: 15/9 PMG: 11 ^h 55 ^m PHE { 4 ^h : 58/5 12 ^h : 58/3 20 ^h : 58/1 R°: 60 ^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	19.6	+22	40.8	188	19.4	55	+25	54.6	72	60 N	21 16	22 49	** **	1 41 21	22 44 69			
1	195	19.4		41.1	202	43.9	56	+26	01.8	70	58	20 57	22 08	** **	2 06 32	22 09 67			
2	210	19.3		41.4	217	08.5	55		08.8	68	56	41	21 41	** **	27 37	21 43 66			
3	225	19.2		41.6	231	33.0	54		15.6	67	54	28	20	22 55	44 40	23 66			
4	240	19.1		41.9	245	57.4	54		22.3	64	52	16	21 04	22 17	2 58 43	21 05 65			
5	255	19.0	+22	42.1	260	21.8	54	+26	28.7	63	50	20 05	20 49	21 52	3 11 45	20 51 64			
6	270	18.9	+22	42.4	274	46.2	53	+26	35.0	63	45	19 44	20 21	21 09	3 38 48	20 21 64			
7	285	18.7		42.6	289	10.5	53		41.2	62	40	26	19 59	20 40	3 59 51	19 58 63			
8	300	18.6		42.9	303	34.8	53		47.1	59	35	19 12	41	18	4 16 53	39 62			
9	315	18.5		43.1	317	59.0	52		52.9	58	30	18 59	26	20 00	31 55	19 23 62			
10	330	18.4		43.3	332	23.3	51	+26	58.5	56	20	38	19 02	19 31	4 57 57	18 55 61			
11	345	18.3	+22	43.6	346	47.4	51	+27	03.9	54	10 N	18 19	18 42	19 09	5 20 58	18 31 61			
12	0	18.2	+22	43.8	1	11.6	52	+27	09.1	52	0	18 02	18 25	18 51	5 41 60	18 09 60			
13	15	18.0		44.1	15	35.7	51		14.2	51	10 S	17 46	18 08	35	6 02 61	17 47 59			
14	30	17.9		44.3	29	59.9	50		19.1	49	20	28	17 51	19	25 63	17 24 58			
15	45	17.8		44.6	44	23.9	50		23.8	47	30	17 07	33	18 03	6 51 65	16 56 57			
16	60	17.7		44.8	58	48.0	51		28.3	45	35	16 55	23	17 55	7 07 66	40 56			
17	75	17.6	+22	45.1	73	12.1	51	+27	32.7	44	40	16 41	17 12	17 46	7 25 68	16 21 56			
18	90	17.5	+22	45.3	87	36.1	50	+27	36.8	41	45	16 25	16 59	17 36	7 47 70	15 58 55			
19	105	17.3		45.5	102	00.1	50		40.8	40	50	16 05	43	25	8 16 72	29 53			
20	120	17.2		45.8	116	24.1	50		44.6	38	52	15 56	36	20	30 73	15 15 51			
21	135	17.1		46.0	130	48.1	50		48.2	36	54	45	28	14	8 46 75	14 59 49			
22	150	17.0		46.3	145	12.1	50		51.7	35	56	33	20	08	9 05 78	39 47			
23	165	16.9		46.5	159	36.1	50		55.0	33	58	19	16 10	17 02	9 29 82	14 15 43			
24	180	16.7	+22	46.7	174	00.1	50	+27	58.0	30	60 S	15 03	15 59	16 55	10 00 91	13 43 35			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 6 ^h 59.3 ^m		Mag: -4.0 PMG: 12 ^h 01 ^m		Mag: +1.0 PMG: 8 ^h 44 ^m		Mag: -2.0 PMG: 11 ^h 02 ^m		Mag: +1.2 PMG: 6 ^h 22 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /		° /	° /	° /	° /	° /	° /	° /	° /								
0	254	53.9	179	55.8	+22	42.8	228	50.1	+9	33.5	194	14.1	+19	58.7	264	18.4	-6	05.7
1	269	56.4	194	54.9		43.2	243	50.8		34.2	209	16.0		58.8	279	20.8		05.7
2	284	58.8	209	54.1		43.7	258	51.5		34.9	224	17.8		58.9	294	23.2		05.7
3	300	01.3	224	53.3		44.1	273	52.2		35.6	239	19.7		59.0	309	25.5		05.6
4	315	03.7	239	52.4		44.5	288	52.9		36.2	254	21.5		59.1	324	27.9		05.6
5	330	06.2	254	51.6	+22	44.9	303	53.6	+9	36.9	269	23.4	+19	59.2	339	30.3	-6	05.6
6	345	08.7	269	50.7	+22	45.3	318	54.3	+9	37.6	284	25.3	+19	59.4	354	32.6	-6	05.6
7	0	11.1	284	49.9		45.7	333	55.0		38.3	299	27.1		59.5	9	35.0		05.5
8	15	13.6	299	49.1		46.1	348	55.7		39.0	314	29.0		59.6	24	37.4		05.5
9	30	16.1	314	48.2		46.5	3	56.4		39.6	329	30.8		59.7	39	39.8		05.5
10	45	18.5	329	47.4		46.9	18	57.1		40.3	344	32.7		59.8	54	42.1		05.4
11	60	21.0	344	46.5	+22	47.3	33	57.8	+9	41.0	359	34.6	+19	59.9	69	44.5	-6	05.4
12	75	23.5	359	45.7	+22	47.7	48	58.5	+9	41.7	14	36.4	+20	00.0	84	46.9	-6	05.4
13	90	25.9	14	44.9		48.1	63	59.2		42.4	29	38.3	+20	00.2	99	49.2		05.4
14	105	28.4	29	44.0		48.5	78	59.9		43.0	44	40.1		00.3	114	51.6		05.3
15	120	30.9	44	43.2		48.9	94	00.6		43.7	59	42.0		00.4	129	54.0		05.3
16	135	33.3	59	42.3		49.3	109	01.3		44.4	74	43.9		00.5	144	56.4		05.3
17	150	35.8	74	41.5	+22	49.7	124	02.0	+9	45.1	89	45.7	+20	00.6	159	58.7	-6	05.3
18	165	38.2	89	40.6	+22	50.1	139	02.7	+9	45.7	104	47.6	+20	00.7	175	01.1	-6	05.2
19	180	40.7	104	39.8		50.5	154	03.4		46.4	119	49.4		00.8	190	03.5		05.2
20	195	43.2	119	38.9		50.9	169	04.1		47.1	134	51.3		01.0	205	05.9		05.2
21	210	45.6	134	38.1		51.3	184	04.9		47.8	149	53.2		01.1	220	08.2		05.1
22	225	48.1	149	37.3		51.7	199	05.6		48.5	164	55.0		01.2	235	10.6		05.1
23	240	50.6	164	36.4		52.1	214	06.3		49.1	179	56.9		01.3	250	13.0		05.1
24	255	53.0	179	35.6	+22	52.5	229	07.0	+9	49.8	194	58.7	+20	01.4	265	15.3	-6	05.1
Dif	—		-8	+4		+7	+7			+7	+19			+1	+24			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15°8 PMG:11 ^h 59.0 ^m				Edad: 0.5 ^d PHE { SD: 15°8 PMG: 12 ^h 55 ^m 4 ^h : 57/9 12 ^h : 57/6 20 ^h : 57/4 R°: 59 ^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	16.7	+22	46.7	174	00.1	+27	58.0	60 N	** **	1 08	2 41	2 02	56	23 53	29
1	195	16.6		47.0	188	24.1	+28	00.9	58	** **	1 49	3 00	2 38	57	23 16	37
2	210	16.5		47.2	202	48.1		03.6	56	** **	2 16	16	3 04	58	22 49	41
3	225	16.4		47.4	217	12.1		06.2	54	1 02	37	30	24	59	28	44
4	240	16.3		47.7	231	36.1		08.5	52	1 40	2 54	42	41	59	22 10	46
5	255	16.2	+22	47.9	246	00.1	+28	10.7	50	2 05	3 08	3 52	3 56	59	21 55	48
6	270	16.0	+22	48.1	260	24.2	+28	12.7	45	2 48	3 37	4 14	4 26	60	21 25	50
7	285	15.9		48.4	274	48.2		14.5	40	3 18	3 59	31	4 50	59	21 01	52
8	300	15.8		48.6	289	12.3		16.1	35	40	4 16	46	5 09	60	20 41	54
9	315	15.7		48.8	303	36.3		17.6	30	3 58	31	4 58	26	59	20 25	54
10	330	15.6		49.1	318	00.4		18.9	20	4 26	4 55	5 20	5 54	59	19 56	56
11	345	15.4	+22	49.3	332	24.6	+28	19.9	10 N	4 48	5 15	5 38	6 18	59	19 32	57
12	0	15.3	+22	49.5	346	48.7	+28	20.8	0	5 07	5 33	5 55	6 41	59	19 09	58
13	15	15.2		49.7	1	12.9		21.6	10 S	23	5 50	6 12	7 03	59	18 46	59
14	30	15.1		50.0	15	37.1		22.1	20	39	6 06	30	28	58	18 22	60
15	45	15.0		50.2	30	01.4		22.5	30	5 55	25	6 51	7 56	58	17 53	62
16	60	14.8		50.4	44	25.6		22.7	35	6 03	35	7 03	8 13	58	36	62
17	75	14.7	+22	50.6	58	50.0	+28	22.7	40	6 12	6 46	7 17	8 33	57	17 17	63
18	90	14.6	+22	50.9	73	14.3	+28	22.5	45	6 22	6 59	7 33	8 57	56	16 53	64
19	105	14.5		51.1	87	38.7		22.2	50	33	7 15	7 53	9 28	55	22	65
20	120	14.3		51.3	102	03.2		21.7	52	39	22	8 02	9 43	55	16 06	67
21	135	14.2		51.5	116	27.7		21.0	54	44	30	13	10 01	54	15 48	68
22	150	14.1		51.8	130	52.2		20.1	56	50	38	25	23	53	15 26	69
23	165	14.0		52.0	145	16.8		19.1	58	6 56	48	39	10 51	50	14 58	72
24	180	13.9	+22	52.2	159	41.4	+28	17.9	60 S	7 03	7 59	8 56	11 31	46	14 18	77
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 6 ^h 55.3 ^m		Mag: -4.0 PMG: 12 ^h 02 ^m		Mag: +1.0 PMG: 8 ^h 43 ^m		Mag: -2.0 PMG: 10 ^h 59 ^m		Mag: +1.2 PMG: 6 ^h 18 ^m							
	hG ♊	Dec	hG ♍	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♅	Dec	hG ♅	Dec
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	255	53.0	179	35.6	+22	52.5	229	07.0	+9	49.8	194	58.7	+20	01.4	265	15.3
1	270	55.5	194	34.7		52.9	244	07.7		50.5	210	00.6		01.5	280	17.7
2	285	58.0	209	33.9		53.3	259	08.4		51.2	225	02.4		01.6	295	20.1
3	301	00.4	224	33.0		53.6	274	09.1		51.8	240	04.3		01.8	310	22.5
4	316	02.9	239	32.2		54.0	289	09.8		52.5	255	06.2		01.9	325	24.8
5	331	05.4	254	31.3	+22	54.4	304	10.5	+9	53.2	270	08.0	+20	02.0	340	27.2
6	346	07.8	269	30.5	+22	54.8	319	11.2	+9	53.9	285	09.9	+20	02.1	355	29.6
7	1	10.3	284	29.6		55.2	334	11.9		54.5	300	11.7		02.2	10	32.0
8	16	12.7	299	28.8		55.5	349	12.6		55.2	315	13.6		02.3	25	34.3
9	31	15.2	314	27.9		55.9	4	13.3		55.9	330	15.5		02.4	40	36.7
10	46	17.7	329	27.1		56.3	19	14.0		56.6	345	17.3		02.6	55	39.1
11	61	20.1	344	26.2	+22	56.7	34	14.7	+9	57.2	0	19.2	+20	02.7	70	41.5
12	76	22.6	359	25.4	+22	57.1	49	15.4	+9	57.9	15	21.0	+20	02.8	85	43.8
13	91	25.1	14	24.6		57.4	64	16.1		58.6	30	22.9		02.9	100	46.2
14	106	27.5	29	23.7		57.8	79	16.8		59.3	45	24.8		03.0	115	48.6
15	121	30.0	44	22.9		58.2	94	17.5	+9	59.9	60	26.6		03.1	130	51.0
16	136	32.5	59	22.0		58.5	109	18.2	+10	00.6	75	28.5		03.2	145	53.3
17	151	34.9	74	21.2	+22	58.9	124	18.9	+10	01.3	90	30.3	+20	03.4	160	55.7
18	166	37.4	89	20.3	+22	59.3	139	19.6	+10	01.9	105	32.2	+20	03.5	175	58.1
19	181	39.9	104	19.4	+22	59.7	154	20.3		02.6	120	34.1		03.6	191	00.5
20	196	42.3	119	18.6	+23	00.0	169	21.0		03.3	135	35.9		03.7	206	02.9
21	211	44.8	134	17.7	+23	00.4	184	21.7		04.0	150	37.8		03.8	221	05.2
22	226	47.2	149	16.9		00.7	199	22.4		04.6	165	39.6		03.9	236	07.6
23	241	49.7	164	16.0		01.1	214	23.1		05.3	180	41.5		04.0	251	10.0
24	256	52.2	179	15.2	+23	01.5	229	23.8	+10	06.0	195	43.4	+20	04.1	266	12.4
Dif	—		-8		+4		+7		+7		+19		+1		+24	
															0	

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 59.2 ^m				Edad: 1.5 ^d SD: 15'6 PMG: 13 ^h 54 ^m		PHE { 4 ^h : 57'2 12 ^h : 56'9 20 ^h : 56'7 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	180	13.9	+22	52.2	159	41.4	58	+28	17.9	14	60 N	21	19	22	55	**	**		2	58	90
1	195	13.7		52.4	174	06.2	57		16.5	16	58	20	59	22	12	**	**		3	35	82
2	210	13.6		52.6	188	30.9	58		14.9	17	56	43	21	44	**	**		4	02	77	
3	225	13.5		52.9	202	55.7	58		13.2	19	54	29	23	23	00				23	74	
4	240	13.4		53.1	217	20.6	59		11.3	21	52	18	21	06	22	21			40	72	
5	255	13.3	+22	53.3	231	45.6	60	+28	09.2	21	50	20	07	20	51	21	55		4	55	
6	270	13.1	+22	53.5	246	10.6	60	+28	07.0	22	45	19	45	20	22	21	11		5	26	
7	285	13.0		53.7	260	35.6	60		04.6	24	40	28	20	00	20	41			5	49	
8	300	12.9		53.9	275	00.8	62	+28	02.0	26	35	13	19	42	19				6	09	
9	315	12.8		54.2	289	26.0	62	+27	59.3	27	30	19	00	27	20	01			25	62	
10	330	12.6		54.4	303	51.3	63		56.4	29	20	18	39	19	03	19	32		6	53	
11	345	12.5	+22	54.6	318	16.7	64	+27	53.3	31	10 N	18	20	18	43	19	10		7	17	
12	0	12.4	+22	54.8	332	42.1	64	+27	50.1	32	0	18	03	18	25	18	51		7	40	
13	15	12.3		55.0	347	07.6	65		46.7	34	10 S	17	46	18	09	35			8	02	
14	30	12.2		55.2	1	33.2	66		43.2	35	20	28	17	52	19				26	53	
15	45	12.0		55.4	15	58.9	67		39.5	37	30	17	07	33	18	03			8	54	
16	60	11.9		55.6	30	24.7	68		35.6	39	35	16	55	23	17	54			9	11	
17	75	11.8	+22	55.8	44	50.5	68	+27	31.6	40	40	16	41	17	11	17	45		9	30	
18	90	11.7	+22	56.1	59	16.4	69	+27	27.4	42	45	16	25	16	58	17	35		9	53	
19	105	11.5		56.3	73	42.5	71		23.1	43	50	16	05	43	24				10	23	
20	120	11.4		56.5	88	08.6	72		18.6	45	52	15	55	36	19				38	38	
21	135	11.3		56.7	102	34.8	72		14.0	46	54	44	28	28	13				10	55	
22	150	11.2		56.9	117	01.1	73		09.2	48	56	32	19	19	08				11	16	
23	165	11.0		57.1	131	27.4	73	+27	04.3	49	58	18	16	09	17	01			11	41	
24	180	10.9	+22	57.3	145	53.9	75	+26	59.2	51	60 S	15	01	15	58	16	54		12	17	

UT	ARIES		VENUS		MARTE		JÚPITER			SATURNO								
	PMG: 6 ^h 51.4 ^m		Mag: -4.0 PMG: 12 ^h 04 ^m		Mag: +1.0 PMG: 8 ^h 42 ^m		Mag: -2.0 PMG: 10 ^h 56 ^m			Mag: +1.1 PMG: 6 ^h 14 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	256	52.2	179	15.2	+23	01.5	229	23.8	+10	06.0	195	43.4	+20	04.1	266	12.4	-6	04.4
1	271	54.6	194	14.3		01.8	244	24.5		06.7	210	45.2		04.3	281	14.7		04.4
2	286	57.1	209	13.5		02.2	259	25.2		07.3	225	47.1		04.4	296	17.1		04.4
3	301	59.6	224	12.6		02.5	274	25.9		08.0	240	48.9		04.5	311	19.5		04.4
4	317	02.0	239	11.8		02.9	289	26.6		08.7	255	50.8		04.6	326	21.9		04.3
5	332	04.5	254	10.9	+23	03.3	304	27.3	+10	09.3	270	52.7	+20	04.7	341	24.3	-6	04.3
6	347	07.0	269	10.1	+23	03.6	319	28.0	+10	10.0	285	54.5	+20	04.8	356	26.6	-6	04.3
7	2	09.4	284	09.2		04.0	334	28.7		10.7	300	56.4		04.9	11	29.0		04.2
8	17	11.9	299	08.4		04.3	349	29.4		11.3	315	58.2		05.0	26	31.4		04.2
9	32	14.3	314	07.5		04.7	4	30.1		12.0	331	00.1		05.2	41	33.8		04.2
10	47	16.8	329	06.6		05.0	19	30.8		12.7	346	02.0		05.3	56	36.1		04.2
11	62	19.3	344	05.8	+23	05.4	34	31.5	+10	13.4	1	03.8	+20	05.4	71	38.5	-6	04.1
12	77	21.7	359	04.9	+23	05.7	49	32.2	+10	14.0	16	05.7	+20	05.5	86	40.9	-6	04.1
13	92	24.2	14	04.1		06.1	64	32.9		14.7	31	07.5		05.6	101	43.3		04.1
14	107	26.7	29	03.2		06.4	79	33.6		15.4	46	09.4		05.7	116	45.7		04.1
15	122	29.1	44	02.4		06.8	94	34.3		16.0	61	11.3		05.8	131	48.0		04.1
16	137	31.6	59	01.5		07.1	109	35.0		16.7	76	13.1		05.9	146	50.4		04.0
17	152	34.1	74	00.6	+23	07.4	124	35.7	+10	17.4	91	15.0	+20	06.1	161	52.8	-6	04.0
18	167	36.5	88	59.8	+23	07.8	139	36.4	+10	18.0	106	16.8	+20	06.2	176	55.2	-6	04.0
19	182	39.0	103	58.9		08.1	154	37.1		18.7	121	18.7		06.3	191	57.6		04.0
20	197	41.5	118	58.1		08.5	169	37.8		19.4	136	20.6		06.4	206	59.9		03.9
21	212	43.9	133	57.2		08.8	184	38.5		20.0	151	22.4		06.5	222	02.3		03.9
22	227	46.4	148	56.4		09.1	199	39.2		20.7	166	24.3		06.6	237	04.7		03.9
23	242	48.8	163	55.5		09.5	214	39.9		21.4	181	26.1		06.7	252	07.1		03.9
24	257	51.3	178	54.6	+23	09.8	229	40.6	+10	22.0	196	28.0	+20	06.8	267	09.5	-6	03.8
Dif	—		-9		+3		+7		+7		+19		+1		+24		0	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:11 ^h 59.4 ^m			Edad: 2.5 ^d SD: 15 ^h 4 PMG: 14 ^h 49 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	180	10.9	+22	57.3	145	53.9	+26	59.2	52	04	2	39	4	28	100	0	22	10
1	195	10.8		57.5	160	20.5		54.0	54	04	2	59	4	57	91	**	**	**
2	210	10.7		57.7	174	47.1		48.6	55	04	3	15	5	19	85	23	55	14
3	225	10.5		57.9	189	13.9		43.1	56	04	3	29	6	37	81	40	18	
4	240	10.4		58.1	203	40.8		37.5	58	04	3	41	7	52	78	28	21	
5	255	10.3	+22	58.3	218	07.7	+26	31.7	58	04	3	51	8	06	75	23	16	24
6	270	10.2	+22	58.5	232	34.8	+26	25.7	60	04	4	13	9	33	70	22	53	29
7	285	10.0		58.7	247	01.9		19.6	61	04	4	31	10	54	67	34	33	
8	300	09.9		58.9	261	29.2		13.4	62	04	4	46	11	12	64	18	36	
9	315	09.8		59.1	275	56.5		07.1	63	04	4	58	12	27	62	22	05	38
10	330	09.7		59.3	290	24.0	+26	00.6	65	04	5	20	13	53	58	21	41	43
11	345	09.5	+22	59.5	304	51.5	+25	54.0	66	04	5	38	14	15	55	21	21	46
12	0	09.4	+22	59.7	319	19.2	+25	47.2	68	04	5	56	15	36	52	21	01	50
13	15	09.3	+22	59.9	333	47.0		40.3	69	04	6	13	16	56	49	20	42	53
14	30	09.2	+23	00.1	348	14.9		33.3	70	04	6	31	17	19	45	20	21	57
15	45	09.0		00.3	2	42.8		26.2	71	04	6	52	18	44	42	19	57	61
16	60	08.9		00.4	17	10.9		18.9	73	04	7	04	19	59	39	43	63	
17	75	08.8	+23	00.6	31	39.1	+25	11.5	74	04	7	18	20	16	37	19	26	67
18	90	08.7	+23	00.8	46	07.4	+25	04.0	75	04	7	34	21	37	33	19	06	71
19	105	08.5		01.0	60	35.8	+24	56.4	76	04	7	54	22	03	28	18	41	76
20	120	08.4		01.2	75	04.3		48.6	78	04	8	04	23	16	25	29	79	
21	135	08.3		01.4	89	32.9		40.8	78	04	8	15	24	30	22	18	15	82
22	150	08.2		01.6	104	01.7		32.8	80	04	8	27	25	47	18	17	59	86
23	165	08.0		01.8	118	30.5		24.7	81	04	8	41	26	07	13	39	92	
24	180	07.9	+23	02.0	132	59.4	+24	16.4	83	04	8	58	27	32	5	17	14	100
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 47.5 ^m		Mag: -4.0 PMG: 12 ^h 05 ^m			Mag: +1.0 PMG: 8 ^h 41 ^m			Mag: -2.0 PMG: 10 ^h 53 ^m			Mag: +1.1 PMG: 6 ^h 10 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	257	51.3	178	54.6	+23	09.8	229	40.6	+10	22.0	196	28.0	+20	06.8	267	09.5	-6	03.8
1	272	53.8	193	53.8		10.1	244	41.3		22.7	211	29.9		07.0	282	11.8		03.8
2	287	56.2	208	52.9		10.5	259	42.0		23.4	226	31.7		07.1	297	14.2		03.8
3	302	58.7	223	52.1		10.8	274	42.7		24.0	241	33.6		07.2	312	16.6		03.8
4	318	01.2	238	51.2		11.1	289	43.4		24.7	256	35.5		07.3	327	19.0		03.7
5	333	03.6	253	50.3	+23	11.4	304	44.1	+10	25.4	271	37.3	+20	07.4	342	21.4	-6	03.7
6	348	06.1	268	49.5	+23	11.8	319	44.8	+10	26.0	286	39.2	+20	07.5	357	23.8	-6	03.7
7	3	08.6	283	48.6		12.1	334	45.5		26.7	301	41.0		07.6	12	26.1		03.7
8	18	11.0	298	47.7		12.4	349	46.2		27.4	316	42.9		07.7	27	28.5		03.6
9	33	13.5	313	46.9		12.7	4	46.9		28.0	331	44.8		07.9	42	30.9		03.6
10	48	16.0	328	46.0		13.1	19	47.6		28.7	346	46.6		08.0	57	33.3		03.6
11	63	18.4	343	45.2	+23	13.4	34	48.3	+10	29.4	1	48.5	+20	08.1	72	35.7	-6	03.6
12	78	20.9	358	44.3	+23	13.7	49	49.0	+10	30.0	16	50.3	+20	08.2	87	38.1	-6	03.5
13	93	23.3	13	43.4		14.0	64	49.7		30.7	31	52.2		08.3	102	40.4		03.5
14	108	25.8	28	42.6		14.3	79	50.4		31.4	46	54.1		08.4	117	42.8		03.5
15	123	28.3	43	41.7		14.7	94	51.1		32.0	61	55.9		08.5	132	45.2		03.5
16	138	30.7	58	40.8		15.0	109	51.8		32.7	76	57.8		08.6	147	47.6		03.5
17	153	33.2	73	40.0	+23	15.3	124	52.5	+10	33.3	91	59.6	+20	08.7	162	50.0	-6	03.4
18	168	35.7	88	39.1	+23	15.6	139	53.2	+10	34.0	107	01.5	+20	08.9	177	52.4	-6	03.4
19	183	38.1	103	38.3		15.9	154	53.9		34.7	122	03.4		09.0	192	54.7		03.4
20	198	40.6	118	37.4		16.2	169	54.6		35.3	137	05.2		09.1	207	57.1		03.4
21	213	43.1	133	36.5		16.5	184	55.3		36.0	152	07.1		09.2	222	59.5		03.3
22	228	45.5	148	35.7		16.8	199	56.0		36.7	167	09.0		09.3	238	01.9		03.3
23	243	48.0	163	34.8		17.1	214	56.7		37.3	182	10.8		09.4	253	04.3		03.3
24	258	50.5	178	33.9	+23	17.5	229	57.4	+10	38.0	197	12.7	+20	09.5	268	06.7	-6	03.3
Dif	—		-9		+3		+7		+7		+19		+1		+24		0	

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15/8 PMG: 11 ^h 59.6 ^m				Edad: 3.5 ^d SD: 15/2 PMG: 15 ^h 40 ^m PHE { 4 ^h : 55/8 12 ^h : 55/6 20 ^h : 55/4 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	180	07.9	+23	02.0	132	59.4	+24	16.4	83	60	N	21	21	23	00	**	**	6	08	96	0	32	4
1	195	07.8		02.1	147	28.5	+24	08.1	85	58		21	01	22	15	**	**	28	90	0	12	9	
2	210	07.7		02.3	161	57.6	+23	59.6	85	56		20	45	21	46	**	**	44	85	**	**	**	
3	225	07.5		02.5	176	26.9		51.1	85	54			31		25	23	05	6	58	81	23	58	13
4	240	07.4		02.7	190	56.3		42.4	87	52			19	21	07	22	23	7	10	78		49	15
5	255	07.3	+23	02.9	205	25.8	+23	33.6	88	50		20	08	20	53	21	57	7	21	75	23	40	18
6	270	07.2	+23	03.1	219	55.4	+23	24.7	89	45		19	46	20	23	21	13	7	43	70	23	22	27
7	285	07.0		03.2	234	25.0		15.8	89	40			29	20	01	20	43	8	01	66	23	07	23
8	300	06.9		03.4	248	54.9	+23	06.7	91	35			14	19	43		20		16	62	22	54	30
9	315	06.8		03.6	263	24.8	+22	57.5	92	30		19	01		28	20	02		29	60		43	33
10	330	06.6		03.8	277	54.8		48.2	93	20		18	39	19	04	19	33	8	51	55		24	37
11	345	06.5	+23	04.0	292	24.9	+22	38.8	94	10	N	18	21	18	44	19	11	9	10	51	22	07	42
12	0	06.4	+23	04.1	306	55.1	+22	29.3	95	0		18	03	18	26	18	52	9	28	47	21	51	46
13	15	06.3		04.3	321	25.5		19.7	96	10	S	17	46	18	09		35	9	45	44		35	49
14	30	06.1		04.5	335	55.9		10.0	97	20			28		17	52	19	10	04	40	21	18	53
15	45	06.0		04.7	350	26.4	+22	00.2	98	30		17	07		33	18	03		26	35	20	58	58
16	60	05.9		04.8	4	57.1	+21	50.3	99	35		16	55		23	17	54		38	33		46	62
17	75	05.8	+23	05.0	19	27.9	+21	40.3	100	40		16	41	17	11	17	45	10	53	29	20	33	65
18	90	05.6	+23	05.2	33	58.7	+21	30.3	102	45		16	24	16	58	17	35	11	10	25	20	17	69
19	105	05.5		05.4	48	29.7		20.1	102	50		16	04		42		24		31	20	19	57	74
20	120	05.4		05.5	63	00.7	+21	09.9	102	52		15	54		35		19		41	18		48	77
21	135	05.2		05.7	77	31.9	+20	59.6	103	54			43		27		13	11	52	15		37	80
22	150	05.1		05.9	92	03.2		49.1	105	56			31		18		07	12	05	11		25	84
23	165	05.0		06.1	106	34.5		38.6	105	58			17	16	08	17	00		20	6	19	11	88
24	180	04.9	+23	06.2	121	06.0	+20	28.1	105	60	S	15	00	15	57	16	53	12	37	1	18	54	94

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 6 ^h 43.5 ^m		Mag: -4.0 PMG: 12 ^h 06 ^m		Mag: +1.0 PMG: 8 ^h 40 ^m		Mag: -2.0 PMG: 10 ^h 50 ^m		Mag: +1.1 PMG: 6 ^h 07 ^m									
h	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
	° /		° /		° /		° /		° /									
0	258	50.5	178	33.9	+23	17.5	229	57.4	+10	38.0	197	12.7	+20	09.5	268	06.7	-6	03.3
1	273	52.9	193	33.1		17.8	244	58.1		38.6	212	14.5		09.6	283	09.0		03.3
2	288	55.4	208	32.2		18.1	259	58.8		39.3	227	16.4		09.7	298	11.4		03.2
3	303	57.8	223	31.3		18.4	274	59.5		40.0	242	18.3		09.9	313	13.8		03.2
4	319	00.3	238	30.5		18.7	290	00.2		40.6	257	20.1		10.0	328	16.2		03.2
5	334	02.8	253	29.6	+23	19.0	305	00.9	+10	41.3	272	22.0	+20	10.1	343	18.6	-6	03.2
6	349	05.2	268	28.7	+23	19.3	320	01.6	+10	41.9	287	23.8	+20	10.2	358	21.0	-6	03.1
7	4	07.7	283	27.9		19.6	335	02.3		42.6	302	25.7		10.3	13	23.4		03.1
8	19	10.2	298	27.0		19.9	350	03.0		43.3	317	27.6		10.4	28	25.7		03.1
9	34	12.6	313	26.1		20.2	5	03.7		43.9	332	29.4		10.5	43	28.1		03.1
10	49	15.1	328	25.3		20.4	20	04.4		44.6	347	31.3		10.6	58	30.5		03.1
11	64	17.6	343	24.4	+23	20.7	35	05.1	+10	45.2	2	33.2	+20	10.7	73	32.9	-6	03.0
12	79	20.0	358	23.5	+23	21.0	50	05.8	+10	45.9	17	35.0	+20	10.9	88	35.3	-6	03.0
13	94	22.5	13	22.7		21.3	65	06.5		46.6	32	36.9		11.0	103	37.7		03.0
14	109	25.0	28	21.8		21.6	80	07.2		47.2	47	38.7		11.1	118	40.1		03.0
15	124	27.4	43	20.9		21.9	95	07.9		47.9	62	40.6		11.2	133	42.5		02.9
16	139	29.9	58	20.0		22.2	110	08.6		48.5	77	42.5		11.3	148	44.8		02.9
17	154	32.3	73	19.2	+23	22.5	125	09.3	+10	49.2	92	44.3	+20	11.4	163	47.2	-6	02.9
18	169	34.8	88	18.3	+23	22.8	140	10.0	+10	49.9	107	46.2	+20	11.5	178	49.6	-6	02.9
19	184	37.3	103	17.4		23.0	155	10.7		50.5	122	48.1		11.6	193	52.0		02.9
20	199	39.7	118	16.6		23.3	170	11.4		51.2	137	49.9		11.7	208	54.4		02.8
21	214	42.2	133	15.7		23.6	185	12.1		51.8	152	51.8		11.8	223	56.8		02.8
22	229	44.7	148	14.8		23.9	200	12.8		52.5	167	53.6		12.0	238	59.2		02.8
23	244	47.1	163	13.9		24.2	215	13.5		53.2	182	55.5		12.1	254	01.6		02.8
24	259	49.6	178	13.1	+23	24.4	230	14.2	+10	53.8	197	57.4	+20	12.2	269	03.9	-6	02.8
Dif	—		-9		+3		+7		+7		+19		+1		+24		0	

UT	SOL			☾ LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 8 PMG: 11 ^h 59.8 ^m			Edad: 4.5 ^d SD: 15 ^h 1 PMG: 16 ^h 26 ^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	04.9	+23	06.2	121	06.0	+20	28.1	0 59	2 38	7 44	90	0 36	0	
1	195	04.7		06.4	135	37.6		17.4	1 44	2 58	7 58	85	21	6	
2	210	04.6		06.6	150	09.2	+20	06.7	2 13	3 14	8 09	82	0 09	9	
3	225	04.5		06.7	164	41.0	+19	55.8	0 54	34	19	78	**	**	
4	240	04.3		06.9	179	12.9		44.9	1 36	2 52	28	75	**	**	
5	255	04.2	+23	07.1	193	44.8	+19	34.0	2 02	3 07	3 51	8 36	73	23 58	14
6	270	04.1	+23	07.2	208	16.9	+19	22.9	2 47	3 36	4 13	8 53	67	23 45	18
7	285	04.0		07.4	222	49.0		11.8	3 17	3 58	31	9 07	63	34	22
8	300	03.8		07.6	237	21.3	+19	00.6	3 39	4 16	45	18 60		24	26
9	315	03.7		07.7	251	53.6	+18	49.3	3 58	31	4 58	29 57		16	29
10	330	03.6		07.9	266	26.0		38.0	4 26	4 56	5 20	9 46	52	23 01	34
11	345	03.4	+23	08.0	280	58.6	+18	26.5	4 49	5 16	5 39	10 01	48	22 49	38
12	0	03.3	+23	08.2	295	31.2	+18	15.1	5 07	5 34	5 56	10 15	44	22 37	42
13	15	03.2		08.4	310	03.9	+18	03.5	5 24	5 51	6 13	29 40		24	47
14	30	03.1		08.5	324	36.7	+17	51.9	40	6 08	32	10 44	35	22 11	51
15	45	02.9		08.7	339	09.6		40.2	5 56	26	6 53	11 01	31	21 56	56
16	60	02.8		08.8	353	42.5		28.5	6 05	37	7 05	11 27		48	58
17	75	02.7	+23	09.0	8	15.6	+17	16.7	6 14	6 48	7 19	11 22	24	21 38	62
18	90	02.5	+23	09.2	22	48.7	+17	04.8	6 24	7 02	7 35	11 35	21	21 26	66
19	105	02.4		09.3	37	22.0	+16	52.9	36	17	7 56	51 16		11	72
20	120	02.3		09.5	51	55.3		40.9	41	25	8 05	11 59	13	21 05	73
21	135	02.1		09.6	66	28.7		28.8	47	33	16	12 07	10	20 57	77
22	150	02.0		09.8	81	02.1		16.7	53	42	29	16 7		49	79
23	165	01.9		09.9	95	35.7	+16	04.5	6 59	7 52	8 43	26 4		39	83
24	180	01.8	+23	10.1	110	09.3	+15	52.3	7 07	8 03	9 00	12 38	0	20 28	88

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 6 ^h 39.6 ^m		Mag: -4.0 PMG: 12 ^h 08 ^m		Mag: +1.0 PMG: 8 ^h 39 ^m		Mag: -2.0 PMG: 10 ^h 47 ^m		Mag: +1.1 PMG: 6 ^h 03 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	259	49.6	178	13.1	+23	24.4	230	14.2	+10	53.8						
1	274	52.1	193	12.2		24.7	245	14.9		54.5						
2	289	54.5	208	11.3		25.0	260	15.6		55.1						
3	304	57.0	223	10.5		25.3	275	16.3		55.8						
4	319	59.5	238	09.6		25.5	290	17.0		56.4						
5	335	01.9	253	08.7	+23	25.8	305	17.7	+10	57.1						
6	350	04.4	268	07.8	+23	26.1	320	18.4	+10	57.7						
7	5	06.8	283	07.0		26.3	335	19.1		58.4						
8	20	09.3	298	06.1		26.6	350	19.8		59.1						
9	35	11.8	313	05.2		26.9	5	20.5	+10	59.7						
10	50	14.2	328	04.3		27.1	20	21.2	+11	00.4						
11	65	16.7	343	03.5	+23	27.4	35	21.9	+11	01.0						
12	80	19.2	358	02.6	+23	27.7	50	22.6	+11	01.7						
13	95	21.6	13	01.7		27.9	65	23.3		02.3						
14	110	24.1	28	00.9		28.2	80	24.0		03.0						
15	125	26.6	43	00.0		28.5	95	24.7		03.6						
16	140	29.0	57	59.1		28.7	110	25.4		04.3						
17	155	31.5	72	58.2	+23	29.0	125	26.1	+11	04.9						
18	170	33.9	87	57.4	+23	29.2	140	26.8	+11	05.6						
19	185	36.4	102	56.5		29.5	155	27.5		06.3						
20	200	38.9	117	55.6		29.7	170	28.2		06.9						
21	215	41.3	132	54.7		30.0	185	28.9		07.6						
22	230	43.8	147	53.8		30.2	200	29.6		08.2						
23	245	46.3	162	53.0		30.5	215	30.3		08.9						
24	260	48.7	177	52.1	+23	30.7	230	31.0	+11	09.5						
Dif	—		-9		+3		+7		+7		+19		+1		+24	

0

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 00.0 ^m				Edad: 5.5 ^d SD: 14'9 PMG: 17 ^h 09 ^m PHE { 4 ^h : 54'8 12 ^h : 54'6 20 ^h : 54'5 R°: 40 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	° N	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180 01.8	+23 10.1	110 09.3	+15 52.3	123	58	21 23	23 04	** **	9 14 85	0 36 0					
1	195 01.6	10.2	124 43.0	40.0	123	58	21 03	22 17	** **	23 81	27 3					
2	210 01.5	10.4	139 16.8	27.7	123	56	20 47	21 48	** **	31 77	18 7					
3	225 01.4	10.5	153 50.7	15.3	124	54	33	27	23 09	37 75	11 9					
4	240 01.2	10.7	168 24.6	+15 02.9	124	52	20	21 09	22 26	43 73	0 04 12					
5	255 01.1	+23 10.8	182 58.7	+14 50.4	125	50	20 10	20 54	21 59	9 49 70	** ** *					
6	270 01.0	+23 11.0	197 32.7	+14 37.8	126	45	19 47	20 25	21 14	10 00 65	** ** *					
7	285 00.8	11.1	212 06.9	25.3	125	40	30	20 02	20 44	10 61	23 56 20					
8	300 00.7	11.3	226 41.1	+14 12.6	127	35	15	19 44	21	18 58	50 24					
9	315 00.6	11.4	241 15.5	+13 59.9	127	30	19 02	29	20 02	26 54	45 26					
10	330 00.5	11.6	255 49.8	47.2	127	20	18 40	19 04	19 34	38 49	35 31					
11	345 00.3	+23 11.7	270 24.3	+13 34.4	128	10 N	18 21	18 44	19 11	10 49 45	23 27 35					
12	0 00.2	+23 11.9	284 58.8	+13 21.6	128	0	18 04	18 26	18 52	10 59 41	23 19 40					
13	15 00.1	12.0	299 33.4	+13 08.8	128	0 S	17 46	18 09	36	11 09 36	11 44					
14	29 59.9	12.1	314 08.0	+12 55.8	130	20	28	17 52	19	19 33	23 02 49					
15	44 59.8	12.3	328 42.7	42.9	129	30	17 07	33	18 03	32 27	22 52 54					
16	59 59.7	12.4	343 17.5	29.9	130	35	16 55	23	17 55	38 25	46 57					
17	74 59.5	+23 12.6	357 52.3	+12 16.9	130	40	16 41	17 11	17 45	11 46 22	22 40 60					
18	89 59.4	+23 12.7	12 27.2	+12 03.8	131	45	16 24	16 58	17 35	11 56 17	22 32 64					
19	104 59.3	12.8	27 02.1	+11 50.7	131	50	16 04	42	23	12 07 12	23 69					
20	119 59.1	13.0	41 37.1	37.6	131	52	15 54	35	18	12 10	18 72					
21	134 59.0	13.1	56 12.2	24.4	132	54	43	27	13	17 8	14 73					
22	149 58.9	13.3	70 47.3	+11 11.2	132	56	30	18	07	23 6	08 77					
23	164 58.8	13.4	85 22.5	+10 57.9	133	58	15 16	16 07	17 00	30 3	22 02 80					
24	179 58.6	+23 13.5	99 57.7	+10 44.6	133	60 S	14 59	15 56	16 53	12 38 **	21 56 83					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 35.7 ^m		Mag: -4.0 PMG: 12 ^h 09 ^m		Mag: +1.0 PMG: 8 ^h 38 ^m		Mag: -2.0 PMG: 10 ^h 44 ^m		Mag: +1.1 PMG: 5 ^h 59 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	260 48.7	177 52.1	+23 30.7	230 31.0	+11 09.5	198 42.1	+20 14.8	270 01.3	-6 02.3	
1	275 51.2	192 51.2	31.0	245 31.7	10.2	213 43.9	14.9	285 03.7	02.3	
2	290 53.7	207 50.3	31.2	260 32.4	10.8	228 45.8	15.0	300 06.1	02.2	
3	305 56.1	222 49.5	31.5	275 33.1	11.5	243 47.7	15.1	315 08.5	02.2	
4	320 58.6	237 48.6	31.7	290 33.8	12.1	258 49.5	15.2	330 10.9	02.2	
5	336 01.1	252 47.7	+23 32.0	305 34.5	+11 12.8	273 51.4	+20 15.3	345 13.3	-6 02.2	
6	351 03.5	267 46.8	+23 32.2	320 35.2	+11 13.4	288 53.3	+20 15.4	0 15.7	-6 02.2	
7	6 06.0	282 46.0	32.4	335 35.9	14.1	303 55.1	15.6	15 18.1	02.1	
8	21 08.4	297 45.1	32.7	350 36.6	14.7	318 57.0	15.7	30 20.5	02.1	
9	36 10.9	312 44.2	32.9	5 37.3	15.4	333 58.8	15.8	45 22.9	02.1	
10	51 13.4	327 43.3	33.2	20 38.0	16.0	349 00.7	15.9	60 25.2	02.1	
11	66 15.8	342 42.4	+23 33.4	35 38.7	+11 16.7	4 02.6	+20 16.0	75 27.6	-6 02.1	
12	81 18.3	357 41.6	+23 33.6	50 39.4	+11 17.3	19 04.4	+20 16.1	90 30.0	-6 02.1	
13	96 20.8	12 40.7	33.9	65 40.1	18.0	34 06.3	16.2	105 32.4	02.0	
14	111 23.2	27 39.8	34.1	80 40.8	18.6	49 08.2	16.3	120 34.8	02.0	
15	126 25.7	42 38.9	34.3	95 41.5	19.3	64 10.0	16.4	135 37.2	02.0	
16	141 28.2	57 38.0	34.5	110 42.2	19.9	79 11.9	16.5	150 39.6	02.0	
17	156 30.6	72 37.2	+23 34.8	125 42.9	+11 20.6	94 13.8	+20 16.6	165 42.0	-6 02.0	
18	171 33.1	87 36.3	+23 35.0	140 43.6	+11 21.2	109 15.6	+20 16.7	180 44.4	-6 01.9	
19	186 35.6	102 35.4	35.2	155 44.3	21.9	124 17.5	16.9	195 46.8	01.9	
20	201 38.0	117 34.5	35.5	170 45.0	22.5	139 19.4	17.0	210 49.2	01.9	
21	216 40.5	132 33.6	35.7	185 45.7	23.2	154 21.2	17.1	225 51.6	01.9	
22	231 42.9	147 32.8	35.9	200 46.4	23.8	169 23.1	17.2	240 54.0	01.9	
23	246 45.4	162 31.9	36.1	215 47.1	24.4	184 24.9	17.3	255 56.4	01.9	
24	261 47.9	177 31.0	+23 36.3	230 47.8	+11 25.1	199 26.8	+20 17.4	270 58.8	-6 01.8	
Dif	—	-9	+2	+7	+6	+19	+1	+24	0	

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 00.2 ^m				Edad: 6.5 ^d PHE { 4 ^h : 54/4 12 ^h : 54/4 20 ^h : 54/3 PMG: 17 ^h 49 ^m R°: 39 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	179	58.6	+23	13.5	99	57.7	+10	44.6	60 N	**	**	0 56	2 37	10 39	82	0 36
1	194	58.5		13.7	114	33.0		31.3	58	**	**	1 43	2 57	44 79		30 2
2	209	58.4		13.8	129	08.3		17.9	56	**	**	2 12	3 13	48 76		25 5
3	224	58.2		13.9	143	43.7	+10	04.6	54	0 51	33	28	52 73		20 8	
4	239	58.1		14.1	158	19.1	+9	51.1	52	1 34	2 51	40	56 70		16 10	
5	254	58.0	+23	14.2	172	54.6	+9	37.7	50	2 01	3 06	3 50	10 59	68	0 12	12
6	269	57.8	+23	14.3	187	30.1	+9	24.2	45	2 46	3 35	4 13	11 05	64	0 03	17
7	284	57.7		14.5	202	05.7	+9	10.7	40	3 16	3 58	31	11 59	**	**	**
8	299	57.6		14.6	216	41.3	+8	57.2	35	39	4 16	45	16 56	**	**	**
9	314	57.4		14.7	231	16.9		43.6	30	3 58	31	4 58	20 53	**	**	**
10	329	57.3		14.8	245	52.6		30.0	20	4 27	4 56	5 20	27 48	**	**	**
11	344	57.2	+23	15.0	260	28.3	+8	16.4	10 N	4 49	5 16	5 39	11 34	43	**	**
12	359	57.0	+23	15.1	275	04.1	+8	02.8	0	5 08	5 34	5 57	11 40	39	23 59	38
13	14	56.9		15.2	289	39.9	+7	49.1	10 S	25	5 51	6 14	45 36		55 43	
14	29	56.8		15.4	304	15.8		35.4	20	41	6 08	32	52 30		51 47	
15	44	56.6		15.5	318	51.7		21.7	30	5 57	27	6 53	11 59	26	46 52	
16	59	56.5		15.6	333	27.6	+7	08.0	35	6 06	37	7 06	12 03	23	43 56	
17	74	56.4	+23	15.7	348	03.5	+6	54.2	40	6 15	6 49	7 20	12 08	19	23 40	59
18	89	56.2	+23	15.8	2	39.5	+6	40.4	45	6 25	7 02	7 36	12 13	16	23 36	63
19	104	56.1		16.0	17	15.5		26.6	50	37	18	7 57	19 12		32 68	
20	119	56.0		16.1	31	51.6	+6	12.8	52	42	26	8 07	22 9		30 70	
21	134	55.8		16.2	46	27.6	+5	59.0	54	48	34	18	25 7		27 73	
22	149	55.7		16.3	61	03.7		45.1	56	6 54	43	30	29 4		25 75	
23	164	55.6		16.4	75	39.9		31.3	58	7 00	7 53	8 45	33 2		22 78	
24	179	55.5	+23	16.6	90	16.0	+5	17.4	60 S	7 08	8 05	9 02	12 37	**	23 19	81
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 6 ^h 31.7 ^m		Mag: -4.0 PMG: 12 ^h 11 ^m		Mag: +1.0 PMG: 8 ^h 36 ^m		Mag: -2.0 PMG: 10 ^h 41 ^m		Mag: +1.1 PMG: 5 ^h 55 ^m							
	hG ♈	Dec	hG ♊	Dec	hG ♊	Dec	hG ♏	Dec	hG ♎	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	261	47.9	177	31.0	+23	36.3	230	47.8	+11	25.1						
1	276	50.3	192	30.1		36.6	245	48.5		25.7						
2	291	52.8	207	29.2		36.8	260	49.2		26.4						
3	306	55.3	222	28.4		37.0	275	49.9		27.0						
4	321	57.7	237	27.5		37.2	290	50.6		27.7						
5	337	00.2	252	26.6	+23	37.4	305	51.2	+11	28.3						
6	352	02.7	267	25.7	+23	37.6	320	51.9	+11	29.0						
7	7	05.1	282	24.8		37.8	335	52.6		29.6						
8	22	07.6	297	23.9		38.1	350	53.3		30.3						
9	37	10.0	312	23.1		38.3	5	54.0		30.9						
10	52	12.5	327	22.2		38.5	20	54.7		31.6						
11	67	15.0	342	21.3	+23	38.7	35	55.4	+11	32.2						
12	82	17.4	357	20.4	+23	38.9	50	56.1	+11	32.8						
13	97	19.9	12	19.5		39.1	65	56.8		33.5						
14	112	22.4	27	18.6		39.3	80	57.5		34.1						
15	127	24.8	42	17.8		39.5	95	58.2		34.8						
16	142	27.3	57	16.9		39.7	110	58.9		35.4						
17	157	29.8	72	16.0	+23	39.9	125	59.6	+11	36.1						
18	172	32.2	87	15.1	+23	40.1	141	00.3	+11	36.7						
19	187	34.7	102	14.2		40.3	156	01.0		37.3						
20	202	37.2	117	13.3		40.5	171	01.7		38.0						
21	217	39.6	132	12.5		40.7	186	02.4		38.6						
22	232	42.1	147	11.6		40.9	201	03.1		39.3						
23	247	44.5	162	10.7		41.1	216	03.8		39.9						
24	262	47.0	177	09.8	+23	41.3	231	04.5	+11	40.6						
Dif	—		-9		+2		+7		+6							
											+19	+1	+24		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna						
	SD: 15'7 PMG: 12 ^h 00.4 ^m				Edad: 7.5 ^d PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'3 Rº: 39 ^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	179	55.5	+23	16.6	90	16.0	+5	17.4	172	+5	03.5	139	60 N	21 25	23 08	** **	12 01	82		0 35	**				
1	194	55.3		16.7	104	52.2			172	+5	03.5	140	58	21 05	22 20	** **		03 78		32		2			
2	209	55.2		16.8	119	28.4			172	+4	49.5	140	56	20 48	21 50	** **		04 75		30		4			
3	224	55.1		16.9	134	04.6			172		35.6	139	54		34	28	23 13		05 72		28		7		
4	239	54.9		17.0	148	40.8			172		21.7	139	52		22	21 10	22 28		06 70		26		9		
5	254	54.8	+23	17.1	163	17.1		+4	07.7	140			50	20 11	20 55	22 00	12 07	68		0 24	11				
6	269	54.7	+23	17.3	177	53.4		+3	53.7	140			45	19 48	20 26	21 15	12 09	63		0 20	15				
7	284	54.5		17.4	192	29.7			173		39.7	140	40		30	20 03	20 45		10 60		16		20		
8	299	54.4		17.5	207	06.0			173		25.7	140	35		15	19 45		22		12 56		14		22	
9	314	54.3		17.6	221	42.3		+3	11.7	140			30	19 02		30	20 03		13 53		11		25		
10	329	54.1		17.7	236	18.6		+2	57.7	140			20	18 40	19 05	19 34	15 48			06	31				
11	344	54.0	+23	17.8	250	55.0		+2	43.7	140			10 N	18 22	18 45	19 12	12 17	43		0 02	35				
12	359	53.9	+23	17.9	265	31.3		+2	29.6	141			0	18 04	18 27	18 53	12 19	39		** ** *					
13	14	53.7		18.0	280	07.7			174		15.6	140	10 S	17 47	18 10		36		21 34		** ** *				
14	29	53.6		18.1	294	44.1		+2	01.5	141			20		28	17 52		20		22 31		** ** *			
15	44	53.5		18.3	309	20.5		+1	47.5	140			30	17 07		34	18 03		25 25		** ** *				
16	59	53.3		18.4	323	56.8			173		33.4	141	35	16 55		23	17 55		26 22		** ** *				
17	74	53.2	+23	18.5	338	33.2		+1	19.3	141			40	16 41	17 11	17 45	12 27	19		** ** *					
18	89	53.1	+23	18.6	353	09.6		+1	05.2	141			45	16 24	16 58	17 35	12 29	15		** ** *					
19	104	52.9		18.7	7	46.0		+0	51.1	141			50	16 03		42	23		31 11		** ** *				
20	119	52.8		18.8	22	22.4			174		37.0	141	52	15 54		34	18		31 9		** ** *				
21	134	52.7		18.9	36	58.8			174		22.9	141	54		43	26	12		32 7		** ** *				
22	149	52.5		19.0	51	35.2		+0	08.8	141			56		30	17	06		33 5		** ** *				
23	164	52.4		19.1	66	11.6		-0	05.2	140			58	15 15	16 07	17 00	35		1		** ** *				
24	179	52.3	+23	19.2	80	48.0		-0	19.4	142			60 S	14 58	15 56	16 52	12 36	**		** ** *					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 6 ^h 27.8 ^m		Mag: -4.0 PMG: 12 ^h 12 ^m		Mag: +1.0 PMG: 8 ^h 35 ^m		Mag: -2.0 PMG: 10 ^h 38 ^m		Mag: +1.1 PMG: 5 ^h 51 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	262	47.0	177	09.8	+23	41.3	231	04.5	+11	40.6	200	11.6	+20	20.0	271	56.3	-6	01.4	
1	277	49.5	192	08.9		41.4	246	05.2		41.2	215	13.4		20.1	286	58.7		01.4	
2	292	51.9	207	08.0		41.6	261	05.9		41.8	230	15.3		20.2	302	01.1		01.4	
3	307	54.4	222	07.1		41.8	276	06.6		42.5	245	17.2		20.3	317	03.5		01.4	
4	322	56.9	237	06.3		42.0	291	07.3		43.1	260	19.0		20.4	332	05.9		01.4	
5	337	59.3	252	05.4	+23	42.2	306	08.0	+11	43.8	275	20.9	+20	20.5	347	08.3	-6	01.4	
6	353	01.8	267	04.5	+23	42.4	321	08.7	+11	44.4	290	22.8	+20	20.6	2	10.7	-6	01.3	
7	8	04.3	282	03.6		42.6	336	09.4		45.0	305	24.6		20.7	17	13.1		01.3	
8	23	06.7	297	02.7		42.7	351	10.1		45.7	320	26.5		20.8	32	15.5		01.3	
9	38	09.2	312	01.8		42.9	6	10.8		46.3	335	28.4		20.9	47	17.9		01.3	
10	53	11.7	327	00.9		43.1	21	11.5		47.0	350	30.2		21.0	62	20.3		01.3	
11	68	14.1	342	00.0	+23	43.3	36	12.2	+11	47.6	5	32.1	+20	21.1	77	22.7	-6	01.3	
12	83	16.6	356	59.2	+23	43.5	51	12.9	+11	48.2	20	34.0	+20	21.2	92	25.1	-6	01.2	
13	98	19.0	11	58.3		43.6	66	13.6		48.9	35	35.8		21.3	107	27.5		01.2	
14	113	21.5	26	57.4		43.8	81	14.3		49.5	50	37.7		21.4	122	29.9		01.2	
15	128	24.0	41	56.5		44.0	96	14.9		50.1	65	39.6		21.5	137	32.3		01.2	
16	143	26.4	56	55.6		44.2	111	15.6		50.8	80	41.4		21.7	152	34.7		01.2	
17	158	28.9	71	54.7	+23	44.3	126	16.3	+11	51.4	95	43.3	+20	21.8	167	37.1	-6	01.2	
18	173	31.4	86	53.8	+23	44.5	141	17.0	+11	52.1	110	45.2	+20	21.9	182	39.5	-6	01.2	
19	188	33.8	101	52.9		44.7	156	17.7		52.7	125	47.0		22.0	197	41.9		01.1	
20	203	36.3	116	52.1		44.8	171	18.4		53.3	140	48.9		22.1	212	44.3		01.1	
21	218	38.8	131	51.2		45.0	186	19.1		54.0	155	50.8		22.2	227	46.8		01.1	
22	233	41.2	146	50.3		45.2	201	19.8		54.6	170	52.6		22.3	242	49.2		01.1	
23	248	43.7	161	49.4		45.3	216	20.5		55.2	185	54.5		22.4	257	51.6		01.1	
24	263	46.1	176	48.5	+23	45.5	231	21.2	+11	55.9	200	56.4	+20	22.5	272	54.0	-6	01.1	
Dif	—		-9		+2		+7		+6		+19		+1		+24				

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15/7 PMG:12 ^h 00.6 ^m			Edad: 8.5 ^d PHE { 4 ^h : 54/3 12 ^h : 54/3 20 ^h : 54/4 R°: 40 ^m PMG: 19 ^h 07 ^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	52.3	+23	19.2	80	48.0	174	-0	19.4	60 N	***	0 53	2 36	13 23	83		0 34	**	
1	194	52.1		19.3	95	24.4	174		33.5	58	***	1 41	2 56	21 79		34	2		
2	209	52.0		19.4	110	00.8	174	-0	47.6	56	***	2 11	3 13	19 76		34	5		
3	224	51.9		19.5	124	37.2	174	-1	01.7	54	0 48	33	27	17 74		35	6		
4	239	51.7		19.6	139	13.5	173		15.8	52	1 33	2 51	39	16 71		35	9		
5	254	51.6	+23	19.7	153	49.9	174	-1	29.9	50	2 01	3 06	3 50	13 15	69	0 35	11		
6	269	51.4	+23	19.8	168	26.2	173	-1	43.9	45	2 46	3 35	4 13	13 12	64	0 35	16		
7	284	51.3		19.9	183	02.6	174	-1	58.0	40	3 16	3 58	31	10 60		36	19		
8	299	51.2		20.0	197	38.9	173	-2	12.1	35	39	4 16	46	08 56		36	23		
9	314	51.0		20.1	212	15.2	173		26.2	30	3 58	31	4 59	06 53		36	26		
10	329	50.9		20.2	226	51.5	173		40.3	20	4 27	4 56	5 21	03 48		37	30		
11	344	50.8	+23	20.3	241	27.8	173	-2	54.4	10 N	4 49	5 16	5 39	13 00	44	0 37	35		
12	359	50.6	+23	20.4	256	04.0	172	-3	08.4	0	5 08	5 34	5 57	12 58	39	0 37	40		
13	14	50.5		20.4	270	40.3	173		22.5	10 S	25	5 52	6 14	55 36		38	43		
14	29	50.4		20.5	285	16.5	172		36.6	20	41	6 09	33	53 31		38	48		
15	44	50.2		20.6	299	52.7	172	-3	50.6	30	5 58	28	6 54	50 26		38	53		
16	59	50.1		20.7	314	28.8	171	-4	04.6	35	6 06	38	7 06	48 23		39	56		
17	74	50.0	+23	20.8	329	05.0	172	-4	18.7	40	6 16	6 50	7 20	12 46	20	0 39	59		
18	89	49.8	+23	20.9	343	41.1	171	-4	32.7	45	6 26	7 03	7 37	12 44	16	0 39	64		
19	104	49.7		21.0	358	17.2	171	-4	46.7	50	38	19	7 58	42 11		40	68		
20	119	49.6		21.1	12	53.3	171	-5	00.7	52	43	27	8 08	40 10		40	70		
21	134	49.4		21.2	27	29.3	170		14.6	54	49	35	19	39 8		40	73		
22	149	49.3		21.2	42	05.3	170		28.6	56	6 55	44	31	38 5		40	75		
23	164	49.2		21.3	56	41.3	170		42.6	58	7 02	7 54	8 46	36 2		40	79		
24	179	49.0	+23	21.4	71	17.2	169	-5	56.5	60 S	7 09	8 06	9 03	12 35	**	0 40	82		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 6 ^h 23.9 ^m		Mag: -3.9 PMG: 12 ^h 13 ^m		Mag: +1.0 PMG: 8 ^h 34 ^m		Mag: -2.0 PMG: 10 ^h 35 ^m		Mag: +1.1 PMG: 5 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	263	46.1	176	48.5	+23	45.5	231	21.2	+11	55.9	200	56.4	+20	22.5	272	54.0	-6	01.1
1	278	48.6	191	47.6		45.6	246	21.9		56.5	215	58.2		22.6	287	56.4		01.1
2	293	51.1	206	46.7		45.8	261	22.6		57.2	231	00.1		22.7	302	58.8		01.0
3	308	53.5	221	45.8		46.0	276	23.3		57.8	246	02.0		22.8	318	01.2		01.0
4	323	56.0	236	44.9		46.1	291	24.0		58.4	261	03.8		22.9	333	03.6		01.0
5	338	58.5	251	44.1	+23	46.3	306	24.7	+11	59.1	276	05.7	+20	23.0	348	06.0	-6	01.0
6	354	00.9	266	43.2	+23	46.4	321	25.4	+11	59.7	291	07.6	+20	23.1	3	08.4	-6	01.0
7	9	03.4	281	42.3		46.6	336	26.1	+12	00.3	306	09.4		23.2	18	10.8		01.0
8	24	05.9	296	41.4		46.7	351	26.8		01.0	321	11.3		23.3	33	13.2		01.0
9	39	08.3	311	40.5		46.9	6	27.5		01.6	336	13.2		23.4	48	15.6		00.9
10	54	10.8	326	39.6		47.0	21	28.2		02.2	351	15.0		23.5	63	18.0		00.9
11	69	13.3	341	38.7	+23	47.2	36	28.9	+12	02.9	6	16.9	+20	23.6	78	20.4	-6	00.9
12	84	15.7	356	37.8	+23	47.3	51	29.6	+12	03.5	21	18.8	+20	23.8	93	22.8	-6	00.9
13	99	18.2	11	36.9		47.5	66	30.3		04.1	36	20.6		23.9	108	25.2		00.9
14	114	20.6	26	36.0		47.6	81	31.0		04.8	51	22.5		24.0	123	27.6		00.9
15	129	23.1	41	35.2		47.8	96	31.7		05.4	66	24.4		24.1	138	30.0		00.9
16	144	25.6	56	34.3		47.9	111	32.3		06.0	81	26.2		24.2	153	32.4		00.9
17	159	28.0	71	33.4	+23	48.0	126	33.0	+12	06.7	96	28.1	+20	24.3	168	34.8	-6	00.8
18	174	30.5	86	32.5	+23	48.2	141	33.7	+12	07.3	111	30.0	+20	24.4	183	37.3	-6	00.8
19	189	33.0	101	31.6		48.3	156	34.4		07.9	126	31.8		24.5	198	39.7		00.8
20	204	35.4	116	30.7		48.5	171	35.1		08.6	141	33.7		24.6	213	42.1		00.8
21	219	37.9	131	29.8		48.6	186	35.8		09.2	156	35.6		24.7	228	44.5		00.8
22	234	40.4	146	28.9		48.7	201	36.5		09.8	171	37.4		24.8	243	46.9		00.8
23	249	42.8	161	28.0		48.9	216	37.2		10.5	186	39.3		24.9	258	49.3		00.8
24	264	45.3	176	27.1	+23	49.0	231	37.9	+12	11.1	201	41.2	+20	25.0	273	51.7	-6	00.7
Dif	—		-9		+1		+7		+6		+19		+1		+24		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 15'7 PMG:12 ^h 00.8 ^m				Edad: 9.5 ^d SD: 14'8 PMG: 19 ^h 47 ^m PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 43 ^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	49.0	+23	21.4	71	17.2			-5	56.5	139	60 N	21	26	23	11	**	**	14	46	87	0 33 **
1	194	48.9		21.5	85	53.2			-6	10.4	139	58	21	06	22	21	**	**	40	83		36 2
2	209	48.8		21.6	100	29.0				24.3	139	56	20	49	21	52	**	**	35	80		39 5
3	224	48.6		21.7	115	04.9				38.2	139	54		35	29	23	16		31	77		41
4	239	48.5		21.7	129	40.7			-6	52.1	138	52		22	21	11	22	29	27	74		44 10
5	254	48.4	+23	21.8	144	16.4			-7	05.9	138	50	20	12	20	56	22	02	14	24	71	0 46 12
6	269	48.2	+23	21.9	158	52.2			-7	19.8	139	45	19	49	20	27	21	16	14	16	66	0 51 17
7	284	48.1		22.0	173	27.9				33.6	138	40		31	20	04	20	46	10	62		55 21
8	299	48.0		22.1	188	03.5			-7	47.4	138	35		16	19	46	23		14	04	59	0 59 24
9	314	47.8		22.1	202	39.1			-8	01.2	138	30	19	03	31		20	04	13	59	56	1 02 27
10	329	47.7		22.2	217	14.7				14.9	137	20	18	41	19	06	19	35	51	51		07 32
11	344	47.5	+23	22.3	231	50.2			-8	28.6	137	10 N	18	22	18	45	19	12	13	44	46	1 12 36
12	359	47.4	+23	22.4	246	25.6			-8	42.3	137	0	18	05	18	27	18	53	13	37	42	1 17 40
13	14	47.3		22.4	261	01.0			-8	56.0	137	10 S	17	47	18	10	36		31	37		21 45
14	29	47.1		22.5	275	36.4			-9	09.7	137	20		29	17	53	20		24	33		26 49
15	44	47.0		22.6	290	11.7				23.3	136	30	17	07	34	18	04	16	28			31 55
16	59	46.9		22.7	304	47.0				36.9	136	35	16	55	23	17	55	11	26			35 57
17	74	46.7	+23	22.7	319	22.2			-9	50.5	136	40	16	41	17	11	17	46	13	06	22	1 38 61
18	89	46.6	+23	22.8	333	57.4			-10	04.0	135	45	16	24	16	58	17	35	13	00	18	1 43 65
19	104	46.5		22.9	348	32.5				17.5	135	50	16	03	42	23		23	12	53	14	48 70
20	119	46.3		22.9	3	07.5				31.0	135	52	15	54	34	18			50	11		50 72
21	134	46.2		23.0	17	42.5				44.5	135	54	42		26	12			47	8		53 74
22	149	46.1		23.1	32	17.4			-10	57.9	134	56		30	17		06		43	6		55 78
23	164	45.9		23.1	46	52.3			-11	11.3	134	58	15	15	16	07	17	00	38	3		1 59 81
24	179	45.8	+23	23.2	61	27.1			-11	24.7	134	60 S	14	58	15	55	16	52	12	34	**	2 02 85
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG 6 ^h 19.9 ^m		Mag: -3.9 PMG: 12 ^h 15 ^m				Mag: +1.0 PMG: 8 ^h 33 ^m				Mag: -2.0 PMG: 10 ^h 32 ^m				Mag: +1.1 PMG: 5 ^h 44 ^m							
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	264	45.3	176	27.1	+23	49.0	231	37.9	+12	11.1	201	41.2	+20	25.0	273	51.7	-6	00.7				
1	279	47.7	191	26.2		49.1	246	38.6		11.7	216	43.0		25.1	288	54.1		00.7				
2	294	50.2	206	25.4		49.3	261	39.3		12.3	231	44.9		25.2	303	56.5		00.7				
3	309	52.7	221	24.5		49.4	276	40.0		13.0	246	46.8		25.3	318	58.9		00.7				
4	324	55.1	236	23.6		49.5	291	40.7		13.6	261	48.6		25.4	334	01.3		00.7				
5	339	57.6	251	22.7	+23	49.6	306	41.4	+12	14.2	276	50.5	+20	25.5	349	03.7	-6	00.7				
6	355	00.1	266	21.8	+23	49.8	321	42.1	+12	14.9	291	52.4	+20	25.6	4	06.1	-6	00.7				
7	10	02.5	281	20.9		49.9	336	42.8		15.5	306	54.2		25.7	19	08.5		00.7				
8	25	05.0	296	20.0		50.0	351	43.5		16.1	321	56.1		25.8	34	11.0		00.6				
9	40	07.5	311	19.1		50.1	6	44.2		16.8	336	58.0		25.9	49	13.4		00.6				
10	55	09.9	326	18.2		50.3	21	44.9		17.4	351	59.8		26.0	64	15.8		00.6				
11	70	12.4	341	17.3	+23	50.4	36	45.6	+12	18.0	7	01.7	+20	26.1	79	18.2	-6	00.6				
12	85	14.9	356	16.4	+23	50.5	51	46.2	+12	18.6	22	03.6	+20	26.3	94	20.6	-6	00.6				
13	100	17.3	11	15.5		50.6	66	46.9		19.3	37	05.5		26.4	109	23.0		00.6				
14	115	19.8	26	14.6		50.7	81	47.6		19.9	52	07.3		26.5	124	25.4		00.6				
15	130	22.2	41	13.7		50.8	96	48.3		20.5	67	09.2		26.6	139	27.8		00.6				
16	145	24.7	56	12.9		51.0	111	49.0		21.1	82	11.1		26.7	154	30.2		00.6				
17	160	27.2	71	12.0	+23	51.1	126	49.7	+12	21.8	97	12.9	+20	26.8	169	32.6	-6	00.5				
18	175	29.6	86	11.1	+23	51.2	141	50.4	+12	22.4	112	14.8	+20	26.9	184	35.0	-6	00.5				
19	190	32.1	101	10.2		51.3	156	51.1		23.0	127	16.7		27.0	199	37.5		00.5				
20	205	34.6	116	09.3		51.4	171	51.8		23.7	142	18.5		27.1	214	39.9		00.5				
21	220	37.0	131	08.4		51.5	186	52.5		24.3	157	20.4		27.2	229	42.3		00.5				
22	235	39.5	146	07.5		51.6	201	53.2		24.9	172	22.3		27.3	244	44.7		00.5				
23	250	42.0	161	06.6		51.7	216	53.9		25.5	187	24.1		27.4	259	47.1		00.5				
24	265	44.4	176	05.7	+23	51.8	231	54.6	+12	26.2	202	26.0	+20	27.5	274	49.5	-6	00.5				
Dif	—		-9		+1		+7		+6		+19		+1		+24		0					

ALMANAQUE NÁUTICO PERSEUS

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG:12 ^h 01.3 ^m				Edad: 11.5 ^d PHE { 4 ^h : 55'3 12 ^h : 55'5 20 ^h : 55'7 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	h m m	h m m	h m m			
0	179	42.5	+23	24.6	51	01.5	-16	32.7	122	58	60 N	21 27	23 14	** **	17 46	100	0 31	1			
1	194	42.4		24.6	65	34.4		44.9	139	58		21 07	22 22	** **	32 92		42 5				
2	209	42.3		24.7	80	07.3	-16	57.0	121	56		20 50	21 52	** **	19 87		51 10				
3	224	42.1		24.7	94	40.1	-17	09.1	121	54		36	30	23 18	17 08	83	0 59	13			
4	239	42.0		24.8	109	12.7		21.1	120	52		23	21 12	22 31	16 58	80	1 06	17			
5	254	41.9	+23	24.8	123	45.3	-17	33.0	119	50		20 12	20 57	22 03	16 50	77	1 13	19			
6	269	41.7	+23	24.9	138	17.8	-17	44.9	119	45		19 50	20 27	21 17	16 31	72	1 27	24			
7	284	41.6		24.9	152	50.2	-17	56.8	119	40		32	20 05	20 46	17 67	39 28					
8	299	41.5		25.0	167	22.5	-18	08.5	117	35		17	19 46	23	16 04	64	49 32				
9	314	41.3		25.0	181	54.7		20.2	117	30		19 04	31	20 04	15 53	62	1 58 35				
10	329	41.2		25.1	196	26.8		31.8	116	20		18 42	19 06	19 35	35 57		2 14 39				
11	344	41.1	+23	25.1	210	58.8	-18	43.4	116	10 N		18 23	18 46	19 13	15 19 53		2 28 43				
12	359	40.9	+23	25.1	225	30.7	-18	54.8	114	0		18 05	18 27	18 54	15 04 49		2 40 47				
13	14	40.8		25.2	240	02.5	-19	06.2	114	10 S		17 47	18 10	37	14 49 46		2 53 51				
14	29	40.7		25.2	254	34.2		17.6	114	20		29	17 53	20	34 42		3 07 55				
15	44	40.5		25.3	269	05.8		28.8	112	30		17 08	34	18 04	16 37	23 60					
16	59	40.4		25.3	283	37.4		40.0	112	35		16 55	24	17 55	14 06 34		32 63				
17	74	40.2	+23	25.3	298	08.8	-19	51.1	111	40		16 41	17 12	17 46	13 54 31		3 43 66				
18	89	40.1	+23	25.4	312	40.1	-20	02.1	110	45		16 24	16 58	17 35	13 40 27		3 55 70				
19	104	40.0		25.4	327	11.3		13.0	109	50		16 04	42	24	23 23		4 10 76				
20	119	39.8		25.4	341	42.4		23.9	109	52		15 54	35	18	16 19 18		78				
21	134	39.7		25.5	356	13.4		34.7	108	54		43	26	13	13 07 16		26 81				
22	149	39.6		25.5	10	44.3		45.4	107	56		30	17	06	12 57 13		35 85				
23	164	39.4		25.5	25	15.1	-20	56.0	106	58		15 15	16 07	17 00	46 9		45 90				
24	179	39.3	+23	25.6	39	45.8	-21	06.5	105	60 S		14 58	15 55	16 52	12 33 3		4 57 96				

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 12.1 ^m			Mag: -3.9 PMG: 12 ^h 18 ^m			Mag: +1.0 PMG: 8 ^h 31 ^m			Mag: -2.0 PMG: 10 ^h 26 ^m			Mag: +1.1 PMG: 5 ^h 36 ^m						
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	266	43.6	175	44.2	+23	53.9	232	11.2	+12	41.1	203	10.9	+20	29.9	275	47.4	-6	00.2	
1	281	46.0	190	43.3		54.0	247	11.9		41.7	218	12.8		30.0	290	49.8		00.2	
2	296	48.5	205	42.4		54.1	262	12.6		42.3	233	14.6		30.1	305	52.3		00.2	
3	311	51.0	220	41.5		54.1	277	13.3		42.9	248	16.5		30.2	320	54.7		00.2	
4	326	53.4	235	40.6		54.2	292	14.0		43.6	263	18.4		30.4	335	57.1		00.2	
5	341	55.9	250	39.7	+23	54.3	307	14.7	+12	44.2	278	20.2	+20	30.5	350	59.5	-6	00.2	
6	356	58.3	265	38.9	+23	54.4	322	15.4	+12	44.8	293	22.1	+20	30.6	6	01.9	-6	00.2	
7	12	00.8	280	38.0		54.4	337	16.1		45.4	308	24.0		30.7	21	04.3		00.2	
8	27	03.3	295	37.1		54.5	352	16.8		46.0	323	25.8		30.8	36	06.7		00.1	
9	42	05.7	310	36.2		54.5	7	17.5		46.7	338	27.7		30.9	51	09.2		00.1	
10	57	08.2	325	35.3		54.6	22	18.2		47.3	353	29.6		31.0	66	11.6		00.1	
11	72	10.7	340	34.4	+23	54.7	37	18.9	+12	47.9	8	31.5	+20	31.1	81	14.0	-6	00.1	
12	87	13.1	355	33.5	+23	54.7	52	19.6	+12	48.5	23	33.3	+20	31.2	96	16.4	-6	00.1	
13	102	15.6	10	32.6		54.8	67	20.2		49.1	38	35.2		31.3	111	18.8		00.1	
14	117	18.1	25	31.7		54.8	82	20.9		49.7	53	37.1		31.4	126	21.2		00.1	
15	132	20.5	40	30.8		54.9	97	21.6		50.4	68	38.9		31.5	141	23.7		00.1	
16	147	23.0	55	29.9		55.0	112	22.3		51.0	83	40.8		31.6	156	26.1		00.1	
17	162	25.5	70	29.0	+23	55.0	127	23.0	+12	51.6	98	42.7	+20	31.7	171	28.5	-6	00.1	
18	177	27.9	85	28.1	+23	55.1	142	23.7	+12	52.2	113	44.6	+20	31.8	186	30.9	-6	00.1	
19	192	30.4	100	27.2		55.1	157	24.4		52.8	128	46.4		31.9	201	33.3	-6	00.0	
20	207	32.8	115	26.3		55.2	172	25.1		53.4	143	48.3		32.0	216	35.7		00.0	
21	222	35.3	130	25.4		55.2	187	25.8		54.1	158	50.2		32.1	231	38.2		00.0	
22	237	37.8	145	24.5		55.3	202	26.5		54.7	173	52.0		32.2	246	40.6		00.0	
23	252	40.2	160	23.6		55.3	217	27.2		55.3	188	53.9		32.3	261	43.0		00.0	
24	267	42.7	175	22.7	+23	55.3	232	27.9	+12	55.9	203	55.8	+20	32.4	276	45.4	-6	00.0	
Dif	—			-9	+1		+7			+6	+19			+1	+24				

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/7 PMG:12 ^h 01.5 ^m				Edad: 12.5 ^d PHE { 4 ^h : 55/9 12 ^h : 56/1 20 ^h : 56/3 PMG: 22 ^h 06 ^m R°: 55 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	39.3	+23	25.6	39	45.8	116	21	06.5	104	60 N	** **	0 49	2 36	19 26	103	0 32	4	
1	194	39.2		25.6	54	16.4	115		16.9	103	58	** **	1 40	2 56	19 04	93	0 47	11	
2	209	39.0		25.6	68	46.9	113		27.2	102	56	** **	2 10	3 13	18 46	87	1 01	16	
3	224	38.9		25.7	83	17.2	113		37.4	102	54	0 45	33	27	31	82	12	20	
4	239	38.8		25.7	97	47.5	113		47.6	102	52	1 32	2 51	40	18	79	23	23	
5	254	38.6	+23	25.7	112	17.6	111	-21	57.6	100	50	2 00	3 06	3 50	18 07	76	1 32	26	
6	269	38.5	+23	25.8	126	47.7	111	-22	07.6	100	45	2 46	3 36	4 13	17 43	71	1 51	31	
7	284	38.3		25.8	141	17.6	109		17.5	99	40	3 16	3 58	31	24	68	2 07	35	
8	299	38.2		25.8	155	47.5	109		27.2	97	35	40	4 16	46	17 08	66	21	38	
9	314	38.1		25.8	170	17.2	107		36.9	97	30	3 58	32	4 59	16 55	63	33	40	
10	329	37.9		25.9	184	46.8	106		46.4	95	20	4 27	4 57	5 21	32	59	2 53	45	
11	344	37.8	+23	25.9	199	16.3	105	-22	55.9	95	10 N	4 50	5 17	5 40	16 12	57	3 11	48	
12	359	37.7	+23	25.9	213	45.7	104	-23	05.2	93	0	5 09	5 35	5 58	15 53	54	3 27	52	
13	14	37.5		25.9	228	15.0	103		14.5	93	10 S	26	5 52	6 15	35	51	3 44	55	
14	29	37.4		26.0	242	44.2	102		23.6	91	20	42	6 10	34	15 16	48	4 02	58	
15	44	37.3		26.0	257	13.2	100		32.6	90	30	5 59	29	6 55	14 53	45	23	62	
16	59	37.1		26.0	271	42.2	100		41.5	89	35	6 08	39	7 07	40	42	35	65	
17	74	37.0	+23	26.0	286	11.0	98	-23	50.3	88	40	6 17	6 51	7 22	14 25	40	4 49	68	
18	89	36.9	+23	26.0	300	39.8	98	-23	59.0	87	45	6 27	7 05	7 39	14 07	36	5 05	72	
19	104	36.7		26.1	315	08.4	96	-24	07.6	86	50	39	21	7 59	13 46	31	26	77	
20	119	36.6		26.1	329	36.9	95		16.1	85	52	44	28	8 09	35	29	36	80	
21	134	36.4		26.1	344	05.3	94		24.4	83	54	50	36	20	23	26	5 47	83	
22	149	36.3		26.1	358	33.6	93		32.6	82	56	6 56	46	33	13 10	21	6 00	87	
23	164	36.2		26.1	13	01.8	92		40.7	81	58	7 03	7 56	8 48	12 55	15	15	93	
24	179	36.0	+23	26.1	27	29.9	91	-24	48.7	80	60 S	7 11	8 08	9 05	12 36	8	6 33	101	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 6 ^h 08.1 ^m		Mag: -3.9 PMG: 12 ^h 19 ^m		Mag: +1.0 PMG: 8 ^h 30 ^m		Mag: -2.0 PMG: 10 ^h 23 ^m		Mag: +1.1 PMG: 5 ^h 32 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	267	42.7	175	22.7	+23	55.3	232	27.9	+12	55.9
1	282	45.2	190	21.8		55.4	247	28.6		56.5
2	297	47.6	205	20.9		55.4	262	29.3		57.1
3	312	50.1	220	20.0		55.5	277	29.9		57.7
4	327	52.6	235	19.1		55.5	292	30.6		58.3
5	342	55.0	250	18.2	+23	55.5	307	31.3	+12	59.0
6	357	57.5	265	17.3	+23	55.6	322	32.0	+12	59.6
7	13	00.0	280	16.4		55.6	337	32.7	+13	00.2
8	28	02.4	295	15.5		55.7	352	33.4		00.8
9	43	04.9	310	14.6		55.7	7	34.1		01.4
10	58	07.3	325	13.7		55.7	22	34.8		02.0
11	73	09.8	340	12.9	+23	55.8	37	35.5	+13	02.6
12	88	12.3	355	12.0	+23	55.8	52	36.2	+13	03.2
13	103	14.7	10	11.1		55.8	67	36.9		03.9
14	118	17.2	25	10.2		55.8	82	37.6		04.5
15	133	19.7	40	09.3		55.9	97	38.2		05.1
16	148	22.1	55	08.4		55.9	112	38.9		05.7
17	163	24.6	70	07.5	+23	55.9	127	39.6	+13	06.3
18	178	27.1	85	06.6	+23	55.9	142	40.3	+13	06.9
19	193	29.5	100	05.7		56.0	157	41.0		07.5
20	208	32.0	115	04.8		56.0	172	41.7		08.1
21	223	34.4	130	03.9		56.0	187	42.4		08.7
22	238	36.9	145	03.0		56.0	202	43.1		09.3
23	253	39.4	160	02.1		56.0	217	43.8		10.0
24	268	41.8	175	01.2	+23	56.0	232	44.5	+13	10.6
Dif	—		-9		0		+7		+6	
							+19		+1	
									+24	
									0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG: 12 ^h 01.7 ^m				Edad: 13.5 ^d PHE { 4 ^h : 56/5 12 ^h : 56/7 20 ^h : 56/9 Rº: 58 ^m PMG: 23 ^h 01 ^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	36.0	+23	26.1	27	29.9	89	-24	48.7	78	60 N	21 28	23 14	** **	21 09	87	0 36	11				
1	194	35.9		26.2	41	57.8	89	-24	56.5	78	58	21 07	22 23	** **	20 37	78	0 58	22				
2	209	35.8		26.2	56	25.7	89	-25	04.3	76	56	20 50	21 53	** **	20 13	74	1 17	27				
3	224	35.6		26.2	70	53.5	88		11.9	75	54		36	31	23 19	19 53	73	32				
4	239	35.5		26.2	85	21.1	86		19.4	73	52	24	21 13	22 31	37 71	46	34					
5	254	35.4	+23	26.2	99	48.6	85	-25	26.7	75	50	20 13	20 58	22 03	19 23	69	1 58	36				
6	269	35.2	+23	26.2	114	16.1	85	-25	33.9	72	45	19 50	20 28	21 18	18 54	67	2 22	41				
7	284	35.1		26.2	128	43.4	83		41.0	71	40	32	20 05	20 47	32 65	42	44					
8	299	35.0		26.2	143	10.6	82		47.9	69	35	17	19 47	24	18 14	64	2 59	46				
9	314	34.8		26.2	157	37.8	82	-25	54.7	68	30	19 04	32	20 05	17 58	63	3 13	48				
10	329	34.7		26.3	172	04.8	80	-26	01.4	67	20	18 42	19 07	19 36	31 61	38	51					
11	344	34.6	+23	26.3	186	31.7	79	-26	08.0	66	10 N	18 23	18 46	19 13	17 09	59	3 59	54				
12	359	34.4	+23	26.3	200	58.5	78	-26	14.3	63	0	18 05	18 28	18 54	16 47	58	4 19	56				
13	14	34.3		26.3	215	25.2	77		20.6	63	10 S	17 48	18 11	37	26 57	4	39	58				
14	29	34.1		26.3	229	51.8	76		26.7	61	20	29	17 53	21	16 04	54	5 00	61				
15	44	34.0		26.3	244	18.4	76		32.7	60	30	17 08	34	18 04	15 38	52	25	63				
16	59	33.9		26.3	258	44.8	74		38.5	58	35	16 56	24	17 56	22 52	40	65					
17	74	33.7	+23	26.3	273	11.1	73	-26	44.2	57	40	16 41	17 12	17 46	15 05	49	5 57	67				
18	89	33.6	+23	26.3	287	37.3	72	-26	49.7	55	45	16 25	16 59	17 36	14 43	48	6 17	70				
19	104	33.5		26.3	302	03.5	72	-26	55.1	54	50	16 04	42	24	17 44	43	73					
20	119	33.3		26.3	316	29.5	70	-27	00.3	52	52	15 54	35	19	14 04	42	6 56	75				
21	134	33.2		26.3	330	55.4	69		05.4	51	54	43	27	13	13 49	40	7 10	78				
22	149	33.1		26.3	345	21.3	69		10.3	49	56	30	18	07	31 37	27	82					
23	164	32.9		26.3	359	47.1	68		15.1	48	58	15 15	16 07	17 00	13 10	32	7 48	86				
24	179	32.8	+23	26.3	14	12.7	66	-27	19.7	46	60 S	14 58	15 56	16 52	12 44	22	8 14	96				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG 6 ^h 04.2 ^m		Mag: -3.9 PMG: 12 ^h 21 ^m				Mag: +1.0 PMG: 8 ^h 29 ^m				Mag: -2.0 PMG: 10 ^h 20 ^m				Mag: +1.1 PMG: 5 ^h 28 ^m							
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	268	41.8	175	01.2	+23	56.0	232	44.5	+13	10.6	204	40.7	+20	34.8	277	43.5	-5	59.8				
1	283	44.3	190	00.3		56.1	247	45.2		11.2	219	42.6		34.9	292	45.9		59.8				
2	298	46.8	204	59.4		56.1	262	45.9		11.8	234	44.5		35.0	307	48.4		59.8				
3	313	49.2	219	58.5		56.1	277	46.5		12.4	249	46.3		35.1	322	50.8		59.8				
4	328	51.7	234	57.6		56.1	292	47.2		13.0	264	48.2		35.2	337	53.2		59.8				
5	343	54.2	249	56.7	+23	56.1	307	47.9	+13	13.6	279	50.1	+20	35.3	352	55.6	-5	59.8				
6	358	56.6	264	55.8	+23	56.1	322	48.6	+13	14.2	294	52.0	+20	35.4	7	58.1	-5	59.8				
7	13	59.1	279	54.9		56.1	337	49.3		14.8	309	53.8		35.5	23	00.5		59.8				
8	29	01.6	294	54.0		56.1	352	50.0		15.4	324	55.7		35.6	38	02.9		59.8				
9	44	04.0	309	53.1		56.1	7	50.7		16.0	339	57.6		35.7	53	05.3		59.8				
10	59	06.5	324	52.2		56.1	22	51.4		16.6	354	59.5		35.8	68	07.7		59.8				
11	74	08.9	339	51.3	+23	56.1	37	52.1	+13	17.2	10	01.3	+20	35.9	83	10.2	-5	59.8				
12	89	11.4	354	50.4	+23	56.1	52	52.8	+13	17.8	25	03.2	+20	36.0	98	12.6	-5	59.8				
13	104	13.9	9	49.5		56.1	67	53.5		18.4	40	05.1		36.1	113	15.0		59.8				
14	119	16.3	24	48.6		56.1	82	54.2		19.1	55	06.9		36.2	128	17.4		59.8				
15	134	18.8	39	47.7		56.1	97	54.8		19.7	70	08.8		36.3	143	19.9		59.8				
16	149	21.3	54	46.8		56.1	112	55.5		20.3	85	10.7		36.4	158	22.3		59.7				
17	164	23.7	69	45.9	+23	56.1	127	56.2	+13	20.9	100	12.6	+20	36.5	173	24.7	-5	59.7				
18	179	26.2	84	45.0	+23	56.1	142	56.9	+13	21.5	115	14.4	+20	36.6	188	27.1	-5	59.7				
19	194	28.7	99	44.1		56.1	157	57.6		22.1	130	16.3		36.7	203	29.6		59.7				
20	209	31.1	114	43.2		56.1	172	58.3		22.7	145	18.2		36.8	218	32.0		59.7				
21	224	33.6	129	42.3		56.1	187	59.0		23.3	160	20.1		36.9	233	34.4		59.7				
22	239	36.1	144	41.4		56.1	202	59.7		23.9	175	21.9		36.9	248	36.8		59.7				
23	254	38.5	159	40.5		56.0	218	00.4		24.5	190	23.8		37.0	263	39.3		59.7				
24	269	41.0	174	39.7	+23	56.0	233	01.1	+13	25.1	205	25.7	+20	37.1	278	41.7	-5	59.7				
Dif	—		-9				0				+7				+19				+24			

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15/7 PMG:12 ^h 01.9 ^m			Edad: 14.5 ^d PHE { 4 ^h : 57/1 12 ^h : 57/4 20 ^h : 57/6 PMG: 23 ^h 59 ^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	179	32.8	+23	26.3	14	12.7	66	-27	19.7	45	60 N	0 49	2 36	22 36 45	0 47 36	
1	194	32.7		26.3	28	38.3	65		24.2	43	58	1 40	2 56	21 55 51	1 20 43	
2	209	32.5		26.3	43	03.8	65		28.5	41	56	2 11	3 13	27 53	1 44 47	
3	224	32.4		26.3	57	29.3	65		32.6	40	54	0 45	33	28	21 06 54	
4	239	32.3		26.3	71	54.6	63		36.6	40	52	1 32	2 51	40	20 48 55	
5	254	32.1	+23	26.3	86	19.9	63	-27	40.4	38	50	2 00	3 06	3 51	20 32 56	
6	269	32.0	+23	26.3	100	45.1	62	-27	44.0	36	45	2 46	3 36	4 13	20 01 58	
7	284	31.8		26.3	115	10.2	61		47.5	35	40	3 17	3 59	31	19 37 58	
8	299	31.7		26.2	129	35.2	60		50.9	34	35	40	4 17	4 47	18 58	
9	314	31.6		26.2	144	00.2	60		54.0	31	30	3 59	32	5 00	19 01 59	
10	329	31.4		26.2	158	25.1	59		57.0	30	20	4 28	4 57	22	18 32 60	
11	344	31.3	+23	26.2	172	49.9	58	-27	59.8	28	10 N	4 50	5 18	5 41	18 08 60	
12	359	31.2	+23	26.2	187	14.6	57	-28	02.5	27	0	5 09	5 36	5 58	17 45 60	
13	14	31.0		26.2	201	39.3	57		05.0	25	10 S	27	5 53	6 16	17 23 60	
14	29	30.9		26.2	216	04.0	57		07.3	23	20	43	6 10	34	16 58 61	
15	44	30.8		26.2	230	28.5	55		09.4	21	30	5 59	29	6 56	30 61	
16	59	30.6		26.2	244	53.0	55		11.4	20	35	6 08	40	7 08	16 14 60	
17	74	30.5	+23	26.1	259	17.5	55	-28	13.2	18	40	6 17	6 52	7 22	15 54 61	
18	89	30.4	+23	26.1	273	41.9	54	-28	14.8	16	45	6 28	7 05	7 39	15 31 60	
19	104	30.2		26.1	288	06.2	53		16.3	15	50	40	21	8 00	15 01 60	
20	119	30.1		26.1	302	30.5	53		17.6	13	52	45	29	10	14 46 60	
21	134	30.0		26.1	316	54.7	52		18.6	10	54	51	37	21	29 60	
22	149	29.8		26.1	331	18.9	52		19.6	10	56	6 57	46	34	14 08 60	
23	164	29.7		26.0	345	43.1	52		20.3	7	58	7 04	7 56	8 48	13 42 60	
24	179	29.6	+23	26.0	0	07.2	51	-28	20.9	6	60 S	7 11	8 08	9 06	13 06 59	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 6 ^h 00.3 ^m		Mag: -3.9 PMG: 12 ^h 22 ^m		Mag: +1.0 PMG: 8 ^h 28 ^m		Mag: -2.0 PMG: 10 ^h 17 ^m		Mag: +1.1 PMG: 5 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	269	41.0	174	39.7	+23	56.0	233	01.1	+13	25.1
1	284	43.4	189	38.8		56.0	248	01.7		25.7
2	299	45.9	204	37.9		56.0	263	02.4		26.3
3	314	48.4	219	37.0		56.0	278	03.1		26.9
4	329	50.8	234	36.1		56.0	293	03.8		27.5
5	344	53.3	249	35.2	+23	55.9	308	04.5	+13	28.1
6	359	55.8	264	34.3	+23	55.9	323	05.2	+13	28.7
7	14	58.2	279	33.4		55.9	338	05.9		29.3
8	30	00.7	294	32.5		55.9	353	06.6		29.9
9	45	03.2	309	31.6		55.8	8	07.3		30.5
10	60	05.6	324	30.7		55.8	23	08.0		31.1
11	75	08.1	339	29.8	+23	55.8	38	08.7	+13	31.7
12	90	10.6	354	28.9	+23	55.8	53	09.3	+13	32.3
13	105	13.0	9	28.0		55.7	68	10.0		32.9
14	120	15.5	24	27.1		55.7	83	10.7		33.5
15	135	17.9	39	26.2		55.7	98	11.4		34.1
16	150	20.4	54	25.3		55.6	113	12.1		34.7
17	165	22.9	69	24.4	+23	55.6	128	12.8	+13	35.3
18	180	25.3	84	23.5	+23	55.6	143	13.5	+13	35.9
19	195	27.8	99	22.6		55.5	158	14.2		36.5
20	210	30.3	114	21.7		55.5	173	14.9		37.1
21	225	32.7	129	20.8		55.4	188	15.5		37.7
22	240	35.2	144	19.9		55.4	203	16.2		38.3
23	255	37.7	159	19.0		55.4	218	16.9		38.9
24	270	40.1	174	18.1	+23	55.3	233	17.6	+13	39.5
Dif	—		-9			0	+7			+6
										+19
										+1
										+24

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo				Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 02.1 ^m				Edad: 15.5 ^d SD: 15'7 PMG: **h **m								PHE { 4 ^h : 57'8 12 ^h : 58'0 20 ^h : 58'1 Rº: **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	29.6	+23	26.0	0	07.2	51	−28	20.9	4	60 N	21 28	23 14	** **	23 21	15	1	23	81			
1	194	29.4		26.0	14	31.3	50		21.3	2	58	21 08	22 23	** **	22 46	26	2	03	75			
2	209	29.3		26.0	28	55.3	50		21.5	0	56	20 51	21 53	** **	20 33				31	73		
3	224	29.2		26.0	43	19.3	50		21.5	2	54		36	31	23 18	22 00	36	2	53	71		
4	239	29.0		25.9	57	43.3	50		21.3	3	52		24	21 13	22 31	21 43	39	3	11	70		
5	254	28.9	+23	25.9	72	07.2	49	−28	21.0	2	50	20 13	20 58	22 04	21 28	42	3	26	69			
6	269	28.8	+23	25.9	86	31.1	49	−28	20.5	5	45	19 51	20 28	21 18	20 59	46	3	57	67			
7	284	28.6		25.9	100	55.0	49		19.8	7	40		33	20 05	20 47	35 49	4	21	66			
8	299	28.5		25.8	115	18.9	49		18.9	9	35		18	19 47	24	16 51		41	65			
9	314	28.3		25.8	129	42.7	48		17.8	11	30	19 04		32	20 05	20 00	52	4	58	64		
10	329	28.2		25.8	144	06.6	49		16.6	12	20	18 42	19 07	19 36	19 32	55	5	27	62			
11	344	28.1	+23	25.8	158	30.4	48	−28	15.1	15	10 N	18 23	18 46	19 14	19 08	58	5	51	61			
12	359	27.9	+23	25.7	172	54.2	48	−28	13.5	16	0	18 06	18 28	18 55	18 45	60	6	14	60			
13	14	27.8		25.7	187	18.0	48		11.7	18	10 S	17 48	18 11		38	18 23	62	6	37	59		
14	29	27.7		25.7	201	41.8	48		09.7	20	20		30	17 54	21	17 59	64	7	01	58		
15	44	27.5		25.7	216	05.5	47		07.6	21	30	17 09		35	18 05	31 66		29	56			
16	59	27.4		25.6	230	29.3	48		05.2	24	35	16 56		24	17 56	17 14	68	7	46	55		
17	74	27.3	+23	25.6	244	53.1	48	−28	02.7	25	40	16 42	17 13	17 47	16 55	70	8	06	53			
18	89	27.1	+23	25.6	259	16.9	48	−28	00.0	27	45	16 25	16 59	17 36	16 31	73	8	29	52			
19	104	27.0		25.5	273	40.6	47	−27	57.1	29	50	16 04		43	24	16 01	76	9	00	48		
20	119	26.9		25.5	288	04.4	48		54.0	31	52	15 54		35	19	15 46	78		15	47		
21	134	26.7		25.5	302	28.2	48		50.8	32	54		43	27	13	29 80		32	45			
22	149	26.6		25.4	316	52.0	48		47.3	35	56		31	18	07	15 08	83	9	53	42		
23	164	26.5		25.4	331	15.9	49		43.7	36	58	15 16	16 08	17 01	14 42	88	10	20	37			
24	179	26.3	+23	25.4	345	39.7	48	−27	39.9	38	60 S	14 58	15 56	16 53	14 05	97	10	57	28			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG 5 ^h 56.3 ^m		Mag: −3.9 PMG: 12 ^h 24 ^m				Mag: +1.0 PMG: 8 ^h 26 ^m				Mag: −2.0 PMG: 10 ^h 14 ^m				Mag: +1.1 PMG: 5 ^h 20 ^m							
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	270	40.1	174	18.1	+23	55.3	233	17.6	+13	39.5	206	10.7	+20	39.5	279	40.0	−5	59.6				
1	285	42.6	189	17.2		55.3	248	18.3		40.1	221	12.6		39.6	294	42.4		59.6				
2	300	45.1	204	16.3		55.2	263	19.0		40.7	236	14.4		39.7	309	44.8		59.6				
3	315	47.5	219	15.4		55.2	278	19.7		41.3	251	16.3		39.8	324	47.3		59.6				
4	330	50.0	234	14.5		55.1	293	20.4		41.9	266	18.2		39.9	339	49.7		59.6				
5	345	52.4	249	13.6	+23	55.1	308	21.1	+13	42.5	281	20.1	+20	40.0	354	52.1	−5	59.6				
6	0	54.9	264	12.7	+23	55.0	323	21.8	+13	43.1	296	21.9	+20	40.1	9	54.6	−5	59.6				
7	15	57.4	279	11.9		55.0	338	22.4		43.6	311	23.8		40.2	24	57.0		59.6				
8	30	59.8	294	11.0		54.9	353	23.1		44.2	326	25.7		40.3	39	59.4		59.6				
9	46	02.3	309	10.1		54.9	8	23.8		44.8	341	27.6		40.4	55	01.8		59.6				
10	61	04.8	324	09.2		54.8	23	24.5		45.4	356	29.5		40.5	70	04.3		59.6				
11	76	07.2	339	08.3	+23	54.7	38	25.2	+13	46.0	11	31.3	+20	40.6	85	06.7	−5	59.6				
12	91	09.7	354	07.4	+23	54.7	53	25.9	+13	46.6	26	33.2	+20	40.7	100	09.1	−5	59.6				
13	106	12.2	9	06.5		54.6	68	26.6		47.2	41	35.1		40.8	115	11.6		59.6				
14	121	14.6	24	05.6		54.6	83	27.3		47.8	56	37.0		40.8	130	14.0		59.6				
15	136	17.1	39	04.7		54.5	98	28.0		48.4	71	38.8		40.9	145	16.4		59.6				
16	151	19.6	54	03.8		54.4	113	28.6		49.0	86	40.7		41.0	160	18.9		59.6				
17	166	22.0	69	02.9	+23	54.4	128	29.3	+13	49.6	101	42.6	+20	41.1	175	21.3	−5	59.6				
18	181	24.5	84	02.0	+23	54.3	143	30.0	+13	50.2	116	44.5	+20	41.2	190	23.7	−5	59.6				
19	196	26.9	99	01.1		54.2	158	30.7		50.8	131	46.3		41.3	205	26.2		59.6				
20	211	29.4	114	00.2		54.2	173	31.4		51.4	146	48.2		41.4	220	28.6		59.6				
21	226	31.9	128	59.3		54.1	188	32.1		52.0	161	50.1		41.5	235	31.0		59.6				
22	241	34.3	143	58.4		54.0	203	32.8		52.5	176	52.0		41.6	250	33.5		59.6				
23	256	36.8	158	57.5		54.0	218	33.5		53.1	191	53.8		41.7	265	35.9		59.6				
24	271	39.3	173	56.6	+23	53.9	233	34.2	+13	53.7	206	55.7	+20	41.8	280	38.3	−5	59.6				
Dif	—		−9		−1		+7		+6		+19		+1		+24		0					

UT	SOL				LUNA								Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'7 PMG:12 ^h 02.4 ^m				Edad: 16.5 ^d PHE { 4 ^h : 58'3 12 ^h : 58'5 20 ^h : 58'6 Rº: 59 ^m																
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	179	26.3	+23	25.4	345	39.7			-27	39.9	40		0 50		2 36	23 36	5	2 44	109		
1	194	26.2		25.3		0 03.6	49			35.9	42		** **	1 41	2 57	23 12	13	3 18	98		
2	209	26.1		25.3	14	27.4	48			31.7	43		** **	2 11	3 14	22 53	18	3 44	91		
3	224	25.9		25.2	28	51.3	49			27.4	43		0 46	34	28	36 24		4 04	87		
4	239	25.8		25.2	43	15.3	50			22.8	47		1 33	2 52	40	22 27		21	83		
5	254	25.7	+23	25.2	57	39.2	49		-27	18.1	46		2 01	3 07	3 51	22 10	30	4 35	81		
6	269	25.5	+23	25.1	72	03.2	50		-27	13.2	49		2 47	3 36	4 14	21 45	35	5 04	77		
7	284	25.4		25.1	86	27.2	50			08.2	50		3 17	3 59	32	24 40		27	73		
8	299	25.3		25.0	100	51.3	51		-27	02.9	53		41	4 17	4 47	21 07	43	5 46	70		
9	314	25.1		25.0	115	15.3	50		-26	57.5	54		3 59	33	5 00	20 52	46	6 02	68		
10	329	25.0		25.0	129	39.5	52			51.9	56		4 28	4 58	22	27 50		29	65		
11	344	24.9	+23	24.9	144	03.6	51		-26	46.1	58	10 N	4 51	5 18	5 41	20 06	53	6 52	62		
12	359	24.7	+23	24.9	158	27.8	52		-26	40.2	59	0	5 10	5 36	5 59	19 45	58	7 14	59		
13	14	24.6		24.8	172	52.1	53			34.0	62	10 S	27	5 53	6 16	25 61		36	56		
14	29	24.5		24.8	187	16.4	53			27.7	63	20	5 43	6 11	35	19 03	65	7 59	53		
15	44	24.3		24.7	201	40.7	53			21.3	64	30	6 00	30	6 56	18 37	69	8 25	49		
16	59	24.2		24.7	216	05.1	54			14.6	67	35	08	40	7 08	22 72		41	47		
17	74	24.1	+23	24.6	230	29.6	55		-26	07.8	68	40	6 18	6 52	7 22	18 05	75	8 59	44		
18	89	23.9	+23	24.6	244	54.1	55		-26	00.8	70	45	6 28	7 05	7 39	17 44	79	9 21	40		
19	104	23.8		24.5	259	18.6	56		-25	53.6	72	50	40	22	8 00	17 85		9 48	36		
20	119	23.7		24.5	273	43.2	56			46.3	73	52	45	29	10	17 04	88	10 02	32		
21	134	23.5		24.4	288	07.9	57			38.8	75	54	51	37	21	16 49	91	17	29		
22	149	23.4		24.4	302	32.6	57			31.2	76	56	6 57	46	34	31 96		35	25		
23	164	23.3		24.3	316	57.4	58			23.3	79	58	7 04	7 57	8 48	16 10	102	10 57	19		
24	179	23.1	+23	24.3	331	22.2	58		-25	15.3	80	60 S	7 11	8 08	9 06	15 42	111	11 25	10		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 5 ^h 52.4 ^m				Mag: -3.9 PMG: 12 ^h 25 ^m				Mag: +1.0 PMG: 8 ^h 25 ^m				Mag: -2.0 PMG: 10 ^h 11 ^m				Mag: +1.1 PMG: 5 ^h 17 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	271	39.3	173	56.6	+23	53.9	233	34.2	+13	53.7	206	55.7	+20	41.8	280	38.3	-5	59.6			
1	286	41.7	188	55.7		53.8	248	34.8		54.3	221	57.6		41.9	295	40.8		59.6			
2	301	44.2	203	54.8		53.7	263	35.5		54.9	236	59.5		42.0	310	43.2		59.6			
3	316	46.7	218	53.9		53.7	278	36.2		55.5	252	01.4		42.1	325	45.6		59.6			
4	331	49.1	233	53.0		53.6	293	36.9		56.1	267	03.2		42.2	340	48.1		59.6			
5	346	51.6	248	52.2	+23	53.5	308	37.6	+13	56.7	282	05.1	+20	42.3	355	50.5	-5	59.6			
6	1	54.1	263	51.3	+23	53.4	323	38.3	+13	57.3	297	07.0	+20	42.4	10	52.9	-5	59.6			
7	16	56.5	278	50.4		53.3	338	39.0		57.9	312	08.9		42.5	25	55.4		59.6			
8	31	59.0	293	49.5		53.3	353	39.7		58.4	327	10.7		42.6	40	57.8		59.6			
9	47	01.4	308	48.6		53.2	8	40.3		59.0	342	12.6		42.7	56	00.2		59.6			
10	62	03.9	323	47.7		53.1	23	41.0	+13	59.6	357	14.5		42.8	71	02.7		59.6			
11	77	06.4	338	46.8	+23	53.0	38	41.7	+14	00.2	12	16.4	+20	42.9	86	05.1	-5	59.6			
12	92	08.8	353	45.9	+23	52.9	53	42.4	+14	00.8	27	18.3	+20	43.0	101	07.6	-5	59.5			
13	107	11.3	8	45.0		52.8	68	43.1		01.4	42	20.1		43.1	116	10.0		59.5			
14	122	13.8	23	44.1		52.7	83	43.8		02.0	57	22.0		43.2	131	12.4		59.5			
15	137	16.2	38	43.2		52.6	98	44.5		02.6	72	23.9		43.2	146	14.9		59.5			
16	152	18.7	53	42.3		52.5	113	45.2		03.1	87	25.8		43.3	161	17.3		59.5			
17	167	21.2	68	41.4	+23	52.4	128	45.8	+14	03.7	102	27.7	+20	43.4	176	19.7	-5	59.5			
18	182	23.6	83	40.5	+23	52.3	143	46.5	+14	04.3	117	29.5	+20	43.5	191	22.2	-5	59.5			
19	197	26.1	98	39.6		52.3	158	47.2		04.9	132	31.4		43.6	206	24.6		59.5			
20	212	28.6	113	38.7		52.2	173	47.9		05.5	147	33.3		43.7	221	27.0		59.5			
21	227	31.0	128	37.8		52.1	188	48.6		06.1	162	35.2		43.8	236	29.5		59.5			
22	242	33.5	143	36.9		52.0	203	49.3		06.7	177	37.0		43.9	251	31.9		59.5			
23	257	35.9	158	36.1		51.9	218	50.0		07.2	192	38.9		44.0	266	34.4		59.5			
24	272	38.4	173	35.2	+23	51.7	233	50.7	+14	07.8	207	40.8	+20	44.1	281	36.8	-5	59.5			
Dif	—		-9		-1		+7		+6		+19		+1		+24		0				

UT	SOL			LUNA							Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 15'7 PMG:12 ^h 02.6 ^m			Edad: 17.5 ^d SD: 16'0 PMG: 1 ^h 59 ^m PHE 4^h: 58'8 12^h: 58'9 20^h: 59'0 Rº: 57^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	23.1	+23	24.3	331	22.2	60	-25	15.3	81	60 N	21 28	23 13	** **	23 41	1		4 33	112					
1	194	23.0		24.2	345	47.2	59	-25	07.2	83	58	21 07	22 23	** **		25 7		4 56	104					
2	209	22.9		24.2	0	12.1	61	-24	58.9	85	56	20 51	21 53	** **		11 12		5 15	98					
3	224	22.7		24.1	14	37.2	61		50.4	86	54		37 31	23 17	23 00	15		31	93					
4	239	22.6		24.0	29	02.3	61		41.8	86	52	24	21 13	22 31	22 49	19		44	90					
5	254	22.5	+23	24.0	43	27.5	62	-24	33.0	90	50	20 13	20 58	22 03	22 40	22		5 56	87					
6	269	22.3	+23	23.9	57	52.7	62	-24	24.0	98	45	19 51	20 28	21 18	22 20	28		6 21	80					
7	284	22.2		23.9	72	18.0	63		14.9	91	40	33	20 06	20 47	22 04	32		40	76					
8	299	22.1		23.8	86	43.4	64	-24	05.6	93	35	18	19 48	24	21 50	36		6 56	73					
9	314	21.9		23.8	101	08.9	65	-23	56.2	94	30	19 05	32	20 06	38	40		7 10	69					
10	329	21.8		23.7	115	34.4	65		46.7	95	20	18 43	19 07	19 37	21 17	45		34	64					
11	344	21.7	+23	23.6	130	00.0	66	-23	36.9	98	10 N	18 24	18 47	19 14	20 59	50		7 54	60					
12	359	21.5	+23	23.6	144	25.7	67	-23	27.1	98	0	18 06	18 29	18 55	20 43	54		8 13	56					
13	14	21.4		23.5	158	51.5	68		17.1	100	10 S	17 49	18 12	38	26 58			32	52					
14	29	21.3		23.4	173	17.3	68	-23	06.9	102	20	30	17 54	22	20 08	63		8 52	47					
15	44	21.1		23.4	187	43.3	70	-22	56.6	103	30	17 09	35	18 05	19 46	69		9 14	43					
16	59	21.0		23.3	202	09.3	70		46.1	105	35	16 57	25	17 57	34 72			28	39					
17	74	20.9	+23	23.3	216	35.3	70	-22	35.5	106	40	16 43	17 13	17 47	19 20	76		9 43	36					
18	89	20.7	+23	23.2	231	01.5	72	-22	24.8	107	45	16 26	17 00	17 37	19 03	81		10 01	32					
19	104	20.6		23.1	245	27.7	72		13.9	109	50	16 05	16 44	25	18 42	87		24	25					
20	119	20.5		23.1	259	54.1	74	-22	02.9	110	52	15 55	36	20	32 90			34	23					
21	134	20.4		23.0	274	20.5	74	-21	51.8	111	54	44	28	14	20 94			10 46	20					
22	149	20.2		22.9	288	47.0	75		40.5	113	56	31	19	08	18 07	98		11 00	15					
23	164	20.1		22.8	303	13.5	75		29.1	114	58	15 17	16 09	17 01	17 52	103		16	10					
24	179	20.0	+23	22.8	317	40.2	77	-21	17.5	116	60 S	14 59	15 57	16 54	17 33	111		11 35	4					

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 5 ^h 48.5 ^m		Mag: -3.9 PMG: 12 ^h 26 ^m			Mag: +1.0 PMG: 8 ^h 24 ^m			Mag: -2.0 PMG: 10 ^h 08 ^m			Mag: +1.1 PMG: 5 ^h 13 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	272	38.4	173	35.2	+23	51.7	233	50.7	+14	07.8	207	40.8	+20	44.1	281	36.8	-5	59.5	
1	287	40.9	188	34.3		51.6	248	51.4		08.4	222	42.7		44.2	296	39.2		59.5	
2	302	43.3	203	33.4		51.5	263	52.0		09.0	237	44.6		44.3	311	41.7		59.5	
3	317	45.8	218	32.5		51.4	278	52.7		09.6	252	46.4		44.4	326	44.1		59.5	
4	332	48.3	233	31.6		51.3	293	53.4		10.2	267	48.3		44.5	341	46.5		59.5	
5	347	50.7	248	30.7	+23	51.2	308	54.1	+14	10.7	282	50.2	+20	44.6	356	49.0	-5	59.5	
6	2	53.2	263	29.8	+23	51.1	323	54.8	+14	11.3	297	52.1	+20	44.7	11	51.4	-5	59.6	
7	17	55.7	278	28.9		51.0	338	55.5		11.9	312	54.0		44.8	26	53.9		59.6	
8	32	58.1	293	28.0		50.9	353	56.2		12.5	327	55.8		44.9	41	56.3		59.6	
9	48	00.6	308	27.1		50.8	8	56.8		13.1	342	57.7		45.0	56	58.7		59.6	
10	63	03.0	323	26.2		50.6	23	57.5		13.7	357	59.6		45.0	72	01.2		59.6	
11	78	05.5	338	25.3	+23	50.5	38	58.2	+14	14.2	13	01.5	+20	45.1	87	03.6	-5	59.6	
12	93	08.0	353	24.4	+23	50.4	53	58.9	+14	14.8	28	03.4	+20	45.2	102	06.1	-5	59.6	
13	108	10.4	8	23.6		50.3	68	59.6		15.4	43	05.2		45.3	117	08.5		59.6	
14	123	12.9	23	22.7		50.2	84	00.3		16.0	58	07.1		45.4	132	10.9		59.6	
15	138	15.4	38	21.8		50.1	99	01.0		16.6	73	09.0		45.5	147	13.4		59.6	
16	153	17.8	53	20.9		49.9	114	01.7		17.1	88	10.9		45.6	162	15.8		59.6	
17	168	20.3	68	20.0	+23	49.8	129	02.3	+14	17.7	103	12.8	+20	45.7	177	18.3	-5	59.6	
18	183	22.8	83	19.1	+23	49.7	144	03.0	+14	18.3	118	14.6	+20	45.8	192	20.7	-5	59.6	
19	198	25.2	98	18.2		49.6	159	03.7		18.9	133	16.5		45.9	207	23.1		59.6	
20	213	27.7	113	17.3		49.4	174	04.4		19.5	148	18.4		46.0	222	25.6		59.6	
21	228	30.2	128	16.4		49.3	189	05.1		20.0	163	20.3		46.1	237	28.0		59.6	
22	243	32.6	143	15.5		49.2	204	05.8		20.6	178	22.2		46.2	252	30.5		59.6	
23	258	35.1	158	14.6		49.0	219	06.5		21.2	193	24.0		46.3	267	32.9		59.6	
24	273	37.5	173	13.8	+23	48.9	234	07.1	+14	21.8	208	25.9	+20	46.4	282	35.3	-5	59.6	
Dif	—		-9			-1	+7			+6	+19		+1		+24				

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15 ^h 7 PMG:12 ^h 02.8 ^m			Edad: 18.5 ^d PHE { 4 ^h : 59 ¹ / ₂ 12 ^h : 59 ² / ₂ 20 ^h : 59 ² / ₂ PMG: 2 ^h 56 ^m 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	179	20.0	+23	22.8	317	40.2	-21	17.5	60 N	**	0	52	2	38	23	42	0
1	194	19.8		22.7	332	06.9	77	-21	05.9	58	**	1	42	2	58	32	5
2	209	19.7		22.6	346	33.7	78	-20	54.0	56	**	2	12	3	15	23	9
3	224	19.6		22.6	1	00.6	79		42.1	54	0	48	34	29	15	12	7
4	239	19.4		22.5	15	27.6	80		30.1	52	1	34	2	52	41	08	15
5	254	19.3	+23	22.4	29	54.7	81	-20	17.9	50	2	02	3	07	3	52	23
6	269	19.2	+23	22.3	44	21.8	81	-20	05.6	45	2	47	3	37	4	15	22
7	284	19.0		22.3	58	49.0	82	-19	53.1	40	3	18	4	00	33	36	28
8	299	18.9		22.2	73	16.3	83		40.6	35	3	41	18	4	48	26	32
9	314	18.8		22.1	87	43.7	84		27.9	30	4	00	33	5	01	18	34
10	329	18.6		22.0	102	11.2	85		15.2	20	29	4	58	23	22	02	41
11	344	18.5	+23	22.0	116	38.8	86	-19	02.3	10 N	4	51	5	18	5	42	21
12	359	18.4	+23	21.9	131	06.4	86	-18	49.3	0	5	10	5	37	5	59	21
13	14	18.2		21.8	145	34.1	87		36.2	10 S	27	5	54	6	17	24	56
14	29	18.1		21.7	160	01.9	88		22.9	20	5	44	6	11	35	21	11
15	44	18.0		21.6	174	29.8	89	-18	09.6	30	6	00	30	6	56	20	55
16	59	17.9		21.5	188	57.8	90	-17	56.2	35	09	40	7	09	46	71	10
17	74	17.7	+23	21.5	203	25.8	90	-17	42.6	40	6	18	6	52	7	23	20
18	89	17.6	+23	21.4	217	54.0	92	-17	29.0	45	6	28	7	06	7	39	20
19	104	17.5		21.3	232	22.2	92		15.2	50	40	22	8	00	09	85	49
20	119	17.3		21.2	246	50.4	92	-17	01.4	52	45	29	10	20	02	88	10
21	134	17.2		21.1	261	18.8	94	-16	47.4	54	51	37	21	19	54	92	11
22	149	17.1		21.0	275	47.2	94		33.4	56	6	57	46	34	45	96	15
23	164	16.9		21.0	290	15.8	96		19.3	58	7	04	7	57	8	48	35
24	179	16.8	+23	20.9	304	44.4	96	-16	05.0	60 S	7	11	8	08	9	06	19

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 ^h 44.6 ^m		Mag: -3.9 PMG: 12 ^h 28 ^m		Mag: +1.0 PMG: 8 ^h 23 ^m		Mag: -2.0 PMG: 10 ^h 05 ^m		Mag: +1.1 PMG: 5 ^h 09 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	273	37.5	173	13.8	+23	48.9	234	07.1	+14	21.8
1	288	40.0	188	12.9		48.8	249	07.8		22.4
2	303	42.5	203	12.0		48.6	264	08.5		22.9
3	318	44.9	218	11.1		48.5	279	09.2		23.5
4	333	47.4	233	10.2		48.4	294	09.9		24.1
5	348	49.9	248	09.3	+23	48.2	309	10.6	+14	24.7
6	3	52.3	263	08.4	+23	48.1	324	11.3	+14	25.3
7	18	54.8	278	07.5		47.9	339	12.0		25.8
8	33	57.3	293	06.6		47.8	354	12.6		26.4
9	48	59.7	308	05.7		47.7	9	13.3		27.0
10	64	02.2	323	04.8		47.5	24	14.0		27.6
11	79	04.7	338	04.0	+23	47.4	39	14.7	+14	28.1
12	94	07.1	353	03.1	+23	47.2	54	15.4	+14	28.7
13	109	09.6	8	02.2		47.1	69	16.1		29.3
14	124	12.0	23	01.3		46.9	84	16.8		29.9
15	139	14.5	38	00.4		46.8	99	17.4		30.4
16	154	17.0	52	59.5		46.6	114	18.1		31.0
17	169	19.4	67	58.6	+23	46.5	129	18.8	+14	31.6
18	184	21.9	82	57.7	+23	46.3	144	19.5	+14	32.2
19	199	24.4	97	56.8		46.1	159	20.2		32.7
20	214	26.8	112	56.0		46.0	174	20.9		33.3
21	229	29.3	127	55.1		45.8	189	21.6		33.9
22	244	31.8	142	54.2		45.7	204	22.2		34.4
23	259	34.2	157	53.3		45.5	219	22.9		35.0
24	274	36.7	172	52.4	+23	45.4	234	23.6	+14	35.6
Dif	—		-9		-1		+7		+6	
								+19	+1	
									+24	0

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 15'7 PMG:12 ^h 03.0 ^m				Edad: 19.5 ^d SD: 16'1 PMG: 3 ^h 49 ^m PHE { 4 ^h : 59'3 12 ^h : 59'3 20 ^h : 59'4 Rº: 50 ^m																		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico			Hora	Rº	Hora	Rº							
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m					
0	179	16.8	+23	20.9	304	44.4	-16	05.0	60 N	21	27	23	11	**	**	23	42	0	8	14	103		
1	194	16.7		20.8	319	13.0	96	-15	50.7	143	58	21	07	22	22	**	**	37	3	23	98		
2	209	16.5		20.7	333	41.8	98		36.3	144	56	20	50	21	53	**	**	32	6	31	94		
3	224	16.4		20.6	348	10.6	98		21.8	145	54		36	31	23	15	27	10	38	90			
4	239	16.3		20.5	2	39.5	99	-15	07.2	146	52		24	21	13	22	30	23	12	44	88		
5	254	16.2	+23	20.4	17	08.4	99	-14	52.6	146	50	20	13	20	58	22	03	23	19	15	8	50	84
6	269	16.0	+23	20.3	31	37.5	101	-14	37.8	148	45	19	51	20	28	21	18	23	11	20	9	02	78
7	284	15.9		20.2	46	06.6	101		23.0	148	40		33	20	06	20	47	23	04	25	12	73	
8	299	15.8		20.1	60	35.8	102	-14	08.1	149	35		18	19	48	24		22	58	28	20	70	
9	314	15.6		20.0	75	05.0	102	-13	53.1	150	30	19	05		32	20	06	52	33		27	66	
10	329	15.5		20.0	89	34.3	103		38.0	151	20	18	43	19	08	19	37	43	38		40	60	
11	344	15.4	+23	19.9	104	03.7	104	-13	22.9	151	10 N	18	24	18	47	19	14	22	35	44	9	51	54
12	359	15.2	+23	19.8	118	33.2	105	-13	07.7	152	0	18	07	18	29	18	55	22	27	49	10	01	50
13	14	15.1		19.7	133	02.7	105	-12	52.4	153	10 S	17	49	18	12	38		20	53		11	45	
14	29	15.0		19.6	147	32.3	106		37.1	153	20		31	17	55	22		12	59		22	39	
15	44	14.9		19.5	162	01.9	106		21.6	155	30	17	10		36	18	06	22	02	65	34	33	
16	59	14.7		19.4	176	31.6	107	-12	06.1	155	35	16	57		26	17	57	21	57	68	41	30	
17	74	14.6	+23	19.3	191	01.4	108	-11	50.6	155	40	16	43	17	14	17	48	21	50	73	10	49	26
18	89	14.5	+23	19.2	205	31.2	108	-11	35.0	156	45	16	27	17	00	17	38	21	43	78	10	58	21
19	104	14.3		19.1	220	01.1	109		19.3	157	50	16	06	16	44	26		34	84		11	09	16
20	119	14.2		19.0	234	31.0	109	-11	03.6	157	52	15	56		37	21		30	87		14	13	
21	134	14.1		18.9	249	01.0	110	-10	47.8	158	54		45		29	15		26	89		19	11	
22	149	13.9		18.8	263	31.1	111		31.9	159	56		32		20	09		21	93		25	8	
23	164	13.8		18.7	278	01.2	111	-10	16.0	159	58	18	16	10	17	02		15	97		32	4	
24	179	13.7	+23	18.6	292	31.4	112	-10	00.0	160	60 S	15	00	15	58	16	55	21	09	101	11	40	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 5 ^h 40.6 ^m		Mag: -3.9 PMG: 12 ^h 29 ^m		Mag: +1.0 PMG: 8 ^h 22 ^m		Mag: -2.0 PMG: 10 ^h 02 ^m		Mag: +1.1 PMG: 5 ^h 05 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	274	36.7	172	52.4	+23	45.4	234	23.6	+14	35.6	209	11.1	+20	48.6	283	34.0	-5	59.6
1	289	39.2	187	51.5		45.2	249	24.3		36.2	224	13.0		48.7	298	36.4		59.6
2	304	41.6	202	50.6		45.0	264	25.0		36.7	239	14.8		48.8	313	38.9		59.6
3	319	44.1	217	49.7		44.9	279	25.7		37.3	254	16.7		48.9	328	41.3		59.6
4	334	46.5	232	48.9		44.7	294	26.4		37.9	269	18.6		49.0	343	43.8		59.7
5	349	49.0	247	48.0	+23	44.5	309	27.0	+14	38.4	284	20.5	+20	49.1	358	46.2	-5	59.7
6	4	51.5	262	47.1	+23	44.4	324	27.7	+14	39.0	299	22.4	+20	49.2	13	48.7	-5	59.7
7	19	53.9	277	46.2		44.2	339	28.4		39.6	314	24.2		49.2	28	51.1		59.7
8	34	56.4	292	45.3		44.0	354	29.1		40.2	329	26.1		49.3	43	53.5		59.7
9	49	58.9	307	44.4		43.8	9	29.8		40.7	344	28.0		49.4	58	56.0		59.7
10	65	01.3	322	43.5		43.7	24	30.5		41.3	359	29.9		49.5	73	58.4		59.7
11	80	03.8	337	42.7	+23	43.5	39	31.1	+14	41.9	14	31.8	+20	49.6	89	00.9	-5	59.7
12	95	06.3	352	41.8	+23	43.3	54	31.8	+14	42.4	29	33.7	+20	49.7	104	03.3	-5	59.7
13	110	08.7	7	40.9		43.1	69	32.5		43.0	44	35.5		49.8	119	05.8		59.7
14	125	11.2	22	40.0		43.0	84	33.2		43.6	59	37.4		49.9	134	08.2		59.7
15	140	13.6	37	39.1		42.8	99	33.9		44.1	74	39.3		50.0	149	10.7		59.7
16	155	16.1	52	38.2		42.6	114	34.6		44.7	89	41.2		50.1	164	13.1		59.7
17	170	18.6	67	37.3	+23	42.4	129	35.3	+14	45.3	104	43.1	+20	50.2	179	15.6	-5	59.7
18	185	21.0	82	36.5	+23	42.2	144	35.9	+14	45.8	119	45.0	+20	50.3	194	18.0	-5	59.7
19	200	23.5	97	35.6		42.0	159	36.6		46.4	134	46.8		50.3	209	20.5		59.7
20	215	26.0	112	34.7		41.9	174	37.3		47.0	149	48.7		50.4	224	22.9		59.7
21	230	28.4	127	33.8		41.7	189	38.0		47.6	164	50.6		50.5	239	25.4		59.7
22	245	30.9	142	32.9		41.5	204	38.7		48.1	179	52.5		50.6	254	27.8		59.7
23	260	33.4	157	32.0		41.3	219	39.4		48.7	194	54.4		50.7	269	30.3		59.7
24	275	35.8	172	31.1	+23	41.1	234	40.0	+14	49.2	209	56.3	+20	50.8	284	32.7	-5	59.7
Dif	—		-9		-2		+7		+6		+19		+1		+24		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15/7 PMG:12 ^h 03.2 ^m			Edad: 20.5 ^d PHE { 4 ^h : 59/4 12 ^h : 59/4 20 ^h : 59/4 SD: 16/2 PMG: 4 ^h 39 ^m R°: 48 ^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	13.7	+23	18.6	292	31.4	-10	00.0	160	60 N	** **	0 56	2 39	23 42	**		9 57	100	
1	194	13.6		18.4	307	01.6	-9	44.0	160	58	** **	1 44	2 59	40 3		10 01	96		
2	209	13.4		18.3	321	31.9		28.0	160	56	** **	2 14	3 16	38 6		05 92			
3	224	13.3		18.2	336	02.2	-9	11.8	162	54	0 51	36	30	37 8		08 89			
4	239	13.2		18.1	350	32.6	-8	55.7	161	52	1 36	2 53	42	35 12		12 85			
5	254	13.0	+23	18.0	5	03.0	-8	39.5	162	50	2 03	3 08	3 53	23 34	14	10 14	83		
6	269	12.9	+23	17.9	19	33.5	-8	23.2	163	45	2 48	3 38	4 15	23 31	19	10 20	78		
7	284	12.8		17.8	34	04.0	-8	06.9	163	40	3 19	4 00	33	29 23		25 73			
8	299	12.7		17.7	48	34.5	-7	50.6	163	35	3 42	19	4 48	26 28		30 68			
9	314	12.5		17.6	63	05.1		34.2	164	30	4 00	34	5 01	25 31		33 65			
10	329	12.4		17.5	77	35.8		17.8	164	20	29	4 59	23	21 38		40 58			
11	344	12.3	+23	17.4	92	06.4	-7	01.4	164	10 N	4 52	5 19	5 42	23 19	42	10 45	53		
12	359	12.1	+23	17.2	106	37.2	-6	44.9	165	0	5 11	5 37	6 00	23 16	48	10 51	48		
13	14	12.0		17.1	121	07.9		28.4	165	10 S	28	5 54	17	13 53		10 56	43		
14	29	11.9		17.0	135	38.7	-6	11.8	166	20	5 44	6 11	35	11 58		11 01	38		
15	44	11.8		16.9	150	09.5	-5	55.2	166	30	6 00	30	6 56	07 65		07 32			
16	59	11.6		16.8	164	40.4		38.6	166	35	09	41	7 09	05 69		11 28			
17	74	11.5	+23	16.7	179	11.3	-5	22.0	166	40	6 18	6 52	7 23	23 03	73	11 15	24		
18	89	11.4	+23	16.5	193	42.2	-5	05.3	167	45	6 29	7 06	7 40	23 01	77	11 19	20		
19	104	11.3		16.4	208	13.2	-4	48.6	167	50	40	22	8 00	22 58	83	25 14			
20	119	11.1		16.3	222	44.1		31.9	167	52	45	29	10	57 85		27 12			
21	134	11.0		16.2	237	15.2	-4	15.2	167	54	51	37	21	55 89		30 9			
22	149	10.9		16.1	251	46.2	-3	58.4	168	56	6 57	46	34	54 91		33 6			
23	164	10.7		15.9	266	17.2		41.7	167	58	7 04	7 56	8 48	52 95		36 3			
24	179	10.6	+23	15.8	280	48.3	-3	24.9	168	60 S	7 11	8 08	9 05	22 50	99	11 40	**		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 5 ^h 36.7 ^m		Mag: -3.9 PMG: 12 ^h 31 ^m			Mag: +1.0 PMG: 8 ^h 21 ^m			Mag: -2.0 PMG: 9 ^h 59 ^m			Mag: +1.1 PMG: 5 ^h 01 ^m							
	hG ♈	hG ♀		Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	275	35.8	172	31.1	+23	41.1	234	40.0	+14	49.2	209	56.3	+20	50.8	284	32.7	-5	59.7	
1	290	38.3	187	30.3		40.9	249	40.7		49.8	224	58.1		50.9	299	35.2		59.7	
2	305	40.8	202	29.4		40.7	264	41.4		50.4	240	00.0		51.0	314	37.6		59.8	
3	320	43.2	217	28.5		40.5	279	42.1		50.9	255	01.9		51.1	329	40.1		59.8	
4	335	45.7	232	27.6		40.3	294	42.8		51.5	270	03.8		51.2	344	42.5		59.8	
5	350	48.1	247	26.7	+23	40.1	309	43.5	+14	52.1	285	05.7	+20	51.3	359	45.0	-5	59.8	
6	5	50.6	262	25.8	+23	39.9	324	44.2	+14	52.6	300	07.6	+20	51.4	14	47.4	-5	59.8	
7	20	53.1	277	25.0		39.7	339	44.8		53.2	315	09.5		51.4	29	49.9		59.8	
8	35	55.5	292	24.1		39.5	354	45.5		53.8	330	11.3		51.5	44	52.3		59.8	
9	50	58.0	307	23.2		39.3	9	46.2		54.3	345	13.2		51.6	59	54.8		59.8	
10	66	00.5	322	22.3		39.1	24	46.9		54.9	0	15.1		51.7	74	57.2		59.8	
11	81	02.9	337	21.4	+23	38.9	39	47.6	+14	55.5	15	17.0	+20	51.8	89	59.7	-5	59.8	
12	96	05.4	352	20.5	+23	38.7	54	48.3	+14	56.0	30	18.9	+20	51.9	105	02.1	-5	59.8	
13	111	07.9	7	19.7		38.5	69	48.9		56.6	45	20.8		52.0	120	04.6		59.8	
14	126	10.3	22	18.8		38.3	84	49.6		57.1	60	22.6		52.1	135	07.0		59.8	
15	141	12.8	37	17.9		38.1	99	50.3		57.7	75	24.5		52.2	150	09.5		59.8	
16	156	15.3	52	17.0		37.9	114	51.0		58.3	90	26.4		52.3	165	11.9		59.8	
17	171	17.7	67	16.1	+23	37.7	129	51.7	+14	58.8	105	28.3	+20	52.4	180	14.4	-5	59.8	
18	186	20.2	82	15.3	+23	37.4	144	52.4	+14	59.4	120	30.2	+20	52.4	195	16.8	-5	59.8	
19	201	22.6	97	14.4		37.2	159	53.0	+15	00.0	135	32.1		52.5	210	19.3		59.9	
20	216	25.1	112	13.5		37.0	174	53.7	+15	00.5	150	34.0		52.6	225	21.7		59.9	
21	231	27.6	127	12.6		36.8	189	54.4		01.1	165	35.8		52.7	240	24.2		59.9	
22	246	30.0	142	11.7		36.6	204	55.1		01.6	180	37.7		52.8	255	26.6		59.9	
23	261	32.5	157	10.9		36.4	219	55.8		02.2	195	39.6		52.9	270	29.1		59.9	
24	276	35.0	172	10.0	+23	36.1	234	56.5	+15	02.8	210	41.5	+20	53.0	285	31.5	-5	59.9	
Dif	—		-9		-2		+7		+6		+19		+1		+25				

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 03.4 ^m				Edad: 21.5 ^d SD: 16'2 PMG: 5 ^h 27 ^m PHE { 4 ^h : 59'4 12 ^h : 59'3 20 ^h : 59'3 Rº: 48 ^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	10.6	+23	15.8	280	48.3		-3	24.9	168	60 N	21	27	23	08	**	**		23	41	**
1	194	10.5		15.7	295	19.4	121	-3	08.1	168	58	21	06	22	21	**	**		43	3	37
2	209	10.4		15.6	309	50.6	122	-2	51.2	169	56	20	50	21	52	**	**		44	7	37
3	224	10.2		15.5	324	21.7	121		34.4	168	54		36		30	23	12		45	10	37
4	239	10.1		15.3	338	52.9	122		17.6	168	52		24	21	12	22	29		47	12	37
5	254	10.0	+23	15.2	353	24.0	121	-2	00.7	169	50	20	13	20	57	22	02		23	48	14
6	269	09.9	+23	15.1	7	55.2	122	-1	43.9	168	45	19	51	20	28	21	17		23	50	20
7	284	09.7		15.0	22	26.4	122		27.0	169	40		33	20	06	20	47		52	25	38
8	299	09.6		14.8	36	57.6	122	-1	10.1	169	35		18	19	48		24		54	29	38
9	314	09.5		14.7	51	28.9	123	-0	53.3	168	30	19	05		33	20	06		56	32	38
10	329	09.3		14.6	66	00.1	122		36.4	169	20	18	43	19	08	19	37		23	59	37
11	344	09.2	+23	14.4	80	31.3	122	-0	19.5	169	10 N	18	24	18	48	19	15	**	**	**	**
12	359	09.1	+23	14.3	95	02.6	123	-0	02.6	169	0	18	07	18	30	18	56	**	**	**	**
13	14	09.0		14.2	109	33.8	122	+0	14.2	168	10 S	17	50	18	13		39	**	**	**	**
14	29	08.8		14.0	124	05.1	123		31.1	169	20		31	17	55		23	**	**	**	**
15	44	08.7		13.9	138	36.3	122	+0	48.0	169	30	17	10		37	18	07	**	**	**	**
16	59	08.6		13.8	153	07.6	123	+1	04.8	168	35	16	58		26	17	58	**	**	**	**
17	74	08.5	+23	13.6	167	38.8	122	+1	21.7	169	40	16	44	17	15	17	49	**	**	**	**
18	89	08.3	+23	13.5	182	10.1	123	+1	38.5	168	45	16	27	17	01	17	38	**	**	**	**
19	104	08.2		13.4	196	41.4	123	+1	55.4	169	50	16	07	16	45	27	**	**	**	**	
20	119	08.1		13.2	211	12.6	122	+2	12.2	168	52	15	57		38	22	**	**	**	**	
21	134	08.0		13.1	225	43.8	122		29.0	168	54		46		30	16	**	**	**	**	
22	149	07.8		13.0	240	15.1	123	+2	45.8	168	56		34		21	10	**	**	**	**	
23	164	07.7		12.8	254	46.3	122	+3	02.5	167	58		19	16	11	17	03	**	**	**	**
24	179	07.6	+23	12.7	269	17.5	122	+3	19.3	168	60 S	15	02	15	59	16	56	**	**	**	**
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG 5 ^h 32.8 ^m		Mag: -3.9 PMG: 12 ^h 32 ^m				Mag: +1.0 PMG: 8 ^h 20 ^m				Mag: -2.0 PMG: 9 ^h 56 ^m				Mag: +1.1 PMG: 4 ^h 57 ^m						
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
0	276	35.0	172	10.0	+23	36.1	234	56.5	+15	02.8	210	41.5	+20	53.0	285	31.5	-5	59.9			
1	291	37.4	187	09.1		35.9	249	57.1		03.3	225	43.4		53.1	300	34.0		59.9			
2	306	39.9	202	08.2		35.7	264	57.8		03.9	240	45.3		53.2	315	36.4		59.9			
3	321	42.4	217	07.3		35.5	279	58.5		04.4	255	47.2		53.3	330	38.9		59.9			
4	336	44.8	232	06.5		35.2	294	59.2		05.0	270	49.0		53.3	345	41.4		59.9			
5	351	47.3	247	05.6	+23	35.0	309	59.9	+15	05.5	285	50.9	+20	53.4	0	43.8	-5	59.9			
6	6	49.7	262	04.7	+23	34.8	325	00.6	+15	06.1	300	52.8	+20	53.5	15	46.3	-5	59.9			
7	21	52.2	277	03.8		34.6	340	01.2		06.7	315	54.7		53.6	30	48.7		59.9			
8	36	54.7	292	02.9		34.3	355	01.9		07.2	330	56.6		53.7	45	51.2		59.9			
9	51	57.1	307	02.1		34.1	10	02.6		07.8	345	58.5		53.8	60	53.6	-5	59.9			
10	66	59.6	322	01.2		33.9	25	03.3		08.3	1	00.4		53.9	75	56.1	-6	00.0			
11	82	02.1	337	00.3	+23	33.6	40	04.0	+15	08.9	16	02.2	+20	54.0	90	58.5	-6	00.0			
12	97	04.5	351	59.4	+23	33.4	55	04.7	+15	09.4	31	04.1	+20	54.1	106	01.0	-6	00.0			
13	112	07.0	6	58.5		33.2	70	05.3		10.0	46	06.0		54.2	121	03.4		00.0			
14	127	09.5	21	57.7		32.9	85	06.0		10.6	61	07.9		54.2	136	05.9		00.0			
15	142	11.9	36	56.8		32.7	100	06.7		11.1	76	09.8		54.3	151	08.4		00.0			
16	157	14.4	51	55.9		32.4	115	07.4		11.7	91	11.7		54.4	166	10.8		00.0			
17	172	16.9	66	55.0	+23	32.2	130	08.1	+15	12.2	106	13.6	+20	54.5	181	13.3	-6	00.0			
18	187	19.3	81	54.2	+23	32.0	145	08.8	+15	12.8	121	15.5	+20	54.6	196	15.7	-6	00.0			
19	202	21.8	96	53.3		31.7	160	09.4		13.3	136	17.3		54.7	211	18.2		00.0			
20	217	24.2	111	52.4		31.5	175	10.1		13.9	151	19.2		54.8	226	20.6		00.0			
21	232	26.7	126	51.5		31.2	190	10.8		14.4	166	21.1		54.9	241	23.1	-6	00.0			
22	247	29.2	141	50.7		31.0	205	11.5		15.0	181	23.0		55.0	256	25.5	-6	00.1			
23	262	31.6	156	49.8		30.7	220	12.2		15.6	196	24.9		55.0	271	28.0		00.1			
24	277	34.1	171	48.9	+23	30.5	235	12.9	+15	16.1	211	26.8	+20	55.1	286	30.5	-6	00.1			
Dif	—		-9		-2		+7		+6		+19		+1		+25						

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15/7 PMG:12 ^h 03.6 ^m				Edad: 22.5 ^d PHE { SD: 16/1 PMG: 6 ^h 15 ^m 4 ^h : 59/2 12 ^h : 59/2 20 ^h : 59/1 R°: 48 ^m											
	hG ☉	Dec			hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	179	07.6	+23	12.7	269	17.5	+3	19.3	60 N	** **	1 00	2 41	23 40	1	13 16	102
1	194	07.5		12.5	283	48.7		36.0	58	** **	1 46	3 01	46 4		12 97	
2	209	07.3		12.4	298	19.9	+3	52.7	56	** **	2 15	17	51 8		09 93	
3	224	07.2		12.3	312	51.1	+4	09.4	54	0 55	37	31	55 11		06 89	
4	239	07.1		12.1	327	22.2		26.1	52	1 38	2 55	43	23 59	14	03 86	
5	254	07.0	+23	12.0	341	53.4	+4	42.8	50	2 05	3 10	3 54	** ** *		13 00	84
6	269	06.8	+23	11.8	356	24.5	+4	59.4	45	2 50	3 39	4 16	** ** *		12 55	77
7	284	06.7		11.7	10	55.6	+5	16.0	40	3 20	4 01	34	** ** *		50 73	
8	299	06.6		11.6	25	26.7		32.5	35	3 43	19	4 49	** ** *		46 69	
9	314	06.5		11.4	39	57.7	+5	49.0	30	4 01	34	5 02	** ** *		42 66	
10	329	06.3		11.3	54	28.7	+6	05.5	20	30	4 59	24	** ** *		36 60	
11	344	06.2	+23	11.1	68	59.7	+6	22.0	10 N	4 52	5 19	5 43	0 01	43	12 31	54
12	359	06.1	+23	11.0	83	30.7	+6	38.4	0	5 11	5 37	6 00	0 04	48	12 26	49
13	14	06.0		10.8	98	01.7	+6	54.8	10 S	28	5 54	17	06 53		21 44	
14	29	05.8		10.7	112	32.6	+7	11.1	20	5 44	6 12	36	09 58		16 39	
15	44	05.7		10.5	127	03.5		27.5	30	6 00	30	6 57	12 64		10 33	
16	59	05.6		10.4	141	34.4	+7	43.7	35	09	41	7 09	14 68		07 29	
17	74	05.5	+23	10.2	156	05.2	+8	00.0	40	6 18	6 52	7 23	0 16	72	12 03	25
18	89	05.3	+23	10.1	170	36.0	+8	16.1	45	6 28	7 06	7 39	0 18	77	11 58	21
19	104	05.2		09.9	185	06.7		32.3	50	40	22	8 00	21 83		53 16	
20	119	05.1		09.8	199	37.5	+8	48.4	52	45	29	10	22 86		51 13	
21	134	05.0		09.6	214	08.1	+9	04.4	54	51	37	21	24 88		48 10	
22	149	04.8		09.5	228	38.8		20.4	56	6 57	46	33	25 92		45 7	
23	164	04.7		09.3	243	09.4		36.3	58	7 04	7 56	8 47	27 96		42 3	
24	179	04.6	+23	09.1	257	39.9	+9	52.2	60 S	7 11	8 07	9 05	0 29	100	11 38	0
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 5 ^h 28.8 ^m		Mag: -3.9 PMG: 12 ^h 33 ^m		Mag: +1.0 PMG: 8 ^h 19 ^m		Mag: -2.0 PMG: 9 ^h 53 ^m		Mag: +1.1 PMG: 4 ^h 53 ^m							
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	277	34.1	171	48.9	+23	30.5	235	12.9	+15	16.1						
1	292	36.6	186	48.0		30.2	250	13.5		16.7						
2	307	39.0	201	47.2		30.0	265	14.2		17.2						
3	322	41.5	216	46.3		29.7	280	14.9		17.8						
4	337	44.0	231	45.4		29.5	295	15.6		18.3						
5	352	46.4	246	44.5	+23	29.2	310	16.3	+15	18.9						
6	7	48.9	261	43.7	+23	29.0	325	16.9	+15	19.4						
7	22	51.4	276	42.8		28.7	340	17.6		20.0						
8	37	53.8	291	41.9		28.4	355	18.3		20.5						
9	52	56.3	306	41.0		28.2	10	19.0		21.1						
10	67	58.7	321	40.2		27.9	25	19.7		21.6						
11	83	01.2	336	39.3	+23	27.7	40	20.4	+15	22.2						
12	98	03.7	351	38.4	+23	27.4	55	21.0	+15	22.7						
13	113	06.1	6	37.5		27.1	70	21.7		23.3						
14	128	08.6	21	36.7		26.9	85	22.4		23.8						
15	143	11.1	36	35.8		26.6	100	23.1		24.4						
16	158	13.5	51	34.9		26.3	115	23.8		24.9						
17	173	16.0	66	34.1	+23	26.0	130	24.4	+15	25.5						
18	188	18.5	81	33.2	+23	25.8	145	25.1	+15	26.0						
19	203	20.9	96	32.3		25.5	160	25.8		26.6						
20	218	23.4	111	31.4		25.2	175	26.5		27.1						
21	233	25.8	126	30.6		25.0	190	27.2		27.7						
22	248	28.3	141	29.7		24.7	205	27.9		28.2						
23	263	30.8	156	28.8		24.4	220	28.5		28.8						
24	278	33.2	171	28.0	+23	24.1	235	29.2	+15	29.3						
Dif	—		-9		-3		+7		+5							
							+19		+1							
									+25							
										0						

UT	SOL				☾ LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 15'7 PMG:12 ^h 03.8 ^m				Edad: 23.5 ^d SD: 16'1 PMG: 7 ^h 03 ^m PHE { 4 ^h : 59'1 12 ^h : 59'0 20 ^h : 58'9 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	179	04.6	+23	09.1	257	39.9		+9	52.2	158	60 N	21	25	23	04	**	**	23	41	1	14	58	105	
1	194	04.5		09.0	272	10.5	116	+10	08.0	158	58	21	06	22	19	**	**	50	7		49	100		
2	209	04.4		08.8	286	40.9	114		23.8	158	56	20	49	21	50	**	**	23	59	11	42	95		
3	224	04.2		08.7	301	11.4	115		39.5	157	54		35		29	23	09	**	**	**	35	9		
4	239	04.1		08.5	315	41.7	113	+10	55.2	157	52		23	21	12	22	27	**	**	**	29	88		
5	254	04.0	+23	08.4	330	12.1	114	+11	10.8	156	50	20	13	20	57	22	01	0	02	17	14	24	85	
6	269	03.9	+23	08.2	344	42.4	113	+11	26.3	155	45	19	51	20	28	21	17	0	10	23	14	12	79	
7	284	03.7		08.0	359	12.6	112		41.8	155	40		33	20	06	20	47		17	27	14	03	74	
8	299	03.6		07.9	13	42.8	112	+11	57.2	154	35		18	19	48		24		23	30	13	55	70	
9	314	03.5		07.7	28	12.9	111	+12	12.6	154	30	19	05		33	20	06		28	34	48	66		
10	329	03.4		07.6	42	43.0	111		27.8	152	20	18	43	19	08	19	37		36	40	36	60		
11	344	03.3	+23	07.4	57	13.0	110	+12	43.0	152	10 N	18	25	18	48	19	15	0	44	45	13	25	56	
12	359	03.1	+23	07.2	71	43.0	110	+12	58.2	152	0	18	07	18	30	18	56	0	52	50	13	15	51	
13	14	03.0		07.1	86	12.9	109	+13	13.2	150	10 S	17	50	18	13		39	0	59	55	13	05	47	
14	29	02.9		06.9	100	42.8	109		28.2	150	20		32	17	56		23	1	07	60	12	55	41	
15	44	02.8		06.7	115	12.6	108		43.2	150	30	17	11	37	18	07		16	66		43	36		
16	59	02.6		06.6	129	42.3	107	+13	58.0	148	35	16	59		27	17	59		22	69	36	33		
17	74	02.5	+23	06.4	144	12.0	107	+14	12.8	148	40	16	45	17	15	17	49	1	28	73	12	28	29	
18	89	02.4	+23	06.2	158	41.6	106	+14	27.4	146	45	16	28	17	02	17	39	1	35	79	12	19	25	
19	104	02.3		06.1	173	11.2	106		42.0	146	50	16	08	16	46		28	44	84		09	18		
20	119	02.2		05.9	187	40.7	105	+14	56.6	146	52	15	58		39		23	48	87		12	04	15	
21	134	02.0		05.7	202	10.1	104	+15	11.0	144	54		47		31		17	52	91		11	58	13	
22	149	01.9		05.5	216	39.5	104		25.4	144	56		35		22		11	1	57	95		52	9	
23	164	01.8		05.4	231	08.8	103		39.6	142	58		21		12	17	04	2	03	99		45	6	
24	179	01.7	+23	05.2	245	38.0	102	+15	53.8	142	60 S	15	04	16	01	16	57	2	09	104		11	38	0
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG 5 ^h 24.9 ^m		Mag: -3.9 PMG: 12 ^h 35 ^m				Mag: +1.0 PMG: 8 ^h 18 ^m				Mag: -2.0 PMG: 9 ^h 50 ^m				Mag: +1.1 PMG: 4 ^h 49 ^m									
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	278	33.2	171	28.0	+23	24.1	235	29.2	+15	29.3	212	12.1	+20	57.3	287	29.5	-6	00.3						
1	293	35.7	186	27.1		23.8	250	29.9		29.8	227	14.0		57.3	302	31.9		00.3						
2	308	38.2	201	26.2		23.6	265	30.6		30.4	242	15.9		57.4	317	34.4		00.3						
3	323	40.6	216	25.4		23.3	280	31.3		30.9	257	17.8		57.5	332	36.9		00.3						
4	338	43.1	231	24.5		23.0	295	31.9		31.5	272	19.7		57.6	347	39.3		00.3						
5	353	45.6	246	23.6	+23	22.7	310	32.6	+15	32.0	287	21.5	+20	57.7	2	41.8	-6	00.3						
6	8	48.0	261	22.8	+23	22.4	325	33.3	+15	32.6	302	23.4	+20	57.8	17	44.2	-6	00.4						
7	23	50.5	276	21.9		22.1	340	34.0		33.1	317	25.3		57.9	32	46.7		00.4						
8	38	53.0	291	21.0		21.9	355	34.7		33.7	332	27.2		58.0	47	49.2		00.4						
9	53	55.4	306	20.1		21.6	10	35.4		34.2	347	29.1		58.0	62	51.6		00.4						
10	68	57.9	321	19.3		21.3	25	36.0		34.7	2	31.0		58.1	77	54.1		00.4						
11	84	00.3	336	18.4	+23	21.0	40	36.7	+15	35.3	17	32.9	+20	58.2	92	56.5	-6	00.4						
12	99	02.8	351	17.5	+23	20.7	55	37.4	+15	35.8	32	34.8	+20	58.3	107	59.0	-6	00.4						
13	114	05.3	6	16.7		20.4	70	38.1		36.4	47	36.7		58.4	123	01.5		00.4						
14	129	07.7	21	15.8		20.1	85	38.8		36.9	62	38.6		58.5	138	03.9		00.4						
15	144	10.2	36	14.9		19.8	100	39.4		37.5	77	40.5		58.6	153	06.4		00.4						
16	159	12.7	51	14.1		19.5	115	40.1		38.0	92	42.3		58.7	168	08.9		00.5						
17	174	15.1	66	13.2	+23	19.2	130	40.8	+15	38.5	107	44.2	+20	58.7	183	11.3	-6	00.5						
18	189	17.6	81	12.3	+23	18.9	145	41.5	+15	39.1	122	46.1	+20	58.8	198	13.8	-6	00.5						
19	204	20.1	96	11.5		18.6	160	42.2		39.6	137	48.0		58.9	213	16.3		00.5						
20	219	22.5	111	10.6		18.3	175	42.8		40.2	152	49.9		59.0	228	18.7		00.5						
21	234	25.0	126	09.8		18.0	190	43.5		40.7	167	51.8		59.1	243	21.2		00.5						
22	249	27.5	141	08.9		17.7	205	44.2		41.3	182	53.7		59.2	258	23.6		00.5						
23	264	29.9	156	08.0		17.4	220	44.9		41.8	197	55.6		59.3	273	26.1		00.5						
24	279	32.4	171	07.2	+23	17.1	235	45.6	+15	42.3	212	57.5	+20	59.3	288	28.6	-6	00.6						
Dif	—		-9		-3		+7		+5		+19		+1		+25		0							

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG:12 ^h 04.0 ^m				Edad: 24.5 ^d PHE { 4 ^h : 58'8 12 ^h : 58'7 20 ^h : 58'6 R°: 53 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	179	01.7	+23	05.2	245	38.0	+15	53.8	141	60 N	** **	1 04	2 43	23 42	6	16 43	109			
1	194	01.6		05.0	260	07.2	+16	07.9	140	58	** **	1 49	3 02	23 57	13	29 102				
2	209	01.4		04.9	274	36.3		21.9	139	56	** **	2 17	19	** **	**	17 96				
3	224	01.3		04.7	289	05.3		35.8	138	54	0 59	39	33	0 06	16	16 06	92			
4	239	01.2		04.5	303	34.3	+16	49.6	137	52	1 40	2 56	45	13 19	15 57	88				
5	254	01.1	+23	04.3	318	03.2	+17	03.3	136	50	2 07	3 11	3 55	0 19	22	15 49	85			
6	269	01.0	+23	04.1	332	32.0	+17	16.9	135	45	2 51	3 40	4 17	0 33	27	15 31	79			
7	284	00.8		04.0	347	00.8		30.4	134	40	3 21	4 02	35	44 31		17 74				
8	299	00.7		03.8	1	29.4		43.8	134	35	3 44	20	4 50	0 53	36	15 05	71			
9	314	00.6		03.6	15	58.1	+17	57.2	132	30	4 02	4 35	5 03	1 02	38	14 54	68			
10	329	00.5		03.4	30	26.6	+18	10.4	131	20	31	5 00	24	16 44		36 63				
11	344	00.4	+23	03.3	44	55.1	+18	23.5	130	10 N	4 53	5 20	5 43	1 29	49	14 21	58			
12	359	00.2	+23	03.1	59	23.5	+18	36.5	129	0	5 12	5 38	6 00	1 42	52	14 06	55			
13	14	00.1		02.9	73	51.8	+18	49.4	128	10 S	28	5 55	17	1 54	57	13 52	50			
14	29	00.0		02.7	88	20.0	+19	02.2	126	20	5 44	6 12	36	2 07	62	36 47				
15	43	59.9		02.5	102	48.2		14.8	126	30	6 00	30	6 57	22 68		19 41				
16	58	59.8		02.3	117	16.3		27.4	126	35	09	41	7 09	31 71		13 09	38			
17	73	59.6	+23	02.2	131	44.3	+19	39.8	124	40	6 18	6 52	7 23	2 41	75	12 57	35			
18	88	59.5	+23	02.0	146	12.3	+19	52.2	122	45	6 28	7 05	7 39	2 54	79	12 44	30			
19	103	59.4		01.8	160	40.2	+20	04.4	121	50	40	21	7 59	3 08	86	27 24				
20	118	59.3		01.6	175	08.0		16.5	121	52	45	28	8 09	15 89		19 22				
21	133	59.2		01.4	189	35.7		28.5	120	54	50	36	20	23 92		11 18				
22	148	59.0		01.2	204	03.3		40.3	118	56	6 56	45	32	32 96		12 01	14			
23	163	58.9		01.0	218	30.9	+20	52.1	118	58	7 03	7 55	8 47	42 101		11 51	8			
24	178	58.8	+23	00.8	232	58.4	+21	03.7	116	60 S	7 10	8 07	9 04	3 53	108	11 38	3			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 5 ^h 21.0 ^m			Mag: -3.9 PMG: 12 ^h 36 ^m			Mag: +1.0 PMG: 8 ^h 17 ^m			Mag: -2.0 PMG: 9 ^h 47 ^m			Mag: +1.0 PMG: 4 ^h 45 ^m							
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	279	32.4	171	07.2	+23	17.1	235	45.6	+15	42.3	212	57.5	+20	59.3	288	28.6	-6	00.6		
1	294	34.8	186	06.3		16.8	250	46.2		42.9	227	59.4		59.4	303	31.0		00.6		
2	309	37.3	201	05.4		16.5	265	46.9		43.4	243	01.3		59.5	318	33.5		00.6		
3	324	39.8	216	04.6		16.1	280	47.6		44.0	258	03.1		59.6	333	36.0		00.6		
4	339	42.2	231	03.7		15.8	295	48.3		44.5	273	05.0		59.7	348	38.4		00.6		
5	354	44.7	246	02.8	+23	15.5	310	49.0	+15	45.0	288	06.9	+20	59.8	3	40.9	-6	00.6		
6	9	47.2	261	02.0	+23	15.2	325	49.7	+15	45.6	303	08.8	+20	59.9	18	43.4	-6	00.6		
7	24	49.6	276	01.1		14.9	340	50.3		46.1	318	10.7	+21	00.0	33	45.8		00.6		
8	39	52.1	291	00.3		14.6	355	51.0		46.6	333	12.6	+21	00.0	48	48.3		00.6		
9	54	54.6	305	59.4		14.3	10	51.7		47.2	348	14.5	+21	00.1	63	50.8		00.7		
10	69	57.0	320	58.5		13.9	25	52.4		47.7	3	16.4		00.2	78	53.2		00.7		
11	84	59.5	335	57.7	+23	13.6	40	53.1	+15	48.3	18	18.3	+21	00.3	93	55.7	-6	00.7		
12	100	01.9	350	56.8	+23	13.3	55	53.7	+15	48.8	33	20.2	+21	00.4	108	58.2	-6	00.7		
13	115	04.4	5	55.9		13.0	70	54.4		49.3	48	22.1		00.5	124	00.6		00.7		
14	130	06.9	20	55.1		12.6	85	55.1		49.9	63	24.0		00.6	139	03.1		00.7		
15	145	09.3	35	54.2		12.3	100	55.8		50.4	78	25.9		00.6	154	05.6		00.7		
16	160	11.8	50	53.4		12.0	115	56.5		50.9	93	27.7		00.7	169	08.0		00.7		
17	175	14.3	65	52.5	+23	11.7	130	57.1	+15	51.5	108	29.6	+21	00.8	184	10.5	-6	00.8		
18	190	16.7	80	51.6	+23	11.3	145	57.8	+15	52.0	123	31.5	+21	00.9	199	13.0	-6	00.8		
19	205	19.2	95	50.8		11.0	160	58.5		52.5	138	33.4		01.0	214	15.4		00.8		
20	220	21.7	110	49.9		10.7	175	59.2		53.1	153	35.3		01.1	229	17.9		00.8		
21	235	24.1	125	49.1		10.3	190	59.9		53.6	168	37.2		01.2	244	20.4		00.8		
22	250	26.6	140	48.2		10.0	206	00.5		54.1	183	39.1		01.2	259	22.8		00.8		
23	265	29.1	155	47.4		09.7	221	01.2		54.7	198	41.0		01.3	274	25.3		00.8		
24	280	31.5	170	46.5	+23	09.3	236	01.9	+15	55.2	213	42.9	+21	01.4	289	27.8	-6	00.8		
Dif	—		-9		-3		+7		+5		+19		+1		+25		0			

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 15'7 PMG:12 ^h 04.2 ^m				Edad: 25.5 ^d SD: 15'9 PMG: 8 ^h 47 ^m PHE { 4 ^h : 58'5 12 ^h : 58'4 20 ^h : 58'2 Rº: 57 ^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	58.8	+23	00.8	232	58.4	84	+21	03.7	115	60 N	21 24	22 59	** **	23 48	14	18 32	106				
1	193	58.7		00.7	247	25.8	84		15.2	113	58	21 04	22 17	** **	** **	**	18 11	96				
2	208	58.6		00.5	261	53.2	82		26.5	113	56	20 48	21 49	** **	0 10	18	17 53	90				
3	223	58.5		00.3	276	20.4	82		37.8	111	54		34	28	23 05	22 22	38	86				
4	238	58.3	+23	00.1	290	47.6	81		48.9	109	52	23	21 11	22 25	32 25	25 83						
5	253	58.2	+22	59.9	305	14.7	81	+21	59.8	109	50	20 12	20 56	22 00	0 41	28	17 14	80				
6	268	58.1	+22	59.7	319	41.8	80	+22	10.7	107	45	19 50	20 27	21 16	1 00	34	16 50	75				
7	283	58.0		59.5	334	08.8	80		21.4	107	40	33	20 05	20 46	15 38	31 72						
8	298	57.9		59.3	348	35.7	79		32.0	106	35	18	19 47	24	29 41	16 69						
9	313	57.7		59.1	3	02.5	78		42.4	104	30	19 05	32	20 06	1 40	44	16 02	67				
10	328	57.6		58.9	17	29.2	77	+22	52.7	103	20	18 44	19 08	19 37	2 00	49	15 39	63				
11	343	57.5	+22	58.7	31	55.9	77	+23	02.9	102	10 N	18 25	18 48	19 15	2 18	52	15 19	60				
12	358	57.4	+22	58.5	46	22.5	76	+23	12.9	100	0	18 08	18 30	18 56	2 34	56	15 01	57				
13	13	57.3		58.3	60	49.0	75		22.8	99	10 S	17 51	18 14	40	2 51	59	14 42	55				
14	28	57.2		58.1	75	15.5	75		32.6	98	20	33	17 57	24	3 09	63	23 51					
15	43	57.0		57.9	89	41.9	74		42.2	96	30	12	38	18 08	30 67	14 00	47					
16	58	56.9		57.7	104	08.2	73	+23	51.6	94	35	17 00	28	17 59	42 70	13 47	45					
17	73	56.8	+22	57.5	118	34.5	73	+24	00.9	93	40	16 46	17 16	17 50	3 56	74	13 32	42				
18	88	56.7	+22	57.3	133	00.6	71	+24	10.1	92	45	16 30	17 03	17 40	4 13	78	13 14	38				
19	103	56.6		57.1	147	26.8	72		19.1	90	50	09	16 48	29	34 83	12 51	34					
20	118	56.5		56.9	161	52.8	70		28.0	89	52	16 00	40	24	44 86	41 30						
21	133	56.4		56.7	176	18.8	70		36.7	87	54	15 49	32	18	4 55	90	29 27					
22	148	56.2		56.5	190	44.7	69		45.2	85	56	37	24	12	5 08	95	12 15	23				
23	163	56.1		56.3	205	10.6	69	+24	53.6	84	58	23	14	17 06	23 101	11 59	17					
24	178	56.0	+22	56.1	219	36.3	67	+25	01.9	83	60 S	15 06	16 02	16 59	5 41	110	11 41	7				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG 5 ^h 17.0 ^m		Mag: -3.9 PMG: 12 ^h 38 ^m				Mag: +1.0 PMG: 8 ^h 15 ^m				Mag: -2.1 PMG: 9 ^h 44 ^m				Mag: +1.0 PMG: 4 ^h 41 ^m							
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
	° /		° /		° /		° /		° /		° /		° /		° /		° /					
0	280	31.5	170	46.5	+23	09.3	236	01.9	+15	55.2	213	42.9	+21	01.4	289	27.8	-6	00.8				
1	295	34.0	185	45.6		09.0	251	02.6		55.7	228	44.8		01.5	304	30.2		00.9				
2	310	36.4	200	44.8		08.7	266	03.3		56.3	243	46.7		01.6	319	32.7		00.9				
3	325	38.9	215	43.9		08.3	281	03.9		56.8	258	48.6		01.7	334	35.2		00.9				
4	340	41.4	230	43.1		08.0	296	04.6		57.3	273	50.5		01.8	349	37.6		00.9				
5	355	43.8	245	42.2	+23	07.6	311	05.3	+15	57.9	288	52.4	+21	01.8	4	40.1	-6	00.9				
6	10	46.3	260	41.4	+23	07.3	326	06.0	+15	58.4	303	54.3	+21	01.9	19	42.6	-6	00.9				
7	25	48.8	275	40.5		07.0	341	06.7		58.9	318	56.1		02.0	34	45.1		00.9				
8	40	51.2	290	39.6		06.6	356	07.3	+15	59.5	333	58.0		02.1	49	47.5		01.0				
9	55	53.7	305	38.8		06.3	11	08.0	+16	00.0	348	59.9		02.2	64	50.0		01.0				
10	70	56.2	320	37.9		05.9	26	08.7	+16	00.5	4	01.8		02.3	79	52.5		01.0				
11	85	58.6	335	37.1	+23	05.6	41	09.4	+16	01.1	19	03.7	+21	02.3	94	54.9	-6	01.0				
12	101	01.1	350	36.2	+23	05.2	56	10.1	+16	01.6	34	05.6	+21	02.4	109	57.4	-6	01.0				
13	116	03.6	5	35.4		04.9	71	10.7		02.1	49	07.5		02.5	124	59.9		01.0				
14	131	06.0	20	34.5		04.5	86	11.4		02.6	64	09.4		02.6	140	02.3		01.0				
15	146	08.5	35	33.7		04.2	101	12.1		03.2	79	11.3		02.7	155	04.8		01.1				
16	161	10.9	50	32.8		03.8	116	12.8		03.7	94	13.2		02.8	170	07.3		01.1				
17	176	13.4	65	32.0	+23	03.5	131	13.5	+16	04.2	109	15.1	+21	02.9	185	09.8	-6	01.1				
18	191	15.9	80	31.1	+23	03.1	146	14.1	+16	04.8	124	17.0	+21	02.9	200	12.2	-6	01.1				
19	206	18.3	95	30.3		02.7	161	14.8		05.3	139	18.9		03.0	215	14.7		01.1				
20	221	20.8	110	29.4		02.4	176	15.5		05.8	154	20.8		03.1	230	17.2		01.1				
21	236	23.3	125	28.5		02.0	191	16.2		06.3	169	22.7		03.2	245	19.6		01.1				
22	251	25.7	140	27.7		01.7	206	16.8		06.9	184	24.6		03.3	260	22.1		01.2				
23	266	28.2	155	26.8		01.3	221	17.5		07.4	199	26.5		03.4	275	24.6		01.2				
24	281	30.7	170	26.0	+23	00.9	236	18.2	+16	07.9	214	28.4	+21	03.4	290	27.1	-6	01.2				
Dif	—		-9		-4		+7		+5		+19		+1		+25							

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG:12 ^h 04.4 ^m				Edad: 26.5 ^d SD: 15'8 PMG: 9 ^h 44 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	56.0	+22	56.1	219	36.3	+25	01.9	60 N	** **	1 10	2 45	** **	** **	20 18	84			
1	193	55.9		55.9	234	02.1		10.0	58	** **	1 52	3 04	0 10	24	19 47	77			
2	208	55.8		55.7	248	27.7		18.0	56	** **	2 20	21	28	30	23	74			
3	223	55.7		55.5	262	53.3		25.7	54	1 04	41	34	44	34	19 04	72			
4	238	55.5		55.3	277	18.9		33.4	52	1 43	2 58	46	0 57	37	18 48	70			
5	253	55.4	+22	55.0	291	44.4	+25	40.8	50	2 09	3 13	3 57	1 09	39	18 34	69			
6	268	55.3	+22	54.8	306	09.8	+25	48.2	45	2 53	3 42	4 19	1 34	43	18 05	67			
7	283	55.2		54.6	320	35.2	+25	55.3	40	3 22	4 04	36	1 53	47	17 43	65			
8	298	55.1		54.4	335	00.5	+26	02.3	35	3 45	21	4 51	2 10	49	25	64			
9	313	55.0		54.2	349	25.8		09.1	30	4 03	4 36	5 03	24	51	17 09	63			
10	328	54.9		54.0	3	51.0		15.8	20	31	5 01	25	2 49	54	16 42	62			
11	343	54.7	+22	53.8	18	16.2	+26	22.3	10 N	4 54	5 21	5 44	3 10	56	16 19	60			
12	358	54.6	+22	53.6	32	41.3	+26	28.6	0	5 12	5 38	6 01	3 30	58	15 58	59			
13	13	54.5		53.3	47	06.4		34.8	60	29	5 55	18	3 50	61	37	57			
14	28	54.4		53.1	61	31.4		40.8	20	5 44	6 12	36	4 12	63	15 14	56			
15	43	54.3		52.9	75	56.4		46.6	30	6 01	30	6 57	37	66	14 47	54			
16	58	54.2		52.7	90	21.4		52.3	35	09	41	7 09	4 52	67	32	53			
17	73	54.1	+22	52.5	104	46.3	+26	57.8	40	6 18	6 52	7 22	5 10	69	14 14	51			
18	88	54.0	+22	52.3	119	11.2	+27	03.1	45	6 28	7 05	7 39	5 31	71	13 52	49			
19	103	53.8		52.0	133	36.0		08.2	50	39	21	7 59	5 57	75	25	46			
20	118	53.7		51.8	148	00.8		13.2	52	44	28	8 08	6 10	78	13 11	44			
21	133	53.6		51.6	162	25.6		18.0	48	50	36	19	25	80	12 56	42			
22	148	53.5		51.4	176	50.4		22.7	47	6 56	45	31	6 43	83	38	38			
23	163	53.4		51.2	191	15.1		27.1	44	7 02	7 54	8 45	7 04	89	12 16	33			
24	178	53.3	+22	50.9	205	39.8	+27	31.4	43	7 09	8 06	9 02	7 31	100	11 48	23			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 5 ^h 13.1 ^m		Mag: -3.9 PMG: 12 ^h 39 ^m		Mag: +1.0 PMG: 8 ^h 14 ^m		Mag: -2.1 PMG: 9 ^h 41 ^m		Mag: +1.0 PMG: 4 ^h 37 ^m										
	hG ♀		Dec		hG ♂		Dec		hG ♃		Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'							
0	281	30.7	170	26.0	+23	00.9	236	18.2	+16	07.9	214	28.4	+21	03.4	290	27.1	-6	01.2	
1	296	33.1	185	25.1		00.6	251	18.9		08.4	229	30.3		03.5	305	29.5		01.2	
2	311	35.6	200	24.3	+23	00.2	266	19.6		09.0	244	32.2		03.6	320	32.0		01.2	
3	326	38.1	215	23.4	+22	59.8	281	20.2		09.5	259	34.0		03.7	335	34.5		01.2	
4	341	40.5	230	22.6		59.5	296	20.9		10.0	274	35.9		03.8	350	36.9		01.2	
5	356	43.0	245	21.7	+22	59.1	311	21.6	+16	10.5	289	37.8	+21	03.9	5	39.4	-6	01.3	
6	11	45.4	260	20.9	+22	58.7	326	22.3	+16	11.1	304	39.7	+21	04.0	20	41.9	-6	01.3	
7	26	47.9	275	20.0		58.3	341	23.0		11.6	319	41.6		04.0	35	44.4		01.3	
8	41	50.4	290	19.2		58.0	356	23.6		12.1	334	43.5		04.1	50	46.8		01.3	
9	56	52.8	305	18.4		57.6	11	24.3		12.6	349	45.4		04.2	65	49.3		01.3	
10	71	55.3	320	17.5		57.2	26	25.0		13.2	4	47.3		04.3	80	51.8		01.3	
11	86	57.8	335	16.7	+22	56.8	41	25.7	+16	13.7	19	49.2	+21	04.4	95	54.3	-6	01.4	
12	102	00.2	350	15.8	+22	56.5	56	26.4	+16	14.2	34	51.1	+21	04.5	110	56.7	-6	01.4	
13	117	02.7	5	15.0		56.1	71	27.0		14.7	49	53.0		04.5	125	59.2		01.4	
14	132	05.2	20	14.1		55.7	86	27.7		15.3	64	54.9		04.6	141	01.7		01.4	
15	147	07.6	35	13.3		55.3	101	28.4		15.8	79	56.8		04.7	156	04.2		01.4	
16	162	10.1	50	12.4		54.9	116	29.1		16.3	94	58.7		04.8	171	06.6		01.4	
17	177	12.6	65	11.6	+22	54.6	131	29.7	+16	16.8	110	00.6	+21	04.9	186	09.1	-6	01.4	
18	192	15.0	80	10.7	+22	54.2	146	30.4	+16	17.3	125	02.5	+21	05.0	201	11.6	-6	01.5	
19	207	17.5	95	09.9		53.8	161	31.1		17.9	140	04.4		05.0	216	14.1		01.5	
20	222	19.9	110	09.0		53.4	176	31.8		18.4	155	06.3		05.1	231	16.5		01.5	
21	237	22.4	125	08.2		53.0	191	32.5		18.9	170	08.2		05.2	246	19.0		01.5	
22	252	24.9	140	07.4		52.6	206	33.1		19.4	185	10.1		05.3	261	21.5		01.5	
23	267	27.3	155	06.5		52.2	221	33.8		20.0	200	12.0		05.4	276	24.0		01.5	
24	282	29.8	170	05.7	+22	51.8	236	34.5	+16	20.5	215	13.9	+21	05.5	291	26.4	-6	01.6	
Dif	—		-8		-4		+7		+5		+19		+1		+25		0		

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 04.5 ^m				Edad: 27.5 ^d SD: 15'7 PMG: 10 ^h 43 ^m PHE { 4 ^h : 57'6 12 ^h : 57'4 20 ^h : 57'3 R°: 58 ^m														
	hG ☉	Dec			hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	178	53.3	+22	50.9	205	39.8	57	+27	31.4	42	21 22	22 54	** **	0 02	40	21 42	42		
1	193	53.2		50.7	220	04.5	56		35.6	39	21 03	22 14	** **	34	46	21 04	47		
2	208	53.1		50.5	234	29.1	56		39.5	38	20 47	21 47	** **	0 58	49	20 37	50		
3	223	52.9		50.3	248	53.7	56		43.3	38	20 47	21 47	** **	1 18	51	20 16	51		
4	238	52.8		50.0	263	18.3	56		46.9	36	20 47	21 47	** **	34	52	19 58	53		
5	253	52.7	+22	49.8	277	42.9	56	+27	50.3	34	20 11	20 55	21 58	1 48	53	19 43	53		
6	268	52.6	+22	49.6	292	07.5	56	+27	53.6	33	19 50	20 26	21 15	2 17	55	19 12	55		
7	283	52.5		49.4	306	32.1	56		56.6	30	32	20 05	20 46	40	56	18 48	56		
8	298	52.4		49.1	320	56.7	56	+27	59.5	29	18	19 47	23	2 59	56	29	56		
9	313	52.3		48.9	335	21.2	55	+28	02.3	28	19 05	32	20 05	3 15	57	18 12	57		
10	328	52.2		48.7	349	45.8	56		04.8	25	18 44	19 08	19 37	3 43	57	17 44	57		
11	343	52.1	+22	48.4	4	10.3	55	+28	07.2	24	18 25	18 48	19 15	4 06	59	17 19	58		
12	358	51.9	+22	48.2	18	34.9	56	+28	09.4	22	18 08	18 31	18 57	4 28	59	16 57	58		
13	13	51.8		48.0	32	59.4	55		11.4	20	17 51	18 14	40	4 51	59	34	59		
14	28	51.7		47.7	47	24.0	56		13.2	18	20	33	17 57	25	5 15	59	16 10	59	
15	43	51.6		47.5	61	48.5	55		14.9	17	30	13	39	09	43	60	15 41	60	
16	58	51.5		47.3	76	13.1	56		16.4	15	35	17	01	29	5 59	61	25	59	
17	73	51.4	+22	47.0	90	37.7	56	+28	17.7	13	40	16	47	17 17	6 19	60	15 05	60	
18	88	51.3	+22	46.8	105	02.2	55	+28	18.9	12	45	16	31	17 04	6 42	61	14 41	60	
19	103	51.2		46.6	119	26.9	57		19.8	9	50	11	16 49	30	7 12	62	14 11	60	
20	118	51.1		46.3	133	51.5	56		20.6	8	52	16	01	42	25	28	61	13 55	61
21	133	51.0		46.1	148	16.1	56		21.2	6	54	15	51	34	20	7 45	62	38	60
22	148	50.9		45.9	162	40.8	57		21.7	5	56		39	25	14	8 06	62	13 16	61
23	163	50.7		45.6	177	05.5	57		21.9	2	58		25	15	07	8 33	63	12 49	61
24	178	50.6	+22	45.4	191	30.2	57	+28	22.0	1	60 S	15 08	16 04	17 00	9 11	63	12 11	60	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 5 ^h 09.2 ^m		Mag: -3.9 PMG: 12 ^h 40 ^m		Mag: +1.0 PMG: 8 ^h 13 ^m		Mag: -2.1 PMG: 9 ^h 38 ^m		Mag: +1.0 PMG: 4 ^h 33 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	282	29.8	170	05.7	+22	51.8	236	34.5	+16	20.5	215	13.9	+21	05.5	291	26.4	-6	01.6
1	297	32.3	185	04.8		51.4	251	35.2		21.0	230	15.8		05.5	306	28.9		01.6
2	312	34.7	200	04.0		51.0	266	35.9		21.5	245	17.7		05.6	321	31.4		01.6
3	327	37.2	215	03.1		50.6	281	36.5		22.0	260	19.6		05.7	336	33.9		01.6
4	342	39.7	230	02.3		50.3	296	37.2		22.5	275	21.5		05.8	351	36.3		01.6
5	357	42.1	245	01.5	+22	49.9	311	37.9	+16	23.1	290	23.4	+21	05.9	6	38.8	-6	01.6
6	12	44.6	260	00.6	+22	49.5	326	38.6	+16	23.6	305	25.3	+21	06.0	21	41.3	-6	01.7
7	27	47.1	274	59.8		49.1	341	39.2		24.1	320	27.2		06.0	36	43.8		01.7
8	42	49.5	289	58.9		48.7	356	39.9		24.6	335	29.1		06.1	51	46.3		01.7
9	57	52.0	304	58.1		48.2	11	40.6		25.1	350	31.0		06.2	66	48.7		01.7
10	72	54.4	319	57.3		47.8	26	41.3		25.7	5	32.9		06.3	81	51.2		01.7
11	87	56.9	334	56.4	+22	47.4	41	42.0	+16	26.2	20	34.8	+21	06.4	96	53.7	-6	01.7
12	102	59.4	349	55.6	+22	47.0	56	42.6	+16	26.7	35	36.7	+21	06.5	111	56.2	-6	01.8
13	118	01.8	4	54.7		46.6	71	43.3		27.2	50	38.6		06.5	126	58.6		01.8
14	133	04.3	19	53.9		46.2	86	44.0		27.7	65	40.5		06.6	142	01.1		01.8
15	148	06.8	34	53.1		45.8	101	44.7		28.2	80	42.4		06.7	157	03.6		01.8
16	163	09.2	49	52.2		45.4	116	45.4		28.7	95	44.3		06.8	172	06.1		01.8
17	178	11.7	64	51.4	+22	45.0	131	46.0	+16	29.3	110	46.2	+21	06.9	187	08.6	-6	01.9
18	193	14.2	79	50.5	+22	44.6	146	46.7	+16	29.8	125	48.1	+21	06.9	202	11.0	-6	01.9
19	208	16.6	94	49.7		44.2	161	47.4		30.3	140	50.0		07.0	217	13.5		01.9
20	223	19.1	109	48.9		43.7	176	48.1		30.8	155	51.9		07.1	232	16.0		01.9
21	238	21.5	124	48.0		43.3	191	48.7		31.3	170	53.8		07.2	247	18.5		01.9
22	253	24.0	139	47.2		42.9	206	49.4		31.8	185	55.7		07.3	262	21.0		01.9
23	268	26.5	154	46.4		42.5	221	50.1		32.3	200	57.6		07.4	277	23.4		02.0
24	283	28.9	169	45.5	+22	42.1	236	50.8	+16	32.9	215	59.5	+21	07.4	292	25.9	-6	02.0
Dif	—		-8		-4		+7		+5		+19		+1		+25		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 04.7 ^m				Edad: 28.5 ^d SD: 15'6 PMG: 11 ^h 41 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	50.6	+22	45.4	191	30.2	+28	22.0	0	60 N	** **	1 15	2 48	0 42	79	22 24	15		
1	193	50.5		45.1	205	54.9		22.0	3	58	** **	1 56	3 07	1 20	73	21 51	25		
2	208	50.4		44.9	220	19.7		21.7	4	56	** **	2 23	23	1 47	71	27	30		
3	223	50.3		44.7	234	44.5		21.3	5	54	1 09	2 43	36	2 09	68	21 07	34		
4	238	50.2		44.4	249	09.3		20.7	6	52	1 46	3 00	48	26	67	20 51	36		
5	253	50.1	+22	44.2	263	34.2	+28	19.9	8	50	2 12	3 15	3 58	2 41	66	20 36	39		
6	268	50.0	+22	43.9	277	59.1	+28	19.0	9	45	2 54	3 43	4 20	3 12	64	20 07	43		
7	283	49.9		43.7	292	24.1		17.9	11	40	3 24	4 05	37	36	63	19 44	45		
8	298	49.8		43.4	306	49.1		16.6	13	35	3 46	22	4 52	3 55	62	25	47		
9	313	49.7		43.2	321	14.1		15.1	15	30	4 04	4 37	5 04	4 12	61	19 09	49		
10	328	49.6		42.9	335	39.2		13.5	16	20	32	5 01	26	4 40	60	18 41	52		
11	343	49.5	+22	42.7	350	04.3	+28	11.7	18	10 N	4 54	5 21	5 44	5 05	58	18 17	54		
12	358	49.3	+22	42.5	4	29.5	+28	09.8	19	0	5 13	5 39	6 01	5 27	58	17 55	56		
13	13	49.2		42.2	18	54.8		07.6	22	10 S	29	5 55	18	5 50	56	33	57		
14	28	49.1		42.0	33	20.1		05.3	23	20	5 45	6 12	36	6 14	55	17 09	59		
15	43	49.0		41.7	47	45.4		02.9	24	30	6 00	30	6 56	6 43	53	16 41	62		
16	58	48.9		41.5	62	10.8	+28	00.3	26	35	09	40	7 08	7 00	51	24	64		
17	73	48.8	+22	41.2	76	36.3	+27	57.5	28	40	6 18	6 52	7 22	7 19	51	16 05	65		
18	88	48.7	+22	41.0	91	01.8	+27	54.5	30	45	6 28	7 05	7 38	7 43	49	15 41	68		
19	103	48.6		40.7	105	27.4		51.4	31	50	39	20	7 58	8 14	45	15 11	71		
20	118	48.5		40.4	119	53.1		48.2	32	52	44	27	8 07	29	44	14 56	73		
21	133	48.4		40.2	134	18.8		44.7	35	54	49	35	18	8 47	41	38	75		
22	148	48.3		39.9	148	44.6		41.2	35	56	6 55	44	30	9 08	39	14 17	78		
23	163	48.2		39.7	163	10.5		37.4	38	58	7 01	7 53	8 44	9 36	33	13 50	83		
24	178	48.1	+22	39.4	177	36.5	+27	33.5	39	60 S	7 08	8 04	9 00	10 14	24	13 11	94		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 5 ^h 05.2 ^m		Mag: -3.9 PMG: 12 ^h 42 ^m				Mag: +1.0 PMG: 8 ^h 12 ^m				Mag: -2.1 PMG: 9 ^h 35 ^m				Mag: +1.0 PMG: 4 ^h 30 ^m				
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	283	28.9	169	45.5	+22	42.1	236	50.8	+16	32.9	215	59.5	+21	07.4	292	25.9	-6	02.0	
1	298	31.4	184	44.7		41.6	251	51.5		33.4	231	01.4		07.5	307	28.4		02.0	
2	313	33.9	199	43.9		41.2	266	52.1		33.9	246	03.3		07.6	322	30.9		02.0	
3	328	36.3	214	43.0		40.8	281	52.8		34.4	261	05.2		07.7	337	33.4		02.0	
4	343	38.8	229	42.2		40.4	296	53.5		34.9	276	07.1		07.8	352	35.8		02.1	
5	358	41.3	244	41.4	+22	39.9	311	54.2	+16	35.4	291	09.0	+21	07.8	7	38.3	-6	02.1	
6	13	43.7	259	40.5	+22	39.5	326	54.8	+16	35.9	306	10.9	+21	07.9	22	40.8	-6	02.1	
7	28	46.2	274	39.7		39.1	341	55.5		36.4	321	12.8		08.0	37	43.3		02.1	
8	43	48.7	289	38.9		38.7	356	56.2		36.9	336	14.7		08.1	52	45.8		02.1	
9	58	51.1	304	38.0		38.2	11	56.9		37.5	351	16.6		08.2	67	48.2		02.1	
10	73	53.6	319	37.2		37.8	26	57.6		38.0	6	18.5		08.3	82	50.7		02.2	
11	88	56.0	334	36.4	+22	37.4	41	58.2	+16	38.5	21	20.4	+21	08.3	97	53.2	-6	02.2	
12	103	58.5	349	35.5	+22	36.9	56	58.9	+16	39.0	36	22.3	+21	08.4	112	55.7	-6	02.2	
13	119	01.0	4	34.7		36.5	71	59.6		39.5	51	24.2		08.5	127	58.2		02.2	
14	134	03.4	19	33.9		36.1	87	00.3		40.0	66	26.1		08.6	143	00.6		02.2	
15	149	05.9	34	33.0		35.6	102	00.9		40.5	81	28.0		08.7	158	03.1		02.3	
16	164	08.4	49	32.2		35.2	117	01.6		41.0	96	29.9		08.7	173	05.6		02.3	
17	179	10.8	64	31.4	+22	34.7	132	02.3	+16	41.5	111	31.8	+21	08.8	188	08.1	-6	02.3	
18	194	13.3	79	30.5	+22	34.3	147	03.0	+16	42.0	126	33.7	+21	08.9	203	10.6	-6	02.3	
19	209	15.8	94	29.7		33.9	162	03.7		42.5	141	35.6		09.0	218	13.1		02.3	
20	224	18.2	109	28.9		33.4	177	04.3		43.0	156	37.5		09.1	233	15.5		02.4	
21	239	20.7	124	28.1		33.0	192	05.0		43.6	171	39.4		09.1	248	18.0		02.4	
22	254	23.2	139	27.2		32.5	207	05.7		44.1	186	41.3		09.2	263	20.5		02.4	
23	269	25.6	154	26.4		32.1	222	06.4		44.6	201	43.2		09.3	278	23.0		02.4	
24	284	28.1	169	25.6	+22	31.6	237	07.0	+16	45.1	216	45.1	+21	09.4	293	25.5	-6	02.4	
Dif	—		-8		-4		+7		+5		+19		+1		+25		0		

UT	SOL			● LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna										
	SD: 15'7 PMG: 12 ^h 04.9 ^m			Edad: 29.5 ^d PHE { 4 ^h : 56'5 12 ^h : 56'4 20 ^h : 56'2 PMG: 12 ^h 38 ^m 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	178	48.1	+22	39.4	177	36.5	70	+27	33.5	40	21 20	22 49	** **	2 01 98	22 39 6												
1	193	48.0		39.2	192	02.5	71		29.5	43	21 01	22 11	** **	33 89	22 16 13												
2	208	47.9		38.9	206	28.6	72		25.2	43	20 45	21 45	** **	2 58 83	21 57 18												
3	223	47.8		38.7	220	54.8	72		20.9	45		24	22 56	3 17 79	41 21												
4	238	47.7		38.4	235	21.0	72		16.4	47	20	21 08	22 20	33 77	27 25												
5	253	47.6	+22	38.1	249	47.4	74	+27	11.7	45	20 10	20 54	21 56	3 47 75	21 15 27												
6	268	47.4	+22	37.9	264	13.8	74	+27	06.9	48	19 49	20 26	21 14	4 16 70	20 50 32												
7	283	47.3		37.6	278	40.3	75	+27	01.9	50	32	20 04	20 45	39 66	29 36												
8	298	47.2		37.4	293	06.9	76	+26	56.8	51	17	19 47	23	4 57 64	20 12 39												
9	313	47.1		37.1	307	33.5	76		51.5	53	19 05	32	20 05	5 13 62	19 58 41												
10	328	47.0		36.8	322	00.3	78		46.1	54	18 44	19 08	19 37	5 40 59	33 45												
11	343	46.9	+22	36.6	336	27.1	78	+26	40.5	56	18 25	18 48	19 15	6 03 56	19 11 49												
12	358	46.8	+22	36.3	350	54.1	80	+26	34.8	57	18 09	18 31	18 57	6 25 53	18 51 51												
13	13	46.7		36.0	5	21.1	80		29.0	58	17 52	18 14	41	6 46 51	30 55												
14	28	46.6		35.8	19	48.2	81		23.0	60	34	17 58	25	7 09 48	18 08 58												
15	43	46.5		35.5	34	15.4	82		16.9	61	14	40	09	36 44	17 43 62												
16	58	46.4		35.2	48	42.7	83		10.6	63	17 02	30	18 01	7 51 43	28 64												
17	73	46.3	+22	35.0	63	10.1	84	+26	04.2	64	16 48	17 18	17 52	8 10 40	17 10 67												
18	88	46.2	+22	34.7	77	37.6	85	+25	57.7	65	16 32	17 06	17 43	8 32 36	16 49 71												
19	103	46.1		34.4	92	05.1	85		51.0	67	12	16 50	31	8 59 32	22 76												
20	118	46.0		34.2	106	32.8	87		44.2	68	16 03	43	27	9 13 29	16 09 78												
21	133	45.9		33.9	121	00.6	88		37.3	69	15 53	36	21	28 27	15 53 82												
22	148	45.8		33.6	135	28.5	89		30.2	71	41	27	16	9 47 22	35 87												
23	163	45.7		33.4	149	56.4	89		23.1	71	27	17	09	10 09 17	15 13 93												
24	178	45.6	+22	33.1	164	24.5	91	+25	15.7	74	15 11	16 06	17 02	10 38 8	14 45 101												
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG 5 ^h 01.3 ^m			Mag: -3.9 PMG: 12 ^h 43 ^m			Mag: +1.0 PMG: 8 ^h 11 ^m			Mag: -2.1 PMG: 9 ^h 32 ^m			Mag: +1.0 PMG: 4 ^h 26 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°												
0	284	28.1	169	25.6	+22	31.6	237	07.0	+16	45.1	216	45.1	+21	09.4	293	25.5	-6	02.4									
1	299	30.5	184	24.8		31.2	252	07.7		45.6	231	47.0		09.5	308	28.0		02.5									
2	314	33.0	199	23.9		30.7	267	08.4		46.1	246	48.9		09.6	323	30.4		02.5									
3	329	35.5	214	23.1		30.3	282	09.1		46.6	261	50.8		09.6	338	32.9		02.5									
4	344	37.9	229	22.3		29.8	297	09.8		47.1	276	52.7		09.7	353	35.4		02.5									
5	359	40.4	244	21.4	+22	29.4	312	10.4	+16	47.6	291	54.6	+21	09.8	8	37.9	-6	02.5									
6	14	42.9	259	20.6	+22	28.9	327	11.1	+16	48.1	306	56.5	+21	09.9	23	40.4	-6	02.6									
7	29	45.3	274	19.8		28.5	342	11.8		48.6	321	58.4		10.0	38	42.9		02.6									
8	44	47.8	289	19.0		28.0	357	12.5		49.1	337	00.3		10.0	53	45.4		02.6									
9	59	50.3	304	18.2		27.6	12	13.1		49.6	352	02.2		10.1	68	47.8		02.6									
10	74	52.7	319	17.3		27.1	27	13.8		50.1	7	04.1		10.2	83	50.3		02.6									
11	89	55.2	334	16.5	+22	26.6	42	14.5	+16	50.6	22	06.0	+21	10.3	98	52.8	-6	02.7									
12	104	57.7	349	15.7	+22	26.2	57	15.2	+16	51.1	37	07.9	+21	10.4	113	55.3	-6	02.7									
13	120	00.1	4	14.9		25.7	72	15.8		51.6	52	09.8		10.4	128	57.8		02.7									
14	135	02.6	19	14.0		25.2	87	16.5		52.1	67	11.7		10.5	144	00.3		02.7									
15	150	05.0	34	13.2		24.8	102	17.2		52.6	82	13.6		10.6	159	02.8		02.7									
16	165	07.5	49	12.4		24.3	117	17.9		53.1	97	15.5		10.7	174	05.2		02.8									
17	180	10.0	64	11.6	+22	23.9	132	18.6	+16	53.6	112	17.4	+21	10.8	189	07.7	-6	02.8									
18	195	12.4	79	10.8	+22	23.4	147	19.2	+16	54.1	127	19.3	+21	10.8	204	10.2	-6	02.8									
19	210	14.9	94	09.9		22.9	162	19.9		54.6	142	21.2		10.9	219	12.7		02.8									
20	225	17.4	109	09.1		22.4	177	20.6		55.1	157	23.2		11.0	234	15.2		02.8									
21	240	19.8	124	08.3		22.0	192	21.3		55.6	172	25.1		11.1	249	17.7		02.9									
22	255	22.3	139	07.5		21.5	207	21.9		56.1	187	27.0		11.2	264	20.2		02.9									
23	270	24.8	154	06.7		21.0	222	22.6		56.6	202	28.9		11.2	279	22.7		02.9									
24	285	27.2	169	05.8	+22	20.6	237	23.3	+16	57.1	217	30.8	+21	11.3	294	25.1	-6	02.9									
Dif	—			-8			-5			+7			+5			+19			+1			+25			0		

UT	SOL				● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15/7 PMG:12 ^h 05.0 ^m				Edad: 1.0 ^d PHE { SD: 15/3 PMG: 13 ^h 30 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	45.6	+22	33.1	164	24.5	+25	15.7	74	60 N	** **	1 21	2 51	3 39	99	22	45	2	
1	193	45.5		32.8	178	52.7		08.3	76	58	** **	1 59	3 09	4 02	92	29	6		
2	208	45.4		32.5	193	20.9	+25	00.7	77	56	** **	2 26	25	21	86	15	11		
3	223	45.3		32.3	207	49.3	+24	53.0	78	54	1 14	2 46	38	36	82	22	02	15	
4	238	45.2		32.0	222	17.8		45.2	79	52	1 50	3 02	3 50	4 50	79	21	52	17	
5	253	45.1	+22	31.7	236	46.3	+24	37.3	80	50	2 14	3 17	4 00	5 02	76	21	42	20	
6	268	45.0	+22	31.4	251	15.0	+24	29.2	81	45	2 56	3 45	4 21	5 26	71	21	25	25	
7	283	44.9		31.2	265	43.8		21.0	82	40	3 25	4 06	38	5 45	67	21	05	29	
8	298	44.8		30.9	280	12.6		12.7	83	35	3 47	23	4 53	6 01	64	20	51	33	
9	313	44.7		30.6	294	41.6	+24	04.3	84	30	4 05	4 38	5 05	15	61	39	35		
10	328	44.6		30.3	309	10.7	+23	55.8	85	20	33	5 02	26	39	56	18	40		
11	343	44.5	+22	30.1	323	39.9	+23	47.2	86	10 N	4 55	5 22	5 45	6 59	53	20	00	43	
12	358	44.4	+22	29.8	338	09.2	+23	38.4	88	0	5 13	5 39	6 01	7 18	50	19	42	48	
13	13	44.3		29.5	352	38.5		29.6	88	10 S	29	5 55	18	37	46	25	51		
14	28	44.2		29.2	7	08.0		20.6	90	20	5 45	6 12	36	7 57	43	19	06	56	
15	43	44.1		28.9	21	37.6		11.5	91	30	6 00	30	6 56	8 20	38	18	45	60	
16	58	44.0		28.6	36	07.3	+23	02.3	92	35	09	40	7 08	34	35	32	63		
17	73	43.9	+22	28.4	50	37.1	+22	53.1	92	40	6 17	6 51	7 21	8 50	32	18	17	66	
18	88	43.8	+22	28.1	65	07.0	+22	43.7	94	45	6 27	7 04	7 37	9 08	28	18	00	70	
19	103	43.7		27.8	79	37.0		34.2	95	50	38	19	7 57	31	23	17	38	76	
20	118	43.6		27.5	94	07.1		24.6	96	52	43	26	8 06	42	21	27	79		
21	133	43.5		27.2	108	37.3		14.9	97	54	48	34	17	9 55	17	15	82		
22	148	43.4		26.9	123	07.6	+22	05.1	98	56	6 54	42	29	10 09	14	17	02	85	
23	163	43.3		26.6	137	38.1	+21	55.2	99	58	7 00	7 52	42	26	8	16	46	90	
24	178	43.2	+22	26.4	152	08.6	+21	45.2	100	60 S	7 07	8 03	8 58	10 46	2	16	26	97	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 57.4 ^m		Mag: -3.9 PMG: 12 ^h 44 ^m		Mag: +1.0 PMG: 8 ^h 10 ^m		Mag: -2.1 PMG: 9 ^h 29 ^m		Mag: +1.0 PMG: 4 ^h 22 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	285	27.2	169	05.8	+22	20.6	237	23.3	+16	57.1
1	300	29.7	184	05.0		20.1	252	24.0		57.6
2	315	32.2	199	04.2		19.6	267	24.7		58.1
3	330	34.6	214	03.4		19.1	282	25.3		58.6
4	345	37.1	229	02.6		18.6	297	26.0		59.1
5	0	39.5	244	01.8	+22	18.2	312	26.7	+16	59.6
6	15	42.0	259	00.9	+22	17.7	327	27.4	+17	00.1
7	30	44.5	274	00.1		17.2	342	28.0		00.6
8	45	46.9	288	59.3		16.7	357	28.7		01.1
9	60	49.4	303	58.5		16.2	12	29.4		01.6
10	75	51.9	318	57.7		15.7	27	30.1		02.1
11	90	54.3	333	56.9	+22	15.3	42	30.7	+17	02.6
12	105	56.8	348	56.1	+22	14.8	57	31.4	+17	03.1
13	120	59.3	3	55.2		14.3	72	32.1		03.6
14	136	01.7	18	54.4		13.8	87	32.8		04.1
15	151	04.2	33	53.6		13.3	102	33.5		04.6
16	166	06.7	48	52.8		12.8	117	34.1		05.1
17	181	09.1	63	52.0	+22	12.3	132	34.8	+17	05.5
18	196	11.6	78	51.2	+22	11.8	147	35.5	+17	06.0
19	211	14.0	93	50.4		11.3	162	36.2		06.5
20	226	16.5	108	49.6		10.8	177	36.8		07.0
21	241	19.0	123	48.7		10.3	192	37.5		07.5
22	256	21.4	138	47.9		09.8	207	38.2		08.0
23	271	23.9	153	47.1		09.3	222	38.9		08.5
24	286	26.4	168	46.3	+22	08.8	237	39.5	+17	09.0
Dif	—		-8		-5		+7		+5	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG: 12 ^h 05.2 ^m				Edad: 2.0 ^d SD: 15'1 PMG: 14 ^h 19 ^m						PHE { 4 ^h : 55'4 12 ^h : 55'3 20 ^h : 55'1 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
0	178	43.2	+22	26.4	152	08.6	+21	45.2	100	60 N	21 17	22 44	** **	5 18	93	22 47	0	
1	193	43.1		26.1	166	39.2		35.2	100	58	20 59	22 07	** **	34 87		35	4	
2	208	43.0		25.8	181	09.9		25.0	102	56	44	21 42	** **	47 83		26	7	
3	223	42.9		25.5	195	40.7		14.7	103	54	31	22	22 51	5 58	80	17	10	
4	238	42.8		25.2	210	11.6	+21	04.4	103	52	19	21 06	22 17	6 09	77	09	13	
5	253	42.8	+22	24.9	224	42.6	+20	54.0	104	50	20 09	20 52	21 53	6 18	74	22 02	15	
6	268	42.7	+22	24.6	239	13.8	+20	43.4	106	45	19 48	20 24	21 12	6 37	69	21 47	20	
7	283	42.6		24.3	253	45.0		32.8	106	40	31	20 03	20 44	6 52	65	34	24	
8	298	42.5		24.0	268	16.3		22.1	107	35	17	19 46	22	7 05	61	24	27	
9	313	42.4		23.7	282	47.7		11.4	107	30	19 04	32	20 04	16 59		21	14	30
10	328	42.3		23.4	297	19.2	+20	00.5	109	20	18 44	19 08	19 37	35 54		20	58	35
11	343	42.2	+22	23.1	311	50.8	+19	49.6	109	10 N	18 26	18 48	19 15	7 52	49	20 43	40	
12	358	42.1	+22	22.8	326	22.5	+19	38.5	111	0	18 09	18 31	18 57	8 08	45	20 30	43	
13	13	42.0		22.5	340	54.3		27.4	111	10 S	17 52	18 15	41	23 41		16	48	
14	28	41.9		22.2	355	26.2		16.3	111	20	35	17 58	26	40 37		20	02	52
15	43	41.8		21.9	9	58.2	+19	05.0	113	30	15	41	10	8 58	33	19 45	57	
16	58	41.7		21.6	24	30.2	+18	53.7	113	35	17 03	31	18 02	9 09	30	35	60	
17	73	41.6	+22	21.4	39	02.4	+18	42.3	114	40	16 49	17 20	17 53	9 22	26	19 23	64	
18	88	41.5	+22	21.0	53	34.7	+18	30.8	115	45	16 34	17 07	17 44	9 36	23	19 10	68	
19	103	41.4		20.7	68	07.0		19.3	115	50	14	16 52	33	9 54	17	18 54	73	
20	118	41.3		20.4	82	39.5	+18	07.7	116	52	16 05	45	28	10 03	14	46	75	
21	133	41.2		20.1	97	12.0	+17	56.0	117	54	15 55	37	23	12 12		37	79	
22	148	41.2		19.8	111	44.6		44.2	118	56	43	29	17	23 8		27	82	
23	163	41.1		19.5	126	17.3		32.4	118	58	29	20	11	34 5		16	86	
24	178	41.0	+22	19.2	140	50.1	+17	20.5	119	60 S	15 13	16 09	17 04	10 48	1	18 03	91	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 4 ^h 53.4 ^m		Mag: -3.9 PMG: 12 ^h 46 ^m				Mag: +1.0 PMG: 8 ^h 09 ^m				Mag: -2.1 PMG: 9 ^h 26 ^m				Mag: +1.0 PMG: 4 ^h 18 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	286	26.4	168	46.3	+22	08.8	237	39.5	+17	09.0	218	16.5	+21	13.2	295	24.9	-6	03.5
1	301	28.8	183	45.5		08.3	252	40.2		09.5	233	18.4		13.3	310	27.4		03.5
2	316	31.3	198	44.7		07.8	267	40.9		10.0	248	20.3		13.4	325	29.9		03.5
3	331	33.8	213	43.9		07.3	282	41.6		10.5	263	22.2		13.4	340	32.4		03.5
4	346	36.2	228	43.1		06.8	297	42.2		11.0	278	24.1		13.5	355	34.9		03.5
5	1	38.7	243	42.3	+22	06.3	312	42.9	+17	11.4	293	26.1	+21	13.6	10	37.3	-6	03.6
6	16	41.1	258	41.5	+22	05.8	327	43.6	+17	11.9	308	28.0	+21	13.7	25	39.8	-6	03.6
7	31	43.6	273	40.7		05.3	342	44.3		12.4	323	29.9		13.8	40	42.3		03.6
8	46	46.1	288	39.9		04.8	357	45.0		12.9	338	31.8		13.8	55	44.8		03.6
9	61	48.5	303	39.1		04.2	12	45.6		13.4	353	33.7		13.9	70	47.3		03.7
10	76	51.0	318	38.3		03.7	27	46.3		13.9	8	35.6		14.0	85	49.8		03.7
11	91	53.5	333	37.5	+22	03.2	42	47.0	+17	14.4	23	37.5	+21	14.1	100	52.3	-6	03.7
12	106	55.9	348	36.6	+22	02.7	57	47.7	+17	14.9	38	39.4	+21	14.1	115	54.8	-6	03.7
13	121	58.4	3	35.8		02.2	72	48.3		15.4	53	41.3		14.2	130	57.3		03.8
14	137	00.9	18	35.0		01.7	87	49.0		15.8	68	43.2		14.3	145	59.8		03.8
15	152	03.3	33	34.2		01.2	102	49.7		16.3	83	45.1		14.4	161	02.3		03.8
16	167	05.8	48	33.4		00.6	117	50.4		16.8	98	47.0		14.5	176	04.8		03.8
17	182	08.3	63	32.6	+22	00.1	132	51.0	+17	17.3	113	49.0	+21	14.5	191	07.3	-6	03.9
18	197	10.7	78	31.8	+21	59.6	147	51.7	+17	17.8	128	50.9	+21	14.6	206	09.8	-6	03.9
19	212	13.2	93	31.0		59.1	162	52.4		18.3	143	52.8		14.7	221	12.3		03.9
20	227	15.6	108	30.2		58.5	177	53.1		18.8	158	54.7		14.8	236	14.8		03.9
21	242	18.1	123	29.4		58.0	192	53.7		19.2	173	56.6		14.8	251	17.2		04.0
22	257	20.6	138	28.6		57.5	207	54.4		19.7	188	58.5		14.9	266	19.7		04.0
23	272	23.0	153	27.8		57.0	222	55.1		20.2	204	00.4		15.0	281	22.2		04.0
24	287	25.5	168	27.0	+21	56.4	237	55.8	+17	20.7	219	02.3	+21	15.1	296	24.7	-6	04.0
Dif	—		-8		-5		+7		+5		+19		+1		+25		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15 ^h 7 PMG:12 ^h 05.3 ^m				Edad: 3.0 ^d PHE { 4 ^h : 55 ^h /0 12 ^h : 54 ^h /8 20 ^h : 54 ^h /7 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	h m m			
0	178	41.0	+22	19.2	140	50.1	+17	20.5	60 N	** **	1 27	2 54	6 51 88	22 47 **				
1	193	40.9		18.9	155	23.0	+17	08.6	58	** **	2 03	3 12	7 01 84	39 3				
2	208	40.8		18.6	169	56.0	+16	56.6	56	** **	29	27	10 80	33 5				
3	223	40.7		18.3	184	29.0		44.5	54	1 20	2 49	40	18 77	27 8				
4	238	40.6		18.0	199	02.2		32.4	52	1 54	3 05	3 52	26 73	22 11				
5	253	40.5	+22	17.7	213	35.4	+16	20.2	50	2 17	3 19	4 02	7 32 71	22 17 13				
6	268	40.4	+22	17.4	228	08.7	+16	07.9	45	2 58	3 46	4 23	7 46 66	22 07 17				
7	283	40.3		17.1	242	42.1	+15	55.6	40	3 27	4 08	40	7 57 62	21 58 22				
8	298	40.2		16.8	257	15.5		43.3	35	3 49	25	4 54	8 06 59	51 24				
9	313	40.1		16.5	271	49.1		30.9	30	4 06	4 39	5 06	15 55	44 28				
10	328	40.1		16.2	286	22.7		18.4	20	34	5 03	27	29 51	33 32				
11	343	40.0	+22	15.8	300	56.4	+15	05.9	10 N	4 55	5 22	5 45	8 41 47	21 23 37				
12	358	39.9	+22	15.5	315	30.2	+14	53.3	0	5 13	5 39	6 02	8 53 42	21 13 41				
13	13	39.8		15.2	330	04.0		40.7	10 S	29	5 56	18	9 04 38	21 04 45				
14	28	39.7		14.9	344	38.0		28.0	20	5 45	6 12	36	17 33	20 54 49				
15	43	39.6		14.6	359	12.0		15.3	30	6 00	30	6 56	31 28	42 54				
16	58	39.5		14.3	13	46.0	+14	02.5	35	08	40	7 07	39 25	35 58				
17	73	39.4	+22	14.0	28	20.2	+13	49.7	40	6 17	6 51	7 21	9 48 22	20 27 61				
18	88	39.3	+22	13.6	42	54.4	+13	36.8	45	6 26	7 03	7 37	9 59 18	20 18 65				
19	103	39.2		13.3	57	28.7		23.9	50	37	18	7 56	10 11 14	07 70				
20	118	39.2		13.0	72	03.0	+13	11.0	52	42	25	8 05	17 12	20 01 73				
21	133	39.1		12.7	86	37.5	+12	58.0	54	47	33	15	24 9	19 56 75				
22	148	39.0		12.4	101	11.9		44.9	56	53	41	27	31 6	49 78				
23	163	38.9		12.0	115	46.5		31.8	58	6 59	7 50	40	39 3	42 81				
24	178	38.8	+22	11.7	130	21.1	+12	18.7	60 S	7 06	8 01	8 56	10 49 **	19 34 85				
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 4 ^h 49.5 ^m		Mag: -3.9 PMG: 12 ^h 47 ^m		Mag: +1.0 PMG: 8 ^h 08 ^m		Mag: -2.1 PMG: 9 ^h 23 ^m		Mag: +1.0 PMG: 4 ^h 14 ^m									
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	287	25.5	168	27.0	+21	56.4	237	55.8	+17	20.7	219	02.3	+21	15.1	296	24.7	-6	04.0
1	302	28.0	183	26.2		55.9	252	56.5		21.2	234	04.2		15.2	311	27.2		04.0
2	317	30.4	198	25.4		55.4	267	57.1		21.7	249	06.1		15.2	326	29.7		04.1
3	332	32.9	213	24.6		54.8	282	57.8		22.1	264	08.1		15.3	341	32.2		04.1
4	347	35.4	228	23.8		54.3	297	58.5		22.6	279	10.0		15.4	356	34.7		04.1
5	2	37.8	243	23.0	+21	53.8	312	59.2	+17	23.1	294	11.9	+21	15.5	11	37.2	-6	04.1
6	17	40.3	258	22.2	+21	53.2	327	59.8	+17	23.6	309	13.8	+21	15.5	26	39.7	-6	04.2
7	32	42.8	273	21.5		52.7	343	00.5		24.1	324	15.7		15.6	41	42.2		04.2
8	47	45.2	288	20.7		52.2	358	01.2		24.6	339	17.6		15.7	56	44.7		04.2
9	62	47.7	303	19.9		51.6	13	01.9		25.0	354	19.5		15.8	71	47.2		04.2
10	77	50.1	318	19.1		51.1	28	02.5		25.5	9	21.4		15.8	86	49.7		04.3
11	92	52.6	333	18.3	+21	50.5	43	03.2	+17	26.0	24	23.3	+21	15.9	101	52.2	-6	04.3
12	107	55.1	348	17.5	+21	50.0	58	03.9	+17	26.5	39	25.2	+21	16.0	116	54.7	-6	04.3
13	122	57.5	3	16.7		49.5	73	04.6		27.0	54	27.2		16.1	131	57.2		04.3
14	138	00.0	18	15.9		48.9	88	05.2		27.4	69	29.1		16.2	146	59.7		04.4
15	153	02.5	33	15.1		48.4	103	05.9		27.9	84	31.0		16.2	162	02.2		04.4
16	168	04.9	48	14.3		47.8	118	06.6		28.4	99	32.9		16.3	177	04.7		04.4
17	183	07.4	63	13.5	+21	47.3	133	07.3	+17	28.9	114	34.8	+21	16.4	192	07.2	-6	04.5
18	198	09.9	78	12.7	+21	46.7	148	07.9	+17	29.4	129	36.7	+21	16.5	207	09.7	-6	04.5
19	213	12.3	93	11.9		46.2	163	08.6		29.8	144	38.6		16.5	222	12.2		04.5
20	228	14.8	108	11.1		45.6	178	09.3		30.3	159	40.5		16.6	237	14.7		04.5
21	243	17.3	123	10.4		45.1	193	10.0		30.8	174	42.5		16.7	252	17.2		04.6
22	258	19.7	138	09.6		44.5	208	10.6		31.3	189	44.4		16.8	267	19.7		04.6
23	273	22.2	153	08.8		44.0	223	11.3		31.8	204	46.3		16.8	282	22.2		04.6
24	288	24.6	168	08.0	+21	43.4	238	12.0	+17	32.2	219	48.2	+21	16.9	297	24.7	-6	04.6
Dif	—		-8		-5		+7		+5		+19		+1		+25			

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15'7 PMG:12 ^h 05.5 ^m				Edad: 4.0 ^d SD: 14'9 PMG: 15 ^h 45 ^m PHE { 4 ^h : 54'6 12 ^h : 54'5 20 ^h : 54'4 R°: 39 ^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	38.8	+22	11.7	130	21.1	+12	18.7	131	60 N	21 14	22 38	**	**	8 19	83	22 46	**				
1	193	38.7		11.4	144	55.8	+12	05.6	131	58	20 57	22 04	**	**	25 80		42	2				
2	208	38.6		11.1	159	30.5	+11	52.4	132	56	42	21 39	**	**	30 77		38	5				
3	223	38.5		10.8	174	05.3		39.1	133	54	29	20	22 46		35 74		35					
4	238	38.5		10.4	188	40.2		25.9	132	52	18	21 04	22 14		39 72		33	9				
5	253	38.4	+22	10.1	203	15.1	+11	12.5	134	50	20 08	20 50	21 51		8 43	69	22 30	11				
6	268	38.3	+22	09.8	217	50.1	+10	59.2	133	45	19 47	20 23	21 11		8 52	64	22 24	16				
7	283	38.2		09.5	232	25.2		45.8	134	40	30	20 02	20 43		8 59	60	20 19					
8	298	38.1		09.1	247	00.3		32.4	134	35	16	19 45	21		9 05	57	15	23				
9	313	38.0		08.8	261	35.4		19.0	134	30	19 04	31	20 04		10 54		12	25				
10	328	37.9		08.5	276	10.6	+10	05.5	135	20	18 43	19 08	19 36		20 48		05	31				
11	343	37.9	+22	08.2	290	45.9	+9	52.0	135	10 N	18 26	18 48	19 15		9 28	44	22 00	35				
12	358	37.8	+22	07.8	305	21.2	+9	38.5	135	0	18 09	18 31	18 57		9 35	40	21 54	40				
13	13	37.7		07.5	319	56.5		24.9	136	10 S	17 53	18 15	41		42 36		49	43				
14	28	37.6		07.2	334	31.9	+9	11.3	136	20	35	17 59	26		50 32		43	48				
15	43	37.5		06.8	349	07.4	+8	57.7	136	30	16	42	11		9 59	27	36	54				
16	58	37.4		06.5	3	42.9		44.1	136	35	17 04	32	18 03		10 04	24	33	56				
17	73	37.3	+22	06.2	18	18.4	+8	30.4	137	40	16 51	17 21	17 55		10 10	20	21	28	60			
18	88	37.3	+22	05.8	32	54.0	+8	16.7	137	45	16 35	17 08	17 45		10 17	16	21	23	64			
19	103	37.2		05.5	47	29.7	+8	03.0	137	50	16	16 54	35		25 12		17	68				
20	118	37.1		05.2	62	05.3	+7	49.2	138	52	16 07	47	30		29 9		14	71				
21	133	37.0		04.8	76	41.1		35.5	137	54	15 57	39	25		33 7		11	73				
22	148	36.9		04.5	91	16.8		21.7	138	56	45	31	19		37 5		07	76				
23	163	36.8		04.2	105	52.6	+7	07.9	138	58	32	22	13		42 2		21	03	79			
24	178	36.8	+22	03.8	120	28.4	+6	54.1	138	60 S	15 17	16 11	17 07		10 48	**	20 59	82				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG 4 ^h 45.6 ^m		Mag: -3.9 PMG: 12 ^h 48 ^m				Mag: +1.0 PMG: 8 ^h 07 ^m				Mag: -2.1 PMG: 9 ^h 20 ^m				Mag: +1.0 PMG: 4 ^h 10 ^m							
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	288	24.6	168	08.0	+21	43.4	238	12.0	+17	32.2	219	48.2	+21	16.9	297	24.7	-6	04.6				
1	303	27.1	183	07.2		42.9	253	12.7		32.7	234	50.1		17.0	312	27.2		04.7				
2	318	29.6	198	06.4		42.3	268	13.4		33.2	249	52.0		17.1	327	29.7		04.7				
3	333	32.0	213	05.6		41.7	283	14.0		33.7	264	53.9		17.1	342	32.2		04.7				
4	348	34.5	228	04.8		41.2	298	14.7		34.1	279	55.8		17.2	357	34.7		04.7				
5	3	37.0	243	04.0	+21	40.6	313	15.4	+17	34.6	294	57.8	+21	17.3	12	37.2	-6	04.8				
6	18	39.4	258	03.3	+21	40.1	328	16.1	+17	35.1	309	59.7	+21	17.4	27	39.7	-6	04.8				
7	33	41.9	273	02.5		39.5	343	16.7		35.6	325	01.6		17.4	42	42.2		04.8				
8	48	44.4	288	01.7		38.9	358	17.4		36.0	340	03.5		17.5	57	44.7		04.8				
9	63	46.8	303	00.9		38.4	13	18.1		36.5	355	05.4		17.6	72	47.2		04.9				
10	78	49.3	318	00.1		37.8	28	18.8		37.0	10	07.3		17.7	87	49.7		04.9				
11	93	51.7	332	59.3	+21	37.2	43	19.4	+17	37.5	25	09.2	+21	17.8	102	52.2	-6	04.9				
12	108	54.2	347	58.6	+21	36.7	58	20.1	+17	37.9	40	11.1	+21	17.8	117	54.7	-6	05.0				
13	123	56.7	2	57.8		36.1	73	20.8		38.4	55	13.1		17.9	132	57.2		05.0				
14	138	59.1	17	57.0		35.5	88	21.5		38.9	70	15.0		18.0	147	59.7		05.0				
15	154	01.6	32	56.2		35.0	103	22.1		39.3	85	16.9		18.1	163	02.2		05.0				
16	169	04.1	47	55.4		34.4	118	22.8		39.8	100	18.8		18.1	178	04.7		05.1				
17	184	06.5	62	54.6	+21	33.8	133	23.5	+17	40.3	115	20.7	+21	18.2	193	07.2	-6	05.1				
18	199	09.0	77	53.9	+21	33.2	148	24.2	+17	40.8	130	22.6	+21	18.3	208	09.7	-6	05.1				
19	214	11.5	92	53.1		32.7	163	24.8		41.2	145	24.5		18.4	223	12.2		05.1				
20	229	13.9	107	52.3		32.1	178	25.5		41.7	160	26.5		18.4	238	14.7		05.2				
21	244	16.4	122	51.5		31.5	193	26.2		42.2	175	28.4		18.5	253	17.2		05.2				
22	259	18.9	137	50.7		30.9	208	26.9		42.6	190	30.3		18.6	268	19.7		05.2				
23	274	21.3	152	50.0		30.4	223	27.5		43.1	205	32.2		18.7	283	22.2		05.2				
24	289	23.8	167	49.2	+21	29.8	238	28.2	+17	43.6	220	34.1	+21	18.7	298	24.7	-6	05.3				
Dif	—		-8		-6		+7		+5		+19		+1		+25		0					

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15 ^h 7 PMG:12 ^h 05.6 ^m				Edad: 5.0 ^d SD: 14 ^h 8 PMG: 16 ^h 24 ^m PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 3 20 ^h : 54 ^h 2 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	178	36.8	+22	03.8	120	28.4	+6	54.1	60 N	** **	1 33	2 57	9 42	81	22 45	**
1	193	36.7		03.5	135	04.3		40.2	58	** **	2 08	3 15	45 78	44	1	
2	208	36.6		03.2	149	40.2		26.4	56	** **	32	30	47 75	43	4	
3	223	36.5		02.8	164	16.2	+6	12.5	54	1 26	2 51	43	49 72	42		
4	238	36.4		02.5	178	52.1	+5	58.6	52	1 58	3 07	3 54	51 70	42	9	
5	253	36.3	+22	02.1	193	28.1	+5	44.7	50	2 20	3 21	4 04	9 52	68	22 41	11
6	268	36.3	+22	01.8	208	04.2	+5	30.8	45	3 01	3 48	4 24	9 56	63	22 40	15
7	283	36.2		01.5	222	40.2		16.8	40	29	4 09	41	9 59	59	39	19
8	298	36.1		01.1	237	16.3	+5	02.9	35	3 50	26	4 55	10 02	55	38	22
9	313	36.0		00.8	251	52.5	+4	48.9	30	4 07	4 40	5 07	04 53	37	26	
10	328	35.9		00.4	266	28.6		34.9	20	35	5 04	28	08 48	36	30	
11	343	35.9	+22	00.1	281	04.8	+4	20.9	10 N	4 56	5 23	5 46	10 12	43	22 35	34
12	358	35.8	+21	59.8	295	41.0	+4	06.9	0	5 14	5 40	6 02	10 15	39	22 34	38
13	13	35.7		59.4	310	17.2	+3	52.9	10 S	30	5 56	18	18 35	32	43	
14	28	35.6		59.1	324	53.4		38.8	20	5 45	6 12	36	22 30	31	48	
15	43	35.5		58.7	339	29.7		24.8	30	6 00	29	6 55	26 25	30	52	
16	58	35.5		58.4	354	06.0	+3	10.8	35	08	39	7 07	28 22	29	55	
17	73	35.4	+21	58.0	8	42.3	+2	56.7	40	6 16	6 50	7 20	10 30	20	22 28	59
18	88	35.3	+21	57.7	23	18.6	+2	42.7	45	6 26	7 02	7 35	10 33	16	22 27	63
19	103	35.2		57.3	37	54.9		28.6	50	36	17	7 55	37 11	25	68	
20	118	35.1		57.0	52	31.3		14.5	52	41	24	8 04	38 9	25	69	
21	133	35.1		56.6	67	07.6	+2	00.4	54	46	31	14	40 7	24	72	
22	148	35.0		56.3	81	44.0	+1	46.3	56	51	39	25	42 5	23	75	
23	163	34.9		55.9	96	20.4		32.3	58	6 57	49	38	44 2	22	78	
24	178	34.8	+21	55.6	110	56.8	+1	18.2	60 S	7 04	7 59	8 54	10 47	**	22 21	81
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 4 ^h 41.6 ^m		Mag: -3.9 PMG: 12 ^h 49 ^m		Mag: +1.0 PMG: 8 ^h 06 ^m		Mag: -2.1 PMG: 9 ^h 17 ^m		Mag: +1.0 PMG: 4 ^h 06 ^m							
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	289	23.8	167	49.2	+21	29.8	238	28.2	+17	43.6						
1	304	26.2	182	48.4		29.2	253	28.9		44.1						
2	319	28.7	197	47.6		28.6	268	29.6		44.5						
3	334	31.2	212	46.9		28.0	283	30.2		45.0						
4	349	33.6	227	46.1		27.4	298	30.9		45.5						
5	4	36.1	242	45.3	+21	26.9	313	31.6	+17	45.9						
6	19	38.6	257	44.5	+21	26.3	328	32.3	+17	46.4						
7	34	41.0	272	43.7		25.7	343	32.9		46.9						
8	49	43.5	287	43.0		25.1	358	33.6		47.3						
9	64	46.0	302	42.2		24.5	13	34.3		47.8						
10	79	48.4	317	41.4		23.9	28	35.0		48.3						
11	94	50.9	332	40.7	+21	23.3	43	35.7	+17	48.7						
12	109	53.3	347	39.9	+21	22.7	58	36.3	+17	49.2						
13	124	55.8	2	39.1		22.1	73	37.0		49.7						
14	139	58.3	17	38.3		21.5	88	37.7		50.1						
15	155	00.7	32	37.6		20.9	103	38.4		50.6						
16	170	03.2	47	36.8		20.3	118	39.0		51.1						
17	185	05.7	62	36.0	+21	19.7	133	39.7	+17	51.5						
18	200	08.1	77	35.2	+21	19.1	148	40.4	+17	52.0						
19	215	10.6	92	34.5		18.5	163	41.1		52.4						
20	230	13.1	107	33.7		17.9	178	41.7		52.9						
21	245	15.5	122	32.9		17.3	193	42.4		53.4						
22	260	18.0	137	32.2		16.7	208	43.1		53.8						
23	275	20.5	152	31.4		16.1	223	43.8		54.3						
24	290	22.9	167	30.6	+21	15.5	238	44.4	+17	54.8						
Dif	—		-8		-6		+7		+5		+19		+1		+25	
0																

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna											
	SD: 15'7 PMG:12 ^h 05.7 ^m			Edad: 6.0 ^d PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/2 PMG: 17 ^h 03 ^m R°: 39 ^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	34.8	+21	55.6	110	56.8	+1	18.2	60 N	21	11	22	32	**	**	11	03	82	22	43	**						
1	193	34.7		55.2	125	33.2	+1	04.1	58	20	54	22	00	**	**	03	78		45	2							
2	208	34.7		54.9	140	09.6	+0	50.0	56		39	21	36	**	**	02	75		47	5							
3	223	34.6		54.5	154	46.0		35.9	54	27		17	22	40	01	73		49									
4	238	34.5		54.2	169	22.4		21.8	52		16	21	02	22	10	01	70		51	9							
5	253	34.4	+21	53.8	183	58.9	+0	07.7	50	20	06	20	49	21	48	11	00	68	22	52	12						
6	268	34.4	+21	53.4	198	35.3	-0	06.4	45	19	46	20	22	21	09	10	59	63	22	55	17						
7	283	34.3		53.1	213	11.7		20.5	40	29	20	20	01	20	41	58	59		22	58	20						
8	298	34.2		52.7	227	48.1		34.6	35	15		19	45	20		57	56		23	00	24						
9	313	34.1		52.4	242	24.6	-0	48.7	30	19	03	30		20	03	57	53		03	26							
10	328	34.1		52.0	257	01.0	-1	02.8	20	18	43	19	07	19	36	56	47		06	31							
11	343	34.0	+21	51.7	271	37.4	-1	16.9	10 N	18	26	18	48	19	15	10	55	43	23	09	36						
12	358	33.9	+21	51.3	286	13.8	-1	30.9	0	18	09	18	32	18	58	10	54	39	23	12	40						
13	13	33.8		50.9	300	50.3		45.0	10 S	17	53		16		42	53	35		15	44							
14	28	33.8		50.6	315	26.7	-1	59.1	20		36	18	00	27		52	30		19	48							
15	43	33.7		50.2	330	03.1	-2	13.1	30		17	17	43	12		51	25		22	54							
16	58	33.6		49.9	344	39.5		27.2	35	17	05		33	18	04	50	23		24	57							
17	73	33.5	+21	49.5	359	15.8	-2	41.2	40	16	52	17	22	17	56	10	50	19	23	27	60						
18	88	33.5	+21	49.1	13	52.2	-2	55.3	45	16	37	17	10	17	47	10	49	15	23	30	63						
19	103	33.4		48.8	28	28.6	-3	09.3	50		18	16	55	36		48	11		33	68							
20	118	33.3		48.4	43	04.9		23.3	52	16	09		49	32		47	10		34	71							
21	133	33.2		48.0	57	41.2		37.3	54	15	59		41	27		47	7		36	73							
22	148	33.2		47.7	72	17.5	-3	51.3	56		48		33	21		47	4		38	76							
23	163	33.1		47.3	86	53.8	-4	05.3	58		35		24	15		46	2		40	79							
24	178	33.0	+21	46.9	101	30.1	-4	19.3	60 S	15	20	16	14	17	09	10	45	**	23	42	83						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG 4 ^h 37.7 ^m			Mag: -3.9 PMG: 12 ^h 51 ^m			Mag: +1.0 PMG: 8 ^h 05 ^m			Mag: -2.1 PMG: 9 ^h 13 ^m			Mag: +1.0 PMG: 4 ^h 02 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	290	22.9	167	30.6	+21	15.5	238	44.4	+17	54.8	221	20.1	+21	20.5	299	24.8	-6	06.0									
1	305	25.4	182	29.9		14.9	253	45.1		55.2	236	22.0		20.6	314	27.3		06.0									
2	320	27.8	197	29.1		14.3	268	45.8		55.7	251	24.0		20.7	329	29.8		06.0									
3	335	30.3	212	28.3		13.7	283	46.5		56.1	266	25.9		20.7	344	32.3		06.0									
4	350	32.8	227	27.6		13.1	298	47.1		56.6	281	27.8		20.8	359	34.8		06.1									
5	5	35.2	242	26.8	+21	12.5	313	47.8	+17	57.1	296	29.7	+21	20.9	14	37.3	-6	06.1									
6	20	37.7	257	26.0	+21	11.9	328	48.5	+17	57.5	311	31.6	+21	20.9	29	39.8	-6	06.1									
7	35	40.2	272	25.3		11.2	343	49.2		58.0	326	33.5		21.0	44	42.4		06.2									
8	50	42.6	287	24.5		10.6	358	49.8		58.5	341	35.5		21.1	59	44.9		06.2									
9	65	45.1	302	23.8		10.0	13	50.5		58.9	356	37.4		21.2	74	47.4		06.2									
10	80	47.6	317	23.0		09.4	28	51.2		59.4	11	39.3		21.2	89	49.9		06.3									
11	95	50.0	332	22.2	+21	08.8	43	51.9	+17	59.8	26	41.2	+21	21.3	104	52.4	-6	06.3									
12	110	52.5	347	21.5	+21	08.2	58	52.5	+18	00.3	41	43.1	+21	21.4	119	54.9	-6	06.3									
13	125	55.0	2	20.7		07.5	73	53.2		00.7	56	45.1		21.5	134	57.4		06.3									
14	140	57.4	17	19.9		06.9	88	53.9		01.2	71	47.0		21.5	149	59.9		06.4									
15	155	59.9	32	19.2		06.3	103	54.6		01.7	86	48.9		21.6	165	02.4		06.4									
16	171	02.3	47	18.4		05.7	118	55.2		02.1	101	50.8		21.7	180	04.9		06.4									
17	186	04.8	62	17.7	+21	05.0	133	55.9	+18	02.6	116	52.7	+21	21.8	195	07.4	-6	06.5									
18	201	07.3	77	16.9	+21	04.4	148	56.6	+18	03.0	131	54.7	+21	21.8	210	09.9	-6	06.5									
19	216	09.7	92	16.1		03.8	163	57.3		03.5	146	56.6		21.9	225	12.5		06.5									
20	231	12.2	107	15.4		03.2	178	57.9		03.9	161	58.5		22.0	240	15.0		06.6									
21	246	14.7	122	14.6		02.5	193	58.6		04.4	177	00.4		22.0	255	17.5		06.6									
22	261	17.1	137	13.9		01.9	208	59.3		04.9	192	02.3		22.1	270	20.0		06.6									
23	276	19.6	152	13.1		01.3	224	00.0		05.3	207	04.3		22.2	285	22.5		06.6									
24	291	22.1	167	12.4	+21	00.6	239	00.6	+18	05.8	222	06.2	+21	22.3	300	25.0	-6	06.7									
Dif	—			-8			-6			+7			+5			+19			+1			+25			0		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 05.9 ^m				Edad: 7.0 ^d SD: 14'8 PMG: 17 ^h 42 ^m PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'4 R°: 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	33.0	+21	46.9	101	30.1	-4	19.3	60 N	**	**	1 40	3 01	12 25	85	22 42	**	
1	193	32.9		46.6	116	06.4		33.3	58	**	**	2 12	18	21 81		47	3	
2	208	32.9		46.2	130	42.6	-4	47.2	56	0	33	36	33	17 78		52	6	
3	223	32.8		45.8	145	18.8	-5	01.1	54	1	32	2 55	45	14 74		22	56	
4	238	32.7		45.5	159	55.0		15.1	52	2	02	3 10	3 56	11 72		23	00	
5	253	32.7	+21	45.1	174	31.2	-5	29.0	50	2	24	3 23	4 06	12 08	70	23	04	
6	268	32.6	+21	44.7	189	07.3	-5	42.9	45	3	03	3 50	4 26	12 02	65	23	12	
7	283	32.5		44.3	203	43.4	-5	56.7	40	30	4 11	43	11 57	61		18	28	
8	298	32.4		44.0	218	19.5	-6	10.6	35	3	52	27	4 56	53 58		24	25	
9	313	32.4		43.6	232	55.5		24.4	30	4	09	4 41	5 08	50 54		29	28	
10	328	32.3		43.2	247	31.6		38.2	20	36	5 04	29	43 49	37 33		37	33	
11	343	32.2	+21	42.8	262	07.6	-6	52.0	10 N	4	57	5 23	5 46	11 38	44	23	45	
12	358	32.2	+21	42.5	276	43.5	-7	05.8	0	5	14	5 40	6 02	11 33	40	23	52	
13	13	32.1		42.1	291	19.4		19.5	10 S	30	5 56	18	28	36		23	59	
14	28	32.0		41.7	305	55.3		33.3	20	44	6 12	35	22	32		**	**	
15	43	31.9		41.3	320	31.2	-7	47.0	30	5	59	29	6 55	16 27		**	**	
16	58	31.9		41.0	335	07.0	-8	00.7	35	6	07	38	7 06	13 24		**	**	
17	73	31.8	+21	40.6	349	42.8	-8	14.3	40	6	16	6 49	7 19	11 09	21	**	**	
18	88	31.7	+21	40.2	4	18.5	-8	28.0	45	6	25	7 01	7 34	11 04	17	**	**	
19	103	31.7		39.8	18	54.2		41.6	50	35	16	7 53	10 59	12		**	**	
20	118	31.6		39.4	33	29.9	-8	55.2	52	40	22	8 02	57 10			**	**	
21	133	31.5		39.1	48	05.5	-9	08.7	54	45	30	12	54 8			**	**	
22	148	31.5		38.7	62	41.0		22.3	56	50	38	23	51 5			**	**	
23	163	31.4		38.3	77	16.6		35.8	58	6	56	47	36	48 2		**	**	
24	178	31.3	+21	37.9	91	52.0	-9	49.2	60 S	7	02	7 57	8 51	10 44	**	**	**	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 4 ^h 33.8 ^m		Mag: -3.9 PMG: 12 ^h 52 ^m			Mag: +1.0 PMG: 8 ^h 04 ^m			Mag: -2.1 PMG: 9 ^h 10 ^m			Mag: +1.0 PMG: 3 ^h 58 ^m						
	hG ♈		hG ♊	Dec		hG ♈	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	291	22.1	167	12.4	+21	00.6	239	00.6	+18	05.8	222	06.2	+21	22.3	300	25.0	-6	06.7
1	306	24.5	182	11.6	+21	00.0	254	01.3		06.2	237	08.1		22.3	315	27.5		06.7
2	321	27.0	197	10.8	+20	59.4	269	02.0		06.7	252	10.0		22.4	330	30.0		06.7
3	336	29.4	212	10.1		58.7	284	02.7		07.1	267	11.9		22.5	345	32.5		06.8
4	351	31.9	227	09.3		58.1	299	03.3		07.6	282	13.9		22.6	0	35.0		06.8
5	6	34.4	242	08.6	+20	57.5	314	04.0	+18	08.0	297	15.8	+21	22.6	15	37.6	-6	06.8
6	21	36.8	257	07.8	+20	56.8	329	04.7	+18	08.5	312	17.7	+21	22.7	30	40.1	-6	06.9
7	36	39.3	272	07.1		56.2	344	05.4		08.9	327	19.6		22.8	45	42.6		06.9
8	51	41.8	287	06.3		55.6	359	06.0		09.4	342	21.5		22.8	60	45.1		06.9
9	66	44.2	302	05.6		54.9	14	06.7		09.8	357	23.5		22.9	75	47.6		07.0
10	81	46.7	317	04.8		54.3	29	07.4		10.3	12	25.4		23.0	90	50.1		07.0
11	96	49.2	332	04.1	+20	53.6	44	08.1	+18	10.7	27	27.3	+21	23.1	105	52.6	-6	07.0
12	111	51.6	347	03.3	+20	53.0	59	08.7	+18	11.2	42	29.2	+21	23.1	120	55.1	-6	07.1
13	126	54.1	2	02.6		52.3	74	09.4		11.6	57	31.2		23.2	135	57.7		07.1
14	141	56.6	17	01.8		51.7	89	10.1		12.1	72	33.1		23.3	151	00.2		07.1
15	156	59.0	32	01.1		51.0	104	10.8		12.6	87	35.0		23.3	166	02.7		07.1
16	172	01.5	47	00.3		50.4	119	11.4		13.0	102	36.9		23.4	181	05.2		07.2
17	187	03.9	61	59.6	+20	49.8	134	12.1	+18	13.5	117	38.8	+21	23.5	196	07.7	-6	07.2
18	202	06.4	76	58.8	+20	49.1	149	12.8	+18	13.9	132	40.8	+21	23.6	211	10.2	-6	07.2
19	217	08.9	91	58.1		48.5	164	13.5		14.3	147	42.7		23.6	226	12.7		07.3
20	232	11.3	106	57.3		47.8	179	14.1		14.8	162	44.6		23.7	241	15.2		07.3
21	247	13.8	121	56.6		47.1	194	14.8		15.2	177	46.5		23.8	256	17.8		07.3
22	262	16.3	136	55.8		46.5	209	15.5		15.7	192	48.5		23.8	271	20.3		07.4
23	277	18.7	151	55.1		45.8	224	16.2		16.1	207	50.4		23.9	286	22.8		07.4
24	292	21.2	166	54.3	+20	45.2	239	16.8	+18	16.6	222	52.3	+21	24.0	301	25.3	-6	07.4
Dif	—		-8			-6	+7			+5	+19		+1	+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: 8.0 ^d SD: 14'8 PMG: 18 ^h 23 ^m		PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'8 R°: 44 ^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
0	178	31.3	+21	37.9	91	52.0	-9	49.2	135	60 N	21 08	22 26	** **	13 50	89	22 41	0											
1	193	31.3		37.5	106	27.5	-10	02.7	134	58	20 51	21 55	** **	42 85		50	5											
2	208	31.2		37.1	121	02.8		16.1	134	56	37	33	23 24	35 81	22 58	8												
3	223	31.1		36.8	135	38.2		29.5	134	54	25	21 15	22 35	28 78	23 05	1												
4	238	31.1		36.4	150	13.4		42.8	133	52	14	20 59	22 06	23 75	11	15												
5	253	31.0	+21	36.0	164	48.7	-10	56.1	133	50	20 04	20 46	21 45	13 18	72	23 17	17											
6	268	30.9	+21	35.6	179	23.8	-11	09.4	133	45	19 44	20 20	21 07	13 07	67	23 30	21											
7	283	30.9		35.2	193	58.9		22.7	133	40	28	20 00	20 40	12 58	63	40	26											
8	298	30.8		34.8	208	34.0		35.9	132	35	15	19 44	19	51 59		49	29											
9	313	30.7		34.4	223	09.0	-11	49.1	132	30	19 03	30	20 02	44 56	23 57	31												
10	328	30.7		34.1	237	43.9	-12	02.2	131	20	18 43	19 07	19 36	32 52	** **	** **												
11	343	30.6	+21	33.7	252	18.8	-12	15.3	131	10 N	18 26	18 48	19 15	12 22	48	** **	** **											
12	358	30.5	+21	33.3	266	53.6	-12	28.4	131	0	18 10	18 32	18 58	12 13	43	** **	** **											
13	13	30.5		32.9	281	28.4		41.4	130	10 S	17 54	16	42	12 04	39	** **	** **											
14	28	30.4		32.5	296	03.0	-12	54.4	130	20	37	18 01	28	11 54	35	0	07	50										
15	43	30.3		32.1	310	37.7	-13	07.3	129	30	18	17 44	13	43 30		16	55											
16	58	30.3		31.7	325	12.2		20.2	129	35	17 06	34	18 05	37 27	21	58												
17	73	30.2	+21	31.3	339	46.7	-13	33.1	129	40	16 54	17 24	17 57	11 30	23	0	27	61										
18	88	30.1	+21	30.9	354	21.1	-13	45.9	128	45	16 39	17 12	17 48	11 21	20	0	33	66										
19	103	30.1		30.5	8	55.5	-13	58.7	128	50	20	16 57	38	11 15		41	71											
20	118	30.0		30.1	23	29.8	-14	11.4	127	52	11	51	33	07 12		45	73											
21	133	30.0		29.7	38	04.0		24.1	127	54	16 02	44	29	11 02	10	49	76											
22	148	29.9		29.3	52	38.1		36.7	126	56	15 51	36	23	10 56	7	54	79											
23	163	29.8		28.9	67	12.2	-14	49.3	126	58	38	27	18	50 4		0	59	83										
24	178	29.8	+21	28.5	81	46.2	-15	01.8	125	60 S	15 23	16 17	17 11	10 43	0	1	05	87										
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO											
	PMG 4 ^h 29.8 ^m				Mag: -3.9 PMG: 12 ^h 53 ^m				Mag: +1.0 PMG: 8 ^h 03 ^m				Mag: -2.1 PMG: 9 ^h 07 ^m				Mag: +1.0 PMG: 3 ^h 54 ^m											
h	hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec													
0	292	21.2	166	54.3	+20	45.2	239	16.8	+18	16.6	222	52.3	+21	24.0	301	25.3												
1	307	23.7	181	53.6		44.5	254	17.5		17.0	237	54.2		24.1	316	27.8												
2	322	26.1	196	52.9		43.9	269	18.2		17.5	252	56.2		24.1	331	30.3												
3	337	28.6	211	52.1		43.2	284	18.9		17.9	267	58.1		24.2	346	32.8												
4	352	31.1	226	51.4		42.5	299	19.5		18.4	283	00.0		24.3	1	35.4												
5	7	33.5	241	50.6	+20	41.9	314	20.2	+18	18.8	298	01.9	+21	24.3	16	37.9												
6	22	36.0	256	49.9	+20	41.2	329	20.9	+18	19.3	313	03.9	+21	24.4	31	40.4												
7	37	38.4	271	49.1		40.6	344	21.6		19.7	328	05.8		24.5	46	42.9												
8	52	40.9	286	48.4		39.9	359	22.2		20.2	343	07.7		24.6	61	45.4												
9	67	43.4	301	47.7		39.2	14	22.9		20.6	358	09.6		24.6	76	47.9												
10	82	45.8	316	46.9		38.6	29	23.6		21.0	13	11.6		24.7	91	50.4												
11	97	48.3	331	46.2	+20	37.9	44	24.3	+18	21.5	28	13.5	+21	24.8	106	53.0												
12	112	50.8	346	45.4	+20	37.2	59	24.9	+18	21.9	43	15.4	+21	24.8	121	55.5												
13	127	53.2	1	44.7		36.6	74	25.6		22.4	58	17.3		24.9	136	58.0												
14	142	55.7	16	44.0		35.9	89	26.3		22.8	73	19.3		25.0	152	00.5												
15	157	58.2	31	43.2		35.2	104	27.0		23.3	88	21.2		25.1	167	03.0												
16	173	00.6	46	42.5		34.5	119	27.7		23.7	103	23.1		25.1	182	05.5												
17	188	03.1	61	41.8	+20	33.9	134	28.3	+18	24.1	118	25.0	+21	25.2	197	08.1												
18	203	05.5	76	41.0	+20	33.2	149	29.0	+18	24.6	133	27.0	+21	25.3	212	10.6												
19	218	08.0	91	40.3		32.5	164	29.7		25.0	148	28.9		25.3	227	13.1												
20	233	10.5	106	39.5		31.8	179	30.4		25.5	163	30.8		25.4	242	15.6												
21	248	12.9	121	38.8		31.2	194	31.0		25.9	178	32.7		25.5	257	18.1												
22	263	15.4	136	38.1		30.5	209	31.7		26.4	193	34.7		25.5	272	20.6												
23	278	17.9	151	37.3		29.8	224	32.4		26.8	208	36.6		25.6	287	23.2												
24	293	20.3	166	36.6	+20	29.1	239	33.1	+18	27.2	223	38.5	+21	25.7	302	25.7												
Dif	—				-7				+7				+19				+1											

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 7 PMG:12 ^h 06.1 ^m				Edad: 9.0 ^d PHE { 4 ^h : 54 ⁹ 12 ^h : 55 ¹ 20 ^h : 55 ³ 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	178	29.8	+21	28.5	81	46.2	-15	01.8	60 N	**	**	1 46	3 04	15 19	97	22 41	2
1	193	29.7		28.1	96	20.1		14.3	58	**	**	2 17	21	15 07	90	22 55	8
2	208	29.6		27.7	110	53.9		26.7	56	0	49	40	36	14 56	85	23 06	13
3	223	29.6		27.3	125	27.7		39.1	54	1	38	2 58	48	46	82	16	17
4	238	29.5		26.9	140	01.4	-15	51.4	52	2	06	3 13	3 58	38	78	26	19
5	253	29.5	+21	26.5	154	35.0	-16	03.7	50	2	27	3 26	4 08	14 30	76	23 34	22
6	268	29.4	+21	26.1	169	08.5	-16	15.9	45	3	05	3 52	4 28	14 14	70	23 51	28
7	283	29.3		25.7	183	41.9		28.0	40	32	4 12	44	14 01	66	**	**	**
8	298	29.3		25.3	198	15.3		40.1	35	3	53	29	4 58	13 50	62	**	**
9	313	29.2		24.9	212	48.5	-16	52.2	30	4	10	4 43	5 09	40	60	**	**
10	328	29.2		24.5	227	21.7	-17	04.2	20	37	5 05	29	24	55	0	10	37
11	343	29.1	+21	24.1	241	54.8	-17	16.1	10 N	4	57	5 24	5 47	13 10	50	0 22	41
12	358	29.0	+21	23.7	256	27.8	-17	28.0	0	5	14	5 40	6 02	12 56	47	0 33	45
13	13	29.0		23.3	271	00.7		39.7	10 S	30	5 56	18	43	43	45	48	
14	28	28.9		22.9	285	33.6	-17	51.5	20	44	6 11	35	29	39	0	57	53
15	43	28.9		22.5	300	06.3	-18	03.2	30	5	59	28	6 54	13 34	1	11	58
16	58	28.8		22.1	314	39.0		14.8	35	6	07	38	7 05	12 04	31	19	61
17	73	28.7	+21	21.7	329	11.5	-18	26.3	40	6	15	6 48	7 18	11 53	29	1	28
18	88	28.7	+21	21.3	343	44.0	-18	37.8	45	6	24	7 00	7 33	11 41	24	1	39
19	103	28.6		20.8	358	16.3	-18	49.2	50	34	14	7 51	7 51	26	20	52	74
20	118	28.6		20.4	12	48.6	-19	00.5	52	38	21	8 00	19	17	1	58	77
21	133	28.5		20.0	27	20.8		11.7	54	43	28	10	12	14	2	05	80
22	148	28.5		19.6	41	52.9		22.9	56	48	36	21	11	03	11	13	83
23	163	28.4		19.2	56	24.8		34.0	58	6	54	44	33	10	54	6	22
24	178	28.3	+21	18.8	70	56.7	-19	45.1	60 S	7	00	7 54	8 48	10 43	1	2	32

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 4 ^h 25.9 ^m		Mag: -3.9 PMG: 12 ^h 54 ^m		Mag: +0.9 PMG: 8 ^h 01 ^m		Mag: -2.1 PMG: 9 ^h 04 ^m		Mag: +1.0 PMG: 3 ^h 50 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	293	20.3	166	36.6	+20	29.1	239	33.1	+18	27.2
1	308	22.8	181	35.9		28.4	254	33.7		27.7
2	323	25.3	196	35.1		27.8	269	34.4		28.1
3	338	27.7	211	34.4		27.1	284	35.1		28.6
4	353	30.2	226	33.7		26.4	299	35.8		29.0
5	8	32.7	241	32.9	+20	25.7	314	36.4	+18	29.4
6	23	35.1	256	32.2	+20	25.0	329	37.1	+18	29.9
7	38	37.6	271	31.5		24.3	344	37.8		30.3
8	53	40.0	286	30.8		23.6	359	38.5		30.7
9	68	42.5	301	30.0		22.9	14	39.1		31.2
10	83	45.0	316	29.3		22.3	29	39.8		31.6
11	98	47.4	331	28.6	+20	21.6	44	40.5	+18	32.1
12	113	49.9	346	27.8	+20	20.9	59	41.2	+18	32.5
13	128	52.4	1	27.1		20.2	74	41.8		32.9
14	143	54.8	16	26.4		19.5	89	42.5		33.4
15	158	57.3	31	25.7		18.8	104	43.2		33.8
16	173	59.8	46	24.9		18.1	119	43.9		34.2
17	189	02.2	61	24.2	+20	17.4	134	44.5	+18	34.7
18	204	04.7	76	23.5	+20	16.7	149	45.2	+18	35.1
19	219	07.2	91	22.8		16.0	164	45.9		35.5
20	234	09.6	106	22.0		15.3	179	46.6		36.0
21	249	12.1	121	21.3		14.6	194	47.2		36.4
22	264	14.5	136	20.6		13.9	209	47.9		36.8
23	279	17.0	151	19.9		13.2	224	48.6		37.3
24	294	19.5	166	19.2	+20	12.5	239	49.3	+18	37.7
Dif	—		-7	-7		+7	+4	+19	+1	

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: 10.0 ^d SD: 15'1 PMG: 19 ^h 55 ^m PHE { 4 ^h : 55'4 12 ^h : 55'7 20 ^h : 55'9 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	178	28.3	+21	18.8	70	56.7	-19	45.1	109	58	21	04	22	20	**	**	16	56	101	22	43	7
1	193	28.3		18.4	85	28.5	-19	56.0	109	58	20	48	21	51	**	**	37	92	23	03	15	
2	208	28.2		18.0	100	00.2	-20	06.9	109	56	34	29	23	12	21	87	19	21				
3	223	28.2		17.5	114	31.8		17.7	108	54	22	21	12	22	29	16	08	82	33	25		
4	238	28.1		17.1	129	03.2		28.4	107	52	12	20	57	22	02	15	56	79	45	29		
5	253	28.1	+21	16.7	143	34.6	-20	39.1	107	50	20	02	20	44	21	42	15	46	76	23	56	31
6	268	28.0	+21	16.3	158	05.9	-20	49.6	105	45	19	43	20	19	21	05	15	24	71	**	**	**
7	283	28.0		15.9	172	37.1	-21	00.1	104	40	27	19	59	20	38	15	07	67	0	06	31	
8	298	27.9		15.5	187	08.1		10.5	104	35	14	43	18	14	52	65	18	34				
9	313	27.8		15.0	201	39.1		20.8	103	30	19	02	29	20	01	40	62	28	38			
10	328	27.8		14.6	216	09.9		31.0	102	20	18	42	19	07	19	35	19	57	0	47	42	
11	343	27.7	+21	14.2	230	40.7	-21	41.1	101	10 N	18	25	18	48	19	15	14	00	55	1	03	46
12	358	27.7	+21	13.8	245	11.3	-21	51.1	100	0	18	10	18	32	18	58	13	43	51	1	18	49
13	13	27.6		13.4	259	41.8	-22	01.1	100	10 S	17	54	17	43	26	48	33	53				
14	28	27.6		12.9	274	12.3		10.9	98	20	38	18	01	28	13	08	45	1	50	56		
15	43	27.5		12.5	288	42.6		20.7	98	30	19	17	45	14	12	47	41	2	09	60		
16	58	27.5		12.1	303	12.8		30.3	96	35	17	08	35	18	06	35	39	20	63			
17	73	27.4	+21	11.7	317	42.9	-22	39.9	96	40	16	55	17	25	17	58	12	22	35	2	32	67
18	88	27.4	+21	11.2	332	12.8	-22	49.3	94	45	16	40	17	13	17	50	12	05	32	2	47	71
19	103	27.3		10.8	346	42.7	-22	58.7	94	50	22	16	59	40	11	46	26	3	06	76		
20	118	27.3		10.4	1	12.5	-23	08.0	93	52	14	53	35	35	36	24	15	79				
21	133	27.2		10.0	15	42.1		17.1	91	54	16	04	46	31	26	20	25	82				
22	148	27.2		09.5	30	11.7		26.2	91	56	15	53	38	26	14	17	36	86				
23	163	27.1		09.1	44	41.1		35.1	89	58	41	30	20	20	11	00	12	3	49	91		
24	178	27.1	+21	08.7	59	10.4	-23	44.0	89	60 S	15	27	16	20	17	14	10	44	5	4	04	98

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 4 ^h 22.0 ^m		Mag: -3.9 PMG: 12 ^h 55 ^m				Mag: +0.9 PMG: 8 ^h 00 ^m				Mag: -2.1 PMG: 9 ^h 01 ^m				Mag: +1.0 PMG: 3 ^h 46 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	294	19.5	166	19.2	+20	12.5	239	49.3	+18	37.7	224	24.8	+21	27.4	303	26.1	-6	09.0
1	309	21.9	181	18.4		11.8	254	49.9		38.1	239	26.7		27.4	318	28.7		09.1
2	324	24.4	196	17.7		11.1	269	50.6		38.6	254	28.6		27.5	333	31.2		09.1
3	339	26.9	211	17.0		10.4	284	51.3		39.0	269	30.6		27.6	348	33.7		09.2
4	354	29.3	226	16.3		09.7	299	52.0		39.4	284	32.5		27.6	3	36.2		09.2
5	9	31.8	241	15.6	+20	08.9	314	52.6	+18	39.9	299	34.4	+21	27.7	18	38.8	-6	09.2
6	24	34.3	256	14.8	+20	08.2	329	53.3	+18	40.3	314	36.4	+21	27.8	33	41.3	-6	09.3
7	39	36.7	271	14.1		07.5	344	54.0		40.7	329	38.3		27.8	48	43.8		09.3
8	54	39.2	286	13.4		06.8	359	54.7		41.1	344	40.2		27.9	63	46.3		09.3
9	69	41.6	301	12.7		06.1	14	55.3		41.6	359	42.2		28.0	78	48.8		09.4
10	84	44.1	316	12.0		05.4	29	56.0		42.0	14	44.1		28.0	93	51.4		09.4
11	99	46.6	331	11.3	+20	04.7	44	56.7	+18	42.4	29	46.0	+21	28.1	108	53.9	-6	09.4
12	114	49.0	346	10.5	+20	03.9	59	57.4	+18	42.9	44	47.9	+21	28.2	123	56.4	-6	09.5
13	129	51.5	1	09.8		03.2	74	58.0		43.3	59	49.9		28.2	138	58.9		09.5
14	144	54.0	16	09.1		02.5	89	58.7		43.7	74	51.8		28.3	154	01.5		09.5
15	159	56.4	31	08.4		01.8	104	59.4		44.1	89	53.7		28.4	169	04.0		09.6
16	174	58.9	46	07.7		01.1	120	00.1		44.6	104	55.7		28.5	184	06.5		09.6
17	190	01.4	61	07.0	+20	00.4	135	00.7	+18	45.0	119	57.6	+21	28.5	199	09.0	-6	09.7
18	205	03.8	76	06.3	+19	59.6	150	01.4	+18	45.4	134	59.5	+21	28.6	214	11.6	-6	09.7
19	220	06.3	91	05.5		58.9	165	02.1		45.9	150	01.5		28.7	229	14.1		09.7
20	235	08.8	106	04.8		58.2	180	02.8		46.3	165	03.4		28.7	244	16.6		09.8
21	250	11.2	121	04.1		57.5	195	03.4		46.7	180	05.3		28.8	259	19.1		09.8
22	265	13.7	136	03.4		56.7	210	04.1		47.1	195	07.3		28.9	274	21.7		09.8
23	280	16.1	151	02.7		56.0	225	04.8		47.6	210	09.2		28.9	289	24.2		09.9
24	295	18.6	166	02.0	+19	55.3	240	05.5	+18	48.0	225	11.1	+21	29.0	304	26.7	-6	09.9
Dif	—		-7		-7		+7		+4		+19		+1		+25			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 06.2 ^m			Edad: 11.0 ^d SD: 15'3 PMG: 20 ^h 48 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	27.1	+21	08.7	59	10.4	-23	44.0	60 N	** **	1 53	3 08	18 37	98	22 50	22
1	193	27.0		08.2	73	39.6	-23	52.7	58	** **	2 22	25	18 09	87	23 18	32
2	208	27.0		07.8	88	08.7	-24	01.3	56	1 01	2 44	39	17 48	81	40 38	
3	223	26.9		07.4	102	37.7		09.8	54	1 44	3 01	3 51	30 78		23 58	41
4	238	26.9		07.0	117	06.5		18.2	52	2 10	16	4 01	15 75	** **	** **	**
5	253	26.8	+21	06.5	131	35.3	-24	26.5	50	2 31	3 29	4 10	17 02	73	** **	** **
6	268	26.8	+21	06.1	146	03.9	-24	34.7	45	3 08	3 54	4 30	16 35	69	0 19	36
7	283	26.7		05.7	160	32.5		42.7	40	34	4 14	46	16 14	67	37	39
8	298	26.7		05.2	175	00.9		50.7	35	3 55	30	4 59	15 57	64	0 52	42
9	313	26.6		04.8	189	29.2	-24	58.5	30	4 11	4 44	5 10	42 63		1 06	44
10	328	26.6		04.4	203	57.4	-25	06.2	20	37	5 06	30	15 16	61	29	48
11	343	26.5	+21	03.9	218	25.4	-25	13.7	10 N	4 58	5 24	5 47	14 55	58	1 49	50
12	358	26.5	+21	03.5	232	53.4	-25	21.2	0	5 15	5 40	6 03	14 34	57	2 07	54
13	13	26.4		03.1	247	21.3		28.5	10 S	30	5 56	18	14 14	54	26	56
14	28	26.4		02.6	261	49.0		35.7	20	44	6 11	35	13 53	52	2 46	59
15	43	26.3		02.2	276	16.6		42.7	30	5 58	28	6 53	28 49		3 09	63
16	58	26.3		01.7	290	44.2		49.7	35	6 06	37	7 04	13 14	47	23	65
17	73	26.2	+21	01.3	305	11.6	-25	56.5	40	6 14	6 47	7 17	12 57	45	3 39	67
18	88	26.2	+21	00.9	319	38.9	-26	03.1	45	6 22	6 59	7 32	12 37	42	3 58	71
19	103	26.1	+21	00.4	334	06.1		09.7	50	32	7 13	49	12 38		4 22	75
20	118	26.1	+21	00.0	348	33.2		16.1	52	37	19	7 58	12 00	36	34	77
21	133	26.0	+20	59.5	3	00.1		22.3	54	41	26	8 07	11 46	33	4 47	80
22	148	26.0		59.1	17	27.0		28.4	56	46	33	18	31 29		5 02	85
23	163	25.9		58.7	31	53.8		34.4	58	52	42	30	11 12	23	20	90
24	178	25.9	+20	58.2	46	20.4	-26	40.2	60 S	6 58	7 52	8 44	10 49	14	5 42	100

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 4 ^h 18.1 ^m		Mag: -3.9 PMG: 12 ^h 56 ^m		Mag: +0.9 PMG: 7 ^h 59 ^m		Mag: -2.1 PMG: 8 ^h 58 ^m		Mag: +1.0 PMG: 3 ^h 42 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	295	18.6	166	02.0	+19	55.3	240	05.5	+18	48.0
1	310	21.1	181	01.3		54.5	255	06.1		48.4
2	325	23.5	196	00.6		53.8	270	06.8		48.8
3	340	26.0	210	59.9		53.1	285	07.5		49.3
4	355	28.5	225	59.2		52.3	300	08.2		49.7
5	10	30.9	240	58.4	+19	51.6	315	08.8	+18	50.1
6	25	33.4	255	57.7	+19	50.9	330	09.5	+18	50.5
7	40	35.9	270	57.0		50.1	345	10.2		50.9
8	55	38.3	285	56.3		49.4	0	10.9		51.4
9	70	40.8	300	55.6		48.7	15	11.5		51.8
10	85	43.3	315	54.9		47.9	30	12.2		52.2
11	100	45.7	330	54.2	+19	47.2	45	12.9	+18	52.6
12	115	48.2	345	53.5	+19	46.5	60	13.6	+18	53.1
13	130	50.6	0	52.8		45.7	75	14.2		53.5
14	145	53.1	15	52.1		45.0	90	14.9		53.9
15	160	55.6	30	51.4		44.2	105	15.6		54.3
16	175	58.0	45	50.7		43.5	120	16.3		54.7
17	191	00.5	60	50.0	+19	42.7	135	16.9	+18	55.2
18	206	03.0	75	49.3	+19	42.0	150	17.6	+18	55.6
19	221	05.4	90	48.6		41.3	165	18.3		56.0
20	236	07.9	105	47.9		40.5	180	19.0		56.4
21	251	10.4	120	47.2		39.8	195	19.6		56.8
22	266	12.8	135	46.5		39.0	210	20.3		57.3
23	281	15.3	150	45.8		38.3	225	21.0		57.7
24	296	17.8	165	45.1	+19	37.5	240	21.7	+18	58.1
Dif	—		-7		-7		+7		+4	
							+19		+1	
									+25	
									0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG: 12 ^h 06.3 ^m			Edad: 12.0 ^d SD: 15'5 PMG: 21 ^h 45 ^m PHE { 4 ^h : 56'9 12 ^h : 57'1 20 ^h : 57'4 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	25.9	+20	58.2	46	20.4	76	-26	40.2	57	60 N	21 01	22 14	** **	20 15	64	23 12	61		
1	193	25.9		57.8	60	47.0	75		45.9	56	58	20 45	21 46	** **	19 36	64	23 50	62		
2	208	25.8		57.3	75	13.5	73		51.5	54	56	31	25	23 02	19 09	63	** **	** **		
3	223	25.8		56.9	89	39.8	73	-26	56.9	52	54	20	21 08	22 24	18 48	62	** **	** **		
4	238	25.7		56.4	104	06.1	71	-27	02.1	51	52	10	20 54	21 58	30	63	0 14	43		
5	253	25.7	+20	56.0	118	32.2	71	-27	07.2	50	50	20 00	20 42	21 38	18 15	62	0 27	45		
6	268	25.6	+20	55.5	132	58.3	69	-27	12.2	48	45	19 41	20 17	21 02	17 44	63	0 55	48		
7	283	25.6		55.1	147	24.2	69		17.0	47	40	26	19 57	20 37	21 62	1 16	51			
8	298	25.5		54.6	161	50.1	67		21.7	45	35	13	41	16	17 01	62	34	52		
9	313	25.5		54.2	176	15.8	67		26.2	43	30	19 01	28	20 00	16 45	61	1 50	53		
10	328	25.5		53.7	190	41.5	66		30.5	42	20	18 42	19 06	19 34	16 17	60	2 17	55		
11	343	25.4	+20	53.3	205	07.1	64	-27	34.7	40	10 N	18 25	18 48	19 14	15 53	60	2 39	57		
12	358	25.4	+20	52.8	219	32.5	64	-27	38.7	39	0	18 10	18 32	18 58	15 31	59	3 01	58		
13	13	25.3		52.4	233	57.9	63		42.6	37	10 S	17 55	17	43	15 08	59	22	59		
14	28	25.3		51.9	248	23.2	62		46.3	35	20	38	18 02	29	14 45	58	3 45	61		
15	43	25.2		51.5	262	48.4	62		49.8	34	30	20	17 46	15	17 57		4 12	62		
16	58	25.2		51.0	277	13.6	60		53.2	32	35	17 09	36	07	14 01	57	28	63		
17	73	25.2	+20	50.6	291	38.6	60	-27	56.4	31	40	16 57	17 26	18 00	13 42	56	4 46	65		
18	88	25.1	+20	50.1	306	03.6	58	-27	59.5	29	45	16 42	17 15	17 51	13 19	55	5 09	66		
19	103	25.1		49.7	320	28.4	58	-28	02.4	27	50	25	17 01	42	12 50	54	37	68		
20	118	25.0		49.2	334	53.2	58		05.1	25	52	16	16 55	37	36	52	5 51	69		
21	133	25.0		48.8	349	18.0	58		07.6	24	54	16 07	48	33	19 52		6 07	71		
22	148	25.0		48.3	3	42.6	56		10.0	22	56	15 56	41	28	12 00	49	27	72		
23	163	24.9		47.9	18	07.2	56		12.2	22	58	44	32	23	11 35	47	6 50	77		
24	178	24.9	+20	47.4	32	31.7	55	-28	14.2	20	60 S	15 30	16 23	17 17	11 03	40	7 22	83		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 4 ^h 14.1 ^m		Mag: -3.9 PMG: 12 ^h 58 ^m			Mag: +0.9 PMG: 7 ^h 58 ^m			Mag: -2.1 PMG: 8 ^h 55 ^m			Mag: +0.9 PMG: 3 ^h 38 ^m								
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	296	17.8	165	45.1	+19	37.5	240	21.7	+18	58.1	225	57.5	+21	30.6	305	27.3	-6	10.8		
1	311	20.2	180	44.4		36.8	255	22.3		58.5	240	59.5		30.7	320	29.9		10.8		
2	326	22.7	195	43.7		36.0	270	23.0		58.9	256	01.4		30.7	335	32.4		10.9		
3	341	25.1	210	43.0		35.2	285	23.7		59.3	271	03.4		30.8	350	34.9		10.9		
4	356	27.6	225	42.3		34.5	300	24.4	+18	59.8	286	05.3		30.9	5	37.5		11.0		
5	11	30.1	240	41.6	+19	33.7	315	25.0	+19	00.2	301	07.2	+21	30.9	20	40.0	-6	11.0		
6	26	32.5	255	40.9	+19	33.0	330	25.7	+19	00.6	316	09.2	+21	31.0	35	42.5	-6	11.0		
7	41	35.0	270	40.2		32.2	345	26.4		01.0	331	11.1		31.1	50	45.0		11.1		
8	56	37.5	285	39.6		31.5	0	27.1		01.4	346	13.0		31.1	65	47.6		11.1		
9	71	39.9	300	38.9		30.7	15	27.7		01.8	1	15.0		31.2	80	50.1		11.2		
10	86	42.4	315	38.2		29.9	30	28.4		02.2	16	16.9		31.3	95	52.6		11.2		
11	101	44.9	330	37.5	+19	29.2	45	29.1	+19	02.7	31	18.8	+21	31.3	110	55.2	-6	11.2		
12	116	47.3	345	36.8	+19	28.4	60	29.8	+19	03.1	46	20.8	+21	31.4	125	57.7	-6	11.3		
13	131	49.8	0	36.1		27.6	75	30.4		03.5	61	22.7		31.5	141	00.2		11.3		
14	146	52.3	15	35.4		26.9	90	31.1		03.9	76	24.7		31.5	156	02.8		11.3		
15	161	54.7	30	34.7		26.1	105	31.8		04.3	91	26.6		31.6	171	05.3		11.4		
16	176	57.2	45	34.0		25.4	120	32.5		04.7	106	28.5		31.7	186	07.8		11.4		
17	191	59.6	60	33.3	+19	24.6	135	33.1	+19	05.1	121	30.5	+21	31.7	201	10.4	-6	11.5		
18	207	02.1	75	32.6	+19	23.8	150	33.8	+19	05.5	136	32.4	+21	31.8	216	12.9	-6	11.5		
19	222	04.6	90	32.0		23.0	165	34.5		06.0	151	34.3		31.9	231	15.4		11.5		
20	237	07.0	105	31.3		22.3	180	35.2		06.4	166	36.3		31.9	246	17.9		11.6		
21	252	09.5	120	30.6		21.5	195	35.8		06.8	181	38.2		32.0	261	20.5		11.6		
22	267	12.0	135	29.9		20.7	210	36.5		07.2	196	40.2		32.1	276	23.0		11.7		
23	282	14.4	150	29.2		20.0	225	37.2		07.6	211	42.1		32.1	291	25.5		11.7		
24	297	16.9	165	28.5	+19	19.2	240	37.9	+19	08.0	226	44.0	+21	32.2	306	28.1	-6	11.7		
Dif	—		-7		-8		+7		+4		+19		+1		+25		0			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 06.4 ^m				Edad: 13.0 ^d PHE { 4 ^h : 57'7 12 ^h : 57'9 20 ^h : 58'2 SD: 15'7 PMG: 22 ^h 45 ^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	h m m	h m m		
0	178	24.9	+20	47.4	32	31.7	−28	14.2	19	60 N	** **	1 59	3 13	21 19 24	** **	** **		
1	193	24.8		46.9	46	56.1		16.1	17	58	** **	2 27	28	20 40 35	** **	** **		
2	208	24.8		46.5	61	20.5		17.8	15	56	1 11	2 48	42	20 12 41	0 18	62		
3	223	24.8		46.0	75	44.8		19.3	13	54	1 49	3 05	3 53	19 50 44	39	62		
4	238	24.7		45.6	90	09.0		20.6	12	52	2 15	19	4 04	33 46	0 57	62		
5	253	24.7	+20	45.1	104	33.2	−28	21.8	10	50	2 35	3 31	4 13	19 17 48	1 12	62		
6	268	24.7	+20	44.6	118	57.3	−28	22.8	8	45	3 11	3 56	4 32	18 47 51	1 43	62		
7	283	24.6		44.2	133	21.4		23.6	6	40	36	4 16	4 47	23 53	2 07	61		
8	298	24.6		43.7	147	45.4		24.2	5	35	3 56	32	5 00	18 03 55	26	62		
9	313	24.5		43.2	162	09.3		24.7	2	30	4 13	4 45	12	17 46 56	2 43	62		
10	328	24.5		42.8	176	33.2		24.9	1	20	38	5 07	31	17 17 59	3 12	61		
11	343	24.5	+20	42.3	190	57.1	−28	25.0	3	10 N	4 58	5 25	5 47	16 53 60	3 36	61		
12	358	24.4	+20	41.9	205	20.9	−28	24.9	4	0	5 15	5 41	6 03	16 30 61	3 59	60		
13	13	24.4		41.4	219	44.7		24.6	7	10 S	30	5 56	18	16 07 63	4 21	61		
14	28	24.4		40.9	234	08.4		24.2	8	20	44	6 11	34	15 43 64	4 46	59		
15	43	24.3		40.5	248	32.1		23.5	10	30	5 58	27	6 53	15 14 66	5 14	59		
16	58	24.3		40.0	262	55.7		22.7	12	35	6 05	36	7 03	14 58 66	31	58		
17	73	24.3	+20	39.5	277	19.4	−28	21.7	14	40	6 13	6 46	7 16	14 38 67	5 51	57		
18	88	24.2	+20	39.1	291	42.9	−28	20.5	16	45	6 21	6 57	7 30	14 14 69	6 15	56		
19	103	24.2		38.6	306	06.5		19.1	18	50	31	7 11	47	13 44 70	6 45	56		
20	118	24.1		38.1	320	30.0		17.5	19	52	35	17	7 56	28 72	7 00	55		
21	133	24.1		37.6	334	53.5		15.7	21	54	39	24	8 05	13 11 73	18	53		
22	148	24.1		37.2	349	17.0		13.8	24	56	44	31	15	12 49 75	7 39	52		
23	163	24.0		36.7	3	40.5		11.7		58	49	39	27	12 22 78	8 07	48		
24	178	24.0	+20	36.2	18	03.9	−28	09.3		60 S	6 55	7 49	8 41	11 43 85	8 45	43		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 4 ^h 10.2 ^m		Mag: −3.9 PMG: 12 ^h 59 ^m			Mag: +0.9 PMG: 7 ^h 57 ^m			Mag: −2.1 PMG: 8 ^h 52 ^m			Mag: +0.9 PMG: 3 ^h 34 ^m						
	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	297	16.9	165	28.5	+19	19.2	240	37.9	+19	08.0	226	44.0	+21	32.2	306	28.1	−6	11.7
1	312	19.4	180	27.8		18.4	255	38.5		08.4	241	46.0		32.3	321	30.6		11.8
2	327	21.8	195	27.2		17.6	270	39.2		08.8	256	47.9		32.3	336	33.1		11.8
3	342	24.3	210	26.5		16.9	285	39.9		09.2	271	49.9		32.4	351	35.7		11.9
4	357	26.7	225	25.8		16.1	300	40.6		09.6	286	51.8		32.5	6	38.2		11.9
5	12	29.2	240	25.1	+19	15.3	315	41.2	+19	10.1	301	53.7	+21	32.5	21	40.7	−6	11.9
6	27	31.7	255	24.4	+19	14.5	330	41.9	+19	10.5	316	55.7	+21	32.6	36	43.3	−6	12.0
7	42	34.1	270	23.7		13.7	345	42.6		10.9	331	57.6		32.7	51	45.8		12.0
8	57	36.6	285	23.1		13.0	0	43.3		11.3	346	59.6		32.7	66	48.3		12.1
9	72	39.1	300	22.4		12.2	15	43.9		11.7	2	01.5		32.8	81	50.9		12.1
10	87	41.5	315	21.7		11.4	30	44.6		12.1	17	03.4		32.8	96	53.4		12.1
11	102	44.0	330	21.0	+19	10.6	45	45.3	+19	12.5	32	05.4	+21	32.9	111	55.9	−6	12.2
12	117	46.5	345	20.3	+19	09.8	60	46.0	+19	12.9	47	07.3	+21	33.0	126	58.5	−6	12.2
13	132	48.9	0	19.7		09.0	75	46.6		13.3	62	09.3		33.0	142	01.0		12.3
14	147	51.4	15	19.0		08.3	90	47.3		13.7	77	11.2		33.1	157	03.5		12.3
15	162	53.9	30	18.3		07.5	105	48.0		14.1	92	13.1		33.2	172	06.1		12.3
16	177	56.3	45	17.6		06.7	120	48.7		14.5	107	15.1		33.2	187	08.6		12.4
17	192	58.8	60	17.0	+19	05.9	135	49.4	+19	14.9	122	17.0	+21	33.3	202	11.1	−6	12.4
18	208	01.2	75	16.3	+19	05.1	150	50.0	+19	15.3	137	19.0	+21	33.4	217	13.7	−6	12.5
19	223	03.7	90	15.6		04.3	165	50.7		15.7	152	20.9		33.4	232	16.2		12.5
20	238	06.2	105	14.9		03.5	180	51.4		16.1	167	22.8		33.5	247	18.7		12.5
21	253	08.6	120	14.3		02.7	195	52.1		16.5	182	24.8		33.6	262	21.3		12.6
22	268	11.1	135	13.6		01.9	210	52.7		16.9	197	26.7		33.6	277	23.8		12.6
23	283	13.6	150	12.9		01.1	225	53.4		17.3	212	28.7		33.7	292	26.3		12.7
24	298	16.0	165	12.2	+19	00.3	240	54.1	+19	17.7	227	30.6	+21	33.8	307	28.9	−6	12.7
Dif	—		−7			−8	+7			+4	+19		+1	+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: 14.0 ^d SD: 15'9 PMG: 23 ^h 46 ^m												
					PHE { 4 ^h : 58'4 12 ^h : 58'7 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
0	178	24.0	+20	36.2	18	03.9		-28	09.3	25	60 N	20 57	22 07	** **	21 43	8	0 13 104
1	193	24.0		35.8	32	27.4	45		06.8	27	58	41	21 42	** **	21 15	17	0 52 93
2	208	23.9		35.3	46	50.8	44		04.1	29	56	28	21	22 53	20 53	23	1 20 86
3	223	23.9		34.8	61	14.2	44	-28	01.2	29	54	17	21 05	22 18	34	29	41 83
4	238	23.9		34.3	75	37.6	44	-27	58.2	30	52	20 07	20 51	21 54	19	32	1 59 80
5	253	23.8	+20	33.9	90	01.0	44	-27	54.9	33	50	19 58	20 39	21 35	20 05	35	2 14 78
6	268	23.8	+20	33.4	104	24.4	44	-27	51.5	34	45	19 39	20 15	21 00	19 38	40	2 45 74
7	283	23.8		32.9	118	47.8	44		47.8	37	40	24	19 56	20 35	19 16	44	3 08 72
8	298	23.7		32.4	133	11.2	44		44.0	38	35	11	40	20 15	18 58	47	28 69
9	313	23.7		32.0	147	34.7	45		40.0	40	30	19 00	27	19 59	42	50	3 45 68
10	328	23.7		31.5	161	58.1	44		35.8	42	20	18 41	19 05	34	18 16	53	4 13 65
11	343	23.7	+20	31.0	176	21.5	44	-27	31.4	44	10 N	18 25	18 48	19 14	17 53	56	4 37 63
12	358	23.6	+20	30.5	190	45.0	45	-27	26.8	46	0	18 10	18 32	18 58	17 31	60	4 59 61
13	13	23.6		30.0	205	08.4	45		22.1	47	10 S	17 55	17	43	17 10	62	5 22 58
14	28	23.6		29.6	219	31.9	45		17.1	51	20	39	18 03	29	16 47	66	5 45 56
15	43	23.5		29.1	233	55.4	45		12.0	51	30	21	17 47	16	20	69	6 13 53
16	58	23.5		28.6	248	18.9	45		06.7	53	35	17 10	38	09	16 04	72	29 51
17	73	23.5	+20	28.1	262	42.5	46	-27	01.2	55	40	16 58	17 28	18 01	15 45	75	6 48 49
18	88	23.4	+20	27.6	277	06.0	45	-26	55.5	57	45	16 44	17 17	17 53	15 23	78	7 11 46
19	103	23.4		27.1	291	29.6	46		49.7	58	50	27	17 03	44	14 54	84	41 41
20	118	23.4		26.7	305	53.3	47		43.6	61	52	19	16 57	40	40	86	7 55 39
21	133	23.4		26.2	320	16.9	46		37.4	62	54	10	51	35	24	89	8 11 36
22	148	23.3		25.7	334	40.6	47		31.0	64	56	16 00	44	30	14 04	94	31 32
23	163	23.3		25.2	349	04.4	48		24.4	66	58	15 48	35	25	13 40	101	8 55 26
24	178	23.3	+20	24.7	3	28.1	47	-26	17.6	68	60 S	15 34	16 26	17 20	13 08	111	9 28 15

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 06.3 ^m		Mag: -3.9 PMG: 13 ^h 00 ^m		Mag: +0.9 PMG: 7 ^h 56 ^m		Mag: -2.1 PMG: 8 ^h 49 ^m		Mag: +0.9 PMG: 3 ^h 29 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	298	16.0	165	12.2	+19	00.3	240	54.1	+19	17.7
1	313	18.5	180	11.6	+18	59.5	255	54.8		18.1
2	328	21.0	195	10.9		58.7	270	55.4		18.5
3	343	23.4	210	10.2		57.9	285	56.1		18.9
4	358	25.9	225	09.6		57.1	300	56.8		19.3
5	13	28.4	240	08.9	+18	56.3	315	57.5	+19	19.8
6	28	30.8	255	08.2	+18	55.5	330	58.1	+19	20.2
7	43	33.3	270	07.5		54.7	345	58.8		20.6
8	58	35.7	285	06.9		53.9	0	59.5		20.9
9	73	38.2	300	06.2		53.1	16	00.2		21.3
10	88	40.7	315	05.5		52.3	31	00.8		21.7
11	103	43.1	330	04.9	+18	51.5	46	01.5	+19	22.1
12	118	45.6	345	04.2	+18	50.7	61	02.2	+19	22.5
13	133	48.1	0	03.5		49.9	76	02.9		22.9
14	148	50.5	15	02.9		49.1	91	03.5		23.3
15	163	53.0	30	02.2		48.3	106	04.2		23.7
16	178	55.5	45	01.6		47.5	121	04.9		24.1
17	193	57.9	60	00.9	+18	46.7	136	05.6	+19	24.5
18	209	00.4	75	00.2	+18	45.8	151	06.2	+19	24.9
19	224	02.9	89	59.6		45.0	166	06.9		25.3
20	239	05.3	104	58.9		44.2	181	07.6		25.7
21	254	07.8	119	58.2		43.4	196	08.3		26.1
22	269	10.2	134	57.6		42.6	211	08.9		26.5
23	284	12.7	149	56.9		41.8	226	09.6		26.9
24	299	15.2	164	56.3	+18	40.9	241	10.3	+19	27.3
Dif	—		-7		-8		+7		+4	
									+19	+1
										+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: 15.0 ^d SD: 16'1 PMG: **h **m PHE { 4 ^h : 59'1 12 ^h : 59'3 20 ^h : 59'5 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	178	23.3	+20	24.7	3	28.1	49	-26	17.6	69	60 N	** **	2 06	3 17	21 51	2	1 57	115			
1	193	23.2		24.2	17	52.0	49		10.7	72	58	** **	32	32	32	9	2 25	105			
2	208	23.2		23.7	32	15.8	48	-26	03.5	73	56	1 21	2 52	45	16	14	2 46	99			
3	223	23.2		23.3	46	39.7	49	-25	56.2	75	54	1 55	3 08	3 56	21 03	18	3 04	94			
4	238	23.2		22.8	61	03.7	50		48.7	76	52	2 20	22	4 06	20 51	22	19	91			
5	253	23.1	+20	22.3	75	27.7	50	-25	41.1	77	50	2 38	3 34	4 15	20 40	25	3 32	87			
6	268	23.1	+20	21.8	89	51.7	50	-25	33.2	79	45	3 13	3 59	4 34	20 18	31	3 59	81			
7	283	23.1		21.3	104	15.8	51		25.2	80	40	39	4 18	4 49	20 00	36	4 20	77			
8	298	23.1		20.8	118	40.0	52		17.0	82	35	3 58	33	5 02	19 45	39	37	74			
9	313	23.0		20.3	133	04.2	52		08.7	83	30	4 14	4 46	13	32	42	4 53	70			
10	328	23.0		19.8	147	28.5	53	-25	00.2	85	20	39	5 08	32	19 09	48	5 18	66			
11	343	23.0	+20	19.3	161	52.8	53	-24	51.5	87	10 N	4 59	5 25	5 48	18 49	53	5 40	62			
12	358	23.0	+20	18.8	176	17.2	54	-24	42.6	89	0	5 15	5 41	6 03	18 31	57	6 00	58			
13	13	22.9		18.3	190	41.7	55		33.6	90	10 S	30	5 56	18	18 12	61	20	55			
14	28	22.9		17.8	205	06.2	55		24.4	92	20	43	6 10	34	17 53	65	6 41	51			
15	43	22.9		17.4	219	30.8	56		15.0	94	30	5 57	26	6 52	29 71	7 06	46				
16	58	22.9		16.9	233	55.4	56	-24	05.5	95	35	6 04	35	7 02	16 74	20	44				
17	73	22.8	+20	16.4	248	20.1	57	-23	55.8	97	40	6 11	6 45	7 14	17 00	78	7 37	40			
18	88	22.8	+20	15.9	262	44.9	58	-23	46.0	98	45	6 20	6 56	7 28	16 41	83	7 57	35			
19	103	22.8		15.4	277	09.7	58		36.0	100	50	29	7 09	45	18 89	8 22	29				
20	118	22.8		14.9	291	34.7	60		25.8	102	52	33	15	7 53	16 06	93	34	26			
21	133	22.8		14.4	305	59.7	60		15.5	103	54	37	21	8 02	15 53	96	8 47	23			
22	148	22.7		13.9	320	24.7	60	-23	05.0	105	56	42	29	12	38 101	9 03	18				
23	163	22.7		13.4	334	49.9	62	-22	54.4	106	58	47	37	24	15 21 106	21	13				
24	178	22.7	+20	12.9	349	15.1	62	-22	43.6	108	60 S	6 52	7 46	8 37	14 59 114	9 43	6				
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 4 ^h 02.3 ^m		Mag: -3.9 PMG: 13 ^h 01 ^m				Mag: +0.9 PMG: 7 ^h 55 ^m				Mag: -2.1 PMG: 8 ^h 46 ^m				Mag: +0.9 PMG: 3 ^h 25 ^m						
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♃	Dec	hG ♄	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	299	15.2	164	56.3	+18	40.9	241	10.3	+19	27.3	228	17.3	+21	35.3	308	29.8	-6	13.7			
1	314	17.6	179	55.6		40.1	256	11.0		27.7	243	19.2		35.4	323	32.3		13.7			
2	329	20.1	194	54.9		39.3	271	11.6		28.1	258	21.1		35.4	338	34.9		13.8			
3	344	22.6	209	54.3		38.5	286	12.3		28.5	273	23.1		35.5	353	37.4		13.8			
4	359	25.0	224	53.6		37.7	301	13.0		28.9	288	25.0		35.5	8	39.9		13.9			
5	14	27.5	239	53.0	+18	36.8	316	13.7	+19	29.3	303	27.0	+21	35.6	23	42.5	-6	13.9			
6	29	30.0	254	52.3	+18	36.0	331	14.3	+19	29.7	318	28.9	+21	35.7	38	45.0	-6	14.0			
7	44	32.4	269	51.6		35.2	346	15.0		30.1	333	30.9		35.7	53	47.6		14.0			
8	59	34.9	284	51.0		34.4	1	15.7		30.4	348	32.8		35.8	68	50.1		14.0			
9	74	37.4	299	50.3		33.5	16	16.4		30.8	3	34.8		35.9	83	52.6		14.1			
10	89	39.8	314	49.7		32.7	31	17.1		31.2	18	36.7		35.9	98	55.2		14.1			
11	104	42.3	329	49.0	+18	31.9	46	17.7	+19	31.6	33	38.7	+21	36.0	113	57.7	-6	14.2			
12	119	44.7	344	48.4	+18	31.1	61	18.4	+19	32.0	48	40.6	+21	36.0	129	00.3	-6	14.2			
13	134	47.2	359	47.7		30.2	76	19.1		32.4	63	42.6		36.1	144	02.8		14.3			
14	149	49.7	14	47.1		29.4	91	19.8		32.8	78	44.5		36.2	159	05.3		14.3			
15	164	52.1	29	46.4		28.6	106	20.4		33.2	93	46.5		36.2	174	07.9		14.3			
16	179	54.6	44	45.8		27.7	121	21.1		33.6	108	48.4		36.3	189	10.4		14.4			
17	194	57.1	59	45.1	+18	26.9	136	21.8	+19	34.0	123	50.4	+21	36.4	204	13.0	-6	14.4			
18	209	59.5	74	44.5	+18	26.1	151	22.5	+19	34.3	138	52.3	+21	36.4	219	15.5	-6	14.5			
19	225	02.0	89	43.8		25.2	166	23.1		34.7	153	54.2		36.5	234	18.1		14.5			
20	240	04.5	104	43.2		24.4	181	23.8		35.1	168	56.2		36.5	249	20.6		14.6			
21	255	06.9	119	42.5		23.6	196	24.5		35.5	183	58.1		36.6	264	23.1		14.6			
22	270	09.4	134	41.9		22.7	211	25.2		35.9	199	00.1		36.7	279	25.7		14.6			
23	285	11.9	149	41.2		21.9	226	25.8		36.3	214	02.0		36.7	294	28.2		14.7			
24	300	14.3	164	40.6	+18	21.0	241	26.5	+19	36.7	229	04.0	+21	36.8	309	30.8	-6	14.7			
Dif	—		-7		-8		+7		+4		+19		+1		+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: 16.0 ^d SD: 16'2 PMG: 0 ^h 45 ^m PHE { 4 ^h : 59'6 12 ^h : 59'8 20 ^h : 59'9 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	178	22.7	+20	12.9	349	15.1	63	-22	43.6	110	60 N	20 53	22 01	** **	21 53	0	3	52	114							
1	193	22.7		12.4	3	40.4	63		32.6	110	58	38	21 37	** **	41	5	4	10	107							
2	208	22.6		11.9	18	05.7	65		21.6	113	56	25	17	22 44	30	10	25	102								
3	223	22.6		11.4	32	31.2	65	-22	10.3	113	54	14	21 01	22 12	21	13	38	97								
4	238	22.6		10.9	46	56.7	65	-21	59.0	113	52	20 04	20 48	21 49	13	16	50	92								
5	253	22.6	+20	10.4	61	22.3	66	-21	47.4	116	50	19 56	20 36	21 31	21 05	19	4	59	90							
6	268	22.6	+20	09.9	75	48.0	67	-21	35.8	116	45	19 38	20 12	20 57	20 49	25	5	20	84							
7	283	22.5		09.3	90	13.7	67		24.0	118	40	23	19 54	33	36	30	37	78								
8	298	22.5		08.8	104	39.6	69	-21	12.0	120	35	19 10	39	20 13	24	34	5	51	74							
9	313	22.5		08.3	119	05.5	69	-20	59.9	121	30	18 59	26	19 58	20	14	38	6	03	71						
10	328	22.5		07.8	133	31.5	70		47.7	122	20	41	19 05	33	19	57	44	24	65							
11	343	22.5	+20	07.3	147	57.5	70	-20	35.4	123	10 N	18 25	18 47	19 14	19	42	49	6	42	60						
12	358	22.4	+20	06.8	162	23.7	72	-20	22.9	125	0	18 10	18 32	18 58	19	28	53	6	58	56						
13	13	22.4		06.3	176	49.9	72	-20	10.3	126	10 S	17 55	18	43	19	13	59	7	15	50						
14	28	22.4		05.8	191	16.3	74	-19	57.5	128	20	40	18 03	30	18	58	64	32	46							
15	43	22.4		05.3	205	42.7	74		44.6	129	30	22	17 48	17	40	70	7	52	40							
16	58	22.4		04.8	220	09.1	74		31.6	130	35	12	39	10	30	73	8	04	36							
17	73	22.4	+20	04.3	234	35.7	76	-19	18.5	131	40	17 00	17 29	18 02	18	18	78	8	17	32						
18	88	22.3	+20	03.8	249	02.4	77	-19	05.3	132	45	16 46	17 18	17 55	18	04	83	8	32	28						
19	103	22.3		03.2	263	29.1	77	-18	51.9	134	50	29	06	46	17	47	89	8	51	22						
20	118	22.3		02.7	277	55.9	78		38.4	135	52	21	17 00	42	39	92	9	00	19							
21	133	22.3		02.2	292	22.8	79		24.8	136	54	13	16 53	38	29	96	10	16								
22	148	22.3		01.7	306	49.8	80	-18	11.1	137	56	16 03	46	33	19	100	21	12								
23	163	22.3		01.2	321	16.8	80	-17	57.3	138	58	15 51	38	28	17	07	105	34	7							
24	178	22.2	+20	00.7	335	44.0	82	-17	43.3	140	60 S	15 38	16 30	17 23	16	53	111	9	49	1						
UT	ARIES PMG 3 ^h 58.4 ^m				VENUS Mag: -3.9 PMG: 13 ^h 02 ^m				MARTE Mag: +0.9 PMG: 7 ^h 54 ^m				JÚPITER Mag: -2.1 PMG: 8 ^h 43 ^m				SATURNO Mag: +0.9 PMG: 3 ^h 21 ^m									
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	300	14.3	164	40.6	+18	21.0	241	26.5	+19	36.7	229	04.0	+21	36.8	309	30.8	-6	14.7								
1	315	16.8	179	39.9		20.2	256	27.2		37.1	244	05.9		36.9	324	33.3		14.8								
2	330	19.2	194	39.3		19.4	271	27.9		37.4	259	07.9		36.9	339	35.8		14.8								
3	345	21.7	209	38.6		18.5	286	28.5		37.8	274	09.8		37.0	354	38.4		14.9								
4	0	24.2	224	38.0		17.7	301	29.2		38.2	289	11.8		37.0	9	40.9		14.9								
5	15	26.6	239	37.3	+18	16.8	316	29.9	+19	38.6	304	13.7	+21	37.1	24	43.5	-6	14.9								
6	30	29.1	254	36.7	+18	16.0	331	30.6	+19	39.0	319	15.7	+21	37.2	39	46.0	-6	15.0								
7	45	31.6	269	36.0		15.1	346	31.3		39.4	334	17.6		37.2	54	48.6		15.0								
8	60	34.0	284	35.4		14.3	1	31.9		39.8	349	19.6		37.3	69	51.1		15.1								
9	75	36.5	299	34.8		13.5	16	32.6		40.1	4	21.5		37.4	84	53.7		15.1								
10	90	39.0	314	34.1		12.6	31	33.3		40.5	19	23.5		37.4	99	56.2		15.2								
11	105	41.4	329	33.5	+18	11.8	46	34.0	+19	40.9	34	25.4	+21	37.5	114	58.7	-6	15.2								
12	120	43.9	344	32.8	+18	10.9	61	34.6	+19	41.3	49	27.4	+21	37.5	130	01.3	-6	15.3								
13	135	46.4	359	32.2		10.1	76	35.3		41.7	64	29.3		37.6	145	03.8		15.3								
14	150	48.8	14	31.6		09.2	91	36.0		42.1	79	31.3		37.7	160	06.4		15.3								
15	165	51.3	29	30.9		08.4	106	36.7		42.4	94	33.2		37.7	175	08.9		15.4								
16	180	53.7	44	30.3		07.5	121	37.3		42.8	109	35.2		37.8	190	11.5		15.4								
17	195	56.2	59	29.6	+18	06.6	136	38.0	+19	43.2	124	37.1	+21	37.8	205	14.0	-6	15.5								
18	210	58.7	74	29.0	+18	05.8	151	38.7	+19	43.6	139	39.1	+21	37.9	220	16.6	-6	15.5								
19	226	01.1	89	28.4		04.9	166	39.4		44.0	154	41.0		38.0	235	19.1		15.6								
20	241	03.6	104	27.7		04.1	181	40.0		44.3	169	43.0		38.0	250	21.6		15.6								
21	256	06.1	119	27.1		03.2	196	40.7		44.7	184	44.9		38.1	265	24.2		15.7								
22	271	08.5	134	26.4		02.4	211	41.4		45.1	199	46.9		38.2	280	26.7		15.7								
23	286	11.0	149	25.8		01.5	226	42.1		45.5	214	48.8		38.2	295	29.3		15.7								
24	301	13.5	164	25.2	+18	00.6	241	42.7	+19	45.9	229	50.8	+21	38.3	310	31.8	-6	15.8								
Dif	—				-6				+7				+20				+1				+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: 17.0 ^d PHE { 4 ^h : 60'0 12 ^h : 60'0 20 ^h : 60'1 SD: 16'3 PMG: 1 ^h 41 ^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
0	178	22.2	+20	00.7	335	44.0	82	-17	43.3	140	60 N	** **	2 13	3 21	21 53	0	5 46
1	193	22.2	+20	00.2	350	11.2	83		29.3	140	58	** **	37	36	46	4	5 57
2	208	22.2	+19	59.7	4	38.5	83		15.1	142	56	1 29	2 56	48	40	7	6 07
3	223	22.2		59.1	19	05.9	84	-17	00.8	143	54	2 01	3 12	3 59	34	11	15
4	238	22.2		58.6	33	33.3	84	-16	46.5	143	52	24	26	4 09	29	13	22
5	253	22.2	+19	58.1	48	00.9	86	-16	32.0	145	50	2 42	3 37	4 18	21 24	16	6 29
6	268	22.1	+19	57.6	62	28.5	86	-16	17.4	146	45	3 16	4 01	4 36	21 14	22	6 44
7	283	22.1		57.1	76	56.2	87	-16	02.7	147	40	3 41	20	4 51	21 06	26	6 55
8	298	22.1		56.5	91	24.0	88	-15	48.0	147	35	4 00	35	5 03	20 58	31	7 05
9	313	22.1		56.0	105	51.8	88		33.1	149	30	16	4 47	14	52	34	14
10	328	22.1		55.5	120	19.7	89		18.1	150	20	40	5 08	32	41	39	29
11	343	22.1	+19	55.0	134	47.7	90	-15	03.1	150	10 N	4 59	5 26	5 48	20 31	45	7 42
12	358	22.1	+19	54.5	149	15.8	91	-14	48.0	151	0	5 15	5 41	6 03	20 21	51	7 54
13	13	22.1		53.9	163	44.0	92		32.7	153	10 S	30	5 55	18	12	56	8 05
14	28	22.0		53.4	178	12.2	92		17.4	153	20	43	6 10	33	20 02	61	18
15	43	22.0		52.9	192	40.5	93	-14	02.0	154	30	5 56	25	6 51	19 50	68	32
16	58	22.0		52.4	207	08.9	94	-13	46.5	155	35	6 03	34	7 01	43	72	40
17	73	22.0	+19	51.8	221	37.3	94	-13	31.0	155	40	6 10	6 43	7 13	19 36	75	8 49
18	88	22.0	+19	51.3	236	05.9	96	-13	15.4	156	45	6 18	6 54	7 26	19 27	80	9 00
19	103	22.0		50.8	250	34.4	95	-12	59.6	158	50	27	7 07	43	16	87	13
20	118	22.0		50.3	265	03.1	97		43.9	157	52	31	13	51	11	90	19
21	133	22.0		49.7	279	31.8	97		28.0	159	54	35	19	7 59	19 05	93	26
22	148	22.0		49.2	294	00.6	98	-12	12.1	159	56	39	26	8 09	18 59	96	33
23	163	21.9		48.7	308	29.5	99	-11	56.1	160	58	44	34	20	52	101	41
24	178	21.9	+19	48.2	322	58.4	99	-11	40.0	161	60 S	6 49	7 42	8 33	18 44	105	9 50
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 3 ^h 54.5 ^m		Mag: -3.9 PMG: 13 ^h 03 ^m			Mag: +0.9 PMG: 7 ^h 53 ^m			Mag: -2.1 PMG: 8 ^h 39 ^m			Mag: +0.9 PMG: 3 ^h 17 ^m					
	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	301	13.5	164	25.2	+18	00.6	241	42.7	+19	45.9	229	50.8	+21	38.3	310	31.8	
1	316	15.9	179	24.5	+17	59.8	256	43.4		46.2	244	52.8		38.3	325	34.4	
2	331	18.4	194	23.9		58.9	271	44.1		46.6	259	54.7		38.4	340	36.9	
3	346	20.8	209	23.3		58.1	286	44.8		47.0	274	56.7		38.5	355	39.5	
4	1	23.3	224	22.6		57.2	301	45.5		47.4	289	58.6		38.5	10	42.0	
5	16	25.8	239	22.0	+17	56.3	316	46.1	+19	47.7	305	00.6	+21	38.6	25	44.6	
6	31	28.2	254	21.4	+17	55.5	331	46.8	+19	48.1	320	02.5	+21	38.6	40	47.1	
7	46	30.7	269	20.7		54.6	346	47.5		48.5	335	04.5		38.7	55	49.7	
8	61	33.2	284	20.1		53.7	1	48.2		48.9	350	06.4		38.8	70	52.2	
9	76	35.6	299	19.5		52.9	16	48.8		49.3	5	08.4		38.8	85	54.7	
10	91	38.1	314	18.9		52.0	31	49.5		49.6	20	10.3		38.9	100	57.3	
11	106	40.6	329	18.2	+17	51.1	46	50.2	+19	50.0	35	12.3	+21	38.9	115	59.8	
12	121	43.0	344	17.6	+17	50.3	61	50.9	+19	50.4	50	14.2	+21	39.0	131	02.4	
13	136	45.5	359	17.0		49.4	76	51.5		50.8	65	16.2		39.1	146	04.9	
14	151	48.0	14	16.3		48.5	91	52.2		51.1	80	18.1		39.1	161	07.5	
15	166	50.4	29	15.7		47.6	106	52.9		51.5	95	20.1		39.2	176	10.0	
16	181	52.9	44	15.1		46.8	121	53.6		51.9	110	22.1		39.2	191	12.6	
17	196	55.3	59	14.5	+17	45.9	136	54.3	+19	52.2	125	24.0	+21	39.3	206	15.1	
18	211	57.8	74	13.8	+17	45.0	151	54.9	+19	52.6	140	26.0	+21	39.4	221	17.7	
19	227	00.3	89	13.2		44.1	166	55.6		53.0	155	27.9		39.4	236	20.2	
20	242	02.7	104	12.6		43.3	181	56.3		53.4	170	29.9		39.5	251	22.8	
21	257	05.2	119	12.0		42.4	196	57.0		53.7	185	31.8		39.5	266	25.3	
22	272	07.7	134	11.3		41.5	211	57.6		54.1	200	33.8		39.6	281	27.9	
23	287	10.1	149	10.7		40.6	226	58.3		54.5	215	35.7		39.7	296	30.4	
24	302	12.6	164	10.1	+17	39.7	241	59.0	+19	54.9	230	37.7	+21	39.7	311	33.0	
Dif	—		-6		-9		+7		+4		+20		+1		+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: 18.0 ^d SD: 16'4 PMG: 2 ^h 33 ^m		PHE { 4 ^h : 60'1 12 ^h : 60'1 20 ^h : 60'1 R°: 50 ^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	21.9	+19	48.2	322	58.4	100	−11	40.0	161	23.9	60 N	20	48	21	55	**	**	21	53	**	7	34	104
1	193	21.9		47.6	337	27.4	100					58		34	31	23	28		50	3		40	99	
2	208	21.9		47.1	351	56.5	101	−11	07.7	162	56	22	21	13	22	36		47	6		45	95		
3	223	21.9		46.6	6	25.6	101	−10	51.4	163	54	11	20	58	22	06		45	9		50	91		
4	238	21.9		46.0	20	54.8	102				52	20	02		45	21	45		42	12		54	88	
5	253	21.9	+19	45.5	35	24.0	102	−10	18.7	164	50	19	53	20	33	21	27		21	40	15	7	57	86
6	268	21.9	+19	45.0	49	53.3	103	−10	02.3	164	45	19	36	20	10	20	54		21	36	19	8	05	80
7	283	21.9		44.4	64	22.7	104	−9	45.8	165	40	21		19	52	30		32	24		12	75		
8	298	21.9		43.9	78	52.1	104				35	19	09		37	20	12		29	28		18	70	
9	313	21.9		43.4	93	21.6	105	−9	12.7	166	30	18	58		25	19	56		26	32		23	66	
10	328	21.9		42.8	107	51.1	105	−8	56.1	166	20		40	19	04	32		20	39		31	61		
11	343	21.8	+19	42.3	122	20.7	106	−8	39.4	167	10 N	18	25	18	47	19	13		21	16	44	8	39	54
12	358	21.8	+19	41.8	136	50.3	106	−8	22.7	167	0	18	10	18	32	18	58		21	12	49	8	45	50
13	13	21.8		41.2	151	20.0	107	−8	05.9	168	10 S	17	56		18		44		08	54		52	45	
14	28	21.8		40.7	165	49.7	107	−7	49.1	168	20		40	18	04	31		21	03	60	8	59	39	
15	43	21.8		40.2	180	19.5	108				30	23	17	49	18		20	58	66		9	07	33	
16	58	21.8		39.6	194	49.4	109	−7	15.4	169	35	13		40		11		55	70		12	29		
17	73	21.8	+19	39.1	209	19.3	109	−6	58.5	169	40	17	02	17	31	18	04		20	51	75	9	17	25
18	88	21.8	+19	38.6	223	49.2	109	−6	41.5	170	45	16	48	17	20	17	56		20	47	80	9	23	21
19	103	21.8		38.0	238	19.2	110				50	32		08		48		43	85		30	15		
20	118	21.8		37.5	252	49.2	110	−6	07.5	170	52	24		17	02	44		41	87		34	12		
21	133	21.8		36.9	267	19.2	110	−5	50.5	170	54	16	16	56		40		38	91		37	10		
22	148	21.8		36.4	281	49.3	111				56	16	06		49		36		35	95		41	7	
23	163	21.8		35.9	296	19.5	112	−5	16.3	171	58	15	55		42		31		33	97		46	3	
24	178	21.8	+19	35.3	310	49.7	112	−4	59.2	171	60 S	15	42	16	33	17	26		20	29	102	9	50	0
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG 3 ^h 50.5 ^m		Mag: −3.9 PMG: 13 ^h 04 ^m				Mag: +0.9 PMG: 7 ^h 52 ^m				Mag: −2.1 PMG: 8 ^h 36 ^m				Mag: +0.9 PMG: 3 ^h 13 ^m									
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	302	12.6	164	10.1	+17	39.7	241	59.0	+19	54.9	230	37.7	+21	39.7	311	33.0	−6	16.9						
1	317	15.1	179	09.5		38.9	256	59.7		55.2	245	39.6		39.8	326	35.5		16.9						
2	332	17.5	194	08.8		38.0	272	00.3		55.6	260	41.6		39.8	341	38.1		17.0						
3	347	20.0	209	08.2		37.1	287	01.0		56.0	275	43.6		39.9	356	40.6		17.0						
4	2	22.5	224	07.6		36.2	302	01.7		56.3	290	45.5		40.0	11	43.2		17.1						
5	17	24.9	239	07.0	+17	35.3	317	02.4	+19	56.7	305	47.5	+21	40.0	26	45.7	−6	17.1						
6	32	27.4	254	06.4	+17	34.4	332	03.1	+19	57.1	320	49.4	+21	40.1	41	48.3	−6	17.2						
7	47	29.8	269	05.7		33.6	347	03.7		57.4	335	51.4		40.1	56	50.8		17.2						
8	62	32.3	284	05.1		32.7	2	04.4		57.8	350	53.3		40.2	71	53.4		17.3						
9	77	34.8	299	04.5		31.8	17	05.1		58.2	5	55.3		40.3	86	55.9		17.3						
10	92	37.2	314	03.9		30.9	32	05.8		58.5	20	57.3		40.3	101	58.5		17.4						
11	107	39.7	329	03.3	+17	30.0	47	06.4	+19	58.9	35	59.2	+21	40.4	117	01.0	−6	17.4						
12	122	42.2	344	02.7	+17	29.1	62	07.1	+19	59.3	51	01.2	+21	40.4	132	03.6	−6	17.5						
13	137	44.6	359	02.0		28.2	77	07.8	+19	59.6	66	03.1		40.5	147	06.1		17.5						
14	152	47.1	14	01.4		27.3	92	08.5	+20	00.0	81	05.1		40.6	162	08.7		17.5						
15	167	49.6	29	00.8		26.4	107	09.1	+20	00.4	96	07.0		40.6	177	11.2		17.6						
16	182	52.0	44	00.2		25.5	122	09.8		00.7	111	09.0		40.7	192	13.8		17.6						
17	197	54.5	58	59.6	+17	24.6	137	10.5	+20	01.1	126	11.0	+21	40.7	207	16.3	−6	17.7						
18	212	56.9	73	59.0	+17	23.7	152	11.2	+20	01.5	141	12.9	+21	40.8	222	18.9	−6	17.7						
19	227	59.4	88	58.4		22.8	167	11.9		01.8	156	14.9		40.9	237	21.4		17.8						
20	243	01.9	103	57.7		22.0	182	12.5		02.2	171	16.8		40.9	252	24.0		17.8						
21	258	04.3	118	57.1		21.1	197	13.2		02.6	186	18.8		41.0	267	26.5		17.9						
22	273	06.8	133	56.5		20.2	212	13.9		02.9	201	20.8		41.0	282	29.1		17.9						
23	288	09.3	148	55.9		19.3	227	14.6		03.3	216	22.7		41.1	297	31.6		18.0						
24	303	11.7	163	55.3	+17	18.4	242	15.2	+20	03.7	231	24.7	+21	41.2	312	34.2	−6	18.0						
Dif	—		−6		−9		+7		+4		+20		+1		+26		0							

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15 ^h 7 PMG:12 ^h 06.5 ^m				Edad: 19.0 ^d PHE { 4 ^h : 60 ^o 0 12 ^h : 59 ^o 9 20 ^h : 59 ^o 9 R ^o : 49 ^m																
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	178	21.8	+19	35.3	310	49.7	-4	59.2	60 N	**	**	2	19	3	26	21	52	**	9	18	101
1	193	21.8		34.8	325	19.9		42.0	58	0	45	2	42		40	53	3		19	97	
2	208	21.8		34.2	339	50.1		24.9	56	1	38	3	01	3	52	53	6		20	94	
3	223	21.8		33.7	354	20.4	-4	07.7	54	2	07		16	4	03	54	9		21	91	
4	238	21.8		33.1	8	50.7	-3	50.5	52		29		29		12	54	12		22	88	
5	253	21.8	+19	32.6	23	21.1	-3	33.3	50	2	46	3	40	4	20	21	55	14	9	23	85
6	268	21.8	+19	32.0	37	51.5	-3	16.0	45	3	19	4	03	4	38	21	55	20	9	25	79
7	283	21.8		31.5	52	21.9	-2	58.8	40	3	43		21	4	52	56	25		27	74	
8	298	21.8		31.0	66	52.3		41.5	35	4	02		36	5	05	57	28		28	70	
9	313	21.8		30.4	81	22.8		24.3	30		17	4	49		15	58	31		29	66	
10	328	21.8		29.9	95	53.2	-2	07.0	20	4	41	5	09	33	21	59	38		32	59	
11	343	21.8	+19	29.3	110	23.8	-1	49.8	10 N	5	00	5	26	5	49	22	00	43	9	33	54
12	358	21.8	+19	28.8	124	54.3	-1	32.5	0	5	16	5	41	6	03	22	01	48	9	35	49
13	13	21.8		28.2	139	24.8	-1	15.2	10 S		29	5	55		17	02	53		37	43	
14	28	21.8		27.7	153	55.4	-0	57.9	20		42	6	09	32	03	59			38	38	
15	43	21.8		27.1	168	26.0		40.7	30	5	55	24	6	50	04	66			40	32	
16	58	21.8		26.6	182	56.6		23.4	35	6	02	32	7	00	05	69			41	28	
17	73	21.8	+19	26.0	197	27.2	-0	06.1	40	6	09	6	42	7	11	22	06	73	9	42	25
18	88	21.8	+19	25.5	211	57.9	+0	11.1	45	6	16	6	52	7	24	22	07	78	9	44	19
19	103	21.8		24.9	226	28.5		28.4	50	25	7	04	40		08	84			45	15	
20	118	21.8		24.4	240	59.2	+0	45.6	52	29		10	48		08	87			46	12	
21	133	21.8		23.8	255	29.9	+1	02.8	54	32		16	7	57	09	90			47	9	
22	148	21.8		23.2	270	00.6		20.1	56	37		23	8	06	10	93			48	6	
23	163	21.8		22.7	284	31.2		37.3	58	41		30	17	10	98				49	3	
24	178	21.8	+19	22.1	299	01.9	+1	54.4	60 S	6	46	7	39	8	29	22	11	102	9	50	**
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 3 ^h 46.6 ^m		Mag: -3.9 PMG: 13 ^h 05 ^m				Mag: +0.9 PMG: 7 ^h 51 ^m				Mag: -2.1 PMG: 8 ^h 33 ^m				Mag: +0.9 PMG: 3 ^h 09 ^m						
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	303	11.7	163	55.3	+17	18.4	242	15.2	+20	03.7	231	24.7	+21	41.2	312	34.2	-6	18.0			
1	318	14.2	178	54.7		17.5	257	15.9		04.0	246	26.6		41.2	327	36.8		18.1			
2	333	16.7	193	54.1		16.6	272	16.6		04.4	261	28.6		41.3	342	39.3		18.1			
3	348	19.1	208	53.5		15.6	287	17.3		04.8	276	30.5		41.3	357	41.9		18.2			
4	3	21.6	223	52.9		14.7	302	18.0		05.1	291	32.5		41.4	12	44.4		18.2			
5	18	24.1	238	52.3	+17	13.8	317	18.6	+20	05.5	306	34.5	+21	41.4	27	47.0	-6	18.3			
6	33	26.5	253	51.6	+17	12.9	332	19.3	+20	05.8	321	36.4	+21	41.5	42	49.5	-6	18.3			
7	48	29.0	268	51.0		12.0	347	20.0		06.2	336	38.4		41.6	57	52.1		18.4			
8	63	31.4	283	50.4		11.1	2	20.7		06.6	351	40.3		41.6	72	54.6		18.4			
9	78	33.9	298	49.8		10.2	17	21.3		06.9	6	42.3		41.7	87	57.2		18.5			
10	93	36.4	313	49.2		09.3	32	22.0		07.3	21	44.3		41.7	102	59.7		18.5			
11	108	38.8	328	48.6	+17	08.4	47	22.7	+20	07.6	36	46.2	+21	41.8	118	02.3	-6	18.5			
12	123	41.3	343	48.0	+17	07.5	62	23.4	+20	08.0	51	48.2	+21	41.9	133	04.8	-6	18.6			
13	138	43.8	358	47.4		06.6	77	24.1		08.4	66	50.2		41.9	148	07.4		18.6			
14	153	46.2	13	46.8		05.7	92	24.7		08.7	81	52.1		42.0	163	10.0		18.7			
15	168	48.7	28	46.2		04.7	107	25.4		09.1	96	54.1		42.0	178	12.5		18.7			
16	183	51.2	43	45.6		03.8	122	26.1		09.4	111	56.0		42.1	193	15.1		18.8			
17	198	53.6	58	45.0	+17	02.9	137	26.8	+20	09.8	126	58.0	+21	42.1	208	17.6	-6	18.8			
18	213	56.1	73	44.4	+17	02.0	152	27.4	+20	10.2	142	00.0	+21	42.2	223	20.2	-6	18.9			
19	228	58.5	88	43.8		01.1	167	28.1		10.5	157	01.9		42.3	238	22.7		18.9			
20	244	01.0	103	43.2	+17	00.2	182	28.8		10.9	172	03.9		42.3	253	25.3		19.0			
21	259	03.5	118	42.6	+16	59.3	197	29.5		11.2	187	05.8		42.4	268	27.8		19.0			
22	274	05.9	133	42.0		58.3	212	30.2		11.6	202	07.8		42.4	283	30.4		19.1			
23	289	08.4	148	41.4		57.4	227	30.8		11.9	217	09.8		42.5	298	33.0		19.1			
24	304	10.9	163	40.8	+16	56.5	242	31.5	+20	12.3	232	11.7	+21	42.6	313	35.5	-6	19.2			
Dif	—		-6		-9		+7		+4		+20		+1		+26		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: 20.0 ^d SD: 16'3 PMG: 4 ^h 12 ^m								PHE { 4 ^h : 59'8 12 ^h : 59'6 20 ^h : 59'5 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			
0	178	21.8	+19	22.1	299	01.9	+1	54.4	172	60 N	20 44	21 48	** **	21 51	0	10 59	102			
1	193	21.8		21.6	313	32.6	+2	11.6	171	58	30	26	23 11	56	3	56	98			
2	208	21.8		21.0	328	03.3		28.7	171	56	18	21 09	22 28	21 59	8	54	94			
3	223	21.8		20.5	342	34.0	+2	45.9	172	54	20 08	20 54	22 01	22 03	11	52	90			
4	238	21.8		19.9	357	04.7	+3	03.0	171	52	19 59	41	21 40	06	14	50	87			
5	253	21.8	+19	19.3	11	35.5	+3	20.1	171	50	19 51	20 30	21 23	22 09	16	10 48	84			
6	268	21.8	+19	18.8	26	06.2	+3	37.1	170	45	19 33	20 08	20 51	22 15	22	10 44	78			
7	283	21.8		18.2	40	36.9	+3	54.1	170	40	19	19 50	28	21	26	41	73			
8	298	21.8		17.7	55	07.5	+4	11.1	170	35	19 07	36	20 10	25	30	38	69			
9	313	21.8		17.1	69	38.2		28.1	170	30	18 57	23	19 55	29	34	35	66			
10	328	21.8		16.5	84	08.9	+4	45.0	169	20	39	19 03	31	37	39	31	59			
11	343	21.8	+19	16.0	98	39.6	+5	01.9	169	10 N	18 24	18 47	19 13	22 43	45	10 27	54			
12	358	21.8	+19	15.4	113	10.3	+5	18.8	169	0	18 10	18 32	18 57	22 49	50	10 24	48			
13	13	21.8		14.9	127	40.9		35.6	168	10 S	17 56	18	44	22 55	55	20	44			
14	28	21.8		14.3	142	11.5	+5	52.4	168	20	41	18 04	31	23 02	60	16	39			
15	43	21.8		13.7	156	42.2	+6	09.2	168	30	24	17 50	19	10	65	12	32			
16	58	21.8		13.2	171	12.8		25.9	167	35	14	42	12	14	69	09	30			
17	73	21.8	+19	12.6	185	43.4	+6	42.6	167	40	17 03	17 33	18 05	23 19	74	10 07	25			
18	88	21.8	+19	12.0	200	13.9	+6	59.2	166	45	16 50	17 22	17 58	23 25	78	10 03	21			
19	103	21.9		11.5	214	44.5	+7	15.8	166	50	34	10	50	32	85	10 00	15			
20	118	21.9		10.9	229	15.0		32.3	165	52	27	17 05	46	35	88	9 58	12			
21	133	21.9		10.3	243	45.5	+7	48.8	165	54	19	16 59	42	39	91	56	10			
22	148	21.9		09.8	258	16.0	+8	05.2	164	56	16 09	52	38	43	94	54	7			
23	163	21.9		09.2	272	46.5		21.6	164	58	15 59	45	34	48	98	52	3			
24	178	21.9	+19	08.6	287	16.9	+8	38.0	164	60 S	15 47	16 37	17 29	23 53	103	9 49	**			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG 3 ^h 42.7 ^m		Mag: -3.9 PMG: 13 ^h 06 ^m				Mag: +0.9 PMG: 7 ^h 50 ^m				Mag: -2.1 PMG: 8 ^h 30 ^m				Mag: +0.9 PMG: 3 ^h 05 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	304	10.9	163	40.8	+16	56.5	242	31.5	+20	12.3	232	11.7	+21	42.6	313	35.5	-6 19.2			
1	319	13.3	178	40.2		55.6	257	32.2		12.6	247	13.7		42.6	328	38.1	19.2			
2	334	15.8	193	39.6		54.7	272	32.9		13.0	262	15.7		42.7	343	40.6	19.3			
3	349	18.3	208	39.0		53.7	287	33.5		13.4	277	17.6		42.7	358	43.2	19.3			
4	4	20.7	223	38.4		52.8	302	34.2		13.7	292	19.6		42.8	13	45.7	19.4			
5	19	23.2	238	37.8	+16	51.9	317	34.9	+20	14.1	307	21.5	+21	42.8	28	48.3	-6 19.4			
6	34	25.7	253	37.2	+16	51.0	332	35.6	+20	14.4	322	23.5	+21	42.9	43	50.8	-6 19.5			
7	49	28.1	268	36.6		50.0	347	36.3		14.8	337	25.5		43.0	58	53.4	19.5			
8	64	30.6	283	36.0		49.1	2	36.9		15.1	352	27.4		43.0	73	56.0	19.6			
9	79	33.0	298	35.4		48.2	17	37.6		15.5	7	29.4		43.1	88	58.5	19.6			
10	94	35.5	313	34.9		47.3	32	38.3		15.8	22	31.4		43.1	104	01.1	19.7			
11	109	38.0	328	34.3	+16	46.3	47	39.0	+20	16.2	37	33.3	+21	43.2	119	03.6	-6 19.7			
12	124	40.4	343	33.7	+16	45.4	62	39.6	+20	16.5	52	35.3	+21	43.2	134	06.2	-6 19.8			
13	139	42.9	358	33.1		44.5	77	40.3		16.9	67	37.3		43.3	149	08.8	19.8			
14	154	45.4	13	32.5		43.5	92	41.0		17.2	82	39.2		43.4	164	11.3	19.9			
15	169	47.8	28	31.9		42.6	107	41.7		17.6	97	41.2		43.4	179	13.9	19.9			
16	184	50.3	43	31.3		41.7	122	42.4		17.9	112	43.2		43.5	194	16.4	20.0			
17	199	52.8	58	30.7	+16	40.7	137	43.0	+20	18.3	127	45.1	+21	43.5	209	19.0	-6 20.0			
18	214	55.2	73	30.1	+16	39.8	152	43.7	+20	18.6	142	47.1	+21	43.6	224	21.5	-6 20.1			
19	229	57.7	88	29.5		38.9	167	44.4		19.0	157	49.1		43.6	239	24.1	20.1			
20	245	00.2	103	29.0		37.9	182	45.1		19.3	172	51.0		43.7	254	26.7	20.2			
21	260	02.6	118	28.4		37.0	197	45.8		19.7	187	53.0		43.8	269	29.2	20.2			
22	275	05.1	133	27.8		36.1	212	46.4		20.0	202	55.0		43.8	284	31.8	20.3			
23	290	07.5	148	27.2		35.1	227	47.1		20.4	217	56.9		43.9	299	34.3	20.3			
24	305	10.0	163	26.6	+16	34.2	242	47.8	+20	20.7	232	58.9	+21	43.9	314	36.9	-6 20.4			
Dif	—		-6		-9		+7		+4		+20		+1		+26		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: 21.0 ^d SD: 16/2 PMG: 5 ^h 01 ^m PHE { 4 ^h : 59/4 12 ^h : 59/2 20 ^h : 59/1 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	21.9	+19	08.6	287	16.9	+8	38.0	60 N	**	**	2 25	3 30	21 51	1	12 41	105	
1	193	21.9		08.1	301	47.4	+8	54.2	58	1	02	2 47	44	21 59	6	34	99	
2	208	21.9		07.5	316	17.7	+9	10.5	56	1	46	3 05	3 56	22 07	10	28	94	
3	223	21.9		06.9	330	48.1		26.6	54	2	13	20	4 06	14 13		22	91	
4	238	21.9		06.4	345	18.4		42.7	52		34	32	15	20 16		17	88	
5	253	21.9	+19	05.8	359	48.7	+9	58.8	50	2	50	3 43	4 23	22 25	20	12 12	85	
6	268	21.9	+19	05.2	14	19.0	+10	14.8	45	3	22	4 06	4 40	22 37	25	12 02	79	
7	283	22.0		04.6	28	49.2		30.7	40	3	45	23	4 54	47 30		11 54	74	
8	298	22.0		04.1	43	19.4	+10	46.5	35	4	04	38	5 06	22 55	34	47	70	
9	313	22.0		03.5	57	49.6	+11	02.3	30		19	4 50	16	23 03	37	41	66	
10	328	22.0		02.9	72	19.7		18.1	20	4	42	5 10	34	16 43		30	61	
11	343	22.0	+19	02.3	86	49.8	+11	33.7	10 N	5	00	5 27	5 49	23 28	47	11 21	55	
12	358	22.0	+19	01.8	101	19.8	+11	49.3	0	5	16	5 41	6 03	23 39	51	11 12	51	
13	13	22.0		01.2	115	49.9	+12	04.8	10 S		29	5 55	17	23 50	56	11 04	46	
14	28	22.0	+19	00.6	130	19.8		20.3	20		42	6 08	32	** ** *		10 55	41	
15	43	22.0	+19	00.0	144	49.7		35.6	30	5	54	23	48	** ** *		44	35	
16	58	22.1	+18	59.5	159	19.6	+12	50.9	35	6	01	31	6 58	** ** *		39	31	
17	73	22.1	+18	58.9	173	49.5	+13	06.1	40	6	07	6 40	7 09	** ** *		10 32	28	
18	88	22.1	+18	58.3	188	19.2	+13	21.3	45	6	15	6 50	7 22	** ** *		10 24	23	
19	103	22.1		57.7	202	49.0		36.3	50		23	7 02	38	** ** *		15	17	
20	118	22.1		57.1	217	18.7	+13	51.3	52		26	08	45	** ** *		10	15	
21	133	22.1		56.6	231	48.3	+14	06.2	54		30	13	7 53	** ** *		06	12	
22	148	22.1		56.0	246	17.9		21.0	56		34	20	8 03	** ** *		10 01	8	
23	163	22.2		55.4	260	47.5		35.7	58		38	27	13	** ** *		9 55	4	
24	178	22.2	+18	54.8	275	17.0	+14	50.4	60 S	6	43	7 35	8 25	** ** *		9 48	0	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 3 ^h 38.7 ^m		Mag: -3.9 PMG: 13 ^h 07 ^m			Mag: +0.9 PMG: 7 ^h 48 ^m			Mag: -2.1 PMG: 8 ^h 27 ^m			Mag: +0.9 PMG: 3 ^h 01 ^m						
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	305	10.0	163	26.6	+16	34.2	242	47.8	+20	20.7	232	58.9	+21	43.9	314	36.9	-6	20.4
1	320	12.5	178	26.0		33.2	257	48.5		21.1	248	00.9		44.0	329	39.5		20.4
2	335	14.9	193	25.4		32.3	272	49.1		21.4	263	02.8		44.0	344	42.0		20.5
3	350	17.4	208	24.9		31.4	287	49.8		21.8	278	04.8		44.1	359	44.6		20.5
4	5	19.9	223	24.3		30.4	302	50.5		22.1	293	06.8		44.2	14	47.1		20.6
5	20	22.3	238	23.7	+16	29.5	317	51.2	+20	22.5	308	08.7	+21	44.2	29	49.7	-6	20.6
6	35	24.8	253	23.1	+16	28.5	332	51.9	+20	22.8	323	10.7	+21	44.3	44	52.3	-6	20.7
7	50	27.3	268	22.5		27.6	347	52.5		23.1	338	12.7		44.3	59	54.8		20.7
8	65	29.7	283	21.9		26.6	2	53.2		23.5	353	14.6		44.4	74	57.4		20.8
9	80	32.2	298	21.4		25.7	17	53.9		23.8	8	16.6		44.4	89	59.9		20.8
10	95	34.6	313	20.8		24.7	32	54.6		24.2	23	18.6		44.5	105	02.5		20.9
11	110	37.1	328	20.2	+16	23.8	47	55.3	+20	24.5	38	20.5	+21	44.5	120	05.1	-6	20.9
12	125	39.6	343	19.6	+16	22.9	62	55.9	+20	24.9	53	22.5	+21	44.6	135	07.6	-6	21.0
13	140	42.0	358	19.0		21.9	77	56.6		25.2	68	24.5		44.7	150	10.2		21.0
14	155	44.5	13	18.5		21.0	92	57.3		25.6	83	26.4		44.7	165	12.7		21.1
15	170	47.0	28	17.9		20.0	107	58.0		25.9	98	28.4		44.8	180	15.3		21.1
16	185	49.4	43	17.3		19.1	122	58.7		26.2	113	30.4		44.8	195	17.9		21.2
17	200	51.9	58	16.7	+16	18.1	137	59.3	+20	26.6	128	32.3	+21	44.9	210	20.4	-6	21.2
18	215	54.4	73	16.2	+16	17.1	153	00.0	+20	26.9	143	34.3	+21	44.9	225	23.0	-6	21.3
19	230	56.8	88	15.6		16.2	168	00.7		27.3	158	36.3		45.0	240	25.6		21.3
20	245	59.3	103	15.0		15.2	183	01.4		27.6	173	38.2		45.0	255	28.1		21.4
21	261	01.8	118	14.4		14.3	198	02.1		28.0	188	40.2		45.1	270	30.7		21.4
22	276	04.2	133	13.9		13.3	213	02.7		28.3	203	42.2		45.2	285	33.2		21.5
23	291	06.7	148	13.3		12.4	228	03.4		28.6	218	44.2		45.2	300	35.8		21.5
24	306	09.1	163	12.7	+16	11.4	243	04.1	+20	29.0	233	46.1	+21	45.3	315	38.4	-6	21.6
Dif	—		-6			-9	+7			+3	+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 06.5 ^m				Edad: 22.0 ^d SD: 16'1 PMG: 5 ^h 51 ^m						PHE { 4 ^h : 58'9 12 ^h : 58'8 20 ^h : 58'6 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	178	22.2	+18	54.8	275	17.0	+14	50.4	60 N	20 39	21 42	** **	21 52	3	14 26	108
1	193	22.2		54.2	289	46.4	+15	04.9	58	26	21	22 58	22 05	11	13 10	101
2	208	22.2		53.7	304	15.8		19.4	56	14	21 04	22 20	17 15	14	02 96	
3	223	22.2		53.1	318	45.2		33.7	54	20 05	20 50	21 55	27 20	13	53 99	
4	238	22.2		52.5	333	14.5	+15	48.0	52	19 56	38	35	36 23	45	87	
5	253	22.2	+18	51.9	347	43.7	+16	02.2	50	19 48	20 27	21 19	22 45	25	13 37	85
6	268	22.3	+18	51.3	2	12.9	+16	16.3	45	19 31	20 05	20 48	23 02	32	13 21	79
7	283	22.3		50.7	16	42.0		30.3	40	17	19 48	26	17 35	13 08	74	
8	298	22.3		50.1	31	11.1		44.2	35	19 06	34	20 08	29 39	12	57 70	
9	313	22.3		49.6	45	40.1	+16	57.9	30	18 56	22	19 53	40 42	47	67	
10	328	22.3		49.0	60	09.0	+17	11.6	20	39	19 02	30	23 59	46	31	61
11	343	22.3	+18	48.4	74	37.9	+17	25.2	10 N	18 24	18 46	19 12	** **	**	12 16	58
12	358	22.4	+18	47.8	89	06.7	+17	38.7	0	18 10	18 32	18 57	** **	**	12 03	53
13	13	22.4		47.2	103	35.5	+17	52.1	10 S	17 56	18	44	** **	**	11 50	49
14	28	22.4		46.6	118	04.2	+18	05.4	20	42	18 05	32	0 02	61	36	44
15	43	22.4		46.0	132	32.9		18.5	30	25	17 51	20	15 67	19	40	
16	58	22.4		45.4	147	01.5		31.6	35	16	43	13	23 71	10	36	
17	73	22.5	+18	44.8	161	30.0	+18	44.5	40	17 05	17 34	18 07	0 33	74	11 00	32
18	88	22.5	+18	44.3	175	58.4	+18	57.4	45	16 52	17 24	18 00	0 43	79	10 47	28
19	103	22.5		43.7	190	26.8	+19	10.1	50	37	13	17 52	0 57	85	32	22
20	118	22.5		43.1	204	55.2		22.7	52	30	07	49	1 03	88	25	20
21	133	22.5		42.5	219	23.4		35.2	54	22	17 02	45	10 91	18	16	
22	148	22.5		41.9	233	51.7		47.6	56	13	16 55	41	17 96	10 09	12	
23	163	22.6		41.3	248	19.8	+19	59.9	58	16 03	48	37	26 101	9 59	8	
24	178	22.6	+18	40.7	262	47.9	+20	12.0	60 S	15 51	16 40	17 32	1 36	107	9 48	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 3 ^h 34.8 ^m		Mag: -3.9 PMG: 13 ^h 08 ^m		Mag: +0.9 PMG: 7 ^h 47 ^m		Mag: -2.1 PMG: 8 ^h 24 ^m		Mag: +0.9 PMG: 2 ^h 57 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	306	09.1	163	12.7	+16	11.4	243	04.1	+20	29.0	233	46.1	+21	45.3	315	38.4	-6	21.6
1	321	11.6	178	12.1		10.5	258	04.8		29.3	248	48.1		45.3	330	40.9		21.7
2	336	14.1	193	11.6		09.5	273	05.5		29.7	263	50.1		45.4	345	43.5		21.7
3	351	16.5	208	11.0		08.5	288	06.1		30.0	278	52.0		45.4	0	46.1		21.8
4	6	19.0	223	10.4		07.6	303	06.8		30.3	293	54.0		45.5	15	48.6		21.8
5	21	21.5	238	09.8	+16	06.6	318	07.5	+20	30.7	308	56.0	+21	45.5	30	51.2	-6	21.9
6	36	23.9	253	09.3	+16	05.7	333	08.2	+20	31.0	323	58.0	+21	45.6	45	53.7	-6	21.9
7	51	26.4	268	08.7		04.7	348	08.9		31.3	338	59.9		45.7	60	56.3		22.0
8	66	28.9	283	08.1		03.7	3	09.5		31.7	354	01.9		45.7	75	58.9		22.0
9	81	31.3	298	07.6		02.8	18	10.2		32.0	9	03.9		45.8	91	01.4		22.1
10	96	33.8	313	07.0		01.8	33	10.9		32.4	24	05.8		45.8	106	04.0		22.1
11	111	36.3	328	06.4	+16	00.8	48	11.6	+20	32.7	39	07.8	+21	45.9	121	06.6	-6	22.2
12	126	38.7	343	05.9	+15	59.9	63	12.3	+20	33.0	54	09.8	+21	45.9	136	09.1	-6	22.2
13	141	41.2	358	05.3		58.9	78	12.9		33.4	69	11.8		46.0	151	11.7		22.3
14	156	43.6	13	04.7		57.9	93	13.6		33.7	84	13.7		46.0	166	14.3		22.3
15	171	46.1	28	04.2		57.0	108	14.3		34.0	99	15.7		46.1	181	16.8		22.4
16	186	48.6	43	03.6		56.0	123	15.0		34.4	114	17.7		46.2	196	19.4		22.4
17	201	51.0	58	03.0	+15	55.0	138	15.7	+20	34.7	129	19.6	+21	46.2	211	22.0	-6	22.5
18	216	53.5	73	02.5	+15	54.0	153	16.3	+20	35.0	144	21.6	+21	46.3	226	24.5	-6	22.5
19	231	56.0	88	01.9		53.1	168	17.0		35.4	159	23.6		46.3	241	27.1		22.6
20	246	58.4	103	01.3		52.1	183	17.7		35.7	174	25.6		46.4	256	29.6		22.6
21	262	00.9	118	00.8		51.1	198	18.4		36.0	189	27.5		46.4	271	32.2		22.7
22	277	03.4	133	00.2		50.2	213	19.1		36.4	204	29.5		46.5	286	34.8		22.7
23	292	05.8	147	59.7		49.2	228	19.7		36.7	219	31.5		46.5	301	37.3		22.8
24	307	08.3	162	59.1	+15	48.2	243	20.4	+20	37.0	234	33.5	+21	46.6	316	39.9	-6	22.9
Dif	—		-6		-10		+7		+3		+20		+1		+26		-	

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: 23.0 ^d SD: 15'9 PMG: 6 ^h 43 ^m													
	hG ☉	Dec			hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	178	22.6	+18	40.7	262	47.9	+20	12.0	60 N	**	**	2	32	3	35			
1	193	22.6		40.1	277	15.9		24.0	58	1	16	2	53	4	48	22 16 19		
2	208	22.6		39.5	291	43.8		35.9	56	1	53	3	10	3	59	32 25 38 92		
3	223	22.7		38.9	306	11.7		47.7	54	2	19	24		4	09	47 29 24 88		
4	238	22.7		38.3	320	39.5	+20	59.3	52	38		36	18	22	59	33 12 84		
5	253	22.7	+18	37.7	335	07.3	+21	10.9	50	2	54	3	46	4	26	23 10 35 15 02 81		
6	268	22.7	+18	37.1	349	35.0	+21	22.3	45	3	25	4	08	4	42	23 34 39 14 40 75		
7	283	22.7		36.5	4	02.6		33.6	40	3	48	25		4	56	23 52 43 22 72		
8	298	22.8		35.9	18	30.2		44.7	35	4	05	39		5	07	** ** * 14 07 69		
9	313	22.8		35.3	32	57.7	+21	55.7	30	20		4	51	17		** ** * 13 54 67		
10	328	22.8		34.7	47	25.1	+22	06.6	20	4	43	5	11	35		** ** * 32 63		
11	343	22.8	+18	34.1	61	52.5	+22	17.3	10 N	5	01	5	27	5	49	0 15 51 13 14 59		
12	358	22.9	+18	33.5	76	19.8	+22	28.0	0	5	16	5	41	6	03	0 30 55 12 56 56		
13	13	22.9		32.9	90	47.0		38.4	10 S	29		5	54	17		0 46 58 39 52		
14	28	22.9		32.3	105	14.2		48.8	20	41		6	08	31		1 03 62 12 20 49		
15	43	22.9		31.7	119	41.3	+22	59.0	30	53		22		47		22 67 11 59 44		
16	58	23.0		31.1	134	08.3	+23	09.1	35	5	59	30		6	57	34 70 46 42		
17	73	23.0	+18	30.5	148	35.3	+23	19.0	40	6	06	6	38	7	07	1 47 73 11 32 39		
18	88	23.0	+18	29.9	163	02.2	+23	28.8	45	6	13	6	48	7	20	2 02 78 11 15 35		
19	103	23.0		29.3	177	29.1		38.4	50	20		7	00	35		22 83 10 54 30		
20	118	23.1		28.7	191	55.9		48.0	52	24		05		42		31 87 45 26		
21	133	23.1		28.1	206	22.6	+23	57.3	54	27		11		50		41 91 34 23		
22	148	23.1		27.5	220	49.3	+24	06.5	56	31		17		7	59	2 53 95 21 19		
23	163	23.1		26.9	235	15.9		15.6	58	35		24		8	09	3 07 101 10 07 13		
24	178	23.2	+18	26.3	249	42.4	+24	24.5	60 S	6	40	7	31	8	21	3 23 109 9 50 5		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 3 ^h 30.9 ^m		Mag: -3.8 PMG: 13 ^h 09 ^m			Mag: +0.9 PMG: 7 ^h 46 ^m			Mag: -2.2 PMG: 8 ^h 21 ^m			Mag: +0.9 PMG: 2 ^h 53 ^m						
	hG ♈	Dec	hG ♊	Dec	hG ♊	Dec	hG ♃	Dec	hG ♄	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	307	08.3	162	59.1	+15	48.2	243	20.4	+20	37.0	234	33.5	+21	46.6	316	39.9	-6 22.9	
1	322	10.7	177	58.5		47.2	258	21.1		37.4	249	35.4		46.6	331	42.5	22.9	
2	337	13.2	192	58.0		46.3	273	21.8		37.7	264	37.4		46.7	346	45.0	23.0	
3	352	15.7	207	57.4		45.3	288	22.5		38.0	279	39.4		46.8	1	47.6	23.0	
4	7	18.1	222	56.9		44.3	303	23.1		38.4	294	41.4		46.8	16	50.2	23.1	
5	22	20.6	237	56.3	+15	43.3	318	23.8	+20	38.7	309	43.3	+21	46.9	31	52.7	-6 23.1	
6	37	23.1	252	55.7	+15	42.3	333	24.5	+20	39.0	324	45.3	+21	46.9	46	55.3	-6 23.2	
7	52	25.5	267	55.2		41.4	348	25.2		39.3	339	47.3		47.0	61	57.9	23.2	
8	67	28.0	282	54.6		40.4	3	25.9		39.7	354	49.3		47.0	77	00.4	23.3	
9	82	30.5	297	54.1		39.4	18	26.5		40.0	9	51.2		47.1	92	03.0	23.3	
10	97	32.9	312	53.5		38.4	33	27.2		40.3	24	53.2		47.1	107	05.6	23.4	
11	112	35.4	327	53.0	+15	37.4	48	27.9	+20	40.7	39	55.2	+21	47.2	122	08.1	-6 23.4	
12	127	37.9	342	52.4	+15	36.4	63	28.6	+20	41.0	54	57.2	+21	47.2	137	10.7	-6 23.5	
13	142	40.3	357	51.8		35.5	78	29.3		41.3	69	59.1		47.3	152	13.3	23.5	
14	157	42.8	12	51.3		34.5	93	30.0		41.6	85	01.1		47.3	167	15.8	23.6	
15	172	45.2	27	50.7		33.5	108	30.6		42.0	100	03.1		47.4	182	18.4	23.7	
16	187	47.7	42	50.2		32.5	123	31.3		42.3	115	05.1		47.5	197	21.0	23.7	
17	202	50.2	57	49.6	+15	31.5	138	32.0	+20	42.6	130	07.0	+21	47.5	212	23.6	-6 23.8	
18	217	52.6	72	49.1	+15	30.5	153	32.7	+20	42.9	145	09.0	+21	47.6	227	26.1	-6 23.8	
19	232	55.1	87	48.5		29.5	168	33.4		43.3	160	11.0		47.6	242	28.7	23.9	
20	247	57.6	102	48.0		28.5	183	34.0		43.6	175	13.0		47.7	257	31.3	23.9	
21	263	00.0	117	47.4		27.5	198	34.7		43.9	190	15.0		47.7	272	33.8	24.0	
22	278	02.5	132	46.9		26.6	213	35.4		44.2	205	16.9		47.8	287	36.4	24.0	
23	293	05.0	147	46.3		25.6	228	36.1		44.6	220	18.9		47.8	302	39.0	24.1	
24	308	07.4	162	45.8	+15	24.6	243	36.8	+20	44.9	235	20.9	+21	47.9	317	41.5	-6 24.1	
Dif	—		-6		-10		+7		+3		+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 06.4 ^m				Edad: 24.0 ^d SD: 15'8 PMG: 7 ^h 38 ^m						PHE { 4 ^h : 57'9 12 ^h : 57'7 20 ^h : 57'5 Rº: 58 ^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	23.2	+18	26.3	249	42.4	75	+24	24.5	88	60 N	20	34	21	35	**	**	22	05	28	18	01	93			
1	193	23.2		25.6	264	08.9	75		33.3	88	58	22		21	15	22	46		35	37	17	32	84			
2	208	23.2		25.0	278	35.4	73		41.9	85	56	11		20	59	22	13		22	57	42	17	10	79		
3	223	23.2		24.4	293	01.7	74		50.4	84	54	20	01	46	21	49	23	16	44	16	52	75				
4	238	23.3		23.8	307	28.1	72	+24	58.8	81	52	19	53	34	30		32	46		36	74					
5	253	23.3	+18	23.2	321	54.3	72	+25	06.9	81	50	19	45	20	24	21	15	23	45	48	16	23	72			
6	268	23.3	+18	22.6	336	20.5	72	+25	15.0	81	45	19	29	20	02	20	45	**	**	**	15	55	69			
7	283	23.4		22.0	350	46.7	72		22.8	78	40	15		19	46	23		**	**	**		34	67			
8	298	23.4		21.4	5	12.8	71		30.5	77	35	19	04	32	20	06	0	08	46		16	65				
9	313	23.4		20.8	19	38.9	71		38.1	76	30	18	54	20	19	52	22	48		15	01	63				
10	328	23.4		20.1	34	04.9	70		45.5	74	20	38		19	01	29		0	45	52	14	35	61			
11	343	23.5	+18	19.5	48	30.8	69	+25	52.8	73	10 N	18	23	18	46	19	12	1	06	54	14	13	59			
12	358	23.5	+18	18.9	62	56.7	69	+25	59.9	71	0	18	10	18	32	18	57	1	25	57	13	52	57			
13	13	23.5		18.3	77	22.6	69	+26	06.8	69	10 S	17	57		19	44		1	44	60		31	56			
14	28	23.6		17.7	91	48.4	68		13.6	68	20	43		18	06	32		2	05	62	13	09	54			
15	43	23.6		17.1	106	14.2	68		20.2	66	30	27		17	52	21		29	66		12	43	52			
16	58	23.6		16.5	120	39.9	67		26.6	64	35	17			44	15		2	44	67		28	50			
17	73	23.6	+18	15.8	135	05.6	67	+26	32.9	63	40	17	07	17	36	18	08	3	00	70	12	11	48			
18	88	23.7	+18	15.2	149	31.2	66	+26	39.0	61	45	16	55	17	26	18	02	3	20	73	11	50	45			
19	103	23.7		14.6	163	56.8	66		45.0	60	50	40		15	17	54	45	78		24	41					
20	118	23.7		14.0	178	22.4	66		50.8	58	52	33		10	51	3	58	79	11	11	39					
21	133	23.8		13.4	192	47.9	65	+26	56.5	57	54	25		17	04	48	4	12	82	10	57	36				
22	148	23.8		12.8	207	13.4	65	+27	01.9	54	56	16		16	58	44	28	87		40	32					
23	163	23.8		12.1	221	38.8	64		07.2	53	58	16	07		52	40	4	48	93	10	20	26				
24	178	23.9	+18	11.5	236	04.3	65	+27	12.4	52	60 S	15	55	16	44	17	36	5	12	105	9	55	15			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO													
	PMG 3 ^h 26.9 ^m			Mag: -3.8 PMG: 13 ^h 09 ^m			Mag: +0.9 PMG: 7 ^h 45 ^m			Mag: -2.2 PMG: 8 ^h 18 ^m			Mag: +0.9 PMG: 2 ^h 49 ^m													
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec												
h	°	/		°	/		°	/		°	/		°	/												
0	308	07.4		162	45.8	+15	24.6	243	36.8	+20	44.9	235	20.9	+21	47.9	317	41.5	-6	24.1							
1	323	09.9		177	45.2		23.6	258	37.5		45.2	250	22.9		47.9	332	44.1		24.2							
2	338	12.4		192	44.7		22.6	273	38.1		45.5	265	24.8		48.0	347	46.7		24.2							
3	353	14.8		207	44.1		21.6	288	38.8		45.9	280	26.8		48.0	2	49.2		24.3							
4	8	17.3		222	43.6		20.6	303	39.5		46.2	295	28.8		48.1	17	51.8		24.4							
5	23	19.7		237	43.0	+15	19.6	318	40.2	+20	46.5	310	30.8	+21	48.2	32	54.4	-6	24.4							
6	38	22.2		252	42.5	+15	18.6	333	40.9	+20	46.8	325	32.8	+21	48.2	47	57.0	-6	24.5							
7	53	24.7		267	41.9		17.6	348	41.5		47.2	340	34.7		48.3	62	59.5		24.5							
8	68	27.1		282	41.4		16.6	3	42.2		47.5	355	36.7		48.3	78	02.1		24.6							
9	83	29.6		297	40.9		15.6	18	42.9		47.8	10	38.7		48.4	93	04.7		24.6							
10	98	32.1		312	40.3		14.6	33	43.6		48.1	25	40.7		48.4	108	07.2		24.7							
11	113	34.5		327	39.8	+15	13.6	48	44.3	+20	48.4	40	42.7	+21	48.5	123	09.8	-6	24.7							
12	128	37.0		342	39.2	+15	12.6	63	45.0	+20	48.8	55	44.6	+21	48.5	138	12.4	-6	24.8							
13	143	39.5		357	38.7		11.6	78	45.6		49.1	70	46.6		48.6	153	14.9		24.8							
14	158	41.9		12	38.1		10.6	93	46.3		49.4	85	48.6		48.6	168	17.5		24.9							
15	173	44.4		27	37.6		09.6	108	47.0		49.7	100	50.6		48.7	183	20.1		25.0							
16	188	46.9		42	37.1		08.6	123	47.7		50.0	115	52.6		48.7	198	22.7		25.0							
17	203	49.3		57	36.5	+15	07.6	138	48.4	+20	50.4	130	54.5	+21	48.8	213	25.2	-6	25.1							
18	218	51.8		72	36.0	+15	06.6	153	49.1	+20	50.7	145	56.5	+21	48.8	228	27.8	-6	25.1							
19	233	54.2		87	35.4		05.6	168	49.7		51.0	160	58.5		48.9	243	30.4		25.2							
20	248	56.7		102	34.9		04.6	183	50.4		51.3	176	00.5		48.9	258	32.9		25.2							
21	263	59.2		117	34.4		03.6	198	51.1		51.6	191	02.5		49.0	273	35.5		25.3							
22	279	01.6		132	33.8		02.5	213	51.8		51.9	206	04.4		49.0	288	38.1		25.3							
23	294	04.1		147	33.3		01.5	228	52.5		52.3	221	06.4		49.1	303	40.7		25.4							
24	309	06.6		162	32.7	+15	00.5	243	53.2	+20	52.6	236	08.4	+21	49.2	318	43.2	-6	25.4							
Dif	—			-5			-10			+7			+3			+20			+1			+26			-	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 06.4 ^m				Edad: 25.0 ^d SD: 15'6 PMG: 8 ^h 36 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	178	23.9	+18	11.5	236	04.3	+27	12.4	50	60 N	** **	2 38	3 39	22 33	66	19 34		
1	193	23.9		10.9	250	29.7		17.4	48	58	1 27	2 58	3 52	23 12	64	18 56		
2	208	23.9		10.3	264	55.0		22.2	46	56	2 01	3 14	4 03	23 39	63	29 56		
3	223	24.0		09.6	279	20.4		26.8	45	54	24	28	12	** ** *	**	18 07		
4	238	24.0		09.0	293	45.7		31.3	43	52	43	39	21	** ** *	**	17 50		
5	253	24.0	+18	08.4	308	11.0	+27	35.6	41	50	2 58	3 50	4 28	** ** *	**	17 35		
6	268	24.1	+18	07.8	322	36.2	+27	39.7	40	45	3 28	4 11	4 45	0 13	51	17 04		
7	283	24.1		07.2	337	01.5		43.7	38	40	3 50	27	4 58	35 52	16 41	58		
8	298	24.1		06.5	351	26.7		47.5	37	35	4 07	41	5 09	0 54	53	21 58		
9	313	24.2		05.9	5	51.9		51.2	36	30	22	4 53	19	1 10	54	16 04		
10	328	24.2		05.3	20	17.1		54.6	34	20	4 44	5 12	35	1 37	55	15 36		
11	343	24.3	+18	04.7	34	42.3	+27	57.9	33	10 N	5 01	5 27	5 50	2 00	57	15 12		
12	358	24.3	+18	04.0	49	07.5	+28	01.0	31	0	5 16	5 41	6 03	2 22	58	14 49		
13	13	24.3		03.4	63	32.6		04.0	30	10 S	29	5 54	16	2 44	58	27 58		
14	28	24.4		02.8	77	57.8		06.8	28	20	40	6 07	30	3 07	60	14 03		
15	43	24.4		02.1	92	22.9		09.4	26	30	52	21	46	35 61	13 35	57		
16	58	24.4		01.5	106	48.1		11.8	24	35	5 58	28	6 55	3 51	62	13 18		
17	73	24.5	+18	00.9	121	13.2	+28	14.1	23	40	6 04	6 37	7 05	4 10	63	12 59		
18	88	24.5	+18	00.3	135	38.3	+28	16.2	21	45	6 11	6 46	7 18	4 33	64	12 35		
19	103	24.5	+17	59.6	150	03.5		18.1	19	50	18	6 57	32	5 03	65	12 05		
20	118	24.6		59.0	164	28.6		19.9	18	52	21	7 02	39	17 66	11 50	54		
21	133	24.6		58.4	178	53.8		21.5	16	54	24	07	47	34 67	33 53			
22	148	24.7		57.7	193	19.0		22.9	14	56	28	13	7 55	5 55	68	11 12		
23	163	24.7		57.1	207	44.1		24.2	13	58	32	20	8 05	6 21	71	10 46		
24	178	24.7	+17	56.5	222	09.3	+28	25.2	10	60 S	6 36	7 28	8 16	6 57	76	10 10		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 3 ^h 23.0 ^m		Mag: -3.8 PMG: 13 ^h 10 ^m				Mag: +0.9 PMG: 7 ^h 44 ^m				Mag: -2.2 PMG: 8 ^h 14 ^m				Mag: +0.9 PMG: 2 ^h 45 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♃	Dec	hG ♃	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	309	06.6	162	32.7	+15	00.5	243	53.2	+20	52.6	236	08.4	+21	49.2	318	43.2		
1	324	09.0	177	32.2	+14	59.5	258	53.8		52.9	251	10.4		49.2	333	45.8		
2	339	11.5	192	31.7		58.5	273	54.5		53.2	266	12.4		49.3	348	48.4		
3	354	14.0	207	31.1		57.5	288	55.2		53.5	281	14.4		49.3	3	51.0		
4	9	16.4	222	30.6		56.5	303	55.9		53.8	296	16.3		49.4	18	53.5		
5	24	18.9	237	30.1	+14	55.5	318	56.6	+20	54.2	311	18.3	+21	49.4	33	56.1		
6	39	21.4	252	29.5	+14	54.4	333	57.3	+20	54.5	326	20.3	+21	49.5	48	58.7		
7	54	23.8	267	29.0		53.4	348	57.9		54.8	341	22.3		49.5	64	01.2		
8	69	26.3	282	28.5		52.4	3	58.6		55.1	356	24.3		49.6	79	03.8		
9	84	28.7	297	27.9		51.4	18	59.3		55.4	11	26.3		49.6	94	06.4		
10	99	31.2	312	27.4		50.4	34	00.0		55.7	26	28.2		49.7	109	09.0		
11	114	33.7	327	26.9	+14	49.4	49	00.7	+20	56.0	41	30.2	+21	49.7	124	11.5		
12	129	36.1	342	26.3	+14	48.3	64	01.4	+20	56.3	56	32.2	+21	49.8	139	14.1		
13	144	38.6	357	25.8		47.3	79	02.0		56.7	71	34.2		49.8	154	16.7		
14	159	41.1	12	25.3		46.3	94	02.7		57.0	86	36.2		49.9	169	19.3		
15	174	43.5	27	24.7		45.3	109	03.4		57.3	101	38.2		49.9	184	21.8		
16	189	46.0	42	24.2		44.3	124	04.1		57.6	116	40.1		50.0	199	24.4		
17	204	48.5	57	23.7	+14	43.2	139	04.8	+20	57.9	131	42.1	+21	50.0	214	27.0		
18	219	50.9	72	23.1	+14	42.2	154	05.5	+20	58.2	146	44.1	+21	50.1	229	29.6		
19	234	53.4	87	22.6		41.2	169	06.1		58.5	161	46.1		50.1	244	32.1		
20	249	55.8	102	22.1		40.2	184	06.8		58.8	176	48.1		50.2	259	34.7		
21	264	58.3	117	21.6		39.2	199	07.5		59.1	191	50.1		50.2	274	37.3		
22	280	00.8	132	21.0		38.1	214	08.2		59.4	206	52.1		50.3	289	39.9		
23	295	03.2	147	20.5		37.1	229	08.9	+20	59.8	221	54.0		50.3	304	42.4		
24	310	05.7	162	20.0	+14	36.1	244	09.6	+21	00.1	236	56.0	+21	50.4	319	45.0		
Dif	—		-5	-10			+7	+3			+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 06.3 ^m			Edad: 26.0 ^d SD: 15'5 PMG: 9 ^h 34 ^m			PHE { 4 ^h : 56'8 12 ^h : 56'7 20 ^h : 56'5 R ^o : 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	178	24.7	+17	56.5	222	09.3	62	+28	25.2	9	60 N	20 29	21 29	** **		23 39 95	20 28 20					
1	193	24.8		55.8	236	34.5	62		26.1	8	58	17	21 10	22 36	** ** *	19 52 30						
2	208	24.8		55.2	250	59.7	62		26.9	6	56	20 07	20 55	22 05	** ** *	25 35						
3	223	24.9		54.6	265	24.9	62		27.5	4	54	19 57	41	21 43	0 00 62	19 05 38						
4	238	24.9		53.9	279	50.2	63		27.9	2	52	49	30	25	18 62	18 47 41						
5	253	24.9	+17	53.3	294	15.5	63	+28	28.1	0	50	19 42	20 20	21 11	0 33 61	18 32 43						
6	268	25.0	+17	52.7	308	40.8	63	+28	28.1	1	45	19 26	20 00	20 42	1 04 60	18 02 46						
7	283	25.0		52.0	323	06.1	63		28.0	2	40	13	19 44	21	27 60	17 39 47						
8	298	25.1		51.4	337	31.4	63		27.8	5	35	19 02	30	20 04	1 47 60	19 50						
9	313	25.1		50.8	351	56.8	64		27.3	6	30	18 53	19	19 50	2 04 59	17 02 51						
10	328	25.1		50.1	6	22.2	64		26.7	8	20	37	19 00	28	32 59	16 34 53						
11	343	25.2	+17	49.5	20	47.6	64	+28	25.9	9	10 N	18 23	18 45	19 11	2 57 58	16 10 54						
12	358	25.2	+17	48.8	35	13.1	65	+28	25.0	11	0	18 10	18 32	18 57	3 20 57	15 47 56						
13	13	25.3		48.2	49	38.6	66		23.9	13	10 S	17 57	19	44	3 42 57	25 57						
14	28	25.3		47.6	64	04.2	66		22.6	14	20	43	18 06	33	4 07 56	15 00 59						
15	43	25.4		46.9	78	29.8	66		21.2	16	30	28	17 53	22	36 54	14 32 60						
16	58	25.4		46.3	92	55.4	66		19.6	18	35	19	46	16	4 53 53	14 15 61						
17	73	25.4	+17	45.6	107	21.1	67	+28	17.8	19	40	17 09	17 37	18 10	5 13 52	13 55 63						
18	88	25.5	+17	45.0	121	46.8	67	+28	15.9	21	45	16 57	17 28	18 04	5 37 51	13 31 65						
19	103	25.5		44.4	136	12.6	68		13.8	23	50	42	18	17 57	6 08 49	13 00 67						
20	118	25.6		43.7	150	38.4	68		11.5	24	52	36	13	54	23 49	12 44 69						
21	133	25.6		43.1	165	04.3	69		09.1	26	54	28	07	50	6 41 47	26 71						
22	148	25.7		42.4	179	30.2	69		06.5	27	56	20	17 02	47	7 03 45	12 04 73						
23	163	25.7		41.8	193	56.2	70		03.8	29	58	11	16 55	43	7 32 41	11 36 77						
24	178	25.8	+17	41.1	208	22.2	70	+28	00.9		60 S	16 00	16 48	17 39	8 13 33	10 55 85						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 3 ^h 19.1 ^m			Mag: -3.8 PMG: 13 ^h 11 ^m			Mag: +0.9 PMG: 7 ^h 43 ^m			Mag: -2.2 PMG: 8 ^h 11 ^m			Mag: +0.8 PMG: 2 ^h 41 ^m									
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	310	05.7		162	20.0	+14	244	09.6	+21	236	56.0	+21	50.4	319	45.0	-6	26.8					
1	325	08.2		177	19.5		259	10.2		251	58.0		50.4	334	47.6		26.8					
2	340	10.6		192	18.9		274	10.9		267	00.0		50.5	349	50.2		26.9					
3	355	13.1		207	18.4		289	11.6		282	02.0		50.5	4	52.7		27.0					
4	10	15.6		222	17.9		304	12.3		297	04.0		50.6	19	55.3		27.0					
5	25	18.0		237	17.4	+14	319	13.0	+21	312	06.0	+21	50.7	34	57.9	-6	27.1					
6	40	20.5		252	16.8	+14	334	13.7	+21	327	08.0	+21	50.7	50	00.5	-6	27.1					
7	55	23.0		267	16.3		349	14.4		342	09.9		50.8	65	03.0		27.2					
8	70	25.4		282	15.8		4	15.0		357	11.9		50.8	80	05.6		27.2					
9	85	27.9		297	15.3		19	15.7		12	13.9		50.9	95	08.2		27.3					
10	100	30.3		312	14.8		34	16.4		27	15.9		50.9	110	10.8		27.4					
11	115	32.8		327	14.2	+14	49	17.1	+21	42	17.9	+21	51.0	125	13.3	-6	27.4					
12	130	35.3		342	13.7	+14	64	17.8	+21	57	19.9	+21	51.0	140	15.9	-6	27.5					
13	145	37.7		357	13.2		79	18.5		72	21.9		51.1	155	18.5		27.5					
14	160	40.2		12	12.7		94	19.2		87	23.9		51.1	170	21.1		27.6					
15	175	42.7		27	12.2		109	19.8		102	25.8		51.2	185	23.7		27.6					
16	190	45.1		42	11.6		124	20.5		117	27.8		51.2	200	26.2		27.7					
17	205	47.6		57	11.1	+14	139	21.2	+21	132	29.8	+21	51.3	215	28.8	-6	27.8					
18	220	50.1		72	10.6	+14	154	21.9	+21	147	31.8	+21	51.3	230	31.4	-6	27.8					
19	235	52.5		87	10.1		169	22.6		162	33.8		51.4	245	34.0		27.9					
20	250	55.0		102	09.6		184	23.3		177	35.8		51.4	260	36.5		27.9					
21	265	57.5		117	09.1		199	24.0		192	37.8		51.5	275	39.1		28.0					
22	280	59.9		132	08.5		214	24.6		207	39.8		51.5	290	41.7		28.0					
23	296	02.4		147	08.0		229	25.3		222	41.8		51.6	305	44.3		28.1					
24	311	04.8		162	07.5	+14	244	26.0	+21	237	43.8	+21	51.6	320	46.9	-6	28.2					
Dif	—			-5			-10			+7			+3			+20			+1		-1	

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: 27.0 ^d PHE { 4 ^h : 56 ^h /3 12 ^h : 56 ^h /2 20 ^h : 56 ^h /0 R°: 54 ^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	25.8	+17	41.1	208	22.2	+28	00.9	31	60 N	0 41	2 45	3 44	**	**	**	20 48 8	
1	193	25.8		40.5	222	48.3	+27	57.8	32	58	1 38	3 03	3 56	0	16	84	22 15	
2	208	25.8		39.8	237	14.5		54.6	32	56	2 08	19	4 07	0	42	79	20 00 21	
3	223	25.9		39.2	251	40.7		51.2	34	54	30	32	16	1	02	76	19 43 22	
4	238	25.9		38.6	266	07.0		47.7	35	52	2 48	43	24	20	73		28 28	
5	253	26.0	+17	37.9	280	33.3	+27	44.0	37	50	3 02	3 53	4 31	1	34	72	19 15 30	
6	268	26.0	+17	37.3	294	59.7	+27	40.2	38	45	3 31	4 13	4 47	2	04	68	18 48 35	
7	283	26.1		36.6	309	26.2		36.2	40	40	3 52	29	5 00	27	65		26 39	
8	298	26.1		36.0	323	52.7		32.1	41	35	4 09	43	10	2	47	63	18 09 41	
9	313	26.2		35.3	338	19.3		27.8	43	30	23	4 54	20	3	03	61	17 53 44	
10	328	26.2		34.7	352	46.0		23.4	44	20	4 45	5 13	36	31	58		27 47	
11	343	26.3	+17	34.0	7	12.8	+27	18.8	46	10 N	5 02	5 28	5 50	3	55	56	17 04 50	
12	358	26.3	+17	33.4	21	39.6	+27	14.0	48	0	5 16	5 41	6 03	4	17	54	16 43 53	
13	13	26.4		32.7	36	06.5		09.1	49	10 S	28	5 54	16	4	39	52	16 22 55	
14	28	26.4		32.1	50	33.5	+27	04.1	50	20	40	6 06	29	5	03	49	15 59 58	
15	43	26.5		31.4	65	00.6	+26	58.9	52	30	51	19	44	30	47		32 62	
16	58	26.5		30.8	79	27.7		53.6	53	35	5 56	27	6 53	5	46	45	15 16 64	
17	73	26.6	+17	30.1	93	54.9	+26	48.2	54	40	6 02	6 35	7 03	6	05	43	14 58 66	
18	88	26.6	+17	29.4	108	22.2	+26	42.6	56	45	6 08	6 44	7 15	6	28	40	14 36 69	
19	103	26.7		28.8	122	49.6		36.8	58	50	15	54	29	6	57	36	14 07 74	
20	118	26.7		28.1	137	17.1		30.9	59	52	18	6 59	36	7	12	33	13 53 77	
21	133	26.8		27.5	151	44.6		24.9	60	54	21	7 04	43	28	31		37 80	
22	148	26.8		26.8	166	12.3		18.8	61	56	25	10	7 51	7	48	26	13 17 84	
23	163	26.9		26.2	180	40.0		12.5	63	58	28	16	8 01	8	13	20	12 53 90	
24	178	26.9	+17	25.5	195	07.8	+26	06.0	65	60 S	6 32	7 23	8 11	8	46	10	12 20 101	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 3 ^h 15.1 ^m		Mag: -3.8 PMG: 13 ^h 12 ^m				Mag: +0.9 PMG: 7 ^h 42 ^m				Mag: -2.2 PMG: 8 ^h 08 ^m				Mag: +0.8 PMG: 2 ^h 36 ^m			
	hG ♊		hG ♍	Dec		hG ♈	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	311	04.8	162	07.5	+14	11.2	244	26.0	+21	07.4	237	43.8	+21	51.6	320	46.9	-6	28.2
1	326	07.3	177	07.0		10.2	259	26.7		07.7	252	45.7		51.7	335	49.4		28.2
2	341	09.8	192	06.5		09.1	274	27.4		08.0	267	47.7		51.7	350	52.0		28.3
3	356	12.2	207	06.0		08.1	289	28.1		08.3	282	49.7		51.8	5	54.6		28.3
4	11	14.7	222	05.5		07.1	304	28.8		08.6	297	51.7		51.8	20	57.2		28.4
5	26	17.2	237	04.9	+14	06.0	319	29.4	+21	08.9	312	53.7	+21	51.9	35	59.7	-6	28.4
6	41	19.6	252	04.4	+14	05.0	334	30.1	+21	09.2	327	55.7	+21	51.9	51	02.3	-6	28.5
7	56	22.1	267	03.9		03.9	349	30.8		09.5	342	57.7		52.0	66	04.9		28.6
8	71	24.6	282	03.4		02.9	4	31.5		09.7	357	59.7		52.0	81	07.5		28.6
9	86	27.0	297	02.9		01.8	19	32.2		10.0	13	01.7		52.1	96	10.1		28.7
10	101	29.5	312	02.4	+14	00.8	34	32.9		10.3	28	03.7		52.1	111	12.6		28.7
11	116	32.0	327	01.9	+13	59.7	49	33.6	+21	10.6	43	05.7	+21	52.2	126	15.2	-6	28.8
12	131	34.4	342	01.4	+13	58.7	64	34.3	+21	10.9	58	07.7	+21	52.2	141	17.8	-6	28.9
13	146	36.9	357	00.9		57.6	79	34.9		11.2	73	09.6		52.3	156	20.4		28.9
14	161	39.3	12	00.4		56.6	94	35.6		11.5	88	11.6		52.3	171	23.0		29.0
15	176	41.8	26	59.9		55.5	109	36.3		11.8	103	13.6		52.4	186	25.5		29.0
16	191	44.3	41	59.3		54.5	124	37.0		12.1	118	15.6		52.4	201	28.1		29.1
17	206	46.7	56	58.8	+13	53.4	139	37.7	+21	12.4	133	17.6	+21	52.5	216	30.7	-6	29.1
18	221	49.2	71	58.3	+13	52.4	154	38.4	+21	12.7	148	19.6	+21	52.5	231	33.3	-6	29.2
19	236	51.7	86	57.8		51.3	169	39.1		13.0	163	21.6		52.6	246	35.9		29.3
20	251	54.1	101	57.3		50.2	184	39.8		13.3	178	23.6		52.6	261	38.5		29.3
21	266	56.6	116	56.8		49.2	199	40.4		13.6	193	25.6		52.7	276	41.0		29.4
22	281	59.1	131	56.3		48.1	214	41.1		13.9	208	27.6		52.7	291	43.6		29.4
23	297	01.5	146	55.8		47.1	229	41.8		14.2	223	29.6		52.8	306	46.2		29.5
24	312	04.0	161	55.3	+13	46.0	244	42.5	+21	14.5	238	31.6	+21	52.8	321	48.8	-6	29.6
Dif	—		-5		-11		+7		+3		+20		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 06.2 ^m				Edad: 28.0 ^d SD: 15'2 PMG: 11 ^h 24 ^m PHE { 4 ^h : 55'8 12 ^h : 55'7 20 ^h : 55'5 R°: 49 ^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	26.9	+17	25.5	195	07.8	+26	06.0	65	60 N	20	24	21	22	23	10	1	14	99	20	56	2	
1	193	27.0		24.9	209	35.7	89	+25	59.5	67	58	13	21	04	22	26	1	40	92		37	8	
2	208	27.0		24.2	224	03.7	90		52.8	67	56	20	03	20	50	21	58	2	01	86	21	13	
3	223	27.1		23.5	238	31.7	90		45.9	69	54	19	54		37		37		18	82	20	07	
4	238	27.1		22.9	252	59.9	92		39.0	69	52		46	26		20		33	78	19	56	19	
5	253	27.2	+17	22.2	267	28.2		+25	31.9	71	50	19	39	20	17	21	06	2	46	75	19	45	
6	268	27.2	+17	21.6	281	56.5	93		+25	24.7	72	45	19	24	19	57	20	39	3	12	70	19	23
7	283	27.3		20.9	296	24.9	94		17.3	74	40		11	41		18		32	67	19	05	31	
8	298	27.3		20.2	310	53.5	96		09.9	76	35	19	01		28	20	02	3	50	63	18	50	
9	313	27.4		19.6	325	22.1	96		+25	02.3	76	30	18	51	19	17	19	48	4	04	62		37
10	328	27.4		18.9	339	50.8	97		+24	54.6	77	20		36	18	59		27	29	58	18	14	
11	343	27.5	+17	18.3	354	19.6	98		+24	46.7	79	10 N	18	22	18	44	19	10	4	51	54	17	54
12	358	27.6	+17	17.6	8	48.5	99		+24	38.8	79	0	18	10	18	31	18	56	5	11	51	17	36
13	13	27.6		16.9	23	17.5	100			30.7	81	10 S	17	57		19	44		31	47	17	17	
14	28	27.7		16.3	37	46.5	100			22.5	82	20		44	18	07		33	5	52	44	16	57
15	43	27.7		15.6	52	15.7	102			14.2	83	30	29	17	54		23		6	17	40		34
16	58	27.8		14.9	66	45.0	103		+24	05.8	84	35		20	47		17		31	38		20	
17	73	27.8	+17	14.3	81	14.4	104		+23	57.3	85	40	17	10	17	39	18	12	6	48	34	16	04
18	88	27.9	+17	13.6	95	43.8	104		+23	48.6	87	45	16	59	17	30	18	06	7	08	31	15	45
19	103	27.9		12.9	110	13.4	106			39.9	87	50		45	20	17	59		33	25	21	71	76
20	118	28.0		12.3	124	43.1	107			31.0	89	52	39		15		56		45	23	15	10	79
21	133	28.1		11.6	139	12.8	107			22.0	90	54	32		10		53		7	59	19	14	57
22	148	28.1		10.9	153	42.6	108			12.9	91	56	24		17	05		50	8	14	16		41
23	163	28.2		10.3	168	12.6	110		+23	03.7	92	58	15		16	59		47		33	11		23
24	178	28.2	+17	09.6	182	42.6	110		+22	54.4	93	60 S	16	04	16	52	17	43	8	56	3	14	01
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO								
	PMG 3 ^h 11.2 ^m		Mag: -3.8 PMG: 13 ^h 13 ^m				Mag: +0.9 PMG: 7 ^h 41 ^m				Mag: -2.2 PMG: 8 ^h 05 ^m				Mag: +0.8 PMG: 2 ^h 32 ^m								
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	312	04.0	161	55.3	+13	46.0	244	42.5	+21	14.5	238	31.6	+21	52.8	321	48.8	-6	29.6					
1	327	06.5	176	54.8		45.0	259	43.2		14.8	253	33.6		52.9	336	51.4		29.6					
2	342	08.9	191	54.3		43.9	274	43.9		15.0	268	35.6		52.9	351	53.9		29.7					
3	357	11.4	206	53.8		42.8	289	44.6		15.3	283	37.6		53.0	6	56.5		29.7					
4	12	13.8	221	53.3		41.8	304	45.3		15.6	298	39.6		53.0	21	59.1		29.8					
5	27	16.3	236	52.8	+13	40.7	319	45.9	+21	15.9	313	41.6	+21	53.0	37	01.7	-6	29.8					
6	42	18.8	251	52.3	+13	39.7	334	46.6	+21	16.2	328	43.6	+21	53.1	52	04.3	-6	29.9					
7	57	21.2	266	51.8		38.6	349	47.3		16.5	343	45.5		53.1	67	06.8		30.0					
8	72	23.7	281	51.3		37.5	4	48.0		16.8	358	47.5		53.2	82	09.4		30.0					
9	87	26.2	296	50.8		36.5	19	48.7		17.1	13	49.5		53.2	97	12.0		30.1					
10	102	28.6	311	50.3		35.4	34	49.4		17.4	28	51.5		53.3	112	14.6		30.1					
11	117	31.1	326	49.8	+13	34.3	49	50.1	+21	17.7	43	53.5	+21	53.3	127	17.2	-6	30.2					
12	132	33.6	341	49.3	+13	33.3	64	50.8	+21	17.9	58	55.5	+21	53.4	142	19.8	-6	30.3					
13	147	36.0	356	48.8		32.2	79	51.5		18.2	73	57.5		53.4	157	22.3		30.3					
14	162	38.5	11	48.3		31.1	94	52.1		18.5	88	59.5		53.5	172	24.9		30.4					
15	177	41.0	26	47.8		30.1	109	52.8		18.8	104	01.5		53.5	187	27.5		30.4					
16	192	43.4	41	47.3		29.0	124	53.5		19.1	119	03.5		53.6	202	30.1		30.5					
17	207	45.9	56	46.8	+13	27.9	139	54.2	+21	19.4	134	05.5	+21	53.6	217	32.7	-6	30.6					
18	222	48.3	71	46.3	+13	26.9	154	54.9	+21	19.7	149	07.5	+21	53.7	232	35.3	-6	30.6					
19	237	50.8	86	45.8		25.8	169	55.6		20.0	164	09.5		53.7	247	37.8		30.7					
20	252	53.3	101	45.3		24.7	184	56.3		20.2	179	11.5		53.8	262	40.4		30.7					
21	267	55.7	116	44.9		23.7	199	57.0		20.5	194	13.5		53.8	277	43.0		30.8					
22	282	58.2	131	44.4		22.6	214	57.7		20.8	209	15.5		53.9	292	45.6		30.9					
23	298	00.7	146	43.9		21.5	229	58.3		21.1	224	17.5		53.9	307	48.2		30.9					
24	313	03.1	161	43.4	+13	20.4	244	59.0	+21	21.4	239	19.5	+21	54.0	322	50.8	-6	31.0					
Dif	—		-5		-11		+7		+3		+20		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 06.1 ^m				Edad: 29.0 ^d PHE { 4 ^h : 55 ^h /4 12 ^h : 55 ^h /2 20 ^h : 55 ^h /1 PMG: 12 ^h 13 ^m R°: 46 ^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	178	28.2	+17	09.6	182	42.6	+22	54.4	60 N	1 03	2 51	3 49	2 53 96	20 58 0				
1	193	28.3		08.9	197	12.8		45.0	58	1 47	3 09	4 00	3 12 89	45 4				
2	208	28.3		08.3	211	43.0		35.5	56	2 15	23	10	27 84	34 8				
3	223	28.4		07.6	226	13.3		25.9	54	36	36	19	40 81	24 1				
4	238	28.5		06.9	240	43.7		16.2	52	2 52	47	27	3 51 78	15 14				
5	253	28.5	+17	06.3	255	14.3	+22	06.4	50	3 07	3 56	4 34	4 01 75	20 07 16				
6	268	28.6	+17	05.6	269	44.9	+21	56.5	45	3 34	4 16	4 49	4 22 70	19 50 21				
7	283	28.6		04.9	284	15.6		46.5	40	3 55	32	5 02	39 66	36 25				
8	298	28.7		04.2	298	46.4		36.4	35	4 11	44	12	4 53 62	24 29				
9	313	28.8		03.6	313	17.3		26.3	30	25	4 55	21	5 06 59	19 13 32				
10	328	28.8		02.9	327	48.3		16.0	20	4 46	5 13	37	27 54	18 55 37				
11	343	28.9	+17	02.2	342	19.3	+21	05.6	10 N	5 02	5 28	5 50	5 45 50	18 39 41				
12	358	28.9	+17	01.6	356	50.5	+20	55.2	0	5 16	5 41	6 03	6 02 46	18 24 45				
13	13	29.0		00.9	11	21.8		44.6	10 S	28	5 53	15	18 43	18 09 49				
14	28	29.1	+17	00.2	25	53.1		34.0	20	39	6 05	28	36 39	17 53 53				
15	43	29.1	+16	59.5	40	24.6		23.3	30	49	18	43	6 57 34	34 58				
16	58	29.2		58.9	54	56.2		12.5	35	5 55	25	6 51	7 09 31	23 61				
17	73	29.2	+16	58.2	69	27.8	+20	01.6	40	6 00	6 33	7 01	7 22 28	17 11 64				
18	88	29.3	+16	57.5	83	59.5	+19	50.6	45	6 06	6 41	7 13	7 39 23	16 56 69				
19	103	29.4		56.8	98	31.3		39.6	50	13	51	26	7 58 19	37 74				
20	118	29.4		56.1	113	03.2		28.4	52	15	6 56	33	8 08 16	29 76				
21	133	29.5		55.5	127	35.2		17.2	54	18	7 01	40	18 13	19 80				
22	148	29.6		54.8	142	07.3	+19	06.0	56	21	06	47	30 10	16 07 84				
23	163	29.6		54.1	156	39.5	+18	54.6	58	25	12	7 56	44 5	15 55 87				
24	178	29.7	+16	53.4	171	11.8	+18	43.2	60 S	6 28	7 19	8 06	8 59 1	15 39 93				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 3 ^h 07.3 ^m		Mag: -3.8 PMG: 13 ^h 14 ^m			Mag: +0.9 PMG: 7 ^h 40 ^m			Mag: -2.2 PMG: 8 ^h 02 ^m			Mag: +0.8 PMG: 2 ^h 28 ^m						
	hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec				
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/		
0	313	03.1	161	43.4	+13	20.4	244	59.0	+21	21.4	239	19.5	+21	54.0	322	50.8	-6	31.0
1	328	05.6	176	42.9		19.4	259	59.7		21.7	254	21.5		54.0	337	53.4		31.0
2	343	08.1	191	42.4		18.3	275	00.4		21.9	269	23.5		54.1	352	55.9		31.1
3	358	10.5	206	41.9		17.2	290	01.1		22.2	284	25.5		54.1	7	58.5		31.2
4	13	13.0	221	41.4		16.1	305	01.8		22.5	299	27.5		54.2	23	01.1		31.2
5	28	15.4	236	40.9	+13	15.1	320	02.5	+21	22.8	314	29.5	+21	54.2	38	03.7	-6	31.3
6	43	17.9	251	40.4	+13	14.0	335	03.2	+21	23.1	329	31.5	+21	54.3	53	06.3	-6	31.3
7	58	20.4	266	39.9		12.9	350	03.9		23.4	344	33.5		54.3	68	08.9		31.4
8	73	22.8	281	39.5		11.8	5	04.6		23.6	359	35.5		54.4	83	11.4		31.5
9	88	25.3	296	39.0		10.7	20	05.2		23.9	14	37.5		54.4	98	14.0		31.5
10	103	27.8	311	38.5		09.7	35	05.9		24.2	29	39.5		54.4	113	16.6		31.6
11	118	30.2	326	38.0	+13	08.6	50	06.6	+21	24.5	44	41.5	+21	54.5	128	19.2	-6	31.6
12	133	32.7	341	37.5	+13	07.5	65	07.3	+21	24.8	59	43.5	+21	54.5	143	21.8	-6	31.7
13	148	35.2	356	37.0		06.4	80	08.0		25.0	74	45.5		54.6	158	24.4		31.8
14	163	37.6	11	36.5		05.3	95	08.7		25.3	89	47.5		54.6	173	27.0		31.8
15	178	40.1	26	36.1		04.3	110	09.4		25.6	104	49.5		54.7	188	29.5		31.9
16	193	42.6	41	35.6		03.2	125	10.1		25.9	119	51.5		54.7	203	32.1		31.9
17	208	45.0	56	35.1	+13	02.1	140	10.8	+21	26.2	134	53.5	+21	54.8	218	34.7	-6	32.0
18	223	47.5	71	34.6	+13	01.0	155	11.5	+21	26.4	149	55.5	+21	54.8	233	37.3	-6	32.1
19	238	49.9	86	34.1	+12	59.9	170	12.2		26.7	164	57.5		54.9	248	39.9		32.1
20	253	52.4	101	33.6		58.8	185	12.8		27.0	179	59.5		54.9	263	42.5		32.2
21	268	54.9	116	33.2		57.8	200	13.5		27.3	195	01.5		55.0	278	45.1		32.2
22	283	57.3	131	32.7		56.7	215	14.2		27.5	210	03.5		55.0	293	47.7		32.3
23	298	59.8	146	32.2		55.6	230	14.9		27.8	225	05.5		55.1	308	50.2		32.4
24	314	02.3	161	31.7	+12	54.5	245	15.6	+21	28.1	240	07.5	+21	55.1	323	52.8	-6	32.4
Dif	—		-5		-11		+7		+3		+20		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 06.0 ^m				Edad: 30.0 ^d SD: 15'0 PMG: 12 ^h 59 ^m															
					PHE { 4 ^h : 55'0 12 ^h : 54'8 20 ^h : 54'7 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					
0	178	29.7	+16	53.4	171	11.8	+18	43.2	60 N	20 19	21 16	22 54	4 29 90	20 58 **						
1	193	29.8		52.7	185	44.1		31.7	58	20 08	20 59	22 16	41 85	49 3						
2	208	29.8		52.1	200	16.6		20.1	56	19 58	45	21 51	4 51 82	42 6						
3	223	29.9		51.4	214	49.1	+18	08.4	54	50	33	31	5 01 78	35 9						
4	238	29.9		50.7	229	21.7	+17	56.7	52	42	22	15	09 75	29 11						
5	253	30.0	+16	50.0	243	54.4	+17	44.9	50	19 35	20 13	21 02	5 16 73	20 23 14						
6	268	30.1	+16	49.3	258	27.2	+17	33.1	45	19 21	19 54	20 35	5 32 67	20 11 18						
7	283	30.1		48.7	273	00.0		21.1	40	19 09	39	20 15	45 63	20 01 22						
8	298	30.2		48.0	287	33.0	+17	09.1	35	18 59	26	19 59	5 55 60	19 53 25						
9	313	30.3		47.3	302	06.0	+16	57.1	30	50	19 15	46	6 05 56	45 28						
10	328	30.3		46.6	316	39.1		45.0	20	35	18 58	25	21 52	32 33						
11	343	30.4	+16	45.9	331	12.3	+16	32.8	10 N	18 22	18 44	19 09	6 35 47	19 20 38						
12	358	30.5	+16	45.2	345	45.5	+16	20.6	0	18 09	18 31	18 56	6 48 43	19 09 42						
13	13	30.5		44.5	0	18.9	+16	08.3	10 S	17 57	19	45	7 01 39	18 58 46						
14	28	30.6		43.9	14	52.3	+15	55.9	20	45	18 08	34	15 35	46 51						
15	43	30.7		43.2	29	25.8		43.5	30	30	17 55	24	31 29	32 56						
16	58	30.7		42.5	43	59.4		31.0	35	22	48	19	40 27	24 59						
17	73	30.8	+16	41.8	58	33.0	+15	18.5	40	17 12	17 41	18 13	7 50 24	18 15 62						
18	88	30.9	+16	41.1	73	06.7	+15	05.9	45	17 01	17 32	18 08	8 02 20	18 05 66						
19	103	31.0		40.4	87	40.5	+14	53.3	50	16 48	23	18 01	17 15	17 51 72						
20	118	31.0		39.7	102	14.4		40.6	52	42	18	17 59	24 12	45 74						
21	133	31.1		39.0	116	48.3		27.8	54	35	13	56	31 10	39 76						
22	148	31.2		38.4	131	22.4		15.1	56	27	08	53	40 6	31 80						
23	163	31.2		37.7	145	56.4	+14	02.2	58	19	17 02	50	8 49 4	22 84						
24	178	31.3	+16	37.0	160	30.6	+13	49.3	60 S	16 09	16 56	17 46	9 00 **	17 12 88						
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG 3 ^h 03.3 ^m				Mag: -3.8 PMG: 13 ^h 14 ^m				Mag: +0.9 PMG: 7 ^h 39 ^m				Mag: -2.2 PMG: 7 ^h 58 ^m				Mag: +0.8 PMG: 2 ^h 24 ^m			
	hG ♈				hG ♀ Dec				hG ♂ Dec				hG ♃ Dec				hG ♄ Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	314	02.3	161	31.7	+12	54.5	245	15.6	+21	28.1	240	07.5	+21	55.1	323	52.8				
1	329	04.7	176	31.2		53.4	260	16.3		28.4	255	09.5		55.2	338	55.4				
2	344	07.2	191	30.8		52.3	275	17.0		28.7	270	11.5		55.2	353	58.0				
3	359	09.7	206	30.3		51.2	290	17.7		28.9	285	13.6		55.3	9	00.6				
4	14	12.1	221	29.8		50.1	305	18.4		29.2	300	15.6		55.3	24	03.2				
5	29	14.6	236	29.3	+12	49.1	320	19.1	+21	29.5	315	17.6	+21	55.3	39	05.8				
6	44	17.1	251	28.8	+12	48.0	335	19.8	+21	29.8	330	19.6	+21	55.4	54	08.4				
7	59	19.5	266	28.4		46.9	350	20.5		30.0	345	21.6		55.4	69	10.9				
8	74	22.0	281	27.9		45.8	5	21.1		30.3	0	23.6		55.5	84	13.5				
9	89	24.4	296	27.4		44.7	20	21.8		30.6	15	25.6		55.5	99	16.1				
10	104	26.9	311	26.9		43.6	35	22.5		30.8	30	27.6		55.6	114	18.7				
11	119	29.4	326	26.5	+12	42.5	50	23.2	+21	31.1	45	29.6	+21	55.6	129	21.3				
12	134	31.8	341	26.0	+12	41.4	65	23.9	+21	31.4	60	31.6	+21	55.7	144	23.9				
13	149	34.3	356	25.5		40.3	80	24.6		31.7	75	33.6		55.7	159	26.5				
14	164	36.8	11	25.0		39.2	95	25.3		31.9	90	35.6		55.8	174	29.1				
15	179	39.2	26	24.6		38.1	110	26.0		32.2	105	37.6		55.8	189	31.7				
16	194	41.7	41	24.1		37.0	125	26.7		32.5	120	39.6		55.9	204	34.2				
17	209	44.2	56	23.6	+12	35.9	140	27.4	+21	32.7	135	41.6	+21	55.9	219	36.8				
18	224	46.6	71	23.1	+12	34.8	155	28.1	+21	33.0	150	43.6	+21	56.0	234	39.4				
19	239	49.1	86	22.7		33.7	170	28.8		33.3	165	45.6		56.0	249	42.0				
20	254	51.5	101	22.2		32.6	185	29.5		33.6	180	47.7		56.0	264	44.6				
21	269	54.0	116	21.7		31.5	200	30.2		33.8	195	49.7		56.1	279	47.2				
22	284	56.5	131	21.2		30.4	215	30.9		34.1	210	51.7		56.1	294	49.8				
23	299	58.9	146	20.8		29.3	230	31.5		34.4	225	53.7		56.2	309	52.4				
24	315	01.4	161	20.3	+12	28.2	245	32.2	+21	34.6	240	55.7	+21	56.2	324	55.0				
Dif	—				-5 -11				+7 +3				+20 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 05.9 ^m				Edad: 1.5 ^d SD: 14 ^h 9 PMG: 13 ^h 41 ^m														
	hG ☉	Dec			hG ☾	Dif				Náutico	Civil		Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	178	31.3	+16	37.0	160	30.6	+13	49.3	60 N	1 18	2 57	3 54	5 59	84	20 57	**			
1	193	31.4		36.3	175	04.8		36.4	58	1 56	3 14	4 05	6 06	81	52	2			
2	208	31.4		35.6	189	39.1		23.4	56	2 22	28	14	13	78	48	4			
3	223	31.5		34.9	204	13.4	+13	10.4	54	41	40	23	19	75	44				
4	238	31.6		34.2	218	47.9	+12	57.3	52	2 57	50	30	24	72	40	10			
5	253	31.7	+16	33.5	233	22.3	+12	44.2	50	3 11	3 59	4 37	6 29	70	20 37	11			
6	268	31.7	+16	32.8	247	56.9	+12	31.1	45	3 37	4 18	4 52	6 39	65	20 29	16			
7	283	31.8		32.1	262	31.5		17.9	40	3 57	34	5 03	48	61	23	20			
8	298	31.9		31.4	277	06.2	+12	04.6	35	4 13	46	13	6 55	58	18	23			
9	313	31.9		30.7	291	40.9	+11	51.3	30	26	4 57	22	7 01	55	13	26			
10	328	32.0		30.0	306	15.7		38.0	20	4 47	5 14	37	13	49	20	05	31		
11	343	32.1	+16	29.3	320	50.5	+11	24.7	10 N	5 03	5 28	5 50	7 22	45	19 58	35			
12	358	32.2	+16	28.6	335	25.4	+11	11.3	0	5 16	5 41	6 02	7 31	41	19 51	40			
13	13	32.2		27.9	350	00.4	+10	57.9	10 S	27	5 53	14	40	37	44	44			
14	28	32.3		27.3	4	35.4		44.4	20	38	6 04	27	7 50	32	37	48			
15	43	32.4		26.6	19	10.5		30.9	30	48	16	41	8 00	27	28	54			
16	58	32.5		25.9	33	45.6		17.4	35	53	23	50	07	24	23	57			
17	73	32.5	+16	25.2	48	20.8	+10	03.8	40	5 58	6 30	6 59	8 14	20	19 17	61			
18	88	32.6	+16	24.5	62	56.0	+9	50.3	45	6 04	6 39	7 10	8 22	17	19 11	64			
19	103	32.7		23.8	77	31.3		36.6	50	10	48	23	32	12	19 03	69			
20	118	32.8		23.1	92	06.6		23.0	52	12	53	29	36	10	18 59	72			
21	133	32.8		22.4	106	42.0	+9	09.3	54	15	6 57	36	41	8	55	74			
22	148	32.9		21.7	121	17.4	+8	55.6	56	18	7 03	43	46	6	51	76			
23	163	33.0		21.0	135	52.9		41.9	58	21	08	7 52	53	2	46	79			
24	178	33.1	+16	20.2	150	28.4	+8	28.1	60 S	6 24	7 15	8 02	8 59	**	18 40	83			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 2 ^h 59.4 ^m		Mag: -3.8 PMG: 13 ^h 15 ^m		Mag: +0.9 PMG: 7 ^h 37 ^m		Mag: -2.2 PMG: 7 ^h 55 ^m		Mag: +0.8 PMG: 2 ^h 20 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	315	01.4	161	20.3	+12	28.2	245	32.2	+21	34.6	240	55.7	+21	56.2	324	55.0	-6	33.9	
1	330	03.9	176	19.8		27.1	260	32.9		34.9	255	57.7		56.3	339	57.5		34.0	
2	345	06.3	191	19.4		26.0	275	33.6		35.2	270	59.7		56.3	355	00.1		34.0	
3	0	08.8	206	18.9		24.9	290	34.3		35.4	286	01.7		56.4	10	02.7		34.1	
4	15	11.3	221	18.4		23.8	305	35.0		35.7	301	03.7		56.4	25	05.3		34.2	
5	30	13.7	236	18.0	+12	22.7	320	35.7	+21	36.0	316	05.7	+21	56.5	40	07.9	-6	34.2	
6	45	16.2	251	17.5	+12	21.6	335	36.4	+21	36.2	331	07.7	+21	56.5	55	10.5	-6	34.3	
7	60	18.7	266	17.0		20.5	350	37.1		36.5	346	09.7		56.5	70	13.1		34.3	
8	75	21.1	281	16.6		19.4	5	37.8		36.8	1	11.8		56.6	85	15.7		34.4	
9	90	23.6	296	16.1		18.3	20	38.5		37.0	16	13.8		56.6	100	18.3		34.5	
10	105	26.0	311	15.6		17.2	35	39.2		37.3	31	15.8		56.7	115	20.9		34.5	
11	120	28.5	326	15.2	+12	16.1	50	39.9	+21	37.6	46	17.8	+21	56.7	130	23.5	-6	34.6	
12	135	31.0	341	14.7	+12	15.0	65	40.6	+21	37.8	61	19.8	+21	56.8	145	26.0	-6	34.7	
13	150	33.4	356	14.2		13.9	80	41.3		38.1	76	21.8		56.8	160	28.6		34.7	
14	165	35.9	11	13.8		12.7	95	42.0		38.4	91	23.8		56.9	175	31.2		34.8	
15	180	38.4	26	13.3		11.6	110	42.7		38.6	106	25.8		56.9	190	33.8		34.8	
16	195	40.8	41	12.8		10.5	125	43.4		38.9	121	27.8		57.0	205	36.4		34.9	
17	210	43.3	56	12.4	+12	09.4	140	44.0	+21	39.1	136	29.9	+21	57.0	220	39.0	-6	35.0	
18	225	45.8	71	11.9	+12	08.3	155	44.7	+21	39.4	151	31.9	+21	57.0	235	41.6	-6	35.0	
19	240	48.2	86	11.5		07.2	170	45.4		39.7	166	33.9		57.1	250	44.2		35.1	
20	255	50.7	101	11.0		06.1	185	46.1		39.9	181	35.9		57.1	265	46.8		35.2	
21	270	53.2	116	10.5		05.0	200	46.8		40.2	196	37.9		57.2	280	49.4		35.2	
22	285	55.6	131	10.1		03.8	215	47.5		40.5	211	39.9		57.2	295	52.0		35.3	
23	300	58.1	146	09.6		02.7	230	48.2		40.7	226	41.9		57.3	310	54.6		35.3	
24	316	00.5	161	09.2	+12	01.6	245	48.9	+21	41.0	241	43.9	+21	57.3	325	57.2	-6	35.4	
Dif	—		-5		-11		+7		+3		+20		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 05.7 ^m				Edad: 2.5 ^d PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'2 R°: 39 ^m															
	hG ☉	Dec			hG ☾	Dif					Civil			Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	
0	178	33.1	+16	20.2	150	28.4	+8	28.1	60 N	20	14	21	09	22	40		7	23	82	
1	193	33.1		19.5	165	04.0		14.4	58	20	03	20	53	22	07		27	79	54	
2	208	33.2		18.8	179	39.6	+8	00.6	56	19	54	40	21	44	31		75	52	5	
3	223	33.3		18.1	194	15.3	+7	46.7	54	46		28	25	34	73		51			
4	238	33.4		17.4	208	50.9		32.9	52	39		18	21	10	36	71	50	8		
5	253	33.5	+16	16.7	223	26.7	+7	19.0	50	19	32	20	09	20	57	7	39	68	20	
6	268	33.5	+16	16.0	238	02.4	+7	05.1	45	19	18	19	51	20	32	7	44	64	20	
7	283	33.6		15.3	252	38.3	+6	51.2	40	19	06	36	20	12	49	59	43	19		
8	298	33.7		14.6	267	14.1		37.3	35	18	57	24	19	57	53	56	41	22		
9	313	33.8		13.9	281	50.0		23.4	30	48		19	14	44	7	56	53	39	25	
10	328	33.8		13.2	296	25.9	+6	09.4	20	34		18	57	24	8	02	48	36	30	
11	343	33.9	+16	12.5	311	01.8	+5	55.4	10 N	18	21	18	43	19	09	8	07	43	20	
12	358	34.0	+16	11.8	325	37.8	+5	41.4	0	18	09	18	31	18	56	8	12	39	20	
13	13	34.1		11.1	340	13.8		27.4	10 S	17	58	19	45		17	34	28	43		
14	28	34.2		10.4	354	49.9	+5	13.4	20	45		18	08	34	22	30	25	48		
15	43	34.2		09.7	9	26.0	+4	59.3	30	31		17	56	25	27	26	22	52		
16	58	34.3		09.0	24	02.1		45.3	35	23		50	20		31	22	20	56		
17	73	34.4	+16	08.2	38	38.2	+4	31.2	40	17	14	17	43	18	15	8	34	20	20	
18	88	34.5	+16	07.5	53	14.3	+4	17.2	45	17	04	17	35	18	10	8	39	15	20	
19	103	34.6		06.8	67	50.5	+4	03.1	50	16	51	25	04		44	11	12	68		
20	118	34.7		06.1	82	26.7	+3	49.0	52	45		21	18	01	46	9	11	70		
21	133	34.7		05.4	97	03.0		34.9	54	38		17	17	59	49	6	09	72		
22	148	34.8		04.7	111	39.2		20.8	56	31		11	56		52	4	07	75		
23	163	34.9		04.0	126	15.5	+3	06.6	58	23		06	53		55	1	05	78		
24	178	35.0	+16	03.3	140	51.8	+2	52.5	60 S	16	13	17	00	17	50	8	58	**	20	
UT	ARIES			VENUS				MARTE				JÚPITER				SATURNO				
	PMG 2 ^h 55.5 ^m			Mag: -3.8 PMG: 13 ^h 16 ^m				Mag: +0.9 PMG: 7 ^h 36 ^m				Mag: -2.2 PMG: 7 ^h 52 ^m				Mag: +0.8 PMG: 2 ^h 16 ^m				
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	316	00.5	161	09.2	+12	01.6	245	48.9	+21	41.0	241	43.9	+21	57.3	325	57.2	-6	35.4		
1	331	03.0	176	08.7	+12	00.5	260	49.6		41.2	256	45.9		57.4	340	59.7		35.5		
2	346	05.5	191	08.2	+11	59.4	275	50.3		41.5	271	48.0		57.4	356	02.3		35.5		
3	1	07.9	206	07.8		58.3	290	51.0		41.8	286	50.0		57.5	11	04.9		35.6		
4	16	10.4	221	07.3		57.2	305	51.7		42.0	301	52.0		57.5	26	07.5		35.7		
5	31	12.9	236	06.9	+11	56.0	320	52.4	+21	42.3	316	54.0	+21	57.5	41	10.1	-6	35.7		
6	46	15.3	251	06.4	+11	54.9	335	53.1	+21	42.5	331	56.0	+21	57.6	56	12.7	-6	35.8		
7	61	17.8	266	05.9		53.8	350	53.8		42.8	346	58.0		57.6	71	15.3		35.8		
8	76	20.3	281	05.5		52.7	5	54.5		43.0	2	00.0		57.7	86	17.9		35.9		
9	91	22.7	296	05.0		51.6	20	55.2		43.3	17	02.1		57.7	101	20.5		36.0		
10	106	25.2	311	04.6		50.4	35	55.9		43.6	32	04.1		57.8	116	23.1		36.0		
11	121	27.6	326	04.1	+11	49.3	50	56.6	+21	43.8	47	06.1	+21	57.8	131	25.7	-6	36.1		
12	136	30.1	341	03.7	+11	48.2	65	57.3	+21	44.1	62	08.1	+21	57.9	146	28.3	-6	36.2		
13	151	32.6	356	03.2		47.1	80	58.0		44.3	77	10.1		57.9	161	30.9		36.2		
14	166	35.0	11	02.8		45.9	95	58.7		44.6	92	12.1		57.9	176	33.5		36.3		
15	181	37.5	26	02.3		44.8	110	59.4		44.8	107	14.1		58.0	191	36.1		36.4		
16	196	40.0	41	01.9		43.7	126	00.1		45.1	122	16.2		58.0	206	38.7		36.4		
17	211	42.4	56	01.4	+11	42.6	141	00.8	+21	45.4	137	18.2	+21	58.1	221	41.2	-6	36.5		
18	226	44.9	71	01.0	+11	41.5	156	01.5	+21	45.6	152	20.2	+21	58.1	236	43.8	-6	36.5		
19	241	47.4	86	00.5		40.3	171	02.2		45.9	167	22.2		58.2	251	46.4		36.6		
20	256	49.8	101	00.1		39.2	186	02.9		46.1	182	24.2		58.2	266	49.0		36.7		
21	271	52.3	115	59.6		38.1	201	03.6		46.4	197	26.2		58.3	281	51.6		36.7		
22	286	54.8	130	59.1		37.0	216	04.3		46.6	212	28.3		58.3	296	54.2		36.8		
23	301	57.2	145	58.7		35.8	231	05.0		46.9	227	30.3		58.3	311	56.8		36.9		
24	316	59.7	160	58.3	+11	34.7	246	05.7	+21	47.1	242	32.3	+21	58.4	326	59.4	-6	36.9		
Dif	—			-5	-11		+7		+3		+20		0		+26		-1			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:12 ^h 05.6 ^m				Edad: 3.5 ^d SD: 14'8 PMG: 15 ^h 00 ^m													
	hG ☉		Dec		hG ☾		Dif			Náutico			Civil		Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	178	35.0	+16	03.3	140	51.8	+2	52.5	60 N	1	32	3	03	3	58	8	45 82	
1	193	35.1		02.6	155	28.1		38.4	58	2	05		19	4	09	46	78	
2	208	35.1		01.8	170	04.4		24.3	56	28		32	18	46	75	57	4	
3	223	35.2		01.1	184	40.7	+2	10.1	54	2	47	44	26	47	72	58	6	
4	238	35.3	+16	00.4	199	17.1	+1	56.0	52	3	02	3	54	33	47	70	58	9
5	253	35.4	+15	59.7	213	53.5	+1	41.8	50	3	15	4	03	4	40	8	47 68	
6	268	35.5	+15	59.0	228	29.9	+1	27.7	45	3	40	4	21	4	54	8	48 63	
7	283	35.6		58.3	243	06.3	+1	13.5	40	3	59	36	5	05	48	59	02	19
8	298	35.7		57.5	257	42.7	+0	59.4	35	4	15	48	15	49	55	03	23	
9	313	35.7		56.8	272	19.1		45.2	30	27		4	58	23	49	53	04	26
10	328	35.8		56.1	286	55.5		31.0	20	4	47	5	15	38	50	47	06	31
11	343	35.9	+15	55.4	301	32.0	+0	16.9	10 N	5	03	5	29	5	51	8	50 43	
12	358	36.0	+15	54.7	316	08.4	+0	02.7	0	5	16	5	41	6	02	8	51 39	
13	13	36.1		54.0	330	44.9	-0	11.4	10 S	27		5	52	14	51	35	11	43
14	28	36.2		53.2	345	21.3		25.5	20	37		6	03	26	52	30	13	47
15	43	36.3		52.5	359	57.8		39.7	30	46		15	40	40	53	25	14	53
16	58	36.3		51.8	14	34.2	-0	53.8	35	51		21	48	53	22	16	55	
17	73	36.4	+15	51.1	29	10.7	-1	08.0	40	5	56	6	28	6	57	8	54 19	
18	88	36.5	+15	50.4	43	47.1	-1	22.1	45	6	01	6	36	7	07	8	54 15	
19	103	36.6		49.6	58	23.6		36.2	50	07		45	20	55	11	21	18	63
20	118	36.7		48.9	73	00.1	-1	50.3	52	09		49	26	55	9	21	70	
21	133	36.8		48.2	87	36.5	-2	04.4	54	12		54	32	55	7	21	73	
22	148	36.9		47.5	102	13.0		18.5	56	14		6	59	39	56	4	22	76
23	163	37.0		46.7	116	49.4		32.6	58	17		7	04	47	56	2	23	79
24	178	37.0	+15	46.0	131	25.8	-2	46.7	60 S	6	20	7	10	7	56	8	57 **	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 51.6 ^m		Mag: -3.8 PMG: 13 ^h 17 ^m			Mag: +0.9 PMG: 7 ^h 35 ^m			Mag: -2.2 PMG: 7 ^h 49 ^m			Mag: +0.8 PMG: 2 ^h 12 ^m						
	hG ♈		hG ♊			hG ♂			hG ♃			hG ♄						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	316	59.7	160	58.3	+11	34.7	246	05.7	+21	47.1	242	32.3	+21	58.4	326	59.4		
1	332	02.1	175	57.8		33.6	261	06.4		47.4	257	34.3		58.4	342	02.0		
2	347	04.6	190	57.4		32.4	276	07.1		47.6	272	36.3		58.5	357	04.6		
3	2	07.1	205	56.9		31.3	291	07.7		47.9	287	38.4		58.5	12	07.2		
4	17	09.5	220	56.5		30.2	306	08.4		48.1	302	40.4		58.6	27	09.8		
5	32	12.0	235	56.0	+11	29.0	321	09.1	+21	48.4	317	42.4	+21	58.6	42	12.4		
6	47	14.5	250	55.6	+11	27.9	336	09.8	+21	48.6	332	44.4	+21	58.6	57	15.0		
7	62	16.9	265	55.1		26.8	351	10.5		48.9	347	46.4		58.7	72	17.6		
8	77	19.4	280	54.7		25.7	6	11.2		49.1	2	48.4		58.7	87	20.2		
9	92	21.9	295	54.2		24.5	21	11.9		49.4	17	50.5		58.8	102	22.8		
10	107	24.3	310	53.8		23.4	36	12.6		49.6	32	52.5		58.8	117	25.4		
11	122	26.8	325	53.3	+11	22.3	51	13.3	+21	49.9	47	54.5	+21	58.9	132	28.0		
12	137	29.2	340	52.9	+11	21.1	66	14.0	+21	50.1	62	56.5	+21	58.9	147	30.6		
13	152	31.7	355	52.4		20.0	81	14.7		50.4	77	58.5		59.0	162	33.2		
14	167	34.2	10	52.0		18.8	96	15.4		50.6	93	00.6		59.0	177	35.8		
15	182	36.6	25	51.6		17.7	111	16.1		50.9	108	02.6		59.0	192	38.4		
16	197	39.1	40	51.1		16.6	126	16.8		51.1	123	04.6		59.1	207	41.0		
17	212	41.6	55	50.7	+11	15.4	141	17.5	+21	51.4	138	06.6	+21	59.1	222	43.6		
18	227	44.0	70	50.2	+11	14.3	156	18.2	+21	51.6	153	08.6	+21	59.2	237	46.2		
19	242	46.5	85	49.8		13.2	171	18.9		51.9	168	10.7		59.2	252	48.7		
20	257	49.0	100	49.3		12.0	186	19.6		52.1	183	12.7		59.3	267	51.3		
21	272	51.4	115	48.9		10.9	201	20.3		52.4	198	14.7		59.3	282	53.9		
22	287	53.9	130	48.5		09.7	216	21.0		52.6	213	16.7		59.3	297	56.5		
23	302	56.4	145	48.0		08.6	231	21.7		52.8	228	18.8		59.4	312	59.1		
24	317	58.8	160	47.6	+11	07.5	246	22.4	+21	53.1	243	20.8	+21	59.4	328	01.7		
Dif	—		-4			-11	+7			+2	+20		0		+26			

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG: 12 ^h 05.5 ^m		Edad: 4.5 ^d SD: 14'7 PMG: 15 ^h 39 ^m		PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1 R°: 40 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	37.0	+15	46.0	131	25.8	175	-2	46.7	140	20 08	21 02	22 28	10 07	83	20 53	**	
1	193	37.1		45.3	146	02.3	174	-3	00.7	141	19 58	20 47	21 59	04 79	20 57	2		
2	208	37.2		44.6	160	38.7	174		14.8	141		50	34	37	10 01	76	5	
3	223	37.3		43.8	175	15.1	174		28.8	140		42	24	19	9 59	73	8	
4	238	37.4		43.1	189	51.5	174		42.9	141		35	14	21 05	57	71	11	
5	253	37.5	+15	42.4	204	27.9	174	-3	56.9	140	19 29	20 05	20 53	9 55	68	21 10	12	
6	268	37.6	+15	41.7	219	04.3	174	-4	10.9	140	19 15	19 48	20 28	9 51	63	21 16	17	
7	283	37.7		40.9	233	40.6	173		24.9	140	19 04	33	20 09	47 60	21 21			
8	298	37.8		40.2	248	17.0	174		38.8	139	18 55	22	19 54	44 57	26 24			
9	313	37.9		39.5	262	53.3	173	-4	52.8	140		46	19 12	42	42 53	30	27	
10	328	38.0		38.8	277	29.6	173	-5	06.7	139		32	18 55	23	37 48	37	32	
11	343	38.0	+15	38.0	292	05.9	173	-5	20.6	139	18 20	18 42	19 08	9 33	44	21 43	36	
12	358	38.1	+15	37.3	306	42.2	173	-5	34.5	139		18 09	18 30	18 55	9 30	39	41	
13	13	38.2		36.6	321	18.4	172	-5	48.4	139	17 58	19	45	26 35	21 54	45		
14	28	38.3		35.8	335	54.7	173	-6	02.3	139		46	18 09	35	22 31	22 00	49	
15	43	38.4		35.1	350	30.9	172		16.1	138		32	17 57	26	18 26	07 54		
16	58	38.5		34.4	5	07.0	171		30.0	139		25	51	21	15 24	11 57		
17	73	38.6	+15	33.7	19	43.2	172	-6	43.8	138	17 16	17 44	18 16	9 13	20	22 16	60	
18	88	38.7	+15	32.9	34	19.3	171	-6	57.5	137	17 06	17 37	18 12	9 09	17	22 21	65	
19	103	38.8		32.2	48	55.4	171	-7	11.3	138	16 54	28	06	06 11	28 69			
20	118	38.9		31.5	63	31.5	171		25.0	137		48	24	04	04 9	31 71		
21	133	39.0		30.7	78	07.5	170		38.7	137		42	20	18 02	02 7	34 74		
22	148	39.1		30.0	92	43.6	171	-7	52.4	137		35	15	17 59	9 00	5	38 77	
23	163	39.2		29.3	107	19.5	169	-8	06.1	137		27	10	57	8 58	2	42 80	
24	178	39.3	+15	28.5	121	55.5	170	-8	19.7	136	16 18	17 04	17 54	8 55	**	22 46	85	
UT	ARIES PMG 2 ^h 47.6 ^m		VENUS Mag: -3.8 PMG: 13 ^h 17 ^m		MARTE Mag: +0.9 PMG: 7 ^h 34 ^m		JÚPITER Mag: -2.2 PMG: 7 ^h 46 ^m		SATURNO Mag: +0.8 PMG: 2 ^h 08 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	317	58.8	160	47.6	+11	07.5	246	22.4	+21	53.1	243	20.8	+21	59.4	328	01.7	-6	38.5
1	333	01.3	175	47.1		06.3	261	23.1		53.3	258	22.8		59.5	343	04.3		38.5
2	348	03.7	190	46.7		05.2	276	23.8		53.6	273	24.8		59.5	358	06.9		38.6
3	3	06.2	205	46.3		04.0	291	24.5		53.8	288	26.8		59.6	13	09.5		38.7
4	18	08.7	220	45.8		02.9	306	25.3		54.1	303	28.9		59.6	28	12.1		38.7
5	33	11.1	235	45.4	+11	01.8	321	26.0	+21	54.3	318	30.9	+21	59.6	43	14.7	-6	38.8
6	48	13.6	250	45.0	+11	00.6	336	26.7	+21	54.5	333	32.9	+21	59.7	58	17.3	-6	38.9
7	63	16.1	265	44.5	+10	59.5	351	27.4		54.8	348	34.9		59.7	73	19.9		38.9
8	78	18.5	280	44.1		58.3	6	28.1		55.0	3	37.0		59.8	88	22.5		39.0
9	93	21.0	295	43.7		57.2	21	28.8		55.3	18	39.0		59.8	103	25.1		39.1
10	108	23.5	310	43.2		56.0	36	29.5		55.5	33	41.0		59.9	118	27.7		39.1
11	123	25.9	325	42.8	+10	54.9	51	30.2	+21	55.8	48	43.0	+21	59.9	133	30.3	-6	39.2
12	138	28.4	340	42.3	+10	53.7	66	30.9	+21	56.0	63	45.1	+21	59.9	148	32.9	-6	39.3
13	153	30.8	355	41.9		52.6	81	31.6		56.2	78	47.1	+22	00.0	163	35.5		39.3
14	168	33.3	10	41.5		51.5	96	32.3		56.5	93	49.1	+22	00.0	178	38.1		39.4
15	183	35.8	25	41.0		50.3	111	33.0		56.7	108	51.1	+22	00.1	193	40.7		39.5
16	198	38.2	40	40.6		49.2	126	33.7		57.0	123	53.2		00.1	208	43.3		39.5
17	213	40.7	55	40.2	+10	48.0	141	34.4	+21	57.2	138	55.2	+22	00.1	223	45.9	-6	39.6
18	228	43.2	70	39.7	+10	46.9	156	35.1	+21	57.4	153	57.2	+22	00.2	238	48.5	-6	39.7
19	243	45.6	85	39.3		45.7	171	35.8		57.7	168	59.2		00.2	253	51.1		39.7
20	258	48.1	100	38.9		44.6	186	36.5		57.9	184	01.3		00.3	268	53.7		39.8
21	273	50.6	115	38.5		43.4	201	37.2		58.1	199	03.3		00.3	283	56.3		39.8
22	288	53.0	130	38.0		42.3	216	37.9		58.4	214	05.3		00.4	298	58.9		39.9
23	303	55.5	145	37.6		41.1	231	38.6		58.6	229	07.3		00.4	314	01.5		40.0
24	318	58.0	160	37.2	+10	40.0	246	39.3	+21	58.9	244	09.4	+22	00.4	329	04.1	-6	40.0
Dif	—		-4		-11		+7		+2		+20		0		+26		-1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 05.3 ^m				Edad: 5.5 ^d SD: 14'8 PMG: 16 ^h 19 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	178	39.3	+15	28.5	121	55.5	−8	19.7	60 N	1 43	3 09	4 03	11 30	86	20 52	**		
1	193	39.4		27.8	136	31.4		33.3	58	2 13	24	13	23 83	20 59	4			
2	208	39.4		27.1	151	07.3	−8	46.9	56	35	37	22	17 79	21 06	7			
3	223	39.5		26.3	165	43.1	−9	00.4	54	2 52	48	30	12 76	12	10			
4	238	39.6		25.6	180	18.9		13.9	52	3 06	3 58	37	08 73	18	12			
5	253	39.7	+15	24.9	194	54.7	−9	27.4	50	3 19	4 06	4 43	11 03	71	21 22	15		
6	268	39.8	+15	24.1	209	30.4	−9	40.9	45	3 43	4 24	4 56	10 54	66	21 33	20		
7	283	39.9		23.4	224	06.1	−9	54.3	40	4 02	38	5 07	47 61	42	24			
8	298	40.0		22.6	238	41.7	−10	07.7	35	17	49	17	41 57	50	27			
9	313	40.1		21.9	253	17.3		21.0	30	29	4 59	25	35 55	21 57	29			
10	328	40.2		21.2	267	52.9		34.4	20	4 48	5 16	39	25 50	22 09	34			
11	343	40.3	+15	20.4	282	28.4	−10	47.7	10 N	5 03	5 29	5 51	10 17	45	22 19	39		
12	358	40.4	+15	19.7	297	03.8	−11	00.9	0	5 16	5 40	6 02	10 09	42	22 29	42		
13	13	40.5		18.9	311	39.2		14.1	10 S	26	5 51	13	10 01	38	39	46		
14	28	40.6		18.2	326	14.6		27.3	20	36	6 02	25	9 53	33	22 49	51		
15	43	40.7		17.5	340	49.9		40.5	30	45	13	38	44 28	23 01	56			
16	58	40.8		16.7	355	25.2	−11	53.6	35	49	19	46	39 25	08	59			
17	73	40.9	+15	16.0	10	00.4	−12	06.6	40	5 54	6 26	6 54	9 33	22	23 16	63		
18	88	41.0	+15	15.2	24	35.5	−12	19.7	45	5 59	6 33	7 04	9 26	18	23 26	66		
19	103	41.1		14.5	39	10.6		32.6	50	6 04	42	16	17 14	37	72			
20	118	41.2		13.8	53	45.7		45.6	52	06	46	22	13 12	42	75			
21	133	41.3		13.0	68	20.7	−12	58.5	54	08	50	28	09 9	48	77			
22	148	41.4		12.3	82	55.6	−13	11.3	56	11	6 55	35	05 6	23 55	80			
23	163	41.5		11.5	97	30.5		24.2	58	13	7 00	43	9 00 2	**	**	**		
24	178	41.6	+15	10.8	112	05.3	−13	36.9	60 S	6 16	7 06	7 51	8 54	**	**	**		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 43.7 ^m		Mag: −3.8 PMG: 13 ^h 18 ^m			Mag: +0.9 PMG: 7 ^h 33 ^m			Mag: −2.2 PMG: 7 ^h 42 ^m			Mag: +0.8 PMG: 2 ^h 03 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	318	58.0	160	37.2	+10	40.0	246	39.3	+21	58.9	244	09.4	+22	00.4	329	04.1	−6	40.0
1	334	00.4	175	36.7		38.8	261	40.0		59.1	259	11.4		00.5	344	06.7		40.1
2	349	02.9	190	36.3		37.6	276	40.7		59.3	274	13.4		00.5	359	09.3		40.2
3	4	05.3	205	35.9		36.5	291	41.4		59.6	289	15.5		00.6	14	11.9		40.2
4	19	07.8	220	35.4		35.3	306	42.1	+21	59.8	304	17.5		00.6	29	14.5		40.3
5	34	10.3	235	35.0	+10	34.2	321	42.8	+22	00.0	319	19.5	+22	00.7	44	17.1	−6	40.4
6	49	12.7	250	34.6	+10	33.0	336	43.5	+22	00.3	334	21.5	+22	00.7	59	19.7	−6	40.4
7	64	15.2	265	34.2		31.9	351	44.2		00.5	349	23.6		00.7	74	22.3		40.5
8	79	17.7	280	33.7		30.7	6	44.9		00.7	4	25.6		00.8	89	24.9		40.6
9	94	20.1	295	33.3		29.6	21	45.6		01.0	19	27.6		00.8	104	27.5		40.6
10	109	22.6	310	32.9		28.4	36	46.3		01.2	34	29.7		00.9	119	30.1		40.7
11	124	25.1	325	32.5	+10	27.2	51	47.0	+22	01.4	49	31.7	+22	00.9	134	32.7	−6	40.8
12	139	27.5	340	32.0	+10	26.1	66	47.8	+22	01.7	64	33.7	+22	00.9	149	35.3	−6	40.8
13	154	30.0	355	31.6		24.9	81	48.5		01.9	79	35.7		01.0	164	37.9		40.9
14	169	32.5	10	31.2		23.8	96	49.2		02.1	94	37.8		01.0	179	40.5		41.0
15	184	34.9	25	30.8		22.6	111	49.9		02.4	109	39.8		01.1	194	43.1		41.0
16	199	37.4	40	30.3		21.5	126	50.6		02.6	124	41.8		01.1	209	45.7		41.1
17	214	39.8	55	29.9	+10	20.3	141	51.3	+22	02.8	139	43.9	+22	01.1	224	48.4	−6	41.2
18	229	42.3	70	29.5	+10	19.1	156	52.0	+22	03.1	154	45.9	+22	01.2	239	51.0	−6	41.2
19	244	44.8	85	29.1		18.0	171	52.7		03.3	169	47.9		01.2	254	53.6		41.3
20	259	47.2	100	28.6		16.8	186	53.4		03.5	184	50.0		01.3	269	56.2		41.4
21	274	49.7	115	28.2		15.6	201	54.1		03.7	199	52.0		01.3	284	58.8		41.4
22	289	52.2	130	27.8		14.5	216	54.8		04.0	214	54.0		01.4	300	01.4		41.5
23	304	54.6	145	27.4		13.3	231	55.5		04.2	229	56.1		01.4	315	04.0		41.6
24	319	57.1	160	27.0	+10	12.2	246	56.2	+22	04.4	244	58.1	+22	01.4	330	06.6	−6	41.6
Dif	—		−4		−12		+7		+2		+20		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 05.1 ^m				Edad: 6.5 ^d SD: 14'8 PMG: 17 ^h 01 ^m		PHE { 4 ^h : 54'4 12 ^h : 54'6 20 ^h : 54'7 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	h	m	m					
0	178	41.6	+15	10.8	112	05.3	-13	36.9	127					60 N	20	03	20	56	22	17		12	56	93	20	51	1					
1	193	41.7		10.0	126	40.0	-13	49.6	127					58	19	53	41	21	50		46	86		21	03	6						
2	208	41.8		09.3	141	14.7	-14	02.3	127					56	45		29	30		36	83		13	10								
3	223	41.9		08.6	155	49.3		15.0	127					54	38		19	14		28	79		22	13								
4	238	42.0		07.8	170	23.9		27.5	125					52	31		10	21	00		21	75		30	16							
5	253	42.1	+15	07.1	184	58.4	-14	40.1	126					50	19	25	20	01	20	48		12	14	73	21	37	19					
6	268	42.2	+15	06.3	199	32.8	-14	52.5	124					45	19	12	19	44	20	24		12	00	68	21	53	24					
7	283	42.3		05.6	214	07.2	-15	05.0	125					40	19	01	31	20	06		11	48	64	22	06	28						
8	298	42.4		04.8	228	41.5		17.4	124					35	18	52	19	19	52		38	61		17	31							
9	313	42.5		04.1	243	15.7		29.7	123					30	45		19	10	40		30	57		26	34							
10	328	42.6		03.3	257	49.9		42.0	123					20	31		18	54	21		15	53		43	39							
11	343	42.7	+15	02.6	272	24.0	-15	54.2	122					10 N	18	19	18	41	19	07		11	02	49	22	58	42					
12	358	42.9	+15	01.8	286	58.0	-16	06.3	121					0	18	09	18	30	18	55		10	51	44	23	11	47					
13	13	43.0		01.1	301	31.9		18.4	121					10 S	17	58		19	45		39	40		25	50							
14	28	43.1	+15	00.3	316	05.8		30.5	121					20	46		18	09	35		26	37		40	54							
15	43	43.2	+14	59.6	330	39.5		42.5	120					30	34		17	58	27		12	32		23	57	59						
16	58	43.3		58.8	345	13.3	-16	54.4	119					35	26		52	22		10	04	29		**	**	**						
17	73	43.4	+14	58.1	359	46.9	-17	06.3	119					40	17	18	17	46	18	18		9	55	25	**	**	**					
18	88	43.5	+14	57.3	14	20.4	-17	18.1	118					45	17	08	17	39	18	14		9	44	21	**	**	**					
19	103	43.6		56.6	28	53.9		29.9	118					50	16	56	31		09	31	17		31	17	**	**	**					
20	118	43.7		55.8	43	27.3		41.5	116					52	51		27		07	25	14				**	**	**					
21	133	43.8		55.1	58	00.6	-17	53.2	117					54	45		23		05	18	12				**	**	**					
22	148	43.9		54.3	72	33.8	-18	04.7	115					56	38		18		03	11	8				**	**	**					
23	163	44.0		53.6	87	07.0		16.2	115					58	31		13	18	00	9	02	5		0	02	84						
24	178	44.1	+14	52.8	101	40.1	-18	27.6	114					60 S	16	22	17	08	17	58		8	53	0	0	11	89					
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO															
	PMG 2 ^h 39.8 ^m				Mag: -3.8 PMG: 13 ^h 19 ^m				Mag: +0.8 PMG: 7 ^h 32 ^m				Mag: -2.2 PMG: 7 ^h 39 ^m				Mag: +0.8 PMG: 1 ^h 59 ^m															
h	hG ♊		Dec		hG ♈		Dec		hG ♊		Dec		hG ♊		Dec		hG ♎		Dec													
0	319	57.1	160	27.0	+10	12.2	246	56.2	+22	04.4	244	58.1	+22	01.4	330	06.6	-6	41.6														
1	334	59.6	175	26.5		11.0	261	56.9		04.7	260	00.1		01.5	345	09.2		41.7														
2	350	02.0	190	26.1		09.8	276	57.6		04.9	275	02.1		01.5	0	11.8		41.8														
3	5	04.5	205	25.7		08.7	291	58.3		05.1	290	04.2		01.6	15	14.4		41.8														
4	20	06.9	220	25.3		07.5	306	59.0		05.3	305	06.2		01.6	30	17.0		41.9														
5	35	09.4	235	24.9	+10	06.3	321	59.8	+22	05.6	320	08.2	+22	01.6	45	19.6	-6	42.0														
6	50	11.9	250	24.4	+10	05.2	337	00.5	+22	05.8	335	10.3	+22	01.7	60	22.2	-6	42.0														
7	65	14.3	265	24.0		04.0	352	01.2		06.0	350	12.3		01.7	75	24.8		42.1														
8	80	16.8	280	23.6		02.8	7	01.9		06.3	5	14.3		01.8	90	27.4		42.2														
9	95	19.3	295	23.2		01.7	22	02.6		06.5	20	16.4		01.8	105	30.0		42.2														
10	110	21.7	310	22.8	+10	00.5	37	03.3		06.7	35	18.4		01.8	120	32.6		42.3														
11	125	24.2	325	22.4	+9	59.3	52	04.0	+22	06.9	50	20.4	+22	01.9	135	35.2	-6	42.4														
12	140	26.7	340	21.9	+9	58.2	67	04.7	+22	07.2	65	22.5	+22	01.9	150	37.8	-6	42.4														
13	155	29.1	355	21.5		57.0	82	05.4		07.4	80	24.5		02.0	165	40.4		42.5														
14	170	31.6	10	21.1		55.8	97	06.1		07.6	95	26.6		02.0	180	43.0		42.6														
15	185	34.1	25	20.7		54.6	112	06.8		07.8	110	28.6		02.0	195	45.6		42.6														
16	200	36.5	40	20.3		53.5	127	07.5		08.1	125	30.6		02.1	210	48.2		42.7														
17	215	39.0	55	19.9	+9	52.3	142	08.2	+22	08.3	140	32.7	+22	02.1	225	50.8	-6	42.8														
18	230	41.4	70	19.5	+9	51.1	157	08.9	+22	08.5	155	34.7	+22	02.2	240	53.4	-6	42.8														
19	245	43.9	85	19.0		50.0	172	09.7		08.7	170	36.7		02.2	255	56.1		42.9														
20	260	46.4	100	18.6		48.8	187	10.4		08.9	185	38.8		02.2	270	58.7		43.0														
21	275	48.8	115	18.2		47.6	202	11.1		09.2	200	40.8		02.3	286	01.3		43.0														
22	290	51.3	130	17.8		46.4	217	11.8		09.4	215	42.8		02.3	301	03.9		43.1														
23	305	53.8	145	17.4		45.3	232	12.5		09.6	230	44.9		02.4	316	06.5		43.2														
24	320	56.2	160	17.0	+9	44.1	247	13.2	+22	09.8	245	46.9	+22	02.4	331	09.1	-6	43.2														
Dif	—				-4				+7				+2				+20				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 05.0 ^m				Edad: 7.5 ^d SD: 14 ^h 9 PMG: 17 ^h 46 ^m													
					PHE { 4 ^h : 54 ^h 8 12 ^h : 55 ^h 0 20 ^h : 55 ^h 2 Rº: 50 ^m													
	hG ☉	Dec			hG ☾	Dif		Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	44.1	+ 14	52.8	101	40.1	-18	27.6	60 N	1 54	3 15	4 08	14 29	98	20 52	3		
1	193	44.2		52.0	116	13.0		39.0	58	2 21	29	18	14 12	91	21 09	11		
2	208	44.3		51.3	130	45.9	-18	50.3	56	41	42	26	13 59	85	23 16			
3	223	44.4		50.5	145	18.7	-19	01.5	54	2 57	3 52	33	47 81		35 21			
4	238	44.6		49.8	159	51.4		12.7	52	3 11	4 01	40	36 78		46 24			
5	253	44.7	+ 14	49.0	174	24.1	-19	23.7	50	3 23	4 09	4 46	13 27	75	21 56	26		
6	268	44.8	+ 14	48.3	188	56.6	-19	34.7	45	3 46	4 26	4 59	13 08	69	22 17	31		
7	283	44.9		47.5	203	29.0		45.7	40	4 04	40	5 09	12 52	66	34 35			
8	298	45.0		46.8	218	01.4	-19	56.5	35	19	4 51	18	39 62		22 48	38		
9	313	45.1		46.0	232	33.6	-20	07.3	30	30	5 01	26	27 60		23 00	41		
10	328	45.2		45.2	247	05.8		18.0	20	4 49	16	39	12 08	55	22 44			
11	343	45.3	+ 14	44.5	261	37.9	-20	28.6	10 N	5 04	5 29	5 51	11 51	52	23 40	48		
12	358	45.4	+ 14	43.7	276	09.9	-20	39.2	0	5 15	5 40	6 02	11 35	48	23 58	50		
13	13	45.5		43.0	290	41.8	-20	49.6	10 S	25	5 51	12	19 45		** ** *			
14	28	45.6		42.2	305	13.5	-21	00.0	20	35	6 01	23	11 03	41	** ** *			
15	43	45.8		41.4	319	45.2	-21	10.3	30	43	11	36	10 44	37	** ** *			
16	58	45.9		40.7	334	16.8		20.5	35	47	17	43	33 34		0 07	61		
17	73	46.0	+ 14	39.9	348	48.3	-21	30.6	40	5 52	6 23	6 52	10 20	32	0 19	64		
18	88	46.1	+ 14	39.2	3	19.7	-21	40.7	45	5 56	6 31	7 01	10 05	28	0 32	69		
19	103	46.2		38.4	17	51.0	-21	50.6	50	6 01	39	13	9 48	22	49 74			
20	118	46.3		37.6	32	22.2	-22	00.5	52	02	42	18	39 20		0 57	76		
21	133	46.4		36.9	46	53.3		10.3	54	05	46	24	30 17		1 05	80		
22	148	46.5		36.1	61	24.3		19.9	56	07	51	30	19 13		15 84			
23	163	46.7		35.3	75	55.2		29.5	58	09	6 56	38	9 07	9	26 89			
24	178	46.8	+ 14	34.6	90	26.0	-22	39.0	60 S	6 11	7 01	7 46	8 53	3	1 40	94		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 35.8 ^m		Mag: -3.8 PMG: 13 ^h 19 ^m			Mag: +0.8 PMG: 7 ^h 31 ^m			Mag: -2.2 PMG: 7 ^h 36 ^m			Mag: +0.8 PMG: 1 ^h 55 ^m						
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	320	56.2	160	17.0	+9	44.1	247	13.2	+22	09.8	245	46.9	+22	02.4	331	09.1	-6	43.2
1	335	58.7	175	16.6		42.9	262	13.9		10.0	260	49.0		02.4	346	11.7		43.3
2	351	01.2	190	16.2		41.7	277	14.6		10.3	275	51.0		02.5	1	14.3		43.4
3	6	03.6	205	15.8		40.6	292	15.3		10.5	290	53.0		02.5	16	16.9		43.4
4	21	06.1	220	15.3		39.4	307	16.0		10.7	305	55.1		02.6	31	19.5		43.5
5	36	08.6	235	14.9	+9	38.2	322	16.7	+22	10.9	320	57.1	+22	02.6	46	22.1	-6	43.6
6	51	11.0	250	14.5	+9	37.0	337	17.5	+22	11.1	335	59.1	+22	02.6	61	24.7	-6	43.7
7	66	13.5	265	14.1		35.9	352	18.2		11.4	351	01.2		02.7	76	27.3		43.7
8	81	15.9	280	13.7		34.7	7	18.9		11.6	6	03.2		02.7	91	29.9		43.8
9	96	18.4	295	13.3		33.5	22	19.6		11.8	21	05.3		02.8	106	32.5		43.9
10	111	20.9	310	12.9		32.3	37	20.3		12.0	36	07.3		02.8	121	35.1		43.9
11	126	23.3	325	12.5	+9	31.1	52	21.0	+22	12.2	51	09.3	+22	02.8	136	37.7	-6	44.0
12	141	25.8	340	12.1	+9	30.0	67	21.7	+22	12.5	66	11.4	+22	02.9	151	40.4	-6	44.1
13	156	28.3	355	11.7		28.8	82	22.4		12.7	81	13.4		02.9	166	43.0		44.1
14	171	30.7	10	11.3		27.6	97	23.1		12.9	96	15.5		03.0	181	45.6		44.2
15	186	33.2	25	10.9		26.4	112	23.9		13.1	111	17.5		03.0	196	48.2		44.3
16	201	35.7	40	10.5		25.2	127	24.6		13.3	126	19.5		03.0	211	50.8		44.3
17	216	38.1	55	10.0	+9	24.1	142	25.3	+22	13.5	141	21.6	+22	03.1	226	53.4	-6	44.4
18	231	40.6	70	09.6	+9	22.9	157	26.0	+22	13.7	156	23.6	+22	03.1	241	56.0	-6	44.5
19	246	43.0	85	09.2		21.7	172	26.7		14.0	171	25.7		03.2	256	58.6		44.5
20	261	45.5	100	08.8		20.5	187	27.4		14.2	186	27.7		03.2	272	01.2		44.6
21	276	48.0	115	08.4		19.3	202	28.1		14.4	201	29.7		03.2	287	03.8		44.7
22	291	50.4	130	08.0		18.1	217	28.8		14.6	216	31.8		03.3	302	06.4		44.7
23	306	52.9	145	07.6		17.0	232	29.5		14.8	231	33.8		03.3	317	09.0		44.8
24	321	55.4	160	07.2	+9	15.8	247	30.3	+22	15.0	246	35.9	+22	03.4	332	11.6	-6	44.9
Dif	—		-4		-12		+7		+2		+20		0		+26		-1	

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15 ^h 8 PMG:12 ^h 04.8 ^m		Edad: 8.5 ^d SD: 15 ^h 1 PMG: 18 ^h 36 ^m PHE { 4 ^h : 55 ^h /4 12 ^h : 55 ^h /6 20 ^h : 55 ^h /9 R°: 54 ^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 46.8	+14 34.6	90 26.0		-22 39.0		60 N	19 57	20 49	22 07	16 07 101	20 55 12		
1	193 46.9		33.8	104 56.7	117 48.4	94	58	48	36	21 42	15 43 90	21 20 22		
2	208 47.0		33.1	119 27.2	115 57.7	93	56	40	24	23	24 83	39 29		
3	223 47.1		32.3	133 57.7	115 06.9	92	54	33	14	21 08	15 08 79	21 56 32		
4	238 47.2		31.5	148 28.1	114 16.0	91	52	27	20 05	20 55	14 54 76	22 10 35		
5	253 47.3	+14 30.8		162 58.4	113 25.0	90	50	19 21	19 57	20 43	14 42 74	22 22 38		
6	268 47.5	+14 30.0		177 28.5	111 33.9	89	45	19 09	19 41	20 21	14 17 69	22 48 42		
7	283 47.6		29.2	191 58.6	111 42.7	88	40	18 59	28	20 03	13 58 66	23 09 44		
8	298 47.7		28.5	206 28.5	109 51.4	87	35	50	17	19 49	41 64	26 46		
9	313 47.8		27.7	220 58.4	109 00.0	86	30	43	19 08	38	27 62	23 41 48		
10	328 47.9		26.9	235 28.1	107 08.5	85	20	30	18 53	20	13 03 58	** ** *		
11	343 48.0	+14 26.2		249 57.8	107 16.9	84	10 N	18 19	18 40	19 06	12 43 55	** ** *		
12	358 48.1	+14 25.4		264 27.3	105 25.2	83	0	18 08	18 30	18 54	12 23 53	** ** *		
13	13 48.3		24.6	278 56.7	104 33.3	81	10 S	17 58	20	45	12 04 51	0 15 54		
14	28 48.4		23.9	293 26.0	103 41.4	81	20	47	18 10	36	11 44 48	34 57		
15	43 48.5		23.1	307 55.2	102 49.3	79	30	35	17 59	28	21 44	0 56 60		
16	58 48.6		22.3	322 24.3	101 57.1	78	35	28	54	24	11 07 42	1 08 64		
17	73 48.7	+14 21.5		336 53.3	100 04.8	77	40	17 20	17 48	18 20	10 52 39	1 23 66		
18	88 48.8	+14 20.8		351 22.2	99 12.4	76	45	17 10	17 41	18 16	10 33 36	1 41 69		
19	103 49.0		20.0	5 51.0	98 19.9	75	50	16 59	33	11	10 10 32	2 03 74		
20	118 49.1		19.2	20 19.6	96 27.2	73	52	54	30	10	9 59 29	13 78		
21	133 49.2		18.5	34 48.2	96 34.5	73	54	48	26	08	47 26	25 81		
22	148 49.3		17.7	49 16.7	95 41.6	71	56	42	22	06	32 22	39 85		
23	163 49.4		16.9	63 45.0	93 48.6	70	58	35	17	04	9 16 16	2 55 90		
24	178 49.6	+14 16.1		78 13.3	93 55.4	68	60 S	16 27	17 12	18 02	8 56 7	3 14 100		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 31.9 ^m		Mag: -3.8 PMG: 13 ^h 20 ^m		Mag: +0.8 PMG: 7 ^h 30 ^m		Mag: -2.2 PMG: 7 ^h 33 ^m		Mag: +0.8 PMG: 1 ^h 51 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	/	°	/	°	/	°	/	°	/
0	321 55.4		160 07.2	+9 15.8	247 30.3	+22 15.0	246 35.9	+22 03.4	332 11.6	-6 44.9
1	336 57.8		175 06.8	14.6	262 31.0	15.2	261 37.9	03.4	347 14.2	44.9
2	352 00.3		190 06.4	13.4	277 31.7	15.5	276 40.0	03.4	2 16.9	45.0
3	7 02.8		205 06.0	12.2	292 32.4	15.7	291 42.0	03.5	17 19.5	45.1
4	22 05.2		220 05.6	11.0	307 33.1	15.9	306 44.0	03.5	32 22.1	45.2
5	37 07.7		235 05.2	+9 09.8	322 33.8	+22 16.1	321 46.1	+22 03.5	47 24.7	-6 45.2
6	52 10.2		250 04.8	+9 08.7	337 34.5	+22 16.3	336 48.1	+22 03.6	62 27.3	-6 45.3
7	67 12.6		265 04.4	07.5	352 35.2	16.5	351 50.2	03.6	77 29.9	45.4
8	82 15.1		280 04.0	06.3	7 36.0	16.7	6 52.2	03.7	92 32.5	45.4
9	97 17.5		295 03.6	05.1	22 36.7	16.9	21 54.3	03.7	107 35.1	45.5
10	112 20.0		310 03.2	03.9	37 37.4	17.1	36 56.3	03.7	122 37.7	45.6
11	127 22.5		325 02.8	+9 02.7	52 38.1	+22 17.4	51 58.3	+22 03.8	137 40.3	-6 45.6
12	142 24.9		340 02.4	+9 01.5	67 38.8	+22 17.6	67 00.4	+22 03.8	152 42.9	-6 45.7
13	157 27.4		355 02.0	+9 00.3	82 39.5	17.8	82 02.4	03.9	167 45.6	45.8
14	172 29.9		10 01.6	+8 59.1	97 40.2	18.0	97 04.5	03.9	182 48.2	45.8
15	187 32.3		25 01.2	57.9	112 41.0	18.2	112 06.5	03.9	197 50.8	45.9
16	202 34.8		40 00.8	56.8	127 41.7	18.4	127 08.6	04.0	212 53.4	46.0
17	217 37.3		55 00.4	+8 55.6	142 42.4	+22 18.6	142 10.6	+22 04.0	227 56.0	-6 46.0
18	232 39.7		70 00.0	+8 54.4	157 43.1	+22 18.8	157 12.7	+22 04.0	242 58.6	-6 46.1
19	247 42.2		84 59.6	53.2	172 43.8	19.0	172 14.7	04.1	258 01.2	46.2
20	262 44.7		99 59.2	52.0	187 44.5	19.2	187 16.8	04.1	273 03.8	46.3
21	277 47.1		114 58.8	50.8	202 45.2	19.4	202 18.8	04.2	288 06.4	46.3
22	292 49.6		129 58.4	49.6	217 46.0	19.6	217 20.8	04.2	303 09.0	46.4
23	307 52.0		144 58.1	48.4	232 46.7	19.8	232 22.9	04.2	318 11.6	46.5
24	322 54.5		159 57.7	+8 47.2	247 47.4	+22 20.0	247 24.9	+22 04.3	333 14.3	-6 46.5
Dif	—		-4	-12	+7	+2	+20	0	+26	-1

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 04.6 ^m				Edad: 9.5 ^d SD: 15'3 PMG: 19 ^h 30 ^m PHE { 4 ^h : 56'1 12 ^h : 56'4 20 ^h : 56'7 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	178	49.6	+14	16.1	78	13.3	-25	55.4	60 N	2 03	3 21	4 13	17 48	82	21 07	38		
1	193	49.7		15.4	92	41.4	-26	02.1	58	28	35	22	17 13	74	21 42	46		
2	208	49.8		14.6	107	09.4		08.7	56	2 47	46	30	16 47	72	22 08	49		
3	223	49.9		13.8	121	37.3		15.2	54	3 02	3 56	37	27 69		28 5			
4	238	50.0		13.0	136	05.2		21.6	52	16	4 05	43	16 10	68	22 45	52		
5	253	50.2	+14	12.3	150	32.9	-26	27.8	50	3 27	4 13	4 49	15 56	66	23 00	53		
6	268	50.3	+14	11.5	165	00.5	-26	33.8	45	3 49	4 29	5 01	15 26	65	23 30	54		
7	283	50.4		10.7	179	28.0		39.8	40	4 07	42	11	15 04	63	23 53	56		
8	298	50.5		09.9	193	55.4		45.6	35	20	4 53	20	14 45	62	** ** *	**		
9	313	50.6		09.2	208	22.7		51.3	30	32	5 02	27	29 61		** ** *	**		
10	328	50.8		08.4	222	49.9	-26	56.8	20	4 50	17	40	14 01	60	0 06	51		
11	343	50.9	+14	07.6	237	17.0	-27	02.2	10 N	5 04	5 29	5 51	13 38	58	0 28	53		
12	358	51.0	+14	06.8	251	44.0	-27	07.4	0	5 15	5 40	6 01	13 16	58	0 48	55		
13	13	51.1		06.0	266	10.9		12.6	10 S	25	50	11	12 55	56	1 09	57		
14	28	51.2		05.3	280	37.7		17.5	20	33	5 59	22	32 54		31 59			
15	43	51.4		04.5	295	04.4		22.3	30	41	6 10	34	12 05	53	1 56	62		
16	58	51.5		03.7	309	31.0		27.0	35	45	15	41	11 49	52	2 12	63		
17	73	51.6	+14	02.9	323	57.5	-27	31.5	40	5 49	6 21	6 49	11 31	50	2 29	65		
18	88	51.7	+14	02.2	338	23.9	-27	35.9	45	5 53	6 28	6 58	11 09	48	2 50	68		
19	103	51.9		01.4	352	50.2		40.1	50	57	35	7 09	10 42	45	3 17	71		
20	118	52.0	+14	00.6	7	16.4		44.2	52	5 59	39	14	28 44		31 72			
21	133	52.1	+13	59.8	21	42.6		48.1	54	6 01	42	20	10 13	41	3 46	75		
22	148	52.2		59.0	36	08.6		51.9	56	03	47	26	9 54	39	4 04	78		
23	163	52.4		58.2	50	34.6		55.5	58	05	51	33	32 33		25 84			
24	178	52.5	+13	57.5	65	00.4	-27	59.0	60 S	6 07	6 56	7 41	9 03	24	4 54	93		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 28.0 ^m		Mag: -3.8 PMG: 13 ^h 21 ^m			Mag: +0.8 PMG: 7 ^h 28 ^m			Mag: -2.2 PMG: 7 ^h 29 ^m			Mag: +0.7 PMG: 1 ^h 47 ^m						
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	322	54.5	159	57.7	+8	47.2	247	47.4	+22	20.0	247	24.9	+22	04.3	333	14.3	-6	46.5
1	337	57.0	174	57.3		46.0	262	48.1		20.3	262	27.0		04.3	348	16.9		46.6
2	352	59.4	189	56.9		44.8	277	48.8		20.5	277	29.0		04.4	3	19.5		46.7
3	8	01.9	204	56.5		43.6	292	49.5		20.7	292	31.1		04.4	18	22.1		46.7
4	23	04.4	219	56.1		42.4	307	50.2		20.9	307	33.1		04.4	33	24.7		46.8
5	38	06.8	234	55.7	+8	41.2	322	51.0	+22	21.1	322	35.2	+22	04.5	48	27.3	-6	46.9
6	53	09.3	249	55.3	+8	40.0	337	51.7	+22	21.3	337	37.2	+22	04.5	63	29.9	-6	46.9
7	68	11.8	264	54.9		38.8	352	52.4		21.5	352	39.3		04.5	78	32.5		47.0
8	83	14.2	279	54.5		37.6	7	53.1		21.7	7	41.3		04.6	93	35.1		47.1
9	98	16.7	294	54.1		36.4	22	53.8		21.9	22	43.4		04.6	108	37.8		47.1
10	113	19.2	309	53.7		35.2	37	54.5		22.1	37	45.4		04.7	123	40.4		47.2
11	128	21.6	324	53.3	+8	34.0	52	55.3	+22	22.3	52	47.5	+22	04.7	138	43.0	-6	47.3
12	143	24.1	339	53.0	+8	32.8	67	56.0	+22	22.5	67	49.5	+22	04.7	153	45.6	-6	47.4
13	158	26.5	354	52.6		31.6	82	56.7		22.7	82	51.6		04.8	168	48.2		47.4
14	173	29.0	9	52.2		30.4	97	57.4		22.9	97	53.6		04.8	183	50.8		47.5
15	188	31.5	24	51.8		29.2	112	58.1		23.1	112	55.7		04.8	198	53.4		47.6
16	203	33.9	39	51.4		28.0	127	58.8		23.3	127	57.7		04.9	213	56.0		47.6
17	218	36.4	54	51.0	+8	26.8	142	59.6	+22	23.5	142	59.8	+22	04.9	228	58.6	-6	47.7
18	233	38.9	69	50.6	+8	25.6	158	00.3	+22	23.7	158	01.8	+22	05.0	244	01.3	-6	47.8
19	248	41.3	84	50.2		24.4	173	01.0		23.9	173	03.9		05.0	259	03.9		47.8
20	263	43.8	99	49.8		23.2	188	01.7		24.1	188	05.9		05.0	274	06.5		47.9
21	278	46.3	114	49.5		22.0	203	02.4		24.3	203	08.0		05.1	289	09.1		48.0
22	293	48.7	129	49.1		20.8	218	03.1		24.5	218	10.0		05.1	304	11.7		48.1
23	308	51.2	144	48.7		19.6	233	03.9		24.7	233	12.1		05.1	319	14.3		48.1
24	323	53.6	159	48.3	+8	18.4	248	04.6	+22	24.9	248	14.1	+22	05.2	334	16.9	-6	48.2
Dif	—		-4		-12		+7		+2		+20		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 04.4 ^m			Edad: 10.5 ^d PHE { 4 ^h : 57/0 12 ^h : 57/3 20 ^h : 57/6 Rº: 60 ^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	52.5	+13	57.5	65	00.4	68	-27	59.0	33	19 52	20 43	21 57	19 10	39	21 45	88	
1	193	52.6		56.7	79	26.2	67	-28	02.3	31	43	30	34	18 27	47	22 28	79	
2	208	52.7		55.9	93	51.9	66		05.4	30	36	19	16	17 59	50	22 57	75	
3	223	52.9		55.1	108	17.5	66		08.4	28	29	09	21 02	36 52	23 19	73		
4	238	53.0		54.3	122	43.0	65		11.2	27	23	20 01	20 49	18 53	37 72			
5	253	53.1	+13	53.5	137	08.4	64	-28	13.9	27	19 18	19 53	20 39	17 02	55	23 53	70	
6	268	53.2	+13	52.8	151	33.8	64	-28	16.4	25	19 06	19 38	20 17	16 31	56	** ** *		
7	283	53.4		52.0	165	59.1	63		18.7	23	18 56	25	20 00	16 07	57	** ** *		
8	298	53.5		51.2	180	24.3	62		20.9	22	48	15	19 47	15 47	57	0 12	57	
9	313	53.6		50.4	194	49.4	61		22.9	20	41	19 06	36	30 58	29 57			
10	328	53.7		49.6	209	14.5	61		24.7	18	28	18 51	18	15 01	59	0 57	57	
11	343	53.9	+13	48.8	223	39.4	59	-28	26.4	17	18 18	18 39	19 05	14 36	60	1 21	58	
12	358	54.0	+13	48.0	238	04.3	59	-28	27.9	15	18 08	18 29	18 54	14 14	59	1 43	59	
13	13	54.1		47.3	252	29.2	59		29.2	13	17 58	20	44	13 51	60	2 06	59	
14	28	54.3		46.5	266	54.0	58		30.3	11	48	10	36	13 26	61	30 59		
15	43	54.4		45.7	281	18.7	57		31.3	10	36	18 01	29	12 58	61	2 58	60	
16	58	54.5		44.9	295	43.3	56		32.1	8	29	17 55	25	41 61	3 15	60		
17	73	54.6	+13	44.1	310	07.9	56	-28	32.7	6	17 22	17 50	18 21	12 21	62	3 34	60	
18	88	54.8	+13	43.3	324	32.4	55	-28	33.2	5	17 13	17 43	18 18	11 57	62	3 58	60	
19	103	54.9		42.5	338	56.9	55		33.5	3	17 02	36	14	27 62	4 28	61		
20	118	55.0		41.7	353	21.3	54		33.6	1	16 57	33	12	11 12	62	4 43	61	
21	133	55.2		40.9	7	45.7	54		33.5	2	52	29	11	10 54	62	5 01	60	
22	148	55.3		40.2	22	10.0	53		33.3	5	46	25	09	33 62	22 61			
23	163	55.4		39.4	36	34.2	52		32.8	5	39	21	07	10 05	63	5 49	61	
24	178	55.5	+13	38.6	50	58.5	53	-28	32.2	6	16 32	17 16	18 06	9 27	64	6 27	61	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 2 ^h 24.0 ^m		Mag: -3.8 PMG: 13 ^h 21 ^m			Mag: +0.8 PMG: 7 ^h 27 ^m			Mag: -2.2 PMG: 7 ^h 26 ^m			Mag: +0.7 PMG: 1 ^h 43 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	323	53.6	159	48.3	+8	18.4	248	04.6	+22	24.9	248	14.1	+22	05.2	334	16.9	-6	48.2
1	338	56.1	174	47.9		17.2	263	05.3		25.1	263	16.2		05.2	349	19.5		48.3
2	353	58.6	189	47.5		16.0	278	06.0		25.3	278	18.2		05.2	4	22.2		48.3
3	9	01.0	204	47.1		14.8	293	06.7		25.5	293	20.3		05.3	19	24.8		48.4
4	24	03.5	219	46.8		13.6	308	07.5		25.7	308	22.4		05.3	34	27.4		48.5
5	39	06.0	234	46.4	+8	12.4	323	08.2	+22	25.9	323	24.4	+22	05.4	49	30.0	-6	48.5
6	54	08.4	249	46.0	+8	11.2	338	08.9	+22	26.1	338	26.5	+22	05.4	64	32.6	-6	48.6
7	69	10.9	264	45.6		10.0	353	09.6		26.3	353	28.5		05.4	79	35.2		48.7
8	84	13.4	279	45.2		08.8	8	10.3		26.4	8	30.6		05.5	94	37.8		48.8
9	99	15.8	294	44.8		07.6	23	11.1		26.6	23	32.6		05.5	109	40.4		48.8
10	114	18.3	309	44.5		06.4	38	11.8		26.8	38	34.7		05.5	124	43.1		48.9
11	129	20.8	324	44.1	+8	05.1	53	12.5	+22	27.0	53	36.7	+22	05.6	139	45.7	-6	49.0
12	144	23.2	339	43.7	+8	03.9	68	13.2	+22	27.2	68	38.8	+22	05.6	154	48.3	-6	49.0
13	159	25.7	354	43.3		02.7	83	13.9		27.4	83	40.8		05.7	169	50.9		49.1
14	174	28.1	9	42.9		01.5	98	14.7		27.6	98	42.9		05.7	184	53.5		49.2
15	189	30.6	24	42.5	+8	00.3	113	15.4		27.8	113	45.0		05.7	199	56.1		49.2
16	204	33.1	39	42.2	+7	59.1	128	16.1		28.0	128	47.0		05.8	214	58.7		49.3
17	219	35.5	54	41.8	+7	57.9	143	16.8	+22	28.2	143	49.1	+22	05.8	230	01.4	-6	49.4
18	234	38.0	69	41.4	+7	56.7	158	17.5	+22	28.4	158	51.1	+22	05.8	245	04.0	-6	49.5
19	249	40.5	84	41.0		55.5	173	18.3		28.6	173	53.2		05.9	260	06.6		49.5
20	264	42.9	99	40.6		54.3	188	19.0		28.8	188	55.2		05.9	275	09.2		49.6
21	279	45.4	114	40.3		53.0	203	19.7		29.0	203	57.3		05.9	290	11.8		49.7
22	294	47.9	129	39.9		51.8	218	20.4		29.1	218	59.4		06.0	305	14.4		49.7
23	309	50.3	144	39.5		50.6	233	21.1		29.3	234	01.4		06.0	320	17.0		49.8
24	324	52.8	159	39.1	+7	49.4	248	21.9	+22	29.5	249	03.5	+22	06.1	335	19.7	-6	49.9
Dif	—		-4		-12		+7		+2		+21		0		+26		-1	

UT	SOL				LUNA							Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 04.2 ^m				Edad: 11.5 ^d PHE { 4 ^h : 57'9 12 ^h : 58'2 20 ^h : 58'5 R°: 60 ^m SD: 15'7 PMG: 21 ^h 28 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec				Dif			Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	55.5	+13	38.6	50	58.5	51	–28	32.2	8	60 N	2 13	3 27	4 18	19 49	12	23 13	113	
1	193	55.7		37.8	65	22.6	51		31.4	9	58	35	40	26	19 14	23	23 47	102	
2	208	55.8		37.0	79	46.7	51		30.5	9	56	2 53	3 51	34	18 49	30	** ** *	**	
3	223	55.9		36.2	94	10.8	51		29.3	12	54	3 08	4 00	40		28 35	** ** *	**	
4	238	56.1		35.4	108	34.9	51		28.0	13	52	20	08	46	18 11	38	** ** *	**	
5	253	56.2	+13	34.6	122	58.9	50	–28	26.5	15	50	3 31	4 16	4 52	17 57	40	** ** *	**	
6	268	56.3	+13	33.8	137	22.9	50	–28	24.8	17	45	3 52	4 32	5 03	17 27	45	0 24	69	
7	283	56.5		33.0	151	46.8	49		22.9	19	40	4 09	44	13	17 04	48	0 49	66	
8	298	56.6		32.2	166	10.7	49		20.8	21	35	22	4 54	21	16 44	51	1 09	65	
9	313	56.7		31.4	180	34.6	49		18.6	22	30	33	5 03	28	28 52		26	64	
10	328	56.9		30.6	194	58.5	49		16.2	24	20	4 51	18	40	16 00	55	1 54	63	
11	343	57.0	+13	29.8	209	22.3	48	–28	13.5	27	10 N	5 04	5 29	5 51	15 36	58	2 19	62	
12	358	57.1	+13	29.0	223	46.1	48	–28	10.7	28	0	5 15	5 40	6 01	15 13	61	2 42	60	
13	13	57.3		28.2	238	09.9	48		07.7	30	10 S	24	49	11	14 51	62	3 05	59	
14	28	57.4		27.5	252	33.7	48		04.6	31	20	32	5 58	21	14 27	65	29	58	
15	43	57.5		26.7	266	57.5	48	–28	01.2	34	30	40	6 08	32	13 59	67	3 58	55	
16	58	57.7		25.9	281	21.2	47	–27	57.7	35	35	43	13	39	42 70		4 15	54	
17	73	57.8	+13	25.1	295	45.0	48	–27	53.9	38	40	5 47	6 18	6 46	13 23	71	4 34	53	
18	88	57.9	+13	24.3	310	08.7	47	–27	50.0	41	45	5 50	6 25	6 55	12 59	74	4 58	50	
19	103	58.1		23.5	324	32.4	47		45.9	43	50	54	32	7 05	29 78		5 29	47	
20	118	58.2		22.7	338	56.1	47		41.6	43	52	55	35	10	12 14	80	5 44	45	
21	133	58.3		21.9	353	19.9	48		37.2	44	54	57	38	16	11 56	83	6 01	43	
22	148	58.5		21.1	7	43.6	47		32.5	47	56	5 59	42	21	35 87		23	39	
23	163	58.6		20.3	22	07.3	47		27.7	48	58	6 00	46	28	11 08	93	6 50	34	
24	178	58.7	+13	19.5	36	31.1	48	–27	22.6	51	60 S	6 02	6 51	7 35	10 31	103	7 28	23	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 2 ^h 20.1 ^m		Mag: –3.8 PMG: 13 ^h 22 ^m			Mag: +0.8 PMG: 7 ^h 26 ^m			Mag: –2.2 PMG: 7 ^h 23 ^m			Mag: +0.7 PMG: 1 ^h 38 ^m							
	hG ♈		hG ♀			hG ♂			hG ♃			hG ♄							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	324	52.8	159	39.1	+7	49.4	248	21.9	+22	29.5	249	03.5	+22	06.1	335	19.7	–6	49.9	
1	339	55.3	174	38.7		48.2	263	22.6		29.7	264	05.5		06.1	350	22.3		49.9	
2	354	57.7	189	38.4		47.0	278	23.3		29.9	279	07.6		06.1	5	24.9		50.0	
3	10	00.2	204	38.0		45.8	293	24.0		30.1	294	09.6		06.2	20	27.5		50.1	
4	25	02.6	219	37.6		44.6	308	24.7		30.3	309	11.7		06.2	35	30.1		50.2	
5	40	05.1	234	37.2	+7	43.3	323	25.5	+22	30.5	324	13.8	+22	06.2	50	32.7	–6	50.2	
6	55	07.6	249	36.9	+7	42.1	338	26.2	+22	30.7	339	15.8	+22	06.3	65	35.3	–6	50.3	
7	70	10.0	264	36.5		40.9	353	26.9		30.8	354	17.9		06.3	80	38.0		50.4	
8	85	12.5	279	36.1		39.7	8	27.6		31.0	9	19.9		06.3	95	40.6		50.4	
9	100	15.0	294	35.7		38.5	23	28.4		31.2	24	22.0		06.4	110	43.2		50.5	
10	115	17.4	309	35.4		37.3	38	29.1		31.4	39	24.1		06.4	125	45.8		50.6	
11	130	19.9	324	35.0	+7	36.0	53	29.8	+22	31.6	54	26.1	+22	06.4	140	48.4	–6	50.7	
12	145	22.4	339	34.6	+7	34.8	68	30.5	+22	31.8	69	28.2	+22	06.5	155	51.0	–6	50.7	
13	160	24.8	354	34.2		33.6	83	31.3		32.0	84	30.2		06.5	170	53.7		50.8	
14	175	27.3	9	33.9		32.4	98	32.0		32.1	99	32.3		06.6	185	56.3		50.9	
15	190	29.8	24	33.5		31.2	113	32.7		32.3	114	34.4		06.6	200	58.9		50.9	
16	205	32.2	39	33.1		30.0	128	33.4		32.5	129	36.4		06.6	216	01.5		51.0	
17	220	34.7	54	32.7	+7	28.7	143	34.1	+22	32.7	144	38.5	+22	06.7	231	04.1	–6	51.1	
18	235	37.1	69	32.4	+7	27.5	158	34.9	+22	32.9	159	40.5	+22	06.7	246	06.7	–6	51.2	
19	250	39.6	84	32.0		26.3	173	35.6		33.1	174	42.6		06.7	261	09.3		51.2	
20	265	42.1	99	31.6		25.1	188	36.3		33.3	189	44.7		06.8	276	12.0		51.3	
21	280	44.5	114	31.2		23.9	203	37.0		33.4	204	46.7		06.8	291	14.6		51.4	
22	295	47.0	129	30.9		22.6	218	37.8		33.6	219	48.8		06.8	306	17.2		51.4	
23	310	49.5	144	30.5		21.4	233	38.5		33.8	234	50.9		06.9	321	19.8		51.5	
24	325	51.9	159	30.1	+7	20.2	248	39.2	+22	34.0	249	52.9	+22	06.9	336	22.4	–6	51.6	
Dif	—		–4		–12		+7		+2		+21		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 04.0 ^m			Edad: 12.5 ^d SD: 16'0 PMG: 22 ^h 28 ^m			PHE { 4 ^h : 58'8 12 ^h : 59'1 20 ^h : 59'4 Rº: 58 ^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	178 58.7	+13 19.5	36 31.1	47	-27	22.6	52	60 N	19 46	20 36	21 47	20 01 3		** ** *	** ** *		
1	193 58.9	18.7	50 54.8	48		17.4	54	58	38	24	26	19 37 12		** ** *	** ** *		
2	208 59.0	17.9	65 18.6	47		12.0	56	56	31	13	21 10	19 17		0 12	95		
3	223 59.2	17.1	79 42.3	47		06.4	57	54	25	20 04	20 56	19 03 22		32	91		
4	238 59.3	16.3	94 06.1	48	-27	00.7	57	52	19	19 56	44	18 49 26		0 49	87		
5	253 59.4	+13 15.5	108 29.9	48	-26	54.7	60	50	19 14	19 49	20 34	18 37 29		1 03	84		
6	268 59.6	+13 14.7	122 53.7	48	-26	48.6	61	45	19 03	19 34	20 13	18 12 35		1 33	78		
7	283 59.7	13.9	137 17.6	49		42.3	63	40	18 53	22	19 57	17 52 39		1 55	76		
8	298 59.8	13.0	151 41.4	48		35.7	66	35	46	12	44	35 43		2 14	72		
9	314 00.0	12.2	166 05.3	49		29.1	69	30	39	19 04	33	17 20 46		3 0	70		
10	329 00.1	11.4	180 29.2	49		22.2	66	20	27	18 50	17	16 55 51		2 57	66		
11	344 00.3	+13 10.6	194 53.2	50	-26	15.1	71	10 N	18 17	18 38	19 04	16 34 55		3 21	62		
12	359 00.4	+13 09.8	209 17.1	49	-26	07.9	72	0	18 07	18 29	18 53	16 14 58		3 42	60		
13	14 00.5	09.0	223 41.1	50	-26	00.5	74	10 S	17 58	20	44	15 53 63		4 04	56		
14	29 00.7	08.2	238 05.2	51	-25	52.9	76	20	48	11	37	32 66		27	53		
15	44 00.8	07.4	252 29.2	50		45.2	77	30	37	18 02	30	15 06 72		4 53	49		
16	59 00.9	06.6	266 53.3	51		37.2	80	35	31	17 57	26	14 52 74		5 09	46		
17	74 01.1	+13 05.8	281 17.5	52	-25	29.1	81	40	17 23	17 51	18 23	14 34 78		5 27	43		
18	89 01.2	+13 05.0	295 41.7	52	-25	20.8	83	45	17 15	17 45	18 20	14 13 82		5 48	40		
19	104 01.4	04.2	310 05.9	52		12.3	85	50	05	39	17	13 47 88		6 16	34		
20	119 01.5	03.4	324 30.2	53	-25	03.7	86	52	17 00	36	15	34 91		29	31		
21	134 01.6	02.6	338 54.5	53	-24	54.9	88	54	16 55	32	14	19 95		6 44	28		
22	149 01.8	01.8	353 18.8	53		45.9	90	56	50	29	12	13 02 99		7 02	23		
23	164 01.9	01.0	7 43.3	55		36.7	92	58	43	25	11	12 41 106		24	17		
24	179 02.1	+13 00.1	22 07.7	54	-24	27.4	93	60 S	16 36	17 21	18 10	12 14 115		7 51	8		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 16.2 ^m		Mag: -3.8 PMG: 13 ^h 22 ^m		Mag: +0.8 PMG: 7 ^h 25 ^m		Mag: -2.2 PMG: 7 ^h 19 ^m		Mag: +0.7 PMG: 1 ^h 34 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	325 51.9	159 30.1	+7 20.2	248 39.2	+22 34.0	249 52.9	+22 06.9	336 22.4	-6 51.6	
1	340 54.4	174 29.8	19.0	263 39.9	34.2	264 55.0	06.9	351 25.0	51.7	
2	355 56.9	189 29.4	17.7	278 40.7	34.3	279 57.0	07.0	6 27.7	51.7	
3	10 59.3	204 29.0	16.5	293 41.4	34.5	294 59.1	07.0	21 30.3	51.8	
4	26 01.8	219 28.6	15.3	308 42.1	34.7	310 01.2	07.1	36 32.9	51.9	
5	41 04.3	234 28.3	+7 14.1	323 42.8	+22 34.9	325 03.2	+22 07.1	51 35.5	-6 51.9	
6	56 06.7	249 27.9	+7 12.9	338 43.6	+22 35.1	340 05.3	+22 07.1	66 38.1	-6 52.0	
7	71 09.2	264 27.5	11.6	353 44.3	35.3	355 07.4	07.2	81 40.7	52.1	
8	86 11.6	279 27.2	10.4	8 45.0	35.4	10 09.4	07.2	96 43.4	52.1	
9	101 14.1	294 26.8	09.2	23 45.7	35.6	25 11.5	07.2	111 46.0	52.2	
10	116 16.6	309 26.4	08.0	38 46.5	35.8	40 13.6	07.3	126 48.6	52.3	
11	131 19.0	324 26.1	+7 06.7	53 47.2	+22 36.0	55 15.6	+22 07.3	141 51.2	-6 52.4	
12	146 21.5	339 25.7	+7 05.5	68 47.9	+22 36.1	70 17.7	+22 07.3	156 53.8	-6 52.4	
13	161 24.0	354 25.3	04.3	83 48.7	36.3	85 19.8	07.4	171 56.5	52.5	
14	176 26.4	9 25.0	03.1	98 49.4	36.5	100 21.8	07.4	186 59.1	52.6	
15	191 28.9	24 24.6	01.8	113 50.1	36.7	115 23.9	07.4	202 01.7	52.7	
16	206 31.4	39 24.2	+7 00.6	128 50.8	36.9	130 26.0	07.5	217 04.3	52.7	
17	221 33.8	54 23.9	+6 59.4	143 51.6	+22 37.0	145 28.0	+22 07.5	232 06.9	-6 52.8	
18	236 36.3	69 23.5	+6 58.2	158 52.3	+22 37.2	160 30.1	+22 07.5	247 09.5	-6 52.9	
19	251 38.8	84 23.1	56.9	173 53.0	37.4	175 32.2	07.6	262 12.2	52.9	
20	266 41.2	99 22.8	55.7	188 53.7	37.6	190 34.2	07.6	277 14.8	53.0	
21	281 43.7	114 22.4	54.5	203 54.5	37.7	205 36.3	07.6	292 17.4	53.1	
22	296 46.1	129 22.0	53.2	218 55.2	37.9	220 38.4	07.7	307 20.0	53.2	
23	311 48.6	144 21.7	52.0	233 55.9	38.1	235 40.4	07.7	322 22.6	53.2	
24	326 51.1	159 21.3	+6 50.8	248 56.7	+22 38.3	250 42.5	+22 07.7	337 25.2	-6 53.3	
Dif	—	-4	-12	+7	+2	+21	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 03.7 ^m				Edad: 13.5 ^d PHE { 4 ^h : 59 ^h /6 12 ^h : 59 ^h /9 20 ^h : 60 ^h /1 R°: 55 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	179	02.1	+13	00.1	22	07.7	55	-24	27.4	95	60 N	2 21	3 33	4 22	20 04	1	1 06 118	
1	194	02.2	+12	59.3	36	32.2	55		17.9	97	58	42	45	31	19 49	7	29 109	
2	209	02.4		58.5	50	56.8	56	-24	08.2	97	56	2 59	3 55	38	36	12	1 47 103	
3	224	02.5		57.7	65	21.4	56	-23	58.4	98	54	3 13	4 04	44	25	15	2 03 97	
4	239	02.6		56.9	79	46.1	57		48.4	100	52	24	12	50	15	19	16 93	
5	254	02.8	+12	56.1	94	10.8	57	-23	38.2	102	50	3 35	4 19	4 55	19 06	22	2 27 91	
6	269	02.9	+12	55.3	108	35.6	58	-23	27.9	103	45	3 55	4 34	5 06	18 47	28	2 51 84	
7	284	03.1		54.5	123	00.4	58		17.4	105	40	4 11	46	15	31	33	3 11 78	
8	299	03.2		53.7	137	25.3	59	-23	06.7	107	35	24	4 56	23	18	37	26 75	
9	314	03.4		52.9	151	50.3	60	-22	55.9	108	30	35	5 04	29	18	06	40 72	
10	329	03.5		52.0	166	15.3	60		44.9	110	20	4 51	18	41	17	46	46 03	
11	344	03.6	+12	51.2	180	40.4	61	-22	33.8	111	10 N	5 04	5 29	5 51	17	29	51 4	
12	359	03.8	+12	50.4	195	05.5	61	-22	22.5	113	0	5 15	5 39	6 00	17	12	56 4	
13	14	03.9		49.6	209	30.7	62	-22	11.1	114	10 S	23	48	10	16	56	60 5	
14	29	04.1		48.8	223	56.0	63	-21	59.5	116	20	31	5 57	19	38	66	20 48	
15	44	04.2		48.0	238	21.3	63		47.7	118	30	38	6 06	30	18	71	42 43	
16	59	04.4		47.2	252	46.8	65		35.8	119	35	41	11	37	16	06	75 5	
17	74	04.5	+12	46.3	267	12.2	64	-21	23.8	120	40	5 44	6 16	6 44	15	52	79 6	
18	89	04.6	+12	45.5	281	37.8	66	-21	11.6	122	45	5 47	6 22	6 52	15	35	85 6	
19	104	04.8		44.7	296	03.4	66	-20	59.3	123	50	50	28	7 02	15	91	6 50 25	
20	119	04.9		43.9	310	29.0	66		46.8	125	52	52	31	06	15	05	94 7	
21	134	05.1		43.1	324	54.8	68		34.2	126	54	53	34	11	14	54	98 12	
22	149	05.2		42.3	339	20.6	68		21.4	128	56	54	38	17	41	103	25 15	
23	164	05.4		41.4	353	46.5	69	-20	08.5	129	58	56	42	23	27	108	41 9	
24	179	05.5	+12	40.6	8	12.4	69	-19	55.5	130	60 S	5 57	6 46	7 30	14	09	115 7	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 12.2 ^m		Mag: -3.8 PMG: 13 ^h 23 ^m			Mag: +0.8 PMG: 7 ^h 24 ^m			Mag: -2.3 PMG: 7 ^h 16 ^m			Mag: +0.7 PMG: 1 ^h 30 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	326	51.1	159	21.3	+6	50.8	248	56.7	+22	38.3	250	42.5	+22	07.7	337	25.2	-6	53.3
1	341	53.5	174	20.9		49.6	263	57.4		38.4	265	44.6		07.8	352	27.9		53.4
2	356	56.0	189	20.6		48.3	278	58.1		38.6	280	46.6		07.8	7	30.5		53.4
3	11	58.5	204	20.2		47.1	293	58.8		38.8	295	48.7		07.8	22	33.1		53.5
4	27	00.9	219	19.8		45.9	308	59.6		39.0	310	50.8		07.9	37	35.7		53.6
5	42	03.4	234	19.5	+6	44.6	324	00.3	+22	39.1	325	52.9	+22	07.9	52	38.3	-6	53.7
6	57	05.9	249	19.1	+6	43.4	339	01.0	+22	39.3	340	54.9	+22	08.0	67	41.0	-6	53.7
7	72	08.3	264	18.8		42.2	354	01.8		39.5	355	57.0		08.0	82	43.6		53.8
8	87	10.8	279	18.4		40.9	9	02.5		39.6	10	59.1		08.0	97	46.2		53.9
9	102	13.2	294	18.0		39.7	24	03.2		39.8	26	01.1		08.1	112	48.8		53.9
10	117	15.7	309	17.7		38.5	39	04.0		40.0	41	03.2		08.1	127	51.4		54.0
11	132	18.2	324	17.3	+6	37.2	54	04.7	+22	40.2	56	05.3	+22	08.1	142	54.1	-6	54.1
12	147	20.6	339	16.9	+6	36.0	69	05.4	+22	40.3	71	07.3	+22	08.2	157	56.7	-6	54.2
13	162	23.1	354	16.6		34.8	84	06.1		40.5	86	09.4		08.2	172	59.3		54.2
14	177	25.6	9	16.2		33.5	99	06.9		40.7	101	11.5		08.2	188	01.9		54.3
15	192	28.0	24	15.9		32.3	114	07.6		40.8	116	13.6		08.3	203	04.5		54.4
16	207	30.5	39	15.5		31.1	129	08.3		41.0	131	15.6		08.3	218	07.2		54.4
17	222	33.0	54	15.1	+6	29.8	144	09.1	+22	41.2	146	17.7	+22	08.3	233	09.8	-6	54.5
18	237	35.4	69	14.8	+6	28.6	159	09.8	+22	41.4	161	19.8	+22	08.4	248	12.4	-6	54.6
19	252	37.9	84	14.4		27.4	174	10.5		41.5	176	21.9		08.4	263	15.0		54.7
20	267	40.4	99	14.1		26.1	189	11.3		41.7	191	23.9		08.4	278	17.6		54.7
21	282	42.8	114	13.7		24.9	204	12.0		41.9	206	26.0		08.5	293	20.3		54.8
22	297	45.3	129	13.3		23.7	219	12.7		42.0	221	28.1		08.5	308	22.9		54.9
23	312	47.7	144	13.0		22.4	234	13.5		42.2	236	30.1		08.5	323	25.5		55.0
24	327	50.2	159	12.6	+6	21.2	249	14.2	+22	42.4	251	32.2	+22	08.6	338	28.1	-6	55.0
Dif	—		-4		-12		+7		+2		+21		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 03.5 ^m				Edad: 14.5 ^d SD: 16'4 PMG: **h **m									PHE { 4 ^h : 60'3 12 ^h : 60'5 20 ^h : 60'6 R°: **m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif				Civil	Náutico	Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	m	h m	m									
0	179	05.5	+12	40.6	8	12.4	70	-19	55.5	132	60 N	19 40	20 29	21 38	20 05	0	3 04	113									
1	194	05.7		39.8	22	38.4	71		42.3	133	58	33	18	19	19 56	4	18	107									
2	209	05.8		39.0	37	04.5	72		29.0	134	56	26	20 08	21 03	48	7	30	102									
3	224	06.0		38.2	51	30.7	72		15.6	136	54	20	19 59	20 50	40	12	40	98									
4	239	06.1		37.4	65	56.9	73	-19	02.0	137	52	15	52	39	34	14	49	95									
5	254	06.3	+12	36.5	80	23.2	74	-18	48.3	138	50	19 10	19 45	20 29	19 28	17	3	58	91								
6	269	06.4	+12	35.7	94	49.6	74	-18	34.5	140	45	18 59	19 31	20 09	19 15	23	4	15	85								
7	284	06.6		34.9	109	16.0	75		20.5	141	40	51	19	19 54	19 04	28	29	80									
8	299	06.7		34.1	123	42.5	76	-18	06.4	141	35	43	10	41	18 55	32	41	75									
9	314	06.9		33.3	138	09.1	76	-17	52.3	141	30	37	19 02	31	46	36	4	52	71								
10	329	07.0		32.4	152	35.7	76		37.9	144	20	25	18 48	15	32	43	5	10	65								
11	344	07.1	+12	31.6	167	02.5	78	-17	23.5	144	10 N	18 16	18 37	19 03	18 20	48	5	25	59								
12	359	07.3	+12	30.8	181	29.3	78	-17	09.0	145	0	18 07	18 28	18 53	18 08	53	5	39	55								
13	14	07.4		30.0	195	56.1	78	-16	54.3	147	10 S	17 58	19	44	17 56	59	5	53	50								
14	29	07.6		29.2	210	23.0	79		39.5	148	20	49	11	37	44	64	6	08	44								
15	44	07.7		28.3	224	50.0	80		24.6	149	30	38	18 03	31	29	71	25	38									
16	59	07.9		27.5	239	17.1	81	-16	09.6	150	35	32	17 58	28	21	74	35	34									
17	74	08.0	+12	26.7	253	44.2	81	-15	54.5	151	40	17 25	17 53	18 25	17 11	79	6	46	31								
18	89	08.2	+12	25.9	268	11.4	82	-15	39.3	152	45	17 17	17 48	18 22	17 00	84	6	59	26								
19	104	08.3		25.0	282	38.7	83		24.0	153	50	08	41	19	16	46	90	7	15	19							
20	119	08.5		24.2	297	06.1	84	-15	08.6	154	52	17 04	39	18	39	94	22	17									
21	134	08.6		23.4	311	33.5	84	-14	53.1	155	54	16 59	36	17	32	97	31	13									
22	149	08.8		22.6	326	00.9	84		37.5	156	56	53	32	16	24	101	40	9									
23	164	08.9		21.7	340	28.5	86		21.8	157	58	48	29	15	15	105	7	50	5								
24	179	09.1	+12	20.9	354	56.1	86	-14	06.0	158	60 S	16 41	17 25	18 14	16 04	111	8	01	1								
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG 2 ^h 08.3 ^m			Mag: -3.8 PMG: 13 ^h 23 ^m			Mag: +0.8 PMG: 7 ^h 23 ^m			Mag: -2.3 PMG: 7 ^h 13 ^m			Mag: +0.7 PMG: 1 ^h 26 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♅	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	327	50.2	159	12.6	+6	21.2	249	14.2	+22	42.4	251	32.2	+22	08.6	338	28.1	-6	55.0									
1	342	52.7	174	12.3		20.0	264	14.9		42.5	266	34.3		08.6	353	30.7		55.1									
2	357	55.1	189	11.9		18.7	279	15.6		42.7	281	36.4		08.6	8	33.4		55.2									
3	12	57.6	204	11.6		17.5	294	16.4		42.9	296	38.4		08.7	23	36.0		55.2									
4	28	00.1	219	11.2		16.2	309	17.1		43.0	311	40.5		08.7	38	38.6		55.3									
5	43	02.5	234	10.8	+6	15.0	324	17.8	+22	43.2	326	42.6	+22	08.7	53	41.2	-6	55.4									
6	58	05.0	249	10.5	+6	13.8	339	18.6	+22	43.4	341	44.7	+22	08.8	68	43.8	-6	55.5									
7	73	07.5	264	10.1		12.5	354	19.3		43.5	356	46.7		08.8	83	46.5		55.5									
8	88	09.9	279	09.8		11.3	9	20.0		43.7	11	48.8		08.8	98	49.1		55.6									
9	103	12.4	294	09.4		10.0	24	20.8		43.8	26	50.9		08.9	113	51.7		55.7									
10	118	14.9	309	09.1		08.8	39	21.5		44.0	41	53.0		08.9	128	54.3		55.8									
11	133	17.3	324	08.7	+6	07.6	54	22.2	+22	44.2	56	55.1	+22	08.9	143	56.9	-6	55.8									
12	148	19.8	339	08.4	+6	06.3	69	23.0	+22	44.3	71	57.1	+22	09.0	158	59.6	-6	55.9									
13	163	22.2	354	08.0		05.1	84	23.7		44.5	86	59.2		09.0	174	02.2		56.0									
14	178	24.7	9	07.6		03.8	99	24.4		44.7	102	01.3		09.0	189	04.8		56.0									
15	193	27.2	24	07.3		02.6	114	25.2		44.8	117	03.4		09.1	204	07.4		56.1									
16	208	29.6	39	06.9		01.4	129	25.9		45.0	132	05.4		09.1	219	10.1		56.2									
17	223	32.1	54	06.6	+6	00.1	144	26.7	+22	45.1	147	07.5	+22	09.1	234	12.7	-6	56.3									
18	238	34.6	69	06.2	+5	58.9	159	27.4	+22	45.3	162	09.6	+22	09.2	249	15.3	-6	56.3									
19	253	37.0	84	05.9		57.6	174	28.1		45.5	177	11.7		09.2	264	17.9		56.4									
20	268	39.5	99	05.5		56.4	189	28.9		45.6	192	13.8		09.2	279	20.5		56.5									
21	283	42.0	114	05.2		55.2	204	29.6		45.8	207	15.8		09.3	294	23.2		56.6									
22	298	44.4	129	04.8		53.9	219	30.3		46.0	222	17.9		09.3	309	25.8		56.6									
23	313	46.9	144	04.5		52.7	234	31.1		46.1	237	20.0		09.3	324	28.4		56.7									
24	328	49.3	159	04.1	+5	51.4	249	31.8	+22	46.3	252	22.1	+22	09.4	339	31.0	-6	56.8									
Dif	—			-4			-12			+7			+2			+21			0			+26			-1		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:12 ^h 03.3 ^m				Edad: 15.5 ^d PHE { 4 ^h : 60'7 12 ^h : 60'8 20 ^h : 60'9 SD: 16'5 PMG: 0 ^h 21 ^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	09.1	+12	20.9	354	56.1	86	−14	06.0	159	60 N	2	29	3	38	4	27	20 05 **
1	194	09.3		20.1	9	23.7	86	−13	50.1	159	58	2	49	3	50	35	20 00	3
2	209	09.4		19.3	23	51.5	88		34.2	159	56	3	04	4	00	42	19 55	7
3	224	09.6		18.4	38	19.3	88		18.1	161	54		17		08	47	52	9
4	239	09.7		17.6	52	47.1	88	−13	02.0	161	52	29	16	53	48	13	24	92
5	254	09.9	+12	16.8	67	15.0	89	−12	45.7	163	50	3	38	4	22	4	58	19 45 15
6	269	10.0	+12	15.9	81	43.0	90	−12	29.4	163	45	3	58	4	37	5	08	19 38 21
7	284	10.2		15.1	96	11.0	90	−12	13.0	164	40	4	14		48	17	32	26
8	299	10.3		14.3	110	39.1	91	−11	56.6	164	35		26	4	58	24	27	30
9	314	10.5		13.5	125	07.3	92		40.0	166	30	36	5	06	31	22	34	6
10	329	10.6		12.6	139	35.5	92		23.4	166	20	4	52	19	42	15	40	15
11	344	10.8	+12	11.8	154	03.8	93	−11	06.7	167	10 N	5	04	5	30	5	51	19 08 45
12	359	10.9	+12	11.0	168	32.1	93	−10	50.0	167	0	5	14	5	39	6	00	19 01 51
13	14	11.1		10.1	183	00.5	94		33.2	168	10 S		22		47	09	18 55 56	
14	29	11.2		09.3	197	28.9	94	−10	16.3	169	20	29	5	55	18	48	62	6
15	44	11.4		08.5	211	57.4	95	−9	59.3	170	30	36	6	04	28	40	69	7
16	59	11.5		07.7	226	26.0	96		42.3	170	35	39		08	34	35	73	09
17	74	11.7	+12	06.8	240	54.6	96	−9	25.3	170	40	5	41	6	13	6	41	18 30 77
18	89	11.9	+12	06.0	255	23.2	96	−9	08.1	172	45	5	44	6	18	6	49	18 24 82
19	104	12.0		05.2	269	51.9	97	−8	51.0	171	50		47	25	6	58	16	89
20	119	12.2		04.3	284	20.6	97		33.7	173	52	48	27	7	02	13	91	39
21	134	12.3		03.5	298	49.4	98	−8	16.4	173	54	49	30	07	09	95	44	10
22	149	12.5		02.7	313	18.3	99	−7	59.1	173	56	50	33	12	05	98	49	7
23	164	12.6		01.8	327	47.1	98		41.7	174	58	51	37	18	18	00	102	7
24	179	12.8	+12	01.0	342	16.1	100	−7	24.3	174	60 S	5	52	6	41	7	24	17 55 107
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 04.4 ^m		Mag: −3.8 PMG: 13 ^h 24 ^m			Mag: +0.8 PMG: 7 ^h 22 ^m			Mag: −2.3 PMG: 7 ^h 10 ^m			Mag: +0.7 PMG: 1 ^h 22 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	328	49.3	159	04.1	+5	51.4	249	31.8	+22	46.3	252	22.1	+22	09.4	339	31.0	−6	56.8
1	343	51.8	174	03.8		50.2	264	32.5		46.4	267	24.1		09.4	354	33.7		56.8
2	358	54.3	189	03.4		48.9	279	33.3		46.6	282	26.2		09.4	9	36.3		56.9
3	13	56.7	204	03.1		47.7	294	34.0		46.7	297	28.3		09.4	24	38.9		57.0
4	28	59.2	219	02.7		46.5	309	34.7		46.9	312	30.4		09.5	39	41.5		57.1
5	44	01.7	234	02.4	+5	45.2	324	35.5	+22	47.1	327	32.5	+22	09.5	54	44.1	−6	57.1
6	59	04.1	249	02.0	+5	44.0	339	36.2	+22	47.2	342	34.6	+22	09.5	69	46.8	−6	57.2
7	74	06.6	264	01.7		42.7	354	37.0		47.4	357	36.6		09.6	84	49.4		57.3
8	89	09.1	279	01.3		41.5	9	37.7		47.5	12	38.7		09.6	99	52.0		57.4
9	104	11.5	294	01.0		40.2	24	38.4		47.7	27	40.8		09.6	114	54.6		57.4
10	119	14.0	309	00.6		39.0	39	39.2		47.8	42	42.9		09.7	129	57.3		57.5
11	134	16.5	324	00.3	+5	37.7	54	39.9	+22	48.0	57	45.0	+22	09.7	144	59.9	−6	57.6
12	149	18.9	338	59.9	+5	36.5	69	40.6	+22	48.2	72	47.0	+22	09.7	160	02.5	−6	57.7
13	164	21.4	353	59.6		35.2	84	41.4		48.3	87	49.1		09.8	175	05.1		57.7
14	179	23.8	8	59.2		34.0	99	42.1		48.5	102	51.2		09.8	190	07.7		57.8
15	194	26.3	23	58.9		32.7	114	42.9		48.6	117	53.3		09.8	205	10.4		57.9
16	209	28.8	38	58.5		31.5	129	43.6		48.8	132	55.4		09.9	220	13.0		57.9
17	224	31.2	53	58.2	+5	30.2	144	44.3	+22	48.9	147	57.5	+22	09.9	235	15.6	−6	58.0
18	239	33.7	68	57.8	+5	29.0	159	45.1	+22	49.1	162	59.5	+22	09.9	250	18.2	−6	58.1
19	254	36.2	83	57.5		27.8	174	45.8		49.2	178	01.6		10.0	265	20.9		58.2
20	269	38.6	98	57.1		26.5	189	46.5		49.4	193	03.7		10.0	280	23.5		58.2
21	284	41.1	113	56.8		25.3	204	47.3		49.5	208	05.8		10.0	295	26.1		58.3
22	299	43.6	128	56.4		24.0	219	48.0		49.7	223	07.9		10.1	310	28.7		58.4
23	314	46.0	143	56.1		22.8	234	48.8		49.9	238	10.0		10.1	325	31.4		58.5
24	329	48.5	158	55.7	+5	21.5	249	49.5	+22	50.0	253	12.1	+22	10.1	340	34.0	−6	58.5
Dif	—		−3		−12		+7		+2		+21		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 03.0 ^m				Edad: 16.5 ^d SD: 16'6 PMG: 1 ^h 13 ^m														
	PHE { 4 ^h : 60'9 12 ^h : 60'9 20 ^h : 60'8 Rº: 51 ^m				hG ☾ Dif			Dec Dif					Civil			Náutico		Hora Rº	
	hG ☉	Dec			hG ☾	Dif			Dec	Dif				h m	h m	h 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	h m m	
0	179 12.8	+12 01.0	342 16.1	-7 24.3	60 N	19 35	20 23	21 29	20 04 **	6 46 105									
1	194 12.9	+12 00.2	356 45.0	-7 06.8	58	28	12	21 11	03 3	49 101									
2	209 13.1	+11 59.3	11 14.0	-6 49.3	56	21	20 03	20 57	02 6	52 97									
3	224 13.3	58.5	25 43.1	31.8	54	16	19 54	44	01 10	54 94									
4	239 13.4	57.7	40 12.2	-6 14.2	52	10	47	33	01 12	56 91									
5	254 13.6	+11 56.8	54 41.3	-5 56.6	50	19 06	19 41	20 24	20 00 15	6 59 88									
6	269 13.7	+11 56.0	69 10.5	-5 38.9	45	18 56	19 27	20 05	19 59 20	7 03 82									
7	284 13.9	55.2	83 39.7	21.2	40	48	16	19 50	58 25	07 76									
8	299 14.0	54.3	98 08.9	-5 03.5	35	41	19 07	38	57 29	10 72									
9	314 14.2	53.5	112 38.2	-4 45.8	30	35	18 59	29	56 33	13 68									
10	329 14.4	52.6	127 07.5	28.0	20	24	47	13	55 39	18 56									
11	344 14.5	+11 51.8	141 36.8	-4 10.2	10 N	18 15	18 36	19 01	19 53 45	7 22 56									
12	359 14.7	+11 51.0	156 06.1	-3 52.4	0	18 06	18 27	18 52	19 52 51	7 26 50									
13	14 14.8	50.1	170 35.5	34.6	10 S	17 58	19	44	51 56	29 45									
14	29 15.0	49.3	185 05.0	-3 16.8	20	49	12	38	50 61	33 40									
15	44 15.2	48.5	199 34.4	-2 58.9	30	39	18 04	32	49 68	38 33									
16	59 15.3	47.6	214 03.9	41.1	35	34	17 59	29	48 72	40 30									
17	74 15.5	+11 46.8	228 33.4	-2 23.2	40	17 27	17 55	18 26	19 47 76	7 43 25									
18	89 15.6	+11 45.9	243 02.9	-2 05.3	45	17 20	17 50	18 24	19 46 82	7 47 20									
19	104 15.8	45.1	257 32.4	-1 47.4	50	11	44	22	45 87	50 15									
20	119 16.0	44.3	272 02.0	29.5	52	07	42	21	44 91	52 12									
21	134 16.1	43.4	286 31.5	-1 11.6	54	17 02	39	20	44 93	54 10									
22	149 16.3	42.6	301 01.1	-0 53.7	56	16 57	36	19	43 97	56 7									
23	164 16.4	41.7	315 30.7	35.8	58	52	33	18	42 101	7 59 3									
24	179 16.6	+11 40.9	330 00.4	-0 17.9	60 S	16 46	17 29	18 18	19 42 105	8 01 **									

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 00.4 ^m		Mag: -3.8 PMG: 13 ^h 25 ^m		Mag: +0.8 PMG: 7 ^h 20 ^m		Mag: -2.3 PMG: 7 ^h 06 ^m		Mag: +0.7 PMG: 1 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	329 48.5	158 55.7	+5 21.5	249 49.5	+22 50.0	253 12.1	+22 10.1	340 34.0	-6 58.5	
1	344 51.0	173 55.4	20.3	264 50.2	50.2	268 14.1	10.2	355 36.6	58.6	
2	359 53.4	188 55.0	19.0	279 51.0	50.3	283 16.2	10.2	10 39.2	58.7	
3	14 55.9	203 54.7	17.8	294 51.7	50.5	298 18.3	10.2	25 41.9	58.8	
4	29 58.3	218 54.4	16.5	309 52.5	50.6	313 20.4	10.2	40 44.5	58.8	
5	45 00.8	233 54.0	+5 15.3	324 53.2	+22 50.8	328 22.5	+22 10.3	55 47.1	-6 58.9	
6	60 03.3	248 53.7	+5 14.0	339 53.9	+22 50.9	343 24.6	+22 10.3	70 49.7	-6 59.0	
7	75 05.7	263 53.3	12.8	354 54.7	51.1	358 26.7	10.3	85 52.4	59.1	
8	90 08.2	278 53.0	11.5	9 55.4	51.2	13 28.7	10.4	100 55.0	59.1	
9	105 10.7	293 52.6	10.2	24 56.2	51.4	28 30.8	10.4	115 57.6	59.2	
10	120 13.1	308 52.3	09.0	39 56.9	51.5	43 32.9	10.4	131 00.2	59.3	
11	135 15.6	323 51.9	+5 07.7	54 57.6	+22 51.7	58 35.0	+22 10.5	146 02.9	-6 59.3	
12	150 18.1	338 51.6	+5 06.5	69 58.4	+22 51.8	73 37.1	+22 10.5	161 05.5	-6 59.4	
13	165 20.5	353 51.3	05.2	84 59.1	51.9	88 39.2	10.5	176 08.1	59.5	
14	180 23.0	8 50.9	04.0	99 59.9	52.1	103 41.3	10.6	191 10.7	59.6	
15	195 25.4	23 50.6	02.7	115 00.6	52.2	118 43.4	10.6	206 13.4	59.6	
16	210 27.9	38 50.2	01.5	130 01.4	52.4	133 45.5	10.6	221 16.0	59.7	
17	225 30.4	53 49.9	+5 00.2	145 02.1	+22 52.5	148 47.5	+22 10.7	236 18.6	-6 59.8	
18	240 32.8	68 49.5	+4 59.0	160 02.8	+22 52.7	163 49.6	+22 10.7	251 21.2	-6 59.9	
19	255 35.3	83 49.2	57.7	175 03.6	52.8	178 51.7	10.7	266 23.9	-6 59.9	
20	270 37.8	98 48.9	56.5	190 04.3	53.0	193 53.8	10.7	281 26.5	-7 00.0	
21	285 40.2	113 48.5	55.2	205 05.1	53.1	208 55.9	10.8	296 29.1	-7 00.1	
22	300 42.7	128 48.2	53.9	220 05.8	53.3	223 58.0	10.8	311 31.7	00.2	
23	315 45.2	143 47.8	52.7	235 06.6	53.4	239 00.1	10.8	326 34.4	00.2	
24	330 47.6	158 47.5	+4 51.4	250 07.3	+22 53.6	254 02.2	+22 10.9	341 37.0	-7 00.3	
Dif	—	-3	-13	+7	+1	+21	0	+26	-1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'8 PMG:12 ^h 02.8 ^m				Edad: 17.5 ^d PHE { 4 ^h : 60'7 12 ^h : 60'6 20 ^h : 60'5 R°: 50 ^m SD: 16'6 PMG: 2 ^h 04 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	16.6	+11	40.9	330	00.4	106	−0	17.9	179	60 N	2	37	3	44	4	32	20	03 **
1	194	16.8		40.1	344	30.0	106	+0	00.0	179	58	2	55	3	55	39	06	3	30 101
2	209	16.9		39.2	358	59.6	106	+0	17.9	179	56	3	10	4	04	45	08	7	29 97
3	224	17.1		38.4	13	29.3	107		35.8	179	54	22	12		51	11	10		28 94
4	239	17.2		37.5	27	59.0	107	+0	53.7	179	52	33	19	4	56	13	13		27 91
5	254	17.4	+11	36.7	42	28.7	107	+1	11.5	178	50	3	42	4	26	5	01	20	15 15
6	269	17.6	+11	35.8	56	58.3	106	+1	29.4	179	45	4	01	4	39	5	10	20	19 21
7	284	17.7		35.0	71	28.0	107	+1	47.2	178	40	16	50		19	23	26		23 77
8	299	17.9		34.2	85	57.7	107	+2	05.0	178	35	28	4	59	26	26	30		22 72
9	314	18.1		33.3	100	27.4	107		22.8	178	30	38	5	07	32	29	34		21 68
10	329	18.2		32.5	114	57.1	107		40.6	178	20	4	53	19	42	34	40		19 62
11	344	18.4	+11	31.6	129	26.8	107	+2	58.3	177	10 N	5	05	5	30	5	51	20	38 46
12	359	18.5	+11	30.8	143	56.5	107	+3	16.1	178	0	5	14	5	38	5	59	20	43 50
13	14	18.7		29.9	158	26.2	107		33.7	176	10 S	22	46		6	08	47	56	14 45
14	29	18.9		29.1	172	55.9	107	+3	51.4	177	20	28	5	54	16	51	62		13 39
15	44	19.0		28.2	187	25.6	107	+4	09.0	176	30	34	6	02	26	20	57	68	11 33
16	59	19.2		27.4	201	55.3	107		26.7	177	35	36	06		32	21	00	72	10 29
17	74	19.4	+11	26.5	216	25.0	107	+4	44.2	175	40	5	39	6	10	6	38	21	03 76
18	89	19.5	+11	25.7	230	54.7	107	+5	01.8	176	45	5	41	6	15	6	45	21	08 81
19	104	19.7		24.8	245	24.4	107		19.2	174	50	43	21		54	12	88		05 15
20	119	19.9		24.0	259	54.0	106		36.7	175	52	44	23	6	58	15	90		04 13
21	134	20.0		23.1	274	23.7	107	+5	54.1	174	54	45	26	7	02	17	94		04 9
22	149	20.2		22.3	288	53.3	106	+6	11.5	174	56	46	29		07	20	97		03 6
23	164	20.3		21.5	303	22.9	106		28.8	173	58	46	32		13	23	102		02 2
24	179	20.5	+11	20.6	317	52.5	106	+6	46.1	173	60 S	5	47	6	35	7	19	21	27 106
																			**
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 1 ^h 56.5 ^m		Mag: −3.8 PMG: 13 ^h 25 ^m		Mag: +0.8 PMG: 7 ^h 19 ^m		Mag: −2.3 PMG: 7 ^h 03 ^m		Mag: +0.7 PMG: 1 ^h 13 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	330	47.6	158	47.5	+4	51.4	250	07.3	+22	53.6									
1	345	50.1	173	47.2		50.2	265	08.0		53.7									
2	0	52.6	188	46.8		48.9	280	08.8		53.8									
3	15	55.0	203	46.5		47.7	295	09.5		54.0									
4	30	57.5	218	46.1		46.4	310	10.3		54.1									
5	45	59.9	233	45.8	+4	45.2	325	11.0	+22	54.3									
6	61	02.4	248	45.5	+4	43.9	340	11.8	+22	54.4									
7	76	04.9	263	45.1		42.6	355	12.5		54.6									
8	91	07.3	278	44.8		41.4	10	13.3		54.7									
9	106	09.8	293	44.4		40.1	25	14.0		54.8									
10	121	12.3	308	44.1		38.9	40	14.7		55.0									
11	136	14.7	323	43.8	+4	37.6	55	15.5	+22	55.1									
12	151	17.2	338	43.4	+4	36.4	70	16.2	+22	55.3									
13	166	19.7	353	43.1		35.1	85	17.0		55.4									
14	181	22.1	8	42.7		33.8	100	17.7		55.5									
15	196	24.6	23	42.4		32.6	115	18.5		55.7									
16	211	27.0	38	42.1		31.3	130	19.2		55.8									
17	226	29.5	53	41.7	+4	30.1	145	20.0	+22	56.0									
18	241	32.0	68	41.4	+4	28.8	160	20.7	+22	56.1									
19	256	34.4	83	41.1		27.5	175	21.5		56.2									
20	271	36.9	98	40.7		26.3	190	22.2		56.4									
21	286	39.4	113	40.4		25.0	205	23.0		56.5									
22	301	41.8	128	40.0		23.8	220	23.7		56.7									
23	316	44.3	143	39.7		22.5	235	24.4		56.8									
24	331	46.8	158	39.4	+4	21.2	250	25.2	+22	56.9									
Dif	—		−3		−13		+7		+1										
							+21		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 02.5 ^m				Edad: 18.5 ^d SD: 16'5 PMG: 2 ^h 54 ^m PHE { 4 ^h : 60'4 12 ^h : 60'2 20 ^h : 60'0 R°: 51 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico			Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	179	20.5	+11	20.6	317	52.5	+6	46.1	60 N	19 29	20 16	21 21	20 02	0	10 17	107		
1	194	20.7		19.8	332	22.1	+7	03.3	58	22	20 06	21 04	09	5	11 102			
2	209	20.8		18.9	346	51.7		20.5	56	16	19 57	20 50	15	9	06 98			
3	224	21.0		18.1	1	21.2		37.6	54	11	49	38	21	12	10 02	93		
4	239	21.2		17.2	15	50.7	+7	54.7	52	06	43	28	26	16	9 58	90		
5	254	21.3	+11	16.4	30	20.2	+8	11.7	50	19 02	19 36	20 19	20 30	19	9 54	87		
6	269	21.5	+11	15.5	44	49.7	+8	28.7	45	18 52	19 23	20 01	20 40	25	9 46	81		
7	284	21.7		14.7	59	19.2	+8	45.6	40	45	13	19 47	49	29	40 76			
8	299	21.8		13.8	73	48.6	+9	02.4	35	38	19 04	36	20	56	33 72			
9	314	22.0		12.9	88	18.0		19.2	30	32	18 57	26	21	03	36 29	68		
10	329	22.2		12.1	102	47.4		35.9	20	22	45	11	14	42	21 62			
11	344	22.3	+11	11.2	117	16.8	+9	52.6	10 N	18 14	18 35	19 00	21 24	47	9 13	57		
12	359	22.5	+11	10.4	131	46.1	+10	09.1	0	18 06	18 27	18 51	21 33	53	9 06	52		
13	14	22.7		09.5	146	15.4		25.7	10 S	17 58	19	44	43	57	8 59	47		
14	29	22.8		08.7	160	44.7		42.1	20	50	12	38	21	53	62 52	41		
15	44	23.0		07.8	175	13.9	+10	58.5	30	40	05	33	22	05	68 44	35		
16	59	23.2		07.0	189	43.1	+11	14.8	35	35	18 01	30	12	72	39 32			
17	74	23.4	+11	06.1	204	12.3	+11	31.0	40	17 29	17 57	18 28	22	19	77 8	34		
18	89	23.5	+11	05.3	218	41.4	+11	47.1	45	17 22	17 52	18 26	22	29	81 8	28		
19	104	23.7		04.4	233	10.5	+12	03.2	50	14	47	25	40	88	20 17			
20	119	23.9		03.6	247	39.6		19.2	52	10	45	24	45	91	17 14			
21	134	24.0		02.7	262	08.6		35.1	54	06	42	23	51	94	13 11			
22	149	24.2		01.8	276	37.6	+12	50.9	56	17 01	39	23	22	57	99 09	8		
23	164	24.4		01.0	291	06.6	+13	06.7	58	16 56	37	22	23	05	103 8	04		
24	179	24.5	+11	00.1	305	35.5	+13	22.3	60 S	16 50	17 33	18 22	23	13	109 7	59		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 1 ^h 52.6 ^m		Mag: -3.8 PMG: 13 ^h 26 ^m			Mag: +0.8 PMG: 7 ^h 18 ^m			Mag: -2.3 PMG: 7 ^h 00 ^m			Mag: +0.7 PMG: 1 ^h 09 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	331	46.8	158	39.4	+4	21.2	250	25.2	+22	56.9	254	52.4	+22	11.6	342	40.0	-7 02.1	
1	346	49.2	173	39.0		20.0	265	25.9		57.1	269	54.5		11.6	357	42.6	02.2	
2	1	51.7	188	38.7		18.7	280	26.7		57.2	284	56.6		11.7	12	45.3	02.2	
3	16	54.2	203	38.4		17.4	295	27.4		57.3	299	58.7		11.7	27	47.9	02.3	
4	31	56.6	218	38.0		16.2	310	28.2		57.5	315	00.8		11.7	42	50.5	02.4	
5	46	59.1	233	37.7	+4	14.9	325	28.9	+22	57.6	330	02.9	+22	11.7	57	53.2	-7 02.5	
6	62	01.5	248	37.4	+4	13.7	340	29.7	+22	57.7	345	05.0	+22	11.8	72	55.8	-7 02.5	
7	77	04.0	263	37.0		12.4	355	30.4		57.9	0	07.1		11.8	87	58.4	02.6	
8	92	06.5	278	36.7		11.1	10	31.2		58.0	15	09.2		11.8	103	01.0	02.7	
9	107	08.9	293	36.4		09.9	25	31.9		58.1	30	11.3		11.9	118	03.7	02.8	
10	122	11.4	308	36.0		08.6	40	32.7		58.3	45	13.4		11.9	133	06.3	02.8	
11	137	13.9	323	35.7	+4	07.3	55	33.4	+22	58.4	60	15.5	+22	11.9	148	08.9	-7 02.9	
12	152	16.3	338	35.3	+4	06.1	70	34.2	+22	58.5	75	17.6	+22	12.0	163	11.6	-7 03.0	
13	167	18.8	353	35.0		04.8	85	34.9		58.7	90	19.7		12.0	178	14.2	03.1	
14	182	21.3	8	34.7		03.6	100	35.7		58.8	105	21.8		12.0	193	16.8	03.1	
15	197	23.7	23	34.3		02.3	115	36.4		58.9	120	23.9		12.0	208	19.4	03.2	
16	212	26.2	38	34.0	+4	01.0	130	37.2		59.1	135	26.0		12.1	223	22.1	03.3	
17	227	28.6	53	33.7	+3	59.8	145	37.9	+22	59.2	150	28.1	+22	12.1	238	24.7	-7 03.4	
18	242	31.1	68	33.3	+3	58.5	160	38.7	+22	59.3	165	30.2	+22	12.1	253	27.3	-7 03.4	
19	257	33.6	83	33.0		57.2	175	39.4		59.5	180	32.3		12.2	268	29.9	03.5	
20	272	36.0	98	32.7		56.0	190	40.2		59.6	195	34.4		12.2	283	32.6	03.6	
21	287	38.5	113	32.3		54.7	205	40.9		59.7	210	36.5		12.2	298	35.2	03.7	
22	302	41.0	128	32.0		53.4	220	41.7	+22	59.9	225	38.6		12.2	313	37.8	03.7	
23	317	43.4	143	31.7		52.2	235	42.4	+23	00.0	240	40.7		12.3	328	40.5	03.8	
24	332	45.9	158	31.4	+3	50.9	250	43.2	+23	00.1	255	42.8	+22	12.3	343	43.1	-7 03.9	
Dif	—		-3		-13		+7		+1		+21		0		+26		-1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:12 ^h 02.2 ^m				Edad: 19.5 ^d PHE { 4 ^h : 59'8 12 ^h : 59'6 20 ^h : 59'4 R°: 53 ^m SD: 16'3 PMG: 3 ^h 45 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	179	24.5	+11	00.1	305	35.5	+13	22.3	60 N	2	45	3	49	4	37	20 02 2		
1	194	24.7	+10	59.3	320	04.3		37.9	58	3	02	4	00	44	14	8		
2	209	24.9		58.4	334	33.2	+13	53.3	56	15	08	49	24	14	44	98		
3	224	25.0		57.6	349	01.9	+14	08.7	54	27	16	55	33	18	35	94		
4	239	25.2		56.7	3	30.7		24.0	52	37	23	4	59	42	20	28 90		
5	254	25.4	+10	55.8	17	59.4	+14	39.2	50	3	46	4	29	5	04	20 49 24		
6	269	25.6	+10	55.0	32	28.0	+14	54.3	45	4	04	4	42	5	13	21 05 29		
7	284	25.7		54.1	46	56.6	+15	09.3	40	18	4	52	21	18	34	10 56 76		
8	299	25.9		53.3	61	25.2		24.2	35	30	5	01	27	29	38	46 72		
9	314	26.1		52.4	75	53.7		39.0	30	39		08	33	39	41	37 69		
10	329	26.2		51.6	90	22.1	+15	53.7	20	4	54	20	43	21	56	46		
11	344	26.4	+10	50.7	104	50.5	+16	08.3	10 N	5	05	5	30	5	51	22 11 51		
12	359	26.6	+10	49.8	119	18.9	+16	22.8	0	5	13	5	38	5	59	22 26 54		
13	14	26.8		49.0	133	47.2		37.2	10 S	21		45	6	07	40	59		
14	29	26.9		48.1	148	15.5	+16	51.4	20	27	5	52	15	22	55	64		
15	44	27.1		47.2	162	43.7	+17	05.6	30	32	6	00	24	23	13	69		
16	59	27.3		46.4	177	11.8		19.7	35	34		03	29	24	71	11 35		
17	74	27.4	+10	45.5	191	39.9	+17	33.6	40	5	36	6	08	6	35	23 36 75		
18	89	27.6	+10	44.7	206	08.0	+17	47.5	45	5	38	6	12	6	42	23 50 80		
19	104	27.8		43.8	220	36.0	+18	01.2	50	39		17	50	**	**	**		
20	119	28.0		42.9	235	03.9		14.8	52	40	19		54	**	**	**		
21	134	28.1		42.1	249	31.8		28.3	54	41	22	6	58	**	**	**		
22	149	28.3		41.2	263	59.6		41.6	56	41	24	7	02	**	**	**		
23	164	28.5		40.4	278	27.4	+18	54.9	58	41	27	07		**	**	**		
24	179	28.7	+10	39.5	292	55.1	+19	08.0	60 S	5	42	6	30	7	13	**		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 1 ^h 48.6 ^m		Mag: -3.8 PMG: 13 ^h 26 ^m			Mag: +0.8 PMG: 7 ^h 17 ^m			Mag: -2.3 PMG: 6 ^h 56 ^m			Mag: +0.7 PMG: 1 ^h 05 ^m						
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	332	45.9	158	31.4	+3	50.9	250	43.2	+23	00.1	255	42.8	+22	12.3	343	43.1	-7	03.9
1	347	48.4	173	31.0		49.6	265	43.9		00.2	270	44.9		12.3	358	45.7		04.0
2	2	50.8	188	30.7		48.4	280	44.7		00.4	285	47.0		12.4	13	48.4		04.0
3	17	53.3	203	30.4		47.1	295	45.4		00.5	300	49.2		12.4	28	51.0		04.1
4	32	55.8	218	30.0		45.8	310	46.2		00.6	315	51.3		12.4	43	53.6		04.2
5	47	58.2	233	29.7	+3	44.6	325	47.0	+23	00.8	330	53.4	+22	12.4	58	56.2	-7	04.3
6	63	00.7	248	29.4	+3	43.3	340	47.7	+23	00.9	345	55.5	+22	12.5	73	58.9	-7	04.3
7	78	03.1	263	29.0		42.0	355	48.5		01.0	0	57.6		12.5	89	01.5		04.4
8	93	05.6	278	28.7		40.8	10	49.2		01.1	15	59.7		12.5	104	04.1		04.5
9	108	08.1	293	28.4		39.5	25	50.0		01.3	31	01.8		12.6	119	06.8		04.6
10	123	10.5	308	28.0		38.2	40	50.7		01.4	46	03.9		12.6	134	09.4		04.6
11	138	13.0	323	27.7	+3	37.0	55	51.5	+23	01.5	61	06.0	+22	12.6	149	12.0	-7	04.7
12	153	15.5	338	27.4	+3	35.7	70	52.2	+23	01.7	76	08.1	+22	12.6	164	14.6	-7	04.8
13	168	17.9	353	27.1		34.4	85	53.0		01.8	91	10.2		12.7	179	17.3		04.9
14	183	20.4	8	26.7		33.2	100	53.7		01.9	106	12.3		12.7	194	19.9		04.9
15	198	22.9	23	26.4		31.9	115	54.5		02.0	121	14.4		12.7	209	22.5		05.0
16	213	25.3	38	26.1		30.6	130	55.2		02.2	136	16.5		12.8	224	25.2		05.1
17	228	27.8	53	25.7	+3	29.3	145	56.0	+23	02.3	151	18.6	+22	12.8	239	27.8	-7	05.2
18	243	30.3	68	25.4	+3	28.1	160	56.8	+23	02.4	166	20.7	+22	12.8	254	30.4	-7	05.2
19	258	32.7	83	25.1		26.8	175	57.5		02.5	181	22.8		12.8	269	33.1		05.3
20	273	35.2	98	24.7		25.5	190	58.3		02.6	196	25.0		12.9	284	35.7		05.4
21	288	37.6	113	24.4		24.3	205	59.0		02.8	211	27.1		12.9	299	38.3		05.5
22	303	40.1	128	24.1		23.0	220	59.8		02.9	226	29.2		12.9	314	40.9		05.5
23	318	42.6	143	23.8		21.7	236	00.5		03.0	241	31.3		13.0	329	43.6		05.6
24	333	45.0	158	23.4	+3	20.5	251	01.3	+23	03.1	256	33.4	+22	13.0	344	46.2	-7	05.7
Dif	—		-3		-13		+8		+1		+21		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 01.9 ^m			Edad: 20.5 ^d SD: 16'1 PMG: 4 ^h 38 ^m							PHE { 4 ^h : 59'1 12 ^h : 58'9 20 ^h : 58'6 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	179	28.7	+10	39.5	292	55.1	87	+19	08.0	130	60 N	19 23	20 10	21 12	20 04	7	13 54	111	
1	194	28.8		38.6	307	22.8	86		21.0	129	58	17	20 00	20 57	22 16		37	101	
2	209	29.0		37.8	321	50.4	86		33.9	128	56	11	19 52	44	38 21		22	95	
3	224	29.2		36.9	336	18.0	86		46.7	128	54	06	44	33	20 51	26	13 09	91	
4	239	29.4		36.0	350	45.5	85	+19	59.3	126	52	19 02	38	23	21 02	30	12 58	87	
5	254	29.5	+10	35.2	5	12.9	84	+20	11.8	125	50	18 58	19 32	20 14	21 13	32	12 49	84	
6	269	29.7	+10	34.3	19	40.3	84	+20	24.2	124	45	18 49	19 20	19 57	21 34	38	12 28	78	
7	284	29.9		33.4	34	07.7	82		36.4	122	40	42	10	44	21 52	41	12 12	74	
8	299	30.0		32.6	48	34.9	82	+20	48.5	121	35	36	19 02	33	22 07	44	11 58	71	
9	314	30.2		31.7	63	02.2	83	+21	00.5	120	30	30	18 55	24	20 47		46	68	
10	329	30.4		30.8	77	29.3	81		12.4	119	20	21	43	19 10	22 42	51	25	64	
11	344	30.6	+10	30.0	91	56.4	81	+21	24.1	117	10 N	18 13	18 34	18 59	23 02	54	11 08	59	
12	359	30.8	+10	29.1	106	23.5	81	+21	35.6	115	0	18 05	18 26	18 51	23 20	57	10 51	56	
13	14	30.9		28.2	120	50.5	79		47.1	115	10 S	17 58	19	44	39 59		35	52	
14	29	31.1		27.4	135	17.4	79	+21	58.4	113	20	50	12	38	23 59	62	10 17	49	
15	44	31.3		26.5	149	44.3	79	+22	09.5	111	30	41	06	34	** ** *		9 57	44	
16	59	31.5		25.6	164	11.1	78		20.6	111	35	37	18 02	32	** ** *		46	41	
17	74	31.6	+10	24.8	178	37.9	78	+22	31.4	108	40	17 31	17 58	18 30	** ** *		9 33	37	
18	89	31.8	+10	23.9	193	04.6	77	+22	42.2	108	45	17 24	17 54	18 28	** ** *		9 17	33	
19	104	32.0		23.0	207	31.3	77	+22	52.8	106	50	17	50	27	0 08	86	8 58	27	
20	119	32.2		22.2	221	57.9	76	+23	03.2	104	52	13	48	27	16 89		49	24	
21	134	32.3		21.3	236	24.5	76		13.5	103	54	09	45	26	25 93		39	20	
22	149	32.5		20.4	250	51.0	75		23.6	101	56	05	43	26	36 98		27	17	
23	164	32.7		19.5	265	17.4	74		33.7	101	58	17 00	40	26	0 48	104	8 14	11	
24	179	32.9	+10	18.7	279	43.8	74	+23	43.5	98	60 S	16 55	17 38	18 26	1 02	112	7 59	3	

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG 1 ^h 44.7 ^m			Mag: -3.8 PMG: 13 ^h 27 ^m			Mag: +0.8 PMG: 7 ^h 16 ^m			Mag: -2.3 PMG: 6 ^h 53 ^m			Mag: +0.7 PMG: 1 ^h 01 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	333	45.0	158	23.4	+3	20.5	251	01.3	+23	03.1	256	33.4	+22	13.0	344	46.2	-7	05.7
1	348	47.5	173	23.1		19.2	266	02.0		03.3	271	35.5		13.0	359	48.8		05.8
2	3	50.0	188	22.8		17.9	281	02.8		03.4	286	37.6		13.0	14	51.5		05.8
3	18	52.4	203	22.4		16.6	296	03.6		03.5	301	39.7		13.1	29	54.1		05.9
4	33	54.9	218	22.1		15.4	311	04.3		03.6	316	41.8		13.1	44	56.7		06.0
5	48	57.4	233	21.8	+3	14.1	326	05.1	+23	03.7	331	43.9	+22	13.1	59	59.4	-7	06.1
6	63	59.8	248	21.5	+3	12.8	341	05.8	+23	03.9	346	46.0	+22	13.2	75	02.0	-7	06.1
7	79	02.3	263	21.1		11.6	356	06.6		04.0	1	48.2		13.2	90	04.6		06.2
8	94	04.7	278	20.8		10.3	11	07.3		04.1	16	50.3		13.2	105	07.2		06.3
9	109	07.2	293	20.5		09.0	26	08.1		04.2	31	52.4		13.2	120	09.9		06.4
10	124	09.7	308	20.2		07.7	41	08.9		04.3	46	54.5		13.3	135	12.5		06.4
11	139	12.1	323	19.8	+3	06.5	56	09.6	+23	04.5	61	56.6	+22	13.3	150	15.1	-7	06.5
12	154	14.6	338	19.5	+3	05.2	71	10.4	+23	04.6	76	58.7	+22	13.3	165	17.8	-7	06.6
13	169	17.1	353	19.2		03.9	86	11.1		04.7	92	00.8		13.3	180	20.4		06.7
14	184	19.5	8	18.9		02.7	101	11.9		04.8	107	02.9		13.4	195	23.0		06.7
15	199	22.0	23	18.5		01.4	116	12.7		04.9	122	05.1		13.4	210	25.7		06.8
16	214	24.5	38	18.2	+3	00.1	131	13.4		05.1	137	07.2		13.4	225	28.3		06.9
17	229	26.9	53	17.9	+2	58.8	146	14.2	+23	05.2	152	09.3	+22	13.5	240	30.9	-7	07.0
18	244	29.4	68	17.6	+2	57.6	161	14.9	+23	05.3	167	11.4	+22	13.5	255	33.6	-7	07.0
19	259	31.9	83	17.2		56.3	176	15.7		05.4	182	13.5		13.5	270	36.2		07.1
20	274	34.3	98	16.9		55.0	191	16.5		05.5	197	15.6		13.5	285	38.8		07.2
21	289	36.8	113	16.6		53.7	206	17.2		05.6	212	17.7		13.6	300	41.5		07.3
22	304	39.2	128	16.3		52.5	221	18.0		05.7	227	19.8		13.6	315	44.1		07.4
23	319	41.7	143	15.9		51.2	236	18.7		05.9	242	22.0		13.6	330	46.7		07.4
24	334	44.2	158	15.6	+2	49.9	251	19.5	+23	06.0	257	24.1	+22	13.7	345	49.3	-7	07.5
Dif	—		-3		-13		+8		+1		+21		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 01.7 ^m				Edad: 21.5 ^d PHE { 4 ^h : 58/4 12 ^h : 58/1 20 ^h : 57/9 PMG: 5 ^h 34 ^m R°: 57 ^m														
	hG ☉	Dec			hG ☾	Dif				Náutico	Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	32.9	+10	18.7	279	43.8	+23	43.5	97	60 N	2 52	3 55	4 42	20 11	19		15 45	101	
1	194	33.0		17.8	294	10.2	+23	53.2	96	58	3 08	4 04	48	38 30			15 18	90	
2	209	33.2		16.9	308	36.5	+24	02.8	94	56	21	13	53	20 59	36		14 57	85	
3	224	33.4		16.1	323	02.7		12.2	92	54	32	20	4 58	21 17	39		40	81	
4	239	33.6		15.2	337	28.9		21.4	91	52	41	26	5 03	32 41			25	78	
5	254	33.8	+10	14.3	351	55.1	+24	30.5	90	50	3 50	4 32	5 07	21 45	44	14 13	75		
6	269	33.9	+10	13.4	6	21.2	+24	39.5	87	45	4 07	4 44	5 15	22 12	47	13 46	72		
7	284	34.1		12.6	20	47.2		48.2	84	40	21	4 54	22	33 50		26	69		
8	299	34.3		11.7	35	13.3	+24	56.9	87	35	31	5 02	29	22 51	51	13 09	66		
9	314	34.5		10.8	49	39.2	+25	05.3	84	30	40	09	34	23 07	52	12 54	65		
10	329	34.7		09.9	64	05.1		13.7	81	20	4 54	21	43	33 55		29	62		
11	344	34.8	+10	09.1	78	31.0	+25	21.8	80	10 N	5 05	5 30	5 51	23 56	56	12 07	60		
12	359	35.0	+10	08.2	92	56.8	+25	29.8	78	0	5 13	5 37	5 58	** ** *		11 47	58		
13	14	35.2		07.3	107	22.6		37.6	77	10 S	20	44	6 06	** ** *		27	55		
14	29	35.4		06.4	121	48.4		45.3	75	20	25	51	13	** ** *		11 06	52		
15	44	35.6		05.6	136	14.1	+25	52.8	74	30	30	5 57	22	0 22	66	10 41	50		
16	59	35.7		04.7	150	39.8	+26	00.2	72	35	32	6 01	27	35 69		27	47		
17	74	35.9	+10	03.8	165	05.4	+26	07.4	70	40	5 33	6 05	6 32	0 51	72	10 10	45		
18	89	36.1	+10	02.9	179	31.0	+26	14.4	69	45	5 35	6 09	6 38	1 10	76	9 50	42		
19	104	36.3		02.1	193	56.6		21.3	66	50	36	13	46	34 80		25	38		
20	119	36.5		01.2	208	22.1		27.9	66	52	36	15	49	45 84		9 13	35		
21	134	36.6	+10	00.3	222	47.6		34.5	63	54	36	17	53	1 58	87	8 59	32		
22	149	36.8	+9	59.4	237	13.1		40.8	62	56	36	19	6 57	2 14	91	44	27		
23	164	37.0		58.6	251	38.5		47.0	61	58	37	22	7 02	32 98		25	21		
24	179	37.2	+9	57.7	266	03.9	+26	53.1		60 S	5 36	6 25	7 07	2 54 109		8 02	10		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 1 ^h 40.8 ^m		Mag: -3.8 PMG: 13 ^h 27 ^m			Mag: +0.8 PMG: 7 ^h 14 ^m			Mag: -2.3 PMG: 6 ^h 49 ^m			Mag: +0.7 PMG: 0 ^h 57 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'							
0	334	44.2	158	15.6	+2	49.9	251	19.5	+23	06.0	257	24.1	+22	13.7	345	49.3	-7	07.5	
1	349	46.6	173	15.3		48.6	266	20.3		06.1	272	26.2		13.7	0	52.0		07.6	
2	4	49.1	188	15.0		47.4	281	21.0		06.2	287	28.3		13.7	15	54.6		07.7	
3	19	51.6	203	14.6		46.1	296	21.8		06.3	302	30.4		13.7	30	57.2		07.7	
4	34	54.0	218	14.3		44.8	311	22.5		06.4	317	32.5		13.8	45	59.9		07.8	
5	49	56.5	233	14.0	+2	43.5	326	23.3	+23	06.5	332	34.7	+22	13.8	61	02.5	-7	07.9	
6	64	59.0	248	13.7	+2	42.3	341	24.1	+23	06.7	347	36.8	+22	13.8	76	05.1	-7	08.0	
7	80	01.4	263	13.3		41.0	356	24.8		06.8	2	38.9		13.8	91	07.8		08.0	
8	95	03.9	278	13.0		39.7	11	25.6		06.9	17	41.0		13.9	106	10.4		08.1	
9	110	06.4	293	12.7		38.4	26	26.4		07.0	32	43.1		13.9	121	13.0		08.2	
10	125	08.8	308	12.4		37.2	41	27.1		07.1	47	45.2		13.9	136	15.7		08.3	
11	140	11.3	323	12.0	+2	35.9	56	27.9	+23	07.2	62	47.4	+22	13.9	151	18.3	-7	08.3	
12	155	13.7	338	11.7	+2	34.6	71	28.6	+23	07.3	77	49.5	+22	14.0	166	20.9	-7	08.4	
13	170	16.2	353	11.4		33.3	86	29.4		07.4	92	51.6		14.0	181	23.6		08.5	
14	185	18.7	8	11.1		32.1	101	30.2		07.6	107	53.7		14.0	196	26.2		08.6	
15	200	21.1	23	10.7		30.8	116	30.9		07.7	122	55.8		14.1	211	28.8		08.6	
16	215	23.6	38	10.4		29.5	131	31.7		07.8	137	58.0		14.1	226	31.5		08.7	
17	230	26.1	53	10.1	+2	28.2	146	32.5	+23	07.9	153	00.1	+22	14.1	241	34.1	-7	08.8	
18	245	28.5	68	09.8	+2	26.9	161	33.2	+23	08.0	168	02.2	+22	14.1	256	36.7	-7	08.9	
19	260	31.0	83	09.5		25.7	176	34.0		08.1	183	04.3		14.2	271	39.4		08.9	
20	275	33.5	98	09.1		24.4	191	34.8		08.2	198	06.4		14.2	286	42.0		09.0	
21	290	35.9	113	08.8		23.1	206	35.5		08.3	213	08.6		14.2	301	44.6		09.1	
22	305	38.4	128	08.5		21.8	221	36.3		08.4	228	10.7		14.2	316	47.3		09.2	
23	320	40.9	143	08.2		20.6	236	37.1		08.5	243	12.8		14.3	331	49.9		09.2	
24	335	43.3	158	07.8	+2	19.3	251	37.8	+23	08.6	258	14.9	+22	14.3	346	52.5	-7	09.3	
Dif	—		-3		-13		+8		+1		+21		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 01.4 ^m			Edad: 22.5 ^d SD: 15'7 PMG: 6 ^h 31 ^m			PHE { 4 ^h : 57/6 12 ^h : 57/4 20 ^h : 57/2 Rº: 58 ^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	179 37.2	+9 57.7	266 03.9	64	+26 53.1	58	60 N	19 17	20 03	21 04	20 30 54	17 26 66					
1	194 37.4	56.8	280 29.3	64	+26 58.9	57	58	11	19 54	20 50	21 08 56	16 48 65					
2	209 37.5	55.9	294 54.7	63	+27 04.6	56	56	06	46	37	35 56	22 63					
3	224 37.7	55.1	309 20.0	63	10.2	53	54	19 02	39	27	21 56 57	16 01 66					
4	239 37.9	54.2	323 45.3	63	15.5	52	52	18 57	33	18	22 13 58	15 43 63					
5	254 38.1	+9 53.3	338 10.6	63	+27 20.7	52	50	18 54	19 28	20 10	22 29 57	15 28 62					
6	269 38.3	+9 52.4	352 35.9	63	+27 25.7	50	45	18 45	19 16	19 53	22 59 57	14 58 61					
7	284 38.5	51.5	7 01.1	62	30.6	49	40	39	19 07	40	23 23 57	35 60					
8	299 38.6	50.7	21 26.3	62	35.3	47	35	33	18 59	30	42 58	14 15 61					
9	314 38.8	49.8	35 51.6	63	39.8	45	30	28	52	21	23 59 58	13 59 60					
10	329 39.0	48.9	50 16.8	62	44.1	43	20	19	42	19 08	** ** *	31 59					
11	344 39.2	+9 48.0	64 42.0	62	+27 48.3	42	10 N	18 12	18 33	18 58	** ** *	13 07 58					
12	359 39.4	+9 47.1	79 07.2	62	+27 52.3	40	0	18 05	18 26	18 50	0 17 58	12 45 57					
13	14 39.6	46.3	93 32.3	61	56.1	38	10 S	17 58	19	44	0 38 60	12 22 58					
14	29 39.7	45.4	107 57.5	62	+27 59.8	37	20	51	13	39	1 01 61	11 58 57					
15	44 39.9	44.5	122 22.7	62	+28 03.2	34	30	43	07	35	28 63	31 55					
16	59 40.1	43.6	136 47.8	61	06.6	34	35	38	04	33	1 44 64	11 14 55					
17	74 40.3	+9 42.7	151 13.0	62	+28 09.7	31	40	17 33	18 00	18 32	2 03 65	10 55 54					
18	89 40.5	+9 41.8	165 38.2	62	+28 12.7	30	45	17 27	17 57	18 31	2 26 66	10 32 53					
19	104 40.7	41.0	180 03.3	61	15.5	26	50	20	52	30	2 54 70	10 03 50					
20	119 40.8	40.1	194 28.5	62	18.1	26	52	16	51	30	3 09 70	9 48 50					
21	134 41.0	39.2	208 53.7	62	20.6	25	54	13	49	30	25 73	31 48					
22	149 41.2	38.3	223 18.9	62	22.8	22	56	09	47	30	3 45 75	9 11 46					
23	164 41.4	37.4	237 44.0	61	25.0	22	58	17 04	44	30	4 10 79	8 46 42					
24	179 41.6	+9 36.5	252 09.3	63	+28 26.9	19	60 S	16 59	17 42	18 30	4 43 89	8 12 33					
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 1 ^h 36.8 ^m		Mag: -3.8 PMG: 13 ^h 28 ^m			Mag: +0.8 PMG: 7 ^h 13 ^m			Mag: -2.3 PMG: 6 ^h 46 ^m			Mag: +0.7 PMG: 0 ^h 52 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	335 43.3	158 07.8	+2 19.3	251 37.8	+23 08.6	258 14.9	+22 14.3	346 52.5	-7 09.3								
1	350 45.8	173 07.5	18.0	266 38.6	08.8	273 17.0	14.3	1 55.2	09.4								
2	5 48.2	188 07.2	16.7	281 39.4	08.9	288 19.2	14.3	16 57.8	09.5								
3	20 50.7	203 06.9	15.4	296 40.1	09.0	303 21.3	14.4	32 00.4	09.6								
4	35 53.2	218 06.6	14.2	311 40.9	09.1	318 23.4	14.4	47 03.1	09.6								
5	50 55.6	233 06.2	+2 12.9	326 41.7	+23 09.2	333 25.5	+22 14.4	62 05.7	-7 09.7								
6	65 58.1	248 05.9	+2 11.6	341 42.4	+23 09.3	348 27.6	+22 14.5	77 08.3	-7 09.8								
7	81 00.6	263 05.6	10.3	356 43.2	09.4	3 29.8	14.5	92 11.0	09.9								
8	96 03.0	278 05.3	09.0	11 44.0	09.5	18 31.9	14.5	107 13.6	09.9								
9	111 05.5	293 05.0	07.8	26 44.7	09.6	33 34.0	14.5	122 16.2	10.0								
10	126 08.0	308 04.6	06.5	41 45.5	09.7	48 36.1	14.6	137 18.9	10.1								
11	141 10.4	323 04.3	+2 05.2	56 46.3	+23 09.8	63 38.3	+22 14.6	152 21.5	-7 10.2								
12	156 12.9	338 04.0	+2 03.9	71 47.0	+23 09.9	78 40.4	+22 14.6	167 24.1	-7 10.2								
13	171 15.4	353 03.7	02.6	86 47.8	10.0	93 42.5	14.6	182 26.8	10.3								
14	186 17.8	8 03.4	01.4	101 48.6	10.1	108 44.6	14.7	197 29.4	10.4								
15	201 20.3	23 03.0	+2 00.1	116 49.3	10.2	123 46.8	14.7	212 32.0	10.5								
16	216 22.7	38 02.7	+1 58.8	131 50.1	10.3	138 48.9	14.7	227 34.7	10.5								
17	231 25.2	53 02.4	+1 57.5	146 50.9	+23 10.4	153 51.0	+22 14.7	242 37.3	-7 10.6								
18	246 27.7	68 02.1	+1 56.2	161 51.6	+23 10.5	168 53.1	+22 14.8	257 39.9	-7 10.7								
19	261 30.1	83 01.8	55.0	176 52.4	10.6	183 55.3	14.8	272 42.6	10.8								
20	276 32.6	98 01.4	53.7	191 53.2	10.7	198 57.4	14.8	287 45.2	10.8								
21	291 35.1	113 01.1	52.4	206 54.0	10.8	213 59.5	14.8	302 47.8	10.9								
22	306 37.5	128 00.8	51.1	221 54.7	10.9	229 01.7	14.9	317 50.5	11.0								
23	321 40.0	143 00.5	49.8	236 55.5	11.0	244 03.8	14.9	332 53.1	11.1								
24	336 42.5	158 00.2	+1 48.6	251 56.3	+23 11.1	259 05.9	+22 14.9	347 55.7	-7 11.2								
Dif	—	-3	-13	+8	+1	+21	0	+26	-1								

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15°8 PMG:12 ^h 01.1 ^m			Edad: 23.5 ^d PHE { 4 ^h : 56'9 12 ^h : 56'7 20 ^h : 56'5 R°: 56 ^m SD: 15°5 PMG: 7 ^h 29 ^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	41.6	+9	36.5	252	09.3	62	+28	26.9	18	60 N	2 59	4 00	4 46	21 24	89	18 32	27	
1	194	41.8		35.7	266	34.5	62		28.7	16	58	3 14	09	52	22 04	79	17 53	36	
2	209	42.0		34.8	280	59.7	62		30.3	14	56	26	17	4 57	31 75		25	40	
3	224	42.1		33.9	295	24.9	62		31.7	13	54	36	24	5 02	22 53	72	17 03	43	
4	239	42.3		33.0	309	50.2	63		33.0	11	52	46	30	06	23 11	70	16 46	44	
5	254	42.5	+9	32.1	324	15.5	63	+28	34.1	9	50	3 54	4 35	5 10	23 26	68	16 30	47	
6	269	42.7	+9	31.2	338	40.8	63	+28	35.0	7	45	4 10	4 47	5 18	23 56	66	15 59	49	
7	284	42.9		30.3	353	06.1	63		35.7	6	40	23	4 56	24	** ** *		35	51	
8	299	43.1		29.5	7	31.5	64		36.3	4	35	33	5 04	30	** ** *		15	16	51
9	314	43.3		28.6	21	56.9	64		36.7	3	30	42	10	35	** ** *		14	59	52
10	329	43.4		27.7	36	22.3	64		37.0	1	20	4 55	21	44	0 28	57	30	54	
11	344	43.6	+9	26.8	50	47.8	65	+28	37.1	1	10 N	5 05	5 30	5 51	0 52	57	14 05	56	
12	359	43.8	+9	25.9	65	13.2	64	+28	37.0	1	0	5 12	5 37	5 58	1 15	57	13 42	57	
13	14	44.0		25.0	79	38.8	66		36.7	3	10 S	19	43	6 04	1 38	57	13 20	57	
14	29	44.2		24.1	94	04.3	65		36.3	4	20	24	49	12	2 02	57	12 55	58	
15	44	44.4		23.2	108	29.9	66		35.7	6	30	27	55	19	31	56	26	59	
16	59	44.6		22.4	122	55.5	66		34.9	8	35	29	5 58	24	2 48	56	12 09	60	
17	74	44.7	+9	21.5	137	21.2	67	+28	34.0	9	40	5 30	6 02	6 29	3 08	55	11 49	61	
18	89	44.9	+9	20.6	151	46.9	67	+28	32.9	11	45	5 31	6 05	6 35	3 32	55	11 25	62	
19	104	45.1		19.7	166	12.7	68		31.7	12	50	32	09	42	4 04	53	10 53	64	
20	119	45.3		18.8	180	38.5	68		30.3	14	52	32	11	45	19	53	38	64	
21	134	45.5		17.9	195	04.3	68		28.7	16	54	32	13	49	4 38	52	10 19	66	
22	149	45.7		17.0	209	30.2	69		27.0	17	56	32	15	52	5 00	51	9 57	67	
23	164	45.9		16.1	223	56.2	70		25.1	19	58	31	17	6 57	5 29	49	9 28	70	
24	179	46.1	+9	15.2	238	22.2	70	+28	23.0	21	60 S	5 31	6 19	7 02	6 12	43	8 45	75	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 1 ^h 32.9 ^m		Mag: -3.8 PMG: 13 ^h 28 ^m			Mag: +0.8 PMG: 7 ^h 12 ^m			Mag: -2.3 PMG: 6 ^h 43 ^m			Mag: +0.6 PMG: 0 ^h 48 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'							
0	336	42.5	158	00.2	+1	48.6	251	56.3	+23	11.1	259	05.9	+22	14.9	347	55.7	-7	11.2	
1	351	44.9	172	59.8		47.3	266	57.0		11.2	274	08.0		14.9	2	58.4		11.2	
2	6	47.4	187	59.5		46.0	281	57.8		11.3	289	10.2		15.0	18	01.0		11.3	
3	21	49.8	202	59.2		44.7	296	58.6		11.4	304	12.3		15.0	33	03.6		11.4	
4	36	52.3	217	58.9		43.4	311	59.4		11.5	319	14.4		15.0	48	06.3		11.5	
5	51	54.8	232	58.6	+1	42.2	327	00.1	+23	11.6	334	16.5	+22	15.0	63	08.9	-7	11.5	
6	66	57.2	247	58.2	+1	40.9	342	00.9	+23	11.7	349	18.7	+22	15.1	78	11.5	-7	11.6	
7	81	59.7	262	57.9		39.6	357	01.7		11.8	4	20.8		15.1	93	14.2		11.7	
8	97	02.2	277	57.6		38.3	12	02.4		11.9	19	22.9		15.1	108	16.8		11.8	
9	112	04.6	292	57.3		37.0	27	03.2		12.0	34	25.1		15.2	123	19.4		11.8	
10	127	07.1	307	57.0		35.7	42	04.0		12.1	49	27.2		15.2	138	22.1		11.9	
11	142	09.6	322	56.7	+1	34.5	57	04.8	+23	12.2	64	29.3	+22	15.2	153	24.7	-7	12.0	
12	157	12.0	337	56.3	+1	33.2	72	05.5	+23	12.3	79	31.5	+22	15.2	168	27.3	-7	12.1	
13	172	14.5	352	56.0		31.9	87	06.3		12.4	94	33.6		15.3	183	30.0		12.1	
14	187	17.0	7	55.7		30.6	102	07.1		12.5	109	35.7		15.3	198	32.6		12.2	
15	202	19.4	22	55.4		29.3	117	07.9		12.6	124	37.9		15.3	213	35.2		12.3	
16	217	21.9	37	55.1		28.0	132	08.6		12.7	139	40.0		15.3	228	37.9		12.4	
17	232	24.3	52	54.7	+1	26.8	147	09.4	+23	12.8	154	42.1	+22	15.4	243	40.5	-7	12.5	
18	247	26.8	67	54.4	+1	25.5	162	10.2	+23	12.9	169	44.2	+22	15.4	258	43.2	-7	12.5	
19	262	29.3	82	54.1		24.2	177	11.0		13.0	184	46.4		15.4	273	45.8		12.6	
20	277	31.7	97	53.8		22.9	192	11.7		13.1	199	48.5		15.4	288	48.4		12.7	
21	292	34.2	112	53.5		21.6	207	12.5		13.2	214	50.6		15.5	303	51.1		12.8	
22	307	36.7	127	53.2		20.3	222	13.3		13.3	229	52.8		15.5	318	53.7		12.8	
23	322	39.1	142	52.8		19.1	237	14.1		13.4	244	54.9		15.5	333	56.3		12.9	
24	337	41.6	157	52.5	+1	17.8	252	14.8	+23	13.5	259	57.0	+22	15.5	348	59.0	-7	13.0	
Dif	—		-3		-13		+8		+1		+21		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 00.8 ^m		Edad: 24.5 ^d SD: 15'4 PMG: 8 ^h 25 ^m PHE { 4 ^h : 56'3 12 ^h : 56'1 20 ^h : 55'9 R°: 54 ^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 46.1	+9 15.2	238 22.2	71	+28 23.0	22	60 N	19 11	19 57	20 56	22 53 100	18 59 9		
1	194 46.3		252 48.3	71	20.8	24	58	06	48	43	23 23 90	29 17		
2	209 46.4		267 14.4	71	18.4	25	56	19 01	41	31	23 46 84	18 05 24		
3	224 46.6		281 40.5	73	15.9	27	54	18 57	34	21	** ** *	17 46 28		
4	239 46.8		296 06.8	73	13.2	29	52	53	28	12	** ** *	30 31		
5	254 47.0	+9 10.8	310 33.1	73	+28 10.3	30	50	18 49	19 23	20 05	** ** *	17 17 32		
6	269 47.2	+9 09.9	324 59.4	75	+28 07.3	31	45	18 42	19 12	19 49	** ** *	16 48 38		
7	284 47.4	09.0	339 25.9	74	04.2	33	40	36	19 03	37	0 20 64	26 40		
8	299 47.6	08.1	353 52.3	76	+28 00.9	35	35	30	18 56	27	40 62	16 07 43		
9	314 47.8	07.2	8 18.9	76	+27 57.4	36	30	26	50	19	0 57 60	15 51 45		
10	329 48.0	06.3	22 45.5	77	53.8	38	20	17	40	19 06	1 25 58	24 48		
11	344 48.1	+9 05.4	37 12.2	77	+27 50.0	39	10 N	18 11	18 32	18 57	1 49 57	15 01 50		
12	359 48.3	+9 04.5	51 39.0	78	+27 46.1	41	0	18 04	18 25	18 49	2 12 55	14 39 53		
13	14 48.5	03.6	66 05.8	78	42.0	42	10 S	17 58	19	44	35 53	14 17 55		
14	29 48.7	02.8	80 32.7	79	37.8	44	20	51	13	39	2 59 51	13 53 58		
15	44 48.9	01.9	94 59.7	80	33.4	45	30	44	08	36	3 27 49	25 61		
16	59 49.1	01.0	109 26.7	80	28.9	47	35	39	05	34	3 44 47	13 09 63		
17	74 49.3	+9 00.1	123 53.8	81	+27 24.2	48	40	17 35	18 02	18 33	4 03 46	12 50 65		
18	89 49.5	+8 59.2	138 21.0	82	+27 19.4	49	45	17 29	17 59	18 33	4 27 43	12 27 68		
19	104 49.7	58.3	152 48.3	83	14.5	51	50	23	55	33	4 57 39	11 57 72		
20	119 49.9	57.4	167 15.7	84	09.4	53	52	20	54	33	5 12 37	42 75		
21	134 50.1	56.5	181 43.1	84	+27 04.1	53	54	16	52	33	30 34	25 77		
22	149 50.2	55.6	196 10.6	85	+26 58.8	55	56	13	50	33	5 51 30	11 04 81		
23	164 50.4	54.7	210 38.2	86	53.3	57	58	09	48	34	6 18 24	10 38 87		
24	179 50.6	+8 53.8	225 05.9	87	+26 47.6		60 S	17 04	17 46	18 35	6 55 13	10 00 99		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 ^h 29.0 ^m		Mag: -3.8 PMG: 13 ^h 29 ^m		Mag: +0.8 PMG: 7 ^h 11 ^m		Mag: -2.3 PMG: 6 ^h 39 ^m		Mag: +0.6 PMG: 0 ^h 44 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	337 41.6	157 52.5	+1 17.8	252 14.8	+23 13.5	259 57.0	+22 15.5	348 59.0	-7 13.0	
1	352 44.1	172 52.2	16.5	267 15.6	13.6	274 59.2	15.6	4 01.6	13.1	
2	7 46.5	187 51.9	15.2	282 16.4	13.7	290 01.3	15.6	19 04.2	13.1	
3	22 49.0	202 51.6	13.9	297 17.2	13.7	305 03.5	15.6	34 06.9	13.2	
4	37 51.5	217 51.3	12.6	312 17.9	13.8	320 05.6	15.6	49 09.5	13.3	
5	52 53.9	232 50.9	+1 11.4	327 18.7	+23 13.9	335 07.7	+22 15.7	64 12.1	-7 13.4	
6	67 56.4	247 50.6	+1 10.1	342 19.5	+23 14.0	350 09.9	+22 15.7	79 14.8	-7 13.4	
7	82 58.8	262 50.3	08.8	357 20.3	14.1	5 12.0	15.7	94 17.4	13.5	
8	98 01.3	277 50.0	07.5	12 21.0	14.2	20 14.1	15.7	109 20.0	13.6	
9	113 03.8	292 49.7	06.2	27 21.8	14.3	35 16.3	15.8	124 22.7	13.7	
10	128 06.2	307 49.4	04.9	42 22.6	14.4	50 18.4	15.8	139 25.3	13.8	
11	143 08.7	322 49.0	+1 03.7	57 23.4	+23 14.5	65 20.5	+22 15.8	154 28.0	-7 13.8	
12	158 11.2	337 48.7	+1 02.4	72 24.2	+23 14.6	80 22.7	+22 15.8	169 30.6	-7 13.9	
13	173 13.6	352 48.4	+1 01.1	87 24.9	14.7	95 24.8	15.8	184 33.2	14.0	
14	188 16.1	7 48.1	+0 59.8	102 25.7	14.7	110 27.0	15.9	199 35.9	14.1	
15	203 18.6	22 47.8	58.5	117 26.5	14.8	125 29.1	15.9	214 38.5	14.1	
16	218 21.0	37 47.5	57.2	132 27.3	14.9	140 31.2	15.9	229 41.1	14.2	
17	233 23.5	52 47.1	+0 55.9	147 28.1	+23 15.0	155 33.4	+22 15.9	244 43.8	-7 14.3	
18	248 26.0	67 46.8	+0 54.7	162 28.8	+23 15.1	170 35.5	+22 16.0	259 46.4	-7 14.4	
19	263 28.4	82 46.5	53.4	177 29.6	15.2	185 37.6	16.0	274 49.0	14.4	
20	278 30.9	97 46.2	52.1	192 30.4	15.3	200 39.8	16.0	289 51.7	14.5	
21	293 33.3	112 45.9	50.8	207 31.2	15.4	215 41.9	16.0	304 54.3	14.6	
22	308 35.8	127 45.6	49.5	222 32.0	15.4	230 44.1	16.1	319 56.9	14.7	
23	323 38.3	142 45.3	48.2	237 32.7	15.5	245 46.2	16.1	334 59.6	14.8	
24	338 40.7	157 44.9	+0 46.9	252 33.5	+23 15.6	260 48.3	+22 16.1	350 02.2	-7 14.8	
Dif	—	-3	-13	+8	+1	+21	0	+26	-1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15°8 PMG:12 ^h 00.5 ^m			Edad: 25.5 ^d SD: 15°2 PMG: 9 ^h 19 ^m PHE { 4 ^h : 55°8 12 ^h : 55°6 20 ^h : 55°4 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	
0	179 50.6	+8 53.8		225 05.9		+26 47.6		60 N	3 06	4 06	4 51	** ** *		19 08	2
1	194 50.8			239 33.7	88		41.8	58	20	14	4 56	** ** *		18 46	10
2	209 51.0			254 01.5	88		35.9	59	31	21	5 01	** ** *		29 14	
3	224 51.2			268 29.5	90		29.8	61	41	28	05	0 05	80	14 18	
4	239 51.4			282 57.5	90		23.6	62	50	34	09	21 76		18 01	21
5	254 51.6	+8 49.3		297 25.6	91	+26 17.3	63	50	3 57	4 39	5 13	0 34	74	17 49	24
6	269 51.8	+8 48.4		311 53.8	92	+26 10.8	65	45	4 13	4 50	5 20	1 02	69	17 26	28
7	284 52.0			326 22.1	93	+26 04.3	65	40	25	4 58	26	24 65		17 06	33
8	299 52.2			340 50.4	93	+25 57.5	68	35	35	5 06	31	42 63		16 50	36
9	314 52.4			355 18.9	95		50.7	30	43	12	36	1 57	61	36 38	
10	329 52.6			9 47.4	95		43.7	20	4 55	22	44	2 23	57	16 12	43
11	344 52.8	+8 43.9		24 16.1	97	+25 36.6	71	10 N	5 05	5 30	5 51	2 46	54	15 51	46
12	359 52.9	+8 43.0		38 44.8	97	+25 29.4	72	0	5 12	5 36	5 57	3 07	51	15 32	49
13	14 53.1			53 13.6	98		22.0	10 S	18	42	6 03	28 48		15 12	53
14	29 53.3			67 42.5	99		14.6	20	22	48	10	3 50	45	14 51	56
15	44 53.5			82 11.5	100	+25 07.0	76	30	25	53	17	4 16	41	26 61	
16	59 53.7			96 40.6	101	+24 59.3	77	35	26	56	21	31 39		14 12	63
17	74 53.9	+8 38.5		111 09.8	102	+24 51.4	79	40	5 27	5 59	6 26	4 49	36	13 55	66
18	89 54.1	+8 37.6		125 39.1	103	+24 43.5	81	45	5 28	6 02	6 31	5 10	32	13 35	70
19	104 54.3			140 08.4	103		35.4	50	28	05	38	36 28		13 09	75
20	119 54.5			154 37.9	105		27.2	52	28	07	41	5 49	25	12 57	78
21	134 54.7			169 07.4	105		18.9	54	27	08	44	6 04	22	42 82	
22	149 54.9			183 37.1	107		10.5	56	27	10	47	21 18		25 86	
23	164 55.1			198 06.8	107	+24 02.0	85	58	26	12	51	6 42	12	12 05	91
24	179 55.3	+8 32.2		212 36.6	108	+23 53.4	86	60 S	5 26	6 14	6 56	7 08	4	11 39	100
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG: 1 ^h 25.1 ^m		Mag: -3.8 PMG: 13 ^h 29 ^m			Mag: +0.7 PMG: 7 ^h 09 ^m			Mag: -2.3 PMG: 6 ^h 36 ^m			Mag: +0.6 PMG: 0 ^h 40 ^m			
	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec	hG ♊	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	338 40.7	157 44.9	+0 46.9	252 33.5	+23 15.6	260 48.3	+22 16.1	350 02.2	-7 14.8						
1	353 43.2	172 44.6		267 34.3	15.7	275 50.5	16.1	5 04.9	14.9						
2	8 45.7	187 44.3		282 35.1	15.8	290 52.6	16.2	20 07.5	15.0						
3	23 48.1	202 44.0		297 35.9	15.9	305 54.8	16.2	35 10.1	15.1						
4	38 50.6	217 43.7		312 36.7	16.0	320 56.9	16.2	50 12.8	15.1						
5	53 53.1	232 43.4	+0 40.5	327 37.4	+23 16.0	335 59.1	+22 16.2	65 15.4	-7 15.2						
6	68 55.5	247 43.0	+0 39.2	342 38.2	+23 16.1	351 01.2	+22 16.3	80 18.0	-7 15.3						
7	83 58.0	262 42.7		357 39.0	16.2	6 03.3	16.3	95 20.7	15.4						
8	99 00.4	277 42.4		12 39.8	16.3	21 05.5	16.3	110 23.3	15.4						
9	114 02.9	292 42.1		27 40.6	16.4	36 07.6	16.3	125 25.9	15.5						
10	129 05.4	307 41.8		42 41.4	16.5	51 09.8	16.4	140 28.6	15.6						
11	144 07.8	322 41.5	+0 32.8	57 42.1	+23 16.6	66 11.9	+22 16.4	155 31.2	-7 15.7						
12	159 10.3	337 41.2	+0 31.5	72 42.9	+23 16.6	81 14.1	+22 16.4	170 33.9	-7 15.7						
13	174 12.8	352 40.8		87 43.7	16.7	96 16.2	16.4	185 36.5	15.8						
14	189 15.2	7 40.5		102 44.5	16.8	111 18.3	16.4	200 39.1	15.9						
15	204 17.7	22 40.2		117 45.3	16.9	126 20.5	16.5	215 41.8	16.0						
16	219 20.2	37 39.9		132 46.1	17.0	141 22.6	16.5	230 44.4	16.1						
17	234 22.6	52 39.6	+0 25.1	147 46.8	+23 17.0	156 24.8	+22 16.5	245 47.0	-7 16.1						
18	249 25.1	67 39.3	+0 23.8	162 47.6	+23 17.1	171 26.9	+22 16.5	260 49.7	-7 16.2						
19	264 27.6	82 39.0		177 48.4	17.2	186 29.1	16.6	275 52.3	16.3						
20	279 30.0	97 38.6		192 49.2	17.3	201 31.2	16.6	290 55.0	16.4						
21	294 32.5	112 38.3		207 50.0	17.4	216 33.4	16.6	305 57.6	16.4						
22	309 34.9	127 38.0		222 50.8	17.5	231 35.5	16.6	321 00.2	16.5						
23	324 37.4	142 37.7		237 51.6	17.5	246 37.7	16.7	336 02.9	16.6						
24	339 39.9	157 37.4	+0 16.1	252 52.3	+23 17.6	261 39.8	+22 16.7	351 05.5	-7 16.7						
Dif	—	-3	-13	+8	+1	+21	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 00.2 ^m		Edad: 26.5 ^d SD: 15'1 PMG: 10 ^h 10 ^m PHE { 4 ^h : 55'3 12 ^h : 55'1 20 ^h : 55'0 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 55.3	+8 32.2	212 36.6	109	+23 53.4	88	60 N	19 05	19 50	20 48	0 33 96	19 10 1					
1	194 55.5		227 06.5			44.6	58	19 00	42	36	0 53 90	18 56 5					
2	209 55.7		241 36.6	111		35.8	56	18 56	35	25	1 10 85	43 9					
3	224 55.9		256 06.7	111		26.8	54	52	29	15	25 81	32 12					
4	239 56.1		270 36.9	112		17.8	52	48	24	07	37 78	22 15					
5	254 56.3	+8 27.7	285 07.2	113	+23 08.6	92	50	18 45	19 19	20 00	1 48 75	18 13 18					
6	269 56.5	+8 26.8	299 37.5	113	+22 59.3	93	45	18 38	19 09	19 45	2 11 70	17 54 23					
7	284 56.6		314 08.0	115		50.0	40	32	19 00	33	29 66	39 27					
8	299 56.8		328 38.6	116		40.5	35	28	18 53	24	45 62	26 30					
9	314 57.0		343 09.3	117		30.9	30	23	48	16	2 58 59	17 14 33					
10	329 57.2		357 40.0	117		21.2	20	16	38	19 04	3 20 55	16 55 37					
11	344 57.4	+8 22.3	12 10.9	119	+22 11.5	97	10 N	18 09	18 31	18 55	3 40 51	16 37 42					
12	359 57.6	+8 21.4	26 41.8	119	+22 01.6	99	0	18 03	18 24	18 49	3 58 47	16 21 46					
13	14 57.8		41 12.8	120	+21 51.7	99	10 S	17 58	19	43	4 16 44	16 05 49					
14	29 58.0		55 43.9	121		41.6	20	52	14	39	35 40	15 47 54					
15	44 58.2		70 15.1	122		31.5	30	45	09	37	4 57 35	27 58					
16	59 58.4		84 46.4	123		21.2	35	41	06	36	5 10 32	15 61					
17	74 58.6	+8 16.8	99 17.8	124	+21 10.9	103	40	17 36	18 04	18 35	5 25 29	15 01 65					
18	89 58.8	+8 15.9	113 49.3	125	+21 00.5	104	45	17 31	18 01	18 35	5 42 26	14 45 69					
19	104 59.0		128 20.9	126	+20 50.0	105	50	25	17 58	35	6 04 20	24 75					
20	119 59.2		142 52.5	126		39.4	52	23	57	36	14 18	15 77					
21	134 59.4		157 24.3	128		28.7	54	20	55	36	26 14	14 04 80					
22	149 59.6		171 56.1	128		18.0	56	16	54	37	39 11	13 51 84					
23	164 59.8		186 28.0	129	+20 07.1	109	58	13	52	38	6 54 6	36 89					
24	180 00.0	+8 10.5	201 00.1	131	+19 56.2	109	60 S	17 09	17 51	18 39	7 12 1	13 19 95					
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 1 ^h 21.1 ^m		Mag: -3.8 PMG: 13 ^h 30 ^m		Mag: +0.7 PMG: 7 ^h 08 ^m		Mag: -2.3 PMG: 6 ^h 32 ^m		Mag: +0.6 PMG: 0 ^h 36 ^m								
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	339 39.9	157 37.4	+0 16.1	252 52.3	+23 17.6	261 39.8	+22 16.7	351 05.5	-7 16.7								
1	354 42.3	172 37.1		267 53.1	17.7	276 41.9	16.7	6 08.1	16.7								
2	9 44.8	187 36.8		282 53.9	17.8	291 44.1	16.7	21 10.8	16.8								
3	24 47.3	202 36.4		297 54.7	17.8	306 46.2	16.8	36 13.4	16.9								
4	39 49.7	217 36.1		312 55.5	17.9	321 48.4	16.8	51 16.1	17.0								
5	54 52.2	232 35.8	+0 09.6	327 56.3	+23 18.0	336 50.5	+22 16.8	66 18.7	-7 17.1								
6	69 54.7	247 35.5	+0 08.3	342 57.1	+23 18.1	351 52.7	+22 16.8	81 21.3	-7 17.1								
7	84 57.1	262 35.2		357 57.9	18.2	6 54.8	16.8	96 24.0	17.2								
8	99 59.6	277 34.9		12 58.7	18.2	21 57.0	16.9	111 26.6	17.3								
9	115 02.1	292 34.6		27 59.4	18.3	36 59.1	16.9	126 29.2	17.4								
10	130 04.5	307 34.2		43 00.2	18.4	52 01.3	16.9	141 31.9	17.4								
11	145 07.0	322 33.9	+0 01.9	58 01.0	+23 18.5	67 03.4	+22 16.9	156 34.5	-7 17.5								
12	160 09.4	337 33.6	+0 00.6	73 01.8	+23 18.5	82 05.6	+22 17.0	171 37.2	-7 17.6								
13	175 11.9	352 33.3	-0 00.7	88 02.6	18.6	97 07.7	17.0	186 39.8	17.7								
14	190 14.4	7 33.0		103 03.4	18.7	112 09.9	17.0	201 42.4	17.8								
15	205 16.8	22 32.7		118 04.2	18.8	127 12.0	17.0	216 45.1	17.8								
16	220 19.3	37 32.4		133 05.0	18.8	142 14.2	17.1	231 47.7	17.9								
17	235 21.8	52 32.1	-0 05.8	148 05.8	+23 18.9	157 16.3	+22 17.1	246 50.3	-7 18.0								
18	250 24.2	67 31.7	-0 07.1	163 06.6	+23 19.0	172 18.5	+22 17.1	261 53.0	-7 18.1								
19	265 26.7	82 31.4		178 07.3	19.1	187 20.6	17.1	276 55.6	18.1								
20	280 29.2	97 31.1		193 08.1	19.1	202 22.8	17.1	291 58.3	18.2								
21	295 31.6	112 30.8		208 08.9	19.2	217 25.0	17.2	307 00.9	18.3								
22	310 34.1	127 30.5		223 09.7	19.3	232 27.1	17.2	322 03.5	18.4								
23	325 36.6	142 30.2		238 10.5	19.4	247 29.3	17.2	337 06.2	18.4								
24	340 39.0	157 29.9	-0 14.8	253 11.3	+23 19.4	262 31.4	+22 17.2	352 08.8	-7 18.5								
Dif	—	-3	-13	+8	+1	+22	0	+26	-1								

UT	SOL			● LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15 ^h 8 PMG:11 ^h 59.8 ^m			Edad: 27.5 ^d PHE { 4 ^h : 54/9 12 ^h : 54/7 20 ^h : 54/6 Rº: 43 ^m 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	180	00.0	+8	10.5	201	00.1	+19	56.2	60 N	3	13	4	11	4	56	2	09	92
1	195	00.2		09.6	215	32.2		45.2	58		25		19	5	01	23	87	19
2	210	00.4		08.7	230	04.3		34.1	56		36		26	05		35	82	18
3	225	00.6		07.8	244	36.6		23.0	54		45		32	09		46	78	18
4	240	00.8		06.8	259	08.9		11.7	52		54		37	12		2	55	76
5	255	01.0	+8	05.9	273	41.4	+19	00.4	50		4	01	4	42	5	16	3	03
6	270	01.2	+8	05.0	288	13.9	+18	49.0	45		4	16	4	52	5	22	3	21
7	285	01.4		04.1	302	46.5		37.5	40		27		5	00	28		35	64
8	300	01.6		03.2	317	19.2		26.0	35		36		07	33		47	60	17
9	315	01.8		02.3	331	51.9		14.4	30		44		13	37		3	57	58
10	330	02.0		01.4	346	24.8	+18	02.7	20		4	56	22	44		4	15	52
11	345	02.2	+8	00.5	0	57.7	+17	51.0	10 N		5	05	5	30	5	51	4	31
12	0	02.4	+7	59.6	15	30.7	+17	39.2	0		5	11	5	36	5	57	4	45
13	15	02.6		58.7	30	03.8		27.3	10 S			17	41	6	02	5	00	39
14	30	02.8		57.7	44	37.0		15.3	20		20		46	08		15	35	41
15	45	03.0		56.8	59	10.2	+17	03.3	30		23		51	15		32	31	25
16	60	03.2		55.9	73	43.5	+16	51.2	35		24		53	19		42	28	16
17	75	03.4	+7	55.0	88	16.9	+16	39.1	40		5	24	5	56	6	23	5	54
18	90	03.6	+7	54.1	102	50.4	+16	26.9	45		5	24	5	58	6	28	6	08
19	105	03.8		53.2	117	23.9		14.6	50		24		6	01	34	24	15	39
20	120	04.0		52.3	131	57.5	+16	02.3	52		23		02	36		32	13	32
21	135	04.2		51.4	146	31.2	+15	49.9	54		23		04	39		40	10	24
22	150	04.4		50.4	161	05.0		37.5	56		22		05	42		6	50	7
23	165	04.6		49.5	175	38.8		25.0	58		21		06	46		7	00	4
24	180	04.8	+7	48.6	190	12.7	+15	12.4	60 S		5	20	6	08	6	50	7	13
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 1 ^h 17.2 ^m		Mag: -3.8 PMG: 13 ^h 30 ^m			Mag: +0.7 PMG: 7 ^h 07 ^m			Mag: -2.3 PMG: 6 ^h 29 ^m			Mag: +0.6 PMG: 0 ^h 31 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	340	39.0	157	29.9	-0	14.8	253	11.3	+23	19.4	262	31.4	+22	17.2	352	08.8	-7	18.5
1	355	41.5	172	29.5		16.1	268	12.1		19.5	277	33.6		17.3	7	11.4		18.6
2	10	43.9	187	29.2		17.4	283	12.9		19.6	292	35.7		17.3	22	14.1		18.7
3	25	46.4	202	28.9		18.7	298	13.7		19.6	307	37.9		17.3	37	16.7		18.8
4	40	48.9	217	28.6		20.0	313	14.5		19.7	322	40.0		17.3	52	19.4		18.8
5	55	51.3	232	28.3	-0	21.3	328	15.3	+23	19.8	337	42.2	+22	17.3	67	22.0	-7	18.9
6	70	53.8	247	28.0	-0	22.6	343	16.1	+23	19.9	352	44.3	+22	17.4	82	24.6	-7	19.0
7	85	56.3	262	27.7		23.9	358	16.9		19.9	7	46.5		17.4	97	27.3		19.1
8	100	58.7	277	27.4		25.1	13	17.7		20.0	22	48.7		17.4	112	29.9		19.1
9	116	01.2	292	27.0		26.4	28	18.5		20.1	37	50.8		17.4	127	32.5		19.2
10	131	03.7	307	26.7		27.7	43	19.3		20.1	52	53.0		17.5	142	35.2		19.3
11	146	06.1	322	26.4	-0	29.0	58	20.0	+23	20.2	67	55.1	+22	17.5	157	37.8	-7	19.4
12	161	08.6	337	26.1	-0	30.3	73	20.8	+23	20.3	82	57.3	+22	17.5	172	40.5	-7	19.4
13	176	11.0	352	25.8		31.6	88	21.6		20.3	97	59.4		17.5	187	43.1		19.5
14	191	13.5	7	25.5		32.9	103	22.4		20.4	113	01.6		17.5	202	45.7		19.6
15	206	16.0	22	25.2		34.2	118	23.2		20.5	128	03.8		17.6	217	48.4		19.7
16	221	18.4	37	24.9		35.5	133	24.0		20.6	143	05.9		17.6	232	51.0		19.8
17	236	20.9	52	24.5	-0	36.7	148	24.8	+23	20.6	158	08.1	+22	17.6	247	53.7	-7	19.8
18	251	23.4	67	24.2	-0	38.0	163	25.6	+23	20.7	173	10.2	+22	17.6	262	56.3	-7	19.9
19	266	25.8	82	23.9		39.3	178	26.4		20.8	188	12.4		17.7	277	58.9		20.0
20	281	28.3	97	23.6		40.6	193	27.2		20.8	203	14.5		17.7	293	01.6		20.1
21	296	30.8	112	23.3		41.9	208	28.0		20.9	218	16.7		17.7	308	04.2		20.1
22	311	33.2	127	23.0		43.2	223	28.8		21.0	233	18.9		17.7	323	06.8		20.2
23	326	35.7	142	22.7		44.5	238	29.6		21.0	248	21.0		17.7	338	09.5		20.3
24	341	38.2	157	22.3	-0	45.8	253	30.4	+23	21.1	263	23.2	+22	17.8	353	12.1	-7	20.4
Dif	—		-3		-13		+8		+1		+22		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 59.5 ^m			Edad: 28.5 ^d SD: 14'9 PMG: 11 ^h 39 ^m PHE { 4 ^h : 54'5 12 ^h : 54'4 20 ^h : 54'3 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 04.8	+7 48.6	190 12.7	150	+15	12.4	126	60 N	18 59	19 44	20 41	3 41 86		19 10 **				
1	195 05.0	47.7	204 46.7	150	+14	59.8	126	58	55	36	29	50 82		19 04 2				
2	210 05.2	46.8	219 20.7	151		47.2	128	56	51	30	18	3 57 79		18 58 5				
3	225 05.4	45.9	233 54.8	151		34.4	128	54	47	24	10	4 04 76		53 8				
4	240 05.6	45.0	248 29.0	152		21.7	127	52	44	19	20 02	11 73		49 9				
5	255 05.8	+7 44.0	263 03.2	152	+14	08.9	128	50	18 41	19 14	19 55	4 16 71		18 45 11				
6	270 06.0	+7 43.1	277 37.5	153	+13	56.0	129	45	18 35	19 05	19 41	4 29 65		18 36 16				
7	285 06.2	42.2	292 11.9	154		43.1	129	40	29	18 57	30	39 61		28 21				
8	300 06.4	41.3	306 46.3	154		30.1	130	35	25	51	21	47 58		22 23				
9	315 06.6	40.4	321 20.8	155		17.1	130	30	21	45	14	4 55 55		16 27				
10	330 06.8	39.5	335 55.4	156	+13	04.1	130	20	14	36	19 02	5 07 50		18 06 32				
11	345 07.0	+7 38.6	350 30.0	156	+12	51.0	131	10 N	18 08	18 29	18 54	5 19 45		17 57 36				
12	0 07.2	+7 37.6	5 04.7	157	+12	37.8	132	0	18 03	18 24	18 48	5 29 41		17 49 40				
13	15 07.4	36.7	19 39.4	157		24.6	132	10 S	17 58	19	43	39 37		41 44				
14	30 07.6	35.8	34 14.2	158	+12	11.4	132	20	52	14	40	5 50 33		32 49				
15	45 07.8	34.9	48 49.0	158	+11	58.1	133	30	46	10	38	6 03 27		21 54				
16	60 08.0	34.0	63 23.9	159		44.8	133	35	42	08	37	10 25		15 58				
17	75 08.2	+7 33.1	77 58.9	160	+11	31.5	133	40	17 38	18 06	18 37	6 18 22		17 09 60				
18	90 08.4	+7 32.1	92 33.9	160	+11	18.1	134	45	17 34	18 03	18 37	6 28 17		17 00 65				
19	105 08.6	31.2	107 09.0	161	+11	04.7	134	50	28	01	38	39 13		16 51 69				
20	120 08.8	30.3	121 44.1	161	+10	51.2	135	52	26	18 00	39	45 10		46 72				
21	135 09.0	29.4	136 19.3	162		37.7	135	54	23	17 59	40	50 8		41 75				
22	150 09.2	28.5	150 54.5	162		24.2	135	56	20	58	41	6 57 5		36 77				
23	165 09.5	27.5	165 29.8	163	+10	10.6	136	58	17	57	42	7 04 2		29 81				
24	180 09.7	+7 26.6	180 05.1	163	+9	57.0	136	60 S	17 13	17 55	18 43	7 12 **		16 22 85				
UT	ARIES PMG 1 ^h 13.3 ^m		VENUS Mag: -3.8 PMG: 13 ^h 31 ^m		MARTE Mag: +0.7 PMG: 7 ^h 06 ^m			JÚPITER Mag: -2.3 PMG: 6 ^h 26 ^m			SATURNO Mag: +0.6 PMG: 0 ^h 27 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	341 38.2	157 22.3	-0 45.8	253 30.4	+23 21.1	263 23.2	+22 17.8	353 12.1	-7 20.4									
1	356 40.6	172 22.0	47.1	268 31.2	21.2	278 25.4	17.8	8 14.8	20.4									
2	11 43.1	187 21.7	48.3	283 32.0	21.2	293 27.5	17.8	23 17.4	20.5									
3	26 45.5	202 21.4	49.6	298 32.8	21.3	308 29.7	17.8	38 20.0	20.6									
4	41 48.0	217 21.1	50.9	313 33.6	21.3	323 31.8	17.9	53 22.7	20.7									
5	56 50.5	232 20.8	-0 52.2	328 34.4	+23 21.4	338 34.0	+22 17.9	68 25.3	-7 20.8									
6	71 52.9	247 20.5	-0 53.5	343 35.2	+23 21.5	353 36.2	+22 17.9	83 28.0	-7 20.8									
7	86 55.4	262 20.2	54.8	358 36.0	21.5	8 38.3	17.9	98 30.6	20.9									
8	101 57.9	277 19.8	56.1	13 36.8	21.6	23 40.5	17.9	113 33.2	21.0									
9	117 00.3	292 19.5	57.4	28 37.6	21.7	38 42.6	18.0	128 35.9	21.1									
10	132 02.8	307 19.2	58.7	43 38.4	21.7	53 44.8	18.0	143 38.5	21.1									
11	147 05.3	322 18.9	-0 59.9	58 39.2	+23 21.8	68 47.0	+22 18.0	158 41.2	-7 21.2									
12	162 07.7	337 18.6	-1 01.2	73 40.0	+23 21.9	83 49.1	+22 18.0	173 43.8	-7 21.3									
13	177 10.2	352 18.3	02.5	88 40.8	21.9	98 51.3	18.0	188 46.4	21.4									
14	192 12.6	7 18.0	03.8	103 41.6	22.0	113 53.5	18.1	203 49.1	21.5									
15	207 15.1	22 17.7	05.1	118 42.4	22.0	128 55.6	18.1	218 51.7	21.5									
16	222 17.6	37 17.3	06.4	133 43.2	22.1	143 57.8	18.1	233 54.4	21.6									
17	237 20.0	52 17.0	-1 07.7	148 44.0	+23 22.2	159 00.0	+22 18.1	248 57.0	-7 21.7									
18	252 22.5	67 16.7	-1 09.0	163 44.8	+23 22.2	174 02.1	+22 18.2	263 59.6	-7 21.8									
19	267 25.0	82 16.4	10.3	178 45.6	22.3	189 04.3	18.2	279 02.3	21.8									
20	282 27.4	97 16.1	11.5	193 46.4	22.3	204 06.5	18.2	294 04.9	21.9									
21	297 29.9	112 15.8	12.8	208 47.2	22.4	219 08.6	18.2	309 07.5	22.0									
22	312 32.4	127 15.5	14.1	223 48.0	22.5	234 10.8	18.2	324 10.2	22.1									
23	327 34.8	142 15.2	15.4	238 48.9	22.5	249 13.0	18.3	339 12.8	22.1									
24	342 37.3	157 14.8	-1 16.7	253 49.7	+23 22.6	264 15.1	+22 18.3	354 15.5	-7 22.2									
Dif	—	-3	-13	+8	+1	+22	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 59.2 ^m			Edad: 29.5 ^d PHE { 4 ^h : 54 ^h /3 12 ^h : 54 ^h /2 20 ^h : 54 ^h /1 R°: 39 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m			
0	180	09.7	+7	26.6	180	05.1	+9	57.0	60 N	3 19	4 16	5 01	5 07	83	19 08	**		
1	195	09.9			194	40.5		43.4	58	31	23	05	12	79	06	1		
2	210	10.1			209	15.9		29.8	56	41	30	09	16	76	03	4		
3	225	10.3			223	51.3		16.1	54	50	36	12	20	74	19 01	6		
4	240	10.5			238	26.8	+9	02.4	52	3 58	41	16	24	71	18 58	9		
5	255	10.7	+7	22.0	253	02.4	+8	48.6	50	4 04	4 45	5 19	5 27	69	18 56	11		
6	270	10.9	+7	21.1	267	38.0	+8	34.9	45	4 18	4 55	5 25	5 34	64	18 52	15		
7	285	11.1			282	13.6		21.1	40	29	5 02	30	40	60	49	19		
8	300	11.3			296	49.3	+8	07.2	35	38	09	34	45	56	45	23		
9	315	11.5			311	25.0	+7	53.4	30	45	14	38	50	53	43	25		
10	330	11.7			326	00.8		39.5	20	4 57	23	45	5 57	48	38	30		
11	345	11.9	+7	16.5	340	36.5	+7	25.6	10 N	5 05	5 29	5 51	6 04	43	18 33	35		
12	0	12.1	+7	15.6	355	12.4	+7	11.7	0	5 11	5 35	5 56	6 10	39	18 29	39		
13	15	12.3			9	48.2	+6	57.8	10 S	15	40	6 01	16	36	25	43		
14	30	12.5			24	24.1		43.8	20	19	44	06	23	31	21	47		
15	45	12.7			39	00.1		29.8	30	21	48	12	30	26	15	53		
16	60	12.9			53	36.0		15.8	35	21	50	16	35	22	13	55		
17	75	13.1	+7	11.0	68	12.0	+6	01.8	40	5 21	5 53	6 20	6 40	19	18 09	60		
18	90	13.3	+7	10.1	82	48.0	+5	47.8	45	5 21	5 55	6 24	6 45	16	18 05	64		
19	105	13.6			97	24.1		33.7	50	20	57	29	52	11	18 00	69		
20	120	13.8			112	00.2		19.7	52	19	58	32	55	9	17 58	71		
21	135	14.0			126	36.3	+5	05.6	54	18	5 59	34	6 58	7	56	73		
22	150	14.2			141	12.4	+4	51.5	56	17	6 00	37	7 02	4	53	76		
23	165	14.4			155	48.6		37.4	58	16	01	40	06	2	50	79		
24	180	14.6	+7	04.5	170	24.8	+4	23.3	60 S	5 14	6 02	6 44	7 11	**	17 47	82		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 1 ^h 09.3 ^m		Mag: -3.8 PMG: 13 ^h 31 ^m			Mag: +0.7 PMG: 7 ^h 04 ^m			Mag: -2.3 PMG: 6 ^h 22 ^m			Mag: +0.6 PMG: 0 ^h 23 ^m						
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	342	37.3	157	14.8	-1	16.7	253	49.7	+23	22.6	264	15.1	+22	18.3	354	15.5	-7	22.2
1	357	39.8	172	14.5		18.0	268	50.5		22.6	279	17.3		18.3	9	18.1		22.3
2	12	42.2	187	14.2		19.3	283	51.3		22.7	294	19.5		18.3	24	20.7		22.4
3	27	44.7	202	13.9		20.6	298	52.1		22.8	309	21.6		18.3	39	23.4		22.5
4	42	47.1	217	13.6		21.9	313	52.9		22.8	324	23.8		18.4	54	26.0		22.5
5	57	49.6	232	13.3	-1	23.1	328	53.7	+23	22.9	339	26.0	+22	18.4	69	28.7	-7	22.6
6	72	52.1	247	13.0	-1	24.4	343	54.5	+23	22.9	354	28.1	+22	18.4	84	31.3	-7	22.7
7	87	54.5	262	12.7		25.7	358	55.3		23.0	9	30.3		18.4	99	33.9		22.8
8	102	57.0	277	12.3		27.0	13	56.1		23.0	24	32.5		18.4	114	36.6		22.8
9	117	59.5	292	12.0		28.3	28	56.9		23.1	39	34.6		18.5	129	39.2		22.9
10	133	01.9	307	11.7		29.6	43	57.7		23.2	54	36.8		18.5	144	41.9		23.0
11	148	04.4	322	11.4	-1	30.9	58	58.5	+23	23.2	69	39.0	+22	18.5	159	44.5	-7	23.1
12	163	06.9	337	11.1	-1	32.2	73	59.3	+23	23.3	84	41.2	+22	18.5	174	47.1	-7	23.2
13	178	09.3	352	10.8		33.5	89	00.1		23.3	99	43.3		18.5	189	49.8		23.2
14	193	11.8	7	10.5		34.7	104	01.0		23.4	114	45.5		18.6	204	52.4		23.3
15	208	14.3	22	10.1		36.0	119	01.8		23.4	129	47.7		18.6	219	55.1		23.4
16	223	16.7	37	09.8		37.3	134	02.6		23.5	144	49.8		18.6	234	57.7		23.4
17	238	19.2	52	09.5	-1	38.6	149	03.4	+23	23.5	159	52.0	+22	18.6	250	00.3	-7	23.5
18	253	21.6	67	09.2	-1	39.9	164	04.2	+23	23.6	174	54.2	+22	18.6	265	03.0	-7	23.6
19	268	24.1	82	08.9		41.2	179	05.0		23.7	189	56.4		18.7	280	05.6		23.7
20	283	26.6	97	08.6		42.5	194	05.8		23.7	204	58.5		18.7	295	08.3		23.8
21	298	29.0	112	08.3		43.8	209	06.6		23.8	220	00.7		18.7	310	10.9		23.8
22	313	31.5	127	08.0		45.1	224	07.4		23.8	235	02.9		18.7	325	13.5		23.9
23	328	34.0	142	07.6		46.3	239	08.2		23.9	250	05.1		18.8	340	16.2		24.0
24	343	36.4	157	07.3	-1	47.6	254	09.1	+23	23.9	265	07.2	+22	18.8	355	18.8	-7	24.1
Dif	—		-3		-13		+8		+1		+22		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 58.9 ^m			Edad: 30.5 ^d SD: 14'7 PMG: 12 ^h 59 ^m PHE { 4 ^h : 54'1 12 ^h : 54'0 20 ^h : 54'0 R°: 39 ^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	14.6	+7 04.5	170	24.8	+4 23.3	142	60 N	18 53	19 37	20 33	6 30 81	19 07 **		
1	195	14.8		03.6	185	01.0	172	58	49	30	22	31 78	07 1		
2	210	15.0		02.7	199	37.2	172	56	46	24	12	32 76	07 4		
3	225	15.2		01.7	214	13.5	173	54	42	19	20 04	34 72	07 7		
4	240	15.4	+7 00.8		228	49.8	173	52	39	14	19 57	35 70	07 9		
5	255	15.6	+6 59.9		243	26.1	173	50	18 37	19 10	19 50	6 36 68	19 07 11		
6	270	15.8	+6 59.0		258	02.4	173	45	18 31	19 01	19 37	6 38 63	19 07 16		
7	285	16.0		58.1	272	38.7	173	40	26	18 54	26	40 59	08 19		
8	300	16.2		57.1	287	15.1	174	35	22	48	18	41 56	08 22		
9	315	16.4		56.2	301	51.4	173	30	18	43	11	43 53	08 25		
10	330	16.7		55.3	316	27.8	174	20	12	35	19 00	45 48	08 30		
11	345	16.9	+6 54.3		331	04.2	174	10 N	18 07	18 28	18 53	6 47 43	19 08 35		
12	0	17.1	+6 53.4		345	40.6	174	0	18 02	18 23	18 47	6 49 39	19 08 39		
13	15	17.3		52.5	0	17.0	174	10 S	17 57	18	43	52 34	08 43		
14	30	17.5		51.6	14	53.5	175	20	52	15	40	54 30	08 48		
15	45	17.7		50.6	29	29.9	174	30	47	11	39	56 25	08 53		
16	60	17.9		49.7	44	06.4	175	35	44	09	38	57 23	08 56		
17	75	18.1	+6 48.8		58	42.8	174	40	17 40	18 07	18 39	6 59 19	19 09 59		
18	90	18.3	+6 47.9		73	19.3	175	45	17 36	18 06	18 40	7 01 15	19 09 63		
19	105	18.5		46.9	87	55.7	174	50	31	04	41	03 11	09 67		
20	120	18.7		46.0	102	32.2	175	52	29	03	42	04 9	09 70		
21	135	18.9		45.1	117	08.7	175	54	27	02	43	05 7	09 72		
22	150	19.2		44.2	131	45.2	175	56	24	01	44	06 4	09 75		
23	165	19.4		43.2	146	21.6	174	58	21	01	46	08 1	09 78		
24	180	19.6	+6 42.3		160	58.1	175	60 S	17 18	18 00	18 48	7 09 **	19 09 81		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 1 ^h 05.4 ^m		Mag: -3.8 PMG: 13 ^h 32 ^m		Mag: +0.7 PMG: 7 ^h 03 ^m		Mag: -2.4 PMG: 6 ^h 19 ^m		Mag: +0.6 PMG: 0 ^h 19 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	343	36.4	157	07.3	-1 47.6	254	09.1	+23 23.9	265	07.2	+22 18.8	355	18.8	-7 24.1	
1	358	38.9	172	07.0	48.9	269	09.9	24.0	280	09.4	18.8	10	21.5	24.2	
2	13	41.4	187	06.7	50.2	284	10.7	24.0	295	11.6	18.8	25	24.1	24.2	
3	28	43.8	202	06.4	51.5	299	11.5	24.1	310	13.8	18.8	40	26.7	24.3	
4	43	46.3	217	06.1	52.8	314	12.3	24.1	325	15.9	18.9	55	29.4	24.4	
5	58	48.7	232	05.8	-1 54.1	329	13.1	+23 24.2	340	18.1	+22 18.9	70	32.0	-7 24.5	
6	73	51.2	247	05.4	-1 55.4	344	13.9	+23 24.2	355	20.3	+22 18.9	85	34.7	-7 24.5	
7	88	53.7	262	05.1	56.6	359	14.7	24.3	10	22.5	18.9	100	37.3	24.6	
8	103	56.1	277	04.8	57.9	14	15.5	24.3	25	24.6	18.9	115	39.9	24.7	
9	118	58.6	292	04.5	-1 59.2	29	16.4	24.4	40	26.8	19.0	130	42.6	24.8	
10	134	01.1	307	04.2	-2 00.5	44	17.2	24.4	55	29.0	19.0	145	45.2	24.9	
11	149	03.5	322	03.9	-2 01.8	59	18.0	+23 24.5	70	31.2	+22 19.0	160	47.9	-7 24.9	
12	164	06.0	337	03.6	-2 03.1	74	18.8	+23 24.5	85	33.4	+22 19.0	175	50.5	-7 25.0	
13	179	08.5	352	03.3	04.4	89	19.6	24.6	100	35.5	19.0	190	53.1	25.1	
14	194	10.9	7 02.9		05.7	104	20.4	24.6	115	37.7	19.0	205	55.8	25.2	
15	209	13.4	22 02.6		07.0	119	21.2	24.7	130	39.9	19.1	220	58.4	25.2	
16	224	15.9	37 02.3		08.2	134	22.1	24.7	145	42.1	19.1	236	01.1	25.3	
17	239	18.3	52 02.0		-2 09.5	149	22.9	+23 24.8	160	44.2	+22 19.1	251	03.7	-7 25.4	
18	254	20.8	67 01.7		-2 10.8	164	23.7	+23 24.8	175	46.4	+22 19.1	266	06.3	-7 25.5	
19	269	23.2	82 01.4		12.1	179	24.5	24.9	190	48.6	19.1	281	09.0	25.5	
20	284	25.7	97 01.1		13.4	194	25.3	24.9	205	50.8	19.2	296	11.6	25.6	
21	299	28.2	112 00.7		14.7	209	26.1	25.0	220	53.0	19.2	311	14.3	25.7	
22	314	30.6	127 00.4		16.0	224	27.0	25.0	235	55.1	19.2	326	16.9	25.8	
23	329	33.1	142 00.1		17.3	239	27.8	25.0	250	57.3	19.2	341	19.5	25.9	
24	344	35.6	156 59.8		-2 18.5	254	28.6	+23 25.1	265	59.5	+22 19.2	356	22.2	-7 25.9	
Dif	—		-3		-13	+8		0	+22		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 58.5 ^m			Edad: 1.9 ^d PHE { 4 ^h : 54 ⁰ 12 ^h : 54 ⁰ 20 ^h : 54 ⁰ R°: 39 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
	°	'	°	°	'	°	'		°	h		m	h	m	h	m	m	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m			
0	180	19.6	+6	42.3	160	58.1	175	-1	17.3	142	60 N	3 25	4 21	5 05	7 51	82	19 05	**
1	195	19.8		41.4	175	34.6	175		31.5	142	58	36	28	09	49	79	08	2
2	210	20.0		40.4	190	11.1	175		45.7	142	56	46	34	13	48	75	11	5
3	225	20.2		39.5	204	47.6	175	-1	59.8	141	54	3 54	39	16	46	73	14	
4	240	20.4		38.6	219	24.0	174	-2	14.0	142	52	4 02	44	19	45	70	16	9
5	255	20.6	+6	37.7	234	00.5	175	-2	28.1	141	50	4 08	4 48	5 22	7 44	68	19 18	12
6	270	20.8	+6	36.7	248	36.9	174	-2	42.3	142	45	4 21	4 57	5 27	7 41	63	19 23	16
7	285	21.0		35.8	263	13.4	175	-2	56.4	141	40	32	5 04	32	39	59	27	19
8	300	21.2		34.9	277	49.8	174	-3	10.5	141	35	40	10	36	37	56	30	23
9	315	21.5		33.9	292	26.3	175		24.6	141	30	47	15	39	36	52	33	26
10	330	21.7		33.0	307	02.7	174		38.7	141	20	4 57	23	45	33	48	38	31
11	345	21.9	+6	32.1	321	39.1	174	-3	52.8	141	10 N	5 05	5 29	5 51	7 30	44	19 43	35
12	0	22.1	+6	31.1	336	15.5	174	-4	06.8	140	0	5 10	5 34	5 55	7 28	39	19 47	39
13	15	22.3		30.2	350	51.9	174		20.9	141	10 S	14	39	6 00	26	35	51	44
14	30	22.5		29.3	5	28.3	174		34.9	140	20	17	43	05	24	30	19 56	48
15	45	22.7		28.4	20	04.7	174	-4	48.9	140	30	18	46	10	21	26	20 01	53
16	60	22.9		27.4	34	41.0	173	-5	02.9	140	35	18	48	13	20	22	04	56
17	75	23.1	+6	26.5	49	17.3	173	-5	16.9	140	40	5 18	5 49	6 17	7 18	19	20 08	59
18	90	23.3	+6	25.6	63	53.6	173	-5	30.9	140	45	5 17	5 51	6 20	7 16	16	20 12	63
19	105	23.6		24.6	78	29.9	173		44.8	139	50	15	53	25	14	11	16	69
20	120	23.8		23.7	93	06.2	173	-5	58.7	139	52	14	53	27	13	9	19	71
21	135	24.0		22.8	107	42.5	173	-6	12.6	139	54	13	54	30	12	6	21	74
22	150	24.2		21.8	122	18.7	172		26.5	139	56	12	55	32	10	5	24	76
23	165	24.4		20.9	136	54.9	172		40.3	138	58	10	56	35	09	1	27	79
24	180	24.6	+6	20.0	151	31.1	172	-6	54.2	139	60 S	5 08	5 56	6 38	7 07	**	20 30	84
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 1 ^h 01.5 ^m		Mag: -3.8 PMG: 13 ^h 32 ^m			Mag: +0.7 PMG: 7 ^h 02 ^m			Mag: -2.4 PMG: 6 ^h 15 ^m			Mag: +0.6 PMG: 0 ^h 14 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	344	35.6	156	59.8	-2	18.5	254	28.6	+23	25.1	265	59.5	+22	19.2	356	22.2	-7	25.9
1	359	38.0	171	59.5		19.8	269	29.4		25.1	281	01.7		19.3	11	24.8		26.0
2	14	40.5	186	59.2		21.1	284	30.2		25.2	296	03.9		19.3	26	27.5		26.1
3	29	43.0	201	58.9		22.4	299	31.1		25.2	311	06.1		19.3	41	30.1		26.2
4	44	45.4	216	58.5		23.7	314	31.9		25.3	326	08.2		19.3	56	32.7		26.2
5	59	47.9	231	58.2	-2	25.0	329	32.7	+23	25.3	341	10.4	+22	19.3	71	35.4	-7	26.3
6	74	50.3	246	57.9	-2	26.3	344	33.5	+23	25.4	356	12.6	+22	19.4	86	38.0	-7	26.4
7	89	52.8	261	57.6		27.6	359	34.3		25.4	11	14.8		19.4	101	40.7		26.5
8	104	55.3	276	57.3		28.8	14	35.1		25.5	26	17.0		19.4	116	43.3		26.5
9	119	57.7	291	57.0		30.1	29	36.0		25.5	41	19.2		19.4	131	45.9		26.6
10	135	00.2	306	56.7		31.4	44	36.8		25.5	56	21.3		19.4	146	48.6		26.7
11	150	02.7	321	56.3	-2	32.7	59	37.6	+23	25.6	71	23.5	+22	19.5	161	51.2	-7	26.8
12	165	05.1	336	56.0	-2	34.0	74	38.4	+23	25.6	86	25.7	+22	19.5	176	53.9	-7	26.9
13	180	07.6	351	55.7		35.3	89	39.3		25.7	101	27.9		19.5	191	56.5		26.9
14	195	10.1	6	55.4		36.6	104	40.1		25.7	116	30.1		19.5	206	59.1		27.0
15	210	12.5	21	55.1		37.8	119	40.9		25.7	131	32.3		19.5	222	01.8		27.1
16	225	15.0	36	54.8		39.1	134	41.7		25.8	146	34.5		19.6	237	04.4		27.2
17	240	17.5	51	54.5	-2	40.4	149	42.5	+23	25.8	161	36.6	+22	19.6	252	07.1	-7	27.2
18	255	19.9	66	54.1	-2	41.7	164	43.4	+23	25.9	176	38.8	+22	19.6	267	09.7	-7	27.3
19	270	22.4	81	53.8		43.0	179	44.2		25.9	191	41.0		19.6	282	12.4		27.4
20	285	24.8	96	53.5		44.3	194	45.0		26.0	206	43.2		19.6	297	15.0		27.5
21	300	27.3	111	53.2		45.6	209	45.8		26.0	221	45.4		19.6	312	17.6		27.6
22	315	29.8	126	52.9		46.9	224	46.7		26.0	236	47.6		19.7	327	20.3		27.6
23	330	32.2	141	52.6		48.1	239	47.5		26.1	251	49.8		19.7	342	22.9		27.7
24	345	34.7	156	52.2	-2	49.4	254	48.3	+23	26.1	266	52.0	+22	19.7	357	25.6	-7	27.8
Dif	—		-3		-13		+8		0		+22		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 58.2 ^m			Edad: 2.9 ^d SD: 14'7 PMG: 14 ^h 17 ^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	180	24.6	+6	20.0	151	31.1	-6	54.2	60 N	18	47	19	31	20	26		9	13	85			
1	195	24.8		19.0	166	07.2	-7	08.0	58	44		24		15		08	81	10	3			
2	210	25.0		18.1	180	43.4		21.8	56	40		19	20	06		9	03	78	16	5		
3	225	25.3		17.2	195	19.5		35.5	54	37		14	19	58		8	59	75	21	8		
4	240	25.5		16.2	209	55.5	-7	49.2	52	35		09		51		55	72	25	12			
5	255	25.7	+6	15.3	224	31.6	-8	02.9	50	18	32	19	05	19	45		8	52	69	19	30	
6	270	25.9	+6	14.4	239	07.6	-8	16.6	45	18	27	18	57	19	33		8	44	65	19	39	
7	285	26.1		13.4	253	43.6		30.3	40	23		50		23		38	61	46	23		18	
8	300	26.3		12.5	268	19.5		43.9	35	19		45		15		33	57	53	25		25	
9	315	26.5		11.6	282	55.5	-8	57.5	30	16		40	19	09		28	55	19	59	28		
10	330	26.7		10.6	297	31.3	-9	11.0	20	11		33	18	59		21	49	20	09	33		
11	345	26.9	+6	09.7	312	07.2	-9	24.6	10 N	18	06	18	27	18	52		8	14	44	20	18	38
12	0	27.2	+6	08.8	326	43.0	-9	38.0	0	18	01	18	22	18	46		8	07	41	20	26	42
13	15	27.4		07.8	341	18.8	-9	51.5	10 S	17	57		18		43		8	01	36		35	45
14	30	27.6		06.9	355	54.5	-10	04.9	20		53		15		40		7	54	32		44	50
15	45	27.8		06.0	10	30.2		18.3	30	48		12		40		47	27	20	54	55		58
16	60	28.0		05.0	25	05.9		31.7	35	45		11		40		42	24	21	00	58		
17	75	28.2	+6	04.1	39	41.5	-10	45.0	40	17	42	18	09	18	41		7	37	21	21	07	62
18	90	28.4	+6	03.1	54	17.1	-10	58.3	45	17	39	18	08	18	42		7	32	17	21	15	66
19	105	28.6		02.2	68	52.6	-11	11.5	50		34		07		44		25	12		25	71	
20	120	28.9		01.3	83	28.1		24.7	52		32		06		45		22	10		30	73	
21	135	29.1	+6	00.3	98	03.5		37.9	54		30		06		47		18	8		35	75	
22	150	29.3	+5	59.4	112	38.9	-11	51.0	56		28		05		48		15	5		40	79	
23	165	29.5		58.5	127	14.3	-12	04.1	58		25		05		50		10	3		46	83	
24	180	29.7	+5	57.5	141	49.6	-12	17.2	60 S	17	23	18	04	18	52		7	06	**	21	54	86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 0 ^h 57.5 ^m		Mag: -3.8 PMG: 13 ^h 33 ^m		Mag: +0.7 PMG: 7 ^h 00 ^m		Mag: -2.4 PMG: 6 ^h 12 ^m		Mag: +0.6 PMG: 0 ^h 10 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	345	34.7	156	52.2	-2	49.4	254	48.3	+23	26.1	266	52.0	+22	19.7	357	25.6	-7	27.8		
1	0	37.2	171	51.9		50.7	269	49.1		26.2	281	54.1		19.7	12	28.2		27.9		
2	15	39.6	186	51.6		52.0	284	50.0		26.2	296	56.3		19.7	27	30.8		27.9		
3	30	42.1	201	51.3		53.3	299	50.8		26.2	311	58.5		19.8	42	33.5		28.0		
4	45	44.6	216	51.0		54.6	314	51.6		26.3	327	00.7		19.8	57	36.1		28.1		
5	60	47.0	231	50.7	-2	55.9	329	52.4	+23	26.3	342	02.9	+22	19.8	72	38.8	-7	28.2		
6	75	49.5	246	50.4	-2	57.1	344	53.3	+23	26.3	357	05.1	+22	19.8	87	41.4	-7	28.2		
7	90	51.9	261	50.0		58.4	359	54.1		26.4	12	07.3		19.8	102	44.0		28.3		
8	105	54.4	276	49.7	-2	59.7	14	54.9		26.4	27	09.5		19.9	117	46.7		28.4		
9	120	56.9	291	49.4	-3	01.0	29	55.7		26.5	42	11.7		19.9	132	49.3		28.5		
10	135	59.3	306	49.1		02.3	44	56.6		26.5	57	13.9		19.9	147	52.0		28.6		
11	151	01.8	321	48.8	-3	03.6	59	57.4	+23	26.5	72	16.0	+22	19.9	162	54.6	-7	28.6		
12	166	04.3	336	48.5	-3	04.8	74	58.2	+23	26.6	87	18.2	+22	19.9	177	57.2	-7	28.7		
13	181	06.7	351	48.1		06.1	89	59.0		26.6	102	20.4		19.9	192	59.9		28.8		
14	196	09.2	6	47.8		07.4	104	59.9		26.6	117	22.6		20.0	208	02.5		28.9		
15	211	11.7	21	47.5		08.7	120	00.7		26.7	132	24.8		20.0	223	05.2		28.9		
16	226	14.1	36	47.2		10.0	135	01.5		26.7	147	27.0		20.0	238	07.8		29.0		
17	241	16.6	51	46.9	-3	11.3	150	02.4	+23	26.7	162	29.2	+22	20.0	253	10.4	-7	29.1		
18	256	19.1	66	46.6	-3	12.6	165	03.2	+23	26.8	177	31.4	+22	20.0	268	13.1	-7	29.2		
19	271	21.5	81	46.2		13.8	180	04.0		26.8	192	33.6		20.1	283	15.7		29.2		
20	286	24.0	96	45.9		15.1	195	04.8		26.8	207	35.8		20.1	298	18.4		29.3		
21	301	26.4	111	45.6		16.4	210	05.7		26.9	222	38.0		20.1	313	21.0		29.4		
22	316	28.9	126	45.3		17.7	225	06.5		26.9	237	40.2		20.1	328	23.7		29.5		
23	331	31.4	141	45.0		19.0	240	07.3		26.9	252	42.4		20.1	343	26.3		29.6		
24	346	33.8	156	44.7	-3	20.3	255	08.2	+23	27.0	267	44.6	+22	20.1	358	28.9	-7	29.6		
Dif	—		-3		-13		+8		0		+22		0		+26		-		1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 15'9 PMG:11 ^h 57.8 ^m			Edad: 3.9 ^d PHE { 4 ^h : 54'1 12 ^h : 54'2 20 ^h : 54'3 PMG: 14 ^h 58 ^m R°: 43 ^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	29.7	+5	57.5	141	49.6	162	-12	17.2	130	60 N	3	31	4	26	5	10	10	38	90	19	02	0
1	195	29.9		56.6	156	24.8	162		30.2	129	58	42	33	14	29	85	13	4					
2	210	30.1		55.7	171	00.0	162		43.1	129	56	51	38	17	21	80	21	9					
3	225	30.4		54.7	185	35.2	162	-12	56.0	129	54	3	59	43	20	14	77	29	1				
4	240	30.6		53.8	200	10.2	160	-13	08.9	129	52	4	05	47	22	07	74	37	14				
5	255	30.8	+5	52.8	214	45.3	161	-13	21.7	128	50	4	11	4	51	5	25	10	01	72	19	43	17
6	270	31.0	+5	51.9	229	20.3	160	-13	34.5	128	45	4	24	5	00	5	30	9	49	66	19	57	22
7	285	31.2		51.0	243	55.2	159		47.2	127	40	34	06	34	39	62	20	09	25				
8	300	31.4		50.0	258	30.1	159	-13	59.9	127	35	42	12	37	30	59	18	30					
9	315	31.6		49.1	273	04.9	158	-14	12.5	126	30	48	16	40	23	56	27	32					
10	330	31.9		48.2	287	39.7	158		25.1	126	20	4	58	24	46	9	10	51	42	37			
11	345	32.1	+5	47.2	302	14.4	157	-14	37.7	126	10 N	5	05	5	29	5	50	8	58	47	20	56	40
12	0	32.3	+5	46.3	316	49.0	156	-14	50.1	124	0	5	10	5	34	5	55	8	48	43	21	08	44
13	15	32.5		45.3	331	23.6	156	-15	02.6	125	10 S	13	38	5	59	37	39	20	49				
14	30	32.7		44.4	345	58.1	155		14.9	123	20	15	41	6	03	26	35	34	52				
15	45	32.9		43.5	0	32.6	155		27.3	124	30	16	44	08	14	30	49	57					
16	60	33.1		42.5	15	07.0	154		39.5	122	35	16	45	10	8	06	27	21	58	60			
17	75	33.4	+5	41.6	29	41.3	153	-15	51.7	122	40	5	15	5	46	6	13	7	58	24	22	09	63
18	90	33.6	+5	40.6	44	15.6	153	-16	03.9	122	45	5	14	5	47	6	17	7	49	20	22	21	67
19	105	33.8		39.7	58	49.8	152		16.0	121	50	11	49	21	37	15	36	72					
20	120	34.0		38.8	73	23.9	151		28.0	120	52	10	49	23	32	13	43	75					
21	135	34.2		37.8	87	58.0	151		40.0	120	54	09	49	25	26	10	50	79					
22	150	34.4		36.9	102	32.0	150	-16	51.9	119	56	07	50	27	20	7	22	59	82				
23	165	34.6		35.9	117	05.9	149	-17	03.8	119	58	05	50	29	13	3	23	09	86				
24	180	34.9	+5	35.0	131	39.7	148	-17	15.6	118	60 S	5	02	5	51	6	32	7	05	**	23	20	92
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO								
	PMG		Mag: -3.8				Mag: +0.7				Mag: -2.4				Mag: +0.6								
	0 ^h 53.6 ^m		PMG: 13 ^h 33 ^m				PMG: 6 ^h 59 ^m				PMG: 6 ^h 08 ^m				PMG: 0 ^h 06 ^m								
	hG ♊		hG ♍	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	346	33.8	156	44.7	-3	20.3	255	08.2	+23	27.0	267	44.6	+22	20.1	358	28.9	-7	29.6					
1	1	36.3	171	44.3		21.5	270	09.0		27.0	282	46.8		20.2	13	31.6		29.7					
2	16	38.8	186	44.0		22.8	285	09.8		27.0	297	49.0		20.2	28	34.2		29.8					
3	31	41.2	201	43.7		24.1	300	10.7		27.1	312	51.2		20.2	43	36.9		29.9					
4	46	43.7	216	43.4		25.4	315	11.5		27.1	327	53.4		20.2	58	39.5		29.9					
5	61	46.2	231	43.1	-3	26.7	330	12.3	+23	27.1	342	55.5	+22	20.2	73	42.1	-7	30.0					
6	76	48.6	246	42.8	-3	28.0	345	13.2	+23	27.2	357	57.7	+22	20.3	88	44.8	-7	30.1					
7	91	51.1	261	42.4		29.2	0	14.0		27.2	12	59.9		20.3	103	47.4		30.2					
8	106	53.5	276	42.1		30.5	15	14.8		27.2	28	02.1		20.3	118	50.1		30.2					
9	121	56.0	291	41.8		31.8	30	15.7		27.3	43	04.3		20.3	133	52.7		30.3					
10	136	58.5	306	41.5		33.1	45	16.5		27.3	58	06.5		20.3	148	55.3		30.4					
11	152	00.9	321	41.2	-3	34.4	60	17.3	+23	27.3	73	08.7	+22	20.3	163	58.0	-7	30.5					
12	167	03.4	336	40.8	-3	35.7	75	18.2	+23	27.4	88	10.9	+22	20.4	179	00.6	-7	30.6					
13	182	05.9	351	40.5		36.9	90	19.0		27.4	103	13.1		20.4	194	03.3		30.6					
14	197	08.3	6	40.2		38.2	105	19.8		27.4	118	15.3		20.4	209	05.9		30.7					
15	212	10.8	21	39.9		39.5	120	20.7		27.4	133	17.5		20.4	224	08.6		30.8					
16	227	13.3	36	39.6		40.8	135	21.5		27.5	148	19.7		20.4	239	11.2		30.9					
17	242	15.7	51	39.3	-3	42.1	150	22.3	+23	27.5	163	21.9	+22	20.4	254	13.8	-7	30.9					
18	257	18.2	66	38.9	-3	43.4	165	23.2	+23	27.5	178	24.1	+22	20.5	269	16.5	-7	31.0					
19	272	20.7	81	38.6		44.6	180	24.0		27.6	193	26.3		20.5	284	19.1		31.1					
20	287	23.1	96	38.3		45.9	195	24.8		27.6	208	28.5		20.5	299	21.8		31.2					
21	302	25.6	111	38.0		47.2	210	25.7		27.6	223	30.7		20.5	314	24.4		31.2					
22	317	28.0	126	37.7		48.5	225	26.5		27.6	238	32.9		20.5	329	27.0		31.3					
23	332	30.5	141	37.3		49.8	240	27.4		27.7	253	35.1		20.5	344	29.7		31.4					
24	347	33.0	156	37.0	-3	51.0	255	28.2	+23	27.7	268	37.4	+22	20.6	359	32.3	-7	31.5					
Dif	—		-3		-13		+8		0		+22		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 57.5 ^m			Edad: 4.9 ^d SD: 14'8 PMG: 15 ^h 41 ^m												
	PHE { 4 ^h : 54'4 12 ^h : 54'5 20 ^h : 54'6 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	h m m	h m m	
0	180	34.9	+5	35.0	131	39.7	-17	15.6	60 N	18 41	19 24	20 18	12 08 95	19 02 2		
1	195	35.1		34.1	146	13.5	148	27.3	58	38	18	09	11 54 88	17 8		
2	210	35.3		33.1	160	47.2	147	39.0	56	35	13	20 00	41 84	30 13		
3	225	35.5		32.2	175	20.9	147	50.6	54	32	09	19 53	31 79	41 17		
4	240	35.7		31.2	189	54.4	145	02.1	52	30	05	46	21 77	19 51 20		
5	255	35.9	+5	30.3	204	27.9	145	13.6	50	18 28	19 01	19 40	11 13 74	20 00 23		
6	270	36.2	+5	29.3	219	01.3	144	25.0	45	18 23	18 53	19 29	10 55 69	20 19 28		
7	285	36.4		28.4	233	34.7	144	36.3	40	20	47	19	41 64	34 32		
8	300	36.6		27.5	248	07.9	142	47.6	35	16	42	12	29 61	48 34		
9	315	36.8		26.5	262	41.1	142	58.8	30	14	38	19 06	19 58	20 59 37		
10	330	37.0		25.6	277	14.2	141	09.9	20	09	31	18 57	10 01 53	21 19 41		
11	345	37.2	+5	24.6	291	47.2	140	20.9	10 N	18 05	18 26	18 50	9 45 50	21 36 45		
12	0	37.5	+5	23.7	306	20.2	140	31.9	0	18 01	18 22	18 46	9 31 46	21 52 48		
13	15	37.7		22.8	320	53.0	138	42.8	10 S	17 57	18	43	16 43	22 09 51		
14	30	37.9		21.8	335	25.8	138	53.6	20	53	15	41	9 01 39	26 55		
15	45	38.1		20.9	349	58.5	137	04.4	30	49	13	41	8 44 34	46 59		
16	60	38.3		19.9	4	31.1	136	15.0	35	47	12	41	33 32	22 58 62		
17	75	38.5	+5	19.0	19	03.6	135	25.6	40	17 44	18 11	18 42	8 22 29	23 12 64		
18	90	38.8	+5	18.0	33	36.1	135	36.1	45	17 41	18 10	18 44	8 09 24	23 28 68		
19	105	39.0		17.1	48	08.4	133	46.6	50	37	10	47	7 52 20	48 74		
20	120	39.2		16.1	62	40.7	133	56.9	52	36	09	48	45 17	23 58 76		
21	135	39.4		15.2	77	12.9	132	07.2	54	34	09	50	36 14	** ** *		
22	150	39.6		14.3	91	45.0	131	17.4	56	32	09	52	27 11	** ** *		
23	165	39.8		13.3	106	17.0	130	27.4	58	30	09	54	16 7	** ** *		
24	180	40.1	+5	12.4	120	48.9	129	37.5	60 S	17 27	18 09	18 57	7 04 1	** ** *		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 0 ^h 49.7 ^m		Mag: -3.8 PMG: 13 ^h 34 ^m		Mag: +0.7 PMG: 6 ^h 58 ^m		Mag: -2.4 PMG: 6 ^h 05 ^m		Mag: +0.6 PMG: 0 ^h 02 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	347	33.0	156	37.0	-3	51.0	255	28.2	+23	27.7	268	37.4	+22	20.6	359	32.3	-7	31.5
1	2	35.4	171	36.7		52.3	270	29.0		27.7	283	39.6		20.6	14	35.0		31.6
2	17	37.9	186	36.4		53.6	285	29.9		27.7	298	41.8		20.6	29	37.6		31.6
3	32	40.4	201	36.1		54.9	300	30.7		27.8	313	44.0		20.6	44	40.2		31.7
4	47	42.8	216	35.7		56.2	315	31.6		27.8	328	46.2		20.6	59	42.9		31.8
5	62	45.3	231	35.4	-3	57.5	330	32.4	+23	27.8	343	48.4	+22	20.7	74	45.5	-7	31.9
6	77	47.8	246	35.1	-3	58.7	345	33.2	+23	27.8	358	50.6	+22	20.7	89	48.2	-7	31.9
7	92	50.2	261	34.8	-4	00.0	0	34.1		27.9	13	52.8		20.7	104	50.8		32.0
8	107	52.7	276	34.5	-4	01.3	15	34.9		27.9	28	55.0		20.7	119	53.5		32.1
9	122	55.2	291	34.1		02.6	30	35.8		27.9	43	57.2		20.7	134	56.1		32.2
10	137	57.6	306	33.8		03.9	45	36.6		27.9	58	59.4		20.7	149	58.7		32.2
11	153	00.1	321	33.5	-4	05.1	60	37.4	+23	28.0	74	01.6	+22	20.8	165	01.4	-7	32.3
12	168	02.5	336	33.2	-4	06.4	75	38.3	+23	28.0	89	03.8	+22	20.8	180	04.0	-7	32.4
13	183	05.0	351	32.9		07.7	90	39.1		28.0	104	06.0		20.8	195	06.7		32.5
14	198	07.5	6	32.5		09.0	105	40.0		28.0	119	08.2		20.8	210	09.3		32.5
15	213	09.9	21	32.2		10.3	120	40.8		28.1	134	10.4		20.8	225	11.9		32.6
16	228	12.4	36	31.9		11.5	135	41.6		28.1	149	12.6		20.8	240	14.6		32.7
17	243	14.9	51	31.6	-4	12.8	150	42.5	+23	28.1	164	14.8	+22	20.9	255	17.2	-7	32.8
18	258	17.3	66	31.3	-4	14.1	165	43.3	+23	28.1	179	17.1	+22	20.9	270	19.9	-7	32.9
19	273	19.8	81	30.9		15.4	180	44.2		28.2	194	19.3		20.9	285	22.5		32.9
20	288	22.3	96	30.6		16.7	195	45.0		28.2	209	21.5		20.9	300	25.1		33.0
21	303	24.7	111	30.3		17.9	210	45.9		28.2	224	23.7		20.9	315	27.8		33.1
22	318	27.2	126	30.0		19.2	225	46.7		28.2	239	25.9		20.9	330	30.4		33.2
23	333	29.6	141	29.6		20.5	240	47.5		28.2	254	28.1		21.0	345	33.1		33.2
24	348	32.1	156	29.3	-4	21.8	255	48.4	+23	28.3	269	30.3	+22	21.0	0	35.7	-7	33.3
Dif	—		-3	-13			+8	0			+22	0			-8974	-1		-

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna									
	SD: 15'9 PMG: 11 ^h 57.2 ^m			Edad: 5.9 ^d SD: 14'9 PMG: 16 ^h 28 ^m PHE { 4 ^h : 54'8 12 ^h : 54'9 20 ^h : 55'1 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	40.1	+5	12.4	120	48.9	-21	37.5	99	60 N	3	37	4	31	5	15	13	43	99	19	04	6		
1	195	40.3		11.4	135	20.7		47.4	128	58		47		37	18		22	90		25	16			
2	210	40.5		10.5	149	52.5	-21	57.2	98	56		3	55	42	21		13	05	83	43	22			
3	225	40.7		09.5	164	24.1	-22	07.0	98	54		4	03	47	23		12	50	79	19	58	26		
4	240	40.9		08.6	178	55.7		16.6	96	52			09	51	25		38	76		20	11	29		
5	255	41.1	+5	07.6	193	27.2	-22	26.2	96	50		4	15	4	55	5	27	12	27	73	20	23	31	
6	270	41.4	+5	06.7	207	58.5	-22	35.7	95	45		4	27	5	02	5	32	12	04	68	20	47	36	
7	285	41.6		05.8	222	29.8		45.0	93	40			36	08	36		11	45	65	21	06	39		
8	300	41.8		04.8	237	01.0	-22	54.3	93	35		43	13	39		30	62		22	42				
9	315	42.0		03.9	251	32.1	-23	03.5	92	30			49	17	42		11	17	59	21	36	44		
10	330	42.2		02.9	266	03.1		12.6	91	20		4	58	24	46		10	54	56	22	00	47		
11	345	42.5	+5	02.0	280	34.0	-23	21.6	90	10 N		5	05	5	29	5	50	10	35	53	22	21	50	
12	0	42.7	+5	01.0	295	04.9	-23	30.5	89	0		5	09	5	33	5	54	10	17	50	22	40	52	
13	15	42.9	+5	00.1	309	35.6		39.3	88	10 S			12	36	5	57	9	59	47	23	00	54		
14	30	43.1	+4	59.1	324	06.2		48.0	87	20			14	39	6	01		40	44		21	57		
15	45	43.3		58.2	338	36.8	-23	56.5	85	30			14	41	05		18	40		23	45	60		
16	60	43.5		57.2	353	07.2	-24	05.0	85	35			13	42	08		9	05	38	**	**	**		
17	75	43.8	+4	56.3	7	37.5	-24	13.4	84	40		5	12	5	43	6	10	8	51	35	**	**	**	
18	90	44.0	+4	55.3	22	07.8	-24	21.7	83	45		5	10	5	44	6	13	8	33	32	**	**	**	
19	105	44.2		54.4	36	38.0		29.9	82	50			07	44	16		12	27		**	**	**		
20	120	44.4		53.5	51	08.0		37.9	80	52			05	44	18		8	02	24	**	**	**		
21	135	44.6		52.5	65	38.0		45.9	80	54			04	45	20		7	50	22	0	09	79		
22	150	44.9		51.6	80	07.8	-24	53.7	78	56		5	02	45	22		38	17		21	84			
23	165	45.1		50.6	94	37.6	-25	01.4	77	58		4	59	45	24		23	12		35	89			
24	180	45.3	+4	49.7	109	07.3	-25	09.0	76	60 S		4	56	5	45	6	26	7	05	4	0	52	97	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 0 ^h 45.7 ^m			Mag: -3.8 PMG: 13 ^h 34 ^m			Mag: +0.7 PMG: 6 ^h 56 ^m			Mag: -2.4 PMG: 6 ^h 01 ^m			Mag: +0.6 PMG: 23 ^h 53 ^m											
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	348	32.1	156	29.3	-4	21.8	255	48.4	+23	28.3	269	30.3	+22	21.0	0	35.7	-7	33.3						
1	3	34.6	171	29.0		23.0	270	49.2		28.3	284	32.5		21.0	15	38.4		33.4						
2	18	37.0	186	28.7		24.3	285	50.1		28.3	299	34.7		21.0	30	41.0		33.5						
3	33	39.5	201	28.4		25.6	300	50.9		28.3	314	36.9		21.0	45	43.6		33.5						
4	48	42.0	216	28.0		26.9	315	51.8		28.3	329	39.2		21.0	60	46.3		33.6						
5	63	44.4	231	27.7	-4	28.2	330	52.6	+23	28.4	344	41.4	+22	21.1	75	48.9	-7	33.7						
6	78	46.9	246	27.4	-4	29.4	345	53.5	+23	28.4	359	43.6	+22	21.1	90	51.6	-7	33.8						
7	93	49.4	261	27.1		30.7	0	54.3		28.4	14	45.8		21.1	105	54.2		33.8						
8	108	51.8	276	26.7		32.0	15	55.2		28.4	29	48.0		21.1	120	56.8		33.9						
9	123	54.3	291	26.4		33.3	30	56.0		28.4	44	50.2		21.1	135	59.5		34.0						
10	138	56.8	306	26.1		34.5	45	56.9		28.4	59	52.4		21.1	151	02.1		34.1						
11	153	59.2	321	25.8	-4	35.8	60	57.7	+23	28.5	74	54.6	+22	21.2	166	04.8	-7	34.2						
12	169	01.7	336	25.5	-4	37.1	75	58.6	+23	28.5	89	56.9	+22	21.2	181	07.4	-7	34.2						
13	184	04.1	351	25.1		38.4	90	59.4		28.5	104	59.1		21.2	196	10.0		34.3						
14	199	06.6	6	24.8		39.7	106	00.3		28.5	120	01.3		21.2	211	12.7		34.4						
15	214	09.1	21	24.5		40.9	121	01.1		28.5	135	03.5		21.2	226	15.3		34.5						
16	229	11.5	36	24.2		42.2	136	02.0		28.6	150	05.7		21.2	241	18.0		34.5						
17	244	14.0	51	23.8	-4	43.5	151	02.8	+23	28.6	165	07.9	+22	21.3	256	20.6	-7	34.6						
18	259	16.5	66	23.5	-4	44.8	166	03.7	+23	28.6	180	10.2	+22	21.3	271	23.3	-7	34.7						
19	274	18.9	81	23.2		46.0	181	04.5		28.6	195	12.4		21.3	286	25.9		34.8						
20	289	21.4	96	22.9		47.3	196	05.4		28.6	210	14.6		21.3	301	28.5		34.8						
21	304	23.9	111	22.5		48.6	211	06.2		28.6	225	16.8		21.3	316	31.2		34.9						
22	319	26.3	126	22.2		49.9	226	07.1		28.6	240	19.0		21.3	331	33.8		35.0						
23	334	28.8	141	21.9		51.1	241	07.9		28.7	255	21.2		21.3	346	36.5		35.1						
24	349	31.3	156	21.6	-4	52.4	256	08.8	+23	28.7	270	23.5	+22	21.4	1	39.1	-7	35.1						
Dif	—			-3			+8			0			+22			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 56.8 ^m			Edad: 6.9 ^d SD: 15°0 PMG: 17 ^h 20 ^m			PHE { 4 ^h : 55°3 12 ^h : 55°5 20 ^h : 55°8 R°: 54 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	m	
0	180	45.3	+4	49.7	109	07.3	106	-25	09.0	75	60 N	18	35	19	18	20	11	15	22	93
1	195	45.5		48.7	123	36.9	105		16.5	74	58	32	12	20	02	14	52	81	19	41
2	210	45.7		47.8	138	06.4	104		23.9	73	56	30	08	19	54	28	76	20	05	38
3	225	45.9		46.8	152	35.8	102		31.2	71	54	28	03	47	14	09	73	24	4	
4	240	46.2		45.9	167	05.0	102		38.3	71	52	25	19	00	41	13	54	70	40	43
5	255	46.4	+4	44.9	181	34.2	102	-25	45.4	71	50	18	24	18	56	19	36	13	40	68
6	270	46.6	+4	44.0	196	03.3	101	-25	52.3	69	45	18	20	18	49	19	25	13	12	65
7	285	46.8		43.0	210	32.3	100	-25	59.1	68	40	16	44	16	12	50	63	21	45	49
8	300	47.0		42.1	225	01.3	100	-26	05.7	66	35	14	39	09	32	61	22	04	50	
9	315	47.3		41.1	239	30.1	98		12.3	64	30	11	35	19	03	12	16	61	20	52
10	330	47.5		40.2	253	58.8	97		18.7	66	20	07	29	18	55	11	50	58	22	47
11	345	47.7	+4	39.2	268	27.4	96	-26	25.0	63	10 N	18	03	18	24	18	49	11	28	56
12	0	47.9	+4	38.3	282	56.0	96	-26	31.2	62	0	18	00	18	21	18	45	11	07	54
13	15	48.1		37.3	297	24.4	94		37.2	60	10 S	17	57	18	42	10	46	52	23	54
14	30	48.4		36.4	311	52.7	93		43.1	58	20	54	16	41	10	24	50	***	***	***
15	45	48.6		35.4	326	21.0	93		48.9	58	30	50	14	42	9	58	48	***	***	***
16	60	48.8		34.5	340	49.2	92	-26	54.5	56	35	48	13	43	43	46	0	00	62	
17	75	49.0	+4	33.5	355	17.2	90	-27	00.1	56	40	17	46	18	13	18	44	9	26	65
18	90	49.2	+4	32.6	9	45.2	90	-27	05.4	53	45	17	43	18	13	18	47	9	05	42
19	105	49.5		31.6	24	13.1	89		10.7	53	50	40	12	50	8	39	38	1	02	71
20	120	49.7		30.7	38	40.9	88		15.8	51	52	39	12	52	26	36	14	74		
21	135	49.9		29.7	53	08.6	87		20.8	50	54	37	13	54	8	12	33	28	77	
22	150	50.1		28.8	67	36.2	86		25.6	48	56	36	13	56	7	55	29	1	45	80
23	165	50.3		27.8	82	03.8	86		30.3	47	58	34	13	59	35	23	2	04	86	
24	180	50.6	+4	26.9	96	31.2	84	-27	34.9	46	60 S	17	32	18	13	19	02	7	09	14

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 ^h 41.8 ^m		Mag: -3.8 PMG: 13 ^h 35 ^m		Mag: +0.7 PMG: 6 ^h 55 ^m		Mag: -2.4 PMG: 5 ^h 58 ^m		Mag: +0.6 PMG: 23 ^h 49 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	349	31.3	156	21.6	-4	52.4	256	08.8	+23	28.7
1	4	33.7	171	21.2		53.7	271	09.6		28.7
2	19	36.2	186	20.9		55.0	286	10.5		28.7
3	34	38.6	201	20.6		56.2	301	11.3		28.7
4	49	41.1	216	20.3		57.5	316	12.2		28.7
5	64	43.6	231	19.9	-4	58.8	331	13.0	+23	28.7
6	79	46.0	246	19.6	-5	00.1	346	13.9	+23	28.8
7	94	48.5	261	19.3		01.3	1	14.7		28.8
8	109	51.0	276	19.0		02.6	16	15.6		28.8
9	124	53.4	291	18.6		03.9	31	16.4		28.8
10	139	55.9	306	18.3		05.2	46	17.3		28.8
11	154	58.4	321	18.0	-5	06.4	61	18.2	+23	28.8
12	170	00.8	336	17.7	-5	07.7	76	19.0	+23	28.8
13	185	03.3	351	17.3		09.0	91	19.9		28.8
14	200	05.8	6	17.0		10.2	106	20.7		28.9
15	215	08.2	21	16.7		11.5	121	21.6		28.9
16	230	10.7	36	16.4		12.8	136	22.4		28.9
17	245	13.1	51	16.0	-5	14.1	151	23.3	+23	28.9
18	260	15.6	66	15.7	-5	15.3	166	24.2	+23	28.9
19	275	18.1	81	15.4		16.6	181	25.0		28.9
20	290	20.5	96	15.0		17.9	196	25.9		28.9
21	305	23.0	111	14.7		19.2	211	26.7		28.9
22	320	25.5	126	14.4		20.4	226	27.6		28.9
23	335	27.9	141	14.1		21.7	241	28.4		28.9
24	350	30.4	156	13.7	-5	23.0	256	29.3	+23	28.9
Dif	—		-3		-13		+9		0	
									+22	0
										+26
										-1

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG:11 ^h 56.5 ^m			Edad: 7.9 ^d SD: 15'2 PMG: 18 ^h 14 ^m PHE { 4 ^h : 56'0 12 ^h : 56'3 20 ^h : 56'5 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	180	50.6	+4	26.9	96	31.2	84	-27	34.9	60 N	3 43	4 37	5 19	16 55	56	19 32	64	
1	195	50.8		25.9	110	58.6	84		39.3	58	3 52	42	22	16 13	57	20 14	63	
2	210	51.0		25.0	125	25.8	82		43.5	56	4 00	47	25	15 44	58	20 43	62	
3	225	51.2		24.0	139	53.0	82		47.7	54	07	51	27	22 58		21 05	62	
4	240	51.4		23.1	154	20.1	81		51.6	52	13	54	29	15 04	58	23	62	
5	255	51.7	+4	22.1	168	47.2	81	-27	55.5	50	4 18	4 58	5 30	14 48	59	21 39	61	
6	270	51.9	+4	21.2	183	14.1	79	-27	59.2	45	4 29	5 05	5 34	14 17	59	22 10	61	
7	285	52.1		20.2	197	41.0	79	-28	02.7	40	38	10	38	13 53	58	34	61	
8	300	52.3		19.3	212	07.7	77		06.1	34	45	15	40	33 59		22 54	60	
9	315	52.5		18.3	226	34.4	77		09.3	30	50	19	43	13 17	57	23 12	59	
10	330	52.8		17.3	241	01.1	77		12.4	20	4 59	25	47	12 48	58	23 40	59	
11	345	53.0	+4	16.4	255	27.6	75	-28	15.3	10 N	5 04	5 29	5 50	12 24	57	**	**	
12	0	53.2	+4	15.4	269	54.1	75	-28	18.1	0	5 08	5 32	5 53	12 01	57	**	**	
13	15	53.4		14.5	284	20.5	74		20.8	10 S	11	35	56	11 38	57	**	**	
14	30	53.7		13.5	298	46.8	73		23.2	20	12	37	5 59	11 14	57	0 18	58	
15	45	53.9		12.6	313	13.1	73		25.5	30	11	39	6 03	10 46	56	0 45	60	
16	60	54.1		11.6	327	39.3	72		27.7	22	10	39	05	29 56		1 02	60	
17	75	54.3	+4	10.7	342	05.4	71	-28	29.7	40	5 09	5 40	6 07	10 10	55	1 21	60	
18	90	54.5	+4	09.7	356	31.4	70	-28	31.5	45	5 06	5 40	6 09	9 47	54	1 44	62	
19	105	54.8		08.8	10	57.4	70		33.2	50	03	40	12	17 53		2 13	64	
20	120	55.0		07.8	25	23.3	69		34.7	15	5 01	40	13	9 02	52	28	64	
21	135	55.2		06.9	39	49.2	69		36.1	14	4 59	40	15	8 45	51	2 45	65	
22	150	55.4		05.9	54	15.0	68		37.3	12	56	39	16	8 24	50	3 05	67	
23	165	55.6		05.0	68	40.7	67		38.3	10	58	39	18	7 58	48	3 30	71	
24	180	55.9	+4	04.0	83	06.4	67	-28	39.2	9	60 S	4 50	5 39	6 20	7 23	42	4 06	76
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 0 ^h 37.9 ^m		Mag: -3.8 PMG: 13 ^h 35 ^m			Mag: +0.7 PMG: 6 ^h 54 ^m			Mag: -2.4 PMG: 5 ^h 54 ^m			Mag: +0.6 PMG: 23 ^h 45 ^m						
	hG ♀		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	350	30.4	156	13.7	-5	23.0	256	29.3	+23	28.9	271	16.8	+22	21.7	2	42.5	-7	37.0
1	5	32.9	171	13.4		24.2	271	30.2		29.0	286	19.0		21.8	17	45.1		37.0
2	20	35.3	186	13.1		25.5	286	31.0		29.0	301	21.2		21.8	32	47.8		37.1
3	35	37.8	201	12.7		26.8	301	31.9		29.0	316	23.5		21.8	47	50.4		37.2
4	50	40.2	216	12.4		28.0	316	32.7		29.0	331	25.7		21.8	62	53.0		37.3
5	65	42.7	231	12.1	-5	29.3	331	33.6	+23	29.0	346	27.9	+22	21.8	77	55.7	-7	37.4
6	80	45.2	246	11.8	-5	30.6	346	34.5	+23	29.0	1	30.1	+22	21.8	92	58.3	-7	37.4
7	95	47.6	261	11.4		31.9	1	35.3		29.0	16	32.4		21.8	108	01.0		37.5
8	110	50.1	276	11.1		33.1	16	36.2		29.0	31	34.6		21.9	123	03.6		37.6
9	125	52.6	291	10.8		34.4	31	37.1		29.0	46	36.8		21.9	138	06.3		37.7
10	140	55.0	306	10.4		35.7	46	37.9		29.0	61	39.0		21.9	153	08.9		37.7
11	155	57.5	321	10.1	-5	36.9	61	38.8	+23	29.0	76	41.3	+22	21.9	168	11.5	-7	37.8
12	171	00.0	336	09.8	-5	38.2	76	39.6	+23	29.0	91	43.5	+22	21.9	183	14.2	-7	37.9
13	186	02.4	351	09.5		39.5	91	40.5		29.0	106	45.7		21.9	198	16.8		38.0
14	201	04.9	6	09.1		40.7	106	41.4		29.0	121	48.0		21.9	213	19.5		38.0
15	216	07.4	21	08.8		42.0	121	42.2		29.0	136	50.2		22.0	228	22.1		38.1
16	231	09.8	36	08.5		43.3	136	43.1		29.1	151	52.4		22.0	243	24.7		38.2
17	246	12.3	51	08.1	-5	44.5	151	44.0	+23	29.1	166	54.7	+22	22.0	258	27.4	-7	38.3
18	261	14.7	66	07.8	-5	45.8	166	44.8	+23	29.1	181	56.9	+22	22.0	273	30.0	-7	38.3
19	276	17.2	81	07.5		47.1	181	45.7		29.1	196	59.1		22.0	288	32.7		38.4
20	291	19.7	96	07.1		48.4	196	46.6		29.1	212	01.3		22.0	303	35.3		38.5
21	306	22.1	111	06.8		49.6	211	47.4		29.1	227	03.6		22.1	318	37.9		38.6
22	321	24.6	126	06.5		50.9	226	48.3		29.1	242	05.8		22.1	333	40.6		38.6
23	336	27.1	141	06.1		52.2	241	49.2		29.1	257	08.0		22.1	348	43.2		38.7
24	351	29.5	156	05.8	-5	53.4	256	50.0	+23	29.1	272	10.3	+22	22.1	3	45.9	-7	38.8
Dif	—		-3		-13		+9		0		+22		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 56.1 ^m			Edad: 8.9 ^d PHE { 4 ^h : 56'8 12 ^h : 57'1 20 ^h : 57'4 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	180	55.9	+4	04.0	83	06.4	66	-28	39.2	7	60 N	18	29	19	11	20	04	17	51	19
1	195	56.1		03.0	97	32.0	66		39.9	5	58	27	07	19	55	17	10	31	21	17
2	210	56.3		02.1	111	57.6	65		40.4	4	56	24	19	02	48	16	42	37	21	45
3	225	56.5		01.1	126	23.1	65		40.8	2	54	23	18	58	42	20	41	22	07	85
4	240	56.8	+4	00.2	140	48.6	65		41.0	0	52	21	55	36	16	02	43		25	78
5	255	57.0	+3	59.2	155	14.0	64	-28	41.0	2	50	18	19	18	52	19	31	15	47	45
6	270	57.2	+3	58.3	169	39.3	63	-28	40.9	1	45	18	16	18	45	19	20	15	16	48
7	285	57.4		57.3	184	04.6	63		40.6	3	40	13	40	12	14	51	51		35	69
8	300	57.6		56.4	198	29.9	63		40.1	5	35	11	36	06		32	52		23	54
9	315	57.9		55.4	212	55.1	62		39.5	6	30	09	33	19	01	14	14	54	***	***
10	330	58.1		54.5	227	20.3	62		38.7	8	20	05	27	18	53	13	46	55	***	***
11	345	58.3	+3	53.5	241	45.5	62	-28	37.7	10	10 N	18	02	18	23	18	48	13	21	57
12	0	58.5	+3	52.5	256	10.6	61	-28	36.6	11	0	17	59	18	20	18	44	12	58	59
13	15	58.7		51.6	270	35.6	60		35.2	14	10 S	57	18			35	60		0	51
14	30	59.0		50.6	285	00.7	61		33.7	15	20	54	16	42	12	11	61		1	16
15	45	59.2		49.7	299	25.7	60		32.0	17	30	51	15	43	11	42	63		1	45
16	60	59.4		48.7	313	50.6	59		30.2	18	35	49	15	44		25	64		2	02
17	75	59.6	+3	47.8	328	15.6	60	-28	28.2	20	40	17	48	18	15	18	46	11	05	65
18	90	59.9	+3	46.8	342	40.5	59	-28	26.0	22	45	17	46	18	15	18	49	10	41	67
19	106	00.1		45.8	357	05.4	59		23.6	24	50	43	15	53		10	10	69		3
20	121	00.3		44.9	11	30.2	58		21.1	25	52	42	16	55		9	54	71		32
21	136	00.5		43.9	25	55.1	59		18.3	28	54	41	16	18	57		36	72		3
22	151	00.7		43.0	40	19.9	58		15.4	29	56	39	17	19	00		9	14	75	
23	166	01.0		42.0	54	44.7	58		12.4	30	58	38	17	03		8	46	78		4
24	181	01.2	+3	41.1	69	09.5	58	-28	09.1	33	60 S	17	36	18	18	19	07	8	05	86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 ^h 33.9 ^m		Mag: -3.9 PMG: 13 ^h 36 ^m		Mag: +0.7 PMG: 6 ^h 52 ^m		Mag: -2.4 PMG: 5 ^h 50 ^m		Mag: +0.6 PMG: 23 ^h 41 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	351	29.5	156	05.8	-5	53.4	272	10.3	+22	22.1
1	6	32.0	171	05.5		54.7	287	12.5		22.1
2	21	34.5	186	05.1		56.0	302	14.7		22.1
3	36	36.9	201	04.8		57.2	317	17.0		22.1
4	51	39.4	216	04.5		58.5	332	19.2		22.2
5	66	41.9	231	04.1	-5	59.7	347	21.4	+22	22.2
6	81	44.3	246	03.8	-6	01.0	2	23.7	+22	22.2
7	96	46.8	261	03.5		02.3	17	25.9		22.2
8	111	49.2	276	03.1		03.5	32	28.1		22.2
9	126	51.7	291	02.8		04.8	47	30.4		22.2
10	141	54.2	306	02.5		06.1	62	32.6		22.2
11	156	56.6	321	02.1	-6	07.3	77	34.9	+22	22.3
12	171	59.1	336	01.8	-6	08.6	92	37.1	+22	22.3
13	187	01.6	351	01.5		09.9	107	39.3		22.3
14	202	04.0	6	01.1		11.1	122	41.6		22.3
15	217	06.5	21	00.8		12.4	137	43.8		22.3
16	232	09.0	36	00.5		13.7	152	46.0		22.3
17	247	11.4	51	00.1	-6	14.9	167	48.3	+22	22.3
18	262	13.9	65	59.8	-6	16.2	182	50.5	+22	22.4
19	277	16.4	80	59.5		17.4	197	52.8		22.4
20	292	18.8	95	59.1		18.7	212	55.0		22.4
21	307	21.3	110	58.8		20.0	227	57.2		22.4
22	322	23.7	125	58.5		21.2	242	59.5		22.4
23	337	26.2	140	58.1		22.5	258	01.7		22.4
24	352	28.7	155	57.8	-6	23.8	273	04.0	+22	22.4
Dif	—		-3		-13		+9		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15 ^h /9 PMG:11 ^h 55.7 ^m			Edad: 9.9 ^d PHE { 4 ^h : 57 ^h /8 12 ^h : 58 ^h /1 20 ^h : 58 ^h /4 Rº: 58 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m			
0	181	01.2	+3 41.1	69	09.5	58	-28	09.1	34	60 N	3 49	4 42	5 24	18 10 6	22 20 115		
1	196	01.4		83	34.3			05.7		58	3 57	46	26	17 41 16	22 48 105		
2	211	01.6		97	59.0	57	-28	02.1	36	56	4 05	51	28	19 22	23 10 98		
3	226	01.9		112	23.8	58	-27	58.3	38	54	11	54	30	17 01 26	28 93		
4	241	02.1		126	48.5	57		54.3	40	52	17	4 58	32	16 45 30	43 90		
5	256	02.3	+3 36.3	141	13.2	57	-27	50.2	41	50	4 22	5 01	5 33	16 32 33	23 56 87		
6	271	02.5	+3 35.3	155	38.0	58	-27	45.9	43	45	4 32	5 07	5 37	16 04 38	*** ** *		
7	286	02.8		170	02.7	57		41.4	45	40	40	12	39	15 42 42	*** ** *		
8	301	03.0		184	27.4	57		36.7	47	35	46	16	42	24 45	*** ** *		
9	316	03.2		198	52.1	57		31.9	48	30	52	20	44	15 08 48	0 11 66		
10	331	03.4		213	16.9	58		26.8	51	20	4 59	25	47	14 41 52	0 39 64		
11	346	03.6	+3 30.5	227	41.6	57	-27	21.6	52	10 N	5 04	5 29	5 50	14 18 55	1 04 60		
12	1	03.9	+3 29.6	242	06.3	57	-27	16.3	53	0	5 08	5 32	5 52	13 57 58	1 26 59		
13	16	04.1		256	31.1	58		10.7	56	10 S	10	34	55	35 61	1 49 56		
14	31	04.3		270	55.8	57	-27	05.0	57	20	10	36	5 58	13 12 64	2 13 53		
15	46	04.5		285	20.6	58	-26	59.1	59	30	09	36	6 00	12 45 68	40 51		
16	61	04.8		299	45.4	58		53.0	61	35	07	37	02	29 71	2 57 49		
17	76	05.0	+3 24.8	314	10.2	58	-26	46.7	63	40	5 05	5 37	6 04	12 10 74	3 16 46		
18	91	05.2	+3 23.8	328	35.0	58	-26	40.3	64	45	5 02	5 36	6 05	11 48 77	3 39 43		
19	106	05.4		342	59.8	58		33.7	66	50	4 58	36	08	19 82	4 08 39		
20	121	05.7		357	24.6	58		26.9	68	52	56	35	09	11 05 85	23 36		
21	136	05.9		11	49.5	59		20.0	69	54	54	35	10	10 48 89	40 33		
22	151	06.1		26	14.4	59		12.8	72	56	51	34	11	29 93	4 59 29		
23	166	06.3		40	39.3	59	-26	05.5	73	58	48	34	13	10 04 100	5 24 23		
24	181	06.5	+3 18.1	55	04.2	59	-25	58.0	75	60 S	4 44	5 33	6 14	9 31 111	5 58 11		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 0 ^h 30.0 ^m		Mag: -3.9 PMG: 13 ^h 36 ^m			Mag: +0.7 PMG: 6 ^h 51 ^m			Mag: -2.4 PMG: 5 ^h 47 ^m			Mag: +0.6 PMG: 23 ^h 37 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	352	28.7	155	57.8	-6 23.8	257	10.9	+23 29.1	273	04.0	+22 22.4	4	49.2	-7 40.6			
1	7	31.1	170	57.5	25.0	272	11.8	29.1	288	06.2	22.5	19	51.9	40.7			
2	22	33.6	185	57.1	26.3	287	12.7	29.1	303	08.4	22.5	34	54.5	40.7			
3	37	36.1	200	56.8	27.5	302	13.5	29.1	318	10.7	22.5	49	57.2	40.8			
4	52	38.5	215	56.4	28.8	317	14.4	29.1	333	12.9	22.5	64	59.8	40.9			
5	67	41.0	230	56.1	-6 30.1	332	15.3	+23 29.1	348	15.2	+22 22.5	80	02.4	-7 41.0			
6	82	43.5	245	55.8	-6 31.3	347	16.2	+23 29.1	3	17.4	+22 22.5	95	05.1	-7 41.0			
7	97	45.9	260	55.4	32.6	2	17.1	29.0	18	19.6	22.5	110	07.7	41.1			
8	112	48.4	275	55.1	33.8	17	17.9	29.0	33	21.9	22.5	125	10.4	41.2			
9	127	50.8	290	54.8	35.1	32	18.8	29.0	48	24.1	22.6	140	13.0	41.3			
10	142	53.3	305	54.4	36.4	47	19.7	29.0	63	26.4	22.6	155	15.6	41.3			
11	157	55.8	320	54.1	-6 37.6	62	20.6	+23 29.0	78	28.6	+22 22.6	170	18.3	-7 41.4			
12	172	58.2	335	53.7	-6 38.9	77	21.4	+23 29.0	93	30.9	+22 22.6	185	20.9	-7 41.5			
13	188	00.7	350	53.4	40.1	92	22.3	29.0	108	33.1	22.6	200	23.6	41.6			
14	203	03.2	5 53.1	41.4		107	23.2	29.0	123	35.4	22.6	215	26.2	41.6			
15	218	05.6	20 52.7	42.7		122	24.1	29.0	138	37.6	22.6	230	28.8	41.7			
16	233	08.1	35 52.4	43.9		137	25.0	29.0	153	39.8	22.7	245	31.5	41.8			
17	248	10.6	50 52.1	-6 45.2		152	25.8	+23 29.0	168	42.1	+22 22.7	260	34.1	-7 41.9			
18	263	13.0	65 51.7	-6 46.4		167	26.7	+23 29.0	183	44.3	+22 22.7	275	36.8	-7 41.9			
19	278	15.5	80 51.4	47.7		182	27.6	29.0	198	46.6	22.7	290	39.4	42.0			
20	293	18.0	95 51.0	48.9		197	28.5	29.0	213	48.8	22.7	305	42.0	42.1			
21	308	20.4	110 50.7	50.2		212	29.4	29.0	228	51.1	22.7	320	44.7	42.2			
22	323	22.9	125 50.4	51.5		227	30.2	29.0	243	53.3	22.7	335	47.3	42.2			
23	338	25.3	140 50.0	52.7		242	31.1	28.9	258	55.6	22.8	350	50.0	42.3			
24	353	27.8	155 49.7	-6 54.0		257	32.0	+23 28.9	273	57.8	+22 22.8	5	52.6	-7 42.4			
Dif	—		-3	-13		+9	0		+22	0		+26	-1				

UT	SOL			O LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 55.4 ^m			Edad: 10.9 ^d SD: 15'9 PMG: 21 ^h 09 ^m PHE { 4 ^h : 58'7 12 ^h : 59'0 20 ^h : 59'4 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	h m m	h m m		
0	181	06.5	+3	18.1	55	04.2	59	-25	58.0	76	18 23	19 05	19 57	18 16	1	** ** *		
1	196	06.8		17.1	69	29.1	60		50.4	78	21	19 01	49	17 57	8	** ** *		
2	211	07.0		16.1	83	54.1	60		42.6	80	19	18 57	42	41 13		** ** *		
3	226	07.2		15.2	98	19.1	61		34.6	82	18	53	36	27 18		** ** *		
4	241	07.4		14.2	112	44.2	61		26.4	83	16	50	31	15 22		** ** *		
5	256	07.7	+3	13.3	127	09.2	60	-25	18.1	83	18 15	18 47	19 26	17 05	24	** ** *		
6	271	07.9	+3	12.3	141	34.4	62	-25	09.6	85	18 12	18 42	19 16	16 42	31	0 23 81		
7	286	08.1		11.3	155	59.5	61	-25	00.9	87	10	37	09	24 36	0	44 77		
8	301	08.3		10.4	170	24.7	62	-24	52.1	88	08	33	19 03	16 09	39	1 02 73		
9	316	08.6		09.4	184	49.9	62		43.1	90	06	30	18 58	15 56	42	17 70		
10	331	08.8		08.5	199	15.1	62		33.9	92	03	25	51	33 48	1	43 65		
11	346	09.0	+3	07.5	213	40.4	63	-24	24.6	93	18 01	18 22	18 46	15 13	53	2 04 61		
12	1	09.2	+3	06.5	228	05.7	63	-24	15.1	95	17 59	18 19	18 43	14 55	56	2 25 57		
13	16	09.5		05.6	242	31.1	64	-24	05.4	97	57	18	42	36 61	2	45 54		
14	31	09.7		04.6	256	56.5	64	-23	55.6	98	54	16	42	14 16	66	3 06 50		
15	46	09.9		03.7	271	22.0	65		45.6	100	52	16	44	13 53	71	31 45		
16	61	10.1		02.7	285	47.5	65		35.4	102	51	16	46	40 74	3	46 42		
17	76	10.3	+3	01.7	300	13.0	65	-23	25.1	103	17 50	18 17	18 48	13 24	78	4 02 39		
18	91	10.6	+3	00.8	314	38.6	66	-23	14.7	104	17 48	18 17	18 51	13 05	83	4 22 34		
19	106	10.8	+2	59.8	329	04.2	66	-23	04.0	107	46	18	56	12 41	89	47 28		
20	121	11.0		58.9	343	29.9	67	-22	53.3	107	45	19	18 58	30 92	4	59 25		
21	136	11.2		57.9	357	55.7	68		42.3	110	44	20	19 01	17 96	5	13 21		
22	151	11.5		56.9	12	21.4	67		31.2	111	43	20	04	12 02	100	28 17		
23	166	11.7		56.0	26	47.3	69		20.0	112	42	21	07	11 44	106	5 47 11		
24	181	11.9	+2	55.0	41	13.1	68	-22	08.6	114	17 41	18 22	19 11	11 22	114	6 09 4		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 26.1 ^m		Mag: -3.9 PMG: 13 ^h 37 ^m			Mag: +0.6 PMG: 6 ^h 49 ^m			Mag: -2.4 PMG: 5 ^h 43 ^m			Mag: +0.6 PMG: 23 ^h 32 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	353	27.8	155	49.7	-6	54.0	257	32.0	+23	28.9	273	57.8	+22	22.8	5	52.6	-7	42.4
1	8	30.3	170	49.3		55.2	272	32.9		28.9	289	00.1		22.8	20	55.2		42.5
2	23	32.7	185	49.0		56.5	287	33.8		28.9	304	02.3		22.8	35	57.9		42.5
3	38	35.2	200	48.6		57.7	302	34.7		28.9	319	04.6		22.8	51	00.5		42.6
4	53	37.7	215	48.3	-6	59.0	317	35.5		28.9	334	06.8		22.8	66	03.2		42.7
5	68	40.1	230	48.0	-7	00.2	332	36.4	+23	28.9	349	09.1	+22	22.8	81	05.8	-7	42.8
6	83	42.6	245	47.6	-7	01.5	347	37.3	+23	28.9	4	11.3	+22	22.8	96	08.4	-7	42.8
7	98	45.1	260	47.3		02.8	2	38.2		28.9	19	13.6		22.9	111	11.1		42.9
8	113	47.5	275	46.9		04.0	17	39.1		28.9	34	15.8		22.9	126	13.7		43.0
9	128	50.0	290	46.6		05.3	32	40.0		28.8	49	18.1		22.9	141	16.4		43.1
10	143	52.5	305	46.3		06.5	47	40.8		28.8	64	20.3		22.9	156	19.0		43.1
11	158	54.9	320	45.9	-7	07.8	62	41.7	+23	28.8	79	22.6	+22	22.9	171	21.6	-7	43.2
12	173	57.4	335	45.6	-7	09.0	77	42.6	+23	28.8	94	24.8	+22	22.9	186	24.3	-7	43.3
13	188	59.8	350	45.2		10.3	92	43.5		28.8	109	27.1		22.9	201	26.9		43.4
14	204	02.3	5	44.9		11.5	107	44.4		28.8	124	29.3		22.9	216	29.6		43.4
15	219	04.8	20	44.5		12.8	122	45.3		28.8	139	31.6		23.0	231	32.2		43.5
16	234	07.2	35	44.2		14.0	137	46.2		28.8	154	33.8		23.0	246	34.8		43.6
17	249	09.7	50	43.8	-7	15.3	152	47.1	+23	28.8	169	36.1	+22	23.0	261	37.5	-7	43.7
18	264	12.2	65	43.5	-7	16.5	167	47.9	+23	28.7	184	38.3	+22	23.0	276	40.1	-7	43.7
19	279	14.6	80	43.2		17.8	182	48.8		28.7	199	40.6		23.0	291	42.8		43.8
20	294	17.1	95	42.8		19.0	197	49.7		28.7	214	42.8		23.0	306	45.4		43.9
21	309	19.6	110	42.5		20.3	212	50.6		28.7	229	45.1		23.0	321	48.0		44.0
22	324	22.0	125	42.1		21.5	227	51.5		28.7	244	47.4		23.1	336	50.7		44.0
23	339	24.5	140	41.8		22.8	242	52.4		28.7	259	49.6		23.1	351	53.3		44.1
24	354	27.0	155	41.4	-7	24.0	257	53.3	+23	28.7	274	51.9	+22	23.1	6	56.0	-7	44.2
Dif	—		-3		-13		+9		0		+23		0		+26		-	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG:11 ^h 55.0 ^m				Edad: 11.9 ^d PHE { 4 ^h : 59'7 12 ^h : 59'9 20 ^h : 60'2 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	181	11.9	+2	55.0	41	13.1	70	−22	08.6	116	60 N	3	54	4	46	5	29	
1	196	12.1		54.0	55	39.1		−21	57.0	117	58	4	02		51	31	18	
2	211	12.4		53.1	70	05.0	69		45.3	117	56		09		55	32	17	
3	226	12.6		52.1	84	31.1	71		33.5	118	54		15	4	58	34	45	
4	241	12.8		51.2	98	57.1	70		21.5	120	52		20	5	01	35	37	
5	256	13.0	+2	50.2	113	23.3	72	−21	09.4	121	50		4	25	5	04	5	
6	271	13.3	+2	49.2	127	49.5	72	−20	57.1	123	45		4	35	5	10	5	
7	286	13.5		48.3	142	15.7	72		44.6	125	40			42	14	41	17	
8	301	13.7		47.3	156	42.0	73		32.1	125	35			48	18	43	16	
9	316	13.9		46.3	171	08.3	73		19.3	128	30		4	53	21	45	38	
10	331	14.2		45.4	185	34.7	74	−20	06.5	128	20		5	00	25	47	21	
11	346	14.4	+2	44.4	200	01.2	75	−19	53.5	130	10 N		5	04	5	29	5	
12	1	14.6	+2	43.5	214	27.7	75	−19	40.4	131	0		5	07	5	31	5	
13	16	14.8		42.5	228	54.3	76		27.1	133	10 S			08	33	54	37	
14	31	15.0		41.5	243	20.9	76		13.7	134	20			08	34	56	22	
15	46	15.3		40.6	257	47.5	76	−19	00.2	135	30			06	34	58	15	
16	61	15.5		39.6	272	14.3	78	−18	46.5	137	35			04	34	5	59	
17	76	15.7	+2	38.6	286	41.1	78	−18	32.7	138	40		5	02	5	33	6	
18	91	15.9	+2	37.7	301	07.9	78	−18	18.8	139	45		4	58	5	32	6	
19	106	16.2		36.7	315	34.8	79	−18	04.7	141	50			54	31	03	14	
20	121	16.4		35.7	330	01.7	79	−17	50.6	141	52			51	31	04	14	
21	136	16.6		34.8	344	28.7	80		36.3	143	54			49	30	05	13	
22	151	16.8		33.8	358	55.8	81		21.9	144	56			46	29	06	42	
23	166	17.1		32.9	13	22.9	81	−17	07.3	146	58			42	28	07	30	
24	181	17.3	+2	31.9	27	50.0	81	−16	52.7	146	60 S		4	38	5	27	6	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 0 ^h 22.1 ^m		Mag: −3.9 PMG: 13 ^h 38 ^m			Mag: +0.6 PMG: 6 ^h 48 ^m			Mag: −2.4 PMG: 5 ^h 40 ^m			Mag: +0.6 PMG: 23 ^h 28 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	354	27.0	155	41.4	−7	24.0	257	53.3	+23	28.7	274	51.9	+22	23.1				
1	9	29.4	170	41.1		25.3	272	54.2		28.6	289	54.1		23.1				
2	24	31.9	185	40.7		26.5	287	55.1		28.6	304	56.4		23.1				
3	39	34.3	200	40.4		27.8	302	56.0		28.6	319	58.6		23.1				
4	54	36.8	215	40.0		29.0	317	56.8		28.6	335	00.9		23.1				
5	69	39.3	230	39.7	−7	30.3	332	57.7	+23	28.6	350	03.2	+22	23.1				
6	84	41.7	245	39.4	−7	31.5	347	58.6	+23	28.6	5	05.4	+22	23.2				
7	99	44.2	260	39.0		32.8	2	59.5		28.6	20	07.7		23.2				
8	114	46.7	275	38.7		34.0	18	00.4		28.5	35	09.9		23.2				
9	129	49.1	290	38.3		35.3	33	01.3		28.5	50	12.2		23.2				
10	144	51.6	305	38.0		36.5	48	02.2		28.5	65	14.4		23.2				
11	159	54.1	320	37.6	−7	37.8	63	03.1	+23	28.5	80	16.7	+22	23.2				
12	174	56.5	335	37.3	−7	39.0	78	04.0	+23	28.5	95	19.0	+22	23.2				
13	189	59.0	350	36.9		40.3	93	04.9		28.5	110	21.2		23.2				
14	205	01.4	5	36.6		41.5	108	05.8		28.4	125	23.5		23.3				
15	220	03.9	20	36.2		42.8	123	06.7		28.4	140	25.7		23.3				
16	235	06.4	35	35.9		44.0	138	07.6		28.4	155	28.0		23.3				
17	250	08.8	50	35.5	−7	45.2	153	08.5	+23	28.4	170	30.3	+22	23.3				
18	265	11.3	65	35.2	−7	46.5	168	09.4	+23	28.4	185	32.5	+22	23.3				
19	280	13.8	80	34.8		47.7	183	10.3		28.3	200	34.8		23.3				
20	295	16.2	95	34.5		49.0	198	11.2		28.3	215	37.1		23.3				
21	310	18.7	110	34.1		50.2	213	12.1		28.3	230	39.3		23.3				
22	325	21.2	125	33.8		51.5	228	12.9		28.3	245	41.6		23.4				
23	340	23.6	140	33.4		52.7	243	13.8		28.3	260	43.8		23.4				
24	355	26.1	155	33.1	−7	54.0	258	14.7	+23	28.2	275	46.1	+22	23.4				
Dif	—		−3		−12		+9		0		+23		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 54.7 ^m			Edad: 12.9 ^d SD: 16'4 PMG: 22 ^h 58 ^m PHE { 4 ^h : 60'5 12 ^h : 60'7 20 ^h : 60'9 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	181	17.3	+2	31.9	27	50.0	82	-16	52.7	148	18	17	18	59	19	50	18	17	**
1	196	17.5		30.9	42	17.2	83		37.9	149	15		55	43	10	3			21 106
2	211	17.7		30.0	56	44.5	83		23.0	150	14		51	36	18	03	7		30 102
3	226	18.0		29.0	71	11.8	84	-16	08.0	151	13		48	31	17	58	10		39 97
4	241	18.2		28.0	85	39.2	84	-15	52.9	152	11		45	26	53	13			46 94
5	256	18.4	+2	27.1	100	06.6	84	-15	37.7	153	18	10	18	43	19	21	17	48	16
6	271	18.6	+2	26.1	114	34.1	85	-15	22.4	153	18	08	18	38	19	12	17	38	22
7	286	18.9		25.1	129	01.6	85	-15	06.9	155	06		34	05	30	26			3 07 84
8	301	19.1		24.2	143	29.2	86	-14	51.4	155	05		30	19	00	22	31		19 79
9	316	19.3		23.2	157	56.8	86		35.7	157	04		28	18	55	16	35		29 74
10	331	19.5		22.2	172	24.4	86		20.0	157	01		23	49	17	05	41		3 53 64
11	346	19.8	+2	21.3	186	52.2	88	-14	04.1	159	18	00	18	21	18	45	16	55	47
12	1	20.0	+2	20.3	201	19.9	87	-13	48.2	159	17	58	18	19	18	43	16	46	52
13	16	20.2		19.4	215	47.7	88		32.2	160	56		17	42	36	58			4 17 53
14	31	20.4		18.4	230	15.6	89	-13	16.0	162	55		17	42	26	64			29 48
15	46	20.7		17.4	244	43.5	89	-12	59.8	162	53		17	45	15	70			42 42
16	61	20.9		16.5	259	11.5	90		43.5	163	52		18	47	08	74			4 56 36
17	76	21.1	+2	15.5	273	39.5	90	-12	27.1	164	17	51	18	18	18	50	16	01	78
18	91	21.3	+2	14.5	288	07.5	91	-12	10.6	165	17	50	18	20	18	54	15	52	83
19	106	21.6		13.6	302	35.6	91	-11	54.0	166	49		21	18	59	41	90		5 24 23
20	121	21.8		12.6	317	03.7	92		37.4	166	48		22	19	02	36	93		37 17
21	136	22.0		11.6	331	31.9	92		20.6	168	48		23	05	30	97			43 14
22	151	22.2		10.7	346	00.1	92	-11	03.8	168	47		24	08	24	100			49 12
23	166	22.5		09.7	0	28.3	92	-10	46.9	169	46		26	12	17	105			5 57 8
24	181	22.7	+2	08.7	14	56.6	93	-10	29.9	170	46		18	27	19	16	15	09	110

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 ^h 18.2 ^m		Mag: -3.9 PMG: 13 ^h 38 ^m		Mag: +0.6 PMG: 6 ^h 47 ^m		Mag: -2.4 PMG: 5 ^h 36 ^m		Mag: +0.6 PMG: 23 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	355	26.1	155	33.1	-7	54.0	258	14.7	+23	28.2
1	10	28.6	170	32.7		55.2	273	15.6		28.2
2	25	31.0	185	32.4		56.4	288	16.5		28.2
3	40	33.5	200	32.0		57.7	303	17.4		28.2
4	55	35.9	215	31.7	-7	58.9	318	18.3		28.2
5	70	38.4	230	31.3	-8	00.2	333	19.2	+23	28.1
6	85	40.9	245	31.0	-8	01.4	348	20.1	+23	28.1
7	100	43.3	260	30.6		02.7	3	21.0		28.1
8	115	45.8	275	30.2		03.9	18	21.9		28.1
9	130	48.3	290	29.9		05.1	33	22.8		28.1
10	145	50.7	305	29.5		06.4	48	23.7		28.0
11	160	53.2	320	29.2	-8	07.6	63	24.6	+23	28.0
12	175	55.7	335	28.8	-8	08.9	78	25.5	+23	28.0
13	190	58.1	350	28.5		10.1	93	26.5		28.0
14	206	00.6	5	28.1		11.3	108	27.4		28.0
15	221	03.1	20	27.8		12.6	123	28.3		27.9
16	236	05.5	35	27.4		13.8	138	29.2		27.9
17	251	08.0	50	27.1	-8	15.1	153	30.1	+23	27.9
18	266	10.4	65	26.7	-8	16.3	168	31.0	+23	27.9
19	281	12.9	80	26.4		17.5	183	31.9		27.8
20	296	15.4	95	26.0		18.8	198	32.8		27.8
21	311	17.8	110	25.6		20.0	213	33.7		27.8
22	326	20.3	125	25.3		21.2	228	34.6		27.8
23	341	22.8	140	24.9		22.5	243	35.5		27.7
24	356	25.2	155	24.6	-8	23.7	258	36.4	+23	27.7
Dif	—		-4		-12		+9		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 54.3 ^m			Edad: 13.9 ^d PHE { 4 ^h : 61'1 12 ^h : 61'2 20 ^h : 61'3 SD: 16'6 PMG: 23 ^h 50 ^m 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	181	22.7	+2	08.7	14	56.6	93	-10	29.9	60 N	4 00	4 51	5 33	18 16	**	4 01	109	
1	196	22.9		07.8	29	24.9	93	-10	12.9	58	07	55	35	13	3	07	104	
2	211	23.1		06.8	43	53.3	94	-9	55.8	56	14	4 59	36	10	7	12	99	
3	226	23.3		05.8	58	21.7	94		38.6	54	19	5 02	37	08	10	16	96	
4	241	23.6		04.9	72	50.1	94		21.3	52	24	05	38	06	12	20	93	
5	256	23.8	+2	03.9	87	18.6	95	-9	04.0	50	4 28	5 07	5 39	18 04	15	4 24	90	
6	271	24.0	+2	02.9	101	47.1	95	-8	46.6	45	4 37	5 12	5 41	18 00	21	4 31	84	
7	286	24.2		02.0	116	15.6	95		29.2	40	44	16	43	17 56	26	38	78	
8	301	24.5	+2	01.0	130	44.2	96	-8	11.7	35	50	19	45	53	30	43	74	
9	316	24.7	+2	00.0	145	12.8	96	-7	54.2	30	4 54	22	46	51	33	48	70	
10	331	24.9	+1	59.1	159	41.4	96		36.5	20	5 00	26	48	46	40	4 57	63	
11	346	25.1	+1	58.1	174	10.1	97	-7	18.9	10 N	5 04	5 29	5 50	17 42	46	5 04	57	
12	1	25.4	+1	57.1	188	38.7	96	-7	01.2	0	5 06	5 30	5 51	17 38	51	5 10	52	
13	16	25.6		56.2	203	07.5	98	-6	43.4	10 S	07	31	52	34	57	17	46	
14	31	25.8		55.2	217	36.2	97		25.6	20	06	32	54	30	63	24	40	
15	46	26.0		54.2	232	04.9	97	-6	07.7	30	04	31	55	25	70	32	34	
16	61	26.3		53.3	246	33.7	98	-5	49.8	35	5 02	31	56	22	74	36	31	
17	76	26.5	+1	52.3	261	02.5	98	-5	31.9	40	4 59	5 30	5 57	17 19	78	5 41	26	
18	91	26.7	+1	51.3	275	31.3	98	-5	13.9	45	4 55	5 29	5 58	17 15	84	5 47	21	
19	106	26.9		50.4	290	00.2	99	-4	55.9	50	49	27	59	11	90	54	15	
20	121	27.2		49.4	304	29.0	98		37.8	52	47	26	5 59	09	93	5 57	13	
21	136	27.4		48.4	318	57.9	99		19.7	54	44	25	6 00	07	96	6 01	9	
22	151	27.6		47.5	333	26.8	99	-4	01.6	56	40	24	01	04	100	05	6	
23	166	27.8		46.5	347	55.7	99	-3	43.5	58	36	22	01	17 02	103	09	3	
24	181	28.1	+1	45.5	2	24.6	99	-3	25.3	60 S	4 32	5 21	6 02	16 59	108	6 13	**	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG 0 ^h 14.3 ^m		Mag: -3.9 PMG: 13 ^h 39 ^m			Mag: +0.6 PMG: 6 ^h 45 ^m			Mag: -2.4 PMG: 5 ^h 32 ^m			Mag: +0.6 PMG: 23 ^h 20 ^m		
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	356	25.2	155	24.6	-8	23.7	258	36.4	+23	27.7	276	40.5	+22	23.7
1	11	27.7	170	24.2		25.0	273	37.3		27.7	291	42.8		23.7
2	26	30.2	185	23.9		26.2	288	38.2		27.7	306	45.1		23.7
3	41	32.6	200	23.5		27.4	303	39.1		27.6	321	47.3		23.7
4	56	35.1	215	23.1		28.7	318	40.0		27.6	336	49.6		23.7
5	71	37.5	230	22.8	-8	29.9	333	40.9	+23	27.6	351	51.9	+22	23.7
6	86	40.0	245	22.4	-8	31.1	348	41.8	+23	27.6	6	54.2	+22	23.7
7	101	42.5	260	22.1		32.4	3	42.8		27.5	21	56.4		23.7
8	116	44.9	275	21.7		33.6	18	43.7		27.5	36	58.7		23.7
9	131	47.4	290	21.3		34.8	33	44.6		27.5	52	01.0		23.8
10	146	49.9	305	21.0		36.1	48	45.5		27.5	67	03.3		23.8
11	161	52.3	320	20.6	-8	37.3	63	46.4	+23	27.4	82	05.5	+22	23.8
12	176	54.8	335	20.3	-8	38.5	78	47.3	+23	27.4	97	07.8	+22	23.8
13	191	57.3	350	19.9		39.8	93	48.2		27.4	112	10.1		23.8
14	206	59.7	5	19.5		41.0	108	49.1		27.3	127	12.4		23.8
15	222	02.2	20	19.2		42.2	123	50.0		27.3	142	14.6		23.8
16	237	04.7	35	18.8		43.5	138	50.9		27.3	157	16.9		23.8
17	252	07.1	50	18.5	-8	44.7	153	51.9	+23	27.3	172	19.2	+22	23.8
18	267	09.6	65	18.1	-8	45.9	168	52.8	+23	27.2	187	21.5	+22	23.9
19	282	12.0	80	17.7		47.1	183	53.7		27.2	202	23.8		23.9
20	297	14.5	95	17.4		48.4	198	54.6		27.2	217	26.0		23.9
21	312	17.0	110	17.0		49.6	213	55.5		27.1	232	28.3		23.9
22	327	19.4	125	16.7		50.8	228	56.4		27.1	247	30.6		23.9
23	342	21.9	140	16.3		52.1	243	57.3		27.1	262	32.9		23.9
24	357	24.4	155	15.9	-8	53.3	258	58.3	+23	27.0	277	35.1	+22	23.9
Dif	—		-4	-12		+9	0		+23	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 54.0 ^m			Edad: 14.9 ^d SD: 16'7 PMG: **h **m							PHE { 4 ^h : 61'3 12 ^h : 61'4 20 ^h : 61'4 R°: **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	181	28.1	+1	45.5	2	24.6	100	-3	25.3	182	18 11	18 52	19 43	18 15	**	5 50	108		
1	196	28.3		44.6	16	53.6	99	-3	07.1	182	58	10	49	36	16	3	51 103		
2	211	28.5		43.6	31	22.5	99	-2	48.9	182	56	09	46	30	17	6	51 100		
3	226	28.7		42.6	45	51.5	100		30.7	182	54	08	43	25	18	9	52 96		
4	241	29.0		41.7	60	20.4	99	-2	12.4	183	52	07	41	21	18	13	53 93		
5	256	29.2	+1	40.7	74	49.4	100	-1	54.1	183	50	18 06	18 38	19 17	18 19	15	5 54 90		
6	271	29.4	+1	39.7	89	18.4	100	-1	35.9	182	45	18 04	18 34	19 08	18 21	21	5 55 84		
7	286	29.6		38.8	103	47.4	100	-1	17.6	183	40	03	30	19 02	22	26	56 79		
8	301	29.9		37.8	118	16.3	99	-0	59.3	183	35	02	27	18 57	23	30	57 74		
9	316	30.1		36.8	132	45.3	100		40.9	184	30	01	25	53	24	34	5 58 70		
10	331	30.3		35.9	147	14.3	100		22.6	183	20	18 00	22	47	26	41	6 00 63		
11	346	30.5	+1	34.9	161	43.3	100	-0	04.3	183	10 N	17 58	18 19	18 44	18 28	46	6 01 57		
12	1	30.7	+1	33.9	176	12.3	100	+0	14.0	183	0	17 57	18 18	18 42	18 29	52	6 02 52		
13	16	31.0		32.9	190	41.3	100		32.3	183	10 S	56	17	42	31	57	03 46		
14	31	31.2		32.0	205	10.3	100	+0	50.7	184	20	55	17	43	33	63	04 41		
15	46	31.4		31.0	219	39.3	100	+1	09.0	183	30	54	18	46	35	70	06 33		
16	61	31.6		30.0	234	08.3	100		27.3	183	35	54	19	48	36	74	07 29		
17	76	31.9	+1	29.1	248	37.2	99	+1	45.6	183	40	17 53	18 20	18 52	18 37	79	6 07 26		
18	91	32.1	+1	28.1	263	06.2	100	+2	03.9	183	45	17 53	18 22	18 56	18 39	84	6 08 21		
19	106	32.3		27.1	277	35.1	99		22.1	182	50	52	24	19 02	41	90	09 15		
20	121	32.5		26.2	292	04.1	100		40.4	183	52	52	25	05	42	93	10 12		
21	136	32.8		25.2	306	33.0	99	+2	58.6	182	54	51	27	08	43	96	10 10		
22	151	33.0		24.2	321	01.9	99	+3	16.8	182	56	51	28	12	44	100	11 6		
23	166	33.2		23.3	335	30.8	99		35.0	182	58	51	30	16	45	104	12 2		
24	181	33.4	+1	22.3	349	59.7	99	+3	53.2	182	60 S	17 50	18 32	19 21	18 47	109	6 12 **		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO				
	PMG 0 ^h 10.3 ^m			Mag: -3.9 PMG: 13 ^h 39 ^m			Mag: +0.6 PMG: 6 ^h 44 ^m			Mag: -2.4 PMG: 5 ^h 29 ^m			Mag: +0.6 PMG: 23 ^h 16 ^m				
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	357	24.4		155	15.9	-8	53.3	258	58.3	+23	27.0	277	35.1	+22	23.9		
1	12	26.8		170	15.6		54.5	273	59.2		27.0	292	37.4		23.9		
2	27	29.3		185	15.2		55.8	289	00.1		27.0	307	39.7		23.9		
3	42	31.8		200	14.8		57.0	304	01.0		27.0	322	42.0		24.0		
4	57	34.2		215	14.5		58.2	319	01.9		26.9	337	44.3		24.0		
5	72	36.7		230	14.1	-8	59.4	334	02.8	+23	26.9	352	46.6	+22	24.0		
6	87	39.1		245	13.7	-9	00.7	349	03.7	+23	26.9	7	48.8	+22	24.0		
7	102	41.6		260	13.4		01.9	4	04.7		26.8	22	51.1		24.0		
8	117	44.1		275	13.0		03.1	19	05.6		26.8	37	53.4		24.0		
9	132	46.5		290	12.6		04.3	34	06.5		26.8	52	55.7		24.0		
10	147	49.0		305	12.3		05.6	49	07.4		26.7	67	58.0		24.0		
11	162	51.5		320	11.9	-9	06.8	64	08.3	+23	26.7	83	00.2	+22	24.0		
12	177	53.9		335	11.5	-9	08.0	79	09.3	+23	26.7	98	02.5	+22	24.1		
13	192	56.4		350	11.2		09.2	94	10.2		26.6	113	04.8		24.1		
14	207	58.9		5	10.8		10.5	109	11.1		26.6	128	07.1		24.1		
15	223	01.3		20	10.4		11.7	124	12.0		26.6	143	09.4		24.1		
16	238	03.8		35	10.1		12.9	139	12.9		26.5	158	11.7		24.1		
17	253	06.3		50	09.7	-9	14.1	154	13.9	+23	26.5	173	14.0	+22	24.1		
18	268	08.7		65	09.3	-9	15.4	169	14.8	+23	26.5	188	16.2	+22	24.1		
19	283	11.2		80	09.0		16.6	184	15.7		26.4	203	18.5		24.1		
20	298	13.6		95	08.6		17.8	199	16.6		26.4	218	20.8		24.1		
21	313	16.1		110	08.2		19.0	214	17.5		26.4	233	23.1		24.1		
22	328	18.6		125	07.9		20.3	229	18.5		26.3	248	25.4		24.2		
23	343	21.0		140	07.5		21.5	244	19.4		26.3	263	27.7		24.2		
24	358	23.5		155	07.1	-9	22.7	259	20.3	+23	26.3	278	30.0	+22	24.2		
Dif	—			-4	-12			+9	0			+23	0			+26	-1

UT	SOL			☉ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 15'9 PMG:11 ^h 53.6 ^m			Edad: 15.9 ^d PHE { 4 ^h : 61'3 12 ^h : 61'2 20 ^h : 61'1 SD: 16'7 PMG: 0 ^h 41 ^m R°: 53 ^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	33.4	+1	22.3	349	59.7	99	+3	53.2	182	60 N	4 05	4 56	5 38	18 14	**	7 38	110	
1	196	33.7		21.3	4	28.6		+4	11.4	181	58	12	5 00	39	19	4	34	105	
2	211	33.9		20.4	18	57.5	99		29.5	181	56	18	03	40	23	8	31	101	
3	226	34.1		19.4	33	26.3	98	+4	47.6	181	54	23	05	41	27	12	28	97	
4	241	34.3		18.4	47	55.1	98	+5	05.6	180	52	28	08	42	31	15	26	93	
5	256	34.6	+1	17.4	62	23.9	98	+5	23.6	180	50	4 32	5 10	5 42	18 34	18	7 24	90	
6	271	34.8	+1	16.5	76	52.7	98	+5	41.6	180	45	4 40	5 14	5 44	18 42	23	7 19	84	
7	286	35.0		15.5	91	21.4	97	+5	59.6	180	40	46	18	45	48	29	15	78	
8	301	35.2		14.5	105	50.2	98	+6	17.5	179	35	51	21	46	53	33	11	74	
9	316	35.5		13.6	120	18.9	97		35.3	178	30	4 55	23	47	18 58	37	08	70	
10	331	35.7		12.6	134	47.5	96	+6	53.1	178	20	5 01	26	48	19 07	42	7 03	63	
11	346	35.9	+1	11.6	149	16.2	97	+7	10.9	178	10 N	5 04	5 28	5 49	19 14	48	6 58	58	
12	1	36.1	+1	10.7	163	44.8	96	+7	28.6	177	0	5 06	5 30	5 50	19 21	54	6 54	52	
13	16	36.3		09.7	178	13.4	96	+7	46.3	177	10 S	06	30	51	28	59	49	47	
14	31	36.6		08.7	192	41.9	95	+8	03.9	176	20	04	30	52	36	64	45	41	
15	46	36.8		07.7	207	10.5	96		21.5	176	30	5 01	29	53	45	71	39	35	
16	61	37.0		06.8	221	39.0	95		39.0	175	35	4 59	28	53	50	75	36	32	
17	76	37.2	+1	05.8	236	07.4	94	+8	56.4	174	40	4 55	5 27	5 54	19 56	79	6 33	27	
18	91	37.5	+1	04.8	250	35.8	94	+9	13.8	174	45	4 51	5 25	5 54	20 03	84	6 29	22	
19	106	37.7		03.9	265	04.2	94		31.1	173	50	45	22	55	11	91	24	17	
20	121	37.9		02.9	279	32.6	94	+9	48.4	173	52	42	21	55	15	94	22	14	
21	136	38.1		01.9	294	00.9	93	+10	05.5	171	54	38	20	55	19	98	20	10	
22	151	38.4	+1	01.0	308	29.2	93		22.7	172	56	35	18	55	24	102	17	7	
23	166	38.6	+1	00.0	322	57.4	92		39.7	170	58	30	17	56	29	107	14	4	
24	181	38.8	+0	59.0	337	25.6	92	+10	56.7	170	60 S	4 25	5 14	5 56	20 36	111	6 11	**	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 0 ^h 06.4 ^m		Mag: -3.9 PMG: 13 ^h 40 ^m		Mag: +0.6 PMG: 6 ^h 42 ^m		Mag: -2.5 PMG: 5 ^h 25 ^m		Mag: +0.6 PMG: 23 ^h 11 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	358	23.5	155	07.1	-9	22.7	259	20.3	+23	26.3	278	30.0	+22	24.2	11	09.2	-7	51.2
1	13	26.0	170	06.8		23.9	274	21.2		26.2	293	32.2		24.2	26	11.9		51.3
2	28	28.4	185	06.4		25.1	289	22.2		26.2	308	34.5		24.2	41	14.5		51.4
3	43	30.9	200	06.0		26.4	304	23.1		26.2	323	36.8		24.2	56	17.1		51.4
4	58	33.4	215	05.6		27.6	319	24.0		26.1	338	39.1		24.2	71	19.8		51.5
5	73	35.8	230	05.3	-9	28.8	334	24.9	+23	26.1	353	41.4	+22	24.2	86	22.4	-7	51.6
6	88	38.3	245	04.9	-9	30.0	349	25.9	+23	26.0	8	43.7	+22	24.2	101	25.0	-7	51.7
7	103	40.7	260	04.5		31.2	4	26.8		26.0	23	46.0		24.2	116	27.7		51.7
8	118	43.2	275	04.2		32.4	19	27.7		26.0	38	48.3		24.3	131	30.3		51.8
9	133	45.7	290	03.8		33.7	34	28.6		25.9	53	50.6		24.3	146	33.0		51.9
10	148	48.1	305	03.4		34.9	49	29.6		25.9	68	52.8		24.3	161	35.6		51.9
11	163	50.6	320	03.0	-9	36.1	64	30.5	+23	25.9	83	55.1	+22	24.3	176	38.2	-7	52.0
12	178	53.1	335	02.7	-9	37.3	79	31.4	+23	25.8	98	57.4	+22	24.3	191	40.9	-7	52.1
13	193	55.5	350	02.3		38.5	94	32.3		25.8	113	59.7		24.3	206	43.5		52.2
14	208	58.0	5	01.9		39.7	109	33.3		25.7	129	02.0		24.3	221	46.1		52.2
15	224	00.5	20	01.5		41.0	124	34.2		25.7	144	04.3		24.3	236	48.8		52.3
16	239	02.9	35	01.2		42.2	139	35.1		25.7	159	06.6		24.3	251	51.4		52.4
17	254	05.4	50	00.8	-9	43.4	154	36.0	+23	25.6	174	08.9	+22	24.3	266	54.0	-7	52.5
18	269	07.9	65	00.4	-9	44.6	169	37.0	+23	25.6	189	11.2	+22	24.4	281	56.7	-7	52.5
19	284	10.3	80	00.0		45.8	184	37.9		25.6	204	13.5		24.4	296	59.3		52.6
20	299	12.8	94	59.7		47.0	199	38.8		25.5	219	15.8		24.4	312	02.0		52.7
21	314	15.2	109	59.3		48.3	214	39.8		25.5	234	18.1		24.4	327	04.6		52.7
22	329	17.7	124	58.9		49.5	229	40.7		25.4	249	20.4		24.4	342	07.2		52.8
23	344	20.2	139	58.5		50.7	244	41.6		25.4	264	22.7		24.4	357	09.9		52.9
24	359	22.6	154	58.2	-9	51.9	259	42.6	+23	25.4	279	25.0	+22	24.4	12	12.5	-7	53.0
Dif	—		-4		-12		+9		0		+23		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 53.2 ^m			Edad: 16.9 ^d SD: 16'6 PMG: 1 ^h 34 ^m PHE { 4 ^h : 61'0 12 ^h : 60'8 20 ^h : 60'6 R°: 54 ^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	181	38.8	+0 59.0	337	25.6	+10 56.7		60 N	18 05	18 46	19 37	18 13	1	9 28	113		
1	196	39.0		351	53.7	+11 13.6	169	58	04	43	30	23	7	19	107		
2	211	39.2			6 21.8		91	56	03	40	25	31	12	12	102		
3	226	39.5			20 49.9	+11 47.1	167	54	03	38	20	39	16	9	05	98	
4	241	39.7			35 17.9	+12 03.8	167	52	02	36	16	46	19	8	59	95	
5	256	39.9	+0 54.2	49	45.9	+12 20.4	166	50	18 02	18 34	19 12	18 52	22	8	54	91	
6	271	40.1	+0 53.2	64	13.8	+12 36.9	165	45	18 01	18 30	19 04	19 05	29	8	43	84	
7	286	40.4			78 41.7	+12 53.3	164	40	18 00	27	18 58	17	33	33	80		
8	301	40.6			93 09.5	+13 09.6	163	35	17 59	24	54	26	37	25	75		
9	316	40.8			107 37.3		162	30	59	22	50	35	40	18	72		
10	331	41.0			122 05.0		161	20	58	20	45	19	49	8	06	65	
11	346	41.3	+0 48.3	136	32.7	+13 58.0	161	10 N	17 57	18 18	18 42	20 02	51	7	56	59	
12	1	41.5	+0 47.4	151	00.3	+14 13.9	159	0	17 56	18 17	18 41	20 15	55	7	46	55	
13	16	41.7			165 27.9		159	10 S	56	17	41	27	60	36	50		
14	31	41.9			179 55.4	+14 45.5	157	20	56	18	43	40	66	26	44		
15	46	42.1			194 22.9	+15 01.1	156	30	55	19	47	20	56	14	39		
16	61	42.4			208 50.3		156	35	55	21	50	21	05	74	08	34	
17	76	42.6	+0 42.5	223	17.7	+15 32.1	154	40	17 55	18 22	18 54	21 15	79	7	00	30	
18	91	42.8	+0 41.5	237	45.0	+15 47.4	153	45	17 55	18 24	18 59	21 27	84	6	51	26	
19	106	43.0			252 12.3	+16 02.7	153	50	55	27	19 05	42	91	41	19		
20	121	43.3			266 39.5		151	52	55	29	08	49	94	36	16		
21	136	43.5			281 06.6		150	54	55	30	12	21	57	98	30	13	
22	151	43.7			295 33.7	+16 47.6	148	56	55	32	16	22	06	102	24	10	
23	166	43.9			310 00.7	+17 02.4	148	58	55	34	21	16	108	18	5		
24	181	44.1	+0 35.7	324	27.7	+17 17.1	147	60 S	17 55	18 37	19 26	22 27	116	6	10	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 0 ^h 02.5 ^m		Mag: -3.9 PMG: 13 ^h 40 ^m		Mag: +0.6 PMG: 6 ^h 41 ^m		Mag: -2.5 PMG: 5 ^h 22 ^m		Mag: +0.6 PMG: 23 ^h 07 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	359	22.6	154	58.2	-9 51.9	259	42.6	+23 25.4	279	25.0	+22 24.4	12	12.5	-7 53.0		
1	14	25.1	169	57.8	53.1	274	43.5	25.3	294	27.3	24.4	27	15.1	53.0		
2	29	27.6	184	57.4	54.3	289	44.4	25.3	309	29.5	24.4	42	17.8	53.1		
3	44	30.0	199	57.0	55.5	304	45.4	25.2	324	31.8	24.4	57	20.4	53.2		
4	59	32.5	214	56.6	56.7	319	46.3	25.2	339	34.1	24.5	72	23.0	53.2		
5	74	35.0	229	56.3	-9 57.9	334	47.2	+23 25.1	354	36.4	+22 24.5	87	25.7	-7 53.3		
6	89	37.4	244	55.9	-9 59.2	349	48.2	+23 25.1	9	38.7	+22 24.5	102	28.3	-7 53.4		
7	104	39.9	259	55.5	-10 00.4	4	49.1	25.1	24	41.0	24.5	117	30.9	53.5		
8	119	42.4	274	55.1	01.6	19	50.0	25.0	39	43.3	24.5	132	33.6	53.5		
9	134	44.8	289	54.8	02.8	34	51.0	25.0	54	45.6	24.5	147	36.2	53.6		
10	149	47.3	304	54.4	04.0	49	51.9	24.9	69	47.9	24.5	162	38.8	53.7		
11	164	49.7	319	54.0	-10 05.2	64	52.8	+23 24.9	84	50.2	+22 24.5	177	41.5	-7 53.7		
12	179	52.2	334	53.6	-10 06.4	79	53.8	+23 24.9	99	52.5	+22 24.5	192	44.1	-7 53.8		
13	194	54.7	349	53.2	07.6	94	54.7	24.8	114	54.8	24.5	207	46.8	53.9		
14	209	57.1	4	52.8	08.8	109	55.6	24.8	129	57.1	24.5	222	49.4	54.0		
15	224	59.6	19	52.5	10.0	124	56.6	24.7	144	59.4	24.6	237	52.0	54.0		
16	240	02.1	34	52.1	11.2	139	57.5	24.7	160	01.7	24.6	252	54.7	54.1		
17	255	04.5	49	51.7	-10 12.4	154	58.5	+23 24.6	175	04.0	+22 24.6	267	57.3	-7 54.2		
18	270	07.0	64	51.3	-10 13.6	169	59.4	+23 24.6	190	06.3	+22 24.6	282	59.9	-7 54.2		
19	285	09.5	79	50.9	14.9	185	00.3	24.5	205	08.6	24.6	298	02.6	54.3		
20	300	11.9	94	50.6	16.1	200	01.3	24.5	220	10.9	24.6	313	05.2	54.4		
21	315	14.4	109	50.2	17.3	215	02.2	24.5	235	13.2	24.6	328	07.8	54.5		
22	330	16.8	124	49.8	18.5	230	03.1	24.4	250	15.5	24.6	343	10.5	54.5		
23	345	19.3	139	49.4	19.7	245	04.1	24.4	265	17.8	24.6	358	13.1	54.6		
24	0	21.8	154	49.0	-10 20.9	260	05.0	+23 24.3	280	20.2	+22 24.6	13	15.7	-7 54.7		
Dif	—		-4		-12	+9		0	+23		0	+26		-1		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 15'9 PMG:11 ^h 52.9 ^m			Edad: 17.9 ^d PHE { 4 ^h : 60'3 12 ^h : 60'1 20 ^h : 59'8 Rº: 56 ^m SD: 16'5 PMG: 2 ^h 28 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	Rº	Hora	Rº						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m					
0	181	44.1	+0	35.7	324	27.7	79	+17	17.1	60 N	4	11	5	01	5	43	18	14	4	11	21	116
1	196	44.4		34.7	338	54.6			31.6	58	17	04	43		30	12	11	06	108			
2	211	44.6		33.8	353	21.5	79	+17	46.0	56	22	07	44		43	18	10	54	101			
3	226	44.8		32.8	7	48.3	78	+18	00.3	54	27	09	45		18	55	22	43	97			
4	241	45.0		31.8	22	15.0	77		14.4	52	31	11	45		19	05	26	34	92			
5	256	45.3	+0	30.9	36	41.7	77	+18	28.5	50	4	35	5	13	5	45	19	14	29	10	25	89
6	271	45.5	+0	29.9	51	08.4	77	+18	42.4	45	4	42	5	17	5	46	19	34	35	10	07	83
7	286	45.7		28.9	65	34.9	75	+18	56.2	40	48	20	47		19	50	39	9	53	78		
8	301	45.9		27.9	80	01.4	75	+19	09.8	35	53	22	47		20	03	43	40	75			
9	316	46.1		27.0	94	27.9	75		23.3	30	4	56	24		48	15	46	30	71			
10	331	46.4		26.0	108	54.3	74		36.7	20	5	01	27		49	36	50	9	11	66		
11	346	46.6	+0	25.0	123	20.6	73	+19	50.0	10 N	5	04	5	28	5	49	20	53	55	8	55	62
12	1	46.8	+0	24.1	137	46.9	73	+20	03.1	0	5	05	5	29	5	50	21	10	58	8	41	57
13	16	47.0		23.1	152	13.1	72		16.1	10 S	05	29	50		27	62	26	53				
14	31	47.3		22.1	166	39.3	72		28.9	20	5	03	28	50	21	46	65	8	10	49		
15	46	47.5		21.1	181	05.4	71		41.6	30	4	59	26	50	22	07	70	7	53	43		
16	61	47.7		20.2	195	31.4	70	+20	54.1	35	56	25	50		19	73	42	40				
17	76	47.9	+0	19.2	209	57.4	70	+21	06.6	40	4	52	5	23	5	50	22	34	76	7	30	36
18	91	48.1	+0	18.2	224	23.4	70	+21	18.8	45	4	47	5	21	5	50	22	51	81	7	17	31
19	106	48.4		17.2	238	49.2	68		30.9	50	40	18	50		23	13	86	7	00	25		
20	121	48.6		16.3	253	15.0	68		42.9	52	37	17	50		23	90	6	52	22			
21	136	48.8		15.3	267	40.8	68	+21	54.7	54	33	15	50		35	93	43	19				
22	151	49.0		14.3	282	06.5	67	+22	06.4	56	29	13	50		23	48	99	34	14			
23	166	49.2		13.4	296	32.2	67		17.9	58	24	11	50		**	**	**	23	8			
24	181	49.5	+0	12.4	310	57.8	66	+22	29.3	60 S	4	19	5	08	5	50	**	**	**	6	10	2
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO										
	PMG: 23 ^h 54.6 ^m		Mag: -3.9 PMG: 13 ^h 41 ^m			Mag: +0.6 PMG: 6 ^h 39 ^m			Mag: -2.5 PMG: 5 ^h 18 ^m			Mag: +0.6 PMG: 23 ^h 03 ^m										
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	0	21.8	154	49.0	-10	20.9	260	05.0	+23	24.3	280	20.2	+22	24.6	13	15.7	-7	54.7				
1	15	24.2	169	48.6		22.1	275	06.0		24.3	295	22.5		24.6	28	18.4		54.7				
2	30	26.7	184	48.2		23.3	290	06.9		24.2	310	24.8		24.7	43	21.0		54.8				
3	45	29.2	199	47.9		24.5	305	07.9		24.2	325	27.1		24.7	58	23.6		54.9				
4	60	31.6	214	47.5		25.7	320	08.8		24.1	340	29.4		24.7	73	26.3		54.9				
5	75	34.1	229	47.1	-10	26.9	335	09.7	+23	24.1	355	31.7	+22	24.7	88	28.9	-7	55.0				
6	90	36.6	244	46.7	-10	28.1	350	10.7	+23	24.0	10	34.0	+22	24.7	103	31.5	-7	55.1				
7	105	39.0	259	46.3		29.3	5	11.6		24.0	25	36.3		24.7	118	34.2		55.2				
8	120	41.5	274	45.9		30.5	20	12.6		24.0	40	38.6		24.7	133	36.8		55.2				
9	135	44.0	289	45.5		31.7	35	13.5		23.9	55	40.9		24.7	148	39.4		55.3				
10	150	46.4	304	45.2		32.9	50	14.5		23.9	70	43.2		24.7	163	42.1		55.4				
11	165	48.9	319	44.8	-10	34.1	65	15.4	+23	23.8	85	45.5	+22	24.7	178	44.7	-7	55.4				
12	180	51.3	334	44.4	-10	35.3	80	16.3	+23	23.8	100	47.8	+22	24.7	193	47.3	-7	55.5				
13	195	53.8	349	44.0		36.5	95	17.3		23.7	115	50.1		24.8	208	50.0		55.6				
14	210	56.3	4	43.6		37.7	110	18.2		23.7	130	52.4		24.8	223	52.6		55.7				
15	225	58.7	19	43.2		38.9	125	19.2		23.6	145	54.8		24.8	238	55.3		55.7				
16	241	01.2	34	42.8		40.1	140	20.1		23.6	160	57.1		24.8	253	57.9		55.8				
17	256	03.7	49	42.4	-10	41.3	155	21.1	+23	23.5	175	59.4	+22	24.8	269	00.5	-7	55.9				
18	271	06.1	64	42.0	-10	42.5	170	22.0	+23	23.5	191	01.7	+22	24.8	284	03.2	-7	55.9				
19	286	08.6	79	41.7		43.7	185	23.0		23.4	206	04.0		24.8	299	05.8		56.0				
20	301	11.1	94	41.3		44.9	200	23.9		23.4	221	06.3		24.8	314	08.4		56.1				
21	316	13.5	109	40.9		46.1	215	24.9		23.3	236	08.6		24.8	329	11.1		56.1				
22	331	16.0	124	40.5		47.3	230	25.8		23.3	251	10.9		24.8	344	13.7		56.2				
23	346	18.5	139	40.1		48.4	245	26.8		23.2	266	13.2		24.8	359	16.3		56.3				
24	1	20.9	154	39.7	-10	49.6	260	27.7	+23	23.2	281	15.5	+22	24.8	14	19.0	-7	56.4				
Dif	—		-4			-12	+9			0	+23			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 52.5 ^m				Edad: 18.9 ^d SD: 16'3 PMG: 3 ^h 24 ^m PHE { 4 ^h : 59'5 12 ^h : 59'2 20 ^h : 58'9 Rº: 59 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	49.5	+0	12.4	310	57.8			+22	29.3	112	60 N	17 59	18 40	19 30	18 18	14	13 17	110
1	196	49.7		11.4	325	23.3				40.5	111	58	58	37	24	18 42	24	12 54	99
2	211	49.9		10.4	339	48.8			+22	51.6	109	56	58	35	19	19 01	31	35	93
3	226	50.1		09.5	354	14.2			+23	02.5	107	54	58	33	15	17 35		20	88
4	241	50.3		08.5	8	39.6				13.2	106	52	57	31	11	31 38		12	06
5	256	50.6	+0	07.5	23	04.9			+23	23.8	104	50	17 57	18 29	19 07	19 43	41	11 54	82
6	271	50.8	+0	06.6	37	30.2			+23	34.2	103	45	17 57	18 26	19 00	20 09	45	11 30	77
7	286	51.0		05.6	51	55.4				44.5	101	40	57	23	18 55	29 48		11 11	73
8	301	51.2		04.6	66	20.6			+23	54.6	99	35	56	22	51	20 46	50	10 55	70
9	316	51.5		03.6	80	45.8			+24	04.5	98	30	56	20	48	21 01	52	41	68
10	331	51.7		02.7	95	10.8				14.3	96	20	56	18	43	26 55		10	17
11	346	51.9	+0	01.7	109	35.9			+24	23.9	94	10 N	17 56	18 17	18 41	21 48	57	9 57	62
12	1	52.1	+0	00.7	124	00.9			+24	33.3	93	0	17 56	18 16	18 40	22 08	60	9 38	59
13	16	52.3	-0	00.3	138	25.8				42.6	91	10 S	56	17	41	29 61		9 19	56
14	31	52.6		01.2	152	50.7			+24	51.7	90	20	56	18	44	22 51	64	8 59	53
15	46	52.8		02.2	167	15.6			+25	00.7	87	30	56	20	48	23 17	66	36	49
16	61	53.0		03.2	181	40.4				09.4	86	35	57	22	52	32 68		22	47
17	76	53.2	-0	04.1	196	05.2			+25	18.0	85	40	17 57	18 24	18 56	23 50	70	8 06	44
18	91	53.4	-0	05.1	210	30.0			+25	26.5	82	45	17 57	18 27	19 01	** ** *		7 48	40
19	106	53.7		06.1	224	54.7				34.7	81	50	58	30	08	** ** *		25	35
20	121	53.9		07.1	239	19.4				42.8	79	52	58	32	12	** ** *		14	32
21	136	54.1		08.0	253	44.0				50.7	78	54	59	34	16	** ** *		7 02	28
22	151	54.3		09.0	268	08.6			+25	58.5	75	56	59	36	20	** ** *		6 48	23
23	166	54.5		10.0	282	33.2			+26	06.0	74	58	17 59	39	26	0 04	105	31	17
24	181	54.8	-0	11.0	296	57.7			+26	13.4	74	60 S	18 00	18 41	19 32	0 23	116	6 12	6
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 23 ^h 50.7 ^m			Mag: -3.9 PMG: 13 ^h 42 ^m			Mag: +0.6 PMG: 6 ^h 38 ^m			Mag: -2.5 PMG: 5 ^h 14 ^m			Mag: +0.6 PMG: 22 ^h 59 ^m						
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	1	20.9		154	39.7	-10	49.6		260	27.7	+23	23.2	281	15.5	+22	24.8			
1	16	23.4		169	39.3		50.8		275	28.7		23.1	296	17.9		24.9			
2	31	25.8		184	38.9		52.0		290	29.6		23.1	311	20.2		24.9			
3	46	28.3		199	38.5		53.2		305	30.6		23.0	326	22.5		24.9			
4	61	30.8		214	38.1		54.4		320	31.5		23.0	341	24.8		24.9			
5	76	33.2		229	37.7	-10	55.6		335	32.5	+23	22.9	356	27.1	+22	24.9			
6	91	35.7		244	37.3	-10	56.8		350	33.4	+23	22.9	11	29.4	+22	24.9			
7	106	38.2		259	36.9		58.0		5	34.4		22.8	26	31.7		24.9			
8	121	40.6		274	36.5	-10	59.2		20	35.3		22.8	41	34.1		24.9			
9	136	43.1		289	36.1	-11	00.4		35	36.3		22.7	56	36.4		24.9			
10	151	45.6		304	35.8		01.6		50	37.2		22.7	71	38.7		24.9			
11	166	48.0		319	35.4	-11	02.7		65	38.2	+23	22.6	86	41.0	+22	24.9			
12	181	50.5		334	35.0	-11	03.9		80	39.1	+23	22.6	101	43.3	+22	24.9			
13	196	52.9		349	34.6		05.1		95	40.1		22.5	116	45.6		25.0			
14	211	55.4		4	34.2		06.3		110	41.0		22.5	131	47.9		25.0			
15	226	57.9		19	33.8		07.5		125	42.0		22.4	146	50.3		25.0			
16	242	00.3		34	33.4		08.7		140	42.9		22.4	161	52.6		25.0			
17	257	02.8		49	33.0	-11	09.9		155	43.9	+23	22.3	176	54.9	+22	25.0			
18	272	05.3		64	32.6	-11	11.1		170	44.9	+23	22.3	191	57.2	+22	25.0			
19	287	07.7		79	32.2		12.2		185	45.8		22.2	206	59.5		25.0			
20	302	10.2		94	31.8		13.4		200	46.8		22.1	222	01.9		25.0			
21	317	12.7		109	31.4		14.6		215	47.7		22.1	237	04.2		25.0			
22	332	15.1		124	31.0		15.8		230	48.7		22.0	252	06.5		25.0			
23	347	17.6		139	30.6		17.0		245	49.6		22.0	267	08.8		25.0			
24	2	20.1		154	30.2	-11	18.2		260	50.6	+23	21.9	282	11.1	+22	25.0			
Dif	—			-4			-12		+10			-1	+23			0	+26		-1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 52.2 ^m			Edad: 19.9 ^d PHE { 4 ^h : 58'6 12 ^h : 58'3 20 ^h : 58'0 R°: 59 ^m SD: 16'0 PMG: 4 ^h 23 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'		°	h	m	h	m	h	m	h	m		
0	181	54.8	−0	11.0	296	57.7	55	+26	13.4	72	60 N	4 16	5 06	5 48	18 32	40	15 07	84
1	196	55.0		11.9	311	22.2			20.6		58	22	09	48	19 06	48	14 33	76
2	211	55.2		12.9	325	46.7	55		27.7	71	56	27	11	48	32	50	14 08	73
3	226	55.4		13.9	340	11.2	55		34.5	68	54	31	13	48	19 52	52	13 48	71
4	241	55.6		14.8	354	35.6	54		41.2	67	52	35	15	48	20 09	53	31	70
5	256	55.8	−0	15.8	9	00.1	55	+26	47.7	65	50	4 38	5 16	5 48	20 24	54	13 16	69
6	271	56.1	−0	16.8	23	24.5	54	+26	54.1	64	45	4 45	5 19	5 49	20 54	55	12 47	67
7	286	56.3		17.8	37	48.8	53	+27	00.2	61	40	50	22	49	21 17	56	24	66
8	301	56.5		18.7	52	13.2	54		06.2	60	35	54	24	49	36	57	12 05	65
9	316	56.7		19.7	66	37.5	53		12.0	58	30	4 57	25	49	21 53	57	11 49	64
10	331	56.9		20.7	81	01.9	54		17.6	56	20	5 02	27	49	22 21	58	11 22	62
11	346	57.2	−0	21.7	95	26.2	53	+27	23.0	54	10 N	5 04	5 28	5 49	22 45	59	10 59	60
12	1	57.4	−0	22.6	109	50.5	53	+27	28.3	53	0	5 04	5 28	5 49	23 08	58	10 37	59
13	16	57.6		23.6	124	14.8	53		33.3	50	10 S	03	28	49	30	59	10 15	58
14	31	57.8		24.6	138	39.1	53		38.2	49	20	5 01	26	48	23 55	59	9 52	56
15	46	58.0		25.6	153	03.4	53		42.9	47	30	4 56	24	48	** ** *	**	25	54
16	61	58.3		26.5	167	27.7	53		47.5	46	35	53	22	47	** ** *	**	9 09	53
17	76	58.5	−0	27.5	181	52.0	53	+27	51.8	43	40	4 48	5 20	5 47	** ** *	**	8 50	52
18	91	58.7	−0	28.5	196	16.3	53	+27	56.0	42	45	4 43	5 17	5 46	0 12	72	8 28	50
19	106	58.9		29.4	210	40.5	52	+28	00.0	40	50	35	14	46	39	76	8 00	47
20	121	59.1		30.4	225	04.8	53	+28	03.8	38	52	32	12	45	0 53	78	7 46	45
21	136	59.3		31.4	239	29.1	53		07.4	36	54	28	10	45	1 08	81	30	43
22	151	59.6		32.4	253	53.5	54		10.9	35	56	23	08	45	27	84	7 11	39
23	166	59.8		33.3	268	17.8	53		14.1	32	58	18	05	44	1 49	91	6 48	34
24	182	00.0	−0	34.3	282	42.1	53	+28	17.2	31	60 S	4 12	5 02	5 44	2 19	103	6 18	21
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 23 ^h 46.8 ^m		Mag: −3.9 PMG: 13 ^h 42 ^m				Mag: +0.6 PMG: 6 ^h 36 ^m				Mag: −2.5 PMG: 5 ^h 10 ^m				Mag: +0.6 PMG: 22 ^h 55 ^m			
	hG ♈		hG ♊	Dec		hG ♊	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	2	20.1	154	30.2	−11	18.2	260	50.6	+23	21.9	282	11.1	+22	25.0	15	22.1	−7	58.0
1	17	22.5	169	29.8		19.4	275	51.6		21.9	297	13.5		25.1	30	24.8		58.1
2	32	25.0	184	29.4		20.5	290	52.5		21.8	312	15.8		25.1	45	27.4		58.2
3	47	27.4	199	29.0		21.7	305	53.5		21.8	327	18.1		25.1	60	30.0		58.2
4	62	29.9	214	28.6		22.9	320	54.4		21.7	342	20.4		25.1	75	32.7		58.3
5	77	32.4	229	28.2	−11	24.1	335	55.4	+23	21.7	357	22.7	+22	25.1	90	35.3	−7	58.4
6	92	34.8	244	27.8	−11	25.3	350	56.4	+23	21.6	12	25.1	+22	25.1	105	37.9	−7	58.4
7	107	37.3	259	27.4		26.4	5	57.3		21.5	27	27.4		25.1	120	40.6		58.5
8	122	39.8	274	27.0		27.6	20	58.3		21.5	42	29.7		25.1	135	43.2		58.6
9	137	42.2	289	26.6		28.8	35	59.2		21.4	57	32.0		25.1	150	45.8		58.7
10	152	44.7	304	26.1		30.0	51	00.2		21.4	72	34.4		25.1	165	48.5		58.7
11	167	47.2	319	25.7	−11	31.2	66	01.2	+23	21.3	87	36.7	+22	25.1	180	51.1	−7	58.8
12	182	49.6	334	25.3	−11	32.3	81	02.1	+23	21.3	102	39.0	+22	25.1	195	53.7	−7	58.9
13	197	52.1	349	24.9		33.5	96	03.1		21.2	117	41.3		25.1	210	56.4		58.9
14	212	54.6	4	24.5		34.7	111	04.1		21.1	132	43.7		25.2	225	59.0		59.0
15	227	57.0	19	24.1		35.9	126	05.0		21.1	147	46.0		25.2	241	01.6		59.1
16	242	59.5	34	23.7		37.1	141	06.0		21.0	162	48.3		25.2	256	04.3		59.1
17	258	01.9	49	23.3	−11	38.2	156	07.0	+23	21.0	177	50.6	+22	25.2	271	06.9	−7	59.2
18	273	04.4	64	22.9	−11	39.4	171	07.9	+23	20.9	192	53.0	+22	25.2	286	09.5	−7	59.3
19	288	06.9	79	22.5		40.6	186	08.9		20.9	207	55.3		25.2	301	12.1		59.3
20	303	09.3	94	22.1		41.8	201	09.8		20.8	222	57.6		25.2	316	14.8		59.4
21	318	11.8	109	21.7		42.9	216	10.8		20.7	237	59.9		25.2	331	17.4		59.5
22	333	14.3	124	21.3		44.1	231	11.8		20.7	253	02.3		25.2	346	20.0		59.6
23	348	16.7	139	20.9		45.3	246	12.8		20.6	268	04.6		25.2	1	22.7		59.6
24	3	19.2	154	20.5	−11	46.5	261	13.7	+23	20.6	283	06.9	+22	25.2	16	25.3	−7	59.7
Dif	—		−4	−12			+10	−1			+23		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 51.8 ^m			Edad: 20.9 ^d SD: 15'8 PMG: 5 ^h 22 ^m								PHE { 4 ^h : 57'7 12 ^h : 57'4 20 ^h : 57'2 Rº: 58 ^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	00.0	-0	34.3	282	42.1	54	+28	17.2	29	60 N	17 52	18 34	19 23	19 12	82		16 31	37					
1	197	00.2		35.3	297	06.5	53		20.1	27	58	53	32	18	19 54	74		15 49	45					
2	212	00.4		36.3	311	30.8	54		22.8	26	56	53	30	13	20 22	71		15 21	47					
3	227	00.7		37.2	325	55.2	54		25.4	23	54	53	28	09	20 44	69		14 59	49					
4	242	00.9		38.2	340	19.6	54		27.7	22	52	53	26	06	21 02	68		41	50					
5	257	01.1	-0	39.2	354	44.0	54	+28	29.9	23	50	17 53	18 25	19 03	21 18	66		14 25	52					
6	272	01.3	-0	40.2	9	08.5	55	+28	31.9	20	45	17 53	18 22	18 56	21 49	64		13 54	53					
7	287	01.5		41.1	23	32.9	54		33.8	19	40	53	20	52	22 13	63		30	54					
8	302	01.7		42.1	37	57.4	55		35.4	16	35	53	19	48	33	62		13 10	55					
9	317	02.0		43.1	52	22.0	55		36.9	15	30	54	17	45	22 50	61		12 53	55					
10	332	02.2		44.1	66	46.5	55		38.2	13	20	54	16	42	23 19	59		12 24	56					
11	347	02.4	-0	45.0	81	11.1	56	+28	39.3	11	10 N	17 55	18 15	18 40	23 44	57		11 59	57					
12	2	02.6	-0	46.0	95	35.8	57	+28	40.2	9	0	17 55	18 16	18 40	**	**	**	11 36	58					
13	17	02.8		47.0	110	00.4	56		41.0	8	10 S	56	17	41	**	**	**	11 13	58					
14	32	03.0		47.9	124	25.2	58		41.6	6	20	57	19	44	**	**	**	10 48	59					
15	47	03.3		48.9	138	49.9	57		42.0	4	30	58	21	49	0	23	60	19	60					
16	62	03.5		49.9	153	14.7	58		42.2	2	35	58	24	53	0	40	60	10	02	60				
17	77	03.7	-0	50.9	167	39.5	58	+28	42.3	1	40	17 59	18 26	18 58	1	00	60	9	42	60				
18	92	03.9	-0	51.8	182	04.4	59	+28	42.2	1	45	18 00	18 29	19 04	1	24	60	9	18	60				
19	107	04.1		52.8	196	29.4	60		41.9	3	50	01	33	12	1	55	60	8	47	60				
20	122	04.3		53.8	210	54.3	59		41.4	5	52	02	35	16	2	11	60	31	61					
21	137	04.6		54.8	225	19.4	61		40.8	6	54	02	38	20	29	60	8	13	61					
22	152	04.8		55.7	239	44.5	61		40.0	8	56	03	40	25	2	51	60	7	50	62				
23	167	05.0		56.7	254	09.6	61		39.1	9	58	04	43	30	3	20	59	7	22	62				
24	182	05.2	-0	57.7	268	34.8	62	+28	37.9	12	60 S	18 04	18 46	19 37	4	02	59	6	39	64				
UT	ARIES PMG 23 ^h 42.8 ^m			VENUS Mag: -3.9 PMG: 13 ^h 43 ^m			MARTE Mag: +0.6 PMG: 6 ^h 35 ^m			JÚPITER Mag: -2.5 PMG: 5 ^h 07 ^m			SATURNO Mag: +0.6 PMG: 22 ^h 50 ^m											
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec									
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	'								
0	3	19.2	154	20.5	-11	46.5	261	13.7	+23	20.6	283	06.9	+22	25.2	16	25.3	-7	59.7						
1	18	21.7	169	20.0		47.6	276	14.7		20.5	298	09.3		25.2	31	27.9		59.8						
2	33	24.1	184	19.6		48.8	291	15.7		20.4	313	11.6		25.2	46	30.6		59.8						
3	48	26.6	199	19.2		50.0	306	16.6		20.4	328	13.9		25.2	61	33.2	-7	59.9						
4	63	29.1	214	18.8		51.1	321	17.6		20.3	343	16.2		25.3	76	35.8	-8	00.0						
5	78	31.5	229	18.4	-11	52.3	336	18.6	+23	20.3	358	18.6	+22	25.3	91	38.5	-8	00.0						
6	93	34.0	244	18.0	-11	53.5	351	19.5	+23	20.2	13	20.9	+22	25.3	106	41.1	-8	00.1						
7	108	36.4	259	17.6		54.7	6	20.5		20.1	28	23.2		25.3	121	43.7		00.2						
8	123	38.9	274	17.2		55.8	21	21.5		20.1	43	25.6		25.3	136	46.3		00.2						
9	138	41.4	289	16.8		57.0	36	22.4		20.0	58	27.9		25.3	151	49.0		00.3						
10	153	43.8	304	16.3		58.2	51	23.4		20.0	73	30.2		25.3	166	51.6		00.4						
11	168	46.3	319	15.9	-11	59.3	66	24.4	+23	19.9	88	32.6	+22	25.3	181	54.2	-8	00.4						
12	183	48.8	334	15.5	-12	00.5	81	25.4	+23	19.8	103	34.9	+22	25.3	196	56.9	-8	00.5						
13	198	51.2	349	15.1		01.7	96	26.3		19.8	118	37.2		25.3	211	59.5		00.6						
14	213	53.7	4	14.7		02.8	111	27.3		19.7	133	39.6		25.3	227	02.1		00.6						
15	228	56.2	19	14.3		04.0	126	28.3		19.7	148	41.9		25.3	242	04.8		00.7						
16	243	58.6	34	13.9		05.2	141	29.3		19.6	163	44.2		25.3	257	07.4		00.8						
17	259	01.1	49	13.4	-12	06.3	156	30.2	+23	19.5	178	46.6	+22	25.3	272	10.0	-8	00.9						
18	274	03.5	64	13.0	-12	07.5	171	31.2	+23	19.5	193	48.9	+22	25.4	287	12.7	-8	00.9						
19	289	06.0	79	12.6		08.7	186	32.2		19.4	208	51.2		25.4	302	15.3		01.0						
20	304	08.5	94	12.2		09.8	201	33.2		19.3	223	53.6		25.4	317	17.9		01.1						
21	319	10.9	109	11.8		11.0	216	34.1		19.3	238	55.9		25.4	332	20.5		01.1						
22	334	13.4	124	11.4		12.2	231	35.1		19.2	253	58.3		25.4	347	23.2		01.2						
23	349	15.9	139	10.9		13.3	246	36.1		19.2	269	00.6		25.4	2	25.8		01.3						
24	4	18.3	154	10.5	-12	14.5	261	37.1	+23	19.1	284	02.9	+22	25.4	17	28.4	-8	01.3						
Dif	—			-4			+10			-1			+23			0			+26			-1		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15°9 PMG:11 ^h 51.5 ^m				Edad: 21.9 ^d PHE { 4 ^h : 56°9 12 ^h : 56°6 20 ^h : 56°4 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	182	05.2	-0	57.7	268	34.8	+28	37.9	13	60 N	4	21	5	11	5	52	20	34	100	17	08	12
1	197	05.4		58.7	283	00.1		36.6	14	58	26	13	52	21	08	89	16	34	22			
2	212	05.6	-0	59.6	297	25.4		35.2	15	56	31	15	52		33	83	16	08	28			
3	227	05.9	-1	00.6	311	50.8		33.5	17	54	35	16	52	21	53	79	15	48	32			
4	242	06.1		01.6	326	16.3		31.7	18	52	38	18	52	22	10	75		31	35			
5	257	06.3	-1	02.5	340	41.8	+28	29.8	19	50	4	41	5	19	5	51	22	24	73	15	17	37
6	272	06.5	-1	03.5	355	07.4	+28	27.6	22	45	4	48	5	22	5	51	22	53	69	14	47	41
7	287	06.7		04.5	9	33.0		25.3	23	40	52	24	51	23	16	65		24	44			
8	302	06.9		05.5	23	58.7		22.9	24	35	56	25	50		35	63	14	05	46			
9	317	07.2		06.4	38	24.5		20.3	26	30	4	58	26	50	23	51	61	13	48	48		
10	332	07.4		07.4	52	50.4		17.5	28	20	5	02	28	50	**	**	**	13	20	51		
11	347	07.6	-1	08.4	67	16.3	+28	14.5	30	10 N	5	04	5	28	5	49	**	**	**	12	56	53
12	2	07.8	-1	09.4	81	42.3	+28	11.5	30	0	5	04	5	28	5	48	0	06	57	12	34	54
13	17	08.0		10.3	96	08.4		08.2	33	10 S	5	02	26	47		29	55	12	11	57		
14	32	08.2		11.3	110	34.6		04.8	34	20	4	59	24	46	0	54	54	11	47	59		
15	47	08.4		12.3	125	00.8	+28	01.2	36	30	54	21	45	1	23	51		19	61			
16	62	08.7		13.3	139	27.2	+27	57.5	37	35	50	19	45	1	40	50	11	02	63			
17	77	08.9	-1	14.2	153	53.6	+27	53.7	38	40	4	45	5	17	5	44	2	00	49	10	42	65
18	92	09.1	-1	15.2	168	20.1	+27	49.6	41	45	4	39	5	13	5	43	2	24	47	10	18	68
19	107	09.3		16.2	182	46.7		45.5	41	50	31	09	41	2	55	44	9	47	71			
20	122	09.5		17.2	197	13.3		41.1	44	52	27	07	41	3	11	42		32	73			
21	137	09.7		18.1	211	40.1		36.7	44	54	23	05	40		29	39	9	14	75			
22	152	09.9		19.1	226	06.9		32.1	46	56	18	5	02	39	3	51	36	8	52	79		
23	167	10.2		20.1	240	33.8		27.3	48	58	12	4	59	39	4	19	31	8	24	85		
24	182	10.4	-1	21.0	255	00.8	+27	22.4	49	60 S	4	05	4	56	5	38	5	01	19	7	43	96
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 23 ^h 38.9 ^m		Mag: -3.9 PMG: 13 ^h 44 ^m				Mag: +0.5 PMG: 6 ^h 33 ^m				Mag: -2.5 PMG: 5 ^h 03 ^m				Mag: +0.6 PMG: 22 ^h 46 ^m							
	hG ☿	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	4	18.3	154	10.5	-12	14.5	261	37.1	+23	19.1	284	02.9	+22	25.4	17	28.4	-8	01.3				
1	19	20.8	169	10.1		15.6	276	38.0		19.0	299	05.3		25.4	32	31.1		01.4				
2	34	23.3	184	09.7		16.8	291	39.0		19.0	314	07.6		25.4	47	33.7		01.5				
3	49	25.7	199	09.3		18.0	306	40.0		18.9	329	09.9		25.4	62	36.3		01.5				
4	64	28.2	214	08.8		19.1	321	41.0		18.8	344	12.3		25.4	77	38.9		01.6				
5	79	30.7	229	08.4	-12	20.3	336	42.0	+23	18.8	359	14.6	+22	25.4	92	41.6	-8	01.7				
6	94	33.1	244	08.0	-12	21.4	351	42.9	+23	18.7	14	17.0	+22	25.4	107	44.2	-8	01.7				
7	109	35.6	259	07.6		22.6	6	43.9		18.6	29	19.3		25.4	122	46.8		01.8				
8	124	38.0	274	07.2		23.8	21	44.9		18.6	44	21.6		25.4	137	49.5		01.9				
9	139	40.5	289	06.7		24.9	36	45.9		18.5	59	24.0		25.5	152	52.1		01.9				
10	154	43.0	304	06.3		26.1	51	46.9		18.4	74	26.3		25.5	167	54.7		02.0				
11	169	45.4	319	05.9	-12	27.2	66	47.8	+23	18.4	89	28.7	+22	25.5	182	57.4	-8	02.1				
12	184	47.9	334	05.5	-12	28.4	81	48.8	+23	18.3	104	31.0	+22	25.5	198	00.0	-8	02.1				
13	199	50.4	349	05.0		29.5	96	49.8		18.3	119	33.3		25.5	213	02.6		02.2				
14	214	52.8	4	04.6		30.7	111	50.8		18.2	134	35.7		25.5	228	05.2		02.3				
15	229	55.3	19	04.2		31.9	126	51.8		18.1	149	38.0		25.5	243	07.9		02.3				
16	244	57.8	34	03.8		33.0	141	52.8		18.1	164	40.4		25.5	258	10.5		02.4				
17	260	00.2	49	03.3	-12	34.2	156	53.7	+23	18.0	179	42.7	+22	25.5	273	13.1	-8	02.5				
18	275	02.7	64	02.9	-12	35.3	171	54.7	+23	17.9	194	45.1	+22	25.5	288	15.8	-8	02.5				
19	290	05.2	79	02.5		36.5	186	55.7		17.9	209	47.4		25.5	303	18.4		02.6				
20	305	07.6	94	02.1		37.6	201	56.7		17.8	224	49.7		25.5	318	21.0		02.7				
21	320	10.1	109	01.6		38.8	216	57.7		17.7	239	52.1		25.5	333	23.6		02.7				
22	335	12.5	124	01.2		39.9	231	58.7		17.7	254	54.4		25.5	348	26.3		02.8				
23	350	15.0	139	00.8		41.1	246	59.7		17.6	269	56.8		25.5	3	28.9		02.9				
24	5	17.5	154	00.4	-12	42.2	262	00.6	+23	17.5	284	59.1	+22	25.6	18	31.5	-8	02.9				
Dif	—		-4		-12		+10		-1		+23		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 51.1 ^m			Edad: 22.9 ^d SD: 15 ^h 3 PMG: 7 ^h 16 ^m PHE { 4 ^h : 56 ^h 1 12 ^h : 55 ^h 9 20 ^h : 55 ^h 7 R°: 51 ^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	10.4	-1	21.0	255	00.8	82	+27	22.4	51	60 N	17 46	18 28	19 17	22 14	98	17 20 3
1	197	10.6		22.0	269	28.0	81		17.3	51	58	47	26	12	37	91	16 56 11
2	212	10.8		23.0	283	55.1	83		12.2	54	56	47	24	08	22	56	85 36 16
3	227	11.0		24.0	298	22.4	83		06.8	55	54	48	23	04	23	12	81 20 20
4	242	11.2		24.9	312	49.8	84	+27	01.3	55	52	48	22	19 01	25	78	16 06 23
5	257	11.4	-1	25.9	327	17.3	85	+26	55.7	56	50	17 48	18 21	18 58	23 37	75	15 54 26
6	272	11.7	-1	26.9	341	44.8	85	+26	50.0	57	45	17 49	18 18	18 53	** ** *	**	15 28 31
7	287	11.9		27.9	356	12.5	87		44.1	59	40	50	17	48	** ** *	**	15 08 34
8	302	12.1		28.8	10	40.2	87		38.1	60	35	51	16	45	** ** *	**	14 51 37
9	317	12.3		29.8	25	08.1	89		31.9	62	30	51	15	43	** ** *	**	36 40
10	332	12.5		30.8	39	36.0	89		25.6	63	20	52	14	40	0	18	58 14 11 44
11	347	12.7	-1	31.8	54	04.1	91	+26	19.2	64	10 N	17 53	18 14	18 39	0	41	55 13 49 47
12	2	12.9	-1	32.7	68	32.2	91	+26	12.6	66	0	17 54	18 15	18 39	1	03	52 13 28 51
13	17	13.2		33.7	83	00.4	92	+26	06.0	66	10 S	56	17	41	24	50	13 08 53
14	32	13.4		34.7	97	28.8	94	+25	59.2	68	20	57	19	45	1	48	47 12 46 57
15	47	13.6		35.6	111	57.2	94		52.2	70	30	17 59	23	51	2	14	44 20 61
16	62	13.8		36.6	126	25.7	95		45.2	70	35	18 00	25	18 55	30	42	12 05 63
17	77	14.0	-1	37.6	140	54.3	96	+25	38.0	72	40	18 01	18 28	19 00	2	49	38 11 47 66
18	92	14.2	-1	38.6	155	23.1	98	+25	30.7	73	45	18 02	18 32	19 06	3	11	35 11 26 69
19	107	14.4		39.5	169	51.9	98		23.2	75	50	04	37	15	39	30	10 58 75
20	122	14.6		40.5	184	20.8	99		15.7	75	52	05	39	19	3	53	28 45 78
21	137	14.9		41.5	198	49.8	100		08.0	77	54	06	41	24	4	08	25 29 82
22	152	15.1		42.5	213	18.9	101	+25	00.2	78	56	07	44	29	27	21	10 11 86
23	167	15.3		43.4	227	48.2	103	+24	52.3	79	58	08	47	35	4	50	14 9 49 91
24	182	15.5	-1	44.4	242	17.5	103	+24	44.3	80	60 S	18 09	18 51	19 42	5	20	5 9 19 102

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 23 ^h 35.0 ^m		Mag: -3.9 PMG: 13 ^h 44 ^m		Mag: +0.5 PMG: 6 ^h 32 ^m		Mag: -2.5 PMG: 4 ^h 59 ^m		Mag: +0.6 PMG: 22 ^h 42 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	5	17.5	154	00.4	-12	42.2	262	00.6	+23	17.5	284	59.1	+22	25.6	18	31.5	-8	02.9
1	20	19.9	168	59.9		43.4	277	01.6		17.5	300	01.5		25.6	33	34.2		03.0
2	35	22.4	183	59.5		44.5	292	02.6		17.4	315	03.8		25.6	48	36.8		03.1
3	50	24.9	198	59.1		45.7	307	03.6		17.3	330	06.2		25.6	63	39.4		03.1
4	65	27.3	213	58.6		46.8	322	04.6		17.2	345	08.5		25.6	78	42.0		03.2
5	80	29.8	228	58.2	-12	48.0	337	05.6	+23	17.2	0	10.9	+22	25.6	93	44.7	-8	03.3
6	95	32.3	243	57.8	-12	49.1	352	06.6	+23	17.1	15	13.2	+22	25.6	108	47.3	-8	03.3
7	110	34.7	258	57.4		50.3	7	07.6		17.0	30	15.6		25.6	123	49.9		03.4
8	125	37.2	273	56.9		51.4	22	08.6		17.0	45	17.9		25.6	138	52.5		03.5
9	140	39.7	288	56.5		52.6	37	09.5		16.9	60	20.3		25.6	153	55.2		03.5
10	155	42.1	303	56.1		53.7	52	10.5		16.8	75	22.6		25.6	168	57.8		03.6
11	170	44.6	318	55.6	-12	54.9	67	11.5	+23	16.8	90	25.0	+22	25.6	184	00.4	-8	03.7
12	185	47.0	333	55.2	-12	56.0	82	12.5	+23	16.7	105	27.3	+22	25.6	199	03.1	-8	03.7
13	200	49.5	348	54.8		57.1	97	13.5		16.6	120	29.7		25.6	214	05.7		03.8
14	215	52.0	3	54.3		58.3	112	14.5		16.6	135	32.0		25.6	229	08.3		03.9
15	230	54.4	18	53.9	-12	59.4	127	15.5		16.5	150	34.4		25.6	244	10.9		03.9
16	245	56.9	33	53.5	-13	00.6	142	16.5		16.4	165	36.7		25.6	259	13.6		04.0
17	260	59.4	48	53.0	-13	01.7	157	17.5	+23	16.3	180	39.1	+22	25.7	274	16.2	-8	04.1
18	276	01.8	63	52.6	-13	02.9	172	18.5	+23	16.3	195	41.4	+22	25.7	289	18.8	-8	04.1
19	291	04.3	78	52.2		04.0	187	19.5		16.2	210	43.8		25.7	304	21.4		04.2
20	306	06.8	93	51.7		05.1	202	20.5		16.1	225	46.1		25.7	319	24.1		04.3
21	321	09.2	108	51.3		06.3	217	21.5		16.1	240	48.5		25.7	334	26.7		04.3
22	336	11.7	123	50.9		07.4	232	22.5		16.0	255	50.8		25.7	349	29.3		04.4
23	351	14.1	138	50.4		08.6	247	23.5		15.9	270	53.2		25.7	4	32.0		04.5
24	6	16.6	153	50.0	-13	09.7	262	24.5	+23	15.8	285	55.5	+22	25.7	19	34.6	-8	04.5
Dif	—		-4		-11		+10		-1		+24		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 50.8 ^m			Edad: 23.9 ^d SD: 15 ^h 1 PMG: 8 ^h 07 ^m	PHE { 4 ^h : 55 ^h 5 12 ^h : 55 ^h 3 20 ^h : 55 ^h 1 R°: 48 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	182	15.5	-1	44.4	242	17.5	+24	44.3	60 N	4 26	5 15	5 57	23 52	92	17 23	1		
1	197	15.7		45.4	256	46.9		36.2	58	31	17	56	** ** *	**	17 07	5		
2	212	15.9		46.4	271	16.4		27.9	56	35	19	56	** ** *	**	16 52	10		
3	227	16.1		47.3	285	46.0		19.5	54	39	20	55	** ** *	**	40 14			
4	242	16.3		48.3	300	15.7		11.1	52	42	21	55	** ** *	**	29 17			
5	257	16.5	-1	49.3	314	45.5	+24	02.5	50	4 44	5 22	5 54	** ** *	**	16 20	19		
6	272	16.8	-1	50.2	329	15.5	+23	53.8	45	4 50	5 24	5 54	0 02	70	15 59	24		
7	287	17.0		51.2	343	45.5		45.0	40	54	26	53	21 66		42 28			
8	302	17.2		52.2	358	15.6		36.1	39	4 57	27	52	38 62		28 32			
9	317	17.4		53.2	12	45.8		27.1	30	5 00	27	51	0 52	60	15 16	34		
10	332	17.6		54.1	27	16.1		18.0	20	02	28	50	1 16	55	14 55	39		
11	347	17.8	-1	55.1	41	46.5	+23	08.8	10 N	5 03	5 28	5 49	1 36	52	14 36	43		
12	2	18.0	-1	56.1	56	17.0	+22	59.5	0	5 03	5 27	5 48	1 55	49	14 19	46		
13	17	18.2		57.1	70	47.6		50.1	10 S	5 01	25	46	2 14	45	14 01	51		
14	32	18.4		58.0	85	18.3		40.5	20	4 57	23	45	35 41		13 43	54		
15	47	18.7	-1	59.0	99	49.1		30.9	30	51	19	43	2 58	37	21 59			
16	62	18.9	-2	00.0	114	20.0		21.2	35	47	16	42	3 12	34	13 08	62		
17	77	19.1	-2	00.9	128	51.0	+22	11.4	40	4 42	5 13	5 40	3 27	31	12 53	65		
18	92	19.3	-2	01.9	143	22.1	+22	01.6	45	4 35	5 09	5 39	3 46	27	12 35	70		
19	107	19.5		02.9	157	53.3	+21	51.6	50	26	05	37	4 09	22	13 75			
20	122	19.7		03.9	172	24.5		41.5	52	22	02	36	21 19		12 03	77		
21	137	19.9		04.8	186	55.9		31.3	54	17	5 00	35	33 16		11 51	80		
22	152	20.1		05.8	201	27.4		21.1	56	12	4 57	34	4 48	12	37 84			
23	167	20.3		06.8	215	58.9		10.7	58	4 06	53	33	5 04	8	20 90			
24	182	20.5	-2	07.8	230	30.6	+21	00.3	60 S	3 59	4 50	5 32	5 25	1	11 01	96		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 23 ^h 31.0 ^m		Mag: -3.9 PMG: 13 ^h 45 ^m			Mag: +0.5 PMG: 6 ^h 30 ^m			Mag: -2.5 PMG: 4 ^h 56 ^m			Mag: +0.6 PMG: 22 ^h 38 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	6	16.6	153	50.0	-13	09.7	262	24.5	+23	15.8	285	55.5	+22	25.7	19	34.6	-8	04.5
1	21	19.1	168	49.5		10.8	277	25.5		15.8	300	57.9		25.7	34	37.2		04.6
2	36	21.5	183	49.1		12.0	292	26.5		15.7	316	00.2		25.7	49	39.8		04.7
3	51	24.0	198	48.7		13.1	307	27.5		15.6	331	02.6		25.7	64	42.5		04.7
4	66	26.5	213	48.2		14.3	322	28.5		15.6	346	05.0		25.7	79	45.1		04.8
5	81	28.9	228	47.8	-13	15.4	337	29.5	+23	15.5	1	07.3	+22	25.7	94	47.7	-8	04.9
6	96	31.4	243	47.3	-13	16.5	352	30.5	+23	15.4	16	09.7	+22	25.7	109	50.3	-8	04.9
7	111	33.9	258	46.9		17.7	7	31.5		15.3	31	12.0		25.7	124	53.0		05.0
8	126	36.3	273	46.5		18.8	22	32.5		15.3	46	14.4		25.7	139	55.6		05.1
9	141	38.8	288	46.0		19.9	37	33.5		15.2	61	16.7		25.7	154	58.2		05.1
10	156	41.3	303	45.6		21.1	52	34.5		15.1	76	19.1		25.8	170	00.8		05.2
11	171	43.7	318	45.1	-13	22.2	67	35.5	+23	15.1	91	21.5	+22	25.8	185	03.5	-8	05.3
12	186	46.2	333	44.7	-13	23.3	82	36.5	+23	15.0	106	23.8	+22	25.8	200	06.1	-8	05.3
13	201	48.6	348	44.3		24.5	97	37.5		14.9	121	26.2		25.8	215	08.7		05.4
14	216	51.1	3	43.8		25.6	112	38.5		14.8	136	28.5		25.8	230	11.3		05.5
15	231	53.6	18	43.4		26.7	127	39.5		14.8	151	30.9		25.8	245	14.0		05.5
16	246	56.0	33	42.9		27.9	142	40.5		14.7	166	33.2		25.8	260	16.6		05.6
17	261	58.5	48	42.5	-13	29.0	157	41.5	+23	14.6	181	35.6	+22	25.8	275	19.2	-8	05.7
18	277	01.0	63	42.0	-13	30.1	172	42.5	+23	14.5	196	38.0	+22	25.8	290	21.8	-8	05.7
19	292	03.4	78	41.6		31.2	187	43.5		14.5	211	40.3		25.8	305	24.5		05.8
20	307	05.9	93	41.1		32.4	202	44.5		14.4	226	42.7		25.8	320	27.1		05.9
21	322	08.4	108	40.7		33.5	217	45.5		14.3	241	45.1		25.8	335	29.7		05.9
22	337	10.8	123	40.3		34.6	232	46.5		14.2	256	47.4		25.8	350	32.3		06.0
23	352	13.3	138	39.8		35.7	247	47.5		14.2	271	49.8		25.8	5	35.0		06.1
24	7	15.8	153	39.4	-13	36.9	262	48.5	+23	14.1	286	52.1	+22	25.8	20	37.6	-8	06.1
Dif	—		-4		-11		+10		-1		+24		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 50.5 ^m			Edad: 24.9 ^d SD: 15'0 PMG: 8 ^h 55 ^m PHE { 4 ^h : 55'0 12 ^h : 54'8 20 ^h : 54'7 R°: 43 ^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	h m m	h m m
0	182	20.5	-2	07.8	230	30.6	+21	00.3	60 N	17 40	18 22	19 10	**	**	**	17 24
1	197	20.8		08.7	245	02.3	+20	49.8	58	41	20	06	0	08	87	12 4
2	212	21.0		09.7	259	34.1		39.2	56	42	19	19 02	21	83	7	17 02
3	227	21.2		10.7	274	06.0		28.5	54	43	18	18 59	33	79	16	54 9
4	242	21.4		11.6	288	38.0		17.8	52	43	17	56	43	76	46	12
5	257	21.6	-2	12.6	303	10.1	+20	06.9	50	17 44	18 16	18 54	0	52	74	16 39
6	272	21.8	-2	13.6	317	42.3	+19	56.0	45	17 45	18 15	18 49	1	12	68	16 23
7	287	22.0		14.6	332	14.6		45.0	40	47	14	45	27	64	10	24
8	302	22.2		15.5	346	47.0		33.9	35	48	13	42	40	61	16	00
9	317	22.4		16.5	1	19.4		22.7	30	49	12	40	1	52	57	15 50
10	332	22.6		17.5	15	52.0		11.5	20	50	12	38	2	11	53	34 34
11	347	22.8	-2	18.5	30	24.6	+19	00.2	10 N	17 52	18 13	18 37	2	28	48	15 19
12	2	23.0	-2	19.4	44	57.3	+18	48.8	0	17 54	18 14	18 38	2	44	44	15 05
13	17	23.3		20.4	59	30.1		37.4	10 S	55	16	41	2	59	41	14 52
14	32	23.5		21.4	74	03.0		25.9	20	17 57	20	45	3	16	36	37 51
15	47	23.7		22.3	88	35.9		14.3	30	18 00	24	52	35	31	20	56
16	62	23.9		23.3	103	09.0	+18	02.6	35	01	27	18 56	46	29	14	10
17	77	24.1	-2	24.3	117	42.1	+17	50.9	40	18 03	18 30	19 02	3	58	26	13 58
18	92	24.3	-2	25.3	132	15.3	+17	39.1	45	18 05	18 34	19 09	4	13	22	13 45
19	107	24.5		26.2	146	48.6		27.2	50	07	40	18	31	17	28	72
20	122	24.7		27.2	161	21.9		15.3	52	08	42	23	40	14	20	75
21	137	24.9		28.2	175	55.3	+17	03.3	54	09	45	28	4	49	11	11 78
22	152	25.1		29.1	190	28.8	+16	51.3	56	11	48	34	5	00	8	13 01
23	167	25.3		30.1	205	02.4		39.2	58	12	52	40	12	4	12	50
24	182	25.5	-2	31.1	219	36.1	+16	27.0	60 S	18 14	18 56	19 48	5	26	**	12 37

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 23 ^h 27.1 ^m		Mag: -3.9 PMG: 13 ^h 46 ^m		Mag: +0.5 PMG: 6 ^h 28 ^m		Mag: -2.5 PMG: 4 ^h 52 ^m		Mag: +0.6 PMG: 22 ^h 34 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	7	15.8	153	39.4	-13	36.9	262	48.5	+23	14.1	286	52.1	+22	25.8	20	37.6
1	22	18.2	168	38.9		38.0	277	49.5		14.0	301	54.5		25.8	35	40.2
2	37	20.7	183	38.5		39.1	292	50.5		13.9	316	56.9		25.8	50	42.8
3	52	23.1	198	38.0		40.3	307	51.6		13.9	331	59.2		25.8	65	45.5
4	67	25.6	213	37.6		41.4	322	52.6		13.8	347	01.6		25.8	80	48.1
5	82	28.1	228	37.1	-13	42.5	337	53.6	+23	13.7	2	04.0	+22	25.9	95	50.7
6	97	30.5	243	36.7	-13	43.6	352	54.6	+23	13.6	17	06.3	+22	25.9	110	53.3
7	112	33.0	258	36.2		44.7	7	55.6		13.6	32	08.7		25.9	125	56.0
8	127	35.5	273	35.8		45.9	22	56.6		13.5	47	11.1		25.9	140	58.6
9	142	37.9	288	35.3		47.0	37	57.6		13.4	62	13.4		25.9	156	01.2
10	157	40.4	303	34.9		48.1	52	58.6		13.3	77	15.8		25.9	171	03.8
11	172	42.9	318	34.4	-13	49.2	67	59.6	+23	13.2	92	18.2	+22	25.9	186	06.5
12	187	45.3	333	34.0	-13	50.3	83	00.6	+23	13.2	107	20.5	+22	25.9	201	09.1
13	202	47.8	348	33.5		51.5	98	01.7		13.1	122	22.9		25.9	216	11.7
14	217	50.3	3	33.1		52.6	113	02.7		13.0	137	25.3		25.9	231	14.3
15	232	52.7	18	32.6		53.7	128	03.7		12.9	152	27.6		25.9	246	17.0
16	247	55.2	33	32.1		54.8	143	04.7		12.9	167	30.0		25.9	261	19.6
17	262	57.6	48	31.7	-13	55.9	158	05.7	+23	12.8	182	32.4	+22	25.9	276	22.2
18	278	00.1	63	31.2	-13	57.1	173	06.7	+23	12.7	197	34.7	+22	25.9	291	24.8
19	293	02.6	78	30.8		58.2	188	07.8		12.6	212	37.1		25.9	306	27.5
20	308	05.0	93	30.3	-13	59.3	203	08.8		12.5	227	39.5		25.9	321	30.1
21	323	07.5	108	29.9	-14	00.4	218	09.8		12.5	242	41.9		25.9	336	32.7
22	338	10.0	123	29.4		01.5	233	10.8		12.4	257	44.2		25.9	351	35.3
23	353	12.4	138	29.0		02.6	248	11.8		12.3	272	46.6		25.9	6	37.9
24	8	14.9	153	28.5	-14	03.7	263	12.8	+23	12.2	287	49.0	+22	25.9	21	40.6
Dif	—		-5	-11			+10	-1			+24	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 50.1 ^m			Edad: 25.9 ^d SD: 14'9 PMG: 9 ^h 38 ^m	PHE { 4 ^h : 54'5 12 ^h : 54'4 20 ^h : 54'3 R°: 41 ^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	25.5	-2	31.1	219	36.1	+16	27.0	60 N	4	31	5	20	6	02	1	24	88
1	197	25.7		32.1	234	09.8		14.7	58	36	22		01		35	83	16	2
2	212	25.9		33.0	248	43.6	+16	02.5	56	39	23	6	00	44	79	09	5	
3	227	26.2		34.0	263	17.5	+15	50.1	54	42	24	5	59	52	76	17	03	8
4	242	26.4		35.0	277	51.5		37.7	52	45	25		58	1	59	74	16	58
5	257	26.6	-2	36.0	292	25.5	+15	25.2	50	4	48	5	25	5	57	2	06	71
6	272	26.8	-2	36.9	306	59.6	+15	12.7	45	4	53	5	27	5	56	2	20	66
7	287	27.0		37.9	321	33.7	+15	00.2	40	56	28		55		31	62	34	17
8	302	27.2		38.9	336	08.0	+14	47.5	35	4	59	28	53		41	58	26	25
9	317	27.4		39.8	350	42.3		34.9	30	5	01	29	52	2	49	55	20	27
10	332	27.6		40.8	5	16.6		22.1	20		03	28	50	3	04	50	16	08
11	347	27.8	-2	41.8	19	51.0	+14	09.4	10 N	5	03	5	28	5	49	3	16	46
12	2	28.0	-2	42.8	34	25.5	+13	56.5	0	5	02	5	26	5	47	3	28	42
13	17	28.2		43.7	49	00.1		43.7	10 S	5	00	24	45		40	37	39	44
14	32	28.4		44.7	63	34.7		30.7	20	4	55	21	43	3	52	33	28	49
15	47	28.6		45.7	78	09.4		17.8	30		48	16	40	4	06	28	16	55
16	62	28.8		46.6	92	44.1	+13	04.8	35	44	13		39		15	25	09	58
17	77	29.0	-2	47.6	107	18.9	+12	51.7	40	4	38	5	10	5	37	4	24	22
18	92	29.2	-2	48.6	121	53.7	+12	38.6	45	4	31	5	06	5	35	4	35	18
19	107	29.4		49.5	136	28.6		25.5	50		21	5	00		33	48	13	40
20	122	29.6		50.5	151	03.6	+12	12.3	52		17	4	58	31		4	54	11
21	137	29.8		51.5	165	38.6	+11	59.1	54		12		55	30		5	00	9
22	152	30.1		52.5	180	13.7		45.8	56	4	06	51	29		08	5	23	78
23	167	30.3		53.4	194	48.8		32.5	58	3	59	48	27		16	2	15	82
24	182	30.5	-2	54.4	209	24.0	+11	19.2	60 S	3	52	4	43	5	25	5	25	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 ^h 23.2 ^m		Mag: -3.9 PMG: 13 ^h 47 ^m		Mag: +0.5 PMG: 6 ^h 27 ^m		Mag: -2.5 PMG: 4 ^h 48 ^m		Mag: +0.7 PMG: 22 ^h 29 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	8	14.9	153	28.5	-14	03.7	263	12.8	+22	25.9
1	23	17.4	168	28.0		04.9	278	13.9		25.9
2	38	19.8	183	27.6		06.0	293	14.9		26.0
3	53	22.3	198	27.1		07.1	308	15.9		26.0
4	68	24.7	213	26.7		08.2	323	16.9		26.0
5	83	27.2	228	26.2	-14	09.3	338	17.9	+22	26.0
6	98	29.7	243	25.7	-14	10.4	353	19.0	+22	26.0
7	113	32.1	258	25.3		11.5	8	20.0		26.0
8	128	34.6	273	24.8		12.6	23	21.0		26.0
9	143	37.1	288	24.4		13.7	38	22.0		26.0
10	158	39.5	303	23.9		14.8	53	23.0		26.0
11	173	42.0	318	23.4	-14	15.9	68	24.1	+22	26.0
12	188	44.5	333	23.0	-14	17.1	83	25.1	+22	26.0
13	203	46.9	348	22.5		18.2	98	26.1		26.0
14	218	49.4	3	22.1		19.3	113	27.1		26.0
15	233	51.9	18	21.6		20.4	128	28.2		26.0
16	248	54.3	33	21.1		21.5	143	29.2		26.0
17	263	56.8	48	20.7	-14	22.6	158	30.2	+22	26.0
18	278	59.2	63	20.2	-14	23.7	173	31.2	+22	26.0
19	294	01.7	78	19.7		24.8	188	32.3		26.0
20	309	04.2	93	19.3		25.9	203	33.3		26.0
21	324	06.6	108	18.8		27.0	218	34.3		26.0
22	339	09.1	123	18.3		28.1	233	35.3		26.0
23	354	11.6	138	17.9		29.2	248	36.4		26.0
24	9	14.0	153	17.4	-14	30.3	263	37.4	+22	26.0
Dif	—		-5		-11		+10		-1	
							+24		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 49.8 ^m			Edad: 26.9 ^d SD: 14'8 PMG: 10 ^h 19 ^m			PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'1 R°: 40 ^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	30.5	-2	54.4	209	24.0	+11	19.2	134	60 N	17	34	18	16	19	04	2	52	83	17	22	**	
1	197	30.7		55.4	223	59.2	+11	05.8	134	58		36		15	19	00	2	58	80		18	1	
2	212	30.9		56.3	238	34.5	+10	52.4	135	56		37		14	18	57	3	03	77		14	4	
3	227	31.1		57.3	253	09.8		38.9	135	54		38		13		54		08	74		11		
4	242	31.3		58.3	267	45.2		25.4	135	52		39		12		52		13	71		08	9	
5	257	31.5	-2	59.3	282	20.6	+10	11.9	135	50	17	40	18	12	18	49	3	17	69	17	05	11	
6	272	31.7	-3	00.2	296	56.1	+9	58.4	135	45	17	42	18	11	18	45	3	26	64	17	00	15	
7	287	31.9		01.2	311	31.6		44.8	136	40		43		10		42		33	60	16	55	19	
8	302	32.1		02.2	326	07.2		31.2	136	35		45		10		39		39	57		51	22	
9	317	32.3		03.1	340	42.8		17.5	137	30		46		10		38		44	54		47	25	
10	332	32.5		04.1	355	18.4	+9	03.8	137	20		49		11		36		3	54	48	40	31	
11	347	32.7	-3	05.1	9	54.1	+8	50.1	137	10 N	17	51	18	12	18	36	4	02	44	16	34	35	
12	2	32.9	-3	06.0	24	29.8	+8	36.4	137	0	17	53	18	14	18	38	4	10	39	16	29	39	
13	17	33.1		07.0	39	05.6		22.6	138	10 S		55		16		41		17	36		23	44	
14	32	33.3		08.0	53	41.4	+8	08.9	137	20	17	58		20		46		25	31		17	48	
15	47	33.5		09.0	68	17.2	+7	55.0	139	30	18	01		25		53		34	26		11	53	
16	62	33.7		09.9	82	53.1		41.2	138	35		03		28	18	58		40	23		07	56	
17	77	33.9	-3	10.9	97	29.0	+7	27.3	139	40	18	05	18	32	19	04	4	46	19	16	02	60	
18	92	34.1	-3	11.9	112	05.0	+7	13.5	139	45	18	07	18	37	19	12	4	53	15	15	57	63	
19	107	34.3		12.8	126	41.0	+6	59.6	140	50		10		43		22		5	01	11	50	69	
20	122	34.5		13.8	141	17.0		45.6	140	52		12		46		27			05	9	47	71	
21	137	34.7		14.8	155	53.0		31.7	139	54		13		49		32		09	7		44	73	
22	152	34.9		15.7	170	29.1		17.7	140	56		15		52		38		13	5		41	75	
23	167	35.1		16.7	185	05.2	+6	03.7	140	58		17	18	57	45		18	2		37	78		
24	182	35.3	-3	17.7	199	41.3	+5	49.7	140	60 S	18	19	19	01	19	53	5	24	**	15	32	82	
UT	ARIES PMG: 23 ^h 19.2 ^m			VENUS Mag: -3.9 PMG: 13 ^h 47 ^m			MARTE Mag: +0.5 PMG: 6 ^h 25 ^m			JÚPITER Mag: -2.5 PMG: 4 ^h 44 ^m			SATURNO Mag: +0.7 PMG: 22 ^h 25 ^m										
	hG ♈	hG ♀	Dec	hG ♂	Dec		hG ♏	Dec		hG ♐	Dec		hG ♑	Dec									
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/							
0	9	14.0	153	17.4	-14	30.3	263	37.4	+23	10.3	288	46.0	+22	26.0	22	43.5	-8	09.2					
1	24	16.5	168	16.9		31.4	278	38.4		10.2	303	48.4		26.0	37	46.1		09.3					
2	39	19.0	183	16.5		32.5	293	39.5		10.1	318	50.8		26.1	52	48.7		09.3					
3	54	21.4	198	16.0		33.6	308	40.5		10.0	333	53.1		26.1	67	51.4		09.4					
4	69	23.9	213	15.5		34.7	323	41.5		09.9	348	55.5		26.1	82	54.0		09.5					
5	84	26.3	228	15.0	-14	35.8	338	42.6	+23	09.9	3	57.9	+22	26.1	97	56.6	-8	09.5					
6	99	28.8	243	14.6	-14	36.9	353	43.6	+23	09.8	19	00.3	+22	26.1	112	59.2	-8	09.6					
7	114	31.3	258	14.1		38.0	8	44.6		09.7	34	02.7		26.1	128	01.9		09.7					
8	129	33.7	273	13.6		39.1	23	45.7		09.6	49	05.1		26.1	143	04.5		09.7					
9	144	36.2	288	13.2		40.1	38	46.7		09.5	64	07.4		26.1	158	07.1		09.8					
10	159	38.7	303	12.7		41.2	53	47.7		09.4	79	09.8		26.1	173	09.7		09.8					
11	174	41.1	318	12.2	-14	42.3	68	48.7	+23	09.4	94	12.2	+22	26.1	188	12.3	-8	09.9					
12	189	43.6	333	11.7	-14	43.4	83	49.8	+23	09.3	109	14.6	+22	26.1	203	15.0	-8	10.0					
13	204	46.1	348	11.3		44.5	98	50.8		09.2	124	17.0		26.1	218	17.6		10.0					
14	219	48.5	3	10.8		45.6	113	51.9		09.1	139	19.4		26.1	233	20.2		10.1					
15	234	51.0	18	10.3		46.7	128	52.9		09.0	154	21.7		26.1	248	22.8		10.2					
16	249	53.5	33	09.8		47.8	143	53.9		08.9	169	24.1		26.1	263	25.4		10.2					
17	264	55.9	48	09.4	-14	48.9	158	55.0	+23	08.8	184	26.5	+22	26.1	278	28.1	-8	10.3					
18	279	58.4	63	08.9	-14	50.0	173	56.0	+23	08.8	199	28.9	+22	26.1	293	30.7	-8	10.3					
19	295	00.8	78	08.4		51.1	188	57.0		08.7	214	31.3		26.1	308	33.3		10.4					
20	310	03.3	93	07.9		52.1	203	58.1		08.6	229	33.7		26.1	323	35.9		10.5					
21	325	05.8	108	07.5		53.2	218	59.1		08.5	244	36.1		26.1	338	38.5		10.5					
22	340	08.2	123	07.0		54.3	234	00.2		08.4	259	38.5		26.1	353	41.2		10.6					
23	355	10.7	138	06.5		55.4	249	01.2		08.3	274	40.9		26.1	8	43.8		10.7					
24	10	13.2	153	06.0	-14	56.5	264	02.2	+23	08.2	289	43.2	+22	26.1	23	46.4	-8	10.7					
Dif	—			-5	-11		+10		-1		+24		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 49.5 ^m			Edad: 27.9 ^d PHE { 4 ^h : 54'1 12 ^h : 54'0 20 ^h : 54'0 PMG: 10 ^h 59 ^m R°: 38 ^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	182 35.3	−3 17.7		199 41.3		+5 49.7		60 N	4 36	5 25	6 06	4 15 82		17 20 **	
1	197 35.5	18.7		214 17.5	172	35.7	140	58	40	26	05	18 78		19 1	
2	212 35.7	19.6		228 53.7	172	21.7	140	56	43	27	04	20 75		18 4	
3	227 35.9	20.6		243 29.9	172	+5 07.6	141	54	46	27	03	22 73		18 6	
4	242 36.1	21.6		258 06.1	172	+4 53.5	141	52	49	28	02	24 70		17 9	
5	257 36.3	−3 22.5		272 42.3	172	+4 39.4	141	50	4 51	5 28	6 01	4 26 68		17 16 11	
6	272 36.5	−3 23.5		287 18.6	173	+4 25.3	141	45	4 55	5 29	5 58	4 30 63		17 15 15	
7	287 36.7	24.5		301 54.9	173	+4 11.2	141	40	4 58	30	57	33 59		14 19	
8	302 36.9	25.4		316 31.2	173	+3 57.1	141	35	5 00	30	55	36 55		13 22	
9	317 37.1	26.4		331 07.6	174	43.0	141	30	02	30	54	38 53		12 25	
10	332 37.3	27.4		345 43.9	173	28.8	142	20	03	29	51	42 48		11 30	
11	347 37.5	−3 28.3		0 20.3	174	+3 14.7	141	10 N	5 03	5 28	5 49	4 46 43		17 09 35	
12	2 37.7	−3 29.3		14 56.7	174	+3 00.5	142	0	5 01	5 26	5 46	4 49 39		17 08 39	
13	17 37.9	30.3		29 33.1	174	+2 46.3	142	10 S	4 58	23	44	53 34		07 43	
14	32 38.1	31.3		44 09.5	174	32.1	142	20	53	19	41	4 56 30		05 48	
15	47 38.3	32.2		58 45.9	174	18.0	141	30	46	14	38	5 00 25		04 52	
16	62 38.5	33.2		73 22.4	175	+2 03.8	142	35	41	11	36	03 22		03 55	
17	77 38.7	−3 34.2		87 58.8	174	+1 49.6	142	40	4 35	5 07	5 34	5 05 19		17 02 59	
18	92 38.9	−3 35.1		102 35.3	175	+1 35.3	143	45	4 27	5 02	5 31	5 08 16		17 00 63	
19	107 39.1	36.1		117 11.7	174	21.1	142	50	17	4 56	28	12 11		16 59 68	
20	122 39.3	37.1		131 48.2	175	+1 06.9	142	52	12	53	27	14 8		58 70	
21	137 39.5	38.0		146 24.7	175	+0 52.7	142	54	06	49	25	16 6		57 73	
22	152 39.7	39.0		161 01.2	175	38.5	142	56	4 00	46	23	18 4		56 76	
23	167 39.9	40.0		175 37.7	175	24.3	142	58	3 53	42	22	20 1		55 79	
24	182 40.1	−3 40.9		190 14.2	175	+0 10.1	142	60 S	3 45	4 37	5 19	5 22 **		16 54 82	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG 23 ^h 15.3 ^m		Mag: −3.9 PMG: 13 ^h 48 ^m		Mag: +0.5 PMG: 6 ^h 23 ^m		Mag: −2.5 PMG: 4 ^h 40 ^m		Mag: +0.7 PMG: 22 ^h 21 ^m						
	hG ♈		hG ♊	Dec	hG ♈	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /		° /		° /		° /						
0	10 13.2	153 06.0	−14 56.5		264 02.2	+23 08.2	289 43.2	+22 26.1	23 46.4	−8 10.7					
1	25 15.6	168 05.6	57.6		279 03.3	08.2	304 45.6	26.1	38 49.0	10.8					
2	40 18.1	183 05.1	58.7		294 04.3	08.1	319 48.0	26.1	53 51.6	10.8					
3	55 20.6	198 04.6	−14 59.7		309 05.4	08.0	334 50.4	26.1	68 54.2	10.9					
4	70 23.0	213 04.1	−15 00.8		324 06.4	07.9	349 52.8	26.1	83 56.9	11.0					
5	85 25.5	228 03.6	−15 01.9		339 07.4	+23 07.8	4 55.2	+22 26.2	98 59.5	−8 11.0					
6	100 27.9	243 03.1	−15 03.0		354 08.5	+23 07.7	19 57.6	+22 26.2	114 02.1	−8 11.1					
7	115 30.4	258 02.7	04.1		9 09.5	07.6	35 00.0	26.2	129 04.7	11.2					
8	130 32.9	273 02.2	05.1		24 10.6	07.5	50 02.4	26.2	144 07.3	11.2					
9	145 35.3	288 01.7	06.2		39 11.6	07.5	65 04.8	26.2	159 10.0	11.3					
10	160 37.8	303 01.2	07.3		54 12.7	07.4	80 07.2	26.2	174 12.6	11.3					
11	175 40.3	318 00.7	−15 08.4		69 13.7	+23 07.3	95 09.5	+22 26.2	189 15.2	−8 11.4					
12	190 42.7	333 00.3	−15 09.5		84 14.7	+23 07.2	110 11.9	+22 26.2	204 17.8	−8 11.5					
13	205 45.2	347 59.8	10.5		99 15.8	07.1	125 14.3	26.2	219 20.4	11.5					
14	220 47.7	2 59.3	11.6		114 16.8	07.0	140 16.7	26.2	234 23.1	11.6					
15	235 50.1	17 58.8	12.7		129 17.9	06.9	155 19.1	26.2	249 25.7	11.6					
16	250 52.6	32 58.3	13.8		144 18.9	06.8	170 21.5	26.2	264 28.3	11.7					
17	265 55.1	47 57.8	−15 14.8		159 20.0	+23 06.8	185 23.9	+22 26.2	279 30.9	−8 11.8					
18	280 57.5	62 57.3	−15 15.9		174 21.0	+23 06.7	200 26.3	+22 26.2	294 33.5	−8 11.8					
19	296 00.0	77 56.9	17.0		189 22.1	06.6	215 28.7	26.2	309 36.1	11.9					
20	311 02.4	92 56.4	18.1		204 23.1	06.5	230 31.1	26.2	324 38.8	12.0					
21	326 04.9	107 55.9	19.1		219 24.2	06.4	245 33.5	26.2	339 41.4	12.0					
22	341 07.4	122 55.4	20.2		234 25.2	06.3	260 35.9	26.2	354 44.0	12.1					
23	356 09.8	137 54.9	21.3		249 26.3	06.2	275 38.3	26.2	9 46.6	12.1					
24	11 12.3	152 54.4	−15 22.3		264 27.3	+23 06.1	290 40.7	+22 26.2	24 49.2	−8 12.2					
Dif	—	−5	−11		+10	−1	+24	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 49.2 ^m		Edad: 28.9 ^d SD: 14 ^h 7 PMG: 11 ^h 37 ^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	h m m	h m m	h m m	h m m	
0	182 40.1	-3 40.9	190 14.2		+0 10.1		60 N	17 28	18 10	18 58	5 37 81	17 18	**		
1	197 40.3		41.9	204 50.7	-0 04.2		58	30	09	55	36 78	20	2		
2	212 40.5		42.9	219 27.2			56	32	08	52	35 76	22	5		
3	227 40.7		43.8	234 03.7			54	33	08	49	35 72	24			
4	242 40.9		44.8	248 40.2	-0 46.8		52	34	08	47	34 70	26	9		
5	257 41.1	-3 45.8	263 16.7		-1 01.0		50	17 35	18 07	18 45	5 34 68	17 27	11		
6	272 41.3	-3 46.7	277 53.2		-1 15.2		45	17 38	18 07	18 41	5 33 63	17 30	16		
7	287 41.5		47.7	292 29.7			40	40	07	38	32 59	33	19		
8	302 41.7		48.7	307 06.2			35	42	07	37	31 56	35	23		
9	317 41.9		49.6	321 42.7	-1 57.8		30	44	08	35	31 52	37	26		
10	332 42.1		50.6	336 19.2	-2 12.0		20	47	09	34	30 47	41	30		
11	347 42.3	-3 51.6	350 55.6		-2 26.1		10 N	17 50	18 11	18 35	5 29 43	17 44	35		
12	2 42.5	-3 52.5	5 32.1		-2 40.3		0	17 52	18 13	18 37	5 28 39	17 47	39		
13	17 42.7		53.5	20 08.6	-2 54.4		10 S	55	16	41	27 35	50	43		
14	32 42.9		54.5	34 45.0	-3 08.6		20	17 58	21	46	26 31	53	48		
15	47 43.1		55.4	49 21.4	22.7		30	18 02	26	18 54	25 26	56	53		
16	62 43.2		56.4	63 57.9	36.8		35	04	30	19 00	25 22	17 58	56		
17	77 43.4	-3 57.4	78 34.3		-3 50.9		40	18 07	18 34	19 06	5 24 19	18 01	59		
18	92 43.6	-3 58.3	93 10.7		-4 05.0		45	18 10	18 39	19 15	5 24 15	18 03	64		
19	107 43.8	-3 59.3	107 47.0		19.1		50	13	46	25	23 11	07	68		
20	122 44.0	-4 00.3	122 23.4		33.2		52	15	49	30	22 9	08	71		
21	137 44.2		01.2	136 59.8	-4 47.2		54	17	53	36	22 6	10	73		
22	152 44.4		02.2	151 36.1	-5 01.2		56	19	18 57	43	22 4	12	75		
23	167 44.6		03.2	166 12.4	15.2		58	21	19 01	50	21 1	14	79		
24	182 44.8	-4 04.1	180 48.7		-5 29.2		60 S	18 24	19 06	19 59	5 21 **	18 16	82		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 23 ^h 11.4 ^m		Mag: -3.9 PMG: 13 ^h 49 ^m		Mag: +0.5 PMG: 6 ^h 22 ^m		Mag: -2.5 PMG: 4 ^h 37 ^m		Mag: +0.7 PMG: 22 ^h 17 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	11 12.3	152 54.4	-15 22.3	264 27.3	+23 06.1	290 40.7	+22 26.2	24 49.2	-8 12.2						
1	26 14.8	167 53.9	23.4	279 28.4	06.0	305 43.1	26.2	39 51.8	12.3						
2	41 17.2	182 53.4	24.5	294 29.4	06.0	320 45.5	26.2	54 54.5	12.3						
3	56 19.7	197 52.9	25.5	309 30.5	05.9	335 47.9	26.2	69 57.1	12.4						
4	71 22.2	212 52.4	26.6	324 31.5	05.8	350 50.3	26.2	84 59.7	12.4						
5	86 24.6	227 52.0	-15 27.7	339 32.6	+23 05.7	5 52.7	+22 26.2	100 02.3	-8 12.5						
6	101 27.1	242 51.5	-15 28.8	354 33.6	+23 05.6	20 55.1	+22 26.2	115 04.9	-8 12.6						
7	116 29.5	257 51.0	29.8	9 34.7	05.5	35 57.5	26.2	130 07.6	12.6						
8	131 32.0	272 50.5	30.9	24 35.7	05.4	50 59.9	26.2	145 10.2	12.7						
9	146 34.5	287 50.0	31.9	39 36.8	05.3	66 02.3	26.2	160 12.8	12.8						
10	161 36.9	302 49.5	33.0	54 37.9	05.2	81 04.7	26.2	175 15.4	12.8						
11	176 39.4	317 49.0	-15 34.1	69 38.9	+23 05.1	96 07.1	+22 26.2	190 18.0	-8 12.9						
12	191 41.9	332 48.5	-15 35.1	84 40.0	+23 05.0	111 09.5	+22 26.2	205 20.6	-8 12.9						
13	206 44.3	347 48.0	36.2	99 41.0	05.0	126 11.9	26.2	220 23.2	13.0						
14	221 46.8	2 47.5	37.3	114 42.1	04.9	141 14.3	26.3	235 25.9	13.1						
15	236 49.3	17 47.0	38.3	129 43.1	04.8	156 16.7	26.3	250 28.5	13.1						
16	251 51.7	32 46.5	39.4	144 44.2	04.7	171 19.1	26.3	265 31.1	13.2						
17	266 54.2	47 46.0	-15 40.4	159 45.3	+23 04.6	186 21.5	+22 26.3	280 33.7	-8 13.2						
18	281 56.7	62 45.5	-15 41.5	174 46.3	+23 04.5	201 23.9	+22 26.3	295 36.3	-8 13.3						
19	296 59.1	77 45.0	42.6	189 47.4	04.4	216 26.3	26.3	310 38.9	13.4						
20	312 01.6	92 44.5	43.6	204 48.4	04.3	231 28.7	26.3	325 41.6	13.4						
21	327 04.0	107 44.0	44.7	219 49.5	04.2	246 31.1	26.3	340 44.2	13.5						
22	342 06.5	122 43.5	45.7	234 50.6	04.1	261 33.6	26.3	355 46.8	13.5						
23	357 09.0	137 43.0	46.8	249 51.6	04.0	276 36.0	26.3	10 49.4	13.6						
24	12 11.4	152 42.5	-15 47.8	264 52.7	+23 03.9	291 38.4	+22 26.3	25 52.0	-8 13.7						
Dif	—	-5	-11	+11	-1	+24	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 48.9 ^m			Edad: 0.2 ^d PHE { 4 ^h : 53'9 12 ^h : 54'0 20 ^h : 54'0 R°: 41 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m			
0	182	44.8	-4	04.1	180	48.7	-5	29.2	60 N	4 41	5 30	6 11	6 58	84	17 17	**			
1	197	45.0		05.1	195	25.0		43.2	58	45	30	09	54	81	22	2			
2	212	45.2		06.1	210	01.2		57.2	56	47	31	08	51	77	27	5			
3	227	45.4		07.0	224	37.4		11.1	54	50	31	06	47	75	31	8			
4	242	45.6		08.0	239	13.6		25.0	52	52	31	05	44	72	35	10			
5	257	45.8	-4	09.0	253	49.8		38.9	50	4 54	5 31	6 04	6 42	69	17 38	13			
6	272	46.0	-4	09.9	268	26.0		52.8	45	4 58	5 32	6 01	6 36	64	17 46	17			
7	287	46.2		10.9	283	02.1		06.6	40	5 00	32	5 59	31	60	52	22			
8	302	46.4		11.9	297	38.2		20.5	35	02	31	57	27	57	17 58	24			
9	317	46.5		12.8	312	14.3		34.2	30	03	31	55	23	54	18 03	27			
10	332	46.7		13.8	326	50.3		48.0	20	04	29	51	17	49	11	33			
11	347	46.9	-4	14.8	341	26.3		01.8	10 N	5 03	5 27	5 48	6 12	44	18 19	37			
12	2	47.1	-4	15.7	356	02.3		15.5	0	5 01	5 25	5 46	6 07	40	18 26	41			
13	17	47.3		16.7	10	38.2		29.2	10 S	4 57	22	43	6 02	36	33	45			
14	32	47.5		17.7	25	14.1		42.8	20	51	17	39	5 57	31	41	49			
15	47	47.7		18.6	39	50.0		56.5	30	43	11	35	51	26	49	55			
16	62	47.9		19.6	54	25.8		10.1	35	38	08	33	47	24	18 54	58			
17	77	48.1	-4	20.5	69	01.6		23.6	40	4 31	5 03	5 31	5 43	21	19 00	61			
18	92	48.3	-4	21.5	83	37.4		37.2	45	4 23	4 58	5 28	5 39	16	19 07	65			
19	107	48.5		22.5	98	13.1		50.7	50	12	51	24	34	11	15	70			
20	122	48.7		23.4	112	48.8		04.1	52	07	48	22	31	10	19	72			
21	137	48.9		24.4	127	24.5		17.6	54	4 01	44	20	28	8	23	75			
22	152	49.0		25.4	142	00.1		31.0	56	3 54	40	18	26	4	27	79			
23	167	49.2		26.3	156	35.7		44.3	58	47	36	16	22	2	33	81			
24	182	49.4	-4	27.3	171	11.2		57.7	60 S	3 38	4 31	5 13	5 19	**	19 38	86			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 23 ^h 07.4 ^m		Mag: -3.9 PMG: 13 ^h 50 ^m			Mag: +0.5 PMG: 6 ^h 20 ^m			Mag: -2.5 PMG: 4 ^h 33 ^m			Mag: +0.7 PMG: 22 ^h 13 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	12	11.4	152	42.5	-15	47.8	264	52.7	+23	03.9	291	38.4	+22	26.3	25	52.0	-8	13.7	
1	27	13.9	167	42.0		48.9	279	53.7		03.8	306	40.8		26.3	40	54.6		13.7	
2	42	16.4	182	41.5		49.9	294	54.8		03.8	321	43.2		26.3	55	57.3		13.8	
3	57	18.8	197	41.0		51.0	309	55.9		03.7	336	45.6		26.3	70	59.9		13.8	
4	72	21.3	212	40.5		52.1	324	56.9		03.6	351	48.0		26.3	86	02.5		13.9	
5	87	23.8	227	40.0	-15	53.1	339	58.0	+23	03.5	6	50.4	+22	26.3	101	05.1	-8	14.0	
6	102	26.2	242	39.5	-15	54.2	354	59.1	+23	03.4	21	52.8	+22	26.3	116	07.7	-8	14.0	
7	117	28.7	257	39.0		55.2	10	00.1		03.3	36	55.2		26.3	131	10.3		14.1	
8	132	31.2	272	38.5		56.3	25	01.2		03.2	51	57.6		26.3	146	12.9		14.1	
9	147	33.6	287	38.0		57.3	40	02.3		03.1	67	00.1		26.3	161	15.6		14.2	
10	162	36.1	302	37.5		58.4	55	03.3		03.0	82	02.5		26.3	176	18.2		14.3	
11	177	38.5	317	37.0	-15	59.4	70	04.4	+23	02.9	97	04.9	+22	26.3	191	20.8	-8	14.3	
12	192	41.0	332	36.5	-16	00.4	85	05.5	+23	02.8	112	07.3	+22	26.3	206	23.4	-8	14.4	
13	207	43.5	347	36.0		01.5	100	06.5		02.7	127	09.7		26.3	221	26.0		14.4	
14	222	45.9	2	35.5		02.5	115	07.6		02.6	142	12.1		26.3	236	28.6		14.5	
15	237	48.4	17	35.0		03.6	130	08.7		02.5	157	14.5		26.3	251	31.2		14.6	
16	252	50.9	32	34.4		04.6	145	09.7		02.4	172	16.9		26.3	266	33.9		14.6	
17	267	53.3	47	33.9	-16	05.7	160	10.8	+23	02.3	187	19.3	+22	26.3	281	36.5	-8	14.7	
18	282	55.8	62	33.4	-16	06.7	175	11.9	+23	02.2	202	21.8	+22	26.3	296	39.1	-8	14.7	
19	297	58.3	77	32.9		07.8	190	13.0		02.2	217	24.2		26.3	311	41.7		14.8	
20	313	00.7	92	32.4		08.8	205	14.0		02.1	232	26.6		26.3	326	44.3		14.9	
21	328	03.2	107	31.9		09.8	220	15.1		02.0	247	29.0		26.3	341	46.9		14.9	
22	343	05.6	122	31.4		10.9	235	16.2		01.9	262	31.4		26.3	356	49.5		15.0	
23	358	08.1	137	30.9		11.9	250	17.2		01.8	277	33.8		26.3	11	52.1		15.0	
24	13	10.6	152	30.4	-16	13.0	265	18.3	+23	01.7	292	36.3	+22	26.3	26	54.8	-8	15.1	
Dif	—		-5			-10	+11			-1	+24		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 48.6 ^m			Edad: 1.2 ^d PHE { 4 ^h : 54 ^m 0 12 ^h : 54 ^m 1 20 ^h : 54 ^m 1 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		
0	182 49.4	-4 27.3	171 11.2	165	-10	57.7	133	60 N	17 22	18 04	18 52	8 22 89		17 15 **		
1	197 49.6	28.3	185 46.7	164	-11	11.0	132	58	24	03	49	15 83		24 4		
2	212 49.8	29.2	200 22.1	164		24.2	132	56	26	03	46	08 79		32 7		
3	227 50.0	30.2	214 57.5	164		37.4	132	54	28	03	44	8 02 76		39 10		
4	242 50.2	31.1	229 32.8	163	-11	50.6	132	52	30	03	42	7 56 74		45 13		
5	257 50.4	-4 32.1	244 08.1	163	-12	03.7	131	50	17 31	18 03	18 41	7 51 71		17 51 15		
6	272 50.6	-4 33.1	258 43.4	163	-12	16.8	131	45	17 34	18 03	18 37	7 40 66		18 03 21		
7	287 50.8	34.0	273 18.6	162		29.9	131	40	37	04	35	31 62		14 24		
8	302 50.9	35.0	287 53.7	161		42.9	130	35	39	05	34	24 58		22 28		
9	317 51.1	36.0	302 28.8	161	-12	55.8	129	30	41	05	33	17 56		30 31		
10	332 51.3	36.9	317 03.9	161	-13	08.7	129	20	45	07	33	7 06 50		44 35		
11	347 51.5	-4 37.9	331 38.9	160	-13	21.6	129	10 N	17 49	18 10	18 34	6 56 46		18 56 39		
12	2 51.7	-4 38.9	346 13.8	159	-13	34.4	128	0	17 52	18 13	18 37	6 47 42		19 07 43		
13	17 51.9	39.8	0 48.7	159		47.2	128	10 S	55	16	41	38 38		18 47		
14	32 52.1	40.8	15 23.5	158	-13	59.9	127	20	17 59	21	47	28 34		30 51		
15	47 52.3	41.7	29 58.3	158	-14	12.6	127	30	18 03	27	18 56	17 29		44 56		
16	62 52.5	42.7	44 33.0	157		25.2	126	35	06	31	19 01	11 26		19 52 59		
17	77 52.6	-4 43.7	59 07.7	157	-14	37.7	125	40	18 09	18 36	19 09	6 04 22		20 01 63		
18	92 52.8	-4 44.6	73 42.3	156	-14	50.3	126	45	18 12	18 42	19 17	5 55 19		20 12 67		
19	107 53.0	45.6	88 16.8	155	-15	02.7	124	50	16	49	29	45 14		25 72		
20	122 53.2	46.5	102 51.3	155		15.1	124	52	18	53	34	41 12		31 75		
21	137 53.4	47.5	117 25.7	154		27.5	124	54	20	18 57	41	36 9		38 77		
22	152 53.6	48.5	132 00.1	154		39.8	123	56	23	19 01	48	30 7		46 81		
23	167 53.8	49.4	146 34.4	153	-15	52.0	122	58	25	06	19 56	24 3		20 54 85		
24	182 54.0	-4 50.4	161 08.6	152	-16	04.2	122	60 S	18 28	19 11	20 05	5 17 **		21 04 90		
UT	ARIES		VENUS		MARTE			JÚPITER			SATURNO					
	PMG: 23 ^h 03.5 ^m		Mag: -3.9 PMG: 13 ^h 50 ^m		Mag: +0.5 PMG: 6 ^h 18 ^m			Mag: -2.6 PMG: 4 ^h 29 ^m			Mag: +0.7 PMG: 22 ^h 08 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	13 10.6	152 30.4	-16 13.0	265 18.3	+23 01.7	292 36.3	+22 26.3	26 54.8	-8 15.1							
1	28 13.0	167 29.8	14.0	280 19.4	01.6	307 38.7	26.3	41 57.4	15.2							
2	43 15.5	182 29.3	15.0	295 20.5	01.5	322 41.1	26.3	57 00.0	15.2							
3	58 18.0	197 28.8	16.1	310 21.5	01.4	337 43.5	26.3	72 02.6	15.3							
4	73 20.4	212 28.3	17.1	325 22.6	01.3	352 45.9	26.3	87 05.2	15.3							
5	88 22.9	227 27.8	-16 18.1	340 23.7	+23 01.2	7 48.3	+22 26.3	102 07.8	-8 15.4							
6	103 25.4	242 27.3	-16 19.2	355 24.8	+23 01.1	22 50.8	+22 26.3	117 10.4	-8 15.4							
7	118 27.8	257 26.8	20.2	10 25.8	01.0	37 53.2	26.3	132 13.1	15.5							
8	133 30.3	272 26.2	21.2	25 26.9	00.9	52 55.6	26.3	147 15.7	15.6							
9	148 32.8	287 25.7	22.3	40 28.0	00.8	67 58.0	26.3	162 18.3	15.6							
10	163 35.2	302 25.2	23.3	55 29.1	00.7	83 00.4	26.3	177 20.9	15.7							
11	178 37.7	317 24.7	-16 24.3	70 30.2	+23 00.6	98 02.9	+22 26.3	192 23.5	-8 15.7							
12	193 40.1	332 24.2	-16 25.4	85 31.2	+23 00.5	113 05.3	+22 26.4	207 26.1	-8 15.8							
13	208 42.6	347 23.7	26.4	100 32.3	00.4	128 07.7	26.4	222 28.7	15.9							
14	223 45.1	2 23.1	27.4	115 33.4	00.3	143 10.1	26.4	237 31.3	15.9							
15	238 47.5	17 22.6	28.5	130 34.5	00.2	158 12.5	26.4	252 33.9	16.0							
16	253 50.0	32 22.1	29.5	145 35.6	+23 00.1	173 15.0	26.4	267 36.6	16.0							
17	268 52.5	47 21.6	-16 30.5	160 36.6	+23 00.0	188 17.4	+22 26.4	282 39.2	-8 16.1							
18	283 54.9	62 21.1	-16 31.5	175 37.7	+22 59.9	203 19.8	+22 26.4	297 41.8	-8 16.1							
19	298 57.4	77 20.5	32.6	190 38.8	59.8	218 22.2	26.4	312 44.4	16.2							
20	313 59.9	92 20.0	33.6	205 39.9	59.7	233 24.7	26.4	327 47.0	16.3							
21	329 02.3	107 19.5	34.6	220 41.0	59.6	248 27.1	26.4	342 49.6	16.3							
22	344 04.8	122 19.0	35.6	235 42.1	59.5	263 29.5	26.4	357 52.2	16.4							
23	359 07.2	137 18.5	36.7	250 43.1	59.4	278 31.9	26.4	12 54.8	16.4							
24	14 09.7	152 17.9	-16 37.7	265 44.2	+22 59.3	293 34.4	+22 26.4	27 57.4	-8 16.5							
Dif	—	-5	-10	+11	-1	+24	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 48.3 ^m				Edad: 2.2 ^d PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'4 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	182	54.0	-4	50.4	161	08.6	-16	04.2	60 N	4 46	5 34	6 16	9 51	93	17 14	1
1	197	54.1		51.4	175	42.8		16.3	58	49	35	14	38	87	28	6
2	212	54.3		52.3	190	16.9		28.4	56	51	35	12	27	83	39	11
3	227	54.5		53.3	204	50.9		40.4	54	54	35	10	18	79	49	18
4	242	54.7		54.2	219	24.9	-16	52.3	52	55	35	08	10	75	17 58	18
5	257	54.9	-4	55.2	233	58.8	-17	04.2	50	4 57	5 34	6 07	9 02	73	18 06	21
6	272	55.1	-4	56.2	248	32.6	-17	16.0	45	5 00	5 34	6 03	8 46	68	18 24	25
7	287	55.3		57.1	263	06.4		27.7	40	02	34	6 01	33	64	38	29
8	302	55.4		58.1	277	40.1		39.4	35	03	33	5 58	22	60	18 50	32
9	317	55.6	-4	59.0	292	13.7	-17	51.0	30	04	32	56	8 13	57	19 01	35
10	332	55.8	-5	00.0	306	47.3	-18	02.6	20	04	30	52	7 56	53	19	39
11	347	56.0	-5	01.0	321	20.8	-18	14.1	10 N	5 03	5 27	5 48	7 42	49	19 35	43
12	2	56.2	-5	01.9	335	54.2	-18	25.5	0	5 00	5 24	5 45	7 29	45	19 50	47
13	17	56.4		02.9	350	27.5		36.8	10 S	4 56	20	41	16	41	20 05	50
14	32	56.6		03.8	5	00.8		48.1	20	50	15	38	7 02	37	21	54
15	47	56.7		04.8	19	34.0	-18	59.3	30	41	09	33	6 46	33	40	58
16	62	56.9		05.8	34	07.1	-19	10.4	35	35	05	30	37	30	20 51	61
17	77	57.1	-5	06.7	48	40.1	-19	21.4	40	4 28	5 00	5 27	6 26	27	21 04	64
18	92	57.3	-5	07.7	63	13.1	-19	32.4	45	4 19	4 54	5 24	6 14	23	21 19	67
19	107	57.5		08.6	77	46.0		43.3	50	07	47	20	5 59	18	37	73
20	122	57.7		09.6	92	18.8	-19	54.1	52	4 02	43	18	53	15	46	76
21	137	57.8		10.6	106	51.5	-20	04.9	54	3 55	39	15	45	13	21 55	80
22	152	58.0		11.5	121	24.2		15.5	56	48	35	13	37	9	22 07	83
23	167	58.2		12.5	135	56.8		26.1	58	40	30	10	27	5	19	89
24	182	58.4	-5	13.4	150	29.3	-20	36.6	60 S	3 31	4 24	5 07	5 16	1	22 34	95

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 ^h 59.6 ^m		Mag: -3.9 PMG: 13 ^h 51 ^m		Mag: +0.4 PMG: 6 ^h 17 ^m		Mag: -2.6 PMG: 4 ^h 25 ^m		Mag: +0.7 PMG: 22 ^h 04 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	14	09.7	152	17.9	-16	37.7	293	34.4	+22	26.4
1	29	12.2	167	17.4		38.7	308	36.8		26.4
2	44	14.6	182	16.9		39.7	323	39.2		26.4
3	59	17.1	197	16.4		40.8	338	41.6		26.4
4	74	19.6	212	15.8		41.8	353	44.1		26.4
5	89	22.0	227	15.3	-16	42.8	8	46.5	+22	26.4
6	104	24.5	242	14.8	-16	43.8	23	48.9	+22	26.4
7	119	27.0	257	14.2		44.8	38	51.3		26.4
8	134	29.4	272	13.7		45.9	53	53.8		26.4
9	149	31.9	287	13.2		46.9	68	56.2		26.4
10	164	34.4	302	12.7		47.9	83	58.6		26.4
11	179	36.8	317	12.1	-16	48.9	99	01.1	+22	26.4
12	194	39.3	332	11.6	-16	49.9	114	03.5	+22	26.4
13	209	41.7	347	11.1		50.9	129	05.9		26.4
14	224	44.2	2	10.5		51.9	144	08.3		26.4
15	239	46.7	17	10.0		53.0	159	10.8		26.4
16	254	49.1	32	09.5		54.0	174	13.2		26.4
17	269	51.6	47	09.0	-16	55.0	189	15.6	+22	26.4
18	284	54.1	62	08.4	-16	56.0	204	18.1	+22	26.4
19	299	56.5	77	07.9		57.0	219	20.5		26.4
20	314	59.0	92	07.4		58.0	234	22.9		26.4
21	330	01.5	107	06.8	-16	59.0	249	25.4		26.4
22	345	03.9	122	06.3	-17	00.0	264	27.8		26.4
23	0	06.4	137	05.8	-17	01.0	279	30.2		26.4
24	15	08.9	152	05.2	-17	02.0	294	32.7	+22	26.4
Dif	—		-5		-10		+24		0	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 11 ^h 48.0 ^m			Edad: 3.2 ^d SD: 14'8 PMG: 14 ^h 25 ^m	PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 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		
0	182 58.4	-5 13.4		150 29.3		-20 36.6		60 N	17 16	17 58	18 46	11 24 98		17 15 4		
1	197 58.6		14.4	165 01.7	134	47.0	104	58	19	58	43	11 05 90		34 13		
2	212 58.8		15.4	179 34.0	133	-20 57.4	104	56	21	58	41	10 50 83		17 50 18		
3	227 58.9		16.3	194 06.3	133	-21 07.6	102	54	23	58	39	37 79		18 04 22		
4	242 59.1		17.3	208 38.4	131	17.8	102	52	25	59	38	25 76		16 25		
5	257 59.3	-5 18.2		223 10.5	131	-21 27.9	101	50	17 27	17 59	18 36	10 15 73		18 27 28		
6	272 59.5	-5 19.2		237 42.5	130	-21 37.8	99	45	17 31	18 00	18 34	9 54 68		18 49 33		
7	287 59.7		20.1	252 14.5	130	47.7	99	40	34	01	32	37 64		19 07 36		
8	302 59.9		21.1	266 46.3	128	-21 57.6	99	35	37	02	31	22 62		22 39		
9	318 00.0		22.1	281 18.1	128	-22 07.3	97	30	39	03	31	9 10 59		36 41		
10	333 00.2		23.0	295 49.7	126	16.9	96	20	43	05	31	8 49 55		19 58 45		
11	348 00.4	-5 24.0		310 21.3	126	-22 26.4	95	10 N	17 47	18 08	18 33	8 31 51		20 18 48		
12	3 00.6	-5 24.9		324 52.9	126	-22 35.9	95	0	17 51	18 12	18 36	8 14 48		20 37 50		
13	18 00.8		25.9	339 24.3	124	45.2	93	10 S	17 55	16	41	7 57 45		20 55 53		
14	33 00.9		26.8	353 55.6	123	-22 54.5	93	20	18 00	22	48	39 42		21 15 56		
15	48 01.1		27.8	8 26.9	123	-23 03.6	91	30	05	29	18 57	19 37		38 59		
16	63 01.3		28.8	22 58.0	121	12.7	91	35	07	33	19 03	7 07 35		21 52 61		
17	78 01.5	-5 29.7		37 29.1	121	-23 21.6	89	40	18 11	18 38	19 11	6 53 33		22 08 64		
18	93 01.7	-5 30.7		52 00.1	120	-23 30.5	89	45	18 15	18 45	19 20	6 37 29		22 26 68		
19	108 01.8		31.6	66 31.0	119	39.3	88	50	20	53	32	17 24		22 50 72		
20	123 02.0		32.6	81 01.9	119	47.9	86	52	22	18 56	38	6 08 21		23 02 74		
21	138 02.2		33.5	95 32.6	117	-23 56.5	86	54	24	19 01	45	5 58 18		15 77		
22	153 02.4		34.5	110 03.2	116	-24 04.9	84	56	27	05	19 52	46 14		30 81		
23	168 02.6		35.5	124 33.8	116	13.2	83	58	30	11	20 01	32 10		23 48 87		
24	183 02.7	-5 36.4		139 04.3	115	-24 21.5	83	60 S	18 33	19 17	20 11	5 17 2		** ** *		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG 22 ^h 55.6 ^m		Mag: -3.9 PMG: 13 ^h 52 ^m			Mag: +0.4 PMG: 6 ^h 15 ^m			Mag: -2.6 PMG: 4 ^h 21 ^m			Mag: +0.7 PMG: 22 ^h 00 ^m				
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	15 08.9	152 05.2	-17 02.0	266 10.4	+22 56.9	294 32.7	+22 26.4	29 00.1	-8 17.9							
1	30 11.3	167 04.7		03.0	281 11.5	309 35.1	26.4	44 02.7	17.9							
2	45 13.8	182 04.1		04.0	296 12.6	324 37.5	26.4	59 05.3	18.0							
3	60 16.2	197 03.6		05.0	311 13.7	339 40.0	26.4	74 07.9	18.0							
4	75 18.7	212 03.1		06.0	326 14.8	354 42.4	26.4	89 10.5	18.1							
5	90 21.2	227 02.5	-17 07.0	341 15.9	+22 56.4	9 44.8	+22 26.4	104 13.1	-8 18.2							
6	105 23.6	242 02.0	-17 08.1	356 17.0	+22 56.3	24 47.3	+22 26.4	119 15.7	-8 18.2							
7	120 26.1	257 01.5		09.1	11 18.1	39 49.7	26.4	134 18.3	18.3							
8	135 28.6	272 00.9		10.1	26 19.2	54 52.2	26.4	149 20.9	18.3							
9	150 31.0	287 00.4		11.1	41 20.3	69 54.6	26.4	164 23.5	18.4							
10	165 33.5	301 59.8		12.0	56 21.4	84 57.0	26.4	179 26.2	18.4							
11	180 36.0	316 59.3	-17 13.0	71 22.5	+22 55.8	99 59.5	+22 26.4	194 28.8	-8 18.5							
12	195 38.4	331 58.8	-17 14.0	86 23.6	+22 55.7	115 01.9	+22 26.4	209 31.4	-8 18.6							
13	210 40.9	346 58.2		15.0	101 24.7	130 04.3	26.4	224 34.0	18.6							
14	225 43.3	1 57.7		16.0	116 25.8	145 06.8	26.4	239 36.6	18.7							
15	240 45.8	16 57.1		17.0	131 26.9	160 09.2	26.4	254 39.2	18.7							
16	255 48.3	31 56.6		18.0	146 28.0	175 11.7	26.4	269 41.8	18.8							
17	270 50.7	46 56.0	-17 19.0	161 29.2	+22 55.2	190 14.1	+22 26.4	284 44.4	-8 18.8							
18	285 53.2	61 55.5	-17 20.0	176 30.3	+22 55.1	205 16.5	+22 26.4	299 47.0	-8 18.9							
19	300 55.7	76 55.0		21.0	191 31.4	220 19.0	26.4	314 49.6	18.9							
20	315 58.1	91 54.4		22.0	206 32.5	235 21.4	26.4	329 52.2	19.0							
21	331 00.6	106 53.9		23.0	221 33.6	250 23.9	26.4	344 54.8	19.1							
22	346 03.1	121 53.3		24.0	236 34.7	265 26.3	26.4	359 57.4	19.1							
23	1 05.5	136 52.8		25.0	251 35.8	280 28.8	26.4	15 00.0	19.2							
24	16 08.0	151 52.2	-17 26.0	266 36.9	+22 54.5	295 31.2	+22 26.4	30 02.6	-8 19.2							
Dif	—	-5	-10	+11	-1	+24	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 47.7 ^m			Edad: 4.2 ^d SD: 14'9 PMG: 15 ^h 14 ^m PHE { 4 ^h : 54'8 12 ^h : 55'0 20 ^h : 55'1 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	183	02.7	-5	36.4	139	04.3	-24	21.5	60 N	4	51	5	39	6	21	13	02
1	198	02.9		37.4	153	34.7		29.6	58	53		39	18	12	35	84	17
2	213	03.1		38.3	168	05.0		37.6	56	56		39	16	12	13	79	18
3	228	03.3		39.3	182	35.2		45.5	54	57		38	14	11	56	75	26
4	243	03.5		40.2	197	05.3	-24	53.3	52	4	59	38	12		41	72	41
5	258	03.6	-5	41.2	211	35.4	-25	01.0	50	5	00	5	38	6	10	11	28
6	273	03.8	-5	42.1	226	05.4	-25	08.6	45	5	03	5	37	6	06	11	02
7	288	04.0		43.1	240	35.2		16.0	40	04		35	03	10	41	63	19
8	303	04.2		44.1	255	05.0		23.4	35	05		34	6	00	24	61	20
9	318	04.3		45.0	269	34.7		30.6	30	05		33	5	57	10	09	59
10	333	04.5		46.0	284	04.4		37.7	20	05		30	53	9	44	56	20
11	348	04.7	-5	46.9	298	33.9	-25	44.7	10 N	5	03	5	27	5	48	9	22
12	3	04.9	-5	47.9	313	03.3	-25	51.6	0	5	00	5	24	5	44	9	02
13	18	05.1		48.8	327	32.7	-25	58.3	10 S	4	55	19	40	8	42	50	21
14	33	05.2		49.8	342	02.0	-26	04.9	20	48		14	36	8	21	47	22
15	48	05.4		50.7	356	31.2		11.4	30	38		07	31	7	56	45	37
16	63	05.6		51.7	11	00.3		17.8	35	32	5	02	28	42	43	22	53
17	78	05.8	-5	52.6	25	29.4	-26	24.1	40	4	24	4	57	5	24	7	26
18	93	05.9	-5	53.6	39	58.3	-26	30.2	45	4	15	4	50	5	20	7	06
19	108	06.1		54.6	54	27.2		36.2	50	4	02	42	15	6	41	33	**
20	123	06.3		55.5	68	56.0		42.1	52	3	57	38	13	29	31	**	**
21	138	06.5		56.5	83	24.7		47.8	54	50		34	10	16	28	**	**
22	153	06.6		57.4	97	53.3		53.5	56	42		29	08	6	00	24	**
23	168	06.8		58.4	112	21.9	-26	58.9	58	33		24	05	5	42	18	**
24	183	07.0	-5	59.3	126	50.3	-27	04.3	60 S	3	23	4	18	5	19	9	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 51.7 ^m		Mag: -3.9 PMG: 13 ^h 53 ^m		Mag: +0.4 PMG: 6 ^h 13 ^m		Mag: -2.6 PMG: 4 ^h 17 ^m		Mag: +0.7 PMG: 21 ^h 56 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	16	08.0	151	52.2	-17	26.0	266	36.9	+22	54.5	295	31.2	+22	26.4	30	02.6	-8	19.2
1	31	10.5	166	51.7		26.9	281	38.0		54.4	310	33.6		26.4	45	05.3		19.3
2	46	12.9	181	51.1		27.9	296	39.1		54.3	325	36.1		26.4	60	07.9		19.3
3	61	15.4	196	50.6		28.9	311	40.2		54.2	340	38.5		26.4	75	10.5		19.4
4	76	17.8	211	50.0		29.9	326	41.4		54.1	355	41.0		26.4	90	13.1		19.4
5	91	20.3	226	49.5	-17	30.9	341	42.5	+22	54.0	10	43.4	+22	26.4	105	15.7	-8	19.5
6	106	22.8	241	48.9	-17	31.9	356	43.6	+22	53.8	25	45.9	+22	26.4	120	18.3	-8	19.6
7	121	25.2	256	48.4		32.9	11	44.7		53.7	40	48.3		26.4	135	20.9		19.6
8	136	27.7	271	47.8		33.8	26	45.8		53.6	55	50.8		26.4	150	23.5		19.7
9	151	30.2	286	47.3		34.8	41	46.9		53.5	70	53.2		26.4	165	26.1		19.7
10	166	32.6	301	46.7		35.8	56	48.0		53.4	85	55.7		26.4	180	28.7		19.8
11	181	35.1	316	46.2	-17	36.8	71	49.1	+22	53.3	100	58.1	+22	26.4	195	31.3	-8	19.8
12	196	37.6	331	45.6	-17	37.8	86	50.3	+22	53.2	116	00.6	+22	26.4	210	33.9	-8	19.9
13	211	40.0	346	45.1		38.7	101	51.4		53.1	131	03.0		26.4	225	36.5		19.9
14	226	42.5	1	44.5		39.7	116	52.5		53.0	146	05.4		26.4	240	39.1		20.0
15	241	45.0	16	44.0		40.7	131	53.6		52.9	161	07.9		26.4	255	41.7		20.0
16	256	47.4	31	43.4		41.7	146	54.7		52.8	176	10.3		26.4	270	44.3		20.1
17	271	49.9	46	42.9	-17	42.6	161	55.8	+22	52.7	191	12.8	+22	26.4	285	46.9	-8	20.2
18	286	52.3	61	42.3	-17	43.6	176	57.0	+22	52.6	206	15.2	+22	26.4	300	49.5	-8	20.2
19	301	54.8	76	41.7		44.6	191	58.1		52.5	221	17.7		26.4	315	52.1		20.3
20	316	57.3	91	41.2		45.6	206	59.2		52.4	236	20.1		26.4	330	54.7		20.3
21	331	59.7	106	40.6		46.5	222	00.3		52.3	251	22.6		26.4	345	57.4		20.4
22	347	02.2	121	40.1		47.5	237	01.4		52.2	266	25.0		26.4	1	00.0		20.4
23	2	04.7	136	39.5		48.5	252	02.6		52.1	281	27.5		26.4	16	02.6		20.5
24	17	07.1	151	39.0	-17	49.5	267	03.7	+22	52.0	296	30.0	+22	26.4	31	05.2	-8	20.5
Dif	—		-6	-10			+11	-1			+24	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 47.4 ^m			Edad: 5.2 ^d PHE { 4 ^h : 55 ^h 3 12 ^h : 55 ^h 5 20 ^h : 55 ^h 7 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	183	07.0	-5	59.3	126	50.3	94	-27	04.3	52	60 N	17 10	17 52	18 40	14 37	71	17 33	45		
1	198	07.2	-6	00.3	141	18.7	93		09.5	51	58	13	52	38	13 59	66	18 12	50		
2	213	07.3		01.2	155	47.0	93		14.6	50	56	16	53	36	32	64	18 39	52		
3	228	07.5		02.2	170	15.3	93		19.6	48	54	18	54	34	13 11	62	19 01	52		
4	243	07.7		03.1	184	43.4	91		24.4	47	52	21	54	33	12 53	62	18 54			
5	258	07.9	-6	04.1	199	11.5	91	-27	29.1	47	50	17 23	17 55	18 32	12 38	61	19 34	53		
6	273	08.0	-6	05.0	213	39.5	90	-27	33.6	45	45	17 27	17 56	18 30	12 08	59	20 04	55		
7	288	08.2		06.0	228	07.5	90		38.0	44	40	31	58	29	11 44	59	28 55			
8	303	08.4		06.9	242	35.3	88		42.3	43	35	34	17 59	28	25	58	20 48	55		
9	318	08.5		07.9	257	03.1	88		46.4	41	30	37	18 01	28	11 08	58	21 05	55		
10	333	08.7		08.8	271	30.8	87		50.4	40	20	42	04	29	10 40	57	33	56		
11	348	08.9	-6	09.8	285	58.5	87	-27	54.2	38	10 N	17 46	18 07	18 32	10 16	56	21 58	55		
12	3	09.1	-6	10.7	300	26.1	86	-27	57.9	37	0	17 51	18 11	18 36	9 54	55	22 20	56		
13	18	09.2		11.7	314	53.6	85	-28	01.5	36	10 S	17 55	16	41	32	54	22 43	56		
14	33	09.4		12.6	329	21.0	84		04.9	34	20	18 00	22	48	9 08	53	23 08	56		
15	48	09.6		13.6	343	48.4	84		08.2	33	30	06	30	18 58	8 41	52	36	56		
16	63	09.8		14.5	358	15.8	84		11.3	31	35	09	35	19 05	25	51	23 53	56		
17	78	09.9	-6	15.5	12	43.0	82	-28	14.3	30	40	18 13	18 40	19 13	8 06	50	** ** *	** ** *		
18	93	10.1	-6	16.4	27	10.2	82	-28	17.1	28	45	18 17	18 47	19 23	7 43	49	** ** *	** ** *		
19	108	10.3		17.4	41	37.3	81		19.7	26	50	23	18 56	36	14	47	0 02	66		
20	123	10.4		18.3	56	04.4	81		22.3	26	52	25	19 00	42	7 00	45	16	67		
21	138	10.6		19.3	70	31.4	80		24.6	23	54	28	05	49	6 44	43	32	69		
22	153	10.8		20.2	84	58.4	80		26.9	23	56	31	10	19 57	24	41	0 51	72		
23	168	11.0		21.2	99	25.3	79		28.9	20	58	34	15	20 07	6 00	37	1 15	76		
24	183	11.1	-6	22.1	113	52.1	78	-28	30.9	20	60 S	18 38	19 22	20 18	5 28	28	1 46	86		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 22 ^h 47.8 ^m		Mag: -3.9 PMG: 13 ^h 54 ^m		Mag: +0.4 PMG: 6 ^h 11 ^m		Mag: -2.6 PMG: 4 ^h 13 ^m		Mag: +0.7 PMG: 21 ^h 52 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	17	07.1	151	39.0	-17	49.5	296	30.0	+22	26.4	31	05.2	-8	20.5						
1	32	09.6	166	38.4		50.4	311	32.4		26.4	46	07.8		20.6						
2	47	12.1	181	37.8		51.4	326	34.9		26.4	61	10.4		20.6						
3	62	14.5	196	37.3		52.4	341	37.3		26.4	76	13.0		20.7						
4	77	17.0	211	36.7		53.3	356	39.8		26.4	91	15.6		20.8						
5	92	19.4	226	36.1	-17	54.3	342	09.3	+22	51.4	11	42.2	+22	26.4	106	18.2	-8	20.8		
6	107	21.9	241	35.6	-17	55.3	357	10.4	+22	51.3	26	44.7	+22	26.4	121	20.8	-8	20.9		
7	122	24.4	256	35.0		56.2	12	11.6		51.2	41	47.1		26.4	136	23.4		20.9		
8	137	26.8	271	34.5		57.2	27	12.7		51.1	56	49.6		26.4	151	26.0		21.0		
9	152	29.3	286	33.9		58.2	42	13.8		51.0	71	52.0		26.4	166	28.6		21.0		
10	167	31.8	301	33.3	-17	59.1	57	14.9		50.9	86	54.5		26.4	181	31.2		21.1		
11	182	34.2	316	32.8	-18	00.1	72	16.1	+22	50.8	101	57.0	+22	26.4	196	33.8	-8	21.1		
12	197	36.7	331	32.2	-18	01.0	87	17.2	+22	50.7	116	59.4	+22	26.4	211	36.4	-8	21.2		
13	212	39.2	346	31.6		02.0	102	18.3		50.6	132	01.9		26.4	226	39.0		21.2		
14	227	41.6	1	31.1		03.0	117	19.4		50.5	147	04.3		26.4	241	41.6		21.3		
15	242	44.1	16	30.5		03.9	132	20.6		50.3	162	06.8		26.4	256	44.2		21.3		
16	257	46.6	31	29.9		04.9	147	21.7		50.2	177	09.2		26.4	271	46.8		21.4		
17	272	49.0	46	29.4	-18	05.8	162	22.8	+22	50.1	192	11.7	+22	26.4	286	49.4	-8	21.5		
18	287	51.5	61	28.8	-18	06.8	177	24.0	+22	50.0	207	14.2	+22	26.4	301	52.0	-8	21.5		
19	302	53.9	76	28.2		07.7	192	25.1		49.9	222	16.6		26.4	316	54.6		21.6		
20	317	56.4	91	27.7		08.7	207	26.2		49.8	237	19.1		26.4	331	57.2		21.6		
21	332	58.9	106	27.1		09.7	222	27.4		49.7	252	21.5		26.4	346	59.8		21.7		
22	348	01.3	121	26.5		10.6	237	28.5		49.6	267	24.0		26.4	2	02.4		21.7		
23	3	03.8	136	26.0		11.6	252	29.6		49.5	282	26.5		26.4	17	05.0		21.8		
24	18	06.3	151	25.4	-18	12.5	267	30.8	+22	49.4	297	28.9	+22	26.4	32	07.6	-8	21.8		
Dif	—		-6		-10		+11		-1		+25		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 47.1 ^m			Edad: 6.2 ^d PHE { 4 ^h : 55 ⁹ 12 ^h : 56 ² 20 ^h : 56 ⁴ PMG: 17 ^h 03 ^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	11.1	-6	22.1	113	52.1	-28	30.9	17	60 N	4	56	5	44	6	26	15	48	29
1	198	11.3		23.1	128	18.9		32.6	16	58	4	58		43	23	15	05	39	
2	213	11.5		24.0	142	45.7		34.2	15	56	5	00		43	20	14	36	43	
3	228	11.6		25.0	157	12.3		35.7	13	54		01		42	17	14	13	46	
4	243	11.8		25.9	171	39.0		37.0	11	52		02		41	15	13	55	47	
5	258	12.0	-6	26.9	186	05.6	-28	38.1	10	50	5	03	5	41	6	13	13	39	
6	273	12.1	-6	27.8	200	32.1	-28	39.1	9	45	5	05	5	39	6	08	13	07	
7	288	12.3		28.8	214	58.6		40.0	8	40		06		37	05	12	43	52	
8	303	12.5		29.7	229	25.1		40.6	6	35		07		36	6	01		23	
9	318	12.6		30.7	243	51.5		41.1	5	30		07		34	5	58	12	06	
10	333	12.8		31.6	258	17.9		41.5	4	20		05		31	53	11	37	55	
11	348	13.0	-6	32.6	272	44.2	-28	41.7	3	10 N	5	03	5	27	5	48	11	12	
12	3	13.2	-6	33.5	287	10.5	-28	41.7	2	0	4	59	5	23	5	44	10	49	
13	18	13.3		34.5	301	36.7		41.6	1	10 S		53		18	39	26	57		
14	33	13.5		35.4	316	03.0		41.3	3	20		46		12	34	10	01	58	
15	48	13.7		36.4	330	29.2		40.9	4	30		36	5	04	28	9	33	59	
16	63	13.8		37.3	344	55.3		40.3	6	35		29	4	59	25	9	16	59	
17	78	14.0	-6	38.3	359	21.4	-28	39.5	8	40	4	21	4	54	5	21	8	56	
18	93	14.2	-6	39.2	13	47.5	-28	38.6	9	45	4	11	4	47	5	16	8	32	
19	108	14.3		40.1	28	13.6		37.5	11	50	3	58		38	11	8	01	61	
20	123	14.5		41.1	42	39.7		36.2	13	52		51		34	08	7	45	62	
21	138	14.7		42.0	57	05.7		34.8	14	54		44		29	06	27	63		
22	153	14.8		43.0	71	31.7		33.2	16	56		36		24	5	03	7	05	
23	168	15.0		43.9	85	57.7		31.4	18	58		27		18	4	59	6	37	
24	183	15.2	-6	44.9	100	23.6	-28	29.5	19	60 S	3	16	4	11	4	55	5	56	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 22 ^h 43.8 ^m		Mag: -3.9 PMG: 13 ^h 55 ^m			Mag: +0.4 PMG: 6 ^h 09 ^m			Mag: -2.6 PMG: 4 ^h 09 ^m			Mag: +0.7 PMG: 21 ^h 48 ^m							
	hG ♈		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	18	06.3	151	25.4	-18	12.5	267	30.8	+22	49.4	297	28.9	+22	26.4					
1	33	08.7	166	24.8		13.5	282	31.9		49.3	312	31.4		26.4					
2	48	11.2	181	24.2		14.4	297	33.0		49.2	327	33.8		26.4					
3	63	13.7	196	23.7		15.4	312	34.2		49.0	342	36.3		26.4					
4	78	16.1	211	23.1		16.3	327	35.3		48.9	357	38.8		26.4					
5	93	18.6	226	22.5	-18	17.3	342	36.4	+22	48.8	12	41.2	+22	26.4					
6	108	21.1	241	22.0	-18	18.2	357	37.6	+22	48.7	27	43.7	+22	26.4					
7	123	23.5	256	21.4		19.2	12	38.7		48.6	42	46.2		26.4					
8	138	26.0	271	20.8		20.1	27	39.9		48.5	57	48.6		26.4					
9	153	28.4	286	20.2		21.0	42	41.0		48.4	72	51.1		26.4					
10	168	30.9	301	19.7		22.0	57	42.1		48.3	87	53.6		26.4					
11	183	33.4	316	19.1	-18	22.9	72	43.3	+22	48.2	102	56.0	+22	26.4					
12	198	35.8	331	18.5	-18	23.9	87	44.4	+22	48.1	117	58.5	+22	26.4					
13	213	38.3	346	17.9		24.8	102	45.6		48.0	133	00.9		26.4					
14	228	40.8	1	17.3		25.8	117	46.7		47.8	148	03.4		26.4					
15	243	43.2	16	16.8		26.7	132	47.8		47.7	163	05.9		26.4					
16	258	45.7	31	16.2		27.6	147	49.0		47.6	178	08.3		26.4					
17	273	48.2	46	15.6	-18	28.6	162	50.1	+22	47.5	193	10.8	+22	26.4					
18	288	50.6	61	15.0	-18	29.5	177	51.3	+22	47.4	208	13.3	+22	26.4					
19	303	53.1	76	14.5		30.4	192	52.4		47.3	223	15.8		26.4					
20	318	55.6	91	13.9		31.4	207	53.6		47.2	238	18.2		26.4					
21	333	58.0	106	13.3		32.3	222	54.7		47.1	253	20.7		26.4					
22	349	00.5	121	12.7		33.3	237	55.8		47.0	268	23.2		26.4					
23	4	02.9	136	12.1		34.2	252	57.0		46.9	283	25.6		26.4					
24	19	05.4	151	11.5	-18	35.1	267	58.1	+22	46.7	298	28.1	+22	26.4					
Dif	—		-6		-9		+11		-1		+25		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 46.9 ^m			Edad: 7.2 ^d SD: 15'4 PMG: 17 ^h 59 ^m							PHE { 4 ^h : 56'7 12 ^h : 56'9 20 ^h : 57'2 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	
0	183	15.2	-6	44.9	100	23.6	70	-28	29.5	21	60 N	17	04	17	46	18	34	16	17	9
1	198	15.3		45.8	114	49.6	69		27.4	22	58	08		47	32			15	44	19
2	213	15.5		46.8	129	15.5	69		25.2	24	56	11		48	31			15	19	26
3	228	15.6		47.7	143	41.4	69		22.8	26	54	14		49	30			14	59	30
4	243	15.8		48.7	158	07.3	69		20.2	27	52	16		50	29			42	34	
5	258	16.0	-6	49.6	172	33.2	69	-28	17.5	27	50	17	18	17	51	18	28	14	28	36
6	273	16.1	-6	50.5	186	59.1	69	-28	14.6	29	45	17	23	17	53	18	27	13	58	41
7	288	16.3		51.5	201	25.0	69		11.5	31	40	27		55	26			35	44	
8	303	16.5		52.4	215	50.8	68		08.2	33	35	31		56	26			16	47	
9	318	16.6		53.4	230	16.7	69		04.8	34	30	34		58	26			13	00	48
10	333	16.8		54.3	244	42.6	69	-28	01.3	35	20	40		02	28			12	32	52
11	348	17.0	-6	55.3	259	08.4	68	-27	57.5	38	10 N	17	45	18	06	18	31	12	08	54
12	3	17.1	-6	56.2	273	34.3	69	-27	53.6	39	0	17	50	18	11	18	35	11	46	56
13	18	17.3		57.2	288	00.1	68		49.6	40	10 S	17	55	16	41			11	23	59
14	33	17.4		58.1	302	26.0	69		45.3	43	20	18	01	23	18	49		10	59	62
15	48	17.6	-6	59.0	316	51.9	69		40.9	44	30	07		31	19	00		32	64	
16	63	17.8	-7	00.0	331	17.7	68		36.4	45	35	11		36	07			10	15	66
17	78	17.9	-7	00.9	345	43.6	69	-27	31.6	48	40	18	15	18	43	19	15	9	56	68
18	93	18.1	-7	01.9	0	09.5	69	-27	26.7	49	45	18	20	18	50	19	26	9	32	71
19	108	18.3		02.8	14	35.4	69		21.7	50	50	26		59	40			9	02	75
20	123	18.4		03.8	29	01.3	69		16.4	53	52	29		04	46			8	47	77
21	138	18.6		04.7	43	27.2	69		11.0	54	54	32		09	19	54		30	80	
22	153	18.7		05.6	57	53.2	70	-27	05.5	55	56	35		14	20	03		8	09	84
23	168	18.9		06.6	72	19.1	69	-26	59.8	57	58	39		20	12			7	42	90
24	183	19.1	-7	07.5	86	45.1	70	-26	53.9	59	60 S	18	43	19	27	20	24	7	05	101

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 22 ^h 39.9 ^m		Mag: -3.9 PMG: 13 ^h 56 ^m			Mag: +0.4 PMG: 6 ^h 08 ^m			Mag: -2.6 PMG: 4 ^h 05 ^m			Mag: +0.7 PMG: 21 ^h 44 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	19	05.4	151	11.5	-18	35.1	267	58.1	+22	46.7	298	28.1	+22	26.4	33	10.0	-8	23.1
1	34	07.9	166	11.0		36.1	282	59.3		46.6	313	30.6		26.4	48	12.6		23.1
2	49	10.3	181	10.4		37.0	298	00.4		46.5	328	33.0		26.4	63	15.2		23.2
3	64	12.8	196	09.8		37.9	313	01.6		46.4	343	35.5		26.4	78	17.8		23.2
4	79	15.3	211	09.2		38.8	328	02.7		46.3	358	38.0		26.4	93	20.4		23.3
5	94	17.7	226	08.6	-18	39.8	343	03.9	+22	46.2	13	40.5	+22	26.4	108	23.0	-8	23.3
6	109	20.2	241	08.0	-18	40.7	358	05.0	+22	46.1	28	42.9	+22	26.4	123	25.6	-8	23.4
7	124	22.7	256	07.5		41.6	13	06.2		46.0	43	45.4		26.4	138	28.2		23.4
8	139	25.1	271	06.9		42.6	28	07.3		45.9	58	47.9		26.4	153	30.8		23.5
9	154	27.6	286	06.3		43.5	43	08.5		45.8	73	50.4		26.4	168	33.4		23.5
10	169	30.1	301	05.7		44.4	58	09.6		45.6	88	52.8		26.4	183	36.0		23.6
11	184	32.5	316	05.1	-18	45.3	73	10.8	+22	45.5	103	55.3	+22	26.4	198	38.6	-8	23.6
12	199	35.0	331	04.5	-18	46.3	88	11.9	+22	45.4	118	57.8	+22	26.4	213	41.2	-8	23.7
13	214	37.4	346	03.9		47.2	103	13.1		45.3	134	00.3		26.4	228	43.8		23.7
14	229	39.9	1	03.3		48.1	118	14.3		45.2	149	02.7		26.4	243	46.4		23.8
15	244	42.4	16	02.7		49.0	133	15.4		45.1	164	05.2		26.4	258	49.0		23.9
16	259	44.8	31	02.2		49.9	148	16.6		45.0	179	07.7		26.4	273	51.6		23.9
17	274	47.3	46	01.6	-18	50.9	163	17.7	+22	44.9	194	10.2	+22	26.4	288	54.2	-8	24.0
18	289	49.8	61	01.0	-18	51.8	178	18.9	+22	44.8	209	12.6	+22	26.4	303	56.7	-8	24.0
19	304	52.2	76	00.4		52.7	193	20.0		44.6	224	15.1		26.4	318	59.3		24.1
20	319	54.7	90	59.8		53.6	208	21.2		44.5	239	17.6		26.4	334	01.9		24.1
21	334	57.2	105	59.2		54.5	223	22.3		44.4	254	20.1		26.4	349	04.5		24.2
22	349	59.6	120	58.6		55.4	238	23.5		44.3	269	22.5		26.4	4	07.1		24.2
23	5	02.1	135	58.0		56.4	253	24.7		44.2	284	25.0		26.4	19	09.7		24.3
24	20	04.5	150	57.4	-18	57.3	268	25.8	+22	44.1	299	27.5	+22	26.4	34	12.3	-8	24.3
Dif	—		-6		-9		+12		-1		+25		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 46.6 ^m			Edad: 8.2 ^d PHE { 4 ^h : 57:5 12 ^h : 57:8 20 ^h : 58:1 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	183	19.1	-7	07.5	86	45.1	70	-26	53.9	61	60 N	5 00	5 49	6 31	16 26	3 21 36 111		
1	198	19.2		08.5	101	11.1	70		47.8	62	58	02	48	27	16 03	11 21 58 104		
2	213	19.4		09.4	115	37.1	70		41.6	62	56	03	47	24	15 45	16 22 16 98		
3	228	19.5		10.3	130	03.1	70		35.2	64	54	05	46	21	29 20	31 93		
4	243	19.7		11.3	144	29.2	71		28.7	65	52	06	45	18	16 23	44 89		
5	258	19.9	-7	12.2	158	55.2	70	-26	22.0	67	50	5 06	5 44	6 16	15 04	27 22 56 86		
6	273	20.0	-7	13.2	173	21.3	71	-26	15.1	69	45	5 08	5 42	6 11	14 39	32 23 19 80		
7	288	20.2		14.1	187	47.5	72		08.1	70	40	08	39	07	19 37	38 75		
8	303	20.3		15.0	202	13.6	71	-26	00.9	72	35	08	37	03	14 03	40 23 54 71		
9	318	20.5		16.0	216	39.8	72	-25	53.6	73	30	08	36	6 00	13 48	43 *** ** *		
10	333	20.7		16.9	231	06.0	72		46.1	75	20	06	32	5 54	24 47	*** ** *		
11	348	20.8	-7	17.9	245	32.2	72	-25	38.4	77	10 N	5 03	5 27	5 48	13 02	52 *** ** *		
12	3	21.0	-7	18.8	259	58.5	73	-25	30.6	78	0	4 58	5 22	5 43	12 42	55 0 13 56		
13	18	21.1		19.7	274	24.8	73		22.6	80	10 S	52	17	38	22 59	34 53		
14	33	21.3		20.7	288	51.1	73		14.5	81	20	44	10	33	12 01	62 0 57 50		
15	48	21.5		21.6	303	17.5	74	-25	06.2	83	30	33	5 02	26	11 36	67 1 23 46		
16	63	21.6		22.6	317	43.9	74	-24	57.7	85	35	26	4 57	22	21 70	39 43		
17	78	21.8	-7	23.5	332	10.3	74	-24	49.1	86	40	4 17	4 50	5 18	11 04	73 1 56 41		
18	93	21.9	-7	24.4	346	36.8	75	-24	40.3	88	45	4 07	4 43	5 13	10 43	78 2 18 36		
19	108	22.1		25.4	1	03.3	75		31.4	89	50	3 53	33	07	17 84	45 31		
20	123	22.2		26.3	15	29.9	76		22.3	91	52	46	29	04	10 04	87 2 58 28		
21	138	22.4		27.3	29	56.5	76		13.1	92	54	39	24	5 01	9 50	90 3 13 25		
22	153	22.6		28.2	44	23.1	76	-24	03.7	94	56	30	18	4 57	33 94	30 21		
23	168	22.7		29.1	58	49.7	76	-23	54.2	95	58	20	12	54	9 12	101 3 52 14		
24	183	22.9	-7	30.1	73	16.4	77	-23	44.5	97	60 S	3 08	4 05	4 49	8 46	110 4 18 6		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 36.0 ^m		Mag: -3.9 PMG: 13 ^h 57 ^m		Mag: +0.4 PMG: 6 ^h 06 ^m		Mag: -2.6 PMG: 4 ^h 02 ^m		Mag: +0.7 PMG: 21 ^h 39 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	20	04.5	150	57.4	-18	57.3	268	25.8	+22	44.1	299	27.5	+22	26.4	34	12.3	-8	24.3
1	35	07.0	165	56.8		58.2	283	27.0		44.0	314	30.0		26.4	49	14.9		24.4
2	50	09.5	180	56.2	-18	59.1	298	28.1		43.9	329	32.5		26.4	64	17.5		24.4
3	65	11.9	195	55.6	-19	00.0	313	29.3		43.7	344	34.9		26.4	79	20.1		24.5
4	80	14.4	210	55.0	-19	00.9	328	30.5		43.6	359	37.4		26.3	94	22.7		24.5
5	95	16.9	225	54.4	-19	01.8	343	31.6	+22	43.5	14	39.9	+22	26.3	109	25.3	-8	24.6
6	110	19.3	240	53.8	-19	02.7	358	32.8	+22	43.4	29	42.4	+22	26.3	124	27.9	-8	24.6
7	125	21.8	255	53.2		03.6	13	34.0		43.3	44	44.9		26.3	139	30.5		24.7
8	140	24.3	270	52.6		04.5	28	35.1		43.2	59	47.4		26.3	154	33.1		24.7
9	155	26.7	285	52.0		05.4	43	36.3		43.1	74	49.8		26.3	169	35.7		24.8
10	170	29.2	300	51.4		06.4	58	37.4		43.0	89	52.3		26.3	184	38.3		24.8
11	185	31.7	315	50.8	-19	07.3	73	38.6	+22	42.8	104	54.8	+22	26.3	199	40.9	-8	24.9
12	200	34.1	330	50.2	-19	08.2	88	39.8	+22	42.7	119	57.3	+22	26.3	214	43.5	-8	24.9
13	215	36.6	345	49.6		09.1	103	40.9		42.6	134	59.8		26.3	229	46.1		25.0
14	230	39.0	0	49.0		10.0	118	42.1		42.5	150	02.3		26.3	244	48.6		25.0
15	245	41.5	15	48.4		10.9	133	43.3		42.4	165	04.7		26.3	259	51.2		25.1
16	260	44.0	30	47.8		11.8	148	44.4		42.3	180	07.2		26.3	274	53.8		25.1
17	275	46.4	45	47.2	-19	12.7	163	45.6	+22	42.2	195	09.7	+22	26.3	289	56.4	-8	25.2
18	290	48.9	60	46.6	-19	13.6	178	46.8	+22	42.0	210	12.2	+22	26.3	304	59.0	-8	25.2
19	305	51.4	75	46.0		14.5	193	48.0		41.9	225	14.7		26.3	320	01.6		25.3
20	320	53.8	90	45.4		15.4	208	49.1		41.8	240	17.2		26.3	335	04.2		25.3
21	335	56.3	105	44.8		16.3	223	50.3		41.7	255	19.7		26.3	350	06.8		25.4
22	350	58.8	120	44.2		17.1	238	51.5		41.6	270	22.1		26.3	5	09.4		25.4
23	6	01.2	135	43.6		18.0	253	52.6		41.5	285	24.6		26.3	20	12.0		25.5
24	21	03.7	150	43.0	-19	18.9	268	53.8	+22	41.4	300	27.1	+22	26.3	35	14.6	-8	25.5
Dif	—		-6		-9		+12		-1		+25		0		+26		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 0 PMG:11 ^h 46.4 ^m			Edad: 9.2 ^d PHE { 4 ^h : 58 ^h /4 12 ^h : 58 ^h /7 20 ^h : 59 ^h /0 R°: 53 ^m								Civil		Náutico		Hora R°		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif											
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	183	22.9	-7	30.1	73	16.4	-23	44.5	98	60 N	16 59	17 40	18 28	16 29	0	23	27	110
1	198	23.0		31.0	87	43.2		34.7		58	17 02	42	27	14	5	42	103	
2	213	23.2		31.9	102	10.0		24.7	100	56	06	43	26	16	01	10	23	54
3	228	23.3		32.9	116	36.8		14.6	101	54	09	44	25	15	49	15	**	**
4	243	23.5		33.8	131	03.7	-23	04.3	103	52	12	46	24	39	18	**	**	**
5	258	23.6	-7	34.7	145	30.6	-22	53.9	104	50	17 14	17 47	18 24	15	31	20	**	**
6	273	23.8	-7	35.7	159	57.6	-22	43.3	106	45	17 20	17 49	18 23	15	11	27	**	**
7	288	23.9		36.6	174	24.6		32.6	107	40	24	52	23	14	56	31	**	**
8	303	24.1		37.6	188	51.6		21.7	109	35	28	54	23	43	35	**	**	**
9	318	24.3		38.5	203	18.7	-22	10.7	110	30	32	17	56	24	31	38	0	08
10	333	24.4		39.4	217	45.9	-21	59.6	111	20	38	18	01	26	14	11	44	31
11	348	24.6	-7	40.4	232	13.0	-21	48.3	113	10 N	17 44	18 05	18 30	13	54	49	0	50
12	3	24.7	-7	41.3	246	40.3	-21	36.9	114	0	17 50	18 11	18 35	13	37	54	1	09
13	18	24.9		42.2	261	07.5		25.3	116	10 S	17 55	16	41	21	58		27	50
14	33	25.0		43.2	275	34.9		13.6	117	20	18 01	24	18	50	13	03	63	1
15	48	25.2		44.1	290	02.2	-21	01.8	118	30	08	33	19	01	12	43	69	2
16	63	25.3		45.0	304	29.6	-20	49.8	120	35	12	38	09	31	72		22	37
17	78	25.5	-7	46.0	318	57.1	-20	37.7	121	40	18 17	18 45	19 18	12	17	76	2	37
18	93	25.6	-7	46.9	333	24.6	-20	25.5	122	45	18 23	18 53	19 29	12	01	81	2	54
19	108	25.8		47.8	347	52.2		13.1	124	50	29	19 03	44	11	41	87	3	16
20	123	25.9		48.8	2	19.8	-20	00.6	125	52	32	07	51	31	90		26	21
21	138	26.1		49.7	16	47.4	-19	47.9	127	54	36	13	19	59	20	94	38	17
22	153	26.2		50.6	31	15.1		35.2	127	56	39	19	20	08	11	07	99	3
23	168	26.4		51.6	45	42.8		22.3	129	58	43	25	18	10	53	103	4	06
24	183	26.5	-7	52.5	60	10.6	-19	09.3	130	60 S	18 48	19 33	20 31	10	36	110	4	24
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 22 ^h 32.1 ^m		Mag: -3.9 PMG: 13 ^h 58 ^m				Mag: +0.4 PMG: 6 ^h 04 ^m				Mag: -2.6 PMG: 3 ^h 58 ^m				Mag: +0.7 PMG: 21 ^h 35 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	21	03.7	150	43.0	-19	18.9	268	53.8	+22	41.4	300	27.1	+22	26.3	35	14.6	-8	25.5
1	36	06.2	165	42.4		19.8	283	55.0		41.3	315	29.6		26.3	50	17.2		25.6
2	51	08.6	180	41.8		20.7	298	56.2		41.1	330	32.1		26.3	65	19.8		25.6
3	66	11.1	195	41.2		21.6	313	57.3		41.0	345	34.6		26.3	80	22.4		25.6
4	81	13.5	210	40.6		22.5	328	58.5		40.9	0	37.1		26.3	95	25.0		25.7
5	96	16.0	225	39.9	-19	23.4	343	59.7	+22	40.8	15	39.6	+22	26.3	110	27.5	-8	25.7
6	111	18.5	240	39.3	-19	24.3	359	00.9	+22	40.7	30	42.1	+22	26.3	125	30.1	-8	25.8
7	126	20.9	255	38.7		25.2	14	02.0		40.6	45	44.6		26.3	140	32.7		25.8
8	141	23.4	270	38.1		26.1	29	03.2		40.5	60	47.0		26.3	155	35.3		25.9
9	156	25.9	285	37.5		26.9	44	04.4		40.3	75	49.5		26.3	170	37.9		25.9
10	171	28.3	300	36.9		27.8	59	05.6		40.2	90	52.0		26.3	185	40.5		26.0
11	186	30.8	315	36.3	-19	28.7	74	06.8	+22	40.1	105	54.5	+22	26.3	200	43.1	-8	26.0
12	201	33.3	330	35.7	-19	29.6	89	07.9	+22	40.0	120	57.0	+22	26.3	215	45.7	-8	26.1
13	216	35.7	345	35.1		30.5	104	09.1		39.9	135	59.5		26.3	230	48.3		26.1
14	231	38.2	0	34.4		31.4	119	10.3		39.8	151	02.0		26.3	245	50.9		26.2
15	246	40.7	15	33.8		32.2	134	11.5		39.7	166	04.5		26.3	260	53.5		26.2
16	261	43.1	30	33.2		33.1	149	12.7		39.5	181	07.0		26.3	275	56.0		26.3
17	276	45.6	45	32.6	-19	34.0	164	13.8	+22	39.4	196	09.5	+22	26.3	290	58.6	-8	26.3
18	291	48.0	60	32.0	-19	34.9	179	15.0	+22	39.3	211	12.0	+22	26.3	306	01.2	-8	26.4
19	306	50.5	75	31.4		35.7	194	16.2		39.2	226	14.5		26.3	321	03.8		26.4
20	321	53.0	90	30.8		36.6	209	17.4		39.1	241	17.0		26.3	336	06.4		26.5
21	336	55.4	105	30.1		37.5	224	18.6		39.0	256	19.5		26.3	351	09.0		26.5
22	351	57.9	120	29.5		38.4	239	19.8		38.8	271	22.0		26.3	6	11.6		26.6
23	7	00.4	135	28.9		39.2	254	20.9		38.7	286	24.5		26.3	21	14.2		26.6
24	22	02.8	150	28.3	-19	40.1	269	22.1	+22	38.6	301	27.0	+22	26.3	36	16.8	-8	26.7
Dif	—		-6		-9		+12		-1		+25		0		+26		0	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16'0 PMG:11 ^h 46.1 ^m			Edad: 10.2 ^d PHE { 4 ^h : 59'3 12 ^h : 59'6 20 ^h : 59'9 R°: 51 ^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	26.5	-7	52.5	60	10.6	88	-19	09.3	132	60 N	5 05	5 53	6 35	16 29	**	**	**	**	
1	198	26.7		53.4	74	38.4	89	-18	56.1	133	58	06	52	32	19	4	**	**	**	
2	213	26.8		54.4	89	06.3	89		42.8	133	56	07	50	28	11	8	**	**	**	
3	228	27.0		55.3	103	34.2	89		29.5	133	54	08	49	25	16 04	11	0	04	9	
4	243	27.1		56.2	118	02.2	90		15.9	136	52	09	48	22	15 57	14		13	91	
5	258	27.3	-7	57.2	132	30.2	90	-18	02.3	136	50	5 09	5 47	6 19	15 51	17	0	22	87	
6	273	27.4	-7	58.1	146	58.2	90	-17	48.5	138	45	5 10	5 44	6 14	15 38	22	0	39	82	
7	288	27.6	-7	59.0	161	26.3	91		34.7	138	40	10	41	09	27 27		0	53	77	
8	303	27.7	-8	00.0	175	54.5	92		20.7	140	35	10	39	05	18 31		1	05	72	
9	318	27.9	-8	00.9	190	22.6	91	-17	06.6	141	30	09	37	6 01	15 09	35		16	68	
10	333	28.0		01.8	204	50.9	93	-16	52.4	142	20	06	32	5 54	14 55	41		33	63	
11	348	28.2	-8	02.8	219	19.1	92	-16	38.0	144	10 N	5 03	5 27	5 48	14 43	46	1	49	57	
12	3	28.3	-8	03.7	233	47.4	93	-16	23.6	144	0	4 58	5 22	5 43	14 31	51	2	03	52	
13	18	28.5		04.6	248	15.8	94	-16	09.0	146	10 S	51	16	37	19 57		17	48		
14	33	28.6		05.5	262	44.2	94	-15	54.4	148	20	43	5 09	31	14 06	62		32	43	
15	48	28.8		06.5	277	12.6	94		39.6	148	30	31	4 59	24	13 52	68		49	37	
16	63	28.9		07.4	291	41.1	95		24.7	149	35	23	54	20	43 72		2	59	33	
17	78	29.1	-8	08.3	306	09.6	95	-15	09.7	150	40	4 14	4 47	5 15	13 33	77	3	10	29	
18	93	29.2	-8	09.3	320	38.1	95	-14	54.6	151	45	4 03	4 39	5 09	13 22	81	3	23	25	
19	108	29.4		10.2	335	06.7	96		39.4	152	50	3 48	29	5 03	08 88		39	18		
20	123	29.5		11.1	349	35.3	96		24.2	152	52	41	24	4 59	13 01	91		47	15	
21	138	29.6		12.0	4	04.0	97	-14	08.8	154	54	33	19	56	12 54	94	3	55	12	
22	153	29.8		13.0	18	32.7	97	-13	53.3	155	56	24	13	52	46 98		4	04	9	
23	168	29.9		13.9	33	01.4	97		37.7	156	58	13	4 06	48	36 103		14	5		
24	183	30.1	-8	14.8	47	30.2	98	-13	22.0	157	60 S	3 01	3 59	4 43	12 26	107	4	26	0	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 22 ^h 28.1 ^m		Mag: -3.9 PMG: 13 ^h 59 ^m			Mag: +0.4 PMG: 6 ^h 02 ^m			Mag: -2.6 PMG: 3 ^h 54 ^m			Mag: +0.7 PMG: 21 ^h 31 ^m								
	hG ♈		hG ♀			hG ♂			hG ♃			hG ♄								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	22	02.8	150	28.3	-19	40.1	269	22.1	+22	38.6	301	27.0	+22	26.3	36	16.8	-8	26.7		
1	37	05.3	165	27.7		41.0	284	23.3		38.5	316	29.5		26.3	51	19.4		26.7		
2	52	07.8	180	27.0		41.9	299	24.5		38.4	331	32.0		26.3	66	22.0		26.8		
3	67	10.2	195	26.4		42.7	314	25.7		38.3	346	34.5		26.3	81	24.5		26.8		
4	82	12.7	210	25.8		43.6	329	26.9		38.2	1	36.9		26.2	96	27.1		26.9		
5	97	15.1	225	25.2	-19	44.5	344	28.1	+22	38.0	16	39.4	+22	26.2	111	29.7	-8	26.9		
6	112	17.6	240	24.6	-19	45.3	359	29.2	+22	37.9	31	41.9	+22	26.2	126	32.3	-8	26.9		
7	127	20.1	255	23.9		46.2	14	30.4		37.8	46	44.4		26.2	141	34.9		27.0		
8	142	22.5	270	23.3		47.1	29	31.6		37.7	61	46.9		26.2	156	37.5		27.0		
9	157	25.0	285	22.7		47.9	44	32.8		37.6	76	49.5		26.2	171	40.1		27.1		
10	172	27.5	300	22.1		48.8	59	34.0		37.5	91	52.0		26.2	186	42.7		27.1		
11	187	29.9	315	21.4	-19	49.7	74	35.2	+22	37.3	106	54.5	+22	26.2	201	45.3	-8	27.2		
12	202	32.4	330	20.8	-19	50.5	89	36.4	+22	37.2	121	57.0	+22	26.2	216	47.8	-8	27.2		
13	217	34.9	345	20.2		51.4	104	37.6		37.1	136	59.5		26.2	231	50.4		27.3		
14	232	37.3	0	19.6		52.2	119	38.8		37.0	152	02.0		26.2	246	53.0		27.3		
15	247	39.8	15	18.9		53.1	134	40.0		36.9	167	04.5		26.2	261	55.6		27.4		
16	262	42.3	30	18.3		54.0	149	41.2		36.8	182	07.0		26.2	276	58.2		27.4		
17	277	44.7	45	17.7	-19	54.8	164	42.4	+22	36.6	197	09.5	+22	26.2	292	00.8	-8	27.5		
18	292	47.2	60	17.1	-19	55.7	179	43.6	+22	36.5	212	12.0	+22	26.2	307	03.4	-8	27.5		
19	307	49.6	75	16.4		56.5	194	44.8		36.4	227	14.5		26.2	322	06.0		27.6		
20	322	52.1	90	15.8		57.4	209	46.0		36.3	242	17.0		26.2	337	08.5		27.6		
21	337	54.6	105	15.2		58.2	224	47.2		36.2	257	19.5		26.2	352	11.1		27.7		
22	352	57.0	120	14.5		59.1	239	48.4		36.1	272	22.0		26.2	7	13.7		27.7		
23	7	59.5	135	13.9	-19	59.9	254	49.5		35.9	287	24.5		26.2	22	16.3		27.7		
24	23	02.0	150	13.3	-20	00.8	269	50.7	+22	35.8	302	27.0	+22	26.2	37	18.9	-8	27.8		
Dif	—		-6			-9	+12			-1	+25		0		+26			0		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 11 ^h 45.9 ^m				Edad: 11.2 ^d SD: 16'3 PMG: 21 ^h 34 ^m PHE { 4 ^h : 60'1 12 ^h : 60'4 20 ^h : 60'6 R°: 51 ^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	30.1	-8	14.8	47	30.2	-13	22.0	157	60 N	16 53	17 35	18 23	16 28	**	1 17	107	
1	198	30.2		15.8	61	59.0	-13	06.3	159	58	16 57	37	22	23	3	25	102	
2	213	30.4		16.7	76	27.8	-12	50.4	159	56	17 01	38	21	19	6	32	98	
3	228	30.5		17.6	90	56.7		34.5	159	54	04	40	21	15	9	38	95	
4	243	30.7		18.5	105	25.5		18.4	161	52	07	41	20	11	12	44	91	
5	258	30.8	-8	19.5	119	54.5	-12	02.3	161	50	17 10	17 43	18 20	16 08	15	1 49	89	
6	273	31.0	-8	20.4	134	23.4	-11	46.1	162	45	17 16	17 46	18 20	16 00	21	2 01	81	
7	288	31.1		21.3	148	52.4		29.8	163	40	21	49	20	15	54	10	76	
8	303	31.2		22.3	163	21.4	-11	13.4	164	35	26	51	21	49	30	17	73	
9	318	31.4		23.2	177	50.4	-10	57.0	164	30	30	54	22	44	34	24	69	
10	333	31.5		24.1	192	19.5		40.4	166	20	37	17 59	25	36	40	36	62	
11	348	31.7	-8	25.0	206	48.5	-10	23.8	166	10 N	17 43	18 04	18 29	15 29	46	2 46	56	
12	3	31.8	-8	26.0	221	17.6	-10	07.2	166	0	17 49	18 10	18 34	15 22	51	2 55	51	
13	18	32.0		26.9	235	46.8	-9	50.4	168	10 S	17 55	17	41	16	56	3 05	46	
14	33	32.1		27.8	250	15.9		33.6	168	20	18 02	24	18 50	08	63	15	40	
15	48	32.2		28.7	264	45.1	-9	16.7	169	30	10	34	19 03	15 00	69	26	34	
16	63	32.4		29.7	279	14.3	-8	59.7	170	35	14	40	11	14 55	73	32	30	
17	78	32.5	-8	30.6	293	43.5	-8	42.7	170	40	18 19	18 47	19 20	14 50	77	3 39	26	
18	93	32.7	-8	31.5	308	12.7	-8	25.6	171	45	18 25	18 56	19 32	14 43	83	3 48	21	
19	108	32.8		32.4	322	41.9	-8	08.4	172	50	32	19 06	47	36	88	3 57	16	
20	123	32.9		33.4	337	11.2	-7	51.2	172	52	36	11	19 55	32	92	4 02	13	
21	138	33.1		34.3	351	40.4		33.9	173	54	39	17	20 03	28	95	07	10	
22	153	33.2		35.2	6	09.7	-7	16.5	174	56	43	23	13	24	98	13	6	
23	168	33.4		36.1	20	39.0	-6	59.1	174	58	48	30	24	19 102	19	3		
24	183	33.5	-8	37.0	35	08.3	-6	41.7	174	60 S	18 53	19 38	20 38	14 13	107	4 26	**	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 22 ^h 24.2 ^m		Mag: -3.9 PMG: 14 ^h 00 ^m				Mag: +0.3 PMG: 6 ^h 00 ^m				Mag: -2.6 PMG: 3 ^h 50 ^m				Mag: +0.7 PMG: 21 ^h 27 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	23	02.0	150	13.3	-20	00.8	269	50.7	+22	35.8	302	27.0	+22	26.2	37	18.9	-8	27.8
1	38	04.4	165	12.7		01.6	284	51.9		35.7	317	29.5		26.2	52	21.5		27.8
2	53	06.9	180	12.0		02.5	299	53.1		35.6	332	32.0		26.2	67	24.1		27.9
3	68	09.4	195	11.4		03.3	314	54.3		35.5	347	34.5		26.2	82	26.7		27.9
4	83	11.8	210	10.8		04.2	329	55.6		35.4	2	37.0		26.2	97	29.2		28.0
5	98	14.3	225	10.1	-20	05.0	344	56.8	+22	35.2	17	39.5	+22	26.2	112	31.8	-8	28.0
6	113	16.8	240	09.5	-20	05.9	359	58.0	+22	35.1	32	42.1	+22	26.2	127	34.4	-8	28.1
7	128	19.2	255	08.9		06.7	14	59.2		35.0	47	44.6		26.2	142	37.0		28.1
8	143	21.7	270	08.2		07.6	30	00.4		34.9	62	47.1		26.2	157	39.6		28.2
9	158	24.1	285	07.6		08.4	45	01.6		34.8	77	49.6		26.2	172	42.2		28.2
10	173	26.6	300	07.0		09.3	60	02.8		34.7	92	52.1		26.2	187	44.8		28.3
11	188	29.1	315	06.3	-20	10.1	75	04.0	+22	34.5	107	54.6	+22	26.2	202	47.3	-8	28.3
12	203	31.5	330	05.7	-20	10.9	90	05.2	+22	34.4	122	57.1	+22	26.2	217	49.9	-8	28.3
13	218	34.0	345	05.0		11.8	105	06.4		34.3	137	59.6		26.2	232	52.5		28.4
14	233	36.5	0	04.4		12.6	120	07.6		34.2	153	02.1		26.1	247	55.1		28.4
15	248	38.9	15	03.8		13.5	135	08.8		34.1	168	04.7		26.1	262	57.7		28.5
16	263	41.4	30	03.1		14.3	150	10.0		34.0	183	07.2		26.1	278	00.3		28.5
17	278	43.9	45	02.5	-20	15.1	165	11.2	+22	33.8	198	09.7	+22	26.1	293	02.8	-8	28.6
18	293	46.3	60	01.9	-20	16.0	180	12.4	+22	33.7	213	12.2	+22	26.1	308	05.4	-8	28.6
19	308	48.8	75	01.2		16.8	195	13.6		33.6	228	14.7		26.1	323	08.0		28.7
20	323	51.2	90	00.6		17.6	210	14.9		33.5	243	17.2		26.1	338	10.6		28.7
21	338	53.7	104	59.9		18.5	225	16.1		33.4	258	19.7		26.1	353	13.2		28.8
22	353	56.2	119	59.3		19.3	240	17.3		33.3	273	22.2		26.1	8	15.8		28.8
23	8	58.6	134	58.6		20.1	255	18.5		33.1	288	24.8		26.1	23	18.4		28.8
24	24	01.1	149	58.0	-20	21.0	270	19.7	+22	33.0	303	27.3	+22	26.1	38	20.9	-8	28.9
Dif	—		-6		-8		+12		-1		+25		0		+26		0	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16'0 PMG:11 ^h 45.7 ^m			Edad: 12.2 ^d PHE { 4 ^h : 60'8 12 ^h : 61'0 20 ^h : 61'2 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	183	33.5	-8	37.0	35	08.3	-6	41.7	60 N	5	10	5	58	6	40	16	27	**	3	04	107
1	198	33.6		38.0	49	37.6		24.2	58	11		56	36		26	3			07	103	
2	213	33.8		38.9	64	06.9		103	56	11		54	32		25	6			10	99	
3	228	33.9		39.8	78	36.3		104	54	12		53	29		24	10			13	95	
4	243	34.1		40.7	93	05.6		103	52	12		51	25		23	13			15	92	
5	258	34.2	-8	41.7	107	34.9		103	50	5	12	5	50	6	22	16	23	15	3	18	88
6	273	34.3	-8	42.6	122	04.3		104	45	5	12	5	47	6	16	16	21	21	3	22	83
7	288	34.5		43.5	136	33.6		103	40	12		44	11		20	25			26	78	
8	303	34.6		44.4	151	03.0		104	35	11		41	06		19	30			30	73	
9	318	34.7		45.3	165	32.3		103	30	10		38	6	02	18	33			33	69	
10	333	34.9		46.3	180	01.6		103	20	07		33	5	55	16	40			38	62	
11	348	35.0	-8	47.2	194	31.0		104	10 N	5	03	5	27	5	48	16	15	46	3	42	57
12	3	35.2	-8	48.1	209	00.3		103	0	4	57	5	21	5	42	16	13	52	3	46	51
13	18	35.3		49.0	223	29.7		104	10 S	50		15	36		12	57			51	45	
14	33	35.4		49.9	237	59.0		103	20	41		5	07	29	11	62			3	55	40
15	48	35.6		50.9	252	28.3		103	30	28		4	57	22	09	69			4	00	33
16	63	35.7		51.8	266	57.6		103	35	20		51	17		08	73			02	30	
17	78	35.8	-8	52.7	281	26.9		103	40	4	11	4	44	5	12	16	07	78	4	05	26
18	93	36.0	-8	53.6	295	56.2		103	45	3	59	4	35	5	06	16	06	83	4	09	20
19	108	36.1		54.5	310	25.5		103	50	43		25	4	58	04	90			13	15	
20	123	36.2		55.5	324	54.7		102	52	36		20	55		04	92			15	12	
21	138	36.4		56.4	339	24.0		103	54	27		14	51		03	96			17	9	
22	153	36.5		57.3	353	53.2		102	56	18		08	47		02	99			19	7	
23	168	36.6		58.2	8	22.4		102	58	3	06	4	00	43		01	103			22	3
24	183	36.8	-8	59.1	22	51.6		102	60 S	2	53	3	52	4	37	16	00	108	4	25	**
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 22 ^h 20.3 ^m		Mag: -3.9 PMG: 14 ^h 01 ^m			Mag: +0.3 PMG: 5 ^h 58 ^m			Mag: -2.6 PMG: 3 ^h 46 ^m			Mag: +0.7 PMG: 21 ^h 23 ^m									
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	24	01.1	149	58.0	-20	21.0	270	19.7	+22	33.0	303	27.3	+22	26.1	38	20.9	-8	28.9			
1	39	03.6	164	57.4		21.8	285	20.9		32.9	318	29.8		26.1	53	23.5		28.9			
2	54	06.0	179	56.7		22.6	300	22.1		32.8	333	32.3		26.1	68	26.1		29.0			
3	69	08.5	194	56.1		23.4	315	23.3		32.7	348	34.8		26.1	83	28.7		29.0			
4	84	11.0	209	55.4		24.3	330	24.6		32.5	3	37.3		26.1	98	31.3		29.1			
5	99	13.4	224	54.8	-20	25.1	345	25.8	+22	32.4	18	39.9	+22	26.1	113	33.9	-8	29.1			
6	114	15.9	239	54.1	-20	25.9	0	27.0	+22	32.3	33	42.4	+22	26.1	128	36.4	-8	29.2			
7	129	18.4	254	53.5		26.7	15	28.2		32.2	48	44.9		26.1	143	39.0		29.2			
8	144	20.8	269	52.8		27.6	30	29.4		32.1	63	47.4		26.1	158	41.6		29.2			
9	159	23.3	284	52.2		28.4	45	30.6		32.0	78	49.9		26.1	173	44.2		29.3			
10	174	25.7	299	51.6		29.2	60	31.9		31.8	93	52.5		26.1	188	46.8		29.3			
11	189	28.2	314	50.9	-20	30.0	75	33.1	+22	31.7	108	55.0	+22	26.1	203	49.4	-8	29.4			
12	204	30.7	329	50.3	-20	30.9	90	34.3	+22	31.6	123	57.5	+22	26.1	218	51.9	-8	29.4			
13	219	33.1	344	49.6		31.7	105	35.5		31.5	139	00.0		26.1	233	54.5		29.5			
14	234	35.6	359	49.0		32.5	120	36.7		31.4	154	02.5		26.1	248	57.1		29.5			
15	249	38.1	14	48.3		33.3	135	38.0		31.2	169	05.1		26.1	263	59.7		29.6			
16	264	40.5	29	47.7		34.1	150	39.2		31.1	184	07.6		26.1	279	02.3		29.6			
17	279	43.0	44	47.0	-20	34.9	165	40.4	+22	31.0	199	10.1	+22	26.1	294	04.8	-8	29.6			
18	294	45.5	59	46.4	-20	35.7	180	41.6	+22	30.9	214	12.6	+22	26.0	309	07.4	-8	29.7			
19	309	47.9	74	45.7		36.6	195	42.8		30.8	229	15.1		26.0	324	10.0		29.7			
20	324	50.4	89	45.1		37.4	210	44.1		30.6	244	17.7		26.0	339	12.6		29.8			
21	339	52.8	104	44.4		38.2	225	45.3		30.5	259	20.2		26.0	354	15.2		29.8			
22	354	55.3	119	43.8		39.0	240	46.5		30.4	274	22.7		26.0	9	17.8		29.9			
23	9	57.8	134	43.1		39.8	255	47.7		30.3	289	25.2		26.0	24	20.3		29.9			
24	25	00.2	149	42.4	-20	40.6	270	49.0	+22	30.2	304	27.8	+22	26.0	39	22.9	-8	30.0			
Dif	—		-6		-8		+12		-1		+25		0		+26		0				

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16 ^h 0 PMG: 11 ^h 45.4 ^m				Edad: 13.2 ^d SD: 16 ^h 7 PMG: 23 ^h 17 ^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	36.8	-8	59.1	22	51.6	+0	28.8	182	60 N	16	47	17	29	18	17	16	26	**	4	51	109
1	198	36.9	-9	00.0	37	20.8	+0	47.0	182	58	52	31	17				29	3		50	104	
2	213	37.0	-9	01.0	51	49.9	+1	05.2	182	56	56	33	16	31	8					49	100	
3	228	37.2		01.9	66	19.1		23.4	182	54	16	59	35	16	34	10				48	97	
4	243	37.3		02.8	80	48.2		41.7	183	52	17	03	37	16	36	13				47	94	
5	258	37.4	-9	03.7	95	17.3	+1	59.9	182	50	17	06	17	39	18	16	16	38	16	4	46	91
6	273	37.6	-9	04.6	109	46.3	+2	18.1	182	45	17	13	17	42	18	16	16	42	22	4	45	84
7	288	37.7		05.6	124	15.3		36.3	182	40	18		46	17		45	28			44	79	
8	303	37.8		06.5	138	44.3	+2	54.5	182	35	23		49	18		49	31			43	74	
9	318	38.0		07.4	153	13.3	+3	12.7	181	30	28		52	20		51	36			42	70	
10	333	38.1		08.3	167	42.2		30.8	181	20	35		17	58	23	16	56	42		40	64	
11	348	38.2	-9	09.2	182	11.1	+3	49.0	182	10 N	17	42	18	03	18	28	17	01	47	4	39	57
12	3	38.4	-9	10.1	196	40.0	+4	07.1	181	0	17	49	18	10	18	34	17	05	53	4	37	52
13	18	38.5		11.0	211	08.9		25.3	182	10 S	17	55		17		42		09	58	36	46	
14	33	38.6		12.0	225	37.7	+4	43.4	181	20	18	03	25	18	51	13	65			35	40	
15	48	38.8		12.9	240	06.4	+5	01.4	180	30	11		35	19	04	18	72			33	34	
16	63	38.9		13.8	254	35.1		19.5	181	35	16		42		13		21	76		32	30	
17	78	39.0	-9	14.7	269	03.8	+5	37.5	180	40	18	21	18	49	19	23	17	25	80	4	31	26
18	93	39.1	-9	15.6	283	32.5	+5	55.5	180	45	18	28	18	58	19	35	17	29	85	4	29	22
19	108	39.3		16.5	298	01.1	+6	13.5	180	50	36		19	10	51		34	91		28	15	
20	123	39.4		17.4	312	29.6		31.4	179	52	39		15	19	59		36	95		27	13	
21	138	39.5		18.4	326	58.2	+6	49.3	179	54	43		21	20	08		39	98		26	10	
22	153	39.7		19.3	341	26.6	+7	07.2	179	56	48		28		18		41	102		26	6	
23	168	39.8		20.2	355	55.0		25.0	178	58	53		35	30		44	107			25	3	
24	183	39.9	-9	21.1	10	23.4	+7	42.8	178	60 S	18	58	19	44	20	45	17	48	111	4	24	**
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 22 ^h 16.3 ^m		Mag: -3.9 PMG: 14 ^h 02 ^m				Mag: +0.3 PMG: 5 ^h 56 ^m				Mag: -2.6 PMG: 3 ^h 42 ^m				Mag: +0.7 PMG: 21 ^h 19 ^m							
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	25	00.2	149	42.4	-20	40.6	270	49.0	+22	30.2	304	27.8	+22	26.0	39	22.9	-8	30.0				
1	40	02.7	164	41.8		41.4	285	50.2		30.1	319	30.3		26.0	54	25.5		30.0				
2	55	05.2	179	41.1		42.2	300	51.4		29.9	334	32.8		26.0	69	28.1		30.0				
3	70	07.6	194	40.5		43.0	315	52.7		29.8	349	35.3		26.0	84	30.7		30.1				
4	85	10.1	209	39.8		43.8	330	53.9		29.7	4	37.9		26.0	99	33.2		30.1				
5	100	12.6	224	39.2	-20	44.6	345	55.1	+22	29.6	19	40.4	+22	26.0	114	35.8	-8	30.2				
6	115	15.0	239	38.5	-20	45.4	0	56.3	+22	29.5	34	42.9	+22	26.0	129	38.4	-8	30.2				
7	130	17.5	254	37.9		46.2	15	57.6		29.3	49	45.4		26.0	144	41.0		30.3				
8	145	20.0	269	37.2		47.0	30	58.8		29.2	64	48.0		26.0	159	43.6		30.3				
9	160	22.4	284	36.5		47.8	46	00.0		29.1	79	50.5		26.0	174	46.1		30.3				
10	175	24.9	299	35.9		48.6	61	01.3		29.0	94	53.0		26.0	189	48.7		30.4				
11	190	27.3	314	35.2	-20	49.4	76	02.5	+22	28.9	109	55.6	+22	26.0	204	51.3	-8	30.4				
12	205	29.8	329	34.6	-20	50.2	91	03.7	+22	28.7	124	58.1	+22	26.0	219	53.9	-8	30.5				
13	220	32.3	344	33.9		51.0	106	05.0		28.6	140	00.6		26.0	234	56.5		30.5				
14	235	34.7	359	33.2		51.8	121	06.2		28.5	155	03.1		26.0	249	59.0		30.6				
15	250	37.2	14	32.6		52.6	136	07.4		28.4	170	05.7		26.0	265	01.6		30.6				
16	265	39.7	29	31.9		53.4	151	08.7		28.3	185	08.2		26.0	280	04.2		30.6				
17	280	42.1	44	31.2	-20	54.2	166	09.9	+22	28.1	200	10.7	+22	26.0	295	06.8	-8	30.7				
18	295	44.6	59	30.6	-20	55.0	181	11.2	+22	28.0	215	13.3	+22	25.9	310	09.4	-8	30.7				
19	310	47.1	74	29.9		55.8	196	12.4		27.9	230	15.8		25.9	325	11.9		30.8				
20	325	49.5	89	29.3		56.6	211	13.6		27.8	245	18.3		25.9	340	14.5		30.8				
21	340	52.0	104	28.6		57.4	226	14.9		27.7	260	20.9		25.9	355	17.1		30.9				
22	355	54.4	119	27.9		58.1	241	16.1		27.5	275	23.4		25.9	10	19.7		30.9				
23	10	56.9	134	27.3		58.9	256	17.3		27.4	290	25.9		25.9	25	22.2		30.9				
24	25	59.4	149	26.6	-20	59.7	271	18.6	+22	27.3	305	28.5	+22	25.9	40	24.8	-8	31.0				
Dif	—		-7		-8		+12		-1		+25		0		+26							

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:11 ^h 45.2 ^m			Edad: 14.2 ^d PHE { 4 ^h : 61'4 12 ^h : 61'4 20 ^h : 61'3 R°: **m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'		°	h	m	h	m	h	m	h	m	
0	183	39.9	−9	21.1	10	23.4	+7	42.8	5	15	6	03	6	45	16	25	
1	198	40.0		22.0	24	51.7	+8	00.5	15	6	00	41	32	6	34	108	
2	213	40.2		22.9	39	20.0		18.2	15	5	58	36	39	9	29	103	
3	228	40.3		23.8	53	48.2		35.8	15	56	32	44	14	25	99		
4	243	40.4		24.7	68	16.4	+8	53.4	15	55	29	49	17	21	95		
5	258	40.5	−9	25.6	82	44.5	+9	10.9	5	53	6	26	16	54	20	6	
6	273	40.7	−9	26.6	97	12.6	+9	28.4	5	49	6	19	17	04	26	6	
7	288	40.8		27.5	111	40.6	+9	45.8	14	46	13	13	31	6	03	80	
8	303	40.9		28.4	126	08.6	+10	03.2	13	42	08	20	36	5	57	76	
9	318	41.0		29.3	140	36.5		20.5	11	39	6	03	27	39	52	72	
10	333	41.2		30.2	155	04.3		37.7	08	33	5	56	38	45	44	65	
11	348	41.3	−9	31.1	169	32.1	+10	54.9	5	03	5	49	17	48	51	5	
12	3	41.4	−9	32.0	183	59.8	+11	12.0	4	57	5	42	17	58	55	5	
13	18	41.5		32.9	198	27.5		29.0	49	14	35	18	07	61	22	49	
14	33	41.7		33.8	212	55.0	+11	46.0	39	5	05	28	18	66	15	44	
15	48	41.8		34.7	227	22.6	+12	02.8	26	4	55	19	30	72	07	37	
16	63	41.9		35.7	241	50.1		19.6	18	48	14	37	76	5	02	33	
17	78	42.0	−9	36.6	256	17.5	+12	36.4	4	07	4	41	5	09	18	45	
18	93	42.2	−9	37.5	270	44.8	+12	53.0	3	55	4	32	5	02	18	54	
19	108	42.3		38.4	285	12.1	+13	09.6	39	20	4	54	19	05	94	43	
20	123	42.4		39.3	299	39.3		26.0	31	15	51	11	96	40	15		
21	138	42.5		40.2	314	06.4		42.4	22	09	47	17	100	36	12		
22	153	42.7		41.1	328	33.5	+13	58.7	3	11	4	02	42	23	105	32	
23	168	42.8		42.0	343	00.5	+14	14.9	2	59	3	54	37	31	110	28	
24	183	42.9	−9	42.9	357	27.4	+14	31.0	2	45	3	46	4	31	19	39	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 12.4 ^m		Mag: −3.9 PMG: 14 ^h 03 ^m		Mag: +0.3 PMG: 5 ^h 54 ^m		Mag: −2.6 PMG: 3 ^h 37 ^m		Mag: +0.7 PMG: 21 ^h 15 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	25	59.4	149	26.6	−20	59.7	271	18.6	+22	27.3	305	28.5	+22	25.9	40	24.8	−8	31.0
1	41	01.8	164	25.9	−21	00.5	286	19.8		27.2	320	31.0		25.9	55	27.4		31.0
2	56	04.3	179	25.3		01.3	301	21.1		27.1	335	33.5		25.9	70	30.0		31.1
3	71	06.8	194	24.6		02.1	316	22.3		26.9	350	36.1		25.9	85	32.6		31.1
4	86	09.2	209	23.9		02.8	331	23.6		26.8	5	38.6		25.9	100	35.1		31.1
5	101	11.7	224	23.3	−21	03.6	346	24.8	+22	26.7	20	41.1	+22	25.9	115	37.7	−8	31.2
6	116	14.2	239	22.6	−21	04.4	1	26.0	+22	26.6	35	43.7	+22	25.9	130	40.3	−8	31.2
7	131	16.6	254	21.9		05.2	16	27.3		26.5	50	46.2		25.9	145	42.9		31.3
8	146	19.1	269	21.3		06.0	31	28.5		26.3	65	48.7		25.9	160	45.4		31.3
9	161	21.6	284	20.6		06.7	46	29.8		26.2	80	51.3		25.9	175	48.0		31.4
10	176	24.0	299	19.9		07.5	61	31.0		26.1	95	53.8		25.9	190	50.6		31.4
11	191	26.5	314	19.2	−21	08.3	76	32.3	+22	26.0	110	56.4	+22	25.9	205	53.2	−8	31.4
12	206	28.9	329	18.6	−21	09.1	91	33.5	+22	25.9	125	58.9	+22	25.9	220	55.7	−8	31.5
13	221	31.4	344	17.9		09.8	106	34.8		25.7	141	01.4		25.9	235	58.3		31.5
14	236	33.9	359	17.2		10.6	121	36.0		25.6	156	04.0		25.9	251	00.9		31.6
15	251	36.3	14	16.6		11.4	136	37.3		25.5	171	06.5		25.9	266	03.5		31.6
16	266	38.8	29	15.9		12.1	151	38.5		25.4	186	09.1		25.8	281	06.0		31.6
17	281	41.3	44	15.2	−21	12.9	166	39.8	+22	25.3	201	11.6	+22	25.8	296	08.6	−8	31.7
18	296	43.7	59	14.5	−21	13.7	181	41.0	+22	25.1	216	14.1	+22	25.8	311	11.2	−8	31.7
19	311	46.2	74	13.9		14.4	196	42.3		25.0	231	16.7		25.8	326	13.8		31.8
20	326	48.7	89	13.2		15.2	211	43.5		24.9	246	19.2		25.8	341	16.4		31.8
21	341	51.1	104	12.5		16.0	226	44.8		24.8	261	21.8		25.8	356	18.9		31.9
22	356	53.6	119	11.8		16.7	241	46.0		24.7	276	24.3		25.8	11	21.5		31.9
23	11	56.1	134	11.2		17.5	256	47.3		24.5	291	26.8		25.8	26	24.1		31.9
24	26	58.5	149	10.5	−21	18.3	271	48.5	+22	24.4	306	29.4	+22	25.8	41	26.7	−8	32.0
Dif	—		−7		−8		+12		−1		+25		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 45.0 ^m			Edad: 15.2 ^d PHE { 4 ^h : 61/2 12 ^h : 61/0 20 ^h : 60/9 PMG: 0 ^h 11 ^m 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			
0	183	42.9	-9	42.9	357	27.4	79	+14	31.0	160	60 N	16 41	17 24	18 12	16 26	2	8 33	118	
1	198	43.0		43.8	11	54.3	78	+14	47.0	159	58	46	26	12	38	9	22	111	
2	213	43.1		44.7	26	21.1	77	+15	02.9	158	56	51	29	12	48	16	12	105	
3	228	43.3		45.6	40	47.8	76		18.7	157	54	55	31	12	16	58	19	8 04	100
4	243	43.4		46.5	55	14.5	77		34.4	157	52	16 59	33	12	17	06	24	7 56	97
5	258	43.5	-9	47.4	69	41.1		+15	50.0	156	50	17 02	17 35	18 12	17 14	26	7 49	94	
6	273	43.6	-9	48.4	84	07.6	75	+16	05.5	155	45	17 09	17 39	18 13	17 30	33	7 35	86	
7	288	43.7		49.3	98	34.0	74		20.9	154	40	16	43	14	44	37	23	81	
8	303	43.9		50.2	113	00.4	74		36.2	153	35	21	46	16	17	56	41	13	77
9	318	44.0		51.1	127	26.7	73	+16	51.3	151	30	26	50	18	18	06	44	7 04	73
10	333	44.1		52.0	141	52.9	72	+17	06.4	151	20	34	17 56	22	23	50	6 49	67	
11	348	44.2	-9	52.9	156	19.0	71	+17	21.3	149	10 N	17 41	18 03	18 27	18 39	54	6 36	62	
12	3	44.3	-9	53.8	170	45.1	71	+17	36.1	148	0	17 48	18 09	18 34	18 53	59	6 24	57	
13	18	44.4		54.7	185	11.1	70	+17	50.8	147	10 S	17 56	17	42	19	08	63	6 11	53
14	33	44.6		55.6	199	37.0	69	+18	05.3	145	20	18 03	26	18 52	24	68	5 59	47	
15	48	44.7		56.5	214	02.8	68		19.8	145	30	12	37	19 06	42	74	44	41	
16	63	44.8		57.4	228	28.6	68		34.1	143	35	18	44	15	19	53	77	35	38
17	78	44.9	-9	58.3	242	54.3	67	+18	48.3	142	40	18 23	18 52	19 25	20 06	80	5 26	34	
18	93	45.0	-9	59.2	257	19.9	66	+19	02.3	140	45	18 30	19 01	19 38	20 20	86	5 15	28	
19	108	45.1	-10	00.1	271	45.5	66		16.2	139	50	39	13	19 55	39	92	5 01	23	
20	123	45.3		01.0	286	11.0	65		30.0	138	52	43	19	20 04	47	96	4 55	19	
21	138	45.4		01.9	300	36.4	64		43.6	136	54	47	25	13	20	57	100	48	16
22	153	45.5		02.8	315	01.7	63	+19	57.1	135	56	52	32	24	21	08	105	40	12
23	168	45.6		03.7	329	26.9	62	+20	10.5	134	58	18 57	40	37	21	111	32	6	
24	183	45.7	-10	04.6	343	52.1	62	+20	23.7	132	60 S	19 03	19 50	20 52	21 36	120	4 22	0	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 22 ^h 08.5 ^m			Mag: -3.9 PMG: 14 ^h 04 ^m			Mag: +0.3 PMG: 5 ^h 52 ^m			Mag: -2.6 PMG: 3 ^h 33 ^m			Mag: +0.7 PMG: 21 ^h 11 ^m						
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	26	58.5	149	10.5	-21	18.3	271	48.5	+22	24.4	306	29.4	+22	25.8	41	26.7	-8	32.0	
1	42	01.0	164	09.8		19.0	286	49.8		24.3	321	31.9		25.8	56	29.2		32.0	
2	57	03.4	179	09.1		19.8	301	51.0		24.2	336	34.5		25.8	71	31.8		32.1	
3	72	05.9	194	08.4		20.5	316	52.3		24.1	351	37.0		25.8	86	34.4		32.1	
4	87	08.4	209	07.8		21.3	331	53.6		23.9	6	39.6		25.8	101	36.9		32.1	
5	102	10.8	224	07.1	-21	22.1	346	54.8	+22	23.8	21	42.1	+22	25.8	116	39.5	-8	32.2	
6	117	13.3	239	06.4	-21	22.8	1	56.1	+22	23.7	36	44.6	+22	25.8	131	42.1	-8	32.2	
7	132	15.8	254	05.7		23.6	16	57.3		23.6	51	47.2		25.8	146	44.7		32.3	
8	147	18.2	269	05.0		24.3	31	58.6		23.5	66	49.7		25.8	161	47.2		32.3	
9	162	20.7	284	04.4		25.1	46	59.9		23.3	81	52.3		25.8	176	49.8		32.3	
10	177	23.2	299	03.7		25.8	62	01.1		23.2	96	54.8		25.8	191	52.4		32.4	
11	192	25.6	314	03.0	-21	26.6	77	02.4	+22	23.1	111	57.4	+22	25.7	206	55.0	-8	32.4	
12	207	28.1	329	02.3	-21	27.3	92	03.6	+22	23.0	126	59.9	+22	25.7	221	57.5	-8	32.5	
13	222	30.5	344	01.6		28.1	107	04.9		22.9	142	02.5		25.7	237	00.1		32.5	
14	237	33.0	359	00.9		28.8	122	06.2		22.7	157	05.0		25.7	252	02.7		32.5	
15	252	35.5	14	00.3		29.6	137	07.4		22.6	172	07.6		25.7	267	05.3		32.6	
16	267	37.9	28	59.6		30.3	152	08.7		22.5	187	10.1		25.7	282	07.8		32.6	
17	282	40.4	43	58.9	-21	31.1	167	10.0	+22	22.4	202	12.7	+22	25.7	297	10.4	-8	32.7	
18	297	42.9	58	58.2	-21	31.8	182	11.2	+22	22.3	217	15.2	+22	25.7	312	13.0	-8	32.7	
19	312	45.3	73	57.5		32.6	197	12.5		22.1	232	17.8		25.7	327	15.5		32.7	
20	327	47.8	88	56.8		33.3	212	13.8		22.0	247	20.3		25.7	342	18.1		32.8	
21	342	50.3	103	56.1		34.0	227	15.0		21.9	262	22.9		25.7	357	20.7		32.8	
22	357	52.7	118	55.4		34.8	242	16.3		21.8	277	25.4		25.7	12	23.3		32.9	
23	12	55.2	133	54.8		35.5	257	17.6		21.7	292	28.0		25.7	27	25.8		32.9	
24	27	57.7	148	54.1	-21	36.3	272	18.8	+22	21.5	307	30.5	+22	25.7	42	28.4	-8	32.9	
Dif	—			-7			+13			-1			+25			+26			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16'1 PMG:11 ^h 44.9 ^m				Edad: 16.2 ^d PHE { 4 ^h : 60'7 12 ^h : 60'4 20 ^h : 60'2 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	h m m			
0	183	45.7	−10	04.6	343	52.1	+20	23.7	131	60 N	5 19	6 07	6 50	16 28	9	10 31 119			
1	198	45.8		05.5	358	17.2		36.8	129	58	19	05	45	16 47	19	10 13 108			
2	213	46.0		06.4	12	42.3	+20	49.7	128	56	19	02	40	17 04	25	9 57 102			
3	228	46.1		07.3	27	07.2	+21	02.5	126	54	19	6 00	36	17 30		44 96			
4	243	46.2		08.2	41	32.1		15.1	125	52	19	5 58	32	30 33		33 92			
5	258	46.3	−10	09.1	55	56.9	+21	27.6	123	50	5 18	5 56	6 29	17 40	37	9 23 89			
6	273	46.4	−10	10.0	70	21.7	+21	39.9	122	45	5 17	5 52	6 21	18 03	42	9 01 84			
7	288	46.5		10.9	84	46.4	+21	52.1	120	40	16	48	15	21 46		8 44 79			
8	303	46.6		11.8	99	11.0	+22	04.1	119	35	14	44	10	37 48		30 75			
9	318	46.7		12.7	113	35.5		16.0	117	30	13	41	6 05	18 50	51	8 17 73			
10	333	46.9		13.6	128	00.0		27.7	115	20	08	34	5 56	19 13	55	7 56 68			
11	348	47.0	−10	14.5	142	24.4	+22	39.2	114	10 N	5 03	5 27	5 49	19 33	59	7 38 64			
12	3	47.1	−10	15.4	156	48.8	+22	50.6	112	0	4 56	5 21	5 42	19 52	61	7 21 60			
13	18	47.2		16.3	171	13.0	+23	01.8	111	10 S	48	13	34	20 11	64	7 04 57			
14	33	47.3		17.2	185	37.3		12.9	108	20	38	5 04	26	32 67		6 46 53			
15	48	47.4		18.1	200	01.4		23.7	105	30	24	4 53	17	20 56	71	25 48			
16	63	47.5		19.0	214	25.5		34.5	103	35	15	46	12	21 10	73	13 45			
17	78	47.6	−10	19.9	228	49.5	+23	45.0	104	40	4 04	4 38	5 06	21 26	76	6 00 41			
18	93	47.7	−10	20.8	243	13.5	+23	55.4	102	45	3 51	4 28	4 59	21 46	80	5 43 37			
19	108	47.9		21.7	257	37.4	+24	05.6	100	50	34	16	50	22 11	85	24 30			
20	123	48.0		22.6	272	01.3		15.6	98	52	25	10	46	23 87		14 28			
21	138	48.1		23.5	286	25.1		25.4	97	54	16	4 04	42	37 91		5 04 23			
22	153	48.2		24.4	300	48.8		35.1	95	56	3 05	3 57	37	22 53	95	4 52 19			
23	168	48.3		25.2	315	12.5		44.6	93	58	2 52	49	32	23 12	103	38 13			
24	183	48.4	−10	26.1	329	36.2	+24	53.9		60 S	2 37	3 39	4 26	23 36	116	4 22 4			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 22 ^h 04.5 ^m		Mag: −4.0 PMG: 14 ^h 05 ^m				Mag: +0.3 PMG: 5 ^h 50 ^m				Mag: −2.6 PMG: 3 ^h 29 ^m				Mag: +0.8 PMG: 21 ^h 06 ^m				
	hG ♈		hG ♊	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°		°	'	°	'	°	'	°	'	
0	27	57.7	148	54.1	−21	36.3	272	18.8	+22	21.5	307	30.5	+22	25.7	42	28.4	−8	32.9	
1	43	00.1	163	53.4		37.0	287	20.1		21.4	322	33.1		25.7	57	31.0		33.0	
2	58	02.6	178	52.7		37.7	302	21.4		21.3	337	35.6		25.7	72	33.5		33.0	
3	73	05.0	193	52.0		38.5	317	22.6		21.2	352	38.2		25.7	87	36.1		33.1	
4	88	07.5	208	51.3		39.2	332	23.9		21.0	7	40.7		25.7	102	38.7		33.1	
5	103	10.0	223	50.6	−21	39.9	347	25.2	+22	20.9	22	43.3	+22	25.7	117	41.3	−8	33.1	
6	118	12.4	238	49.9	−21	40.7	2	26.5	+22	20.8	37	45.8	+22	25.6	132	43.8	−8	33.2	
7	133	14.9	253	49.2		41.4	17	27.7		20.7	52	48.4		25.6	147	46.4		33.2	
8	148	17.4	268	48.5		42.1	32	29.0		20.6	67	50.9		25.6	162	49.0		33.2	
9	163	19.8	283	47.9		42.9	47	30.3		20.4	82	53.5		25.6	177	51.5		33.3	
10	178	22.3	298	47.2		43.6	62	31.5		20.3	97	56.0		25.6	192	54.1		33.3	
11	193	24.8	313	46.5	−21	44.3	77	32.8	+22	20.2	112	58.6	+22	25.6	207	56.7	−8	33.4	
12	208	27.2	328	45.8	−21	45.1	92	34.1	+22	20.1	128	01.2	+22	25.6	222	59.3	−8	33.4	
13	223	29.7	343	45.1		45.8	107	35.4		20.0	143	03.7		25.6	238	01.8		33.4	
14	238	32.2	358	44.4		46.5	122	36.7		19.8	158	06.3		25.6	253	04.4		33.5	
15	253	34.6	13	43.7		47.2	137	37.9		19.7	173	08.8		25.6	268	07.0		33.5	
16	268	37.1	28	43.0		47.9	152	39.2		19.6	188	11.4		25.6	283	09.5		33.6	
17	283	39.5	43	42.3	−21	48.7	167	40.5	+22	19.5	203	13.9	+22	25.6	298	12.1	−8	33.6	
18	298	42.0	58	41.6	−21	49.4	182	41.8	+22	19.4	218	16.5	+22	25.6	313	14.7	−8	33.6	
19	313	44.5	73	40.9		50.1	197	43.1		19.2	233	19.1		25.6	328	17.2		33.7	
20	328	46.9	88	40.2		50.8	212	44.3		19.1	248	21.6		25.6	343	19.8		33.7	
21	343	49.4	103	39.5		51.5	227	45.6		19.0	263	24.2		25.6	358	22.4		33.7	
22	358	51.9	118	38.8		52.3	242	46.9		18.9	278	26.7		25.6	13	24.9		33.8	
23	13	54.3	133	38.1		53.0	257	48.2		18.7	293	29.3		25.5	28	27.5		33.8	
24	28	56.8	148	37.4	−21	53.7	272	49.5	+22	18.6	308	31.9	+22	25.5	43	30.1	−8	33.9	
Dif	—		−7		−7		+13		−1		+26		0		+26		0		

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 16 ^l PMG: 11 ^h 44.7 ^m				Edad: 17.2 ^d SD: 16 ^l PMG: 2 ^h 07 ^m PHE { 4 ^h : 59 ⁹ 12 ^h : 59 ⁶ 20 ^h : 59 ³ Rº: 61 ^m									Civil		Náutico	Hora	Rº	Hora	Rº				
	hG ☉	Dec	hG ☾	Dif	Dec	Dif																		
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	183	48.4	-10	26.1	329	36.2	46	+24	53.9	92	60 N	16	36	17	18	18	07	16	37	27	12	30	102	
1	198	48.5		27.0	343	59.8	45	+25	03.1	90	58	41	21	07		17	06	38	12	01	91			
2	213	48.6		27.9	358	23.3	45		12.1	87	56	46	24	07		29	42	11	39	86				
3	228	48.7		28.8	12	46.8	45		20.8	86	54	50	27	08		17	47	46	20	83				
4	243	48.8		29.7	27	10.3	45		29.4	85	52	54	29	08		18	03	48	11	05	80			
5	258	48.9	-10	30.6	41	33.7	44	+25	37.9	85	50	16	58	17	31	18	09	18	17	50	10	52	78	
6	273	49.0	-10	31.5	55	57.1	44	+25	46.1	82	45	17	06	17	36	18	10	18	45	53	10	25	74	
7	288	49.1		32.4	70	20.4	43	+25	54.1	80	40	13	40	12	19	07	55	10	03	72				
8	303	49.2		33.3	84	43.7	43	+26	02.0	79	35	18	44	14		25	56	9	45	70				
9	318	49.4		34.2	99	07.0	43		09.7	77	30	24	48	16		19	41	57	30	69				
10	333	49.5		35.1	113	30.2	42		17.2	75	20	33	17	55	21	20	08	59	9	04	66			
11	348	49.6	-10	36.0	127	53.4	42	+26	24.5	73	10 N	17	40	18	02	18	26	20	32	60	8	42	64	
12	3	49.7	-10	36.9	142	16.6	42	+26	31.6	71	0	17	48	18	09	18	34	20	53	62	8	21	62	
13	18	49.8		37.7	156	39.7	41		38.5	69	10 S	17	56	17		42	21	15	63	8	01	59		
14	33	49.9		38.6	171	02.8	41		45.2	67	20	18	04	27	18	53	21	39	64	7	39	57		
15	48	50.0		39.5	185	25.9	41		51.8	66	30	14	38	19	07	22	07	65	7	13	54			
16	63	50.1		40.4	199	49.0	41	+26	58.1	63	35	19	45	17		23	66	6	58	53				
17	78	50.2	-10	41.3	214	12.0	40	+27	04.3	62	40	18	26	18	54	19	28	22	42	67	6	41	50	
18	93	50.3	-10	42.2	228	35.0	40	+27	10.3	60	45	18	33	19	04	19	42	23	06	68	6	20	47	
19	108	50.4		43.1	242	58.1	41		16.0	57	50	42	17	20	00		36	69	5	54	43			
20	123	50.5		44.0	257	21.1	40		21.6	56	52	46	23	08		23	50	71	42	40				
21	138	50.6		44.9	271	44.1	40		27.0	54	54	51	29	18		**	**	**		27	37			
22	153	50.7		45.8	286	07.0	39		32.2	52	56	18	56	37	30	**	**	**		5	11	32		
23	168	50.8		46.6	300	30.0	40		37.2	50	58	19	02	46	20	43	**	**	**		4	51	26	
24	183	50.9	-10	47.5	314	53.0	40	+27	42.1	49	60 S	19	08	19	56	21	00	**	**	**		4	26	13
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG 22 ^h 00.6 ^m		Mag: -4.0 PMG: 14 ^h 06 ^m				Mag: +0.3 PMG: 5 ^h 48 ^m				Mag: -2.7 PMG: 3 ^h 25 ^m				Mag: +0.8 PMG: 21 ^h 02 ^m									
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	28	56.8	148	37.4	-21	53.7	272	49.5	+22	18.6	308	31.9	+22	25.5	43	30.1	-8	33.9						
1	43	59.3	163	36.7		54.4	287	50.8		18.5	323	34.4		25.5	58	32.6		33.9						
2	59	01.7	178	36.0		55.1	302	52.0		18.4	338	37.0		25.5	73	35.2		33.9						
3	74	04.2	193	35.3		55.8	317	53.3		18.3	353	39.5		25.5	88	37.8		34.0						
4	89	06.6	208	34.6		56.5	332	54.6		18.1	8	42.1		25.5	103	40.4		34.0						
5	104	09.1	223	33.9	-21	57.3	347	55.9	+22	18.0	23	44.7	+22	25.5	118	42.9	-8	34.0						
6	119	11.6	238	33.2	-21	58.0	2	57.2	+22	17.9	38	47.2	+22	25.5	133	45.5	-8	34.1						
7	134	14.0	253	32.5		58.7	17	58.5		17.8	53	49.8		25.5	148	48.1		34.1						
8	149	16.5	268	31.8	-21	59.4	32	59.8		17.7	68	52.4		25.5	163	50.6		34.2						
9	164	19.0	283	31.1	-22	00.1	48	01.0		17.5	83	54.9		25.5	178	53.2		34.2						
10	179	21.4	298	30.4		00.8	63	02.3		17.4	98	57.5		25.5	193	55.8		34.2						
11	194	23.9	313	29.7	-22	01.5	78	03.6	+22	17.3	114	00.0	+22	25.5	208	58.3	-8	34.3						
12	209	26.4	328	29.0	-22	02.2	93	04.9	+22	17.2	129	02.6	+22	25.5	224	00.9	-8	34.3						
13	224	28.8	343	28.3		02.9	108	06.2		17.0	144	05.2		25.5	239	03.5		34.3						
14	239	31.3	358	27.5		03.6	123	07.5		16.9	159	07.7		25.5	254	06.0		34.4						
15	254	33.8	13	26.8		04.3	138	08.8		16.8	174	10.3		25.4	269	08.6		34.4						
16	269	36.2	28	26.1		05.0	153	10.1		16.7	189	12.9		25.4	284	11.2		34.5						
17	284	38.7	43	25.4	-22	05.7	168	11.4	+22	16.6	204	15.4	+22	25.4	299	13.7	-8	34.5						
18	299	41.1	58	24.7	-22	06.4	183	12.7	+22	16.4	219	18.0	+22	25.4	314	16.3	-8	34.5						
19	314	43.6	73	24.0		07.1	198	14.0		16.3	234	20.6		25.4	329	18.9		34.6						
20	329	46.1	88	23.3		07.8	213	15.3		16.2	249	23.1		25.4	344	21.4		34.6						
21	344	48.5	103	22.6		08.5	228	16.6		16.1	264	25.7		25.4	359	24.0		34.6						
22	359	51.0	118	21.9		09.2	243	17.9		16.0	279	28.3		25.4	14	26.5		34.7						
23	14	53.5	133	21.2		09.9	258	19.2		15.8	294	30.8		25.4	29	29.1		34.7						
24	29	55.9	148	20.5	-22	10.5	273	20.5	+22	15.7	309	33.4	+22	25.4	44	31.7	-8	34.7						
Dif	—		-7		-7		+13		-1		+26		0		+26									

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG:11 ^h 44.5 ^m				Edad: 18.2 ^d SD: 16'1 PMG: 3 ^h 08 ^m PHE { 4 ^h : 59'0 12 ^h : 58'6 20 ^h : 58'3 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	183	50.9	−10	47.5	314	53.0	+27	42.1	60 N	5 24	6 12	6 55	17 04	69	14 12	57		
1	198	51.0		48.4	329	16.0		46.7	58	23	09	50	17 44	66	13 32	59		
2	213	51.1		49.3	343	38.9		51.1	56	23	06	45	18 11	66	13 05	59		
3	228	51.2		50.2	358	01.9		55.3	54	23	04	40		33 65	12 43	66		
4	243	51.3		51.1	12	24.9	+27	59.4	52	22	6 01	36	18 51	65		25 61		
5	258	51.4	−10	52.0	26	47.9	+28	03.2	50	5 22	5 59	6 32	19 07	63	12 10	60		
6	273	51.5	−10	52.9	41	10.9	+28	06.9	45	5 20	5 54	6 24	19 38	63	11 39	61		
7	288	51.6		53.7	55	33.9		10.3	40	18	50	17	20 02	62	11 15	61		
8	303	51.7		54.6	69	57.0		13.6	35	16	46	11		21 62	10 55	62		
9	318	51.8		55.5	84	20.0		16.7	30	14	42	6 06	20 38	62		39 61		
10	333	51.9		56.4	98	43.1		19.5	20	09	35	5 57	21 07	61	10 10	61		
11	348	52.0	−10	57.3	113	06.2	+28	22.2	10 N	5 03	5 28	5 49	21 32	60	9 46	61		
12	3	52.1	−10	58.2	127	29.3	+28	24.7	0	4 56	5 20	5 41	21 55	59	9 23	61		
13	18	52.2		59.0	141	52.4		27.0	10 S	47	12	33	22 18	59	9 00	61		
14	33	52.3	−10	59.9	156	15.6		29.1	20	36	5 02	25	22 43	57	8 36	61		
15	48	52.4	−11	00.8	170	38.8		31.1	30	21	4 51	15	23 12	56	8 07	60		
16	63	52.5		01.7	185	02.1		32.8	35	12	43	09		29 56	7 51	59		
17	78	52.6	−11	02.6	199	25.3	+28	34.3	40	4 01	4 35	5 03	23 49	55	7 31	59		
18	93	52.7	−11	03.5	213	48.7	+28	35.7	45	3 47	4 25	4 55	** ** *	**	7 07	59		
19	108	52.8		04.3	228	12.0		36.8	50	29	12	46	** ** *	**	6 37	57		
20	123	52.9		05.2	242	35.4		37.8	52	20	4 06	42	** ** *	**		22 57		
21	138	53.0		06.1	256	58.9		38.6	54	3 10	3 59	37	0 08	71	6 04	56		
22	153	53.0		07.0	271	22.4		39.2	56	2 59	51	32		28 74	5 43	55		
23	168	53.1		07.9	285	45.9		39.6	58	45	43	26	0 55	76	5 17	51		
24	183	53.2	−11	08.8	300	09.5	+28	39.8	60 S	2 29	3 33	4 20	1 32	83	4 39	46		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: −4.0 21 ^h 56.7 ^m		Mag: −4.0 PMG: 14 ^h 07 ^m				Mag: +0.2 PMG: 5 ^h 46 ^m				Mag: −2.7 PMG: 3 ^h 21 ^m				Mag: +0.8 PMG: 20 ^h 58 ^m			
	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	29	55.9	148	20.5	−22	10.5	273	20.5	+22	15.7	309	33.4	+22	25.4	44	31.7		
1	44	58.4	163	19.7		11.2	288	21.8		15.6	324	36.0		25.4	59	34.2		
2	60	00.9	178	19.0		11.9	303	23.1		15.5	339	38.6		25.4	74	36.8		
3	75	03.3	193	18.3		12.6	318	24.4		15.3	354	41.1		25.4	89	39.4		
4	90	05.8	208	17.6		13.3	333	25.7		15.2	9	43.7		25.4	104	41.9		
5	105	08.3	223	16.9	−22	14.0	348	27.0	+22	15.1	24	46.3	+22	25.4	119	44.5		
6	120	10.7	238	16.2	−22	14.7	3	28.3	+22	15.0	39	48.8	+22	25.3	134	47.1		
7	135	13.2	253	15.5		15.3	18	29.6		14.9	54	51.4		25.3	149	49.6		
8	150	15.6	268	14.8		16.0	33	30.9		14.7	69	54.0		25.3	164	52.2		
9	165	18.1	283	14.0		16.7	48	32.2		14.6	84	56.6		25.3	179	54.8		
10	180	20.6	298	13.3		17.4	63	33.5		14.5	99	59.1		25.3	194	57.3		
11	195	23.0	313	12.6	−22	18.1	78	34.8	+22	14.4	115	01.7	+22	25.3	209	59.9		
12	210	25.5	328	11.9	−22	18.7	93	36.1	+22	14.3	130	04.3	+22	25.3	225	02.4		
13	225	28.0	343	11.2		19.4	108	37.4		14.1	145	06.9		25.3	240	05.0		
14	240	30.4	358	10.5		20.1	123	38.7		14.0	160	09.4		25.3	255	07.6		
15	255	32.9	13	09.7		20.8	138	40.0		13.9	175	12.0		25.3	270	10.1		
16	270	35.4	28	09.0		21.4	153	41.3		13.8	190	14.6		25.3	285	12.7		
17	285	37.8	43	08.3	−22	22.1	168	42.6	+22	13.7	205	17.2	+22	25.3	300	15.3		
18	300	40.3	58	07.6	−22	22.8	183	44.0	+22	13.5	220	19.7	+22	25.3	315	17.8		
19	315	42.8	73	06.9		23.5	198	45.3		13.4	235	22.3		25.3	330	20.4		
20	330	45.2	88	06.1		24.1	213	46.6		13.3	250	24.9		25.3	345	22.9		
21	345	47.7	103	05.4		24.8	228	47.9		13.2	265	27.5		25.2	0	25.5		
22	0	50.1	118	04.7		25.5	243	49.2		13.0	280	30.0		25.2	15	28.1		
23	15	52.6	133	04.0		26.1	258	50.5		12.9	295	32.6		25.2	30	30.6		
24	30	55.1	148	03.3	−22	26.8	273	51.8	+22	12.8	310	35.2	+22	25.2	45	33.2		
Dif	—		−7		−7		+13		−1		+26		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 44.4 ^m				Edad: 19.2 ^d SD: 15 ^h 8 PMG: 4 ^h 09 ^m						PHE { 4 ^h : 58'0 12 ^h : 57'7 20 ^h : 57'4 R°: 59 ^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	183	53.2	-11	08.8	300	09.5	47	+28	39.8	1	60 N	16 30	17 13	18 01	18 13	98	15 09	19
1	198	53.3		09.6	314	33.2	47		39.9	2	58	36	16	02	18 50	88	14 31	30
2	213	53.4		10.5	328	56.9	47		39.7	3	56	41	19	03	19 17	82	14 04	36
3	228	53.5		11.4	343	20.7	48		39.4	4	54	46	22	03	38 78	13 43	39	
4	243	53.6		12.3	357	44.5	48		38.9	5	52	50	25	04	19 56	75	26	41
5	258	53.7	-11	13.2	12	08.4	49	+28	38.2	7	50	16 54	17 27	18 05	20 10	74	13 10	44
6	273	53.8	-11	14.0	26	32.4	50	+28	37.3	9	45	17 03	17 33	18 07	20 41	69	12 40	47
7	288	53.9		14.9	40	56.4	50		36.3	10	40	10	37	09	21 04	67	12 16	49
8	303	54.0		15.8	55	20.5	51		35.1	12	35	16	42	11	23 65	11 57	50	
9	318	54.1		16.7	69	44.7	52		33.7	14	30	22	46	14	21 40	63	40	52
10	333	54.2		17.6	84	08.9	52		32.1	16	20	31	17 54	19	22 08	60	11 11	54
11	348	54.2	-11	18.4	98	33.2	53	+28	30.3	18	10 N	17 40	18 01	18 26	22 32	57	10 47	56
12	3	54.3	-11	19.3	112	57.6	54	+28	28.4	19	0	17 48	18 09	18 33	22 54	56	10 24	57
13	18	54.4		20.2	127	22.1	55		26.3	21	10 S	17 56	17	42	23 17	53	10 01	59
14	33	54.5		21.1	141	46.7	56		24.0	23	20	18 05	27	18 54	23 40	51	9 36	61
15	48	54.6		21.9	156	11.3	56		21.5	25	30	15	40	19 09	** ** *	**	9 07	63
16	63	54.7		22.8	170	36.0	57		18.9	26	35	21	47	19	** ** *	**	8 50	64
17	78	54.8	-11	23.7	185	00.9	59	+28	16.1	28	40	18 28	18 56	19 30	** ** *	**	8 30	65
18	93	54.9	-11	24.6	199	25.8	59	+28	13.2	29	45	18 36	19 07	19 45	0 14	53	8 06	67
19	108	55.0		25.4	213	50.7	59		10.0	32	50	46	20	20 04	0 45	51	7 34	70
20	123	55.1		26.3	228	15.8	61		06.8	32	52	50	27	13	1 01	50	19	71
21	138	55.1		27.2	242	41.0	62	+28	03.3	35	54	18 55	34	23	19 49	7 00	73	
22	153	55.2		28.1	257	06.2	62	+27	59.7	36	56	19 00	42	36	1 42	46	6 38	75
23	168	55.3		28.9	271	31.6	64		55.9	38	58	07	19 51	20 50	2 11	42	6 08	81
24	183	55.4	-11	29.8	285	57.1	65	+27	52.0	39	60 S	19 14	20 02	21 08	2 55	32	5 25	90

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 21 ^h 52.7 ^m		Mag: -4.0 PMG: 14 ^h 08 ^m		Mag: +0.2 PMG: 5 ^h 44 ^m		Mag: -2.7 PMG: 3 ^h 17 ^m		Mag: +0.8 PMG: 20 ^h 54 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	30	55.1	148	03.3	-22	26.8	273	51.8	+22	12.8	310	35.2	+22	25.2	45	33.2	-8	35.6
1	45	57.5	163	02.5		27.5	288	53.1		12.7	325	37.8		25.2	60	35.8		35.6
2	61	00.0	178	01.8		28.1	303	54.5		12.6	340	40.3		25.2	75	38.3		35.7
3	76	02.5	193	01.1		28.8	318	55.8		12.4	355	42.9		25.2	90	40.9		35.7
4	91	04.9	208	00.4		29.5	333	57.1		12.3	10	45.5		25.2	105	43.4		35.7
5	106	07.4	222	59.6	-22	30.1	348	58.4	+22	12.2	25	48.1	+22	25.2	120	46.0	-8	35.8
6	121	09.9	237	58.9	-22	30.8	3	59.7	+22	12.1	40	50.7	+22	25.2	135	48.6	-8	35.8
7	136	12.3	252	58.2		31.4	19	01.0		12.0	55	53.2		25.2	150	51.1		35.8
8	151	14.8	267	57.5		32.1	34	02.4		11.8	70	55.8		25.2	165	53.7		35.9
9	166	17.3	282	56.7		32.7	49	03.7		11.7	85	58.4		25.2	180	56.2		35.9
10	181	19.7	297	56.0		33.4	64	05.0		11.6	101	01.0		25.2	195	58.8		35.9
11	196	22.2	312	55.3	-22	34.1	79	06.3	+22	11.5	116	03.6	+22	25.1	211	01.4	-8	36.0
12	211	24.6	327	54.6	-22	34.7	94	07.6	+22	11.4	131	06.2	+22	25.1	226	03.9	-8	36.0
13	226	27.1	342	53.8		35.4	109	09.0		11.2	146	08.7		25.1	241	06.5		36.0
14	241	29.6	357	53.1		36.0	124	10.3		11.1	161	11.3		25.1	256	09.0		36.1
15	256	32.0	12	52.4		36.7	139	11.6		11.0	176	13.9		25.1	271	11.6		36.1
16	271	34.5	27	51.6		37.3	154	12.9		10.9	191	16.5		25.1	286	14.2		36.1
17	286	37.0	42	50.9	-22	38.0	169	14.3	+22	10.7	206	19.1	+22	25.1	301	16.7	-8	36.2
18	301	39.4	57	50.2	-22	38.6	184	15.6	+22	10.6	221	21.7	+22	25.1	316	19.3	-8	36.2
19	316	41.9	72	49.4		39.2	199	16.9		10.5	236	24.2		25.1	331	21.8		36.2
20	331	44.4	87	48.7		39.9	214	18.2		10.4	251	26.8		25.1	346	24.4		36.3
21	346	46.8	102	48.0		40.5	229	19.6		10.3	266	29.4		25.1	1	27.0		36.3
22	1	49.3	117	47.3		41.2	244	20.9		10.1	281	32.0		25.1	16	29.5		36.3
23	16	51.8	132	46.5		41.8	259	22.2		10.0	296	34.6		25.1	31	32.1		36.4
24	31	54.2	147	45.8	-22	42.5	274	23.6	+22	09.9	311	37.2	+22	25.1	46	34.6	-8	36.4
Dif	—		-7		-7		+13		-1		+26		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 44.2 ^m				Edad: 20.2 ^d PHE { 4 ^h : 57'1 12 ^h : 56'8 20 ^h : 56'5 R°: 54 ^m SD: 15'6 PMG: 5 ^h 08 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	
0	183	55.4	−11	29.8	285	57.1	+27	52.0	60 N	5	28	6	17	7	00	19	51
1	198	55.5		30.7	300	22.6		47.9	58	28	13	6	54	20	18	92	15
2	213	55.6		31.6	314	48.3		43.6	56	27	10	49		39	86	14	40
3	228	55.7		32.4	329	14.0		39.2	54	26	07	44		20	56	82	22
4	243	55.7		33.3	343	39.8		34.7	52	25	05	39		21	11	79	14
5	258	55.8	−11	34.2	358	05.8	+27	29.9	50	5	25	6	02	6	35	21	24
6	273	55.9	−11	35.1	12	31.8	+27	25.1	45	5	22	5	57	6	27	21	50
7	288	56.0		35.9	26	58.0		20.0	40	20	52	19		22	11	67	13
8	303	56.1		36.8	41	24.3		14.9	35	18	47	13		28	64	12	47
9	318	56.2		37.7	55	50.6		09.6	30	15	43	6	08	22	43	61	32
10	333	56.2		38.5	70	17.1	+27	04.1	20	09	35	5	58	23	08	57	12
11	348	56.3	−11	39.4	84	43.7	+26	58.5	10 N	5	03	5	28	5	49	23	29
12	3	56.4	−11	40.3	99	10.3	+26	52.7	0	4	55	5	20	5	41	23	50
13	18	56.5		41.2	113	37.1		46.8	10 S	46	11	33		**	**	**	11
14	33	56.6		42.0	128	04.0		40.8	20	34	5	01	24	**	**	**	10
15	48	56.7		42.9	142	31.0		34.6	30	19	4	48	13	0	08	48	10
16	63	56.7		43.8	156	58.2		28.3	35	4	09	41	07	25	45	9	54
17	78	56.8	−11	44.6	171	25.4	+26	21.9	40	3	58	4	32	5	00	0	44
18	93	56.9	−11	45.5	185	52.7	+26	15.3	45	3	43	4	21	4	52	1	07
19	108	57.0		46.4	200	20.2		08.6	50	24	08	42		36	36	8	44
20	123	57.1		47.2	214	47.8	+26	01.7	52	15	4	01	38	1	51	33	30
21	138	57.1		48.1	229	15.4	+25	54.8	54	3	04	3	54	33	2	08	30
22	153	57.2		49.0	243	43.2		47.6	56	2	52	46	27	28	26	7	53
23	168	57.3		49.8	258	11.1		40.4	58	38	37	21	2	53	19	7	29
24	183	57.4	−11	50.7	272	39.1	+25	33.0	60 S	2	20	3	26	4	14	3	27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 48.8 ^m		Mag: −4.0 PMG: 14 ^h 10 ^m		Mag: +0.2 PMG: 5 ^h 42 ^m		Mag: −2.7 PMG: 3 ^h 13 ^m		Mag: +0.8 PMG: 20 ^h 50 ^m									
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	31	54.2	147	45.8	−22	42.5	274	23.6	+22	09.9	311	37.2	+22	25.1	46	34.6	−8	36.4
1	46	56.7	162	45.1		43.1	289	24.9		09.8	326	39.8		25.0	61	37.2		36.4
2	61	59.1	177	44.3		43.7	304	26.2		09.7	341	42.4		25.0	76	39.7		36.5
3	77	01.6	192	43.6		44.4	319	27.6		09.5	356	44.9		25.0	91	42.3		36.5
4	92	04.1	207	42.9		45.0	334	28.9		09.4	11	47.5		25.0	106	44.9		36.5
5	107	06.5	222	42.1	−22	45.6	349	30.2	+22	09.3	26	50.1	+22	25.0	121	47.4	−8	36.6
6	122	09.0	237	41.4	−22	46.3	4	31.6	+22	09.2	41	52.7	+22	25.0	136	50.0	−8	36.6
7	137	11.5	252	40.6		46.9	19	32.9		09.1	56	55.3		25.0	151	52.5		36.6
8	152	13.9	267	39.9		47.5	34	34.2		08.9	71	57.9		25.0	166	55.1		36.7
9	167	16.4	282	39.2		48.2	49	35.6		08.8	87	00.5		25.0	181	57.6		36.7
10	182	18.9	297	38.4		48.8	64	36.9		08.7	102	03.1		25.0	197	00.2		36.7
11	197	21.3	312	37.7	−22	49.4	79	38.2	+22	08.6	117	05.7	+22	25.0	212	02.8	−8	36.8
12	212	23.8	327	37.0	−22	50.1	94	39.6	+22	08.5	132	08.3	+22	25.0	227	05.3	−8	36.8
13	227	26.2	342	36.2		50.7	109	40.9		08.3	147	10.8		25.0	242	07.9		36.8
14	242	28.7	357	35.5		51.3	124	42.3		08.2	162	13.4		24.9	257	10.4		36.9
15	257	31.2	12	34.7		51.9	139	43.6		08.1	177	16.0		24.9	272	13.0		36.9
16	272	33.6	27	34.0		52.6	154	44.9		08.0	192	18.6		24.9	287	15.5		36.9
17	287	36.1	42	33.3	−22	53.2	169	46.3	+22	07.8	207	21.2	+22	24.9	302	18.1	−8	37.0
18	302	38.6	57	32.5	−22	53.8	184	47.6	+22	07.7	222	23.8	+22	24.9	317	20.7	−8	37.0
19	317	41.0	72	31.8		54.4	199	49.0		07.6	237	26.4		24.9	332	23.2		37.0
20	332	43.5	87	31.0		55.0	214	50.3		07.5	252	29.0		24.9	347	25.8		37.1
21	347	46.0	102	30.3		55.7	229	51.6		07.4	267	31.6		24.9	2	28.3		37.1
22	2	48.4	117	29.6		56.3	244	53.0		07.2	282	34.2		24.9	17	30.9		37.1
23	17	50.9	132	28.8		56.9	259	54.3		07.1	297	36.8		24.9	32	33.4		37.2
24	32	53.4	147	28.1	−22	57.5	274	55.7	+22	07.0	312	39.4	+22	24.9	47	36.0	−8	37.2
Dif	—		−7		−6		+13		−1		+26		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 44.1 ^m			Edad: 21.2 ^d SD: 15/3 PMG: 6 ^h 02 ^m												
				PHE { 4 ^h : 56/2 12 ^h : 55/9 20 ^h : 55/7 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	h m m	h m m	
0	183	57.4	-11	50.7	272	39.1	+25	33.0	60 N	16 24	17 08	17 56	21 32	95	15 34	2
1	198	57.5		51.6	287	07.3		25.6	58	31	12	57	21 50	89	15	8
2	213	57.5		52.4	301	35.5		18.0	56	36	15	58	22 05	85	15 00	12
3	228	57.6		53.3	316	03.9		10.2	54	42	18	17 59	18 81	46	16	16
4	243	57.7		54.2	330	32.3	+25	02.4	52	46	21	18 00	30 77	34	19	
5	258	57.8	-11	55.0	345	00.9	+24	54.4	50	16 50	17 24	18 01	22 40	75	14 24	21
6	273	57.9	-11	55.9	359	29.6	+24	46.3	45	17 00	17 30	18 04	23 01	69	14 01	27
7	288	57.9		56.8	13	58.4		38.1	40	07	35	06	18 65	13	44	30
8	303	58.0		57.6	28	27.4		29.8	35	14	40	09	32 62	28	34	
9	318	58.1		58.5	42	56.4		21.3	30	20	44	12	23 44	59	13 15	37
10	333	58.2	-11	59.4	57	25.5		12.8	20	30	17 52	18	** ** *	**	12 53	41
11	348	58.2	-12	00.2	71	54.8	+24	04.1	10 N	17 39	18 00	18 25	** ** *	**	12 33	45
12	3	58.3	-12	01.1	86	24.2	+23	55.4	0	17 47	18 09	18 33	** ** *	**	12 14	49
13	18	58.4		02.0	100	53.7		46.5	10 S	17 56	18	43	0 10	47	11 56	52
14	33	58.5		02.8	115	23.2		37.5	20	18 06	28	18 55	31 44	36	56	
15	48	58.5		03.7	129	53.0		28.4	30	17	41	19 11	0 56	39	11 12	61
16	63	58.6		04.5	144	22.8		19.3	35	23	49	21	1 10	37	10 59	63
17	78	58.7	-12	05.4	158	52.7	+23	10.0	40	18 30	18 59	19 33	1 27	34	10 43	66
18	93	58.8	-12	06.3	173	22.7	+23	00.6	45	18 39	19 10	19 48	1 47	30	10 24	70
19	108	58.8		07.1	187	52.9	+22	51.1	50	49	24	20 08	2 12	25	10 00	76
20	123	58.9		08.0	202	23.2		41.5	52	54	31	18	24 22	9	48	79
21	138	59.0		08.9	216	53.5		31.8	54	18 59	38	29	38 19	35	82	
22	153	59.0		09.7	231	24.0		22.0	56	19 05	47	42	2 54	14	20	86
23	168	59.1		10.6	245	54.6		12.1	58	11	19 56	20 57	3 12	10	9 01	92
24	183	59.2	-12	11.4	260	25.3	+22	02.2	60 S	19 19	20 08	21 16	3 36	2	8 39	99
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 21 ^h 44.9 ^m		Mag: -4.0 PMG: 14 ^h 11 ^m		Mag: +0.2 PMG: 5 ^h 40 ^m		Mag: -2.7 PMG: 3 ^h 09 ^m		Mag: +0.8 PMG: 20 ^h 46 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	32	53.4	147	28.1	-22	57.5	274	55.7	+22	07.0						
1	47	55.8	162	27.3		58.1	289	57.0		06.9						
2	62	58.3	177	26.6		58.7	304	58.4		06.8						
3	78	00.7	192	25.8		59.3	319	59.7		06.6						
4	93	03.2	207	25.1	-22	59.9	335	01.1		06.5						
5	108	05.7	222	24.4	-23	00.6	350	02.4	+22	06.4						
6	123	08.1	237	23.6	-23	01.2	5	03.8	+22	06.3						
7	138	10.6	252	22.9		01.8	20	05.1		06.2						
8	153	13.1	267	22.1		02.4	35	06.5		06.0						
9	168	15.5	282	21.4		03.0	50	07.8		05.9						
10	183	18.0	297	20.6		03.6	65	09.2		05.8						
11	198	20.5	312	19.9	-23	04.2	80	10.5	+22	05.7						
12	213	22.9	327	19.1	-23	04.8	95	11.9	+22	05.6						
13	228	25.4	342	18.4		05.4	110	13.2		05.4						
14	243	27.9	357	17.6		06.0	125	14.6		05.3						
15	258	30.3	12	16.9		06.6	140	15.9		05.2						
16	273	32.8	27	16.1		07.2	155	17.3		05.1						
17	288	35.2	42	15.4	-23	07.8	170	18.7	+22	05.0						
18	303	37.7	57	14.6	-23	08.4	185	20.0	+22	04.8						
19	318	40.2	72	13.9		09.0	200	21.4		04.7						
20	333	42.6	87	13.1		09.6	215	22.7		04.6						
21	348	45.1	102	12.4		10.2	230	24.1		04.5						
22	3	47.6	117	11.6		10.7	245	25.5		04.4						
23	18	50.0	132	10.9		11.3	260	26.8		04.2						
24	33	52.5	147	10.1	-23	11.9	275	28.2	+22	04.1						
Dif	—		-7		-6		+14		-1							

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: 22.2 ^d SD: 15'1 PMG: 6 ^h 52 ^m																		
	hG ☉	Dec			hG ☾	Dif			Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m			
0	183	59.2	-12	11.4	260	25.3	+22	02.2	101	58	60 N	5	33	6	22	7	05	23	07	89	15	36	0
1	198	59.3		12.3	274	56.1	+21	52.1	101	56		32	18	6	59	19	85			23	4		
2	213	59.3		13.2	289	27.0		42.0	101	56		31	14	53	30	81			12	7			
3	228	59.4		14.0	303	58.0		31.7	103	54		30	11	48	39	77			15	02	1		
4	243	59.5		14.9	318	29.1		21.4	103	52		29	08	43	47	75			14	53	14		
5	258	59.5	-12	15.7	333	00.3	+21	11.0	104	50		5	28	6	05	6	39	23	55	72	14	45	16
6	273	59.6	-12	16.6	347	31.6	+21	00.5	105	45		5	25	5	59	6	29	**	**	**	14	28	21
7	288	59.7		17.4	2	03.1	+20	49.9	106	40		22	54	22	**	**	**	**	**	**	14	25	
8	303	59.7		18.3	16	34.6		39.2	107	35		19	49	15	**	**	**	**	**	**	14	02	28
9	318	59.8		19.2	31	06.2		28.5	107	30		16	45	6	09	**	**	**	**	**	13	52	31
10	333	59.9		20.0	45	37.9		17.6	109	20		10	36	5	59	0	05	54			34	36	
11	349	00.0	-12	20.9	60	09.8	+20	06.7	109	10 N		5	03	5	28	5	49	0	23	50	13	18	40
12	4	00.0	-12	21.7	74	41.7	+19	55.7	110	0		4	55	5	19	5	41	0	40	46	13	03	44
13	19	00.1		22.6	89	13.7		44.7	110	10 S		45	10	32	0	57	42			12	48	48	
14	34	00.2		23.4	103	45.8		33.5	112	20		33	5	00	22	1	15	38			32	52	
15	49	00.2		24.3	118	18.0		22.3	112	30		17	4	46	11	35	34			13	57		
16	64	00.3		25.1	132	50.3	+19	11.0	113	35		4	07	38	5	05	1	47	31		12	02	60
17	79	00.4	-12	26.0	147	22.8	+18	59.7	113	40		3	55	4	29	4	57	2	01	27	11	49	64
18	94	00.4	-12	26.8	161	55.2	+18	48.2	115	45		3	39	4	18	4	49	2	17	23	11	34	69
19	109	00.5		27.7	176	27.8		36.7	115	50		20	4	03	38	37	18			16	74		
20	124	00.6		28.6	191	00.5		25.2	115	52		3	10	3	57	34	46	16			11	07	76
21	139	00.6		29.4	205	33.3		13.5	117	54		2	59	49	28	2	57	12			10	57	80
22	154	00.7		30.3	220	06.1	+18	01.8	117	56		46	41	22	3	08	10			46	83		
23	169	00.7		31.1	234	39.1	+17	50.1	117	58		30	31	16	22	5				33	87		
24	184	00.8	-12	32.0	249	12.1	+17	38.2	119	60 S		2	11	3	20	4	08	3	38	0	10	18	93

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 21 ^h 40.9 ^m			Mag: -4.0 PMG: 14 ^h 12 ^m			Mag: +0.2 PMG: 5 ^h 38 ^m			Mag: -2.7 PMG: 3 ^h 05 ^m			Mag: +0.8 PMG: 20 ^h 42 ^m								
	hG ♈			hG ♀			hG ♂			hG ♃			hG ♄								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	33	52.5	147	10.1	-23	11.9	275	28.2	+22	04.1	313	41.8	+22	24.7	48	37.3	-8 37.9				
1	48	55.0	162	09.4		12.5	290	29.5		04.0	328	44.4		24.7	63	39.8	38.0				
2	63	57.4	177	08.6		13.1	305	30.9		03.9	343	47.0		24.6	78	42.4	38.0				
3	78	59.9	192	07.9		13.7	320	32.3		03.8	358	49.6		24.6	93	44.9	38.0				
4	94	02.4	207	07.1		14.3	335	33.6		03.7	13	52.2		24.6	108	47.5	38.0				
5	109	04.8	222	06.3	-23	14.9	350	35.0	+22	03.5	28	54.8	+22	24.6	123	50.0	-8 38.1				
6	124	07.3	237	05.6	-23	15.4	5	36.4	+22	03.4	43	57.4	+22	24.6	138	52.6	-8 38.1				
7	139	09.7	252	04.8		16.0	20	37.7		03.3	59	00.0		24.6	153	55.1	38.1				
8	154	12.2	267	04.1		16.6	35	39.1		03.2	74	02.6		24.6	168	57.7	38.2				
9	169	14.7	282	03.3		17.2	50	40.5		03.1	89	05.2		24.6	184	00.2	38.2				
10	184	17.1	297	02.6		17.8	65	41.8		02.9	104	07.9		24.6	199	02.8	38.2				
11	199	19.6	312	01.8	-23	18.3	80	43.2	+22	02.8	119	10.5	+22	24.6	214	05.3	-8 38.2				
12	214	22.1	327	01.0	-23	18.9	95	44.6	+22	02.7	134	13.1	+22	24.6	229	07.9	-8 38.3				
13	229	24.5	342	00.3		19.5	110	46.0		02.6	149	15.7		24.6	244	10.4	38.3				
14	244	27.0	356	59.5		20.0	125	47.3		02.5	164	18.3		24.5	259	13.0	38.3				
15	259	29.5	11	58.8		20.6	140	48.7		02.3	179	20.9		24.5	274	15.5	38.4				
16	274	31.9	26	58.0		21.2	155	50.1		02.2	194	23.5		24.5	289	18.1	38.4				
17	289	34.4	41	57.3	-23	21.8	170	51.4	+22	02.1	209	26.1	+22	24.5	304	20.6	-8 38.4				
18	304	36.8	56	56.5	-23	22.3	185	52.8	+22	02.0	224	28.7	+22	24.5	319	23.1	-8 38.5				
19	319	39.3	71	55.7		22.9	200	54.2		01.9	239	31.3		24.5	334	25.7	38.5				
20	334	41.8	86	55.0		23.5	215	55.6		01.7	254	34.0		24.5	349	28.2	38.5				
21	349	44.2	101	54.2		24.0	230	56.9		01.6	269	36.6		24.5	4	30.8	38.5				
22	4	46.7	116	53.4		24.6	245	58.3		01.5	284	39.2		24.5	19	33.3	38.6				
23	19	49.2	131	52.7		25.2	260	59.7		01.4	299	41.8		24.5	34	35.9	38.6				
24	34	51.6	146	51.9	-23	25.7	276	01.1	+22	01.3	314	44.4	+22	24.5	49	38.4	-8 38.6				
Dif	—			-8			+14			-1			+26			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: 23.2 ^d SD: 15 ^h 0 PMG: 7 ^h 37 ^m						PHE { 4 ^h : 54 ^m 9 12 ^h : 54 ^m 7 20 ^h : 54 ^m 6 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		
0	184	00.8	−12	32.0	249	12.1	+17	38.2	60 N	16 19	17 03	17 52	** ** *	** ** *	15 36	**		
1	199	00.9		32.8	263	45.3		26.3	58	26	07	53	** ** *	** ** *	27	2		
2	214	00.9		33.7	278	18.5		14.4	56	32	11	54	** ** *	** ** *	19	6		
3	229	01.0		34.5	292	51.8	+17	02.3	54	37	14	55	** ** *	** ** *	13	8		
4	244	01.1		35.4	307	25.1	+16	50.3	52	42	17	57	** ** *	** ** *	07	10		
5	259	01.1	−12	36.2	321	58.6	+16	38.1	50	16 47	17 20	17 58	** ** *	** ** *	15 01	13		
6	274	01.2	−12	37.1	336	32.1	+16	25.9	45	16 56	17 27	18 01	0 10 67	14 49	18			
7	289	01.2		37.9	351	05.8		13.7	40	17 05	32	04	23 62	39	22			
8	304	01.3		38.8	5	39.5	+16	01.3	35	12	37	07	34 59	30	25			
9	319	01.4		39.6	20	13.2	+15	49.0	30	18	42	10	43 56	23	28			
10	334	01.4		40.5	34	47.1		36.5	20	29	17 51	17	0 59 51	14 10	32			
11	349	01.5	−12	41.3	49	21.0	+15	24.1	10 N	17 38	18 00	18 25	1 13 47	13 58	37			
12	4	01.5	−12	42.2	63	55.0	+15	11.5	0	17 47	18 08	18 33	1 26 43	13 47	41			
13	19	01.6		43.0	78	29.1	+14	59.0	10 S	17 57	18	43	39 39	36	45			
14	34	01.7		43.9	93	03.3		46.3	20	18 06	29	18 56	1 53 34	24	50			
15	49	01.7		44.7	107	37.5		33.6	30	18	43	19 13	2 09 29	10	55			
16	64	01.8		45.5	122	11.8		20.9	35	25	18 51	23	18 26	13 02	58			
17	79	01.8	−12	46.4	136	46.2	+14	08.1	40	18 32	19 01	19 36	2 28 23	12 53	62			
18	94	01.9	−12	47.2	151	20.6	+13	55.3	45	18 41	19 13	19 52	2 40 19	12 43	65			
19	109	02.0		48.1	165	55.1		42.4	50	52	28	20 12	2 55 14	30	70			
20	124	02.0		48.9	180	29.7		29.5	52	18 57	35	22	3 02 11	23	74			
21	139	02.1		49.8	195	04.3		16.6	54	19 03	43	34	09 9	17	76			
22	154	02.1		50.6	209	39.0	+13	03.6	56	09	19 52	20 48	18 6	09	79			
23	169	02.2		51.5	224	13.8	+12	50.5	58	16	20 02	21 04	27 3	12 00	83			
24	184	02.2	−12	52.3	238	48.6	+12	37.4	60 S	19 24	20 14	21 25	3 38 **	11 51	86			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 21 ^h 37.0 ^m		Mag: −4.0 PMG: 14 ^h 13 ^m			Mag: +0.2 PMG: 5 ^h 35 ^m			Mag: −2.7 PMG: 3 ^h 01 ^m			Mag: +0.8 PMG: 20 ^h 38 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	34	51.6	146	51.9	−23	25.7	276	01.1	+22	01.3	314	44.4	+22	24.5	49	38.4		
1	49	54.1	161	51.2		26.3	291	02.5		01.2	329	47.0		24.4	64	41.0		
2	64	56.6	176	50.4		26.8	306	03.8		01.0	344	49.6		24.4	79	43.5		
3	79	59.0	191	49.6		27.4	321	05.2		00.9	359	52.2		24.4	94	46.1		
4	95	01.5	206	48.9		28.0	336	06.6		00.8	14	54.9		24.4	109	48.6		
5	110	04.0	221	48.1	−23	28.5	351	08.0	+22	00.7	29	57.5	+22	24.4	124	51.2		
6	125	06.4	236	47.3	−23	29.1	6	09.4	+22	00.6	45	00.1	+22	24.4	139	53.7		
7	140	08.9	251	46.6		29.6	21	10.8		00.4	60	02.7		24.4	154	56.3		
8	155	11.3	266	45.8		30.2	36	12.1		00.3	75	05.3		24.4	169	58.8		
9	170	13.8	281	45.0		30.7	51	13.5		00.2	90	07.9		24.4	185	01.4		
10	185	16.3	296	44.3		31.3	66	14.9	+22	00.1	105	10.6		24.4	200	03.9		
11	200	18.7	311	43.5	−23	31.8	81	16.3	+22	00.0	120	13.2	+22	24.4	215	06.5		
12	215	21.2	326	42.7	−23	32.4	96	17.7	+21	59.9	135	15.8	+22	24.3	230	09.0		
13	230	23.7	341	42.0		32.9	111	19.1		59.7	150	18.4		24.3	245	11.5		
14	245	26.1	356	41.2		33.5	126	20.5		59.6	165	21.0		24.3	260	14.1		
15	260	28.6	11	40.4		34.0	141	21.9		59.5	180	23.6		24.3	275	16.6		
16	275	31.1	26	39.7		34.6	156	23.2		59.4	195	26.3		24.3	290	19.2		
17	290	33.5	41	38.9	−23	35.1	171	24.6	+21	59.3	210	28.9	+22	24.3	305	21.7		
18	305	36.0	56	38.1	−23	35.6	186	26.0	+21	59.1	225	31.5	+22	24.3	320	24.3		
19	320	38.5	71	37.4		36.2	201	27.4		59.0	240	34.1		24.3	335	26.8		
20	335	40.9	86	36.6		36.7	216	28.8		58.9	255	36.7		24.3	350	29.4		
21	350	43.4	101	35.8		37.3	231	30.2		58.8	270	39.4		24.3	5	31.9		
22	5	45.8	116	35.0		37.8	246	31.6		58.7	285	42.0		24.3	20	34.4		
23	20	48.3	131	34.3		38.3	261	33.0		58.6	300	44.6		24.2	35	37.0		
24	35	50.8	146	33.5	−23	38.9	276	34.4	+21	58.4	315	47.2	+22	24.2	50	39.5		
Dif	—		−8			−5	+14			−1	+26		0		+25		0	

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: 24.2 ^d SD: 14'8 PMG: 8 ^h 19 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	184	02.2	-12	52.3	238	48.6	+12	37.4	60 N	5 37	6 26	7 10	0 36	85	15 34	**		
1	199	02.3		53.1	253	23.5		24.3	58	36	22	7 03	44	80	29	2		
2	214	02.4		54.0	267	58.4	+12	11.1	56	35	18	6 57	51	77	25	4		
3	229	02.4		54.8	282	33.5	+11	57.9	54	33	15	52	0 56	75	21			
4	244	02.5		55.7	297	08.5		44.7	52	32	11	47	1 02	72	17	9		
5	259	02.5	-12	56.5	311	43.6	+11	31.4	50	5 31	6 08	6 42	1 07	69	15 14	11		
6	274	02.6	-12	57.4	326	18.8	+11	18.1	45	5 27	6 02	6 32	1 17	64	15 07	15		
7	289	02.6		58.2	340	54.0	+11	04.7	40	24	5 56	24	25	61	15 01	19		
8	304	02.7		59.0	355	29.3	+10	51.3	35	21	51	17	33	57	14 55	23		
9	319	02.7	-12	59.9	10	04.7		37.9	30	18	46	6 10	39	54	51	25		
10	334	02.8	-13	00.7	24	40.0		24.5	20	11	37	5 59	1 50	49	42	31		
11	349	02.8	-13	01.6	39	15.5	+10	11.0	10 N	5 03	5 28	5 50	2 00	44	14 35	35		
12	4	02.9	-13	02.4	53	51.0	+9	57.5	0	4 55	5 19	5 40	2 09	40	14 28	40		
13	19	02.9		03.2	68	26.5		43.9	10 S	44	5 09	31	18	36	21	44		
14	34	03.0		04.1	83	02.1		30.3	20	31	4 58	21	27	32	14	48		
15	49	03.0		04.9	97	37.7		16.7	30	15	44	09	38	26	05	54		
16	64	03.1		05.8	112	13.4	+9	03.1	35	4 04	36	5 03	44	24	14 00	57		
17	79	03.1	-13	06.6	126	49.1	+8	49.4	40	3 51	4 26	4 55	2 51	20	13 55	60		
18	94	03.2	-13	07.4	141	24.8	+8	35.7	45	3 36	4 14	4 46	2 59	17	13 48	64		
19	109	03.2		08.3	156	00.6		22.0	50	15	3 59	35	3 09	12	40	69		
20	124	03.3		09.1	170	36.5	+8	08.3	52	3 05	52	30	13	10	37	70		
21	139	03.3		09.9	185	12.3	+7	54.5	54	2 53	44	24	18	8	33	73		
22	154	03.4		10.8	199	48.3		40.7	56	39	35	18	24	5	28	76		
23	169	03.4		11.6	214	24.2		26.9	58	23	25	11	30	2	23	79		
24	184	03.5	-13	12.4	229	00.2	+7	13.1	60 S	2 02	3 13	4 03	3 37	**	13 17	83		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 33.1 ^m		Mag: -4.0 PMG: 14 ^h 15 ^m		Mag: +0.2 PMG: 5 ^h 33 ^m		Mag: -2.7 PMG: 2 ^h 56 ^m		Mag: +0.8 PMG: 20 ^h 34 ^m									
	hG ♈		hG ♊	Dec	hG ♉	Dec	hG ♏	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	35	50.8	146	33.5	-23	38.9	276	34.4	+21	58.4	315	47.2	+22	24.2	50	39.5	-8	39.3
1	50	53.2	161	32.7		39.4	291	35.8		58.3	330	49.9		24.2	65	42.1		39.3
2	65	55.7	176	32.0		39.9	306	37.2		58.2	345	52.5		24.2	80	44.6		39.3
3	80	58.2	191	31.2		40.5	321	38.6		58.1	0	55.1		24.2	95	47.2		39.4
4	96	00.6	206	30.4		41.0	336	40.0		58.0	15	57.7		24.2	110	49.7		39.4
5	111	03.1	221	29.6	-23	41.5	351	41.4	+21	57.9	31	00.3	+22	24.2	125	52.3	-8	39.4
6	126	05.6	236	28.9	-23	42.1	6	42.8	+21	57.7	46	03.0	+22	24.2	140	54.8	-8	39.4
7	141	08.0	251	28.1		42.6	21	44.2		57.6	61	05.6		24.2	155	57.3		39.5
8	156	10.5	266	27.3		43.1	36	45.6		57.5	76	08.2		24.2	170	59.9		39.5
9	171	12.9	281	26.5		43.6	51	47.0		57.4	91	10.8		24.1	186	02.4		39.5
10	186	15.4	296	25.8		44.2	66	48.4		57.3	106	13.5		24.1	201	05.0		39.6
11	201	17.9	311	25.0	-23	44.7	81	49.8	+21	57.2	121	16.1	+22	24.1	216	07.5	-8	39.6
12	216	20.3	326	24.2	-23	45.2	96	51.2	+21	57.0	136	18.7	+22	24.1	231	10.1	-8	39.6
13	231	22.8	341	23.4		45.7	111	52.6		56.9	151	21.3		24.1	246	12.6		39.6
14	246	25.3	356	22.7		46.2	126	54.0		56.8	166	24.0		24.1	261	15.1		39.7
15	261	27.7	11	21.9		46.8	141	55.4		56.7	181	26.6		24.1	276	17.7		39.7
16	276	30.2	26	21.1		47.3	156	56.8		56.6	196	29.2		24.1	291	20.2		39.7
17	291	32.7	41	20.3	-23	47.8	171	58.2	+21	56.5	211	31.9	+22	24.1	306	22.8	-8	39.7
18	306	35.1	56	19.5	-23	48.3	186	59.6	+21	56.3	226	34.5	+22	24.1	321	25.3	-8	39.8
19	321	37.6	71	18.8		48.8	202	01.0		56.2	241	37.1		24.0	336	27.8		39.8
20	336	40.1	86	18.0		49.3	217	02.5		56.1	256	39.7		24.0	351	30.4		39.8
21	351	42.5	101	17.2		49.8	232	03.9		56.0	271	42.4		24.0	6	32.9		39.8
22	6	45.0	116	16.4		50.4	247	05.3		55.9	286	45.0		24.0	21	35.5		39.9
23	21	47.4	131	15.7		50.9	262	06.7		55.8	301	47.6		24.0	36	38.0		39.9
24	36	49.9	146	14.9	-23	51.4	277	08.1	+21	55.6	316	50.3	+22	24.0	51	40.5	-8	39.9
Dif	—		-8		-5		+14		-1		+26		0		+25		0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG:11 ^h 43.7 ^m				Edad: 25.2 ^d PHE { 4 ^h : 54/2 12 ^h : 54/1 20 ^h : 54/1 Rº: 39 ^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	184	03.5	-13	12.4	229	00.2		+7	13.1	139	60 N	16 13	16 58	17 47	2 01	81	15 33	**			
1	199	03.5		13.3	243	36.2		+6	59.2	139	58	21	17 02		48	04 79	31	1			
2	214	03.6		14.1	258	12.3			45.3	139	56	27	06	50	08 75	29	4				
3	229	03.6		14.9	272	48.3			31.4	139	54	33	10	52	11 72	28	6				
4	244	03.7		15.8	287	24.4			17.5	139	52	38	14	53	14 70	26	9				
5	259	03.7	-13	16.6	302	00.6		+6	03.6	139	50	16 43	17 17	17 55	2 16	68	15 25	11			
6	274	03.8	-13	17.4	316	36.8		+5	49.6	140	45	16 53	17 24	17 58	2 21	64	15 22	16			
7	289	03.8		18.3	331	13.0			35.7	139	40	17 02	30	18 02	26 59	20	19				
8	304	03.9		19.1	345	49.2			21.7	140	35	09	35	05	30 55	18	22				
9	319	03.9		19.9	0	25.4		+5	07.7	140	30	16	41	09	33 53	16	25				
10	334	03.9		20.8	15	01.7		+4	53.7	140	20	27	50	16	39 48	13	30				
11	349	04.0	-13	21.6	29	38.0		+4	39.6	141	10 N	17 38	17 59	18 24	2 44	43	15 10	35			
12	4	04.0	-13	22.4	44	14.3		+4	25.6	140	0	17 47	18 08	18 33	2 49	39	15 08	38			
13	19	04.1		23.3	58	50.7		+4	11.5	141	10 S	17 57	19	44	54 34		05	43			
14	34	04.1		24.1	73	27.0		+3	57.5	140	20	18 07	30	18 57	2 59	30	15 02	47			
15	49	04.2		24.9	88	03.4			43.4	141	30	19	45	19 14	3 04	26	14 59	52			
16	64	04.2		25.8	102	39.8			29.3	141	35	27	18 53	25	08 22		57	55			
17	79	04.2	-13	26.6	117	16.2		+3	15.2	141	40	18 35	19 04	19 39	3 11	19	14 55	59			
18	94	04.3	-13	27.4	131	52.7		+3	01.1	141	45	18 44	19 16	19 55	3 16	15	14 52	63			
19	109	04.3		28.2	146	29.1		+2	47.0	141	50	18 56	31	20 17	21 11		49	68			
20	124	04.4		29.1	161	05.6			32.9	141	52	19 01	39	27	23 9		47	70			
21	139	04.4		29.9	175	42.0			18.7	142	54	07	47	40	26 6		46	72			
22	154	04.5		30.7	190	18.5		+2	04.6	141	56	14	19 57	20 54	29 4		44	75			
23	169	04.5		31.5	204	55.0		+1	50.4	142	58	21	20 07	21 12	32 1		42	78			
24	184	04.5	-13	32.4	219	31.5		+1	36.3	141	60 S	19 29	20 20	21 34	3 35	**	14 40	81			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 21 ^h 29.1 ^m		Mag: -4.0 PMG: 14 ^h 16 ^m				Mag: +0.1 PMG: 5 ^h 31 ^m				Mag: -2.7 PMG: 2 ^h 52 ^m				Mag: +0.8 PMG: 20 ^h 30 ^m						
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /			
0	36	49.9	146	14.9	-23	51.4	277	08.1	+21	55.6	316	50.3	+22	24.0	51	40.5	-8	39.9			
1	51	52.4	161	14.1		51.9	292	09.5		55.5	331	52.9		24.0	66	43.1		39.9			
2	66	54.8	176	13.3		52.4	307	10.9		55.4	346	55.5		24.0	81	45.6		40.0			
3	81	57.3	191	12.5		52.9	322	12.3		55.3	1	58.2		24.0	96	48.2		40.0			
4	96	59.8	206	11.7		53.4	337	13.8		55.2	17	00.8		24.0	111	50.7		40.0			
5	112	02.2	221	11.0	-23	53.9	352	15.2	+21	55.1	32	03.4	+22	23.9	126	53.2	-8	40.0			
6	127	04.7	236	10.2	-23	54.4	7	16.6	+21	54.9	47	06.1	+22	23.9	141	55.8	-8	40.1			
7	142	07.2	251	09.4		54.9	22	18.0		54.8	62	08.7		23.9	156	58.3		40.1			
8	157	09.6	266	08.6		55.4	37	19.4		54.7	77	11.3		23.9	172	00.9		40.1			
9	172	12.1	281	07.8		55.9	52	20.9		54.6	92	14.0		23.9	187	03.4		40.1			
10	187	14.5	296	07.0		56.4	67	22.3		54.5	107	16.6		23.9	202	05.9		40.2			
11	202	17.0	311	06.3	-23	56.9	82	23.7	+21	54.4	122	19.2	+22	23.9	217	08.5	-8	40.2			
12	217	19.5	326	05.5	-23	57.4	97	25.1	+21	54.3	137	21.9	+22	23.9	232	11.0	-8	40.2			
13	232	21.9	341	04.7		57.9	112	26.5		54.1	152	24.5		23.9	247	13.6		40.2			
14	247	24.4	356	03.9		58.4	127	28.0		54.0	167	27.1		23.9	262	16.1		40.3			
15	262	26.9	11	03.1		58.8	142	29.4		53.9	182	29.8		23.8	277	18.6		40.3			
16	277	29.3	26	02.3		59.3	157	30.8		53.8	197	32.4		23.8	292	21.2		40.3			
17	292	31.8	41	01.5	-23	59.8	172	32.2	+21	53.7	212	35.0	+22	23.8	307	23.7	-8	40.3			
18	307	34.3	56	00.8	-24	00.3	187	33.7	+21	53.6	227	37.7	+22	23.8	322	26.2	-8	40.4			
19	322	36.7	71	00.0		00.8	202	35.1		53.4	242	40.3		23.8	337	28.8		40.4			
20	337	39.2	85	59.2		01.3	217	36.5		53.3	257	42.9		23.8	352	31.3		40.4			
21	352	41.7	100	58.4		01.8	232	37.9		53.2	272	45.6		23.8	7	33.9		40.4			
22	7	44.1	115	57.6		02.3	247	39.4		53.1	287	48.2		23.8	22	36.4		40.5			
23	22	46.6	130	56.8		02.7	262	40.8		53.0	302	50.9		23.8	37	38.9		40.5			
24	37	49.0	145	56.0	-24	03.2	277	42.2	+21	52.9	317	53.5	+22	23.7	52	41.5	-8	40.5			
Dif	—		-8		-5		+14		-1		+26		0		+25		0				

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h 1 PMG:11 ^h 43.7 ^m				Edad: 26.2 ^d PHE { 4 ^h : 54 ⁰ 12 ^h : 54 ⁰ 20 ^h : 54 ⁰ R°: 39 ^m												
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	184	04.5	-13	32.4	219	31.5	+1	36.3	60 N	5	42	6	31	7	16		
1	199	04.6		33.2	234	08.0		22.1	58	40	26		08	23	78	32	
2	214	04.6		34.0	248	44.5	+1	08.0	56	38	22		7	01	23	75	
3	229	04.6		34.9	263	21.0	+0	53.8	54	37	18		6	56	23	73	
4	244	04.7		35.7	277	57.6		39.7	52	35	15		50	24	70	35	
5	259	04.7	-13	36.5	292	34.1	+0	25.5	50	5	34	6	12	6	45	15	
6	274	04.8	-13	37.3	307	10.6	+0	11.3	45	5	30	6	04	6	35	3	
7	289	04.8		38.2	321	47.2	-0	02.8	40	26	5	58		26	25	59	
8	304	04.8		39.0	336	23.7		17.0	35	23	52		19	25	56	40	
9	319	04.9		39.8	351	00.2		31.2	30	19	47		12	26	52	41	
10	334	04.9		40.6	5	36.8		45.3	20	12	38		6	00	27	47	
11	349	04.9	-13	41.4	20	13.3	-0	59.5	10 N	5	03	5	28	5	50	3	
12	4	05.0	-13	42.3	34	49.8	-1	13.6	0	4	54	5	19	5	40	3	
13	19	05.0		43.1	49	26.3		27.8	10 S	43	5	09		30	28	35	
14	34	05.1		43.9	64	02.8		41.9	20	30	4	57	20	29	30	48	
15	49	05.1		44.7	78	39.3	-1	56.1	30	13	42		08	30	25	51	
16	64	05.1		45.5	93	15.8	-2	10.2	35	4	02	34	5	00	30	22	
17	79	05.2	-13	46.4	107	52.3	-2	24.3	40	3	48	4	23	4	52	3	
18	94	05.2	-13	47.2	122	28.8	-2	38.4	45	3	32	4	11	4	43	3	
19	109	05.2		48.0	137	05.3	-2	52.5	50	10	3	55		31	32	10	
20	124	05.3		48.8	151	41.7	-3	06.6	52	3	00	48		26	32	9	
21	139	05.3		49.6	166	18.2		20.7	54	2	47	40		20	32	7	
22	154	05.3		50.5	180	54.6		34.8	56	33	30		13	33	4	15	
23	169	05.4		51.3	195	31.0	-3	48.9	58	2	15	19	4	06	33	1	
24	184	05.4	-13	52.1	210	07.4	-4	02.9	60 S	1	53	3	06	3	57	3	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 21 ^h 25.2 ^m		Mag: -4.0 PMG: 14 ^h 17 ^m			Mag: +0.1 PMG: 5 ^h 29 ^m			Mag: -2.7 PMG: 2 ^h 48 ^m			Mag: +0.8 PMG: 20 ^h 26 ^m					
	hG ♈		hG ♊			hG ♂			hG ♃			hG ♄					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	37	49.0	145	56.0	-24	03.2	277	42.2	+21	52.9	317	53.5	+22	23.7	52	41.5	
1	52	51.5	160	55.2		03.7	292	43.7		52.8	332	56.1		23.7	67	44.0	
2	67	54.0	175	54.5		04.2	307	45.1		52.6	347	58.8		23.7	82	46.5	
3	82	56.4	190	53.7		04.6	322	46.5		52.5	3	01.4		23.7	97	49.1	
4	97	58.9	205	52.9		05.1	337	48.0		52.4	18	04.1		23.7	112	51.6	
5	113	01.4	220	52.1	-24	05.6	352	49.4	+21	52.3	33	06.7	+22	23.7	127	54.2	
6	128	03.8	235	51.3	-24	06.1	7	50.8	+21	52.2	48	09.3	+22	23.7	142	56.7	
7	143	06.3	250	50.5		06.5	22	52.3		52.1	63	12.0		23.7	157	59.2	
8	158	08.8	265	49.7		07.0	37	53.7		52.0	78	14.6		23.7	173	01.8	
9	173	11.2	280	48.9		07.5	52	55.2		51.8	93	17.3		23.6	188	04.3	
10	188	13.7	295	48.1		08.0	67	56.6		51.7	108	19.9		23.6	203	06.8	
11	203	16.1	310	47.3	-24	08.4	82	58.0	+21	51.6	123	22.6	+22	23.6	218	09.4	
12	218	18.6	325	46.5	-24	08.9	97	59.5	+21	51.5	138	25.2	+22	23.6	233	11.9	
13	233	21.1	340	45.7		09.3	113	00.9		51.4	153	27.8		23.6	248	14.4	
14	248	23.5	355	45.0		09.8	128	02.3		51.3	168	30.5		23.6	263	17.0	
15	263	26.0	10	44.2		10.3	143	03.8		51.2	183	33.1		23.6	278	19.5	
16	278	28.5	25	43.4		10.7	158	05.2		51.1	198	35.8		23.6	293	22.0	
17	293	30.9	40	42.6	-24	11.2	173	06.7	+21	50.9	213	38.4	+22	23.6	308	24.6	
18	308	33.4	55	41.8	-24	11.7	188	08.1	+21	50.8	228	41.1	+22	23.5	323	27.1	
19	323	35.9	70	41.0		12.1	203	09.6		50.7	243	43.7		23.5	338	29.6	
20	338	38.3	85	40.2		12.6	218	11.0		50.6	258	46.4		23.5	353	32.2	
21	353	40.8	100	39.4		13.0	233	12.5		50.5	273	49.0		23.5	8	34.7	
22	8	43.3	115	38.6		13.5	248	13.9		50.4	288	51.6		23.5	23	37.2	
23	23	45.7	130	37.8		13.9	263	15.4		50.3	303	54.3		23.5	38	39.8	
24	38	48.2	145	37.0	-24	14.4	278	16.8	+21	50.1	318	56.9	+22	23.5	53	42.3	
Dif	—		-8			-5	+14			-1	+26			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 43.6 ^m				Edad: 27.2 ^d SD: 14 ^h 7 PMG: 10 ^h 16 ^m														
	hG ☉		Dec		hG ☾		Dif				Dec		Dif		Civil	Náutico	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	05.4	-13	52.1	210	07.4	-4	02.9	60 N	16 08	16 53	17 42	4 44	83	15 30	**			
1	199	05.4		52.9	224	43.8		17.0	58	16	16 58	44	41	79	34	2			
2	214	05.4		53.7	239	20.2		31.0	56	23	17 02	46	38	76	38	5			
3	229	05.5		54.5	253	56.5		45.0	54	29	06	48	36	73	41	8			
4	244	05.5		55.4	268	32.8	-4	59.0	52	35	10	50	34	71	44	10			
5	259	05.5	-13	56.2	283	09.1	-5	13.0	50	16 40	17 13	17 51	4 32	68	15 47	12			
6	274	05.6	-13	57.0	297	45.4	-5	27.0	45	16 50	17 21	17 55	4 27	64	15 53	17			
7	289	05.6		57.8	312	21.7		40.9	40	17 00	28	17 59	24	60	15 58	21			
8	304	05.6		58.6	326	57.9	-5	54.8	35	07	33	18 03	21	56	16 03	24			
9	319	05.7	-13	59.4	341	34.1	-6	08.7	30	14	39	07	18	54	07	26			
10	334	05.7	-14	00.2	356	10.3		22.6	20	26	49	15	14	48	13	32			
11	349	05.7	-14	01.1	10	46.4	-6	36.5	10 N	17 37	17 59	18 24	4 10	44	16 19	37			
12	4	05.7	-14	01.9	25	22.5	-6	50.4	0	17 47	18 08	18 33	4 06	40	16 25	41			
13	19	05.8		02.7	39	58.6	-7	04.2	10 S	17 57	19	44	4 03	35	31	44			
14	34	05.8		03.5	54	34.7		18.0	20	18 08	31	18 58	3 59	31	37	49			
15	49	05.8		04.3	69	10.7		31.8	30	21	46	19 16	55	26	44	54			
16	64	05.8		05.1	83	46.7		45.5	35	28	18 55	28	52	23	48	57			
17	79	05.9	-14	05.9	98	22.7	-7	59.3	40	18 37	19 06	19 41	3 49	20	16 53	60			
18	94	05.9	-14	06.7	112	58.6	-8	13.0	45	18 47	19 19	19 58	3 46	16	16 58	65			
19	109	05.9		07.6	127	34.5		26.6	50	18 59	35	20 21	42	12	17 05	69			
20	124	05.9		08.4	142	10.4		40.3	52	19 05	43	32	41	9	08	72			
21	139	06.0		09.2	156	46.2	-8	53.9	54	11	19 52	20 45	39	7	11	74			
22	154	06.0		10.0	171	22.0	-9	07.5	56	18	20 02	21 01	37	4	15	77			
23	169	06.0		10.8	185	57.7		21.1	58	26	13	19	34	2	19	80			
24	184	06.0	-14	11.6	200	33.4	-9	34.6	60 S	19 35	20 26	21 44	3 32	**	17 23	85			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 21 ^h 21.3 ^m		Mag: -4.0 PMG: 14 ^h 18 ^m		Mag: +0.1 PMG: 5 ^h 26 ^m		Mag: -2.7 PMG: 2 ^h 44 ^m		Mag: +0.8 PMG: 20 ^h 22 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	38	48.2	145	37.0	-24	14.4	278	16.8	+21	50.1									
1	53	50.6	160	36.2		14.8	293	18.3		50.0									
2	68	53.1	175	35.4		15.3	308	19.7		49.9									
3	83	55.6	190	34.6		15.7	323	21.2		49.8									
4	98	58.0	205	33.8		16.2	338	22.6		49.7									
5	114	00.5	220	33.0	-24	16.6	353	24.1	+21	49.6									
6	129	03.0	235	32.2	-24	17.1	8	25.5	+21	49.5									
7	144	05.4	250	31.4		17.5	23	27.0		49.4									
8	159	07.9	265	30.6		18.0	38	28.4		49.2									
9	174	10.4	280	29.8		18.4	53	29.9		49.1									
10	189	12.8	295	29.0		18.8	68	31.3		49.0									
11	204	15.3	310	28.2	-24	19.3	83	32.8	+21	48.9									
12	219	17.8	325	27.4	-24	19.7	98	34.2	+21	48.8									
13	234	20.2	340	26.6		20.2	113	35.7		48.7									
14	249	22.7	355	25.8		20.6	128	37.2		48.6									
15	264	25.1	10	25.0		21.0	143	38.6		48.5									
16	279	27.6	25	24.2		21.5	158	40.1		48.4									
17	294	30.1	40	23.4	-24	21.9	173	41.5	+21	48.2									
18	309	32.5	55	22.6	-24	22.3	188	43.0	+21	48.1									
19	324	35.0	70	21.8		22.8	203	44.5		48.0									
20	339	37.5	85	21.0		23.2	218	45.9		47.9									
21	354	39.9	100	20.2		23.6	233	47.4		47.8									
22	9	42.4	115	19.4		24.0	248	48.9		47.7									
23	24	44.9	130	18.6		24.5	263	50.3		47.6									
24	39	47.3	145	17.8	-24	24.9	278	51.8	+21	47.5									
Dif	—		-8		-4		+15		-1										
							+27		0										
									+25										
									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: 28.2 ^d SD: 14'7 PMG: 10 ^h 56 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'2 R°: 42 ^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	11.6	200	33.4	-9	34.6	135	60 N	5 46	6 36	7 21	6 07	87	15 28	**		
1	199	06.1		12.4	215	09.1	-9	48.1	135	58	44	31	13	6 00	83	36	3		
2	214	06.1		13.2	229	44.7	-10	01.6	135	56	42	26	7 06	5 54	79	43	6		
3	229	06.1		14.0	244	20.3		15.0	134	54	40	22	6 59	49	76	49	0		
4	244	06.1		14.8	258	55.8		28.4	134	52	38	18	54	45	73	54	12		
5	259	06.2	-14	15.6	273	31.3	-10	41.8	134	50	5 37	6 15	6 49	5 40	71	15 59	15		
6	274	06.2	-14	16.4	288	06.7	-10	55.1	133	45	5 32	6 07	6 38	5 31	66	16 10	19		
7	289	06.2		17.2	302	42.1	-11	08.4	133	40	28	6 00	28	24	61	19	23		
8	304	06.2		18.0	317	17.5		21.7	133	35	24	5 54	20	17	58	27	26		
9	319	06.2		18.9	331	52.8		34.9	132	30	20	49	13	12	55	33	30		
10	334	06.3		19.7	346	28.0	-11	48.1	132	20	12	38	6 01	5 02	50	45	35		
11	349	06.3	-14	20.5	1	03.2	-12	01.2	131	10 N	5 04	5 29	5 50	4 54	45	16 56	38		
12	4	06.3	-14	21.3	15	38.4	-12	14.3	131	0	4 54	5 19	5 40	4 46	41	17 06	42		
13	19	06.3		22.1	30	13.5		27.3	130	10 S	43	5 08	30	38	38	15	47		
14	34	06.3		22.9	44	48.5		40.4	131	20	29	4 56	19	30	33	26	51		
15	49	06.3		23.7	59	23.5	-12	53.3	129	30	4 11	41	5 06	21	28	38	56		
16	64	06.4		24.5	73	58.4	-13	06.3	130	35	3 59	31	4 58	15	25	45	59		
17	79	06.4	-14	25.3	88	33.3	-13	19.1	128	40	3 45	4 21	4 50	4 09	22	17 53	63		
18	94	06.4	-14	26.1	103	08.1	-13	32.0	129	45	3 28	4 08	4 40	4 02	18	18 03	66		
19	109	06.4		26.9	117	42.9		44.8	128	50	3 06	3 51	27	3 54	13	14	72		
20	124	06.4		27.7	132	17.6	-13	57.5	127	52	2 54	44	22	50	11	20	74		
21	139	06.5		28.5	146	52.2	-14	10.2	127	54	41	35	15	46	9	25	78		
22	154	06.5		29.3	161	26.8		22.8	126	56	26	25	08	41	6	32	80		
23	169	06.5		30.1	176	01.3		35.4	126	58	2 07	13	4 01	36	3	39	85		
24	184	06.5	-14	30.9	190	35.8	-14	47.9	125	60 S	1 43	3 00	3 52	3 30	**	18 48	89		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 21 ^h 17.3 ^m		Mag: -4.0 PMG: 14 ^h 20 ^m				Mag: +0.1 PMG: 5 ^h 24 ^m				Mag: -2.7 PMG: 2 ^h 39 ^m				Mag: +0.8 PMG: 20 ^h 18 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	39	47.3	145	17.8	-24	24.9	278	51.8	+21	47.5	320	00.6	+22	23.2	54	43.1	-8	41.6	
1	54	49.8	160	17.0		25.3	293	53.3		47.4	335	03.2		23.2	69	45.6		41.6	
2	69	52.2	175	16.2		25.7	308	54.7		47.2	350	05.9		23.2	84	48.1		41.6	
3	84	54.7	190	15.4		26.2	323	56.2		47.1	5	08.5		23.2	99	50.6		41.6	
4	99	57.2	205	14.6		26.6	338	57.7		47.0	20	11.2		23.2	114	53.2		41.6	
5	114	59.6	220	13.8	-24	27.0	353	59.2	+21	46.9	35	13.9	+22	23.1	129	55.7	-8	41.7	
6	130	02.1	235	13.0	-24	27.4	9	00.6	+21	46.8	50	16.5	+22	23.1	144	58.2	-8	41.7	
7	145	04.6	250	12.1		27.8	24	02.1		46.7	65	19.2		23.1	160	00.8		41.7	
8	160	07.0	265	11.3		28.2	39	03.6		46.6	80	21.8		23.1	175	03.3		41.7	
9	175	09.5	280	10.5		28.6	54	05.0		46.5	95	24.5		23.1	190	05.8		41.7	
10	190	12.0	295	09.7		29.1	69	06.5		46.4	110	27.2		23.1	205	08.3		41.8	
11	205	14.4	310	08.9	-24	29.5	84	08.0	+21	46.3	125	29.8	+22	23.1	220	10.9	-8	41.8	
12	220	16.9	325	08.1	-24	29.9	99	09.5	+21	46.1	140	32.5	+22	23.1	235	13.4	-8	41.8	
13	235	19.4	340	07.3		30.3	114	10.9		46.0	155	35.1		23.1	250	15.9		41.8	
14	250	21.8	355	06.5		30.7	129	12.4		45.9	170	37.8		23.0	265	18.4		41.8	
15	265	24.3	10	05.7		31.1	144	13.9		45.8	185	40.5		23.0	280	21.0		41.9	
16	280	26.7	25	04.9		31.5	159	15.4		45.7	200	43.1		23.0	295	23.5		41.9	
17	295	29.2	40	04.1	-24	31.9	174	16.9	+21	45.6	215	45.8	+22	23.0	310	26.0	-8	41.9	
18	310	31.7	55	03.3	-24	32.3	189	18.3	+21	45.5	230	48.4	+22	23.0	325	28.5	-8	41.9	
19	325	34.1	70	02.5		32.7	204	19.8		45.4	245	51.1		23.0	340	31.1		41.9	
20	340	36.6	85	01.6		33.1	219	21.3		45.3	260	53.8		23.0	355	33.6		41.9	
21	355	39.1	100	00.8		33.5	234	22.8		45.2	275	56.4		23.0	10	36.1		42.0	
22	10	41.5	115	00.0		33.9	249	24.3		45.1	290	59.1		22.9	25	38.7		42.0	
23	25	44.0	129	59.2		34.3	264	25.8		44.9	306	01.8		22.9	40	41.2		42.0	
24	40	46.5	144	58.4	-24	34.7	279	27.2	+21	44.8	321	04.4	+22	22.9	55	43.7	-8	42.0	
Dif	—		-8		-4		+15		-1		+27		0		+25		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: 29.2 ^d PHE { 4 ^h : 54/2 12 ^h : 54/3 20 ^h : 54/4 SD: 14/8 PMG: 11 ^h 38 ^m 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	184	06.5	-14	30.9	190	35.8	-14	47.9	125	58	16	03	16	48	17	38	7	34	92	15	27	1	
1	199	06.5		31.7	205	10.2	-15	00.4	124	56	11			53	40		23	86		39		6	
2	214	06.5		32.5	219	44.5		12.8	124	54	18	16	58	42		13	83		49		10		
3	229	06.5		33.3	234	18.8		25.2	124	52	25	17	02	44		7	05	79	15	58	14		
4	244	06.6		34.1	248	53.0		37.5	123	50	31		06	46		6	58	75	16	06	17		
5	259	06.6	-14	34.9	263	27.1	-15	49.8	123	45	16	36	17	10	17	48	6	51	73	16	14	19	
6	274	06.6	-14	35.7	278	01.2	-16	02.0	122	40	16	48	17	18	17	53	6	37	67	16	29	24	
7	289	06.6		36.5	292	35.2		14.1	121	35	16	57	25	17	57		25	64		42	28		
8	304	06.6		37.2	307	09.1		26.2	121	30	17	05	32	18	01		15	60	16	53	31		
9	319	06.6		38.0	321	43.0		38.3	121	20		13	37		06		6	07	57	17	03	34	
10	334	06.6		38.8	336	16.8	-16	50.2	119	10		25		48		14		5	52	52		20	38
11	349	06.6	-14	39.6	350	50.5	-17	02.1	119	0 N	17	36	17	58	18	23		5	39	48	17	34	43
12	4	06.6	-14	40.4	5	24.2	-17	14.0	119	0	17	47	18	08	18	33		5	27	45	17	48	46
13	19	06.7		41.2	19	57.8		25.7	117	10 S	17	58		20		45		16	40		18	02	50
14	34	06.7		42.0	34	31.3		37.4	117	20	18	09		32	18	59		5	03	36		17	53
15	49	06.7		42.8	49	04.7	-17	49.1	117	30		23		48	19	18		4	49	31		34	58
16	64	06.7		43.6	63	38.1	-18	00.6	115	35		30		18	57	30		40	29		44	61	
17	79	06.7	-14	44.4	78	11.4	-18	12.2	116	40	18	39	19	09	19	44		4	31	26	18	56	64
18	94	06.7	-14	45.2	92	44.6	-18	23.6	114	45	18	50	19	22	20	02		4	20	22	19	09	68
19	109	06.7		46.0	107	17.8		34.9	113	50	19	02		39		25		07	17		26	73	
20	124	06.7		46.8	121	50.8		46.2	113	52		08		47	37		4	01	14		34	76	
21	139	06.7		47.5	136	23.8	-18	57.5	113	54		15	19	56	20	51		3	55	11		43	79
22	154	06.7		48.3	150	56.7	-19	08.6	111	56		22	20	07	21	07		47	8		19	52	83
23	169	06.7		49.1	165	29.6		19.7	111	58		31		19		27		39	4		20	04	87
24	184	06.8	-14	49.9	180	02.3	-19	30.7	110	60 S	19	40	20	33	21	54		3	29	0	20	17	94
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 21 ^h 13.4 ^m				Mag: -4.0 PMG: 14 ^h 21 ^m				Mag: +0.1 PMG: 5 ^h 22 ^m				Mag: -2.7 PMG: 2 ^h 35 ^m				Mag: +0.8 PMG: 20 ^h 14 ^m						
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	40	46.5	144	58.4	-24	34.7	279	27.2	+21	44.8	321	04.4	+22	22.9	55	43.7	-8	42.0					
1	55	48.9	159	57.6		35.1	294	28.7		44.7	336	07.1		22.9	70	46.2		42.0					
2	70	51.4	174	56.8		35.5	309	30.2		44.6	351	09.7		22.9	85	48.8		42.1					
3	85	53.8	189	56.0		35.9	324	31.7		44.5	6	12.4		22.9	100	51.3		42.1					
4	100	56.3	204	55.2		36.3	339	33.2		44.4	21	15.1		22.9	115	53.8		42.1					
5	115	58.8	219	54.3	-24	36.7	354	34.7	+21	44.3	36	17.7	+22	22.9	130	56.3	-8	42.1					
6	131	01.2	234	53.5	-24	37.0	9	36.2	+21	44.2	51	20.4	+22	22.8	145	58.9	-8	42.1					
7	146	03.7	249	52.7		37.4	24	37.7		44.1	66	23.1		22.8	161	01.4		42.2					
8	161	06.2	264	51.9		37.8	39	39.2		44.0	81	25.7		22.8	176	03.9		42.2					
9	176	08.6	279	51.1		38.2	54	40.7		43.9	96	28.4		22.8	191	06.4		42.2					
10	191	11.1	294	50.3		38.6	69	42.1		43.8	111	31.1		22.8	206	08.9		42.2					
11	206	13.6	309	49.5	-24	39.0	84	43.6	+21	43.7	126	33.7	+22	22.8	221	11.5	-8	42.2					
12	221	16.0	324	48.7	-24	39.4	99	45.1	+21	43.5	141	36.4	+22	22.8	236	14.0	-8	42.2					
13	236	18.5	339	47.8		39.7	114	46.6		43.4	156	39.1		22.8	251	16.5		42.3					
14	251	21.0	354	47.0		40.1	129	48.1		43.3	171	41.7		22.7	266	19.0		42.3					
15	266	23.4	9	46.2		40.5	144	49.6		43.2	186	44.4		22.7	281	21.6		42.3					
16	281	25.9	24	45.4		40.9	159	51.1		43.1	201	47.1		22.7	296	24.1		42.3					
17	296	28.3	39	44.6	-24	41.2	174	52.6	+21	43.0	216	49.8	+22	22.7	311	26.6	-8	42.3					
18	311	30.8	54	43.8	-24	41.6	189	54.1	+21	42.9	231	52.4	+22	22.7	326	29.1	-8	42.3					
19	326	33.3	69	42.9		42.0	204	55.6		42.8	246	55.1		22.7	341	31.7		42.4					
20	341	35.7	84	42.1		42.4	219	57.1		42.7	261	57.8		22.7	356	34.2		42.4					
21	356	38.2	99	41.3		42.7	234	58.6		42.6	277	00.4		22.7	11	36.7		42.4					
22	11	40.7	114	40.5		43.1	250	00.1		42.5	292	03.1		22.6	26	39.2		42.4					
23	26	43.1	129	39.7		43.5	265	01.6		42.4	307	05.8		22.6	41	41.7		42.4					
24	41	45.6	144	38.9	-24	43.8	280	03.1	+21	42.3	322	08.4	+22	22.6	56	44.3	-8	42.4					
Dif	—		-8		-4		+15		-1		+27		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 1 PMG: 11 ^h 43.5 ^m		Edad: 1.5 ^d SD: 14 ^h 9 PMG: 13 ^h 11 ^m		PHE { 4 ^h : 54 ^h 8 12 ^h : 54 ^h 9 20 ^h : 55 ^h 0 Rº: 52 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	184	06.8	-15	08.7	168	44.0	-23	28.9	87	60 N	15 58	16 44	17 33	10 42	98	15 31	11	
1	199	06.8		09.5	183	14.7		37.6	87	58	16 06	49	36	10 19	86	15 55	21	
2	214	06.8		10.3	197	45.3		46.3	87	56	14	54	39	9 59	81	16 15	27	
3	229	06.8		11.0	212	15.8		54.8	85	54	21	16 59	41	43 77		32	30	
4	244	06.8		11.8	226	46.3		03.2	84	52	27	17 03	43	30 73		46	33	
5	259	06.8	-15	12.6	241	16.6		11.6	84	50	16 33	17 07	17 45	9 18	71	16 58	36	
6	274	06.8	-15	13.4	255	46.9		19.8	82	45	16 45	17 16	17 50	8 53	67	17 24	39	
7	289	06.8		14.2	270	17.1		27.9	81	40	16 55	23	17 55	33 64		17 44	42	
8	304	06.8		14.9	284	47.1		35.8	79	35	17 03	30	18 00	17 61		18 01	45	
9	319	06.8		15.7	299	17.2		43.7	79	30	11	36	04	8 03	59	16	46	
10	334	06.8		16.5	313	47.1		51.5	78	20	24	47	13	7 39	56	18 41	49	
11	349	06.8	-15	17.2	328	16.9		59.1	76	10 N	17 36	17 58	18 23	7 18	54	19 03	51	
12	4	06.8	-15	18.0	342	46.7		06.7	76	0	17 47	18 08	18 33	6 59	51	19 24	52	
13	19	06.7		18.8	357	16.4		14.1	74	10 S	17 58	20	18 46	40 49		19 44	55	
14	34	06.7		19.6	11	45.9		21.4	73	20	18 10	33	19 01	6 20	46	20 06	57	
15	49	06.7		20.3	26	15.5		28.6	72	30	24	50	20	5 57	42	31	60	
16	64	06.7		21.1	40	44.9		35.6	70	35	32	18 59	32	43 41		20 47	60	
17	79	06.7	-15	21.9	55	14.2		42.6	70	40	18 42	19 11	19 47	5 28	38	21 04	63	
18	94	06.7	-15	22.7	69	43.5		49.4	68	45	18 53	19 25	20 06	5 09	35	21 25	65	
19	109	06.7		23.4	84	12.7		56.1	67	50	19 06	43	30	4 46	30	21 52	68	
20	124	06.7		24.2	98	41.8		02.6	65	52	12	19 51	42	35 28		22 05	70	
21	139	06.7		25.0	113	10.8		09.1	65	54	19	20 01	20 57	22 25		20 73		
22	154	06.7		25.7	127	39.8		15.4	63	56	27	12	21 14	4 08	21	22 38	76	
23	169	06.7		26.5	142	08.6		21.6	62	58	35	24	21 36	3 52	15	23 00	81	
24	184	06.7	-15	27.3	156	37.4		27.7	61	60 S	19 45	20 39	22 05	3 32	7	23 28	90	
UT	ARIES PMG 21 ^h 05.6 ^m		VENUS Mag: -4.0 PMG: 14 ^h 24 ^m		MARTE Mag: 0.0 PMG: 5 ^h 17 ^m		JÚPITER Mag: -2.7 PMG: 2 ^h 27 ^m		SATURNO Mag: +0.8 PMG: 20 ^h 06 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	42	44.7	144	19.2	-24	52.3	280	39.5	+21	39.8	323	12.7	+22	22.3	57	44.7	-8	42.8
1	57	47.2	159	18.4		52.6	295	41.0		39.7	338	15.3		22.3	72	47.2		42.9
2	72	49.7	174	17.5		52.9	310	42.6		39.6	353	18.0		22.3	87	49.8		42.9
3	87	52.1	189	16.7		53.3	325	44.1		39.4	8	20.7		22.3	102	52.3		42.9
4	102	54.6	204	15.9		53.6	340	45.6		39.3	23	23.4		22.2	117	54.8		42.9
5	117	57.1	219	15.1	-24	53.9	355	47.1	+21	39.2	38	26.1	+22	22.2	132	57.3	-8	42.9
6	132	59.5	234	14.3	-24	54.3	10	48.7	+21	39.1	53	28.8	+22	22.2	147	59.8	-8	42.9
7	148	02.0	249	13.4		54.6	25	50.2		39.0	68	31.4		22.2	163	02.4		42.9
8	163	04.4	264	12.6		54.9	40	51.7		38.9	83	34.1		22.2	178	04.9		43.0
9	178	06.9	279	11.8		55.2	55	53.3		38.8	98	36.8		22.2	193	07.4		43.0
10	193	09.4	294	11.0		55.6	70	54.8		38.7	113	39.5		22.2	208	09.9		43.0
11	208	11.8	309	10.1	-24	55.9	85	56.3	+21	38.6	128	42.2	+22	22.2	223	12.4	-8	43.0
12	223	14.3	324	09.3	-24	56.2	100	57.9	+21	38.5	143	44.8	+22	22.1	238	14.9	-8	43.0
13	238	16.8	339	08.5		56.5	115	59.4		38.4	158	47.5		22.1	253	17.4		43.0
14	253	19.2	354	07.7		56.9	131	00.9		38.3	173	50.2		22.1	268	20.0		43.0
15	268	21.7	9	06.8		57.2	146	02.5		38.2	188	52.9		22.1	283	22.5		43.1
16	283	24.2	24	06.0		57.5	161	04.0		38.1	203	55.6		22.1	298	25.0		43.1
17	298	26.6	39	05.2	-24	57.8	176	05.5	+21	38.0	218	58.3	+22	22.1	313	27.5	-8	43.1
18	313	29.1	54	04.4	-24	58.1	191	07.1	+21	37.9	234	01.0	+22	22.1	328	30.0	-8	43.1
19	328	31.6	69	03.5		58.4	206	08.6		37.8	249	03.6		22.0	343	32.5		43.1
20	343	34.0	84	02.7		58.7	221	10.2		37.7	264	06.3		22.0	358	35.0		43.1
21	358	36.5	99	01.9		59.1	236	11.7		37.6	279	09.0		22.0	13	37.6		43.1
22	13	38.9	114	01.0		59.4	251	13.2		37.5	294	11.7		22.0	28	40.1		43.2
23	28	41.4	129	00.2	-24	59.7	266	14.8		37.4	309	14.4		22.0	43	42.6		43.2
24	43	43.9	143	59.4	-25	00.0	281	16.3	+21	37.3	324	17.1	+22	22.0	58	45.1	-8	43.2
Dif	—		-8		-3		+15		-1		+27		0		+25		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: 2.5 ^d PHE { 4 ^h : 55'1 12 ^h : 55'3 20 ^h : 55'4 Rº: 55 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil		Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	184	06.7	-15	27.3	156	37.4	97	-26	27.7	59	60 N	5 55	6 45	7 31	12 20	81	15 42	33		
1	199	06.6		28.0	171	06.1	97		33.6	58	58	52	39	22	11 45	73	16 16	42		
2	214	06.6		28.8	185	34.8	95		39.4	57	56	50	34	14	20 69	16 42	44			
3	229	06.6		29.6	200	03.3	95		45.1	55	54	47	29	07	11 00	67	17 02	47		
4	244	06.6		30.3	214	31.8	95		50.6	54	52	45	25	7 01	10 43	66	19 48			
5	259	06.6	-15	31.1	229	00.3	95	-26	56.0	54	50	5 43	6 21	6 55	10 29	64	17 34	48		
6	274	06.6	-15	31.9	243	28.6	93	-27	01.3	53	45	5 37	6 12	6 43	10 00	62	18 03	51		
7	289	06.6		32.6	257	56.9	93		06.5	52	40	32	6 05	33	9 37	61	26 52			
8	304	06.6		33.4	272	25.1	92		11.5	50	35	28	5 58	24	18 60	18 46	52			
9	319	06.5		34.2	286	53.2	91		16.3	48	30	23	52	16	9 02	59	19 02	53		
10	334	06.5		34.9	301	21.3	91		21.1	48	20	14	40	6 03	8 35	57	30 54			
11	349	06.5	-15	35.7	315	49.3	90	-27	25.7	46	10 N	5 04	5 30	5 51	8 12	55	19 54	54		
12	4	06.5	-15	36.4	330	17.2	89	-27	30.1	44	0	4 54	5 19	5 40	7 50	55	20 16	55		
13	19	06.5		37.2	344	45.0	88		34.4	43	10 S	41	5 07	29	29 53	20 39	55			
14	34	06.5		38.0	359	12.8	88		38.6	42	20	26	4 54	17	7 06	51	21 03	56		
15	49	06.5		38.7	13	40.6	88		42.6	40	30	4 07	37	5 03	6 39	50	31 56			
16	64	06.4		39.5	28	08.2	86		46.5	39	35	3 55	27	4 54	24 48	21 47	57			
17	79	06.4	-15	40.3	42	35.8	86	-27	50.3	38	40	3 40	4 16	4 45	6 06	46	22 07	57		
18	94	06.4	-15	41.0	57	03.4	86	-27	53.9	36	45	3 21	4 01	4 34	5 44	45	22 30	58		
19	109	06.4		41.8	71	30.9	85	-27	57.3	34	50	2 57	3 44	21	16 42	23 00	58			
20	124	06.4		42.5	85	58.3	84	-28	00.6	33	52	44	35	14	5 03	40	15 59			
21	139	06.4		43.3	100	25.7	84		03.8	32	54	30	26	07	4 47	39	33 59			
22	154	06.3		44.0	114	53.0	83		06.8	30	56	2 12	15	4 00	29 35	23 54	59			
23	169	06.3		44.8	129	20.3	83		09.7	29	58	1 51	3 02	3 51	4 07	30	** ** *			
24	184	06.3	-15	45.6	143	47.5	82	-28	12.4	27	60 S	1 21	2 47	3 41	3 39	20	** ** *			

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG: 21 ^h 01.6 ^m		Mag: -4.0 PMG: 14 ^h 25 ^m			Mag: 0.0 PMG: 5 ^h 14 ^m			Mag: -2.7 PMG: 2 ^h 22 ^m			Mag: +0.8 PMG: 20 ^h 02 ^m		
	hG ♈		hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec
h	°	'	°	'	°	°	'	°	'	°	'	°	'	°
0	43	43.9	143	59.4	-25 00.0	281	16.3	+21 37.3	324	17.1	+22 22.0	58	45.1	-8 43.2
1	58	46.3	158	58.6	-25 00.3	296	17.9	37.2	339	19.8	22.0	73	47.6	43.2
2	73	48.8	173	57.7	00.6	311	19.4	37.1	354	22.5	21.9	88	50.1	43.2
3	88	51.3	188	56.9	00.9	326	21.0	37.0	9	25.1	21.9	103	52.6	43.2
4	103	53.7	203	56.1	01.2	341	22.5	36.9	24	27.8	21.9	118	55.2	43.2
5	118	56.2	218	55.3	-25 01.5	356	24.1	+21 36.8	39	30.5	+22 21.9	133	57.7	-8 43.2
6	133	58.7	233	54.4	-25 01.8	11	25.6	+21 36.7	54	33.2	+22 21.9	149	00.2	-8 43.3
7	149	01.1	248	53.6	02.1	26	27.2	36.6	69	35.9	21.9	164	02.7	43.3
8	164	03.6	263	52.8	02.4	41	28.7	36.5	84	38.6	21.9	179	05.2	43.3
9	179	06.1	278	51.9	02.7	56	30.3	36.4	99	41.3	21.8	194	07.7	43.3
10	194	08.5	293	51.1	03.0	71	31.8	36.3	114	44.0	21.8	209	10.2	43.3
11	209	11.0	308	50.3	-25 03.3	86	33.4	+21 36.2	129	46.7	+22 21.8	224	12.7	-8 43.3
12	224	13.4	323	49.5	-25 03.6	101	34.9	+21 36.1	144	49.4	+22 21.8	239	15.3	-8 43.3
13	239	15.9	338	48.6	03.9	116	36.5	36.0	159	52.0	21.8	254	17.8	43.4
14	254	18.4	353	47.8	04.2	131	38.0	35.9	174	54.7	21.8	269	20.3	43.4
15	269	20.8	8	47.0	04.5	146	39.6	35.8	189	57.4	21.8	284	22.8	43.4
16	284	23.3	23	46.1	04.7	161	41.1	35.7	205	00.1	21.7	299	25.3	43.4
17	299	25.8	38	45.3	-25 05.0	176	42.7	+21 35.6	220	02.8	+22 21.7	314	27.8	-8 43.4
18	314	28.2	53	44.5	-25 05.3	191	44.3	+21 35.5	235	05.5	+22 21.7	329	30.3	-8 43.4
19	329	30.7	68	43.6	05.6	206	45.8	35.4	250	08.2	21.7	344	32.8	43.4
20	344	33.2	83	42.8	05.9	221	47.4	35.3	265	10.9	21.7	359	35.3	43.4
21	359	35.6	98	42.0	06.2	236	48.9	35.2	280	13.6	21.7	14	37.9	43.4
22	14	38.1	113	41.2	06.4	251	50.5	35.1	295	16.3	21.7	29	40.4	43.5
23	29	40.6	128	40.3	06.7	266	52.1	35.0	310	19.0	21.6	44	42.9	43.5
24	44	43.0	143	39.5	-25 07.0	281	53.6	+21 34.9	325	21.7	+22 21.6	59	45.4	-8 43.5
Dif	—		-8		-3	+16		-1	+27		0	+25		

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: 3.5 ^d SD: 15/1 PMG: 14 ^h 58 ^m		PHE { 4 ^h : 55/6 12 ^h : 55/8 20 ^h : 55/9 Rº: 56 ^m																		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº							
h	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	m	h m	m								
0	184	06.3	-15	45.6	143	47.5	81	-28	12.4	26	60 N	15	53	16	39	17	29	13	41	40	16	15	76
1	199	06.3		46.3	158	14.6	82		15.0	24	58	16	02		45	32	12	58	46	16	58	69	
2	214	06.3		47.1	172	41.8	80		17.4	23	56		10		50	35		29	49	17	26	67	
3	229	06.2		47.8	187	08.8	80		19.7	21	54	17		16	55	38	12	07	50	17	49	65	
4	244	06.2		48.6	201	35.8	80		21.8	21	52	24		17	00	40	11	49	51	18	07	64	
5	259	06.2	-15	49.3	216	02.8	80	-28	23.8	20	50	16	30	17	04	17	42	11	33	52	18	22	64
6	274	06.2	-15	50.1	230	29.7	79	-28	25.6	18	45	16	42	17	13	17	48	11	02	53	18	54	62
7	289	06.2		50.9	244	56.6	79		27.2	16	40	16	53	21		53	10	38	53	19	18	61	
8	304	06.1		51.6	259	23.5	79		28.8	16	35	17	02	28	17	58		18	54		38	60	
9	319	06.1		52.4	273	50.3	78		30.1	13	30		10	34	18	03	10	01	54	19	55	59	
10	334	06.1		53.1	288	17.0	77		31.3	12	20	23		46	13		9	32	55	20	24	58	
11	349	06.1	-15	53.9	302	43.8	78	-28	32.4	11	10 N	17	36	17	57	18	23	9	07	56	20	48	57
12	4	06.0	-15	54.6	317	10.4	76	-28	33.2	8	0	17	47	18	09	18	34	8	45	55	21	11	56
13	19	06.0		55.4	331	37.1	77		34.0	6	10 S	17	59	21		18	46	8	22	56		34	55
14	34	06.0		56.1	346	03.7	76		34.6	4	20	18	11	34	19	02	7	57	56	21	59	53	
15	49	06.0		56.9	0	30.3	76		35.0	2	30	26		18	51	22	29	56	22	27	52		
16	64	06.0		57.6	14	56.9	76		35.2	1	35	34		19	02	34	7	12	56	22	44	51	
17	79	05.9	-15	58.4	29	23.4	75	-28	35.3	0	40	18	44	19	14	19	50	6	52	57	23	04	50
18	94	05.9	-15	59.1	43	50.0	76	-28	35.3	0	45	18	55	19	28	20	09	6	29	56	23	28	48
19	109	05.9	-15	59.9	58	16.4	74		35.1	2	50	19	09		47	35	5	58	57	23	58	46	
20	124	05.8	-16	00.6	72	42.9	75		34.7	4	52	16		19	55	20	47	43	57	**	**	**	
21	139	05.8		01.4	87	09.4	75		34.2	5	54	23		20	05	21	03	26	56	**	**	**	
22	154	05.8		02.1	101	35.8	74		33.5	7	56	31		17		21	5	04	56	**	**	**	
23	169	05.8		02.9	116	02.2	74		32.6	9	58	40		30	21	45	4	37	56	0	21	59	
24	184	05.7	-16	03.6	130	28.6	74	-28	31.6	10	60 S	19	51	20	46	22	18	3	59	55	0	58	62
UT	ARIES PMG 20 ^h 57.7 ^m		VENUS Mag: -4.0 PMG: 14 ^h 26 ^m		MARTE Mag: 0.0 PMG: 5 ^h 12 ^m		JÚPITER Mag: -2.7 PMG: 2 ^h 18 ^m		SATURNO Mag: +0.8 PMG: 19 ^h 58 ^m														
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♁	Dec	hG ♁	Dec							
h	° /	° /	° /		° /		° /		° /		° /		° /		° /								
0	44	43.0	143	39.5	-25	07.0	281	53.6	+21	34.9	325	21.7	+22	21.6	59	45.4							
1	59	45.5	158	38.7		07.3	296	55.2		34.8	340	24.4		21.6	74	47.9							
2	74	47.9	173	37.8		07.6	311	56.8		34.8	355	27.1		21.6	89	50.4							
3	89	50.4	188	37.0		07.8	326	58.3		34.7	10	29.8		21.6	104	52.9							
4	104	52.9	203	36.2		08.1	341	59.9		34.6	25	32.5		21.6	119	55.4							
5	119	55.3	218	35.3	-25	08.4	357	01.5	+21	34.5	40	35.2	+22	21.6	134	57.9							
6	134	57.8	233	34.5	-25	08.6	12	03.0	+21	34.4	55	37.8	+22	21.5	150	00.4							
7	150	00.3	248	33.7		08.9	27	04.6		34.3	70	40.5		21.5	165	02.9							
8	165	02.7	263	32.8		09.2	42	06.2		34.2	85	43.2		21.5	180	05.5							
9	180	05.2	278	32.0		09.5	57	07.7		34.1	100	45.9		21.5	195	08.0							
10	195	07.7	293	31.2		09.7	72	09.3		34.0	115	48.6		21.5	210	10.5							
11	210	10.1	308	30.3	-25	10.0	87	10.9	+21	33.9	130	51.3	+22	21.5	225	13.0							
12	225	12.6	323	29.5	-25	10.2	102	12.5	+21	33.8	145	54.0	+22	21.5	240	15.5							
13	240	15.0	338	28.7		10.5	117	14.0		33.7	160	56.7		21.4	255	18.0							
14	255	17.5	353	27.8		10.8	132	15.6		33.6	175	59.4		21.4	270	20.5							
15	270	20.0	8	27.0		11.0	147	17.2		33.5	191	02.1		21.4	285	23.0							
16	285	22.4	23	26.2		11.3	162	18.8		33.4	206	04.8		21.4	300	25.5							
17	300	24.9	38	25.3	-25	11.5	177	20.3	+21	33.3	221	07.5	+22	21.4	315	28.0							
18	315	27.4	53	24.5	-25	11.8	192	21.9	+21	33.2	236	10.2	+22	21.4	330	30.5							
19	330	29.8	68	23.7		12.1	207	23.5		33.1	251	12.9		21.4	345	33.0							
20	345	32.3	83	22.8		12.3	222	25.1		33.0	266	15.6		21.3	0	35.5							
21	0	34.8	98	22.0		12.6	237	26.7		32.9	281	18.3		21.3	15	38.1							
22	15	37.2	113	21.2		12.8	252	28.3		32.8	296	21.0		21.3	30	40.6							
23	30	39.7	128	20.3		13.1	267	29.8		32.7	311	23.7		21.3	45	43.1							
24	45	42.2	143	19.5	-25	13.3	282	31.4	+21	32.7	326	26.4	+22	21.3	60	45.6							
Dif	—		-8		-3		+16		-1		+27		0		+25								

0

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16 ^h 1 PMG:11 ^h 43.6 ^m				Edad: 4.5 ^d SD: 15 ^h 3 PMG: 15 ^h 54 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	05.7	-16	03.6	130	28.6	-28	31.6	11	60 N	5	59	6	50	7	36	14	21	14
1	199	05.7		04.3	144	55.0		30.5	14	58		56		43	27		13	44	25
2	214	05.7		05.1	159	21.4		29.1	15	56		53		38	19		13	18	31
3	229	05.7		05.8	173	47.7		27.6	16	54		50		33	11		12	57	35
4	244	05.6		06.6	188	14.1		26.0	17	52		48		28	7	05		40	37
5	259	05.6	-16	07.3	202	40.4	-28	24.2	18	50	5	45	6	24	6	59	12	25	39
6	274	05.6	-16	08.1	217	06.8	-28	22.2	20	45	5	40	6	15	6	46	11	55	43
7	289	05.5		08.8	231	33.1		20.1	21	40		34		07	35		31	46	20
8	304	05.5		09.6	245	59.4		17.8	23	35		29		6	00	26	11	12	48
9	319	05.5		10.3	260	25.7		15.4	24	30		25		5	53	18	10	55	50
10	334	05.4		11.0	274	52.1		12.7	27	20		15		41	6	04	27	52	21
11	349	05.4	-16	11.8	289	18.4	-28	10.0	27	10 N	5	05	5	30	5	52	10	03	54
12	4	05.4	-16	12.5	303	44.7	-28	07.0	30	0	4	54	5	19	5	40	9	40	56
13	19	05.4		13.3	318	11.1		03.9	31	10 S		41		5	06	28	9	18	57
14	34	05.3		14.0	332	37.4	-28	00.7	32	20		25		4	53	16	8	53	60
15	49	05.3		14.7	347	03.8	-27	57.3	34	30	4	05		36	5	01	25	62	23
16	64	05.3		15.5	1	30.2		53.7	36	35	3	52		25	4	53	8	08	63
17	79	05.2	-16	16.2	15	56.5	-27	50.0	37	40	3	37	4	13	4	43	7	49	65
18	94	05.2	-16	17.0	30	22.9	-27	46.1	39	45	3	18	3	59	4	31	7	25	67
19	109	05.2		17.7	44	49.3		42.0	41	50	2	52		40	17		6	55	70
20	124	05.1		18.4	59	15.7		37.8	42	52		39		31	11		40	71	0
21	139	05.1		19.2	73	42.2		33.5	43	54		24		21	4	03	22	74	32
22	154	05.0		19.9	88	08.6		28.9	46	56	2	05	3	10	3	55	6	00	77
23	169	05.0		20.6	102	35.1		24.2	47	58	1	42	2	56	46		5	33	82
24	184	05.0	-16	21.4	117	01.6	-27	19.4	48	60 S	1	09	2	40	3	36	4	54	91
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 20 ^h 53.8 ^m		Mag: -4.0 PMG: 14 ^h 28 ^m				Mag: 0.0 PMG: 5 ^h 09 ^m				Mag: -2.7 PMG: 2 ^h 14 ^m				Mag: +0.8 PMG: 19 ^h 54 ^m				
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
0	45	42.2	143	19.5	-25	13.3	282	31.4	+21	32.7	326	26.4	+22	21.3	60	45.6	-8	43.7	
1	60	44.6	158	18.7		13.6	297	33.0		32.6	341	29.1		21.3	75	48.1		43.8	
2	75	47.1	173	17.8		13.8	312	34.6		32.5	356	31.9		21.3	90	50.6		43.8	
3	90	49.5	188	17.0		14.0	327	36.2		32.4	11	34.6		21.2	105	53.1		43.8	
4	105	52.0	203	16.2		14.3	342	37.8		32.3	26	37.3		21.2	120	55.6		43.8	
5	120	54.5	218	15.3	-25	14.5	357	39.4	+21	32.2	41	40.0	+22	21.2	135	58.1	-8	43.8	
6	135	56.9	233	14.5	-25	14.8	12	40.9	+21	32.1	56	42.7	+22	21.2	151	00.6	-8	43.8	
7	150	59.4	248	13.6		15.0	27	42.5		32.0	71	45.4		21.2	166	03.1		43.8	
8	166	01.9	263	12.8		15.3	42	44.1		31.9	86	48.1		21.2	181	05.6		43.8	
9	181	04.3	278	12.0		15.5	57	45.7		31.8	101	50.8		21.1	196	08.1		43.8	
10	196	06.8	293	11.1		15.7	72	47.3		31.7	116	53.5		21.1	211	10.6		43.8	
11	211	09.3	308	10.3	-25	16.0	87	48.9	+21	31.6	131	56.2	+22	21.1	226	13.1	-8	43.9	
12	226	11.7	323	09.5	-25	16.2	102	50.5	+21	31.5	146	58.9	+22	21.1	241	15.6	-8	43.9	
13	241	14.2	338	08.6		16.4	117	52.1		31.4	162	01.6		21.1	256	18.1		43.9	
14	256	16.7	353	07.8		16.7	132	53.7		31.4	177	04.3		21.1	271	20.6		43.9	
15	271	19.1	8	07.0		16.9	147	55.3		31.3	192	07.0		21.1	286	23.1		43.9	
16	286	21.6	23	06.1		17.1	162	56.9		31.2	207	09.7		21.0	301	25.6		43.9	
17	301	24.0	38	05.3	-25	17.3	177	58.5	+21	31.1	222	12.4	+22	21.0	316	28.1	-8	43.9	
18	316	26.5	53	04.4	-25	17.6	193	00.1	+21	31.0	237	15.1	+22	21.0	331	30.6	-8	43.9	
19	331	29.0	68	03.6		17.8	208	01.7		30.9	252	17.9		21.0	346	33.1		43.9	
20	346	31.4	83	02.8		18.0	223	03.3		30.8	267	20.6		21.0	1	35.6		43.9	
21	1	33.9	98	01.9		18.2	238	04.9		30.7	282	23.3		21.0	16	38.2		43.9	
22	16	36.4	113	01.1		18.5	253	06.5		30.6	297	26.0		20.9	31	40.7		44.0	
23	31	38.8	128	00.3		18.7	268	08.1		30.5	312	28.7		20.9	46	43.2		44.0	
24	46	41.3	142	59.4	-25	18.9	283	09.7	+21	30.4	327	31.4	+22	20.9	61	45.7	-8	44.0	
Dif	—		-8		-2		+16		-1		+27		0		+25		0		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16 ^h 1 PMG: 11 ^h 43.7 ^m				Edad: 5.5 ^d PHE { 4 ^h : 56 ^h 7 12 ^h : 56 ^h 9 20 ^h : 57 ^h 2 PMG: 16 ^h 49 ^m R°: 54 ^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	05.0	-16	21.4	117	01.6	-27	19.4	50	60 N	15	48	16	35	17	25	14	35	4	19	13	107		
1	199	04.9		22.1	131	28.1		14.4	52	58	15	58		41		28	14	09	13		38	99		
2	214	04.9		22.8	145	54.7		09.2	53	56	16	06		47		32	13	49	18	19	58	93		
3	229	04.9		23.6	160	21.2		03.9	55	54		14		52		34		32	22	20	15	88		
4	244	04.8		24.3	174	47.8		-26	58.4	55	52		20	16	57		37		17	26		29	84	
5	259	04.8	-16	25.0	189	14.5		-26	52.8	56	50	16	26	17	01	17	40	13	04	29	20	41	82	
6	274	04.8	-16	25.8	203	41.1		-26	47.0	58	45	16	40	17	11	17	46	12	38	34	21	06	76	
7	289	04.7		26.5	218	07.8			41.1	59	40	16	51		19		51		17	38		26	72	
8	304	04.7		27.2	232	34.5			35.0	61	35	17	00		26	17	57	12	00	41		43	68	
9	319	04.6		28.0	247	01.3			28.7	63	30		08		33	18	02	11	45	43	21	58	65	
10	334	04.6		28.7	261	28.0			22.3	64	20		23		45		12	11	19	48	22	22	61	
11	349	04.6	-16	29.4	275	54.9		-26	15.8	65	10 N	17	35	17	57	18	22	10	57	51	22	43	57	
12	4	04.5	-16	30.1	290	21.7		-26	09.1	67	0	17	47	18	09	18	34	10	36	54	23	02	53	
13	19	04.5		30.9	304	48.6		-26	02.2	69	10 S	17	59		21	18	47	10	15	58		22	49	
14	34	04.4		31.6	319	15.5		-25	55.2	70	20	18	12		36	19	03	9	53	61	23	42	46	
15	49	04.4		32.3	333	42.5			48.0	72	30		27	18	53		24		27	65	***	***	***	
16	64	04.4		33.1	348	09.5			40.7	73	35		36	19	04		37	9	11	68	***	***	***	
17	79	04.3	-16	33.8	2	36.5		-25	33.3	74	40	18	46	19	16	19	53	8	54	70	***	***	***	
18	94	04.3	-16	34.5	17	03.6		-25	25.7	76	45	18	58	19	31	20	13	8	32	74	0	16	38	
19	109	04.2		35.2	31	30.7			17.9	78	50	19	13	19	50		39	8	05	79		44	34	
20	124	04.2		36.0	45	57.9			10.0	79	52		20	20	00	20	53	7	51	82	0	58	31	
21	139	04.1		36.7	60	25.1		-25	01.9	81	54		27		10	21	09			36	85	1	14	28
22	154	04.1		37.4	74	52.4		-24	53.7	82	56		36		22		28	7	17	90		32	24	
23	169	04.0		38.1	89	19.7			45.4	83	58		45		36	21	54	6	55	95	1	55	18	
24	184	04.0	-16	38.9	103	47.0		-24	36.9	85	60 S	19	56	20	53	22	32	6	25	105	2	25	9	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO															
	PMG: 20 ^h 49.8 ^m		Mag: -4.0 PMG: 14 ^h 29 ^m		Mag: 0.0 PMG: 5 ^h 07 ^m		Mag: -2.7 PMG: 2 ^h 10 ^m		Mag: +0.9 PMG: 19 ^h 50 ^m															
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec														
h	°	'	°	'	°	'	°	'	°	'														
0	46	41.3	142	59.4	-25	18.9	283	09.7	+21	30.4	327	31.4	+22	20.9	61	45.7	-8	44.0						
1	61	43.8	157	58.6		19.1	298	11.3		30.4	342	34.1		20.9	76	48.2		44.0						
2	76	46.2	172	57.7		19.3	313	12.9		30.3	357	36.8		20.9	91	50.7		44.0						
3	91	48.7	187	56.9		19.5	328	14.5		30.2	12	39.5		20.9	106	53.2		44.0						
4	106	51.2	202	56.1		19.8	343	16.1		30.1	27	42.2		20.9	121	55.7		44.0						
5	121	53.6	217	55.2	-25	20.0	358	17.7	+21	30.0	42	45.0	+22	20.8	136	58.2	-8	44.0						
6	136	56.1	232	54.4	-25	20.2	13	19.3	+21	29.9	57	47.7	+22	20.8	152	00.7	-8	44.0						
7	151	58.5	247	53.6		20.4	28	21.0		29.8	72	50.4		20.8	167	03.2		44.0						
8	167	01.0	262	52.7		20.6	43	22.6		29.7	87	53.1		20.8	182	05.7		44.0						
9	182	03.5	277	51.9		20.8	58	24.2		29.6	102	55.8		20.8	197	08.2		44.0						
10	197	05.9	292	51.0		21.0	73	25.8		29.6	117	58.5		20.8	212	10.7		44.1						
11	212	08.4	307	50.2	-25	21.2	88	27.4	+21	29.5	133	01.2	+22	20.7	227	13.2	-8	44.1						
12	227	10.9	322	49.4	-25	21.4	103	29.0	+21	29.4	148	03.9	+22	20.7	242	15.7	-8	44.1						
13	242	13.3	337	48.5		21.6	118	30.6		29.3	163	06.7		20.7	257	18.2		44.1						
14	257	15.8	352	47.7		21.8	133	32.3		29.2	178	09.4		20.7	272	20.7		44.1						
15	272	18.3		46.8		22.0	148	33.9		29.1	193	12.1		20.7	287	23.2		44.1						
16	287	20.7	22	46.0		22.2	163	35.5		29.0	208	14.8		20.7	302	25.7		44.1						
17	302	23.2	37	45.2	-25	22.4	178	37.1	+21	28.9	223	17.5	+22	20.7	317	28.2	-8	44.1						
18	317	25.7	52	44.3	-25	22.6	193	38.7	+21	28.8	238	20.2	+22	20.6	332	30.7	-8	44.1						
19	332	28.1	67	43.5		22.8	208	40.4		28.8	253	22.9		20.6	347	33.2		44.1						
20	347	30.6	82	42.7		23.0	223	42.0		28.7	268	25.7		20.6	2	35.7		44.1						
21	2	33.0	97	41.8		23.2	238	43.6		28.6	283	28.4		20.6	17	38.2		44.1						
22	17	35.5	112	41.0		23.4	253	45.2		28.5	298	31.1		20.6	32	40.7		44.1						
23	32	38.0	127	40.1		23.6	268	46.9		28.4	313	33.8		20.6	47	43.2		44.1						
24	47	40.4	142	39.3	-25	23.8	283	48.5	+21	28.3	328	36.5	+22	20.5	62	45.7	-8	44.2						
Dif	—		-8		-2		+16		-1		+27		0		+25		0							

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: 6.5 ^d SD: 15'6 PMG: 17 ^h 43 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	Rº		Hora	Rº					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m		
0	184	04.0	-16	38.9	103	47.0	-24	36.9	60 N	6 04	6 54	7 41	14 39	1	21 00	106			
1	199	04.0		39.6	118	14.4		28.3	58	6 00	48	31	22	7	17	99			
2	214	03.9		40.3	132	41.9		19.5	56	5 57	42	23	14	07	12	31 94			
3	229	03.9		41.0	147	09.3		10.6	54	54	36	15	13	54	16	43 90			
4	244	03.8		41.7	161	36.9	-24	01.5	52	51	32	08	43	19	21 53	87			
5	259	03.8	-16	42.5	176	04.5	-23	52.3	50	5 48	6 27	7 02	13	33	22	22 03 84			
6	274	03.7	-16	43.2	190	32.1	-23	42.9	45	5 42	6 17	6 49	13	12	28	22 22 78			
7	289	03.7		43.9	204	59.8		33.5	40	37	09	37	12	55	32	38 73			
8	304	03.6		44.6	219	27.5		23.8	35	31	6 01	28	41	35	22 51	70			
9	319	03.6		45.3	233	55.3		14.1	30	26	5 55	20	28	39	23 03	66			
10	334	03.5		46.1	248	23.1	-23	04.2	20	16	42	6 05	12	07	43	23 60			
11	349	03.5	-16	46.8	262	51.0	-22	54.2	10 N	5 05	5 30	5 52	11	48	48	23 40 55			
12	4	03.4	-16	47.5	277	19.0	-22	44.0	0	4 54	5 19	5 40	11	30	52	23 55 51			
13	19	03.4		48.2	291	46.9		33.7	10 S	40	5 06	28	11	13	56	** ** *			
14	34	03.3		48.9	306	15.0		23.3	20	24	4 52	15	10	54	60	** ** *			
15	49	03.3		49.6	320	43.1		12.7	30	4 03	34	5 00	32	65	0 06	41			
16	64	03.2		50.4	335	11.2	-22	02.0	35	3 50	23	4 51	19	69	20	38			
17	79	03.2	-16	51.1	349	39.4	-21	51.2	40	3 34	4 11	4 41	10	04	72	0 35 35			
18	94	03.1	-16	51.8	4	07.6	-21	40.2	45	3 14	3 56	4 29	9	46	77	0 54 31			
19	109	03.1		52.5	18	35.9		29.1	50	2 48	37	14	24	83	1 18	25			
20	124	03.0		53.2	33	04.3		17.9	52	34	27	07	13	86	29	22			
21	139	03.0		53.9	47	32.7	-21	06.6	54	2 18	17	4 00	9	01	89	42 18			
22	154	02.9		54.6	62	01.1	-20	55.1	56	1 58	3 05	3 51	8	47	94	1 56 15			
23	169	02.9		55.4	76	29.6		43.6	58	1 33	2 51	41	30	100	2 13	10			
24	184	02.8	-16	56.1	90	58.2	-20	31.8	60 S	0 55	2 34	3 30	8	10	107	2 34 3			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 20 ^h 45.9 ^m		Mag: -4.0 PMG: 14 ^h 30 ^m			Mag: 0.0 PMG: 5 ^h 04 ^m			Mag: -2.8 PMG: 2 ^h 05 ^m			Mag: +0.9 PMG: 19 ^h 46 ^m							
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'							
0	47	40.4	142	39.3	-25	23.8	283	48.5	+21	28.3	328	36.5	+22	20.5	62	45.7	-8	44.2	
1	62	42.9	157	38.5		24.0	298	50.1		28.2	343	39.2		20.5	77	48.1		44.2	
2	77	45.4	172	37.6		24.1	313	51.7		28.2	358	42.0		20.5	92	50.6		44.2	
3	92	47.8	187	36.8		24.3	328	53.4		28.1	13	44.7		20.5	107	53.1		44.2	
4	107	50.3	202	35.9		24.5	343	55.0		28.0	28	47.4		20.5	122	55.6		44.2	
5	122	52.8	217	35.1	-25	24.7	358	56.6	+21	27.9	43	50.1	+22	20.5	137	58.1	-8	44.2	
6	137	55.2	232	34.3	-25	24.9	13	58.3	+21	27.8	58	52.8	+22	20.4	153	00.6	-8	44.2	
7	152	57.7	247	33.4		25.0	28	59.9		27.7	73	55.6		20.4	168	03.1		44.2	
8	168	00.1	262	32.6		25.2	44	01.5		27.6	88	58.3		20.4	183	05.6		44.2	
9	183	02.6	277	31.7		25.4	59	03.2		27.6	104	01.0		20.4	198	08.1		44.2	
10	198	05.1	292	30.9		25.6	74	04.8		27.5	119	03.7		20.4	213	10.6		44.2	
11	213	07.5	307	30.1	-25	25.8	89	06.4	+21	27.4	134	06.4	+22	20.4	228	13.1	-8	44.2	
12	228	10.0	322	29.2	-25	25.9	104	08.1	+21	27.3	149	09.2	+22	20.3	243	15.6	-8	44.2	
13	243	12.5	337	28.4		26.1	119	09.7		27.2	164	11.9		20.3	258	18.1		44.2	
14	258	14.9	352	27.5		26.3	134	11.3		27.1	179	14.6		20.3	273	20.6		44.2	
15	273	17.4	7	26.7		26.4	149	13.0		27.0	194	17.3		20.3	288	23.1		44.2	
16	288	19.9	22	25.9		26.6	164	14.6		27.0	209	20.0		20.3	303	25.6		44.2	
17	303	22.3	37	25.0	-25	26.8	179	16.3	+21	26.9	224	22.8	+22	20.3	318	28.1	-8	44.3	
18	318	24.8	52	24.2	-25	26.9	194	17.9	+21	26.8	239	25.5	+22	20.3	333	30.6	-8	44.3	
19	333	27.3	67	23.3		27.1	209	19.5		26.7	254	28.2		20.2	348	33.1		44.3	
20	348	29.7	82	22.5		27.3	224	21.2		26.6	269	30.9		20.2	3	35.6		44.3	
21	3	32.2	97	21.6		27.4	239	22.8		26.5	284	33.6		20.2	18	38.1		44.3	
22	18	34.6	112	20.8		27.6	254	24.5		26.5	299	36.4		20.2	33	40.6		44.3	
23	33	37.1	127	20.0		27.7	269	26.1		26.4	314	39.1		20.2	48	43.1		44.3	
24	48	39.6	142	19.1	-25	27.9	284	27.8	+21	26.3	329	41.8	+22	20.2	63	45.5	-8	44.3	
Dif	—		-8			-2	+16			-1	+27		0			+25			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: 7.5 ^d PHE { 4 ^h : 58'1 12 ^h : 58'4 20 ^h : 58'6 R°: 50 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	R°	Hora	R°	
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	m	h m	m		
0	184	02.8	-16	56.1	90	58.2	-20	31.8	60 N	15 43	16 30	17 21	14 40	**	22 46 103		
1	199	02.8		56.8	105	26.8		20.0	58	15 53	37	25	29	4	22 56 99		
2	214	02.7		57.5	119	55.5	97	-20	08.1	56	16 02	43	28	19	8	23 05 95	
3	229	02.7		58.2	134	24.2	97	-19	56.0	54	10	49	31	10	11	13 91	
4	244	02.6		58.9	148	52.9	97		43.8	52	17	54	34	14	02	15	20 88
5	259	02.6	-16	59.6	163	21.7	98	-19	31.5	50	16 23	16 58	17 37	13	55	17	23 27 84
6	274	02.5	-17	00.3	177	50.6	99	-19	19.1	45	16 37	17 09	17 44	13	40	23	23 40 79
7	289	02.4		01.0	192	19.5	99	-19	06.5	40	49	17	50	27	28	23	51 74
8	304	02.4		01.7	206	48.5	100	-18	53.9	35	16 58	25	17 55	16	32	**	** *
9	319	02.3		02.4	221	17.5	100		41.1	30	17 07	32	18 01	13	07	34	** ** *
10	334	02.3		03.1	235	46.5	100		28.2	20	22	45	11	12	50	41	** ** *
11	349	02.2	-17	03.9	250	15.6	101	-18	15.2	10 N	17 35	17 57	18 22	12	36	45	** ** *
12	4	02.2	-17	04.6	264	44.8	102	-18	02.1	0	17 47	18 09	18 34	12	22	51	** ** *
13	19	02.1		05.3	279	14.0	102	-17	48.9	10 S	18 00	22	18 48	12	09	55	0 11 47
14	34	02.0		06.0	293	43.2	102		35.6	20	13	37	19 04	11	54	60	28 42
15	49	02.0		06.7	308	12.5	103		22.2	30	29	18 55	26	37	66	47	36
16	64	01.9		07.4	322	41.8	103	-17	08.7	35	38	19 06	39	28	69	0	58 33
17	79	01.9	-17	08.1	337	11.2	104	-16	55.0	40	18 49	19 19	19 56	11	16	74	1 10 30
18	94	01.8	-17	08.8	351	40.7	105	-16	41.3	45	19 01	19 34	20 16	11	03	78	1 25 25
19	109	01.7		09.5	6	10.1	104		27.4	50	16	19 54	44	10	47	84	43 19
20	124	01.7		10.2	20	39.6	105	-16	13.5	52	23	20 04	20 58	39	87	1	51 17
21	139	01.6		10.9	35	09.2	106	-15	59.5	54	31	15	21 15	30	91	2	00 14
22	154	01.6		11.6	49	38.8	106		45.3	56	40	27	21 36	21	94	11	10
23	169	01.5		12.3	64	08.4	106		31.1	58	19 50	20 42	22 04	10	10	98	23 5
24	184	01.4	-17	13.0	78	38.1	107	-15	16.7	60 S	20 02	21 00	22 49	9	57	104	2 37 0
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 20 ^h 42.0 ^m		Mag: -4.1 PMG: 14 ^h 32 ^m		Mag: -0.1 PMG: 5 ^h 02 ^m		Mag: -2.8 PMG: 2 ^h 01 ^m		Mag: +0.9 PMG: 19 ^h 42 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /							
0	48	39.6	142	19.1	-25	27.9	284	27.8	+21	26.3							
1	63	42.0	157	18.3		28.1	299	29.4		26.2							
2	78	44.5	172	17.4		28.2	314	31.1		26.1							
3	93	47.0	187	16.6		28.4	329	32.7		26.1							
4	108	49.4	202	15.8		28.5	344	34.4		26.0							
5	123	51.9	217	14.9	-25	28.7	359	36.0	+21	25.9							
6	138	54.4	232	14.1	-25	28.8	14	37.7	+21	25.8							
7	153	56.8	247	13.2		29.0	29	39.3		25.7							
8	168	59.3	262	12.4		29.1	44	41.0		25.6							
9	184	01.8	277	11.6		29.3	59	42.6		25.6							
10	199	04.2	292	10.7		29.4	74	44.3		25.5							
11	214	06.7	307	09.9	-25	29.6	89	46.0	+21	25.4							
12	229	09.1	322	09.0	-25	29.7	104	47.6	+21	25.3							
13	244	11.6	337	08.2		29.8	119	49.3		25.2							
14	259	14.1	352	07.4		30.0	134	50.9		25.2							
15	274	16.5	7	06.5		30.1	149	52.6		25.1							
16	289	19.0	22	05.7		30.3	164	54.3		25.0							
17	304	21.5	37	04.8	-25	30.4	179	55.9	+21	24.9							
18	319	23.9	52	04.0	-25	30.5	194	57.6	+21	24.8							
19	334	26.4	67	03.1		30.7	209	59.2		24.8							
20	349	28.9	82	02.3		30.8	225	00.9		24.7							
21	4	31.3	97	01.5		30.9	240	02.6		24.6							
22	19	33.8	112	00.6		31.1	255	04.2		24.5							
23	34	36.3	126	59.8		31.2	270	05.9		24.5							
24	49	38.7	141	58.9	-25	31.3	285	07.6	+21	24.4							
Dif	—		-8		-1		+17		-1		+27	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 44.0 ^m				Edad: 8.5 ^d SD: 16'0 PMG: 19 ^h 24 ^m PHE { 4 ^h : 58'9 12 ^h : 59'1 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	h	m	m
0	184	01.4	-17	13.0	78	38.1	-15	16.7	107	16.7	144	60 N	6 08	6 59	7 46	14 39	0	**	**	**	**	**
1	199	01.4		13.7	93	07.8	-15	02.3	144	02.3	145	58	04	52	36	33	3	**	**	**	**	**
2	214	01.3		14.4	107	37.6	-14	47.8	145	47.8	146	56	6 00	46	27	27	6	**	**	**	**	**
3	229	01.3		15.1	122	07.4		33.2	146	33.2	147	54	5 57	40	19	21	10	**	**	**	**	**
4	244	01.2		15.8	136	37.2		18.5	147	18.5	148	52	54	35	12	17	12	**	**	**	**	**
5	259	01.1	-17	16.5	151	07.1	-14	03.7	148	03.7	149	50	5 51	6 30	7 05	14 12	15	**	**	**	**	**
6	274	01.1	-17	17.2	165	37.0	-13	48.8	149	48.8	150	45	5 45	6 20	6 51	14 03	20	**	**	**	**	**
7	289	01.0		17.9	180	06.9		33.8	150	33.8	151	40	39	11	40	13 55	25	**	**	**	**	**
8	304	00.9		18.6	194	36.9		18.8	150	18.8	152	35	33	6 03	30	48	29	0	01	69		
9	319	00.9		19.3	209	06.9	-13	03.6	152	03.6	153	30	27	5 56	21	41	33	09	66			
10	334	00.8		19.9	223	36.9	-12	48.4	152	48.4	153	20	17	43	6 06	31	38	23	60			
11	349	00.7	-17	20.6	238	07.0	-12	33.1	153	33.1	154	10 N	5 06	5 31	5 53	13 21	44	0	35	54		
12	4	00.7	-17	21.3	252	37.1	-12	17.7	154	17.7	155	0	4 54	5 19	5 40	13 13	49	0	46	50		
13	19	00.6		22.0	267	07.2	-12	02.2	155	02.2	155	10 S	40	5 06	28	13 04	54	0	58	44		
14	34	00.5		22.7	281	37.3	-11	46.7	155	46.7	156	20	23	4 51	5 14	12 54	60	1	10	39		
15	49	00.5		23.4	296	07.5		31.1	156	31.1	157	30	4 02	33	4 58	43	66	23	33			
16	64	00.4		24.1	310	37.7	-11	15.3	157	15.3	158	35	3 48	22	49	37	69	31	30			
17	79	00.3	-17	24.8	325	08.0	-10	59.6	158	59.6	159	40	3 32	4 09	4 39	12 30	73	1	40	26		
18	94	00.3	-17	25.5	339	38.2	-10	43.7	159	43.7	159	45	3 11	3 53	4 26	12 21	79	1	50	21		
19	109	00.2		26.2	354	08.5		27.8	159	27.8	160	50	2 43	33	11	11 85		2	02	16		
20	124	00.1		26.9	8	38.8	-10	11.8	160	11.8	161	52	29	23	4 04	06	88	08	13			
21	139	00.1		27.5	23	09.1	-9	55.8	160	55.8	162	54	2 12	12	3 56	12 01	90	14	10			
22	154	00.0		28.2	37	39.4		39.6	162	39.6	162	56	1 51	3 00	47	11 55	94	21	7			
23	168	59.9		28.9	52	09.8		23.4	162	23.4	162	58	1 23	2 45	37	48	98	28	4			
24	183	59.9	-17	29.6	66	40.1	-9	07.2	162	07.2	162	60 S	0 38	2 27	3 25	11 41	102	2	37	0		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 20 ^h 38.0 ^m		Mag: -4.1 PMG: 14 ^h 33 ^m				Mag: -0.1 PMG: 4 ^h 59 ^m				Mag: -2.8 PMG: 1 ^h 56 ^m				Mag: +0.9 PMG: 19 ^h 38 ^m							
	hG ♈		hG ♊		Dec		hG ♂		Dec		hG ♎		Dec		hG ♏		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	49	38.7	141	58.9	-25	31.3	285	07.6	+21	24.4	330	47.3	+22	19.7	64	45.3	-8	44.4				
1	64	41.2	156	58.1		31.4	300	09.3		24.3	345	50.0		19.7	79	47.8		44.4				
2	79	43.6	171	57.3		31.6	315	10.9		24.2	0	52.7		19.7	94	50.3		44.4				
3	94	46.1	186	56.4		31.7	330	12.6		24.1	15	55.5		19.7	109	52.8		44.4				
4	109	48.6	201	55.6		31.8	345	14.3		24.1	30	58.2		19.7	124	55.3		44.4				
5	124	51.0	216	54.7	-25	31.9	0	15.9	+21	24.0	46	00.9	+22	19.7	139	57.8	-8	44.4				
6	139	53.5	231	53.9	-25	32.1	15	17.6	+21	23.9	61	03.7	+22	19.6	155	00.3	-8	44.4				
7	154	56.0	246	53.1		32.2	30	19.3		23.8	76	06.4		19.6	170	02.8		44.4				
8	169	58.4	261	52.2		32.3	45	21.0		23.8	91	09.1		19.6	185	05.3		44.4				
9	185	00.9	276	51.4		32.4	60	22.6		23.7	106	11.9		19.6	200	07.7		44.4				
10	200	03.4	291	50.5		32.5	75	24.3		23.6	121	14.6		19.6	215	10.2		44.4				
11	215	05.8	306	49.7	-25	32.6	90	26.0	+21	23.5	136	17.3	+22	19.6	230	12.7	-8	44.4				
12	230	08.3	321	48.8	-25	32.8	105	27.7	+21	23.4	151	20.1	+22	19.5	245	15.2	-8	44.4				
13	245	10.7	336	48.0		32.9	120	29.4		23.4	166	22.8		19.5	260	17.7		44.4				
14	260	13.2	351	47.2		33.0	135	31.0		23.3	181	25.5		19.5	275	20.2		44.4				
15	275	15.7	6	46.3		33.1	150	32.7		23.2	196	28.3		19.5	290	22.7		44.4				
16	290	18.1	21	45.5		33.2	165	34.4		23.1	211	31.0		19.5	305	25.2		44.4				
17	305	20.6	36	44.6	-25	33.3	180	36.1	+21	23.1	226	33.7	+22	19.5	320	27.6	-8	44.4				
18	320	23.1	51	43.8	-25	33.4	195	37.8	+21	23.0	241	36.5	+22	19.4	335	30.1	-8	44.4				
19	335	25.5	66	43.0		33.5	210	39.5		22.9	256	39.2		19.4	350	32.6		44.4				
20	350	28.0	81	42.1		33.6	225	41.2		22.8	271	42.0		19.4	5	35.1		44.4				
21	5	30.5	96	41.3		33.7	240	42.8		22.8	286	44.7		19.4	20	37.6		44.4				
22	20	32.9	111	40.4		33.8	255	44.5		22.7	301	47.4		19.4	35	40.1		44.4				
23	35	35.4	126	39.6		33.9	270	46.2		22.6	316	50.2		19.4	50	42.6		44.4				
24	50	37.9	141	38.8	-25	34.0	285	47.9	+21	22.5	331	52.9	+22	19.3	65	45.0	-8	44.4				
Dif	—		-8		-1		+17		-1		+27		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 44.1 ^m		Edad: 9.5 ^d SD: 16/2 PMG: 20 ^h 13 ^m PHE 4^h: 59/6 12^h: 59/8 20^h: 60/0 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	
0	183 59.9	-17 29.6	66 40.1		-9 07.2		60 N	15 38	16 26	17 17	14 39	**	0 29 103	
1	198 59.8	30.3	81 10.5	114	-8 50.8	164	58	49	34	21	36 3		35 98	
2	213 59.7	31.0	95 40.9	114		34.5	56	15 58	40	25	33 6		40 94	
3	228 59.6	31.7	110 11.3	114		18.0	54	16 07	46	29	31 9		44 91	
4	243 59.6	32.3	124 41.8	115	-8 01.5	165	52	14	51	32	29 12		48 87	
5	258 59.5	-17 33.0	139 12.2	114	-7 45.0	165	50	16 21	16 56	17 35	14 27	15	0 51 85	
6	273 59.4	-17 33.7	153 42.6	114	-7 28.3	167	45	16 35	17 06	17 42	14 23	20	0 59 78	
7	288 59.3	34.4	168 13.1	115	-7 11.7	166	40	47	16	48	20 24		1 05 74	
8	303 59.3	35.1	182 43.6	115	-6 54.9	168	35	16 57	24	17 54	17 28		10 70	
9	318 59.2	35.8	197 14.0	114		38.2	30	17 06	31	18 00	14 32		15 66	
10	333 59.1	36.4	211 44.5	115		21.3	20	21	44	11	09 39		23 59	
11	348 59.1	-17 37.1	226 15.0	115	-6 04.4	169	10 N	17 35	17 57	18 22	14 05	44	1 29 54	
12	3 59.0	-17 37.8	240 45.5	115	-5 47.5	169	0	17 48	18 09	18 35	14 02	49	1 36 49	
13	18 58.9	38.5	255 15.9	114		30.5	10 S	18 01	23	18 49	13 58	54	42 44	
14	33 58.8	39.2	269 46.4	115	-5 13.5	170	20	15	38	19 06	54 60		49 38	
15	48 58.8	39.8	284 16.9	115	-4 56.5	170	30	31	18 57	28	49 67		1 56 33	
16	63 58.7	40.5	298 47.4	115		39.4	35	40	19 08	42	46 71		2 01 28	
17	78 58.6	-17 41.2	313 17.8	114	-4 22.2	172	40	18 51	19 21	19 58	13 43	75	2 06 24	
18	93 58.5	-17 41.9	327 48.3	115	-4 05.0	172	45	19 04	19 37	20 20	13 40	79	2 11 20	
19	108 58.4	42.5	342 18.8	115	-3 47.8	172	50	20	19 58	20 49	36 85		18 14	
20	123 58.4	43.2	356 49.2	114		30.6	52	27	20 08	21 03	34 88		21 12	
21	138 58.3	43.9	11 19.6	114	-3 13.3	173	54	35	19	21	31 92		24 9	
22	153 58.2	44.6	25 50.1	115	-2 56.0	173	56	44	32	21 43	29 95		28 6	
23	168 58.1	45.2	40 20.5	114		38.6	58	19 55	20 48	22 14	26 99		32 3	
24	183 58.1	-17 45.9	54 50.9	114	-2 21.2	174	60 S	20 07	21 07	23 14	13 23	103	2 37 **	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 20 ^h 34.1 ^m		Mag: -4.1 PMG: 14 ^h 34 ^m		Mag: -0.1 PMG: 4 ^h 56 ^m		Mag: -2.8 PMG: 1 ^h 52 ^m		Mag: +0.9 PMG: 19 ^h 34 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /	° /	° /	° /	° /	° /	° /	° /
0	50 37.9		141 38.8	-25 34.0	285 47.9	+21 22.5	331 52.9	+22 19.3	65 45.0	-8 44.4
1	65 40.3		156 37.9	34.1	300 49.6	22.5	346 55.6	19.3	80 47.5	44.5
2	80 42.8		171 37.1	34.2	315 51.3	22.4	1 58.4	19.3	95 50.0	44.5
3	95 45.2		186 36.2	34.3	330 53.0	22.3	17 01.1	19.3	110 52.5	44.5
4	110 47.7		201 35.4	34.4	345 54.7	22.3	32 03.9	19.3	125 55.0	44.5
5	125 50.2		216 34.6	-25 34.5	0 56.4	+21 22.2	47 06.6	+22 19.2	140 57.5	-8 44.5
6	140 52.6		231 33.7	-25 34.6	15 58.1	+21 22.1	62 09.3	+22 19.2	156 00.0	-8 44.5
7	155 55.1		246 32.9	34.6	30 59.8	22.0	77 12.1	19.2	171 02.4	44.5
8	170 57.6		261 32.0	34.7	46 01.5	22.0	92 14.8	19.2	186 04.9	44.5
9	186 00.0		276 31.2	34.8	61 03.2	21.9	107 17.5	19.2	201 07.4	44.5
10	201 02.5		291 30.3	34.9	76 04.9	21.8	122 20.3	19.2	216 09.9	44.5
11	216 05.0		306 29.5	-25 35.0	91 06.6	+21 21.7	137 23.0	+22 19.1	231 12.4	-8 44.5
12	231 07.4		321 28.7	-25 35.1	106 08.3	+21 21.7	152 25.8	+22 19.1	246 14.9	-8 44.5
13	246 09.9		336 27.8	35.2	121 10.0	21.6	167 28.5	19.1	261 17.3	44.5
14	261 12.4		351 27.0	35.2	136 11.7	21.5	182 31.3	19.1	276 19.8	44.5
15	276 14.8	6 26.1		35.3	151 13.4	21.5	197 34.0	19.1	291 22.3	44.5
16	291 17.3	21 25.3		35.4	166 15.1	21.4	212 36.7	19.0	306 24.8	44.5
17	306 19.7	36 24.5	-25 35.5		181 16.8	+21 21.3	227 39.5	+22 19.0	321 27.3	-8 44.5
18	321 22.2	51 23.6	-25 35.5		196 18.5	+21 21.3	242 42.2	+22 19.0	336 29.8	-8 44.5
19	336 24.7	66 22.8		35.6	211 20.2	21.2	257 45.0	19.0	351 32.2	44.5
20	351 27.1	81 21.9		35.7	226 21.9	21.1	272 47.7	19.0	6 34.7	44.5
21	6 29.6	96 21.1		35.8	241 23.7	21.0	287 50.4	19.0	21 37.2	44.5
22	21 32.1	111 20.3		35.8	256 25.4	21.0	302 53.2	18.9	36 39.7	44.5
23	36 34.5	126 19.4		35.9	271 27.1	20.9	317 55.9	18.9	51 42.2	44.5
24	51 37.0	141 18.6	-25 36.0		286 28.8	+21 20.8	332 58.7	+22 18.9	66 44.7	-8 44.5
Dif	—		-8	-1	+17	-1	+27	0	+25	

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 44.3 ^m				Edad: 11.5 ^d SD: 16'5 PMG: 21 ^h 54 ^m PHE { 4 ^h : 60'7 12 ^h : 60'8 20 ^h : 60'8 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	h m	h m	h m	h m		
0	183 56.0	-18 01.9	42 53.0	106	+4 40.2	175	60 N	15 34	16 22	17 14	14 37	0	3 56	108				
1	198 56.0	02.6	57 22.6	106	+4 57.7	175	58	45	30	18	42	4	52	104				
2	213 55.9	03.3	71 52.2	105	+5 15.2	175	56	15 55	37	22	46	8	50	99				
3	228 55.8	03.9	86 21.7	105	32.7	175	54	16 03	43	26	50	12	47	96				
4	243 55.7	04.6	100 51.2	105	+5 50.2	175	52	11	48	29	53	15	45	92				
5	258 55.6	-18 05.2	115 20.6	104	+6 07.7	175	50	16 18	16 53	17 32	14 57	17	3 43	89				
6	273 55.5	-18 05.9	129 50.0	104	+6 25.1	174	45	16 33	17 04	17 40	15 04	23	3 38	83				
7	288 55.4	06.5	144 19.3	103	42.5	174	40	45	14	47	10	28	34	78				
8	303 55.3	07.2	158 48.6	103	+6 59.9	174	35	16 55	22	53	15	33	31	73				
9	318 55.2	07.9	173 17.8	102	+7 17.3	174	30	17 05	30	17 59	19	37	28	69				
10	333 55.1	08.5	187 46.9	101	34.6	173	20	21	44	18 10	27	43	23	63				
11	348 55.1	-18 09.2	202 16.0	101	+7 51.9	173	10 N	17 35	17 57	18 22	15 35	48	3 18	58				
12	3 55.0	-18 09.8	216 45.0	100	+8 09.2	173	0	17 48	18 10	18 35	15 41	54	3 14	52				
13	18 54.9	10.5	231 14.0	100	26.4	172	10 S	18 01	23	18 50	48	59	10	47				
14	33 54.8	11.1	245 42.9	99	+8 43.5	171	20	16	39	19 07	15 56	64	06	41				
15	48 54.7	11.8	260 11.7	98	+9 00.7	172	30	32	18 58	30	16 04	71	3 01	34				
16	63 54.6	12.4	274 40.4	97	17.8	171	35	42	19 10	19 44	09	75	2 58	31				
17	78 54.5	-18 13.1	289 09.1	97	+9 34.8	170	40	18 53	19 24	20 01	16 15	79	2 55	27				
18	93 54.4	-18 13.7	303 37.8	97	+9 51.8	170	45	19 07	19 41	20 23	16 21	85	2 51	22				
19	108 54.3	14.4	318 06.3	95	+10 08.7	169	50	23	20 02	20 53	29	91	47	16				
20	123 54.2	15.0	332 34.8	95	25.6	169	52	31	12	21 09	33	94	45	13				
21	138 54.1	15.7	347 03.2	94	42.4	168	54	39	24	27	37	98	43	10				
22	153 54.0	16.3	1 31.5	93	+10 59.2	168	56	19 49	38	21 51	41	102	40	7				
23	168 53.9	17.0	15 59.8	93	+11 15.9	167	58	20 00	20 54	22 26	47	106	37	4				
24	183 53.8	-18 17.6	30 28.0	92	+11 32.6	167	60 S	20 12	21 14	** **	16 52	112	2 34	0				
UT	ARIES PMG 20 ^h 26.2 ^m		VENUS Mag: -4.1 PMG: 14 ^h 37 ^m		MARTE Mag: -0.1 PMG: 4 ^h 51 ^m		JÚPITER Mag: -2.8 PMG: 1 ^h 43 ^m		SATURNO Mag: +0.9 PMG: 19 ^h 26 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /		° /		° /		° /									
0	52 36.1	140 58.5	-25 37.2	287 10.2	+21 19.2	334 04.6	+22 18.5	67 44.2	-8 44.4									
1	67 38.6	155 57.6	37.2	302 11.9	19.2	349 07.4	18.4	82 46.6	44.4									
2	82 41.1	170 56.8	37.2	317 13.7	19.1	4 10.1	18.4	97 49.1	44.4									
3	97 43.5	185 55.9	37.3	332 15.4	19.0	19 12.9	18.4	112 51.6	44.4									
4	112 46.0	200 55.1	37.3	347 17.2	19.0	34 15.6	18.4	127 54.1	44.4									
5	127 48.4	215 54.3	-25 37.3	2 18.9	+21 18.9	49 18.4	+22 18.4	142 56.5	-8 44.4									
6	142 50.9	230 53.4	-25 37.4	17 20.6	+21 18.8	64 21.1	+22 18.4	157 59.0	-8 44.4									
7	157 53.4	245 52.6	37.4	32 22.4	18.8	79 23.9	18.3	173 01.5	44.4									
8	172 55.8	260 51.8	37.4	47 24.1	18.7	94 26.6	18.3	188 04.0	44.4									
9	187 58.3	275 50.9	37.4	62 25.9	18.7	109 29.4	18.3	203 06.5	44.4									
10	203 00.8	290 50.1	37.5	77 27.6	18.6	124 32.1	18.3	218 08.9	44.4									
11	218 03.2	305 49.2	-25 37.5	92 29.4	+21 18.5	139 34.9	+22 18.3	233 11.4	-8 44.4									
12	233 05.7	320 48.4	-25 37.5	107 31.1	+21 18.5	154 37.6	+22 18.2	248 13.9	-8 44.4									
13	248 08.2	335 47.6	37.5	122 32.9	18.4	169 40.4	18.2	263 16.4	44.4									
14	263 10.6	350 46.7	37.5	137 34.6	18.3	184 43.1	18.2	278 18.8	44.4									
15	278 13.1	5 45.9	37.6	152 36.4	18.3	199 45.9	18.2	293 21.3	44.4									
16	293 15.6	20 45.1	37.6	167 38.1	18.2	214 48.6	18.2	308 23.8	44.4									
17	308 18.0	35 44.2	-25 37.6	182 39.9	+21 18.2	229 51.4	+22 18.1	323 26.3	-8 44.4									
18	323 20.5	50 43.4	-25 37.6	197 41.6	+21 18.1	244 54.1	+22 18.1	338 28.7	-8 44.4									
19	338 22.9	65 42.6	37.6	212 43.4	18.0	259 56.9	18.1	353 31.2	44.4									
20	353 25.4	80 41.7	37.6	227 45.1	18.0	274 59.7	18.1	8 33.7	44.4									
21	8 27.9	95 40.9	37.6	242 46.9	17.9	290 02.4	18.1	23 36.1	44.4									
22	23 30.3	110 40.0	37.6	257 48.7	17.9	305 05.2	18.0	38 38.6	44.4									
23	38 32.8	125 39.2	37.7	272 50.4	17.8	320 07.9	18.0	53 41.1	44.4									
24	53 35.3	140 38.4	-25 37.7	287 52.2	+21 17.7	335 10.7	+22 18.0	68 43.6	-8 44.4									
Dif	—	-8	0	+17	-1	+28	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 44.5 ^m				Edad: 12.5 ^d PHE { SD: 16'6 PMG: 22 ^h 48 ^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	183	53.8	−18	17.6	30	28.0	+11	32.6	60 N	6 16	7 08	7 57	14 37	1	5 44	115			
1	198	53.7		18.3	44	56.1	+11	49.2	58	11	7 00	45	46	8	36	108			
2	213	53.6		18.9	59	24.1	+12	05.7	56	07	6 53	35	14 54	13	29	103			
3	228	53.5		19.6	73	52.1		22.2	54	04	47	27	15 02	16	23	99			
4	243	53.4		20.2	88	20.0		38.5	52	6 00	41	19	08 20		17	95			
5	258	53.3	−18	20.9	102	47.8	+12	54.9	50	5 57	6 36	7 12	15 14	23	5 12	92			
6	273	53.2	−18	21.5	117	15.5	+13	11.1	45	5 49	6 25	6 57	15 27	29	5 01	85			
7	288	53.1		22.1	131	43.1		27.3	40	43	15	44	38 34		4 52	80			
8	303	53.0		22.8	146	10.7		43.4	35	36	6 07	34	48 38		44	76			
9	318	52.9		23.4	160	38.2	+13	59.4	30	30	5 59	25	15 56	41	37	72			
10	333	52.8		24.1	175	05.5	+14	15.3	20	19	45	6 08	16 10	48	26	65			
11	348	52.7	−18	24.7	189	32.8	+14	31.1	10 N	5 07	5 32	5 54	16 23	52	4 16	60			
12	3	52.6	−18	25.4	204	00.1	+14	46.9	0	4 54	5 19	5 41	16 35	57	4 06	55			
13	18	52.5		26.0	218	27.2	+15	02.5	10 S	39	5 05	27	16 47	62	3 57	50			
14	33	52.4		26.6	232	54.2		18.1	20	4 22	4 49	5 13	17 00	67	47	45			
15	48	52.3		27.3	247	21.2		33.6	30	3 59	30	4 56	15 73		35	39			
16	63	52.2		27.9	261	48.0	+15	49.0	35	45	18	46	24 76		29	35			
17	78	52.1	−18	28.6	276	14.8	+16	04.3	40	3 27	4 05	4 35	17 34	81	3 22	30			
18	93	52.0	−18	29.2	290	41.5	+16	19.4	45	3 05	3 48	4 22	17 46	86	3 13	26			
19	108	51.9		29.8	305	08.1		34.5	50	2 35	27	4 05	18 00	93	3 03	19			
20	123	51.8		30.5	319	34.6	+16	49.5	52	20	16	3 58	07 96		2 58	17			
21	138	51.7		31.1	334	01.0	+17	04.4	54	2 01	3 04	49	15 100		53	13			
22	153	51.6		31.7	348	27.4		19.1	56	1 37	2 51	39	23 105		47	10			
23	168	51.5		32.4	2	53.6		33.8	58	1 02	34	28	33 111		41	5			
24	183	51.4	−18	33.0	17	19.7	+17	48.3	60 S	** **	2 14	3 16	18 44	118	2 34	0			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 20 ^h 22.3 ^m		Mag: −4.1 PMG: 14 ^h 38 ^m			Mag: −0.1 PMG: 4 ^h 48 ^m			Mag: −2.8 PMG: 1 ^h 39 ^m			Mag: +0.9 PMG: 19 ^h 22 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	53	35.3	140	38.4	−25	37.7	287	52.2	+21	17.7	335	10.7	+22	18.0	68	43.6	−8	44.4	
1	68	37.7	155	37.5		37.7	302	53.9		17.7	350	13.4		18.0	83	46.0		44.4	
2	83	40.2	170	36.7		37.7	317	55.7		17.6	5	16.2		18.0	98	48.5		44.4	
3	98	42.7	185	35.9		37.7	332	57.5		17.6	20	19.0		17.9	113	51.0		44.4	
4	113	45.1	200	35.0		37.7	347	59.2		17.5	35	21.7		17.9	128	53.5		44.4	
5	128	47.6	215	34.2	−25	37.7	3	01.0	+21	17.4	50	24.5	+22	17.9	143	55.9	−8	44.4	
6	143	50.1	230	33.4	−25	37.7	18	02.7	+21	17.4	65	27.2	+22	17.9	158	58.4	−8	44.4	
7	158	52.5	245	32.5		37.7	33	04.5		17.3	80	30.0		17.9	174	00.9		44.3	
8	173	55.0	260	31.7		37.7	48	06.3		17.3	95	32.7		17.9	189	03.4		44.3	
9	188	57.4	275	30.9		37.7	63	08.1		17.2	110	35.5		17.8	204	05.8		44.3	
10	203	59.9	290	30.0		37.6	78	09.8		17.2	125	38.3		17.8	219	08.3		44.3	
11	219	02.4	305	29.2	−25	37.6	93	11.6	+21	17.1	140	41.0	+22	17.8	234	10.8	−8	44.3	
12	234	04.8	320	28.4	−25	37.6	108	13.4	+21	17.0	155	43.8	+22	17.8	249	13.2	−8	44.3	
13	249	07.3	335	27.5		37.6	123	15.1		17.0	170	46.5		17.8	264	15.7		44.3	
14	264	09.8	350	26.7		37.6	138	16.9		16.9	185	49.3		17.7	279	18.2		44.3	
15	279	12.2	5	25.9		37.6	153	18.7		16.9	200	52.1		17.7	294	20.7		44.3	
16	294	14.7	20	25.0		37.6	168	20.5		16.8	215	54.8		17.7	309	23.1		44.3	
17	309	17.2	35	24.2	−25	37.6	183	22.2	+21	16.8	230	57.6	+22	17.7	324	25.6	−8	44.3	
18	324	19.6	50	23.4	−25	37.5	198	24.0	+21	16.7	246	00.3	+22	17.7	339	28.1	−8	44.3	
19	339	22.1	65	22.5		37.5	213	25.8		16.7	261	03.1		17.6	354	30.5		44.3	
20	354	24.5	80	21.7		37.5	228	27.6		16.6	276	05.9		17.6	9	33.0		44.3	
21	9	27.0	95	20.9		37.5	243	29.4		16.5	291	08.6		17.6	24	35.5		44.3	
22	24	29.5	110	20.0		37.5	258	31.1		16.5	306	11.4		17.6	39	37.9		44.3	
23	39	31.9	125	19.2		37.4	273	32.9		16.4	321	14.1		17.6	54	40.4		44.3	
24	54	34.4	140	18.4	−25	37.4	288	34.7	+21	16.4	336	16.9	+22	17.5	69	42.9	−8	44.3	
Dif	—		−8			0	+18			−1	+28			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 44.7 ^m				Edad: 13.5 ^d SD: 16/6 PMG: 23 ^h 46 ^m													
	PHE { 4 ^h : 60/8 12 ^h : 60/7 20 ^h : 60/6 R°: 62 ^m				hG ☾ Dif		Dec Dif											
	hG ☉	Dec			hG ☾	Dif		Dec		Dif			Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	m	h m	m
0	183	51.4	-18	33.0	17	19.7	71	+17	48.3	145	60 N	15 30	16 19	17 11	14 38	6	7 39	119
1	198	51.3		33.6	31	45.8	69	+18	02.8	143	58	41	27	15	14 54	13	24	111
2	213	51.2		34.3	46	11.7	69		17.1	141	56	15 51	34	19	15 07	19	12	105
3	228	51.1		34.9	60	37.6	68		31.2	141	54	16 00	40	23	18 24		7 02	99
4	243	51.0		35.5	75	03.4	67		45.3	141	52	08	46	27	28 28		6 52	96
5	258	50.9	-18	36.2	89	29.1	67	+18	59.3	140	50	16 15	16 51	17 30	15 37	31	6 44	92
6	273	50.8	-18	36.8	103	54.7	66	+19	13.1	138	45	16 31	17 03	17 38	15 56	38	6 26	86
7	288	50.7		37.4	118	20.1	64		26.8	137	40	43	12	45	16 12	42	12	81
8	303	50.6		38.1	132	45.6	65		40.3	135	35	16 54	21	52	26 45		6 00	77
9	318	50.4		38.7	147	10.9	63	+19	53.8	135	30	17 04	29	17 58	37 48		5 49	74
10	333	50.3		39.3	161	36.1	62	+20	07.1	133	20	20	43	18 10	16 58	53	31	69
11	348	50.2	-18	39.9	176	01.2	61	+20	20.2	131	10 N	17 35	17 57	18 22	17 15	57	5 16	63
12	3	50.1	-18	40.6	190	26.3	61	+20	33.2	130	0	17 48	18 10	18 35	17 32	61	5 01	59
13	18	50.0		41.2	204	51.2	59		46.1	129	10 S	18 02	24	18 50	17 49	64	4 47	55
14	33	49.9		41.8	219	16.1	59	+20	58.9	128	20	17	18 40	19 08	18 07	69	32	50
15	48	49.8		42.4	233	40.8	57	+21	11.4	125	30	34	19 00	32	28 73		14	45
16	63	49.7		43.1	248	05.5	57		23.9	125	35	44	12	19 46	40 77		4 04	41
17	78	49.6	-18	43.7	262	30.1	56	+21	36.2	123	40	18 56	19 26	20 04	18 55	80	3 52	38
18	93	49.5	-18	44.3	276	54.6	55	+21	48.4	122	45	19 09	19 44	20 27	19 12	84	3 39	32
19	108	49.3		44.9	291	19.0	54	+22	00.4	120	50	26	20 06	20 58	33 91		22	27
20	123	49.2		45.6	305	43.3	53		12.2	118	52	34	16	21 14	43 94		15	23
21	138	49.1		46.2	320	07.6	53		23.9	117	54	43	29	21 34	19 55	98	3 06	20
22	153	49.0		46.8	334	31.7	51		35.4	115	56	19 53	20 43	22 00	20 08	103	2 57	15
23	168	48.9		47.4	348	55.8	51		46.8	114	58	20 04	21 00	22 39	24 110		46	9
24	183	48.8	-18	48.0	3	19.8	50	+22	58.0	112	60 S	20 18	21 21	** **	20 42	121	2 34	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 20 ^h 18.4 ^m		Mag: -4.1 PMG: 14 ^h 40 ^m		Mag: -0.2 PMG: 4 ^h 45 ^m		Mag: -2.8 PMG: 1 ^h 35 ^m		Mag: +0.9 PMG: 19 ^h 18 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	54	34.4	140	18.4	-25	37.4	288	34.7	+21	16.4	336	16.9	+22	17.5	69	42.9	-8	44.3
1	69	36.9	155	17.5		37.4	303	36.5		16.3	351	19.7		17.5	84	45.4		44.3
2	84	39.3	170	16.7		37.4	318	38.3		16.3	6	22.4		17.5	99	47.8		44.3
3	99	41.8	185	15.9		37.3	333	40.1		16.2	21	25.2		17.5	114	50.3		44.3
4	114	44.3	200	15.0		37.3	348	41.8		16.2	36	28.0		17.5	129	52.8		44.2
5	129	46.7	215	14.2	-25	37.3	3	43.6	+21	16.1	51	30.7	+22	17.4	144	55.2	-8	44.2
6	144	49.2	230	13.4	-25	37.2	18	45.4	+21	16.1	66	33.5	+22	17.4	159	57.7	-8	44.2
7	159	51.7	245	12.5		37.2	33	47.2		16.0	81	36.2		17.4	175	00.2		44.2
8	174	54.1	260	11.7		37.2	48	49.0		15.9	96	39.0		17.4	190	02.6		44.2
9	189	56.6	275	10.9		37.1	63	50.8		15.9	111	41.8		17.4	205	05.1		44.2
10	204	59.0	290	10.1		37.1	78	52.6		15.8	126	44.5		17.3	220	07.6		44.2
11	220	01.5	305	09.2	-25	37.1	93	54.4	+21	15.8	141	47.3	+22	17.3	235	10.0	-8	44.2
12	235	04.0	320	08.4	-25	37.0	108	56.2	+21	15.7	156	50.1	+22	17.3	250	12.5	-8	44.2
13	250	06.4	335	07.6		37.0	123	58.0		15.7	171	52.8		17.3	265	15.0		44.2
14	265	08.9	350	06.7		36.9	138	59.8		15.6	186	55.6		17.3	280	17.4		44.2
15	280	11.4	5	05.9		36.9	154	01.6		15.6	201	58.4		17.2	295	19.9		44.2
16	295	13.8	20	05.1		36.8	169	03.4		15.5	217	01.1		17.2	310	22.4		44.2
17	310	16.3	35	04.2	-25	36.8	184	05.2	+21	15.5	232	03.9	+22	17.2	325	24.8	-8	44.2
18	325	18.8	50	03.4	-25	36.7	199	07.0	+21	15.4	247	06.7	+22	17.2	340	27.3	-8	44.2
19	340	21.2	65	02.6		36.7	214	08.8		15.4	262	09.4		17.2	355	29.8		44.2
20	355	23.7	80	01.8		36.6	229	10.6		15.3	277	12.2		17.1	10	32.2		44.1
21	10	26.2	95	00.9		36.6	244	12.4		15.3	292	15.0		17.1	25	34.7		44.1
22	25	28.6	110	00.1		36.5	259	14.2		15.2	307	17.7		17.1	40	37.2		44.1
23	40	31.1	124	59.3		36.5	274	16.0		15.2	322	20.5		17.1	55	39.6		44.1
24	55	33.5	139	58.4	-25	36.4	289	17.8	+21	15.1	337	23.3	+22	17.1	70	42.1	-8	44.1
Dif	—		-8		0		+18		-1		+28		0		+25			

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna								
	SD: 16'2 PMG:11 ^h 44.8 ^m			Edad: 14.5 ^d PHE { 4 ^h : 60'5 12 ^h : 60'3 20 ^h : 60'1 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							
0	183	48.8	-18	48.0	3	19.8	+22	58.0	60	N	6	20	7	12	8	02	14	44	17	9	38	115		
1	198	48.7		48.7	17	43.7	49	+23	09.1	111	15	7	04	7	50	15	07	28		9	15	104		
2	213	48.5		49.3	32	07.5	48		20.0	109	11	6	57	39	26	34				8	57	97		
3	228	48.4		49.9	46	31.2	47		30.7	107	07		50	30	42	38				41		93		
4	243	48.3		50.5	60	54.9	47		41.3	106	03		45	22	15	56	41			28		89		
5	258	48.2	-18	51.1	75	18.5	46	+23	51.7	104	6	00	6	39	7	15	16	08	44		8	16	86	
6	273	48.1	-18	51.8	89	42.0	45	+24	01.9	102	5	52	6	28	6	59	16	34	48		7	52	81	
7	288	48.0		52.4	104	05.4	44		11.9	100	45		18	47	16	54	51			33		77		
8	303	47.8		53.0	118	28.8	44		21.8	99	38		09	36	17	11	53			17		75		
9	318	47.7		53.6	132	52.1	43		31.5	97	30	32	6	01	26		25	56		7	03	72		
10	333	47.6		54.2	147	15.3	42		41.0	95	20	20	5	46	6	10	17	51	58	6	40	68		
11	348	47.5	-18	54.8	161	38.4	41	+24	50.4	94	10	N	5	07	5	55	18	12	61	6	19	66		
12	3	47.4	-18	55.4	176	01.5	41	+24	59.5	91	0		4	54	5	41	18	33	63	6	00	63		
13	18	47.3		56.1	190	24.5	40	+25	08.5	90	10	S	39	5	05	27	18	53	66	5	42	59		
14	33	47.1		56.7	204	47.5	40		17.3	88	20		4	21	4	49	5	12	67	5	22	56		
15	48	47.0		57.3	219	10.4	39		25.9	86	30		3	58	29	4	55	41	70	4	59	52		
16	63	46.9		57.9	233	33.2	38		34.4	85	35		43	17	45	19	57	71		45		50		
17	78	46.8	-18	58.5	247	56.0	38	+25	42.6	82	40		3	25	4	03	4	33	20	15	73	4	30	46
18	93	46.7	-18	59.1	262	18.7	37	+25	50.7	81	45		3	02	3	45	4	20	20	36	76	4	11	43
19	108	46.5	-18	59.7	276	41.4	37	+25	58.5	78	50		2	31	23	4	03	21	04	79	3	49	36	
20	123	46.4	-19	00.3	291	04.0	36	+26	06.2	77	52		2	15	13	3	55		17	82		38	34	
21	138	46.3		00.9	305	26.5	35		13.7	75	54		1	55	3	00		33	84		26	30		
22	153	46.2		01.5	319	49.1	36		21.0	73	56		1	29	2	46	36	21	51	88	3	12	25	
23	168	46.1		02.2	334	11.5	34		28.1	71	58		0	50	29	24	22	14	93	2	55	19		
24	183	45.9	-19	02.8	348	34.0	35	+26	35.0	69	60	S	**	**	2	08	3	11	22	43	**	2	36	8
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO												
	PMG: 20 ^h 14.4 ^m		Mag: -4.1 PMG: 14 ^h 41 ^m			Mag: -0.2 PMG: 4 ^h 42 ^m			Mag: -2.8 PMG: 1 ^h 30 ^m			Mag: +0.9 PMG: 19 ^h 14 ^m												
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec											
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'										
0	55	33.5	139	58.4	-25	36.4	289	17.8	+21	15.1	337	23.3	+22	17.1	70	42.1	-8	44.1						
1	70	36.0	154	57.6		36.4	304	19.6		15.1	352	26.0		17.0	85	44.6		44.1						
2	85	38.5	169	56.8		36.3	319	21.4		15.0	7	28.8		17.0	100	47.0		44.1						
3	100	40.9	184	56.0		36.3	334	23.2		15.0	22	31.6		17.0	115	49.5		44.1						
4	115	43.4	199	55.1		36.2	349	25.0		14.9	37	34.3		17.0	130	52.0		44.1						
5	130	45.9	214	54.3	-25	36.1	4	26.9	+21	14.9	52	37.1	+22	17.0	145	54.4	-8	44.1						
6	145	48.3	229	53.5	-25	36.1	19	28.7	+21	14.9	67	39.9	+22	16.9	160	56.9	-8	44.1						
7	160	50.8	244	52.7		36.0	34	30.5		14.8	82	42.6		16.9	175	59.3		44.1						
8	175	53.3	259	51.8		35.9	49	32.3		14.8	97	45.4		16.9	191	01.8		44.1						
9	190	55.7	274	51.0		35.9	64	34.1		14.7	112	48.2		16.9	206	04.3		44.1						
10	205	58.2	289	50.2		35.8	79	35.9		14.7	127	50.9		16.9	221	06.7		44.0						
11	221	00.7	304	49.4	-25	35.7	94	37.7	+21	14.6	142	53.7	+22	16.8	236	09.2	-8	44.0						
12	236	03.1	319	48.5	-25	35.7	109	39.6	+21	14.6	157	56.5	+22	16.8	251	11.7	-8	44.0						
13	251	05.6	334	47.7		35.6	124	41.4		14.5	172	59.3		16.8	266	14.1		44.0						
14	266	08.0	349	46.9		35.5	139	43.2		14.5	188	02.0		16.8	281	16.6		44.0						
15	281	10.5	4	46.1		35.4	154	45.0		14.4	203	04.8		16.8	296	19.1		44.0						
16	296	13.0	19	45.2		35.4	169	46.9		14.4	218	07.6		16.7	311	21.5		44.0						
17	311	15.4	34	44.4	-25	35.3	184	48.7	+21	14.3	233	10.3	+22	16.7	326	24.0	-8	44.0						
18	326	17.9	49	43.6	-25	35.2	199	50.5	+21	14.3	248	13.1	+22	16.7	341	26.4	-8	44.0						
19	341	20.4	64	42.8		35.1	214	52.3		14.3	263	15.9		16.7	356	28.9		44.0						
20	356	22.8	79	41.9		35.1	229	54.2		14.2	278	18.7		16.6	11	31.4		44.0						
21	11	25.3	94	41.1		35.0	244	56.0		14.2	293	21.4		16.6	26	33.8		44.0						
22	26	27.8	109	40.3		34.9	259	57.8		14.1	308	24.2		16.6	41	36.3		43.9						
23	41	30.2	124	39.5		34.8	274	59.7		14.1	323	27.0		16.6	56	38.8		43.9						
24	56	32.7	139	38.6	-25	34.7	290	01.5	+21	14.0	338	29.7	+22	16.6	71	41.2	-8	43.9						
Dif	—		-8			+1	+18			0	+28			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 45.0 ^m				Edad: 15.5 ^d SD: 16/3 PMG: 0 ^h 48 ^m PHE { 4 ^h : 59/9 12 ^h : 59/6 20 ^h : 59/4 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	183	45.9	-19	02.8	348	34.0	33	+26	35.0	68	60 N	15 25	16 15	17 07	15 01	49		11 33	83					
1	198	45.8		03.4	2	56.3	34		41.8	65	58	38	23	12	15 35	54		10 59	77					
2	213	45.7		04.0	17	18.7	33		48.3	63	56	48	31	17	16 00	57		34	75					
3	228	45.6		04.6	31	41.0	33	+26	54.6	62	54	15 57	37	21	20 58		10 14	73						
4	243	45.4		05.2	46	03.3	33	+27	00.8	59	52	16 06	43	25	37 59		9 57	72						
5	258	45.3	-19	05.8	60	25.5	32	+27	06.7	59	50	16 13	16 49	17 28	16 52	59		9 42	72					
6	273	45.2	-19	06.4	74	47.8	33	+27	12.5	58	45	16 29	17 01	17 37	17 22	60		9 13	70					
7	288	45.1		07.0	89	10.0	32		18.0	55	40	42	11	44	17 45	61		8 50	69					
8	303	44.9		07.6	103	32.1	31		23.3	53	35	16 53	20	51	18 04	62		32	67					
9	318	44.8		08.2	117	54.3	32		28.5	52	30	17 03	28	17 57	21 62		8 15	67						
10	333	44.7		08.8	132	16.4	31		33.4	49	20	20	43	18 10	18 49	62		7 48	66					
11	348	44.6	-19	09.4	146	38.6	32	+27	38.2	48	10 N	17 35	17 57	18 22	19 13	63		7 25	64					
12	3	44.4	-19	10.0	161	00.7	31	+27	42.7	45	0	17 49	18 11	18 36	19 36	62		7 03	63					
13	18	44.3		10.6	175	22.8	31		47.1	44	10 S	18 03	25	18 51	19 59	62		6 41	62					
14	33	44.2		11.2	189	44.9	31		51.2	40	20	18	18 42	19 10	20 23	63		6 18	60					
15	48	44.0		11.8	204	07.0	31		55.2	37	30	36	19 02	34	20 51	63		5 51	58					
16	63	43.9		12.4	218	29.1	31	+27	58.9	36	35	46	14	19 49	21 08	63		35	57					
17	78	43.8	-19	13.0	232	51.2	31	+28	02.5	36	40	18 58	19 29	20 07	21 28	63		5 16	56					
18	93	43.7	-19	13.6	247	13.3	31	+28	05.8	33	45	19 12	19 47	20 31	21 52	62		4 54	54					
19	108	43.5		14.2	261	35.4	31		09.0	29	50	30	20 09	21 03	22 23	62		25	52					
20	123	43.4		14.8	275	57.5	31		11.9	29	52	38	20	20	39 61		4 12	49						
21	138	43.3		15.4	290	19.6	31		14.6	26	54	47	33	21 40	22 57	61		3 56	47					
22	153	43.1		16.0	304	41.8	32		17.2	23	56	19 57	20 48	22 08	23 19	60		37	44					
23	168	43.0		16.5	319	03.9	31		19.5	23	58	20 09	21 06	22 54	23 47	60		3 14	39					
24	183	42.9	-19	17.1	333	26.1	32	+28	21.7	22	60 S	20 23	21 28	** **	0 03	26		2 44	27					
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 20 ^h 10.5 ^m				Mag: -4.1 PMG: 14 ^h 42 ^m				Mag: -0.2 PMG: 4 ^h 39 ^m				Mag: -2.8 PMG: 1 ^h 26 ^m				Mag: +0.9 PMG: 19 ^h 10 ^m							
	hG ♈		hG ♀	Dec	hG ♂		Dec	hG ♎		Dec	hG ♊		Dec	hG ♋		Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	56	32.7	139	38.6	-25	34.7	290	01.5	+21	14.0	338	29.7	+22	16.6	71	41.2	-8	43.9						
1	71	35.1	154	37.8		34.6	305	03.3		14.0	353	32.5		16.5	86	43.7		43.9						
2	86	37.6	169	37.0		34.5	320	05.2		14.0	8	35.3		16.5	101	46.1		43.9						
3	101	40.1	184	36.2		34.5	335	07.0		13.9	23	38.1		16.5	116	48.6		43.9						
4	116	42.5	199	35.3		34.4	350	08.8		13.9	38	40.8		16.5	131	51.1		43.9						
5	131	45.0	214	34.5	-25	34.3	5	10.7	+21	13.8	53	43.6	+22	16.5	146	53.5	-8	43.9						
6	146	47.5	229	33.7	-25	34.2	20	12.5	+21	13.8	68	46.4	+22	16.4	161	56.0	-8	43.9						
7	161	49.9	244	32.9		34.1	35	14.3		13.7	83	49.2		16.4	176	58.4		43.9						
8	176	52.4	259	32.1		34.0	50	16.2		13.7	98	51.9		16.4	192	00.9		43.9						
9	191	54.9	274	31.2		33.9	65	18.0		13.7	113	54.7		16.4	207	03.4		43.8						
10	206	57.3	289	30.4		33.8	80	19.9		13.6	128	57.5		16.4	222	05.8		43.8						
11	221	59.8	304	29.6	-25	33.7	95	21.7	+21	13.6	144	00.3	+22	16.3	237	08.3	-8	43.8						
12	237	02.3	319	28.8	-25	33.6	110	23.6	+21	13.5	159	03.0	+22	16.3	252	10.7	-8	43.8						
13	252	04.7	334	28.0		33.5	125	25.4		13.5	174	05.8		16.3	267	13.2		43.8						
14	267	07.2	349	27.1		33.4	140	27.2		13.5	189	08.6		16.3	282	15.7		43.8						
15	282	09.6	4	26.3		33.3	155	29.1		13.4	204	11.4		16.2	297	18.1		43.8						
16	297	12.1	19	25.5		33.2	170	30.9		13.4	219	14.1		16.2	312	20.6		43.8						
17	312	14.6	34	24.7	-25	33.1	185	32.8	+21	13.3	234	16.9	+22	16.2	327	23.0	-8	43.8						
18	327	17.0	49	23.9	-25	33.0	200	34.6	+21	13.3	249	19.7	+22	16.2	342	25.5	-8	43.8						
19	342	19.5	64	23.0		32.8	215	36.5		13.3	264	22.5		16.2	357	27.9		43.7						
20	357	22.0	79	22.2		32.7	230	38.3		13.2	279	25.3		16.1	12	30.4		43.7						
21	12	24.4	94	21.4		32.6	245	40.2		13.2	294	28.0		16.1	27	32.9		43.7						
22	27	26.9	109	20.6		32.5	260	42.1		13.1	309	30.8		16.1	42	35.3		43.7						
23	42	29.4	124	19.8		32.4	275	43.9		13.1	324	33.6		16.1	57	37.8		43.7						
24	57	31.8	139	19.0	-25	32.3	290	45.8	+21	13.1	339	36.4	+22	16.1	72	40.2	-8	43.7						
Dif	—				-8				+1				+28				0				+25			
Dif	—				-8				+1				+28				0				+25			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16'2 PMG:11 ^h 45.2 ^m				Edad: 16.5 ^d PHE { 4 ^h : 59'1 12 ^h : 58'8 20 ^h : 58'5 R°: 62 ^m SD: 16'1 PMG: 1 ^h 51 ^m																		
	hG ☉	Dec			hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m					
0	183	42.9	−19	17.1	333	26.1	32	+28	21.7	19	60 N	6	24	7	16	8	06	15	50	91	12	56	35
1	198	42.7		17.7	347	48.3	32		23.6	17	58	19	08	7	54	16	29	82	12	16	44		
2	213	42.6		18.3	2	10.6	33		25.3	17	56	14	7	00	43	16	57	78	11	49	47		
3	228	42.5		18.9	16	32.8	32		26.9	16	54	10	6	54	34	17	18	76		27	50		
4	243	42.3		19.5	30	55.1	33		28.2	13	52	06	48	26	36	74	11	09	52				
5	258	42.2	−19	20.1	45	17.5	34	+28	29.4	12	50	6	03	6	42	7	18	17	51	72	10	54	52
6	273	42.1	−19	20.7	59	39.9	34	+28	30.3	9	45	5	54	6	30	7	02	18	22	69	10	23	55
7	288	41.9		21.3	74	02.3	34		31.0	7	40	47	20	6	49	18	46	67	9	59	56		
8	303	41.8		21.9	88	24.7	34		31.6	6	35	40	11	38	19	06	66		39	57			
9	318	41.7		22.4	102	47.3	36		32.0	4	30	33	6	02	28	23	64	9	22	58			
10	333	41.5		23.0	117	09.8	35		32.1	1	20	21	5	47	6	11	19	51	63	8	54	59	
11	348	41.4	−19	23.6	131	32.4	36	+28	32.1	0	10 N	5	08	5	34	5	56	20	16	60	8	29	60
12	3	41.3	−19	24.2	145	55.1	37	+28	31.9	2	0	4	54	5	20	5	42	20	38	59	8	06	61
13	18	41.1		24.8	160	17.8	37		31.4	5	10 S	39	5	05	27	21	01	58	7	43	62		
14	33	41.0		25.4	174	40.6	38		30.8	6	20	4	20	4	48	5	12	26	55	7	18	63	
15	48	40.9		26.0	189	03.5	39		30.0	8	30	3	56	28	4	54	21	54	53	6	49	64	
16	63	40.7		26.5	203	26.4	39		29.0	10	35	41	16	44	22	11	52		32	65			
17	78	40.6	−19	27.1	217	49.3	39	+28	27.8	12	40	3	23	4	01	4	32	22	31	49	6	12	65
18	93	40.4	−19	27.7	232	12.4	41	+28	26.5	13	45	2	59	3	43	4	18	22	54	48	5	48	66
19	108	40.3		28.3	246	35.5	42		24.9	16	50	27	21	4	00	23	25	44		17	66		
20	123	40.2		28.9	260	58.7	42		23.2	17	52	2	10	3	09	3	52	40	42	5	01	67	
21	138	40.0		29.4	275	22.0	43		21.2	20	54	1	49	2	57	43	23	58	39	4	43	68	
22	153	39.9		30.0	289	45.3	43		19.1	21	56	1	21	42	32	**	**	**		4	21	69	
23	168	39.8		30.6	304	08.8	45		16.8	23	58	0	36	24	21	**	**	**		3	53	70	
24	183	39.6	−19	31.2	318	32.3	45	+28	14.3	25	60 S	**	**	2	01	3	07	0	29	56	3	11	74

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 20 ^h 06.6 ^m		Mag: −4.1 PMG: 14 ^h 44 ^m		Mag: −0.2 PMG: 4 ^h 36 ^m		Mag: −2.8 PMG: 1 ^h 21 ^m		Mag: +0.9 PMG: 19 ^h 06 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	57	31.8	139	19.0	−25	32.3	290	45.8	+21	13.1	339	36.4	+22	16.1	72	40.2	−8	43.7
1	72	34.3	154	18.1		32.2	305	47.6		13.0	354	39.1		16.0	87	42.7		43.7
2	87	36.8	169	17.3		32.0	320	49.5		13.0	9	41.9		16.0	102	45.1		43.7
3	102	39.2	184	16.5		31.9	335	51.3		13.0	24	44.7		16.0	117	47.6		43.7
4	117	41.7	199	15.7		31.8	350	53.2		12.9	39	47.5		16.0	132	50.1		43.7
5	132	44.1	214	14.9	−25	31.7	5	55.1	+21	12.9	54	50.3	+22	16.0	147	52.5	−8	43.6
6	147	46.6	229	14.1	−25	31.6	20	56.9	+21	12.9	69	53.0	+22	15.9	162	55.0	−8	43.6
7	162	49.1	244	13.2		31.4	35	58.8		12.8	84	55.8		15.9	177	57.4		43.6
8	177	51.5	259	12.4		31.3	51	00.7		12.8	99	58.6		15.9	192	59.9		43.6
9	192	54.0	274	11.6		31.2	66	02.5		12.7	115	01.4		15.9	208	02.3		43.6
10	207	56.5	289	10.8		31.0	81	04.4		12.7	130	04.2		15.8	223	04.8		43.6
11	222	58.9	304	10.0	−25	30.9	96	06.3	+21	12.7	145	06.9	+22	15.8	238	07.2	−8	43.6
12	238	01.4	319	09.2	−25	30.8	111	08.1	+21	12.6	160	09.7	+22	15.8	253	09.7	−8	43.6
13	253	03.9	334	08.4		30.7	126	10.0		12.6	175	12.5		15.8	268	12.2		43.6
14	268	06.3	349	07.5		30.5	141	11.9		12.6	190	15.3		15.8	283	14.6		43.5
15	283	08.8	4	06.7		30.4	156	13.8		12.5	205	18.1		15.7	298	17.1		43.5
16	298	11.3	19	05.9		30.2	171	15.6		12.5	220	20.8		15.7	313	19.5		43.5
17	313	13.7	34	05.1	−25	30.1	186	17.5	+21	12.5	235	23.6	+22	15.7	328	22.0	−8	43.5
18	328	16.2	49	04.3	−25	30.0	201	19.4	+21	12.4	250	26.4	+22	15.7	343	24.4	−8	43.5
19	343	18.6	64	03.5		29.8	216	21.3		12.4	265	29.2		15.6	358	26.9		43.5
20	358	21.1	79	02.7		29.7	231	23.1		12.4	280	32.0		15.6	13	29.3		43.5
21	13	23.6	94	01.8		29.5	246	25.0		12.3	295	34.8		15.6	28	31.8		43.5
22	28	26.0	109	01.0		29.4	261	26.9		12.3	310	37.5		15.6	43	34.2		43.4
23	43	28.5	124	00.2		29.3	276	28.8		12.3	325	40.3		15.6	58	36.7		43.4
24	58	31.0	138	59.4	−25	29.1	291	30.7	+21	12.3	340	43.1	+22	15.5	73	39.1	−8	43.4
Dif	—		−8		+1		+19		0		+28		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 45.5 ^m				Edad: 17.5 ^d PHE { 4 ^h : 58/2 12 ^h : 57/9 20 ^h : 57/5 PMG: 2 ^h 53 ^m R°: 58 ^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	39.6	-19	31.2	318	32.3	46	+28	14.3	26	60 N	15	21	16	12	17	05	17	21	104	13	31	11	
1	198	39.5		31.7	332	55.9	47		11.7	29	58	34		20	10	17	51	95	13	00	20			
2	213	39.3		32.3	347	19.6	48		08.8	30	56	45		28	14	18	15	88	12	36	27			
3	228	39.2		32.9	1	43.4	48		05.8	32	54	15	54	35	19		34	83	17	31				
4	243	39.0		33.5	16	07.2	48	+28	02.6	33	52	16	03	41	23	18	50	80	12	01	33			
5	258	38.9	-19	34.1	30	31.2	50	+27	59.3	32	50	16	11	16	47	17	27	19	03	78	11	46	37	
6	273	38.8	-19	34.6	44	55.3	51	+27	55.7	36	45	16	27	16	59	17	35	19	31	73	11	18	41	
7	288	38.6		35.2	59	19.4	51		52.0	37	40	40		17	10	43	19	53	70	10	55	44		
8	303	38.5		35.8	73	43.7	53		48.1	39	35	16	52	19	50	20	12	66		36	47			
9	318	38.3		36.3	88	08.0	53		44.1	40	30	17	02	28	17	57	27	64	10	20	49			
10	333	38.2		36.9	102	32.5	55		39.9	42	20	19		43	18	10	20	54	60	9	53	52		
11	348	38.0	-19	37.5	116	57.1	56	+27	35.5	44	10 N	17	35	17	57	18	23	21	16	57	9	29	55	
12	3	37.9	-19	38.1	131	21.7	56	+27	30.9	46	0	17	49	18	11	18	37	21	37	55	9	07	57	
13	18	37.8		38.6	145	46.5	58		26.2	47	10 S	18	04		26	18	52	21	59	51	8	45	59	
14	33	37.6		39.2	160	11.4	59		21.3	49	20	19		18	43	19	11	22	21	48	8	21	62	
15	48	37.5		39.8	174	36.4	60		16.3	50	30	37		19	04	36	22	47	44	7	53	65		
16	63	37.3		40.3	189	01.5	61		11.1	52	35	18	48	16	19	51	23	03	41		37	66		
17	78	37.2	-19	40.9	203	26.7	62	+27	05.7	54	40	19	00	19	31	20	10	23	20	39	7	17	69	
18	93	37.0	-19	41.5	217	52.0	63	+27	00.2	55	45	19	15	19	50	20	34	23	42	35	6	54	72	
19	108	36.9		42.0	232	17.5	65	+26	54.6	56	50	33		20	13	21	07	**	**	**		23	77	
20	123	36.7		42.6	246	43.0	65		48.7	59	52	41		24	25		**	**	**		6	08	79	
21	138	36.6		43.2	261	08.7	67		42.8	61	54	19	51	38	21	47	**	**	**		5	51	81	
22	153	36.4		43.7	275	34.5	68		36.7	63	56	20	01	20	53	22	17	0	19	35		30	85	
23	168	36.3		44.3	290	00.4	69		30.4	63	58	14		21	12	23	15	0	47	28	5	03	92	
24	183	36.1	-19	44.9	304	26.4	70	+26	24.0	64	60 S	20	28	21	35	**	**	1	25	17	4	25	103	
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG 20 ^h 02.6 ^m				Mag: -4.1 PMG: 14 ^h 45 ^m				Mag: -0.2 PMG: 4 ^h 33 ^m				Mag: -2.8 PMG: 1 ^h 17 ^m				Mag: +0.9 PMG: 19 ^h 02 ^m							
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	58	31.0	138	59.4	-25	29.1	291	30.7	+21	12.3	340	43.1	+22	15.5	73	39.1	-8	43.4						
1	73	33.4	153	58.6		29.0	306	32.5		12.2	355	45.9		15.5	88	41.6		43.4						
2	88	35.9	168	57.8		28.8	321	34.4		12.2	10	48.7		15.5	103	44.1		43.4						
3	103	38.4	183	57.0		28.7	336	36.3		12.2	25	51.5		15.5	118	46.5		43.4						
4	118	40.8	198	56.2		28.5	351	38.2		12.1	40	54.2		15.5	133	49.0		43.4						
5	133	43.3	213	55.4	-25	28.4	6	40.1	+21	12.1	55	57.0	+22	15.4	148	51.4	-8	43.4						
6	148	45.8	228	54.6	-25	28.2	21	42.0	+21	12.1	70	59.8	+22	15.4	163	53.9	-8	43.4						
7	163	48.2	243	53.7		28.1	36	43.9		12.0	86	02.6		15.4	178	56.3		43.3						
8	178	50.7	258	52.9		27.9	51	45.8		12.0	101	05.4		15.4	193	58.8		43.3						
9	193	53.1	273	52.1		27.7	66	47.7		12.0	116	08.2		15.3	209	01.2		43.3						
10	208	55.6	288	51.3		27.6	81	49.5		12.0	131	11.0		15.3	224	03.7		43.3						
11	223	58.1	303	50.5	-25	27.4	96	51.4	+21	11.9	146	13.7	+22	15.3	239	06.1	-8	43.3						
12	239	00.5	318	49.7	-25	27.3	111	53.3	+21	11.9	161	16.5	+22	15.3	254	08.6	-8	43.3						
13	254	03.0	333	48.9		27.1	126	55.2		11.9	176	19.3		15.3	269	11.0		43.3						
14	269	05.5	348	48.1		26.9	141	57.1		11.8	191	22.1		15.2	284	13.5		43.2						
15	284	07.9	3	47.3		26.8	156	59.0		11.8	206	24.9		15.2	299	15.9		43.2						
16	299	10.4	18	46.5		26.6	172	00.9		11.8	221	27.7		15.2	314	18.4		43.2						
17	314	12.9	33	45.7	-25	26.4	187	02.8	+21	11.8	236	30.5	+22	15.2	329	20.8	-8	43.2						
18	329	15.3	48	44.9	-25	26.3	202	04.7	+21	11.7	251	33.2	+22	15.1	344	23.3	-8	43.2						
19	344	17.8	63	44.1		26.1	217	06.6		11.7	266	36.0		15.1	359	25.7		43.2						
20	359	20.3	78	43.2		25.9	232	08.5		11.7	281	38.8		15.1	14	28.2		43.2						
21	14	22.7	93	42.4		25.8	247	10.4		11.7	296	41.6		15.1	29	30.6		43.2						
22	29	25.2	108	41.6		25.6	262	12.4		11.6	311	44.4		15.1	44	33.1		43.1						
23	44	27.6	123	40.8		25.4	277	14.3		11.6	326	47.2		15.0	59	35.5		43.1						
24	59	30.1	138	40.0	-25	25.2	292	16.2	+21	11.6	341	50.0	+22	15.0	74	38.0	-8	43.1						
Dif	—		-8		+2		+19		0		+28		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 45.7 ^m				Edad: 18.5 ^d PHE { 4 ^h : 57'2 12 ^h : 56'9 20 ^h : 56'7 R°: 53 ^m SD: 15'6 PMG: 3 ^h 51 ^m															
	hG ☉	Dec			hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m			
0	183	36.1	−19	44.9	304	26.4	72	+26	24.0	66	60 N	6 28	7 20	8 11	19 05	100	13 42 4			
1	198	36.0		45.4	318	52.6	72		17.4	67	58	22	12	7 59	26 93		20 11			
2	213	35.8		46.0	333	18.8	72		10.7	67	56	18	7 04	47	43 88		13 03 15			
3	228	35.7		46.5	347	45.2	74	+26	03.9	68	54	13	6 57	38	19 57	84	12 48 19			
4	243	35.5		47.1	2	11.7	75	+25	56.9	70	52	09	51	29	20 10	80	34 23			
5	258	35.4	−19	47.7	16	38.4	77	+25	49.8	71	50	6 05	6 45	7 21	20 21	78	12 23 25			
6	273	35.2	−19	48.2	31	05.1	77	+25	42.5	73	45	5 57	6 33	7 05	20 44	72	11 59 30			
7	288	35.1		48.8	45	32.0	79		35.2	73	40	49	22	6 51	21 03	67	39 35			
8	303	34.9		49.3	59	59.0	80		27.6	76	35	42	12	40	18 64		23 38			
9	318	34.8		49.9	74	26.1	81		20.0	76	30	35	6 04	29	31 62		11 09 40			
10	333	34.6		50.4	88	53.4	83		12.2	78	20	22	5 49	6 12	21 54	57	10 45 44			
11	348	34.5	−19	51.0	103	20.7	83	+25	04.3	79	10 N	5 09	5 34	5 57	22 13	53	10 24 48			
12	3	34.3	−19	51.6	117	48.2	85	+24	56.3	80	0	4 55	5 20	5 42	22 32	49	10 04 52			
13	18	34.2		52.1	132	15.8	86		48.1	82	10 S	39	5 05	27	22 50	45	9 44 55			
14	33	34.0		52.7	146	43.6	88		39.8	84	20	4 20	4 48	5 12	23 09	41	9 23 59			
15	48	33.9		53.2	161	11.4	88		31.4	84	30	3 55	27	4 53	31 37		8 58 63			
16	63	33.7		53.8	175	39.4	90		22.9	85	35	40	4 14	43	44 34		43 66			
17	78	33.6	−19	54.3	190	07.6	92	+24	14.3	86	40	3 21	3 59	4 30	23 59	31	8 26 69			
18	93	33.4	−19	54.9	204	35.8	92	+24	05.5	88	45	2 57	3 41	4 16	** ** *		8 06 73			
19	108	33.2		55.4	219	04.2	94	+23	56.6	89	50	23	18	3 58	0 09	29	7 40 78			
20	123	33.1		56.0	233	32.7	95		47.7	89	52	2 06	3 06	49	22 27		27 81			
21	138	32.9		56.5	248	01.3	96		38.6	91	54	1 44	2 53	40	37 23		7 12 85			
22	153	32.8		57.1	262	30.0	97		29.3	93	56	1 13	38	29	0 54	20	6 55 90			
23	168	32.6		57.6	276	58.9	99		20.0	93	58	0 16	2 19	17	1 15	14	35 95			
24	183	32.5	−19	58.2	291	27.9	100	+23	10.6	94	60 S	** ** *	1 55	3 02	1 42	5	6 08 104			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 19 ^h 58.7 ^m		Mag: −4.1 PMG: 14 ^h 46 ^m				Mag: −0.3 PMG: 4 ^h 30 ^m				Mag: −2.8 PMG: 1 ^h 12 ^m				Mag: +0.9 PMG: 18 ^h 58 ^m					
	hG ☿	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'								
0	59	30.1	138	40.0	−25	25.2	292	16.2	+21	11.6	341	50.0	+22	15.0	74	38.0	−8	43.1		
1	74	32.6	153	39.2		25.0	307	18.1		11.6	356	52.8		15.0	89	40.4		43.1		
2	89	35.0	168	38.4		24.9	322	20.0		11.5	11	55.5		15.0	104	42.9		43.1		
3	104	37.5	183	37.6		24.7	337	21.9		11.5	26	58.3		14.9	119	45.3		43.1		
4	119	40.0	198	36.8		24.5	352	23.8		11.5	42	01.1		14.9	134	47.8		43.1		
5	134	42.4	213	36.0	−25	24.3	7	25.7	+21	11.5	57	03.9	+22	14.9	149	50.2	−8	43.0		
6	149	44.9	228	35.2	−25	24.1	22	27.7	+21	11.4	72	06.7	+22	14.9	164	52.7	−8	43.0		
7	164	47.4	243	34.4		24.0	37	29.6		11.4	87	09.5		14.9	179	55.1		43.0		
8	179	49.8	258	33.6		23.8	52	31.5		11.4	102	12.3		14.8	194	57.6		43.0		
9	194	52.3	273	32.8		23.6	67	33.4		11.4	117	15.1		14.8	210	00.0		43.0		
10	209	54.8	288	32.0		23.4	82	35.3		11.4	132	17.9		14.8	225	02.5		43.0		
11	224	57.2	303	31.2	−25	23.2	97	37.2	+21	11.3	147	20.7	+22	14.8	240	04.9	−8	43.0		
12	239	59.7	318	30.4	−25	23.0	112	39.2	+21	11.3	162	23.4	+22	14.7	255	07.3	−8	42.9		
13	255	02.1	333	29.6		22.8	127	41.1		11.3	177	26.2		14.7	270	09.8		42.9		
14	270	04.6	348	28.8		22.6	142	43.0		11.3	192	29.0		14.7	285	12.2		42.9		
15	285	07.1	3	28.0		22.4	157	44.9		11.2	207	31.8		14.7	300	14.7		42.9		
16	300	09.5	18	27.2		22.2	172	46.9		11.2	222	34.6		14.7	315	17.1		42.9		
17	315	12.0	33	26.4	−25	22.0	187	48.8	+21	11.2	237	37.4	+22	14.6	330	19.6	−8	42.9		
18	330	14.5	48	25.6	−25	21.8	202	50.7	+21	11.2	252	40.2	+22	14.6	345	22.0	−8	42.9		
19	345	16.9	63	24.8		21.6	217	52.7		11.2	267	43.0		14.6	0	24.5		42.8		
20	0	19.4	78	24.0		21.4	232	54.6		11.1	282	45.8		14.6	15	26.9		42.8		
21	15	21.9	93	23.2		21.2	247	56.5		11.1	297	48.6		14.5	30	29.4		42.8		
22	30	24.3	108	22.4		21.0	262	58.5		11.1	312	51.4		14.5	45	31.8		42.8		
23	45	26.8	123	21.6		20.8	278	00.4		11.1	327	54.1		14.5	60	34.2		42.8		
24	60	29.3	138	20.8	−25	20.6	293	02.3	+21	11.1	342	56.9	+22	14.5	75	36.7	−8	42.8		
Dif	—		−8		+2		+19		0		+28		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 46.0 ^m		Edad: 19.5 ^d SD: 15'4 PMG: 4 ^h 44 ^m PHE { 4 ^h : 56'4 12 ^h : 56'1 20 ^h : 55'8 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	183	32.5	-19	58.2	291	27.9	+23	10.6	95	60 N	15 18	16 09	17 02	20 45 92	13 46 0			
1	198	32.3		58.7	305	57.0	+23	01.1	96	58	31	18	07	20 59 87	31 5			
2	213	32.1		59.3	320	26.2	+22	51.5	98	56	42	26	12	21 11 83	18 10			
3	228	32.0	-19	59.8	334	55.5		41.7	98	54	15 52	33	17	21 80	13 07 13			
4	243	31.8	-20	00.4	349	25.0		31.9	99	52	16 01	39	21	30 77	12 57 16			
5	258	31.7	-20	00.9	3	54.6	+22	22.0	99	50	16 09	16 45	17 25	21 39 74	12 48 18			
6	273	31.5	-20	01.5	18	24.3	+22	11.9	101	45	16 25	16 58	17 34	21 56 69	12 29 24			
7	288	31.4		02.0	32	54.1	+22	01.8	101	40	39	17 09	42	22 10 65	14 27			
8	303	31.2		02.5	47	24.1	+21	51.6	102	35	16 51	18	49	22 61	12 01 31			
9	318	31.0		03.1	61	54.2		41.3	103	30	17 01	27	17 56	33 58	11 49 34			
10	333	30.9		03.6	76	24.4		30.9	104	20	19	43	18 10	22 51 53	29 39			
11	348	30.7	-20	04.2	90	54.7	+21	20.4	105	10 N	17 35	17 57	18 23	23 06 49	11 12 43			
12	3	30.5	-20	04.7	105	25.1	+21	09.8	106	0	17 50	18 12	18 37	23 21 44	10 56 47			
13	18	30.4		05.2	119	55.6	+20	59.1	107	10 S	18 04	27	18 53	35 41	39 51			
14	33	30.2		05.8	134	26.3		48.3	108	20	21	18 44	19 13	23 50 37	22 55			
15	48	30.1		06.3	148	57.0		37.5	108	30	39	19 06	38	** ** *	10 01 60			
16	63	29.9		06.9	163	27.9		26.6	109	35	18 50	19	19 53	** ** *	9 49 63			
17	78	29.7	-20	07.4	177	58.9	+20	15.6	110	40	19 03	19 34	20 13	** ** *	9 35 67			
18	93	29.6	-20	07.9	192	30.0	+20	04.5	111	45	19 18	19 53	20 38	0 17 26	9 19 71			
19	108	29.4		08.5	207	01.2	+19	53.3	112	50	36	20 17	21 12	38 21	8 58 77			
20	123	29.2		09.0	221	32.6		42.1	112	52	45	28	30	0 49 18	48 80			
21	138	29.1		09.5	236	04.0		30.7	114	54	19 54	42	21 54	1 00 16	37 83			
22	153	28.9		10.1	250	35.5		19.3	114	56	20 06	20 58	22 27	14 11	25 86			
23	168	28.7		10.6	265	07.2	+19	07.9	114	58	18	21 18	** ** *	29 7	8 10 91			
24	183	28.6	-20	11.1	279	38.9	+18	56.3	116	60 S	20 33	21 43	** ** *	1 47 1	7 52 98			
UT	ARIES PMG 19 ^h 54.8 ^m		VENUS Mag: -4.1 PMG: 14 ^h 47 ^m		MARTE Mag: -0.3 PMG: 4 ^h 27 ^m		JÚPITER Mag: -2.8 PMG: 1 ^h 08 ^m		SATURNO Mag: +0.9 PMG: 18 ^h 54 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	60	29.3	138	20.8	-25	20.6	293	02.3	+21	11.1	342	56.9	+22	14.5	75	36.7	-8	42.8
1	75	31.7	153	20.0		20.4	308	04.3		11.1	357	59.7		14.4	90	39.1		42.7
2	90	34.2	168	19.2		20.2	323	06.2		11.0	13	02.5		14.4	105	41.6		42.7
3	105	36.6	183	18.4		20.0	338	08.1		11.0	28	05.3		14.4	120	44.0		42.7
4	120	39.1	198	17.6		19.8	353	10.1		11.0	43	08.1		14.4	135	46.5		42.7
5	135	41.6	213	16.8	-25	19.6	8	12.0	+21	11.0	58	10.9	+22	14.4	150	48.9	-8	42.7
6	150	44.0	228	16.1	-25	19.4	23	14.0	+21	11.0	73	13.7	+22	14.3	165	51.4	-8	42.7
7	165	46.5	243	15.3		19.1	38	15.9		10.9	88	16.5		14.3	180	53.8		42.6
8	180	49.0	258	14.5		18.9	53	17.8		10.9	103	19.3		14.3	195	56.2		42.6
9	195	51.4	273	13.7		18.7	68	19.8		10.9	118	22.1		14.3	210	58.7		42.6
10	210	53.9	288	12.9		18.5	83	21.7		10.9	133	24.9		14.2	226	01.1		42.6
11	225	56.4	303	12.1	-25	18.3	98	23.7	+21	10.9	148	27.7	+22	14.2	241	03.6	-8	42.6
12	240	58.8	318	11.3	-25	18.0	113	25.6	+21	10.9	163	30.5	+22	14.2	256	06.0	-8	42.6
13	256	01.3	333	10.5		17.8	128	27.6		10.9	178	33.3		14.2	271	08.5		42.5
14	271	03.7	348	09.7		17.6	143	29.5		10.8	193	36.1		14.1	286	10.9		42.5
15	286	06.2	3	08.9		17.4	158	31.5		10.8	208	38.9		14.1	301	13.3		42.5
16	301	08.7	18	08.1		17.1	173	33.4		10.8	223	41.7		14.1	316	15.8		42.5
17	316	11.1	33	07.3	-25	16.9	188	35.4	+21	10.8	238	44.4	+22	14.1	331	18.2	-8	42.5
18	331	13.6	48	06.5	-25	16.7	203	37.4	+21	10.8	253	47.2	+22	14.1	346	20.7	-8	42.5
19	346	16.1	63	05.8		16.5	218	39.3		10.8	268	50.0		14.0	1	23.1		42.4
20	1	18.5	78	05.0		16.2	233	41.3		10.8	283	52.8		14.0	16	25.6		42.4
21	16	21.0	93	04.2		16.0	248	43.2		10.8	298	55.6		14.0	31	28.0		42.4
22	31	23.5	108	03.4		15.8	263	45.2		10.7	313	58.4		14.0	46	30.4		42.4
23	46	25.9	123	02.6		15.5	278	47.2		10.7	329	01.2		13.9	61	32.9		42.4
24	61	28.4	138	01.8	-25	15.3	293	49.1	+21	10.7	344	04.0	+22	13.9	76	35.3	-8	42.4
Dif	—		-8		+2		+19		0		+28		0		+24		0	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16 ^h /2 PMG:11 ^h 46.2 ^m				Edad: 20.5 ^d PHE { 4 ^h : 55 ^h /6 12 ^h : 55 ^h /4 20 ^h : 55 ^h /2 R°: 43 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	183	28.6	-20	11.1	279	38.9	+18	56.3	116	60 N	6 31	7 25	8 16	22 17	87	13 46	0		
1	198	28.4		11.7	294	10.8		44.7	117	58	26	16	8 03	26 83	36	4			
2	213	28.3		12.2	308	42.8		33.0	117	56	21	08	7 51	34 79	28	6			
3	228	28.1		12.7	323	14.8		21.3	117	54	16	7 00	41	41 76	20	9			
4	243	27.9		13.3	337	47.0	+18	09.5	118	52	12	6 54	32	47 74	13	12			
5	258	27.7	-20	13.8	352	19.3	+17	57.6	119	50	6 08	6 48	7 24	22 53	71	13 06	15		
6	273	27.6	-20	14.3	6	51.6	+17	45.6	120	45	5 59	6 35	7 07	23 05	66	12 53	19		
7	288	27.4		14.9	21	24.1		33.6	120	40	51	24	6 53	15 62	41	23			
8	303	27.2		15.4	35	56.7		21.5	121	35	43	14	42	23 59	32	26			
9	318	27.1		15.9	50	29.3	+17	09.4	121	30	36	6 05	31	31 55	23	29			
10	333	26.9		16.4	65	02.1	+16	57.2	122	20	23	5 50	6 13	44 50	12 08	34			
11	348	26.7	-20	17.0	79	34.9	+16	45.0	122	10 N	5 09	5 35	5 57	23 55	45	11 55	39		
12	3	26.6	-20	17.5	94	07.9	+16	32.6	124	0	4 55	5 21	5 43	** ** *	**	11 43	42		
13	18	26.4		18.0	108	40.9		20.3	123	10 S	39	5 05	28	** ** *	**	30	47		
14	33	26.2		18.5	123	14.1	+16	07.8	125	20	4 19	4 48	5 11	** ** *	**	17	51		
15	48	26.1		19.1	137	47.3	+15	55.4	124	30	3 54	26	4 53	0 08	31	11 01	57		
16	63	25.9		19.6	152	20.6		42.8	126	35	39	4 13	42	18 28	10 52	60			
17	78	25.7	-20	20.1	166	54.0	+15	30.2	126	40	3 19	3 58	4 29	0 30	24	10 42	63		
18	93	25.5	-20	20.6	181	27.5	+15	17.6	126	45	2 54	3 39	4 14	0 43	21	10 30	67		
19	108	25.4		21.1	196	01.0	+15	04.9	127	50	20	15	3 56	0 59	16	15	72		
20	123	25.2		21.7	210	34.7	+14	52.2	127	52	2 01	3 03	47	1 07	14	08	75		
21	138	25.0		22.2	225	08.4		39.4	128	54	1 38	2 50	37	16 10	10 00	78			
22	153	24.8		22.7	239	42.2		26.6	128	56	1 05	34	26	25 8	9 51	81			
23	168	24.7		23.2	254	16.1		13.7	129	58	** ** *	2 14	3 13	36 4	41	85			
24	183	24.5	-20	23.7	268	50.1	+14	00.8	129	60 S	** ** *	1 49	2 58	1 48	0	9 30	89		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 19 ^h 50.8 ^m		Mag: -4.1 PMG: 14 ^h 49 ^m				Mag: -0.3 PMG: 4 ^h 24 ^m				Mag: -2.8 PMG: 1 ^h 04 ^m				Mag: +0.9 PMG: 18 ^h 51 ^m				
	hG ♂		hG ♀		Dec		hG ♂		Dec		hG ♀		Dec		hG ♀		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	61	28.4	138	01.8	-25	15.3	293	49.1	+21	10.7	344	04.0	+22	13.9	76	35.3	-8	42.4	
1	76	30.9	153	01.0		15.1	308	51.1		10.7	359	06.8		13.9	91	37.8		42.3	
2	91	33.3	168	00.2		14.8	323	53.0		10.7	14	09.6		13.9	106	40.2		42.3	
3	106	35.8	182	59.4		14.6	338	55.0		10.7	29	12.4		13.8	121	42.6		42.3	
4	121	38.2	197	58.7		14.3	353	57.0		10.7	44	15.2		13.8	136	45.1		42.3	
5	136	40.7	212	57.9	-25	14.1	8	58.9	+21	10.7	59	18.0	+22	13.8	151	47.5	-8	42.3	
6	151	43.2	227	57.1	-25	13.9	24	00.9	+21	10.7	74	20.8	+22	13.8	166	50.0	-8	42.3	
7	166	45.6	242	56.3		13.6	39	02.9		10.6	89	23.6		13.8	181	52.4		42.2	
8	181	48.1	257	55.5		13.4	54	04.9		10.6	104	26.4		13.7	196	54.8		42.2	
9	196	50.6	272	54.7		13.1	69	06.8		10.6	119	29.2		13.7	211	57.3		42.2	
10	211	53.0	287	53.9		12.9	84	08.8		10.6	134	32.0		13.7	226	59.7		42.2	
11	226	55.5	302	53.2	-25	12.6	99	10.8	+21	10.6	149	34.8	+22	13.7	242	02.2	-8	42.2	
12	241	58.0	317	52.4	-25	12.4	114	12.8	+21	10.6	164	37.6	+22	13.6	257	04.6	-8	42.2	
13	257	00.4	332	51.6		12.1	129	14.7		10.6	179	40.4		13.6	272	07.0		42.1	
14	272	02.9	347	50.8		11.9	144	16.7		10.6	194	43.2		13.6	287	09.5		42.1	
15	287	05.4	2	50.0		11.6	159	18.7		10.6	209	46.0		13.6	302	11.9		42.1	
16	302	07.8	17	49.2		11.3	174	20.7		10.6	224	48.8		13.5	317	14.3		42.1	
17	317	10.3	32	48.5	-25	11.1	189	22.7	+21	10.6	239	51.6	+22	13.5	332	16.8	-8	42.1	
18	332	12.7	47	47.7	-25	10.8	204	24.6	+21	10.6	254	54.4	+22	13.5	347	19.2	-8	42.0	
19	347	15.2	62	46.9		10.6	219	26.6		10.6	269	57.2		13.5	2	21.7		42.0	
20	2	17.7	77	46.1		10.3	234	28.6		10.5	285	00.0		13.4	17	24.1		42.0	
21	17	20.1	92	45.3		10.1	249	30.6		10.5	300	02.8		13.4	32	26.5		42.0	
22	32	22.6	107	44.6		09.8	264	32.6		10.5	315	05.6		13.4	47	29.0		42.0	
23	47	25.1	122	43.8		09.5	279	34.6		10.5	330	08.4		13.4	62	31.4		41.9	
24	62	27.5	137	43.0	-25	09.3	294	36.6	+21	10.5	345	11.2	+22	13.3	77	33.8	-8	41.9	
Dif	—		-8		+3		+20		0		+28		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 46.5 ^m				Edad: 21.5 ^d SD: 15/0 PMG: 6 ^h 15 ^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	183	24.5	-20	23.7	268	50.1	+14	00.8	130	60 N	15	14	16	06	16	59	23	44	82	13	46	**	
1	198	24.3		24.2	283	24.2	+13	47.8	130	58	28		15	17	05	49	79		40		2		
2	213	24.1		24.8	297	58.3		34.8	130	56	39		23	10	53	76		34		5			
3	228	24.0		25.3	312	32.5		21.7	131	54	49		31	15	23	57	73		29		8		
4	243	23.8		25.8	327	06.8	+13	08.6	131	52	15	59		37	19	**	**	**		25	10		
5	258	23.6	-20	26.3	341	41.1	+12	55.5	131	50	16	07		16	43	17	23	**	**	**	13	21	12
6	273	23.4	-20	26.8	356	15.6	+12	42.3	132	45	16	24		16	56	17	33	**	**	**	13	12	16
7	288	23.3		27.3	10	50.1		29.1	132	40	38		17	08	41	**	**	**		13	04	21	
8	303	23.1		27.8	25	24.6		15.9	132	35	16	50		18	49	**	**	**		12	58	24	
9	318	22.9		28.4	39	59.3	+12	02.6	133	30	17	01		27	17	56	**	**	**		52	27	
10	333	22.7		28.9	54	34.0	+11	49.3	133	20	19		43	18	10	**	**	**		42	32		
11	348	22.6	-20	29.4	69	08.7	+11	35.9	134	10 N	17	35		17	57	18	23	**	**	**	12	34	36
12	3	22.4	-20	29.9	83	43.6	+11	22.5	134	0	17	50		18	12	18	38	0	05	42	12	25	41
13	18	22.2		30.4	98	18.5	+11	09.1	134	10 S	18	05		28	18	54		16	37		17	45	
14	33	22.0		30.9	112	53.4	+10	55.6	135	20	22		18	46	19	14		27	32		12	08	49
15	48	21.8		31.4	127	28.4		42.1	135	30	41		19	07	40	39	28		11	58	54		
16	63	21.7		31.9	142	03.5		28.6	135	35	18	52		21	19	56		46	25		52	57	
17	78	21.5	-20	32.4	156	38.7	+10	15.1	135	40	19	05		19	36	20	15	0	54	22	11	45	61
18	93	21.3	-20	32.9	171	13.9	+10	01.5	136	45	19	20		19	55	20	41	1	04	17	11	37	65
19	108	21.1		33.4	185	49.1	+9	47.9	136	50	39		20	20	21	16		15	13		27	70	
20	123	20.9		33.9	200	24.4		34.3	136	52	48		32	21	36		21	10		23	72		
21	138	20.8		34.4	214	59.8		20.6	137	54	19	58		20	46	22	01	26	8		18	75	
22	153	20.6		34.9	229	35.2	+9	06.9	137	56	20	10		21	03	22	37	33	5		12	78	
23	168	20.4		35.4	244	10.6	+8	53.2	137	58	23		24	**	**	**	40	2	11	06	81		
24	183	20.2	-20	35.9	258	46.1	+8	39.5	137	60 S	20	38		21	50	**	**	1	48	**	10	59	85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 19 ^h 46.9 ^m		Mag: -4.1 PMG: 14 ^h 50 ^m		Mag: -0.3 PMG: 4 ^h 21 ^m		Mag: -2.8 PMG: 0 ^h 59 ^m		Mag: +0.9 PMG: 18 ^h 47 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	62	27.5	137	43.0	-25	09.3	294	36.6	+21	10.5
1	77	30.0	152	42.2		09.0	309	38.6		10.5
2	92	32.5	167	41.4		08.7	324	40.6		10.5
3	107	34.9	182	40.7		08.5	339	42.6		10.5
4	122	37.4	197	39.9		08.2	354	44.5		10.5
5	137	39.8	212	39.1	-25	07.9	9	46.5	+21	10.5
6	152	42.3	227	38.3	-25	07.6	24	48.5	+21	10.5
7	167	44.8	242	37.6		07.4	39	50.5		10.5
8	182	47.2	257	36.8		07.1	54	52.5		10.5
9	197	49.7	272	36.0		06.8	69	54.5		10.5
10	212	52.2	287	35.2		06.5	84	56.5		10.5
11	227	54.6	302	34.5	-25	06.3	99	58.5	+21	10.5
12	242	57.1	317	33.7	-25	06.0	115	00.6	+21	10.5
13	257	59.6	332	32.9		05.7	130	02.6		10.5
14	273	02.0	347	32.1		05.4	145	04.6		10.5
15	288	04.5	2	31.4		05.1	160	06.6		10.5
16	303	07.0	17	30.6		04.8	175	08.6		10.5
17	318	09.4	32	29.8	-25	04.6	190	10.6	+21	10.5
18	333	11.9	47	29.1	-25	04.3	205	12.6	+21	10.5
19	348	14.3	62	28.3		04.0	220	14.6		10.5
20	3	16.8	77	27.5		03.7	235	16.6		10.5
21	18	19.3	92	26.7		03.4	250	18.6		10.5
22	33	21.7	107	26.0		03.1	265	20.7		10.5
23	48	24.2	122	25.2		02.8	280	22.7		10.5
24	63	26.7	137	24.4	-25	02.5	295	24.7	+21	10.5
Dif	—		-8		+3		+20		0	
									+28	0
										+24

ALMANAQUE NÁUTICO PERSEIS

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 47.1 ^m			Edad: 23.5 ^d SD: 14/8 PMG: 7 ^h 35 ^m							Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	183	15.7	-20	47.8	249	10.1	+3	04.6	60 N	15	11	16	03	16	57	1	06
1	198	15.5		48.3	263	46.4	+2	50.5	58	25		13	17	03	08	78	43
2	213	15.4		48.8	278	22.8		36.4	56	37		21		08	09	75	43
3	228	15.2		49.2	292	59.2		22.3	54	47		29	13	10	73	43	7
4	243	15.0		49.7	307	35.6	+2	08.1	52	15	57	35		18	11	70	44
5	258	14.8	-20	50.2	322	12.0	+1	54.0	50	16	05	16	42	17	22	1	12
6	273	14.6	-20	50.7	336	48.5	+1	39.9	45	16	23	16	55	17	32	1	15
7	288	14.4		51.2	351	24.9		25.8	40	37		17	07	40	16	59	44
8	303	14.2		51.6	6	01.4	+1	11.7	35	16	50	17		48	18	56	44
9	318	14.0		52.1	20	37.8	+0	57.5	30	17	00	26	17	55	19	53	44
10	333	13.8		52.6	35	14.3		43.4	20	19		43	18	10	22	47	44
11	348	13.6	-20	53.1	49	50.8	+0	29.3	10 N	17	35	17	58	18	24	1	24
12	3	13.4	-20	53.6	64	27.3	+0	15.2	0	17	51	18	13	18	39	1	26
13	18	13.2		54.0	79	03.8	+0	01.0	10 S	18	06	29	18	55	28	34	45
14	33	13.0		54.5	93	40.3	-0	13.1	20	23		18	47	19	16	30	30
15	48	12.8		55.0	108	16.7		27.2	30	43		19	09	41	32	25	45
16	63	12.6		55.5	122	53.2		41.3	35	18	54	23	19	58	34	22	45
17	78	12.4	-20	55.9	137	29.7	-0	55.4	40	19	07	19	39	20	18	1	35
18	93	12.2	-20	56.4	152	06.2	-1	09.5	45	19	23	19	58	20	44	1	37
19	108	12.1		56.9	166	42.7		23.6	50	42		20	24	21	21	39	11
20	123	11.9		57.4	181	19.2		37.7	52	19	51	36	21	41	40	9	45
21	138	11.7		57.8	195	55.7	-1	51.8	54	20	02	20	51	22	07	41	7
22	153	11.5		58.3	210	32.2	-2	05.9	56	13		21	08	22	48	43	4
23	168	11.3		58.8	225	08.7		20.0	58	27		29	**	**	44	1	45
24	183	11.1	-20	59.2	239	45.2	-2	34.0	60 S	20	43	21	58	**	**	1	45

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 19 ^h 39.1 ^m		Mag: -4.2 PMG: 14 ^h 52 ^m		Mag: -0.4 PMG: 4 ^h 15 ^m		Mag: -2.8 PMG: 0 ^h 50 ^m		Mag: +0.9 PMG: 18 ^h 39 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	64	25.8	137	06.1	-24	55.1	296	13.5	+21	10.7	347	25.9	+22	12.2	79	30.6
1	79	28.3	152	05.3		54.7	311	15.6		10.7	2	28.7		12.2	94	33.0
2	94	30.7	167	04.6		54.4	326	17.6		10.7	17	31.5		12.1	109	35.5
3	109	33.2	182	03.8		54.1	341	19.7		10.7	32	34.3		12.1	124	37.9
4	124	35.7	197	03.1		53.8	356	21.7		10.7	47	37.1		12.1	139	40.3
5	139	38.1	212	02.3	-24	53.4	11	23.8	+21	10.7	62	39.9	+22	12.1	154	42.7
6	154	40.6	227	01.6	-24	53.1	26	25.8	+21	10.7	77	42.7	+22	12.0	169	45.2
7	169	43.1	242	00.8		52.8	41	27.9		10.8	92	45.5		12.0	184	47.6
8	184	45.5	257	00.0		52.4	56	29.9		10.8	107	48.3		12.0	199	50.0
9	199	48.0	271	59.3		52.1	71	32.0		10.8	122	51.1		12.0	214	52.4
10	214	50.4	286	58.5		51.8	86	34.1		10.8	137	54.0		11.9	229	54.9
11	229	52.9	301	57.8	-24	51.4	101	36.1	+21	10.8	152	56.8	+22	11.9	244	57.3
12	244	55.4	316	57.0	-24	51.1	116	38.2	+21	10.8	167	59.6	+22	11.9	259	59.7
13	259	57.8	331	56.3		50.8	131	40.3		10.8	183	02.4		11.9	275	02.1
14	275	00.3	346	55.5		50.4	146	42.3		10.8	198	05.2		11.8	290	04.6
15	290	02.8	1	54.8		50.1	161	44.4		10.9	213	08.0		11.8	305	07.0
16	305	05.2	16	54.0		49.7	176	46.5		10.9	228	10.8		11.8	320	09.4
17	320	07.7	31	53.3	-24	49.4	191	48.5	+21	10.9	243	13.6	+22	11.8	335	11.9
18	335	10.2	46	52.5	-24	49.0	206	50.6	+21	10.9	258	16.4	+22	11.7	350	14.3
19	350	12.6	61	51.8		48.7	221	52.7		10.9	273	19.3		11.7	5	16.7
20	5	15.1	76	51.0		48.3	236	54.7		10.9	288	22.1		11.7	20	19.1
21	20	17.5	91	50.3		48.0	251	56.8		11.0	303	24.9		11.7	35	21.6
22	35	20.0	106	49.5		47.6	266	58.9		11.0	318	27.7		11.6	50	24.0
23	50	22.5	121	48.8		47.3	282	01.0		11.0	333	30.5		11.6	65	26.4
24	65	24.9	136	48.0	-24	46.9	297	03.0	+21	11.0	348	33.3	+22	11.6	80	28.8
Dif	—		-8		+3		+21		0		+28		0		+24	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16'2 PMG:11 ^h 47.4 ^m				Edad: 24.5 ^d SD: 14'7 PMG: 8 ^h 14 ^m																	
	PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1				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	183	11.1	−20	59.2	239	45.2	−2	34.0	60 N	6	38	7	32	8	25	2	27	82	13	42	**	
1	198	10.9	−20	59.7	254	21.6	−2	48.1	58	32	23	8	11	26	78	45	2	45	2			
2	213	10.7	−21	00.2	268	58.1	−3	02.1	56	27	14	7	59	24	76	48	4	48	4			
3	228	10.5		00.6	283	34.5		16.2	54	22	07		48	23	72	50						
4	243	10.3		01.1	298	10.9		30.2	52	17	7	00	39	21	71	52						
5	258	10.1	−21	01.6	312	47.4	−3	44.2	50	6	13	6	53	7	30	2	20	68	13	54	12	
6	273	09.9	−21	02.0	327	23.8	−3	58.2	45	6	03	6	40	7	12	2	18	63	13	59	16	
7	288	09.7		02.5	342	00.1	−4	12.2	40	5	55	28	6	58	15	60	14	03	20			
8	303	09.5		03.0	356	36.5		26.1	35	47	18		45	14	56	06						
9	318	09.3		03.4	11	12.9		40.1	30	39	6	09	34	12	53	09						
10	333	09.1		03.9	25	49.2	−4	54.0	20	25	5	52	6	16	09	48	14					
11	348	08.9	−21	04.4	40	25.5	−5	08.0	10 N	5	11	5	37	5	59	2	07	43	14	19	36	
12	3	08.7	−21	04.8	55	01.8	−5	21.9	0	4	56	5	22	5	44	2	05	39	14	23	40	
13	18	08.5		05.3	69	38.0		35.8	10 S	39	5	06	28		02	35						
14	33	08.3		05.7	84	14.3	−5	49.6	20	4	19	4	47	5	11	2	00	31	32		49	
15	48	08.0		06.2	98	50.5	−6	03.5	30	3	53	25	4	52	1	57	26	37		54		
16	63	07.8		06.6	113	26.7		17.3	35	36	4	12	40	56	23	41						
17	78	07.6	−21	07.1	128	02.9	−6	31.1	40	3	16	3	56	4	27	1	54	20	14	44	60	
18	93	07.4	−21	07.6	142	39.0	−6	44.9	45	2	50	3	36	4	11	1	52	16	14	48	64	
19	108	07.2		08.0	157	15.1	−6	58.7	50	2	13	3	11	3	52	50	11	53		69		
20	123	07.0		08.5	171	51.2	−7	12.4	52	1	53	2	58	43		49	9	55		71		
21	138	06.8		08.9	186	27.2		26.1	54	1	27		43	32		48	7	14		74		
22	153	06.6		09.4	201	03.3		39.8	56	0	46		26	21		47	4	15		00		
23	168	06.4		09.8	215	39.2	−7	53.5	58	**	**	2	05	3	07	45	2	03		80		
24	183	06.2	−21	10.3	230	15.2	−8	07.2	60 S	**	**	1	36	2	51	1	44	**	15	07	83	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 19 ^h 35.1 ^m		Mag: −4.2 PMG: 14 ^h 54 ^m				Mag: −0.4 PMG: 4 ^h 11 ^m				Mag: −2.8 PMG: 0 ^h 46 ^m				Mag: +1.0 PMG: 18 ^h 35 ^m							
	hG ♈		hG ♀				hG ♂				hG ♃				hG ♄							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	65	24.9	136	48.0	−24	46.9	297	03.0	+21	11.0	348	33.3	+22	11.6	80	28.8	−8	40.4				
1	80	27.4	151	47.3		46.6	312	05.1		11.0	3	36.1		11.6	95	31.2		40.4				
2	95	29.9	166	46.5		46.2	327	07.2		11.0	18	38.9		11.5	110	33.7		40.3				
3	110	32.3	181	45.8		45.9	342	09.3		11.1	33	41.8		11.5	125	36.1		40.3				
4	125	34.8	196	45.0		45.5	357	11.4		11.1	48	44.6		11.5	140	38.5		40.3				
5	140	37.3	211	44.3	−24	45.2	12	13.4	+21	11.1	63	47.4	+22	11.5	155	40.9	−8	40.3				
6	155	39.7	226	43.5	−24	44.8	27	15.5	+21	11.1	78	50.2	+22	11.4	170	43.4	−8	40.2				
7	170	42.2	241	42.8		44.4	42	17.6		11.1	93	53.0		11.4	185	45.8		40.2				
8	185	44.7	256	42.1		44.1	57	19.7		11.2	108	55.8		11.4	200	48.2		40.2				
9	200	47.1	271	41.3		43.7	72	21.8		11.2	123	58.6		11.4	215	50.6		40.2				
10	215	49.6	286	40.6		43.3	87	23.9		11.2	139	01.4		11.3	230	53.1		40.1				
11	230	52.0	301	39.8	−24	43.0	102	26.0	+21	11.2	154	04.3	+22	11.3	245	55.5	−8	40.1				
12	245	54.5	316	39.1	−24	42.6	117	28.1	+21	11.3	169	07.1	+22	11.3	260	57.9	−8	40.1				
13	260	57.0	331	38.3		42.2	132	30.2		11.3	184	09.9		11.3	276	00.3		40.1				
14	275	59.4	346	37.6		41.9	147	32.2		11.3	199	12.7		11.2	291	02.7		40.0				
15	291	01.9	1	36.9		41.5	162	34.3		11.3	214	15.5		11.2	306	05.2		40.0				
16	306	04.4	16	36.1		41.1	177	36.4		11.3	229	18.3		11.2	321	07.6		40.0				
17	321	06.8	31	35.4	−24	40.8	192	38.5	+21	11.4	244	21.1	+22	11.1	336	10.0	−8	40.0				
18	336	09.3	46	34.6	−24	40.4	207	40.6	+21	11.4	259	24.0	+22	11.1	351	12.4	−8	39.9				
19	351	11.8	61	33.9		40.0	222	42.7		11.4	274	26.8		11.1	6	14.9		39.9				
20	6	14.2	76	33.2		39.6	237	44.8		11.4	289	29.6		11.1	21	17.3		39.9				
21	21	16.7	91	32.4		39.2	252	46.9		11.5	304	32.4		11.0	36	19.7		39.9				
22	36	19.2	106	31.7		38.9	267	49.1		11.5	319	35.2		11.0	51	22.1		39.8				
23	51	21.6	121	31.0		38.5	282	51.2		11.5	334	38.0		11.0	66	24.5		39.8				
24	66	24.1	136	30.2	−24	38.1	297	53.3	+21	11.5	349	40.8	+22	11.0	81	27.0	−8	39.8				
Dif	—		−7				+4				+28				0				+24			

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 47.8 ^m				Edad: 25.5 ^d SD: 14/7 PMG: 8 ^h 53 ^m						Civil			Náutico			Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m	h m			h 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	183	06.2	-21	10.3	230	15.2	-8	07.2	60 N	15 08	16 01	16 55	3 49	86	13 40	0			
1	198	06.0		10.7	244	51.1 ¹⁶⁹		20.8 ¹³⁶	58	22	10	17 01	44	81	47	3			
2	213	05.8		11.2	259	27.0 ¹⁶⁹		34.4 ¹³⁶	56	34	19	07	40	77	52	7			
3	228	05.6		11.6	274	02.8 ¹⁶⁸	-8	47.9 ¹³⁵	54	45	27	12	35	75	13 57	10			
4	243	05.4		12.1	288	38.6 ¹⁶⁸	-9	01.5 ¹³⁶	52	15 55	34	16	32	72	14 02	12			
5	258	05.2	-21	12.5	303	14.4 ¹⁶⁸	-9	15.0 ¹³⁵	50	16 03	16 40	17 21	3 28	70	14 06	14			
6	273	05.0	-21	13.0	317	50.1 ¹⁶⁷	-9	28.5 ¹³⁵	45	16 22	16 54	17 31	3 21	65	14 15	19			
7	288	04.8		13.4	332	25.8 ¹⁶⁷		41.9 ¹³⁴	40	36	17 06	40	15	61	23	23			
8	303	04.5		13.9	347	01.4 ¹⁶⁶	-9	55.3 ¹³⁴	35	16 49	17	48	10	57	30	26			
9	318	04.3		14.3	1	37.0 ¹⁶⁶	-10	08.7 ¹³⁴	30	17 00	26	17 55	3 05	54	36	28			
10	333	04.1		14.8	16	12.5 ¹⁶⁵		22.1 ¹³⁴	20	19	43	18 10	2 57	49	46	33			
11	348	03.9	-21	15.2	30	48.0 ¹⁶⁵	-10	35.4 ¹³³	10 N	17 36	17 58	18 24	2 50	45	14 55	38			
12	3	03.7	-21	15.7	45	23.5 ¹⁶⁵	-10	48.7 ¹³³	0	17 51	18 14	18 39	2 44	40	15 03	42			
13	18	03.5		16.1	59	58.9 ¹⁶⁴	-11	01.9 ¹³²	10 S	18 07	30	18 57	37	37	12	45			
14	33	03.3		16.6	74	34.3 ¹⁶⁴		15.1 ¹³²	20	24	18 48	19 17	31	32	21	50			
15	48	03.1		17.0	89	09.6 ¹⁶³		28.3 ¹³²	30	44	19 11	19 43	23	27	31	55			
16	63	02.9		17.4	103	44.8 ¹⁶²		41.5 ¹³²	35	18 56	25	20 00	19	24	37	58			
17	78	02.7	-21	17.9	118	20.0 ¹⁶²	-11	54.6 ¹³¹	40	19 09	19 41	20 21	2 14	21	15 44	62			
18	93	02.4	-21	18.3	132	55.2 ¹⁶²	-12	07.6 ¹³⁰	45	19 25	20 01	20 48	2 08	18	15 52	66			
19	108	02.2		18.8	147	30.3 ¹⁶¹		20.6 ¹³⁰	50	45	27	21 25	2 01	13	16 02	71			
20	123	02.0		19.2	162	05.3 ¹⁶⁰		33.6 ¹³⁰	52	19 55	40	21 46	1 58	11	06	73			
21	138	01.8		19.6	176	40.3 ¹⁶⁰		46.5 ¹²⁹	54	20 05	20 55	22 14	55	8	11	76			
22	153	01.6		20.1	191	15.2 ¹⁵⁹	-12	59.4 ¹²⁹	56	17	21 13	23 00	51	6	17	79			
23	168	01.4		20.5	205	50.1 ¹⁵⁹	-13	12.3 ¹²⁹	58	31	21 35	** ** *	47	3	23	83			
24	183	01.2	-21	20.9	220	24.9 ¹⁵⁸	-13	25.1 ¹²⁸	60 S	20 48	22 05	** ** *	1 42	**	16 30	87			

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 19 ^h 31.2 ^m		Mag: -4.2 PMG: 14 ^h 55 ^m				Mag: -0.4 PMG: 4 ^h 08 ^m				Mag: -2.8 PMG: 0 ^h 41 ^m				Mag: +1.0 PMG: 18 ^h 31 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	66	24.1	136	30.2	-24	38.1	297	53.3	+21	11.5	349	40.8	+22	11.0	81	27.0	-8	39.8
1	81	26.5	151	29.5		37.7	312	55.4		11.6	4	43.7		10.9	96	29.4		39.8
2	96	29.0	166	28.7		37.3	327	57.5		11.6	19	46.5		10.9	111	31.8		39.7
3	111	31.5	181	28.0		37.0	342	59.6		11.6	34	49.3		10.9	126	34.2		39.7
4	126	33.9	196	27.3		36.6	358	01.7		11.6	49	52.1		10.9	141	36.6		39.7
5	141	36.4	211	26.5	-24	36.2	13	03.8	+21	11.7	64	54.9	+22	10.8	156	39.1	-8	39.7
6	156	38.9	226	25.8	-24	35.8	28	05.9	+21	11.7	79	57.7	+22	10.8	171	41.5	-8	39.6
7	171	41.3	241	25.1		35.4	43	08.1		11.7	95	00.6		10.8	186	43.9		39.6
8	186	43.8	256	24.3		35.0	58	10.2		11.8	110	03.4		10.8	201	46.3		39.6
9	201	46.3	271	23.6		34.6	73	12.3		11.8	125	06.2		10.7	216	48.7		39.5
10	216	48.7	286	22.9		34.2	88	14.4		11.8	140	09.0		10.7	231	51.1		39.5
11	231	51.2	301	22.2	-24	33.8	103	16.5	+21	11.8	155	11.8	+22	10.7	246	53.6	-8	39.5
12	246	53.6	316	21.4	-24	33.4	118	18.7	+21	11.9	170	14.6	+22	10.7	261	56.0	-8	39.5
13	261	56.1	331	20.7		33.0	133	20.8		11.9	185	17.5		10.6	276	58.4		39.4
14	276	58.6	346	20.0		32.6	148	22.9		11.9	200	20.3		10.6	292	00.8		39.4
15	292	01.0	1	19.2		32.2	163	25.0		12.0	215	23.1		10.6	307	03.2		39.4
16	307	03.5	16	18.5		31.8	178	27.2		12.0	230	25.9		10.6	322	05.7		39.4
17	322	06.0	31	17.8	-24	31.4	193	29.3	+21	12.0	245	28.7	+22	10.5	337	08.1	-8	39.3
18	337	08.4	46	17.1	-24	31.0	208	31.4	+21	12.1	260	31.5	+22	10.5	352	10.5	-8	39.3
19	352	10.9	61	16.3		30.6	223	33.5		12.1	275	34.4		10.5	7	12.9		39.3
20	7	13.4	76	15.6		30.2	238	35.7		12.1	290	37.2		10.5	22	15.3		39.3
21	22	15.8	91	14.9		29.8	253	37.8		12.2	305	40.0		10.4	37	17.7		39.2
22	37	18.3	106	14.2		29.4	268	39.9		12.2	320	42.8		10.4	52	20.2		39.2
23	52	20.8	121	13.4		29.0	283	42.1		12.2	335	45.6		10.4	67	22.6		39.2
24	67	23.2	136	12.7	-24	28.6	298	44.2	+21	12.2	350	48.5	+22	10.3	82	25.0	-8	39.1
Dif	—		-7		+4		+21		0		+28		0		+24			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG:11 ^h 48.1 ^m				Edad: 26.5 ^d SD: 14/8 PMG: 9 ^h 35 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	183	01.2	-21	20.9	220	24.9	-13	25.1	60 N	6	42	7	36	8	30	5	15	
1	198	00.9		21.4	234	59.6		37.8	58	35		26	15	5	05	86	50	
2	213	00.7		21.8	249	34.3	-13	50.6	56	30		17	8	02	4	57	82	
3	228	00.5		22.3	264	08.9	-14	03.2	54	25		10	7	51		50	78	
4	243	00.3		22.7	278	43.5		15.8	52	20		02	42	44	75		14	
5	258	00.1	-21	23.1	293	18.0	-14	28.4	50	6	15	6	56	7	33	4	38	
6	272	59.9	-21	23.6	307	52.4	-14	40.9	45	6	05	6	42	7	15	4	26	
7	287	59.7		24.0	322	26.8	-14	53.4	40	5	57	30	7	00	16	62	46	
8	302	59.4		24.4	337	01.1	-15	05.8	35	48		20	6	47	4	07	59	
9	317	59.2		24.8	351	35.4		18.1	30	41		6	10	36	3	59	57	
10	332	59.0		25.3	6	09.5		30.4	20	26		5	53	17	46	52	19	
11	347	58.8	-21	25.7	20	43.6	-15	42.7	10 N	5	12	5	38	6	00	3	35	
12	2	58.6	-21	26.1	35	17.7	-15	54.9	0	4	56	5	22	5	44	3	24	
13	17	58.4		26.6	49	51.6	-16	07.0	10 S	39		06	29	14	39	15	57	
14	32	58.1		27.0	64	25.5		19.1	20	4	19	4	47	5	11	3	03	
15	47	57.9		27.4	78	59.3		31.1	30	3	52	25	4	51	2	50	31	
16	62	57.7		27.8	93	33.1		43.1	35	35		4	11	40	43	28	35	
17	77	57.5	-21	28.3	108	06.7	-16	55.0	40	3	15	3	55	4	26	2	35	
18	92	57.3	-21	28.7	122	40.3	-17	06.8	45	2	48	3	34	4	10	2	26	
19	107	57.0		29.1	137	13.9		18.6	50	2	10	3	09	3	50	14	16	
20	122	56.8		29.5	151	47.3		30.3	52	1	49	2	56	41	09	13	19	
21	137	56.6		29.9	166	20.7		41.9	54	1	21	41	30	2	03	11	27	
22	152	56.4		30.4	180	53.9	-17	53.5	56	0	35	23	18	1	57	7	36	
23	167	56.2		30.8	195	27.2	-18	05.0	58	**	**	2	00	3	04	50	4	
24	182	55.9	-21	31.2	210	00.3	-18	16.5	60 S	**	**	1	30	2	47	1	41	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 19 ^h 27.3 ^m		Mag: -4.2 PMG: 14 ^h 56 ^m				Mag: -0.4 PMG: 4 ^h 04 ^m				Mag: -2.8 PMG: 0 ^h 37 ^m				Mag: +1.0 PMG: 18 ^h 27 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	67	23.2	136	12.7	-24	28.6	298	44.2	+21	12.2	350	48.5	+22	10.3	82	25.0	-8	39.1
1	82	25.7	151	12.0		28.2	313	46.4		12.3	5	51.3		10.3	97	27.4		39.1
2	97	28.1	166	11.3		27.8	328	48.5		12.3	20	54.1		10.3	112	29.8		39.1
3	112	30.6	181	10.5		27.4	343	50.6		12.4	35	56.9		10.3	127	32.2		39.1
4	127	33.1	196	09.8		26.9	358	52.8		12.4	50	59.7		10.2	142	34.7		39.0
5	142	35.5	211	09.1	-24	26.5	13	54.9	+21	12.4	66	02.5	+22	10.2	157	37.1	-8	39.0
6	157	38.0	226	08.4	-24	26.1	28	57.1	+21	12.5	81	05.4	+22	10.2	172	39.5	-8	39.0
7	172	40.5	241	07.7		25.7	43	59.2		12.5	96	08.2		10.2	187	41.9		38.9
8	187	42.9	256	06.9		25.3	59	01.4		12.5	111	11.0		10.1	202	44.3		38.9
9	202	45.4	271	06.2		24.9	74	03.5		12.6	126	13.8		10.1	217	46.7		38.9
10	217	47.9	286	05.5		24.4	89	05.7		12.6	141	16.6		10.1	232	49.1		38.9
11	232	50.3	301	04.8	-24	24.0	104	07.8	+21	12.6	156	19.5	+22	10.1	247	51.6	-8	38.8
12	247	52.8	316	04.1	-24	23.6	119	10.0	+21	12.7	171	22.3	+22	10.0	262	54.0	-8	38.8
13	262	55.3	331	03.3		23.2	134	12.1		12.7	186	25.1		10.0	277	56.4		38.8
14	277	57.7	346	02.6		22.7	149	14.3		12.8	201	27.9		10.0	292	58.8		38.8
15	293	00.2	1	01.9		22.3	164	16.4		12.8	216	30.7		10.0	308	01.2		38.7
16	308	02.6	16	01.2		21.9	179	18.6		12.8	231	33.6		09.9	323	03.6		38.7
17	323	05.1	31	00.5	-24	21.5	194	20.8	+21	12.9	246	36.4	+22	09.9	338	06.0	-8	38.7
18	338	07.6	45	59.8	-24	21.0	209	22.9	+21	12.9	261	39.2	+22	09.9	353	08.4	-8	38.6
19	353	10.0	60	59.1		20.6	224	25.1		13.0	276	42.0		09.8	8	10.9		38.6
20	8	12.5	75	58.3		20.2	239	27.2		13.0	291	44.8		09.8	23	13.3		38.6
21	23	15.0	90	57.6		19.7	254	29.4		13.0	306	47.7		09.8	38	15.7		38.5
22	38	17.4	105	56.9		19.3	269	31.6		13.1	321	50.5		09.8	53	18.1		38.5
23	53	19.9	120	56.2		18.9	284	33.7		13.1	336	53.3		09.7	68	20.5		38.5
24	68	22.4	135	55.5	-24	18.4	299	35.9	+21	13.2	351	56.1	+22	09.7	83	22.9	-8	38.5
Dif	—		-7		+4		+22		0		+28		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 48.4 ^m				Edad: 27.5 ^d SD: 14/8 PMG: 10 ^h 19 ^m PHE { 4 ^h : 54/5 12 ^h : 54/7 20 ^h : 54/8 R°: 47 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	° N	h m	h m	h m	h m m	h m m	h m m	h m m		
0	182	55.9	-21	31.2	210	00.3	-18	16.5	60 N	15 05	15 58	16 53	6 45 95	13 40 2		
1	197	55.7		31.6	224	33.3 ¹⁴⁰		27.9 ¹¹⁴	58	20	16 09	16 59	31 89	13 55 9		
2	212	55.5		32.0	239	06.3 ¹⁴⁰		39.2 ¹¹³	56	32	17	17 05	19 83	14 08 13		
3	227	55.3		32.5	253	39.2 ¹³⁹	-18	50.4 ¹¹²	54	43	25	10	6 08 80	19 17		
4	242	55.1		32.9	268	12.0 ¹³⁸	-19	01.6 ¹¹²	52	15 53	33	15	5 59 76	29 20		
5	257	54.8	-21	33.3	282	44.7 ¹³⁷	-19	12.6 ¹¹⁰	50	16 02	16 39	17 20	5 50 74	14 38 23		
6	272	54.6	-21	33.7	297	17.4 ¹³⁷	-19	23.7 ¹¹¹	45	16 21	16 54	17 30	5 33 68	14 57 28		
7	287	54.4		34.1	311	49.9 ¹³⁵		34.6 ¹⁰⁹	40	36	17 06	39	18 65	15 12 32		
8	302	54.2		34.5	326	22.4 ¹³⁵		45.5 ¹⁰⁹	35	16 49	16	47	5 06 62	25 35		
9	317	53.9		34.9	340	54.8 ¹³⁴	-19	56.2 ¹⁰⁷	30	17 00	26	17 55	4 56 58	37 37		
10	332	53.7		35.4	355	27.1 ¹³³	-20	06.9 ¹⁰⁷	20	19	43	18 10	38 54	15 56 42		
11	347	53.5	-21	35.8	9	59.3 ¹³²	-20	17.6 ¹⁰⁷	10 N	17 36	17 59	18 25	4 22 51	16 14 45		
12	2	53.3	-21	36.2	24	31.5 ¹³²	-20	28.1 ¹⁰⁵	0	17 52	18 14	18 40	4 08 47	16 30 49		
13	17	53.0		36.6	39	03.5 ¹³⁰		38.6 ¹⁰⁵	10 S	18 08	31	18 58	3 53 44	16 46 52		
14	32	52.8		37.0	53	35.5 ¹³⁰		48.9 ¹⁰³	20	26	18 50	19 19	38 40	17 04 55		
15	47	52.6		37.4	68	07.3 ¹²⁸	-20	59.2 ¹⁰³	30	46	19 13	19 45	21 35	24 59		
16	62	52.4		37.8	82	39.1 ¹²⁸	-21	09.4 ¹⁰²	35	18 58	27	20 02	3 11 32	36 62		
17	77	52.1	-21	38.2	97	10.8 ¹²⁷	-21	19.6 ¹⁰²	40	19 11	19 43	20 23	2 59 30	17 49 65		
18	92	51.9	-21	38.6	111	42.4 ¹²⁶	-21	29.6 ¹⁰⁰	45	19 28	20 04	20 51	2 46 25	18 06 68		
19	107	51.7		39.0	126	14.0 ¹²⁶		39.5 ⁹⁹	50	48	30	21 30	30 20	26 74		
20	122	51.5		39.4	140	45.4 ¹²⁴		49.4 ⁹⁹	52	19 58	43	21 51	22 18	35 77		
21	137	51.2		39.8	155	16.7 ¹²³	-21	59.1 ⁹⁷	54	20 08	20 59	22 21	14 15	46 80		
22	152	51.0		40.2	169	48.0 ¹²³	-22	08.8 ⁹⁷	56	21	21 17	23 15	2 04 12	18 58 84		
23	167	50.8		40.6	184	19.1 ¹²¹		18.4 ⁹⁶	58	35	21 41	** ** *	1 54 7	19 13 89		
24	182	50.5	-21	41.1	198	50.2 ¹²¹	-22	27.8 ⁹⁴	60 S	20 53	22 12	** ** *	1 41 2	19 30 96		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 19 ^h 23.3 ^m		Mag: -4.2 PMG: 14 ^h 57 ^m		Mag: -0.5 PMG: 4 ^h 01 ^m		Mag: -2.8 PMG: 0 ^h 32 ^m		Mag: +1.0 PMG: 18 ^h 24 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	68	22.4	135	55.5	-24	18.4	299	35.9	+21	13.2	351	56.1	+22	09.7	83	22.9	-8	38.5
1	83	24.8	150	54.8		18.0	314	38.1		13.2	6	58.9		09.7	98	25.3		38.4
2	98	27.3	165	54.1		17.5	329	40.3		13.2	22	01.8		09.7	113	27.7		38.4
3	113	29.7	180	53.4		17.1	344	42.4		13.3	37	04.6		09.6	128	30.2		38.4
4	128	32.2	195	52.7		16.7	359	44.6		13.3	52	07.4		09.6	143	32.6		38.3
5	143	34.7	210	52.0	-24	16.2	14	46.8	+21	13.4	67	10.2	+22	09.6	158	35.0	-8	38.3
6	158	37.1	225	51.3	-24	15.8	29	49.0	+21	13.4	82	13.0	+22	09.6	173	37.4	-8	38.3
7	173	39.6	240	50.5		15.3	44	51.1		13.5	97	15.9		09.5	188	39.8		38.3
8	188	42.1	255	49.8		14.9	59	53.3		13.5	112	18.7		09.5	203	42.2		38.2
9	203	44.5	270	49.1		14.4	74	55.5		13.5	127	21.5		09.5	218	44.6		38.2
10	218	47.0	285	48.4		14.0	89	57.7		13.6	142	24.3		09.4	233	47.0		38.2
11	233	49.5	300	47.7	-24	13.5	104	59.9	+21	13.6	157	27.2	+22	09.4	248	49.4	-8	38.1
12	248	51.9	315	47.0	-24	13.1	120	02.0	+21	13.7	172	30.0	+22	09.4	263	51.9	-8	38.1
13	263	54.4	330	46.3		12.6	135	04.2		13.7	187	32.8		09.4	278	54.3		38.1
14	278	56.9	345	45.6		12.2	150	06.4		13.8	202	35.6		09.3	293	56.7		38.0
15	293	59.3	0	44.9		11.7	165	08.6		13.8	217	38.4		09.3	308	59.1		38.0
16	309	01.8	15	44.2		11.3	180	10.8		13.9	232	41.3		09.3	324	01.5		38.0
17	324	04.2	30	43.5	-24	10.8	195	13.0	+21	13.9	247	44.1	+22	09.3	339	03.9	-8	38.0
18	339	06.7	45	42.8	-24	10.3	210	15.2	+21	14.0	262	46.9	+22	09.2	354	06.3	-8	37.9
19	354	09.2	60	42.1		09.9	225	17.4		14.0	277	49.7		09.2	9	08.7		37.9
20	9	11.6	75	41.4		09.4	240	19.6		14.1	292	52.6		09.2	24	11.1		37.9
21	24	14.1	90	40.7		09.0	255	21.8		14.1	307	55.4		09.2	39	13.5		37.8
22	39	16.6	105	40.0		08.5	270	24.0		14.2	322	58.2		09.1	54	15.9		37.8
23	54	19.0	120	39.3		08.0	285	26.2		14.2	338	01.0		09.1	69	18.3		37.8
24	69	21.5	135	38.6	-24	07.6	300	28.4	+21	14.3	353	03.8	+22	09.1	84	20.8	-8	37.7
Dif	—		-7		+5		+22		0		+28		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 48.8 ^m				Edad: 28.5 ^d PHE { 4 ^h : 54'9 12 ^h : 55'0 20 ^h : 55'2 PMG: 11 ^h 06 ^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	
0	182	50.5	-21	41.1	198	50.2	-22	27.8	60 N	6	45	7	40	8	34	8	20	
1	197	50.3		41.5	213	21.2		37.2	58	38	30	19	8	00	89	14	04	
2	212	50.1		41.9	227	52.1		46.5	56	33	20	8	06	7	42	84	21	
3	227	49.9		42.3	242	22.9	-22	55.7	54	27	12	7	55	28	79	36	27	
4	242	49.6		42.7	256	53.6	-23	04.8	52	22	7	05	45	15	76	14	49	
5	257	49.4	-21	43.1	271	24.2	-23	13.8	50	6	18	6	59	7	04	74	15	
6	272	49.2	-21	43.4	285	54.7	-23	22.6	45	6	08	6	44	7	17	6	41	
7	287	48.9		43.8	300	25.2		31.4	40	5	58	32	7	02	23	65	15	
8	302	48.7		44.2	314	55.5		40.1	35	50	21	6	49	6	08	62	16	
9	317	48.5		44.6	329	25.8		48.7	30	42	6	12	38	5	54	61	14	
10	332	48.2		45.0	343	55.9	-23	57.1	20	27	5	55	18	32	56	38	48	
11	347	48.0	-21	45.4	358	26.0	-24	05.5	10 N	5	13	5	39	6	01	5	13	
12	2	47.8	-21	45.8	12	56.0	-24	13.7	0	4	57	5	23	5	45	4	55	
13	17	47.6		46.2	27	25.9		21.9	10 S	39	5	06	29	37	48	38	55	
14	32	47.3		46.6	41	55.7		29.9	20	4	19	4	47	5	12	4	18	
15	47	47.1		47.0	56	25.4		37.8	30	3	52	24	4	51	3	56	41	
16	62	46.9		47.4	70	55.0		45.6	35	35	4	10	39	43	39	38	62	
17	77	46.6	-21	47.8	85	24.6	-24	53.3	40	3	14	3	54	4	26	3	29	
18	92	46.4	-21	48.2	99	54.0	-25	00.8	45	2	46	3	33	4	09	3	11	
19	107	46.2		48.6	114	23.4		08.3	50	2	07	3	07	3	49	2	50	
20	122	45.9		48.9	128	52.7		15.6	52	1	46	2	53	39	40	25	19	
21	137	45.7		49.3	143	21.8		22.8	54	1	16	38	28	29	22	20	06	
22	152	45.5		49.7	157	50.9		29.9	56	0	22	2	19	16	16	18	22	
23	167	45.2		50.1	172	19.9		36.9	58	**	**	1	56	3	01	2	01	
24	182	45.0	-21	50.5	186	48.9	-25	43.7	60 S	**	**	1	24	2	44	1	43	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 19 ^h 19.4 ^m		Mag: -4.2 PMG: 14 ^h 58 ^m				Mag: -0.5 PMG: 3 ^h 58 ^m				Mag: -2.8 PMG: 0 ^h 28 ^m				Mag: +1.0 PMG: 18 ^h 20 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	
0	69	21.5	135	38.6	-24	07.6	300	28.4	+21	14.3	353	03.8	+22	09.1	84	20.8	-8	
1	84	24.0	150	37.9		07.1	315	30.6		14.3	8	06.7		09.0	99	23.2	37.7	
2	99	26.4	165	37.2		06.6	330	32.8		14.4	23	09.5		09.0	114	25.6	37.7	
3	114	28.9	180	36.5		06.2	345	35.0		14.4	38	12.3		09.0	129	28.0	37.6	
4	129	31.4	195	35.8		05.7	0	37.2		14.5	53	15.1		09.0	144	30.4	37.6	
5	144	33.8	210	35.1	-24	05.2	15	39.4	+21	14.5	68	18.0	+22	08.9	159	32.8	-8	
6	159	36.3	225	34.4	-24	04.8	30	41.6	+21	14.6	83	20.8	+22	08.9	174	35.2	-8	
7	174	38.7	240	33.8		04.3	45	43.8		14.6	98	23.6		08.9	189	37.6	37.5	
8	189	41.2	255	33.1		03.8	60	46.0		14.7	113	26.4		08.9	204	40.0	37.5	
9	204	43.7	270	32.4		03.3	75	48.2		14.7	128	29.3		08.8	219	42.4	37.5	
10	219	46.1	285	31.7		02.9	90	50.4		14.8	143	32.1		08.8	234	44.8	37.4	
11	234	48.6	300	31.0	-24	02.4	105	52.6	+21	14.8	158	34.9	+22	08.8	249	47.2	-8	
12	249	51.1	315	30.3	-24	01.9	120	54.9	+21	14.9	173	37.7	+22	08.8	264	49.6	-8	
13	264	53.5	330	29.6		01.4	135	57.1		14.9	188	40.6		08.7	279	52.0	37.3	
14	279	56.0	345	28.9		00.9	150	59.3		15.0	203	43.4		08.7	294	54.5	37.3	
15	294	58.5	0	28.2	-24	00.5	166	01.5		15.1	218	46.2		08.7	309	56.9	37.3	
16	310	00.9	15	27.5	-24	00.0	181	03.7		15.1	233	49.0		08.6	324	59.3	37.2	
17	325	03.4	30	26.9	-23	59.5	196	06.0	+21	15.2	248	51.9	+22	08.6	340	01.7	-8	
18	340	05.9	45	26.2	-23	59.0	211	08.2	+21	15.2	263	54.7	+22	08.6	355	04.1	-8	
19	355	08.3	60	25.5		58.5	226	10.4		15.3	278	57.5		08.6	10	06.5	37.1	
20	10	10.8	75	24.8		58.0	241	12.6		15.3	294	00.3		08.5	25	08.9	37.1	
21	25	13.2	90	24.1		57.5	256	14.9		15.4	309	03.2		08.5	40	11.3	37.1	
22	40	15.7	105	23.4		57.0	271	17.1		15.4	324	06.0		08.5	55	13.7	37.0	
23	55	18.2	120	22.7		56.6	286	19.3		15.5	339	08.8		08.5	70	16.1	37.0	
24	70	20.6	135	22.1	-23	56.1	301	21.6	+21	15.6	354	11.6	+22	08.4	85	18.5	-8	
Dif	—		-7		+5		+22		+1		+28		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 49.2 ^m			Edad: 29.5 ^d SD: 15/0 PMG: 11 ^h 58 ^m PHE { 4 ^h : 55/3 12 ^h : 55/4 20 ^h : 55/6 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	h m m	h m m	h m m		
0	182	45.0	-21	50.5	186	48.9	98	-25	43.7	67	60 N	15 02	15 57	16 51	9 59	89	13 50	26
1	197	44.7		50.9	201	17.7			50.4	66	58	17	16 07	16 58	29	79	14 21	35
2	212	44.5		51.3	215	46.5	98	-25	57.0	65	56	30	16	17 04	9 06	74	14 44	40
3	227	44.3		51.6	230	15.1	96	-26	03.5	65	54	42	24	09	8 47	71	15 03	40
4	242	44.0		52.0	244	43.7	96		09.8	63	52	15 52	32	14	31	69	20	43
5	257	43.8	-21	52.4	259	12.2	95	-26	16.0	62	50	16 01	16 38	17 19	8 18	67	15 33	46
6	272	43.6	-21	52.8	273	40.6	94	-26	22.1	61	45	16 20	16 53	17 30	7 50	64	16 02	48
7	287	43.3		53.2	288	09.0	94		28.0	59	40	35	17 05	39	28	63	24	50
8	302	43.1		53.5	302	37.2	92		33.9	59	35	16 48	16	47	7 10	61	43	50
9	317	42.9		53.9	317	05.4	92		39.5	56	30	17 00	26	17 55	6 55	59	16 59	51
10	332	42.6		54.3	331	33.5	91		45.1	56	20	19	43	18 10	28	58	17 26	53
11	347	42.4	-21	54.7	346	01.5	90	-26	50.5	54	10 N	17 37	17 59	18 25	6 06	56	17 49	54
12	2	42.1	-21	55.0	0	29.5	90	-26	55.8	53	0	17 53	18 15	18 41	5 45	54	18 11	55
13	17	41.9		55.4	14	57.4	89	-27	00.9	51	10 S	18 09	32	18 59	25	52	33	56
14	32	41.7		55.8	29	25.2	88		05.9	50	20	27	18 51	19 20	5 02	51	18 56	57
15	47	41.4		56.2	43	52.9	87		10.8	49	30	47	19 14	19 47	4 37	48	19 23	59
16	62	41.2		56.5	58	20.5	86		15.5	47	35	18 59	29	20 04	22	46	40	59
17	77	40.9	-21	56.9	72	48.1	86	-27	20.1	46	40	19 13	19 46	20 26	4 04	45	19 58	60
18	92	40.7	-21	57.3	87	15.6	85	-27	24.5	44	45	19 30	20 06	20 54	3 44	42	20 21	61
19	107	40.5		57.7	101	43.1	85		28.8	43	50	19 51	33	21 34	18	38	20 50	63
20	122	40.2		58.0	116	10.4	83		33.0	42	52	20 01	20 47	21 56	3 05	37	21 05	63
21	137	40.0		58.4	130	37.7	83		37.0	40	54	12	21 03	22 28	2 51	34	22	64
22	152	39.7		58.8	145	05.0	83		40.8	38	56	24	22	** **	34	30	21	42
23	167	39.5		59.1	159	32.2	82		44.5	37	58	39	21 46	** **	2 14	25	22 07	68
24	182	39.3	-21	59.5	173	59.3	81	-27	48.1	36	60 S	20 57	22 20	** **	1 49	16	22 41	73
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 19 ^h 15.5 ^m		Mag: -4.2 PMG: 14 ^h 59 ^m			Mag: -0.5 PMG: 3 ^h 54 ^m			Mag: -2.8 PMG: 0 ^h 23 ^m			Mag: +1.0 PMG: 18 ^h 16 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	70	20.6	135	22.1	-23	56.1	301	21.6	+21	15.6	354	11.6	+22	08.4	85	18.5	-8	37.0
1	85	23.1	150	21.4		55.6	316	23.8		15.6	9	14.5		08.4	100	20.9		36.9
2	100	25.6	165	20.7		55.1	331	26.0		15.7	24	17.3		08.4	115	23.3		36.9
3	115	28.0	180	20.0		54.6	346	28.3		15.7	39	20.1		08.3	130	25.7		36.9
4	130	30.5	195	19.3		54.1	1	30.5		15.8	54	22.9		08.3	145	28.1		36.9
5	145	33.0	210	18.7	-23	53.6	16	32.7	+21	15.9	69	25.8	+22	08.3	160	30.5	-8	36.8
6	160	35.4	225	18.0	-23	53.1	31	35.0	+21	15.9	84	28.6	+22	08.3	175	32.9	-8	36.8
7	175	37.9	240	17.3		52.6	46	37.2		16.0	99	31.4		08.2	190	35.3		36.8
8	190	40.4	255	16.6		52.1	61	39.5		16.0	114	34.2		08.2	205	37.7		36.7
9	205	42.8	270	15.9		51.6	76	41.7		16.1	129	37.1		08.2	220	40.1		36.7
10	220	45.3	285	15.3		51.1	91	44.0		16.2	144	39.9		08.2	235	42.5		36.7
11	235	47.7	300	14.6	-23	50.6	106	46.2	+21	16.2	159	42.7	+22	08.1	250	44.9	-8	36.6
12	250	50.2	315	13.9	-23	50.1	121	48.4	+21	16.3	174	45.5	+22	08.1	265	47.3	-8	36.6
13	265	52.7	330	13.2		49.6	136	50.7		16.4	189	48.4		08.1	280	49.7		36.6
14	280	55.1	345	12.6		49.1	151	52.9		16.4	204	51.2		08.0	295	52.1		36.5
15	295	57.6	0	11.9		48.5	166	55.2		16.5	219	54.0		08.0	310	54.5		36.5
16	311	00.1	15	11.2		48.0	181	57.5		16.5	234	56.8		08.0	325	56.9		36.5
17	326	02.5	30	10.6	-23	47.5	196	59.7	+21	16.6	249	59.7	+22	08.0	340	59.3	-8	36.4
18	341	05.0	45	09.9	-23	47.0	212	02.0	+21	16.7	265	02.5	+22	07.9	356	01.7	-8	36.4
19	356	07.5	60	09.2		46.5	227	04.2		16.7	280	05.3		07.9	11	04.1		36.4
20	11	09.9	75	08.5		46.0	242	06.5		16.8	295	08.1		07.9	26	06.5		36.3
21	26	12.4	90	07.9		45.5	257	08.7		16.9	310	11.0		07.8	41	08.9		36.3
22	41	14.8	105	07.2		44.9	272	11.0		16.9	325	13.8		07.8	56	11.3		36.2
23	56	17.3	120	06.5		44.4	287	13.3		17.0	340	16.6		07.8	71	13.7		36.2
24	71	19.8	135	05.9	-23	43.9	302	15.5	+21	17.1	355	19.4	+22	07.8	86	16.1	-8	36.2
Dif	—		-7		+5		+22		+1		+28		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 49.6 ^m			Edad: 0.7 ^d PHE { 4 ^h : 55'7 12 ^h : 55'9 20 ^h : 56'0 PMG: 12 ^h 53 ^m R°: 56 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'		°	h	m	h	m	h	m	m	
0	182	39.3	-21	59.5	173	59.3	80	-27	48.1	34	60 N	6 48	7 43	8 38	11 28 53	14 16 64
1	197	39.0	-21	59.9	188	26.3	80		51.5	31	58	41	33	22	10 48 55	14 56 62
2	212	38.8	-22	00.2	202	53.3	80		54.8	33	56	35	23	8 09	10 20 56	15 24 61
3	227	38.5		00.6	217	20.3	80	-27	57.9	31	54	30	15	7 58	9 58 56	15 45 61
4	242	38.3		01.0	231	47.1	78	-28	00.9	30	52	25	08	48	40 57	16 03 61
5	257	38.0	-22	01.3	246	14.0	79	-28	03.7	28	50	6 20	7 01	7 39	9 25 57	16 19 60
6	272	37.8	-22	01.7	260	40.7	77	-28	06.4	27	45	6 10	6 46	7 19	8 54 57	16 50 59
7	287	37.6		02.0	275	07.4	77		08.9	25	40	6 00	34	7 04	31 56	17 14 58
8	302	37.3		02.4	289	34.1	77		11.2	23	35	5 52	23	6 51	8 11 57	33 59
9	317	37.1		02.8	304	00.7	76		13.4	22	30	44	6 13	39	7 54 57	17 50 58
10	332	36.8		03.1	318	27.3	76		15.5	21	20	28	5 56	19	26 56	18 19 57
11	347	36.6	-22	03.5	332	53.8	75	-28	17.4	19	10 N	5 13	5 40	6 02	7 02 56	18 43 57
12	2	36.3	-22	03.8	347	20.3	75	-28	19.1	17	0	4 58	5 24	5 46	6 39 56	19 06 57
13	17	36.1		04.2	1	46.8	75		20.7	16	10 S	40	5 07	29	6 17 56	29 56
14	32	35.9		04.6	16	13.2	74		22.1	14	20	4 19	4 47	5 12	5 53 55	19 53 55
15	47	35.6		04.9	30	39.5	73		23.4	13	30	3 51	24	4 51	25 55	20 22 54
16	62	35.4		05.3	45	05.8	73		24.5	11	35	34	4 10	39	5 08 55	39 53
17	77	35.1	-22	05.6	59	32.1	73	-28	25.4	9	40	3 13	3 53	4 25	4 49 54	20 58 53
18	92	34.9	-22	06.0	73	58.4	73	-28	26.2	8	45	2 45	3 32	4 08	4 26 54	21 22 52
19	107	34.6		06.3	88	24.6	72		26.8	6	50	2 05	3 05	3 48	3 56 53	21 53 50
20	122	34.4		06.7	102	50.8	72		27.3	5	52	1 42	2 52	38	42 52	22 08 49
21	137	34.1		07.0	117	17.0	72		27.6	3	54	1 11	36	27	25 51	26 47
22	152	33.9		07.4	131	43.1	71		27.7	1	56	** **	2 17	3 14	3 04 51	22 47 46
23	167	33.6		07.7	146	09.2	71		27.7	0	58	** **	1 52	2 59	2 39 48	23 15 42
24	182	33.4	-22	08.1	160	35.3	71	-28	27.5	2	60 S	** **	1 19	2 41	2 05 43	23 54 35
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG		Mag: -4.2		Mag: -0.5		Mag: -2.8		Mag: +1.0							
	19 ^h 11.5 ^m		PMG: 15 ^h 00 ^m		PMG: 3 ^h 50 ^m		PMG: 0 ^h 19 ^m		PMG: 18 ^h 12 ^m							
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	71	19.8	135	05.9	-23	43.9	302	15.5	+21	17.1						
1	86	22.2	150	05.2		43.4	317	17.8		17.1						
2	101	24.7	165	04.5		42.9	332	20.1		17.2						
3	116	27.2	180	03.9		42.3	347	22.3		17.3						
4	131	29.6	195	03.2		41.8	2	24.6		17.3						
5	146	32.1	210	02.5	-23	41.3	17	26.9	+21	17.4						
6	161	34.6	225	01.9	-23	40.8	32	29.2	+21	17.5						
7	176	37.0	240	01.2		40.2	47	31.4		17.6						
8	191	39.5	255	00.5		39.7	62	33.7		17.6						
9	206	42.0	269	59.9		39.2	77	36.0		17.7						
10	221	44.4	284	59.2		38.7	92	38.3		17.8						
11	236	46.9	299	58.6	-23	38.1	107	40.5	+21	17.8						
12	251	49.3	314	57.9	-23	37.6	122	42.8	+21	17.9						
13	266	51.8	329	57.2		37.1	137	45.1		18.0						
14	281	54.3	344	56.6		36.5	152	47.4		18.0						
15	296	56.7	359	55.9		36.0	167	49.7		18.1						
16	311	59.2	14	55.3		35.4	182	52.0		18.2						
17	327	01.7	29	54.6	-23	34.9	197	54.2	+21	18.3						
18	342	04.1	44	54.0	-23	34.4	212	56.5	+21	18.3						
19	357	06.6	59	53.3		33.8	227	58.8		18.4						
20	12	09.1	74	52.6		33.3	243	01.1		18.5						
21	27	11.5	89	52.0		32.7	258	03.4		18.6						
22	42	14.0	104	51.3		32.2	273	05.7		18.6						
23	57	16.5	119	50.7		31.7	288	08.0		18.7						
24	72	18.9	134	50.0	-23	31.1	303	10.3	+21	18.8						
Dif	—		-7		+5		+23		+1		+28		0		+24	

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 50.0 ^m				Edad: 1.7 ^d PHE { 4 ^h : 56/2 12 ^h : 56/4 20 ^h : 56/5 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	h m m	h m m				
0	182	33.4	-22	08.1	160	35.3	71	-28	27.5	3	60 N	15 00	15 55	16 50	12 21 20	15 20 97					
1	197	33.1		08.4	175	01.4	71		27.2	5	58	16	16 05	16 57	11 43 30	15 58 87					
2	212	32.9		08.8	189	27.5	70		26.7	7	56	29	15	17 03	11 16 36	16 25 81					
3	227	32.6		09.1	203	53.5	70		26.0	8	54	40	23	08	10 54 40	16 46 78					
4	242	32.4		09.5	218	19.5	70		25.2	8	52	15 51	31	14	37 41	17 04 74					
5	257	32.1	-22	09.8	232	45.5	70	-28	24.2	10	50	16 00	16 37	17 18	10 22 43	17 19 72					
6	272	31.9	-22	10.2	247	11.5	70	-28	23.1	11	45	16 19	16 52	17 29	9 51 47	17 49 69					
7	287	31.6		10.5	261	37.5	70		21.8	13	40	35	17 05	39	27 49	18 12 67					
8	302	31.4		10.9	276	03.5	70		20.3	15	35	16 48	16	47	9 08 50	32 64					
9	317	31.1		11.2	290	29.5	70		18.6	17	30	17 00	26	17 55	8 51 51	18 48 63					
10	332	30.9		11.5	304	55.5	70		16.8	18	20	20	17 44	18 11	8 22 54	19 16 61					
11	347	30.6	-22	11.9	319	21.4	69	-28	14.9	19	10 N	17 37	18 00	18 26	7 58 55	19 40 58					
12	2	30.4	-22	12.2	333	47.4	70	-28	12.7	22	0	17 54	18 16	18 42	7 35 57	20 03 55					
13	17	30.1		12.6	348	13.4	70		10.4	23	10 S	18 10	33	19 00	7 13 57	25 53					
14	32	29.9		12.9	2	39.4	69		08.0	24	20	28	18 53	21	6 48 59	20 48 52					
15	47	29.6		13.2	17	05.3	69		05.4	26	30	18 49	19 16	19 49	20 61	21 16 48					
16	62	29.4		13.6	31	31.3	70	-28	02.6	28	35	19 01	31	20 07	6 03 62	32 47					
17	77	29.1	-22	13.9	45	57.3	70	-27	59.6	30	40	19 15	19 48	20 28	5 43 64	21 51 44					
18	92	28.9	-22	14.2	60	23.3	71	-27	56.5	31	45	19 32	20 09	20 57	5 20 64	22 14 41					
19	107	28.6		14.6	74	49.4	70		53.3	32	50	19 53	36	21 38	4 49 67	43 37					
20	122	28.4		14.9	89	15.4	70		49.8	35	52	20 03	20 50	22 01	34 68	22 57 35					
21	137	28.1		15.3	103	41.5	71		46.2	36	54	15	21 06	22 34	4 16 70	23 13 32					
22	152	27.9		15.6	118	07.5	70		42.5	37	56	28	26	** **	3 55 72	33 28					
23	167	27.6		15.9	132	33.6	71		38.5	40	58	20 43	21 51	** **	3 27 76	23 57 22					
24	182	27.4	-22	16.2	146	59.7	71	-27	34.5	40	60 S	21 01	22 27	** **	2 48 83	** ** *					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 19 ^h 07.6 ^m			Mag: -4.2 PMG: 15 ^h 01 ^m			Mag: -0.5 PMG: 3 ^h 47 ^m			Mag: -2.8 PMG: 0 ^h 14 ^m			Mag: +1.0 PMG: 18 ^h 08 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	72	18.9	134	50.0	-23	31.1	303	10.3	+21	18.8	356	27.3	+22	07.1	87	13.7	-8	35.3			
1	87	21.4	149	49.4		30.6	318	12.6		18.9	11	30.1		07.1	102	16.1		35.3			
2	102	23.8	164	48.7		30.0	333	14.9		18.9	26	33.0		07.0	117	18.5		35.3			
3	117	26.3	179	48.1		29.5	348	17.2		19.0	41	35.8		07.0	132	20.9		35.2			
4	132	28.8	194	47.4		28.9	3	19.5		19.1	56	38.6		07.0	147	23.3		35.2			
5	147	31.2	209	46.8	-23	28.4	18	21.8	+21	19.2	71	41.4	+22	07.0	162	25.7	-8	35.2			
6	162	33.7	224	46.1	-23	27.8	33	24.1	+21	19.2	86	44.3	+22	06.9	177	28.1	-8	35.1			
7	177	36.2	239	45.5		27.3	48	26.4		19.3	101	47.1		06.9	192	30.4		35.1			
8	192	38.6	254	44.8		26.7	63	28.7		19.4	116	49.9		06.9	207	32.8		35.1			
9	207	41.1	269	44.2		26.2	78	31.0		19.5	131	52.8		06.9	222	35.2		35.0			
10	222	43.6	284	43.5		25.6	93	33.3		19.6	146	55.6		06.8	237	37.6		35.0			
11	237	46.0	299	42.9	-23	25.0	108	35.7	+21	19.6	161	58.4	+22	06.8	252	40.0	-8	34.9			
12	252	48.5	314	42.2	-23	24.5	123	38.0	+21	19.7	177	01.2	+22	06.8	267	42.4	-8	34.9			
13	267	51.0	329	41.6		23.9	138	40.3		19.8	192	04.1		06.7	282	44.8		34.9			
14	282	53.4	344	41.0		23.4	153	42.6		19.9	207	06.9		06.7	297	47.2		34.8			
15	297	55.9	359	40.3		22.8	168	44.9		20.0	222	09.7		06.7	312	49.6		34.8			
16	312	58.3	14	39.7		22.2	183	47.2		20.0	237	12.6		06.7	327	52.0		34.8			
17	328	00.8	29	39.0	-23	21.7	198	49.6	+21	20.1	252	15.4	+22	06.6	342	54.4	-8	34.7			
18	343	03.3	44	38.4	-23	21.1	213	51.9	+21	20.2	267	18.2	+22	06.6	357	56.8	-8	34.7			
19	358	05.7	59	37.8		20.5	228	54.2		20.3	282	21.0		06.6	12	59.2		34.6			
20	13	08.2	74	37.1		20.0	243	56.5		20.4	297	23.9		06.5	28	01.6		34.6			
21	28	10.7	89	36.5		19.4	258	58.9		20.5	312	26.7		06.5	43	04.0		34.6			
22	43	13.1	104	35.8		18.8	274	01.2		20.5	327	29.5		06.5	58	06.3		34.5			
23	58	15.6	119	35.2		18.3	289	03.5		20.6	342	32.4		06.5	73	08.7		34.5			
24	73	18.1	134	34.6	-23	17.7	304	05.9	+21	20.7	357	35.2	+22	06.4	88	11.1	-8	34.5			
Dif	—		-6		+6		+23		+1		+28		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 50.4 ^m				Edad: 2.7 ^d PHE { 4 ^h : 56'7 12 ^h : 56'8 20 ^h : 57'0 SD: 15'4 PMG: 14 ^h 45 ^m R°: 54 ^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	27.4	-22	16.2	146	59.7	72	-27	34.5	43	60 N	6 51	7 46	8 42	12 41	7	16 57	106					
1	197	27.1		16.6	161	25.9			30.2		58	44	36	26	12 13	16	17 25	97					
2	212	26.9		16.9	175	52.0	71		25.8	44	56	38	26	12	11 52	21	17 46	91					
3	227	26.6		17.2	190	18.2	72		21.3	45	54	32	18	8 01	34	25	18 04	86					
4	242	26.3		17.6	204	44.4	72		16.5	48	52	27	10	7 50	18	29	18 84						
5	257	26.1	-22	17.9	219	10.7	73	-27	11.7	48	50	6 22	7 03	7 41	11 05	32	18 31	81					
6	272	25.8	-22	18.2	233	36.9	72	-27	06.6	51	45	6 11	6 48	7 22	10 38	36	18 58	75					
7	287	25.6		18.5	248	03.2	73	-27	01.4	52	40	6 02	36	7 06	10 16	40	19 19	71					
8	302	25.3		18.9	262	29.6	74	-26	56.1	53	35	5 53	25	6 52	9 58	43	36 68						
9	317	25.1		19.2	276	56.0	74		50.6	55	30	45	6 15	41	42 46		19 51	65					
10	332	24.8		19.5	291	22.4	74		44.9	57	20	30	5 57	21	9 16	49	20 17	60					
11	347	24.6	-22	19.8	305	48.8	74	-26	39.1	58	10 N	5 14	5 41	6 03	8 53	52	20 38	57					
12	2	24.3	-22	20.2	320	15.3	75	-26	33.1	60	0	4 58	5 24	5 47	8 32	55	20 58	54					
13	17	24.0		20.5	334	41.8	75		27.0	61	10 S	40	5 07	30	8 10	58	21 18	51					
14	32	23.8		20.8	349	08.4	76		20.7	63	20	4 19	4 48	5 12	7 47	61	21 40	46					
15	47	23.5		21.1	3	35.0	76		14.3	64	30	3 51	24	4 51	21	64	22 04	43					
16	62	23.3		21.5	18	01.7	77		07.7	66	35	34	4 10	39	7 05	66	19 39						
17	77	23.0	-22	21.8	32	28.4	77	-26	00.9	68	40	3 12	3 52	4 25	6 47	69	22 35	37					
18	92	22.7	-22	22.1	46	55.1	77	-25	54.0	69	45	2 43	3 31	4 08	6 24	73	22 55	33					
19	107	22.5		22.4	61	21.9	78		47.0	70	50	2 03	3 04	3 47	5 56	77	23 20	27					
20	122	22.2		22.7	75	48.8	79		39.8	72	52	1 39	2 50	37	42 80		32 24						
21	137	22.0		23.0	90	15.7	79		32.4	74	54	1 06	34	25	26 83		23 45	21					
22	152	21.7		23.4	104	42.6	80		25.0	77	56	** **	2 14	3 12	5 07 87		** ** *						
23	167	21.5		23.7	119	09.6	80		17.3	77	58	** **	1 49	2 57	4 43 93		** ** *						
24	182	21.2	-22	24.0	133	36.6	80	-25	09.5	78	60 S	** **	1 13	2 39	4 11 103		0 29 13						
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO								
	PMG 19 ^h 03.7 ^m		Mag: -4.2 PMG: 15 ^h 02 ^m				Mag: -0.6 PMG: 3 ^h 43 ^m				Mag: -2.8 PMG: 0 ^h 10 ^m				Mag: +1.0 PMG: 18 ^h 04 ^m								
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	73	18.1	134	34.6	-23	17.7	304	05.9	+21	20.7	357	35.2	+22	06.4	88	11.1	-8	34.5					
1	88	20.5	149	33.9		17.1	319	08.2		20.8	12	38.0		06.4	103	13.5		34.4					
2	103	23.0	164	33.3		16.5	334	10.5		20.9	27	40.9		06.4	118	15.9		34.4					
3	118	25.5	179	32.7		16.0	349	12.9		21.0	42	43.7		06.3	133	18.3		34.3					
4	133	27.9	194	32.0		15.4	4	15.2		21.1	57	46.5		06.3	148	20.7		34.3					
5	148	30.4	209	31.4	-23	14.8	19	17.5	+21	21.1	72	49.3	+22	06.3	163	23.1	-8	34.3					
6	163	32.8	224	30.8	-23	14.2	34	19.9	+21	21.2	87	52.2	+22	06.3	178	25.5	-8	34.2					
7	178	35.3	239	30.1		13.7	49	22.2		21.3	102	55.0		06.2	193	27.9		34.2					
8	193	37.8	254	29.5		13.1	64	24.5		21.4	117	57.8		06.2	208	30.3		34.2					
9	208	40.2	269	28.9		12.5	79	26.9		21.5	133	00.7		06.2	223	32.6		34.1					
10	223	42.7	284	28.2		11.9	94	29.2		21.6	148	03.5		06.1	238	35.0		34.1					
11	238	45.2	299	27.6	-23	11.3	109	31.6	+21	21.7	163	06.3	+22	06.1	253	37.4	-8	34.0					
12	253	47.6	314	27.0	-23	10.7	124	33.9	+21	21.8	178	09.1	+22	06.1	268	39.8	-8	34.0					
13	268	50.1	329	26.3		10.2	139	36.3		21.8	193	12.0		06.1	283	42.2		34.0					
14	283	52.6	344	25.7		09.6	154	38.6		21.9	208	14.8		06.0	298	44.6		33.9					
15	298	55.0	359	25.1		09.0	169	41.0		22.0	223	17.6		06.0	313	47.0		33.9					
16	313	57.5	14	24.5		08.4	184	43.3		22.1	238	20.5		06.0	328	49.4		33.9					
17	329	00.0	29	23.8	-23	07.8	199	45.7	+21	22.2	253	23.3	+22	05.9	343	51.8	-8	33.8					
18	344	02.4	44	23.2	-23	07.2	214	48.0	+21	22.3	268	26.1	+22	05.9	358	54.1	-8	33.8					
19	359	04.9	59	22.6		06.6	229	50.4		22.4	283	29.0		05.9	13	56.5		33.7					
20	14	07.3	74	22.0		06.0	244	52.8		22.5	298	31.8		05.9	28	58.9		33.7					
21	29	09.8	89	21.4		05.4	259	55.1		22.6	313	34.6		05.8	44	01.3		33.7					
22	44	12.3	104	20.7		04.8	274	57.5		22.7	328	37.4		05.8	59	03.7		33.6					
23	59	14.7	119	20.1		04.2	289	59.8		22.8	343	40.3		05.8	74	06.1		33.6					
24	74	17.2	134	19.5	-23	03.7	305	02.2	+21	22.8	358	43.1	+22	05.8	89	08.5	-8	33.5					
Dif	—		-6		+6		+23		+1		+28		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 50.8 ^m				Edad: 3.7 ^d SD: 15/5 PMG: 15 ^h 39 ^m						PHE { 4 ^h : 57/2 12 ^h : 57/3 20 ^h : 57/5 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	21.2	-22	24.0	133	36.6	-25	09.5	79	60 N	14 58	15 53	16 49	12 48	2	18 43	105			
1	197	20.9		24.3	148	03.8	-25	01.6	81	58	15 14	16 04	16 56		29	8	19 02	98		
2	212	20.7		24.6	162	30.9	-24	53.5	82	56	28	14	17 02	12 13	13	17	93			
3	227	20.4		24.9	176	58.1		45.3	82	54	39	22	08	11 59	17	30	89			
4	242	20.2		25.2	191	25.4		36.9	84	52	50	30	13	47	21	42	85			
5	257	19.9	-22	25.5	205	52.7	-24	28.4	85	50	15 59	16 37	17 18	11 37	23	19 52	82			
6	272	19.6	-22	25.8	220	20.1	-24	19.8	86	45	16 19	16 52	17 29	11 14	29	20 13	76			
7	287	19.4		26.2	234	47.5		11.0	88	40	35	17 05	39	10 56	33	30	72			
8	302	19.1		26.5	249	15.0	-24	02.1	89	35	16 48	16	47	41	37	44	68			
9	317	18.8		26.8	263	42.6	-23	53.0	91	30	17 00	26	17 56	28	39	20 56	65			
10	332	18.6		27.1	278	10.2		43.8	92	20	20	17 44	18 11	10 05	44	21 17	60			
11	347	18.3	-22	27.4	292	37.9	-23	34.5	93	10 N	17 38	18 01	18 27	9 45	49	21 35	56			
12	2	18.1	-22	27.7	307	05.6	-23	25.0	95	0	17 55	18 17	18 43	9 27	52	21 52	51			
13	17	17.8		28.0	321	33.4		15.4	96	10 S	18 11	34	19 01	9 08	56	22 09	47			
14	32	17.5		28.3	336	01.3	-23	05.7	97	20	29	18 54	23	8 48	61	26	43			
15	47	17.3		28.6	350	29.2	-22	55.8	99	30	18 51	19 18	19 51	25	65	47	37			
16	62	17.0		28.9	4	57.2		45.8	100	35	19 03	32	20 08	8 11	69	22 58	35			
17	77	16.7	-22	29.2	19	25.3	-22	35.7	101	40	19 17	19 50	20 31	7 56	71	23 12	30			
18	92	16.5	-22	29.5	33	53.4	-22	25.4	103	45	19 34	20 11	20 59	7 37	76	23 28	26			
19	107	16.2		29.8	48	21.5		15.0	104	50	19 56	39	21 41	13	82	47	21			
20	122	16.0		30.1	62	49.8	-22	04.5	105	52	20 06	20 53	22 06	7 02	84	23 56	18			
21	137	15.7		30.4	77	18.1	-21	53.9	106	54	18	21 10	22 41	6 49	88	** ** *				
22	152	15.4		30.7	91	46.4		43.1	108	56	31	30	** ** *	34	92	0 01	17			
23	167	15.2		31.0	106	14.9		32.2	109	58	20 46	21 56	** ** *	6 16	98	19	12			
24	182	14.9	-22	31.3	120	43.4	-21	21.2	110	60 S	21 05	22 34	** ** *	5 54	105	0 42	4			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 18 ^h 59.7 ^m		Mag: -4.2 PMG: 15 ^h 03 ^m		Mag: -0.6 PMG: 3 ^h 39 ^m		Mag: -2.8 PMG: 0 ^h 05 ^m		Mag: +1.0 PMG: 18 ^h 01 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	74	17.2	134	19.5	-23	03.7	305	02.2	+21	22.8	358	43.1	+22	05.8	89	08.5	-8	33.5
1	89	19.7	149	18.9		03.1	320	04.6		22.9	13	45.9		05.7	104	10.9		33.5
2	104	22.1	164	18.2		02.5	335	06.9		23.0	28	48.8		05.7	119	13.3		33.5
3	119	24.6	179	17.6		01.9	350	09.3		23.1	43	51.6		05.7	134	15.6		33.4
4	134	27.1	194	17.0		01.3	5	11.7		23.2	58	54.4		05.6	149	18.0		33.4
5	149	29.5	209	16.4	-23	00.6	20	14.1	+21	23.3	73	57.3	+22	05.6	164	20.4	-8	33.3
6	164	32.0	224	15.8	-23	00.0	35	16.4	+21	23.4	89	00.1	+22	05.6	179	22.8	-8	33.3
7	179	34.5	239	15.2	-22	59.4	50	18.8		23.5	104	02.9		05.6	194	25.2		33.3
8	194	36.9	254	14.6		58.8	65	21.2		23.6	119	05.7		05.5	209	27.6		33.2
9	209	39.4	269	13.9		58.2	80	23.6		23.7	134	08.6		05.5	224	30.0		33.2
10	224	41.8	284	13.3		57.6	95	25.9		23.8	149	11.4		05.5	239	32.3		33.1
11	239	44.3	299	12.7	-22	57.0	110	28.3	+21	23.9	164	14.2	+22	05.4	254	34.7	-8	33.1
12	254	46.8	314	12.1	-22	56.4	125	30.7	+21	24.0	179	17.1	+22	05.4	269	37.1	-8	33.1
13	269	49.2	329	11.5		55.8	140	33.1		24.1	194	19.9		05.4	284	39.5		33.0
14	284	51.7	344	10.9		55.2	155	35.5		24.2	209	22.7		05.4	299	41.9		33.0
15	299	54.2	359	10.3		54.6	170	37.8		24.3	224	25.6		05.3	314	44.3		32.9
16	314	56.6	14	09.7		54.0	185	40.2		24.4	239	28.4		05.3	329	46.7		32.9
17	329	59.1	29	09.1	-22	53.3	200	42.6	+21	24.5	254	31.2	+22	05.3	344	49.0	-8	32.9
18	345	01.6	44	08.4	-22	52.7	215	45.0	+21	24.6	269	34.1	+22	05.2	359	51.4	-8	32.8
19	0	04.0	59	07.8		52.1	230	47.4		24.7	284	36.9		05.2	14	53.8		32.8
20	15	06.5	74	07.2		51.5	245	49.8		24.8	299	39.7		05.2	29	56.2		32.7
21	30	08.9	89	06.6		50.9	260	52.2		24.9	314	42.5		05.2	44	58.6		32.7
22	45	11.4	104	06.0		50.2	275	54.6		25.0	329	45.4		05.1	60	01.0		32.7
23	60	13.9	119	05.4		49.6	290	57.0		25.1	344	48.2		05.1	75	03.3		32.6
24	75	16.3	134	04.8	-22	49.0	305	59.4	+21	25.2	359	51.0	+22	05.1	90	05.7	-8	32.6
Dif	—		-6		+6		+24		+1		+28		0		+24			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16 ^h /2 PMG:11 ^h 51.2 ^m				Edad: 4.7 ^d PHE { 4 ^h : 57/7 12 ^h : 57/8 20 ^h : 58/0 PMG: 16 ^h 31 ^m R°: 50 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	182	14.9	-22	31.3	120	43.4	95	-21	21.2	111	60 N	6 54	7 49	8 45	12 50	0	20 28	102	
1	197	14.6		31.6	135	11.9	96	-21	10.1	113	58	47	38	29	37	5	40	97	
2	212	14.4		31.9	149	40.5	96	-20	58.8	113	56	40	29	15	26	9	50	92	
3	227	14.1		32.2	164	09.2	97		47.5	115	54	35	20	8 03	16	13	20	89	
4	242	13.8		32.4	178	38.0	98		36.0	115	52	29	13	7 53	08	15	21	85	
5	257	13.6	-22	32.7	193	06.8	98	-20	24.4	116	50	6 24	7 06	7 43	12 00	18	21	83	
6	272	13.3	-22	33.0	207	35.7	99	-20	12.7	117	45	6 13	6 50	7 24	11 43	24	21	77	
7	287	13.0		33.3	222	04.6	99	-20	00.8	119	40	6 04	37	7 08	29	28	42	72	
8	302	12.8		33.6	236	33.6	100	-19	48.9	119	35	5 55	26	6 54	18	31	21	68	
9	317	12.5		33.9	251	02.6	100		36.8	121	30	46	6 16	42	11 07	35	22	61	
10	332	12.2		34.2	265	31.8	102		24.7	121	20	31	5 58	22	10 49	41	17	59	
11	347	12.0	-22	34.5	280	00.9	101	-19	12.4	123	10 N	5 15	5 42	6 04	10 34	45	22	53	
12	2	11.7	-22	34.8	294	30.2	103	-19	00.0	124	0	4 59	5 25	5 48	10 19	50	22	49	
13	17	11.4		35.0	308	59.5	103	-18	47.5	125	10 S	41	5 08	31	10 04	55	22	56	
14	32	11.2		35.3	323	28.9	104		34.9	126	20	4 19	4 48	5 12	9 49	59	23	39	
15	47	10.9		35.6	337	58.3	104		22.2	127	30	3 51	24	4 51	30	65	24	33	
16	62	10.6		35.9	352	27.8	105	-18	09.4	128	35	33	4 10	39	20	68	33	30	
17	77	10.4	-22	36.2	6	57.3	105	-17	56.5	129	40	3 11	3 52	4 25	9 07	72	23	42	
18	92	10.1	-22	36.5	21	26.9	106	-17	43.5	130	45	2 42	3 31	4 07	8 53	77	23	54	
19	107	09.8		36.7	35	56.6	107		30.4	131	50	2 01	3 03	3 46	35	83	**	**	
20	122	09.6		37.0	50	26.3	107		17.2	132	52	1 36	2 49	36	26	86	**	**	
21	137	09.3		37.3	64	56.1	108	-17	03.9	133	54	1 01	32	24	17	89	0	06	
22	152	09.0		37.6	79	25.9	108	-16	50.5	134	56	**	**	2 12	3 11	8 06	93	18	
23	167	08.7		37.9	93	55.8	109		37.0	135	58	**	**	1 46	2 55	7 54	97	31	
24	182	08.5	-22	38.1	108	25.8	110	-16	23.4	136	60 S	**	**	1 08	2 37	7 39	103	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 55.8 ^m		Mag: -4.2 PMG: 15 ^h 04 ^m		Mag: -0.6 PMG: 3 ^h 35 ^m		Mag: -2.8 PMG: 0 ^h 01 ^m		Mag: +1.0 PMG: 17 ^h 57 ^m									
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
h	°	'	°	'	°	'	°	'	°	'								
0	75	16.3	134	04.8	-22	49.0	305	59.4	+21	25.2	359	51.0	+22	05.1	90	05.7	-8	32.6
1	90	18.8	149	04.2		48.4	321	01.8		25.3	14	53.9		05.0	105	08.1		32.5
2	105	21.3	164	03.6		47.8	336	04.2		25.4	29	56.7		05.0	120	10.5		32.5
3	120	23.7	179	03.0		47.1	351	06.6		25.5	44	59.5		05.0	135	12.9		32.5
4	135	26.2	194	02.4		46.5	6	09.0		25.6	60	02.4		05.0	150	15.3		32.4
5	150	28.7	209	01.8	-22	45.9	21	11.4	+21	25.7	75	05.2	+22	04.9	165	17.6	-8	32.4
6	165	31.1	224	01.2	-22	45.2	36	13.8	+21	25.8	90	08.0	+22	04.9	180	20.0	-8	32.3
7	180	33.6	239	00.6		44.6	51	16.2		25.9	105	10.8		04.9	195	22.4		32.3
8	195	36.1	254	00.0		44.0	66	18.6		26.0	120	13.7		04.8	210	24.8		32.3
9	210	38.5	268	59.4		43.4	81	21.0		26.1	135	16.5		04.8	225	27.2		32.2
10	225	41.0	283	58.8		42.7	96	23.4		26.2	150	19.3		04.8	240	29.6		32.2
11	240	43.4	298	58.2	-22	42.1	111	25.9	+21	26.3	165	22.2	+22	04.7	255	31.9	-8	32.1
12	255	45.9	313	57.6	-22	41.5	126	28.3	+21	26.4	180	25.0	+22	04.7	270	34.3	-8	32.1
13	270	48.4	328	57.0		40.8	141	30.7		26.5	195	27.8		04.7	285	36.7		32.0
14	285	50.8	343	56.4		40.2	156	33.1		26.7	210	30.7		04.7	300	39.1		32.0
15	300	53.3	358	55.9		39.5	171	35.5		26.8	225	33.5		04.6	315	41.5		32.0
16	315	55.8	13	55.3		38.9	186	38.0		26.9	240	36.3		04.6	330	43.8		31.9
17	330	58.2	28	54.7	-22	38.3	201	40.4	+21	27.0	255	39.2	+22	04.6	345	46.2	-8	31.9
18	346	00.7	43	54.1	-22	37.6	216	42.8	+21	27.1	270	42.0	+22	04.5	0	48.6	-8	31.8
19	1	03.2	58	53.5		37.0	231	45.2		27.2	285	44.8		04.5	15	51.0		31.8
20	16	05.6	73	52.9		36.3	246	47.7		27.3	300	47.6		04.5	30	53.4		31.8
21	31	08.1	88	52.3		35.7	261	50.1		27.4	315	50.5		04.5	45	55.8		31.7
22	46	10.6	103	51.7		35.1	276	52.5		27.5	330	53.3		04.4	60	58.1		31.7
23	61	13.0	118	51.1		34.4	291	54.9		27.6	345	56.1		04.4	76	00.5		31.6
24	76	15.5	133	50.6	-22	33.8	306	57.4	+21	27.7	0	59.0	+22	04.4	91	02.9	-8	31.6
Dif	—		-6		+6		+24		+1		-8972		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 51.6 ^m			Edad: 5.7 ^d SD: 15/8 PMG: 17 ^h 21 ^m PHE 4^h: 58/2 12^h: 58/3 20^h: 58/5 R°: 47^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif											
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	m	h m	m		
0	182	08.5	-22	38.1	108	25.8	-16	23.4	60 N	14 56	15 52	16 48	12 50	**	22 10	99		
1	197	08.2		38.4	122	55.8	-16	09.7	58	15 13	16 03	16 55	42	4	17 94			
2	212	07.9		38.7	137	25.8	-15	55.9	56	26	13	17 02	35	7	22 92			
3	227	07.7		39.0	151	55.9		42.1	54	38	22	07	29	10	28 87			
4	242	07.4		39.2	166	26.1		28.1	52	49	29	13	23	13	32 85			
5	257	07.1	-22	39.5	180	56.3	-15	14.1	50	15 59	16 36	17 18	12 18	15	22 37	82		
6	272	06.8	-22	39.8	195	26.5	-15	00.0	45	16 18	16 52	17 29	12 07	20	22 46	76		
7	287	06.6		40.0	209	56.8	-14	45.8	40	35	17 05	39	11 57	26	22 54	71		
8	302	06.3		40.3	224	27.2		31.5	35	16 48	16	48	49	29	23 00	67		
9	317	06.0		40.6	238	57.6		17.1	30	17 00	26	17 56	42	33	06 64			
10	332	05.8		40.9	253	28.1	-14	02.6	20	21	17 44	18 12	30	38	16 57			
11	347	05.5	-22	41.1	267	58.6	-13	48.1	10 N	17 39	18 01	18 27	11 19	43	23 24	52		
12	2	05.2	-22	41.4	282	29.1	-13	33.5	0	17 55	18 18	18 44	11 09	48	23 32	47		
13	17	04.9		41.7	296	59.7		18.8	10 S	18 12	35	19 02	10 59	53	40 42			
14	32	04.7		41.9	311	30.3	-13	04.0	20	31	18 55	24	48	58	48 37			
15	47	04.4		42.2	326	01.0	-12	49.2	30	18 52	19 19	19 52	35	64	23 57	32		
16	62	04.1		42.4	340	31.7		34.3	35	19 05	34	20 10	28	67	** ** *	**		
17	77	03.9	-22	42.7	355	02.5	-12	19.3	40	19 19	19 52	20 33	10 19	72	** ** *	**		
18	92	03.6	-22	43.0	9	33.3	-12	04.2	45	19 36	20 13	21 02	10 10	76	** ** *	**		
19	107	03.3		43.2	24	04.1	-11	49.1	50	19 58	42	21 45	9 58	82	0 07	17		
20	122	03.0		43.5	38	35.0		33.9	52	20 08	20 56	22 10	52	85	14 14			
21	137	02.8		43.8	53	05.9		18.6	54	20	21 13	22 47	46	88	21 11			
22	152	02.5		44.0	67	36.8	-11	03.3	56	34	21 34	** ** *	39	91	29 8			
23	167	02.2		44.3	82	07.8	-10	47.9	58	20 50	22 01	** ** *	31	95	38 4			
24	182	01.9	-22	44.5	96	38.8	-10	32.4	60 S	21 09	22 41	** ** *	9 22	100	0 47	0		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 18 ^h 51.9 ^m			Mag: -4.2 PMG: 15 ^h 05 ^m			Mag: -0.6 PMG: 3 ^h 32 ^m			Mag: -2.8 PMG: 23 ^h 52 ^m			Mag: +1.0 PMG: 17 ^h 53 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	76	15.5	133	50.6	-22	33.8	306	57.4	+21	27.7	0	59.0	+22	04.4	91	02.9	-8	31.6			
1	91	17.9	148	50.0		33.1	321	59.8		27.9	16	01.8		04.3	106	05.3		31.5			
2	106	20.4	163	49.4		32.5	337	02.3		28.0	31	04.6		04.3	121	07.7		31.5			
3	121	22.9	178	48.8		31.8	352	04.7		28.1	46	07.5		04.3	136	10.0		31.5			
4	136	25.3	193	48.2		31.2	7	07.1		28.2	61	10.3		04.3	151	12.4		31.4			
5	151	27.8	208	47.6	-22	30.5	22	09.6	+21	28.3	76	13.1	+22	04.2	166	14.8	-8	31.4			
6	166	30.3	223	47.1	-22	29.9	37	12.0	+21	28.4	91	16.0	+22	04.2	181	17.2	-8	31.3			
7	181	32.7	238	46.5		29.2	52	14.5		28.5	106	18.8		04.2	196	19.5		31.3			
8	196	35.2	253	45.9		28.5	67	16.9		28.6	121	21.6		04.1	211	21.9		31.2			
9	211	37.7	268	45.3		27.9	82	19.3		28.8	136	24.4		04.1	226	24.3		31.2			
10	226	40.1	283	44.7		27.2	97	21.8		28.9	151	27.3		04.1	241	26.7		31.2			
11	241	42.6	298	44.2	-22	26.6	112	24.2	+21	29.0	166	30.1	+22	04.1	256	29.1	-8	31.1			
12	256	45.1	313	43.6	-22	25.9	127	26.7	+21	29.1	181	32.9	+22	04.0	271	31.4	-8	31.1			
13	271	47.5	328	43.0		25.3	142	29.1		29.2	196	35.8		04.0	286	33.8		31.0			
14	286	50.0	343	42.4		24.6	157	31.6		29.3	211	38.6		04.0	301	36.2		31.0			
15	301	52.4	358	41.9		23.9	172	34.0		29.5	226	41.4		03.9	316	38.6		30.9			
16	316	54.9	13	41.3		23.3	187	36.5		29.6	241	44.3		03.9	331	40.9		30.9			
17	331	57.4	28	40.7	-22	22.6	202	39.0	+21	29.7	256	47.1	+22	03.9	346	43.3	-8	30.9			
18	346	59.8	43	40.1	-22	21.9	217	41.4	+21	29.8	271	49.9	+22	03.9	1	45.7	-8	30.8			
19	2	02.3	58	39.6		21.3	232	43.9		29.9	286	52.8		03.8	16	48.1		30.8			
20	17	04.8	73	39.0		20.6	247	46.3		30.0	301	55.6		03.8	31	50.5		30.7			
21	32	07.2	88	38.4		19.9	262	48.8		30.2	316	58.4		03.8	46	52.8		30.7			
22	47	09.7	103	37.9		19.3	277	51.3		30.3	332	01.2		03.7	61	55.2		30.6			
23	62	12.2	118	37.3		18.6	292	53.7		30.4	347	04.1		03.7	76	57.6		30.6			
24	77	14.6	133	36.7	-22	17.9	307	56.2	+21	30.5	2	06.9	+22	03.7	92	00.0	-8	30.6			
Dif	—			-6			+7			+25			+1			+28			0		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG:11 ^h 52.1 ^m				Edad: 6.7 ^d SD: 16/0 PMG: 18 ^h 08 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	182	01.9	-22	44.5	96	38.8	-10	32.4	60 N	6 56	7 52	8 48	12 49	0	23 49	99		
1	197	01.7		44.8	111	09.8		16.9	58	49	41	32	46	2	51	95		
2	212	01.4		45.0	125	40.9	-10	01.3	56	43	31	18	42	6	54	91		
3	227	01.1		45.3	140	12.0	-9	45.7	54	37	23	8 06	39	9	55	88		
4	242	00.8		45.6	154	43.1		30.0	52	31	15	7 55	36	11	57	85		
5	257	00.6	-22	45.8	169	14.3	-9	14.2	50	6 26	7 08	7 46	12 33	14	23 59	82		
6	272	00.3	-22	46.1	183	45.5	-8	58.4	45	6 15	6 52	7 26	12 27	20	**	**		
7	287	00.0		46.3	198	16.7		42.6	40	6 05	39	7 09	23 23	**	**	**		
8	301	59.7		46.6	212	47.9		26.6	35	5 56	28	6 56	18 28	**	**	**		
9	316	59.5		46.8	227	19.2	-8	10.7	30	48	6 18	44	15 31	**	**	**		
10	331	59.2		47.1	241	50.4	-7	54.6	20	32	5 59	23	08 37	**	**	**		
11	346	58.9	-22	47.3	256	21.7	-7	38.6	10 N	5 16	5 43	6 05	12 02	43	**	**		
12	1	58.6	-22	47.6	270	53.0	-7	22.5	0	5 00	5 26	5 48	11 57	47	**	**		
13	16	58.3		47.8	285	24.4	-7	06.3	10 S	4 41	5 08	31	52 52	**	**	**		
14	31	58.1		48.1	299	55.7	-6	50.1	20	4 19	4 49	5 13	46 57	**	**	**		
15	46	57.8		48.3	314	27.1		33.8	30	3 51	24	4 52	39 64	**	**	**		
16	61	57.5		48.6	328	58.4		17.5	35	33	4 10	39	35 68	0 03	28			
17	76	57.2	-22	48.8	343	29.8	-6	01.2	40	3 11	3 52	4 24	11 31	72	0 09	24		
18	91	57.0	-22	49.0	358	01.2	-5	44.8	45	2 42	3 30	4 07	11 26	76	0 16	19		
19	106	56.7		49.3	12	32.6		28.4	50	1 59	3 02	3 45	20 82	24	12			
20	121	56.4		49.5	27	04.0	-5	11.9	52	1 34	2 47	35	17 85	28	14			
21	136	56.1		49.8	41	35.4	-4	55.4	54	0 56	30	23	14 88	32	9			
22	151	55.8		50.0	56	06.9		38.9	56	**	**	2 10	3 10	10 91	37	6		
23	166	55.6		50.3	70	38.3		22.3	58	**	**	1 43	2 54	06 95	42	3		
24	181	55.3	-22	50.5	85	09.7	-4	05.7	60 S	**	**	1 03	2 35	11 02	99	0 47	0	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 18 ^h 47.9 ^m		Mag: -4.3 PMG: 15 ^h 06 ^m				Mag: -0.7 PMG: 3 ^h 28 ^m				Mag: -2.8 PMG: 23 ^h 47 ^m				Mag: +1.0 PMG: 17 ^h 49 ^m			
h	hG ♈		hG ♊		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	77	14.6	133	36.7	-22	17.9	307	56.2	+21	30.5	2	06.9	+22	03.7	92	00.0	-8	30.6
1	92	17.1	148	36.2		17.3	322	58.7		30.6	17	09.7		03.6	107	02.3		30.5
2	107	19.5	163	35.6		16.6	338	01.1		30.8	32	12.6		03.6	122	04.7		30.5
3	122	22.0	178	35.0		15.9	353	03.6		30.9	47	15.4		03.6	137	07.1		30.4
4	137	24.5	193	34.5		15.2	8	06.1		31.0	62	18.2		03.6	152	09.5		30.4
5	152	26.9	208	33.9	-22	14.6	23	08.6	+21	31.1	77	21.1	+22	03.5	167	11.8	-8	30.3
6	167	29.4	223	33.3	-22	13.9	38	11.0	+21	31.2	92	23.9	+22	03.5	182	14.2	-8	30.3
7	182	31.9	238	32.8		13.2	53	13.5		31.4	107	26.7		03.5	197	16.6		30.2
8	197	34.3	253	32.2		12.5	68	16.0		31.5	122	29.6		03.4	212	19.0		30.2
9	212	36.8	268	31.6		11.8	83	18.5		31.6	137	32.4		03.4	227	21.3		30.2
10	227	39.3	283	31.1		11.2	98	21.0		31.7	152	35.2		03.4	242	23.7		30.1
11	242	41.7	298	30.5	-22	10.5	113	23.4	+21	31.9	167	38.0	+22	03.4	257	26.1	-8	30.1
12	257	44.2	313	30.0	-22	09.8	128	25.9	+21	32.0	182	40.9	+22	03.3	272	28.5	-8	30.0
13	272	46.7	328	29.4		09.1	143	28.4		32.1	197	43.7		03.3	287	30.8		30.0
14	287	49.1	343	28.9		08.4	158	30.9		32.2	212	46.5		03.3	302	33.2		29.9
15	302	51.6	358	28.3		07.7	173	33.4		32.4	227	49.4		03.2	317	35.6		29.9
16	317	54.0	13	27.7		07.1	188	35.9		32.5	242	52.2		03.2	332	37.9		29.8
17	332	56.5	28	27.2	-22	06.4	203	38.4	+21	32.6	257	55.0	+22	03.2	347	40.3	-8	29.8
18	347	59.0	43	26.6	-22	05.7	218	40.9	+21	32.7	272	57.9	+22	03.2	2	42.7	-8	29.8
19	3	01.4	58	26.1		05.0	233	43.4		32.9	288	00.7		03.1	17	45.1		29.7
20	18	03.9	73	25.5		04.3	248	45.9		33.0	303	03.5		03.1	32	47.4		29.7
21	33	06.4	88	25.0		03.6	263	48.4		33.1	318	06.3		03.1	47	49.8		29.6
22	48	08.8	103	24.4		02.9	278	50.9		33.2	333	09.2		03.0	62	52.2		29.6
23	63	11.3	118	23.9		02.2	293	53.4		33.4	348	12.0		03.0	77	54.6		29.5
24	78	13.8	133	23.3	-22	01.5	308	55.9	+21	33.5	3	14.8	+22	03.0	92	56.9	-8	29.5
Dif	—		-6		+7		+25		+1		+28		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 52.5 ^m				Edad: 7.7 ^d SD: 16/1 PMG: 18 ^h 55 ^m PHE { 4 ^h : 59/1 12 ^h : 59/3 20 ^h : 59/4 R°: 49 ^m													
	hG ☉		Dec		hG ☾		Dif				Civil		Náutico		Hora R°			
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	m		
0	181	55.3	−22	50.5	85	09.7	−4	05.7	60 N	14 55	15 51	16 47	12 49	**	**	**		
1	196	55.0		50.7	99	41.1	−3	49.1	58	15 12	16 03	16 55	48	3	**	**		
2	211	54.7		51.0	114	12.6		32.5	56	26	12	17 01	48	6	**	**		
3	226	54.4		51.2	128	44.0	−3	15.8	54	38	21	07	48	9	**	**		
4	241	54.2		51.4	143	15.4	−2	59.1	52	49	29	12	47	12	**	**		
5	256	53.9	−22	51.7	157	46.9	−2	42.4	50	15 58	16 36	17 18	12 47	14	**	**		
6	271	53.6	−22	51.9	172	18.3	−2	25.6	45	16 18	16 52	17 29	12 47	19	0	02 77		
7	286	53.3		52.2	186	49.7	−2	08.8	40	35	17 05	39	46	24	05	72		
8	301	53.0		52.4	201	21.1	−1	52.0	35	16 48	16	48	46	28	07	68		
9	316	52.8		52.6	215	52.5		35.2	30	17 00	27	17 56	46	31	10	64		
10	331	52.5		52.8	230	23.9		18.4	20	21	17 45	18 12	45	38	13	58		
11	346	52.2	−22	53.1	244	55.2	−1	01.5	10 N	17 39	18 02	18 28	12 45	43	0	16 53		
12	1	51.9	−22	53.3	259	26.6	−0	44.6	0	17 56	18 19	18 45	12 44	48	0	19 48		
13	16	51.6		53.5	273	57.9		27.7	10 S	18 13	36	19 03	44	53	22	43		
14	31	51.4		53.8	288	29.2	−0	10.9	20	32	18 56	26	43	59	25	37		
15	46	51.1		54.0	303	00.5	+0	06.1	30	18 53	19 21	19 54	43	65	29	31		
16	61	50.8		54.2	317	31.8		23.0	35	19 06	36	20 12	43	68	31	27		
17	76	50.5	−22	54.4	332	03.1	+0	39.9	40	19 21	19 53	20 35	12 43	72	0	33 23		
18	91	50.2	−22	54.7	346	34.3	+0	56.8	45	19 38	20 15	21 04	12 42	78	0	35 20		
19	106	49.9		54.9	1	05.5	+1	13.8	50	20 00	44	21 48	42	83	38	14		
20	121	49.7		55.1	15	36.7		30.7	52	11	20 59	22 14	42	86	40	11		
21	136	49.4		55.3	30	07.9	+1	47.7	54	23	21 16	22 53	42	89	41	9		
22	151	49.1		55.6	44	39.0	+2	04.6	56	36	21 37	** **	41	93	43	6		
23	166	48.8		55.8	59	10.1		21.6	58	20 53	22 05	** **	41	96	45	2		
24	181	48.5	−22	56.0	73	41.2	+2	38.5	60 S	21 12	22 47	** **	12 41	100	0	47 **		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 18 ^h 44.0 ^m		Mag: −4.3 PMG: 15 ^h 07 ^m				Mag: −0.7 PMG: 3 ^h 24 ^m				Mag: −2.8 PMG: 23 ^h 43 ^m				Mag: +1.0 PMG: 17 ^h 45 ^m			
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	78	13.8	133	23.3	−22	01.5	308	55.9	+21	33.5	3	14.8	+22	03.0	92	56.9	−8	29.5
1	93	16.2	148	22.8		00.8	323	58.4		33.6	18	17.7		02.9	107	59.3		29.4
2	108	18.7	163	22.2	−22	00.1	339	00.9		33.8	33	20.5		02.9	123	01.7		29.4
3	123	21.2	178	21.7	−21	59.4	354	03.4		33.9	48	23.3		02.9	138	04.0		29.3
4	138	23.6	193	21.1		58.7	9	05.9		34.0	63	26.2		02.9	153	06.4		29.3
5	153	26.1	208	20.6	−21	58.0	24	08.4	+21	34.2	78	29.0	+22	02.8	168	08.8	−8	29.3
6	168	28.5	223	20.0	−21	57.3	39	10.9	+21	34.3	93	31.8	+22	02.8	183	11.2	−8	29.2
7	183	31.0	238	19.5		56.6	54	13.4		34.4	108	34.7		02.8	198	13.5		29.2
8	198	33.5	253	19.0		55.9	69	15.9		34.5	123	37.5		02.7	213	15.9		29.1
9	213	35.9	268	18.4		55.2	84	18.5		34.7	138	40.3		02.7	228	18.3		29.1
10	228	38.4	283	17.9		54.5	99	21.0		34.8	153	43.1		02.7	243	20.6		29.0
11	243	40.9	298	17.3	−21	53.8	114	23.5	+21	34.9	168	46.0	+22	02.7	258	23.0	−8	29.0
12	258	43.3	313	16.8	−21	53.1	129	26.0	+21	35.1	183	48.8	+22	02.6	273	25.4	−8	28.9
13	273	45.8	328	16.3		52.4	144	28.5		35.2	198	51.6		02.6	288	27.7		28.9
14	288	48.3	343	15.7		51.7	159	31.1		35.3	213	54.5		02.6	303	30.1		28.8
15	303	50.7	358	15.2		51.0	174	33.6		35.5	228	57.3		02.5	318	32.5		28.8
16	318	53.2	373	14.6		50.3	189	36.1		35.6	244	60.1		02.5	333	34.9		28.7
17	333	55.6	388	14.1	−21	49.6	204	38.6	+21	35.7	259	63.0	+22	02.5	348	37.2	−8	28.7
18	348	58.1	403	13.6	−21	48.8	219	41.2	+21	35.9	274	65.8	+22	02.4	363	39.6	−8	28.7
19	4	00.6	418	13.0		48.1	234	43.7		36.0	289	68.6		02.4	378	42.0		28.6
20	19	03.0	433	12.5		47.4	249	46.2		36.2	304	71.4		02.4	393	44.3		28.6
21	34	05.5	448	12.0		46.7	264	48.8		36.3	319	74.3		02.4	408	46.7		28.5
22	49	08.0	463	11.4		46.0	279	51.3		36.4	334	77.1		02.3	423	49.1		28.5
23	64	10.4	478	10.9		45.3	294	53.8		36.6	349	80.9		02.3	438	51.4		28.4
24	79	12.9	493	10.4	−21	44.6	309	56.4	+21	36.7	4	22.8	+22	02.3	453	53.8	−8	28.4
Dif	—		−5		+7		+25		+1		+28		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 53.0 ^m				Edad: 8.7 ^d SD: 16'2 PMG: 19 ^h 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	181	48.5	-22	56.0	73	41.2	+2	38.5	60 N	6	58	7	55	8	51	12	48	**	1	28	102	
1	196	48.2		56.2	88	12.3	+2	55.4	58	51	43		35	51	4				26	98		
2	211	48.0		56.4	102	43.3	+3	12.4	56	45	34		20	54	7				25	94		
3	226	47.7		56.7	117	14.2		29.3	54	39	25		8	08	57	10			24	90		
4	241	47.4		56.9	131	45.2	+3	46.2	52	33	17		7	57	12	59	13		22	88		
5	256	47.1	-22	57.1	146	16.1	+4	03.1	50	6	28	7	10	7	48	13	01	16	1	21	85	
6	271	46.8	-22	57.3	160	46.9	+4	20.0	45	6	17	6	54	7	28	13	06	22	1	19	79	
7	286	46.5		57.5	175	17.8		36.9	40	6	07	41	7	11	10	26			17	74		
8	301	46.3		57.7	189	48.5	+4	53.8	35	5	58	29	6	57	14	30			15	70		
9	316	46.0		58.0	204	19.3	+5	10.6	30	49	19		45	17	34				14	66		
10	331	45.7		58.2	218	50.0		27.5	20	33	6	01	24	23	39				11	60		
11	346	45.4	-22	58.4	233	20.6	+5	44.3	10 N	5	17	5	44	6	06	13	28	45	1	09	54	
12	1	45.1	-22	58.6	247	51.2	+6	01.1	0	5	01	5	27	5	49	13	32	50	1	07	49	
13	16	44.8		58.8	262	21.7		17.9	10 S	4	42	5	09	32	37	55			05	43		
14	31	44.5		59.0	276	52.2		34.6	20	4	20	4	49	5	13	42	61		02	39		
15	46	44.3		59.2	291	22.7	+6	51.3	30	3	51	25	4	52	48	67			1	00	32	
16	61	44.0		59.4	305	53.1	+7	08.0	35	33	4	10	39	51	71				0	58	29	
17	76	43.7	-22	59.6	320	23.4	+7	24.7	40	3	11	3	52	4	25	13	55	75		0	56	25
18	91	43.4	-22	59.8	334	53.7	+7	41.4	45	2	41	3	30	4	07	14	00	80		0	55	20
19	106	43.1	-23	00.0	349	23.9	+7	58.0	50	1	57	3	01	3	45	05	87			52	15	
20	121	42.8	-23	00.3	3	54.1	+8	14.5	52	1	32	2	47	35	08	89				51	12	
21	136	42.5		00.5	18	24.2		31.1	54	0	52	29	23	11	92					50	9	
22	151	42.2		00.7	32	54.2	+8	47.6	56	**	**	2	08	3	09	14	96			49	6	
23	166	42.0		00.9	47	24.2	+9	04.0	58	**	**	1	41	2	53	17	100			47	3	
24	181	41.7	-23	01.1	61	54.1	+9	20.5	60 S	**	**	0	58	2	33	14	21	105		0	46	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 40.1 ^m		Mag: -4.3 PMG: 15 ^h 08 ^m		Mag: -0.7 PMG: 3 ^h 20 ^m		Mag: -2.8 PMG: 23 ^h 38 ^m		Mag: +1.0 PMG: 17 ^h 42 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	79	12.9	133	10.4	-21	44.6	309	56.4	+21	36.7	4	22.8	+22	02.3	93	53.8	-8	28.4
1	94	15.4	148	09.8		43.8	324	58.9		36.8	19	25.6		02.2	108	56.2		28.3
2	109	17.8	163	09.3		43.1	340	01.5		37.0	34	28.4		02.2	123	58.5		28.3
3	124	20.3	178	08.8		42.4	355	04.0		37.1	49	31.2		02.2	139	00.9		28.2
4	139	22.8	193	08.3		41.7	10	06.5		37.3	64	34.1		02.2	154	03.3		28.2
5	154	25.2	208	07.7	-21	41.0	25	09.1	+21	37.4	79	36.9	+22	02.1	169	05.6	-8	28.1
6	169	27.7	223	07.2	-21	40.2	40	11.6	+21	37.5	94	39.7	+22	02.1	184	08.0	-8	28.1
7	184	30.1	238	06.7		39.5	55	14.2		37.7	109	42.6		02.1	199	10.4		28.0
8	199	32.6	253	06.2		38.8	70	16.7		37.8	124	45.4		02.0	214	12.7		28.0
9	214	35.1	268	05.6		38.0	85	19.3		38.0	139	48.2		02.0	229	15.1		27.9
10	229	37.5	283	05.1		37.3	100	21.8		38.1	154	51.1		02.0	244	17.5		27.9
11	244	40.0	298	04.6	-21	36.6	115	24.4	+21	38.2	169	53.9	+22	01.9	259	19.8	-8	27.8
12	259	42.5	313	04.1	-21	35.9	130	27.0	+21	38.4	184	56.7	+22	01.9	274	22.2	-8	27.8
13	274	44.9	328	03.5		35.1	145	29.5		38.5	199	59.5		01.9	289	24.6		27.8
14	289	47.4	343	03.0		34.4	160	32.1		38.7	215	02.4		01.9	304	26.9		27.7
15	304	49.9	358	02.5		33.7	175	34.6		38.8	230	05.2		01.8	319	29.3		27.7
16	319	52.3	13	02.0		32.9	190	37.2		38.9	245	08.0		01.8	334	31.7		27.6
17	334	54.8	28	01.5	-21	32.2	205	39.8	+21	39.1	260	10.9	+22	01.8	349	34.0	-8	27.6
18	349	57.3	43	01.0	-21	31.5	220	42.3	+21	39.2	275	13.7	+22	01.7	4	36.4	-8	27.5
19	4	59.7	58	00.4		30.7	235	44.9		39.4	290	16.5		01.7	19	38.8		27.5
20	20	02.2	72	59.9		30.0	250	47.5		39.5	305	19.3		01.7	34	41.1		27.4
21	35	04.6	87	59.4		29.3	265	50.0		39.7	320	22.2		01.7	49	43.5		27.4
22	50	07.1	102	58.9		28.5	280	52.6		39.8	335	25.0		01.6	64	45.9		27.3
23	65	09.6	117	58.4		27.8	295	55.2		40.0	350	27.8		01.6	79	48.2		27.3
24	80	12.0	132	57.9	-21	27.0	310	57.7	+21	40.1	5	30.7	+22	01.6	94	50.6	-8	27.2
Dif	—		-5		+7		+26		+1		+28		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 53.5 ^m				Edad: 9.7 ^d SD: 16'3 PMG: 20 ^h 35 ^m						Civl		Náutico		Hora R°			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	R°: 54 ^m	Civl			Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	h m	h m	
0	181	41.7	-23	01.1	61	54.1	+9	20.5	60 N	14 54	15 51	16 47	12 47	1	3	10	108	
1	196	41.4		01.3	76	23.9		36.8	58	15 11	16 02	16 54	12 55	6	3	04	102	
2	211	41.1		01.5	90	53.7	+9	53.2	56	25	12	17 01	13 01	10	2	59	98	
3	226	40.8		01.7	105	23.4	+10	09.5	54	37	21	07	07 14		54	94		
4	241	40.5		01.9	119	53.1		25.7	52	48	29	13	12 17		50	90		
5	256	40.2	-23	02.1	134	22.6	+10	41.9	50	15 58	16 36	17 18	13 17	20	2	46	88	
6	271	39.9	-23	02.3	148	52.1	+10	58.0	45	16 18	16 52	17 29	13 28	25	2	38	81	
7	286	39.7		02.5	163	21.5	+11	14.1	40	35	17 05	39	36 31		31	76		
8	301	39.4		02.6	177	50.9		30.1	35	16 49	17	48	44 34		25	72		
9	316	39.1		02.8	192	20.2	+11	46.1	30	17 01	27	17 57	13 51	37	20	68		
10	331	38.8		03.0	206	49.4	+12	02.0	20	22	17 46	18 13	14 02	44	11	62		
11	346	38.5	-23	03.2	221	18.5	+12	17.9	10 N	17 40	18 03	18 29	14 13	48	2	03	57	
12	1	38.2	-23	03.4	235	47.5	+12	33.7	0	17 57	18 20	18 46	14 22	54	1	56	51	
13	16	37.9		03.6	250	16.5	+12	49.4	10 S	18 15	38	19 05	32 59		48	47		
14	31	37.6		03.8	264	45.4	+13	05.1	20	33	18 58	27	43 64		41	41		
15	46	37.3		04.0	279	14.2		20.7	30	18 55	19 22	19 55	14 55	70	32	35		
16	61	37.1		04.2	293	42.9		36.2	35	19 08	37	20 14	15 02	74	27	32		
17	76	36.8	-23	04.4	308	11.6	+13	51.6	40	19 22	19 55	20 37	15 10	78	1	21	28	
18	91	36.5	-23	04.6	322	40.1	+14	07.0	45	19 40	20 17	21 07	15 20	83	1	15	23	
19	106	36.2		04.7	337	08.6		22.3	50	20 02	20 46	21 51	32 89		07	17		
20	121	35.9		04.9	351	36.9		37.6	52	13	21 01	22 17	37 93		1	03	15	
21	136	35.6		05.1	6	05.2	+14	52.7	54	25	19	22 59	43 96		0	59	12	
22	151	35.3		05.3	20	33.4	+15	07.8	56	39	21 40	** **	50 100		55	8		
23	166	35.0		05.5	35	01.5		22.8	58	20 55	22 09	** **	15 57	106	50	4		
24	181	34.7	-23	05.7	49	29.6	+15	37.7	60 S	21 15	22 53	** **	16 06	112	0	45	0	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 18 ^h 36.1 ^m		Mag: -4.3 PMG: 15 ^h 09 ^m				Mag: -0.7 PMG: 3 ^h 16 ^m				Mag: -2.8 PMG: 23 ^h 34 ^m				Mag: +1.0 PMG: 17 ^h 38 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	80	12.0	132	57.9	-21	27.0	310	57.7	+21	40.1	5	30.7	+22	01.6	94	50.6	-8	27.2
1	95	14.5	147	57.4		26.3	326	00.3		40.3	20	33.5		01.5	109	53.0		27.2
2	110	17.0	162	56.9		25.6	341	02.9		40.4	35	36.3		01.5	124	55.3		27.1
3	125	19.4	177	56.3		24.8	356	05.5		40.5	50	39.1		01.5	139	57.7		27.1
4	140	21.9	192	55.8		24.1	11	08.0		40.7	65	42.0		01.4	155	00.0		27.0
5	155	24.4	207	55.3	-21	23.3	26	10.6	+21	40.8	80	44.8	+22	01.4	170	02.4	-8	27.0
6	170	26.8	222	54.8	-21	22.6	41	13.2	+21	41.0	95	47.6	+22	01.4	185	04.8	-8	26.9
7	185	29.3	237	54.3		21.8	56	15.8		41.1	110	50.5		01.4	200	07.1		26.9
8	200	31.7	252	53.8		21.1	71	18.4		41.3	125	53.3		01.3	215	09.5		26.8
9	215	34.2	267	53.3		20.3	86	21.0		41.4	140	56.1		01.3	230	11.9		26.8
10	230	36.7	282	52.8		19.6	101	23.6		41.6	155	58.9		01.3	245	14.2		26.7
11	245	39.1	297	52.3	-21	18.8	116	26.1	+21	41.7	171	01.8	+22	01.2	260	16.6	-8	26.7
12	260	41.6	312	51.8	-21	18.1	131	28.7	+21	41.9	186	04.6	+22	01.2	275	19.0	-8	26.6
13	275	44.1	327	51.3		17.3	146	31.3		42.0	201	07.4		01.2	290	21.3		26.6
14	290	46.5	342	50.8		16.6	161	33.9		42.2	216	10.3		01.1	305	23.7		26.5
15	305	49.0	357	50.3		15.8	176	36.5		42.3	231	13.1		01.1	320	26.0		26.5
16	320	51.5	12	49.8		15.1	191	39.1		42.5	246	15.9		01.1	335	28.4		26.4
17	335	53.9	27	49.3	-21	14.3	206	41.7	+21	42.6	261	18.7	+22	01.1	350	30.8	-8	26.4
18	350	56.4	42	48.8	-21	13.5	221	44.3	+21	42.8	276	21.6	+22	01.0	5	33.1	-8	26.3
19	5	58.9	57	48.3		12.8	236	46.9		43.0	291	24.4		01.0	20	35.5		26.3
20	21	01.3	72	47.8		12.0	251	49.5		43.1	306	27.2		01.0	35	37.8		26.2
21	36	03.8	87	47.3		11.3	266	52.1		43.3	321	30.1		00.9	50	40.2		26.2
22	51	06.2	102	46.8		10.5	281	54.7		43.4	336	32.9		00.9	65	42.6		26.1
23	66	08.7	117	46.3		09.7	296	57.3		43.6	351	35.7		00.9	80	44.9		26.1
24	81	11.2	132	45.8	-21	09.0	312	00.0	+21	43.7	6	38.5	+22	00.9	95	47.3	-8	26.0
Dif	—		-5 +8				+26 +2				+28 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 53.9 ^m				Edad: 10.7 ^d PHE { 4 ^h : 60'0 12 ^h : 60'0 20 ^h : 60'0 SD: 16'3 PMG: 21 ^h 29 ^m R°: 59 ^m													
	hG ☉	Dec			hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	181	34.7	-23	05.7	49	29.6	+15	37.7	60 N	7	01	7	57	8	54	12	48	
1	196	34.4		05.8	63	57.5	+15	52.5	58	6	53		46	37	13	01	10	
2	211	34.1		06.0	78	25.3	+16	07.2	56		47		36	23	11	16	37	
3	226	33.9		06.2	92	53.1		21.8	54		41		27	8	10	21	19	
4	241	33.6		06.4	107	20.7		36.4	52		35		19	7	59	29	23	
5	256	33.3	-23	06.6	121	48.3	+16	50.8	50	6	30	7	11	7	50	13	37	
6	271	33.0	-23	06.7	136	15.8	+17	05.2	45	6	18	6	56	7	29	13	53	
7	286	32.7		06.9	150	43.1		19.4	40	6	08		42	7	13	14	07	
8	301	32.4		07.1	165	10.4		33.6	35	5	59		31	6	59	18	41	
9	316	32.1		07.3	179	37.6	+17	47.6	30		50		20	47	28	44		
10	331	31.8		07.4	194	04.6	+18	01.6	20		34	6	02	26	14	46	49	
11	346	31.5	-23	07.6	208	31.6	+18	15.4	10 N	5	18	5	45	6	07	15	01	
12	1	31.2	-23	07.8	222	58.5	+18	29.1	0	5	02	5	28	5	50	15	16	
13	16	30.9		08.0	237	25.3		42.7	10 S	4	43	5	10	33	31	62	35	
14	31	30.6		08.1	251	52.0	+18	56.3	20	4	20	4	50	5	14	15	47	
15	46	30.3		08.3	266	18.6	+19	09.6	30	3	52		25	4	52	16	05	
16	61	30.1		08.5	280	45.1		22.9	35		33	4	10	40	16	75	1	
17	76	29.8	-23	08.6	295	11.5	+19	36.1	40	3	11	3	52	4	25	16	28	
18	91	29.5	-23	08.8	309	37.7	+19	49.1	45	2	41	3	30	4	07	16	43	
19	106	29.2		09.0	324	03.9	+20	02.0	50	1	56	3	01	3	45	17	01	
20	121	28.9		09.2	338	30.0		14.8	52	1	30	2	46	34	10	93		
21	136	28.6		09.3	352	56.0		27.5	54	0	49		29	22	19	98		
22	151	28.3		09.5	7	21.9		40.0	56	**	**	2	07	3	08	30	102	
23	166	28.0		09.6	21	47.7	+20	52.5	58	**	**	1	39	2	52	43	108	
24	181	27.7	-23	09.8	36	13.4	+21	04.7	60 S	**	**	0	54	2	32	17	58	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 18 ^h 32.2 ^m		Mag: -4.3 PMG: 15 ^h 09 ^m				Mag: -0.8 PMG: 3 ^h 11 ^m				Mag: -2.8 PMG: 23 ^h 29 ^m				Mag: +1.0 PMG: 17 ^h 34 ^m			
	hG ☿		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	
0	81	11.2	132	45.8	-21	09.0	312	00.0	+21	43.7	6	38.5	+22	00.9	95	47.3	-8	
1	96	13.6	147	45.3		08.2	327	02.6		43.9	21	41.4		00.8	110	49.6	26.0	
2	111	16.1	162	44.9		07.5	342	05.2		44.0	36	44.2		00.8	125	52.0	25.9	
3	126	18.6	177	44.4		06.7	357	07.8		44.2	51	47.0		00.8	140	54.4	25.9	
4	141	21.0	192	43.9		05.9	12	10.4		44.3	66	49.8		00.7	155	56.7	25.8	
5	156	23.5	207	43.4	-21	05.2	27	13.0	+21	44.5	81	52.7	+22	00.7	170	59.1	-8	
6	171	26.0	222	42.9	-21	04.4	42	15.6	+21	44.7	96	55.5	+22	00.7	186	01.4	-8	
7	186	28.4	237	42.4		03.6	57	18.3		44.8	111	58.3		00.6	201	03.8	25.7	
8	201	30.9	252	41.9		02.8	72	20.9		45.0	127	01.2		00.6	216	06.2	25.6	
9	216	33.4	267	41.4		02.1	87	23.5		45.1	142	04.0		00.6	231	08.5	25.6	
10	231	35.8	282	41.0		01.3	102	26.1		45.3	157	06.8		00.6	246	10.9	25.5	
11	246	38.3	297	40.5	-21	00.5	117	28.8	+21	45.4	172	09.6	+22	00.5	261	13.2	-8	
12	261	40.7	312	40.0	-20	59.8	132	31.4	+21	45.6	187	12.5	+22	00.5	276	15.6	-8	
13	276	43.2	327	39.5		59.0	147	34.0		45.8	202	15.3		00.5	291	18.0	25.4	
14	291	45.7	342	39.0		58.2	162	36.6		45.9	217	18.1		00.4	306	20.3	25.3	
15	306	48.1	357	38.6		57.4	177	39.3		46.1	232	20.9		00.4	321	22.7	25.3	
16	321	50.6	12	38.1		56.7	192	41.9		46.2	247	23.8		00.4	336	25.0	25.2	
17	336	53.1	27	37.6	-20	55.9	207	44.5	+21	46.4	262	26.6	+22	00.3	351	27.4	-8	
18	351	55.5	42	37.1	-20	55.1	222	47.2	+21	46.6	277	29.4	+22	00.3	6	29.7	-8	
19	6	58.0	57	36.6		54.3	237	49.8		46.7	292	32.2		00.3	21	32.1	25.1	
20	22	00.5	72	36.2		53.5	252	52.5		46.9	307	35.1		00.3	36	34.5	25.0	
21	37	02.9	87	35.7		52.8	267	55.1		47.1	322	37.9		00.2	51	36.8	25.0	
22	52	05.4	102	35.2		52.0	282	57.7		47.2	337	40.7		00.2	66	39.2	24.9	
23	67	07.8	117	34.8		51.2	298	00.4		47.4	352	43.6		00.2	81	41.5	24.9	
24	82	10.3	132	34.3	-20	50.4	313	03.0	+21	47.5	7	46.4	+22	00.1	96	43.9	-8	
Dif	—		-5		+8		+26		+2		+28		0		+24		+	

UT	SOL				LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'2 PMG: 11 ^h 54.4 ^m				Edad: 11.7 ^d SD: 16'3 PMG: 22 ^h 28 ^m PHE { 4 ^h : 60'0 12 ^h : 59'9 20 ^h : 59'8 Rº: 62 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Civil			Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'		°	'		°	h	m	h	m	h	m	m	
0	181	27.7	-23	09.8	36	13.4	66	+21	04.7	122	60 N	14	53	15	50	12	52	10	
1	196	27.4		10.0	50	39.0	65		16.9	120	58	15	10	16	02	13	11	19	
2	211	27.1		10.1	65	04.5	64		28.9	119	56	25		12	17	01	27	26	
3	226	26.8		10.3	79	29.9	63		40.8	117	54	37		21	07	40	31	6	
4	241	26.5		10.5	93	55.2	62	+21	52.5	116	52	48		29	13	52	34	5	
5	256	26.2	-23	10.6	108	20.4	61	+22	04.1	114	50	15	58	16	36	14	03	37	
6	271	25.9	-23	10.8	122	45.5	60	+22	15.5	114	45	16	19	16	52	14	25	43	
7	286	25.6		10.9	137	10.5	59		26.9	114	40	35		17	06	44	45	5	
8	301	25.3		11.1	151	35.4	59		38.0	111	35	16	49	17	49	14	59	49	
9	316	25.1		11.2	166	00.3	57		49.0	110	30	17	01	28	17	58	15	12	
10	331	24.8		11.4	180	25.0	56	+22	59.9	109	20	22		17	46	18	14	35	
11	346	24.5	-23	11.6	194	49.6	54	+23	10.6	107	10 N	17	41	18	04	15	55	59	
12	1	24.2	-23	11.7	209	14.2	54	+23	21.2	106	0	17	58	18	21	16	14	61	
13	16	23.9		11.9	223	38.6	54		31.6	104	10 S	18	16	39	19	06	33	64	
14	31	23.6		12.0	238	03.0	52		41.8	102	20	34		18	59	28	16	53	
15	46	23.3		12.2	252	27.2	52	+23	51.9	101	30	18	56	19	24	19	57	71	
16	61	23.0		12.3	266	51.4	52	+24	01.8	99	35	19	09	39	20	15	31	73	
17	76	22.7	-23	12.5	281	15.5	51	+24	11.6	98	40	19	24	19	57	20	38	76	
18	91	22.4	-23	12.6	295	39.5	50	+24	21.2	96	45	19	42	20	19	21	09	80	
19	106	22.1		12.8	310	03.4	49		30.6	94	50	20	04	20	49	21	53	81	
20	121	21.8		12.9	324	27.3	49		39.9	93	52	15		21	03	22	20	83	
21	136	21.5		13.1	338	51.0	47		49.0	91	54	27		21	23	04	18	85	
22	151	21.2		13.2	353	14.7	47	+24	57.9	89	56	41		21	43	**	**	87	
23	166	20.9		13.3	7	38.3	46	+25	06.7	88	58	20	58	22	12	**	**	89	
24	181	20.6	-23	13.5	22	01.8	45	+25	15.2	85	60 S	21	18	22	59	**	**	91	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG: 18 ^h 28.3 ^m		Mag: -4.3 PMG: 15 ^h 10 ^m				Mag: -0.8 PMG: 3 ^h 07 ^m				Mag: -2.8 PMG: 23 ^h 24 ^m				Mag: +1.0 PMG: 17 ^h 30 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	82	10.3	132	34.3	-20	50.4	313	03.0	+21	47.5	7	46.4	+22	00.1	96	43.9	-8	24.8	
1	97	12.8	147	33.8		49.6	328	05.7		47.7	22	49.2		00.1	111	46.2		24.8	
2	112	15.2	162	33.3		48.8	343	08.3		47.9	37	52.0	+22	00.1	126	48.6		24.7	
3	127	17.7	177	32.9		48.0	358	11.0		48.0	52	54.9	+22	00.0	141	51.0		24.7	
4	142	20.2	192	32.4		47.3	13	13.6		48.2	67	57.7		00.0	156	53.3		24.6	
5	157	22.6	207	31.9	-20	46.5	28	16.3	+21	48.4	83	00.5	+22	00.0	171	55.7	-8	24.6	
6	172	25.1	222	31.5	-20	45.7	43	18.9	+21	48.5	98	03.3	+22	00.0	186	58.0	-8	24.5	
7	187	27.6	237	31.0		44.9	58	21.6		48.7	113	06.2	+21	59.9	202	00.4		24.5	
8	202	30.0	252	30.5		44.1	73	24.3		48.9	128	09.0		59.9	217	02.7		24.4	
9	217	32.5	267	30.1		43.3	88	26.9		49.0	143	11.8		59.9	232	05.1		24.3	
10	232	35.0	282	29.6		42.5	103	29.6		49.2	158	14.6		59.8	247	07.4		24.3	
11	247	37.4	297	29.1	-20	41.7	118	32.2	+21	49.4	173	17.5	+21	59.8	262	09.8	-8	24.2	
12	262	39.9	312	28.7	-20	40.9	133	34.9	+21	49.5	188	20.3	+21	59.8	277	12.2	-8	24.2	
13	277	42.3	327	28.2		40.1	148	37.6		49.7	203	23.1		59.8	292	14.5		24.1	
14	292	44.8	342	27.8		39.3	163	40.2		49.9	218	25.9		59.7	307	16.9		24.1	
15	307	47.3	357	27.3		38.5	178	42.9		50.0	233	28.8		59.7	322	19.2		24.0	
16	322	49.7	12	26.8		37.7	193	45.6		50.2	248	31.6		59.7	337	21.6		24.0	
17	337	52.2	27	26.4	-20	36.9	208	48.2	+21	50.4	263	34.4	+21	59.6	352	23.9	-8	23.9	
18	352	54.7	42	25.9	-20	36.1	223	50.9	+21	50.5	278	37.2	+21	59.6	7	26.3	-8	23.9	
19	7	57.1	57	25.5		35.3	238	53.6		50.7	293	40.1		59.6	22	28.6		23.8	
20	22	59.6	72	25.0		34.5	253	56.3		50.9	308	42.9		59.5	37	31.0		23.8	
21	38	02.1	87	24.6		33.7	268	58.9		51.1	323	45.7		59.5	52	33.3		23.7	
22	53	04.5	102	24.1		32.9	284	01.6		51.2	338	48.5		59.5	67	35.7		23.7	
23	68	07.0	117	23.6		32.1	299	04.3		51.4	353	51.4		59.5	82	38.1		23.6	
24	83	09.5	132	23.2	-20	31.3	314	07.0	+21	51.6	8	54.2	+21	59.4	97	40.4	-8	23.6	
Dif	—		-5		+8		+27		+2		+28		0		+24		+1		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'2 PMG:11 ^h 54.9 ^m				Edad: 12.7 ^d PHE { 4 ^h : 59'7 12 ^h : 59'6 20 ^h : 59'5 SD: 16'3 PMG: 23 ^h 30 ^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	
0	181	20.6	-23	13.5	22	01.8	+25	15.2	60 N	7 03	7 59	8 57	13 02	30	8 48	101		
1	196	20.3		13.6	36	25.2		23.7	58	6 55	48	39	30	40	8 20	91		
2	211	20.0		13.8	50	48.6		31.9	56	48	37	25	13 53	44	7 58	86		
3	226	19.7		13.9	65	11.9		40.0	54	42	28	12	14 11	48	40	83		
4	241	19.4		14.1	79	35.1		47.8	52	37	20	8 01	26	50	25	81		
5	256	19.1	-23	14.2	93	58.2	+25	55.5	50	6 32	7 13	7 51	14	40	51	7 12	79	
6	271	18.8	-23	14.3	108	21.3	+26	03.1	45	6 20	6 57	7 31	15	08	54	6 45	75	
7	286	18.5		14.5	122	44.3		10.4	40	10	44	14	29	57	24	73		
8	301	18.2		14.6	137	07.3		17.5	35	6 00	32	7 00	15	48	58	6 06	71	
9	316	17.9		14.8	151	30.1		24.5	30	5 52	22	6 48	16	04	58	5 51	69	
10	331	17.6		14.9	165	53.0		31.3	20	35	6 03	27	30	61	25	67		
11	346	17.3	-23	15.0	180	15.7	+26	37.9	10 N	5 19	5 46	6 08	16	54	61	5 03	65	
12	1	17.0	-23	15.2	194	38.5	+26	44.3	0	5 02	5 29	5 51	17	15	63	4 43	62	
13	16	16.7		15.3	209	01.1		50.5	10 S	4 44	5 11	34	17	37	64	22	61	
14	31	16.4		15.4	223	23.7	+26	56.6	20	4 21	4 50	5 15	18	01	65	4 00	59	
15	46	16.1		15.6	237	46.3	+27	02.4	30	3 52	26	4 53	28	67	3 35	55		
16	61	15.8		15.7	252	08.8		08.0	35	34	4 10	40	18	44	68	20	54	
17	76	15.5	-23	15.8	266	31.3	+27	13.5	40	3 11	3 52	4 25	19	03	68	3 03	51	
18	91	15.2	-23	16.0	280	53.8	+27	18.8	45	2 41	3 30	4 07	19	26	70	2 43	48	
19	106	14.9		16.1	295	16.2		23.8	50	1 56	3 01	3 45	19	56	71	17	44	
20	121	14.6		16.2	309	38.5		28.7	49	1 29	2 46	34	20	10	72	2 05	41	
21	136	14.3		16.3	324	00.9		33.4	47	0 45	28	22	27	74	1 51	38		
22	151	14.0		16.5	338	23.2		37.9	45	** **	2 06	3 08	20	48	75	14	34	
23	166	13.7		16.6	352	45.4		42.2	43	** **	1 37	2 52	21	14	77	1 15	27	
24	181	13.4	-23	16.7	7	07.7	+27	46.3	41	** **	0 50	2 31	21	49	83	0 50	16	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 18 ^h 24.3 ^m		Mag: -4.3 PMG: 15 ^h 11 ^m				Mag: -0.8 PMG: 3 ^h 03 ^m				Mag: -2.8 PMG: 23 ^h 20 ^m				Mag: +1.0 PMG: 17 ^h 27 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	83	09.5	132	23.2	-20	31.3	314	07.0	+21	51.6	8	54.2	+21	59.4	97	40.4	-8	23.6
1	98	11.9	147	22.7		30.5	329	09.7		51.7	23	57.0		59.4	112	42.8		23.5
2	113	14.4	162	22.3		29.7	344	12.4		51.9	38	59.8		59.4	127	45.1		23.4
3	128	16.8	177	21.8		28.9	359	15.0		52.1	54	02.7		59.3	142	47.5		23.4
4	143	19.3	192	21.4		28.1	14	17.7		52.3	69	05.5		59.3	157	49.8		23.3
5	158	21.8	207	20.9	-20	27.3	29	20.4	+21	52.4	84	08.3	+21	59.3	172	52.2	-8	23.3
6	173	24.2	222	20.5	-20	26.5	44	23.1	+21	52.6	99	11.1	+21	59.2	187	54.5	-8	23.2
7	188	26.7	237	20.1		25.7	59	25.8		52.8	114	14.0		59.2	202	56.9		23.2
8	203	29.2	252	19.6		24.8	74	28.5		53.0	129	16.8		59.2	217	59.2		23.1
9	218	31.6	267	19.2		24.0	89	31.2		53.1	144	19.6		59.2	233	01.6		23.1
10	233	34.1	282	18.7		23.2	104	33.9		53.3	159	22.4		59.1	248	03.9		23.0
11	248	36.6	297	18.3	-20	22.4	119	36.6	+21	53.5	174	25.2	+21	59.1	263	06.3	-8	23.0
12	263	39.0	312	17.8	-20	21.6	134	39.3	+21	53.7	189	28.1	+21	59.1	278	08.6	-8	22.9
13	278	41.5	327	17.4		20.8	149	42.0		53.8	204	30.9		59.0	293	11.0		22.9
14	293	44.0	342	17.0		19.9	164	44.7		54.0	219	33.7		59.0	308	13.3		22.8
15	308	46.4	357	16.5		19.1	179	47.4		54.2	234	36.5		59.0	323	15.7		22.7
16	323	48.9	12	16.1		18.3	194	50.1		54.4	249	39.4		58.9	338	18.0		22.7
17	338	51.3	27	15.6	-20	17.5	209	52.8	+21	54.5	264	42.2	+21	58.9	353	20.4	-8	22.6
18	353	53.8	42	15.2	-20	16.7	224	55.5	+21	54.7	279	45.0	+21	58.9	8	22.7	-8	22.6
19	8	56.3	57	14.8		15.8	239	58.2		54.9	294	47.8		58.9	23	25.1		22.5
20	23	58.7	72	14.3		15.0	255	00.9		55.1	309	50.7		58.8	38	27.4		22.5
21	39	01.2	87	13.9		14.2	270	03.7		55.3	324	53.5		58.8	53	29.8		22.4
22	54	03.7	102	13.5		13.4	285	06.4		55.4	339	56.3		58.8	68	32.1		22.4
23	69	06.1	117	13.0		12.6	300	09.1		55.6	354	59.1		58.7	83	34.5		22.3
24	84	08.6	132	12.6	-20	11.7	315	11.8	+21	55.8	10	01.9	+21	58.7	98	36.8	-8	22.3
Dif	—		-4		+8		+27		+2		+28		0		+24		+1	

UT	SOL				☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna								
	SD: 16'3 PMG:11 ^h 55.3 ^m				Edad: 13.7 ^d PHE { 4 ^h : 59'3 12 ^h : 59'1 20 ^h : 58'9 PMG: **h **m R°: **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	13.4	-23	16.7	7	07.7	32	+27	46.3	38	60 N	14 53	15 50	16 47	13 32	74	10 29	58									
1	196	13.1		16.8	21	29.9	32		50.1	37	58	15 10	16 02	16 55	14 10	71	9 51	60									
2	211	12.8		17.0	35	52.1	32		53.8	35	56	25	12	17 01		37	70	24	61								
3	226	12.5		17.1	50	14.3	32	+27	57.3	33	54	38	21	07	14 59	68	9 03	62									
4	241	12.2		17.2	64	36.5	32	+28	00.6	33	52	49	29	13	15 16	68	8 46	62									
5	256	11.9	-23	17.3	78	58.7	32	+28	03.7	31	50	15 58	16 37	17 18	15 31	68	8 31	62									
6	271	11.6	-23	17.4	93	20.8	31	+28	06.6	29	45	16 19	16 53	17 30	16 02	66	8 00	63									
7	286	11.3		17.6	107	43.0	32		09.4	28	40	36	17 06	40	26	65	7 37	62									
8	301	11.0		17.7	122	05.2	32		11.9	25	35	16 50	18	50	16 46	64	17	63									
9	316	10.7		17.8	136	27.3	31		14.2	23	30	17 02	28	17 58	17 02	65	7 00	63									
10	331	10.4		17.9	150	49.5	32		16.3	21	20	23	17 47	18 15	31	63	6 32	63									
11	346	10.1	-23	18.0	165	11.6	31	+28	18.2	19	10 N	17 42	18 05	18 31	17 55	63	6 08	63									
12	1	09.8	-23	18.2	179	33.8	32	+28	19.9	17	0	17 59	18 22	18 48	18 18	62	5 45	63									
13	16	09.5		18.3	193	56.0	32		21.4	15	10 S	18 17	18 40	19 07	18 41	61	5 23	62									
14	31	09.2		18.4	208	18.2	32		22.7	13	20	35	19 00	29	19 06	60	4 59	62									
15	46	08.9		18.5	222	40.5	33		23.8	11	30	18 57	25	19 58	35	58	30	62									
16	61	08.6		18.6	237	02.7	32		24.7	9	35	19 10	40	20 17	19 52	57	4 14	61									
17	76	08.3	-23	18.7	251	25.0	33	+28	25.4	7	40	19 25	19 58	20 40	20 11	57	3 54	62									
18	91	08.0	-23	18.8	265	47.3	33	+28	26.0	6	45	19 43	20 21	21 10	20 36	55	3 31	61									
19	106	07.7		18.9	280	09.6	33		26.3	3	50	20 06	20 50	21 56	21 07	52	3 01	60									
20	121	07.4		19.0	294	32.0	34		26.4	1	52	17	21 05	22 23	22	52	2 46	59									
21	136	07.1		19.2	308	54.4	34		26.3	2	54	29	23	23 08	21 41	49	29	58									
22	151	06.8		19.3	323	16.8	34		26.1	5	56	20 43	21 45	** **	22 03	46	2 08	57									
23	166	06.5		19.4	337	39.3	35		25.6	5	58	21 00	22 15	** **	22 31	42	1 42	55									
24	181	06.2	-23	19.5	352	01.9	36	+28	25.0	6	60 S	21 20	23 04	** **	23 12	33	1 06	49									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 18 ^h 20.4 ^m			Mag: -4.3 PMG: 15 ^h 12 ^m			Mag: -0.8 PMG: 2 ^h 59 ^m			Mag: -2.8 PMG: 23 ^h 15 ^m			Mag: +1.0 PMG: 17 ^h 23 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	84	08.6	132	12.6	-20	11.7	315	11.8	+21	55.8	10	01.9	+21	58.7	98	36.8	-8	22.3									
1	99	11.1	147	12.2		10.9	330	14.5		56.0	25	04.8		58.7	113	39.2		22.2									
2	114	13.5	162	11.7		10.1	345	17.3		56.2	40	07.6		58.7	128	41.5		22.1									
3	129	16.0	177	11.3		09.2	0	20.0		56.3	55	10.4		58.6	143	43.9		22.1									
4	144	18.5	192	10.9		08.4	15	22.7		56.5	70	13.2		58.6	158	46.2		22.0									
5	159	20.9	207	10.5	-20	07.6	30	25.4	+21	56.7	85	16.1	+21	58.6	173	48.6	-8	22.0									
6	174	23.4	222	10.0	-20	06.8	45	28.2	+21	56.9	100	18.9	+21	58.5	188	50.9	-8	21.9									
7	189	25.8	237	09.6		05.9	60	30.9		57.1	115	21.7		58.5	203	53.3		21.9									
8	204	28.3	252	09.2		05.1	75	33.6		57.3	130	24.5		58.5	218	55.6		21.8									
9	219	30.8	267	08.7		04.3	90	36.3		57.4	145	27.3		58.4	233	58.0		21.8									
10	234	33.2	282	08.3		03.4	105	39.1		57.6	160	30.2		58.4	249	00.3		21.7									
11	249	35.7	297	07.9	-20	02.6	120	41.8	+21	57.8	175	33.0	+21	58.4	264	02.7	-8	21.7									
12	264	38.2	312	07.5	-20	01.7	135	44.6	+21	58.0	190	35.8	+21	58.4	279	05.0	-8	21.6									
13	279	40.6	327	07.1		00.9	150	47.3		58.2	205	38.6		58.3	294	07.4		21.5									
14	294	43.1	342	06.6	-20	00.1	165	50.0		58.4	220	41.4		58.3	309	09.7		21.5									
15	309	45.6	357	06.2	-19	59.2	180	52.8		58.5	235	44.3		58.3	324	12.0		21.4									
16	324	48.0	12	05.8		58.4	195	55.5		58.7	250	47.1		58.2	339	14.4		21.4									
17	339	50.5	27	05.4	-19	57.6	210	58.3	+21	58.9	265	49.9	+21	58.2	354	16.7	-8	21.3									
18	354	53.0	42	05.0	-19	56.7	226	01.0	+21	59.1	280	52.7	+21	58.2	9	19.1	-8	21.3									
19	9	55.4	57	04.6		55.9	241	03.8		59.3	295	55.5		58.1	24	21.4		21.2									
20	24	57.9	72	04.1		55.0	256	06.5		59.5	310	58.4		58.1	39	23.8		21.2									
21	40	00.3	87	03.7		54.2	271	09.3		59.7	326	01.2		58.1	54	26.1		21.1									
22	55	02.8	102	03.3		53.3	286	12.0	+21	59.8	341	04.0		58.1	69	28.5		21.0									
23	70	05.3	117	02.9		52.5	301	14.8	+22	00.0	356	06.8		58.0	84	30.8		21.0									
24	85	07.7	132	02.5	-19	51.7	316	17.5	+22	00.2	11	09.6	+21	58.0	99	33.2	-8	20.9									
Dif	—			-4			+8			+27			+2			+28			0			+23			+1		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'3 PMG:11 ^h 55.8 ^m				Edad: 14.7 ^d SD: 16'0 PMG: 0 ^h 33 ^m													
	hG ☉		Dec		hG ☾		Dif											
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	181	06.2	−23	19.5	352	01.9	+28	25.0	9	60 N	7	04	8	01	8	59	14	46
1	196	05.9		19.6	6	24.4		24.1	10	58	6	57	7	49	41	15	21	20
2	211	05.6		19.7	20	47.1		23.1	13	56	50		39	27	15	47	86	25
3	226	05.3		19.8	35	09.8		21.8	14	54	44		30	14	16	07	83	10
4	241	05.0		19.9	49	32.5		20.4	16	52	38		22	8	03	24	80	9
5	256	04.7	−23	20.0	63	55.3	+28	18.8	18	50	6	33	7	15	7	53	16	39
6	271	04.4	−23	20.1	78	18.1	+28	17.0	20	45	6	21	6	58	7	32	17	08
7	286	04.1		20.2	92	41.1		15.0	22	40	11		45	16	31	70	8	39
8	301	03.8		20.3	107	04.1		12.8	24	35	6	02		33	7	01	17	50
9	316	03.5		20.4	121	27.1		10.4	25	30	5	53		23	6	49	18	07
10	331	03.2		20.5	135	50.2		07.9	28	20	36		6	04	28	34	63	7
11	346	02.9	−23	20.6	150	13.4	+28	05.1	29	10 N	5	20	5	47	6	09	18	58
12	1	02.6	−23	20.7	164	36.7	+28	02.2	31	0	5	03	5	30	5	52	19	20
13	16	02.3		20.8	179	00.1	+27	59.1	33	10 S	4	44	5	11	35	19	42	55
14	31	02.0		20.9	193	23.5		55.8	34	20	4	22	4	51	5	16	20	06
15	46	01.7		21.0	207	47.0		52.4	37	30	3	53		26	4	54	33	49
16	61	01.4		21.1	222	10.6		48.7	38	35		34	4	11	41	20	49	47
17	76	01.0	−23	21.1	236	34.3	+27	44.9	40	40	3	11	3	53	4	26	21	08
18	91	00.7	−23	21.2	250	58.1	+27	40.9	42	45	2	41	3	30	4	08	21	31
19	106	00.4		21.3	265	22.0		36.7	43	50	1	56	3	01	3	45	21	59
20	121	00.1		21.4	279	45.9		32.4	45	52	1	28	2	46	34	22	14	33
21	135	59.8		21.5	294	10.0		27.9	47	54	0	43		28	22	30	30	27
22	150	59.5		21.6	308	34.2		23.2	49	56	**	**	2	06	3	08	22	49
23	165	59.2		21.7	322	58.4		18.3	50	58	**	**	1	36	2	51	23	13
24	180	58.9	−23	21.8	337	22.8	+27	13.3		60 S	**	**	0	47	2	31	23	45

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 16.5 ^m		Mag: −4.3 PMG: 15 ^h 12 ^m		Mag: −0.9 PMG: 2 ^h 54 ^m		Mag: −2.8 PMG: 23 ^h 11 ^m		Mag: +1.0 PMG: 17 ^h 19 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♀	
h	°	'	°	'	°	'	°	'	°	'
0	85	07.7	132	02.5	−19	51.7	316	17.5	+22	00.2
1	100	10.2	147	02.1		50.8	331	20.3		00.4
2	115	12.7	162	01.7		50.0	346	23.0		00.6
3	130	15.1	177	01.3		49.1	1	25.8		00.8
4	145	17.6	192	00.9		48.3	16	28.6		01.0
5	160	20.1	207	00.4	−19	47.4	31	31.3	+22	01.2
6	175	22.5	222	00.0	−19	46.6	46	34.1	+22	01.4
7	190	25.0	236	59.6		45.7	61	36.8		01.6
8	205	27.5	251	59.2		44.9	76	39.6		01.7
9	220	29.9	266	58.8		44.0	91	42.4		01.9
10	235	32.4	281	58.4		43.1	106	45.2		02.1
11	250	34.8	296	58.0	−19	42.3	121	47.9	+22	02.3
12	265	37.3	311	57.6	−19	41.4	136	50.7	+22	02.5
13	280	39.8	326	57.2		40.6	151	53.5		02.7
14	295	42.2	341	56.8		39.7	166	56.2		02.9
15	310	44.7	356	56.4		38.9	181	59.0		03.1
16	325	47.2	11	56.0		38.0	197	01.8		03.3
17	340	49.6	26	55.6	−19	37.1	212	04.6	+22	03.5
18	355	52.1	41	55.2	−19	36.3	227	07.4	+22	03.7
19	10	54.6	56	54.8		35.4	242	10.2		03.9
20	25	57.0	71	54.4		34.6	257	12.9		04.1
21	40	59.5	86	54.1		33.7	272	15.7		04.3
22	56	02.0	101	53.7		32.8	287	18.5		04.5
23	71	04.4	116	53.3		32.0	302	21.3		04.7
24	86	06.9	131	52.9	−19	31.1	317	24.1	+22	04.8
Dif	—		−4		+9		+28		+2	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:11 ^h 56.3 ^m				Edad: 15.7 ^d SD: 15'8 PMG: 1 ^h 34 ^m PHE { 4 ^h : 58'0 12 ^h : 57'7 20 ^h : 57'4 R°: 57 ^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	58.9	-23	21.8	337	22.8	54	+27	13.3	52	60 N	14 53	15 51	16 48	16 28	105	11 47	7		
1	195	58.6		21.9	351	47.2	56		08.1	54	58	15 11	16 02	16 55	16 53	97		21	15	
2	210	58.3		21.9	6	11.8	56	+27	02.7	55	56	25	13	17 02	17 13	91	11 01	21		
3	225	58.0		22.0	20	36.4	56	+26	57.2	55	54	38	22	08	30	86	10 44	25		
4	240	57.7		22.1	35	01.2	58		51.5	57	52	49	30	14	44	82		30	28	
5	255	57.4	-23	22.2	49	26.1	59	+26	45.7	58	50	15 59	16 37	17 19	17 56	80	10 17	31		
6	270	57.1	-23	22.3	63	51.1	60	+26	39.7	60	45	16 20	16 53	17 31	18 21	75	9 51	35		
7	285	56.8		22.3	78	16.2	61		33.6	61	40	36	17 07	41	41	71		30	39	
8	300	56.5		22.4	92	41.4	62		27.2	64	35	16 51	19	50	18 58	67	9 12	43		
9	315	56.2		22.5	107	06.7	63		20.8	64	30	17 03	29	17 59	19 13	64	8 57	45		
10	330	55.9		22.6	121	32.2	65		14.2	66	20	24	17 48	18 16	37	60	31	49		
11	345	55.6	-23	22.7	135	57.7	65	+26	07.4	68	10 N	17 43	18 05	18 32	19 58	56	8 09	52		
12	0	55.3	-23	22.7	150	23.4	67	+26	00.5	69	0	18 00	18 23	18 49	20 18	52	7 48	56		
13	15	54.9		22.8	164	49.2	68	+25	53.4	71	10 S	18	18 41	19 08		37 49		27 59		
14	30	54.6		22.9	179	15.1	69		46.2	72	20	37	19 01	30	20 58	45	7 05	61		
15	45	54.3		23.0	193	41.1	70		38.9	73	30	18 59	26	19 59	21 22	41	6 38	66		
16	60	54.0		23.0	208	07.3	72		31.4	75	35	19 12	19 41	20 18		36 38		22 69		
17	75	53.7	-23	23.1	222	33.5	72	+25	23.8	76	40	19 27	20 00	20 41	21 52	35	6 04	71		
18	90	53.4	-23	23.2	236	59.9	74	+25	16.0	78	45	19 45	20 22	21 12	22 12	30	5 42	75		
19	105	53.1		23.3	251	26.4	75		08.1	79	50	20 07	20 52	21 57		36 25		14 80		
20	120	52.8		23.3	265	53.1	77	+25	00.1	80	52	18	21 07	22 25	22 47	23	5 00	83		
21	135	52.5		23.4	280	19.8	77	+24	51.9	82	54	30	25	23 12	23 00	20	4 44	86		
22	150	52.2		23.5	294	46.7	79		43.6	83	56	20 45	21 47	** **		16 15		25 91		
23	165	51.9		23.5	309	13.7	80		35.2	84	58	21 01	22 17	** **		33 10	4 02	97		
24	180	51.6	-23	23.6	323	40.8	81	+24	26.6	86	60 S	21 22	23 07	** **	23 55	3	3 30	108		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 18 ^h 12.6 ^m				Mag: -4.3 PMG: 15 ^h 13 ^m				Mag: -0.9 PMG: 2 ^h 50 ^m				Mag: -2.8 PMG: 23 ^h 07 ^m				Mag: +1.0 PMG: 17 ^h 15 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	86	06.9	131	52.9	-19	31.1	317	24.1	+22	04.8	12	17.3	+21	57.3	100	29.4	-8	19.6		
1	101	09.3	146	52.5		30.2	332	26.9		05.0	27	20.1		57.3	115	31.7		19.5		
2	116	11.8	161	52.1		29.4	347	29.7		05.2	42	22.9		57.2	130	34.1		19.4		
3	131	14.3	176	51.7		28.5	2	32.5		05.4	57	25.8		57.2	145	36.4		19.4		
4	146	16.7	191	51.3		27.6	17	35.3		05.6	72	28.6		57.2	160	38.8		19.3		
5	161	19.2	206	50.9	-19	26.8	32	38.1	+22	05.8	87	31.4	+21	57.1	175	41.1	-8	19.3		
6	176	21.7	221	50.6	-19	25.9	47	40.9	+22	06.0	102	34.2	+21	57.1	190	43.5	-8	19.2		
7	191	24.1	236	50.2		25.0	62	43.7		06.2	117	37.0		57.1	205	45.8		19.2		
8	206	26.6	251	49.8		24.2	77	46.5		06.4	132	39.8		57.0	220	48.1		19.1		
9	221	29.1	266	49.4		23.3	92	49.3		06.6	147	42.7		57.0	235	50.5		19.0		
10	236	31.5	281	49.0		22.4	107	52.1		06.8	162	45.5		57.0	250	52.8		19.0		
11	251	34.0	296	48.6	-19	21.5	122	54.9	+22	07.0	177	48.3	+21	57.0	265	55.2	-8	18.9		
12	266	36.5	311	48.3	-19	20.7	137	57.7	+22	07.2	192	51.1	+21	56.9	280	57.5	-8	18.9		
13	281	38.9	326	47.9		19.8	153	00.5		07.4	207	53.9		56.9	295	59.8		18.8		
14	296	41.4	341	47.5		18.9	168	03.4		07.6	222	56.7		56.9	311	02.2		18.7		
15	311	43.8	356	47.1		18.0	183	06.2		07.8	237	59.5		56.8	326	04.5		18.7		
16	326	46.3	11	46.7		17.2	198	09.0		08.0	253	02.4		56.8	341	06.9		18.6		
17	341	48.8	26	46.4	-19	16.3	213	11.8	+22	08.2	268	05.2	+21	56.8	356	09.2	-8	18.6		
18	356	51.2	41	46.0	-19	15.4	228	14.6	+22	08.4	283	08.0	+21	56.7	11	11.5	-8	18.5		
19	11	53.7	56	45.6		14.5	243	17.4		08.6	298	10.8		56.7	26	13.9		18.5		
20	26	56.2	71	45.2		13.6	258	20.3		08.8	313	13.6		56.7	41	16.2		18.4		
21	41	58.6	86	44.9		12.8	273	23.1		09.1	328	16.4		56.7	56	18.6		18.3		
22	57	01.1	101	44.5		11.9	288	25.9		09.3	343	19.3		56.6	71	20.9		18.3		
23	72	03.6	116	44.1		11.0	303	28.7		09.5	358	22.1		56.6	86	23.2		18.2		
24	87	06.0	131	43.8	-19	10.1	318	31.6	+22	09.7	13	24.9	+21	56.6	101	25.6	-8	18.2		
Dif	—				-4				+9				+28				+2			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/3 PMG:11 ^h 56.8 ^m				Edad: 16.7 ^d PHE { 4 ^h : 57/2 12 ^h : 56/9 20 ^h : 56/6 R°: 51 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m		
0	180	51.6	−23	323	40.8	+24	26.6	60 N	7 06	8 03	9 00	18 13	98	11 54	2			
1	195	51.3		338	08.1		17.9	58	6 58	7 51	8 43	30 92		36	8			
2	210	51.0		352	35.4		09.1	56	51	41	28	44 87		22	12			
3	225	50.7		7	02.9	+24	00.2	54	45	31	15	18 56	84	11 09	16			
4	240	50.4		21	30.6	+23	51.1	52	40	23	8 04	19 06	81	10 58	19			
5	255	50.0	−23	35	58.3	+23	42.0	50	6 34	7 16	7 54	19 16	78	10 48	21			
6	270	49.7	−23	50	26.2	+23	32.7	45	6 22	7 00	7 34	19 36	72	10 26	27			
7	285	49.4		64	54.2		23.3	40	12	6 46	17	19 52	67	10 09	31			
8	300	49.1		79	22.3		13.7	35	6 03	34	7 03	20 05	64	9 55	34			
9	315	48.8		93	50.6	+23	04.1	30	5 54	24	6 50	17 61		42	37			
10	330	48.5		108	18.9	+22	54.4	20	37	6 05	29	37 56		20	42			
11	345	48.2	−23	122	47.4	+22	44.5	10 N	5 21	5 48	6 10	20 54	52	9 01	47			
12	0	47.9	−23	137	16.0	+22	34.6	0	5 04	5 31	5 53	21 10	48	8 44	50			
13	15	47.6		151	44.8		24.5	10 S	4 45	5 12	35	26 44		26	53			
14	30	47.3		166	13.7		14.3	20	4 23	4 52	5 17	21 43	39	8 06	58			
15	45	47.0		180	42.7	+22	04.1	30	3 54	27	4 54	22 03	34	7 44	63			
16	60	46.7		195	11.8	+21	53.7	35	35	4 12	41	14 31		31	65			
17	75	46.4	−23	209	41.0	+21	43.2	40	3 12	3 54	4 26	22 27	28	7 15	70			
18	90	46.1	−23	224	10.4	+21	32.7	45	2 41	3 31	4 08	22 42	24	6 57	74			
19	105	45.7		238	39.9		22.0	50	1 56	3 01	3 46	23 01	18	34	79			
20	120	45.4		253	09.5		11.2	52	1 28	2 46	35	10 15		23	82			
21	135	45.1		267	39.2	+21	00.4	54	0 42	28	23	20 12		6 10	86			
22	150	44.8		282	09.0	+20	49.5	56	** **	2 06	3 08	31 9		5 56	90			
23	165	44.5		296	39.0		38.4	58	** **	1 36	2 52	43 5		39	95			
24	180	44.2	−23	311	09.1	+20	27.3	60 S	** **	0 46	2 31	23 58	0	5 18	102			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 08.6 ^m		Mag: −4.3 PMG: 15 ^h 13 ^m		Mag: −0.9 PMG: 2 ^h 45 ^m		Mag: −2.8 PMG: 23 ^h 02 ^m		Mag: +1.0 PMG: 17 ^h 12 ^m									
	hG ♈		hG ♊	Dec	hG ♈	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	87	06.0	131	43.8	−19	10.1	318	31.6	+21	56.6	101	25.6	−8	18.2				
1	102	08.5	146	43.4		09.2	333	34.4		56.5	116	27.9		18.1				
2	117	10.9	161	43.0		08.3	348	37.2		56.5	131	30.2		18.0				
3	132	13.4	176	42.7		07.4	3	40.1		56.5	146	32.6		18.0				
4	147	15.9	191	42.3		06.6	18	42.9		56.5	161	34.9		17.9				
5	162	18.3	206	41.9	−19	05.7	33	45.7	+22	56.4	176	37.3	−8	17.9				
6	177	20.8	221	41.6	−19	04.8	48	48.6	+22	56.4	191	39.6	−8	17.8				
7	192	23.3	236	41.2		03.9	63	51.4		56.4	206	41.9		17.7				
8	207	25.7	251	40.8		03.0	78	54.3		56.3	221	44.3		17.7				
9	222	28.2	266	40.5		02.1	93	57.1		56.3	236	46.6		17.6				
10	237	30.7	281	40.1		01.2	108	59.9		56.3	251	48.9		17.6				
11	252	33.1	296	39.8	−19	00.3	124	02.8	+22	56.2	266	51.3	−8	17.5				
12	267	35.6	311	39.4	−18	59.4	139	05.6	+22	56.2	281	53.6	−8	17.4				
13	282	38.1	326	39.0		58.5	154	08.5		56.2	296	55.9		17.4				
14	297	40.5	341	38.7		57.6	169	11.3		56.2	311	58.3		17.3				
15	312	43.0	356	38.3		56.7	184	14.2		56.1	327	00.6		17.3				
16	327	45.4	11	38.0		55.8	199	17.0		56.1	342	03.0		17.2				
17	342	47.9	26	37.6	−18	55.0	214	19.9	+22	56.1	357	05.3	−8	17.1				
18	357	50.4	41	37.3	−18	54.1	229	22.8	+22	56.0	12	07.6	−8	17.1				
19	12	52.8	56	36.9		53.2	244	25.6		56.0	27	10.0		17.0				
20	27	55.3	71	36.6		52.3	259	28.5		56.0	42	12.3		17.0				
21	42	57.8	86	36.2		51.4	274	31.3		56.0	57	14.6		16.9				
22	58	00.2	101	35.8		50.5	289	34.2		55.9	72	17.0		16.8				
23	73	02.7	116	35.5		49.6	304	37.1		55.9	87	19.3		16.8				
24	88	05.2	131	35.1	−18	48.6	319	39.9	+22	55.9	102	21.6	−8	16.7				
Dif	—		−4		+9		+28		+2		+28		0		+23		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna				
	SD: 16 ^h 3 PMG: 11 ^h 57.3 ^m				Edad: 17.7 ^d SD: 15 ^h 4 PMG: 3 ^h 22 ^m PHE { 4 ^h : 56 ^h 4 12 ^h : 56 ^h 1 20 ^h : 55 ^h 9 Rº: 47 ^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	44.2	-23	25.0	311	09.1	+20	27.3	112	16.1	60 N	14	54	15	51	16	48	19	51	91	11	56	0
1	195	43.9		25.0	325	39.3		16.1	112	16.1	58	15	11	16	03	16	56	20	02	86		44	4
2	210	43.6		25.0	340	09.6	+20	04.8	113	16.1	56		26	13	17	03	11	83		34	8		
3	225	43.3		25.1	354	40.0	+19	53.4	114	16.1	54		39	22		09	20	79		25	1		
4	240	43.0		25.1	9	10.6		42.0	114	16.1	52	15	50	31		14	27	76		17	13		
5	255	42.7	-23	25.2	23	41.2	+19	30.5	115	16.1	50	16	00	16	38	17	20	20	34	73	11	09	16
6	270	42.4	-23	25.2	38	12.0	+19	18.8	117	16.1	45	16	20	16	54	17	31	20	48	68	10	53	22
7	285	42.0		25.3	52	42.9	+19	07.2	116	16.1	40		37	17	08	42	20	59	65		40	26	
8	300	41.7		25.3	67	13.9	+18	55.4	118	16.1	35	16	51	20	17	51	21	09	61		29	29	
9	315	41.4		25.3	81	45.0		43.6	118	16.1	30	17	04	30	18	00	18	58		19	32		
10	330	41.1		25.4	96	16.2		31.6	120	16.1	20		25	17	49	17	33	52	10	02	37		
11	345	40.8	-23	25.4	110	47.6	+18	19.7	119	16.1	10 N	17	44	18	06	18	33	21	46	47	9	48	41
12	0	40.5	-23	25.5	125	19.0	+18	07.6	121	16.1	0	18	01	18	24	18	50	21	58	43	9	34	45
13	15	40.2		25.5	139	50.6	+17	55.5	121	16.1	10 S		19	18	42	19	09	22	10	39		19	50
14	30	39.9		25.5	154	22.2		43.3	122	16.1	20	18	38	19	02	19	31	22	35		9	04	54
15	45	39.6		25.6	168	54.0		31.1	122	16.1	30	19	00		27	20	01	37	30		8	47	59
16	60	39.3		25.6	183	25.9		18.7	124	16.1	35		13	19	43	19	45	27		36	63		
17	75	39.0	-23	25.6	197	57.8	+17	06.4	123	16.1	40	19	28	20	01	20	43	22	55	23	8	25	66
18	90	38.6	-23	25.7	212	29.9	+16	53.9	125	16.1	45	19	46	20	23	21	13	23	06	19	8	11	70
19	105	38.3		25.7	227	02.1		41.4	125	16.1	50	20	09	20	53	21	59	19	15		7	53	76
20	120	38.0		25.7	241	34.4		28.8	126	16.1	52		19	21	08	22	27	25	12		45	79	
21	135	37.7		25.8	256	06.7		16.2	126	16.1	54		32	26	23	14	32	10		36	82		
22	150	37.4		25.8	270	39.2	+16	03.5	127	16.1	56	20	46	21	49	** **	40	6		26	85		
23	165	37.1		25.8	285	11.8	+15	50.8	127	16.1	58	21	03	22	19	** **	48	3		14	90		
24	180	36.8	-23	25.8	299	44.5	+15	38.0	128	16.1	60 S	21	23	23	10	** **	23	58	**	7	00	95	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO								
	PMG: 18 ^h 04.7 ^m		Mag: -4.3 PMG: 15 ^h 14 ^m				Mag: -0.9 PMG: 2 ^h 41 ^m				Mag: -2.8 PMG: 22 ^h 58 ^m				Mag: +1.0 PMG: 17 ^h 08 ^m								
	hG ☿		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	88	05.2	131	35.1	-18	48.6	319	39.9	+22	14.7	14	32.4	+21	55.9	102	21.6	-8	16.7					
1	103	07.6	146	34.8		47.7	334	42.8		14.9	29	35.2		55.8	117	24.0		16.7					
2	118	10.1	161	34.5		46.8	349	45.7		15.1	44	38.0		55.8	132	26.3		16.6					
3	133	12.6	176	34.1		45.9	4	48.5		15.3	59	40.8		55.8	147	28.6		16.5					
4	148	15.0	191	33.8		45.0	19	51.4		15.5	74	43.7		55.7	162	31.0		16.5					
5	163	17.5	206	33.4	-18	44.1	34	54.3	+22	15.7	89	46.5	+21	55.7	177	33.3	-8	16.4					
6	178	19.9	221	33.1	-18	43.2	49	57.2	+22	15.9	104	49.3	+21	55.7	192	35.6	-8	16.4					
7	193	22.4	236	32.7		42.3	65	00.0		16.2	119	52.1		55.7	207	38.0		16.3					
8	208	24.9	251	32.4		41.4	80	02.9		16.4	134	54.9		55.6	222	40.3		16.2					
9	223	27.3	266	32.1		40.5	95	05.8		16.6	149	57.7		55.6	237	42.6		16.2					
10	238	29.8	281	31.7		39.6	110	08.7		16.8	165	00.5		55.6	252	45.0		16.1					
11	253	32.3	296	31.4	-18	38.7	125	11.6	+22	17.0	180	03.3	+21	55.5	267	47.3	-8	16.1					
12	268	34.7	311	31.0	-18	37.8	140	14.4	+22	17.2	195	06.1	+21	55.5	282	49.6	-8	16.0					
13	283	37.2	326	30.7		36.8	155	17.3		17.4	210	08.9		55.5	297	52.0		15.9					
14	298	39.7	341	30.4		35.9	170	20.2		17.7	225	11.8		55.5	312	54.3		15.9					
15	313	42.1	356	30.0		35.0	185	23.1		17.9	240	14.6		55.4	327	56.6		15.8					
16	328	44.6	11	29.7		34.1	200	26.0		18.1	255	17.4		55.4	342	59.0		15.7					
17	343	47.1	26	29.4	-18	33.2	215	28.9	+22	18.3	270	20.2	+21	55.4	358	01.3	-8	15.7					
18	358	49.5	41	29.0	-18	32.3	230	31.8	+22	18.5	285	23.0	+21	55.3	13	03.6	-8	15.6					
19	13	52.0	56	28.7		31.4	245	34.7		18.7	300	25.8		55.3	28	06.0		15.6					
20	28	54.4	71	28.4		30.4	260	37.6		19.0	315	28.6		55.3	43	08.3		15.5					
21	43	56.9	86	28.0		29.5	275	40.5		19.2	330	31.4		55.2	58	10.6		15.4					
22	58	59.4	101	27.7		28.6	290	43.4		19.4	345	34.2		55.2	73	13.0		15.4					
23	74	01.8	116	27.4		27.7	305	46.3		19.6	0	37.0		55.2	88	15.3		15.3					
24	89	04.3	131	27.0	-18	26.8	320	49.2	+22	19.8	15	39.8	+21	55.2	103	17.6	-8	15.3					
Dif	—		-3		+9		+29		+2		+28		0		+23		+						

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:11 ^h 57.8 ^m				Edad: 18.7 ^d PHE { 4 ^h : 55'7 12 ^h : 55'5 20 ^h : 55'3 R°: 42 ^m SD: 15'2 PMG: 4 ^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	180	36.8	-23	25.8	299	44.5	+15	38.0	60 N	7	07	8	04	9	02	21	22
1	195	36.5		25.9	314	17.2		25.2	58	6	59	7	52	8	44	28	81
2	210	36.2		25.9	328	50.1	+15	12.3	56	53		42		29	34	78	42
3	225	35.9		25.9	343	23.0	+14	59.4	54	46		33		17	39	75	36
4	240	35.6		25.9	357	56.1		46.4	52	41		24		8	05	43	73
5	255	35.2	-23	26.0	12	29.2	+14	33.3	50	6	35	7	17	7	56	21	47
6	270	34.9	-23	26.0	27	02.4	+14	20.2	45	6	24	7	01	7	35	21	56
7	285	34.6		26.0	41	35.7	+14	07.1	40	13		6	47	18	22	04	61
8	300	34.3		26.0	56	09.1	+13	53.9	35	6	04		36	7	04	10	58
9	315	34.0		26.1	70	42.6		40.7	30	5	55		25	6	51	16	54
10	330	33.7		26.1	85	16.2		27.5	20	39		6	06	30	25	50	39
11	345	33.4	-23	26.1	99	49.8	+13	14.2	10 N	5	22	5	49	6	12	22	33
12	0	33.1	-23	26.1	114	23.6	+13	00.8	0	5	05	5	31	5	54	22	41
13	15	32.8		26.1	128	57.4	+12	47.4	10 S	4	46	5	13	36	49	36	10
14	30	32.5		26.1	143	31.3		34.0	20	4	24	4	53	5	17	22	57
15	45	32.2		26.2	158	05.2		20.5	30	3	54		28	4	55	23	07
16	60	31.8		26.2	172	39.3	+12	07.1	35	36		4	13	42	12	24	39
17	75	31.5	-23	26.2	187	13.4	+11	53.5	40	3	13	3	54	4	27	23	18
18	90	31.2	-23	26.2	201	47.6	+11	40.0	45	2	42	3	32	4	09	23	25
19	105	30.9		26.2	216	21.9		26.4	50	1	56	3	02	3	47	34	12
20	120	30.6		26.2	230	56.2	+11	12.7	52	1	28	2	47	36	37	10	9
21	135	30.3		26.2	245	30.6	+10	59.1	54	0	41		29	23	42	7	8
22	150	30.0		26.3	260	05.1		45.4	56	**	**	2	06	3	09	46	5
23	165	29.7		26.3	274	39.7		31.7	58	**	**	1	36	2	52	51	2
24	180	29.4	-23	26.3	289	14.3	+10	17.9	60 S	**	**	0	45	2	32	23	57

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 00.8 ^m		Mag: -4.4 PMG: 15 ^h 15 ^m		Mag: -0.9 PMG: 2 ^h 36 ^m		Mag: -2.8 PMG: 22 ^h 53 ^m		Mag: +1.1 PMG: 17 ^h 04 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	89	04.3	131	27.0	-18	26.8	320	49.2	+21	55.2
1	104	06.8	146	26.7		25.8	335	52.1		55.1
2	119	09.2	161	26.4		24.9	350	55.0		55.1
3	134	11.7	176	26.1		24.0	5	57.9		55.1
4	149	14.2	191	25.7		23.1	21	00.8		55.0
5	164	16.6	206	25.4	-18	22.2	36	03.7	+22	55.0
6	179	19.1	221	25.1	-18	21.2	51	06.6	+22	55.0
7	194	21.5	236	24.8		20.3	66	09.5		55.0
8	209	24.0	251	24.5		19.4	81	12.5		54.9
9	224	26.5	266	24.1		18.4	96	15.4		54.9
10	239	28.9	281	23.8		17.5	111	18.3		54.9
11	254	31.4	296	23.5	-18	16.6	126	21.2	+22	54.8
12	269	33.9	311	23.2	-18	15.7	141	24.1	+22	54.8
13	284	36.3	326	22.9		14.7	156	27.1		54.8
14	299	38.8	341	22.6		13.8	171	30.0		54.7
15	314	41.3	356	22.2		12.9	186	32.9		54.7
16	329	43.7	11	21.9		11.9	201	35.8		54.7
17	344	46.2	26	21.6	-18	11.0	216	38.8	+22	54.7
18	359	48.7	41	21.3	-18	10.1	231	41.7	+22	54.6
19	14	51.1	56	21.0		09.1	246	44.6		54.6
20	29	53.6	71	20.7		08.2	261	47.6		54.6
21	44	56.0	86	20.4		07.3	276	50.5		54.5
22	59	58.5	101	20.1		06.3	291	53.4		54.5
23	75	01.0	116	19.8		05.4	306	56.4		54.5
24	90	03.4	131	19.4	-18	04.5	321	59.3	+22	54.5
Dif	—		-3		+9		+29		+2	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna						
	SD: 16 ^h 3 PMG: 11 ^h 58.3 ^m				Edad: 19.7 ^d SD: 15 ^h 0 PMG: 4 ^h 51 ^m																
	hG ☉		Dec		hG ☾		Dif				Dec		Dif								
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m			
0	180	29.4	-23	26.3	289	14.3	+10	17.9	60 N	14	54	15	52	16	49	22	47	82	11	55	**
1	195	29.1		26.3	303	49.0 ¹⁵⁷	+10	04.1 ¹³⁸	58	15	12	16	04	16	57	49	79		51	2	
2	210	28.7		26.3	318	23.7 ¹⁵⁷	+9	50.3 ¹³⁸	56	27		14	17	03	52	76		47	5		
3	225	28.4		26.3	332	58.6 ¹⁵⁹		36.5 ¹³⁸	54	39		23	10	54	73	44	7		47	7	
4	240	28.1		26.3	347	33.4 ¹⁵⁸		22.7 ¹³⁸	52	15	51	32	15	56	71	41	10		41	10	
5	255	27.8	-23	26.3	2	08.4 ¹⁶⁰	+9	08.8 ¹³⁹	50	16	00	16	39	17	21	22	58	68	11	38	12
6	270	27.5	-23	26.3	16	43.4 ¹⁶⁰	+8	54.9 ¹³⁹	45	16	21	16	55	17	32	23	02	63	11	32	16
7	285	27.2		26.3	31	18.4 ¹⁶⁰		41.0 ¹³⁹	40	38		17	09	43	05	60		27	20		
8	300	26.9		26.3	45	53.5 ¹⁶¹		27.0 ¹⁴⁰	35	16	52	21	17	52	08	56		23	23		
9	315	26.6		26.3	60	28.7 ¹⁶²	+8	13.1 ¹³⁹	30	17	05	31	18	01	10	53		19	26		
10	330	26.3		26.3	75	03.9 ¹⁶²	+7	59.1 ¹⁴⁰	20	26		17	50	18	15	48		13	31		
11	345	25.9	-23	26.3	89	39.2 ¹⁶³	+7	45.1 ¹⁴⁰	10 N	17	45	18	07	18	34	23	18	44	11	07	35
12	0	25.6	-23	26.3	104	14.5 ¹⁶³	+7	31.1 ¹⁴⁰	0	18	02	18	25	18	51	23	22	39	11	01	40
13	15	25.3		26.3	118	49.9 ¹⁶⁴		17.1 ¹⁴⁰	10 S	20		18	43	19	10	25	35		10	55	44
14	30	25.0		26.3	133	25.3 ¹⁶⁴	+7	03.0 ¹⁴¹	20	18	39	19	03	19	32	29	31		49	49	
15	45	24.7		26.3	148	00.8 ¹⁶⁵	+6	48.9 ¹⁴¹	30	19	01	28	20	02	33	26		42	54		
16	60	24.4		26.3	162	36.3 ¹⁶⁵		34.9 ¹⁴⁰	35	14		19	44	20	36	22		38	57		
17	75	24.1	-23	26.3	177	11.9 ¹⁶⁶	+6	20.8 ¹⁴¹	40	19	29	20	02	20	44	23	39	19	10	34	60
18	90	23.8	-23	26.3	191	47.5 ¹⁶⁶	+6	06.7 ¹⁴¹	45	19	47	20	24	21	14	23	42	15	10	28	65
19	105	23.5		26.3	206	23.1 ¹⁶⁶	+5	52.6 ¹⁴¹	50	20	10	20	54	22	00	46	11		22	69	
20	120	23.2		26.3	220	58.8 ¹⁶⁷		38.4 ¹⁴²	52	20		21	09	22	28	47	9		19	71	
21	135	22.8		26.2	235	34.5 ¹⁶⁷		24.3 ¹⁴¹	54	33		27	23	15	49	7		15	74		
22	150	22.5		26.2	250	10.3 ¹⁶⁸	+5	10.1 ¹⁴²	56	20	47	21	50	** ** *	51	4		12	76		
23	165	22.2		26.2	264	46.1 ¹⁶⁸	+4	56.0 ¹⁴²	58	21	04	22	20	** ** *	53	2		07	80		
24	180	21.9	-23	26.2	279	22.0 ¹⁶⁹	+4	41.8 ¹⁴²	60 S	21	24	23	11	** ** *	23	56	**		10	03	83

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 17 ^h 56.8 ^m		Mag: -4.4 PMG: 15 ^h 15 ^m		Mag: -1.0 PMG: 2 ^h 32 ^m		Mag: -2.8 PMG: 22 ^h 49 ^m		Mag: +1.1 PMG: 17 ^h 00 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	90	03.4	131	19.4	-18	04.5	321	59.3	+22	25.2	16	47.2	+21	54.5	104	13.5	-8	13.7
1	105	05.9	146	19.1		03.5	337	02.2		25.4	31	50.0		54.4	119	15.9		13.7
2	120	08.4	161	18.8		02.6	352	05.2		25.6	46	52.8		54.4	134	18.2		13.6
3	135	10.8	176	18.5		01.6	7	08.1		25.9	61	55.6		54.4	149	20.5		13.6
4	150	13.3	191	18.2	-18	00.7	22	11.1		26.1	76	58.4		54.3	164	22.8		13.5
5	165	15.8	206	17.9	-17	59.8	37	14.0	+22	26.3	92	01.2	+21	54.3	179	25.2	-8	13.4
6	180	18.2	221	17.6	-17	58.8	52	17.0	+22	26.6	107	04.0	+21	54.3	194	27.5	-8	13.4
7	195	20.7	236	17.3		57.9	67	19.9		26.8	122	06.8		54.3	209	29.8		13.3
8	210	23.2	251	17.0		56.9	82	22.9		27.0	137	09.6		54.2	224	32.1		13.2
9	225	25.6	266	16.7		56.0	97	25.8		27.2	152	12.4		54.2	239	34.5		13.2
10	240	28.1	281	16.4		55.0	112	28.8		27.5	167	15.2		54.2	254	36.8		13.1
11	255	30.5	296	16.1	-17	54.1	127	31.7	+22	27.7	182	18.1	+21	54.1	269	39.1	-8	13.0
12	270	33.0	311	15.8	-17	53.2	142	34.7	+22	27.9	197	20.9	+21	54.1	284	41.4	-8	13.0
13	285	35.5	326	15.5		52.2	157	37.7		28.2	212	23.7		54.1	299	43.8		12.9
14	300	37.9	341	15.3		51.3	172	40.6		28.4	227	26.5		54.1	314	46.1		12.9
15	315	40.4	356	15.0		50.3	187	43.6		28.6	242	29.3		54.0	329	48.4		12.8
16	330	42.9	11	14.7		49.4	202	46.5		28.9	257	32.1		54.0	344	50.7		12.7
17	345	45.3	26	14.4	-17	48.4	217	49.5	+22	29.1	272	34.9	+21	54.0	359	53.1	-8	12.7
18	0	47.8	41	14.1	-17	47.5	232	52.5	+22	29.3	287	37.7	+21	53.9	14	55.4	-8	12.6
19	15	50.3	56	13.8		46.5	247	55.4		29.5	302	40.5		53.9	29	57.7		12.5
20	30	52.7	71	13.5		45.6	262	58.4		29.8	317	43.3		53.9	45	00.0		12.5
21	45	55.2	86	13.2		44.6	278	01.4		30.0	332	46.1		53.8	60	02.4		12.4
22	60	57.6	101	12.9		43.7	293	04.4		30.2	347	48.9		53.8	75	04.7		12.3
23	76	00.1	116	12.6		42.7	308	07.3		30.5	2	51.7		53.8	90	07.0		12.3
24	91	02.6	131	12.4	-17	41.7	323	10.3	+22	30.7	17	54.5	+21	53.8	105	09.3	-8	12.2
Dif	—		-3		+9		+30		+2		+28		0		+23		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:11 ^h 58.8 ^m				Edad: 20.7 ^d SD: 14'9 PMG: 5 ^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	21.9	-23	26.2	279	22.0	+4	41.8	142	60 N	7 08	8 05	9 03	**	**	**	11	54	**	
1	195	21.6		26.2	293	57.8		27.6	142	58	7 00	7 53	8 45	**	**	**		53	1	
2	210	21.3		26.2	308	33.8	+4	13.5	141	56	6 54		43	30	**	**	**	52	4	
3	225	21.0		26.2	323	09.7	+3	59.3	142	54		47	34	18	**	**	**	51		
4	240	20.7		26.2	337	45.7		45.1	142	52		42	25	8 06	**	**	**	51	8	
5	255	20.4	-23	26.1	352	21.7	+3	30.9	142	50	6 36	7 18	7 57	**	**	**	11	50	11	
6	270	20.0	-23	26.1	6	57.7	+3	16.7	142	45	6 25	7 02	7 36	**	**	**	11	48	16	
7	285	19.7		26.1	21	33.8	+3	02.5	142	40		14	6 48	19	**	**	**	47	19	
8	300	19.4		26.1	36	09.9	+2	48.3	142	35	6 05		37	7 05	**	**	**	46	23	
9	315	19.1		26.1	50	46.0		34.1	142	30	5 56		26	6 52	**	**	**	45	26	
10	330	18.8		26.1	65	22.1		19.8	143	20		40	6 07	31	**	**	**	44	30	
11	345	18.5	-23	26.0	79	58.3	+2	05.6	142	10 N	5 23	5 50	6 13	**	**	**	11	42	35	
12	0	18.2	-23	26.0	94	34.5	+1	51.4	142	0	5 06	5 32	5 55	**	**	**	11	41	39	
13	15	17.9		26.0	109	10.7		37.2	142	10 S	4 47	5 14		37	**	**	**	39	44	
14	30	17.6		26.0	123	46.9		23.0	142	20	4 25	4 54	5 18	**	**	**		38	48	
15	45	17.2		25.9	138	23.2	+1	08.8	142	30	3 55		29	4 56	23	59	25	36	53	
16	60	16.9		25.9	152	59.4	+0	54.6	142	35		37	4 14	43		58	23	35	56	
17	75	16.6	-23	25.9	167	35.7	+0	40.4	142	40	3 14	3 55	4 28	23	58	19	11	34	59	
18	90	16.3	-23	25.9	182	12.0	+0	26.2	142	45	2 43	3 33	4 10	23	57	16	11	33	63	
19	105	16.0		25.8	196	48.3	+0	12.0	142	50	1 57	3 03	3 48		57	11	31	68		
20	120	15.7		25.8	211	24.6	-0	02.2	142	52	1 29	2 48		37	56	9	30	70		
21	135	15.4		25.8	226	00.9		16.4	142	54	0 42		30	24	56	7	29	73		
22	150	15.1		25.8	240	37.3		30.6	142	56	**	**	2 07	3 10	55	5	28	76		
23	165	14.8		25.7	255	13.6		44.7	141	58	**	**	1 37	2 53	55	2	27	79		
24	180	14.4	-23	25.7	269	49.9	-0	58.9	142	60 S	**	**	0 46	2 33	23	55	**	11	26	82
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 17 ^h 52.9 ^m		Mag: -4.4 PMG: 15 ^h 15 ^m				Mag: -1.0 PMG: 2 ^h 27 ^m				Mag: -2.8 PMG: 22 ^h 44 ^m				Mag: +1.1 PMG: 16 ^h 57 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	91	02.6	131	12.4	-17	41.7	323	10.3	+22	30.7	17	54.5	+21	53.8	105	09.3	-8	12.2		
1	106	05.0	146	12.1		40.8	338	13.3		30.9	32	57.3		53.7	120	11.7		12.1		
2	121	07.5	161	11.8		39.8	353	16.3		31.2	48	00.1		53.7	135	14.0		12.1		
3	136	10.0	176	11.5		38.9	8	19.3		31.4	63	02.9		53.7	150	16.3		12.0		
4	151	12.4	191	11.2		37.9	23	22.2		31.6	78	05.7		53.6	165	18.6		11.9		
5	166	14.9	206	11.0	-17	37.0	38	25.2	+22	31.9	93	08.5	+21	53.6	180	21.0	-8	11.9		
6	181	17.4	221	10.7	-17	36.0	53	28.2	+22	32.1	108	11.3	+21	53.6	195	23.3	-8	11.8		
7	196	19.8	236	10.4		35.0	68	31.2		32.3	123	14.1		53.6	210	25.6		11.8		
8	211	22.3	251	10.1		34.1	83	34.2		32.6	138	16.9		53.5	225	27.9		11.7		
9	226	24.8	266	09.8		33.1	98	37.2		32.8	153	19.7		53.5	240	30.2		11.6		
10	241	27.2	281	09.6		32.2	113	40.2		33.1	168	22.5		53.5	255	32.6		11.6		
11	256	29.7	296	09.3	-17	31.2	128	43.2	+22	33.3	183	25.3	+21	53.4	270	34.9	-8	11.5		
12	271	32.1	311	09.0	-17	30.2	143	46.2	+22	33.5	198	28.1	+21	53.4	285	37.2	-8	11.4		
13	286	34.6	326	08.7		29.3	158	49.1		33.8	213	30.9		53.4	300	39.5		11.4		
14	301	37.1	341	08.5		28.3	173	52.1		34.0	228	33.7		53.4	315	41.9		11.3		
15	316	39.5	356	08.2		27.3	188	55.1		34.2	243	36.5		53.3	330	44.2		11.2		
16	331	42.0	11	07.9		26.4	203	58.1		34.5	258	39.3		53.3	345	46.5		11.2		
17	346	44.5	26	07.7	-17	25.4	219	01.1	+22	34.7	273	42.1	+21	53.3	0	48.8	-8	11.1		
18	1	46.9	41	07.4	-17	24.4	234	04.1	+22	35.0	288	44.9	+21	53.2	15	51.1	-8	11.0		
19	16	49.4	56	07.1		23.5	249	07.2		35.2	303	47.7		53.2	30	53.5		11.0		
20	31	51.9	71	06.9		22.5	264	10.2		35.4	318	50.5		53.2	45	55.8		10.9		
21	46	54.3	86	06.6		21.5	279	13.2		35.7	333	53.3		53.2	60	58.1		10.8		
22	61	56.8	101	06.3		20.6	294	16.2		35.9	348	56.1		53.1	76	00.4		10.8		
23	76	59.3	116	06.1		19.6	309	19.2		36.1	3	58.9		53.1	91	02.7		10.7		
24	92	01.7	131	05.8	-17	18.6	324	22.2	+22	36.4	19	01.7	+21	53.1	106	05.1	-8	10.6		
Dif	—		-3		+10		+30		+2		+28		0		+23		+1			

UT	SOL				☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG: 11 ^h 59.3 ^m				Edad: 21.7 ^d SD: 14'8 PMG: 6 ^h 10 ^m													
	hG ☉		Dec		hG ☾		Dif											
	h	°	'	°	'	h	°	'	°	'	h	m	h	m	h	m	h	m
0	180	14.4	-23	25.7	269	49.9	-0	58.9	60 N	14	56	15	53	16	50	0	09	81
1	195	14.1		25.7	284	26.3	-1	13.1	58	15	13	16	05	16	58	08	78	54
2	210	13.8		25.6	299	02.7		27.2	56	28		15	17	05	08	75	56	5
3	225	13.5		25.6	313	39.0		41.3	54	41	24	11		07	73	58		
4	240	13.2		25.6	328	15.4	-1	55.5	52	15	52	33	16		07	70	11	59
5	255	12.9	-23	25.5	342	51.7	-2	09.6	50	16	02	16	40	17	22	0	06	68
6	270	12.6	-23	25.5	357	28.1	-2	23.7	45	16	22	16	56	17	34	0	05	63
7	285	12.3		25.5	12	04.5		37.8	40	39	17	10	44	05	59	06	20	
8	300	12.0		25.4	26	40.8	-2	51.9	35	16	53	22	17	53	04	56	09	23
9	315	11.7		25.4	41	17.2	-3	05.9	30	17	06	32	18	02	03	53	11	25
10	330	11.3		25.3	55	53.5		20.0	20	27	17	51	19	03	47	14	31	
11	345	11.0	-23	25.3	70	29.9	-3	34.0	10 N	17	46	18	08	18	35	0	02	43
12	0	10.7	-23	25.3	85	06.2	-3	48.0	0	18	03	18	26	18	52	0	01	39
13	15	10.4		25.2	99	42.5	-4	02.0	10 S	21	18	44	19	11	00	35	23	43
14	30	10.1		25.2	114	18.8		16.0	20	18	40	19	04	19	33	0	00	30
15	45	09.8		25.1	128	55.1		30.0	30	19	02	29	20	03	**	**	**	29
16	60	09.5		25.1	143	31.4		44.0	35	15	19	44	21	**	**	**	31	56
17	75	09.2	-23	25.0	158	07.7	-4	57.9	40	19	30	20	03	20	44	**	**	**
18	90	08.9	-23	25.0	172	44.0	-5	11.8	45	19	48	20	25	21	15	**	**	**
19	105	08.5		25.0	187	20.2		25.7	50	20	10	20	55	22	01	**	**	**
20	120	08.2		24.9	201	56.4		39.6	52	21	21	10	22	29	**	**	**	40
21	135	07.9		24.9	216	32.6	-5	53.4	54	34	28	23	15	**	**	**	42	73
22	150	07.6		24.8	231	08.8	-6	07.3	56	20	48	21	50	**	**	**	44	75
23	165	07.3		24.8	245	45.0		21.1	58	21	05	22	20	**	**	**	23	57
24	180	07.0	-23	24.7	260	21.1	-6	34.9	60 S	21	25	23	11	**	**	23	53	**
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 17 ^h 49.0 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m		Mag: -1.0 PMG: 2 ^h 22 ^m		Mag: -2.8 PMG: 22 ^h 40 ^m		Mag: +1.1 PMG: 16 ^h 53 ^m									
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	92	01.7	131	05.8	-17	18.6	324	22.2	+22	36.4	19	01.7	+21	53.1	106	05.1		
1	107	04.2	146	05.5		17.7	339	25.2		36.6	34	04.5		53.0	121	07.4		
2	122	06.6	161	05.3		16.7	354	28.2		36.9	49	07.2		53.0	136	09.7		
3	137	09.1	176	05.0		15.7	9	31.3		37.1	64	10.0		53.0	151	12.0		
4	152	11.6	191	04.8		14.7	24	34.3		37.3	79	12.8		53.0	166	14.3		
5	167	14.0	206	04.5	-17	13.8	39	37.3	+22	37.6	94	15.6	+21	52.9	181	16.7		
6	182	16.5	221	04.2	-17	12.8	54	40.3	+22	37.8	109	18.4	+21	52.9	196	19.0		
7	197	19.0	236	04.0		11.8	69	43.3		38.1	124	21.2		52.9	211	21.3		
8	212	21.4	251	03.7		10.8	84	46.4		38.3	139	24.0		52.8	226	23.6		
9	227	23.9	266	03.5		09.9	99	49.4		38.5	154	26.8		52.8	241	25.9		
10	242	26.4	281	03.2		08.9	114	52.4		38.8	169	29.6		52.8	256	28.3		
11	257	28.8	296	03.0	-17	07.9	129	55.4	+22	39.0	184	32.4	+21	52.8	271	30.6		
12	272	31.3	311	02.7	-17	06.9	144	58.5	+22	39.3	199	35.2	+21	52.7	286	32.9		
13	287	33.7	326	02.5		06.0	160	01.5		39.5	214	38.0		52.7	301	35.2		
14	302	36.2	341	02.2		05.0	175	04.5		39.8	229	40.8		52.7	316	37.5		
15	317	38.7	356	02.0		04.0	190	07.6		40.0	244	43.6		52.6	331	39.9		
16	332	41.1	11	01.7		03.0	205	10.6		40.2	259	46.4		52.6	346	42.2		
17	347	43.6	26	01.5	-17	02.0	220	13.6	+22	40.5	274	49.2	+21	52.6	1	44.5		
18	2	46.1	41	01.2	-17	01.1	235	16.7	+22	40.7	289	52.0	+21	52.6	16	46.8		
19	17	48.5	56	01.0	-17	00.1	250	19.7		41.0	304	54.8		52.5	31	49.1		
20	32	51.0	71	00.7	-16	59.1	265	22.8		41.2	319	57.6		52.5	46	51.4		
21	47	53.5	86	00.5		58.1	280	25.8		41.5	335	00.4		52.5	61	53.8		
22	62	55.9	101	00.2		57.1	295	28.9		41.7	350	03.1		52.4	76	56.1		
23	77	58.4	116	00.0		56.1	310	31.9		42.0	5	05.9		52.4	91	58.4		
24	93	00.9	130	59.7	-16	55.1	325	35.0	+22	42.2	20	08.7	+21	52.4	107	00.7		
Dif	—		-3		+10		+30		+2		+28		0		+23			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:11 ^h 59.8 ^m				Edad: 22.7 ^d SD: 14'8 PMG: 6 ^h 49 ^m PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'2 R°: 41 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	07.0	-23	24.7	260	21.1	-6	34.9	137	60 N	7	09	8	06	9	03	1	30	84	
1	195	06.7		24.7	274	57.3	-6	48.6	138	58	7	01	7	54	8	46	26	80	11 51 **	
2	210	06.4		24.6	289	33.4	-7	02.4	137	56	6	54		44	31	23	76	12 01 6		
3	225	06.1		24.5	304	09.4		16.1	137	54		48		34	18	20	73	05 8		
4	240	05.7		24.5	318	45.5		29.8	136	52		43		26	8	07	17	71	09 11	
5	255	05.4	-23	24.4	333	21.5	-7	43.4	137	50	6	37	7	19	7	57	1	14	69	12 12 13
6	270	05.1	-23	24.4	347	57.5	-7	57.1	136	45	6	25	7	03	7	37	1	08	65	12 20 17
7	285	04.8		24.3	2	33.4	-8	10.7	135	40		15	6	49	20		04	60	26	22
8	300	04.5		24.3	17	09.4		24.2	136	35	6	06		37	7	06	1	00	56	32 24
9	315	04.2		24.2	31	45.3		37.8	135	30	5	57		27	6	53	0	56	54	36 28
10	330	03.9		24.2	46	21.1	-8	51.3	135	20		40	6	08	32		50	49	45	32
11	345	03.6	-23	24.1	60	56.9	-9	04.8	135	10 N	5	24	5	51	6	13	0	45	44	12 52 37
12	0	03.3	-23	24.0	75	32.7	-9	18.3	134	0	5	07	5	33	5	56	0	40	40	12 59 41
13	15	03.0		24.0	90	08.5		31.7	134	10 S	4	48	5	15		38	35	36	13 06 45	
14	30	02.6		23.9	104	44.2		45.1	133	20	4	26	4	55	5	19	30	31	13 50	
15	45	02.3		23.8	119	19.9	-9	58.4	133	30	3	57		30	4	57	24	27	22	54
16	60	02.0		23.8	133	55.5	-10	11.8	134	35		38	4	15		44	21	24	27	57
17	75	01.7	-23	23.7	148	31.1	-10	25.1	133	40	3	15	3	56	4	29	0	17	21	13 33 60
18	90	01.4	-23	23.7	163	06.7	-10	38.3	132	45	2	44	3	34	4	11	0	13	16	13 39 65
19	105	01.1		23.6	177	42.2	-10	51.5	132	50	1	58	3	04	3	49	08	12	47	70
20	120	00.8		23.5	192	17.6	-11	04.7	132	52	1	31	2	49		38	05	10		51 72
21	135	00.5		23.5	206	53.1		17.9	132	54	0	44		31		26	03	7		55 75
22	150	00.2		23.4	221	28.4		31.0	131	56	**	**	2	09	3	11	0	00	5	13 59 78
23	164	59.8		23.3	236	03.8		44.1	131	58	**	**	1	39	2	54	23	59	3	14 04 82
24	179	59.5	-23	23.2	250	39.0	-11	57.1	130	60 S	**	**	0	48	2	34	23	52	0	14 10 85
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 17 ^h 45.0 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m				Mag: -1.0 PMG: 2 ^h 17 ^m				Mag: -2.8 PMG: 22 ^h 35 ^m				Mag: +1.1 PMG: 16 ^h 49 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	93	00.9	130	59.7	-16	55.1	325	35.0	+22	42.2	20	08.7	+21	52.4	107	00.7	-8	09.0		
1	108	03.3	145	59.5		54.2	340	38.0		42.4	35	11.5		52.4	122	03.0		09.0		
2	123	05.8	160	59.3		53.2	355	41.1		42.7	50	14.3		52.3	137	05.4		08.9		
3	138	08.2	175	59.0		52.2	10	44.1		42.9	65	17.1		52.3	152	07.7		08.8		
4	153	10.7	190	58.8		51.2	25	47.2		43.2	80	19.9		52.3	167	10.0		08.8		
5	168	13.2	205	58.6	-16	50.2	40	50.2	+22	43.4	95	22.7	+21	52.2	182	12.3	-8	08.7		
6	183	15.6	220	58.3	-16	49.2	55	53.3	+22	43.7	110	25.5	+21	52.2	197	14.6	-8	08.6		
7	198	18.1	235	58.1		48.2	70	56.3		43.9	125	28.3		52.2	212	16.9		08.6		
8	213	20.6	250	57.8		47.2	85	59.4		44.2	140	31.1		52.2	227	19.2		08.5		
9	228	23.0	265	57.6		46.2	101	02.5		44.4	155	33.9		52.1	242	21.6		08.4		
10	243	25.5	280	57.4		45.3	116	05.5		44.7	170	36.7		52.1	257	23.9		08.4		
11	258	28.0	295	57.1	-16	44.3	131	08.6	+22	44.9	185	39.4	+21	52.1	272	26.2	-8	08.3		
12	273	30.4	310	56.9	-16	43.3	146	11.7	+22	45.2	200	42.2	+21	52.0	287	28.5	-8	08.2		
13	288	32.9	325	56.7		42.3	161	14.7		45.4	215	45.0		52.0	302	30.8		08.1		
14	303	35.4	340	56.5		41.3	176	17.8		45.7	230	47.8		52.0	317	33.1		08.1		
15	318	37.8	355	56.2		40.3	191	20.9		45.9	245	50.6		52.0	332	35.5		08.0		
16	333	40.3	10	56.0		39.3	206	23.9		46.2	260	53.4		51.9	347	37.8		07.9		
17	348	42.7	25	55.8	-16	38.3	221	27.0	+22	46.4	275	56.2	+21	51.9	2	40.1	-8	07.9		
18	3	45.2	40	55.5	-16	37.3	236	30.1	+22	46.7	290	59.0	+21	51.9	17	42.4	-8	07.8		
19	18	47.7	55	55.3		36.3	251	33.2		46.9	306	01.8		51.8	32	44.7		07.7		
20	33	50.1	70	55.1		35.3	266	36.2		47.2	321	04.5		51.8	47	47.0		07.7		
21	48	52.6	85	54.9		34.3	281	39.3		47.4	336	07.3		51.8	62	49.3		07.6		
22	63	55.1	100	54.7		33.3	296	42.4		47.7	351	10.1		51.8	77	51.7		07.5		
23	78	57.5	115	54.4		32.3	311	45.5		47.9	6	12.9		51.7	92	54.0		07.5		
24	94	00.0	130	54.2	-16	31.3	326	48.6	+22	48.2	21	15.7	+21	51.7	107	56.3	-8	07.4		
Dif	—		-2		+10		+31		+2		+28		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 00.3 ^m				Edad: 23.7 ^d SD: 14'8 PMG: 7 ^h 30 ^m PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'4 Rº: 43 ^m																			
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil	Náutico	Hora	Rº	Hora	Rº				
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m					
0	179	59.5	-23	23.2	250	39.0	-11	57.1	130	57.1	60 N	14	57	15	55	16	52	2	54	88				
1	194	59.2		23.2	265	14.3	-12	10.1	129	58	15	15	16	07	16	59	46	83	11	59	4			
2	209	58.9		23.1	279	49.4		23.0	129	56	29	17	17	06	39	80	12	07	7					
3	224	58.6		23.0	294	24.5		35.9	129	54	42	26	12	33	77		13	1						
4	239	58.3		23.0	308	59.6	-12	48.8	129	52	15	53	34	18	28	73		20	13					
5	254	58.0	-23	22.9	323	34.6	-13	01.6	128	50	16	03	16	41	17	23	2	23	71	12	25	16		
6	269	57.7	-23	22.8	338	09.6	-13	14.4	128	45	16	24	16	57	17	35	2	13	65	12	37	21		
7	284	57.4		22.7	352	44.5		27.1	127	40	40	17	11	45	2	04	62	48	24					
8	299	57.1		22.6	7	19.3		39.8	127	35	16	55	23	17	54	1	56	59	12	56	28			
9	314	56.7		22.6	21	54.1	-13	52.4	126	30	17	07	33	18	03	50	55	13	04	31				
10	329	56.4		22.5	36	28.8	-14	05.0	126	20	28	17	52	20	39	50	17	36						
11	344	56.1	-23	22.4	51	03.5	-14	17.6	126	10 N	17	47	18	09	18	36	1	29	46	13	29	40		
12	359	55.8	-23	22.3	65	38.1	-14	30.0	124	0	18	04	18	27	18	53	1	20	42	13	40	43		
13	14	55.5		22.3	80	12.6		42.5	125	10 S	22	18	45	19	12	11	38	13	51	47				
14	29	55.2		22.2	94	47.1	-14	54.9	124	20	18	41	19	05	19	34	1	01	34	14	03	51		
15	44	54.9		22.1	109	21.5	-15	07.2	123	30	19	03	30	20	03	0	51	29	16	57				
16	59	54.6		22.0	123	55.8		19.5	123	35	16	19	45	22	45	26		24	60					
17	74	54.3	-23	21.9	138	30.1	-15	31.7	122	40	19	31	20	03	20	45	0	38	22	14	33	63		
18	89	54.0	-23	21.8	153	04.3	-15	43.9	122	45	19	49	20	26	21	16	0	29	20	14	44	67		
19	104	53.7		21.8	167	38.5	-15	56.0	121	50	20	11	20	56	22	01	20	14	14	57	72			
20	119	53.3		21.7	182	12.5	-16	08.1	121	52	22	21	11	22	29	15	12	15	03	75				
21	134	53.0		21.6	196	46.5		20.1	120	54	34	29	23	14	10	10		10	77					
22	149	52.7		21.5	211	20.4		32.0	119	56	20	48	21	51	** **	0	05	7	17	81				
23	164	52.4		21.4	225	54.3		43.9	119	58	21	05	22	20	** **	** **	** **		26	85				
24	179	52.1	-23	21.3	240	28.1	-16	55.7	118	60 S	21	25	23	10	** **	23	52	1	15	35	90			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 17 ^h 41.1 ^m			Mag: -4.4 PMG: 15 ^h 17 ^m			Mag: -1.1 PMG: 2 ^h 12 ^m			Mag: -2.8 PMG: 22 ^h 31 ^m			Mag: +1.1 PMG: 16 ^h 46 ^m											
	hG ♈			hG ♀			hG ♂			hG ♃			hG ♄											
	Dec			Dec			Dec			Dec			Dec											
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	94	00.0	130	54.2	-16	31.3	326	48.6	+22	48.2	21	15.7	+21	51.7	107	56.3	-8	07.4						
1	109	02.5	145	54.0		30.3	341	51.7		48.4	36	18.5		51.7	122	58.6		07.3						
2	124	04.9	160	53.8		29.3	356	54.7		48.7	51	21.3		51.6	138	00.9		07.3						
3	139	07.4	175	53.6		28.3	11	57.8		48.9	66	24.1		51.6	153	03.2		07.2						
4	154	09.8	190	53.3		27.3	27	00.9		49.2	81	26.9		51.6	168	05.5		07.1						
5	169	12.3	205	53.1	-16	26.3	42	04.0	+22	49.4	96	29.6	+21	51.6	183	07.8	-8	07.0						
6	184	14.8	220	52.9	-16	25.3	57	07.1	+22	49.7	111	32.4	+21	51.5	198	10.2	-8	07.0						
7	199	17.2	235	52.7		24.3	72	10.2		49.9	126	35.2		51.5	213	12.5		06.9						
8	214	19.7	250	52.5		23.3	87	13.3		50.2	141	38.0		51.5	228	14.8		06.8						
9	229	22.2	265	52.3		22.3	102	16.4		50.4	156	40.8		51.5	243	17.1		06.8						
10	244	24.6	280	52.1		21.2	117	19.5		50.7	171	43.6		51.4	258	19.4		06.7						
11	259	27.1	295	51.9	-16	20.2	132	22.6	+22	50.9	186	46.4	+21	51.4	273	21.7	-8	06.6						
12	274	29.6	310	51.6	-16	19.2	147	25.7	+22	51.2	201	49.1	+21	51.4	288	24.0	-8	06.6						
13	289	32.0	325	51.4		18.2	162	28.8		51.4	216	51.9		51.3	303	26.3		06.5						
14	304	34.5	340	51.2		17.2	177	31.9		51.7	231	54.7		51.3	318	28.7		06.4						
15	319	37.0	355	51.0		16.2	192	35.0		52.0	246	57.5		51.3	333	31.0		06.3						
16	334	39.4	10	50.8		15.2	207	38.1		52.2	262	00.3		51.3	348	33.3		06.3						
17	349	41.9	25	50.6	-16	14.2	222	41.2	+22	52.5	277	03.1	+21	51.2	3	35.6	-8	06.2						
18	4	44.3	40	50.4	-16	13.2	237	44.3	+22	52.7	292	05.9	+21	51.2	18	37.9	-8	06.1						
19	19	46.8	55	50.2		12.2	252	47.4		53.0	307	08.6		51.2	33	40.2		06.1						
20	34	49.3	70	50.0		11.1	267	50.6		53.2	322	11.4		51.1	48	42.5		06.0						
21	49	51.7	85	49.8		10.1	282	53.7		53.5	337	14.2		51.1	63	44.8		05.9						
22	64	54.2	100	49.6		09.1	297	56.8		53.7	352	17.0		51.1	78	47.1		05.9						
23	79	56.7	115	49.4		08.1	312	59.9		54.0	7	19.8		51.1	93	49.5		05.8						
24	94	59.1	130	49.2	-16	07.1	328	03.0	+22	54.2	22	22.6	+21	51.0	108	51.8	-8	05.7						
Dif	—			-2			+10			+3			+28			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 00.8 ^m				Edad: 24.7 ^d SD: 14'8 PMG: 8 ^h 13 ^m					PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'7 R°: 46 ^m			Hora		R°			
	hG ☉	Dec			hG ☾	Dif	Dec	Dif		Náutico	Civil							
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	179	52.1	-23	21.3	240	28.1	-16	55.7	60 N	7 09	8 06	9 04	4 22	93	11 50	2		
1	194	51.8		21.2	255	01.8	-17	07.5	58	7 02	7 54	8 46	4 09	88	12 03	7		
2	209	51.5		21.1	269	35.4		19.2	56	6 55	44	31	3 59	83	14	12		
3	224	51.2		21.0	284	09.0		30.8	54	49	35	19	50	79	24	16		
4	239	50.9		20.9	298	42.5		42.4	52	43	27	8 08	41	76	33	18		
5	254	50.6	-23	20.8	313	15.9	-17	53.9	50	6 38	7 20	7 58	3 34	73	12 41	21		
6	269	50.3	-23	20.8	327	49.2	-18	05.4	45	6 26	7 03	7 37	3 18	68	12 58	26		
7	284	49.9		20.7	342	22.4		16.7	40	16	6 50	21	3 06	63	13 12	30		
8	299	49.6		20.6	356	55.6		28.0	35	6 07	38	7 06	2 55	60	24	33		
9	314	49.3		20.5	11	28.7		39.3	30	5 58	28	6 54	45	58	35	35		
10	329	49.0		20.4	26	01.6	-18	50.5	20	41	6 09	33	29	53	13 53	40		
11	344	48.7	-23	20.3	40	34.6	-19	01.6	10 N	5 25	5 52	6 14	2 15	49	14 09	43		
12	359	48.4	-23	20.2	55	07.4	-19	12.6	0	5 08	5 34	5 57	2 02	45	14 23	48		
13	14	48.1		20.1	69	40.1		23.5	10 S	4 49	5 16	39	1 49	42	38	51		
14	29	47.8		20.0	84	12.8		34.4	20	4 27	4 56	5 21	35	38	14 54	55		
15	44	47.5		19.9	98	45.4		45.2	30	3 58	31	4 59	20	33	15 13	59		
16	59	47.2		19.8	113	17.9	-19	55.9	35	39	4 16	46	11	30	24	61		
17	74	46.9	-23	19.7	127	50.3	-20	06.6	40	3 16	3 58	4 31	1 00	28	15 36	65		
18	89	46.5	-23	19.6	142	22.6	-20	17.2	45	2 46	3 35	4 13	0 49	23	15 51	78		
19	104	46.2		19.4	156	54.8		27.7	50	2 00	3 06	3 50	34	18	16 09	64		
20	119	45.9		19.3	171	27.0		38.1	52	1 33	2 51	39	27	16	18	76		
21	134	45.6		19.2	185	59.0		48.4	54	0 47	33	27	20	13	27	80		
22	149	45.3		19.1	200	31.0	-20	58.6	56	** **	2 10	3 13	12	9	38	84		
23	164	45.0		19.0	215	02.8	-21	08.8	58	** **	1 41	2 56	0 02	6	16 51	88		
24	179	44.7	-23	18.9	229	34.6	-21	18.9	60 S	** **	0 51	2 36	23 53	4	17 05	96		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 17 ^h 37.2 ^m		Mag: -4.4 PMG: 15 ^h 17 ^m				Mag: -1.1 PMG: 2 ^h 07 ^m				Mag: -2.8 PMG: 22 ^h 26 ^m				Mag: +1.1 PMG: 16 ^h 42 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	°	'	°	'	°	'	°		
0	94	59.1	130	49.2	-16	07.1	328	03.0	+22	54.2	22	22.6	+21	51.0	108	51.8		
1	110	01.6	145	49.0		06.1	343	06.1		54.5	37	25.3		51.0	123	54.1		
2	125	04.1	160	48.8		05.1	358	09.3		54.8	52	28.1		51.0	138	56.4		
3	140	06.5	175	48.6		04.0	13	12.4		55.0	67	30.9		51.0	153	58.7		
4	155	09.0	190	48.4		03.0	28	15.5		55.3	82	33.7		50.9	169	01.0		
5	170	11.5	205	48.2	-16	02.0	43	18.6	+22	55.5	97	36.5	+21	50.9	184	03.3		
6	185	13.9	220	48.0	-16	01.0	58	21.8	+22	55.8	112	39.3	+21	50.9	199	05.6		
7	200	16.4	235	47.8	-16	00.0	73	24.9		56.0	127	42.0		50.8	214	07.9		
8	215	18.8	250	47.7	-15	58.9	88	28.0		56.3	142	44.8		50.8	229	10.2		
9	230	21.3	265	47.5		57.9	103	31.2		56.6	157	47.6		50.8	244	12.6		
10	245	23.8	280	47.3		56.9	118	34.3		56.8	172	50.4		50.8	259	14.9		
11	260	26.2	295	47.1	-15	55.9	133	37.4	+22	57.1	187	53.2	+21	50.7	274	17.2		
12	275	28.7	310	46.9	-15	54.9	148	40.6	+22	57.3	202	55.9	+21	50.7	289	19.5		
13	290	31.2	325	46.7		53.8	163	43.7		57.6	217	58.7		50.7	304	21.8		
14	305	33.6	340	46.5		52.8	178	46.8		57.8	233	01.5		50.6	319	24.1		
15	320	36.1	355	46.3		51.8	193	50.0		58.1	248	04.3		50.6	334	26.4		
16	335	38.6	10	46.2		50.8	208	53.1		58.4	263	07.1		50.6	349	28.7		
17	350	41.0	25	46.0	-15	49.7	223	56.3	+22	58.6	278	09.8	+21	50.6	4	31.0		
18	5	43.5	40	45.8	-15	48.7	238	59.4	+22	58.9	293	12.6	+21	50.5	19	33.3		
19	20	45.9	55	45.6		47.7	254	02.6		59.1	308	15.4		50.5	34	35.6		
20	35	48.4	70	45.4		46.7	269	05.7		59.4	323	18.2		50.5	49	37.9		
21	50	50.9	85	45.3		45.6	284	08.9		59.7	338	21.0		50.5	64	40.2		
22	65	53.3	100	45.1		44.6	299	12.0	+22	59.9	353	23.7		50.4	79	42.6		
23	80	55.8	115	44.9		43.6	314	15.2	+23	00.2	8	26.5		50.4	94	44.9		
24	95	58.3	130	44.7	-15	42.5	329	18.3	+23	00.4	23	29.3	+21	50.4	109	47.2		
Dif	—		-2		+10		+31		+3		+28		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 01.3 ^m				Edad: 25.7 ^d SD: 14'9 PMG: 8 ^h 59 ^m PHE { 4 ^h : 54'8 12 ^h : 55'0 20 ^h : 55'2 R°: 50 ^m																	
	hG ☉	Dec			hG ☾	Dif					Dec			Dif								
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	179	44.7	-23	18.9	229	34.6	-21	18.9	100	60 N	14 59	15 57	16 53	5 55	98	11 52	5					
1	194	44.4		18.8	244	06.3		28.9	99	58	15 16	16 08	17 01	37 89		12 10	14					
2	209	44.1		18.7	258	37.9		38.8	98	56	31	18	07	22 84		26 19						
3	224	43.8		18.6	273	09.4		48.6	97	54	44	27	14	5 09 80		40 23						
4	239	43.5		18.5	287	40.8	-21	58.3	96	52	15 55	35	19	4 57 77		12 51	27					
5	254	43.2	-23	18.3	302	12.1	-22	07.9	96	50	16 04	16 43	17 24	4 47 74		13 02	29					
6	269	42.9	-23	18.2	316	43.3	-22	17.5	96	45	16 25	16 59	17 36	4 26 69		13 24	34					
7	284	42.5		18.1	331	14.5		26.9	94	40	42	17 12	46	4 09 66		42 37						
8	299	42.2		18.0	345	45.5		36.3	94	35	16 56	24	17 56	3 55 62		13 57	40					
9	314	41.9		17.9	0	16.4		45.5	92	30	17 08	34	18 04	43 60		14 10	42					
10	329	41.6		17.8	14	47.3	-22	54.7	92	20	29	17 53	21	22 56		33 45						
11	344	41.3	-23	17.6	29	18.0	-23	03.8	91	10 N	17 48	18 10	18 37	3 04 52		14 52	49					
12	359	41.0	-23	17.5	43	48.7	-23	12.7	89	0	18 05	18 28	18 54	2 47 50		15 11	51					
13	14	40.7		17.4	58	19.3		21.6	88	10 S	22	18 46	19 13	31 46		29 54						
14	29	40.4		17.3	72	49.7		30.4	86	20	18 41	19 06	19 35	2 13 43		15 49	56					
15	44	40.1		17.2	87	20.1		39.0	86	30	19 03	31	20 04	1 53 38		16 12	60					
16	59	39.8		17.0	101	50.4		47.6	86	35	16	19 46	23	41 36		25 62						
17	74	39.5	-23	16.9	116	20.5	-23	56.0	84	40	19 31	20 04	20 46	1 28 33		16 41	64					
18	89	39.2	-23	16.8	130	50.6	-24	04.4	84	45	19 49	20 26	21 16	1 12 29		16 59	68					
19	104	38.9		16.7	145	20.6		12.6	82	50	20 11	20 56	22 01	0 52 25		17 23	72					
20	119	38.6		16.5	159	50.5		20.7	81	52	22	21 11	22 28	43 22		34 75						
21	134	38.2		16.4	174	20.3		28.7	80	54	34	29	23 12	33 19		17 47	78					
22	149	37.9		16.3	188	50.0		36.6	78	56	20 48	21 50	** **	21 16		18 02	82					
23	164	37.6		16.2	203	19.6		44.4	78	58	21 05	22 20	** **	0 08 11		19 88						
24	179	37.3	-23	16.0	217	49.1	-24	52.1	77	60 S	21 25	23 08	** **	23 57 11		18 41	96					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 17 ^h 33.2 ^m		Mag: -4.4 PMG: 15 ^h 17 ^m		Mag: -1.1 PMG: 2 ^h 02 ^m		Mag: -2.8 PMG: 22 ^h 22 ^m		Mag: +1.1 PMG: 16 ^h 38 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	95	58.3	130	44.7	-15	42.5	329	18.3	+23	00.4							
1	111	00.7	145	44.6		41.5	344	21.5		00.7							
2	126	03.2	160	44.4		40.5	359	24.6		01.0							
3	141	05.7	175	44.2		39.4	14	27.8		01.2							
4	156	08.1	190	44.0		38.4	29	30.9		01.5							
5	171	10.6	205	43.9	-15	37.4	44	34.1	+23	01.8							
6	186	13.1	220	43.7	-15	36.3	59	37.3	+23	02.0							
7	201	15.5	235	43.5		35.3	74	40.4		02.3							
8	216	18.0	250	43.3		34.3	89	43.6		02.5							
9	231	20.4	265	43.2		33.2	104	46.7		02.8							
10	246	22.9	280	43.0		32.2	119	49.9		03.1							
11	261	25.4	295	42.8	-15	31.2	134	53.1	+23	03.3							
12	276	27.8	310	42.7	-15	30.1	149	56.3	+23	03.6							
13	291	30.3	325	42.5		29.1	164	59.4		03.8							
14	306	32.8	340	42.4		28.1	180	02.6		04.1							
15	321	35.2	355	42.2		27.0	195	05.8		04.4							
16	336	37.7	10	42.0		26.0	210	08.9		04.6							
17	351	40.2	25	41.9	-15	24.9	225	12.1	+23	04.9							
18	6	42.6	40	41.7	-15	23.9	240	15.3	+23	05.2							
19	21	45.1	55	41.6		22.9	255	18.5		05.4							
20	36	47.6	70	41.4		21.8	270	21.7		05.7							
21	51	50.0	85	41.2		20.8	285	24.8		06.0							
22	66	52.5	100	41.1		19.7	300	28.0		06.2							
23	81	54.9	115	40.9		18.7	315	31.2		06.5							
24	96	57.4	130	40.8	-15	17.7	330	34.4	+23	06.7							
Dif	—		-2		+10		+32		+3		+28		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 01.8 ^m				Edad: 26.7 ^d SD: 15 ^h 0 PMG: 9 ^h 49 ^m													
	PHE { 4 ^h : 55/3 12 ^h : 55/5 20 ^h : 55/7 R ^o : 54 ^m																	
	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	179	37.3	-23	16.0	217	49.1	-24	52.1	60 N	7 09	8 06	9 03	7 33	95	11 57	17		
1	194	37.0		15.9	232	18.5	-24	59.7	58	7 02	7 55	8 46	7 06	85	12 24	27		
2	209	36.7		15.8	246	47.8	-25	07.1	56	6 55	44	32	6 46	79	12 45	33		
3	224	36.4		15.6	261	17.0		14.5	54	49	35	19	29	75	13 03	36		
4	239	36.1		15.5	275	46.1		21.7	52	44	27	8 08	14	73	18	38		
5	254	35.8	-23	15.4	290	15.2	-25	28.8	50	6 38	7 20	7 58	6 01	71	13 31	40		
6	269	35.5	-23	15.2	304	44.1	-25	35.7	45	6 27	7 04	7 38	5 35	67	13 58	44		
7	284	35.2		15.1	319	12.9		42.6	40	17	6 51	21	5 15	64	14 19	46		
8	299	34.9		15.0	333	41.7		49.3	35	6 07	39	7 07	4 57	63	37	48		
9	314	34.6		14.8	348	10.3	-25	55.9	30	5 59	28	6 55	43	60	14 52	49		
10	329	34.3		14.7	2	38.9	-26	02.4	20	42	6 10	34	4 18	57	15 18	52		
11	344	34.0	-23	14.6	17	07.4	-26	08.7	10 N	5 26	5 53	6 15	3 56	56	15 41	53		
12	359	33.7	-23	14.4	31	35.8	-26	14.9	0	5 09	5 35	5 58	3 37	53	16 02	54		
13	14	33.3		14.3	46	04.0		21.0	10 S	4 50	5 18	41	3 17	51	23	56		
14	29	33.0		14.1	60	32.2		27.0	20	4 28	4 57	22	2 56	48	16 45	58		
15	44	32.7		14.0	75	00.4		32.8	30	3 59	32	5 00	31	46	17 12	60		
16	59	32.4		13.9	89	28.4		38.5	35	41	4 17	4 47	17	44	27	61		
17	74	32.1	-23	13.7	103	56.3	-26	44.1	40	3 18	3 59	4 32	2 01	41	17 45	63		
18	89	31.8	-23	13.6	118	24.2	-26	49.5	45	2 47	3 37	4 14	1 41	39	18 07	65		
19	104	31.5		13.4	132	51.9		54.8	50	2 02	3 07	3 52	17	34	35	67		
20	119	31.2		13.3	147	19.6	-26	59.9	52	1 35	2 52	41	1 05	32	18 49	68		
21	134	30.9		13.1	161	47.2	-27	05.0	54	0 51	35	29	0 52	29	19 05	70		
22	149	30.6		13.0	176	14.7		09.8	56	** **	2 13	3 15	37	25	24	72		
23	164	30.3		12.8	190	42.2		14.6	58	** **	1 43	2 58	0 19	20	19 47	76		
24	179	30.0	-23	12.7	205	09.5	-27	19.2	60 S	** **	0 56	2 38	** **	**	20 17	85		
UT	ARIES PMG: 17 ^h 29.3 ^m		VENUS Mag: -4.4 PMG: 15 ^h 17 ^m			MARTE Mag: -1.1 PMG: 1 ^h 57 ^m			JÚPITER Mag: -2.8 PMG: 22 ^h 17 ^m			SATURNO Mag: +1.1 PMG: 16 ^h 35 ^m						
	hG ♂		hG ♀		Dec	hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	96	57.4	130	40.8	-15	17.7	330	34.4	+23	06.7	24	35.9	+21	49.7	110	42.5	-8	02.3
1	111	59.9	145	40.6		16.6	345	37.6		07.0	39	38.7		49.7	125	44.8		02.2
2	127	02.3	160	40.5		15.6	0	40.8		07.3	54	41.5		49.7	140	47.1		02.1
3	142	04.8	175	40.3		14.5	15	44.0		07.5	69	44.2		49.6	155	49.4		02.1
4	157	07.3	190	40.2		13.5	30	47.2		07.8	84	47.0		49.6	170	51.7		02.0
5	172	09.7	205	40.0	-15	12.4	45	50.4	+23	08.1	99	49.8	+21	49.6	185	54.0	-8	01.9
6	187	12.2	220	39.9	-15	11.4	60	53.5	+23	08.3	114	52.6	+21	49.6	200	56.3	-8	01.8
7	202	14.7	235	39.7		10.3	75	56.7		08.6	129	55.3		49.5	215	58.6		01.8
8	217	17.1	250	39.6		09.3	90	59.9		08.9	144	58.1		49.5	231	00.9		01.7
9	232	19.6	265	39.4		08.3	106	03.1		09.1	160	00.9		49.5	246	03.2		01.6
10	247	22.1	280	39.3		07.2	121	06.3		09.4	175	03.6		49.5	261	05.5		01.5
11	262	24.5	295	39.1	-15	06.2	136	09.5	+23	09.7	190	06.4	+21	49.4	276	07.8	-8	01.5
12	277	27.0	310	39.0	-15	05.1	151	12.7	+23	09.9	205	09.2	+21	49.4	291	10.1	-8	01.4
13	292	29.4	325	38.9		04.1	166	15.9		10.2	220	12.0		49.4	306	12.4		01.3
14	307	31.9	340	38.7		03.0	181	19.2		10.5	235	14.7		49.3	321	14.7		01.2
15	322	34.4	355	38.6		02.0	196	22.4		10.7	250	17.5		49.3	336	17.0		01.2
16	337	36.8	10	38.4	-15	00.9	211	25.6		11.0	265	20.3		49.3	351	19.3		01.1
17	352	39.3	25	38.3	-14	59.9	226	28.8	+23	11.3	280	23.0	+21	49.3	6	21.6	-8	01.0
18	7	41.8	40	38.2	-14	58.8	241	32.0	+23	11.5	295	25.8	+21	49.2	21	23.9	-8	00.9
19	22	44.2	55	38.0		57.7	256	35.2		11.8	310	28.6		49.2	36	26.2		00.9
20	37	46.7	70	37.9		56.7	271	38.4		12.1	325	31.3		49.2	51	28.5		00.8
21	52	49.2	85	37.7		55.6	286	41.6		12.3	340	34.1		49.2	66	30.8		00.7
22	67	51.6	100	37.6		54.6	301	44.8		12.6	355	36.9		49.1	81	33.1		00.7
23	82	54.1	115	37.5		53.5	316	48.1		12.9	10	39.6		49.1	96	35.4		00.6
24	97	56.6	130	37.3	-14	52.5	331	51.3	+23	13.1	25	42.4	+21	49.1	111	37.7	-8	00.5
Dif	—		-1		+10		+32		+3		+28		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 02.2 ^m				Edad: 27.7 ^d PHE { 4 ^h : 55/9 12 ^h : 56/0 20 ^h : 56/2 PMG: 10 ^h 43 ^m R°: 57 ^m																	
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil		Náutico	Hora		R°	Hora	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	179	30.0	-23	12.7	205	09.5	-27	19.2	44	60 N	15	01	15	59	16	55	9	08	70	12	14	49
1	194	29.7		12.5	219	36.8		23.6	44	58	19	16	10	17	03	8	31	66	12	51	53	
2	209	29.4		12.4	234	04.0		27.9	43	56	33	20	09	8	05	64	13	18	54			
3	224	29.1		12.2	248	31.1		32.1	40	54	45	29	15	7	44	63	39	55				
4	239	28.8		12.1	262	58.2		36.1	38	52	15	56	37	21	27	62	13	56	56			
5	254	28.5	-23	11.9	277	25.1	-27	39.9	38	50	16	06	16	45	17	26	7	12	62	14	11	56
6	269	28.2	-23	11.8	291	52.0	-27	43.7	38	45	16	27	17	00	17	38	6	42	61	14	42	56
7	284	27.9		11.6	306	18.9		47.2	35	40	43	14	48	19	60	15	05	57				
8	299	27.6		11.5	320	45.6		50.6	34	35	16	57	25	17	57	6	00	59	25	56		
9	314	27.3		11.3	335	12.3		53.9	33	30	17	09	36	18	06	5	43	59	15	41	57	
10	329	27.0		11.2	349	38.9	-27	57.0	31	20	30	17	54	22	5	15	58	16	10	57		
11	344	26.7	-23	11.0	4	05.5	-28	00.0	30	10 N	17	49	18	12	18	38	4	52	57	16	34	57
12	359	26.4	-23	10.9	18	32.0	-28	02.8	28	0	18	06	18	28	18	55	4	30	56	16	56	58
13	14	26.0		10.7	32	58.4		05.4	26	10 S	23	18	46	19	13	4	08	55	17	19	57	
14	29	25.7		10.5	47	24.8		07.9	25	20	18	42	19	07	19	36	3	44	55	17	43	57
15	44	25.4		10.4	61	51.1		10.3	24	30	19	04	31	20	05	17	53	18	12	56		
16	59	25.1		10.2	76	17.3		12.5	22	35	17	19	46	23	3	01	52	28	57			
17	74	24.8	-23	10.0	90	43.5	-28	14.5	20	40	19	32	20	04	20	46	2	42	52	18	48	56
18	89	24.5	-23	09.9	105	09.7	-28	16.4	19	45	19	49	20	27	21	16	2	20	50	19	12	55
19	104	24.2		09.7	119	35.7		18.1	17	50	20	12	20	56	22	00	1	51	48	42	55	
20	119	23.9		09.6	134	01.8		19.6	15	52	22	22	21	11	22	27	37	47	19	57	55	
21	134	23.6		09.4	148	27.8		21.0	14	54	34	28	23	09	21	45	20	15	54			
22	149	23.3		09.2	162	53.7		22.3	13	56	20	48	21	50	** **	1	02	43	20	36	54	
23	164	23.0		09.1	177	19.6		23.3	10	58	21	05	22	18	** **	0	39	39	21	03	52	
24	179	22.7	-23	08.9	191	45.4	-28	24.2	9	60 S	21	25	23	04	** **	0	08	31	21	42	48	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 17 ^h 25.4 ^m		Mag: -4.4 PMG: 15 ^h 18 ^m		Mag: -1.1 PMG: 1 ^h 52 ^m		Mag: -2.8 PMG: 22 ^h 13 ^m		Mag: +1.1 PMG: 16 ^h 31 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	97	56.6	130	37.3	-14	52.5	331	51.3	+23	13.1	25	42.4	+21	49.1	111	37.7	-8	00.5
1	112	59.0	145	37.2		51.4	346	54.5		13.4	40	45.2		49.1	126	40.0		00.4
2	128	01.5	160	37.1		50.4	1	57.7		13.7	55	47.9		49.0	141	42.3		00.4
3	143	03.9	175	37.0		49.3	17	00.9		13.9	70	50.7		49.0	156	44.6		00.3
4	158	06.4	190	36.8		48.2	32	04.2		14.2	85	53.5		49.0	171	46.9		00.2
5	173	08.9	205	36.7	-14	47.2	47	07.4	+23	14.5	100	56.2	+21	49.0	186	49.2	-8	00.1
6	188	11.3	220	36.6	-14	46.1	62	10.6	+23	14.7	115	59.0	+21	48.9	201	51.5	-8	00.1
7	203	13.8	235	36.4		45.1	77	13.9		15.0	131	01.8		48.9	216	53.8	-8	00.0
8	218	16.3	250	36.3		44.0	92	17.1		15.3	146	04.5		48.9	231	56.1	-7	59.9
9	233	18.7	265	36.2		43.0	107	20.3		15.6	161	07.3		48.8	246	58.4		59.8
10	248	21.2	280	36.1		41.9	122	23.5		15.8	176	10.1		48.8	262	00.7		59.8
11	263	23.7	295	36.0	-14	40.8	137	26.8	+23	16.1	191	12.8	+21	48.8	277	03.0	-7	59.7
12	278	26.1	310	35.8	-14	39.8	152	30.0	+23	16.4	206	15.6	+21	48.8	292	05.3	-7	59.6
13	293	28.6	325	35.7		38.7	167	33.3		16.6	221	18.4		48.7	307	07.6		59.5
14	308	31.1	340	35.6		37.6	182	36.5		16.9	236	21.1		48.7	322	09.9		59.5
15	323	33.5	355	35.5		36.6	197	39.7		17.2	251	23.9		48.7	337	12.2		59.4
16	338	36.0	10	35.4		35.5	212	43.0		17.4	266	26.7		48.7	352	14.5		59.3
17	353	38.4	25	35.2	-14	34.5	227	46.2	+23	17.7	281	29.4	+21	48.6	7	16.8	-7	59.2
18	8	40.9	40	35.1	-14	33.4	242	49.5	+23	18.0	296	32.2	+21	48.6	22	19.1	-7	59.2
19	23	43.4	55	35.0		32.3	257	52.7		18.3	311	34.9		48.6	37	21.4		59.1
20	38	45.8	70	34.9		31.3	272	55.9		18.5	326	37.7		48.6	52	23.7		59.0
21	53	48.3	85	34.8		30.2	287	59.2		18.8	341	40.5		48.5	67	26.0		58.9
22	68	50.8	100	34.7		29.1	303	02.4		19.1	356	43.2		48.5	82	28.3		58.9
23	83	53.2	115	34.6		28.1	318	05.7		19.3	11	46.0		48.5	97	30.6		58.8
24	98	55.7	130	34.5	-14	27.0	333	08.9	+23	19.6	26	48.8	+21	48.5	112	32.9	-7	58.7
Dif	—		-1		+11		+32		+3		+28		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 02.7 ^m				Edad: 28.7 ^d PHE { 4 ^h : 56'4 12 ^h : 56'6 20 ^h : 56'8 SD: 15'3 PMG: 11 ^h 40 ^m R°: 57 ^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	179	22.7	-23	08.9	191	45.4	-28	24.2	8	60 N	7 09	8 06	9 03	10 18	29	13 03	91			
1	194	22.4		08.7	206	11.2		25.0	5	58	7 02	7 55	8 46	9 37	39	13 44	81			
2	209	22.1		08.6	220	37.0		25.5	5	56	6 56	44	32	9 09	43	14 12	76			
3	224	21.8		08.4	235	02.7		26.0	5	54	50	36	19	8 47	46	34	73			
4	239	21.5		08.2	249	28.4		26.2	2	52	44	28	8 08	29	47	14 52	71			
5	254	21.2	-23	08.0	263	54.1	-28	26.3	1	50	6 39	7 20	7 59	8 14	48	15 07	70			
6	269	20.9	-23	07.9	278	19.7	-28	26.2	1	45	6 27	7 04	7 38	7 43	51	15 38	67			
7	284	20.6		07.7	292	45.3		26.0	2	40	17	6 51	22	7 19	52	16 02	65			
8	299	20.3		07.5	307	10.8		25.5	5	35	6 08	40	7 08	6 59	53	21	64			
9	314	20.0		07.3	321	36.4		25.0	5	30	5 59	29	6 55	42	54	16 38	63			
10	329	19.7		07.2	336	01.9		24.2	8	20	43	6 11	34	6 13	56	17 07	60			
11	344	19.4	-23	07.0	350	27.4	-28	23.3	9	10 N	5 27	5 53	6 16	5 49	56	17 31	59			
12	359	19.1	-23	06.8	4	52.9	-28	22.2	11	0	5 10	5 36	5 59	5 26	57	17 54	57			
13	14	18.8		06.6	19	18.3		21.0	12	10 S	4 52	5 19	42	5 03	58	18 16	56			
14	29	18.5		06.5	33	43.8		19.5	15	20	29	4 58	23	4 39	59	18 40	54			
15	44	18.2		06.3	48	09.2		17.9	16	30	4 01	34	5 01	4 10	60	19 08	52			
16	59	17.9		06.1	62	34.6		16.2	17	35	3 42	19	4 48	3 53	61	25	50			
17	74	17.6	-23	05.9	77	00.0	-28	14.3	19	40	3 19	4 01	4 33	3 34	61	19 44	48			
18	89	17.3	-23	05.7	91	25.4	-28	12.2	21	45	2 49	3 38	4 16	3 10	62	20 07	46			
19	104	17.0		05.5	105	50.8		09.9	23	50	2 05	3 09	3 54	2 39	64	37	42			
20	119	16.7		05.4	120	16.1		07.5	24	52	1 38	2 54	43	24	64	20 52	40			
21	134	16.4		05.2	134	41.5		04.9	26	54	0 56	37	31	2 06	65	21 09	38			
22	149	16.1		05.0	149	06.9	-28	02.1	28	56	** **	2 15	17	1 45	66	30	33			
23	164	15.8		04.8	163	32.3	-27	59.2	29	58	** **	1 47	3 00	1 18	68	21 55	29			
24	179	15.5	-23	04.6	177	57.7	-27	56.1	31	60 S	** **	1 01	2 40	0 39	72	22 30	19			
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 17 ^h 21.4 ^m		Mag: -4.4 PMG: 15 ^h 18 ^m				Mag: -1.2 PMG: 1 ^h 47 ^m				Mag: -2.8 PMG: 22 ^h 09 ^m				Mag: +1.1 PMG: 16 ^h 27 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	98	55.7	130	34.5	-14	27.0	333	08.9	+23	19.6	26	48.8	+21	48.5	112	32.9	-7	58.7		
1	113	58.2	145	34.3		25.9	348	12.2		19.9	41	51.5		48.4	127	35.2		58.6		
2	129	00.6	160	34.2		24.9	3	15.4		20.1	56	54.3		48.4	142	37.5		58.5		
3	144	03.1	175	34.1		23.8	18	18.7		20.4	71	57.0		48.4	157	39.8		58.5		
4	159	05.6	190	34.0		22.7	33	21.9		20.7	86	59.8		48.4	172	42.1		58.4		
5	174	08.0	205	33.9	-14	21.6	48	25.2	+23	21.0	102	02.6	+21	48.3	187	44.4	-7	58.3		
6	189	10.5	220	33.8	-14	20.6	63	28.5	+23	21.2	117	05.3	+21	48.3	202	46.7	-7	58.2		
7	204	12.9	235	33.7		19.5	78	31.7		21.5	132	08.1		48.3	217	49.0		58.2		
8	219	15.4	250	33.6		18.4	93	35.0		21.8	147	10.8		48.3	232	51.3		58.1		
9	234	17.9	265	33.5		17.4	108	38.2		22.0	162	13.6		48.2	247	53.6		58.0		
10	249	20.3	280	33.4		16.3	123	41.5		22.3	177	16.4		48.2	262	55.9		57.9		
11	264	22.8	295	33.3	-14	15.2	138	44.8	+23	22.6	192	19.1	+21	48.2	277	58.2	-7	57.9		
12	279	25.3	310	33.2	-14	14.1	153	48.0	+23	22.9	207	21.9	+21	48.1	293	00.4	-7	57.8		
13	294	27.7	325	33.1		13.1	168	51.3		23.1	222	24.6		48.1	308	02.7		57.7		
14	309	30.2	340	33.0		12.0	183	54.6		23.4	237	27.4		48.1	323	05.0		57.6		
15	324	32.7	355	32.9		10.9	198	57.8		23.7	252	30.2		48.1	338	07.3		57.6		
16	339	35.1	10	32.8		09.8	214	01.1		24.0	267	32.9		48.0	353	09.6		57.5		
17	354	37.6	25	32.7	-14	08.8	229	04.4	+23	24.2	282	35.7	+21	48.0	8	11.9	-7	57.4		
18	9	40.0	40	32.6	-14	07.7	244	07.7	+23	24.5	297	38.4	+21	48.0	23	14.2	-7	57.3		
19	24	42.5	55	32.5		06.6	259	10.9		24.8	312	41.2		48.0	38	16.5		57.3		
20	39	45.0	70	32.5		05.5	274	14.2		25.0	327	43.9		47.9	53	18.8		57.2		
21	54	47.4	85	32.4		04.5	289	17.5		25.3	342	46.7		47.9	68	21.1		57.1		
22	69	49.9	100	32.3		03.4	304	20.8		25.6	357	49.5		47.9	83	23.4		57.0		
23	84	52.4	115	32.2		02.3	319	24.0		25.9	12	52.2		47.9	98	25.7		56.9		
24	99	54.8	130	32.1	-14	01.2	334	27.3	+23	26.1	27	55.0	+21	47.8	113	28.0	-7	56.9		
Dif	—		-1		+11		+33		+3		+28		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 03.2 ^m				Edad: 29.7 ^d PHE { 4 ^h : 57/0 12 ^h : 57/2 20 ^h : 57/4 R°: 56 ^m																
	hG ☉	Dec			hG ☾	Dif															
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	
0	179	15.5	-23	04.6	177	57.7	-27	56.1	60 N	15	04	16	01	16	57	10	47	10	14	34	107
1	194	15.2		04.4	192	23.1		52.8	58	21		12	17	05	10	16	19	15	05	97	
2	209	14.9		04.2	206	48.5		49.3	56	35		22	11		9	52	26		28	91	
3	224	14.6		04.1	221	13.9		45.7	54	48		31	17		33	30	15	47	87		
4	239	14.3		03.9	235	39.3		41.9	52	15	58	39	23		16	34	16	03	83		
5	254	14.0	-23	03.7	250	04.8	-27	38.0	50	16	08	16	46	17	28	9	02	36	16	17	80
6	269	13.7	-23	03.5	264	30.2	-27	33.9	45	16	28	17	02	17	39	8	34	40	16	45	75
7	284	13.4		03.3	278	55.7		29.6	40	45		15	49		8	11	44	17	07	72	
8	299	13.1		03.1	293	21.2		25.1	35	16	59	27	17	58	7	52	47		25	69	
9	314	12.8		02.9	307	46.7		20.5	30	17	11	37	18	07		36	49	17	41	66	
10	329	12.5		02.7	322	12.2		15.7	20	32		17	56		23	7	09	52	18	07	62
11	344	12.2	-23	02.5	336	37.8	-27	10.8	10 N	17	50	18	13	18	39	6	45	55	18	30	59
12	359	11.9	-23	02.3	351	03.4	-27	05.7	0	18	07	18	29	18	56	6	23	57	18	51	56
13	14	11.6		02.1	5	29.0	-27	00.4	10 S	24		18	47	19	14	6	01	60	19	12	52
14	29	11.3		01.9	19	54.6	-26	55.0	20	18	43	19	07	19	36	5	38	62	19	34	49
15	44	11.0		01.7	34	20.3		49.3	30	19	04	32	20	05	5	10	65	20	00	45	
16	59	10.7		01.5	48	46.0		43.6	35	17		19	47	23	4	54	67		15	43	
17	74	10.4	-23	01.3	63	11.8	-26	37.6	40	19	32	20	05	20	46	4	35	69	20	32	40
18	89	10.1	-23	01.1	77	37.6	-26	31.6	45	19	50	20	27	21	16	4	12	72	20	53	36
19	104	09.9		00.9	92	03.4		25.3	50	20	12	20	56	22	00	3	43	76	21	19	31
20	119	09.6		00.7	106	29.3		18.9	52	22		21	10	22	26	28	78		32	28	
21	134	09.3		00.5	120	55.2		12.3	54	34		28	23	06	3	11	81	21	47	24	
22	149	09.0		00.3	135	21.1	-26	05.6	56	20	48	21	49	** **		2	51	85	22	03	21
23	164	08.7	-23	00.1	149	47.1	-25	58.7	58	21	04	22	17	** **		2	26	90		24	14
24	179	08.4	-22	59.9	164	13.2	-25	51.6	60 S	21	24	23	00	** **		1	51	100	22	49	6

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 17.5 ^m		Mag: -4.5 PMG: 15 ^h 18 ^m		Mag: -1.2 PMG: 1 ^h 42 ^m		Mag: -2.8 PMG: 22 ^h 04 ^m		Mag: +1.1 PMG: 16 ^h 24 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	99	54.8	130	32.1	-14	01.2	334	27.3	+23	26.1
1	114	57.3	145	32.0	-14	00.1	349	30.6		26.4
2	129	59.8	160	31.9	-13	59.1	4	33.9		26.7
3	145	02.2	175	31.8		58.0	19	37.2		27.0
4	160	04.7	190	31.8		56.9	34	40.5		27.2
5	175	07.2	205	31.7	-13	55.8	49	43.7	+23	27.5
6	190	09.6	220	31.6	-13	54.7	64	47.0	+23	27.8
7	205	12.1	235	31.5		53.7	79	50.3		28.1
8	220	14.5	250	31.4		52.6	94	53.6		28.3
9	235	17.0	265	31.4		51.5	109	56.9		28.6
10	250	19.5	280	31.3		50.4	125	00.2		28.9
11	265	21.9	295	31.2	-13	49.3	140	03.5	+23	29.1
12	280	24.4	310	31.1	-13	48.2	155	06.8	+23	29.4
13	295	26.9	325	31.1		47.2	170	10.1		29.7
14	310	29.3	340	31.0		46.1	185	13.4		30.0
15	325	31.8	355	30.9		45.0	200	16.7		30.2
16	340	34.3	10	30.8		43.9	215	20.0		30.5
17	355	36.7	25	30.8	-13	42.8	230	23.3	+23	30.8
18	10	39.2	40	30.7	-13	41.7	245	26.6	+23	31.1
19	25	41.7	55	30.6		40.6	260	29.9		31.3
20	40	44.1	70	30.6		39.5	275	33.2		31.6
21	55	46.6	85	30.5		38.5	290	36.5		31.9
22	70	49.0	100	30.4		37.4	305	39.8		32.2
23	85	51.5	115	30.4		36.3	320	43.1		32.4
24	100	54.0	130	30.3	-13	35.2	335	46.4	+23	32.7
Dif	—		-1		+11		+33		+3	
							</			

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'
1 - α And	<i>Alpheratz</i>	2.1	357	35.7	35.8	35.9	35.8	35.6	35.3	35.1	34.8	34.7	34.7	34.8
2 - β Cas	<i>Caph</i>	2.3	357	23.4	23.6	23.7	23.6	23.3	22.9	22.5	22.2	22.0	22.1	22.3
3 - γ Peg	<i>Algenib</i>	2.8	356	23.1	23.1	23.2	23.1	22.9	22.7	22.4	22.2	22.1	22.0	22.1
4 - α Phe	<i>Ankaa</i>	2.4	353	8.1	8.2	8.2	8.1	8.0	7.7	7.4	7.1	7.0	6.9	7.1
5 - α Cas	<i>Schedar</i>	2.2	349	32.1	32.3	32.4	32.3	32.1	31.8	31.4	31.1	30.8	30.8	31.0
6 - β Cet	<i>Diphda</i>	2.0	348	48.2	48.3	48.3	48.2	48.1	47.9	47.6	47.4	47.2	47.2	47.3
7 - γ Cas	<i>Navi</i>	2.4	345	27.7	28.0	28.1	28.1	27.8	27.5	27.1	26.7	26.4	26.3	26.5
8 - β And	<i>Mirach</i>	2.1	342	13.9	14.0	14.1	14.1	13.9	13.7	13.4	13.1	12.9	12.8	12.9
9 - α Eri	<i>Achernar</i>	0.5	335	20.7	21.0	21.2	21.2	21.1	20.8	20.5	20.1	19.9	19.7	19.9
10 - γ And	<i>Almak</i>	2.1	328	39.3	39.5	39.6	39.6	39.5	39.3	39.0	38.7	38.4	38.3	38.2
12 - α Ari	<i>Hamal</i>	2.0	327	52.1	52.2	52.3	52.3	52.2	52.0	51.7	51.5	51.2	51.1	51.0
11 - α UMi	<i>Polaris</i>	2.0	313	73.6	88.2	100.8	108.5	108.1	99.9	86.3	69.7	53.9	42.6	37.0
13 - θ Eri	<i>Acamar</i>	3.3	315	12.2	12.4	12.5	12.6	12.6	12.5	12.2	12.0	11.7	11.5	11.4
14 - α Cet	<i>Menkar</i>	2.5	314	6.9	7.0	7.1	7.1	7.1	6.9	6.7	6.5	6.2	6.1	6.0
15 - β Per	<i>Algol</i>	2.1	312	33.8	34.0	34.1	34.2	34.1	34.0	33.7	33.4	33.1	32.9	32.7
16 - α Per	<i>Mirfak</i>	1.8	308	29.2	29.3	29.5	29.6	29.6	29.4	29.1	28.7	28.4	28.1	27.9
17 - η Tau	<i>Alcyone</i>	2.9	302	46.1	46.2	46.4	46.4	46.4	46.3	46.1	45.8	45.5	45.3	45.1
18 - γ Eri	<i>Zaurak</i>	2.9	300	12.5	12.7	12.8	12.9	12.9	12.8	12.6	12.4	12.1	11.9	11.7
19 - α Tau	<i>Aldebaran</i>	0.9	290	40.3	40.4	40.5	40.6	40.6	40.5	40.3	40.1	39.9	39.6	39.5
20 - β Ori	<i>Rigel</i>	0.1	281	4.4	4.4	4.6	4.7	4.7	4.7	4.5	4.3	4.1	3.9	3.7
21 - α Aur	<i>Capella</i>	0.1	280	22.7	22.8	22.9	23.1	23.2	23.1	22.9	22.6	22.3	22.0	21.7
22 - γ Ori	<i>Bellatrix</i>	1.6	278	23.5	23.5	23.6	23.7	23.8	23.7	23.6	23.4	23.2	22.9	22.7
23 - β Tau	<i>Elnath</i>	1.7	278	2.6	2.6	2.8	2.9	2.9	2.9	2.7	2.5	2.2	1.9	1.7
24 - δ Ori	<i>Mintaka</i>	2.4	276	41.2	41.3	41.4	41.5	41.6	41.5	41.4	41.2	41.0	40.8	40.6
25 - ϵ Ori	<i>Alnilam</i>	1.7	275	38.3	38.3	38.4	38.5	38.6	38.6	38.4	38.2	38.0	37.8	37.5
26 - ζ Ori	<i>Alnitak</i>	1.8	274	30.2	30.2	30.3	30.5	30.5	30.5	30.4	30.2	29.9	29.7	29.5
27 - κ Ori	<i>Saiph</i>	2.1	272	46.3	46.3	46.5	46.6	46.7	46.6	46.5	46.3	46.1	45.9	45.5
28 - α Ori	<i>Betelgeuse</i>	0.4	270	52.6	52.7	52.8	52.9	53.0	53.0	52.8	52.6	52.4	52.2	51.8
29 - β Aur	<i>Menkalinan</i>	1.9	269	40.3	40.3	40.5	40.6	40.7	40.7	40.6	40.3	40.0	39.7	39.4
30 - β CMa	<i>Mirzam</i>	2.0	264	3.3	3.4	3.5	3.6	3.7	3.7	3.7	3.5	3.3	3.1	2.8
31 - α Car	<i>Canopus</i>	-0.7	263	52.2	52.4	52.6	52.9	53.1	53.2	53.1	52.9	52.6	52.3	51.9
32 - γ Gem	<i>Alhena</i>	1.9	260	13.2	13.3	13.3	13.5	13.5	13.5	13.5	13.3	13.0	12.8	12.4
33 - α CMa	<i>Sirius</i>	-1.5	258	26.6	26.6	26.8	26.9	27.0	27.0	26.9	26.8	26.6	26.4	26.1
34 - ϵ CMa	<i>Adhara</i>	1.5	255	6.1	6.2	6.3	6.4	6.6	6.6	6.6	6.4	6.2	6.0	5.7
35 - δ CMa	<i>Wezen</i>	1.8	252	39.2	39.2	39.3	39.4	39.6	39.6	39.6	39.4	39.2	39.0	38.8
36 - η CMa	<i>Aludra</i>	2.5	248	44.0	44.0	44.1	44.3	44.4	44.5	44.4	44.3	44.1	43.9	43.4
37 - α Gem	<i>Castor</i>	1.6	245	57.7	57.7	57.8	57.9	58.0	58.1	58.0	57.9	57.6	57.4	56.8
38 - α CMi	<i>Procyon</i>	0.4	244	51.3	51.3	51.4	51.5	51.6	51.6	51.6	51.5	51.3	51.1	50.8
39 - β Gem	<i>Pollux</i>	1.1	243	17.9	17.9	18.0	18.1	18.2	18.2	18.2	18.0	17.8	17.6	17.3
40 - ζ Pup	<i>Naos</i>	2.3	238	53.2	53.2	53.3	53.5	53.7	53.8	53.8	53.7	53.5	53.3	52.8
41 - γ Vel	<i>Regor</i>	1.8	237	25.5	25.5	25.7	25.9	26.1	26.2	26.3	26.2	26.0	25.7	25.2
42 - ϵ Car	<i>Avior</i>	1.9	234	14.4	14.5	14.6	14.9	15.2	15.5	15.6	15.5	15.3	15.0	14.3
43 - δ Velorum		2.0	228	39.1	39.1	39.2	39.4	39.7	39.9	40.0	39.9	39.8	39.5	38.8
44 - ζ Hydrae		3.1	225	49.8	49.7	49.7	49.8	49.9	50.0	50.0	49.9	49.8	49.6	49.1
45 - λ Vel	<i>Suhail</i>	2.2	222	46.5	46.4	46.5	46.6	46.8	47.0	47.0	47.0	46.9	46.7	46.4
46 - β Car	<i>Miaplacidus</i>	1.7	221	37.6	37.5	37.7	38.1	38.6	39.0	39.3	39.3	39.2	38.8	38.2
47 - ι Car	<i>Aspidiske</i>	2.3	220	33.6	33.6	33.7	33.9	34.2	34.4	34.6	34.6	34.5	34.2	33.8
48 - α Lyn	<i>Elvashak</i>	3.1	219	22.0	21.8	21.8	21.9	22.1	22.2	22.2	22.1	22.0	21.8	21.2
49 - α Hyd	<i>Alphard</i>	2.0	217	48.3	48.2	48.2	48.2	48.3	48.4	48.4	48.4	48.3	48.1	47.6
50 - α Leo	<i>Regulus</i>	1.4	207	35.0	34.9	34.9	34.9	35.0	35.1	35.1	35.1	35.0	34.9	34.4

ESTRELLAS, 2024
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	13.5	13.4	13.3	13.3	13.3	13.3	13.4	13.6	13.7	13.8	13.8	13.9
2 - β Cas	<i>Caph</i>	2.3	+59	17.2	17.1	16.9	16.8	16.8	16.8	16.8	17.0	17.2	17.3	17.5	17.5
3 - γ Peg	<i>Algenib</i>	2.8	+15	19.0	19.0	18.9	18.9	19.0	19.0	19.2	19.3	19.4	19.4	19.4	19.4
4 - α Phe	<i>Ankaa</i>	2.4	-42	10.8	10.7	10.6	10.5	10.3	10.2	10.1	10.1	10.2	10.3	10.4	10.4
5 - α Cas	<i>Schedar</i>	2.2	+56	40.4	40.3	40.2	40.1	40.0	40.0	40.1	40.2	40.4	40.5	40.7	40.7
6 - β Cet	<i>Diphda</i>	2.0	-17	51.5	51.5	51.4	51.3	51.2	51.1	51.0	50.9	50.9	50.9	51.0	51.1
7 - γ Cas	<i>Navi</i>	2.4	+60	51.1	51.0	50.9	50.7	50.7	50.6	50.7	50.8	51.0	51.2	51.3	51.4
8 - β And	<i>Mirach</i>	2.1	+35	45.0	45.0	44.9	44.8	44.8	44.8	44.9	45.0	45.1	45.2	45.3	45.4
9 - α Eri	<i>Achernar</i>	0.5	-57	7.2	7.2	7.0	6.9	6.7	6.5	6.4	6.4	6.4	6.6	6.7	6.8
10 - γ And	<i>Almak</i>	2.1	+42	26.9	26.8	26.8	26.7	26.6	26.6	26.7	26.7	26.9	27.0	27.1	27.2
12 - α Ari	<i>Hamal</i>	2.0	+23	34.6	34.6	34.6	34.5	34.5	34.5	34.6	34.7	34.8	34.9	34.9	34.9
11 - α UMi	<i>Polaris</i>	2.0	+89	22.2	22.3	22.2	22.1	21.9	21.8	21.7	21.8	21.8	22.0	22.2	22.4
13 - θ Eri	<i>Acamar</i>	3.3	-40	12.7	12.8	12.7	12.6	12.4	12.3	12.1	12.0	12.0	12.1	12.3	12.4
14 - α Cet	<i>Menkar</i>	2.5	+4	11.0	11.0	11.0	11.0	11.0	11.1	11.2	11.3	11.3	11.4	11.3	11.3
15 - β Per	<i>Algol</i>	2.1	+41	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.9	3.0	3.1	3.2	3.2
16 - α Per	<i>Mirfak</i>	1.8	+49	57.0	57.0	56.9	56.9	56.8	56.7	56.7	56.7	56.8	56.9	57.0	57.1
17 - η Tau	<i>Alcyone</i>	2.9	+24	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.9	10.9	11.0	11.0	11.0
18 - γ Eri	<i>Zaurak</i>	2.9	-13	26.5	26.6	26.6	26.5	26.4	26.3	26.2	26.1	26.1	26.1	26.2	26.2
19 - α Tau	<i>Aldebaran</i>	0.9	+16	33.5	33.5	33.4	33.4	33.4	33.5	33.5	33.6	33.6	33.6	33.6	33.6
20 - β Ori	<i>Rigel</i>	0.1	-8	10.5	10.5	10.6	10.5	10.5	10.4	10.3	10.2	10.2	10.2	10.2	10.3
21 - α Aur	<i>Capella</i>	0.1	+46	1.4	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.3	1.3	1.4
22 - γ Ori	<i>Bellatrix</i>	1.6	+6	22.3	22.2	22.2	22.2	22.3	22.3	22.4	22.4	22.5	22.5	22.4	22.4
23 - β Tau	<i>Elnath</i>	1.7	+28	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7	37.7
24 - δ Ori	<i>Mintaka</i>	2.4	-0	16.9	17.0	17.0	17.0	16.9	16.8	16.8	16.7	16.7	16.7	16.7	16.8
25 - ϵ Ori	<i>Alnilam</i>	1.7	-1	11.2	11.3	11.3	11.3	11.2	11.2	11.1	11.0	11.0	11.0	11.0	11.1
26 - ζ Ori	<i>Alnitak</i>	1.8	-1	55.8	55.9	55.9	55.9	55.8	55.8	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	39.5	39.4	39.4	39.5	39.6
28 - α Ori	<i>Betelgeuse</i>	0.4	+7	24.7	24.6	24.6	24.6	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	57.0
30 - β CMa	<i>Mirzam</i>	2.0	-17	58.1	58.2	58.2	58.2	58.2	58.1	58.0	57.9	57.8	57.8	57.9	58.0
31 - α Car	<i>Canopus</i>	-0.7	-52	42.5	42.7	42.8	42.7	42.7	42.5	42.3	42.2	42.1	42.1	42.2	42.4
32 - γ Gem	<i>Alhena</i>	1.9	+16	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.8	22.8	22.7	22.7	22.7
33 - α CMa	<i>Sirius</i>	-1.5	-16	45.0	45.1	45.1	45.1	45.1	45.0	44.9	44.8	44.7	44.7	44.8	44.9
34 - ϵ CMa	<i>Adhara</i>	1.5	-29	0.3	0.4	0.5	0.5	0.4	0.3	0.2	0.1	0.0	0.0	0.1	0.2
35 - δ CMa	<i>Wezen</i>	1.8	-26	25.9	26.0	26.1	26.1	26.0	25.9	25.8	25.7	25.6	25.6	25.7	25.8
36 - η CMa	<i>Aludra</i>	2.5	-29	21.0	21.1	21.2	21.2	21.2	21.1	21.0	20.8	20.8	20.8	20.8	21.0
37 - α Gem	<i>Castor</i>	1.6	+31	50.1	50.1	50.2	50.2	50.2	50.2	50.1	50.1	50.0	50.0	49.9	49.9
38 - α CMi	<i>Procyon</i>	0.4	+5	9.8	9.7	9.7	9.7	9.7	9.8	9.8	9.8	9.8	9.8	9.8	9.7
39 - β Gem	<i>Pollux</i>	1.1	+27	58.0	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.0	58.0	57.9	57.9
40 - ζ Pup	<i>Naos</i>	2.3	-40	4.2	4.4	4.5	4.5	4.5	4.4	4.3	4.1	4.0	4.0	4.1	4.2
41 - γ Vel	<i>Regor</i>	1.8	-47	24.4	24.5	24.7	24.7	24.7	24.6	24.5	24.3	24.2	24.2	24.2	24.4
42 - ϵ Car	<i>Avior</i>	1.9	-59	35.1	35.3	35.4	35.5	35.5	35.4	35.3	35.1	35.0	34.9	35.0	35.1
43 - δ Velorum		2.0	-54	47.7	47.9	48.0	48.1	48.1	48.0	47.9	47.8	47.6	47.6	47.6	47.7
44 - ζ Hydrae		3.1	+5	51.2	51.2	51.1	51.1	51.2	51.2	51.2	51.2	51.2	51.2	51.1	51.0
45 - λ Vel	<i>Suhail</i>	2.2	-43	31.7	31.8	32.0	32.1	32.1	32.0	31.9	31.8	31.7	31.6	31.6	31.8
46 - β Car	<i>Miaplacidus</i>	1.7	-69	48.8	49.0	49.1	49.2	49.3	49.2	49.1	49.0	48.8	48.7	48.7	48.8
47 - ι Car	<i>Aspidiske</i>	2.3	-59	22.4	22.6	22.7	22.9	22.9	22.8	22.7	22.6	22.4	22.4	22.4	22.5
48 - α Lyn	<i>Elvashak</i>	3.1	+34	17.3	17.4	17.4	17.5	17.5	17.5	17.5	17.4	17.3	17.2	17.1	17.1
49 - α Hyd	<i>Alphard</i>	2.0	-8	45.8	45.9	45.9	45.9	45.9	45.9	45.8	45.8	45.7	45.8	45.8	45.9
50 - α Leo	<i>Regulus</i>	1.4	+11	50.9	50.9	50.9	50.9	50.9	50.9	51.0	51.0	50.9	50.9	50.8	50.7

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'
51 - μ	Velorum	2.7	198	2.7	2.6	2.5	2.6	2.7	2.9	3.1	3.1	3.0	2.7	2.3
52 - ν	Hydrae	3.1	197	17.7	17.5	17.5	17.5	17.6	17.7	17.7	17.8	17.7	17.6	17.1
53 - β	UMa <i>Merak</i>	2.4	194	10.4	10.1	10.0	10.1	10.2	10.4	10.6	10.7	10.6	10.4	10.1
54 - α	UMa <i>Dubhe</i>	1.8	193	41.6	41.2	41.1	41.2	41.4	41.7	41.9	42.0	41.9	41.7	41.4
55 - β	Leo <i>Denebola</i>	2.1	182	25.6	25.4	25.3	25.3	25.3	25.4	25.5	25.5	25.5	25.3	25.0
56 - γ	Crv <i>Gienah</i>	2.6	175	44.3	44.1	44.0	43.9	44.0	44.0	44.1	44.2	44.2	44.1	44.0
57 - α	Cru <i>Acrux</i>	1.3	173	0.8	0.5	0.3	0.2	0.3	0.5	0.8	1.0	1.1	1.1	0.8
58 - γ	Cru <i>Gacrux</i>	1.6	171	52.4	52.1	51.9	51.8	51.9	52.1	52.3	52.5	52.6	52.5	51.9
59 - γ	Cen <i>Muhlifain</i>	2.2	169	17.3	17.0	16.8	16.8	16.8	16.9	17.1	17.2	17.3	17.3	16.7
60 - β	Cru <i>Mimosa</i>	1.3	167	43.0	42.7	42.5	42.4	42.4	42.6	42.8	43.0	43.1	43.1	42.5
61 - ε	UMa <i>Alioth</i>	1.8	166	13.6	13.2	13.0	12.9	13.0	13.2	13.4	13.6	13.7	13.5	13.2
62 - α^2	CVn <i>Cor Caroli</i>	2.9	165	42.7	42.4	42.2	42.2	42.2	42.3	42.4	42.5	42.6	42.6	42.2
63 - ε	Vir <i>Vindemiatrix</i>	2.8	164	9.4	9.2	9.0	8.9	8.9	9.0	9.1	9.1	9.2	9.2	8.8
64 - ζ	UMa <i>Mizar</i>	2.3	158	46.5	46.2	45.9	45.8	45.9	46.0	46.2	46.4	46.5	46.6	46.2
65 - α	Vir <i>Spica</i>	1.0	158	23.2	22.9	22.7	22.6	22.6	22.7	22.7	22.8	22.9	22.9	22.5
66 - η	UMa <i>Alkaid</i>	1.9	152	52.7	52.3	52.1	52.0	52.0	52.1	52.3	52.4	52.6	52.6	52.3
67 - β	Cen <i>Hadar</i>	0.6	148	37.3	36.9	36.5	36.3	36.2	36.3	36.5	36.7	36.9	37.0	36.5
68 - θ	Cen <i>Menkent</i>	2.1	147	58.7	58.4	58.1	58.0	57.9	57.9	58.0	58.2	58.3	58.3	58.0
69 - α	Boo <i>Arcturus</i>	-0.1	145	48.7	48.5	48.3	48.1	48.1	48.1	48.2	48.3	48.4	48.4	48.2
70 - α^1	Cen <i>Rigil Kentaurus</i>	0.0	139	41.6	41.2	40.8	40.6	40.5	40.5	40.7	40.9	41.2	41.3	40.9
71 - α^2	Lib <i>Zubenelgenubi</i>	2.8	136	57.0	56.8	56.6	56.4	56.3	56.3	56.3	56.4	56.5	56.6	56.4
72 - β	UMi <i>Kochab</i>	2.1	137	20.2	19.5	19.0	18.6	18.6	18.8	19.3	19.9	20.4	20.8	20.7
73 - β	Lib <i>Zubeneschamali</i>	2.6	130	25.7	25.4	25.2	25.0	24.9	24.9	24.9	25.0	25.1	25.2	25.0
74 - α	CrB <i>Alphecca</i>	2.2	126	4.6	4.4	4.1	4.0	3.8	3.8	3.9	4.0	4.1	4.2	4.1
75 - α	Ser <i>Unukalhai</i>	2.6	123	38.4	38.2	38.0	37.8	37.7	37.6	37.7	37.7	37.9	37.9	37.8
76 - α	Sco <i>Antares</i>	0.9	112	17.1	16.8	16.6	16.3	16.2	16.1	16.1	16.1	16.3	16.4	16.3
77 - α	TrA <i>Atria</i>	1.9	107	12.5	12.0	11.4	10.8	10.4	10.2	10.2	10.4	10.8	11.1	11.2
78 - ε	Sco <i>Larawag</i>	2.3	107	4.6	4.3	4.0	3.8	3.6	3.4	3.4	3.5	3.6	3.7	3.7
79 - η	Oph <i>Sabik</i>	2.4	102	4.0	3.8	3.5	3.3	3.1	3.0	3.0	3.0	3.1	3.2	3.2
80 - α	Her <i>Rasalgethi</i>	3.1	101	4.2	4.0	3.7	3.5	3.3	3.2	3.2	3.3	3.4	3.5	3.6
81 - λ	Sco <i>Shaula</i>	1.6	96	11.8	11.6	11.3	11.0	10.8	10.6	10.5	10.6	10.7	10.9	10.9
82 - α	Oph <i>Rasalhague</i>	2.1	95	59.6	59.4	59.2	59.0	58.8	58.7	58.6	58.7	58.8	58.9	59.0
83 - θ	Sco <i>Sargas</i>	1.9	95	14.8	14.5	14.2	13.9	13.6	13.5	13.4	13.5	13.6	13.8	13.8
84 - γ	Dra <i>Eltanin</i>	2.2	90	43.1	42.8	42.5	42.2	42.0	41.9	41.9	42.0	42.2	42.5	42.7
85 - ε	Sgr <i>Kaus Australis</i>	1.8	83	34.0	33.8	33.5	33.2	33.0	32.8	32.7	32.7	32.8	32.9	33.0
86 - α	Lyr <i>Vega</i>	0.0	80	34.2	34.0	33.8	33.5	33.3	33.1	33.1	33.1	33.3	33.5	33.6
87 - σ	Sgr <i>Nunki</i>	2.1	75	49.1	49.0	48.7	48.5	48.2	48.0	47.9	47.9	48.0	48.1	48.2
88 - α	Aql <i>Altair</i>	0.8	62	1.1	1.0	0.8	0.6	0.3	0.1	0.0	0.0	0.0	0.2	0.3
89 - γ	Cyg <i>Sadr</i>	2.2	54	14.2	14.1	13.9	13.7	13.4	13.2	13.0	13.0	13.1	13.2	13.4
90 - α	Pav <i>Peacock</i>	1.9	53	7.6	7.4	7.2	6.8	6.4	6.0	5.8	5.6	5.7	5.9	6.1
91 - α	Cyg <i>Deneb</i>	1.3	49	26.8	26.8	26.6	26.4	26.1	25.8	25.6	25.6	25.7	25.8	26.0
92 - α	Cep <i>Alderamin</i>	2.5	40	13.6	13.7	13.5	13.2	12.8	12.4	12.1	12.1	12.2	12.4	13.0
93 - ε	Peg <i>Enif</i>	2.4	33	39.9	39.9	39.8	39.6	39.4	39.1	38.9	38.8	38.8	38.8	39.0
94 - δ	Cap <i>Deneb Algedi</i>	2.8	32	54.9	54.8	54.7	54.5	54.3	54.1	53.9	53.7	53.7	53.7	53.9
95 - α	Gru <i>Al Na'ir</i>	1.7	27	34.3	34.3	34.2	33.9	33.6	33.3	33.0	32.8	32.8	32.9	33.0
96 - β	Gru <i>Tiaki</i>	2.1	18	58.9	58.9	58.9	58.7	58.4	58.1	57.8	57.5	57.5	57.5	57.7
97 - α	PsA <i>Fomalhaut</i>	1.2	15	15.6	15.7	15.6	15.5	15.2	15.0	14.7	14.5	14.4	14.5	14.6
98 - β	Peg <i>Scheat</i>	2.4	13	46.2	46.3	46.2	46.1	45.9	45.6	45.4	45.2	45.1	45.1	45.3
99 - α	Peg <i>Markab</i>	2.5	13	30.9	30.9	30.9	30.8	30.6	30.3	30.1	29.9	29.8	29.9	30.0

ESTRELLAS, 2024
Posiciones aparentes379
DECLINACIÓN

Nº	NOMBRE	Mag		Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'	'
51 - μ	Velorum	2.7	-49	32.6	32.8	33.0	33.1	33.2	33.2	33.1	33.0	32.9	32.8	32.8	32.8
52 - ν	Hydrae	3.1	-16	19.1	19.2	19.3	19.4	19.4	19.4	19.3	19.3	19.2	19.2	19.2	19.3
53 - β	UMa <i>Merak</i>	2.4	+56	15.0	15.0	15.2	15.3	15.4	15.4	15.3	15.2	15.1	14.9	14.7	14.6
54 - α	UMa <i>Dubhe</i>	1.8	+61	37.0	37.1	37.2	37.4	37.4	37.5	37.4	37.3	37.1	36.9	36.8	36.7
55 - β	Leo <i>Denebola</i>	2.1	+14	26.2	26.1	26.1	26.1	26.2	26.2	26.2	26.2	26.2	26.1	26.0	25.9
56 - γ	Crv <i>Gienah</i>	2.6	-17	40.5	40.6	40.7	40.7	40.8	40.8	40.7	40.7	40.6	40.6	40.6	40.7
57 - α	Cru <i>Acrux</i>	1.3	-63	13.6	13.8	14.0	14.1	14.3	14.4	14.4	14.3	14.2	14.0	13.9	13.9
58 - γ	Cru <i>Gacrux</i>	1.6	-57	14.6	14.7	14.9	15.1	15.2	15.3	15.3	15.2	15.1	15.0	14.9	14.9
59 - γ	Cen <i>Muhlifain</i>	2.2	-49	5.3	5.4	5.6	5.7	5.8	5.9	5.9	5.8	5.7	5.6	5.5	5.5
60 - β	Cru <i>Mimosa</i>	1.3	-59	48.9	49.1	49.2	49.4	49.5	49.6	49.6	49.6	49.4	49.3	49.2	49.2
61 - ε	UMa <i>Alioth</i>	1.8	+55	49.5	49.5	49.6	49.7	49.8	49.9	49.9	49.8	49.7	49.5	49.4	49.2
62 - α^2	CVn <i>Cor Caroli</i>	2.9	+38	11.1	11.1	11.1	11.2	11.3	11.4	11.4	11.4	11.3	11.1	11.0	10.8
63 - ε	Vir <i>Vindemiatrix</i>	2.8	+10	49.7	49.6	49.6	49.6	49.7	49.7	49.8	49.8	49.7	49.7	49.6	49.5
64 - ζ	UMa <i>Mizar</i>	2.3	+54	47.7	47.7	47.7	47.9	48.0	48.1	48.1	48.1	48.0	47.8	47.6	47.4
65 - α	Vir <i>Spica</i>	1.0	-11	17.2	17.3	17.3	17.4	17.4	17.4	17.4	17.3	17.3	17.3	17.3	17.4
66 - η	UMa <i>Alkaid</i>	1.9	+49	11.3	11.3	11.3	11.4	11.6	11.7	11.7	11.7	11.6	11.4	11.3	11.1
67 - β	Cen <i>Hadar</i>	0.6	-60	29.0	29.1	29.3	29.4	29.6	29.7	29.7	29.7	29.6	29.5	29.4	29.3
68 - θ	Cen <i>Menkent</i>	2.1	-36	29.1	29.2	29.3	29.4	29.5	29.6	29.6	29.6	29.5	29.4	29.4	29.4
69 - α	Boo <i>Arcturus</i>	-0.1	+19	3.3	3.2	3.2	3.2	3.3	3.4	3.4	3.4	3.4	3.3	3.2	3.1
70 - α^1	Cen <i>Rigil Kentaurus</i>	0.0	-60	55.8	55.9	56.0	56.1	56.3	56.4	56.4	56.4	56.4	56.3	56.2	56.1
71 - α^2	Lib <i>Zubenelgenubi</i>	2.8	-16	8.5	8.5	8.6	8.6	8.7	8.7	8.7	8.6	8.6	8.6	8.6	8.7
72 - β	UMi <i>Kochab</i>	2.1	+74	3.0	3.0	3.0	3.2	3.3	3.5	3.5	3.5	3.4	3.3	3.1	2.9
73 - β	Lib <i>Zubeneschamali</i>	2.6	-9	28.3	28.4	28.4	28.5	28.5	28.4	28.4	28.4	28.4	28.4	28.4	28.5
74 - α	CrB <i>Alphecca</i>	2.2	+26	37.8	37.7	37.7	37.8	37.9	38.0	38.1	38.1	38.1	38.0	37.9	37.7
75 - α	Ser <i>Unukalhai</i>	2.6	+6	20.9	20.8	20.8	20.8	20.8	20.9	21.0	21.0	21.0	21.0	20.9	20.8
76 - α	Sco <i>Antares</i>	0.9	-26	29.1	29.1	29.1	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
77 - α	TrA <i>Atria</i>	1.9	-69	4.0	4.0	4.0	4.1	4.2	4.3	4.4	4.5	4.5	4.5	4.4	4.2
78 - ε	Sco <i>Larawag</i>	2.3	-34	20.1	20.1	20.2	20.2	20.3	20.3	20.3	20.4	20.4	20.3	20.3	20.3
79 - η	Oph <i>Sabik</i>	2.4	-15	45.3	45.3	45.4	45.4	45.4	45.3	45.3	45.3	45.3	45.3	45.3	45.3
80 - α	Her <i>Rasalgethi</i>	3.1	+14	21.6	21.5	21.5	21.5	21.6	21.7	21.8	21.9	21.9	21.9	21.8	21.7
81 - λ	Sco <i>Shaula</i>	1.6	-37	7.2	7.2	7.2	7.2	7.3	7.3	7.3	7.4	7.4	7.4	7.3	7.3
82 - α	Oph <i>Rasalhague</i>	2.1	+12	32.4	32.3	32.3	32.3	32.4	32.5	32.6	32.6	32.7	32.7	32.6	32.5
83 - θ	Sco <i>Sargas</i>	1.9	-43	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.9	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	22.4	22.3	22.3	22.3	22.4	22.4	22.4	22.5	22.5	22.4	22.4
86 - α	Lyr <i>Vega</i>	0.0	+38	48.2	48.1	48.0	48.0	48.1	48.3	48.4	48.5	48.6	48.6	48.5	48.4
87 - σ	Sgr <i>Nunki</i>	2.1	-26	16.1	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
88 - α	Aql <i>Altair</i>	0.8	+8	55.8	55.7	55.7	55.7	55.8	55.9	56.0	56.1	56.1	56.1	56.1	56.1
89 - γ	Cyg <i>Sadr</i>	2.2	+40	20.0	19.8	19.7	19.7	19.8	19.9	20.0	20.2	20.3	20.4	20.4	20.3
90 - α	Pav <i>Peacock</i>	1.9	-56	39.6	39.5	39.3	39.2	39.2	39.2	39.3	39.4	39.5	39.5	39.5	39.5
91 - α	Cyg <i>Deneb</i>	1.3	+45	21.9	21.8	21.7	21.6	21.7	21.8	22.0	22.2	22.3	22.4	22.4	22.3
92 - α	Cep <i>Alderamin</i>	2.5	+62	41.3	41.1	41.0	40.9	40.9	41.0	41.2	41.4	41.6	41.7	41.7	41.7
93 - ε	Peg <i>Enif</i>	2.4	+9	59.0	59.0	58.9	59.0	59.0	59.1	59.2	59.3	59.4	59.4	59.4	59.4
94 - δ	Cap <i>Deneb Algedi</i>	2.8	-16	1.2	1.2	1.2	1.1	1.0	0.9	0.8	0.8	0.8	0.9	0.9	0.9
95 - α	Gru <i>Al Na'ir</i>	1.7	-46	50.9	50.8	50.7	50.5	50.4	50.4	50.4	50.4	50.5	50.6	50.6	50.6
96 - β	Gru <i>Tiaki</i>	2.1	-46	45.8	45.7	45.6	45.4	45.3	45.2	45.2	45.2	45.3	45.4	45.5	45.5
97 - α	PsA <i>Fomalhaut</i>	1.2	-29	29.9	29.9	29.8	29.7	29.5	29.4	29.4	29.4	29.4	29.5	29.5	29.6
98 - β	Peg <i>Scheat</i>	2.4	+28	12.8	12.7	12.7	12.6	12.6	12.7	12.8	13.0	13.1	13.2	13.3	13.2
99 - α	Peg <i>Markab</i>	2.5	+15	20.1	20.0	19.9	19.9	20.0	20.1	20.2	20.3	20.4	20.5	20.5	20.5

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 26	15 24	13 30	11 28	9 30	7 29	5 31
2 - β Cassiopeae	<i>Caph</i>	2.3	17 27	15 25	13 31	11 29	9 31	7 29	5 31
6 - β Ceti	<i>Diphda</i>	2.0	18 01	15 59	14 05	12 03	10 05	8 04	6 06
9 - α Eridani	<i>Achernar</i>	0.5	18 55	16 53	14 59	12 57	10 59	8 57	6 59
12 - α Arietis	<i>Hamal</i>	2.0	19 25	17 23	15 29	13 27	11 29	9 27	7 29
13 - θ Eridani	<i>Acamar</i>	3.3	20 15	18 13	16 19	14 17	12 19	10 18	8 20
16 - α Persei	<i>Mirfak</i>	1.8	20 42	18 40	16 46	14 44	12 46	10 44	8 46
19 - α Tauri	<i>Aldebaran</i>	0.9	21 53	19 51	17 57	15 55	13 57	11 55	9 58
20 - β Orionis	<i>Rigel</i>	0.1	22 31	20 30	18 35	16 34	14 36	12 34	10 36
21 - α Aurigae	<i>Capella</i>	0.1	22 34	20 32	18 38	16 36	14 38	12 37	10 39
22 - γ Orionis	<i>Bellatrix</i>	1.6	22 42	20 40	18 46	16 44	14 46	12 44	10 46
28 - α Orionis	<i>Betelgeuse</i>	0.4	23 12	21 10	19 16	17 14	15 16	13 14	11 16
31 - α Carinae	<i>Canopus</i>	-0.7	23 40	21 38	19 44	17 42	15 44	13 42	11 44
33 - α Canis Majoris	<i>Sirius</i>	-1.5	0 06	22 00	20 06	18 04	16 06	14 04	12 06
34 - ϵ Canis Majoris	<i>Adhara</i>	1.5	0 19	22 13	20 19	18 17	16 19	14 17	12 19
38 - α Canis Minoris	<i>Procyon</i>	0.4	1 00	22 54	21 00	18 58	17 00	14 58	13 00
39 - β Geminorum	<i>Pollux</i>	1.1	1 06	23 00	21 06	19 04	17 06	15 04	13 06
42 - ϵ Carinae	<i>Avior</i>	1.9	1 42	23 36	21 42	19 40	17 42	15 41	13 43
45 - λ Velorum	<i>Suhail</i>	2.2	2 28	0 26	22 28	20 26	18 28	16 26	14 28
46 - β Carinae	<i>Miaplacidus</i>	1.7	2 32	0 31	22 33	20 31	18 33	16 31	14 33
49 - α Hydrae	<i>Alphard</i>	2.0	2 48	0 46	22 48	20 46	18 48	16 46	14 48
50 - α Leonis	<i>Regulus</i>	1.4	3 28	1 27	23 29	21 27	19 29	17 27	15 29
54 - α Ursae Majoris	<i>Dubhe</i>	1.8	4 24	2 22	0 28	22 22	20 24	18 22	16 24
55 - β Leonis	<i>Denebola</i>	2.1	5 09	3 07	1 13	23 07	21 09	19 07	17 09
57 - α Crucis	<i>Acrux</i>	1.3	5 46	3 45	1 51	23 45	21 47	19 45	17 47
58 - γ Crucis	<i>Gacrux</i>	1.6	5 51	3 49	1 55	23 49	21 51	19 49	17 51
60 - β Crucis	<i>Mimosa</i>	1.3	6 08	4 06	2 12	0 10	22 08	20 06	18 08
61 - ϵ Ursae Majoris	<i>Alioth</i>	1.8	6 13	4 12	2 18	0 16	22 14	20 12	18 14
64 - ζ Ursae Majoris	<i>Mizar</i>	2.3	6 43	4 41	2 47	0 45	22 44	20 42	18 44
65 - α Virginis	<i>Spica</i>	1.0	6 45	4 43	2 49	0 47	22 45	20 43	18 45
68 - θ Centauri	<i>Menkent</i>	2.1	7 26	5 24	3 30	1 29	23 27	21 25	19 27
69 - α Bootis	<i>Arcturus</i>	-0.1	7 35	5 33	3 39	1 37	23 35	21 33	19 35
70 - α^1 Centauri	<i>Rigil Kentaurus</i>	0.0	7 59	5 57	4 03	2 02	0 04	21 58	20 00
72 - β Ursae Minoris	<i>Kochab</i>	2.1	8 09	6 07	4 13	2 11	0 13	22 07	20 09
74 - α Coronae Borealis	<i>Alphecca</i>	2.2	8 54	6 52	4 58	2 56	0 58	22 52	20 54
76 - α Scorpii	<i>Antares</i>	0.9	9 49	7 47	5 53	3 51	1 53	23 47	21 49
77 - α Trianguli Aust.	<i>Atria</i>	1.9	10 09	8 07	6 13	4 11	2 13	0 11	22 10
81 - λ Scorpii	<i>Shaula</i>	1.6	10 53	8 51	6 57	4 55	2 57	0 55	22 53
82 - α Ophiuchi	<i>Rasalhague</i>	2.1	10 54	8 52	6 58	4 56	2 58	0 56	22 54
84 - γ Draconis	<i>Eltanin</i>	2.2	11 15	9 13	7 19	5 17	3 19	1 17	23 15
85 - ϵ Sagittarii	<i>Kaus Australis</i>	1.8	11 43	9 41	7 47	5 45	3 48	1 46	23 44
86 - α Lyrae	<i>Vega</i>	0.0	11 55	9 53	7 59	5 57	3 59	1 58	23 56
87 - σ Sagittarii	<i>Nunki</i>	2.1	12 14	10 12	8 18	6 16	4 18	2 17	0 19
88 - α Aquilae	<i>Altair</i>	0.8	13 09	11 07	9 13	7 11	5 13	3 12	1 14
90 - α Pavonis	<i>Peacock</i>	1.9	13 45	11 43	9 49	7 47	5 49	3 47	1 49
91 - α Cygni	<i>Deneb</i>	1.3	13 59	11 57	10 03	8 02	6 04	4 02	2 04
93 - ϵ Pegasi	<i>Enif</i>	2.4	15 02	13 00	11 06	9 04	7 07	5 05	3 07
95 - α Gruis	<i>Al Na'ir</i>	1.7	15 27	13 25	11 31	9 29	7 31	5 29	3 31
97 - α Piscis Austrini	<i>Fomalhaut</i>	1.2	16 16	14 14	12 20	10 18	8 20	6 18	4 20
99 - α Pegasi	<i>Markab</i>	2.5	16 23	14 21	12 27	10 25	8 27	6 25	4 27

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

Nº	NOMBRE	Mag	Ago	Sep	Oct	Nov	Dic	1ª CORRECCIÓN																																																																		
			h m	h m	h m	h m	h m	Se restará para obtener la hora del paso en otro día del mismo mes.																																																																		
1 - α Andromedae	<i>Alpheratz</i>	2.1	3 29	1 27	23 25	21 23	19 25	<table><tr><th>Día</th><th>Corr.</th></tr><tr><th></th><th>h m</th></tr><tr><td>1</td><td>0 00</td></tr><tr><td>2</td><td>0 04</td></tr><tr><td>3</td><td>0 08</td></tr><tr><td>4</td><td>0 12</td></tr><tr><td>5</td><td>0 16</td></tr><tr><td>6</td><td>0 20</td></tr><tr><td>7</td><td>0 24</td></tr><tr><td>8</td><td>0 28</td></tr><tr><td>9</td><td>0 31</td></tr><tr><td>10</td><td>0 35</td></tr><tr><td>11</td><td>0 39</td></tr><tr><td>12</td><td>0 43</td></tr><tr><td>13</td><td>0 47</td></tr><tr><td>14</td><td>0 51</td></tr><tr><td>15</td><td>0 55</td></tr><tr><td>16</td><td>0 59</td></tr><tr><td>17</td><td>1 03</td></tr><tr><td>18</td><td>1 07</td></tr><tr><td>19</td><td>1 11</td></tr><tr><td>20</td><td>1 15</td></tr><tr><td>21</td><td>1 19</td></tr><tr><td>22</td><td>1 23</td></tr><tr><td>23</td><td>1 27</td></tr><tr><td>24</td><td>1 30</td></tr><tr><td>25</td><td>1 34</td></tr><tr><td>26</td><td>1 38</td></tr><tr><td>27</td><td>1 42</td></tr><tr><td>28</td><td>1 46</td></tr><tr><td>29</td><td>1 50</td></tr><tr><td>30</td><td>1 54</td></tr><tr><td>31</td><td>1 58</td></tr></table>	Día	Corr.		h m	1	0 00	2	0 04	3	0 08	4	0 12	5	0 16	6	0 20	7	0 24	8	0 28	9	0 31	10	0 35	11	0 39	12	0 43	13	0 47	14	0 51	15	0 55	16	0 59	17	1 03	18	1 07	19	1 11	20	1 15	21	1 19	22	1 23	23	1 27	24	1 30	25	1 34	26	1 38	27	1 42	28	1 46	29	1 50	30	1 54	31	1 58
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2 - β Cassiopeae	<i>Caph</i>	2.3	3 30	1 28	23 26	21 24	19 26																																																																			
6 - β Ceti	<i>Diphda</i>	2.0	4 04	2 02	0 04	21 58	20 00																																																																			
9 - α Eridani	<i>Achernar</i>	0.5	4 57	2 56	0 58	22 52	20 54																																																																			
12 - α Arietis	<i>Hamal</i>	2.0	5 27	3 25	1 27	23 22	21 24																																																																			
13 - θ Eridani	<i>Acamar</i>	3.3	6 18	4 16	2 18	0 16	22 14																																																																			
16 - α Persei	<i>Mirfak</i>	1.8	6 45	4 43	2 45	0 43	22 41																																																																			
19 - α Tauri	<i>Aldebaran</i>	0.9	7 56	5 54	3 56	1 54	23 52																																																																			
20 - β Orionis	<i>Rigel</i>	0.1	8 34	6 32	4 34	2 32	0 34																																																																			
21 - α Aurigae	<i>Capella</i>	0.1	8 37	6 35	4 37	2 35	0 37																																																																			
22 - γ Orionis	<i>Bellatrix</i>	1.6	8 45	6 43	4 45	2 43	0 45																																																																			
28 - α Orionis	<i>Betelgeuse</i>	0.4	9 15	7 13	5 15	3 13	1 15																																																																			
31 - α Carinae	<i>Canopus</i>	-0.7	9 42	7 41	5 43	3 41	1 43																																																																			
33 - α Canis Majoris	<i>Sirius</i>	-1.5	10 04	8 02	6 04	4 02	2 05																																																																			
34 - ϵ Canis Majoris	<i>Adhara</i>	1.5	10 17	8 16	6 18	4 16	2 18																																																																			
38 - α Canis Minoris	<i>Procyon</i>	0.4	10 58	8 57	6 59	4 57	2 59																																																																			
39 - β Geminorum	<i>Pollux</i>	1.1	11 05	9 03	7 05	5 03	3 05																																																																			
42 - ϵ Carinae	<i>Avior</i>	1.9	11 41	9 39	7 41	5 39	3 41																																																																			
45 - λ Velorum	<i>Suhail</i>	2.2	12 26	10 25	8 27	6 25	4 27																																																																			
46 - β Carinae	<i>Miaplacidus</i>	1.7	12 31	10 29	8 31	6 29	4 31																																																																			
49 - α Hydrae	<i>Alphard</i>	2.0	12 46	10 44	8 46	6 45	4 47																																																																			
50 - α Leonis	<i>Regulus</i>	1.4	13 27	11 25	9 27	7 25	5 27																																																																			
54 - α Ursae Majoris	<i>Dubhe</i>	1.8	14 22	12 21	10 23	8 21	6 23																																																																			
55 - β Leonis	<i>Denebola</i>	2.1	15 07	13 06	11 08	9 06	7 08																																																																			
57 - α Crucis	<i>Acrux</i>	1.3	15 45	13 43	11 45	9 43	7 45																																																																			
58 - γ Crucis	<i>Gacrux</i>	1.6	15 50	13 48	11 50	9 48	7 50																																																																			
60 - β Crucis	<i>Mimosa</i>	1.3	16 06	14 04	12 06	10 04	8 06																																																																			
61 - ϵ Ursae Majoris	<i>Alioth</i>	1.8	16 12	14 10	12 12	10 10	8 12																																																																			
64 - ζ Ursae Majoris	<i>Mizar</i>	2.3	16 42	14 40	12 42	10 40	8 42																																																																			
65 - α Virginis	<i>Spica</i>	1.0	16 43	14 41	12 44	10 42	8 44																																																																			
68 - θ Centauri	<i>Menkent</i>	2.1	17 25	15 23	13 25	11 23	9 25																																																																			
69 - α Bootis	<i>Arcturus</i>	-0.1	17 34	15 32	13 34	11 32	9 34																																																																			
70 - α^1 Centauri	<i>Rigil Kentaurus</i>	0.0	17 58	15 56	13 58	11 56	9 58																																																																			
72 - β Ursae Minoris	<i>Kochab</i>	2.1	18 07	16 05	14 07	12 06	10 08																																																																			
74 - α Coronae Borealis	<i>Alphecca</i>	2.2	18 52	16 50	14 52	12 51	10 53																																																																			
76 - α Scorpii	<i>Antares</i>	0.9	19 47	17 45	15 47	13 46	11 48																																																																			
77 - α Trianguli Aust.	<i>Atria</i>	1.9	20 08	18 06	16 08	14 06	12 08																																																																			
81 - λ Scorpii	<i>Shaula</i>	1.6	20 51	18 50	16 52	14 50	12 52																																																																			
82 - α Ophiuchi	<i>Rasalhague</i>	2.1	20 52	18 50	16 52	14 51	12 53																																																																			
84 - γ Draconis	<i>Eltanin</i>	2.2	21 13	19 11	17 13	15 12	13 14																																																																			
85 - ϵ Sagittarii	<i>Kaus Australis</i>	1.8	21 42	19 40	17 42	15 40	13 42																																																																			
86 - α Lyrae	<i>Vega</i>	0.0	21 54	19 52	17 54	15 52	13 54																																																																			
87 - σ Sagittarii	<i>Nunki</i>	2.1	22 13	20 11	18 13	16 11	14 13																																																																			
88 - α Aquilae	<i>Altair</i>	0.8	23 08	21 06	19 08	17 06	15 08																																																																			
90 - α Pavonis	<i>Peacock</i>	1.9	23 43	21 41	19 43	17 42	15 44																																																																			
91 - α Cygni	<i>Deneb</i>	1.3	0 02	21 56	19 58	17 56	15 58																																																																			
93 - ϵ Pegasi	<i>Enif</i>	2.4	1 05	22 59	21 01	18 59	17 01																																																																			
95 - α Gruis	<i>Al Na'ir</i>	1.7	1 29	23 23	21 25	19 24	17 26																																																																			
97 - α Piscis Austrini	<i>Fomalhaut</i>	1.2	2 18	0 16	22 15	20 13	18 15																																																																			
99 - α Pegasi	<i>Markab</i>	2.5	2 25	0 23	22 21	20 20	18 22																																																																			

								Si el resultado es negativo sumar a este 23^h 56^m																											
								2ª CORRECCIÓN																											
								Se aplicará para tener la hora civil del paso por otro meridiano.																											
									Long	Corr.		-------	-------		°	m		180 W	-2		138 W	-1		46 W	0		46 E	+1		136 E	+2		180 E		

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 -26.5	26 00 -35.7	52 00 -37.7	78 00 -32.1	104 00 -20.0	130 00 - 3.8	156 00 +13.1
0 30 -26.7	26 30 -35.8	52 30 -37.7	78 30 -31.9	104 30 -19.7	130 30 - 3.5	156 30 +13.4
1 00 -26.9	27 00 -35.9	53 00 -37.6	79 00 -31.7	105 00 -19.4	131 00 - 3.2	157 00 +13.7
1 30 -27.2	27 30 -36.0	53 30 -37.6	79 30 -31.6	105 30 -19.1	131 30 - 2.8	157 30 +14.1
2 00 -27.4	28 00 -36.1	54 00 -37.6	80 00 -31.4	106 00 -18.8	132 00 - 2.5	158 00 +14.4
2 30 -27.6	28 30 -36.2	54 30 -37.5	80 30 -31.2	106 30 -18.6	132 30 - 2.2	158 30 +14.7
3 00 -27.9	29 00 -36.3	55 00 -37.5	81 00 -31.0	107 00 -18.3	133 00 - 1.8	159 00 +15.0
3 30 -28.1	29 30 -36.4	55 30 -37.4	81 30 -30.8	107 30 -18.0	133 30 - 1.5	159 30 +15.3
4 00 -28.3	30 00 -36.5	56 00 -37.3	82 00 -30.6	108 00 -17.7	134 00 - 1.2	160 00 +15.6
4 30 -28.5	30 30 -36.6	56 30 -37.3	82 30 -30.4	108 30 -17.4	134 30 - 0.8	160 30 +15.9
5 00 -28.7	31 00 -36.7	57 00 -37.2	83 00 -30.2	109 00 -17.1	135 00 - 0.5	161 00 +16.2
5 30 -29.0	31 30 -36.8	57 30 -37.2	83 30 -30.0	109 30 -16.8	135 30 - 0.2	161 30 +16.5
6 00 -29.2	32 00 -36.9	58 00 -37.1	84 00 -29.8	110 00 -16.5	136 00 + 0.2	162 00 +16.8
6 30 -29.4	32 30 -36.9	58 30 -37.0	84 30 -29.6	110 30 -16.2	136 30 + 0.5	162 30 +17.1
7 00 -29.6	33 00 -37.0	59 00 -36.9	85 00 -29.4	111 00 -15.9	137 00 + 0.8	163 00 +17.4
7 30 -29.8	33 30 -37.1	59 30 -36.9	85 30 -29.2	111 30 -15.6	137 30 + 1.1	163 30 +17.7
8 00 -30.0	34 00 -37.1	60 00 -36.8	86 00 -29.0	112 00 -15.3	138 00 + 1.5	164 00 +18.0
8 30 -30.2	34 30 -37.2	60 30 -36.7	86 30 -28.8	112 30 -15.0	138 30 + 1.8	164 30 +18.2
9 00 -30.4	35 00 -37.3	61 00 -36.6	87 00 -28.5	113 00 -14.7	139 00 + 2.1	165 00 +18.5
9 30 -30.6	35 30 -37.3	61 30 -36.5	87 30 -28.3	113 30 -14.4	139 30 + 2.5	165 30 +18.8
10 00 -30.8	36 00 -37.4	62 00 -36.4	88 00 -28.1	114 00 -14.1	140 00 + 2.8	166 00 +19.1
10 30 -31.0	36 30 -37.5	62 30 -36.3	88 30 -27.9	114 30 -13.8	140 30 + 3.1	166 30 +19.4
11 00 -31.2	37 00 -37.5	63 00 -36.2	89 00 -27.6	115 00 -13.5	141 00 + 3.5	167 00 +19.7
11 30 -31.4	37 30 -37.6	63 30 -36.1	89 30 -27.4	115 30 -13.1	141 30 + 3.8	167 30 +20.0
12 00 -31.5	38 00 -37.6	64 00 -36.0	90 00 -27.2	116 00 -12.8	142 00 + 4.1	168 00 +20.2
12 30 -31.7	38 30 -37.6	64 30 -35.9	90 30 -27.0	116 30 -12.5	142 30 + 4.4	168 30 +20.5
13 00 -31.9	39 00 -37.7	65 00 -35.8	91 00 -26.7	117 00 -12.2	143 00 + 4.8	169 00 +20.8
13 30 -32.1	39 30 -37.7	65 30 -35.7	91 30 -26.5	117 30 -11.9	143 30 + 5.1	169 30 +21.1
14 00 -32.3	40 00 -37.8	66 00 -35.6	92 00 -26.2	118 00 -11.6	144 00 + 5.4	170 00 +21.3
14 30 -32.4	40 30 -37.8	66 30 -35.5	92 30 -26.0	118 30 -11.3	144 30 + 5.8	170 30 +21.6
15 00 -32.6	41 00 -37.8	67 00 -35.4	93 00 -25.8	119 00 -10.9	145 00 + 6.1	171 00 +21.9
15 30 -32.8	41 30 -37.8	67 30 -35.2	93 30 -25.5	119 30 -10.6	145 30 + 6.4	171 30 +22.2
16 00 -32.9	42 00 -37.9	68 00 -35.1	94 00 -25.3	120 00 -10.3	146 00 + 6.7	172 00 +22.4
16 30 -33.1	42 30 -37.9	68 30 -35.0	94 30 -25.0	120 30 -10.0	146 30 + 7.1	172 30 +22.7
17 00 -33.3	43 00 -37.9	69 00 -34.9	95 00 -24.8	121 00 - 9.7	147 00 + 7.4	173 00 +23.0
17 30 -33.4	43 30 -37.9	69 30 -34.7	95 30 -24.5	121 30 - 9.4	147 30 + 7.7	173 30 +23.2
18 00 -33.6	44 00 -37.9	70 00 -34.6	96 00 -24.3	122 00 - 9.0	148 00 + 8.0	174 00 +23.5
18 30 -33.7	44 30 -37.9	70 30 -34.5	96 30 -24.0	122 30 - 8.7	148 30 + 8.4	174 30 +23.7
19 00 -33.9	45 00 -37.9	71 00 -34.3	97 00 -23.8	123 00 - 8.4	149 00 + 8.7	175 00 +24.0
19 30 -34.0	45 30 -37.9	71 30 -34.2	97 30 -23.5	123 30 - 8.1	149 30 + 9.0	175 30 +24.3
20 00 -34.2	46 00 -37.9	72 00 -34.0	98 00 -23.2	124 00 - 7.7	150 00 + 9.3	176 00 +24.5
20 30 -34.3	46 30 -37.9	72 30 -33.9	98 30 -23.0	124 30 - 7.4	150 30 + 9.7	176 30 +24.8
21 00 -34.5	47 00 -37.9	73 00 -33.7	99 00 -22.7	125 00 - 7.1	151 00 +10.0	177 00 +25.0
21 30 -34.6	47 30 -37.9	73 30 -33.6	99 30 -22.4	125 30 - 6.8	151 30 +10.3	177 30 +25.3
22 00 -34.7	48 00 -37.9	74 00 -33.4	100 00 -22.2	126 00 - 6.4	152 00 +10.6	178 00 +25.5
22 30 -34.9	48 30 -37.9	74 30 -33.3	100 30 -21.9	126 30 - 6.1	152 30 +10.9	178 30 +25.8
23 00 -35.0	49 00 -37.9	75 00 -33.1	101 00 -21.6	127 00 - 5.8	153 00 +11.2	179 00 +26.0
23 30 -35.1	49 30 -37.9	75 30 -33.0	101 30 -21.4	127 30 - 5.5	153 30 +11.6	179 30 +26.2
24 00 -35.2	50 00 -37.8	76 00 -32.8	102 00 -21.1	128 00 - 5.1	154 00 +11.9	180 00 +26.5
24 30 -35.4	50 30 -37.8	76 30 -32.6	102 30 -20.8	128 30 - 4.8	154 30 +12.2	180 30 +26.7
25 00 -35.5	51 00 -37.8	77 00 -32.4	103 00 -20.5	129 00 - 4.5	155 00 +12.5	181 00 +26.9
25 30 -35.6	51 30 -37.8	77 30 -32.3	103 30 -20.3	129 30 - 4.1	155 30 +12.8	181 30 +27.2
26 00 -35.7	52 00 -37.7	78 00 -32.1	104 00 -20.0	130 00 - 3.8	156 00 +13.1	182 00 +27.4

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 +27.4	208 00 +36.1	234 00 +37.6	260 00 +31.4	286 00 +18.8	312 00 + 2.5	338 00 -14.4	
182 30 +27.6	208 30 +36.2	234 30 +37.5	260 30 +31.2	286 30 +18.6	312 30 + 2.2	338 30 -14.7	
183 00 +27.9	209 00 +36.3	235 00 +37.5	261 00 +31.0	287 00 +18.3	313 00 + 1.8	339 00 -15.0	
183 30 +28.1	209 30 +36.4	235 30 +37.4	261 30 +30.8	287 30 +18.0	313 30 + 1.5	339 30 -15.3	
184 00 +28.3	210 00 +36.5	236 00 +37.3	262 00 +30.6	288 00 +17.7	314 00 + 1.2	340 00 -15.6	
184 30 +28.5	210 30 +36.6	236 30 +37.3	262 30 +30.4	288 30 +17.4	314 30 + 0.8	340 30 -15.9	
185 00 +28.7	211 00 +36.7	237 00 +37.2	263 00 +30.2	289 00 +17.1	315 00 + 0.5	341 00 -16.2	
185 30 +29.0	211 30 +36.8	237 30 +37.2	263 30 +30.0	289 30 +16.8	315 30 + 0.2	341 30 -16.5	
186 00 +29.2	212 00 +36.9	238 00 +37.1	264 00 +29.8	290 00 +16.5	316 00 - 0.2	342 00 -16.8	
186 30 +29.4	212 30 +36.9	238 30 +37.0	264 30 +29.6	290 30 +16.2	316 30 - 0.5	342 30 -17.1	
187 00 +29.6	213 00 +37.0	239 00 +36.9	265 00 +29.4	291 00 +15.9	317 00 - 0.8	343 00 -17.4	
187 30 +29.8	213 30 +37.1	239 30 +36.9	265 30 +29.2	291 30 +15.6	317 30 - 1.1	343 30 -17.7	
188 00 +30.0	214 00 +37.1	240 00 +36.8	266 00 +29.0	292 00 +15.3	318 00 - 1.5	344 00 -18.0	
188 30 +30.2	214 30 +37.2	240 30 +36.7	266 30 +28.8	292 30 +15.0	318 30 - 1.8	344 30 -18.2	
189 00 +30.4	215 00 +37.3	241 00 +36.6	267 00 +28.5	293 00 +14.7	319 00 - 2.1	345 00 -18.5	
189 30 +30.6	215 30 +37.3	241 30 +36.5	267 30 +28.3	293 30 +14.4	319 30 - 2.5	345 30 -18.8	
190 00 +30.8	216 00 +37.4	242 00 +36.4	268 00 +28.1	294 00 +14.1	320 00 - 2.8	346 00 -19.1	
190 30 +31.0	216 30 +37.5	242 30 +36.3	268 30 +27.9	294 30 +13.8	320 30 - 3.1	346 30 -19.4	
191 00 +31.2	217 00 +37.5	243 00 +36.2	269 00 +27.6	295 00 +13.5	321 00 - 3.5	347 00 -19.7	
191 30 +31.4	217 30 +37.6	243 30 +36.1	269 30 +27.4	295 30 +13.1	321 30 - 3.8	347 30 -20.0	
192 00 +31.5	218 00 +37.6	244 00 +36.0	270 00 +27.2	296 00 +12.8	322 00 - 4.1	348 00 -20.2	
192 30 +31.7	218 30 +37.6	244 30 +35.9	270 30 +27.0	296 30 +12.5	322 30 - 4.4	348 30 -20.5	
193 00 +31.9	219 00 +37.7	245 00 +35.8	271 00 +26.7	297 00 +12.2	323 00 - 4.8	349 00 -20.8	
193 30 +32.1	219 30 +37.7	245 30 +35.7	271 30 +26.5	297 30 +11.9	323 30 - 5.1	349 30 -21.1	
194 00 +32.3	220 00 +37.8	246 00 +35.6	272 00 +26.2	298 00 +11.6	324 00 - 5.4	350 00 -21.3	
194 30 +32.4	220 30 +37.8	246 30 +35.5	272 30 +26.0	298 30 +11.3	324 30 - 5.8	350 30 -21.6	
195 00 +32.6	221 00 +37.8	247 00 +35.4	273 00 +25.8	299 00 +10.9	325 00 - 6.1	351 00 -21.9	
195 30 +32.8	221 30 +37.8	247 30 +35.2	273 30 +25.5	299 30 +10.6	325 30 - 6.4	351 30 -22.2	
196 00 +32.9	222 00 +37.9	248 00 +35.1	274 00 +25.3	300 00 +10.3	326 00 - 6.7	352 00 -22.4	
196 30 +33.1	222 30 +37.9	248 30 +35.0	274 30 +25.0	300 30 +10.0	326 30 - 7.1	352 30 -22.7	
197 00 +33.3	223 00 +37.9	249 00 +34.9	275 00 +24.8	301 00 + 9.7	327 00 - 7.4	353 00 -23.0	
197 30 +33.4	223 30 +37.9	249 30 +34.7	275 30 +24.5	301 30 + 9.4	327 30 - 7.7	353 30 -23.2	
198 00 +33.6	224 00 +37.9	250 00 +34.6	276 00 +24.3	302 00 + 9.0	328 00 - 8.0	354 00 -23.5	
198 30 +33.7	224 30 +37.9	250 30 +34.5	276 30 +24.0	302 30 + 8.7	328 30 - 8.4	354 30 -23.7	
199 00 +33.9	225 00 +37.9	251 00 +34.3	277 00 +23.8	303 00 + 8.4	329 00 - 8.7	355 00 -24.0	
199 30 +34.0	225 30 +37.9	251 30 +34.2	277 30 +23.5	303 30 + 8.1	329 30 - 9.0	355 30 -24.3	
200 00 +34.2	226 00 +37.9	252 00 +34.0	278 00 +23.2	304 00 + 7.7	330 00 - 9.3	356 00 -24.5	
200 30 +34.3	226 30 +37.9	252 30 +33.9	278 30 +23.0	304 30 + 7.4	330 30 - 9.7	356 30 -24.8	
201 00 +34.5	227 00 +37.9	253 00 +33.7	279 00 +22.7	305 00 + 7.1	331 00 -10.0	357 00 -25.0	
201 30 +34.6	227 30 +37.9	253 30 +33.6	279 30 +22.4	305 30 + 6.8	331 30 -10.3	357 30 -25.3	
202 00 +34.7	228 00 +37.9	254 00 +33.4	280 00 +22.2	306 00 + 6.4	332 00 -10.6	358 00 -25.5	
202 30 +34.9	228 30 +37.9	254 30 +33.3	280 30 +21.9	306 30 + 6.1	332 30 -10.9	358 30 -25.8	
203 00 +35.0	229 00 +37.9	255 00 +33.1	281 00 +21.6	307 00 + 5.8	333 00 -11.2	359 00 -26.0	
203 30 +35.1	229 30 +37.9	255 30 +33.0	281 30 +21.4	307 30 + 5.5	333 30 -11.6	359 30 -26.2	
204 00 +35.2	230 00 +37.8	256 00 +32.8	282 00 +21.1	308 00 + 5.1	334 00 -11.9	360 00 -26.5	
204 30 +35.4	230 30 +37.8	256 30 +32.6	282 30 +20.8	308 30 + 4.8	334 30 -12.2		
205 00 +35.5	231 00 +37.8	257 00 +32.4	283 00 +20.5	309 00 + 4.5	335 00 -12.5		
205 30 +35.6	231 30 +37.8	257 30 +32.3	283 30 +20.3	309 30 + 4.1	335 30 -12.8		
206 00 +35.7	232 00 +37.7	258 00 +32.1	284 00 +20.0	310 00 + 3.8	336 00 -13.1		
206 30 +35.8	232 30 +37.7	258 30 +31.9	284 30 +19.7	310 30 + 3.5	336 30 -13.4		
207 00 +35.9	233 00 +37.6	259 00 +31.7	285 00 +19.4	311 00 + 3.2	337 00 -13.7		
207 30 +36.0	233 30 +37.6	259 30 +31.6	285 30 +19.1	311 30 + 2.8	337 30 -14.1		
208 00 +36.1	234 00 +37.6	260 00 +31.4	286 00 +18.8	312 00 + 2.5	338 00 -14.4		

DETERMINACIÓN DE LA LATITUD
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2024

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	0.1	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	0.1	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	+0.1	+0.1	-0.1	-0.2	-0.3	-0.4	-0.3	-0.2	0.0	+0.2	+0.4	+0.5
40	+0.1	+0.2	+0.2	+0.1	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	+0.1	+0.3	+0.4
60	+0.1	+0.2	+0.2	+0.2	0.0	-0.1	-0.2	-0.3	-0.3	-0.2	-0.1	+0.1	+0.3
80	+0.1	+0.2	+0.3	+0.3	+0.2	0.0	-0.1	-0.2	-0.3	-0.3	-0.2	0.0	+0.1
100	0.0	+0.2	+0.3	+0.3	+0.3	+0.2	0.0	-0.2	-0.3	-0.3	-0.3	-0.2	0.0
120	0.0	+0.1	+0.3	+0.4	+0.4	+0.3	+0.1	-0.1	-0.2	-0.3	-0.4	-0.3	-0.2
140	-0.1	+0.1	+0.2	+0.3	+0.4	+0.4	+0.2	+0.1	-0.1	-0.3	-0.4	-0.4	-0.4
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	-0.1	-0.1	+0.1	+0.2	+0.3	+0.4	+0.3	+0.2	0.0	-0.2	-0.4	-0.5
220	-0.1	-0.2	-0.2	-0.1	+0.1	+0.2	+0.3	+0.3	+0.2	+0.1	-0.1	-0.3	-0.4
240	-0.1	-0.2	-0.2	-0.2	0.0	+0.1	+0.2	+0.3	+0.3	+0.2	+0.1	-0.1	-0.3
260	-0.1	-0.2	-0.3	-0.3	-0.2	0.0	+0.1	+0.2	+0.3	+0.3	+0.2	0.0	-0.1
280	0.0	-0.2	-0.3	-0.3	-0.3	-0.2	0.0	+0.2	+0.3	+0.3	+0.3	+0.2	0.0
300	0.0	-0.1	-0.3	-0.4	-0.4	-0.3	-0.1	+0.1	+0.2	+0.3	+0.4	+0.3	+0.2
320	+0.1	-0.1	-0.2	-0.3	-0.4	-0.4	-0.2	-0.1	+0.1	+0.3	+0.4	+0.4	+0.4
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	+0.2	+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	-0.1	-0.1	-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	-0.5	-0.5	-0.6	70
80	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.6	-0.7	-0.9	80
90	-0.4	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.7	-0.8	-0.9	-1.1	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	-1.4	110
120	-0.6	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.9	-1.0	-1.1	-1.2	-1.4	120
130	-0.6	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.1	-1.3	-1.5	130
140	-0.6	-0.7	-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	-0.7	-0.7	-0.7	-0.7	-0.8	-0.9	-1.0	-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	-1.4	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	-0.1	220
230	0.0	0.0	0.0	+0.1	+0.1	+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	+0.4	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	+0.5	+0.5	+0.5	+0.5	+0.5	+0.6	+0.6	+0.7	+0.8	+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	+0.7	+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	+1.1	+1.2	+1.4	300
310	+0.6	+0.7	+0.7	+0.7	+0.7	+0.8	+0.8	+0.9	+1.0	+1.1	+1.3	+1.5	310
320	+0.6	+0.7	+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	+0.7	+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

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 2024	
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 23	+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	Feb 27	+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 22	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 13	-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 7	-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 12	-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	Jul 27	-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 1	-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	Sep 25	0'0
3.3	-3.2	17.1	-7.4	7 21	+9.2	10 38	+11.2	17 47	+13.2	45 30	+15.2	Oct 17	+0'1
3.5	-3.3	17.6	-7.5	7 28	+9.3	10 52	+11.3	18 23	+13.3	48 53	+15.3	Nov 9	+0'2
3.7	-3.4	18.0	-7.6	7 36	+9.4	11 06	+11.4	19 01	+13.4	52 43	+15.4	Dic 14	+0'3
3.9	-3.5	18.5	-7.7	7 44	+9.5	11 21	+11.5	19 41	+13.5	57 01	+15.5	Dic 31	
4.2	-3.6	19.0	-7.8	7 52	+9.6	11 36	+11.6	20 24	+13.6	61 51	+15.6		
4.4	-3.7	19.5	-7.9	8 00	+9.7	11 52	+11.7	21 10	+13.7	67 16	+15.7		
4.7	-3.8	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	TABLA C = PLANETAS Y ESTRELLAS									
6.2	-4.5	23.1	-8.6	REFRACCIÓN					PARALAJE (2024)				
6.5	-4.6	23.7	-8.7	Altura apte.	Corrección	Altura apte.	Corrección	Fechas	Venus para cualquier altura	Marte Altura aparente			
6.8	-4.7	24.2	-8.8	°	'	°	'			< 30°	> 30° < 60°	> 60°	
7.1	-4.8	24.8	-8.9	6 30	-7.8	14 00	-3.8	Ene 1					
7.4	-4.9	25.4	-9.0	6 40	-7.6	15 00	-3.6		+0'1	+0'1	0'0	0'0	
7.7	-5.0	25.9	-9.1	6 50	-7.5	16 00	-3.3						
8.0	-5.1	26.5	-9.2	7 00	-7.3	17 00	-3.1	Abr 5	+0'1	+0'1	+0'1	0'0	
8.4	-5.2	27.1	-9.3	7 15	-7.1	18 00	-3.0						
8.7	-5.3	27.7	-9.4	7 30	-6.9	19 00	-2.8		+0'1	+0'1	+0'1		
9.0	-5.4	28.3	-9.5	7 45	-6.7	20 00	-2.6						
9.4	-5.5	28.9	-9.6	8 00	-6.5	21 00	-2.5	Nov 3	+0'1	+0'1	+0'1	+0'1	
9.7	-5.6	29.5	-9.7	8 15	-6.3	22 00	-2.4						
10.1	-5.7	30.1	-9.8	8 30	-6.2	24 00	-2.2						
10.4	-5.8	30.7	-9.9	8 45	-6.0	26 00	-2.0	Nov 14	+0'1	+0'2	+0'1	+0'1	
10.8	-5.9	31.3	-10.0	9 00	-5.9	28 00	-1.8						
11.2	-6.0	32.0	-10.1	9 20	-5.7	32 00	-1.6		+0'2	+0'2	+0'1	+0'1	
11.6	-6.1	32.6	-10.2	9 40	-5.5	36 00	-1.3	Dic 13					
11.9	-6.2	33.3	-10.3	10 00	-5.3	40 00	-1.2		+0'2	+0'2	+0'1	+0'1	
12.3	-6.3	33.9	-10.4	10 30	-5.1	45 00	-1.0						
12.7		34.6		11 00	-4.8	50 00	-0.8	Dic 21					
				11 30	-4.6	60 00	-0.6		+0'2	+0'2	+0'2	+0'1	
				12 00	-4.5	70 00	-0.4						
				12 30	-4.3	80 00	-0.2	Dic 31					
				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
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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)																	