



ALMANAQUE NÁUTICO PERSEIS 2023

ALMANAQUE NÁUTICO PERSEIS 2023
2ª Edición

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Imagen de portada: *NASA astronaut Serena Auñón-Chancellor operating a sextant in the space station's cupola for the Sextant Navigation investigation.* NASA 3502362. Imágen 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, 2023

Estaciones			
<i>Hemisferio N</i>	<i>Inicio (hora UT)</i>	<i>Duración (días)</i>	<i>Hemisferio S</i>
Primavera	20 de marzo a las 21 ^h 24 ^m	92.73	Otoño
Verano	21 de junio a las 14 ^h 58 ^m	93.66	Invierno
Otoño	23 de septiembre a las 06 ^h 50 ^m	89.86	Primavera
Invierno	22 de diciembre a las 03 ^h 27 ^m	88.99	Verano

Órbita terrestre		
<i>Ápside</i>	<i>Fecha (hora UT)</i>	<i>Distancia (ua)</i>
Perihelio	4 de enero a las 16 ^h 17 ^m	0.983295
Afelio	6 de julio a las 20 ^h 07 ^m	1.016681

Fases de la Luna (hora UT)			
<i>Luna Nueva</i>	<i>Cuarto Creciente</i>	<i>Luna Llena</i>	<i>Cuarto Menguante</i>
		06 ene 23:08	15 ene 02:10
21 ene 20:53	28 ene 15:19	05 feb 18:29	13 feb 16:01
20 feb 07:06	27 feb 08:06	07 mar 12:40	15 mar 02:08
21 mar 17:23	29 mar 02:32	06 abr 04:35	13 abr 09:11
20 abr 04:13	27 abr 21:20	05 may 17:34	12 may 14:28
19 may 15:53	27 may 15:22	04 jun 03:42	10 jun 19:31
18 jun 04:37	26 jun 07:50	03 jul 11:39	10 jul 01:48
17 jul 18:32	25 jul 22:07	01 ago 18:32	08 ago 10:28
16 ago 09:38	24 ago 09:57	31 ago 01:36	06 sep 22:21
15 sep 01:40	22 sep 19:32	29 sep 09:58	06 oct 13:48
14 oct 17:55	22 oct 03:29	28 oct 20:24	05 nov 08:37
13 nov 09:27	20 nov 10:50	27 nov 09:16	05 dic 05:49
12 dic 23:32	19 dic 18:39	27 dic 00:33	

Eclipses

- I Eclipse total de Sol, el jueves 20 de abril. Visible en el Índico, SE de Asia, Indias Orientales, Filipinas, Oceanía y el Pacífico. Este eclipse comenzará y terminará siendo anular.
- II Eclipse penumbral de Luna, el viernes 5 de mayo. Visible en África, Asia, Oceanía y parte de Europa.
- III Eclipse anular de Sol, el sábado 14 de octubre. Visible en casi la totalidad del continente americano, en partes del Pacífico oriental y del Atlántico norte.
- IV Eclipse parcial de Luna, el sábado 28 de octubre. Visible en el este del continente americano, África, Europa, Asia y la parte occidental de Oceanía.

FENÓMENOS ASTRONÓMICOS RELEVANTES, 2023

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.

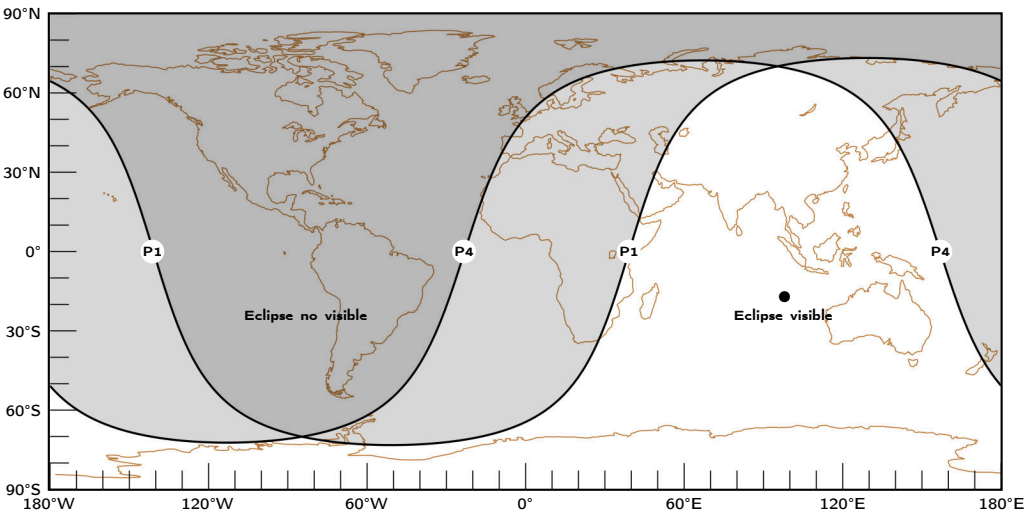
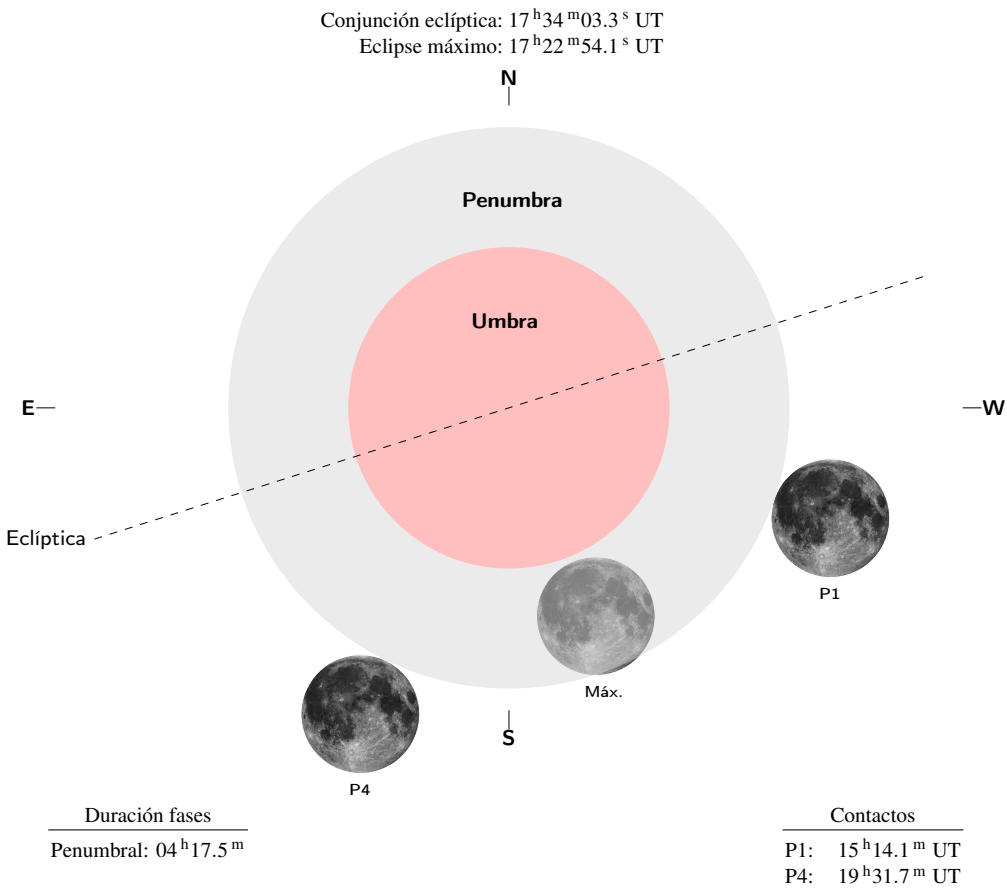
Eclipse anular de Sol del 20 de abril de 2023

Conjunción eclíptica: 04^h12^m32.1^s UT
Eclipse máximo: 04^h16^m46.8^s UT
Magnitud: 1.0132



Contactos penumbra		Eclipse máximo		Contactos umbra	
P1:	01 ^h 34.4 ^m UT	Latitud:	9° 35'6 S	U1:	02 ^h 37.1 ^m UT
P2:	03 ^h 53.3 ^m UT	Longitud:	125° 46'3 E	U2:	02 ^h 37.2 ^m UT
P3:	04 ^h 40.6 ^m UT	Anchura:	48.9 km	U3:	05 ^h 56.5 ^m UT
P4:	06 ^h 59.3 ^m UT	Duración:	01 ^m 16.0 ^s	U4:	05 ^h 56.7 ^m UT

Eclipse penumbral de Luna del 5 de mayo de 2023



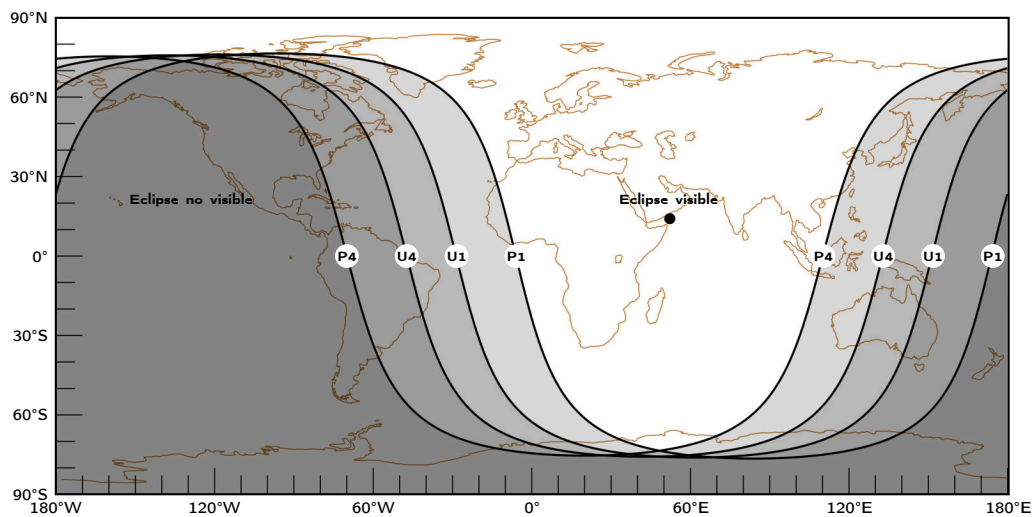
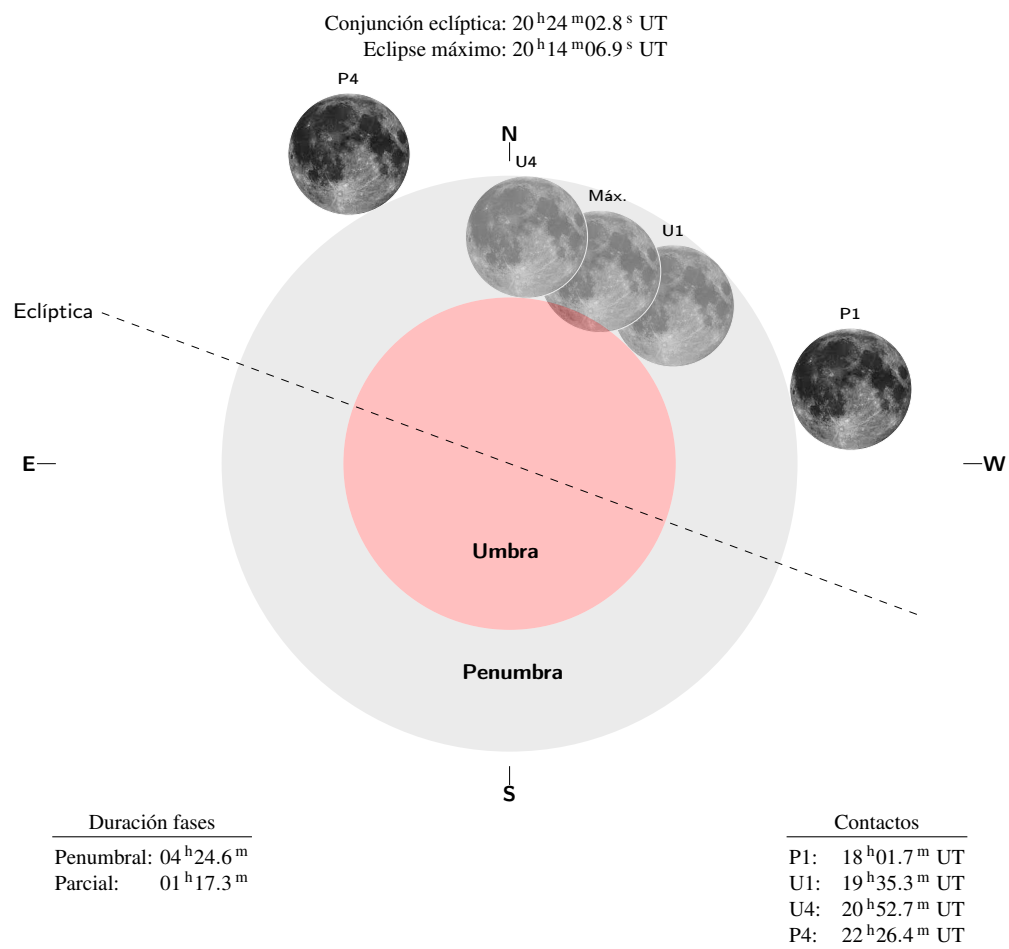
Eclipse anular de Sol del 14 de octubre de 2023

Conjunción eclíptica: 17^h55^m09.2^s UT
Eclipse máximo: 17^h59^m31.4^s UT
Magnitud: 0.9520

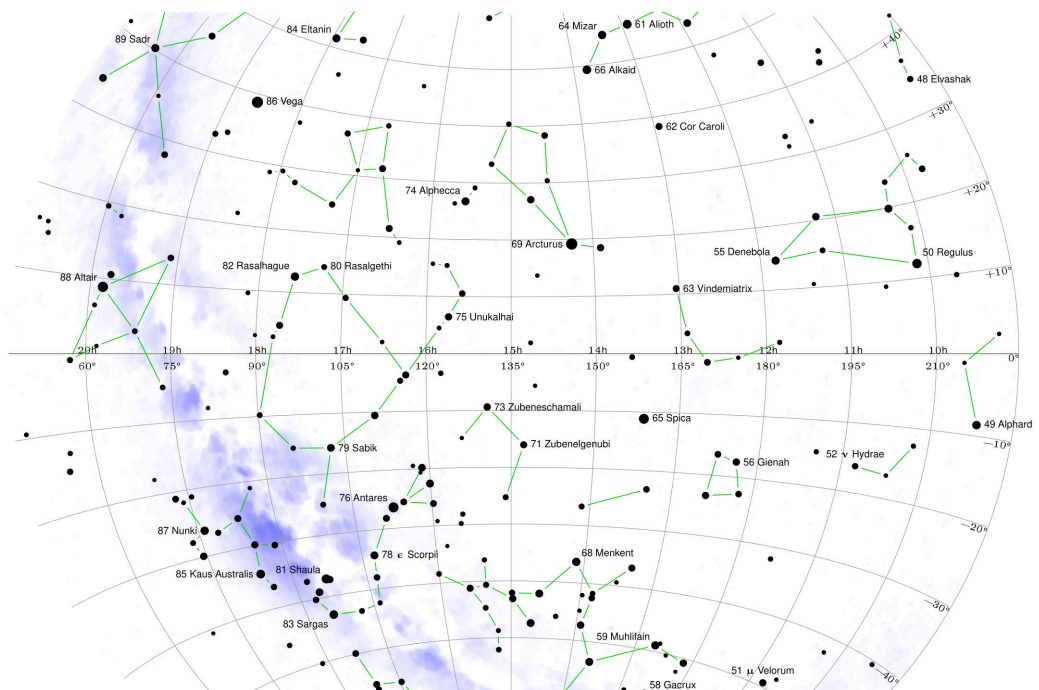
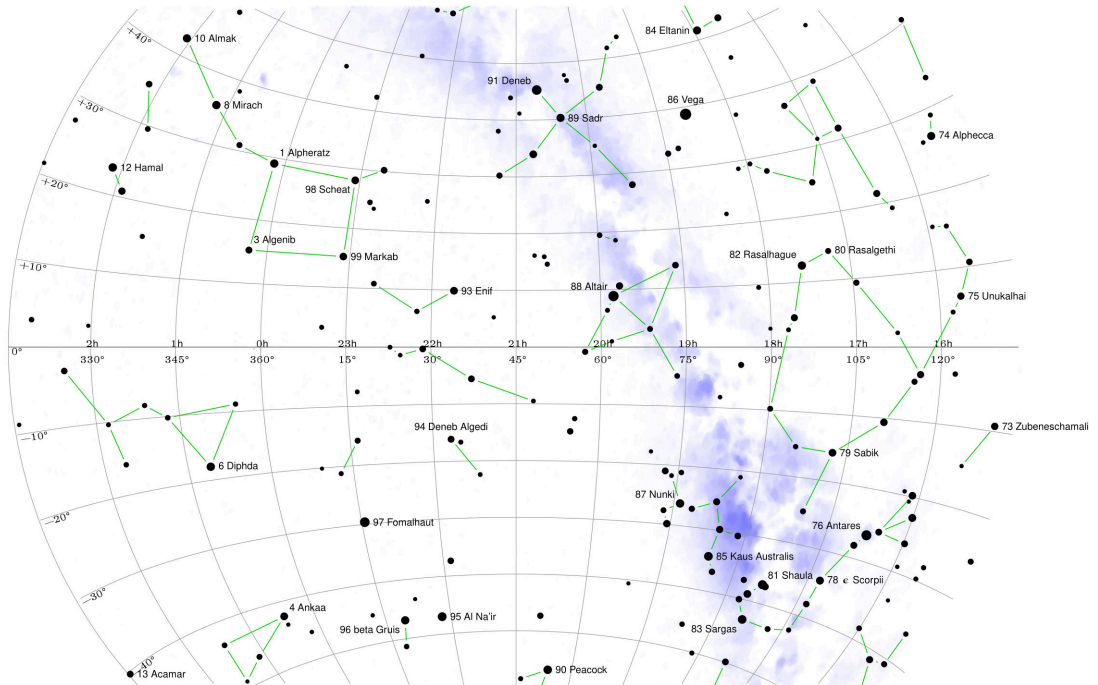


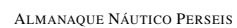
Contactos penumbra		Eclipse máximo		Contactos umbra	
P1:	15 ^h 03.8 ^m UT	Latitud:	11° 22'0 N	U1:	16 ^h 10.1 ^m UT
P2:	17 ^h 34.6 ^m UT	Longitud:	83° 6'6 W	U2:	16 ^h 14.7 ^m UT
P3:	18 ^h 24.9 ^m UT	Anchura:	187.5 km	U3:	19 ^h 44.6 ^m UT
P4:	20 ^h 55.2 ^m UT	Duración:	05 ^m 17.1 ^s	U4:	19 ^h 49.0 ^m UT

Eclipse parcial de Luna del 28 de octubre de 2023



Mapas estelares





UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16/3 PMG:12 ^h 03.4 ^m				Edad: 8.6 ^d PHE { 4 ^h : 56/2 12 ^h : 56/0 20 ^h : 55/8 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	179	12.1	-23	02.4	68	43.6	+12	03.2	134	58	60 N	7 09	8 06	9 02	12 00	3	3 02	91		
1	194	11.8		02.2	83	16.4		16.6	133	58		7 02	7 54	8 45	09	7	2 54	87		
2	209	11.5		02.0	97	49.2		29.9	133	56		6 56	44	31	17	11	47	83		
3	224	11.3		01.8	112	22.0		43.2	133	54		50	36	19	24	14	41	80		
4	239	11.0		01.6	126	54.8	+12	56.3	131	52		44	28	8 08	30	17	36	77		
5	254	10.7	-23	01.4	141	27.5	+13	09.4	131	50		6 39	7 20	7 59	12 35	20	2 31	74		
6	269	10.4	-23	01.2	156	00.2	+13	22.5	131	45		6 28	7 05	7 38	12 48	24	2 20	70		
7	284	10.1		01.0	170	32.9		35.5	130	40		17	6 51	22	12 58	28	11	66		
8	299	09.8		00.8	185	05.5	+13	48.4	129	35		08	40	7 08	13 07	31	2 04	62		
9	314	09.5		00.6	199	38.2	+14	01.2	128	30		6 00	30	6 56	14	34	1 57	59		
10	329	09.2		00.4	214	10.7		14.0	128	20		5 44	6 11	35	28	38	46	54		
11	344	08.9	-23	00.2	228	43.3	+14	26.6	126	10 N		5 28	5 54	6 17	13 40	42	1 36	50		
12	359	08.6	-23	00.0	243	15.8	+14	39.3	127	0		5 11	5 37	6 00	13 51	46	1 27	46		
13	14	08.3	-22	59.8	257	48.3	+14	51.8	125	10 S		4 52	5 19	5 42	14 02	50	18	42		
14	29	08.0		59.6	272	20.8	+15	04.3	125	20		30	4 59	24	14	54	1 08	38		
15	44	07.7		59.3	286	53.2		16.7	124	30		4 02	35	5 02	28	59	0 57	33		
16	59	07.4		59.1	301	25.6		29.0	123	35		3 43	20	4 49	36	62	51	30		
17	74	07.1	-22	58.9	315	58.0	+15	41.2	122	40		3 21	4 02	4 35	14 45	66	0 44	26		
18	89	06.8	-22	58.7	330	30.3	+15	53.3	121	45		2 51	3 40	4 17	14 56	69	0 36	22		
19	104	06.5		58.5	345	02.6	+16	05.4	121	50		2 07	3 11	3 55	15 10	74	26	17		
20	119	06.2		58.3	359	34.8		17.4	120	52		1 41	2 56	44	16	77	21	15		
21	134	06.0		58.1	14	07.0		29.3	119	54		1 00	39	32	23	80	16	12		
22	149	05.7		57.9	28	39.2		41.2	119	56	** **	2 17	19	31	83	10	10			
23	164	05.4		57.6	43	11.3	+16	52.9	117	58	** **	1 49	3 02	39	87	0 04	6			
24	179	05.1	-22	57.4	57	43.4	+17	04.6	117	60 S	** **	1 05	2 43	15	49	93	23	59	5	
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 17 ^h 15.6 ^m				Mag: -3.9 PMG: 13 ^h 18 ^m				Mag: -1.2 PMG: 21 ^h 42 ^m				Mag: -2.4 PMG: 17 ^h 22 ^m				Mag: +0.8 PMG: 14 ^h 57 ^m			
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	100	23.3	160	39.0	-22	02.2	33	29.7	+24	35.3	98	46.9	-0	42.4	135	11.7	-15	12.9		
1	115	25.8	175	38.2		01.6	48	32.6		35.3	113	49.1		42.2	150	13.9		12.8		
2	130	28.2	190	37.3		01.1	63	35.5		35.2	128	51.3		42.1	165	16.2		12.7		
3	145	30.7	205	36.5	-22	00.5	78	38.4		35.2	143	53.5		42.0	180	18.4		12.6		
4	160	33.2	220	35.6	-21	59.9	93	41.3		35.1	158	55.7		41.9	195	20.6		12.6		
5	175	35.6	235	34.7	-21	59.4	108	44.2	+24	35.1	173	57.9	-0	41.7	210	22.8	-15	12.5		
6	190	38.1	250	33.9	-21	58.8	123	47.1	+24	35.0	189	00.1	-0	41.6	225	25.0	-15	12.4		
7	205	40.6	265	33.0		58.2	138	50.0		35.0	204	02.3		41.5	240	27.3		12.3		
8	220	43.0	280	32.2		57.6	153	52.9		34.9	219	04.5		41.3	255	29.5		12.2		
9	235	45.5	295	31.3		57.1	168	55.8		34.9	234	06.7		41.2	270	31.7		12.1		
10	250	48.0	310	30.5		56.5	183	58.7		34.9	249	08.8		41.1	285	33.9		12.1		
11	265	50.4	325	29.6	-21	55.9	199	01.6	+24	34.8	264	11.0	-0	40.9	300	36.1	-15	12.0		
12	280	52.9	340	28.8	-21	55.3	214	04.4	+24	34.8	279	13.2	-0	40.8	315	38.3	-15	11.9		
13	295	55.4	355	27.9		54.8	229	07.3		34.7	294	15.4		40.7	330	40.6		11.8		
14	310	57.8	10	27.1		54.2	244	10.2		34.7	309	17.6		40.6	345	42.8		11.7		
15	326	00.3	25	26.2		53.6	259	13.1		34.6	324	19.8		40.4	0	45.0		11.7		
16	341	02.7	40	25.4		53.0	274	16.0		34.6	339	22.0		40.3	15	47.2		11.6		
17	356	05.2	55	24.5	-21	52.4	289	18.8	+24	34.6	354	24.2	-0	40.2	30	49.4	-15	11.5		
18	11	07.7	70	23.7	-21	51.8	304	21.7	+24	34.5	9	26.3	-0	40.0	45	51.7	-15	11.4		
19	26	10.1	85	22.8		51.3	319	24.6		34.5	24	28.5		39.9	60	53.9		11.3		
20	41	12.6	100	22.0		50.7	334	27.4		34.4	39	30.7		39.8	75	56.1		11.2		
21	56	15.1	115	21.1		50.1	349	30.3		34.4	54	32.9		39.6	90	58.3		11.2		
22	71	17.5	130	20.3		49.5	4	33.2		34.3	69	35.1		39.5	106	00.5		11.1		
23	86	20.0	145	19.4		48.9	19	36.0		34.3	84	37.3		39.4	121	02.8		11.0		
24	101	22.5	160	18.6	-21	48.3	34	38.9	+24	34.3	99	39.5	-0	39.2	136	05.0	-15	10.9		
Dif	—		-9		+6		+29		0		+22		+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 03.9 ^m			Edad: 9.6 ^d SD: 15/2 PMG: 20 ^h 48 ^m PHE 4^h: 55/6 12^h: 55/4 20^h: 55/2 R°: 49^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m					
0	179	05.1	-22	57.4	57	43.4	+17	04.6	60 N	15	06	16	03	16	59	12	03					
1	194	04.8		57.2	72	15.5		16.2	58	23		14	17	06		16	12					
2	209	04.5		57.0	86	47.5		27.6	56	37		24		13		28	15					
3	224	04.2		56.8	101	19.5		39.1	54	15	49	33		18		38	19					
4	239	03.9		56.6	115	51.4	+17	50.4	52	16	00	41		24		47	21					
5	254	03.6	-22	56.3	130	23.3	+18	01.6	50	16	10	16	48	17	29	12	55					
6	269	03.3	-22	56.1	144	55.1	+18	12.8	45	16	30	17	03	17	40	13	12					
7	284	03.0		55.9	159	26.9		23.8	40	16	46	16		50		26	32					
8	299	02.7		55.7	173	58.7		34.8	35	17	00	28		17	59	38	35					
9	314	02.4		55.5	188	30.4		45.7	30	12		38		18	08	13	48					
10	329	02.2		55.2	203	02.1	+18	56.4	20	33		17	56		24	14	06					
11	344	01.9	-22	55.0	217	33.7	+19	07.1	10 N	17	51	18	13	18	40	14	22					
12	359	01.6	-22	54.8	232	05.3	+19	17.7	0	18	08	18	30	18	56	14	37					
13	14	01.3		54.6	246	36.8		28.2	10 S	25		18	48	19	15	14	52					
14	29	01.0		54.3	261	08.3		38.6	20	18	43	19	08	19	37	15	08					
15	44	00.7		54.1	275	39.7		49.0	30	19	05	32		20	05	27	59					
16	59	00.4		53.9	290	11.1	+19	59.2	35	17		19	47		23	38	61					
17	74	00.1	-22	53.7	304	42.5	+20	09.3	40	19	32	20	05	20	46	15	51					
18	88	59.8	-22	53.4	319	13.8	+20	19.3	45	19	50	20	27	21	15	16	05					
19	103	59.5		53.2	333	45.0		29.2	50	20	11	20	55	21	59	24	73					
20	118	59.3		53.0	348	16.2		39.1	52	22		21	10	22	24	33	75					
21	133	59.0		52.7	2	47.4		48.8	54	34		27		23	03	43	77					
22	148	58.7		52.5	17	18.5	+20	58.4	56	20	47	21	48	**	**	16	54					
23	163	58.4		52.3	31	49.6	+21	07.9	58	21	03	22	15	**	**	17	06					
24	178	58.1	-22	52.0	46	20.6	+21	17.3	60 S	21	23	22	57	**	**	17	22					

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 17 ^h 11.7 ^m		Mag: -3.9 PMG: 13 ^h 20 ^m			Mag: -1.2 PMG: 21 ^h 37 ^m			Mag: -2.4 PMG: 17 ^h 19 ^m			Mag: +0.8 PMG: 14 ^h 53 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°				
0	101	22.5	160	18.6	-21	48.3	34	38.9	+24	34.3	99	39.5	-0	39.2				
1	116	24.9	175	17.7		47.7	49	41.8		34.2	114	41.6		39.1				
2	131	27.4	190	16.9		47.1	64	44.6		34.2	129	43.8		39.0				
3	146	29.8	205	16.0		46.5	79	47.5		34.1	144	46.0		38.8				
4	161	32.3	220	15.2		45.9	94	50.3		34.1	159	48.2		38.7				
5	176	34.8	235	14.4	-21	45.3	109	53.2	+24	34.1	174	50.4	-0	38.6				
6	191	37.2	250	13.5	-21	44.7	124	56.1	+24	34.0	189	52.6	-0	38.4				
7	206	39.7	265	12.7		44.1	139	58.9		34.0	204	54.8		38.3				
8	221	42.2	280	11.8		43.5	155	01.8		33.9	219	56.9		38.2				
9	236	44.6	295	11.0		42.9	170	04.6		33.9	234	59.1		38.0				
10	251	47.1	310	10.1		42.3	185	07.5		33.8	250	01.3		37.9				
11	266	49.6	325	09.3	-21	41.7	200	10.3	+24	33.8	265	03.5	-0	37.8				
12	281	52.0	340	08.5	-21	41.1	215	13.1	+24	33.8	280	05.7	-0	37.7				
13	296	54.5	355	07.6		40.5	230	16.0		33.7	295	07.9		37.5				
14	311	57.0	10	06.8		39.9	245	18.8		33.7	310	10.0		37.4				
15	326	59.4	25	05.9		39.3	260	21.7		33.6	325	12.2		37.3				
16	342	01.9	40	05.1		38.7	275	24.5		33.6	340	14.4		37.1				
17	357	04.3	55	04.3	-21	38.0	290	27.3	+24	33.6	355	16.6	-0	37.0				
18	12	06.8	70	03.4	-21	37.4	305	30.2	+24	33.5	10	18.8	-0	36.8				
19	27	09.3	85	02.6		36.8	320	33.0		33.5	25	20.9		36.7				
20	42	11.7	100	01.8		36.2	335	35.8		33.4	40	23.1		36.6				
21	57	14.2	115	00.9		35.6	350	38.7		33.4	55	25.3		36.4				
22	72	16.7	130	00.1		35.0	5	41.5		33.4	70	27.5		36.3				
23	87	19.1	144	59.2		34.4	20	44.3		33.3	85	29.7		36.2				
24	102	21.6	159	58.4	-21	33.7	35	47.2	+24	33.3	100	31.8	-0	36.0				
Dif	—		-8		+6		+28		0		+22		+1		+22		+	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 04.4 ^m				Edad: 10.6 ^d PHE { 4 ^h : 55'1 12 ^h : 55'0 20 ^h : 54'8 R°: 51 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	58.1	-22	52.0	46	20.6	+21	17.3	94	60 N	7 09	8 05	9 01	12 10	12	6 05	91			
1	193	57.8		51.8	60	51.5		26.7	92	58	7 02	7 54	8 45		28 19	5 48	83			
2	208	57.5		51.6	75	22.5		35.9	91	56	6 55	44	31	43	24	33	79			
3	223	57.2		51.3	89	53.3		45.0	90	54		49 35	18	12 57	26	20	76			
4	238	56.9		51.1	104	24.2	+21	54.0	89	52		44 27	8 08	13 08	29	5 09	73			
5	253	56.7	-22	50.8	118	54.9	+22	02.9	87	50	6 39	7 20	7 58	13 18	32	4 59	71			
6	268	56.4	-22	50.6	133	25.7	+22	11.6	87	45	6 28	7 05	7 38	13 40	35	4 38	67			
7	283	56.1		50.4	147	56.3		20.3	87	40		18 6 52	22	13 58	38	22	63			
8	298	55.8		50.1	162	27.0		28.9	86	35		09 40	7 08	14 13	40	4 08	60			
9	313	55.5		49.9	176	57.6		37.3	84	30	6 00	30	6 56		26 42	3 55	59			
10	328	55.2		49.6	191	28.1		45.7	84	20	5 44	6 12	36	14 48	45	35	55			
11	343	54.9	-22	49.4	205	58.6	+22	53.9	82	10 N	5 29	5 55	6 18	15 07	48	3 17	52			
12	358	54.6	-22	49.2	220	29.0	+23	02.1	82	0	5 12	5 38	6 01	15 25	50	3 00	49			
13	13	54.4		48.9	234	59.4		10.1	80	10 S	4 54	21	5 44	15 43	53	2 43	47			
14	28	54.1		48.7	249	29.8		18.0	79	20		32 5 01	25	16 03	55	26	43			
15	43	53.8		48.4	264	00.1		25.8	78	30	4 03	4 36	5 04		26 58	2 05	40			
16	58	53.5		48.2	278	30.3		33.4	76	35	3 45	21	4 51		39 60	1 53	38			
17	73	53.2	-22	47.9	293	00.6	+23	41.0	76	40	3 23	4 04	4 36	16 55	61	1 40	35			
18	88	52.9	-22	47.7	307	30.7	+23	48.4	74	45	2 53	3 42	4 19	17 13	65	1 24	31			
19	103	52.6		47.4	322	00.8	+23	55.8	72	50	2 10	3 13	3 57		37 68	1 04	27			
20	118	52.4		47.2	336	30.9	+24	03.0	72	52	1 44	2 59	47	17 48	70	0 55	25			
21	133	52.1		46.9	351	01.0		10.1	71	54	1 06		42 35	18 00	73	45	22			
22	148	51.8		46.7	5	30.9		17.0	69	56	** **	2 21	21		15 76	33	19			
23	163	51.5		46.4	20	00.9		23.9	69	58	** **	1 53	3 05		33 80	19	15			
24	178	51.2	-22	46.2	34	30.8	+24	30.6	67	60 S	** **	1 11	2 46	18 54	87	0 04	8			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 17 ^h 07.7 ^m		Mag: -3.9 PMG: 13 ^h 21 ^m		Mag: -1.1 PMG: 21 ^h 33 ^m		Mag: -2.4 PMG: 17 ^h 15 ^m		Mag: +0.8 PMG: 14 ^h 50 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	102	21.6	159	58.4	-21	33.7	35	47.2	+24	33.3	100	31.8	-0	36.0	136	58.2	-15	08.9	
1	117	24.1	174	57.6		33.1	50	50.0		33.2	115	34.0		35.9	152	00.4		08.8	
2	132	26.5	189	56.7		32.5	65	52.8		33.2	130	36.2		35.8	167	02.6		08.7	
3	147	29.0	204	55.9		31.9	80	55.6		33.2	145	38.4		35.6	182	04.8		08.7	
4	162	31.5	219	55.1		31.2	95	58.4		33.1	160	40.6		35.5	197	07.0		08.6	
5	177	33.9	234	54.2	-21	30.6	111	01.3	+24	33.1	175	42.7	-0	35.4	212	09.3	-15	08.5	
6	192	36.4	249	53.4	-21	30.0	126	04.1	+24	33.1	190	44.9	-0	35.2	227	11.5	-15	08.4	
7	207	38.8	264	52.6		29.4	141	06.9		33.0	205	47.1		35.1	242	13.7		08.3	
8	222	41.3	279	51.8		28.7	156	09.7		33.0	220	49.3		35.0	257	15.9		08.2	
9	237	43.8	294	50.9		28.1	171	12.5		32.9	235	51.4		34.8	272	18.1		08.2	
10	252	46.2	309	50.1		27.5	186	15.3		32.9	250	53.6		34.7	287	20.3		08.1	
11	267	48.7	324	49.3	-21	26.8	201	18.1	+24	32.9	265	55.8	-0	34.6	302	22.5	-15	08.0	
12	282	51.2	339	48.4	-21	26.2	216	20.9	+24	32.8	280	58.0	-0	34.4	317	24.8	-15	07.9	
13	297	53.6	354	47.6		25.6	231	23.7		32.8	296	00.2		34.3	332	27.0		07.8	
14	312	56.1	9	46.8		24.9	246	26.5		32.7	311	02.3		34.2	347	29.2		07.7	
15	327	58.6	24	46.0		24.3	261	29.3		32.7	326	04.5		34.0	2	31.4		07.7	
16	343	01.0	39	45.1		23.7	276	32.1		32.7	341	06.7		33.9	17	33.6		07.6	
17	358	03.5	54	44.3	-21	23.0	291	34.9	+24	32.6	356	08.9	-0	33.7	32	35.8	-15	07.5	
18	13	06.0	69	43.5	-21	22.4	306	37.7	+24	32.6	11	11.0	-0	33.6	47	38.0	-15	07.4	
19	28	08.4	84	42.6		21.7	321	40.5		32.6	26	13.2		33.5	62	40.3		07.3	
20	43	10.9	99	41.8		21.1	336	43.3		32.5	41	15.4		33.3	77	42.5		07.2	
21	58	13.3	114	41.0		20.5	351	46.1		32.5	56	17.6		33.2	92	44.7		07.1	
22	73	15.8	129	40.2		19.8	6	48.9		32.5	71	19.7		33.1	107	46.9		07.1	
23	88	18.3	144	39.4		19.2	21	51.7		32.4	86	21.9		32.9	122	49.1		07.0	
24	103	20.7	159	38.5	-21	18.5	36	54.5	+24	32.4	101	24.1	-0	32.8	137	51.3	-15	06.9	
Dif	—		-8		+6		+28		0		+22		+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 04.8 ^m			Edad: 11.6 ^d SD: 14'9 PMG: 22 ^h 28 ^m PHE { 4 ^h : 54'7 12 ^h : 54'6 20 ^h : 54'5 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	178	51.2	-22	46.2	34	30.8	+24	30.6	66	60 N	15 09	16 05	17 01	12 22	26	7 36	80
1	193	50.9		45.9	49	00.7	109	37.2	66	58	26	16	08	12 47	31	7 11	75
2	208	50.6		45.7	63	30.5	108	43.7	64	56	40	26	15	13 07	35	6 52	71
3	223	50.4		45.4	78	00.3	108	50.1	64	54	15 52	35	21	23 38		36 68	
4	238	50.1		45.1	92	30.0	107	+24	56.4	63	52	16 02	43	26	37 40		22 66
5	253	49.8	-22	44.9	106	59.7	107	+25	02.5	61	50	16 12	16 50	17 31	13 50	40	6 10 64
6	268	49.5	-22	44.6	121	29.4	107	+25	08.5	60	45	16 32	17 05	17 42	14 15	44	5 45 61
7	283	49.2		44.4	135	59.0	106		14.4	59	40	16 48	18	17 52	36 45		25 59
8	298	48.9		44.1	150	28.6	106		20.1	57	35	17 01	29	18 01	14 53	46	5 08 58
9	313	48.7		43.9	164	58.1	105		25.8	57	30	17 13	40	09	15 08	47	4 54 57
10	328	48.4		43.6	179	27.6	105		31.3	55	20	17 34	17 58	25	33 49		30 54
11	343	48.1	-22	43.3	193	57.1	105	+25	36.7	54	10 N	17 52	18 14	18 41	15 55	50	4 09 52
12	358	47.8	-22	43.1	208	26.5	104	+25	41.9	52	0	18 09	18 31	18 57	16 15	52	3 49 51
13	13	47.5		42.8	222	55.9	104		47.1	52	10 S	26	18 48	19 15	36 52		30 49
14	28	47.2		42.5	237	25.3	104		52.1	50	20	18 44	19 08	19 37	16 58	54	3 09 47
15	43	47.0		42.3	251	54.6	103	+25	56.9	48	30	19 05	32	20 05	17 24	55	2 45 45
16	58	46.7		42.0	266	23.9	103	+26	01.7	48	35	19 18	47	23	39 56		31 43
17	73	46.4	-22	41.7	280	53.2	103	+26	06.3	46	40	19 32	20 05	20 46	17 56	57	2 15 41
18	88	46.1	-22	41.5	295	22.5	103	+26	10.8	45	45	19 49	20 26	21 15	18 18	58	1 55 40
19	103	45.8		41.2	309	51.7	102		15.1	43	50	20 11	20 55	21 57	45 60		31 36
20	118	45.6		40.9	324	20.9	102		19.4	43	52	21	21 09	22 22	18 58	61	20 34
21	133	45.3		40.7	338	50.0	101		23.5	41	54	33	26	22 59	19 13	62	1 07 31
22	148	45.0		40.4	353	19.2	102		27.4	39	56	20 46	21 46	** **	31 64		0 52 28
23	163	44.7		40.1	7	48.3	101		31.3	39	58	21 02	22 13	** **	19 53	66	34 24
24	178	44.4	-22	39.9	22	17.4	101	+26	35.0	37	60 S	21 21	22 52	** **	20 21	71	0 12 17

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 17 ^h 03.8 ^m		Mag: -3.9 PMG: 13 ^h 22 ^m			Mag: -1.1 PMG: 21 ^h 28 ^m			Mag: -2.4 PMG: 17 ^h 12 ^m			Mag: +0.8 PMG: 14 ^h 46 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	103	20.7	159	38.5	-21	18.5	36	54.5	+24	32.4	101	24.1	-0	32.8	137	51.3	-15	06.9
1	118	23.2	174	37.7		17.9	51	57.3		32.3	116	26.3		32.7	152	53.5		06.8
2	133	25.7	189	36.9		17.2	67	00.1		32.3	131	28.4		32.5	167	55.8		06.7
3	148	28.1	204	36.1		16.6	82	02.9		32.3	146	30.6		32.4	182	58.0		06.6
4	163	30.6	219	35.2		15.9	97	05.6		32.2	161	32.8		32.2	198	00.2		06.6
5	178	33.1	234	34.4	-21	15.3	112	08.4	+24	32.2	176	34.9	-0	32.1	213	02.4	-15	06.5
6	193	35.5	249	33.6	-21	14.6	127	11.2	+24	32.2	191	37.1	-0	32.0	228	04.6	-15	06.4
7	208	38.0	264	32.8		14.0	142	14.0		32.1	206	39.3		31.8	243	06.8		06.3
8	223	40.5	279	32.0		13.3	157	16.7		32.1	221	41.5		31.7	258	09.0		06.2
9	238	42.9	294	31.2		12.7	172	19.5		32.1	236	43.6		31.6	273	11.3		06.1
10	253	45.4	309	30.3		12.0	187	22.3		32.0	251	45.8		31.4	288	13.5		06.0
11	268	47.8	324	29.5	-21	11.3	202	25.1	+24	32.0	266	48.0	-0	31.3	303	15.7	-15	06.0
12	283	50.3	339	28.7	-21	10.7	217	27.8	+24	32.0	281	50.1	-0	31.1	318	17.9	-15	05.9
13	298	52.8	354	27.9		10.0	232	30.6		31.9	296	52.3		31.0	333	20.1		05.8
14	313	55.2	9	27.1		09.4	247	33.4		31.9	311	54.5		30.9	348	22.3		05.7
15	328	57.7	24	26.3		08.7	262	36.1		31.8	326	56.7		30.7	3	24.5		05.6
16	344	00.2	39	25.4		08.0	277	38.9		31.8	341	58.8		30.6	18	26.7		05.5
17	359	02.6	54	24.6	-21	07.4	292	41.7	+24	31.8	357	01.0	-0	30.4	33	29.0	-15	05.5
18	14	05.1	69	23.8	-21	06.7	307	44.4	+24	31.7	12	03.2	-0	30.3	48	31.2	-15	05.4
19	29	07.6	84	23.0		06.0	322	47.2		31.7	27	05.3		30.2	63	33.4		05.3
20	44	10.0	99	22.2		05.4	337	49.9		31.7	42	07.5		30.0	78	35.6		05.2
21	59	12.5	114	21.4		04.7	352	52.7		31.6	57	09.7		29.9	93	37.8		05.1
22	74	14.9	129	20.6		04.0	7	55.4		31.6	72	11.8		29.8	108	40.0		05.0
23	89	17.4	144	19.8		03.4	22	58.2		31.6	87	14.0		29.6	123	42.2		04.9
24	104	19.9	159	18.9	-21	02.7	38	00.9	+24	31.5	102	16.2	-0	29.5	138	44.4	-15	04.9
Dif	—		-8		+7		+28		0		+22		+1		+22		+1	

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 05.7 ^m			Edad: 13.6 ^d SD: 14'8 PMG: **h **m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	m	h m	m	h m	m
0	178 37.8	-22 33.1	9 51.0	99	+27	24.0	4	60 N	15 13	16 08	17 04	13 37	74	9 54	32		
1	193 37.5		24 19.9	98		24.4	2	58	29	19	11	14 09	68	9 22	37		
2	208 37.2		38 48.7	99		24.6	1	56	43	29	17	33 65		8 59	39		
3	223 36.9		53 17.6	99		24.7	1	54	15 54	37	23	14 52	63	39	44		
4	238 36.7		67 46.5	98		24.6	2	52	16 05	45	28	15 08	62	23	43		
5	253 36.4	-22 31.6	82 15.3	99	+27	24.4	1	50	16 14	16 52	17 33	15 22	61	8 09	44		
6	268 36.1	-22 31.3	96 44.2	99	+27	24.1	3	45	16 34	17 07	17 44	15 50	59	7 41	45		
7	283 35.8		111 13.1	99		23.7	4	40	16 50	20	17 54	16 12	58	18	47		
8	298 35.6		125 42.1	100		23.1	6	35	17 03	31	18 02	31 56		7 00	47		
9	313 35.3		140 11.0	99		22.4	7	30	15	41	11	16 47	55	6 44	48		
10	328 35.0		154 39.9	99		21.5	9	20	35	17 59	26	17 14	53	6 17	49		
11	343 34.7	-22 29.8	169 08.9	100	+27	20.6	9	10 N	17 53	18 15	18 42	17 37	51	5 53	51		
12	358 34.5	-22 29.5	183 37.9	100	+27	19.4	12	0	18 09	18 32	18 58	17 58	51	5 32	51		
13	13 34.2		198 06.9	100		18.2	12	10 S	26	18 49	19 16	18 20	49	5 10	52		
14	28 33.9		212 35.9	100		16.8	14	20	18 44	19 09	19 38	18 43	47	4 47	52		
15	43 33.6		227 05.0	101		15.3	15	30	19 05	33	20 05	19 10	45	19	54		
16	58 33.4		241 34.0	100		13.6	17	35	18	19 47	23	25 45		4 03	54		
17	73 33.1	-22 28.0	256 03.1	101	+27	11.9	17	40	19 32	20 04	20 45	19 44	43	3 45	54		
18	88 32.8	-22 27.7	270 32.2	101	+27	10.0	19	45	19 49	20 26	21 14	20 06	41	3 22	55		
19	103 32.6		285 01.4	102		07.9	21	50	20 10	20 54	21 55	34 38		2 53	57		
20	118 32.3		299 30.6	102		05.7	22	52	21	21 08	22 19	20 48	36	39	57		
21	133 32.0		313 59.8	102		03.4	23	54	32	24	22 54	21 04	34	22	58		
22	148 31.7		328 29.0	102	+27	01.0	24	56	20 45	21 44	** **	23 32		2 03	59		
23	163 31.5		342 58.2	102	+26	58.4	26	58	21 01	22 10	** **	21 46	28	1 38	61		
24	178 31.2	-22 25.9	357 27.5	103	+26	55.7	27	60 S	21 19	22 47	** **	22 16	22	1 05	63		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 16 ^h 56.0 ^m		Mag: -3.9 PMG: 13 ^h 25 ^m			Mag: -1.0 PMG: 21 ^h 20 ^m			Mag: -2.4 PMG: 17 ^h 05 ^m			Mag: +0.8 PMG: 14 ^h 39 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	105 19.0	158 59.7	-20 46.2	39 06.5	+24 30.8	103 08.1	-0 26.1	139 37.5	-15 02.8								
1	120 21.5	173 58.9	45.5	54 09.2	30.8	118 10.3	26.0	154 39.7	02.7								
2	135 23.9	188 58.1	44.8	69 11.9	30.7	133 12.4	25.8	169 41.9	02.6								
3	150 26.4	203 57.3	44.1	84 14.6	30.7	148 14.6	25.7	184 44.1	02.6								
4	165 28.9	218 56.5	43.4	99 17.3	30.7	163 16.8	25.5	199 46.3	02.5								
5	180 31.3	233 55.7	-20 42.7	114 20.0	+24 30.6	178 18.9	-0 25.4	214 48.6	-15 02.4								
6	195 33.8	248 54.9	-20 42.0	129 22.7	+24 30.6	193 21.1	-0 25.3	229 50.8	-15 02.3								
7	210 36.3	263 54.1	41.3	144 25.4	30.6	208 23.3	25.1	244 53.0	02.2								
8	225 38.7	278 53.3	40.6	159 28.1	30.5	223 25.4	25.0	259 55.2	02.1								
9	240 41.2	293 52.5	39.9	174 30.8	30.5	238 27.6	24.8	274 57.4	02.0								
10	255 43.7	308 51.7	39.2	189 33.5	30.5	253 29.7	24.7	289 59.6	02.0								
11	270 46.1	323 50.9	-20 38.5	204 36.2	+24 30.5	268 31.9	-0 24.5	305 01.8	-15 01.9								
12	285 48.6	338 50.1	-20 37.8	219 38.9	+24 30.4	283 34.1	-0 24.4	320 04.0	-15 01.8								
13	300 51.1	353 49.4	37.1	234 41.6	30.4	298 36.2	24.3	335 06.2	01.7								
14	315 53.5	8 48.6	36.4	249 44.3	30.4	313 38.4	24.1	350 08.4	01.6								
15	330 56.0	23 47.8	35.7	264 47.0	30.3	328 40.5	24.0	5 10.6	01.5								
16	345 58.4	38 47.0	34.9	279 49.7	30.3	343 42.7	23.8	20 12.9	01.4								
17	1 00.9	53 46.2	-20 34.2	294 52.4	+24 30.3	358 44.8	-0 23.7	35 15.1	-15 01.3								
18	16 03.4	68 45.4	-20 33.5	309 55.0	+24 30.3	13 47.0	-0 23.5	50 17.3	-15 01.3								
19	31 05.8	83 44.6	32.8	324 57.7	30.2	28 49.2	23.4	65 19.5	01.2								
20	46 08.3	98 43.8	32.1	340 00.4	30.2	43 51.3	23.2	80 21.7	01.1								
21	61 10.8	113 43.1	31.4	355 03.1	30.2	58 53.5	23.1	95 23.9	01.0								
22	76 13.2	128 42.3	30.6	10 05.8	30.2	73 55.6	23.0	110 26.1	00.9								
23	91 15.7	143 41.5	29.9	25 08.4	30.1	88 57.8	22.8	125 28.3	00.8								
24	106 18.2	158 40.7	-20 29.2	40 11.1	+24 30.1	103 59.9	-0 22.7	140 30.5	-15 00.7								
Dif	—	-8	+7	+27	0	+22	+1	+22	+1								

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'3 PMG:12 ^h 06.1 ^m				Edad: 14.6 ^d PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 PMG: 0 ^h 11 ^m R°: 49 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	31.2	-22	25.9	357	27.5	+26	55.7	28	60 N	7 07	8 03	8 58	14 51	86	10 26	15		
1	193	30.9		25.6	11	56.9		52.9	29	58	7 00	7 52	42	15 17	80	9 59	22		
2	208	30.7		25.3	26	26.2		50.0	31	56	6 54	43	29	38	75	38	26		
3	223	30.4		25.0	40	55.6		46.9	31	54	49	34	17	15 55	72	21	29		
4	238	30.1		24.6	55	25.1		43.7	32	52	43	26	8 07	16 10	69	9 06	31		
5	253	29.8	-22	24.3	69	54.5	+26	40.4	33	50	6 39	7 20	7 57	16 23	67	8 53	33		
6	268	29.6	-22	24.0	84	24.0	+26	36.9	35	45	6 28	7 04	7 38	16 49	63	8 26	37		
7	283	29.3		23.7	98	53.6		33.3	36	40	18	6 52	22	17 10	60	8 05	39		
8	298	29.0		23.4	113	23.2		29.6	37	35	09	41	7 09	27	58	7 47	42		
9	313	28.8		23.1	127	52.8		25.8	38	30	6 01	31	6 57	17 42	56	32	43		
10	328	28.5		22.8	142	22.5		21.8	40	20	5 46	6 13	37	18 07	53	7 06	46		
11	343	28.2	-22	22.4	156	52.2	+26	17.7	41	10 N	5 30	5 56	6 19	18 28	51	6 44	47		
12	358	28.0	-22	22.1	171	22.0	+26	13.5	42	0	5 14	5 40	6 02	18 49	48	6 23	49		
13	13	27.7		21.8	185	51.8		09.2	43	10 S	4 56	23	5 46	19 09	46	6 02	51		
14	28	27.4		21.5	200	21.6		04.7	45	20	34	5 03	28	30	43	5 39	54		
15	43	27.2		21.2	214	51.5	+26	00.1	46	30	4 07	4 39	5 07	19 55	40	5 13	56		
16	58	26.9		20.8	229	21.5	+25	55.4	47	35	3 49	25	4 54	20 10	38	4 57	58		
17	73	26.6	-22	20.5	243	51.4	+25	50.6	48	40	3 27	4 08	4 40	20 27	35	4 39	59		
18	88	26.4	-22	20.2	258	21.5	+25	45.7	49	45	2 58	3 46	4 23	20 47	33	4 17	62		
19	103	26.1		19.9	272	51.6		40.6	51	50	2 17	18	4 02	21 12	29	3 50	64		
20	118	25.8		19.5	287	21.7		35.4	52	52	1 53	3 05	3 52	24	27	36	66		
21	133	25.6		19.2	301	51.9		30.2	52	54	1 18	2 48	40	38	24	20	69		
22	148	25.3		18.9	316	22.1		24.7	55	56	** **	28	27	21 55	20	3 02	71		
23	163	25.0		18.6	330	52.4		19.2	55	58	** **	2 02	3 12	22 14	16	2 39	75		
24	178	24.8	-22	18.2	345	22.8	+25	13.6	56	60 S	** **	1 25	2 53	22 38	10	2 08	82		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 16 ^h 52.0 ^m		Mag: -3.9 PMG: 13 ^h 26 ^m				Mag: -1.0 PMG: 21 ^h 15 ^m				Mag: -2.4 PMG: 17 ^h 02 ^m				Mag: +0.8 PMG: 14 ^h 36 ^m				
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	106	18.2	158	40.7	-20	29.2	40	11.1	+24	30.1	103	59.9	-0	22.7	140	30.5	-15	00.7	
1	121	20.6	173	39.9		28.5	55	13.8		30.1	119	02.1		22.5	155	32.7		00.7	
2	136	23.1	188	39.1		27.7	70	16.5		30.0	134	04.3		22.4	170	34.9		00.6	
3	151	25.6	203	38.4		27.0	85	19.1		30.0	149	06.4		22.2	185	37.1		00.5	
4	166	28.0	218	37.6		26.3	100	21.8		30.0	164	08.6		22.1	200	39.4		00.4	
5	181	30.5	233	36.8	-20	25.6	115	24.5	+24	30.0	179	10.7	-0	22.0	215	41.6	-15	00.3	
6	196	32.9	248	36.0	-20	24.8	130	27.1	+24	29.9	194	12.9	-0	21.8	230	43.8	-15	00.2	
7	211	35.4	263	35.2		24.1	145	29.8		29.9	209	15.0		21.7	245	46.0	-15	00.1	
8	226	37.9	278	34.5		23.4	160	32.5		29.9	224	17.2		21.5	260	48.2	-15	00.0	
9	241	40.3	293	33.7		22.6	175	35.1		29.9	239	19.3		21.4	275	50.4	-15	00.0	
10	256	42.8	308	32.9		21.9	190	37.8		29.8	254	21.5		21.2	290	52.6	-14	59.9	
11	271	45.3	323	32.1	-20	21.2	205	40.4	+24	29.8	269	23.6	-0	21.1	305	54.8	-14	59.8	
12	286	47.7	338	31.3	-20	20.4	220	43.1	+24	29.8	284	25.8	-0	20.9	320	57.0	-14	59.7	
13	301	50.2	353	30.6		19.7	235	45.8		29.8	299	28.0		20.8	335	59.2		59.6	
14	316	52.7	8	29.8		19.0	250	48.4		29.7	314	30.1		20.6	351	01.4		59.5	
15	331	55.1	23	29.0		18.2	265	51.1		29.7	329	32.3		20.5	6	03.6		59.4	
16	346	57.6	38	28.2		17.5	280	53.7		29.7	344	34.4		20.4	21	05.8		59.4	
17	2	00.1	53	27.5	-20	16.7	295	56.4	+24	29.7	359	36.6	-0	20.2	36	08.0	-14	59.3	
18	17	02.5	68	26.7	-20	16.0	310	59.0	+24	29.6	14	38.7	-0	20.1	51	10.3	-14	59.2	
19	32	05.0	83	25.9		15.3	326	01.7		29.6	29	40.9		19.9	66	12.5		59.1	
20	47	07.4	98	25.1		14.5	341	04.3		29.6	44	43.0		19.8	81	14.7		59.0	
21	62	09.9	113	24.4		13.8	356	07.0		29.6	59	45.2		19.6	96	16.9		58.9	
22	77	12.4	128	23.6		13.0	11	09.6		29.5	74	47.3		19.5	111	19.1		58.8	
23	92	14.8	143	22.8		12.3	26	12.2		29.5	89	49.5		19.3	126	21.3		58.7	
24	107	17.3	158	22.0	-20	11.5	41	14.9	+24	29.5	104	51.6	-0	19.2	141	23.5	-14	58.7	
Dif	—		-8		+7		+27		0		+22		+1		+22		+		

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h 3 PMG:12 ^h 06.6 ^m				Edad: 15.6 ^d SD: 14 ^h 7 PMG: 1 ^h 00 ^m						PHE { 4 ^h : 53'9 12 ^h : 53'9 20 ^h : 54'0 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	24.8	-22	18.2	345	22.8	+25	13.6	58	60 N	15 16	16 11	17 07	16 17	88	10 41	8		
1	193	24.5		17.9	359	53.2		07.8	59	58	32	22	14	37	82	21	13		
2	208	24.2		17.6	14	23.6	+25	01.9	60	56	46	31	20	16	53	78	10 04		
3	223	24.0		17.3	28	54.1	+24	55.9	61	54	15 57	40	25	17	07	75	9 50		
4	238	23.7		16.9	43	24.7		49.8	62	52	16 07	47	30	19	72	37	23		
5	253	23.4	-22	16.6	57	55.3	+24	43.6	63	50	16 17	16 54	17 35	17 30	70	9 26	25		
6	268	23.2	-22	16.3	72	26.0	+24	37.3	64	45	16 36	17 09	17 46	17 52	65	9 03	29		
7	283	22.9		15.9	86	56.7		30.9	66	40	16 51	22	17 55	18 10	62	8 44	33		
8	298	22.6		15.6	101	27.5		24.3	67	35	17 05	33	18 04	25	59	29	35		
9	313	22.4		15.3	115	58.3		17.6	67	30	16	17 42	12	18 38	56	8 15	37		
10	328	22.1		14.9	130	29.2		10.9	69	20	36	18 00	27	19 00	52	7 52	41		
11	343	21.8	-22	14.6	145	00.2	+24	04.0	70	10 N	17 54	18 16	18 43	19 19	49	7 31	45		
12	358	21.6	-22	14.3	159	31.2	+23	57.0	71	0	18 10	18 33	18 59	19 37	46	7 12	47		
13	13	21.3		13.9	174	02.3		49.9	72	10 S	27	18 50	19 17	19 55	42	6 53	50		
14	28	21.1		13.6	188	33.4		42.7	73	20	18 45	19 09	19 38	20 13	40	33	53		
15	43	20.8		13.2	203	04.6		35.4	74	30	19 05	33	20 05	35	36	6 09	56		
16	58	20.5		12.9	217	35.8		28.0	75	35	18	19 47	23	20 48	33	5 55	58		
17	73	20.3	-22	12.6	232	07.1	+23	20.5	76	40	19 32	20 04	20 44	21 02	31	5 38	62		
18	88	20.0	-22	12.2	246	38.5	+23	12.9	77	45	19 49	20 25	21 13	21 20	26	5 19	64		
19	103	19.7		11.9	261	09.9	+23	05.2	78	50	20 10	20 52	21 53	41	22	4 54	69		
20	118	19.5		11.5	275	41.4	+22	57.4	79	52	20	21 06	22 16	21 51	20	42	71		
21	133	19.2		11.2	290	13.0		49.5	81	54	31	22	22 49	22 02	17	29	74		
22	148	19.0		10.8	304	44.6		41.4	81	56	44	21 42	** **	15	14	4	13		
23	163	18.7		10.5	319	16.3		33.3	82	58	20 59	22 06	** **	30	10	3	54		
24	178	18.4	-22	10.2	333	48.0	+22	25.1	82	60 S	21 17	22 42	** **	22	48	5	3		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 48.1 ^m		Mag: -3.9 PMG: 13 ^h 27 ^m		Mag: -1.0 PMG: 21 ^h 11 ^m		Mag: -2.4 PMG: 16 ^h 58 ^m		Mag: +0.8 PMG: 14 ^h 32 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	107	17.3	158	22.0	-20	11.5	41	14.9	-0	19.2
1	122	19.8	173	21.3		10.8	56	17.5		19.0
2	137	22.2	188	20.5		10.0	71	20.1		18.9
3	152	24.7	203	19.7		09.3	86	22.8		18.7
4	167	27.2	218	19.0		08.5	101	25.4		18.6
5	182	29.6	233	18.2	-20	07.8	116	28.0	+24	18.5
6	197	32.1	248	17.4	-20	07.0	131	30.7	+24	18.3
7	212	34.5	263	16.7		06.3	146	33.3		18.2
8	227	37.0	278	15.9		05.5	161	35.9		18.0
9	242	39.5	293	15.1		04.8	176	38.6		17.9
10	257	41.9	308	14.4		04.0	191	41.2		17.7
11	272	44.4	323	13.6	-20	03.3	206	43.8	+24	17.6
12	287	46.9	338	12.8	-20	02.5	221	46.4	+24	17.4
13	302	49.3	353	12.1		01.7	236	49.0		17.3
14	317	51.8	8	11.3		01.0	251	51.7		17.1
15	332	54.3	23	10.6	-20	00.2	266	54.3		17.0
16	347	56.7	38	09.8	-19	59.4	281	56.9		16.8
17	2	59.2	53	09.0	-19	58.7	296	59.5	+24	16.7
18	18	01.7	68	08.3	-19	57.9	312	02.1	+24	16.5
19	33	04.1	83	07.5		57.2	327	04.7		16.4
20	48	06.6	98	06.7		56.4	342	07.3		16.2
21	63	09.0	113	06.0		55.6	357	09.9		16.1
22	78	11.5	128	05.2		54.8	12	12.5		15.9
23	93	14.0	143	04.5		54.1	27	15.1		15.8
24	108	16.4	158	03.7	-19	53.3	42	17.7	+24	15.6
Dif	—		-8		+8		+26		0	
							+21		+1	
									+22	
									+1	

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 3 PMG:12 ^h 07.4 ^m				Edad: 17.6 ^d SD: 14 ^h 7 PMG: 2 ^h 33 ^m											
	PHE { 4 ^h : 54 ^m 1 12 ^h : 54 ^m 2 20 ^h : 54 ^m 3 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	178	12.2	-22	01.6	322	47.3	+18	40.7	60 N	15 20	16 15	17 10	19 12 84	10 53 2		
1	193	12.0		01.3	337	20.5 ¹⁴²		30.3 ¹⁰⁴	58	36	25	16	21 81	42 6		
2	208	11.7		00.9	351	53.7 ¹⁴²		19.8 ¹⁰⁵	56	15 49	34	22	30 77	33 9		
3	223	11.5		00.5	6	27.0 ¹⁴³	+18	09.2 ¹⁰⁶	54	16 00	43	28	37 75	25 11		
4	238	11.2	-22	00.2	21	00.4 ¹⁴⁴	+17	58.6 ¹⁰⁶	52	10	50	33	44 72	18 13		
5	253	11.0	-21	59.8	35	33.8 ¹⁴⁴	+17	47.9 ¹⁰⁷	50	16 19	16 57	17 37	19 50 69	10 11 16		
6	268	10.7	-21	59.4	50	07.3 ¹⁴⁵	+17	37.1 ¹⁰⁸	45	16 38	17 11	17 48	20 03 64	9 57 20		
7	283	10.5		59.1	64	40.8 ¹⁴⁵		26.3 ¹⁰⁸	40	16 53	24	17 57	13 61	45 24		
8	298	10.2		58.7	79	14.3 ¹⁴⁵		15.3 ¹¹⁰	35	17 07	34	18 06	22 58	35 27		
9	313	10.0		58.3	93	47.9 ¹⁴⁶	+17	04.4 ¹⁰⁹	30	18	17 44	14	30 55	26 30		
10	328	09.7		58.0	108	21.6 ¹⁴⁷	+16	53.3 ¹¹¹	20	38	18 01	29	43 50	9 10 35		
11	343	09.5	-21	57.6	122	55.3 ¹⁴⁷	+16	42.1 ¹¹²	10 N	17 55	18 17	18 44	20 55 46	8 57 38		
12	358	09.2	-21	57.2	137	29.1 ¹⁴⁸	+16	30.9 ¹¹²	0	18 11	18 33	18 59	21 06 42	8 44 42		
13	13	09.0		56.8	152	02.9 ¹⁴⁸		19.7 ¹¹²	10 S	27	18 50	19 17	17 38	31 46		
14	28	08.7		56.5	166	36.8 ¹⁴⁹	+16	08.3 ¹¹⁴	20	18 45	19 09	19 38	29 33	17 51		
15	43	08.4		56.1	181	10.7 ¹⁴⁹	+15	56.9 ¹¹⁴	30	19 05	32	20 05	42 29	8 01 55		
16	58	08.2		55.7	195	44.6 ¹⁴⁹		45.4 ¹¹⁵	35	18	19 47	22	50 26	7 52 58		
17	73	07.9	-21	55.3	210	18.6 ¹⁵⁰	+15	33.9 ¹¹⁵	40	19 31	20 03	20 44	21 58 23	7 41 62		
18	88	07.7	-21	55.0	224	52.7 ¹⁵¹	+15	22.3 ¹¹⁶	45	19 48	20 24	21 11	22 08 20	7 29 65		
19	103	07.4		54.6	239	26.7 ¹⁵⁰	+15	10.6 ¹¹⁷	50	20 08	20 51	21 51	20 15	13 70		
20	118	07.2		54.2	254	00.9 ¹⁵²	+14	58.9 ¹¹⁷	52	18	21 04	22 13	26 13	7 06 72		
21	133	06.9		53.8	268	35.1 ¹⁵²		47.1 ¹¹⁸	54	29	20	22 44	32 11	6 58 75		
22	148	06.7		53.5	283	09.3 ¹⁵²		35.3 ¹¹⁸	56	42	21 39	** **	39 8	49 78		
23	163	06.4		53.1	297	43.5 ¹⁵²		23.3 ¹²⁰	58	20 57	22 03	** **	47 4	39 81		
24	178	06.2	-21	52.7	312	17.8 ¹⁵³	+14	11.4 ¹¹⁹	60 S	21 14	22 36	** **	22 55 2	6 27 85		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 16 ^h 40.2 ^m		Mag: -3.9 PMG: 13 ^h 30 ^m		Mag: -0.9 PMG: 21 ^h 03 ^m		Mag: -2.4 PMG: 16 ^h 51 ^m		Mag: +0.8 PMG: 14 ^h 25 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	109	15.6	157	45.7	-19	34.5	43	19.7	+24	28.5	106	34.6	-0	12.0	143	09.3	-14	54.4
1	124	18.0	172	45.0		33.7	58	22.3		28.5	121	36.7		11.9	158	11.5		54.4
2	139	20.5	187	44.2		32.9	73	24.9		28.5	136	38.9		11.7	173	13.7		54.3
3	154	23.0	202	43.5		32.1	88	27.4		28.5	151	41.0		11.6	188	15.9		54.2
4	169	25.4	217	42.7		31.3	103	30.0		28.5	166	43.1		11.4	203	18.1		54.1
5	184	27.9	232	42.0	-19	30.5	118	32.6	+24	28.5	181	45.3	-0	11.3	218	20.3	-14	54.0
6	199	30.4	247	41.2	-19	29.7	133	35.1	+24	28.4	196	47.4	-0	11.1	233	22.5	-14	53.9
7	214	32.8	262	40.5		28.9	148	37.7		28.4	211	49.5		11.0	248	24.7		53.8
8	229	35.3	277	39.8		28.1	163	40.2		28.4	226	51.7		10.8	263	26.9		53.7
9	244	37.8	292	39.0		27.3	178	42.8		28.4	241	53.8		10.7	278	29.1		53.6
10	259	40.2	307	38.3		26.5	193	45.3		28.4	256	56.0		10.5	293	31.3		53.6
11	274	42.7	322	37.6	-19	25.7	208	47.9	+24	28.4	271	58.1	-0	10.4	308	33.5	-14	53.5
12	289	45.1	337	36.8	-19	24.9	223	50.4	+24	28.4	287	00.2	-0	10.2	323	35.7	-14	53.4
13	304	47.6	352	36.1		24.1	238	53.0		28.3	302	02.4		10.1	338	37.9		53.3
14	319	50.1	7	35.3		23.3	253	55.5		28.3	317	04.5		09.9	353	40.1		53.2
15	334	52.5	22	34.6		22.5	268	58.1		28.3	332	06.6		09.8	8	42.3		53.1
16	349	55.0	37	33.9		21.6	284	00.6		28.3	347	08.8		09.6	23	44.5		53.0
17	4	57.5	52	33.1	-19	20.8	299	03.1	+24	28.3	2	10.9	-0	09.5	38	46.7	-14	52.9
18	19	59.9	67	32.4	-19	20.0	314	05.7	+24	28.3	17	13.0	-0	09.3	53	48.9	-14	52.8
19	35	02.4	82	31.7		19.2	329	08.2		28.3	32	15.2		09.2	68	51.1		52.8
20	50	04.9	97	30.9		18.4	344	10.7		28.2	47	17.3		09.0	83	53.3		52.7
21	65	07.3	112	30.2		17.6	359	13.3		28.2	62	19.4		08.9	98	55.5		52.6
22	80	09.8	127	29.5		16.8	14	15.8		28.2	77	21.6		08.7	113	57.8		52.5
23	95	12.3	142	28.7		15.9	29	18.3		28.2	92	23.7		08.6	129	00.0		52.4
24	110	14.7	157	28.0	-19	15.1	44	20.9	+24	28.2	107	25.9	-0	08.4	144	02.2	-14	52.3
Dif	—		-7		+8		+25		0		+21		+2		+22		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16'3 PMG:12 ^h 07.8 ^m				Edad: 18.6 ^d PHE { 4 ^h : 54'3 12 ^h : 54'5 20 ^h : 54'6 R°: 42 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	06.2	-21	52.7	312	17.8	+14	11.4	121	58	7	05	7	59	8	54	20	36	84	
1	193	05.9		52.3	326	52.2	+13	59.3	121	58	6	58		49	38	42	80		48	
2	208	05.7		51.9	341	26.6		47.2	121	56		52		40	26	47	77		42	
3	223	05.4		51.5	356	01.0		35.1	121	54	47		32	14	52	74		36	10	
4	238	05.2		51.2	10	35.4		22.9	122	52	42		25	8	04	56	71		31	
5	253	05.0	-21	50.8	25	09.9	+13	10.6	123	50	6	37	7	18	7	55	20	59	70	
6	268	04.7	-21	50.4	39	44.5	+12	58.3	123	45	6	27	7	04	7	37	21	07	65	
7	283	04.5		50.0	54	19.0		45.9	124	40	18		6	51	21	14	61		09	
8	298	04.2		49.6	68	53.6		33.5	124	35	09		41	7	08	20	57		10	
9	313	04.0		49.2	83	28.3		21.0	125	30	6	01	31	6	57	25	54		9	
10	328	03.7		48.8	98	02.9	+12	08.5	125	20	5	46	6	14	37	33	50		45	
11	343	03.5	-21	48.4	112	37.6	+11	55.9	126	10 N	5	32	5	58	6	20	21	41	45	
12	358	03.2	-21	48.1	127	12.4	+11	43.3	126	0	5	16	5	42	6	04	21	48	41	
13	13	03.0		47.7	141	47.1		30.6	127	10 S	4	58		25	5	48	21	55	37	
14	28	02.7		47.3	156	21.9		17.9	127	20		37		5	06	30	22	02	33	
15	43	02.5		46.9	170	56.7	+11	05.1	128	30	4	10	4	43	5	10	11	27	8	
16	58	02.2		46.5	185	31.6	+10	52.2	129	35	3	53		29	4	58	16	24	50	
17	73	02.0	-21	46.1	200	06.5	+10	39.4	128	40	3	32	4	12	4	44	22	21	22	
18	88	01.7	-21	45.7	214	41.4	+10	26.4	130	45	3	04	3	51	4	28	22	28	17	
19	103	01.5		45.3	229	16.3		13.5	129	50	2	25		24	4	07	35	14	23	
20	118	01.3		44.9	243	51.2	+10	00.4	131	52	2	02	3	11	3	57	39	11	18	
21	133	01.0		44.5	258	26.2	+9	47.4	130	54	1	32		2	55	46	43	9	13	
22	148	00.8		44.1	273	01.2		34.3	131	56	0	28		37	34	47	6		07	
23	163	00.5		43.7	287	36.2		21.1	132	58	**	**		2	13	19	51	4	8	
24	178	00.3	-21	43.3	302	11.3	+9	07.9	132	60 S	**	**		1	40	3	01	22	57	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag: -3.9		Mag: -0.9		Mag: -2.4		Mag: +0.8	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	110	14.7	157	28.0	-19	15.1	44	20.9	-0	08.4
1	125	17.2	172	27.3		14.3	59	23.4		08.2
2	140	19.6	187	26.6		13.5	74	25.9		08.1
3	155	22.1	202	25.8		12.7	89	28.5		07.9
4	170	24.6	217	25.1		11.8	104	31.0		07.8
5	185	27.0	232	24.4	-19	11.0	119	33.5	+24	07.6
6	200	29.5	247	23.6	-19	10.2	134	36.0	+24	07.5
7	215	32.0	262	22.9		09.4	149	38.5		07.3
8	230	34.4	277	22.2		08.6	164	41.1		07.2
9	245	36.9	292	21.5		07.7	179	43.6		07.0
10	260	39.4	307	20.7		06.9	194	46.1		06.9
11	275	41.8	322	20.0	-19	06.1	209	48.6	+24	06.7
12	290	44.3	337	19.3	-19	05.2	224	51.1	+24	06.6
13	305	46.8	352	18.6		04.4	239	53.6		06.4
14	320	49.2	7	17.8		03.6	254	56.1		06.2
15	335	51.7	22	17.1		02.7	269	58.6		06.1
16	350	54.1	37	16.4		01.9	285	01.2		05.9
17	5	56.6	52	15.7	-19	01.1	300	03.7	+24	05.8
18	20	59.1	67	15.0	-19	00.2	315	06.2	+24	05.6
19	36	01.5	82	14.2	-18	59.4	330	08.7		05.5
20	51	04.0	97	13.5		58.6	345	11.2		05.3
21	66	06.5	112	12.8		57.7	0	13.7		05.2
22	81	08.9	127	12.1		56.9	15	16.2		05.0
23	96	11.4	142	11.4		56.1	30	18.7		04.8
24	111	13.9	157	10.7	-18	55.2	45	21.1	+24	04.7
Dif	—		-7		+8		+25		0	
									+21	+2
									+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 08.2 ^m			Edad: 19.6 ^d SD: 14 ^h 9 PMG: 3 ^h 58 ^m PHE { 4 ^h : 54 ^m 7 12 ^h : 54 ^m 9 20 ^h : 55 ^m 0 Rº: 41 ^m								Civil			Náutico			Hora Rº		Hora Rº							
	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	00.3	-21	43.3	302	11.3	+9	07.9	132	60 N	15	25	16	18	17	13	22	00	84	10	55	1					
1	193	00.0		42.9	316	46.3	+8	54.7	132	58		39	28		19		02	81		52	3						
2	207	59.8		42.5	331	21.4		41.4	133	56	15	52	37	25	04	78			49	6							
3	222	59.6		42.1	345	56.5		28.1	133	54	16	03	45	30	06	75			46	8							
4	237	59.3		41.7	0	31.6		14.8	133	52		13	53	35	07	73			43	11							
5	252	59.1	-21	41.3	15	06.7	+8	01.4	134	50	16	22	16	59	17	40	22	09	70	10	41	13					
6	267	58.8	-21	40.9	29	41.8	+7	47.9	135	45	16	40	17	13	17	50	22	12	66	10	35	18					
7	282	58.6		40.5	44	17.0		34.5	134	40	16	56	25	17	59	15	62		31	21							
8	297	58.3		40.1	58	52.2		21.0	135	35	17	08	36	18	07	17	58		27	25							
9	312	58.1		39.7	73	27.3	+7	07.4	135	30		20	17	46	15	19	55		24	27							
10	327	57.9		39.3	88	02.5	+6	53.9	136	20		39	18	03	30	23	50		18	32							
11	342	57.6	-21	38.9	102	37.7	+6	40.2	137	10 N	17	56	18	18	18	44	22	26	45	10	13	36					
12	357	57.4	-21	38.5	117	12.9	+6	26.6	136	0	18	12	18	34	19	00	22	29	41	10	08	40					
13	12	57.1		38.1	131	48.1	+6	12.9	137	10 S		28	18	51	17		32	37	10	03	45						
14	27	56.9		37.7	146	23.3	+5	59.2	137	20	18	45	19	09	19	38	35	32	9	57	50						
15	42	56.7		37.2	160	58.5		45.5	137	30	19	05	32	20	05	38	28		51	55							
16	57	56.4		36.8	175	33.7		31.7	138	35		17	19	46	22		40	25	47	58							
17	72	56.2	-21	36.4	190	09.0	+5	17.9	138	40	19	31	20	03	20	43	22	43	21	9	43	61					
18	87	55.9	-21	36.0	204	44.2	+5	04.1	138	45	19	47	20	23	21	10	22	45	18	9	39	65					
19	102	55.7		35.6	219	19.4	+4	50.2	139	50	20	07	20	49	21	48	49	12		33	70						
20	117	55.5		35.2	233	54.6		36.3	139	52		17	21	02	22	10	50	11		30	72						
21	132	55.2		34.8	248	29.8		22.4	139	54		28	18	22	39		52	8		27	75						
22	147	55.0		34.4	263	05.1	+4	08.4	140	56		40	36	23	29		53	6		24	77						
23	162	54.8		33.9	277	40.3	+3	54.5	139	58	20	54	21	59	** **		55	4		20	80						
24	177	54.5	-21	33.5	292	15.5	+3	40.5	140	60 S	21	11	22	30	** **		22	57	1	9	16	84					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 16 ^h 32.4 ^m			Mag: -3.9 PMG: 13 ^h 32 ^m			Mag: -0.8 PMG: 20 ^h 55 ^m			Mag: -2.3 PMG: 16 ^h 44 ^m			Mag: +0.8 PMG: 14 ^h 18 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	111	13.9	157	10.7	-18	55.2	45	21.1	+24	27.9	108	17.0	-0	04.7	144	55.0											
1	126	16.3	172	09.9		54.4	60	23.6		27.9	123	19.1		04.5	159	57.2											
2	141	18.8	187	09.2		53.5	75	26.1		27.9	138	21.3		04.4	174	59.4											
3	156	21.2	202	08.5		52.7	90	28.6		27.9	153	23.4		04.2	190	01.6											
4	171	23.7	217	07.8		51.8	105	31.1		27.9	168	25.5		04.1	205	03.8											
5	186	26.2	232	07.1	-18	51.0	120	33.6	+24	27.9	183	27.6	-0	03.9	220	06.0											
6	201	28.6	247	06.4	-18	50.1	135	36.1	+24	27.9	198	29.8	-0	03.8	235	08.2											
7	216	31.1	262	05.7		49.3	150	38.6		27.9	213	31.9		03.6	250	10.3											
8	231	33.6	277	04.9		48.5	165	41.1		27.9	228	34.0		03.4	265	12.5											
9	246	36.0	292	04.2		47.6	180	43.5		27.9	243	36.1		03.3	280	14.7											
10	261	38.5	307	03.5		46.8	195	46.0		27.8	258	38.3		03.1	295	16.9											
11	276	41.0	322	02.8	-18	45.9	210	48.5	+24	27.8	273	40.4	-0	03.0	310	19.1											
12	291	43.4	337	02.1	-18	45.1	225	51.0	+24	27.8	288	42.5	-0	02.8	325	21.3											
13	306	45.9	352	01.4		44.2	240	53.4		27.8	303	44.7		02.7	340	23.5											
14	321	48.4	7	00.7		43.3	255	55.9		27.8	318	46.8		02.5	355	25.7											
15	336	50.8	22	00.0		42.5	270	58.4		27.8	333	48.9		02.4	10	27.9											
16	351	53.3	36	59.3		41.6	286	00.9		27.8	348	51.0		02.2	25	30.1											
17	6	55.7	51	58.6	-18	40.8	301	03.3	+24	27.8	3	53.2	-0	02.0	40	32.3											
18	21	58.2	66	57.8	-18	39.9	316	05.8	+24	27.8	18	55.3	-0	01.9	55	34.5											
19	37	00.7	81	57.1		39.1	331	08.3		27.8	33	57.4		01.7	70	36.7											
20	52	03.1	96	56.4		38.2	346	10.7		27.8	48	59.5		01.6	85	38.9											
21	67	05.6	111	55.7		37.3	1	13.2		27.8	64	01.7		01.4	100	41.1											
22	82	08.1	126	55.0		36.5	16	15.7		27.8	79	03.8		01.3	115	43.3											
23	97	10.5	141	54.3		35.6	31	18.1		27.8	94	05.9		01.1	130	45.5											
24	112	13.0	156	53.6	-18	34.8	46	20.6	+24	27.8	109	08.0	-0	00.9	145	47.7											
Dif	—			-7			+9			+25			0			+21			+2			+22			+1		

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/3 PMG:12 ^h 08.6 ^m		Edad: 20.6 ^d SD: 15/0 PMG: 4 ^h 39 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	177	54.5	-21	33.5	292	15.5	+3	40.5	60 N	7 03	7 57	8 51	23 24	87	10 56 0
1	192	54.3		33.1	306	50.7		26.4	58	6 57	47	36	23 83		55 4
2	207	54.0		32.7	321	25.9	+3	12.4	56	51	39	24	22 80		55 6
3	222	53.8		32.3	336	01.0	+2	58.3	54	46	31	13	21 77		54 9
4	237	53.6		31.8	350	36.2		44.2	52	41	24	8 03	20 75		54 11
5	252	53.3	-21	31.4	5	11.4	+2	30.1	50	6 37	7 17	7 54	23 19	73	10 54 13
6	267	53.1	-21	31.0	19	46.5	+2	16.0	45	6 26	7 03	7 36	23 18	68	10 53 17
7	282	52.9		30.6	34	21.7	+2	01.8	40	17	6 51	21	17 63		52 22
8	297	52.6		30.2	48	56.8	+1	47.7	35	09	40	7 08	15 60		52 24
9	312	52.4		29.7	63	31.9		33.5	30	6 01	31	6 57	14 57		51 28
10	327	52.2		29.3	78	07.0		19.3	20	5 47	6 14	38	13 51		50 33
11	342	51.9	-21	28.9	92	42.0	+1	05.0	10 N	5 32	5 58	6 21	23 11	47	10 49 38
12	357	51.7	-21	28.5	107	17.1	+0	50.8	0	5 17	5 43	6 05	23 10	43	10 48 42
13	12	51.5		28.0	121	52.1		36.5	10 S	4 59	26	5 49	09 38		48 46
14	27	51.2		27.6	136	27.1		22.2	20	39	5 07	32	07 34		47 50
15	42	51.0		27.2	151	02.1	+0	07.9	30	4 12	4 45	12	06 28		46 56
16	57	50.8		26.8	165	37.1	-0	06.4	35	3 55	31	5 00	05 25		45 59
17	72	50.5	-21	26.3	180	12.0	-0	20.7	40	3 34	4 14	4 46	23 04	22	10 44 63
18	87	50.3	-21	25.9	194	46.9	-0	35.0	45	3 07	3 54	4 30	23 03	18	10 44 66
19	102	50.1		25.5	209	21.8	-0	49.4	50	2 29	28	10	01 14		43 71
20	117	49.8		25.0	223	56.6	-1	03.7	52	2 07	3 15	4 00	01 11		42 74
21	132	49.6		24.6	238	31.5		18.1	54	1 38	2 59	3 50	23 00	9	42 76
22	147	49.4		24.2	253	06.2		32.4	56	0 48	41	37	22 59	7	41 79
23	162	49.1		23.7	267	41.0	-1	46.8	58	** **	2 18	23	59 4		40 82
24	177	48.9	-21	23.3	282	15.7	-2	01.2	60 S	** **	1 47	3 06	22 58	1	10 40 85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 ^h 28.4 ^m		Mag: -3.9 PMG: 13 ^h 33 ^m		Mag: -0.8 PMG: 20 ^h 51 ^m		Mag: -2.3 PMG: 16 ^h 41 ^m		Mag: +0.8 PMG: 14 ^h 15 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	112	13.0	156	53.6	-18	34.8	46	20.6	+24	27.8
1	127	15.5	171	52.9		33.9	61	23.0		27.7
2	142	17.9	186	52.2		33.0	76	25.5		27.7
3	157	20.4	201	51.5		32.2	91	27.9		27.7
4	172	22.9	216	50.8		31.3	106	30.4		27.7
5	187	25.3	231	50.1	-18	30.4	121	32.8	+24	27.7
6	202	27.8	246	49.4	-18	29.6	136	35.3	+24	27.7
7	217	30.2	261	48.7		28.7	151	37.7		27.7
8	232	32.7	276	48.0		27.8	166	40.2		27.7
9	247	35.2	291	47.3		27.0	181	42.6		27.7
10	262	37.6	306	46.6		26.1	196	45.1		27.7
11	277	40.1	321	45.9	-18	25.2	211	47.5	+24	27.7
12	292	42.6	336	45.2	-18	24.3	226	50.0	+24	27.7
13	307	45.0	351	44.5		23.5	241	52.4		27.7
14	322	47.5	6	43.8		22.6	256	54.9		27.7
15	337	50.0	21	43.1		21.7	271	57.3		27.7
16	352	52.4	36	42.5		20.8	286	59.7		27.7
17	7	54.9	51	41.8	-18	20.0	302	02.2	+24	27.7
18	22	57.3	66	41.1	-18	19.1	317	04.6	+24	27.7
19	37	59.8	81	40.4		18.2	332	07.0		27.7
20	53	02.3	96	39.7		17.3	347	09.5		27.7
21	68	04.7	111	39.0		16.4	2	11.9		27.7
22	83	07.2	126	38.3		15.5	17	14.3		27.7
23	98	09.7	141	37.6		14.7	32	16.7		27.7
24	113	12.1	156	36.9	-18	13.8	47	19.2	+24	27.7
Dif	—		-7		+9		+24		0	
							+21		+2	
									+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: 21.6 ^d SD: 15'2 PMG: 5 ^h 20 ^m						PHE { 4 ^h : 55'9 12 ^h : 56'1 20 ^h : 56'4 Rº: 43 ^m																
	hG ☉	Dec			hG ☾	Dif					Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº							
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m					
0	177	48.9	-21	23.3	282	15.7			-2	01.2	60 N	15 29	16 22	17 16	**	**	**			10 56	1						
1	192	48.7		22.9	296	50.4	157			15.6	58	43	32	22	**	**	**			10 59	4						
2	207	48.4		22.4	311	25.0	156			30.0	56	15 56	41	28	**	**	**			11 01	7						
3	222	48.2		22.0	325	59.6	156			44.4	54	16 07	48	33	**	**	**			03	10						
4	237	48.0		21.6	340	34.2	156		-2	58.8	52	16	16 55	38	**	**	**			05	12						
5	252	47.8	-21	21.1	355	08.7	155		-3	13.2	50	16 25	17 02	17 42	**	**	**			11 07	14						
6	267	47.5	-21	20.7	9	43.2	155		-3	27.6	45	16 43	17 16	17 52	**	**	**			11 10	20						
7	282	47.3		20.3	24	17.7	155			42.1	40	16 58	28	18 01	**	**	**			14	23						
8	297	47.1		19.8	38	52.1	154		-3	56.5	35	17 10	38	09	**	**	**			16	27						
9	312	46.8		19.4	53	26.4	153		-4	10.9	30	21	17 47	17	**	**	**			19	29						
10	327	46.6		18.9	68	00.7	153			25.3	20	40	18 04	31	**	**	**			23	35						
11	342	46.4	-21	18.5	82	34.9	152		-4	39.7	10 N	17 57	18 19	18 45	23	58	50			11 27	39						
12	357	46.2	-21	18.0	97	09.2	153		-4	54.1	0	18 13	18 35	19 01	23	53	45			11 30	44						
13	12	45.9		17.6	111	43.3	151		-5	08.5	10 S	28	18 51	18		47	41			34	48						
14	27	45.7		17.2	126	17.4	151			22.9	20	18 45	19 10	19 38	41	36				37	53						
15	42	45.5		16.7	140	51.4	150			37.3	30	19 05	32	20 04	34	31				42	58						
16	57	45.2		16.3	155	25.4	150		-5	51.7	35	17	19 46	21	30	29				44	61						
17	72	45.0	-21	15.8	169	59.4	150		-6	06.1	40	19 30	20 02	20 42	23	26	25			11 47	65						
18	87	44.8	-21	15.4	184	33.2	148		-6	20.5	45	19 46	20 22	21 08	23	21	21			11 50	69						
19	102	44.6		14.9	199	07.0	148			34.8	50	20 06	20 47	21 45	15	16				54	74						
20	117	44.3		14.5	213	40.8	148		-6	49.2	52	15	21 00	22 06	12	14				56	76						
21	132	44.1		14.0	228	14.5	147		-7	03.5	54	26	15	22 33	09	12				11 58	79						
22	147	43.9		13.6	242	48.1	146			17.9	56	38	33	23 17	06	8				12 00	82						
23	162	43.7		13.1	257	21.7	146			32.2	58	20 52	21 55	**	**	**	23	03	5	02	86						
24	177	43.4	-21	12.7	271	55.1	144		-7	46.5	60 S	21 08	22 24	**	**		22	59	1	12	05	89					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 16 ^h 24.5 ^m			Mag: -3.9 PMG: 13 ^h 34 ^m			Mag: -0.8 PMG: 20 ^h 47 ^m			Mag: -2.3 PMG: 16 ^h 38 ^m			Mag: +0.8 PMG: 14 ^h 11 ^m														
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec												
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°												
0	113	12.1		156	36.9	-18	47	19.2	+24	27.7	109	58.9	+0	02.9	146	40.4	-14	45.8									
1	128	14.6		171	36.2		62	21.6		27.7	125	01.0		03.0	161	42.6		45.7									
2	143	17.1		186	35.5		77	24.0		27.7	140	03.1		03.2	176	44.8		45.6									
3	158	19.5		201	34.9		92	26.4		27.7	155	05.3		03.3	191	47.0		45.6									
4	173	22.0		216	34.2		107	28.8		27.7	170	07.4		03.5	206	49.2		45.5									
5	188	24.5		231	33.5	-18	122	31.3	+24	27.7	185	09.5	+0	03.7	221	51.4	-14	45.4									
6	203	26.9		246	32.8	-18	137	33.7	+24	27.7	200	11.6	+0	03.8	236	53.6	-14	45.3									
7	218	29.4		261	32.1		152	36.1		27.7	215	13.7		04.0	251	55.8		45.2									
8	233	31.8		276	31.4		167	38.5		27.7	230	15.9		04.2	266	58.0		45.1									
9	248	34.3		291	30.7		182	40.9		27.7	245	18.0		04.3	282	00.2		45.0									
10	263	36.8		306	30.1		197	43.3		27.7	260	20.1		04.5	297	02.4		44.9									
11	278	39.2		321	29.4	-18	212	45.7	+24	27.7	275	22.2	+0	04.6	312	04.6	-14	44.8									
12	293	41.7		336	28.7	-18	227	48.1	+24	27.7	290	24.3	+0	04.8	327	06.8	-14	44.7									
13	308	44.2		351	28.0		242	50.6		27.7	305	26.4		05.0	342	09.0		44.6									
14	323	46.6		6	27.3		257	53.0		27.7	320	28.5		05.1	357	11.2		44.5									
15	338	49.1		21	26.6	-18	272	55.4		27.7	335	30.7		05.3	12	13.4		44.5									
16	353	51.6		36	26.0	-17	287	57.8		27.7	350	32.8		05.4	27	15.6		44.4									
17	8	54.0		51	25.3	-17	303	00.2	+24	27.7	5	34.9	+0	05.6	42	17.8	-14	44.3									
18	23	56.5		66	24.6	-17	318	02.6	+24	27.7	20	37.0	+0	05.8	57	20.0	-14	44.2									
19	38	59.0		81	23.9		333	05.0		27.7	35	39.1		05.9	72	22.2		44.1									
20	54	01.4		96	23.3		348	07.4		27.7	50	41.2		06.1	87	24.4		44.0									
21	69	03.9		111	22.6		3	09.7		27.7	65	43.3		06.2	102	26.6		43.9									
22	84	06.3		126	21.9		18	12.1		27.7	80	45.5		06.4	117	28.7		43.8									
23	99	08.8		141	21.2		33	14.5		27.7	95	47.6		06.6	132	30.9		43.7									
24	114	11.3		156	20.5	-17	48	16.9	+24	27.7	110	49.7	+0	06.7	147	33.1	-14	43.6									
Dif	—			-7			+9			+24			0			+21			+2			+22			+1		

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'3 PMG:12 ^h 09.3 ^m				Edad: 22.6 ^d SD: 15'4 PMG: 6 ^h 03 ^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	177	43.4	-21	12.7	271	55.1	-7	46.5	60 N	7 01	7 55	8 48	0 51 93	10 57 2				
1	192	43.2		12.2	286	28.6	-8	00.8	58	6 55	45	34	46 89	11 03 6				
2	207	43.0		11.8	301	01.9		15.0	56	50	37	21	42 85	08 9				
3	222	42.8		11.3	315	35.2		29.3	54	45	29	11	38 82	13 12				
4	237	42.5		10.9	330	08.4		43.5	52	40	22	8 01	35 79	17 15				
5	252	42.3	-21	10.4	344	41.6	-8	57.7	50	6 35	7 16	7 53	0 32 77	11 21 17				
6	267	42.1	-21	10.0	359	14.6	-9	11.9	45	6 26	7 02	7 35	0 26 71	11 30 22				
7	282	41.9		09.5	13	47.6		26.1	40	17	6 50	20	20 67	37 26				
8	297	41.7		09.0	28	20.5		40.2	35	09	40	7 08	15 64	43 30				
9	312	41.4		08.6	42	53.3	-9	54.4	30	6 01	31	6 57	11 60	48 33				
10	327	41.2		08.1	57	26.1	-10	08.5	20	5 47	6 14	38	0 04 55	11 58 38				
11	342	41.0	-21	07.7	71	58.8	-10	22.5	10 N	5 33	5 59	6 21	** ** *	12 06 43				
12	357	40.8	-21	07.2	86	31.3	-10	36.6	0	5 18	5 43	6 06	** ** *	12 14 47				
13	12	40.6		06.8	101	03.8	-10	50.6	10 S	5 01	27	5 50	** ** *	22 51				
14	27	40.3		06.3	115	36.3	-11	04.6	20	4 40	5 09	33	** ** *	30 56				
15	42	40.1		05.8	130	08.6		18.5	30	4 14	4 46	13	** ** *	40 62				
16	57	39.9		05.4	144	40.8		32.4	35	3 57	33	5 02	23 59 32	45 65				
17	72	39.7	-21	04.9	159	13.0	-11	46.3	40	3 37	4 17	4 48	23 51 29	12 52 68				
18	87	39.5	-21	04.4	173	45.0	-12	00.2	45	3 10	3 57	4 32	23 42 25	12 59 73				
19	102	39.2		04.0	188	17.0		14.0	50	2 33	31	13	31 20	13 08 79				
20	117	39.0		03.5	202	48.9		27.8	52	2 13	18	4 03	26 17	12 81				
21	132	38.8		03.0	217	20.6		41.5	54	1 45	3 04	3 53	21 14	17 84				
22	147	38.6		02.6	231	52.3	-12	55.2	56	1 02	2 46	41	14 12	22 87				
23	162	38.4		02.1	246	23.9	-13	08.9	58	** ** *	2 24	27	08 7	28 91				
24	177	38.1	-21	01.6	260	55.4	-13	22.5	60 S	** ** *	1 55	3 11	23 00 3	13 34 96				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 16 ^h 20.6 ^m		Mag: -3.9 PMG: 13 ^h 35 ^m		Mag: -0.8 PMG: 20 ^h 44 ^m		Mag: -2.3 PMG: 16 ^h 34 ^m		Mag: +0.8 PMG: 14 ^h 08 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	114	11.3	156	20.5	-17	52.3	110	49.7	+0	06.7
1	129	13.7	171	19.9		51.4	125	51.8		06.9
2	144	16.2	186	19.2		50.5	140	53.9		07.1
3	159	18.7	201	18.5		49.6	155	56.0		07.2
4	174	21.1	216	17.9		48.7	170	58.1		07.4
5	189	23.6	231	17.2	-17	47.7	186	00.2	+0	07.5
6	204	26.1	246	16.5	-17	46.8	201	02.4	+0	07.7
7	219	28.5	261	15.8		45.9	216	04.5		07.9
8	234	31.0	276	15.2		45.0	231	06.6		08.0
9	249	33.4	291	14.5		44.1	246	08.7		08.2
10	264	35.9	306	13.8		43.2	261	10.8		08.4
11	279	38.4	321	13.2	-17	42.3	276	12.9	+0	08.5
12	294	40.8	336	12.5	-17	41.3	291	15.0	+0	08.7
13	309	43.3	351	11.8		40.4	306	17.1		08.8
14	324	45.8	6	11.2		39.5	321	19.2		09.0
15	339	48.2	21	10.5		38.6	336	21.3		09.2
16	354	50.7	36	09.8		37.7	351	23.5		09.3
17	9	53.2	51	09.2	-17	36.8	6	25.6	+0	09.5
18	24	55.6	66	08.5	-17	35.8	21	27.7	+0	09.7
19	39	58.1	81	07.8		34.9	36	29.8		09.8
20	55	00.6	96	07.2		34.0	51	31.9		10.0
21	70	03.0	111	06.5		33.1	66	34.0		10.1
22	85	05.5	126	05.8		32.1	81	36.1		10.3
23	100	07.9	141	05.2		31.2	96	38.2		10.5
24	115	10.4	156	04.5	-17	30.3	111	40.3	+0	10.6
Dif	—		-7		+9		+24		0	
							+21		+2	
									+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: 23.6 ^d SD: 15/6 PMG: 6 ^h 49 ^m PHE { 4 ^h : 57/5 12 ^h : 57/9 20 ^h : 58/2 Rº: 51 ^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	177 38.1	-21 01.6	260 55.4	123	-13	22.5	135	60 N	15 33	16 26	17 20	2 24 100		10 59 4				
1	192 37.9	01.2	275 26.7	123		36.0	135	58	47	35	26	15 95		11 09 9				
2	207 37.7	00.7	289 58.0	123	-13	49.6	136	56	15 59	44	31	07 91		17 14				
3	222 37.5	-21 00.2	304 29.2	122	-14	03.0	134	54	16 10	51	36	2 00 87		25 17				
4	237 37.3	-20 59.8	319 00.3	121		16.5	135	52	19	16 58	41	1 54 84		32 20				
5	252 37.1	-20 59.3	333 31.2	119	-14	29.8	133	50	16 28	17 04	17 45	1 49 81		11 38 23				
6	267 36.8	-20 58.8	348 02.1	119	-14	43.2	134	45	16 45	17 18	17 54	1 37 75		11 52 28				
7	282 36.6	58.4	2 32.8	117	-14	56.4	132	40	17 00	30	18 03	27 71		12 03 32				
8	297 36.4	57.9	17 03.5	117	-15	09.7	133	35	12	40	11	19 67		13 35				
9	312 36.2	57.4	31 34.0	115		22.8	131	30	23	17 49	18	1 11 64		21 39				
10	327 36.0	56.9	46 04.4	114		35.9	131	20	42	18 05	32	0 59 59		36 44				
11	342 35.8	-20 56.5	60 34.7	113	-15	49.0	131	10 N	17 58	18 20	18 46	0 48 54		12 49 48				
12	357 35.6	-20 56.0	75 04.9	112	-16	01.9	129	0	18 13	18 35	19 01	0 38 50		13 01 52				
13	12 35.3	55.5	89 35.0	111		14.9	130	10 S	29	18 51	18	28 46		13 57				
14	27 35.1	55.0	104 04.9	109		27.7	128	20	18 45	19 10	19 38	17 41		26 61				
15	42 34.9	54.5	118 34.7	108		40.5	128	30	19 05	32	20 04	0 05 36		42 65				
16	57 34.7	54.1	133 04.5	108	-16	53.2	127	35	16	19 45	20	** ** *		13 50 69				
17	72 34.5	-20 53.6	147 34.0	105	-17	05.9	127	40	19 29	20 01	20 40	** ** *		14 00 73				
18	87 34.3	-20 53.1	162 03.5	105	-17	18.5	126	45	19 45	20 20	21 06	** ** *		14 12 77				
19	102 34.1	52.6	176 32.9	104		31.0	125	50	20 04	45	21 42	23 51 27		27 82				
20	117 33.8	52.1	191 02.1	102		43.4	124	52	13	20 58	22 02	43 24		33 86				
21	132 33.6	51.7	205 31.2	101	-17	55.8	124	54	24	21 12	22 28	35 21		41 89				
22	147 33.4	51.2	220 00.2	100	-18	08.0	122	56	35	29	23 07	26 17		49 93				
23	162 33.2	50.7	234 29.0	98		20.2	122	58	20 49	21 50	** ** *	15 13		14 59 97				
24	177 33.0	-20 50.2	248 57.7	97	-18	32.4	122	60 S	21 05	22 18	** ** *	23 03 7		15 10 103				
UT	ARIES PMG 16 ^h 16.6 ^m		VENUS Mag: -3.9 PMG: 13 ^h 36 ^m		MARTE Mag: -0.7 PMG: 20 ^h 40 ^m		JÚPITER Mag: -2.3 PMG: 16 ^h 31 ^m		SATURNO Mag: +0.8 PMG: 14 ^h 04 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	115 10.4	156 04.5	-17 30.3	49 13.9	+24 27.8	111 40.3	+0 10.6	148 25.8	-14 41.4									
1	130 12.9	171 03.8	29.4	64 16.2	27.8	126 42.4	10.8	163 28.0	41.3									
2	145 15.3	186 03.2	28.4	79 18.6	27.8	141 44.5	11.0	178 30.2	41.2									
3	160 17.8	201 02.5	27.5	94 20.9	27.8	156 46.6	11.1	193 32.4	41.2									
4	175 20.3	216 01.9	26.6	109 23.3	27.8	171 48.8	11.3	208 34.6	41.1									
5	190 22.7	231 01.2	-17 25.6	124 25.6	+24 27.8	186 50.9	+0 11.5	223 36.8	-14 41.0									
6	205 25.2	246 00.5	-17 24.7	139 28.0	+24 27.8	201 53.0	+0 11.6	238 38.9	-14 40.9									
7	220 27.7	260 59.9	23.8	154 30.3	27.8	216 55.1	11.8	253 41.1	40.8									
8	235 30.1	275 59.2	22.8	169 32.7	27.8	231 57.2	12.0	268 43.3	40.7									
9	250 32.6	290 58.6	21.9	184 35.0	27.8	246 59.3	12.1	283 45.5	40.6									
10	265 35.1	305 57.9	21.0	199 37.3	27.8	262 01.4	12.3	298 47.7	40.5									
11	280 37.5	320 57.3	-17 20.0	214 39.7	+24 27.8	277 03.5	+0 12.4	313 49.9	-14 40.4									
12	295 40.0	335 56.6	-17 19.1	229 42.0	+24 27.8	292 05.6	+0 12.6	328 52.1	-14 40.3									
13	310 42.4	350 56.0	18.2	244 44.4	27.8	307 07.7	12.8	343 54.3	40.2									
14	325 44.9	5 55.3	17.2	259 46.7	27.9	322 09.8	12.9	358 56.5	40.1									
15	340 47.4	20 54.6	16.3	274 49.0	27.9	337 11.9	13.1	13 58.7	40.0									
16	355 49.8	35 54.0	15.4	289 51.4	27.9	352 14.0	13.3	29 00.9	40.0									
17	10 52.3	50 53.3	-17 14.4	304 53.7	+24 27.9	7 16.1	+0 13.4	44 03.1	-14 39.9									
18	25 54.8	65 52.7	-17 13.5	319 56.0	+24 27.9	22 18.2	+0 13.6	59 05.3	-14 39.8									
19	40 57.2	80 52.0	12.5	334 58.4	27.9	37 20.3	13.8	74 07.4	39.7									
20	55 59.7	95 51.4	11.6	350 00.7	27.9	52 22.4	13.9	89 09.6	39.6									
21	71 02.2	110 50.7	10.6	5 03.0	27.9	67 24.5	14.1	104 11.8	39.5									
22	86 04.6	125 50.1	09.7	20 05.3	27.9	82 26.6	14.3	119 14.0	39.4									
23	101 07.1	140 49.4	08.8	35 07.7	27.9	97 28.7	14.4	134 16.2	39.3									
24	116 09.5	155 48.8	-17 07.8	50 10.0	+24 27.9	112 30.8	+0 14.6	149 18.4	-14 39.2									
Dif	—	-7	+9	+23	0	+21	+2	+22	+									

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16 ^h 3 PMG: 12 ^h 10.0 ^m				Edad: 24.6 ^d SD: 15 ^h 9 PMG: 7 ^h 40 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	177	33.0	-20	50.2	248	57.7	96	-18	32.4	120	60 N	6 59	7 53	8 45	4 04	108	11 03	9	
1	192	32.8		49.7	263	26.3	95		44.4	120	58	53	43	31	3 50	100	18	16	
2	207	32.6		49.2	277	54.8	93	-18	56.4	118	56	48	35	19	38	95	31	21	
3	222	32.4		48.8	292	23.1	92	-19	08.2	118	54	43	27	09	27	91	42	25	
4	237	32.2		48.3	306	51.3	91		20.0	118	52	39	21	8 00	18	88	11 52	28	
5	252	32.0	-20	47.8	321	19.4	89	-19	31.7	117	50	6 34	7 15	7 51	3 10	84	12 01	31	
6	267	31.7	-20	47.3	335	47.3	88	-19	43.3	116	45	6 25	7 01	7 34	2 52	79	12 20	36	
7	282	31.5		46.8	350	15.1	87	-19	54.8	115	40	16	6 50	19	38	74	35	41	
8	297	31.3		46.3	4	42.8	85	-20	06.2	114	35	09	40	7 07	26	71	12 48	44	
9	312	31.1		45.8	19	10.3	84		17.5	113	30	6 01	31	6 56	2 15	68	13 00	47	
10	327	30.9		45.3	33	37.7	83		28.7	112	20	5 47	6 14	38	1 58	63	20	51	
11	342	30.7	-20	44.8	48	05.0	81	-20	39.8	111	10 N	5 33	5 59	6 22	1 42	59	13 37	55	
12	357	30.5	-20	44.3	62	32.1	80	-20	50.8	110	0	5 18	5 44	6 06	1 28	55	13 53	58	
13	12	30.3		43.8	76	59.1	79	-21	01.7	109	10 S	5 02	28	5 51	1 14	51	14 10	61	
14	27	30.1		43.4	91	26.0	77		12.5	108	20	4 42	5 10	34	0 58	48	27	65	
15	42	29.9		42.9	105	52.7	76		23.2	107	30	16	4 48	15	41	43	47	70	
16	57	29.7		42.4	120	19.3	74		33.7	105	35	4 00	35	5 04	31	40	14 59	72	
17	72	29.5	-20	41.9	134	45.7	73	-21	44.2	105	40	3 40	4 19	4 51	0 20	36	15 13	75	
18	87	29.3	-20	41.4	149	12.0	72	-21	54.5	103	45	3 14	4 00	4 35	0 07	32	15 29	79	
19	102	29.1		40.9	163	38.2	70	-22	04.8	101	50	2 38	3 35	16	** ** *	**	49	85	
20	117	28.9		40.4	178	04.2	69		14.9	99	52	2 18	22	4 07	** ** *	**	15	59	
21	132	28.6		39.9	192	30.1	67		24.8	99	54	1 52	3 08	3 57	23 56	32	16 10	90	
22	147	28.4		39.4	206	55.8	66		34.7	97	56	1 13	2 51	45	43	29	22	95	
23	162	28.2		38.9	221	21.4	65		44.4	96	58	** ** *	30	31	28	23	36	100	
24	177	28.0	-20	38.4	235	46.9		-22	54.0		60 S	** ** *	2 02	3 16	23 10	16	16 53	108	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 16 ^h 12.7 ^m		Mag: -3.9 PMG: 13 ^h 37 ^m		Mag: -0.7 PMG: 20 ^h 36 ^m		Mag: -2.3 PMG: 16 ^h 28 ^m		Mag: +0.8 PMG: 14 ^h 01 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	116	09.5	155	48.8	-17	07.8	50	10.0	+24	27.9
1	131	12.0	170	48.1		06.9	65	12.3		27.9
2	146	14.5	185	47.5		05.9	80	14.6		28.0
3	161	16.9	200	46.9		05.0	95	17.0		28.0
4	176	19.4	215	46.2		04.0	110	19.3		28.0
5	191	21.9	230	45.6	-17	03.1	125	21.6	+24	28.0
6	206	24.3	245	44.9	-17	02.1	140	23.9	+24	28.0
7	221	26.8	260	44.3		01.2	155	26.2		28.0
8	236	29.3	275	43.6	-17	00.2	170	28.5		28.0
9	251	31.7	290	43.0	-16	59.3	185	30.8		28.0
10	266	34.2	305	42.3		58.3	200	33.1		28.0
11	281	36.7	320	41.7	-16	57.3	215	35.5	+24	28.0
12	296	39.1	335	41.1	-16	56.4	230	37.8	+24	28.1
13	311	41.6	350	40.4		55.4	245	40.1		28.1
14	326	44.0	5	39.8		54.5	260	42.4		28.1
15	341	46.5	20	39.1		53.5	275	44.7		28.1
16	356	49.0	35	38.5		52.6	290	47.0		28.1
17	11	51.4	50	37.9	-16	51.6	305	49.3	+24	28.1
18	26	53.9	65	37.2	-16	50.6	320	51.6	+24	28.1
19	41	56.4	80	36.6		49.7	335	53.9		28.1
20	56	58.8	95	36.0		48.7	350	56.2		28.2
21	72	01.3	110	35.3		47.7	5	58.5		28.2
22	87	03.8	125	34.7		46.8	21	00.8		28.2
23	102	06.2	140	34.0		45.8	36	03.0		28.2
24	117	08.7	155	33.4	-16	44.8	51	05.3	+24	28.2
Dif	—		-6	+10			+23	0		+21
										+2
										+22
										+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 10.3 ^m			Edad: 25.6 ^d SD: 16'1 PMG: 8 ^h 37 ^m PHE { 4 ^h : 59'5 12 ^h : 59'8 20 ^h : 60'0 Rº: 62 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	177	28.0	-20	235	46.9	-22	54.0	95	60 N	15	38	16	30	17	23	5	52	107
1	192	27.8		250	12.2	-23	03.5	93	58	15	52		39		29	30	99	
2	207	27.6		264	37.4		12.8	92	56	16	03		47		34	5	13	
3	222	27.4		279	02.5		22.0	91	54		13		16	55	39	4	58	
4	237	27.2		293	27.4		31.1	91	52		23		17	01	43	46	85	
5	252	27.0	-20	307	52.2	-23	40.0	89	50	16	31	17	07	17	47	4	34	
6	267	26.8	-20	354	322	16.8	-23	48.8	88	45	16	48	17	20	17	57	4	11
7	282	26.6		348	336	41.3	-23	57.5	87	40	17	02		32	18	05	3	52
8	297	26.4		343	351	05.7	-24	06.0	85	35		14		42	13		37	73
9	312	26.2		338	5	29.9		14.3	83	30	25		17	50	20		23	71
10	327	26.0		333	19	54.0		22.5	82	20	43		18	06	33		3	01
11	342	25.8	-20	328	34	18.0	-24	30.6	81	10 N	17	59	18	21	18	47	2	41
12	357	25.6	-20	323	48	41.8	-24	38.5	79	0	18	14	18	36	19	02	2	23
13	12	25.4		318	63	05.5		46.2	77	10 S	29		18	52	18		2	05
14	27	25.2		313	77	29.1	-24	53.8	76	20	18	45	19	09	19	38	1	46
15	42	25.0		308	91	52.5	-25	01.2	74	30	19	04		31	20	03	24	51
16	57	24.8		303	106	15.8		08.5	73	35	16		19	44	19		1	11
17	72	24.6	-20	298	120	39.0	-25	15.6	71	40	19	28	20	00	20	39	0	56
18	87	24.4	-20	292	135	02.1	-25	22.5	69	45	19	44	20	19	21	04	0	39
19	102	24.2		287	149	25.0		29.3	68	50	20	02		43	39		17	39
20	117	24.0		282	163	47.8		35.9	66	52	11		20	55	21	58	0	07
21	132	23.8		277	178	10.5		42.4	65	54	21		21	09	22	22	**	**
22	147	23.6		272	192	33.0		48.6	62	56	32		26	22	57	**	**	**
23	162	23.4		267	206	55.5	-25	54.7	61	58	20	46	21	46	**	**	23	51
24	177	23.2	-20	261	221	17.8	-26	00.6	59	60 S	21	01	22	12	**	**	23	26

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 16 ^h 08.8 ^m		Mag: -3.9 PMG: 13 ^h 38 ^m		Mag: -0.7 PMG: 20 ^h 33 ^m		Mag: -2.3 PMG: 16 ^h 24 ^m		Mag: +0.8 PMG: 13 ^h 57 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	117	08.7	155	33.4	-16	44.8	51	05.3	+24	28.2	113	21.3	+0	18.6	150	11.0	-14	37.0
1	132	11.2	170	32.8		43.9	66	07.6		28.2	128	23.3		18.8	165	13.2		36.9
2	147	13.6	185	32.1		42.9	81	09.9		28.2	143	25.4		18.9	180	15.4		36.8
3	162	16.1	200	31.5		41.9	96	12.2		28.2	158	27.5		19.1	195	17.6		36.7
4	177	18.5	215	30.9		41.0	111	14.5		28.3	173	29.6		19.3	210	19.7		36.6
5	192	21.0	230	30.2	-16	40.0	126	16.8	+24	28.3	188	31.7	+0	19.4	225	21.9	-14	36.5
6	207	23.5	245	29.6	-16	39.0	141	19.0	+24	28.3	203	33.8	+0	19.6	240	24.1	-14	36.4
7	222	25.9	260	29.0		38.1	156	21.3		28.3	218	35.9		19.8	255	26.3		36.3
8	237	28.4	275	28.4		37.1	171	23.6		28.3	233	38.0		20.0	270	28.5		36.2
9	252	30.9	290	27.7		36.1	186	25.9		28.3	248	40.1		20.1	285	30.7		36.1
10	267	33.3	305	27.1		35.1	201	28.2		28.3	263	42.2		20.3	300	32.9		36.0
11	282	35.8	320	26.5	-16	34.2	216	30.4	+24	28.4	278	44.3	+0	20.5	315	35.1	-14	35.9
12	297	38.3	335	25.8	-16	33.2	231	32.7	+24	28.4	293	46.4	+0	20.6	330	37.3	-14	35.9
13	312	40.7	350	25.2		32.2	246	35.0		28.4	308	48.5		20.8	345	39.5		35.8
14	327	43.2	5	24.6		31.2	261	37.2		28.4	323	50.6		21.0	0	41.6		35.7
15	342	45.7	20	24.0		30.3	276	39.5		28.4	338	52.7		21.1	15	43.8		35.6
16	357	48.1	35	23.3		29.3	291	41.8		28.4	353	54.8		21.3	30	46.0		35.5
17	12	50.6	50	22.7	-16	28.3	306	44.1	+24	28.4	8	56.9	+0	21.5	45	48.2	-14	35.4
18	27	53.0	65	22.1	-16	27.3	321	46.3	+24	28.5	23	59.0	+0	21.6	60	50.4	-14	35.3
19	42	55.5	80	21.5		26.3	336	48.6		28.5	39	01.1		21.8	75	52.6		35.2
20	57	58.0	95	20.8		25.4	351	50.8		28.5	54	03.2		22.0	90	54.8		35.1
21	73	00.4	110	20.2		24.4	6	53.1		28.5	69	05.3		22.2	105	57.0		35.0
22	88	02.9	125	19.6		23.4	21	55.4		28.5	84	07.3		22.3	120	59.2		34.9
23	103	05.4	140	19.0		22.4	36	57.6		28.5	99	09.4		22.5	136	01.4		34.8
24	118	07.8	155	18.4	-16	21.4	51	59.9	+24	28.6	114	11.5	+0	22.7	151	03.5	-14	34.7
Dif	—		-6		+10		+23		0		+21		+2		+22		+	

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: 26.6 ^d SD: 16'4 PMG: 9 ^h 39 ^m											
			PHE { 4 ^h : 60'3 12 ^h : 60'6 20 ^h : 60'8 Rº: 67 ^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	177 23.2	-20 26.1	221 17.8		-26 00.6		60 N	6 57	7 50	8 41	7 39 82		11 35 57	
1	192 23.0		235 40.0		06.3		58	51	41	28	7 09 78		12 05 61	
2	207 22.9		250 02.1		11.9		56	46	33	17	6 46 76		29 62	
3	222 22.7		264 24.1		17.2		54	41	26	8 06	27 75		12 48 63	
4	237 22.5		278 46.0		22.4		52	37	19	7 58	6 11 74		13 04 64	
5	252 22.3	-20 23.5	293 07.8		-26 27.4		50	6 33	7 13	7 49	5 57 74		13 18 64	
6	267 22.1	-20 23.0	307 29.4		-26 32.2		45	6 24	7 00	7 32	5 30 71		13 46 65	
7	282 21.9		321 51.0		36.9		40	16	6 49	18	5 08 70		14 08 66	
8	297 21.7		336 12.5		41.3		35	08	39	7 06	4 50 69		27 66	
9	312 21.5		350 33.8		45.5		30	6 01	30	6 56	34 69		14 43 66	
10	327 21.3		4 55.1		49.6		20	5 47	14	38	4 08 68		15 10 66	
11	342 21.1	-20 20.4	19 16.3		-26 53.4		10 N	5 34	6 00	6 22	3 45 67		15 33 67	
12	357 20.9	-20 19.9	33 37.4		-26 57.1		0	5 19	5 45	6 07	3 24 66		15 55 67	
13	12 20.7		47 58.4		-27 00.5		10 S	5 03	29	5 52	3 03 65		16 17 66	
14	27 20.5		62 19.3		03.8		20	4 43	5 12	36	2 41 63		16 40 67	
15	42 20.3		76 40.1		06.8		30	18	4 50	17	15 62		17 07 67	
16	57 20.1		91 00.9		09.7		35	4 02	37	5 06	2 00 61		23 67	
17	72 20.0	-20 17.2	105 21.5		-27 12.3		40	3 43	4 22	4 53	1 43 59		17 42 66	
18	87 19.8	-20 16.7	119 42.1		-27 14.8		45	3 17	4 03	4 38	1 22 57		18 04 66	
19	102 19.6		134 02.7		17.0		50	2 42	3 38	19	0 56 54		33 65	
20	117 19.4		148 23.1		19.0		52	2 23	26	10	43 53		18 47 65	
21	132 19.2		162 43.5		20.9		54	1 59	3 12	4 00	28 52		19 03 65	
22	147 19.0		177 03.9		22.5		56	1 24	2 56	3 49	0 12 49		22 64	
23	162 18.8		191 24.2		23.9		58	** **	36	36	** ** *		19 46 63	
24	177 18.6	-20 13.5	205 44.4		-27 25.1		60 S	** **	2 10	3 21	** ** *		20 18 60	
UT	ARIES PMG 16 ^h 04.8 ^m		VENUS Mag: -3.9 PMG: 13 ^h 39 ^m		MARTE Mag: -0.6 PMG: 20 ^h 29 ^m		JÚPITER Mag: -2.3 PMG: 16 ^h 21 ^m		SATURNO Mag: +0.8 PMG: 13 ^h 54 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	° /	° /	° /		° /		° /		° /					
0	118 07.8	155 18.4	-16 21.4	51 59.9	+24 28.6	114 11.5	+0 22.7	151 03.5	-14 34.7					
1	133 10.3	170 17.7	20.4	67 02.1	28.6	129 13.6	22.8	166 05.7	34.6					
2	148 12.8	185 17.1	19.5	82 04.4	28.6	144 15.7	23.0	181 07.9	34.5					
3	163 15.2	200 16.5	18.5	97 06.6	28.6	159 17.8	23.2	196 10.1	34.4					
4	178 17.7	215 15.9	17.5	112 08.9	28.6	174 19.9	23.3	211 12.3	34.4					
5	193 20.2	230 15.3	-16 16.5	127 11.1	+24 28.6	189 22.0	+0 23.5	226 14.5	-14 34.3					
6	208 22.6	245 14.6	-16 15.5	142 13.4	+24 28.7	204 24.1	+0 23.7	241 16.7	-14 34.2					
7	223 25.1	260 14.0	14.5	157 15.6	28.7	219 26.2	23.9	256 18.9	34.1					
8	238 27.5	275 13.4	13.5	172 17.9	28.7	234 28.3	24.0	271 21.0	34.0					
9	253 30.0	290 12.8	12.5	187 20.1	28.7	249 30.4	24.2	286 23.2	33.9					
10	268 32.5	305 12.2	11.5	202 22.4	28.7	264 32.4	24.4	301 25.4	33.8					
11	283 34.9	320 11.6	-16 10.5	217 24.6	+24 28.8	279 34.5	+0 24.5	316 27.6	-14 33.7					
12	298 37.4	335 10.9	-16 09.5	232 26.9	+24 28.8	294 36.6	+0 24.7	331 29.8	-14 33.6					
13	313 39.9	350 10.3	08.6	247 29.1	28.8	309 38.7	24.9	346 32.0	33.5					
14	328 42.3	5 09.7	07.6	262 31.3	28.8	324 40.8	25.1	1 34.2	33.4					
15	343 44.8	20 09.1	06.6	277 33.6	28.8	339 42.9	25.2	16 36.4	33.3					
16	358 47.3	35 08.5	05.6	292 35.8	28.8	354 45.0	25.4	31 38.6	33.2					
17	13 49.7	50 07.9	-16 04.6	307 38.1	+24 28.9	9 47.1	+0 25.6	46 40.7	-14 33.1					
18	28 52.2	65 07.3	-16 03.6	322 40.3	+24 28.9	24 49.2	+0 25.7	61 42.9	-14 33.0					
19	43 54.7	80 06.7	02.6	337 42.5	28.9	39 51.3	25.9	76 45.1	32.9					
20	58 57.1	95 06.1	01.6	352 44.7	28.9	54 53.3	26.1	91 47.3	32.8					
21	73 59.6	110 05.4	-16 00.6	7 47.0	28.9	69 55.4	26.3	106 49.5	32.8					
22	89 02.0	125 04.8	-15 59.6	22 49.2	29.0	84 57.5	26.4	121 51.7	32.7					
23	104 04.5	140 04.2	58.6	37 51.4	29.0	99 59.6	26.6	136 53.9	32.6					
24	119 07.0	155 03.6	-15 57.6	52 53.7	+24 29.0	115 01.7	+0 26.8	151 56.1	-14 32.5					
Dif	—	-6	+10	+22	0	+21	+2	+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: 27.6 ^d SD: 16/6 PMG: 10 ^h 46 ^m PHE { 4 ^h : 61/0 12 ^h : 61/2 20 ^h : 61/3 R°: 67 ^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	18.6	-20	13.5	205	44.4	12	-27	25.1	10	60 N	15 43	16 34	17 27	9 01	39	12 32	101			
1	192	18.4		13.0	220	04.6	11		26.1	7	58	15 56	43	33	8 27	47	13 06	93			
2	207	18.2		12.5	234	24.7	11		26.8	6	56	16 07	51	37	8 02	51	31	89			
3	222	18.1		11.9	248	44.8	10		27.4	3	54	17	16 58	42	7 42	53	13 51	86			
4	237	17.9		11.4	263	04.8	10		27.7	1	52	26	17 04	46	25	56	14 08	83			
5	252	17.7	-20	10.9	277	24.8	10	-27	27.8	1	50	16 34	17 10	17 50	7 11	57	14 22	82			
6	267	17.5	-20	10.3	291	44.8	10	-27	27.7	1	45	16 51	17 23	17 59	6 41	60	14 51	79			
7	282	17.3		09.8	306	04.7	9		27.4	3	40	17 04	34	18 07	6 18	61	15 14	77			
8	297	17.1		09.2	320	24.6	9		26.9	5	35	16	43	14	5 59	63	33	75			
9	312	16.9		08.7	334	44.5	9		26.2	7	30	26	17 52	21	43	63	15 49	73			
10	327	16.8		08.2	349	04.4	9		25.2	10	20	17 44	18 08	35	5 16	64	16 16	71			
11	342	16.6	-20	07.6	3	24.3	9	-27	24.1	11	10 N	18 00	18 22	18 48	4 52	66	16 40	68			
12	357	16.4	-20	07.1	17	44.1	8	-27	22.7	14	0	18 15	18 37	19 02	4 30	67	17 02	66			
13	12	16.2		06.5	32	03.9	8		21.1	16	10 S	29	18 52	18	4 08	68	23	65			
14	27	16.0		06.0	46	23.8	9		19.2	19	20	18 45	19 09	19 37	3 44	69	17 47	62			
15	42	15.8		05.5	60	43.6	8		17.2	20	30	19 04	30	20 02	17	70	18 14	59			
16	57	15.6		04.9	75	03.4	8		14.9	23	35	15	43	18	3 01	71	30	57			
17	72	15.5	-20	04.4	89	23.2	8	-27	12.5	24	40	19 27	19 58	20 37	2 42	72	18 48	55			
18	87	15.3	-20	03.8	103	43.1	9	-27	09.8	27	45	19 42	20 17	21 02	2 19	73	19 10	53			
19	102	15.1		03.3	118	02.9	8		06.9	29	50	20 00	41	36	1 50	74	38	48			
20	117	14.9		02.7	132	22.8	9		03.7	32	52	09	20 52	21 54	36	75	19 52	46			
21	132	14.7		02.2	146	42.7	9	-27	00.4	33	54	19	21 06	22 17	20	75	20 08	43			
22	147	14.6		01.6	161	02.6	9	-26	56.8	36	56	30	22	22 49	1 01	76	26	40			
23	162	14.4		01.1	175	22.5	9		53.1	37	58	42	21 41	** **	0 37	78	20 49	34			
24	177	14.2	-20	00.5	189	42.5	10	-26	49.1	40	60 S	20 57	22 06	** **	0 05	81	21 18	27			

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 16 ^h 00.9 ^m			Mag: -3.9 PMG: 13 ^h 40 ^m			Mag: -0.6 PMG: 20 ^h 25 ^m			Mag: -2.3 PMG: 16 ^h 18 ^m			Mag: +0.8 PMG: 13 ^h 50 ^m											
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'										
0	119	07.0	155	03.6	-15	57.6	52	53.7	+24	29.0	115	01.7	+0	26.8	151	56.1	-14	32.5						
1	134	09.4	170	03.0		56.6	67	55.9		29.0	130	03.8		26.9	166	58.2		32.4						
2	149	11.9	185	02.4		55.5	82	58.1		29.0	145	05.9		27.1	182	00.4		32.3						
3	164	14.4	200	01.8		54.5	98	00.3		29.1	160	08.0		27.3	197	02.6		32.2						
4	179	16.8	215	01.2		53.5	113	02.5		29.1	175	10.0		27.5	212	04.8		32.1						
5	194	19.3	230	00.6	-15	52.5	128	04.8	+24	29.1	190	12.1	+0	27.6	227	07.0	-14	32.0						
6	209	21.8	245	00.0	-15	51.5	143	07.0	+24	29.1	205	14.2	+0	27.8	242	09.2	-14	31.9						
7	224	24.2	259	59.4		50.5	158	09.2		29.1	220	16.3		28.0	257	11.4		31.8						
8	239	26.7	274	58.8		49.5	173	11.4		29.2	235	18.4		28.2	272	13.6		31.7						
9	254	29.2	289	58.2		48.5	188	13.6		29.2	250	20.5		28.3	287	15.7		31.6						
10	269	31.6	304	57.6		47.5	203	15.8		29.2	265	22.6		28.5	302	17.9		31.5						
11	284	34.1	319	57.0	-15	46.5	218	18.0	+24	29.2	280	24.7	+0	28.7	317	20.1	-14	31.4						
12	299	36.5	334	56.4	-15	45.5	233	20.3	+24	29.3	295	26.7	+0	28.8	332	22.3	-14	31.3						
13	314	39.0	349	55.8		44.4	248	22.5		29.3	310	28.8		29.0	347	24.5		31.2						
14	329	41.5	4	55.2		43.4	263	24.7		29.3	325	30.9		29.2	2	26.7		31.1						
15	344	43.9	19	54.6		42.4	278	26.9		29.3	340	33.0		29.4	17	28.9		31.0						
16	359	46.4	34	54.0		41.4	293	29.1		29.3	355	35.1		29.5	32	31.1		31.0						
17	14	48.9	49	53.4	-15	40.4	308	31.3	+24	29.4	10	37.2	+0	29.7	47	33.2	-14	30.9						
18	29	51.3	64	52.8	-15	39.4	323	33.5	+24	29.4	25	39.2	+0	29.9	62	35.4	-14	30.8						
19	44	53.8	79	52.2		38.3	338	35.7		29.4	40	41.3		30.1	77	37.6		30.7						
20	59	56.3	94	51.6		37.3	353	37.9		29.4	55	43.4		30.2	92	39.8		30.6						
21	74	58.7	109	51.0		36.3	8	40.1		29.5	70	45.5		30.4	107	42.0		30.5						
22	90	01.2	124	50.4		35.3	23	42.3		29.5	85	47.6		30.6	122	44.2		30.4						
23	105	03.6	139	49.8		34.3	38	44.5		29.5	100	49.7		30.7	137	46.4		30.3						
24	120	06.1	154	49.2	-15	33.2	53	46.7	+24	29.5	115	51.7	+0	30.9	152	48.5	-14	30.2						
Dif	—			-6			+10			+22			+21			+2			+22			+		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG:12 ^h 11.2 ^m			Edad: 28.6 ^d SD: 16'7 PMG: 11 ^h 53 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	177	14.2	-20	00.5	189	42.5	9	-26	49.1	42	60 N	6 54	7 47	8 38	9 40	16	14 13 118
1	192	14.0	-20	00.0	204	02.4	11		44.9	44	58	49	38	25	9 14	24	14 39 109
2	207	13.8	-19	59.4	218	22.5	10		40.5	47	56	44	30	14	8 53	30	15 00 103
3	222	13.7		58.9	232	42.5	10		35.8	48	54	39	23	8 04	35	35	17 98
4	237	13.5		58.3	247	02.6	11		31.0	50	52	35	17	7 55	21	37	31 95
5	252	13.3	-19	57.8	261	22.8	12	-26	26.0	50	50	6 31	7 11	7 48	8 08	40	15 44 92
6	267	13.1	-19	57.2	275	43.0	12	-26	20.7	53	45	6 23	6 59	7 31	7 41	45	16 10 86
7	282	12.9		56.7	290	03.3	13		15.2	55	40	15	48	17	19	50	31 81
8	297	12.8		56.1	304	23.6	13		09.6	56	35	08	38	7 06	7 02	52	16 48 78
9	312	12.6		55.6	318	43.9	13	-26	03.7	59	30	6 01	30	6 55	6 46	55	17 02 76
10	327	12.4		55.0	333	04.4	15	-25	57.6	61	20	5 47	14	38	6 20	59	27 71
11	342	12.2	-19	54.5	347	24.9	15	-25	51.3	63	10 N	5 34	6 00	6 22	5 58	62	17 48 67
12	357	12.0	-19	53.9	1	45.4	15	-25	44.8	65	0	5 20	5 46	6 08	5 37	65	18 08 63
13	12	11.9		53.3	16	06.1	17		38.1	67	10 S	5 04	30	5 53	5 16	68	28 59
14	27	11.7		52.8	30	26.8	17		31.2	69	20	4 45	5 13	37	4 53	71	18 49 55
15	42	11.5		52.2	44	47.5	17		24.1	71	30	20	4 52	19	27	75	19 13 50
16	57	11.3		51.7	59	08.4	19		16.9	72	35	4 05	39	5 08	4 12	77	27 48
17	72	11.2	-19	51.1	73	29.3	19	-25	09.4	75	40	3 45	4 24	4 55	3 54	79	19 43 44
18	87	11.0	-19	50.5	87	50.3	20	-25	01.7	77	45	3 21	4 06	4 40	3 32	83	20 03 39
19	102	10.8		50.0	102	11.4	21	-24	53.8	80	50	2 47	3 42	22	3 04	88	26 35
20	117	10.6		49.4	116	32.6	22		45.8	80	52	29	30	14	2 51	90	38 31
21	132	10.5		48.9	130	53.9	23		37.5	83	54	2 06	17	4 04	35	94	20 51 28
22	147	10.3		48.3	145	15.3	24		29.1	84	56	1 34	3 01	3 53	2 17	98	21 06 23
23	162	10.1		47.7	159	36.7	24		20.5	86	58	** **	2 42	40	1 55	103	23 19
24	177	09.9	-19	47.2	173	58.3	26	-24	11.7	88	60 S	** **	2 17	3 26	1 26	111	21 45 11

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 15 ^h 57.0 ^m		Mag: -3.9 PMG: 13 ^h 41 ^m		Mag: -0.6 PMG: 20 ^h 22 ^m		Mag: -2.3 PMG: 16 ^h 14 ^m		Mag: +0.8 PMG: 13 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	120	06.1	154	49.2	-15	33.2	53	46.7	+24	29.5	115	51.7	+0	30.9	152	48.5	-14	30.2
1	135	08.6	169	48.6		32.2	68	48.9		29.6	130	53.8		31.1	167	50.7		30.1
2	150	11.0	184	48.0		31.2	83	51.1		29.6	145	55.9		31.3	182	52.9		30.0
3	165	13.5	199	47.4		30.2	98	53.2		29.6	160	58.0		31.4	197	55.1		29.9
4	180	16.0	214	46.8		29.2	113	55.4		29.6	176	00.1		31.6	212	57.3		29.8
5	195	18.4	229	46.2	-15	28.1	128	57.6	+24	29.6	191	02.2	+0	31.8	227	59.5	-14	29.7
6	210	20.9	244	45.7	-15	27.1	143	59.8	+24	29.7	206	04.2	+0	32.0	243	01.7	-14	29.6
7	225	23.4	259	45.1		26.1	159	02.0		29.7	221	06.3		32.1	258	03.9		29.5
8	240	25.8	274	44.5		25.1	174	04.2		29.7	236	08.4		32.3	273	06.0		29.4
9	255	28.3	289	43.9		24.0	189	06.4		29.7	251	10.5		32.5	288	08.2		29.3
10	270	30.8	304	43.3		23.0	204	08.5		29.8	266	12.6		32.7	303	10.4		29.2
11	285	33.2	319	42.7	-15	22.0	219	10.7	+24	29.8	281	14.6	+0	32.8	318	12.6	-14	29.2
12	300	35.7	334	42.1	-15	20.9	234	12.9	+24	29.8	296	16.7	+0	33.0	333	14.8	-14	29.1
13	315	38.1	349	41.5		19.9	249	15.1		29.8	311	18.8		33.2	348	17.0		29.0
14	330	40.6	4	41.0		18.9	264	17.2		29.9	326	20.9		33.4	3	19.2		28.9
15	345	43.1	19	40.4		17.8	279	19.4		29.9	341	23.0		33.5	18	21.3		28.8
16	0	45.5	34	39.8		16.8	294	21.6		29.9	356	25.1		33.7	33	23.5		28.7
17	15	48.0	49	39.2	-15	15.8	309	23.8	+24	30.0	11	27.1	+0	33.9	48	25.7	-14	28.6
18	30	50.5	64	38.6	-15	14.7	324	25.9	+24	30.0	26	29.2	+0	34.1	63	27.9	-14	28.5
19	45	52.9	79	38.0		13.7	339	28.1		30.0	41	31.3		34.2	78	30.1		28.4
20	60	55.4	94	37.4		12.7	354	30.3		30.0	56	33.4		34.4	93	32.3		28.3
21	75	57.9	109	36.9		11.6	9	32.4		30.1	71	35.4		34.6	108	34.4		28.2
22	91	00.3	124	36.3		10.6	24	34.6		30.1	86	37.5		34.8	123	36.6		28.1
23	106	02.8	139	35.7		09.6	39	36.8		30.1	101	39.6		34.9	138	38.8		28.0
24	121	05.3	154	35.1	-15	08.5	54	38.9	+24	30.1	116	41.7	+0	35.1	153	41.0	-14	27.9
Dif	—		-6		+10		+22		0		+21		+2		+22		+	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/3 PMG:12 ^h 11.5 ^m		Edad: 29.6 ^d SD: 16/7 PMG: 12 ^h 57 ^m						Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° /	° /	° /		° /		°	h m	h m	h m	h m	m	h m	m	
0	177 09.9	-19 47.2	173 58.3	27	-24 11.7	90	60 N	15 48	16 38	17 31	9 56	6	16 11 116		
1	192 09.8	46.6	188 20.0	27	-24 02.7	92	58	16 00	47	36	38 13	28 109			
2	207 09.6	46.0	202 41.7	29	-23 53.5	93	56	11	16 54	41	23 18	43 103			
3	222 09.4	45.5	217 03.6	29	44.2	93	54	21	17 01	45	9 10 22	16 55 99			
4	237 09.3	44.9	231 25.5	29	34.7	95	52	29	07	49	8 58 26	17 06 96			
5	252 09.1	-19 44.3	245 47.6	31	-23 25.0	97	50	16 37	17 13	17 53	8 48 28	17 16 92			
6	267 08.9	-19 43.8	260 09.8	32	-23 15.1	99	45	16 53	17 25	18 01	8 26 35	17 36 86			
7	282 08.7	43.2	274 32.1	33	-23 05.1	100	40	17 07	36	09	8 09 39	17 52 81			
8	297 08.6	42.6	288 54.5	34	-22 54.9	102	35	18	45	16	7 54 43	18 06 77			
9	312 08.4	42.1	303 17.0	35	44.5	104	30	28	17 54	23	41 46	18 73			
10	327 08.2	41.5	317 39.6	36	34.0	105	20	17 46	18 09	36	19 52	38 67			
11	342 08.1	-19 40.9	332 02.3	37	-22 23.3	107	10 N	18 01	18 23	18 49	7 00 56	18 55 63			
12	357 07.9	-19 40.3	346 25.1	38	-22 12.5	108	0	18 15	18 37	19 03	6 42 60	19 11 58			
13	12 07.7	39.8	0 48.1	40	-22 01.4	111	10 S	30	18 52	18	24 64	27 53			
14	27 07.6	39.2	15 11.2	41	-21 50.3	111	20	18 45	19 09	19 37	6 04 70	19 44 48			
15	42 07.4	38.6	29 34.4	42	39.0	113	30	19 03	30	20 01	5 42 74	20 03 43			
16	57 07.2	38.0	43 57.7	43	27.5	115	35	14	42	17	29 78	15 39			
17	72 07.1	-19 37.5	58 21.1	44	-21 15.9	116	40	19 26	19 57	20 35	5 13 82	20 27 36			
18	87 06.9	-19 36.9	72 44.6	45	-21 04.2	117	45	19 40	20 15	20 59	4 55 86	20 42 31			
19	102 06.7	36.3	87 08.3	47	-20 52.3	119	50	19 58	38	21 32	32 93	21 01 24			
20	117 06.6	35.7	101 32.1	48	40.3	120	52	20 06	20 49	21 49	21 96	09 22			
21	132 06.4	35.2	115 56.0	49	28.1	122	54	16	21 02	22 11	4 09 99	19 18			
22	147 06.2	34.6	130 20.0	50	15.8	123	56	26	18	22 40	3 55 103	29 15			
23	162 06.1	34.0	144 44.2	52	-20 03.3	125	58	39	36	23 32	38 109	42 10			
24	177 05.9	-19 33.4	159 08.5	53	-19 50.8	125	60 S	20 53	21 59	** **	3 17 117	21 56 5			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 53.0 ^m		Mag: -3.9 PMG: 13 ^h 42 ^m		Mag: -0.5 PMG: 20 ^h 18 ^m		Mag: -2.3 PMG: 16 ^h 11 ^m		Mag: +0.8 PMG: 13 ^h 43 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	121 05.3	154 35.1	-15 08.5	54 38.9	+24 30.1	116 41.7	+0 35.1	153 41.0	-14 27.9	
1	136 07.7	169 34.5	07.5	69 41.1	30.2	131 43.8	35.3	168 43.2	27.8	
2	151 10.2	184 34.0	06.4	84 43.2	30.2	146 45.8	35.5	183 45.4	27.7	
3	166 12.6	199 33.4	05.4	99 45.4	30.2	161 47.9	35.6	198 47.6	27.6	
4	181 15.1	214 32.8	04.4	114 47.6	30.3	176 50.0	35.8	213 49.7	27.5	
5	196 17.6	229 32.2	-15 03.3	129 49.7	+24 30.3	191 52.1	+0 36.0	228 51.9	-14 27.4	
6	211 20.0	244 31.6	-15 02.3	144 51.9	+24 30.3	206 54.1	+0 36.2	243 54.1	-14 27.3	
7	226 22.5	259 31.1	01.2	159 54.0	30.3	221 56.2	36.4	258 56.3	27.2	
8	241 25.0	274 30.5	-15 00.2	174 56.2	30.4	236 58.3	36.5	273 58.5	27.2	
9	256 27.4	289 29.9	-14 59.1	189 58.3	30.4	252 00.4	36.7	289 00.7	27.1	
10	271 29.9	304 29.3	58.1	205 00.5	30.4	267 02.5	36.9	304 02.9	27.0	
11	286 32.4	319 28.8	-14 57.0	220 02.6	+24 30.4	282 04.5	+0 37.1	319 05.0	-14 26.9	
12	301 34.8	334 28.2	-14 56.0	235 04.8	+24 30.5	297 06.6	+0 37.2	334 07.2	-14 26.8	
13	316 37.3	349 27.6	55.0	250 06.9	30.5	312 08.7	37.4	349 09.4	26.7	
14	331 39.8	4 27.0	53.9	265 09.1	30.5	327 10.8	37.6	4 11.6	26.6	
15	346 42.2	19 26.5	52.9	280 11.2	30.6	342 12.8	37.8	19 13.8	26.5	
16	1 44.7	34 25.9	51.8	295 13.4	30.6	357 14.9	37.9	34 16.0	26.4	
17	16 47.1	49 25.3	-14 50.8	310 15.5	+24 30.6	12 17.0	+0 38.1	49 18.1	-14 26.3	
18	31 49.6	64 24.8	-14 49.7	325 17.6	+24 30.7	27 19.1	+0 38.3	64 20.3	-14 26.2	
19	46 52.1	79 24.2	48.6	340 19.8	30.7	42 21.1	38.5	79 22.5	26.1	
20	61 54.5	94 23.6	47.6	355 21.9	30.7	57 23.2	38.7	94 24.7	26.0	
21	76 57.0	109 23.0	46.5	10 24.0	30.7	72 25.3	38.8	109 26.9	25.9	
22	91 59.5	124 22.5	45.5	25 26.2	30.8	87 27.4	39.0	124 29.1	25.8	
23	107 01.9	139 21.9	44.4	40 28.3	30.8	102 29.4	39.2	139 31.3	25.7	
24	122 04.4	154 21.3	-14 43.4	55 30.4	+24 30.8	117 31.5	+0 39.4	154 33.4	-14 25.6	
Dif	—	-6	+10	+21	0	+21	+2	+22	+	

ALMANAQUE NÁUTICO PERSEUS

UT	SOL				● LUNA							Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna			Puesta de Luna				
	SD: 16/2 PMG:12 ^h 12.0 ^m				Edad: 2.1 ^d SD: 16/5 PMG: 14 ^h 50 ^m		PHE { 4 ^h : 60/6 12 ^h : 60/4 20 ^h : 60/1 Rº: 50 ^m																
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Civil		Náutico		Hora Rº		Hora Rº			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	
0	177	02.0	-19	19.3	145	27.6	83	-14	16.1	151	60 N	15	53	16	43	17	35	10	05	2	19	55	100
1	192	01.9		18.7	159	54.9	84	-14	01.0	151	58	16	05		51	40	9	58	6	20	00	96	
2	207	01.7		18.1	174	22.3	85	-13	45.9	151	56	15		16	58	44	52	9		05	92		
3	222	01.6		17.5	188	49.8	86		30.7	152	54	25		17	05	48	47	12		09	90		
4	237	01.4		16.9	203	17.4	87		15.4	153	52	33		11		52	42	15		13	86		
5	252	01.2	-19	16.3	217	45.1	86	-13	00.1	153	50	16	40	17	16	17	56	9	38	17	20	16	84
6	267	01.1	-19	15.7	232	13.0	89	-12	44.7	154	45	16	56	17	28	18	04	9	28	23	20	24	78
7	282	00.9		15.1	246	40.9	89		29.2	155	40	17	09		38	11		20	27		30	74	
8	297	00.8		14.5	261	08.9	90	-12	13.7	155	35	20			47	18		13	31		36	69	
9	312	00.6		13.9	275	37.1	92	-11	58.2	155	30	30		17	55	24		9	07	34	40	66	
10	327	00.5		13.3	290	05.3	92		42.5	157	20	17	47	18	10	37		8	56	40	48	60	
11	342	00.3	-19	12.7	304	33.7	94	-11	26.9	156	10 N	18	02	18	24	18	49	8	46	46	20	55	55
12	357	00.2	-19	12.1	319	02.1	94	-11	11.2	157	0	18	16	18	37	19	03	8	37	51	21	02	49
13	12	00.0		11.5	333	30.7	96	-10	55.4	158	10 S	30		18	52	18		28	56		08	45	
14	26	59.9		10.9	347	59.3	96		39.6	158	20	18	45	19	09	19	37	19	61		15	39	
15	41	59.7		10.3	2	28.1	98		23.7	159	30	19	02		29	20	00	08	67		23	33	
16	56	59.6		09.7	16	56.9	98	-10	07.9	158	35	13			41	15		8	01	71	27	30	
17	71	59.4	-19	09.1	31	25.9	100	-9	51.9	160	40	19	25	19	55	20	33	7	54	75	21	32	26
18	86	59.3	-19	08.5	45	54.9	100	-9	36.0	159	45	19	39	20	13	20	57	7	46	79	21	38	21
19	101	59.1		07.9	60	24.1	102		20.0	160	50	19	56		35	21	28	35	86		45	16	
20	116	59.0		07.3	74	53.3	102	-9	04.0	160	52	20	04		46	21	45	30	89		48	13	
21	131	58.8		06.7	89	22.6	103	-8	47.9	161	54	13		20	59	22	05	25	92		51	11	
22	146	58.7		06.1	103	52.0	104		31.8	161	56	23		21	13	22	32	19	95		55	8	
23	161	58.5		05.5	118	21.5	105	-8	15.7	161	58	35		31	23	15		12	99		21	59	5
24	176	58.4	-19	04.9	132	51.1	106	-7	59.6	161	60 S	20	49	21	53	** **		7	05	103	22	03	2

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 15 ^h 45.2 ^m		Mag: -3.9 PMG: 13 ^h 44 ^m			Mag: -0.5 PMG: 20 ^h 12 ^m			Mag: -2.3 PMG: 16 ^h 04 ^m			Mag: +0.8 PMG: 13 ^h 36 ^m						
	hG ♈		hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	123	03.5	154	07.9	-14	17.8	56	21.2	+24	31.6	118	21.2	+0	43.7	155	25.8	-14	23.3
1	138	06.0	169	07.3		16.8	71	23.3		31.6	133	23.3		43.8	170	28.0		23.2
2	153	08.5	184	06.8		15.7	86	25.4		31.7	148	25.4		44.0	185	30.2		23.1
3	168	10.9	199	06.2		14.6	101	27.5		31.7	163	27.4		44.2	200	32.4		23.0
4	183	13.4	214	05.7		13.5	116	29.6		31.7	178	29.5		44.4	215	34.6		22.9
5	198	15.9	229	05.1	-14	12.5	131	31.7	+24	31.8	193	31.6	+0	44.5	230	36.8	-14	22.8
6	213	18.3	244	04.6	-14	11.4	146	33.8	+24	31.8	208	33.6	+0	44.7	245	38.9	-14	22.7
7	228	20.8	259	04.0		10.3	161	35.9		31.8	223	35.7		44.9	260	41.1		22.6
8	243	23.2	274	03.5		09.2	176	38.0		31.9	238	37.8		45.1	275	43.3		22.5
9	258	25.7	289	02.9		08.2	191	40.1		31.9	253	39.8		45.3	290	45.5		22.4
10	273	28.2	304	02.4		07.1	206	42.2		32.0	268	41.9		45.4	305	47.7		22.4
11	288	30.6	319	01.8	-14	06.0	221	44.3	+24	32.0	283	44.0	+0	45.6	320	49.9	-14	22.3
12	303	33.1	334	01.3	-14	04.9	236	46.4	+24	32.0	298	46.0	+0	45.8	335	52.0	-14	22.2
13	318	35.6	349	00.7		03.8	251	48.4		32.1	313	48.1		46.0	350	54.2		22.1
14	333	38.0	4	00.2		02.8	266	50.5		32.1	328	50.2		46.2	5	56.4		22.0
15	348	40.5	18	59.6		01.7	281	52.6		32.1	343	52.2		46.4	20	58.6		21.9
16	3	43.0	33	59.1	-14	00.6	296	54.7		32.2	358	54.3		46.5	36	00.8		21.8
17	18	45.4	48	58.5	-13	59.5	311	56.8	+24	32.2	13	56.4	+0	46.7	51	02.9	-14	21.7
18	33	47.9	63	58.0	-13	58.4	326	58.9	+24	32.2	28	58.4	+0	46.9	66	05.1	-14	21.6
19	48	50.4	78	57.4		57.4	342	00.9		32.3	44	00.5		47.1	81	07.3		21.5
20	63	52.8	93	56.9		56.3	357	03.0		32.3	59	02.6		47.3	96	09.5		21.4
21	78	55.3	108	56.4		55.2	12	05.1		32.3	74	04.6		47.4	111	11.7		21.3
22	93	57.7	123	55.8		54.1	27	07.2		32.4	89	06.7		47.6	126	13.9		21.2
23	109	00.2	138	55.3		53.0	42	09.2		32.4	104	08.8		47.8	141	16.0		21.1
24	124	02.7	153	54.7	-13	51.9	57	11.3	+24	32.5	119	10.8	+0	48.0	156	18.2	-14	21.0
Dif	—		-5		+11		+21		0		+21		+2		+22		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16'2 PMG:12 ^h 12.2 ^m				Edad: 3.1 ^d SD: 16'3 PMG: 15 ^h 40 ^m PHE { 4 ^h : 59'8 12 ^h : 59'5 20 ^h : 59'2 R°: 47 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	58.4	-19	04.9	132	51.1			-7	59.6	162	60 N	6 48	7 40	8 30		10 07	1	21 35 96
1	191	58.2		04.3	147	20.7				43.4	162	58	44	32	18		04	4	36 92
2	206	58.1		03.6	161	50.5				27.2	162	56	39	25	8 08		10 01	8	37 89
3	221	57.9		03.0	176	20.3			-7	11.0	162	54	35	19	7 59		9 59	10	39 85
4	236	57.8		02.4	190	50.2			-6	54.8	162	52	31	13	50		57	13	39 83
5	251	57.6	-19	01.8	205	20.2			-6	38.6	162	50	6 28	7 07	7 43		9 55	15	21 40 80
6	266	57.5	-19	01.2	219	50.3			-6	22.3	163	45	6 20	6 56	7 27		9 51	20	21 42 75
7	281	57.3	-19	00.6	234	20.4			-6	06.0	163	40	13	45	15		47	25	44 70
8	296	57.2	-19	00.0	248	50.7			-5	49.8	162	35	06	37	7 04		44	28	45 66
9	311	57.0	-18	59.3	263	20.9				33.5	163	30	6 00	29	6 54		41	32	46 63
10	326	56.9		58.7	277	51.3				17.2	163	20	5 47	14	37		36	38	48 57
11	341	56.8	-18	58.1	292	21.8			-5	00.9	163	10 N	5 35	6 00	6 23		9 32	43	21 50 51
12	356	56.6	-18	57.5	306	52.3			-4	44.6	163	0	5 21	5 47	6 09		9 28	48	21 51 47
13	11	56.5		56.9	321	22.8				28.3	163	10 S	5 06	32	5 55		24	53	53 42
14	26	56.3		56.3	335	53.5			-4	12.0	163	20	4 48	5 16	40		20	58	54 37
15	41	56.2		55.6	350	24.2			-3	55.7	163	30	24	4 56	22		15	64	56 31
16	56	56.0		55.0	4	55.0				39.4	163	35	4 09	44	12		12	68	57 28
17	71	55.9	-18	54.4	19	25.8			-3	23.1	163	40	3 51	4 29	5 00		9 09	71	21 58 24
18	86	55.8	-18	53.8	33	56.7			-3	06.8	163	45	3 28	4 12	4 46		9 05	76	21 59 20
19	101	55.6		53.2	48	27.7			-2	50.5	163	50	2 56	3 49	29		9 01	82	22 01 15
20	116	55.5		52.5	62	58.7				34.3	162	52	40	38	21		8 59	84	01 13
21	131	55.3		51.9	77	29.8				18.0	163	54	2 19	26	12		57	87	02 10
22	146	55.2		51.3	92	00.9			-2	01.8	162	56	1 52	3 11	4 02		54	90	03 7
23	161	55.0		50.7	106	32.1			-1	45.5	163	58	1 10	2 54	3 50		51	94	04 4
24	176	54.9	-18	50.1	121	03.4			-1	29.3	162	60 S	** **	2 32	3 36		8 48	98	22 05 1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 15 ^h 41.2 ^m		Mag: -3.9 PMG: 13 ^h 45 ^m		Mag: -0.4 PMG: 20 ^h 08 ^m		Mag: -2.3 PMG: 16 ^h 01 ^m		Mag: +0.8 PMG: 13 ^h 33 ^m										
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	124	02.7	153	54.7	-13	51.9	57	11.3	+24	32.5	119	10.8	+0	48.0	156	18.2	-14	21.0	
1	139	05.1	168	54.2		50.8	72	13.4		32.5	134	12.9		48.2	171	20.4		20.9	
2	154	07.6	183	53.6		49.7	87	15.4		32.5	149	15.0		48.3	186	22.6		20.8	
3	169	10.1	198	53.1		48.7	102	17.5		32.6	164	17.0		48.5	201	24.8		20.7	
4	184	12.5	213	52.6		47.6	117	19.6		32.6	179	19.1		48.7	216	26.9		20.6	
5	199	15.0	228	52.0	-13	46.5	132	21.7	+24	32.6	194	21.1	+0	48.9	231	29.1	-14	20.5	
6	214	17.5	243	51.5	-13	45.4	147	23.7	+24	32.7	209	23.2	+0	49.1	246	31.3	-14	20.4	
7	229	19.9	258	50.9		44.3	162	25.8		32.7	224	25.3		49.3	261	33.5		20.3	
8	244	22.4	273	50.4		43.2	177	27.8		32.8	239	27.3		49.4	276	35.7		20.2	
9	259	24.8	288	49.9		42.1	192	29.9		32.8	254	29.4		49.6	291	37.9		20.1	
10	274	27.3	303	49.3		41.0	207	32.0		32.8	269	31.5		49.8	306	40.0		20.0	
11	289	29.8	318	48.8	-13	39.9	222	34.0	+24	32.9	284	33.5	+0	50.0	321	42.2	-14	19.9	
12	304	32.2	333	48.3	-13	38.8	237	36.1	+24	32.9	299	35.6	+0	50.2	336	44.4	-14	19.8	
13	319	34.7	348	47.7		37.7	252	38.1		32.9	314	37.6		50.3	351	46.6		19.7	
14	334	37.2	3	47.2		36.6	267	40.2		33.0	329	39.7		50.5	6	48.8		19.6	
15	349	39.6	18	46.7		35.5	282	42.2		33.0	344	41.8		50.7	21	50.9		19.5	
16	4	42.1	33	46.1		34.4	297	44.3		33.1	359	43.8		50.9	36	53.1		19.5	
17	19	44.6	48	45.6	-13	33.3	312	46.4	+24	33.1	14	45.9	+0	51.1	51	55.3	-14	19.4	
18	34	47.0	63	45.1	-13	32.2	327	48.4	+24	33.1	29	48.0	+0	51.3	66	57.5	-14	19.3	
19	49	49.5	78	44.5		31.1	342	50.5		33.2	44	50.0		51.4	81	59.7		19.2	
20	64	52.0	93	44.0		30.0	357	52.5		33.2	59	52.1		51.6	97	01.9		19.1	
21	79	54.4	108	43.5		28.9	12	54.5		33.3	74	54.1		51.8	112	04.0		19.0	
22	94	56.9	123	42.9		27.8	27	56.6		33.3	89	56.2		52.0	127	06.2		18.9	
23	109	59.3	138	42.4		26.7	42	58.6		33.3	104	58.3		52.2	142	08.4		18.8	
24	125	01.8	153	41.9	-13	25.6	58	00.7	+24	33.4	120	00.3	+0	52.4	157	10.6	-14	18.7	
Dif	—		-5		+11		+21		0		+21		+2		+22		+		1

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 12.5 ^m			Edad: 4.1 ^d SD: 16/1 PMG: 16 ^h 27 ^m PHE { 4 ^h : 58/9 12 ^h : 58/6 20 ^h : 58/3 R°: 46 ^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	176	54.9	-18	50.1	121	03.4	-1	29.3	60 N	15 58	16 47	17 39	10 08 0	23 11 93		
1	191	54.8		49.4	135	34.7	-1	13.1	58	16 09	16 55	44	08 4	08 90		
2	206	54.6		48.8	150	06.0	-0	56.9	56	19	17 02	48	09 7	06 86		
3	221	54.5		48.2	164	37.4		40.7	54	28	08	52	09 10	04 83		
4	236	54.4		47.5	179	08.9		24.5	52	36	14	55	10 12	02 80		
5	251	54.2	-18	46.9	193	40.4	-0	08.4	50	16 44	17 19	17 59	10 10 15	23 00 78		
6	266	54.1	-18	46.3	208	11.9	+0	07.7	45	16 59	17 31	18 06	10 11 20	22 57 72		
7	281	53.9		45.7	222	43.5		23.8	40	17 11	40	13	12 24	54 68		
8	296	53.8		45.0	237	15.1		39.9	35	22	49	20	12 28	51 64		
9	311	53.7		44.4	251	46.8	+0	55.9	30	32	17 57	26	13 31	49 61		
10	326	53.5		43.8	266	18.5	+1	11.9	20	17 48	18 11	38	14 36	45 55		
11	341	53.4	-18	43.1	280	50.2	+1	27.9	10 N	18 02	18 25	18 50	10 15 41	22 41 51		
12	356	53.3	-18	42.5	295	22.0	+1	43.8	0	18 16	18 38	19 03	10 16 46	22 38 46		
13	11	53.1		41.9	309	53.8	+1	59.8	10 S	30	18 52	18	17 51	35 41		
14	26	53.0		41.3	324	25.6	+2	15.7	20	18 44	19 08	36	18 56	31 37		
15	41	52.9		40.6	338	57.5		31.5	30	19 02	28	19 59	19 62	27 31		
16	56	52.7		40.0	353	29.4	+2	47.3	35	12	40	20 14	20 65	25 28		
17	71	52.6	-18	39.4	8	01.4	+3	03.1	40	19 23	19 54	20 31	10 20 69	22 22 25		
18	86	52.4	-18	38.7	22	33.4	+3	18.9	45	19 37	20 11	20 54	10 21 74	22 19 20		
19	101	52.3		38.1	37	05.4		34.6	50	19 53	32	21 24	23 78	16 15		
20	116	52.2		37.4	51	37.4	+3	50.3	52	20 01	43	21 40	23 81	14 13		
21	131	52.0		36.8	66	09.4	+4	05.9	54	10	20 55	22 00	24 84	12 11		
22	146	51.9		36.2	80	41.5		21.5	56	20	21 09	22 25	24 87	10 8		
23	161	51.8		35.5	95	13.6		37.0	58	31	26	23 01	25 90	08 5		
24	176	51.7	-18	34.9	109	45.7	+4	52.5	60 S	20 44	21 46	** **	10 26 94	22 06 1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 15 ^h 37.3 ^m		Mag: -3.9 PMG: 13 ^h 46 ^m		Mag: -0.4 PMG: 20 ^h 05 ^m		Mag: -2.3 PMG: 15 ^h 58 ^m		Mag: +0.8 PMG: 13 ^h 29 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	125	01.8	153	41.9	-13	25.6	58	00.7	+24	33.4	120	00.3	+0	52.4	157	10.6	-14	18.7
1	140	04.3	168	41.3		24.5	73	02.7		33.4	135	02.4		52.5	172	12.8		18.6
2	155	06.7	183	40.8		23.4	88	04.8		33.5	150	04.4		52.7	187	14.9		18.5
3	170	09.2	198	40.3		22.3	103	06.8		33.5	165	06.5		52.9	202	17.1		18.4
4	185	11.7	213	39.8		21.2	118	08.8		33.5	180	08.6		53.1	217	19.3		18.3
5	200	14.1	228	39.2	-13	20.1	133	10.9	+24	33.6	195	10.6	+0	53.3	232	21.5	-14	18.2
6	215	16.6	243	38.7	-13	19.0	148	12.9	+24	33.6	210	12.7	+0	53.4	247	23.7	-14	18.1
7	230	19.1	258	38.2		17.9	163	15.0		33.7	225	14.7		53.6	262	25.8		18.0
8	245	21.5	273	37.7		16.8	178	17.0		33.7	240	16.8		53.8	277	28.0		17.9
9	260	24.0	288	37.1		15.7	193	19.0		33.7	255	18.9		54.0	292	30.2		17.8
10	275	26.5	303	36.6		14.6	208	21.1		33.8	270	20.9		54.2	307	32.4		17.7
11	290	28.9	318	36.1	-13	13.5	223	23.1	+24	33.8	285	23.0	+0	54.4	322	34.6	-14	17.6
12	305	31.4	333	35.6	-13	12.4	238	25.1	+24	33.9	300	25.0	+0	54.6	337	36.7	-14	17.5
13	320	33.8	348	35.0		11.2	253	27.1		33.9	315	27.1		54.7	352	38.9		17.4
14	335	36.3	3	34.5		10.1	268	29.2		34.0	330	29.1		54.9	7	41.1		17.3
15	350	38.8	18	34.0		09.0	283	31.2		34.0	345	31.2		55.1	22	43.3		17.2
16	5	41.2	33	33.5		07.9	298	33.2		34.0	0	33.3		55.3	37	45.5		17.1
17	20	43.7	48	33.0	-13	06.8	313	35.2	+24	34.1	15	35.3	+0	55.5	52	47.7	-14	17.0
18	35	46.2	63	32.4	-13	05.7	328	37.3	+24	34.1	30	37.4	+0	55.7	67	49.8	-14	16.9
19	50	48.6	78	31.9		04.6	343	39.3		34.2	45	39.4		55.8	82	52.0		16.8
20	65	51.1	93	31.4		03.5	358	41.3		34.2	60	41.5		56.0	97	54.2		16.7
21	80	53.6	108	30.9		02.3	13	43.3		34.2	75	43.5		56.2	112	56.4		16.6
22	95	56.0	123	30.4		01.2	28	45.3		34.3	90	45.6		56.4	127	58.6		16.5
23	110	58.5	138	29.8	-13	00.1	43	47.4		34.3	105	47.7		56.6	143	00.7		16.4
24	126	00.9	153	29.3	-12	59.0	58	49.4	+24	34.4	120	49.7	+0	56.8	158	02.9	-14	16.3
Dif	—		-5		+11		+20		0		+21		+2		+22		+1	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG:12 ^h 12.7 ^m				Edad: 5.1 ^d SD: 15/8 PMG: 17 ^h 13 ^m												
	hG ☉		Dec		hG ☾		Dif			Dec			Dif				
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	51.7	-18	34.9	109	45.7	+4	52.5	60 N	6 45	7 37	8 26	10 08	2	**	**	**
1	191	51.5		34.3	124	17.9	+5	08.0	58	41	29	14	12	5	**	**	**
2	206	51.4		33.6	138	50.0		23.4	56	37	22	8 04	16	8	**	**	**
3	221	51.3		33.0	153	22.2		38.8	54	33	16	7 56	19	11	**	**	**
4	236	51.1		32.3	167	54.4	+5	54.1	52	29	10	48	22	14	**	**	**
5	251	51.0	-18	31.7	182	26.6	+6	09.4	50	6 26	7 05	7 41	10 25	16	**	**	**
6	266	50.9	-18	31.1	196	58.8	+6	24.6	45	6 18	6 54	7 26	10 31	20	**	**	**
7	281	50.7		30.4	211	31.1		39.7	40	11	44	13	36	24	**	**	**
8	296	50.6		29.8	226	03.3	+6	54.9	35	6 05	36	7 02	40	28	23	55	63
9	311	50.5		29.1	240	35.6	+7	09.9	30	5 59	28	6 53	44	31	50	60	
10	326	50.4		28.5	255	07.9		24.9	20	47	14	37	50	37	40	55	
11	341	50.2	-18	27.8	269	40.1	+7	39.9	10 N	5 35	6 00	6 23	10 56	42	23	32	50
12	356	50.1	-18	27.2	284	12.4	+7	54.8	0	5 22	5 47	6 09	11 02	46	23	24	46
13	11	50.0		26.6	298	44.7	+8	09.6	10 S	5 07	33	5 55	08	50	16	42	
14	26	49.9		25.9	313	17.0		24.4	20	4 49	5 17	41	14	55	23	08	37
15	41	49.7		25.3	327	49.3		39.2	30	26	4 58	24	21	60	22	58	32
16	56	49.6		24.6	342	21.6	+8	53.8	35	4 12	46	14	25	63	53	29	
17	71	49.5	-18	24.0	356	53.9	+9	08.4	40	3 54	4 32	5 02	11 29	68	22	47	25
18	86	49.3	-18	23.3	11	26.2	+9	23.0	45	3 32	4 15	4 49	11 35	71	22	39	22
19	101	49.2		22.7	25	58.5		37.5	50	3 01	3 53	32	41	77	31	17	
20	116	49.1		22.0	40	30.8	+9	51.9	52	2 45	43	25	44	80	27	14	
21	131	49.0		21.4	55	03.1	+10	06.2	54	26	31	16	48	82	23	12	
22	146	48.9		20.7	69	35.4		20.5	56	2 01	17	4 06	51	86	18	9	
23	161	48.7		20.1	84	07.7		34.7	58	1 24	3 00	3 55	11 55	89	13	5	
24	176	48.6	-18	19.4	98	40.0	+10	48.9	60 S	** **	2 39	3 42	12 00	93	22	07	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 33.4 ^m		Mag: -3.9 PMG: 13 ^h 47 ^m		Mag: -0.4 PMG: 20 ^h 02 ^m		Mag: -2.3 PMG: 15 ^h 55 ^m		Mag: +0.8 PMG: 13 ^h 26 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	126	00.9	153	29.3	-12	59.0	58	49.4	+24	34.4
1	141	03.4	168	28.8		57.9	73	51.4		34.4
2	156	05.9	183	28.3		56.8	88	53.4		34.5
3	171	08.3	198	27.8		55.6	103	55.4		34.5
4	186	10.8	213	27.3		54.5	118	57.4		34.5
5	201	13.3	228	26.8	-12	53.4	133	59.4	+24	34.6
6	216	15.7	243	26.2	-12	52.3	149	01.4	+24	34.6
7	231	18.2	258	25.7		51.2	164	03.4		34.7
8	246	20.7	273	25.2		50.0	179	05.4		34.7
9	261	23.1	288	24.7		48.9	194	07.5		34.8
10	276	25.6	303	24.2		47.8	209	09.5		34.8
11	291	28.1	318	23.7	-12	46.7	224	11.5	+24	34.9
12	306	30.5	333	23.2	-12	45.5	239	13.5	+24	34.9
13	321	33.0	348	22.7		44.4	254	15.5		34.9
14	336	35.4	3	22.1		43.3	269	17.5		35.0
15	351	37.9	18	21.6		42.2	284	19.5		35.0
16	6	40.4	33	21.1		41.0	299	21.5		35.1
17	21	42.8	48	20.6	-12	39.9	314	23.5	+24	35.1
18	36	45.3	63	20.1	-12	38.8	329	25.4	+24	35.2
19	51	47.8	78	19.6		37.7	344	27.4		35.2
20	66	50.2	93	19.1		36.5	359	29.4		35.3
21	81	52.7	108	18.6		35.4	14	31.4		35.3
22	96	55.2	123	18.1		34.3	29	33.4		35.3
23	111	57.6	138	17.6		33.1	44	35.4		35.4
24	127	00.1	153	17.1	-12	32.0	59	37.4	+24	35.4
Dif	—		-5		+11		+20		0	
							+21		+2	
									+22	
									+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna							
	SD: 16/2 PMG:12 ^h 12.9 ^m				Edad: 6.1 ^d SD: 15/6 PMG: 17 ^h 59 ^m PHE { 4 ^h : 57/0 12 ^h : 56/7 20 ^h : 56/4 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	
0	176	48.6	-18	19.4	98	40.0	+10	48.9	141	60 N	16	03	16	52	17	43	10	10	2	0	44	93				
1	191	48.5		18.8	113	12.2	+11	03.0	140	58	14	16	59	47	17	7				38	88					
2	206	48.4		18.1	127	44.5		17.0	140	56	24	17	06	51	24	10				32	85					
3	221	48.2		17.5	142	16.8		31.0	140	54	32	12	55	30	13	27	8			27	82					
4	236	48.1		16.8	156	49.0		44.9	139	52	40	17	58	36	16	22	79									
5	251	48.0	-18	16.1	171	21.2	+11	58.7	138	50	16	47	17	22	18	01	10	41	18	0	18	76				
6	266	47.9	-18	15.5	185	53.5	+12	12.4	137	45	17	02	17	33	18	09	10	51	24	0	09	71				
7	281	47.8		14.8	200	25.7		26.1	137	40	14	43	15	11	00	28	0	02	66							
8	296	47.6		14.2	214	57.9		39.7	136	35	24	51	22	08	31	**	**	**								
9	311	47.5		13.5	229	30.0	+12	53.2	135	30	33	17	59	28	15	33	**	**	**							
10	326	47.4		12.9	244	02.2	+13	06.6	134	20	17	49	18	12	39	27	38	**	**	**						
11	341	47.3	-18	12.2	258	34.4	+13	20.0	134	10 N	18	03	18	25	18	51	11	38	42	**	**	**				
12	356	47.2	-18	11.5	273	06.5	+13	33.3	133	0	18	16	18	38	19	03	11	48	46	**	**	**				
13	11	47.0		10.9	287	38.6		46.5	132	10 S	30	18	52	18	11	58	50	23	58	43						
14	26	46.9		10.2	302	10.7	+13	59.6	131	20	18	44	19	08	35	12	09	54	45	39						
15	41	46.8		09.6	316	42.8	+14	12.7	131	30	19	01	27	19	58	21	60	30	35							
16	56	46.7		08.9	331	14.8		25.7	130	35	10	38	20	12	28	63	22	32								
17	71	46.6	-18	08.2	345	46.9	+14	38.6	129	40	19	21	19	52	20	29	12	37	66	23	12	29				
18	86	46.5	-18	07.6	0	18.9	+14	51.4	128	45	19	35	20	08	20	51	12	46	71	23	01	25				
19	101	46.3		06.9	14	50.8	+15	04.1	127	50	51	29	21	20	21	20	12	58	76	22	48	20				
20	116	46.2		06.3	29	22.8		16.8	127	52	19	58	40	36	13	04	78	41	18							
21	131	46.1		05.6	43	54.7		29.3	125	54	20	07	20	51	21	54	10	81	35	15						
22	146	46.0		04.9	58	26.7		41.8	125	56	16	21	05	22	17	17	84	27	12							
23	161	45.9		04.3	72	58.5	+15	54.2	124	58	27	21	22	50	24	89	18	8								
24	176	45.8	-18	03.6	87	30.4	+16	06.5	123	60 S	20	39	21	40	**	**	13	33	93	22	09	3				
UT	ARIES PMG 15 ^h 29.4 ^m				VENUS Mag: -3.9 PMG: 13 ^h 47 ^m				MARTE Mag: -0.4 PMG: 19 ^h 59 ^m				JÚPITER Mag: -2.3 PMG: 15 ^h 51 ^m				SATURNO Mag: +0.8 PMG: 13 ^h 22 ^m									
	hG ♈				hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	127	00.1	153	17.1	-12	32.0	59	37.4	+24	35.4	121	39.0	+1	01.2	158	55.2	-14	14.0								
1	142	02.5	168	16.6		30.9	74	39.4		35.5	136	41.1		01.4	173	57.4		13.9								
2	157	05.0	183	16.1		29.7	89	41.4		35.5	151	43.1		01.6	188	59.6		13.8								
3	172	07.5	198	15.6		28.6	104	43.3		35.6	166	45.2		01.8	204	01.8		13.7								
4	187	09.9	213	15.1		27.5	119	45.3		35.6	181	47.2		02.0	219	03.9		13.6								
5	202	12.4	228	14.6	-12	26.3	134	47.3	+24	35.7	196	49.3	+1	02.1	234	06.1	-14	13.5								
6	217	14.9	243	14.1	-12	25.2	149	49.3	+24	35.7	211	51.3	+1	02.3	249	08.3	-14	13.4								
7	232	17.3	258	13.6		24.1	164	51.3		35.8	226	53.4		02.5	264	10.5		13.3								
8	247	19.8	273	13.1		22.9	179	53.2		35.8	241	55.4		02.7	279	12.7		13.2								
9	262	22.3	288	12.6		21.8	194	55.2		35.8	256	57.5		02.9	294	14.8		13.1								
10	277	24.7	303	12.1		20.7	209	57.2		35.9	271	59.5		03.1	309	17.0		13.0								
11	292	27.2	318	11.6	-12	19.5	224	59.2	+24	35.9	287	01.6	+1	03.3	324	19.2	-14	12.9								
12	307	29.7	333	11.1	-12	18.4	240	01.1	+24	36.0	302	03.6	+1	03.5	339	21.4	-14	12.8								
13	322	32.1	348	10.6		17.2	255	03.1		36.0	317	05.7		03.6	354	23.6		12.7								
14	337	34.6	3	10.1		16.1	270	05.1		36.1	332	07.7		03.8	9	25.7		12.6								
15	352	37.0	18	09.6		15.0	285	07.1		36.1	347	09.8		04.0	24	27.9		12.5								
16	7	39.5	33	09.1		13.8	300	09.0		36.2	2	11.8		04.2	39	30.1		12.4								
17	22	42.0	48	08.6	-12	12.7	315	11.0	+24	36.2	17	13.9	+1	04.4	54	32.3	-14	12.3								
18	37	44.4	63	08.1	-12	11.5	330	13.0	+24	36.3	32	15.9	+1	04.6	69	34.4	-14	12.2								
19	52	46.9	78	07.6		10.4	345	14.9		36.3	47	18.0		04.8	84	36.6		12.1								
20	67	49.4	93	07.1		09.3	0	16.9		36.4	62	20.0		05.0	99	38.8		12.0								
21	82	51.8	108	06.6		08.1	15	18.9		36.4	77	22.1		05.1	114	41.0		11.9								
22	97	54.3	123	06.1		07.0	30	20.8		36.5	92	24.1		05.3	129	43.2		11.8								
23	112	56.8	138	05.6		05.8	45	22.8		36.5	107	26.1		05.5	144	45.3		11.7								
24	127	59.2	153	05.1	-12	04.7	60	24.7	+24	36.6	122	28.2	+1	05.7	159	47.5	-14	11.6								
Dif	—				-5				+11				+20				+22				+					

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG:12 ^h 13.0 ^m			Edad: 7.1 ^d SD: 15/3 PMG: 18 ^h 46 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	176	45.8	-18	03.6	87	30.4	+16	06.5	60 N	6	42	7	33	8	21	10	12
1	191	45.6		02.9	102	02.2		18.7	58	38		26		10	24	10	2
2	206	45.5		02.3	116	34.0		30.9	56	34	19		8	01	34	14	1
3	221	45.4		01.6	131	05.8		42.9	54	30	13		7	52	43	18	49
4	236	45.3		00.9	145	37.5	+16	54.9	52	27	08		45	52	19		41
5	251	45.2	-18	00.3	160	09.3	+17	06.7	50	6	24	7	03	7	38	10	59
6	266	45.1	-17	59.6	174	40.9	+17	18.5	45	6	17	6	52	7	24	11	15
7	281	45.0		58.9	189	12.6		30.2	40	10	43		11		28	31	1
8	296	44.9		58.2	203	44.2		41.8	35	6	04	34	7	01	39	34	0
9	311	44.8		57.6	218	15.8	+17	53.3	30	5	58	27	6	52	11	48	37
10	326	44.6		56.9	232	47.3	+18	04.7	20	47	13		36	12	05	41	35
11	341	44.5	-17	56.2	247	18.9	+18	16.0	10 N	5	35	6	01	6	23	12	20
12	356	44.4	-17	55.6	261	50.3	+18	27.2	0	5	22	5	48	6	09	12	34
13	11	44.3		54.9	276	21.8		38.3	10 S	5	08		34	5	56	12	48
14	26	44.2		54.2	290	53.2	+18	49.4	20	4	51	19		42	13	03	55
15	41	44.1		53.5	305	24.6	+19	00.3	30	29	5	00	26		21	59	**
16	56	44.0		52.9	319	55.9		11.1	35	4	14	4	48	16	31	62	23
17	71	43.9	-17	52.2	334	27.2	+19	21.8	40	3	57	4	35	5	05	13	43
18	86	43.8	-17	51.5	348	58.5	+19	32.5	45	3	35	4	18	4	52	13	57
19	101	43.7		50.8	3	29.8		43.0	50	3	06	3	57	36	14	14	74
20	116	43.6		50.2	18	00.9	+19	53.4	52	2	51	47		28	22	76	22
21	131	43.4		49.5	32	32.1	+20	03.8	54		33	35		20	31	79	50
22	146	43.3		48.8	47	03.2		14.0	56	2	09	22		10	41	83	39
23	161	43.2		48.1	61	34.3		24.1	58	1	37	3	06	4	00	14	53
24	176	43.1	-17	47.4	76	05.4	+20	34.1	60 S	**	**	2	47	3	47	15	06

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 15 ^h 25.5 ^m		Mag: -3.9 PMG: 13 ^h 48 ^m		Mag: -0.3 PMG: 19 ^h 56 ^m		Mag: -2.2 PMG: 15 ^h 48 ^m		Mag: +0.8 PMG: 13 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	127	59.2	153	05.1	-12	04.7	60	24.7	+24	36.6
1	143	01.7	168	04.6		03.5	75	26.7		36.6
2	158	04.2	183	04.1		02.4	90	28.7		36.7
3	173	06.6	198	03.6		01.2	105	30.6		36.7
4	188	09.1	213	03.1	-12	00.1	120	32.6		36.8
5	203	11.5	228	02.6	-11	59.0	135	34.5	+24	36.8
6	218	14.0	243	02.2	-11	57.8	150	36.5	+24	36.9
7	233	16.5	258	01.7		56.7	165	38.4		36.9
8	248	18.9	273	01.2		55.5	180	40.4		36.9
9	263	21.4	288	00.7		54.4	195	42.3		37.0
10	278	23.9	303	00.2		53.2	210	44.3		37.0
11	293	26.3	317	59.7	-11	52.1	225	46.2	+24	37.1
12	308	28.8	332	59.2	-11	50.9	240	48.2	+24	37.1
13	323	31.3	347	58.7		49.8	255	50.1		37.2
14	338	33.7	2	58.3		48.6	270	52.1		37.2
15	353	36.2	17	57.8		47.4	285	54.0		37.3
16	8	38.7	32	57.3		46.3	300	56.0		37.3
17	23	41.1	47	56.8	-11	45.1	315	57.9	+24	37.4
18	38	43.6	62	56.3	-11	44.0	330	59.8	+24	37.4
19	53	46.0	77	55.8		42.8	346	01.8		37.5
20	68	48.5	92	55.3		41.7	1	03.7		37.5
21	83	51.0	107	54.9		40.5	16	05.7		37.6
22	98	53.4	122	54.4		39.4	31	07.6		37.6
23	113	55.9	137	53.9		38.2	46	09.5		37.7
24	128	58.4	152	53.4	-11	37.0	61	11.5	+24	37.7
Dif	—		-5		+12		+19		0	

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: 8.1 ^d PHE { 4 ^h : 55/5 12 ^h : 55/3 20 ^h : 55/1 Rº: 50 ^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	43.1	-17	47.4	76	05.4	+20	34.1	99	60 N	16	08	16	56	17	47	10	17	10	3 51 92
1	191	43.0		46.8	90	36.4		44.0	99	58	19		17	03		51	34	16		34 86
2	206	42.9		46.1	105	07.3	+20	53.9	97	56	28		10		55	10	48	21		21 81
3	221	42.8		45.4	119	38.2	+21	03.6	96	54	36		15	17	58	11	01	23		3 09 78
4	236	42.7		44.7	134	09.1		13.2	95	52	44		21	18	01		11	27		2 59 74
5	251	42.6	-17	44.0	148	40.0	+21	22.7	95	50	16	50	17	25	18	04	11	21	29	2 49 73
6	266	42.5	-17	43.4	163	10.8	+21	32.0	93	45	17	04	17	36	18	11	11	42	33	2 30 68
7	281	42.4		42.7	177	41.6		41.3	93	40	16		45	18		11	59	36		14 64
8	296	42.3		42.0	192	12.3		50.5	92	35	26		17	53	23	12	13	38		2 01 61
9	311	42.2		41.3	206	43.0	+21	59.5	90	30	35		18	00	29	25	41			1 49 59
10	326	42.1		40.6	221	13.6	+22	08.5	90	20	17	50	14	40	12	46	44			30 55
11	341	42.0	-17	39.9	235	44.2	+22	17.3	88	10 N	18	04	18	26	18	51	13	05	47	1 13 52
12	356	41.9	-17	39.3	250	14.8	+22	26.1	88	0	18	17	18	38	19	04	13	22	50	0 57 49
13	11	41.8		38.6	264	45.3		34.7	85	10 S	30		18	52		18	40	52		41 46
14	26	41.7		37.9	279	15.8		43.2	85	20	18	43	19	07	35	13	58	55		24 43
15	41	41.6		37.2	293	46.2		51.6	84	30	19	00	25	19	56	14	20	59		0 45 39
16	56	41.5		36.5	308	16.7	+22	59.9	83	35	09		37	20	10	33	60			** ** *
17	71	41.4	-17	35.8	322	47.0	+23	08.0	81	40	19	20	19	50	20	27	14	48	63	** ** *
18	86	41.3	-17	35.1	337	17.3	+23	16.1	81	45	19	32	20	06	20	48	15	06	65	23 56 37
19	101	41.2		34.4	351	47.6		24.0	79	50	48		26	21	16	28	70			33 33
20	116	41.1		33.8	6	17.9		31.8	78	52	19	55	36	31	38	72				22 31
21	131	41.0		33.1	20	48.1		39.5	76	54	20	03	20	47	21	48	15	50	75	23 10 28
22	146	40.9		32.4	35	18.3		47.1	75	56	12		21	00	22	10	16	04	78	22 55 25
23	161	40.8		31.7	49	48.4	+23	54.6	75	58	23		15	22	39	20	83			39 20
24	176	40.7	-17	31.0	64	18.5	+24	01.9	73	60 S	20	35	21	34	23	31	16	40	90	22 18 14

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 21.6 ^m		Mag: -3.9 PMG: 13 ^h 49 ^m		Mag: -0.3 PMG: 19 ^h 53 ^m		Mag: -2.2 PMG: 15 ^h 45 ^m		Mag: +0.8 PMG: 13 ^h 15 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	128	58.4	152	53.4	-11	37.0	61	11.5	+24	37.7
1	144	00.8	167	52.9		35.9	76	13.4		37.8
2	159	03.3	182	52.5		34.7	91	15.3		37.8
3	174	05.8	197	52.0		33.6	106	17.3		37.9
4	189	08.2	212	51.5		32.4	121	19.2		37.9
5	204	10.7	227	51.0	-11	31.3	136	21.1	+24	38.0
6	219	13.1	242	50.5	-11	30.1	151	23.1	+24	38.1
7	234	15.6	257	50.1		28.9	166	25.0		38.1
8	249	18.1	272	49.6		27.8	181	26.9		38.2
9	264	20.5	287	49.1		26.6	196	28.8		38.2
10	279	23.0	302	48.6		25.4	211	30.8		38.3
11	294	25.5	317	48.2	-11	24.3	226	32.7	+24	38.3
12	309	27.9	332	47.7	-11	23.1	241	34.6	+24	38.4
13	324	30.4	347	47.2		22.0	256	36.5		38.4
14	339	32.9	2	46.7		20.8	271	38.4		38.5
15	354	35.3	17	46.3		19.6	286	40.4		38.5
16	9	37.8	32	45.8		18.5	301	42.3		38.6
17	24	40.3	47	45.3	-11	17.3	316	44.2	+24	38.6
18	39	42.7	62	44.8	-11	16.1	331	46.1	+24	38.7
19	54	45.2	77	44.4		15.0	346	48.0		38.7
20	69	47.6	92	43.9		13.8	1	49.9		38.8
21	84	50.1	107	43.4		12.6	16	51.8		38.8
22	99	52.6	122	43.0		11.5	31	53.7		38.9
23	114	55.0	137	42.5		10.3	46	55.7		38.9
24	129	57.5	152	42.0	-11	09.1	61	57.6	+24	39.0
Dif	—		-5		+12		+19		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna	
	SD: 16 ^h 2 PMG:12 ^h 13.4 ^m				Edad: 9.1 ^d SD: 15 ^h 0 PMG: 20 ^h 24 ^m														
					PHE { 4 ^h : 54 ^m 9 12 ^h : 54 ^m 8 20 ^h : 54 ^m 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	176	40.7	-17	31.0	64	18.5	+24	01.9	72	60 N	6 38	7 29	8 17	10 27	20	5 23	85		
1	191	40.6		30.3	78	48.5		09.1	71	58	34	22	8 06	10 50	27	5 00	78		
2	206	40.5		29.6	93	18.6		16.2	70	56	31	16	7 57	11 09	31	4 42	74		
3	221	40.4		28.9	107	48.5		23.2	69	54	27	10	49	24	34	27	70		
4	236	40.3		28.2	122	18.5		30.1	67	52	24	05	42	38	36	13	69		
5	251	40.2	-17	27.5	136	48.4	+24	36.8	67	50	6 21	7 00	7 35	11 50	38	4 02	66		
6	266	40.1	-17	26.8	151	18.2	+24	43.5	67	45	6 15	6 50	7 21	12 15	40	3 38	63		
7	281	40.0		26.1	165	48.1		50.0	65	40	09	41	10	35	42	18	61		
8	296	39.9		25.4	180	17.9	+24	56.3	63	35	6 03	33	7 00	12 51	45	3 02	59		
9	311	39.8		24.7	194	47.6	+25	02.6	63	30	5 57	26	6 51	13 06	45	2 48	58		
10	326	39.8		24.0	209	17.4		08.7	61	20	46	13	36	30	48	25	55		
11	341	39.7	-17	23.3	223	47.0	+25	14.7	60	10 N	5 35	6 01	6 22	13 52	49	2 05	52		
12	356	39.6	-17	22.6	238	16.7	+25	20.6	59	0	5 23	5 48	6 10	14 12	51	1 46	50		
13	11	39.5		21.9	252	46.3		26.4	58	10 S	5 09	35	5 57	32	52	27	48		
14	26	39.4		21.2	267	15.9		32.0	56	20	4 52	20	43	14 53	54	1 07	46		
15	41	39.3		20.5	281	45.5		37.5	55	30	31	5 02	27	15 19	55	0 44	43		
16	56	39.2		19.8	296	15.0		42.9	54	35	17	4 50	18	33	57	30	42		
17	71	39.1	-17	19.1	310	44.5	+25	48.2	53	40	4 00	4 37	5 07	15 51	58	0 15	39		
18	86	39.0	-17	18.4	325	14.0	+25	53.3	51	45	3 39	4 21	4 55	16 11	60	** ** *	**		
19	101	38.9		17.7	339	43.4	+25	58.3	50	50	3 11	4 01	39	38	62	** ** *	**		
20	116	38.8		17.0	354	12.8	+26	03.2	49	52	2 56	3 51	32	16 50	64	23 53	41		
21	131	38.8		16.3	8	42.2		07.9	47	54	39	40	24	17 05	66	38	40		
22	146	38.7		15.6	23	11.6		12.5	45	56	2 17	27	15	22	68	23 20	38		
23	161	38.6		14.9	37	40.9		17.0	44	58	1 48	3 12	4 05	17 43	72	22 59	35		
24	176	38.5	-17	14.2	52	10.2	+26	21.4	44	60 S	0 56	2 54	3 53	18 10	77	22 32	29		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 15 ^h 17.7 ^m		Mag: -3.9 PMG: 13 ^h 50 ^m		Mag: -0.3 PMG: 19 ^h 50 ^m		Mag: -2.2 PMG: 15 ^h 41 ^m		Mag: +0.8 PMG: 13 ^h 12 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	129	57.5	152	42.0	-11	09.1	61	57.6	+24	39.0	124	06.3	+1	14.8	161	32.0	-14	06.9
1	145	00.0	167	41.5		07.9	76	59.5		39.0	139	08.3		15.0	176	34.2		06.8
2	160	02.4	182	41.1		06.8	92	01.4		39.1	154	10.4		15.2	191	36.4		06.7
3	175	04.9	197	40.6		05.6	107	03.3		39.1	169	12.4		15.4	206	38.6		06.6
4	190	07.4	212	40.1		04.4	122	05.2		39.2	184	14.4		15.6	221	40.8		06.5
5	205	09.8	227	39.7	-11	03.3	137	07.1	+24	39.3	199	16.5	+1	15.8	236	42.9	-14	06.4
6	220	12.3	242	39.2	-11	02.1	152	09.0	+24	39.3	214	18.5	+1	16.0	251	45.1	-14	06.3
7	235	14.8	257	38.7	-11	00.9	167	10.9		39.4	229	20.6		16.1	266	47.3		06.2
8	250	17.2	272	38.3	-10	59.7	182	12.8		39.4	244	22.6		16.3	281	49.5		06.1
9	265	19.7	287	37.8		58.6	197	14.7		39.5	259	24.6		16.5	296	51.6		06.0
10	280	22.1	302	37.3		57.4	212	16.6		39.5	274	26.7		16.7	311	53.8		05.9
11	295	24.6	317	36.9	-10	56.2	227	18.5	+24	39.6	289	28.7	+1	16.9	326	56.0	-14	05.8
12	310	27.1	332	36.4	-10	55.0	242	20.4	+24	39.6	304	30.7	+1	17.1	341	58.2	-14	05.7
13	325	29.5	347	35.9		53.9	257	22.3		39.7	319	32.8		17.3	357	00.3		05.6
14	340	32.0	2	35.5		52.7	272	24.2		39.7	334	34.8		17.5	12	02.5		05.5
15	355	34.5	17	35.0		51.5	287	26.1		39.8	349	36.9		17.7	27	04.7		05.4
16	10	36.9	32	34.6		50.3	302	28.0		39.8	4	38.9		17.9	42	06.9		05.3
17	25	39.4	47	34.1	-10	49.1	317	29.8	+24	39.9	19	40.9	+1	18.1	57	09.0	-14	05.2
18	40	41.9	62	33.6	-10	48.0	332	31.7	+24	40.0	34	43.0	+1	18.3	72	11.2	-14	05.1
19	55	44.3	77	33.2		46.8	347	33.6		40.0	49	45.0		18.4	87	13.4		05.0
20	70	46.8	92	32.7		45.6	2	35.5		40.1	64	47.0		18.6	102	15.6		04.9
21	85	49.3	107	32.2		44.4	17	37.4		40.1	79	49.1		18.8	117	17.8		04.8
22	100	51.7	122	31.8		43.2	32	39.3		40.2	94	51.1		19.0	132	19.9		04.7
23	115	54.2	137	31.3		42.1	47	41.2		40.2	109	53.1		19.2	147	22.1		04.6
24	130	56.6	152	30.9	-10	40.9	62	43.0	+24	40.3	124	55.2	+1	19.4	162	24.3	-14	04.5
Dif	—		-5		+12		+19		+1		+20		+2		+22		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16 ^h /2 PMG:12 ^h 13.5 ^m				Edad: 10.1 ^d PHE { 4 ^h : 54 ^h /5 12 ^h : 54 ^h /4 20 ^h : 54 ^h /3 PMG: 21 ^h 15 ^m Rº: 51 ^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	176	38.5	-17	14.2	52	10.2	+26	21.4	42	60 N	16 13	17 01	17 52	10 47	42	6 48	65			
1	191	38.4		13.5	66	39.5		25.6	40	58	23	08	55	11 17	44	6 18	62			
2	206	38.3		12.8	81	08.7		29.7	41	56	32	14	17 59	40 46		5 56	60			
3	221	38.2		12.1	95	38.0		33.7	40	54	40	19	18 02	11 58	47	37	60			
4	236	38.1		11.4	110	07.2		37.5	38	52	47	24	05	12 14	48	22	58			
5	251	38.0	-17	10.7	124	36.4	+26	41.2	37	50	16 54	17 29	18 07	12 28	48	5 08	58			
6	266	38.0	-17	10.0	139	05.5	+26	44.8	36	45	17 07	17 39	18 14	12 55	49	4 41	56			
7	281	37.9		09.3	153	34.7		48.2	34	40	19	47	20	13 17	50	19	56			
8	296	37.8		08.6	168	03.8		51.5	33	35	28	17 55	25	36 50		4 01	55			
9	311	37.7		07.9	182	32.9		54.7	32	30	37	18 02	31	13 51	51	3 46	54			
10	326	37.6		07.1	197	02.0	+26	57.8	31	20	17 52	15	41	14 18	51	3 20	53			
11	341	37.5	-17	06.4	211	31.1	+27	00.7	29	10 N	18 05	18 27	18 52	14 41	51	2 57	52			
12	356	37.5	-17	05.7	226	00.2	+27	03.5	28	0	18 17	18 39	19 04	15 03	51	2 36	52			
13	11	37.4		05.0	240	29.2		06.1	26	10 S	29	18 52	17	24 52		2 15	51			
14	26	37.3		04.3	254	58.3		08.6	25	20	43	19 06	34	15 47	52	1 53	49			
15	41	37.2		03.6	269	27.3		11.0	24	30	18 58	24	19 55	16 14	52	27	48			
16	56	37.1		02.9	283	56.3		13.3	23	35	19 07	35	20 08	30 52		1 12	47			
17	71	37.0	-17	02.2	298	25.3	+27	15.4	21	40	19 18	19 48	20 24	16 49	52	0 54	46			
18	86	37.0	-17	01.4	312	54.3	+27	17.4	20	45	19 30	20 03	20 45	17 11	53	0 33	45			
19	101	36.9	-17	00.7	327	23.3		19.2	18	50	45	23	21 12	40 52		0 06	43			
20	116	36.8	-17	00.0	341	52.3		20.9	17	52	19 52	32	26	17 54	53	** ** *	**			
21	131	36.7	-16	59.3	356	21.2		22.5	16	54	20 00	43	21 42	18 11	52	** ** *	**			
22	146	36.6		58.6	10	50.2		23.9	14	56	08	20 55	22 03	30 53		23 58	54			
23	161	36.6		57.9	25	19.2		25.2	13	58	18	21 10	22 29	18 55	52	34	54			
24	176	36.5	-16	57.2	39	48.1	+27	26.4	12	60 S	20 30	21 27	23 11	19 27	52	23 01	55			
UT	ARIES PMG 15 ^h 13.7 ^m				VENUS Mag: -3.9 PMG: 13 ^h 50 ^m				MARTE Mag: -0.2 PMG: 19 ^h 47 ^m				JÚPITER Mag: -2.2 PMG: 15 ^h 38 ^m				SATURNO Mag: +0.8 PMG: 13 ^h 08 ^m			
	hG ♈	hG ♀			Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec			
h	°	'	°	'	°	'		°	'		°	'	°	'	°	'	°	'		
0	130	56.6	152	30.9	-10	40.9		62	43.0	+24	40.3	124	55.2	+1	19.4	162	24.3	-14	04.5	
1	145	59.1	167	30.4		39.7		77	44.9		40.3	139	57.2		19.6	177	26.5		04.4	
2	161	01.6	182	30.0		38.5		92	46.8		40.4	154	59.3		19.8	192	28.6		04.3	
3	176	04.0	197	29.5		37.3		107	48.7		40.5	170	01.3		20.0	207	30.8		04.2	
4	191	06.5	212	29.0		36.2		122	50.6		40.5	185	03.3		20.2	222	33.0		04.1	
5	206	09.0	227	28.6	-10	35.0		137	52.4	+24	40.6	200	05.4	+1	20.4	237	35.2	-14	04.0	
6	221	11.4	242	28.1	-10	33.8		152	54.3	+24	40.6	215	07.4	+1	20.6	252	37.3	-14	03.9	
7	236	13.9	257	27.7		32.6		167	56.2		40.7	230	09.4		20.8	267	39.5		03.8	
8	251	16.4	272	27.2		31.4		182	58.1		40.7	245	11.5		21.0	282	41.7		03.7	
9	266	18.8	287	26.8		30.2		197	59.9		40.8	260	13.5		21.1	297	43.9		03.6	
10	281	21.3	302	26.3		29.0		213	01.8		40.8	275	15.5		21.3	312	46.0		03.5	
11	296	23.7	317	25.8	-10	27.9		228	03.7	+24	40.9	290	17.6	+1	21.5	327	48.2	-14	03.4	
12	311	26.2	332	25.4	-10	26.7		243	05.6	+24	41.0	305	19.6	+1	21.7	342	50.4	-14	03.3	
13	326	28.7	347	24.9		25.5		258	07.4		41.0	320	21.6		21.9	357	52.6		03.2	
14	341	31.1	2	24.5		24.3		273	09.3		41.1	335	23.7		22.1	12	54.7		03.1	
15	356	33.6	17	24.0		23.1		288	11.2		41.1	350	25.7		22.3	27	56.9		03.0	
16	11	36.1	32	23.6		21.9		303	13.0		41.2	5	27.7		22.5	42	59.1		02.9	
17	26	38.5	47	23.1	-10	20.7		318	14.9	+24	41.2	20	29.8	+1	22.7	58	01.3	-14	02.8	
18	41	41.0	62	22.7	-10	19.5		333	16.8	+24	41.3	35	31.8	+1	22.9	73	03.5	-14	02.7	
19	56	43.5	77	22.2		18.3		348	18.6		41.4	50	33.8		23.1	88	05.6		02.6	
20	71	45.9	92	21.8		17.2		3	20.5		41.4	65	35.9		23.3	103	07.8		02.5	
21	86	48.4	107	21.3		16.0		18	22.4		41.5	80	37.9		23.5	118	10.0		02.4	
22	101	50.9	122	20.9		14.8		33	24.2		41.5	95	39.9		23.7	133	12.2		02.3	
23	116	53.3	137	20.4		13.6		48	26.1		41.6	110	42.0		23.9	148	14.3		02.2	
24	131	55.8	152	20.0	-10	12.4		63	27.9	+24	41.6	125	44.0	+1	24.1	163	16.5	-14	02.1	
Dif	—				-5				+12				+19				+1			

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 16'2 PMG:12 ^h 13.6 ^m				Edad: 11.1 ^d SD: 14'8 PMG: 22 ^h 06 ^m																		
	PHE { 4 ^h : 54'2 12 ^h : 54'1 20 ^h : 54'1 R°: 51 ^m				hG ☾		Dif		Dec			Dif			Hora			R°					
	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	36.5	-16	57.2	39	48.1	+27	26.4	11	60 N	6	34	7	25	8	12	11	29	67	7	53	38	
1	191	36.4		56.4	54	17.1		27.5	9	58	31	18		18	8	02	12	01	64	7	20	43	
2	206	36.3		55.7	68	46.1		28.4	8	56	28	12		12	7	53	26	61		6	56	44	
3	221	36.2		55.0	83	15.0		29.2	8	54	25	07		46		46	12	45	60		37	45	
4	236	36.2		54.3	97	44.0		29.8	6	52	22	7	02	39		39	13	02	59		20	46	
5	251	36.1	-16	53.6	112	13.0	+27	30.3	5	50	6	19	6	58	7	33	13	16	58		6	06	47
6	266	36.0	-16	52.8	126	41.9	+27	30.7	4	45	6	13	6	48	7	19	13	44	57		5	37	48
7	281	35.9		52.1	141	10.9		30.9	2	40	07	39		39	7	08	14	07	56		5	15	48
8	296	35.9		51.4	155	39.9		31.0	1	35	6	02	32	6	58		26	54		4	56	49	
9	311	35.8		50.7	170	08.9		31.0	0	30	5	56	25	50		14	42	54		40	50		
10	326	35.7		50.0	184	37.9		30.8	2	20	46	12	35	15	09	53	4	13	50				
11	341	35.6	-16	49.2	199	06.9	+27	30.5	3	10 N	5	35	6	00	6	22	15	32	52		3	49	51
12	356	35.5	-16	48.5	213	35.9	+27	30.1	4	0	5	23	5	49	6	10	15	54	51		3	28	51
13	11	35.5		47.8	228	05.0		29.5	6	10 S	5	10	36	5	58	16	16	49		3	06	51	
14	26	35.4		47.1	242	34.0		28.8	7	20	4	54	21	44		16	39	49		2	42	52	
15	41	35.3		46.3	257	03.1		28.0	8	30	33	5	03	29		17	06	47		2	15	52	
16	56	35.2		45.6	271	32.2		27.0	10	35	19	4	53	20		22	46		1	59	53		
17	71	35.2	-16	44.9	286	01.2	+27	25.9	11	40	4	03	4	40	5	10	17	41	45		1	40	53
18	86	35.1	-16	44.2	300	30.4	+27	24.7	12	45	3	43	4	24	4	58	18	04	43		1	18	53
19	101	35.0		43.4	314	59.5		23.3	14	50	16	4	05	43		32	42		0	49	53		
20	116	35.0		42.7	329	28.6		21.9	14	52	3	02	3	56	36		18	47	39		34	54	
21	131	34.9		42.0	343	57.8		20.2	17	54	2	45	45	28		19	03	38		0	18	54	
22	146	34.8		41.2	358	27.0		18.5	17	56	2	25	33	19		23	35		**	**	**		
23	161	34.7		40.5	12	56.2		16.6	19	58	1	58	18	4	10	19	47	32		**	**	**	
24	176	34.7	-16	39.8	27	25.5	+27	14.6	20	60 S	1	17	3	01	3	58	20	19	26		23	56	78

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 15 ^h 09.8 ^m		Mag: -3.9 PMG: 13 ^h 51 ^m		Mag: -0.2 PMG: 19 ^h 44 ^m		Mag: -2.2 PMG: 15 ^h 35 ^m		Mag: +0.8 PMG: 13 ^h 05 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	131	55.8	152	20.0	-10	12.4	63	27.9	+24	41.6
1	146	58.2	167	19.5		11.2	78	29.8		41.7
2	162	00.7	182	19.1		10.0	93	31.6		41.7
3	177	03.2	197	18.6		08.8	108	33.5		41.8
4	192	05.6	212	18.2		07.6	123	35.4		41.9
5	207	08.1	227	17.7	-10	06.4	138	37.2	+24	41.9
6	222	10.6	242	17.3	-10	05.2	153	39.1	+24	42.0
7	237	13.0	257	16.9		04.0	168	40.9		42.0
8	252	15.5	272	16.4		02.8	183	42.8		42.1
9	267	18.0	287	16.0		01.6	198	44.6		42.2
10	282	20.4	302	15.5	-10	00.4	213	46.5		42.2
11	297	22.9	317	15.1	-9	59.2	228	48.3	+24	42.3
12	312	25.4	332	14.6	-9	58.0	243	50.2	+24	42.3
13	327	27.8	347	14.2		56.8	258	52.0		42.4
14	342	30.3	2	13.8		55.6	273	53.8		42.4
15	357	32.7	17	13.3		54.4	288	55.7		42.5
16	12	35.2	32	12.9		53.2	303	57.5		42.6
17	27	37.7	47	12.4	-9	52.0	318	59.4	+24	42.6
18	42	40.1	62	12.0	-9	50.8	334	01.2	+24	42.7
19	57	42.6	77	11.5		49.6	349	03.0		42.7
20	72	45.1	92	11.1		48.4	4	04.9		42.8
21	87	47.5	107	10.7		47.2	19	06.7		42.9
22	102	50.0	122	10.2		46.0	34	08.6		42.9
23	117	52.5	137	09.8		44.8	49	10.4		43.0
24	132	54.9	152	09.3	-9	43.6	64	12.2	+24	43.0
Dif	—		-4		+12		+18		+1	
									+20	
									+2	
									+22	
									+	

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: 12.1 ^d SD: 14:7 PMG: 22 ^h 57 ^m PHE { 4 ^h : 54:0 12 ^h : 54:0 20 ^h : 54:0 R°: 48 ^m															
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°				
h	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	h m	h m	h m			
0	176	34.7	-16	39.8	27	25.5	+27	14.6	22	60 N	16 19	17 05	17 56	12 36	84	8 31	19	
1	191	34.6		39.1	41	54.7	102	12.4	23	58	28	12	17 59	13 05	77	8 03	25	
2	206	34.5		38.3	56	24.0	103	10.1	24	56	37	18	18 02	27 73	7 40	29		
3	221	34.5		37.6	70	53.3	103	07.7	24	54	44	23	05	13 45	70	22	32	
4	236	34.4		36.9	85	22.7	104	05.2	25	52	51	27	08	14 01	67	7 06	35	
5	251	34.3	-16	36.1	99	52.0	103	+27	02.5	27	50	16 57	17 32	18 10	14 14	66	6 53	36
6	266	34.3	-16	35.4	114	21.5	105	+26	59.7	28	45	17 10	17 41	18 16	14 41	62	6 25	39
7	281	34.2		34.7	128	50.9	104		56.8	29	40	21	50	22	15 03	59	6 03	42
8	296	34.1		33.9	143	20.4	105		53.7	31	35	30	17 57	27	20 58	5 45	43	
9	311	34.0		33.2	157	49.9	105		50.5	32	30	39	18 04	32	15 36	56	30	44
10	326	34.0		32.5	172	19.4	105		47.2	33	20	17 53	16	42	16 02	53	5 03	47
11	341	33.9	-16	31.7	186	49.0	106	+26	43.8	34	10 N	18 05	18 27	18 52	16 24	51	4 40	48
12	356	33.8	-16	31.0	201	18.6	106	+26	40.2	36	0	18 17	18 39	19 04	16 45	49	4 19	50
13	11	33.8		30.3	215	48.2	106		36.5	37	10 S	29	18 51	17	17 05	47	3 57	52
14	26	33.7		29.5	230	17.9	107		32.7	38	20	42	19 05	33	28 44		34	53
15	41	33.6		28.8	244	47.6	107		28.8	39	30	18 57	23	19 53	17 53	42	3 07	56
16	56	33.6		28.0	259	17.4	108		24.7	41	35	19 06	33	20 06	18 08	40	2 52	56
17	71	33.5	-16	27.3	273	47.2	108	+26	20.5	42	40	19 16	19 45	20 22	18 26	38	2 33	58
18	86	33.5	-16	26.6	288	17.0	108	+26	16.2	43	45	19 28	20 00	20 42	18 47	35	2 11	60
19	101	33.4		25.8	302	46.9	109		11.8	44	50	42	19	21 08	19 14	31	1 42	63
20	116	33.3		25.1	317	16.8	109		07.2	46	52	49	28	21	26 30		28	64
21	131	33.3		24.3	331	46.8	110	+26	02.5	47	54	19 56	39	37	41 27		1 12	66
22	146	33.2		23.6	346	16.8	110	+25	57.7	48	56	20 04	20 50	21 56	19 58	24	0 52	69
23	161	33.1		22.9	0	46.9	111		52.8	49	58	14	21 04	22 20	20 19	19	0 28	72
24	176	33.1	-16	22.1	15	17.0	111	+25	47.8	50	60 S	20 25	21 21	22 56	20 45	13	** **	**
UT	ARIES PMG 15 ^h 05.9 ^m		VENUS Mag: -3.9 PMG: 13 ^h 52 ^m		MARTE Mag: -0.2 PMG: 19 ^h 41 ^m		JÚPITER Mag: -2.2 PMG: 15 ^h 32 ^m		SATURNO Mag: +0.8 PMG: 13 ^h 02 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	132	54.9	152	09.3	-9	43.6	64	12.2	+24	43.0	126	32.7	+1	28.7	164	08.7	-13	59.7
1	147	57.4	167	08.9		42.4	79	14.1		43.1	141	34.7		28.9	179	10.9		59.6
2	162	59.9	182	08.5		41.2	94	15.9		43.1	156	36.8		29.1	194	13.1		59.5
3	178	02.3	197	08.0		40.0	109	17.7		43.2	171	38.8		29.3	209	15.2		59.4
4	193	04.8	212	07.6		38.8	124	19.6		43.3	186	40.8		29.5	224	17.4		59.3
5	208	07.2	227	07.2	-9	37.6	139	21.4	+24	43.3	201	42.8	+1	29.7	239	19.6	-13	59.2
6	223	09.7	242	06.7	-9	36.4	154	23.2	+24	43.4	216	44.9	+1	29.9	254	21.8	-13	59.1
7	238	12.2	257	06.3		35.2	169	25.0		43.4	231	46.9		30.1	269	23.9		59.0
8	253	14.6	272	05.9		34.0	184	26.9		43.5	246	48.9		30.3	284	26.1		58.9
9	268	17.1	287	05.4		32.8	199	28.7		43.6	261	50.9		30.5	299	28.3		58.8
10	283	19.6	302	05.0		31.6	214	30.5		43.6	276	53.0		30.7	314	30.5		58.7
11	298	22.0	317	04.6	-9	30.3	229	32.3	+24	43.7	291	55.0	+1	30.9	329	32.6	-13	58.6
12	313	24.5	332	04.1	-9	29.1	244	34.2	+24	43.7	306	57.0	+1	31.1	344	34.8	-13	58.5
13	328	27.0	347	03.7		27.9	259	36.0		43.8	321	59.0		31.3	359	37.0		58.4
14	343	29.4	2	03.3		26.7	274	37.8		43.9	337	01.1		31.5	14	39.2		58.3
15	358	31.9	17	02.8		25.5	289	39.6		43.9	352	03.1		31.7	29	41.3		58.2
16	13	34.4	32	02.4		24.3	304	41.4		44.0	7	05.1		31.9	44	43.5		58.1
17	28	36.8	47	02.0	-9	23.1	319	43.3	+24	44.0	22	07.1	+1	32.1	59	45.7	-13	58.0
18	43	39.3	62	01.5	-9	21.9	334	45.1	+24	44.1	37	09.2	+1	32.3	74	47.9	-13	57.9
19	58	41.7	77	01.1		20.7	349	46.9		44.2	52	11.2		32.5	89	50.0		57.8
20	73	44.2	92	00.7		19.5	4	48.7		44.2	67	13.2		32.7	104	52.2		57.7
21	88	46.7	107	00.2		18.2	19	50.5		44.3	82	15.2		32.9	119	54.4		57.6
22	103	49.1	121	59.8		17.0	34	52.3		44.3	97	17.3		33.0	134	56.6		57.5
23	118	51.6	136	59.4		15.8	49	54.1		44.4	112	19.3		33.2	149	58.7		57.4
24	133	54.1	151	59.0	-9	14.6	64	56.0	+24	44.5	127	21.3	+1	33.4	165	00.9	-13	57.3
Dif	—		-4		+12		+18		+1		+20		+2		+22		+	

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16 ^h 2 PMG: 12 ^h 13.8 ^m				Edad: 13.1 ^d PHE { 4 ^h : 53'9 12 ^h : 53'9 20 ^h : 54'0 SD: 14'7 PMG: 23 ^h 45 ^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		
0	176	33.1	-16	22.1	15	17.0	+25	47.8	52	60 N	6	31	7	21	8	07	14	00	89	8	50	9
1	191	33.0		21.4	29	47.1		42.6	52	58	27	15		7	58		22	83		28	14	
2	206	32.9		20.6	44	17.3		37.3	53	56	24	09		50	40	78		8	09	19		
3	221	32.9		19.9	58	47.6		31.9	54	54	22	7	04	42	14	55	75		7	54	22	
4	236	32.8		19.2	73	17.9		26.4	55	52	19	6	59	36	15	08	72		41	25		
5	251	32.8	-16	18.4	87	48.2	+25	20.8	56	50	6	16	6	55	7	30	15	20	69	7	29	27
6	266	32.7	-16	17.7	102	18.6	+25	15.0	58	45	6	11	6	46	7	17	15	43	66	7	04	32
7	281	32.6		16.9	116	49.0		09.2	58	40	05	37	7	06	16	02	62		6	45	34	
8	296	32.6		16.2	131	19.5	+25	03.2	60	35	6	00	30	6	57		18	59		28	37	
9	311	32.5		15.4	145	50.1	+24	57.1	61	30	5	55	24	49	32	57		6	14	39		
10	326	32.5		14.7	160	20.7		50.9	62	20	45	12	35	16	55	53		5	50	42		
11	341	32.4	-16	13.9	174	51.3	+24	44.5	64	10 N	5	35	6	00	6	22	17	15	50	5	28	46
12	356	32.3	-16	13.2	189	22.0	+24	38.1	64	0	5	24	5	49	6	10	17	34	46	5	09	48
13	11	32.3		12.4	203	52.8		31.5	66	10 S	5	11		36	5	58	17	52	44	4	49	50
14	26	32.2		11.7	218	23.6		24.9	66	20	4	55		22	46	18	12	41		27	54	
15	41	32.2		10.9	232	54.4		18.1	68	30	35	5	05	31	35	37		4	03	56		
16	56	32.1		10.2	247	25.3		11.2	69	35	22	4	55	22	18	48	35		3	48	59	
17	71	32.1	-16	09.4	261	56.3	+24	04.2	70	40	4	06	4	43	5	12	19	04	31	3	31	61
18	86	32.0	-16	08.7	276	27.3	+23	57.1	71	45	3	47	4	28	5	01	19	22	28	3	11	64
19	101	32.0		07.9	290	58.4		49.9	72	50	21		09	4	46		45	23		2	45	68
20	116	31.9		07.2	305	29.6		42.6	73	52	3	07	4	00	40	19	56	21		32	70	
21	131	31.8		06.4	320	00.7		35.2	74	54	2	52	3	50	32	20	08	18		18	73	
22	146	31.8		05.7	334	32.0		27.7	75	56		33		38	24	22	15		2	01	76	
23	161	31.7		04.9	349	03.3		20.1	76	58	2	08	24	15	38	11		1	40	81		
24	176	31.7	-16	04.2	3	34.7	+23	12.3	78	60 S	1	33	3	08	4	04	20	58	5	1	14	88
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 15 ^h 01.9 ^m			Mag: -3.9 PMG: 13 ^h 52 ^m			Mag: -0.2 PMG: 19 ^h 38 ^m			Mag: -2.2 PMG: 15 ^h 28 ^m			Mag: +0.8 PMG: 12 ^h 58 ^m									
	hG ♀		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	133	54.1	151	59.0	-9	14.6	64	56.0	+24	44.5	127	21.3	+1	33.4	165	00.9	-13	57.3				
1	148	56.5	166	58.5		13.4	79	57.8		44.5	142	23.3		33.6	180	03.1		57.2				
2	163	59.0	181	58.1		12.2	94	59.6		44.6	157	25.4		33.8	195	05.3		57.1				
3	179	01.5	196	57.7		11.0	110	01.4		44.6	172	27.4		34.0	210	07.4		57.0				
4	194	03.9	211	57.3		09.7	125	03.2		44.7	187	29.4		34.2	225	09.6		56.9				
5	209	06.4	226	56.8	-9	08.5	140	05.0	+24	44.8	202	31.4	+1	34.4	240	11.8	-13	56.8				
6	224	08.8	241	56.4	-9	07.3	155	06.8	+24	44.8	217	33.5	+1	34.6	255	14.0	-13	56.7				
7	239	11.3	256	56.0		06.1	170	08.6		44.9	232	35.5		34.8	270	16.1		56.6				
8	254	13.8	271	55.5		04.9	185	10.4		45.0	247	37.5		35.0	285	18.3		56.5				
9	269	16.2	286	55.1		03.7	200	12.2		45.0	262	39.5		35.2	300	20.5		56.4				
10	284	18.7	301	54.7		02.4	215	14.0		45.1	277	41.6		35.4	315	22.7		56.3				
11	299	21.2	316	54.3	-9	01.2	230	15.8	+24	45.1	292	43.6	+1	35.6	330	24.8	-13	56.2				
12	314	23.6	331	53.9	-9	00.0	245	17.6	+24	45.2	307	45.6	+1	35.8	345	27.0	-13	56.1				
13	329	26.1	346	53.4	-8	58.8	260	19.4		45.3	322	47.6		36.0	0	29.2		56.0				
14	344	28.6	1	53.0		57.6	275	21.2		45.3	337	49.6		36.2	15	31.3		55.9				
15	359	31.0	16	52.6		56.3	290	23.0		45.4	352	51.7		36.4	30	33.5		55.8				
16	14	33.5	31	52.2		55.1	305	24.8		45.4	7	53.7		36.6	45	35.7		55.7				
17	29	36.0	46	51.7	-8	53.9	320	26.6	+24	45.5	22	55.7	+1	36.8	60	37.9	-13	55.6				
18	44	38.4	61	51.3	-8	52.7	335	28.4	+24	45.6	37	57.7	+1	37.0	75	40.0	-13	55.5				
19	59	40.9	76	50.9		51.5	350	30.2		45.6	52	59.8		37.2	90	42.2		55.4				
20	74	43.3	91	50.5		50.2	5	32.0		45.7	68	01.8		37.4	105	44.4		55.3				
21	89	45.8	106	50.1		49.0	20	33.8		45.8	83	03.8		37.6	120	46.6		55.2				
22	104	48.3	121	49.6		47.8	35	35.6		45.8	98	05.8		37.8	135	48.7		55.1				
23	119	50.7	136	49.2		46.6	50	37.3		45.9	113	07.8		38.0	150	50.9		55.0				
24	134	53.2	151	48.8	-8	45.3	65	39.1	+24	45.9	128	09.9	+1	38.2	165	53.1	-13	54.9				
Dif	—		-4		+12		+18		+1		+20		+2		+22		+					

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: 14.1 ^d SD: 14/7 PMG: **h **m											
	PHE { 4 ^h : 54/0 12 ^h : 54/0 20 ^h : 54/0 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	m	h m	m	
0	176 31.7	-16 04.2	3 34.7	+23 12.3	78	60 N	16 24	17 10	18 00	15 29	88	8 59	4			
1	191 31.6	03.4	18 06.1	+23 04.5	79	58	33	16	03	45 83	42 10					
2	206 31.6	02.7	32 37.6	+22 56.6	81	56	41	22	06	15 58	79	28 13				
3	221 31.5	01.9	47 09.1	48.5	81	54	48	26	09	16 10	76	16 16				
4	236 31.5	01.2	61 40.7	40.4	81	52	16 55	31	11	20 73	8 06	18				
5	251 31.4	-16 00.4	76 12.3	+22 32.1	83	50	17 01	17 35	18 14	16 29	71	7 56	21			
6	266 31.4	-15 59.7	90 44.0	+22 23.8	83	45	17 13	17 44	18 19	16 49	65	7 36	25			
7	281 31.3	58.9	105 15.8	15.4	84	40	23	52	24	17 04	62	19 29				
8	296 31.3	58.1	119 47.6	+22 06.8	86	35	32	17 59	29	17 59		7 05	32			
9	311 31.2	57.4	134 19.5	+21 58.2	86	30	40	18 05	34	29 56	6 53	34				
10	326 31.2	56.6	148 51.4	49.5	87	20	17 54	17	43	17 48	52	32 39				
11	341 31.1	-15 55.9	163 23.4	+21 40.6	89	10 N	18 06	18 28	18 53	18 05	48	6 14	42			
12	356 31.1	-15 55.1	177 55.5	+21 31.7	89	0	18 17	18 39	19 04	18 20	45	5 57	45			
13	11 31.0	54.4	192 27.6	22.7	90	10 S	29	18 51	16	36 41	39 49					
14	26 31.0	53.6	206 59.8	13.6	91	20	41	19 05	32	18 53	37	5 21	52			
15	41 30.9	52.8	221 32.0	+21 04.4	93	30	18 56	21	19 52	19 12	32	4 59	57			
16	56 30.9	52.1	236 04.3	+20 55.1	93	35	19 04	31	20 04	23 30	47 59					
17	71 30.8	-15 51.3	250 36.6	+20 45.8	93	40	19 14	19 43	20 19	19 35	27	4 32	62			
18	86 30.8	-15 50.6	265 09.0	+20 36.3	95	45	19 25	19 58	20 38	19 50	23	4 15	65			
19	101 30.7	49.8	279 41.5	26.7	96	50	39	20 16	21 03	20 08	19	3 53	70			
20	116 30.7	49.0	294 14.0	17.1	96	52	45	24	16	17 16	42 73					
21	131 30.6	48.3	308 46.6	+20 07.4	97	54	19 52	34	31	26 14	31 75					
22	146 30.6	47.5	323 19.2	+19 57.6	98	56	20 00	45	21 49	37 11	17 79					
23	161 30.5	46.7	337 51.9	47.7	99	58	09	20 59	22 11	20 49	7	3 01	84			
24	176 30.5	-15 46.0	352 24.6	+19 37.7	100	60 S	20 19	21 14	22 43	21 03	3	2 42	89			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 58.0 ^m		Mag: -3.9 PMG: 13 ^h 53 ^m		Mag: -0.1 PMG: 19 ^h 35 ^m		Mag: -2.2 PMG: 15 ^h 25 ^m		Mag: +0.8 PMG: 12 ^h 55 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	134 53.2	151 48.8	-8 45.3	65 39.1	+24 45.9	128 09.9	+1 38.2	165 53.1	-13 54.9	
1	149 55.7	166 48.4	44.1	80 40.9	46.0	143 11.9	38.4	180 55.3	54.8	
2	164 58.1	181 48.0	42.9	95 42.7	46.1	158 13.9	38.6	195 57.4	54.7	
3	180 00.6	196 47.5	41.7	110 44.5	46.1	173 15.9	38.8	210 59.6	54.6	
4	195 03.1	211 47.1	40.4	125 46.3	46.2	188 17.9	39.0	226 01.8	54.5	
5	210 05.5	226 46.7	-8 39.2	140 48.1	+24 46.3	203 20.0	+1 39.2	241 04.0	-13 54.4	
6	225 08.0	241 46.3	-8 38.0	155 49.8	+24 46.3	218 22.0	+1 39.4	256 06.1	-13 54.3	
7	240 10.5	256 45.9	36.8	170 51.6	46.4	233 24.0	39.6	271 08.3	54.2	
8	255 12.9	271 45.5	35.5	185 53.4	46.4	248 26.0	39.8	286 10.5	54.1	
9	270 15.4	286 45.1	34.3	200 55.2	46.5	263 28.0	40.0	301 12.7	54.0	
10	285 17.8	301 44.6	33.1	215 57.0	46.6	278 30.1	40.2	316 14.8	53.9	
11	300 20.3	316 44.2	-8 31.9	230 58.7	+24 46.6	293 32.1	+1 40.4	331 17.0	-13 53.8	
12	315 22.8	331 43.8	-8 30.6	246 00.5	+24 46.7	308 34.1	+1 40.6	346 19.2	-13 53.7	
13	330 25.2	346 43.4	29.4	261 02.3	46.8	323 36.1	40.8	1 21.3	53.6	
14	345 27.7	1 43.0	28.2	276 04.1	46.8	338 38.1	41.0	16 23.5	53.5	
15	0 30.2	16 42.6	26.9	291 05.8	46.9	353 40.1	41.2	31 25.7	53.4	
16	15 32.6	31 42.2	25.7	306 07.6	46.9	8 42.2	41.4	46 27.9	53.3	
17	30 35.1	46 41.7	-8 24.5	321 09.4	+24 47.0	23 44.2	+1 41.6	61 30.0	-13 53.2	
18	45 37.6	61 41.3	-8 23.3	336 11.2	+24 47.1	38 46.2	+1 41.8	76 32.2	-13 53.1	
19	60 40.0	76 40.9	22.0	351 12.9	47.1	53 48.2	42.0	91 34.4	53.0	
20	75 42.5	91 40.5	20.8	6 14.7	47.2	68 50.2	42.2	106 36.6	52.9	
21	90 45.0	106 40.1	19.6	21 16.5	47.3	83 52.3	42.4	121 38.7	52.8	
22	105 47.4	121 39.7	18.3	36 18.2	47.3	98 54.3	42.6	136 40.9	52.7	
23	120 49.9	136 39.3	17.1	51 20.0	47.4	113 56.3	42.8	151 43.1	52.6	
24	135 52.3	151 38.9	-8 15.9	66 21.8	+24 47.5	128 58.3	+1 43.0	166 45.3	-13 52.5	
Dif	—		-4	+12	+18	+1	+20	+2	+22	+

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG: 12 ^h 14.0 ^m				Edad: 15.1 ^d PHE { 4 ^h : 54 ^h /1 12 ^h : 54 ^h /1 20 ^h : 54 ^h /2 PMG: 0 ^h 31 ^m R°: 44 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	176	30.5	-15	46.0	352	24.6	+19	37.7	101	27.6	60 N	6	26	7	16	8	02	16	57	86
1	191	30.4		45.2	6	57.4			138	102	58	24		11	7	53	17	08	82	
2	206	30.4		44.4	21	30.2			139	102	56	21		05	46		17	79		
3	221	30.4		43.7	36	03.1	+19	07.2	102	103	54	18		7	01	38	26	75	32	
4	236	30.3		42.9	50	36.1	+18	56.9	103	104	52	16		6	56	32	33	73	24	
5	251	30.3	-15	42.1	65	09.1	+18	46.5	104	105	50	6	14	6	52	7	26	17	40	70
6	266	30.2	-15	41.4	79	42.2	+18	36.0	105	106	45	6	08	6	43	7	14	17	54	66
7	281	30.2		40.6	94	15.3		25.5	105	107	40	6	03	36	7	04	18	06	61	7
8	296	30.1		39.8	108	48.5		14.8	107	108	35	5	59	29	6	55	16	58		37
9	311	30.1		39.1	123	21.7	+18	04.1	107	108	30	54		22	47	25	55		27	31
10	326	30.0		38.3	137	55.0	+17	53.3	108	109	20	45		11	34	40	50		7	11
11	341	30.0	-15	37.5	152	28.3	+17	42.5	108	110	10 N	5	35	6	00	6	22	18	53	46
12	356	30.0	-15	36.8	167	01.7	+17	31.5	110	110	0	5	24	5	49	6	11	19	05	42
13	11	29.9		36.0	181	35.1		20.5	110	111	10 S	5	12		37	5	59		17	38
14	26	29.9		35.2	196	08.6	+17	09.5	110	112	20	4	56	24	47		30	34		6
15	41	29.8		34.5	210	42.2	+16	58.3	112	112	30	37		5	07	33	44	30		5
16	56	29.8		33.7	225	15.8		47.1	112	113	35	24		4	57	24	19	53	27	46
17	71	29.8	-15	32.9	239	49.4	+16	35.8	113	114	40	4	09	4	45	5	15	20	02	24
18	86	29.7	-15	32.1	254	23.1	+16	24.4	114	114	45	3	50	4	31	5	04	20	13	20
19	101	29.7		31.4	268	56.8		13.0	114	115	50	25		13	4	50	27	15		5
20	116	29.6		30.6	283	30.6	+16	01.5	115	116	52	3	13	4	04	44	33	13		4
21	131	29.6		29.8	298	04.4	+15	49.9	116	116	54	2	58	3	54	36	40	11		46
22	146	29.6		29.0	312	38.3		38.3	116	117	56	40		43	29		48	8		36
23	161	29.5		28.3	327	12.2		26.6	117	118	58	2	17	30	20	20	56	5		25
24	176	29.5	-15	27.5	341	46.2	+15	14.8	118		60 S	1	46	3	15	4	09	21	06	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 54.1 ^m		Mag: -3.9 PMG: 13 ^h 54 ^m		Mag: -0.1 PMG: 19 ^h 32 ^m		Mag: -2.2 PMG: 15 ^h 22 ^m		Mag: +0.8 PMG: 12 ^h 51 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	135	52.3	151	38.9	-8	15.9	66	21.8	+24	47.5
1	150	54.8	166	38.5		14.6	81	23.5		47.5
2	165	57.3	181	38.1		13.4	96	25.3		47.6
3	180	59.7	196	37.6		12.2	111	27.1		47.6
4	196	02.2	211	37.2		10.9	126	28.8		47.7
5	211	04.7	226	36.8	-8	09.7	141	30.6	+24	47.8
6	226	07.1	241	36.4	-8	08.5	156	32.3	+24	47.8
7	241	09.6	256	36.0		07.2	171	34.1		47.9
8	256	12.1	271	35.6		06.0	186	35.9		48.0
9	271	14.5	286	35.2		04.8	201	37.6		48.0
10	286	17.0	301	34.8		03.5	216	39.4		48.1
11	301	19.4	316	34.4	-8	02.3	231	41.1	+24	48.2
12	316	21.9	331	34.0	-8	01.0	246	42.9	+24	48.2
13	331	24.4	346	33.6	-7	59.8	261	44.6		48.3
14	346	26.8	1	33.2		58.6	276	46.4		48.3
15	1	29.3	16	32.8		57.3	291	48.1		48.4
16	16	31.8	31	32.4		56.1	306	49.9		48.5
17	31	34.2	46	32.0	-7	54.9	321	51.6	+24	48.5
18	46	36.7	61	31.6	-7	53.6	336	53.4	+24	48.6
19	61	39.2	76	31.2		52.4	351	55.1		48.7
20	76	41.6	91	30.8		51.1	6	56.9		48.7
21	91	44.1	106	30.4		49.9	21	58.6		48.8
22	106	46.6	121	30.0		48.7	37	00.4		48.9
23	121	49.0	136	29.6		47.4	52	02.1		48.9
24	136	51.5	151	29.2	-7	46.2	67	03.9	+24	49.0
Dif	—		-4	+12			+18		+1	
									+20	+2
										+22
										+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG:12 ^h 14.1 ^m			Edad: 16.1 ^d SD: 14/8 PMG: 1 ^h 15 ^m PHE { 4 ^h : 54/3 12 ^h : 54/4 20 ^h : 54/5 R°: 42 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m	h m	m
0	176	29.5	-15	27.5	341	46.2	+15	14.8	60 N	16 29	17 15	18 05	18 23	84	9 05	1	
1	191	29.5		26.7	356	20.2	+15	03.0	58	38	21	07	30	80	8 58	4	
2	206	29.4		25.9	10	54.3	+14	51.1	56	45	26	10	36	77	51	7	
3	221	29.4		25.2	25	28.4		39.1	54	52	30	12	41	75	44	10	
4	236	29.3		24.4	40	02.5		27.1	52	16 58	34	14	46	72	39	12	
5	251	29.3	-15	23.6	54	36.7	+14	15.1	50	17 04	17 38	18 17	18 50	70	8 34	14	
6	266	29.3	-15	22.8	69	10.9	+14	02.9	45	17 16	17 47	18 22	19 00	65	8 23	18	
7	281	29.2		22.0	83	45.2	+13	50.7	40	26	17 54	26	07	61	13	23	
8	296	29.2		21.3	98	19.5		38.5	35	34	18 01	31	14	58	8 05	26	
9	311	29.2		20.5	112	53.9		26.2	30	42	07	35	20	55	7 58	29	
10	326	29.1		19.7	127	28.2		13.8	20	17 55	18	44	30	50	46	34	
11	341	29.1	-15	18.9	142	02.7	+13	01.4	10 N	18 07	18 28	18 53	19 39	45	7 35	38	
12	356	29.1	-15	18.1	156	37.1	+12	48.9	0	18 18	18 39	19 04	19 47	41	7 25	42	
13	11	29.0		17.4	171	11.6		36.4	10 S	29	18 50	16	19	55	37	15	46
14	26	29.0		16.6	185	46.2		23.8	20	40	19 04	31	20	04	33	7	04
15	41	29.0		15.8	200	20.8	+12	11.1	30	18 54	20	19	50	14	28	6	52
16	56	28.9		15.0	214	55.4	+11	58.5	35	19 02	29	20	02	20	24	44	58
17	71	28.9	-15	14.2	229	30.0	+11	45.7	40	19 11	19 41	20 16	20 26	22	6	36	61
18	86	28.9	-15	13.5	244	04.7	+11	32.9	45	19 22	19 55	20 35	20 33	18	6	26	65
19	101	28.9		12.7	258	39.4		20.1	50	35	20 12	20 59	42	14	14	70	
20	116	28.8		11.9	273	14.1	+11	07.2	52	41	20	21	11	46	12	08	73
21	131	28.8		11.1	287	48.9	+10	54.3	54	48	30	25	51	9	6	02	75
22	146	28.8		10.3	302	23.7		41.3	56	19 56	40	21	42	20	56	6	5
23	161	28.7		09.5	316	58.5		28.3	58	20 04	20 53	22	03	21	01	4	47
24	176	28.7	-15	08.7	331	33.4	+10	15.2	60 S	20 14	21 08	22	31	21	08	0	5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 14 ^h 50.1 ^m		Mag: -3.9 PMG: 13 ^h 54 ^m		Mag: -0.1 PMG: 19 ^h 29 ^m		Mag: -2.2 PMG: 15 ^h 19 ^m		Mag: +0.8 PMG: 12 ^h 48 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	136	51.5	151	29.2	-7	46.2	67	03.9	+24	49.0	129	46.7	+1	47.8	167	37.4	-13	50.1
1	151	53.9	166	28.8		44.9	82	05.6		49.1	144	48.7		48.0	182	39.6		50.0
2	166	56.4	181	28.4		43.7	97	07.3		49.1	159	50.7		48.2	197	41.8		49.9
3	181	58.9	196	28.0		42.4	112	09.1		49.2	174	52.7		48.4	212	43.9		49.8
4	197	01.3	211	27.6		41.2	127	10.8		49.3	189	54.7		48.6	227	46.1		49.7
5	212	03.8	226	27.2	-7	40.0	142	12.6	+24	49.3	204	56.7	+1	48.8	242	48.3	-13	49.6
6	227	06.3	241	26.8	-7	38.7	157	14.3	+24	49.4	219	58.7	+1	49.0	257	50.5	-13	49.5
7	242	08.7	256	26.4		37.5	172	16.0		49.4	235	00.7		49.2	272	52.6		49.4
8	257	11.2	271	26.0		36.2	187	17.8		49.5	250	02.8		49.4	287	54.8		49.3
9	272	13.7	286	25.6		35.0	202	19.5		49.6	265	04.8		49.6	302	57.0		49.2
10	287	16.1	301	25.2		33.7	217	21.2		49.6	280	06.8		49.8	317	59.1		49.1
11	302	18.6	316	24.8	-7	32.5	232	23.0	+24	49.7	295	08.8	+1	50.0	333	01.3	-13	49.0
12	317	21.1	331	24.4	-7	31.3	247	24.7	+24	49.8	310	10.8	+1	50.2	348	03.5	-13	48.9
13	332	23.5	346	24.0		30.0	262	26.4		49.8	325	12.8		50.4	3	05.7		48.8
14	347	26.0	1	23.6		28.8	277	28.2		49.9	340	14.8		50.6	18	07.8		48.7
15	2	28.4	16	23.2		27.5	292	29.9		50.0	355	16.8		50.8	33	10.0		48.6
16	17	30.9	31	22.8		26.3	307	31.6		50.0	10	18.9		51.0	48	12.2		48.5
17	32	33.4	46	22.4	-7	25.0	322	33.4	+24	50.1	25	20.9	+1	51.2	63	14.4	-13	48.4
18	47	35.8	61	22.0	-7	23.8	337	35.1	+24	50.2	40	22.9	+1	51.4	78	16.5	-13	48.3
19	62	38.3	76	21.6		22.5	352	36.8		50.2	55	24.9		51.6	93	18.7		48.2
20	77	40.8	91	21.2		21.3	7	38.5		50.3	70	26.9		51.8	108	20.9		48.1
21	92	43.2	106	20.8		20.0	22	40.3		50.4	85	28.9		52.0	123	23.1		48.0
22	107	45.7	121	20.4		18.8	37	42.0		50.4	100	30.9		52.2	138	25.2		47.9
23	122	48.2	136	20.0		17.5	52	43.7		50.5	115	32.9		52.4	153	27.4		47.8
24	137	50.6	151	19.6	-7	16.3	67	45.4	+24	50.6	130	34.9	+1	52.6	168	29.6	-13	47.7
Dif	—		-4		+12		+17		+1		+20		+2		+22		+	

ALMANAQUE NÁUTICO PERSEUS

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: 18.1 ^d SD: 14/9 PMG: 2 ^h 38 ^m		PHE { 4 ^h : 54/9 12 ^h : 55/1 20 ^h : 55/2 R°: 41 ^m									
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	
0	176	28.1	-14	49.7	321	36.0	+4 50.0	60 N	16 34	17 20	18 09	21 10 86	9 07 0	
1	191	28.1		48.9	336	11.3	36.1	58	43	25	12	10 82	05 3	
2	206	28.1		48.1	350	46.5	22.1	56	50	30	14	10 79	04 6	
3	221	28.0		47.3	5	21.8	08.1	54	16 56	34	16	10 76	03 8	
4	236	28.0		46.5	19	57.1	54.1	52	17 02	38	18	10 74	02 10	
5	251	28.0	-14	45.7	34	32.4	40.0	50	17 07	17 41	18 20	21 10 71	9 01 12	
6	266	28.0	-14	44.9	49	07.6	26.0	45	17 19	17 49	18 24	21 10 66	8 59 17	
7	281	28.0		44.1	63	42.9	11.9	40	28	17 56	28	10 62	57 21	
8	296	27.9		43.3	78	18.2	57.8	35	36	18 03	33	09 59	56 24	
9	311	27.9		42.5	92	53.5	43.7	30	44	08	37	09 56	54 27	
10	326	27.9		41.7	107	28.7	29.5	20	17 56	19	45	09 51	52 32	
11	341	27.9	-14	40.9	122	04.0	15.4	10 N	18 07	18 29	18 54	21 09 46	8 50 36	
12	356	27.9	-14	40.1	136	39.2	01.2	0	18 18	18 39	19 04	21 09 41	8 48 41	
13	11	27.9		39.3	151	14.5	47.0	10 S	28	18 50	15	09 37	46 45	
14	26	27.8		38.5	165	49.7	32.8	20	40	19 03	30	09 32	43 50	
15	41	27.8		37.7	180	24.9	18.6	30	18 53	18	19 48	09 27	41 55	
16	56	27.8		36.9	195	00.1	04.4	35	19 00	27	20 00	09 24	40 58	
17	71	27.8	-14	36.1	209	35.3	50.1	40	19 09	19 38	20 14	21 09 21	8 38 61	
18	86	27.8	-14	35.3	224	10.5	35.9	45	19 19	19 52	20 31	21 08 18	8 36 65	
19	101	27.8		34.5	238	45.7	21.6	50	32	20 08	20 54	08 13	34 70	
20	116	27.8		33.7	253	20.9	07.3	52	38	16	21 06	08 11	32 73	
21	131	27.7		32.9	267	56.0	07.0	54	44	25	19	08 9	31 75	
22	146	27.7		32.1	282	31.1	21.3	56	19 51	35	35	08 7	30 78	
23	161	27.7		31.3	297	06.2	35.6	58	20 00	20 47	21 55	08 4	29 80	
24	176	27.7	-14	30.5	311	41.3	-0 49.9	60 S	20 09	21 01	22 20	21 08 1	8 27 84	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 ^h 42.3 ^m		Mag: -3.9 PMG: 13 ^h 56 ^m		Mag: 0.0 PMG: 19 ^h 24 ^m		Mag: -2.2 PMG: 15 ^h 12 ^m		Mag: +0.8 PMG: 12 ^h 41 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	138	49.8	151	10.3	-6	46.2	68	26.5	+24	52.1	131	23.1	+1	57.5	169	21.7	-13	45.3
1	153	52.2	166	10.0		44.9	83	28.2		52.2	146	25.1		57.7	184	23.9		45.2
2	168	54.7	181	09.6		43.7	98	29.9		52.3	161	27.1		57.9	199	26.1		45.1
3	183	57.1	196	09.2		42.4	113	31.6		52.3	176	29.1		58.1	214	28.2		45.0
4	198	59.6	211	08.8		41.2	128	33.3		52.4	191	31.2		58.3	229	30.4		44.9
5	214	02.1	226	08.4	-6	39.9	143	35.0	+24	52.5	206	33.2	+1	58.5	244	32.6	-13	44.8
6	229	04.5	241	08.0	-6	38.7	158	36.7	+24	52.6	221	35.2	+1	58.7	259	34.7	-13	44.6
7	244	07.0	256	07.7		37.4	173	38.4		52.6	236	37.2		58.9	274	36.9		44.5
8	259	09.5	271	07.3		36.1	188	40.1		52.7	251	39.2		59.1	289	39.1		44.4
9	274	11.9	286	06.9		34.9	203	41.8		52.8	266	41.2		59.3	304	41.3		44.3
10	289	14.4	301	06.5		33.6	218	43.5		52.8	281	43.2		59.5	319	43.4		44.2
11	304	16.9	316	06.1	-6	32.4	233	45.2	+24	52.9	296	45.2	+1	59.7	334	45.6	-13	44.1
12	319	19.3	331	05.8	-6	31.1	248	46.9	+24	53.0	311	47.2	+1	59.9	349	47.8	-13	44.0
13	334	21.8	346	05.4		29.8	263	48.5		53.0	326	49.2	+2	00.1	4	50.0		43.9
14	349	24.3	1	05.0		28.6	278	50.2		53.1	341	51.2		00.3	19	52.1		43.8
15	4	26.7	16	04.6		27.3	293	51.9		53.2	356	53.2		00.5	34	54.3		43.7
16	19	29.2	31	04.2		26.1	308	53.6		53.2	11	55.2		00.7	49	56.5		43.6
17	34	31.6	46	03.9	-6	24.8	323	55.3	+24	53.3	26	57.2	+2	01.0	64	58.6	-13	43.5
18	49	34.1	61	03.5	-6	23.5	338	57.0	+24	53.4	41	59.2	+2	01.2	80	00.8	-13	43.4
19	64	36.6	76	03.1		22.3	353	58.7		53.4	57	01.2		01.4	95	03.0		43.3
20	79	39.0	91	02.7		21.0	9	00.4		53.5	72	03.2		01.6	110	05.2		43.2
21	94	41.5	106	02.3		19.7	24	02.0		53.6	87	05.2		01.8	125	07.3		43.1
22	109	44.0	121	02.0		18.5	39	03.7		53.6	102	07.2		02.0	140	09.5		43.0
23	124	46.4	136	01.6		17.2	54	05.4		53.7	117	09.2		02.2	155	11.7		42.9
24	139	48.9	151	01.2	-6	16.0	69	07.1	+24	53.8	132	11.2	+2	02.4	170	13.8	-13	42.8
Dif	—		-4		+13		+17		+1		+20		+2		+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: 19.1 ^d SD: 15/1 PMG: 3 ^h 19 ^m												
				PHE { 4 ^h : 55/4 12 ^h : 55/5 20 ^h : 55/7 R°: 42 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m		h	m	m
0	176	27.7	-14	30.5		311	41.3	-0	49.9	60 N	6 18	7 07	7 52	22 36	89	9 07 0
1	191	27.7		29.7		326	16.4 ¹⁶¹	-1	04.2 ¹⁴³	58	16	7 02	44	32 85		08 4
2	206	27.7		28.9		340	51.4 ¹⁶⁰		18.6 ¹⁴⁴	56	14	6 58	37	29 82		10 6
3	221	27.7		28.1		355	26.4 ¹⁶⁰		32.9 ¹⁴³	54	12	53	31	26 79		11 9
4	236	27.7		27.2		10	01.4 ¹⁶⁰	-1	47.2 ¹⁴³	52	10	50	25	24 76		12 12
5	251	27.6	-14	26.4		24	36.4 ¹⁶⁰	-2	01.6 ¹⁴⁴	50	6 08	6 46	7 20	22 21	74	9 13 14
6	266	27.6	-14	25.6		39	11.3 ¹⁵⁹	-2	15.9 ¹⁴³	45	6 04	6 38	7 09	22 16	69	9 16 18
7	281	27.6		24.8		53	46.3 ¹⁶⁰		30.2 ¹⁴⁴	40	5 59	31	6 59	12 64		18 22
8	296	27.6		24.0		68	21.2 ¹⁵⁹		44.6 ¹⁴⁴	35	55	25	51	08 61		20 25
9	311	27.6		23.2		82	56.0 ¹⁵⁸	-2	58.9 ¹⁴³	30	51	20	44	05 58		21 29
10	326	27.6		22.4		97	30.8 ¹⁵⁸	-3	13.3 ¹⁴⁴	20	43	6 09	32	22 00	52	24 33
11	341	27.6	-14	21.6		112	05.6 ¹⁵⁸	-3	27.6 ¹⁴³	10 N	5 34	5 59	6 21	21 55	48	9 26 38
12	356	27.6	-14	20.8		126	40.4 ¹⁵⁸	-3	41.9 ¹⁴³	0	5 25	5 49	6 11	21 50	44	9 29 42
13	11	27.6		20.0		141	15.1 ¹⁵⁷	-3	56.3 ¹⁴⁴	10 S	5 13	38	6 00	46 39		31 46
14	26	27.6		19.1		155	49.8 ¹⁵⁷	-4	10.6 ¹⁴³	20	4 59	26	5 49	41 35		33 52
15	41	27.5		18.3		170	24.4 ¹⁵⁶		24.9 ¹⁴³	30	41	11	36	36 30		36 57
16	56	27.5		17.5		184	59.1 ¹⁵⁷		39.2 ¹⁴³	35	29	5 01	28	33 27		38 59
17	71	27.5	-14	16.7		199	33.6 ¹⁵⁵	-4	53.5 ¹⁴³	40	4 15	4 50	5 20	21 30	23	9 39 64
18	86	27.5	-14	15.9		214	08.2 ¹⁵⁶	-5	07.8 ¹⁴³	45	3 58	4 37	5 09	21 26	19	9 41 68
19	101	27.5		15.1		228	42.7 ¹⁵⁵		22.1 ¹⁴³	50	35	21	4 57	21 15		44 72
20	116	27.5		14.3		243	17.1 ¹⁵⁴		36.4 ¹⁴³	52	23	13	51	19 13		45 75
21	131	27.5		13.4		257	51.5 ¹⁵⁴	-5	50.7 ¹⁴³	54	3 10	4 04	45	17 10		46 77
22	146	27.5		12.6		272	25.9 ¹⁵⁴	-6	04.9 ¹⁴²	56	2 54	3 54	38	15 7		48 80
23	161	27.5		11.8		287	00.2 ¹⁵³		19.2 ¹⁴³	58	35	42	30	12 4		49 83
24	176	27.5	-14	11.0		301	34.4 ¹⁵²	-6	33.4 ¹⁴²	60 S	2 09	3 28	4 20	21 09	0	9 51 87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 38.3 ^m		Mag: -3.9 PMG: 13 ^h 56 ^m		Mag: 0.0 PMG: 19 ^h 21 ^m		Mag: -2.2 PMG: 15 ^h 09 ^m		Mag: +0.8 PMG: 12 ^h 37 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	139	48.9	151	01.2	-6	16.0	69	07.1	+24	53.8
1	154	51.4	166	00.8		14.7	84	08.8		53.8
2	169	53.8	181	00.5		13.4	99	10.4		53.9
3	184	56.3	196	00.1		12.2	114	12.1		54.0
4	199	58.7	210	59.7		10.9	129	13.8		54.0
5	215	01.2	225	59.3	-6	09.6	144	15.5	+24	54.1
6	230	03.7	240	59.0	-6	08.4	159	17.1	+24	54.2
7	245	06.1	255	58.6		07.1	174	18.8		54.2
8	260	08.6	270	58.2		05.8	189	20.5		54.3
9	275	11.1	285	57.8		04.6	204	22.2		54.4
10	290	13.5	300	57.5		03.3	219	23.8		54.4
11	305	16.0	315	57.1	-6	02.0	234	25.5	+24	54.5
12	320	18.5	330	56.7	-6	00.8	249	27.2	+24	54.6
13	335	20.9	345	56.3	-5	59.5	264	28.9		54.6
14	350	23.4	0	56.0		58.2	279	30.5		54.7
15	5	25.9	15	55.6		57.0	294	32.2		54.8
16	20	28.3	30	55.2		55.7	309	33.9		54.8
17	35	30.8	45	54.9	-5	54.4	324	35.5	+24	54.9
18	50	33.2	60	54.5	-5	53.2	339	37.2	+24	55.0
19	65	35.7	75	54.1		51.9	354	38.9		55.0
20	80	38.2	90	53.7		50.6	9	40.5		55.1
21	95	40.6	105	53.4		49.3	24	42.2		55.2
22	110	43.1	120	53.0		48.1	39	43.8		55.3
23	125	45.6	135	52.6		46.8	54	45.5		55.3
24	140	48.0	150	52.3	-5	45.5	69	47.2	+24	55.4
Dif	—		-4	+13			+17		+1	
									+20	+2
										+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: 20.1 ^d SD: 15/2 PMG: 4 ^h 01 ^m PHE { 4 ^h : 55/9 12 ^h : 56/1 20 ^h : 56/4 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	176	27.5	-14	11.0	301	34.4		-6	33.4	142	60 N	16 40	17 25	18 14	** ** *	9 07	1							
1	191	27.5		10.2	316	08.6		-6	47.6	142	58	47	29	16	23 57	91	12 5							
2	206	27.5		09.3	330	42.8		-7	01.8	142	56	16 54	34	18	51 86	16	8							
3	221	27.5		08.5	345	16.9			16.0	142	54	17 00	38	19	45 83	20	11							
4	236	27.5		07.7	359	51.0			30.2	142	52	06	41	21	40 80	24	13							
5	251	27.5	-14	06.9	14	25.0		-7	44.3	141	50	17 11	17 45	18 23	23 35	77	9 27 15							
6	266	27.5	-14	06.1	28	58.9		-7	58.5	142	45	17 22	17 52	18 27	23 25	72	9 34 20							
7	281	27.5		05.3	43	32.8		-8	12.6	141	40	31	17 59	31	16 68	40	24							
8	296	27.5		04.4	58	06.6			26.6	140	35	38	18 04	34	09 64	45	28							
9	311	27.5		03.6	72	40.4			40.7	141	30	45	10	38	23 03	61	50 30							
10	326	27.5		02.8	87	14.1		-8	54.7	140	20	17 57	20	46	22 52	56	9 57 36							
11	341	27.5	-14	02.0	101	47.8		-9	08.8	141	10 N	18 08	18 29	18 54	22 43	51	10 04 41							
12	356	27.5	-14	01.1	116	21.4		-9	22.8	140	0	18 18	18 39	19 04	22 34	47	10 11 45							
13	11	27.5	-14	00.3	130	54.9			36.7	139	10 S	28	18 49	15	25 43		17 50							
14	26	27.5	-13	59.5	145	28.4		-9	50.7	140	20	39	19 01	28	16 38		25 53							
15	41	27.5		58.7	160	01.7		-10	04.6	139	30	51	16	46	06 33		33 59							
16	56	27.5		57.9	174	35.1			18.4	138	35	18 58	25	19 57	22 00	30	37 62							
17	71	27.5	-13	57.0	189	08.3		-10	32.3	139	40	19 07	19 36	20 11	21 53	26	10 43 65							
18	86	27.5	-13	56.2	203	41.5		-10	46.1	138	45	19 17	19 48	20 28	21 45	23	10 49 70							
19	101	27.5		55.4	218	14.6		-10	59.9	138	50	28	20 04	20 50	36 17		10 56 75							
20	116	27.5		54.6	232	47.7		-11	13.6	137	52	34	12	21 01	32 15		11 00 77							
21	131	27.5		53.7	247	20.6			27.3	137	54	40	21	13	27 12		03 81							
22	146	27.5		52.9	261	53.5			41.0	137	56	47	30	28	22 9		08 83							
23	161	27.5		52.1	276	26.3		-11	54.7	137	58	19 55	41	21 47	16 6		12 88							
24	176	27.5	-13	51.2	290	59.1		-12	08.3	136	60 S	20 03	20 54	22 10	21 09	2	11 18 91							
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 14 ^h 34.4 ^m			Mag: -3.9 PMG: 13 ^h 57 ^m			Mag: 0.0 PMG: 19 ^h 19 ^m			Mag: -2.2 PMG: 15 ^h 06 ^m			Mag: +0.8 PMG: 12 ^h 34 ^m											
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	140	48.0	150	52.3	-5	45.5	69	47.2	+24	55.4	132	59.3	+2	07.3	171	06.0	-13	40.4						
1	155	50.5	165	51.9		44.3	84	48.8		55.5	148	01.3		07.5	186	08.1		40.3						
2	170	53.0	180	51.5		43.0	99	50.5		55.5	163	03.3		07.7	201	10.3		40.2						
3	185	55.4	195	51.2		41.7	114	52.1		55.6	178	05.3		07.9	216	12.5		40.1						
4	200	57.9	210	50.8		40.5	129	53.8		55.7	193	07.3		08.1	231	14.7		40.0						
5	216	00.4	225	50.4	-5	39.2	144	55.5	+24	55.7	208	09.3	+2	08.3	246	16.8	-13	39.9						
6	231	02.8	240	50.1	-5	37.9	159	57.1	+24	55.8	223	11.3	+2	08.5	261	19.0	-13	39.8						
7	246	05.3	255	49.7		36.6	174	58.8		55.9	238	13.3		08.8	276	21.2		39.7						
8	261	07.7	270	49.3		35.4	190	00.4		55.9	253	15.3		09.0	291	23.3		39.6						
9	276	10.2	285	49.0		34.1	205	02.1		56.0	268	17.3		09.2	306	25.5		39.5						
10	291	12.7	300	48.6		32.8	220	03.7		56.1	283	19.3		09.4	321	27.7		39.4						
11	306	15.1	315	48.2	-5	31.5	235	05.4	+24	56.1	298	21.3	+2	09.6	336	29.9	-13	39.3						
12	321	17.6	330	47.9	-5	30.3	250	07.0	+24	56.2	313	23.3	+2	09.8	351	32.0	-13	39.2						
13	336	20.1	345	47.5		29.0	265	08.7		56.3	328	25.2		10.0	6	34.2		39.1						
14	351	22.5	0	47.1		27.7	280	10.3		56.3	343	27.2		10.2	21	36.4		39.0						
15	6	25.0	15	46.8		26.5	295	12.0		56.4	358	29.2		10.4	36	38.6		38.9						
16	21	27.5	30	46.4		25.2	310	13.6		56.5	13	31.2		10.6	51	40.7		38.8						
17	36	29.9	45	46.0	-5	23.9	325	15.3	+24	56.5	28	33.2	+2	10.8	66	42.9	-13	38.7						
18	51	32.4	60	45.7	-5	22.6	340	16.9	+24	56.6	43	35.2	+2	11.0	81	45.1	-13	38.6						
19	66	34.8	75	45.3		21.4	355	18.6		56.7	58	37.2		11.2	96	47.2		38.5						
20	81	37.3	90	44.9		20.1	10	20.2		56.8	73	39.2		11.4	111	49.4		38.4						
21	96	39.8	105	44.6		18.8	25	21.9		56.8	88	41.2		11.6	126	51.6		38.3						
22	111	42.2	120	44.2		17.5	40	23.5		56.9	103	43.2		11.9	141	53.8		38.2						
23	126	44.7	135	43.8		16.3	55	25.1		57.0	118	45.2		12.1	156	55.9		38.1						
24	141	47.2	150	43.5	-5	15.0	70	26.8	+24	57.0	133	47.2	+2	12.3	171	58.1	-13	37.9						
Dif	—			-4			+13			+1			+20			+2			+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: 21.1 ^d SD: 15'4 PMG: 4 ^h 45 ^m											
	PHE { 4 ^h : 56'6 12 ^h : 56'8 20 ^h : 57'1 Rº: 47 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m
0	176	27.5	-13	290	59.1	-12	08.3	60 N	6	13	7	02	7	47	0
1	191	27.5		305	31.7		21.8	58	11	6	58	39	**	**	**
2	206	27.5		320	04.3		35.3	56	10	53	33	**	**	**	
3	221	27.5		334	36.8	-12	48.8	54	08	50	27	**	**	**	31
4	236	27.5		349	09.2	-13	02.2	52	06	46	21	**	**	**	37
5	251	27.5	-13	3	41.5	-13	15.6	50	6	05	6	43	7	16	9
6	266	27.5	-13	18	13.8	-13	29.0	45	6	01	6	35	7	06	5
7	281	27.5		32	45.9		42.3	40	5	57	29	6	57	**	**
8	296	27.5		47	18.0	-13	55.5	35	54	23	49	**	**	**	13
9	311	27.5		61	50.0	-14	08.7	30	50	18	43	**	**	**	20
10	326	27.5		76	21.9		21.9	20	42	6	08	31	23	48	59
11	341	27.5	-13	90	53.7	-14	35.0	10 N	5	34	5	59	6	21	23
12	356	27.5	-13	105	25.4	-14	48.0	0	5	25	5	49	6	11	23
13	11	27.5		119	57.0	-15	01.0	10 S	14	39	6	01	23	08	47
14	26	27.5		134	28.5		13.9	20	5	00	27	5	50	22	54
15	41	27.5		148	59.9		26.8	30	4	43	12	38	39	38	32
16	56	27.6		163	31.3		39.6	35	31	5	04	30	30	35	39
17	71	27.6	-13	178	02.5	-15	52.4	40	4	18	4	53	5	22	22
18	86	27.6	-13	192	33.6	-16	05.1	45	4	01	4	40	5	12	22
19	101	27.6		207	04.6		17.7	50	3	39	25	5	01	21	53
20	116	27.6		221	35.6		30.3	52	28	17	4	55	47	20	17
21	131	27.6		236	06.4		42.8	54	16	4	09	49	39	17	24
22	146	27.6		250	37.1	-16	55.2	56	3	01	3	59	42	31	14
23	161	27.6		265	07.7	-17	07.6	58	2	43	48	35	22	9	40
24	176	27.6	-13	279	38.3	-17	19.9	60 S	2	19	3	35	4	26	21

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 14 ^h 30.5 ^m		Mag: -3.9 PMG: 13 ^h 57 ^m		Mag: 0.0 PMG: 19 ^h 16 ^m		Mag: -2.2 PMG: 15 ^h 03 ^m		Mag: +0.8 PMG: 12 ^h 30 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	141	47.2	150	43.5	-5	15.0	70	26.8	+24	57.0
1	156	49.6	165	43.1		13.7	85	28.4		57.1
2	171	52.1	180	42.8		12.4	100	30.1		57.2
3	186	54.6	195	42.4		11.1	115	31.7		57.2
4	201	57.0	210	42.0		09.9	130	33.3		57.3
5	216	59.5	225	41.7	-5	08.6	145	35.0	+24	57.4
6	232	02.0	240	41.3	-5	07.3	160	36.6	+24	57.4
7	247	04.4	255	41.0		06.0	175	38.2		57.5
8	262	06.9	270	40.6		04.8	190	39.9		57.6
9	277	09.3	285	40.2		03.5	205	41.5		57.6
10	292	11.8	300	39.9		02.2	220	43.1		57.7
11	307	14.3	315	39.5	-5	00.9	235	44.8	+24	57.8
12	322	16.7	330	39.2	-4	59.6	250	46.4	+24	57.9
13	337	19.2	345	38.8		58.4	265	48.0		57.9
14	352	21.7	0	38.4		57.1	280	49.7		58.0
15	7	24.1	15	38.1		55.8	295	51.3		58.1
16	22	26.6	30	37.7		54.5	310	52.9		58.1
17	37	29.1	45	37.4	-4	53.2	325	54.6	+24	58.2
18	52	31.5	60	37.0	-4	52.0	340	56.2	+24	58.3
19	67	34.0	75	36.6		50.7	355	57.8		58.3
20	82	36.5	90	36.3		49.4	10	59.4		58.4
21	97	38.9	105	35.9		48.1	26	01.1		58.5
22	112	41.4	120	35.6		46.8	41	02.7		58.5
23	127	43.8	135	35.2		45.6	56	04.3		58.6
24	142	46.3	150	34.9	-4	44.3	71	05.9	+24	58.7
Dif	—		-4		+13		+16		+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: 22.1 ^d SD: 15/6 PMG: 5 ^h 32 ^m						Civil			Náutico			Hora R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	h m	h m			h m	h m	h m	h m	h m	h m	h m	h m	
h	°	/	°	/	°	/	°	/	°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
0	176	27.6	-13	31.3	279	38.3	-17	19.9	60 N	16 45	17 29	18 18	1 40	102	9 10	6	24	11	6
1	191	27.6		30.4	294	08.7		32.1	58	52	34	20	28	96		24	11		
2	206	27.6		29.6	308	39.0		44.3	56	16 59	38	22	17	91		35	16		
3	221	27.7		28.8	323	09.1	-17	56.3	54	17 04	41	23	08	87		45	20		
4	236	27.7		27.9	337	39.2	-18	08.3	52	10	45	25	1 00	83		9 54	23		
5	251	27.7	-13	27.1	352	09.2	-18	20.3	50	17 14	17 48	18 26	0 52	81		10 02	26		
6	266	27.7	-13	26.3	6	39.1	-18	32.1	45	17 25	17 55	18 29	0 37	75		10 19	31		
7	281	27.7		25.4	21	08.8		43.9	40	33	18 01	33	24	71		33	36		
8	296	27.7		24.6	35	38.4	-18	55.6	35	40	06	36	13	67		45	39		
9	311	27.7		23.7	50	08.0	-19	07.2	30	47	11	40	0 04	64		10 56	41		
10	326	27.7		22.9	64	37.4		18.7	20	17 58	21	47	**	**	**		11 14	46	
11	341	27.8	-13	22.1	79	06.6	-19	30.1	10 N	18 08	18 30	18 55	**	**	**		11 30	50	
12	356	27.8	-13	21.2	93	35.8	-19	41.5	0	18 18	18 39	19 03	**	**	**		11 45	53	
13	11	27.8		20.4	108	04.9	-19	52.7	10 S	27	18 49	14	23	55	53		11 59	58	
14	26	27.8		19.5	122	33.8	-20	03.9	20	37	19 00	27	37	50		12 16	61		
15	41	27.8		18.7	137	02.6		15.0	30	49	14	44	17	46		34	66		
16	56	27.8		17.8	151	31.3		25.9	35	18 56	23	19 55	23	05	43		45	68	
17	71	27.9	-13	17.0	165	59.9	-20	36.8	40	19 04	19 33	20 08	22	51	41		12 57	72	
18	86	27.9	-13	16.2	180	28.4	-20	47.6	45	19 14	19 45	20 24	22	35	37		13 12	76	
19	101	27.9		15.3	194	56.7	-20	58.3	50	25	20 00	45	16	31		30	82		
20	116	27.9		14.5	209	24.9	-21	08.9	52	30	08	20 56	22	07	29		39	84	
21	131	27.9		13.6	223	53.0		19.4	54	36	16	21 08	21	56	26		13 49	87	
22	146	27.9		12.8	238	21.0		29.7	56	42	25	22	45	22		14 00	91		
23	161	28.0		11.9	252	48.8		40.0	58	50	36	21 39	31	17		12	97		
24	176	28.0	-13	11.1	267	16.6	-21	50.2	60 S	19 58	20 48	22 00	21	16	10		14 27	104	

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 14 ^h 26.5 ^m			Mag: -3.9 PMG: 13 ^h 58 ^m			Mag: +0.1 PMG: 19 ^h 14 ^m			Mag: -2.2 PMG: 15 ^h 00 ^m			Mag: +0.8 PMG: 12 ^h 27 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec					
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/				
0	142	46.3	150	34.9	-4	44.3	71	05.9	+24	58.7	134	35.1	+2	17.3	172	50.2	-13	35.5
1	157	48.8	165	34.5		43.0	86	07.5		58.7	149	37.1		17.5	187	52.4		35.4
2	172	51.2	180	34.1		41.7	101	09.2		58.8	164	39.1		17.7	202	54.6		35.3
3	187	53.7	195	33.8		40.4	116	10.8		58.9	179	41.1		17.9	217	56.7		35.2
4	202	56.2	210	33.4		39.1	131	12.4		59.0	194	43.1		18.1	232	58.9		35.1
5	217	58.6	225	33.1	-4	37.9	146	14.0	+24	59.0	209	45.1	+2	18.3	248	01.1	-13	35.0
6	233	01.1	240	32.7	-4	36.6	161	15.6	+24	59.1	224	47.0	+2	18.5	263	03.2	-13	34.9
7	248	03.6	255	32.4		35.3	176	17.3		59.2	239	49.0		18.7	278	05.4		34.8
8	263	06.0	270	32.0		34.0	191	18.9		59.2	254	51.0		18.9	293	07.6		34.7
9	278	08.5	285	31.7		32.7	206	20.5		59.3	269	53.0		19.1	308	09.8		34.6
10	293	10.9	300	31.3		31.4	221	22.1		59.4	284	55.0		19.3	323	11.9		34.5
11	308	13.4	315	31.0	-4	30.2	236	23.7	+24	59.4	299	57.0	+2	19.6	338	14.1	-13	34.4
12	323	15.9	330	30.6	-4	28.9	251	25.3	+24	59.5	314	59.0	+2	19.8	353	16.3	-13	34.3
13	338	18.3	345	30.3		27.6	266	26.9		59.6	330	01.0		20.0	8	18.4		34.2
14	353	20.8	0	29.9		26.3	281	28.5		59.6	345	03.0		20.2	23	20.6		34.1
15	8	23.3	15	29.5		25.0	296	30.2		59.7	0	05.0		20.4	38	22.8		34.0
16	23	25.7	30	29.2		23.7	311	31.8		59.8	15	07.0		20.6	53	25.0		33.9
17	38	28.2	45	28.8	-4	22.5	326	33.4	+24	59.8	30	09.0	+2	20.8	68	27.1	-13	33.8
18	53	30.7	60	28.5	-4	21.2	341	35.0	+24	59.9	45	10.9	+2	21.0	83	29.3	-13	33.7
19	68	33.1	75	28.1		19.9	356	36.6	+25	00.0	60	12.9		21.2	98	31.5		33.6
20	83	35.6	90	27.8		18.6	11	38.2	+25	00.1	75	14.9		21.4	113	33.6		33.5
21	98	38.1	105	27.4		17.3	26	39.8		00.1	90	16.9		21.6	128	35.8		33.4
22	113	40.5	120	27.1		16.0	41	41.4		00.2	105	18.9		21.9	143	38.0		33.3
23	128	43.0	135	26.7		14.7	56	43.0		00.3	120	20.9		22.1	158	40.2		33.2
24	143	45.4	150	26.4	-4	13.4	71	44.6	+25	00.3	135	22.9	+2	22.3	173	42.3	-13	33.1
Dif	—			-4 +13			+16 +1			+20 +2			+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: 23.1 ^d SD: 15'8 PMG: 6 ^h 25 ^m PHE { 4 ^h : 58'1 12 ^h : 58'4 20 ^h : 58'7 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	176	28.0	-13	11.1	267	16.6	-21	50.2	60 N	6	09	6	57	7	42	3	22	106	9	16	14
1	191	28.0		10.2	281	44.2	-22	00.2	58	07		53	35		3	04	97		35	22	
2	206	28.0		09.4	296	11.6		10.2	56	06		49	28		2	48	92		9	51	28
3	221	28.0		08.6	310	39.0		20.0	54	04		46	23		35	87		10	05	32	
4	236	28.0		07.7	325	06.2		29.7	52	03		42	18		23	85			17	35	
5	251	28.1	-13	06.9	339	33.3	-22	39.3	50	6	02	6	39	7	13	2	13	82	10	28	37
6	266	28.1	-13	06.0	354	00.3	-22	48.8	45	5	58	6	33	7	03	1	52	76	10	50	42
7	281	28.1		05.2	8	27.1	-22	58.1	40	55		27	6	55		35	72		11	09	45
8	296	28.1		04.3	22	53.9	-23	07.4	35	52		21	47		20	70			24	48	
9	311	28.1		03.5	37	20.5		16.5	30	48		17	41		1	08	67		11	37	50
10	326	28.2		02.6	51	46.9		25.5	20	41		6	07	30		0	47	63	12	00	53
11	341	28.2	-13	01.8	66	13.3	-23	34.3	10 N	5	34	5	59	6	20	0	29	59	12	20	56
12	356	28.2	-13	00.9	80	39.5	-23	43.1	0	5	25	5	49	6	11	0	12	56	12	38	59
13	11	28.2	-13	00.1	95	05.6	-23	51.7	10 S	14		40	6	01	**	**	**		12	57	61
14	26	28.3	-12	59.2	109	31.6	-24	00.1	20	5	01	28	5	51	**	**	**		13	17	64
15	41	28.3		58.4	123	57.4		08.5	30	4	45	14	39		**	**	**	**		40	67
16	56	28.3		57.5	138	23.2		16.7	35	34		5	06	32		23	48	53	13	53	70
17	71	28.3	-12	56.7	152	48.8	-24	24.7	40	4	21	4	56	5	24	23	32	51	14	09	72
18	86	28.3	-12	55.8	167	14.3	-24	32.7	45	4	05	4	44	5	15	23	12	49	14	28	75
19	101	28.4		55.0	181	39.6		40.4	50	3	44	28	5	04	22	47	45		14	52	79
20	116	28.4		54.1	196	04.8		48.1	52	33		21	4	59		36	42		15	03	82
21	131	28.4		53.3	210	30.0	-24	55.6	54	21		13	53		22	40			16	84	
22	146	28.4		52.4	224	54.9	-25	02.9	56	3	07	4	04	47		22	07	37		31	88
23	161	28.5		51.5	239	19.8		10.1	58	2	50	3	53	40		21	48	32	15	49	93
24	176	28.5	-12	50.7	253	44.6	-25	17.2	60 S	2	29	3	41	4	31	21	26	24	16	11	101

UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 14 ^h 22.6 ^m		Mag: -3.9 PMG: 13 ^h 59 ^m				Mag: +0.1 PMG: 19 ^h 11 ^m				Mag: -2.2 PMG: 14 ^h 56 ^m				Mag: +0.8 PMG: 12 ^h 23 ^m			
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	143	45.4	150	26.4	-4	13.4	71	44.6	+25	00.3	135	22.9	+2	22.3	173	42.3		
1	158	47.9	165	26.0		12.2	86	46.2		00.4	150	24.9		22.5	188	44.5		
2	173	50.4	180	25.7		10.9	101	47.8		00.5	165	26.9		22.7	203	46.7		
3	188	52.8	195	25.3		09.6	116	49.4		00.5	180	28.9		22.9	218	48.8		
4	203	55.3	210	25.0		08.3	131	51.0		00.6	195	30.8		23.1	233	51.0		
5	218	57.8	225	24.6	-4	07.0	146	52.6	+25	00.7	210	32.8	+2	23.3	248	53.2		
6	234	00.2	240	24.3	-4	05.7	161	54.2	+25	00.7	225	34.8	+2	23.5	263	55.4		
7	249	02.7	255	23.9		04.4	176	55.8		00.8	240	36.8		23.7	278	57.5		
8	264	05.2	270	23.6		03.1	191	57.4		00.9	255	38.8		23.9	293	59.7		
9	279	07.6	285	23.2		01.9	206	59.0		01.0	270	40.8		24.2	309	01.9		
10	294	10.1	300	22.9	-4	00.6	222	00.6		01.0	285	42.8		24.4	324	04.0		
11	309	12.6	315	22.5	-3	59.3	237	02.2	+25	01.1	300	44.8	+2	24.6	339	06.2		
12	324	15.0	330	22.2	-3	58.0	252	03.8	+25	01.2	315	46.8	+2	24.8	354	08.4		
13	339	17.5	345	21.8		56.7	267	05.4		01.2	330	48.7		25.0	9	10.6		
14	354	19.9	0	21.5		55.4	282	07.0		01.3	345	50.7		25.2	24	12.7		
15	9	22.4	15	21.2		54.1	297	08.6		01.4	0	52.7		25.4	39	14.9		
16	24	24.9	30	20.8		52.8	312	10.2		01.4	15	54.7		25.6	54	17.1		
17	39	27.3	45	20.5	-3	51.5	327	11.7	+25	01.5	30	56.7	+2	25.8	69	19.2		
18	54	29.8	60	20.1	-3	50.3	342	13.3	+25	01.6	45	58.7	+2	26.1	84	21.4		
19	69	32.3	75	19.8		49.0	357	14.9		01.6	61	00.7		26.3	99	23.6		
20	84	34.7	90	19.4		47.7	12	16.5		01.7	76	02.7		26.5	114	25.8		
21	99	37.2	105	19.1		46.4	27	18.1		01.8	91	04.6		26.7	129	27.9		
22	114	39.7	120	18.7		45.1	42	19.7		01.8	106	06.6		26.9	144	30.1		
23	129	42.1	135	18.4		43.8	57	21.3		01.9	121	08.6		27.1	159	32.3		
24	144	44.6	150	18.0	-3	42.5	72	22.9	+25	02.0	136	10.6	+2	27.3	174	34.4		
Dif	—		-3		+13		+16		+1		+20		+2		+22		+2	

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: 24.1 ^d SD: 16/0 PMG: 7 ^h 23 ^m PHE { 4 ^h : 59/0 12 ^h : 59/3 20 ^h : 59/5 R°: 62 ^m												
	hG ☉		Dec		hG ☾		Dif										
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	m	h m	m	
0	176	28.5	-12	50.7	253	44.6	-25	17.2	60 N	16 50	17 34	18 23	5 08	94	9 30	36	
1	191	28.5		49.8	268	09.2		24.1	58	16 57	38	24	4 41	86	9 57	44	
2	206	28.5		49.0	282	33.7		30.8	56	17 03	42	26	20	82	10 19	47	
3	221	28.6		48.1	296	58.1		37.4	54	08	45	27	4 02	80	37	50	
4	236	28.6		47.3	311	22.4		43.8	52	13	48	28	3 48	77	10 52	52	
5	251	28.6	-12	46.4	325	46.5	-25	50.1	50	17 18	17 51	18 29	3 35	75	11 05	53	
6	266	28.7	-12	45.6	340	10.6	-25	56.2	45	17 27	17 58	18 32	3 08	73	11 32	56	
7	281	28.7		44.7	354	34.5	-26	02.2	40	35	18 03	35	2 47	71	11 54	57	
8	296	28.7		43.8	8	58.4		07.9	35	42	08	38	30	69	12 12	58	
9	311	28.7		43.0	23	22.1		13.6	30	48	13	41	2 15	68	27	60	
10	326	28.8		42.1	37	45.7		19.0	20	17 59	22	48	1 50	65	12 53	61	
11	341	28.8	-12	41.3	52	09.2	-26	24.3	10 N	18 09	18 30	18 55	1 28	64	13 16	62	
12	356	28.8	-12	40.4	66	32.6	-26	29.4	0	18 17	18 39	19 03	1 08	62	13 37	63	
13	11	28.9		39.5	80	55.9		34.4	10 S	27	48	13	0 48	60	13 58	64	
14	26	28.9		38.7	95	19.1		39.1	20	36	18 59	26	27	58	14 21	65	
15	41	28.9		37.8	109	42.1		43.7	30	48	19 13	42	0 03	54	14 47	67	
16	56	28.9		37.0	124	05.1		48.1	35	18 54	21	19 52	** ** *	**	15 03	67	
17	71	29.0	-12	36.1	138	28.0	-26	52.4	40	19 02	19 30	20 05	** ** *	**	15 21	68	
18	86	29.0	-12	35.2	152	50.8	-26	56.4	45	19 11	19 42	20 20	** ** *	**	15 43	69	
19	101	29.0		34.4	167	13.5	-27	00.3	50	21	19 56	41	23 32	63	16 11	70	
20	116	29.1		33.5	181	36.1		04.0	52	26	20 03	20 50	18 63		25	70	
21	131	29.1		32.7	195	58.6		07.5	54	32	11	21 02	23 02	62	40	72	
22	146	29.1		31.8	210	21.1		10.9	56	38	20	15	22 44	61	16 59	72	
23	161	29.2		30.9	224	43.4		14.0	58	45	30	31	22 20	60	17 22	74	
24	176	29.2	-12	30.1	239	05.7	-27	17.0	60 S	19 52	20 41	21 51	21 50	58	17 52	77	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 18.7 ^m		Mag: -3.9 PMG: 13 ^h 59 ^m		Mag: +0.1 PMG: 19 ^h 08 ^m		Mag: -2.2 PMG: 14 ^h 53 ^m		Mag: +0.8 PMG: 12 ^h 20 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	144	44.6	150	18.0	-3	42.5	72	22.9	+25	02.0
1	159	47.1	165	17.7		41.2	87	24.4		02.1
2	174	49.5	180	17.4		39.9	102	26.0		02.1
3	189	52.0	195	17.0		38.6	117	27.6		02.2
4	204	54.4	210	16.7		37.3	132	29.2		02.3
5	219	56.9	225	16.3	-3	36.0	147	30.8	+25	02.3
6	234	59.4	240	16.0	-3	34.8	162	32.3	+25	02.4
7	250	01.8	255	15.6		33.5	177	33.9		02.5
8	265	04.3	270	15.3		32.2	192	35.5		02.5
9	280	06.8	285	14.9		30.9	207	37.1		02.6
10	295	09.2	300	14.6		29.6	222	38.7		02.7
11	310	11.7	315	14.3	-3	28.3	237	40.2	+25	02.7
12	325	14.2	330	13.9	-3	27.0	252	41.8	+25	02.8
13	340	16.6	345	13.6		25.7	267	43.4		02.9
14	355	19.1	0	13.2		24.4	282	45.0		03.0
15	10	21.5	15	12.9		23.1	297	46.5		03.0
16	25	24.0	30	12.6		21.8	312	48.1		03.1
17	40	26.5	45	12.2	-3	20.5	327	49.7	+25	03.2
18	55	28.9	60	11.9	-3	19.2	342	51.2	+25	03.2
19	70	31.4	75	11.5		17.9	357	52.8		03.3
20	85	33.9	90	11.2		16.6	12	54.4		03.4
21	100	36.3	105	10.8		15.4	27	56.0		03.4
22	115	38.8	120	10.5		14.1	42	57.5		03.5
23	130	41.3	135	10.2		12.8	57	59.1		03.6
24	145	43.7	150	09.8	-3	11.5	73	00.7	+25	03.6
Dif	—		-3		+13		+16		+1	
							+20		+2	
									+22	
									+1	

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'2 PMG:12 ^h 14.0 ^m				Edad: 25.1 ^d SD: 16'2 PMG: 8 ^h 25 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	176	29.2	-12	30.1	239	05.7	-27	17.0	60 N	6 04	6 52	7 36	6 42	57	10 06	80			
1	191	29.2		29.2	253	27.9		19.7	58	03	49	30	6 07	60	10 41	76			
2	206	29.3		28.3	267	50.0		22.3	56	02	45	24	5 42	61	11 06	75			
3	221	29.3		27.5	282	12.0		24.7	54	6 00	42	18	22	62	27	73			
4	236	29.3		26.6	296	33.9		26.9	52	5 59	39	14	5 05	62	44	72			
5	251	29.4	-12	25.8	310	55.8	-27	28.9	50	5 58	6 36	7 09	4 50	63	11 58	72			
6	266	29.4	-12	24.9	325	17.6	-27	30.7	45	5 55	6 30	7 00	4 21	64	12 28	71			
7	281	29.4		24.0	339	39.4		32.3	40	53	24	6 52	3 58	64	12 51	70			
8	296	29.5		23.2	354	01.0		33.7	35	50	19	45	39	64	13 10	69			
9	311	29.5		22.3	8	22.7		34.9	30	47	15	39	3 23	64	27	68			
10	326	29.5		21.4	22	44.2		35.9	20	40	6 06	29	2 55	65	13 54	67			
11	341	29.6	-12	20.6	37	05.7	-27	36.8	10 N	5 33	5 58	6 19	2 32	64	14 18	66			
12	356	29.6	-12	19.7	51	27.2	-27	37.4	0	5 25	5 49	6 11	2 10	64	14 40	65			
13	11	29.7		18.8	65	48.6		37.8	10 S	15	40	6 02	1 48	65	15 02	64			
14	26	29.7		18.0	80	09.9		38.0	20	5 03	29	5 52	1 25	64	26	63			
15	41	29.7		17.1	94	31.2		38.0	30	4 46	16	41	0 57	65	15 54	61			
16	56	29.8		16.2	108	52.5		37.8	35	36	5 08	34	41	65	16 10	60			
17	71	29.8	-12	15.3	123	13.7	-27	37.4	40	4 24	4 58	5 27	0 23	64	16 29	59			
18	86	29.8	-12	14.5	137	34.9	-27	36.8	45	4 08	4 47	5 18	0 01	63	16 52	57			
19	101	29.9		13.6	151	56.1		36.0	50	3 48	32	08	**	**	17 21	55			
20	116	29.9		12.7	166	17.2		35.0	52	38	25	5 03	**	**	35	54			
21	131	30.0		11.9	180	38.3		33.8	54	27	18	4 57	**	**	17 52	51			
22	146	30.0		11.0	194	59.4		32.4	56	3 14	4 09	51	23	45	18 11	49			
23	161	30.0		10.1	209	20.4		30.7	58	2 58	3 59	44	23	20	18 36	45			
24	176	30.1	-12	09.3	223	41.5	-27	28.9	60 S	2 38	3 48	4 37	22	48	19 09	38			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 14.7 ^m		Mag: -3.9 PMG: 14 ^h 00 ^m		Mag: +0.1 PMG: 19 ^h 06 ^m		Mag: -2.2 PMG: 14 ^h 50 ^m		Mag: +0.8 PMG: 12 ^h 16 ^m	
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	145	43.7	150	09.8	-3	11.5	73	00.7	+25	03.6
1	160	46.2	165	09.5		10.2	88	02.2		03.7
2	175	48.7	180	09.1		08.9	103	03.8		03.8
3	190	51.1	195	08.8		07.6	118	05.4		03.9
4	205	53.6	210	08.5		06.3	133	06.9		03.9
5	220	56.0	225	08.1	-3	05.0	148	08.5	+25	04.0
6	235	58.5	240	07.8	-3	03.7	163	10.0	+25	04.1
7	251	01.0	255	07.5		02.4	178	11.6		04.1
8	266	03.4	270	07.1	-3	01.1	193	13.2		04.2
9	281	05.9	285	06.8	-2	59.8	208	14.7		04.3
10	296	08.4	300	06.4		58.5	223	16.3		04.3
11	311	10.8	315	06.1	-2	57.2	238	17.8	+25	04.4
12	326	13.3	330	05.8	-2	55.9	253	19.4	+25	04.5
13	341	15.8	345	05.4		54.6	268	21.0		04.5
14	356	18.2	0	05.1		53.3	283	22.5		04.6
15	11	20.7	15	04.7		52.0	298	24.1		04.7
16	26	23.2	30	04.4		50.7	313	25.6		04.7
17	41	25.6	45	04.1	-2	49.4	328	27.2	+25	04.8
18	56	28.1	60	03.7	-2	48.1	343	28.7	+25	04.9
19	71	30.5	75	03.4		46.8	358	30.3		05.0
20	86	33.0	90	03.1		45.5	13	31.8		05.0
21	101	35.5	105	02.7		44.2	28	33.4		05.1
22	116	37.9	120	02.4		42.9	43	34.9		05.2
23	131	40.4	135	02.1		41.6	58	36.5		05.2
24	146	42.9	150	01.7	-2	40.3	73	38.0	+25	05.3
Dif	—		-3		+13		+16		+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: 26.1 ^d SD: 16/4 PMG: 9 ^h 30 ^m PHE { 4 ^h : 60/5 12 ^h : 60/7 20 ^h : 60/8 R°: 64 ^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	30.1	-12	09.3	223	41.5	-27	28.9	60 N	16 56	17 39	18 28	7 39	23	11 26	112		
1	191	30.1		08.4	238	02.5	20	26.9	58	17 02	43	29	7 07	32	11 57	103		
2	206	30.2		07.5	252	23.5	20	24.6	56	07	46	30	6 43	38	12 21	96		
3	221	30.2		06.6	266	44.5	20	22.2	54	13	49	30	24	41	40	92		
4	236	30.2		05.8	281	05.5	20	19.5	52	17	52	31	6 07	45	12 56	89		
5	251	30.3	-12	04.9	295	26.5	20	16.6	50	17 21	17 54	18 32	5 53	47	13 10	87		
6	266	30.3	-12	04.0	309	47.5	20	13.6	45	17 30	18 00	18 35	5 25	51	13 39	81		
7	281	30.4		03.1	324	08.5	20	10.3	40	38	05	37	5 02	54	14 01	78		
8	296	30.4		02.3	338	29.5	20	06.8	35	44	10	40	4 43	56	19	76		
9	311	30.5		01.4	352	50.5	20	03.1	30	17 50	14	42	27	58	14 35	73		
10	326	30.5	-12	00.5	7	11.5	20	59.2	20	18 00	22	48	4 00	60	15 01	70		
11	341	30.5	-11	59.6	21	32.5	20	55.1	10 N	18 09	18 30	18 55	3 36	63	15 24	67		
12	356	30.6	-11	58.8	35	53.6	21	50.8	0	18 17	18 38	19 03	3 14	65	15 45	64		
13	11	30.6		57.9	50	14.7	21	46.3	10 S	26	47	13	2 53	66	16 06	61		
14	26	30.7		57.0	64	35.8	21	41.6	20	35	18 58	24	29	69	29	58		
15	41	30.7		56.1	78	56.9	21	36.6	30	46	19 11	40	2 02	71	16 55	54		
16	56	30.8		55.3	93	18.0	21	31.5	35	52	18	19 50	1 46	72	17 10	52		
17	71	30.8	-11	54.4	107	39.2	22	26.2	40	18 59	19 28	20 02	1 27	74	17 28	49		
18	86	30.8	-11	53.5	122	00.4	22	20.6	45	19 07	19 39	20 17	1 04	77	17 49	45		
19	101	30.9		52.6	136	21.7	23	14.9	50	17	52	36	0 35	80	18 16	39		
20	116	30.9		51.8	150	43.0	23	09.0	52	22	19 59	45	21	82	29	37		
21	131	31.0		50.9	165	04.3	23	02.8	54	27	20 06	20 56	0 04	84	18 43	34		
22	146	31.0		50.0	179	25.7	24	56.5	56	33	15	21 09	**	**	**	19 00	30	
23	161	31.1		49.1	193	47.1	24	50.0	58	39	24	24	**	**	**	21	24	
24	176	31.1	-11	48.2	208	08.6	25	43.3	60 S	19 47	20 35	21 42	**	**	**	19 47	16	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 14 ^h 10.8 ^m		Mag: -3.9 PMG: 14 ^h 00 ^m		Mag: +0.2 PMG: 19 ^h 04 ^m		Mag: -2.2 PMG: 14 ^h 47 ^m		Mag: +0.8 PMG: 12 ^h 13 ^m									
	hG ♈	hG ♀	Dec		hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	/	°	/	°	/	°	/	°	/								
0	146	42.9	150	01.7	-2	40.3	73	38.0	+25	05.3	137	45.8	+2	37.5	176	18.7	-13	25.7
1	161	45.3	165	01.4		39.0	88	39.6		05.4	152	47.8		37.7	191	20.8		25.6
2	176	47.8	180	01.1		37.7	103	41.1		05.4	167	49.8		37.9	206	23.0		25.5
3	191	50.3	195	00.7		36.4	118	42.7		05.5	182	51.8		38.1	221	25.2		25.4
4	206	52.7	210	00.4		35.1	133	44.2		05.6	197	53.7		38.3	236	27.4		25.3
5	221	55.2	225	00.1	-2	33.8	148	45.8	+25	05.6	212	55.7	+2	38.5	251	29.5	-13	25.2
6	236	57.7	239	59.7	-2	32.5	163	47.3	+25	05.7	227	57.7	+2	38.7	266	31.7	-13	25.1
7	252	00.1	254	59.4		31.2	178	48.9		05.8	242	59.7		39.0	281	33.9		25.0
8	267	02.6	269	59.0		29.9	193	50.4		05.8	258	01.7		39.2	296	36.0		24.9
9	282	05.0	284	58.7		28.6	208	51.9		05.9	273	03.6		39.4	311	38.2		24.8
10	297	07.5	299	58.4		27.3	223	53.5		06.0	288	05.6		39.6	326	40.4		24.7
11	312	10.0	314	58.0	-2	26.0	238	55.0	+25	06.1	303	07.6	+2	39.8	341	42.6	-13	24.6
12	327	12.4	329	57.7	-2	24.7	253	56.6	+25	06.1	318	09.6	+2	40.0	356	44.7	-13	24.5
13	342	14.9	344	57.4		23.4	268	58.1		06.2	333	11.6		40.2	11	46.9		24.4
14	357	17.4	359	57.0		22.1	283	59.6		06.3	348	13.5		40.5	26	49.1		24.3
15	12	19.8	14	56.7		20.8	299	01.2		06.3	3	15.5		40.7	41	51.3		24.2
16	27	22.3	29	56.4		19.5	314	02.7		06.4	18	17.5		40.9	56	53.4		24.1
17	42	24.8	44	56.1	-2	18.2	329	04.2	+25	06.5	33	19.5	+2	41.1	71	55.6	-13	24.0
18	57	27.2	59	55.7	-2	16.9	344	05.8	+25	06.5	48	21.5	+2	41.3	86	57.8	-13	23.9
19	72	29.7	74	55.4		15.6	359	07.3		06.6	63	23.4		41.5	101	59.9		23.8
20	87	32.2	89	55.1		14.3	14	08.9		06.7	78	25.4		41.7	117	02.1		23.7
21	102	34.6	104	54.7		13.0	29	10.4		06.7	93	27.4		41.9	132	04.3		23.6
22	117	37.1	119	54.4		11.7	44	11.9		06.8	108	29.4		42.2	147	06.5		23.5
23	132	39.5	134	54.1		10.4	59	13.5		06.9	123	31.4		42.4	162	08.6		23.4
24	147	42.0	149	53.7	-2	09.1	74	15.0	+25	06.9	138	33.3	+2	42.6	177	10.8	-13	23.2
Dif	—		-3		+13		+15		+1		+20		+2		+22		+	

ALMANAQUE NÁUTICO PERSEUS

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: 28.1 ^d SD: 16/7 PMG: 11 ^h 36 ^m PHE 4^h: 61/2 12^h: 61/2 20^h: 61/2 R°: 57^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m
0	176 32.3	-11 27.0	193 04.7		-22 06.3		60 N	17 01	17 44	18 33	8 11 4	15 16 113		
1	191 32.4		207 28.1	44	-21 55.1	112	58	07	47	33	7 56 10	30 107		
2	206 32.5		221 51.5	44		43.8	56	12	50	34	43 15	42 102		
3	221 32.5		236 15.1	46		32.3	54	17	53	34	32 18	15 52 99		
4	236 32.6		250 38.8	47		20.6	52	21	55	35	22 22	16 01 95		
5	251 32.6	-11 22.6	265 02.6	48	-21 08.8	118	50	17 25	17 58	18 35	7 14 24	16 09 92		
6	266 32.7	-11 21.7	279 26.4	48	-20 56.9	119	45	17 33	18 03	18 37	6 55 30	16 27 85		
7	281 32.7		293 50.4	50		44.8	40	40	08	39	39 36	41 80		
8	296 32.8		308 14.5	51		32.6	35	46	12	41	26 39	16 52 76		
9	311 32.8		322 38.7	52		20.2	30	17 51	16	44	6 15 42	17 03 72		
10	326 32.9		337 02.9	52	-20 07.7	124	20	18 01	23	49	5 55 48	20 66		
11	341 33.0	-11 17.3	351 27.3	54	-19 55.0	127	10 N	18 09	18 31	18 55	5 38 53	17 35 61		
12	356 33.0	-11 16.4	5 51.8	55	-19 42.2	128	0	18 17	18 38	19 03	5 21 58	17 49 56		
13	11 33.1		20 16.4	56		29.3	10 S	25	47	12	5 05 63	18 03 51		
14	26 33.1		34 41.1	57		16.3	20	34	18 56	23	4 48 67	18 46		
15	41 33.2		49 05.8	57	-19 03.1	130	30	44	19 09	38	28 73	35 40		
16	56 33.3		63 30.7	59	-18 49.8	133	35	50	16	47	16 77	45 36		
17	71 33.3	-11 11.9	77 55.7	60	-18 36.4	134	40	18 56	19 25	19 59	4 02 81	18 56 32		
18	86 33.4	-11 11.0	92 20.8	61	-18 22.8	136	45	19 04	19 35	20 13	3 46 86	19 09 27		
19	101 33.4		106 46.0	62	-18 09.1	137	50	14	48	31	26 92	24 22		
20	116 33.5		121 11.3	63	-17 55.3	138	52	18	19 54	40	16 96	31 19		
21	131 33.6		135 36.8	65		41.4	54	23	20 01	20 50	3 05 100	39 16		
22	146 33.6		150 02.3	65		27.4	56	28	09	21 02	2 53 104	48 12		
23	161 33.7		164 27.9	66	-17 13.3	140	58	34	18	16	39 109	19 58 8		
24	176 33.7	-11 05.7	178 53.6	67	-16 59.1	142	60 S	19 41	20 28	21 33	2 22 115	20 10 3		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 14 ^h 02.9 ^m		Mag: -3.9 PMG: 14 ^h 01 ^m		Mag: +0.2 PMG: 18 ^h 59 ^m		Mag: -2.2 PMG: 14 ^h 41 ^m		Mag: +0.8 PMG: 12 ^h 06 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	148 41.1	149 45.8	-1 37.9	74 51.5	+25 08.6	139 20.8	+2 47.7	178 02.9	-13 20.8	
1	163 43.6	164 45.5	36.6	89 53.0	08.6	154 22.7	47.9	193 05.1	20.7	
2	178 46.1	179 45.2	35.3	104 54.5	08.7	169 24.7	48.2	208 07.3	20.6	
3	193 48.5	194 44.8	34.0	119 56.1	08.8	184 26.7	48.4	223 09.4	20.5	
4	208 51.0	209 44.5	32.6	134 57.6	08.9	199 28.7	48.6	238 11.6	20.4	
5	223 53.5	224 44.2	-1 31.3	149 59.1	+25 08.9	214 30.6	+2 48.8	253 13.8	-13 20.3	
6	238 55.9	239 43.9	-1 30.0	165 00.6	+25 09.0	229 32.6	+2 49.0	268 15.9	-13 20.2	
7	253 58.4	254 43.5	28.7	180 02.1	09.1	244 34.6	49.2	283 18.1	20.1	
8	269 00.9	269 43.2	27.4	195 03.6	09.1	259 36.6	49.4	298 20.3	20.0	
9	284 03.3	284 42.9	26.1	210 05.1	09.2	274 38.5	49.7	313 22.5	19.9	
10	299 05.8	299 42.6	24.8	225 06.6	09.3	289 40.5	49.9	328 24.6	19.8	
11	314 08.3	314 42.2	-1 23.5	240 08.1	+25 09.3	304 42.5	+2 50.1	343 26.8	-13 19.7	
12	329 10.7	329 41.9	-1 22.2	255 09.6	+25 09.4	319 44.5	+2 50.3	358 29.0	-13 19.6	
13	344 13.2	344 41.6	20.9	270 11.1	09.5	334 46.4	50.5	13 31.1	19.5	
14	359 15.6	359 41.3	19.6	285 12.7	09.5	349 48.4	50.7	28 33.3	19.4	
15	14 18.1	14 40.9	18.3	300 14.2	09.6	4 50.4	51.0	43 35.5	19.3	
16	29 20.6	29 40.6	17.0	315 15.7	09.7	19 52.3	51.2	58 37.7	19.2	
17	44 23.0	44 40.3	-1 15.7	330 17.2	+25 09.7	34 54.3	+2 51.4	73 39.8	-13 19.1	
18	59 25.5	59 40.0	-1 14.4	345 18.7	+25 09.8	49 56.3	+2 51.6	88 42.0	-13 18.9	
19	74 28.0	74 39.6	13.1	0 20.2	09.9	64 58.3	51.8	103 44.2	18.8	
20	89 30.4	89 39.3	11.8	15 21.7	09.9	80 00.2	52.0	118 46.3	18.7	
21	104 32.9	104 39.0	10.5	30 23.2	10.0	95 02.2	52.2	133 48.5	18.6	
22	119 35.4	119 38.7	09.2	45 24.7	10.1	110 04.2	52.5	148 50.7	18.5	
23	134 37.8	134 38.3	07.9	60 26.2	10.1	125 06.2	52.7	163 52.9	18.4	
24	149 40.3	149 38.0	-1 06.5	75 27.7	+25 10.2	140 08.1	+2 52.9	178 55.0	-13 18.3	
Dif	—	-3	+13	+15	+1	+20	+2	+22	+	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16'2 PMG:12 ^h 13.7 ^m				Edad: 29.1 ^d SD: 16'7 PMG: 12 ^h 33 ^m															
	PHE { 4 ^h : 61'1 12 ^h : 61'0 20 ^h : 60'9 Rº: 52 ^m				hG ☉	Dec	hG ☾	Dif		Dec	Dif		Náutico	Civil	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	176	33.7	-11	05.7	178	53.6	-16	59.1	60 N	5	54	6	42	7	25	8	15	2	17	09
1	191	33.8		04.8	193	19.4		44.7	58	53	39	19		8	06	6			17	102
2	206	33.9		03.9	207	45.4		30.3	56	53	36	14		7	58	10			24	98
3	221	33.9		03.0	222	11.4		15.7	54	52	34	10		50	14	31	94			
4	236	34.0		02.1	236	37.5	-16	01.1	52	52	31	06		44	16	36	91			
5	251	34.0	-11	01.2	251	03.7	-15	46.3	50	5	51	6	29	7	02	7	38	19	17	41
6	266	34.1	-11	00.3	265	30.1	-15	31.5	45	5	50	6	24	6	54	7	25	25	17	52
7	281	34.2	-10	59.4	279	56.5		16.6	40	48	19	47		15	29	18	01	77		
8	296	34.2		58.5	294	23.1	-15	01.5	35	46	15	41		7	05	34	08	73		
9	311	34.3		57.6	308	49.7	-14	46.4	30	43	11	36		6	57	37	15	69		
10	326	34.4		56.7	323	16.4		31.2	20	38	6	04		26	43	44	26	63		
11	341	34.4	-10	55.8	337	43.2	-14	16.0	10 N	5	32	5	57	6	18	6	31	49	18	36
12	356	34.5	-10	54.9	352	10.2	-14	00.6	0	5	25	5	49	6	10	6	19	54	18	45
13	11	34.6		54.0	6	37.2	-13	45.2	10 S	16		41	6	02	6	08	59	18	54	47
14	26	34.6		53.1	21	04.3		29.7	20	5	05	31	5	54	5	55	65	19	04	41
15	41	34.7		52.2	35	31.5	-13	14.1	30	4	50	19	44		41	71	15	35		
16	56	34.8		51.3	49	58.9	-12	58.4	35	41	12	38		33	74	21	32			
17	71	34.8	-10	50.4	64	26.3	-12	42.7	40	4	29	5	03	5	32	5	23	79	19	28
18	86	34.9	-10	49.5	78	53.8	-12	26.9	45	4	15	4	53	5	24	5	12	84	19	36
19	101	34.9		48.6	93	21.4	-12	11.0	50	3	57	40	15	4	58	90	46	17		
20	116	35.0		47.7	107	49.0	-11	55.1	52	48	34	10		52	92	50	15			
21	131	35.1		46.8	122	16.8		39.1	54	38	27	06		45	96	19	55	12		
22	146	35.2		45.9	136	44.7		23.1	56	26	19	5	00	37	100	20	00	9		
23	161	35.2		45.0	151	12.6	-11	06.9	58	3	12	10	4	54	28	104	06	6		
24	176	35.3	-10	44.1	165	40.7	-10	50.8	60 S	2	55	4	00	4	48	4	17	110	20	13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 59.0 ^m		Mag: -3.9 PMG: 14 ^h 02 ^m		Mag: +0.2 PMG: 18 ^h 56 ^m		Mag: -2.1 PMG: 14 ^h 38 ^m		Mag: +0.8 PMG: 12 ^h 03 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	149	40.3	149	38.0	-1	06.5	75	27.7	+25	10.2
1	164	42.8	164	37.7		05.2	90	29.2		10.3
2	179	45.2	179	37.4		03.9	105	30.7		10.3
3	194	47.7	194	37.0		02.6	120	32.1		10.4
4	209	50.1	209	36.7	-1	01.3	135	33.6		10.5
5	224	52.6	224	36.4	-1	00.0	150	35.1	+25	10.5
6	239	55.1	239	36.1	-0	58.7	165	36.6	+25	10.6
7	254	57.5	254	35.8		57.4	180	38.1		10.7
8	270	00.0	269	35.4		56.1	195	39.6		10.7
9	285	02.5	284	35.1		54.8	210	41.1		10.8
10	300	04.9	299	34.8		53.5	225	42.6		10.9
11	315	07.4	314	34.5	-0	52.2	240	44.1	+25	10.9
12	330	09.9	329	34.1	-0	50.9	255	45.6	+25	11.0
13	345	12.3	344	33.8		49.6	270	47.1		11.1
14	0	14.8	359	33.5		48.3	285	48.6		11.1
15	15	17.2	14	33.2		47.0	300	50.0		11.2
16	30	19.7	29	32.9		45.6	315	51.5		11.3
17	45	22.2	44	32.5	-0	44.3	330	53.0	+25	11.3
18	60	24.6	59	32.2	-0	43.0	345	54.5	+25	11.4
19	75	27.1	74	31.9		41.7	0	56.0		11.5
20	90	29.6	89	31.6		40.4	15	57.5		11.5
21	105	32.0	104	31.2		39.1	30	59.0		11.6
22	120	34.5	119	30.9		37.8	46	00.4		11.7
23	135	37.0	134	30.6		36.5	61	01.9		11.7
24	150	39.4	149	30.3	-0	35.2	76	03.4	+25	11.8
Dif	—		-3		+13		+15		+1	
							+20		+2	
									+22	
									+	

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: 30.1 ^d SD: 16'6 PMG: 13 ^h 25 ^m PHE { 4 ^h : 60'7 12 ^h : 60'5 20 ^h : 60'3 R°: 50 ^m																
	hG ☉	Dec	hG ☾	Dif	Dec	Dif				Civil			Náutico	Hora	R°	Hora	R°				
h	°	'	°	'	°	'		°	'	°	h m	h m	h m	h m	m	h m	m	h m	m		
0	176	35.3	-10	44.1	165	40.7	91	-10	50.8	60 N	17 06	17 49	18 37	8 17	1	18 56	101				
1	191	35.4		43.2	180	08.8	92		34.6	58	11	52	37	12	5	18 59	97				
2	206	35.4		42.3	194	37.0	93		18.3	56	16	54	38	08	8	19 02	94				
3	221	35.5		41.4	209	05.3	94	-10	02.0	54	21	57	38	04	11	05	90				
4	236	35.6		40.5	223	33.7	95	-9	45.7	52	24	17 59	38	8 00	14	07	87				
5	251	35.6	-10	39.6	238	02.2	95	-9	29.3	50	17 28	18 01	18 39	7 57	16	19 09	85				
6	266	35.7	-10	38.7	252	30.7	95	-9	12.8	45	17 36	18 06	18 40	7 50	22	19 14	79				
7	281	35.8		37.8	266	59.3	96	-8	56.3	40	42	10	41	44	26	18	74				
8	296	35.8		36.9	281	28.1	98		39.8	35	48	14	43	39	30	21	70				
9	311	35.9		36.0	295	56.8	97		23.3	30	17 53	17	45	34	34	24	66				
10	326	36.0		35.1	310	25.7	99	-8	06.7	20	18 02	24	50	27	40	29	60				
11	341	36.1	-10	34.2	324	54.6	99	-7	50.1	10 N	18 10	18 31	18 56	7 20	45	19 33	55				
12	356	36.1	-10	33.3	339	23.7	101	-7	33.4	0	18 17	18 38	19 02	7 13	51	19 37	50				
13	11	36.2		32.3	353	52.7	100	-7	16.7	10 S	24	46	11	07	55	41	45				
14	26	36.3		31.4	8	21.9	102	-7	00.0	20	33	18 55	21	7 00	61	45	39				
15	41	36.3		30.5	22	51.1	102	-6	43.3	30	42	19 07	36	6 52	67	50	33				
16	56	36.4		29.6	37	20.4	103		26.6	35	47	14	45	47	71	53	29				
17	71	36.5	-10	28.7	51	49.8	104	-6	09.8	40	18 54	19 22	19 56	6 42	75	19 56	25				
18	86	36.6	-10	27.8	66	19.3	105	-5	53.0	45	19 01	19 32	20 09	6 36	80	19 59	21				
19	101	36.6		26.9	80	48.8	105		36.2	50	10	44	27	28	86	20 03	16				
20	116	36.7		26.0	95	18.3	105		19.4	52	14	50	35	25	88	05	13				
21	131	36.8		25.1	109	48.0	107	-5	02.6	54	18	19 57	45	21	92	07	11				
22	146	36.9		24.2	124	17.7	107	-4	45.8	56	23	20 04	20 56	17	95	09	8				
23	161	36.9		23.3	138	47.4	107		28.9	58	29	12	21 09	12	99	12	4				
24	176	37.0	-10	22.4	153	17.2	108	-4	12.1	60 S	19 35	20 22	21 25	6 07	103	20 15	0				
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO				
	PMG 13 ^h 55.1 ^m				Mag: -3.9 PMG: 14 ^h 02 ^m				Mag: +0.3 PMG: 18 ^h 54 ^m				Mag: -2.1 PMG: 14 ^h 34 ^m				Mag: +0.8 PMG: 11 ^h 59 ^m				
	hG ♈		hG ♀	Dec	hG ♂	Dec		hG ♃	Dec	hG ♄	Dec		hG ♅	Dec		hG ♆	Dec				
h	°	'	°	'	°	'		°	'	°	'		°	'		°	'	°	'		
0	150	39.4	149	30.3	-0	35.2	76	03.4	+25	11.8	140	55.4	+2	58.1	179	47.2	-13	15.9			
1	165	41.9	164	30.0		33.9	91	04.9		11.9	155	57.4		58.3	194	49.3		15.8			
2	180	44.4	179	29.6		32.6	106	06.4		11.9	170	59.4		58.5	209	51.5		15.7			
3	195	46.8	194	29.3		31.3	121	07.8		12.0	186	01.3		58.7	224	53.7		15.6			
4	210	49.3	209	29.0		30.0	136	09.3		12.1	201	03.3		58.9	239	55.8		15.5			
5	225	51.7	224	28.7	-0	28.7	151	10.8	+25	12.1	216	05.3	+2	59.2	254	58.0	-13	15.4			
6	240	54.2	239	28.4	-0	27.3	166	12.3	+25	12.2	231	07.2	+2	59.4	270	00.2	-13	15.3			
7	255	56.7	254	28.0		26.0	181	13.8		12.3	246	09.2		59.6	285	02.4		15.2			
8	270	59.1	269	27.7		24.7	196	15.2		12.3	261	11.2	+2	59.8	300	04.5		15.1			
9	286	01.6	284	27.4		23.4	211	16.7		12.4	276	13.1	+3	00.0	315	06.7		15.0			
10	301	04.1	299	27.1		22.1	226	18.2		12.5	291	15.1	+3	00.2	330	08.9		14.9			
11	316	06.5	314	26.8	-0	20.8	241	19.7	+25	12.5	306	17.1	+3	00.5	345	11.1	-13	14.8			
12	331	09.0	329	26.4	-0	19.5	256	21.1	+25	12.6	321	19.1	+3	00.7	0	13.2	-13	14.7			
13	346	11.5	344	26.1		18.2	271	22.6		12.7	336	21.0		00.9	15	15.4		14.5			
14	1	13.9	359	25.8		16.9	286	24.1		12.7	351	23.0		01.1	30	17.6		14.4			
15	16	16.4	14	25.5		15.6	301	25.5		12.8	6	25.0		01.3	45	19.7		14.3			
16	31	18.9	29	25.2		14.3	316	27.0		12.9	21	26.9		01.5	60	21.9		14.2			
17	46	21.3	44	24.8	-0	13.0	331	28.5	+25	12.9	36	28.9	+3	01.8	75	24.1	-13	14.1			
18	61	23.8	59	24.5	-0	11.7	346	30.0	+25	13.0	51	30.9	+3	02.0	90	26.3	-13	14.0			
19	76	26.2	74	24.2		10.4	1	31.4		13.1	66	32.8		02.2	105	28.4		13.9			
20	91	28.7	89	23.9		09.0	16	32.9		13.1	81	34.8		02.4	120	30.6		13.8			
21	106	31.2	104	23.6		07.7	31	34.4		13.2	96	36.8		02.6	135	32.8		13.7			
22	121	33.6	119	23.2		06.4	46	35.8		13.3	111	38.7		02.8	150	34.9		13.6			
23	136	36.1	134	22.9		05.1	61	37.3		13.3	126	40.7		03.1	165	37.1		13.5			
24	151	38.6	149	22.6	-0	03.8	76	38.8	+25	13.4	141	42.7	+3	03.3	180	39.3	-13	13.4			
Dif	—				-3				+13				+20				+2				

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: 1.7 ^d SD: 16/4 PMG: 14 ^h 15 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	176	37.0	-10	22.4	153	17.2	-4	12.1	60 N	5 49	6 37	7 19	8 18	0	20 37	98
1	191	37.1		21.5	167	47.1 ¹⁰⁹	-3	55.2 ¹⁶⁹	58	49	34	14	17	4	36	94
2	206	37.2		20.6	182	17.1 ¹¹⁰		38.4 ¹⁶⁸	56	49	32	10	16	7	36	90
3	221	37.2		19.6	196	47.1 ¹¹⁰		21.5 ¹⁶⁹	54	48	29	05	15	10	35	87
4	236	37.3		18.7	211	17.1 ¹¹⁰	-3	04.7 ¹⁶⁸	52	48	27	7 01	14	13	34	85
5	251	37.4	-10	17.8	225	47.2 ¹¹¹	-2	47.8 ¹⁶⁹	50	5 48	6 25	6 58	8 13	15	20 34	82
6	266	37.5	-10	16.9	240	17.4 ¹¹²	-2	31.0 ¹⁶⁸	45	5 47	6 21	6 50	8 12	20	20 33	76
7	281	37.5		16.0	254	47.6 ¹¹²	-2	14.1 ¹⁶⁹	40	45	17	44	10	25	32	71
8	296	37.6		15.1	269	17.8 ¹¹²	-1	57.3 ¹⁶⁸	35	43	13	38	09	29	31	67
9	311	37.7		14.2	283	48.1 ¹¹³		40.5 ¹⁶⁸	30	41	09	34	08	32	30	64
10	326	37.8		13.3	298	18.5 ¹¹⁴		23.6 ¹⁶⁹	20	37	6 03	25	07	38	29	58
11	341	37.8	-10	12.4	312	48.9 ¹¹⁴	-1	06.8 ¹⁶⁸	10 N	5 31	5 56	6 17	8 05	43	20 28	52
12	356	37.9	-10	11.4	327	19.4 ¹¹⁵	-0	50.1 ¹⁶⁷	0	5 25	5 49	6 10	8 04	48	20 27	47
13	11	38.0		10.5	341	49.9 ¹¹⁵		33.3 ¹⁶⁸	10 S	16	41	6 03	02	53	26	42
14	26	38.1		09.6	356	20.4 ¹¹⁵	-0	16.5 ¹⁶⁸	20	5 06	32	5 55	8 01	58	24	38
15	41	38.2		08.7	10	51.0 ¹¹⁶	+0	00.2 ¹⁶⁷	30	4 52	21	46	7 59	65	23	32
16	56	38.2		07.8	25	21.6 ¹¹⁶		16.9 ¹⁶⁷	35	43	14	40	58	68	22	29
17	71	38.3	-10	06.9	39	52.2 ¹¹⁶	+0	33.6 ¹⁶⁷	40	4 32	5 06	5 34	7 57	72	20 21	25
18	86	38.4	-10	06.0	54	22.9 ¹¹⁷	+0	50.3 ¹⁶⁷	45	4 19	4 56	5 27	7 56	77	20 20	21
19	101	38.5		05.1	68	53.7 ¹¹⁸	+1	06.9 ¹⁶⁶	50	4 01	44	18	54	83	19	15
20	116	38.6		04.1	83	24.4 ¹¹⁷		23.5 ¹⁶⁶	52	3 53	38	14	53	86	18	13
21	131	38.6		03.2	97	55.2 ¹¹⁸		40.1 ¹⁶⁶	54	43	31	10	53	88	18	10
22	146	38.7		02.3	112	26.1 ¹¹⁹	+1	56.7 ¹⁶⁶	56	32	24	5 05	52	91	17	8
23	161	38.8		01.4	126	57.0 ¹¹⁹	+2	13.2 ¹⁶⁵	58	19	16	4 59	51	95	16	5
24	176	38.9	-10	00.5	141	27.9 ¹¹⁹	+2	29.7 ¹⁶⁵	60 S	3 03	4 06	4 53	7 50	99	20 15	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 13 ^h 51.2 ^m		Mag: -3.9 PMG: 14 ^h 03 ^m		Mag: +0.3 PMG: 18 ^h 52 ^m		Mag: -2.1 PMG: 14 ^h 31 ^m		Mag: +0.8 PMG: 11 ^h 56 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	151	38.6	149	22.6	-0	03.8	76	38.8	+25	13.4	141	42.7	+3	03.3	180	39.3	-13	13.4
1	166	41.0	164	22.3		02.5	91	40.2		13.5	156	44.6		03.5	195	41.5		13.3
2	181	43.5	179	22.0	-0	01.2	106	41.7		13.5	171	46.6		03.7	210	43.6		13.2
3	196	46.0	194	21.7	+0	00.1	121	43.1		13.6	186	48.6		03.9	225	45.8		13.1
4	211	48.4	209	21.3		01.4	136	44.6		13.6	201	50.5		04.2	240	48.0		13.0
5	226	50.9	224	21.0	+0	02.7	151	46.1	+25	13.7	216	52.5	+3	04.4	255	50.2	-13	12.9
6	241	53.3	239	20.7	+0	04.0	166	47.5	+25	13.8	231	54.5	+3	04.6	270	52.3	-13	12.8
7	256	55.8	254	20.4		05.3	181	49.0		13.8	246	56.4		04.8	285	54.5		12.7
8	271	58.3	269	20.1		06.7	196	50.5		13.9	261	58.4		05.0	300	56.7		12.6
9	287	00.7	284	19.7		08.0	211	51.9		14.0	277	00.4		05.2	315	58.8		12.5
10	302	03.2	299	19.4		09.3	226	53.4		14.0	292	02.3		05.5	331	01.0		12.4
11	317	05.7	314	19.1	+0	10.6	241	54.8	+25	14.1	307	04.3	+3	05.7	346	03.2	-13	12.3
12	332	08.1	329	18.8	+0	11.9	256	56.3	+25	14.2	322	06.3	+3	05.9	1	05.4	-13	12.2
13	347	10.6	344	18.5		13.2	271	57.7		14.2	337	08.2		06.1	16	07.5		12.1
14	2	13.1	359	18.2		14.5	286	59.2		14.3	352	10.2		06.3	31	09.7		12.0
15	17	15.5	14	17.8		15.8	302	00.7		14.4	7	12.1		06.5	46	11.9		11.9
16	32	18.0	29	17.5		17.1	317	02.1		14.4	22	14.1		06.8	61	14.1		11.8
17	47	20.5	44	17.2	+0	18.4	332	03.6	+25	14.5	37	16.1	+3	07.0	76	16.2	-13	11.7
18	62	22.9	59	16.9	+0	19.7	347	05.0	+25	14.6	52	18.0	+3	07.2	91	18.4	-13	11.6
19	77	25.4	74	16.6		21.0	2	06.5		14.6	67	20.0		07.4	106	20.6		11.5
20	92	27.8	89	16.3		22.3	17	07.9		14.7	82	22.0		07.6	121	22.7		11.4
21	107	30.3	104	15.9		23.7	32	09.4		14.7	97	23.9		07.9	136	24.9		11.3
22	122	32.8	119	15.6		25.0	47	10.8		14.8	112	25.9		08.1	151	27.1		11.2
23	137	35.2	134	15.3		26.3	62	12.3		14.9	127	27.9		08.3	166	29.3		11.1
24	152	37.7	149	15.0	+0	27.6	77	13.7	+25	14.9	142	29.8	+3	08.5	181	31.4	-13	11.0
Dif	—		-3	+13		+15	+1			+20	+2			+22		+1		

UT	SOL		LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16'2 PMG:12 ^h 13.3 ^m		Edad: 2.7 ^d SD: 16'2 PMG: 15 ^h 03 ^m		PHE { 4 ^h : 59'2 12 ^h : 58'9 20 ^h : 58'5 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	176	38.9	-10	00.5	141	27.9	+2	29.7	60 N	17	11	17	54	18	42		8	18	1
1	191	39.0	-9	59.6	155	58.8	+2	46.1	58	16		56		42			21	4	10
2	206	39.0		58.7	170	29.7	+3	02.6	56	21	17	58	42	23	8		06	89	
3	221	39.1		57.7	185	00.7		18.9	54	25	18	01	42	25	11		22	02	86
4	236	39.2		56.8	199	31.7		35.3	52	28		02	42	27	13		21	59	82
5	251	39.3	-9	55.9	214	02.8	+3	51.6	50	17	31	18	04	18	42		8	28	16
6	266	39.4	-9	55.0	228	33.8	+4	07.9	45	17	39	18	08	18	42		8	32	21
7	281	39.5		54.1	243	04.9		24.1	40	45		12	44	35	25		43	74	70
8	296	39.5		53.2	257	36.0		40.2	35	50		15	45	38	29		38	66	
9	311	39.6		52.2	272	07.1	+4	56.4	30	17	54	19	47	40	32		34	63	
10	326	39.7		51.3	286	38.3	+5	12.5	20	18	03	25	51	45	37		27	57	
11	341	39.8	-9	50.4	301	09.4	+5	28.5	10 N	18	10	18	31	18	56		8	48	43
12	356	39.9	-9	49.5	315	40.6	+5	44.5	0	18	17	18	38	19	02		8	52	47
13	11	40.0		48.6	330	11.8	+6	00.4	10 S	24		45	10	55	53		08	43	
14	26	40.0		47.7	344	43.0		16.3	20	31	18	54	20	8	59	58		21	02
15	41	40.1		46.7	359	14.2		32.1	30	40	19	04	33	9	04	63		20	55
16	56	40.2		45.8	13	45.4	+6	47.9	35	45		11	42	06	67		51	29	
17	71	40.3	-9	44.9	28	16.7	+7	03.6	40	18	51	19	19	19	52		9	09	71
18	86	40.4	-9	44.0	42	47.9	+7	19.3	45	18	58	19	28	20	05		9	13	75
19	101	40.5		43.1	57	19.2		34.9	50	19	06	40	22	17	81		34	17	
20	116	40.6		42.1	71	50.4	+7	50.4	52	10		45	30	19	83		31	14	
21	131	40.7		41.2	86	21.7	+8	05.9	54	14		52	39	21	86		28	11	
22	146	40.7		40.3	100	53.0		21.3	56	18	19	59	20	50	23	90		25	8
23	161	40.8		39.4	115	24.3		36.7	58	24	20	06	21	02	26	93		21	5
24	176	40.9	-9	38.5	129	55.5	+8	52.0	60 S	19	29	20	15	21	17		9	29	97

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 47.2 ^m		Mag: -3.9 PMG: 14 ^h 03 ^m		Mag: +0.3 PMG: 18 ^h 49 ^m		Mag: -2.1 PMG: 14 ^h 28 ^m		Mag: +0.8 PMG: 11 ^h 52 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	152	37.7	149	15.0	+0	27.6	77	13.7	+25	14.9
1	167	40.2	164	14.7		28.9	92	15.2		15.0
2	182	42.6	179	14.4		30.2	107	16.6		15.1
3	197	45.1	194	14.0		31.5	122	18.1		15.1
4	212	47.6	209	13.7		32.8	137	19.5		15.2
5	227	50.0	224	13.4	+0	34.1	152	21.0	+25	15.3
6	242	52.5	239	13.1	+0	35.4	167	22.4	+25	15.3
7	257	54.9	254	12.8		36.7	182	23.9		15.4
8	272	57.4	269	12.5		38.0	197	25.3		15.5
9	287	59.9	284	12.2		39.4	212	26.7		15.5
10	303	02.3	299	11.8		40.7	227	28.2		15.6
11	318	04.8	314	11.5	+0	42.0	242	29.6	+25	15.6
12	333	07.3	329	11.2	+0	43.3	257	31.1	+25	15.7
13	348	09.7	344	10.9		44.6	272	32.5		15.8
14	3	12.2	359	10.6		45.9	287	34.0		15.8
15	18	14.7	14	10.3		47.2	302	35.4		15.9
16	33	17.1	29	09.9		48.5	317	36.8		16.0
17	48	19.6	44	09.6	+0	49.8	332	38.3	+25	16.0
18	63	22.1	59	09.3	+0	51.1	347	39.7	+25	16.1
19	78	24.5	74	09.0		52.4	2	41.2		16.2
20	93	27.0	89	08.7		53.7	17	42.6		16.2
21	108	29.4	104	08.4		55.1	32	44.0		16.3
22	123	31.9	119	08.1		56.4	47	45.5		16.3
23	138	34.4	134	07.7		57.7	62	46.9		16.4
24	153	36.8	149	07.4	+0	59.0	77	48.3	+25	16.5
Dif	—		-3		+13		+14		+1	
									+20	
									+2	
									+22	
									+1	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG:12 ^h 13.2 ^m			Edad: 3.7 ^d PHE { 4 ^h : 58/2 12 ^h : 57/9 20 ^h : 57/6 PMG: 15 ^h 51 ^m Rº: 48 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	
0	176	40.9	-9	38.5	129	55.5	+8	52.0	60 N	5	43	6	31	7	14	8	19
1	191	41.0		37.5	144	26.8	+9	07.2	58	44		29	09		25	6	43
2	206	41.1		36.6	158	58.1		22.4	56	44		27	05		31	9	35
3	221	41.2		35.7	173	29.4		37.5	54	44		25	7	01	36	12	28
4	236	41.3		34.8	188	00.7	+9	52.5	52	44		23	6	57	40	15	21
5	251	41.4	-9	33.8	202	32.0	+10	07.5	50	5	44	6	21	6	54	8	44
6	266	41.4	-9	32.9	217	03.3	+10	22.4	45	5	43	6	17	6	47	8	53
7	281	41.5		32.0	231	34.6		37.2	40	42		14	41	9	00	27	22
8	296	41.6		31.1	246	05.8	+10	51.9	35	41		11	36	07	30	44	65
9	311	41.7		30.1	260	37.1	+11	06.6	30	40		07	32	12	34	37	62
10	326	41.8		29.2	275	08.4		21.2	20	36	6	01	24	22	39	24	57
11	341	41.9	-9	28.3	289	39.6	+11	35.7	10 N	5	31	5	55	6	17	9	31
12	356	42.0	-9	27.4	304	10.9	+11	50.2	0	5	25	5	49	6	10	9	39
13	11	42.1		26.5	318	42.1	+12	04.5	10 S		17		42	6	03	48	52
14	26	42.2		25.5	333	13.3		18.8	20	5	07		33	5	56	9	57
15	41	42.3		24.6	347	44.6		33.0	30	4	54		22	47	10	07	62
16	56	42.4		23.7	2	15.8	+12	47.2	35		45		16	42	13	65	20
17	71	42.5	-9	22.8	16	47.0	+13	01.2	40	4	35	5	08	5	36	10	20
18	86	42.5	-9	21.8	31	18.1	+13	15.2	45	4	22	4	59	5	30	10	28
19	101	42.6		20.9	45	49.3		29.0	50	4	05		47	22	38	79	20
20	116	42.7		20.0	60	20.5		42.8	52	3	57		42	18	42	82	45
21	131	42.8		19.1	74	51.6	+13	56.6	54		48		36	14	47	85	39
22	146	42.9		18.1	89	22.7	+14	10.2	56		38		29	09	53	88	33
23	161	43.0		17.2	103	53.8		23.7	58		26		21	5	04	10	59
24	176	43.1	-9	16.3	118	24.9	+14	37.2	60 S	3	11	4	12	4	58	11	06

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 13 ^h 43.3 ^m		Mag: -3.9 PMG: 14 ^h 04 ^m		Mag: +0.3 PMG: 18 ^h 47 ^m		Mag: -2.1 PMG: 14 ^h 25 ^m		Mag: +0.8 PMG: 11 ^h 49 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec
h	°	'	°	'	°	'	°	'	°	'
0	153	36.8	149	07.4	+0	59.0	143	16.9	+3	13.8
1	168	39.3	164	07.1	+1	00.3	158	18.9		14.0
2	183	41.8	179	06.8		01.6	173	20.9		14.2
3	198	44.2	194	06.5		02.9	188	22.8		14.4
4	213	46.7	209	06.2		04.2	203	24.8		14.6
5	228	49.2	224	05.9	+1	05.5	218	26.7	+3	14.8
6	243	51.6	239	05.5	+1	06.8	233	28.7	+3	15.1
7	258	54.1	254	05.2		08.1	248	30.7		15.3
8	273	56.5	269	04.9		09.4	263	32.6		15.5
9	288	59.0	284	04.6		10.7	278	34.6		15.7
10	304	01.5	299	04.3		12.1	293	36.5		15.9
11	319	03.9	314	04.0	+1	13.4	308	38.5	+3	16.2
12	334	06.4	329	03.7	+1	14.7	323	40.5	+3	16.4
13	349	08.9	344	03.4		16.0	338	42.4		16.6
14	4	11.3	359	03.0		17.3	353	44.4		16.8
15	19	13.8	14	02.7		18.6	8	46.3		17.0
16	34	16.3	29	02.4		19.9	23	48.3		17.3
17	49	18.7	44	02.1	+1	21.2	38	50.3	+3	17.5
18	64	21.2	59	01.8	+1	22.5	53	52.2	+3	17.7
19	79	23.7	74	01.5		23.8	68	54.2		17.9
20	94	26.1	89	01.2		25.1	83	56.1		18.1
21	109	28.6	104	00.8		26.4	98	58.1		18.4
22	124	31.0	119	00.5		27.7	114	00.1		18.6
23	139	33.5	134	00.2		29.1	129	02.0		18.8
24	154	36.0	148	59.9	+1	30.4	144	04.0	+3	19.0
Dif	—		-3		+13		+14		+1	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna			Puesta de Luna		
	SD: 16'2 PMG:12 ^h 13.0 ^m			Edad: 4.7 ^d SD: 15'6 PMG: 16 ^h 39 ^m			PHE { 4 ^h : 57'3 12 ^h : 56'9 20 ^h : 56'6 Rº: 49 ^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	h m		
0	176 43.1	-9 16.3	118 24.9	121	+14	37.2	133	60 N	17 16	17 59	18 47	8 21	3	** ** *	** ** *	** ** *	** ** *		
1	191 43.2	15.3	132 56.0	120	+14	50.5	133	58	21	18 01	46	31	8	** ** *	** ** *	** ** *	** ** *		
2	206 43.3	14.4	147 27.0	121	+15	03.8	132	56	25	03	46	40	12	** ** *	** ** *	** ** *	** ** *		
3	221 43.4	13.5	161 58.1	120		17.0	130	54	29	04	45	48	16	** ** *	** ** *	** ** *	** ** *		
4	236 43.5	12.6	176 29.1	120		30.0	130	52	32	06	45	8 55	19	** ** *	** ** *	** ** *	** ** *		
5	251 43.6	-9 11.6	191 00.1	120	+15	43.0	130	50	17 35	18 08	18 45	9 02	21	** ** *	** ** *	** ** *	** ** *		
6	266 43.7	-9 10.7	205 31.0	119	+15	55.9	129	45	17 41	18 11	18 45	9 16	26	** ** *	** ** *	** ** *	** ** *		
7	281 43.8	09.8	220 02.0	120	+16	08.7	128	40	47	14	46	27	30	** ** *	** ** *	** ** *	** ** *		
8	296 43.9	08.8	234 32.9	119		21.4	127	35	52	17	47	37	33	23 49	64				
9	311 44.0	07.9	249 03.8	119		34.1	127	30	17 56	20	48	9 46	36	39	61				
10	326 44.1	07.0	263 34.7	119		46.6	125	20	18 03	26	51	10 01	41	21	56				
11	341 44.2	-9 06.1	278 05.5	118	+16	59.0	124	10 N	18 10	18 31	18 56	10 14	45	23 05	53				
12	356 44.3	-9 05.1	292 36.3	118	+17	11.3	123	0	18 16	18 37	19 02	10 27	49	22 50	50				
13	11 44.4	04.2	307 07.1	118		23.5	122	10 S	23	44	09	40	52	36	46				
14	26 44.5	03.3	321 37.9	118		35.7	122	20	30	18 52	18	10 53	57	20	42				
15	41 44.6	02.3	336 08.6	117		47.7	120	30	38	19 02	31	11 09	62	22 02	38				
16	56 44.6	01.4	350 39.3	117	+17	59.6	119	35	43	08	39	18 65	21	52	35				
17	71 44.7	-9 00.5	5 10.0	117	+18	11.4	118	40	18 48	19 16	19 49	11 29	68	21 40	33				
18	86 44.8	-8 59.5	19 40.7	117	+18	23.1	117	45	18 54	19 25	20 01	11 42	71	21 26	29				
19	101 44.9	58.6	34 11.3	116		34.7	116	50	19 02	36	17	11 57	77	10	23				
20	116 45.0	57.7	48 41.9	116		46.3	116	52	05	41	25	12 04	80	21 02	21				
21	131 45.1	56.7	63 12.5	116	+18	57.7	114	54	09	47	33	12 83		20 53	18				
22	146 45.2	55.8	77 43.0	115	+19	09.0	113	56	13	19 53	43	21 87		43	15				
23	161 45.3	54.9	92 13.5	115		20.1	111	58	18	20 00	20 55	31 91		32	11				
24	176 45.4	-8 54.0	106 44.0	115	+19	31.2	111	60 S	19 24	20 09	21 09	12 43	97	20 20	4				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG 13 ^h 39.4 ^m			Mag: -3.9 PMG: 14 ^h 04 ^m			Mag: +0.3 PMG: 18 ^h 45 ^m			Mag: -2.1 PMG: 14 ^h 22 ^m			Mag: +0.8 PMG: 11 ^h 45 ^m						
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♊	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	154 36.0	148 59.9	+1 30.4	78 22.6	+25 18.0	144 04.0	+3 19.0	183 15.7	-13 06.1										
1	169 38.4	163 59.6	31.7	93 24.0	18.0	159 05.9	19.2	198 17.9	06.0										
2	184 40.9	178 59.3	33.0	108 25.4	18.1	174 07.9	19.5	213 20.1	05.9										
3	199 43.4	193 59.0	34.3	123 26.8	18.1	189 09.9	19.7	228 22.3	05.8										
4	214 45.8	208 58.7	35.6	138 28.3	18.2	204 11.8	19.9	243 24.4	05.7										
5	229 48.3	223 58.3	+1 36.9	153 29.7	+25 18.3	219 13.8	+3 20.1	258 26.6	-13 05.6										
6	244 50.8	238 58.0	+1 38.2	168 31.1	+25 18.3	234 15.7	+3 20.3	273 28.8	-13 05.5										
7	259 53.2	253 57.7	39.5	183 32.5	18.4	249 17.7	20.6	288 31.0	05.4										
8	274 55.7	268 57.4	40.8	198 33.9	18.5	264 19.7	20.8	303 33.1	05.2										
9	289 58.2	283 57.1	42.1	213 35.3	18.5	279 21.6	21.0	318 35.3	05.1										
10	305 00.6	298 56.8	43.4	228 36.8	18.6	294 23.6	21.2	333 37.5	05.0										
11	320 03.1	313 56.5	+1 44.7	243 38.2	+25 18.6	309 25.5	+3 21.4	348 39.7	-13 04.9										
12	335 05.5	328 56.2	+1 46.0	258 39.6	+25 18.7	324 27.5	+3 21.7	3 41.8	-13 04.8										
13	350 08.0	343 55.8	47.3	273 41.0	18.8	339 29.4	21.9	18 44.0	04.7										
14	5 10.5	358 55.5	48.7	288 42.4	18.8	354 31.4	22.1	33 46.2	04.6										
15	20 12.9	13 55.2	50.0	303 43.8	18.9	9 33.4	22.3	48 48.3	04.5										
16	35 15.4	28 54.9	51.3	318 45.2	18.9	24 35.3	22.5	63 50.5	04.4										
17	50 17.9	43 54.6	+1 52.6	333 46.6	+25 19.0	39 37.3	+3 22.8	78 52.7	-13 04.3										
18	65 20.3	58 54.3	+1 53.9	348 48.0	+25 19.1	54 39.2	+3 23.0	93 54.9	-13 04.2										
19	80 22.8	73 54.0	55.2	3 49.4	19.1	69 41.2	23.2	108 57.0	04.1										
20	95 25.3	88 53.7	56.5	18 50.9	19.2	84 43.1	23.4	123 59.2	04.0										
21	110 27.7	103 53.3	57.8	33 52.3	19.2	99 45.1	23.6	139 01.4	03.9										
22	125 30.2	118 53.0	+1 59.1	48 53.7	19.3	114 47.1	23.9	154 03.6	03.8										
23	140 32.6	133 52.7	+2 00.4	63 55.1	19.4	129 49.0	24.1	169 05.7	03.7										
24	155 35.1	148 52.4	+2 01.7	78 56.5	+25 19.4	144 51.0	+3 24.3	184 07.9	-13 03.6										
Dif	—	-3	+13	+14	+1	+20	+2	+22	+1										

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16'2 PMG:12 ^h 12.9 ^m			Edad: 5.7 ^d SD: 15'4 PMG: 17 ^h 28 ^m	PHE { 4 ^h : 56'4 12 ^h : 56'1 20 ^h : 55'8 R°: 50 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°							
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	176	45.4	-8	54.0	106	44.0	+19	31.2	60 N	5	38	6	26	7	08	8	24	7	1	29	96	
1	191	45.5		53.0	121	14.5		42.2	58	39		24	04		39	14		15	89			
2	206	45.6		52.1	135	44.9	+19	53.1	56	39		22	7	00	8	52	18		1	02	85	
3	221	45.7		51.2	150	15.3	+20	03.8	54	40		21	6	56	9	04	21		0	52	81	
4	236	45.9		50.2	164	45.6		14.5	52	40		19	53		14	24		42	79			
5	251	46.0	-8	49.3	179	16.0	+20	25.0	50	5	40	6	18	6	50	9	23	26		0	34	76
6	266	46.1	-8	48.4	193	46.2	+20	35.4	45	5	40	6	14	6	44	9	42	31		0	16	71
7	281	46.2		47.4	208	16.5		45.7	40	40		11	38		9	57	35		0	02	66	
8	296	46.3		46.5	222	46.7	+20	55.9	35	39		08	34		10	10	38		**	**	**	
9	311	46.4		45.5	237	16.9	+21	06.0	30	38		05	30			22	40		**	**	**	
10	326	46.5		44.6	251	47.1		16.0	20	34	6	00	22		42	44			**	**	**	
11	341	46.6	-8	43.7	266	17.2	+21	25.8	10 N	5	30	5	55	6	16	10	59	48		23	58	53
12	356	46.7	-8	42.7	280	47.3	+21	35.6	0	5	24	5	49	6	10	11	16	50		23	40	51
13	11	46.8		41.8	295	17.4		45.2	10 S	17		42	6	03		32	53		22	48		
14	26	46.9		40.9	309	47.4	+21	54.7	20	5	08	34	5	56	11	50	56		23	02	46	
15	41	47.0		39.9	324	17.4	+22	04.1	30	4	55	24	48		12	11	60		22	40	43	
16	56	47.1		39.0	338	47.4		13.3	35	47		18	44			23	62		27	41		
17	71	47.2	-8	38.1	353	17.3	+22	22.5	40	4	37	5	11	5	39	12	37	65		22	13	37
18	86	47.3	-8	37.1	7	47.2	+22	31.5	45	4	25	5	02	5	32	12	53	69		21	55	35
19	101	47.4		36.2	22	17.1		40.4	50	10		4	51	25		13	14	73		33	31	
20	116	47.5		35.3	36	46.9		49.2	52	4	02	46	22		24	76		23	28			
21	131	47.6		34.3	51	16.7	+22	57.9	54	3	53	40	18		35	79		21	11	26		
22	146	47.7		33.4	65	46.5	+23	06.5	56	43		34	14		13	48	82		20	58	22	
23	161	47.8		32.4	80	16.2		14.9	58	32		26	09		14	02	88		43	17		
24	176	47.9	-8	31.5	94	45.9	+23	23.2	60 S	3	18	4	18	5	04	14	20	95		20	24	10
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 13 ^h 35.4 ^m			Mag: -3.9 PMG: 14 ^h 05 ^m			Mag: +0.4 PMG: 18 ^h 42 ^m			Mag: -2.1 PMG: 14 ^h 19 ^m			Mag: +0.8 PMG: 11 ^h 42 ^m									
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	155	35.1	148	52.4	+2	01.7	78	56.5	+25	19.4	144	51.0	+3	24.3	184	07.9	-13	03.6				
1	170	37.6	163	52.1		03.0	93	57.9		19.5	159	52.9		24.5	199	10.1		03.5				
2	185	40.0	178	51.8		04.3	108	59.3		19.5	174	54.9		24.7	214	12.3		03.4				
3	200	42.5	193	51.5		05.6	124	00.7		19.6	189	56.8		25.0	229	14.4		03.3				
4	215	45.0	208	51.2		06.9	139	02.1		19.7	204	58.8		25.2	244	16.6		03.2				
5	230	47.4	223	50.8	+2	08.2	154	03.5	+25	19.7	220	00.8	+3	25.4	259	18.8	-13	03.1				
6	245	49.9	238	50.5	+2	09.5	169	04.9	+25	19.8	235	02.7	+3	25.6	274	21.0	-13	03.0				
7	260	52.4	253	50.2		10.9	184	06.3		19.8	250	04.7		25.8	289	23.1		02.9				
8	275	54.8	268	49.9		12.2	199	07.7		19.9	265	06.6		26.1	304	25.3		02.8				
9	290	57.3	283	49.6		13.5	214	09.1		20.0	280	08.6		26.3	319	27.5		02.7				
10	305	59.8	298	49.3		14.8	229	10.5		20.0	295	10.5		26.5	334	29.7		02.6				
11	321	02.2	313	49.0	+2	16.1	244	11.9	+25	20.1	310	12.5	+3	26.7	349	31.8	-13	02.5				
12	336	04.7	328	48.7	+2	17.4	259	13.3	+25	20.1	325	14.4	+3	26.9	4	34.0	-13	02.4				
13	351	07.1	343	48.4		18.7	274	14.7		20.2	340	16.4		27.2	19	36.2		02.3				
14	6	09.6	358	48.0		20.0	289	16.1		20.3	355	18.4		27.4	34	38.3		02.2				
15	21	12.1	13	47.7		21.3	304	17.5		20.3	10	20.3		27.6	49	40.5		02.1				
16	36	14.5	28	47.4		22.6	319	18.9		20.4	25	22.3		27.8	64	42.7		02.0				
17	51	17.0	43	47.1	+2	23.9	334	20.3	+25	20.4	40	24.2	+3	28.1	79	44.9	-13	01.9				
18	66	19.5	58	46.8	+2	25.2	349	21.7	+25	20.5	55	26.2	+3	28.3	94	47.0	-13	01.8				
19	81	21.9	73	46.5		26.5	4	23.1		20.6	70	28.1		28.5	109	49.2		01.7				
20	96	24.4	88	46.2		27.8	19	24.5		20.6	85	30.1		28.7	124	51.4		01.6				
21	111	26.9	103	45.9		29.1	34	25.9		20.7	100	32.0		28.9	139	53.6		01.5				
22	126	29.3	118	45.6		30.4	49	27.3		20.7	115	34.0		29.2	154	55.7		01.4				
23	141	31.8	133	45.2		31.7	64	28.6		20.8	130	36.0		29.4	169	57.9		01.3				
24	156	34.3	148	44.9	+2	33.0	79	30.0	+25	20.8	145	37.9	+3	29.6	185	00.1	-13	01.2				
Dif	—			-3			+13			+14			+1			+20			+2			

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h /2 PMG:12 ^h 12.7 ^m			Edad: 6.7 ^d SD: 15 ^h /2 PMG: 18 ^h 18 ^m							PHE { 4 ^h : 55 ^h /6 12 ^h : 55 ^h /4 20 ^h : 55 ^h /2 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	176	47.9	-8	31.5	94	45.9	+23	23.2	60 N	17	21	18	04	18	52		8	31	16
1	191	48.0		30.6	109	15.6		31.4	58	26		05		51		8	53	22	
2	206	48.1		29.6	123	45.2		39.4	56	29		07		50		9	10	27	
3	221	48.3		28.7	138	14.8		47.4	54	32		08		49		25	30		
4	236	48.4		27.7	152	44.4	+23	55.2	52	35		10		49		38	33		
5	251	48.5	-8	26.8	167	13.9	+24	02.9	50	17	38	18	11	18	48		9	49	35
6	266	48.6	-8	25.9	181	43.5	+24	10.4	45	17	44	18	14	18	48		10	13	38
7	281	48.7		24.9	196	12.9		17.9	40	49		16		48		32	41		
8	296	48.8		24.0	210	42.4		25.2	35	54		19		48		10	48	43	
9	311	48.9		23.0	225	11.8		32.4	30	17	57	21		49		11	02	45	
10	326	49.0		22.1	239	41.2		39.4	20	18	04	26		52		26	47		
11	341	49.1	-8	21.2	254	10.6	+24	46.4	10 N	18	10	18	31	18	56		11	47	49
12	356	49.2	-8	20.2	268	39.9	+24	53.2	0	18	16	18	37	19	01		12	06	51
13	11	49.3		19.3	283	09.2	+24	59.8	10 S	22		43		08		25	54		
14	26	49.4		18.3	297	38.5	+25	06.4	20	28		18	51	17		12	46	56	
15	41	49.6		17.4	312	07.8		12.8	30	36		19	00	29		13	11	57	
16	56	49.7		16.5	326	37.0		19.1	35	40		06		36		25	59		
17	71	49.8	-8	15.5	341	06.2	+25	25.2	40	18	45	19	13	19	46		13	42	61
18	86	49.9	-8	14.6	355	35.4	+25	31.2	45	18	51	19	21	19	57		14	02	63
19	101	50.0		13.6	10	04.6		37.1	50	18	58	31		20	12		27	67	
20	116	50.1		12.7	24	33.7		42.9	52	19	01	36		20	40		68	21	51
21	131	50.2		11.8	39	02.8		48.5	54		04	42		28		14	54	70	
22	146	50.3		10.8	53	31.9		54.0	56		08	48		37		15	10	74	
23	161	50.4		09.9	68	01.0	+25	59.4	58		13	19	55	20	48		30	78	
24	176	50.6	-8	08.9	82	30.0	+26	04.6	60 S	19	18	20	03	21	01		15	55	85

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG 13 ^h 31.5 ^m			Mag: -3.9 PMG: 14 ^h 05 ^m			Mag: +0.4 PMG: 18 ^h 40 ^m			Mag: -2.1 PMG: 14 ^h 16 ^m			Mag: +0.8 PMG: 11 ^h 38 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec					
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/				
0	156	34.3	148	44.9	+2	33.0	79	30.0	+25	20.8	145	37.9	+3	29.6				
1	171	36.7	163	44.6		34.3	94	31.4		20.9	160	39.9		29.8				
2	186	39.2	178	44.3		35.6	109	32.8		21.0	175	41.8		30.0				
3	201	41.6	193	44.0		36.9	124	34.2		21.0	190	43.8		30.3				
4	216	44.1	208	43.7		38.3	139	35.6		21.1	205	45.7		30.5				
5	231	46.6	223	43.4	+2	39.6	154	37.0	+25	21.1	220	47.7	+3	30.7				
6	246	49.0	238	43.1	+2	40.9	169	38.4	+25	21.2	235	49.6	+3	30.9				
7	261	51.5	253	42.7		42.2	184	39.8		21.3	250	51.6		31.2				
8	276	54.0	268	42.4		43.5	199	41.2		21.3	265	53.5		31.4				
9	291	56.4	283	42.1		44.8	214	42.5		21.4	280	55.5		31.6				
10	306	58.9	298	41.8		46.1	229	43.9		21.4	295	57.4		31.8				
11	322	01.4	313	41.5	+2	47.4	244	45.3	+25	21.5	310	59.4	+3	32.0				
12	337	03.8	328	41.2	+2	48.7	259	46.7	+25	21.5	326	01.4	+3	32.3				
13	352	06.3	343	40.9		50.0	274	48.1		21.6	341	03.3		32.5				
14	7	08.7	358	40.6		51.3	289	49.5		21.7	356	05.3		32.7				
15	22	11.2	13	40.3		52.6	304	50.8		21.7	11	07.2		32.9				
16	37	13.7	28	39.9		53.9	319	52.2		21.8	26	09.2		33.1				
17	52	16.1	43	39.6	+2	55.2	334	53.6	+25	21.8	41	11.1	+3	33.4				
18	67	18.6	58	39.3	+2	56.5	349	55.0	+25	21.9	56	13.1	+3	33.6				
19	82	21.1	73	39.0		57.8	4	56.4		21.9	71	15.0		33.8				
20	97	23.5	88	38.7	+2	59.1	19	57.8		22.0	86	17.0		34.0				
21	112	26.0	103	38.4	+3	00.4	34	59.1		22.1	101	18.9		34.3				
22	127	28.5	118	38.1		01.7	50	00.5		22.1	116	20.9		34.5				
23	142	30.9	133	37.8		03.0	65	01.9		22.2	131	22.8		34.7				
24	157	33.4	148	37.5	+3	04.3	80	03.3	+25	22.2	146	24.8	+3	34.9				
Dif	—			-3	+13		+14			+1	+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 12.5 ^m			Edad: 7.7 ^d SD: 15 ^h 0 PMG: 19 ^h 10 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	
0	176	50.6	-8	08.9	82	30.0	+26	04.6	51	5	32	6	20	7	02	8	47
1	191	50.7		08.0	96	59.0		09.7	50		34	19	6	58	9	15	38
2	206	50.8		07.0	111	28.0		14.7	50		34	17	55	37	41	3	48
3	221	50.9		06.1	125	57.0		19.5	48		35	16	52	9	55	43	26
4	236	51.0		05.2	140	26.0		24.2	47		36	15	49	10	11	43	13
5	251	51.1	-8	04.2	154	54.9	+26	28.8	46	5	36	6	14	6	46	10	24
6	266	51.2	-8	03.3	169	23.8	+26	33.2	44	5	37	6	11	6	40	10	51
7	281	51.4		02.3	183	52.7		37.5	43		37	08	35	11	13	48	2
8	296	51.5		01.4	198	21.6		41.7	42		36	06	31	31	49	1	54
9	311	51.6	-8	00.4	212	50.5		45.7	40		36	6	03	27	11	47	39
10	326	51.7	-7	59.5	227	19.4		49.6	39		33	5	59	21	12	13	50
11	341	51.8	-7	58.5	241	48.2	+26	53.3	37	5	29	5	54	6	15	12	36
12	356	51.9	-7	57.6	256	17.1	+26	57.0	37	5	24	5	48	6	09	12	57
13	11	52.0		56.6	270	45.9	+27	00.5	35		17	42	6	03	13	19	52
14	26	52.2		55.7	285	14.7		03.8	33	5	09	35	5	57	13	42	53
15	41	52.3		54.8	299	43.5		07.0	32	4	57	26	50	14	08	54	**
16	56	52.4		53.8	314	12.3		10.1	31		49	20	46	24	55	23	54
17	71	52.5	-7	52.9	328	41.1	+27	13.0	29	4	40	5	13	5	41	14	43
18	86	52.6	-7	51.9	343	09.9	+27	15.9	29	4	28	5	05	5	35	15	05
19	101	52.7		51.0	357	38.7		18.5	26		14	4	55	28	34	56	23
20	116	52.9		50.0	12	07.4		21.1	26	4	06	50	25	15	48	57	29
21	131	53.0		49.1	26	36.2		23.5	24	3	58	45	22	16	04	57	22
22	146	53.1		48.1	41	05.0		25.7	22		49	38	18	24	58	21	53
23	161	53.2		47.2	55	33.7		27.8	21		38	32	14	16	48	59	21
24	176	53.3	-7	46.2	70	02.5	+27	29.8	20	3	25	4	24	5	09	17	20
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 13 ^h 27.6 ^m			Mag: -3.9 PMG: 14 ^h 06 ^m			Mag: +0.4 PMG: 18 ^h 38 ^m			Mag: -2.1 PMG: 14 ^h 12 ^m			Mag: +0.9 PMG: 11 ^h 35 ^m				
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	157	33.4	148	37.5	+3	04.3	80	03.3	+25	22.2	146	24.8	+3	34.9	185	52.3	
1	172	35.9	163	37.1		05.6	95	04.6		22.3	161	26.7		35.1	200	54.5	
2	187	38.3	178	36.8		06.9	110	06.0		22.3	176	28.7		35.4	215	56.6	
3	202	40.8	193	36.5		08.2	125	07.4		22.4	191	30.6		35.6	230	58.8	
4	217	43.2	208	36.2		09.5	140	08.8		22.5	206	32.6		35.8	246	01.0	
5	232	45.7	223	35.9	+3	10.8	155	10.1	+25	22.5	221	34.5	+3	36.0	261	03.2	
6	247	48.2	238	35.6	+3	12.1	170	11.5	+25	22.6	236	36.5	+3	36.2	276	05.3	
7	262	50.6	253	35.3		13.4	185	12.9		22.6	251	38.4		36.5	291	07.5	
8	277	53.1	268	35.0		14.7	200	14.3		22.7	266	40.4		36.7	306	09.7	
9	292	55.6	283	34.7		16.0	215	15.6		22.7	281	42.4		36.9	321	11.9	
10	307	58.0	298	34.3		17.3	230	17.0		22.8	296	44.3		37.1	336	14.0	
11	323	00.5	313	34.0	+3	18.6	245	18.4	+25	22.8	311	46.3	+3	37.4	351	16.2	
12	338	03.0	328	33.7	+3	19.9	260	19.8	+25	22.9	326	48.2	+3	37.6	6	18.4	
13	353	05.4	343	33.4		21.2	275	21.1		23.0	341	50.2		37.8	21	20.6	
14	8	07.9	358	33.1		22.5	290	22.5		23.0	356	52.1		38.0	36	22.7	
15	23	10.4	13	32.8		23.8	305	23.9		23.1	11	54.1		38.2	51	24.9	
16	38	12.8	28	32.5		25.1	320	25.2		23.1	26	56.0		38.5	66	27.1	
17	53	15.3	43	32.2	+3	26.4	335	26.6	+25	23.2	41	58.0	+3	38.7	81	29.3	
18	68	17.7	58	31.9	+3	27.7	350	28.0	+25	23.2	56	59.9	+3	38.9	96	31.4	
19	83	20.2	73	31.5		29.0	5	29.3		23.3	72	01.9		39.1	111	33.6	
20	98	22.7	88	31.2		30.3	20	30.7		23.3	87	03.8		39.4	126	35.8	
21	113	25.1	103	30.9		31.6	35	32.1		23.4	102	05.8		39.6	141	38.0	
22	128	27.6	118	30.6		32.9	50	33.4		23.5	117	07.7		39.8	156	40.1	
23	143	30.1	133	30.3		34.2	65	34.8		23.5	132	09.7		40.0	171	42.3	
24	158	32.5	148	30.0	+3	35.5	80	36.2	+25	23.6	147	11.6	+3	40.2	186	44.5	
Dif	—		-3	+13			+14	+1			+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 12.3 ^m		Edad: 8.7 ^d SD: 14 ^h 9 PMG: 20 ^h 01 ^m						Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m
0	176 53.3	-7 46.2	70 02.5		+27 29.8	19	60 N	17 27	18 08	18 57	9 20	60	5 51	46	
1	191 53.4		84 31.3	98		31.7	58	30	10	55	9 53	58	5 17	49	
2	206 53.6		99 00.0	98		33.4	56	33	11	54	10 18	57	4 52	50	
3	221 53.7		113 28.8	98		35.0	54	36	12	53	38 56		33 49		
4	236 53.8		127 57.5	97		36.4	52	39	13	52	10 54	56	16 50		
5	251 53.9	-7 41.5	142 26.3	98	+27 37.7	13	50	17 42	18 14	18 51	11 09	55	4 02	50	
6	266 54.0	-7 40.5	156 55.1	98	+27 38.9	12	45	17 47	18 16	18 50	11 38	55	3 33	50	
7	281 54.2		171 23.9	98		39.9	40	51	19	50	12 01	54	3 10	51	
8	296 54.3		185 52.7	98		40.8	35	55	21	50	20 53		2 51	51	
9	311 54.4		200 21.4	97		41.6	30	17 59	23	51	12 36	53	35 51		
10	326 54.5		214 50.3	99		42.2	20	18 05	27	53	13 03	53	2 08	51	
11	341 54.6	-7 35.8	229 19.1	98	+27 42.7	5	10 N	18 10	18 32	18 56	13 27	52	1 44	52	
12	356 54.8	-7 34.8	243 47.9	98	+27 43.1	4	0	18 16	18 36	19 01	13 49	51	1 22	52	
13	11 54.9		258 16.7	98		43.3	10 S	21	42	07	14 11	51	1 00	52	
14	26 55.0		272 45.6	99		43.4	20	27	49	15	14 35	49	0 37	51	
15	41 55.1		287 14.4	98		43.3	30	34	18 58	26	15 02	49	0 10	51	
16	56 55.2		301 43.3	99		43.1	35	38	19 03	34	19 48		** ** *	**	
17	71 55.4	-7 30.1	316 12.2	99	+27 42.8	3	40	18 42	19 10	19 43	15 38	47	** ** *	**	
18	86 55.5	-7 29.1	330 41.1	99	+27 42.3	5	45	18 47	19 17	19 53	16 01	46	** ** *	**	
19	101 55.6		345 10.0	99		41.7	50	54	27	20 08	30 45		23 34	60	
20	116 55.7		359 39.0	100		41.0	52	18 56	32	14	16 45	43	19 61		
21	131 55.9		14 07.9	99		40.1	54	19 00	37	22	17 01	43	23 02	63	
22	146 56.0		28 36.9	100		39.1	56	03	42	31	22 40		22 42	65	
23	161 56.1		43 05.9	100		38.0	58	07	49	41	17 47	38	22 17	67	
24	176 56.2	-7 23.4	57 35.0	101	+27 36.7	13	60 S	19 12	19 56	20 53	18 22	32	21 42	73	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 13 ^h 23.6 ^m		Mag: -3.9 PMG: 14 ^h 06 ^m		Mag: +0.4 PMG: 18 ^h 36 ^m		Mag: -2.1 PMG: 14 ^h 09 ^m		Mag: +0.9 PMG: 11 ^h 31 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	158 32.5	148 30.0	+3 35.5		80 36.2	+25 23.6	147 11.6	+3 40.2	186 44.5	-12 56.3
1	173 35.0	163 29.7	36.8		95 37.5	23.6	162 13.6	40.5	201 46.7	56.2
2	188 37.5	178 29.4	38.1		110 38.9	23.7	177 15.5	40.7	216 48.9	56.1
3	203 39.9	193 29.1	39.4		125 40.3	23.7	192 17.5	40.9	231 51.0	56.0
4	218 42.4	208 28.7	40.7		140 41.6	23.8	207 19.4	41.1	246 53.2	55.9
5	233 44.9	223 28.4	+3 42.0		155 43.0	+25 23.8	222 21.4	+3 41.4	261 55.4	-12 55.8
6	248 47.3	238 28.1	+3 43.3		170 44.3	+25 23.9	237 23.3	+3 41.6	276 57.6	-12 55.7
7	263 49.8	253 27.8	44.6		185 45.7	23.9	252 25.3	41.8	291 59.7	55.6
8	278 52.2	268 27.5	45.9		200 47.1	24.0	267 27.2	42.0	307 01.9	55.5
9	293 54.7	283 27.2	47.2		215 48.4	24.1	282 29.2	42.3	322 04.1	55.4
10	308 57.2	298 26.9	48.5		230 49.8	24.1	297 31.1	42.5	337 06.3	55.3
11	323 59.6	313 26.6	+3 49.8		245 51.1	+25 24.2	312 33.1	+3 42.7	352 08.4	-12 55.2
12	339 02.1	328 26.2	+3 51.1		260 52.5	+25 24.2	327 35.0	+3 42.9	7 10.6	-12 55.1
13	354 04.6	343 25.9	52.4		275 53.9	24.3	342 36.9	43.1	22 12.8	55.0
14	9 07.0	358 25.6	53.7		290 55.2	24.3	357 38.9	43.4	37 15.0	54.9
15	24 09.5	13 25.3	55.0		305 56.6	24.4	12 40.8	43.6	52 17.1	54.8
16	39 12.0	28 25.0	56.3		320 57.9	24.4	27 42.8	43.8	67 19.3	54.7
17	54 14.4	43 24.7	+3 57.6		335 59.3	+25 24.5	42 44.7	+3 44.0	82 21.5	-12 54.6
18	69 16.9	58 24.4	+3 58.9		351 00.6	+25 24.5	57 46.7	+3 44.3	97 23.7	-12 54.5
19	84 19.4	73 24.1	+4 00.2		6 02.0	24.6	72 48.6	44.5	112 25.8	54.4
20	99 21.8	88 23.8	01.5		21 03.4	24.6	87 50.6	44.7	127 28.0	54.3
21	114 24.3	103 23.4	02.8		36 04.7	24.7	102 52.5	44.9	142 30.2	54.2
22	129 26.7	118 23.1	04.1		51 06.1	24.7	117 54.5	45.2	157 32.4	54.1
23	144 29.2	133 22.8	05.4		66 07.4	24.8	132 56.4	45.4	172 34.5	54.0
24	159 31.7	148 22.5	+4 06.7		81 08.8	+25 24.8	147 58.4	+3 45.6	187 36.7	-12 53.8
Dif	—	-3	+13		+14	+1	+19	+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 12.2 ^m			Edad: 9.7 ^d SD: 14 ^h 8 PMG: 20 ^h 52 ^m							PHE { 4 ^h : 54 ^h 2 12 ^h : 54 ^h 1 20 ^h : 54 ^h 1 R°: 49 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m					
0	176	56.2	-7	23.4	57	35.0	+27	36.7	14	60 N	5	27	6	15	6	56	10	20	81	6	37	23
1	191	56.3		22.5	72	04.0		35.3	15	58	28		14	53		10	51	75	6	06	29	
2	206	56.5		21.5	86	33.1		33.8	16	56	30		12	50		11	15	71	5	42	33	
3	221	56.6		20.6	101	02.2		32.2	16	54	31		11	47			34	68		22	36	
4	236	56.7		19.6	115	31.3		30.4	18	52	32		11	44		11	50	66	5	06	38	
5	251	56.8	-7	18.7	130	00.5	+27	28.4	20	50	5	32	6	10	6	42	12	04	64	4	52	39
6	266	57.0	-7	17.7	144	29.7	+27	26.4	20	45	5	33	6	07	6	37	12	33	61	4	23	42
7	281	57.1		16.8	158	58.9		24.2	22	40	34		05	32		12	55	59	4	01	44	
8	296	57.2		15.8	173	28.2		21.9	23	35	34		03	29		13	13	57	3	42	45	
9	311	57.3		14.9	187	57.4		19.4	25	30	34		6	01	25		29	56		3	26	46
10	326	57.5		13.9	202	26.7		16.8	26	20	32		5	57	19		13	56	53	2	59	48
11	341	57.6	-7	12.9	216	56.1	+27	14.1	27	10 N	5	28	5	53	6	14	14	19	51	2	36	49
12	356	57.7	-7	12.0	231	25.5	+27	11.3	28	0	5	24	5	48	6	09	14	40	50	2	14	50
13	11	57.9		11.0	245	54.9		08.3	30	10 S	18		42	6	04	15	02	47	1	52	52	
14	26	58.0		10.1	260	24.3		05.2	31	20	5	10	36	5	58		24	46		28	54	
15	41	58.1		09.1	274	53.8	+27	02.0	32	30	4	58	27	51		15	51	43	1	01	55	
16	56	58.2		08.2	289	23.3	+26	58.6	34	35	51		22	47		16	07	41	0	45	55	
17	71	58.4	-7	07.2	303	52.9	+26	55.1	35	40	4	43	5	15	5	43	16	25	40	0	26	57
18	86	58.5	-7	06.3	318	22.5	+26	51.5	36	45	4	32	5	08	5	38	16	47	37	0	03	58
19	101	58.6		05.3	332	52.1		47.8	37	50	18		4	58	32		17	15	33	**	**	**
20	116	58.7		04.4	347	21.8		43.9	39	52	11		54	29		28	32		**	**	**	
21	131	58.9		03.4	1	51.5		39.9	40	54	4	03	49	26		17	44	29	**	**	**	
22	146	59.0		02.4	16	21.3		35.8	41	56	3	54	43	22		18	02	27	23	47	75	
23	161	59.1		01.5	30	51.1		31.6	42	58	44		37	18		25	22		23	24	80	
24	176	59.3	-7	00.5	45	20.9	+26	27.2	44	60 S	3	32	4	30	5	14	18	54	15	22	55	88

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 13 ^h 19.7 ^m		Mag: -3.9 PMG: 14 ^h 07 ^m		Mag: +0.5 PMG: 18 ^h 34 ^m		Mag: -2.1 PMG: 14 ^h 06 ^m		Mag: +0.9 PMG: 11 ^h 28 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	159	31.7	148	22.5	+4	06.7	81	08.8	+25	24.8	147	58.4	+3	45.6	187	36.7	-12	53.8
1	174	34.1	163	22.2		07.9	96	10.1		24.9	163	00.3		45.8	202	38.9		53.7
2	189	36.6	178	21.9		09.2	111	11.5		25.0	178	02.3		46.0	217	41.1		53.6
3	204	39.1	193	21.6		10.5	126	12.8		25.0	193	04.2		46.3	232	43.3		53.5
4	219	41.5	208	21.3		11.8	141	14.2		25.1	208	06.2		46.5	247	45.4		53.4
5	234	44.0	223	20.9	+4	13.1	156	15.5	+25	25.1	223	08.1	+3	46.7	262	47.6	-12	53.3
6	249	46.5	238	20.6	+4	14.4	171	16.9	+25	25.2	238	10.1	+3	46.9	277	49.8	-12	53.2
7	264	48.9	253	20.3		15.7	186	18.2		25.2	253	12.0		47.2	292	52.0		53.1
8	279	51.4	268	20.0		17.0	201	19.6		25.3	268	14.0		47.4	307	54.1		53.0
9	294	53.8	283	19.7		18.3	216	20.9		25.3	283	15.9		47.6	322	56.3		52.9
10	309	56.3	298	19.4		19.6	231	22.3		25.4	298	17.8		47.8	337	58.5		52.8
11	324	58.8	313	19.1	+4	20.9	246	23.6	+25	25.4	313	19.8	+3	48.1	353	00.7	-12	52.7
12	340	01.2	328	18.8	+4	22.2	261	24.9	+25	25.5	328	21.7	+3	48.3	8	02.8	-12	52.6
13	355	03.7	343	18.4		23.5	276	26.3		25.5	343	23.7		48.5	23	05.0		52.5
14	10	06.2	358	18.1		24.8	291	27.6		25.6	358	25.6		48.7	38	07.2		52.4
15	25	08.6	13	17.8		26.1	306	29.0		25.6	13	27.6		48.9	53	09.4		52.3
16	40	11.1	28	17.5		27.4	321	30.3		25.7	28	29.5		49.2	68	11.5		52.2
17	55	13.6	43	17.2	+4	28.7	336	31.7	+25	25.7	43	31.5	+3	49.4	83	13.7	-12	52.1
18	70	16.0	58	16.9	+4	29.9	351	33.0	+25	25.8	58	33.4	+3	49.6	98	15.9	-12	52.0
19	85	18.5	73	16.6		31.2	6	34.3		25.8	73	35.4		49.8	113	18.1		51.9
20	100	21.0	88	16.3		32.5	21	35.7		25.9	88	37.3		50.1	128	20.3		51.8
21	115	23.4	103	15.9		33.8	36	37.0		25.9	103	39.3		50.3	143	22.4		51.7
22	130	25.9	118	15.6		35.1	51	38.4		26.0	118	41.2		50.5	158	24.6		51.6
23	145	28.3	133	15.3		36.4	66	39.7		26.0	133	43.1		50.7	173	26.8		51.5
24	160	30.8	148	15.0	+4	37.7	81	41.0	+25	26.1	148	45.1	+3	51.0	188	29.0	-12	51.4
Dif	—		-3		+13		+13		+1		+19		+2		+22		+1	

UT	SOL			O LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 1 PMG:12 ^h 11.9 ^m			Edad: 10.7 ^d PHE { 4 ^h : 54 ^o 0 12 ^h : 54 ^o 0 20 ^h : 54 ^o 0 PMG: 21 ^h 41 ^m R ^o : 47 ^m							Civil		Náutico	Hora	R ^o	Hora	R ^o
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m	
0	176 59.3	-7 00.5	45 20.9	109	+26	27.2	44	60 N	17 32	18 13	19 02	11 41	89	7 00	10		
1	191 59.4	-6 59.6	59 50.8	110		22.8	46	58	35	14	19 00	12 06	82	6 35	17		
2	206 59.5	58.6	74 20.8	109		18.2	48	56	38	15	18 58	26 77		6 15	21		
3	221 59.6	57.7	88 50.7	111		13.4	48	54	40	16	57	42 74		5 58	25		
4	236 59.8	56.7	103 20.8	111		08.6	48	52	43	17	56	12 56	71	44	27		
5	251 59.9	-6 55.7	117 50.8	110	+26	03.6	50	50	17 45	18 17	18 55	13 08	69	5 31	30		
6	267 00.0	-6 54.8	132 21.0	112	+25	58.5	51	45	17 50	18 19	18 53	13 34	64	5 05	34		
7	282 00.2	53.8	146 51.1	111		53.3	52	40	54	21	52	13 54	61	4 45	36		
8	297 00.3	52.9	161 21.4	113		48.0	53	35	17 57	22	52	14 10	59	27	39		
9	312 00.4	51.9	175 51.6	112		42.5	55	30	18 00	24	52	25 56		4 12	41		
10	327 00.6	51.0	190 21.9	113		37.0	55	20	06	28	53	14 49	53	3 47	44		
11	342 00.7	-6 50.0	204 52.3	114	+25	31.3	57	10 N	18 11	18 32	18 56	15 10	50	3 25	46		
12	357 00.8	-6 49.0	219 22.7	114	+25	25.5	58	0	18 15	18 36	19 00	15 30	47	3 04	49		
13	12 00.9	48.1	233 53.2	115		19.6	59	10 S	20	41	06	15 49	45	2 44	51		
14	27 01.1	47.1	248 23.7	115		13.5	61	20	25	48	13	16 10	42	2 22	53		
15	42 01.2	46.2	262 54.3	116		07.4	61	30	31	18 56	24	34 38		1 56	56		
16	57 01.3	45.2	277 24.9	116	+25	01.1	63	35	35	19 01	31	16 48	36	40	59		
17	72 01.5	-6 44.2	291 55.5	116	+24	54.7	64	40	18 39	19 06	19 39	17 05	33	1 23	60		
18	87 01.6	-6 43.3	306 26.3	118	+24	48.3	64	45	18 44	19 14	19 50	17 24	30	1 01	63		
19	102 01.7	42.3	320 57.0	117		41.7	66	50	49	23	20 03	17 48	26	0 34	67		
20	117 01.9	41.4	335 27.9	119		35.0	67	52	52	27	09	18 00	23	20	70		
21	132 02.0	40.4	349 58.8	119		28.1	69	54	55	32	17	13 21		0 05	72		
22	147 02.1	39.4	4 29.7	119		21.2	69	56	18 58	37	25	29 17		** ** *			
23	162 02.3	38.5	19 00.7	120		14.2	70	58	19 02	43	34	18 47	12	** ** *			
24	177 02.4	-6 37.5	33 31.7	120	+24	07.0	72	60 S	19 06	19 50	20 46	19 09	6	** ** *			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 13 ^h 15.8 ^m		Mag: -3.9 PMG: 14 ^h 07 ^m			Mag: +0.5 PMG: 18 ^h 32 ^m			Mag: -2.1 PMG: 14 ^h 03 ^m			Mag: +0.9 PMG: 11 ^h 24 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	160 30.8	148 15.0	+4 37.7	81 41.0	+25 26.1	148 45.1	+3 51.0	188 29.0	-12 51.4								
1	175 33.3	163 14.7	39.0	96 42.4	26.1	163 47.0	51.2	203 31.1	51.3								
2	190 35.7	178 14.4	40.3	111 43.7	26.2	178 49.0	51.4	218 33.3	51.2								
3	205 38.2	193 14.1	41.6	126 45.1	26.2	193 50.9	51.6	233 35.5	51.1								
4	220 40.7	208 13.8	42.9	141 46.4	26.3	208 52.9	51.9	248 37.7	51.0								
5	235 43.1	223 13.4	+4 44.2	156 47.7	+25 26.3	223 54.8	+3 52.1	263 39.8	-12 50.9								
6	250 45.6	238 13.1	+4 45.4	171 49.1	+25 26.4	238 56.8	+3 52.3	278 42.0	-12 50.8								
7	265 48.1	253 12.8	46.7	186 50.4	26.4	253 58.7	52.5	293 44.2	50.7								
8	280 50.5	268 12.5	48.0	201 51.7	26.5	269 00.7	52.7	308 46.4	50.6								
9	295 53.0	283 12.2	49.3	216 53.1	26.5	284 02.6	53.0	323 48.6	50.5								
10	310 55.5	298 11.9	50.6	231 54.4	26.6	299 04.5	53.2	338 50.7	50.4								
11	325 57.9	313 11.6	+4 51.9	246 55.7	+25 26.6	314 06.5	+3 53.4	353 52.9	-12 50.3								
12	341 00.4	328 11.2	+4 53.2	261 57.1	+25 26.7	329 08.4	+3 53.6	8 55.1	-12 50.2								
13	356 02.8	343 10.9	54.5	276 58.4	26.7	344 10.4	53.9	23 57.3	50.1								
14	11 05.3	358 10.6	55.8	291 59.7	26.8	359 12.3	54.1	38 59.4	50.0								
15	26 07.8	13 10.3	57.1	307 01.1	26.8	14 14.3	54.3	54 01.6	49.9								
16	41 10.2	28 10.0	58.3	322 02.4	26.9	29 16.2	54.5	69 03.8	49.8								
17	56 12.7	43 09.7	+4 59.6	337 03.7	+25 26.9	44 18.2	+3 54.8	84 06.0	-12 49.7								
18	71 15.2	58 09.4	+5 00.9	352 05.1	+25 27.0	59 20.1	+3 55.0	99 08.2	-12 49.6								
19	86 17.6	73 09.0	02.2	7 06.4	27.0	74 22.0	55.2	114 10.3	49.5								
20	101 20.1	88 08.7	03.5	22 07.7	27.1	89 24.0	55.4	129 12.5	49.4								
21	116 22.6	103 08.4	04.8	37 09.1	27.1	104 25.9	55.7	144 14.7	49.3								
22	131 25.0	118 08.1	06.1	52 10.4	27.2	119 27.9	55.9	159 16.9	49.2								
23	146 27.5	133 07.8	07.4	67 11.7	27.2	134 29.8	56.1	174 19.0	49.1								
24	161 29.9	148 07.5	+5 08.6	82 13.0	+25 27.3	149 31.8	+3 56.3	189 21.2	-12 49.0								
Dif	—	-3	+13	+13	0	+19	+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 11.7 ^m			Edad: 11.7 ^d SD: 14 ^h 7 PMG: 22 ^h 28 ^m												
				PHE { 4 ^h : 54 ⁰ 12 ^h : 54 ¹ 20 ^h : 54 ¹ Rº: 45 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	°	'	°	'	º	h	m	h	m	h	m	h	m
0	177	02.4	-6	33	31.7	+24	07.0	60 N	5	21	6	09	6	51	13	10
1	192	02.5		48	02.8	+23	59.7	58	23	08	47	28	84	6	52	
2	207	02.7		62	34.0		52.4	56	25	08	45	43	80	36	14	
3	222	02.8		77	05.2		44.9	54	26	07	42	13	56	23	17	
4	237	02.9		91	36.5		37.3	52	27	06	40	14	07	74	11	
5	252	03.1	-6	106	07.8	+23	29.6	50	5	28	6	06	6	38	14	17
6	267	03.2	-6	120	39.2	+23	21.8	45	5	30	6	04	6	33	14	38
7	282	03.3		135	10.6		14.0	40	31	02	29	14	55	66	5	39
8	297	03.5		149	42.1	+23	06.0	35	31	6	01	26	15	09	59	5
9	312	03.6		164	13.6	+22	57.9	30	31	5	59	23	21	57	4	53
10	327	03.7		178	45.2		49.7	20	30	56	18	15	42	53	31	39
11	342	03.9	-6	193	16.9	+22	41.4	10 N	5	27	5	52	6	13	16	00
12	357	04.0	-6	207	48.6	+22	33.0	0	5	23	5	48	6	08	16	17
13	12	04.2		222	20.4		24.5	10 S	18	43	6	04	34	42	35	49
14	27	04.3		236	52.2		15.9	20	10	36	5	59	16	52	38	3
15	42	04.4		251	24.1	+22	07.2	30	5	00	29	53	17	12	34	2
16	57	04.6		265	56.0	+21	58.4	35	4	53	24	49	24	31	39	59
17	72	04.7	-6	280	28.0	+21	49.5	40	4	45	5	18	5	45	17	38
18	87	04.8	-6	295	00.0	+21	40.5	45	4	35	5	11	5	41	17	54
19	102	05.0		309	32.1		31.4	50	22	5	02	35	18	14	20	1
20	117	05.1		324	04.3		22.2	52	15	4	58	33	23	18	30	72
21	132	05.3		338	36.5		13.0	54	08	53	30	34	15	17	75	
22	147	05.4		353	08.8	+21	03.6	56	4	00	48	27	46	11	1	02
23	162	05.5		7	41.1	+20	54.1	58	3	50	42	23	18	59	8	0
24	177	05.7	-6	22	13.5	+20	44.6	60 S	3	39	4	35	5	19	19	15

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 13 ^h 11.8 ^m		Mag: -3.9 PMG: 14 ^h 08 ^m		Mag: +0.5 PMG: 18 ^h 30 ^m		Mag: -2.1 PMG: 14 ^h 00 ^m		Mag: +0.9 PMG: 11 ^h 21 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	161	29.9	148	07.5	+5	08.6	82	13.0	+25	27.3	149	31.8	+3	56.3	189	21.2	-12	49.0
1	176	32.4	163	07.2		09.9	97	14.4		27.3	164	33.7		56.6	204	23.4		48.9
2	191	34.9	178	06.8		11.2	112	15.7		27.4	179	35.6		56.8	219	25.6		48.8
3	206	37.3	193	06.5		12.5	127	17.0		27.4	194	37.6		57.0	234	27.8		48.7
4	221	39.8	208	06.2		13.8	142	18.3		27.5	209	39.5		57.2	249	29.9		48.6
5	236	42.3	223	05.9	+5	15.1	157	19.7	+25	27.5	224	41.5	+3	57.5	264	32.1	-12	48.5
6	251	44.7	238	05.6	+5	16.4	172	21.0	+25	27.6	239	43.4	+3	57.7	279	34.3	-12	48.4
7	266	47.2	253	05.3		17.7	187	22.3		27.6	254	45.4		57.9	294	36.5		48.3
8	281	49.7	268	05.0		18.9	202	23.6		27.6	269	47.3		58.1	309	38.6		48.2
9	296	52.1	283	04.6		20.2	217	25.0		27.7	284	49.3		58.4	324	40.8		48.1
10	311	54.6	298	04.3		21.5	232	26.3		27.7	299	51.2		58.6	339	43.0		48.0
11	326	57.1	313	04.0	+5	22.8	247	27.6	+25	27.8	314	53.1	+3	58.8	354	45.2	-12	47.9
12	341	59.5	328	03.7	+5	24.1	262	28.9	+25	27.8	329	55.1	+3	59.0	9	47.4	-12	47.8
13	357	02.0	343	03.4		25.4	277	30.2		27.9	344	57.0		59.2	24	49.5		47.7
14	12	04.4	358	03.1		26.7	292	31.6		27.9	359	59.0		59.5	39	51.7		47.6
15	27	06.9	13	02.8		27.9	307	32.9		28.0	15	00.9		59.7	54	53.9		47.5
16	42	09.4	28	02.4		29.2	322	34.2		28.0	30	02.8	+3	59.9	69	56.1		47.4
17	57	11.8	43	02.1	+5	30.5	337	35.5	+25	28.1	45	04.8	+4	00.1	84	58.2	-12	47.3
18	72	14.3	58	01.8	+5	31.8	352	36.8	+25	28.1	60	06.7	+4	00.4	100	00.4	-12	47.2
19	87	16.8	73	01.5		33.1	7	38.2		28.2	75	08.7		00.6	115	02.6		47.1
20	102	19.2	88	01.2		34.4	22	39.5		28.2	90	10.6		00.8	130	04.8		47.0
21	117	21.7	103	00.9		35.6	37	40.8		28.3	105	12.6		01.0	145	07.0		46.9
22	132	24.2	118	00.5		36.9	52	42.1		28.3	120	14.5		01.3	160	09.1		46.8
23	147	26.6	133	00.2		38.2	67	43.4		28.3	135	16.4		01.5	175	11.3		46.7
24	162	29.1	147	59.9	+5	39.5	82	44.7	+25	28.4	150	18.4	+4	01.7	190	13.5	-12	46.6
Dif	—		-3	+13		+13	0			+19		+2		+22		+		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16 ^h 1 PMG:12 ^h 11.5 ^m				Edad: 12.7 ^d SD: 14 ^h 7 PMG: 23 ^h 13 ^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	05.7	-6	14.4	22	13.5	+20	44.6	96	35.0	98	60 N	17	37	18	18	19	07	14	39	88	7	15	2
1	192	05.8		13.5	36	45.9			134			58		39		19		04	14	52	83	7	02	6
2	207	05.9		12.5	51	18.4			135			56		42		19		02	15	03	79	6	50	10
3	222	06.1		11.5	65	50.9			135			54		44		20	19	01		12	76		40	13
4	237	06.2		10.6	80	23.5	+20	05.5	99			52		46		20	18	59		21	73		31	16
5	252	06.4	-6	09.6	94	56.2	+19	55.5	100			50	17	48	18	20	18	58	15	28	71	6	23	18
6	267	06.5	-6	08.6	109	28.9	+19	45.5	100			45	17	52	18	22	18	56	15	44	66	6	06	22
7	282	06.6		07.7	124	01.7			138			40		56		23	54	15	57	62		5	52	26
8	297	06.8		06.7	138	34.5			138			35	17	59		24	53	16	08	59		39	30	
9	312	06.9		05.7	153	07.3			138			30	18	02		25	53		18	56		29	32	
10	327	07.1		04.8	167	40.2	+19	04.3	139			20		06		28	54		35	51		5	10	37
11	342	07.2	-6	03.8	182	13.2	+18	53.8	140			10 N	18	11	18	32	18	56	16	49	47	4	54	41
12	357	07.3	-6	02.8	196	46.2	+18	43.3	140			0	18	15	18	36	19	00	17	02	43	4	39	44
13	12	07.5		01.9	211	19.3			141			10 S		19		40	05		16	39		24	48	
14	27	07.6	-6	00.9	225	52.4			141			20		24		46	12		30	35		4	08	51
15	42	07.8	-6	00.0	240	25.6			142			30		29		53	22		46	31		3	49	56
16	57	07.9	-5	59.0	254	58.8	+18	00.2	142			35		32	18	58		28	17	55	28		38	59
17	72	08.1	-5	58.0	269	32.1	+17	49.2	143			40	18	36	19	03	19	36	18	06	25	3	25	62
18	87	08.2	-5	57.1	284	05.4	+17	38.1	143			45	18	40	19	10	19	46	18	19	20	3	10	66
19	102	08.3		56.1	298	38.8			144			50		45		18	19	58		34	16	2	51	71
20	117	08.5		55.1	313	12.2			144			52		48		22	20	04	41	14		42	74	
21	132	08.6		54.2	327	45.6	+17	04.5	144			54		50		27		11	49	11		32	77	
22	147	08.8		53.2	342	19.1	+16	53.2	145			56		53		31	19		18	57	9	21	80	
23	162	08.9		52.2	356	52.7			146			58	18	56	37	28	19	07	5	2	08	84		
24	177	09.0	-5	51.2	11	26.3	+16	30.3	146			60 S	19	00	19	43	20	38	19	18	2	1	53	88
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 13 ^h 07.9 ^m		Mag: -3.9 PMG: 14 ^h 08 ^m				Mag: +0.5 PMG: 18 ^h 27 ^m				Mag: -2.1 PMG: 13 ^h 57 ^m				Mag: +0.9 PMG: 11 ^h 17 ^m									
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	162	29.1	147	59.9	+5	39.5	82	44.7	+25	28.4	150	18.4	+4	01.7	190	13.5	-12	46.6						
1	177	31.6	162	59.6		40.8	97	46.0		28.4	165	20.3		01.9	205	15.7		46.5						
2	192	34.0	177	59.3		42.1	112	47.4		28.5	180	22.3		02.2	220	17.9		46.4						
3	207	36.5	192	59.0		43.3	127	48.7		28.5	195	24.2		02.4	235	20.0		46.3						
4	222	38.9	207	58.6		44.6	142	50.0		28.6	210	26.1		02.6	250	22.2		46.2						
5	237	41.4	222	58.3	+5	45.9	157	51.3	+25	28.6	225	28.1	+4	02.8	265	24.4	-12	46.1						
6	252	43.9	237	58.0	+5	47.2	172	52.6	+25	28.7	240	30.0	+4	03.1	280	26.6	-12	46.0						
7	267	46.3	252	57.7		48.5	187	53.9		28.7	255	32.0		03.3	295	28.7		45.9						
8	282	48.8	267	57.4		49.7	202	55.2		28.7	270	33.9		03.5	310	30.9		45.8						
9	297	51.3	282	57.1		51.0	217	56.5		28.8	285	35.9		03.7	325	33.1		45.7						
10	312	53.7	297	56.7		52.3	232	57.9		28.8	300	37.8		04.0	340	35.3		45.6						
11	327	56.2	312	56.4	+5	53.6	247	59.2	+25	28.9	315	39.7	+4	04.2	355	37.5	-12	45.5						
12	342	58.7	327	56.1	+5	54.9	263	00.5	+25	28.9	330	41.7	+4	04.4	10	39.6	-12	45.4						
13	358	01.1	342	55.8		56.1	278	01.8		29.0	345	43.6		04.6	25	41.8		45.3						
14	13	03.6	357	55.5		57.4	293	03.1		29.0	0	45.6		04.9	40	44.0		45.2						
15	28	06.0	12	55.2	+5	58.7	308	04.4		29.1	15	47.5		05.1	55	46.2		45.1						
16	43	08.5	27	54.8	+6	00.0	323	05.7		29.1	30	49.4		05.3	70	48.4		45.0						
17	58	11.0	42	54.5	+6	01.3	338	07.0	+25	29.1	45	51.4	+4	05.5	85	50.5	-12	44.9						
18	73	13.4	57	54.2	+6	02.5	353	08.3	+25	29.2	60	53.3	+4	05.8	100	52.7	-12	44.8						
19	88	15.9	72	53.9		03.8	8	09.6		29.2	75	55.3		06.0	115	54.9		44.7						
20	103	18.4	87	53.6		05.1	23	10.9		29.3	90	57.2		06.2	130	57.1		44.6						
21	118	20.8	102	53.2		06.4	38	12.2		29.3	105	59.1		06.4	145	59.3		44.5						
22	133	23.3	117	52.9		07.7	53	13.5		29.4	121	01.1		06.7	161	01.4		44.4						
23	148	25.8	132	52.6		08.9	68	14.8		29.4	136	03.0		06.9	176	03.6		44.3						
24	163	28.2	147	52.3	+6	10.2	83	16.2	+25	29.5	151	05.0	+4	07.1	191	05.8	-12	44.2						
Dif	—		-3		+13		+13		0		+19		+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 11.3 ^m		Edad: 13.7 ^d PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 4 20 ^h : 54 ^h 5 PMG: 23 ^h 56 ^m R°: 41 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	177	09.0	-5	51.2	11	26.3	+16	30.3	60 N	5 15	6 03	6 45	16 07	85	7 17	1
1	192	09.2		50.3	25	59.9		18.7	58	18	03	42	15 81		08	5
2	207	09.3		49.3	40	33.6	+16	07.1	56	20	03	40	22 78		7 00	8
3	222	09.5		48.3	55	07.4	+15	55.4	54	21	02	37	28 76		6 53	10
4	237	09.6		47.4	69	41.1		43.6	52	23	02	35	34 73		47	12
5	252	09.8	-5	46.4	84	15.0	+15	31.8	50	5 24	6 01	6 34	16 39	71	6 41	15
6	267	09.9	-5	45.4	98	48.8	+15	19.9	45	5 26	6 00	6 30	16 50	66	6 28	20
7	282	10.1		44.5	113	22.7	+15	07.9	40	28	5 59	26	16 59	62	18	23
8	297	10.2		43.5	127	56.7	+14	55.9	35	29	58	23	17 07	58	09	26
9	312	10.3		42.5	142	30.7		43.8	30	29	57	21	14 55		6 01	29
10	327	10.5		41.6	157	04.7		31.6	20	29	54	16	26 50		5 47	34
11	342	10.6	-5	40.6	171	38.8	+14	19.4	10 N	5 27	5 51	6 12	17 36	46	5 35	38
12	357	10.8	-5	39.6	186	12.9	+14	07.1	0	5 23	5 47	6 08	17 45	42	5 23	43
13	12	10.9		38.7	200	47.0	+13	54.8	10 S	18	43	6 04	17 55	38	5 12	46
14	27	11.1		37.7	215	21.2		42.3	20	11	37	5 59	18 05	33	4 59	51
15	42	11.2		36.7	229	55.4		29.9	30	5 02	30	54	17 28		45	56
16	57	11.4		35.8	244	29.7		17.3	35	4 55	25	51	23 26		37	58
17	72	11.5	-5	34.8	259	04.0	+13	04.8	40	4 48	5 20	5 48	18 31	22	4 27	62
18	87	11.7	-5	33.8	273	38.3	+12	52.1	45	4 38	5 14	5 43	18 39	19	4 16	66
19	102	11.8		32.8	288	12.7		39.4	50	25	05	38	50 14		4 02	71
20	117	11.9		31.9	302	47.1		26.7	52	19	5 02	36	18 55	11	3 56	73
21	132	12.1		30.9	317	21.5		13.8	54	13	4 57	34	19 00	9	49	76
22	147	12.2		29.9	331	56.0	+12	01.0	56	4 05	52	31	06 6		41	79
23	162	12.4		29.0	346	30.5	+11	48.1	58	3 56	47	28	12 4		32	82
24	177	12.5	-5	28.0	1	05.0	+11	35.1	60 S	3 46	4 41	5 24	19 20	0	3 21	87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG: 13 ^h 04.0 ^m		Mag: -3.9 PMG: 14 ^h 09 ^m		Mag: +0.5 PMG: 18 ^h 25 ^m		Mag: -2.1 PMG: 13 ^h 54 ^m		Mag: +0.9 PMG: 11 ^h 14 ^m								
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'							
0	163	28.2	147	52.3	+6	10.2	83	16.2	+25	29.5							
1	178	30.7	162	52.0		11.5	98	17.5		29.5							
2	193	33.2	177	51.7		12.8	113	18.8		29.5							
3	208	35.6	192	51.3		14.0	128	20.1		29.6							
4	223	38.1	207	51.0		15.3	143	21.4		29.6							
5	238	40.5	222	50.7	+6	16.6	158	22.7	+25	29.7							
6	253	43.0	237	50.4	+6	17.9	173	24.0	+25	29.7							
7	268	45.5	252	50.1		19.1	188	25.3		29.8							
8	283	47.9	267	49.7		20.4	203	26.6		29.8							
9	298	50.4	282	49.4		21.7	218	27.9		29.8							
10	313	52.9	297	49.1		23.0	233	29.2		29.9							
11	328	55.3	312	48.8	+6	24.2	248	30.5	+25	29.9							
12	343	57.8	327	48.5	+6	25.5	263	31.8	+25	30.0							
13	359	00.3	342	48.1		26.8	278	33.1		30.0							
14	14	02.7	357	47.8		28.1	293	34.4		30.0							
15	29	05.2	12	47.5		29.3	308	35.6		30.1							
16	44	07.7	27	47.2		30.6	323	36.9		30.1							
17	59	10.1	42	46.9	+6	31.9	338	38.2	+25	30.2							
18	74	12.6	57	46.5	+6	33.2	353	39.5	+25	30.2							
19	89	15.0	72	46.2		34.4	8	40.8		30.2							
20	104	17.5	87	45.9		35.7	23	42.1		30.3							
21	119	20.0	102	45.6		37.0	38	43.4		30.3							
22	134	22.4	117	45.3		38.2	53	44.7		30.4							
23	149	24.9	132	44.9		39.5	68	46.0		30.4							
24	164	27.4	147	44.6	+6	40.8	83	47.3	+25	30.5							
Dif	—		-3		+13		+13		0		+19		+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 11.0 ^m			Edad: 14.7 ^d PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'9 Rº: **m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora
h	° /	° /		° /		° /		°	h m	h m	h m	h m	h m m	h m m	h m m	h m m	
0	177	12.5	-5 28.0	1 05.0	155	+ 11 35.1	130	60 N	17 42	18 23	19 12	17 32	85	7 18	0		
1	192	12.7		15 39.5		22.1		58	44	23	09	36	82	13	3		
2	207	12.8		30 14.1		09.0		56	46	23	06	40	78	08	6		
3	222	13.0		44 48.7		55.9		54	48	23	04	44	75	7 03	9		
4	237	13.1		59 23.4		42.7		52	50	24	03	47	73	6 59	11		
5	252	13.3	-5 23.1	73 58.0	156	+ 10 29.5	132	50	17 51	18 24	19 01	17 50	70	6 56	13		
6	267	13.4	-5 22.2	88 32.7	157	+ 10 16.2	133	45	17 55	18 24	18 58	17 56	66	6 48	17		
7	282	13.6		103 07.4	157	+ 10 02.9	133	40	17 58	25	56	18 01	62	41	21		
8	297	13.7		117 42.2	158	+ 9 49.6	133	35	18 01	26	55	05 59		35	25		
9	312	13.9		132 16.9	157	36.2	134	30	03	27	55	09 55		30	28		
10	327	14.0		146 51.7	158	22.7	135	20	07	29	55	16 50		21	33		
11	342	14.2	-5 17.3	161 26.5	158	+ 9 09.2	135	10 N	18 11	18 32	18 56	18 22	45	6 13	37		
12	357	14.3	-5 16.3	176 01.3	158	+ 8 55.7	135	0	18 14	18 35	18 59	18 27	41	6 06	41		
13	12	14.5		190 36.2	159	42.1	136	10 S	18	39	19 04	33 36		5 58	46		
14	27	14.6		205 11.0	158	28.5	136	20	22	44	10	38 33		50	50		
15	42	14.8		219 45.9	159	14.9	136	30	27	51	19	45 27		41	55		
16	57	14.9		234 20.8	159	+ 8 01.2	137	35	30	18 55	25	49 24		35	58		
17	72	15.1	-5 11.5	248 55.7	159	+ 7 47.4	138	40	18 33	19 00	19 32	18 53	21	5 29	62		
18	87	15.2	-5 10.5	263 30.7	160	+ 7 33.7	137	45	18 36	19 06	19 42	18 58	17	5 22	65		
19	102	15.4		278 05.6	159	19.9	138	50	41	14	53	19 04	12	13	71		
20	117	15.5		292 40.6	160	+ 7 06.0	139	52	43	17	59	06 11		09	73		
21	132	15.7		307 15.5	159	+ 6 52.1	139	54	45	21	20 05	09 9		05	75		
22	147	15.8		321 50.5	160	38.2	139	56	48	26	13	12 6		5 00	78		
23	162	16.0		336 25.5	160	24.3	139	58	51	31	21	16 3		4 54	81		
24	177	16.1	-5 04.7	351 00.5	160	+ 6 10.3	140	60 S	18 54	19 37	20 31	19 20	0	4 48	85		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 13 ^h 00.0 ^m		Mag: -3.9 PMG: 14 ^h 09 ^m			Mag: +0.6 PMG: 18 ^h 23 ^m			Mag: -2.1 PMG: 13 ^h 51 ^m			Mag: +0.9 PMG: 11 ^h 11 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	° /		° /	° /		° /	° /		° /	° /		° /	° /				
0	164	27.4	147	44.6	+ 6 40.8	83	47.3	+ 25 30.5	151	51.5	+ 4 12.5	191	58.1	- 12 41.7			
1	179	29.8	162	44.3	42.1	98	48.6	30.5	166	53.4	12.8	207	00.3	41.6			
2	194	32.3	177	44.0	43.3	113	49.9	30.5	181	55.4	13.0	222	02.5	41.5			
3	209	34.8	192	43.6	44.6	128	51.2	30.6	196	57.3	13.2	237	04.6	41.4			
4	224	37.2	207	43.3	45.9	143	52.5	30.6	211	59.2	13.4	252	06.8	41.3			
5	239	39.7	222	43.0	+ 6 47.1	158	53.7	+ 25 30.7	227	01.2	+ 4 13.7	267	09.0	- 12 41.2			
6	254	42.1	237	42.7	+ 6 48.4	173	55.0	+ 25 30.7	242	03.1	+ 4 13.9	282	11.2	- 12 41.1			
7	269	44.6	252	42.4	49.7	188	56.3	30.7	257	05.0	14.1	297	13.4	41.0			
8	284	47.1	267	42.0	50.9	203	57.6	30.8	272	07.0	14.3	312	15.6	40.9			
9	299	49.5	282	41.7	52.2	218	58.9	30.8	287	08.9	14.6	327	17.7	40.8			
10	314	52.0	297	41.4	53.5	234	00.2	30.8	302	10.8	14.8	342	19.9	40.7			
11	329	54.5	312	41.1	+ 6 54.8	249	01.5	+ 25 30.9	317	12.8	+ 4 15.0	357	22.1	- 12 40.6			
12	344	56.9	327	40.7	+ 6 56.0	264	02.8	+ 25 30.9	332	14.7	+ 4 15.2	12	24.3	- 12 40.5			
13	359	59.4	342	40.4	57.3	279	04.0	31.0	347	16.7	15.5	27	26.5	40.4			
14	15	01.9	357	40.1	58.6	294	05.3	31.0	2	18.6	15.7	42	28.6	40.3			
15	30	04.3	12	39.8	+ 6 59.8	309	06.6	31.0	17	20.5	15.9	57	30.8	40.2			
16	45	06.8	27	39.5	+ 7 01.1	324	07.9	31.1	32	22.5	16.1	72	33.0	40.1			
17	60	09.3	42	39.1	+ 7 02.4	339	09.2	+ 25 31.1	47	24.4	+ 4 16.4	87	35.2	- 12 40.0			
18	75	11.7	57	38.8	+ 7 03.6	354	10.5	+ 25 31.2	62	26.3	+ 4 16.6	102	37.4	- 12 39.9			
19	90	14.2	72	38.5	04.9	9	11.8	31.2	77	28.3	16.8	117	39.5	39.8			
20	105	16.6	87	38.2	06.2	24	13.0	31.2	92	30.2	17.0	132	41.7	39.7			
21	120	19.1	102	37.8	07.4	39	14.3	31.3	107	32.1	17.3	147	43.9	39.6			
22	135	21.6	117	37.5	08.7	54	15.6	31.3	122	34.1	17.5	162	46.1	39.5			
23	150	24.0	132	37.2	10.0	69	16.9	31.3	137	36.0	17.7	177	48.3	39.4			
24	165	26.5	147	36.9	+ 7 11.2	84	18.2	+ 25 31.4	152	38.0	+ 4 18.0	192	50.4	- 12 39.3			
Dif	—		- 3 + 13			+ 13 0			+ 19 + 2			+ 22 + 1					

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'1 PMG:12 ^h 10.8 ^m		Edad: 15.7 ^d SD: 15'0 PMG: 0 ^h 37 ^m														
			PHE { 4 ^h : 55'0 12 ^h : 55'1 20 ^h : 55'3 R°: 41 ^m														
	hG ☉	Dec	hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	h	m	h	m		h	m	m		
0	177	16.1	-5	04.7	351	00.5	+6	10.3	5	09	5	57	6	39	18 57 85		
1	192	16.3		03.7	5	35.5 ¹⁶⁰	+5	56.3 ¹⁴⁰	12	57	36	58	82	7	18 0		
2	207	16.4		02.7	20	10.5 ¹⁶⁰		42.3 ¹⁴⁰	14	57	34	58	79	14	6		
3	222	16.6		01.7	34	45.6 ¹⁶¹		28.2 ¹⁴¹	17	57	33	18	59	76	12 8		
4	237	16.7	-5	00.8	49	20.6 ¹⁶⁰	+5	14.1 ¹⁴¹	18	57	31	19	00	74	10 11		
5	252	16.9	-4	59.8	63	55.7 ¹⁶¹	+5	00.0 ¹⁴¹	5	20	5	57	6	29	19 00 72		
6	267	17.0	-4	58.8	78	30.7 ¹⁶⁰	+4	45.8 ¹⁴²	5	23	5	57	6	26	19 02 66		
7	282	17.2		57.8	93	05.7 ¹⁶⁰		31.7 ¹⁴¹	25	56	23	03	62	7	05 17		
8	297	17.3		56.9	107	40.8 ¹⁶¹		17.5 ¹⁴²	26	55	21	04	59	7	00 24		
9	312	17.5		55.9	122	15.9 ¹⁶¹	+4	03.2 ¹⁴³	27	55	19	04	56	6	58 27		
10	327	17.6		54.9	136	50.9 ¹⁶⁰	+3	49.0 ¹⁴²	27	53	15	06	50	54	32		
11	342	17.8	-4	53.9	151	26.0 ¹⁶¹	+3	34.7 ¹⁴³	5	26	5	50	6	11	19 07 46		
12	357	17.9	-4	53.0	166	01.0 ¹⁶⁰	+3	20.4 ¹⁴³	5	23	5	47	6	08	19 08 42		
13	12	18.1		52.0	180	36.1 ¹⁶¹	+3	06.1 ¹⁴³	18	43	04	09	38	44	45		
14	27	18.3		51.0	195	11.1 ¹⁶⁰	+2	51.8 ¹⁴³	20	12	38	6	00	11	32		
15	42	18.4		50.0	209	46.2 ¹⁶¹		37.4 ¹⁴⁴	5	03	31	5	55	12	28		
16	57	18.6		49.1	224	21.2 ¹⁶⁰		23.0 ¹⁴⁴	4	57	27	53	13	24	33	59	
17	72	18.7	-4	48.1	238	56.2 ¹⁶⁰	+2	08.6 ¹⁴⁴	4	50	5	50	19	14	21	6	31
18	87	18.9	-4	47.1	253	31.3 ¹⁶¹	+1	54.2 ¹⁴⁴	4	41	5	46	19	15	17	6	27
19	102	19.0		46.1	268	06.3 ¹⁶⁰		39.8 ¹⁴⁴	29	09	42	16	13	24	71		
20	117	19.2		45.2	282	41.3 ¹⁶⁰		25.4 ¹⁴⁴	24	05	40	17	11	22	73		
21	132	19.3		44.2	297	16.3 ¹⁶⁰	+1	10.9 ¹⁴⁵	17	5	01	38	18	8	20	76	
22	147	19.5		43.2	311	51.3 ¹⁶⁰	+0	56.4 ¹⁴⁵	10	4	57	35	18	6	18	78	
23	162	19.6		42.2	326	26.2 ¹⁵⁹		42.0 ¹⁴⁴	4	02	52	32	19	3	15	82	
24	177	19.8	-4	41.3	341	01.2 ¹⁶⁰	+0	27.5 ¹⁴⁵	3	52	4	46	5	29	19 20 0	6	13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 56.1 ^m		Mag: -3.9 PMG: 14 ^h 10 ^m		Mag: +0.6 PMG: 18 ^h 21 ^m		Mag: -2.1 PMG: 13 ^h 48 ^m		Mag: +0.9 PMG: 11 ^h 07 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec
h	°	'	°	'	°	'	°	'	°	'
0	165	26.5	147	36.9	+7	11.2	84	18.2	+25	31.4
1	180	29.0	162	36.5		12.5	99	19.4		31.4
2	195	31.4	177	36.2		13.8	114	20.7		31.5
3	210	33.9	192	35.9		15.0	129	22.0		31.5
4	225	36.4	207	35.6		16.3	144	23.3		31.5
5	240	38.8	222	35.2	+7	17.5	159	24.6	+25	31.6
6	255	41.3	237	34.9	+7	18.8	174	25.8	+25	31.6
7	270	43.7	252	34.6		20.1	189	27.1		31.6
8	285	46.2	267	34.3		21.3	204	28.4		31.7
9	300	48.7	282	33.9		22.6	219	29.7		31.7
10	315	51.1	297	33.6		23.9	234	31.0		31.8
11	330	53.6	312	33.3	+7	25.1	249	32.2	+25	31.8
12	345	56.1	327	33.0	+7	26.4	264	33.5	+25	31.8
13	0	58.5	342	32.6		27.6	279	34.8		31.9
14	16	01.0	357	32.3		28.9	294	36.1		31.9
15	31	03.5	12	32.0		30.2	309	37.3		31.9
16	46	05.9	27	31.7		31.4	324	38.6		32.0
17	61	08.4	42	31.3	+7	32.7	339	39.9	+25	32.0
18	76	10.9	57	31.0	+7	33.9	354	41.2	+25	32.0
19	91	13.3	72	30.7		35.2	9	42.4		32.1
20	106	15.8	87	30.4		36.5	24	43.7		32.1
21	121	18.2	102	30.0		37.7	39	45.0		32.1
22	136	20.7	117	29.7		39.0	54	46.2		32.2
23	151	23.2	132	29.4		40.2	69	47.5		32.2
24	166	25.6	147	29.0	+7	41.5	84	48.8	+25	32.2
Dif	—		-3	+13		+13	0	+19	+2	+1

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG: 12 ^h 10.6 ^m			Edad: 16.7 ^d SD: 15 ^h 1 PMG: 1 ^h 18 ^m PHE { 4 ^h : 55 ^h 4 12 ^h : 55 ^h 5 20 ^h : 55 ^h 7 R°: 42 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m	h m	h m	h m	h m
0	177	19.8	-4	41.3	341	01.2	+0	27.5	60 N	17 47	18 28	19 17	20 22	89	7 18	0
1	192	20.0		40.3	355	36.1	+0	13.0	58	49	28	13	20 85	19 3		
2	207	20.1		39.3	10	11.1	-0	01.6	56	50	27	11	17 82	20 6		
3	222	20.3		38.3	24	46.0		16.1	54	52	27	08	15 79	20 9		
4	237	20.4		37.4	39	20.9		30.6	52	53	27	06	14 75	21 11		
5	252	20.6	-4	36.4	53	55.8	-0	45.1	50	17 55	18 27	19 04	20 12	73	7 21	13
6	267	20.7	-4	35.4	68	30.6	-0	59.7	45	17 58	18 27	19 01	20 08	69	7 22	18
7	282	20.9		34.4	83	05.5	-1	14.2	40	18 00	27	18 58	05 64	23 22		
8	297	21.0		33.5	97	40.3		28.8	35	02	28	57	03 60	24 25		
9	312	21.2		32.5	112	15.1		43.3	30	04	28	56	20 00	58	25 28	
10	327	21.4		31.5	126	49.9	-1	57.9	20	08	30	55	19 56	52	26 33	
11	342	21.5	-4	30.5	141	24.6	-2	12.5	10 N	18 11	18 32	18 56	19 53	47	7 27	38
12	357	21.7	-4	29.5	155	59.3	-2	27.0	0	18 14	18 35	18 59	19 50	43	7 28	42
13	12	21.8		28.6	170	34.0		41.6	10 S	17	38	19 03	47 38	29 46		
14	27	22.0		27.6	185	08.7	-2	56.1	20	20	43	08	43 34	30 51		
15	42	22.1		26.6	199	43.3	-3	10.7	30	25	49	17	40 28	31 57		
16	57	22.3		25.6	214	17.9		25.2	35	27	52	22	37 26	32 59		
17	72	22.5	-4	24.7	228	52.5	-3	39.8	40	18 30	18 57	19 29	19 35	22	7 33	63
18	87	22.6	-4	23.7	243	27.1	-3	54.3	45	18 33	19 02	19 38	19 32	19	7 33	68
19	102	22.8		22.7	258	01.6	-4	08.9	50	37	09	49	29 14	35 72		
20	117	22.9		21.7	272	36.0		23.4	52	38	13	19 54	28 11	35 75		
21	132	23.1		20.7	287	10.5		37.9	54	40	16	20 00	26 9	36 77		
22	147	23.3		19.8	301	44.9	-4	52.4	56	43	21	07	24 7	36 80		
23	162	23.4		18.8	316	19.3	-5	06.9	58	45	25	15	22 4	37 83		
24	177	23.6	-4	17.8	330	53.6	-5	21.4	60 S	18 48	19 30	20 24	19 20	0	7 37	87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 12 ^h 52.2 ^m		Mag: -3.9 PMG: 14 ^h 10 ^m		Mag: +0.6 PMG: 18 ^h 19 ^m		Mag: -2.1 PMG: 13 ^h 45 ^m		Mag: +0.9 PMG: 11 ^h 04 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	166	25.6	147	29.0	+7	41.5	84	48.8	+25	32.2	153	24.4	+4	23.4	193	42.8	-12	36.9
1	181	28.1	162	28.7		42.8	99	50.1		32.3	168	26.3		23.6	208	45.0		36.8
2	196	30.6	177	28.4		44.0	114	51.3		32.3	183	28.3		23.8	223	47.2		36.7
3	211	33.0	192	28.1		45.3	129	52.6		32.4	198	30.2		24.1	238	49.3		36.6
4	226	35.5	207	27.7		46.5	144	53.9		32.4	213	32.1		24.3	253	51.5		36.5
5	241	38.0	222	27.4	+7	47.8	159	55.1	+25	32.4	228	34.1	+4	24.5	268	53.7	-12	36.4
6	256	40.4	237	27.1	+7	49.0	174	56.4	+25	32.5	243	36.0	+4	24.7	283	55.9	-12	36.3
7	271	42.9	252	26.7		50.3	189	57.7		32.5	258	37.9		25.0	298	58.1		36.2
8	286	45.3	267	26.4		51.6	204	58.9		32.5	273	39.9		25.2	314	00.3		36.1
9	301	47.8	282	26.1		52.8	220	00.2		32.6	288	41.8		25.4	329	02.4		36.1
10	316	50.3	297	25.8		54.1	235	01.5		32.6	303	43.7		25.6	344	04.6		36.0
11	331	52.7	312	25.4	+7	55.3	250	02.7	+25	32.6	318	45.7	+4	25.9	359	06.8	-12	35.9
12	346	55.2	327	25.1	+7	56.6	265	04.0	+25	32.7	333	47.6	+4	26.1	14	09.0	-12	35.8
13	1	57.7	342	24.8		57.8	280	05.3		32.7	348	49.5		26.3	29	11.2		35.7
14	17	00.1	357	24.4	+7	59.1	295	06.5		32.7	3	51.5		26.6	44	13.4		35.6
15	32	02.6	12	24.1	+8	00.3	310	07.8		32.8	18	53.4		26.8	59	15.5		35.5
16	47	05.1	27	23.8		01.6	325	09.0		32.8	33	55.3		27.0	74	17.7		35.4
17	62	07.5	42	23.5	+8	02.8	340	10.3	+25	32.8	48	57.3	+4	27.2	89	19.9	-12	35.3
18	77	10.0	57	23.1	+8	04.1	355	11.6	+25	32.9	63	59.2	+4	27.5	104	22.1	-12	35.2
19	92	12.5	72	22.8		05.4	10	12.8		32.9	79	01.1		27.7	119	24.3		35.1
20	107	14.9	87	22.5		06.6	25	14.1		32.9	94	03.0		27.9	134	26.5		35.0
21	122	17.4	102	22.1		07.9	40	15.4		32.9	109	05.0		28.1	149	28.6		34.9
22	137	19.8	117	21.8		09.1	55	16.6		33.0	124	06.9		28.4	164	30.8		34.8
23	152	22.3	132	21.5		10.4	70	17.9		33.0	139	08.8		28.6	179	33.0		34.7
24	167	24.8	147	21.1	+8	11.6	85	19.1	+25	33.0	154	10.8	+4	28.8	194	35.2	-12	34.6
Dif	—		-3		+13		+13		0		+19		+2		+22		+	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna									
	SD: 16'1 PMG:12 ^h 10.3 ^m			Edad: 17.7 ^d SD: 15'2 PMG: 2 ^h 00 ^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	23.6	-4	17.8	330	53.6	-5	21.4	60 N	5 03	5 51	6 33	21 51	93	7 18	1								
1	192	23.7		16.8	345	27.9		35.9	58	06	52	31	45	89	22	4								
2	207	23.9		15.8	0	02.1		50.4	56	09	52	29	39	85	26	7								
3	222	24.0		14.9	14	36.3		04.8	54	12	53	28	34	82	29	10								
4	237	24.2		13.9	29	10.5		19.3	52	14	53	26	29	80	32	12								
5	252	24.4	-4	12.9	43	44.6		33.7	50	5 16	5 53	6 25	21 25	77	7 34	15								
6	267	24.5	-4	11.9	58	18.7		48.1	45	5 19	5 53	6 22	21 17	71	7 40	19								
7	282	24.7		11.0	72	52.7		02.5	40	22	53	20	09	67	45	23								
8	297	24.8		10.0	87	26.7		16.8	35	24	53	18	21	03	63	49	27							
9	312	25.0		09.0	102	00.6		31.2	30	25	52	16	20	58	60	53	30							
10	327	25.2		08.0	116	34.5		45.5	20	25	51	13	48	55	7 59	35								
11	342	25.3	-4	07.0	131	08.3		59.8	10 N	5 25	5 49	6 10	20 40	50	8 05	39								
12	357	25.5	-4	06.1	145	42.1		14.1	0	5 22	5 46	6 07	20 33	45	8 10	44								
13	12	25.6		05.1	160	15.8		28.3	10 S	18	43	04	25	42	15	49								
14	27	25.8		04.1	174	49.5		42.6	20	13	39	6 01	17	37	21	53								
15	42	26.0		03.1	189	23.1		56.8	30	5 05	33	5 57	08	32	28	58								
16	57	26.1		02.1	203	56.7		11.0	35	4 59	29	54	20	03	29	31	62							
17	72	26.3	-4	01.2	218	30.2		25.1	40	4 52	5 25	5 52	19 57	26	8 36	65								
18	87	26.5	-4	00.2	233	03.6		39.2	45	4 44	5 19	5 49	19 51	21	8 41	69								
19	102	26.6	-3	59.2	247	37.0		53.3	50	33	12	45	43	16	47	75								
20	117	26.8		58.2	262	10.3		07.4	52	28	09	43	39	14	50	77								
21	132	26.9		57.2	276	43.6		21.4	54	22	05	41	35	11	53	80								
22	147	27.1		56.3	291	16.8		35.4	56	15	5 01	39	31	8	8 56	83								
23	162	27.3		55.3	305	49.9		49.3	58	4 07	4 57	37	26	5	9 00	86								
24	177	27.4	-3	54.3	320	23.0		03.2	60 S	3 58	4 52	5 34	19 20	1	9 04	91								
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 12 ^h 48.2 ^m			Mag: -3.9 PMG: 14 ^h 11 ^m			Mag: +0.6 PMG: 18 ^h 17 ^m			Mag: -2.1 PMG: 13 ^h 42 ^m			Mag: +0.9 PMG: 11 ^h 00 ^m											
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°						
0	167	24.8	147	21.1	+8	11.6	85	19.1	+25	33.0	154	10.8	+4	28.8	194	35.2	-12	34.6						
1	182	27.2	162	20.8		12.9	100	20.4		33.1	169	12.7		29.1	209	37.4		34.5						
2	197	29.7	177	20.5		14.1	115	21.7		33.1	184	14.6		29.3	224	39.5		34.4						
3	212	32.2	192	20.1		15.4	130	22.9		33.1	199	16.6		29.5	239	41.7		34.3						
4	227	34.6	207	19.8		16.6	145	24.2		33.2	214	18.5		29.7	254	43.9		34.2						
5	242	37.1	222	19.5	+8	17.9	160	25.4	+25	33.2	229	20.4	+4	30.0	269	46.1	-12	34.1						
6	257	39.6	237	19.1	+8	19.1	175	26.7	+25	33.2	244	22.4	+4	30.2	284	48.3	-12	34.0						
7	272	42.0	252	18.8		20.4	190	27.9		33.3	259	24.3		30.4	299	50.5		33.9						
8	287	44.5	267	18.5		21.6	205	29.2		33.3	274	26.2		30.6	314	52.6		33.8						
9	302	46.9	282	18.1		22.9	220	30.5		33.3	289	28.2		30.9	329	54.8		33.7						
10	317	49.4	297	17.8		24.1	235	31.7		33.4	304	30.1		31.1	344	57.0		33.6						
11	332	51.9	312	17.5	+8	25.3	250	33.0	+25	33.4	319	32.0	+4	31.3	359	59.2	-12	33.5						
12	347	54.3	327	17.1	+8	26.6	265	34.2	+25	33.4	334	34.0	+4	31.5	15	01.4	-12	33.4						
13	2	56.8	342	16.8		27.8	280	35.5		33.4	349	35.9		31.8	30	03.6		33.3						
14	17	59.3	357	16.5		29.1	295	36.7		33.5	4	37.8		32.0	45	05.7		33.2						
15	33	01.7	12	16.1		30.3	310	38.0		33.5	19	39.7		32.2	60	07.9		33.1						
16	48	04.2	27	15.8		31.6	325	39.2		33.5	34	41.7		32.5	75	10.1		33.0						
17	63	06.7	42	15.5	+8	32.8	340	40.5	+25	33.6	49	43.6	+4	32.7	90	12.3	-12	32.9						
18	78	09.1	57	15.1	+8	34.1	355	41.7	+25	33.6	64	45.5	+4	32.9	105	14.5	-12	32.8						
19	93	11.6	72	14.8		35.3	10	43.0		33.6	79	47.5		33.1	120	16.7		32.7						
20	108	14.1	87	14.5		36.6	25	44.2		33.6	94	49.4		33.4	135	18.9		32.6						
21	123	16.5	102	14.1		37.8	40	45.5		33.7	109	51.3		33.6	150	21.0		32.5						
22	138	19.0	117	13.8		39.0	55	46.7		33.7	124	53.3		33.8	165	23.2		32.4						
23	153	21.4	132	13.5		40.3	70	48.0		33.7	139	55.2		34.0	180	25.4		32.3						
24	168	23.9	147	13.1	+8	41.5	85	49.2	+25	33.8	154	57.1	+4	34.3	195	27.6	-12	32.2						
Dif	—			-3			+12			0			+19			+2			+22			+		

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG:12 ^h 10.0 ^m			Edad: 18.7 ^d SD: 15'3 PMG: 2 ^h 43 ^m PHE { 4 ^h : 56'3 12 ^h : 56'5 20 ^h : 56'7 Rº: 47 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'		°	'	°	'	°		h	m	h	m	h	m	h	m
0	177	27.4	-3 54.3	320	23.0	-11	03.2	60 N	17 52	18 33	19 22	23 24	100	7 19	1		
1	192	27.6		334	56.0 ¹⁴⁰		17.1 ¹³⁹	58	53	32	18	14	94	26	6		
2	207	27.8		349	28.9 ¹³⁹		30.9 ¹³⁸	56	54	32	15	23	04	89	33	9	
3	222	27.9		4	01.8 ¹³⁹		44.7 ¹³⁸	54	56	31	12	22	56	85	39	12	
4	237	28.1		18	34.6 ¹³⁸	-11	58.5 ¹³⁸	52	57	31	10		49	82	44	15	
5	252	28.2	-3 49.4	33	07.3 ¹³⁷	-12	12.2 ¹³⁷	50	17 58	18 30	19 08	22 42	79	7 49	18		
6	267	28.4	-3 48.4	47	40.0 ¹³⁷	-12	25.9 ¹³⁷	45	18 00	18 30	19 04	22 28	74	7 59	23		
7	282	28.6		62	12.5 ¹³⁵		39.5 ¹³⁶	40	02	29	19 01		16	70	8 08	27	
8	297	28.7		76	45.1 ¹³⁶	-12	53.1 ¹³⁶	35	04	29	18 59	22 06	66		16	30	
9	312	28.9		91	17.5 ¹³⁴	-13	06.6 ¹³⁵	30	05	29	57	21 58	63		23	33	
10	327	29.1		105	49.8 ¹³³		20.1 ¹³⁵	20	08	30	56		43	58		34	39
11	342	29.2	-3 43.5	120	22.1 ¹³³	-13	33.5 ¹³⁴	10 N	18 11	18 32	18 56	21 30	54	8 44	44		
12	357	29.4	-3 42.5	134	54.3 ¹³²	-13	46.9 ¹³⁴	0	18 13	18 34	18 58	21 18	50	8 54	47		
13	12	29.5		149	26.5 ¹³²	-14	00.2 ¹³³	10 S	16	37	19 01	21 07	45	9 04	51		
14	27	29.7		163	58.5 ¹³⁰		13.5 ¹³³	20	19	41	07	20 54	41		14	56	
15	42	29.9		178	30.5 ¹³⁰		26.7 ¹³²	30	22	46	14		40	36		26	61
16	57	30.0		193	02.3 ¹²⁸		39.9 ¹³²	35	24	50	19		32	33		33	65
17	72	30.2	-3 37.6	207	34.1 ¹²⁸	-14	53.0 ¹³¹	40	18 26	18 54	19 26	20 23	29	9 41	68		
18	87	30.4	-3 36.6	222	05.9 ¹²⁸	-15	06.1 ¹³¹	45	18 29	18 59	19 34	20 12	25	9 50	73		
19	102	30.5		236	37.5 ¹²⁶		19.0 ¹²⁹	50	32	19 05	44	19 59	20		10	02	77
20	117	30.7		251	09.0 ¹²⁵		32.0 ¹³⁰	52	34	08	49		53	18		07	80
21	132	30.9		265	40.5 ¹²⁵		44.8 ¹²⁸	54	36	11	19 54	46	15		13	83	
22	147	31.0		280	11.9 ¹²⁴	-15	57.6 ¹²⁸	56	37	15	20 01	39	11		19	87	
23	162	31.2		294	43.1 ¹²²	-16	10.4 ¹²⁸	58	39	19	08		31	7		26	91
24	177	31.4	-3 30.7	309	14.3 ¹²²	-16	23.0 ¹²⁶	60 S	18 42	19 24	20 17	19 21	3	10 35	96		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 ^h 44.3 ^m		Mag: -3.9 PMG: 14 ^h 11 ^m		Mag: +0.6 PMG: 18 ^h 15 ^m		Mag: -2.1 PMG: 13 ^h 38 ^m		Mag: +0.9 PMG: 10 ^h 57 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	168	23.9	147	13.1	+8	41.5	85	49.2	+25	33.8
1	183	26.4	162	12.8		42.8	100	50.5		33.8
2	198	28.8	177	12.5		44.0	115	51.7		33.8
3	213	31.3	192	12.1		45.3	130	53.0		33.8
4	228	33.8	207	11.8		46.5	145	54.2		33.9
5	243	36.2	222	11.5	+8	47.7	160	55.5	+25	33.9
6	258	38.7	237	11.1	+8	49.0	175	56.7	+25	33.9
7	273	41.2	252	10.8		50.2	190	58.0		34.0
8	288	43.6	267	10.4		51.5	205	59.2		34.0
9	303	46.1	282	10.1		52.7	221	00.5		34.0
10	318	48.6	297	09.8		53.9	236	01.7		34.0
11	333	51.0	312	09.4	+8	55.2	251	03.0	+25	34.1
12	348	53.5	327	09.1	+8	56.4	266	04.2	+25	34.1
13	3	55.9	342	08.8		57.7	281	05.5		34.1
14	18	58.4	357	08.4	+8	58.9	296	06.7		34.1
15	34	00.9	12	08.1	+9	00.1	311	07.9		34.2
16	49	03.3	27	07.7		01.4	326	09.2		34.2
17	64	05.8	42	07.4	+9	02.6	341	10.4	+25	34.2
18	79	08.3	57	07.1	+9	03.9	356	11.7	+25	34.3
19	94	10.7	72	06.7		05.1	11	12.9		34.3
20	109	13.2	87	06.4		06.3	26	14.2		34.3
21	124	15.7	102	06.0		07.6	41	15.4		34.3
22	139	18.1	117	05.7		08.8	56	16.6		34.4
23	154	20.6	132	05.4		10.0	71	17.9		34.4
24	169	23.0	147	05.0	+9	11.3	86	19.1	+25	34.4
Dif	—		-3	+12		+12	0	+19		+2
										+22
										+1

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:12 ^h 09.8 ^m		Edad: 19.7 ^d SD: 15'5 PMG: 3 ^h 30 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	177	31.4	-3	30.7	309	14.3	-16	23.0	60 N	4	57	5	46	6	27
1	192	31.5		29.7	323	45.4		35.6	58	5	01		46	25	
2	207	31.7		28.8	338	16.4	-16	48.2	56		04		47	24	
3	222	31.9		27.8	352	47.4	-17	00.6	54		07		48	23	
4	237	32.0		26.8	7	18.2		13.0	52		09		48	22	
5	252	32.2	-3	25.8	21	48.9	-17	25.4	50	5	11	5	49	6	21
6	267	32.4	-3	24.8	36	19.6	-17	37.6	45	5	16	5	50	6	19
7	282	32.5		23.8	50	50.1	-17	49.8	40		19		50	17	
8	297	32.7		22.9	65	20.5	-18	01.9	35		21		50	15	
9	312	32.9		21.9	79	50.9		13.9	30		22		50	14	
10	327	33.0		20.9	94	21.1		25.8	20		24		49	11	
11	342	33.2	-3	19.9	108	51.3	-18	37.6	10 N	5	23	5	48	6	09
12	357	33.4	-3	18.9	123	21.3	-18	49.4	0	5	22	5	46	6	07
13	12	33.5		17.9	137	51.3	-19	01.1	10 S		19		43	04	
14	27	33.7		17.0	152	21.1		12.7	20		13		39	6	01
15	42	33.9		16.0	166	50.9		24.2	30		06		34	5	58
16	57	34.0		15.0	181	20.5		35.6	35	5	01	31	56	21	05
17	72	34.2	-3	14.0	195	50.1	-19	46.9	40	4	55	5	27	5	54
18	87	34.4	-3	13.0	210	19.5	-19	58.2	45	4	47	5	22	5	51
19	102	34.5		12.0	224	48.8	-20	09.3	50		37		16	48	
20	117	34.7		11.1	239	18.1		20.4	52		32		13	47	
21	132	34.9		10.1	253	47.2		31.3	54		26		09	45	
22	147	35.0		09.1	268	16.2		42.2	56		20		06	44	
23	162	35.2		08.1	282	45.1	-20	52.9	58		13	5	02	42	
24	177	35.4	-3	07.1	297	13.9	-21	03.6	60 S	4	04	4	57	5	39

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 40.4 ^m		Mag: -3.9 PMG: 14 ^h 12 ^m		Mag: +0.6 PMG: 18 ^h 13 ^m		Mag: -2.1 PMG: 13 ^h 35 ^m		Mag: +0.9 PMG: 10 ^h 53 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	169	23.0	147	05.0	+9	11.3	86	19.1	+25	34.4
1	184	25.5	162	04.7		12.5	101	20.4		34.4
2	199	28.0	177	04.3		13.7	116	21.6		34.5
3	214	30.4	192	04.0		15.0	131	22.8		34.5
4	229	32.9	207	03.7		16.2	146	24.1		34.5
5	244	35.4	222	03.3	+9	17.4	161	25.3	+25	34.5
6	259	37.8	237	03.0	+9	18.7	176	26.5	+25	34.6
7	274	40.3	252	02.6		19.9	191	27.8		34.6
8	289	42.8	267	02.3		21.1	206	29.0		34.6
9	304	45.2	282	02.0		22.4	221	30.3		34.6
10	319	47.7	297	01.6		23.6	236	31.5		34.7
11	334	50.2	312	01.3	+9	24.8	251	32.7	+25	34.7
12	349	52.6	327	00.9	+9	26.1	266	34.0	+25	34.7
13	4	55.1	342	00.6		27.3	281	35.2		34.7
14	19	57.5	357	00.2		28.5	296	36.4		34.7
15	35	00.0	11	59.9		29.7	311	37.7		34.8
16	50	02.5	26	59.6		31.0	326	38.9		34.8
17	65	04.9	41	59.2	+9	32.2	341	40.1	+25	34.8
18	80	07.4	56	58.9	+9	33.4	356	41.4	+25	34.8
19	95	09.9	71	58.5		34.7	11	42.6		34.9
20	110	12.3	86	58.2		35.9	26	43.8		34.9
21	125	14.8	101	57.8		37.1	41	45.1		34.9
22	140	17.3	116	57.5		38.3	56	46.3		34.9
23	155	19.7	131	57.1		39.6	71	47.5		34.9
24	170	22.2	146	56.8	+9	40.8	86	48.7	+25	35.0
Dif	—		-3		+12		+12		0	
									+19	
									+2	
									+22	
										+1

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 16 ^l PMG: 12 ^h 09.5 ^m			Edad: 20.7 ^d SD: 15 ⁶ PMG: 4 ^h 20 ^m								PHE { 4 ^h : 57/5 12 ^h : 57/7 20 ^h : 57/9 Rº: 55 ^m								
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m			
0	177	35.4	-3	07.1	297	13.9	98	-21	03.6	106	60 N	17 57	18 38	19 27	1	04 105	7 24 9			
1	192	35.5		06.1	311	42.7	95		14.2	104	58	58	37	23	0	48 96	41 17			
2	207	35.7		05.2	326	11.2	95		24.6	103	56	17 59	36	19	34 90	7 56 22				
3	222	35.9		04.2	340	39.7	94		34.9	103	54	18 00	35	16	21 87	8 09 26				
4	237	36.0		03.2	355	08.1	93		45.2	101	52	00	34	13	11 83	20 29				
5	252	36.2	-3	02.2	9	36.4	93	-21	55.3	101	50	18 01	18 33	19 11	0	01 81	8 30 32			
6	267	36.4	-3	01.2	24	04.5	91	-22	05.3	100	45	18 03	18 32	19 06	** ** *	8 51 37				
7	282	36.5	-3	00.2	38	32.6	91		15.2	99	40	04	31	03	** ** *	9 08 41				
8	297	36.7	-2	59.2	53	00.6	90		25.0	98	35	06	31	19 00	** ** *	22 44				
9	312	36.9		58.3	67	28.4	88		34.7	97	30	07	31	18 58	** ** *	35 46				
10	327	37.1		57.3	81	56.1	87		44.3	96	20	09	31	56	23 42 63	9 56 50				
11	342	37.2	-2	56.3	96	23.7	86	-22	53.7	94	10 N	18 11	18 32	18 56	23 21 60	10 15 53				
12	357	37.4	-2	55.3	110	51.3	86	-23	03.0	93	0	18 13	18 33	18 57	23 02 58	10 33 56				
13	12	37.6		54.3	125	18.7	84		12.2	92	10 S	15	36	19 00	22 42 56	10 51 58				
14	27	37.7		53.3	139	45.9	82		21.3	90	20	17	39	05	22 22 53	11 10 62				
15	42	37.9		52.4	154	13.1	82		30.3	90	30	20	44	12	21 58 51	32 65				
16	57	38.1		51.4	168	40.2	81		39.1	88	35	21	47	16	45 48	44 69				
17	72	38.2	-2	50.4	183	07.2	80	-23	47.8	87	40	18 23	18 50	19 22	21 29 46	11 59 71				
18	87	38.4	-2	49.4	197	34.0	78	-23	56.4	86	45	18 25	18 55	19 30	21 10 43	12 17 75				
19	102	38.6		48.4	212	00.8	78	-24	04.9	85	50	28	19 01	39	20 47 38	40 79				
20	117	38.8		47.4	226	27.4	76		13.2	83	52	29	03	44	35 37	12 50 82				
21	132	38.9		46.4	240	54.0	76		21.4	82	54	31	06	49	23 33	13 02 85				
22	147	39.1		45.5	255	20.4	74		29.4	80	56	32	10	19 55	20 08 30	16 89				
23	162	39.3		44.5	269	46.7	73		37.3	79	58	34	13	20 02	19 51 25	33 94				
24	177	39.4	-2	43.5	284	12.9	72	-24	45.1	78	60 S	18 36	19 18	20 10	19 31 16	13 52 103				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 12 ^h 36.4 ^m		Mag: -3.9 PMG: 14 ^h 13 ^m		Mag: +0.7 PMG: 18 ^h 11 ^m		Mag: -2.1 PMG: 13 ^h 32 ^m		Mag: +0.9 PMG: 10 ^h 50 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	170	22.2	146	56.8	+9	86	48.7	+25	156	29.7	+4	197	12.5	-12	27.4	
1	185	24.7	161	56.5		101	50.0		171	31.6		212	14.7		27.3	
2	200	27.1	176	56.1		116	51.2		186	33.5		227	16.8		27.2	
3	215	29.6	191	55.8		131	52.4		201	35.5		242	19.0		27.1	
4	230	32.0	206	55.4		146	53.7		216	37.4		257	21.2		27.0	
5	245	34.5	221	55.1	+9	161	54.9	+25	231	39.3	+4	272	23.4	-12	26.9	
6	260	37.0	236	54.7	+9	176	56.1	+25	246	41.3	+4	287	25.6	-12	26.8	
7	275	39.4	251	54.4		191	57.3		261	43.2		302	27.8		26.7	
8	290	41.9	266	54.0		206	58.6		276	45.1		317	30.0		26.6	
9	305	44.4	281	53.7		221	59.8		291	47.0		332	32.2		26.6	
10	320	46.8	296	53.3		237	01.0		306	49.0		347	34.3		26.5	
11	335	49.3	311	53.0	+9	252	02.2	+25	321	50.9	+4	2	36.5	-12	26.4	
12	350	51.8	326	52.6	+9	267	03.5	+25	336	52.8	+4	17	38.7	-12	26.3	
13	5	54.2	341	52.3		282	04.7		351	54.7		32	40.9		26.2	
14	20	56.7	356	51.9		297	05.9		6	56.7		47	43.1		26.1	
15	35	59.1	11	51.6	+9	312	07.1		21	58.6		62	45.3		26.0	
16	51	01.6	26	51.2	+10	327	08.4		37	00.5		77	47.5		25.9	
17	66	04.1	41	50.9	+10	342	09.6	+25	52	02.4	+4	92	49.6	-12	25.8	
18	81	06.5	56	50.6	+10	357	10.8	+25	67	04.4	+4	107	51.8	-12	25.7	
19	96	09.0	71	50.2		12	12.0		82	06.3		122	54.0		25.6	
20	111	11.5	86	49.9		27	13.3		97	08.2		137	56.2		25.5	
21	126	13.9	101	49.5		42	14.5		112	10.1		152	58.4		25.4	
22	141	16.4	116	49.2		57	15.7		127	12.1		168	00.6		25.3	
23	156	18.9	131	48.8		72	16.9		142	14.0		183	02.8		25.2	
24	171	21.3	146	48.5	+10	87	18.1	+25	157	15.9	+4	198	05.0	-12	25.1	
Dif	—		-3		+12		+12		0		+19		+2		+22	+1

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16'1 PMG:12 ^h 09.2 ^m			Edad: 21.7 ^d SD: 15'8 PMG: 5 ^h 15 ^m																			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m						
0	177	39.4	-2	43.5	284	12.9	71	-24	45.1	76	4	51	5	40	6	21	2	49	99	7	33	24	
1	192	39.6		42.5	298	39.0	70	-24	52.7	75		55		41	20		24	90		7	58	33	
2	207	39.8		41.5	313	05.0	69	-25	00.2	74	4	59		42	19		2	04	85	8	18	38	
3	222	40.0		40.5	327	30.9	68		07.6	72	5	02		43	18		1	48	81		35	41	
4	237	40.1		39.5	341	56.7	67		14.8	71		05		44	17		34	79		8	49	44	
5	252	40.3	-2	38.6	356	22.4	66	-25	21.9	69	5	07	5	44	6	17	1	22	76	9	02	45	
6	267	40.5	-2	37.6	10	48.0	65	-25	28.8	67	5	12	5	46	6	15	0	57	72	9	28	49	
7	282	40.6		36.6	25	13.5	64		35.5	67		15		47	14		37	70		9	49	51	
8	297	40.8		35.6	39	38.9	63		42.2	67		18		47	13		20	68		10	06	53	
9	312	41.0		34.6	54	04.2	62		48.6	64		20		48	12		0	06	66		21	54	
10	327	41.2		33.6	68	29.4	61	-25	55.0	64		22		48	10		**	**	**		10	46	57
11	342	41.3	-2	32.6	82	54.5	60	-26	01.1	61	5	22	5	47	6	08	**	**	**		11	08	59
12	357	41.5	-2	31.6	97	19.5	59	-26	07.1	60	5	21	5	45	6	06	**	**	**		11	29	60
13	12	41.7		30.7	111	44.4	58		13.0	59		19		43	04		23	38	61		11	49	62
14	27	41.8		29.7	126	09.2	57		18.7	57		14		40	6	02	23	15	60		12	12	63
15	42	42.0		28.7	140	33.9	56		24.2	54		07		35	5	59	22	49	59			37	66
16	57	42.2		27.7	154	58.5	55		29.6	52	5	03		32	58			33	58		12	53	66
17	72	42.4	-2	26.7	169	23.0	50	-26	34.8	49	4	57	5	29	5	56	22	15	57		13	10	68
18	87	42.5	-2	25.7	183	47.5	49	-26	39.8	47	4	50	5	25	5	54	21	53	56		13	32	69
19	102	42.7		24.7	198	11.8	47		44.7	46		40		19	52		25	54		13	59	71	
20	117	42.9		23.8	212	36.1	46		49.4	45		36		16	50		21	12	53		14	12	73
21	132	43.1		22.8	227	00.2	45		54.0	44		31		13	49		20	56	52			27	75
22	147	43.2		21.8	241	24.3	44	-26	58.4	42		25		10	48		38	50		14	45	77	
23	162	43.4		20.8	255	48.3	42	-27	02.6	40		18		06	46		20	16	46		15	07	80
24	177	43.6	-2	19.8	270	12.3	40	-27	06.6		4	10	5	02	5	44	19	47	41		15	35	86

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 12 ^h 32.5 ^m		Mag: -4.0 PMG: 14 ^h 13 ^m			Mag: +0.7 PMG: 18 ^h 09 ^m			Mag: -2.1 PMG: 13 ^h 29 ^m			Mag: +0.9 PMG: 10 ^h 46 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	171	21.3	146	48.5	+10	10.1	87	18.1	+25	35.5	157	15.9	+4	50.7	198	05.0	-12	25.1
1	186	23.8	161	48.1		11.3	102	19.4		35.5	172	17.8		50.9	213	07.1		25.0
2	201	26.3	176	47.8		12.5	117	20.6		35.5	187	19.8		51.1	228	09.3		24.9
3	216	28.7	191	47.4		13.8	132	21.8		35.5	202	21.7		51.4	243	11.5		24.8
4	231	31.2	206	47.0		15.0	147	23.0		35.5	217	23.6		51.6	258	13.7		24.7
5	246	33.6	221	46.7	+10	16.2	162	24.2	+25	35.5	232	25.5	+4	51.8	273	15.9	-12	24.6
6	261	36.1	236	46.3	+10	17.4	177	25.5	+25	35.6	247	27.5	+4	52.0	288	18.1	-12	24.5
7	276	38.6	251	46.0		18.6	192	26.7		35.6	262	29.4		52.3	303	20.3		24.4
8	291	41.0	266	45.6		19.8	207	27.9		35.6	277	31.3		52.5	318	22.5		24.3
9	306	43.5	281	45.3		21.0	222	29.1		35.6	292	33.2		52.7	333	24.6		24.2
10	321	46.0	296	44.9		22.3	237	30.3		35.6	307	35.2		53.0	348	26.8		24.1
11	336	48.4	311	44.6	+10	23.5	252	31.5	+25	35.7	322	37.1	+4	53.2	3	29.0	-12	24.0
12	351	50.9	326	44.2	+10	24.7	267	32.8	+25	35.7	337	39.0	+4	53.4	18	31.2	-12	23.9
13	6	53.4	341	43.9		25.9	282	34.0		35.7	352	40.9		53.6	33	33.4		23.8
14	21	55.8	356	43.5		27.1	297	35.2		35.7	7	42.9		53.9	48	35.6		23.7
15	36	58.3	11	43.2		28.3	312	36.4		35.7	22	44.8		54.1	63	37.8		23.6
16	52	00.8	26	42.8		29.5	327	37.6		35.7	37	46.7		54.3	78	40.0		23.5
17	67	03.2	41	42.5	+10	30.7	342	38.8	+25	35.7	52	48.6	+4	54.6	93	42.1	-12	23.4
18	82	05.7	56	42.1	+10	31.9	357	40.0	+25	35.8	67	50.6	+4	54.8	108	44.3	-12	23.3
19	97	08.1	71	41.8		33.2	12	41.3		35.8	82	52.5		55.0	123	46.5		23.2
20	112	10.6	86	41.4		34.4	27	42.5		35.8	97	54.4		55.2	138	48.7		23.1
21	127	13.1	101	41.0		35.6	42	43.7		35.8	112	56.3		55.5	153	50.9		23.0
22	142	15.5	116	40.7		36.8	57	44.9		35.8	127	58.3		55.7	168	53.1		22.9
23	157	18.0	131	40.3		38.0	72	46.1		35.8	143	00.2		55.9	183	55.3		22.8
24	172	20.5	146	40.0	+10	39.2	87	47.3	+25	35.9	158	02.1	+4	56.2	198	57.5	-12	22.7
Dif	—		-4		+12		+12		0		+19		+2		+22		+	

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: 22.7 ^d SD: 16'0 PMG: 6 ^h 14 ^m								PHE { 4 ^h : 58'7 12 ^h : 58'9 20 ^h : 59'1 R°: 62 ^m							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif							Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	
0	177	43.6	-2	19.8	270	12.3	48	-27	06.6	39	60 N	18	01	18	43	19	32	4	28
1	192	43.7		18.8	284	36.1	48		10.5	37	58	02	41	28	3	54	69	8	31
2	207	43.9		17.8	298	59.9	47		14.2	35	56	03	40	24	29	68	8	56	62
3	222	44.1		16.8	313	23.6	47		17.7	35	54	03	39	20	3	09	67	9	16
4	237	44.3		15.9	327	47.2	46		21.0	33	52	04	38	17	2	53	66	33	62
5	252	44.4	-2	14.9	342	10.8	46	-27	24.2	32	50	18	04	18	37	19	14	2	38
6	267	44.6	-2	13.9	356	34.2	44	-27	27.2	30	45	18	05	18	35	19	09	2	09
7	282	44.8		12.9	10	57.7	43		30.0	28	40	06	33	05	1	47	64	40	63
8	297	45.0		11.9	25	21.0	43		32.7	27	35	07	33	02	28	64	10	59	63
9	312	45.1		10.9	39	44.3	43		35.1	24	30	08	32	19	00	1	12	64	11
10	327	45.3		09.9	54	07.5	42		37.4	23	20	09	31	18	57	0	45	63	11
11	342	45.5	-2	08.9	68	30.7	42	-27	39.5	21	10 N	18	11	18	32	18	56	0	21
12	357	45.7	-2	08.0	82	53.8	41	-27	41.4	19	0	18	12	18	33	18	57	0	00
13	12	45.8		07.0	97	16.8	40		43.1	17	10 S	14	35	18	59	**	**	**	12
14	27	46.0		06.0	111	39.8	40		44.6	15	20	15	37	19	03	**	**	**	13
15	42	46.2		05.0	126	02.7	39		46.0	14	30	17	41	09	23	48	66	43	61
16	57	46.4		04.0	140	25.6	39		47.1	11	35	19	44	14	31	67	13	59	61
17	72	46.5	-2	03.0	154	48.5	39	-27	48.1	10	40	18	20	18	47	19	19	23	12
18	87	46.7	-2	02.0	169	11.3	38	-27	48.9	8	45	18	22	18	51	19	26	22	49
19	102	46.9		01.0	183	34.0	37		49.5	6	50	24	56	35	19	72	15	10	59
20	117	47.1	-2	00.1	197	56.8	38		49.9	4	52	25	18	59	39	22	05	72	25
21	132	47.2	-1	59.1	212	19.4	36		50.1	2	54	26	19	01	44	21	48	73	15
22	147	47.4		58.1	226	42.1	37		50.2	1	56	27	04	49	28	75	16	02	56
23	162	47.6		57.1	241	04.7	36		50.0	2	58	28	08	19	55	21	02	78	16
24	177	47.8	-1	56.1	255	27.3	36	-27	49.6	4	60 S	18	30	19	12	20	28	82	17

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG: 12 ^h 28.6 ^m		Mag: -4.0 PMG: 14 ^h 14 ^m			Mag: +0.7 PMG: 18 ^h 07 ^m			Mag: -2.1 PMG: 13 ^h 26 ^m			Mag: +0.9 PMG: 10 ^h 43 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	172	20.5	146	40.0	+10	39.2	87	47.3	+25	35.9	158	02.1	+4	56.2	
1	187	22.9	161	39.6		40.4	102	48.5		35.9	173	04.0		56.4	
2	202	25.4	176	39.3		41.6	117	49.7		35.9	188	06.0		56.6	
3	217	27.9	191	38.9		42.8	132	50.9		35.9	203	07.9		56.8	
4	232	30.3	206	38.5		44.0	147	52.2		35.9	218	09.8		57.1	
5	247	32.8	221	38.2	+10	45.2	162	53.4	+25	35.9	233	11.7	+4	57.3	
6	262	35.3	236	37.8	+10	46.4	177	54.6	+25	35.9	248	13.7	+4	57.5	
7	277	37.7	251	37.5		47.6	192	55.8		36.0	263	15.6		57.8	
8	292	40.2	266	37.1		48.8	207	57.0		36.0	278	17.5		58.0	
9	307	42.6	281	36.8		50.0	222	58.2		36.0	293	19.4		58.2	
10	322	45.1	296	36.4		51.2	237	59.4		36.0	308	21.3		58.4	
11	337	47.6	311	36.0	+10	52.4	253	00.6	+25	36.0	323	23.3	+4	58.7	
12	352	50.0	326	35.7	+10	53.6	268	01.8	+25	36.0	338	25.2	+4	58.9	
13	7	52.5	341	35.3		54.8	283	03.0		36.0	353	27.1		59.1	
14	22	55.0	356	35.0		56.0	298	04.2		36.1	8	29.0		59.4	
15	37	57.4	11	34.6		57.2	313	05.4		36.1	23	31.0		59.6	
16	52	59.9	26	34.2		58.4	328	06.6		36.1	38	32.9	+4	59.8	
17	68	02.4	41	33.9	+10	59.6	343	07.8	+25	36.1	53	34.8	+5	00.0	
18	83	04.8	56	33.5	+11	00.8	358	09.0	+25	36.1	68	36.7	+5	00.3	
19	98	07.3	71	33.2		02.0	13	10.3		36.1	83	38.6		00.5	
20	113	09.8	86	32.8		03.2	28	11.5		36.1	98	40.6		00.7	
21	128	12.2	101	32.4		04.4	43	12.7		36.1	113	42.5		01.0	
22	143	14.7	116	32.1		05.6	58	13.9		36.2	128	44.4		01.2	
23	158	17.1	131	31.7		06.8	73	15.1		36.2	143	46.3		01.4	
24	173	19.6	146	31.4	+11	08.0	88	16.3	+25	36.2	158	48.3	+5	01.7	
Dif	—		-4		+12		+12		0		+19		+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 08.7 ^m			Edad: 23.7 ^d PHE { 4 ^h : 59/3 12 ^h : 59/5 20 ^h : 59/6 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	177	47.8	-1	56.1	255	27.3	-27	49.6	5	44	5	33	6	15	5	38
1	192	47.9		55.1	269	49.8	35	49.1	7	49	35	14	5	03	39	9
2	207	48.1		54.1	284	12.3	35	48.4	10	53	37	14	4	37	44	9
3	222	48.3		53.1	298	34.8	35	47.4	10	57	38	13	4	16	48	10
4	237	48.5		52.2	312	57.3	35	46.3	11	00	39	13	3	59	50	35
5	252	48.6	-1	51.2	327	19.8	35	45.0	13	03	40	6	12	3	44	51
6	267	48.8	-1	50.2	341	42.2	34	43.5	15	08	42	6	11	3	15	53
7	282	49.0		49.2	356	04.7	35	41.8	17	12	44	11	2	51	56	11
8	297	49.2		48.2	10	27.1	34	39.9	19	15	45	10	32	57	12	02
9	312	49.3		47.2	24	49.5	34	37.8	21	18	45	09	2	16	58	18
10	327	49.5		46.2	39	11.9	34	35.5	23	20	46	08	1	48	60	12
11	342	49.7	-1	45.2	53	34.3	34	33.1	24	21	5	6	07	1	24	61
12	357	49.9	-1	44.2	67	56.7	34	30.4	27	21	5	6	05	1	01	63
13	12	50.1		43.3	82	19.1	34	27.5	29	19	43	04	0	39	64	13
14	27	50.2		42.3	96	41.5	34	24.5	30	15	40	03	0	15	65	14
15	42	50.4		41.3	111	03.9	34	21.2	33	09	37	01	**	**	**	14
16	57	50.6		40.3	125	26.4	35	17.8	34	05	34	6	00	**	**	15
17	72	50.8	-1	39.3	139	48.8	34	14.2	36	59	31	5	58	**	**	15
18	87	50.9	-1	38.3	154	11.2	34	10.3	39	53	27	5	57	23	58	80
19	102	51.1		37.3	168	33.7	35	06.3	40	44	22	55	31	84	16	09
20	117	51.3		36.3	182	56.2	35	02.1	42	40	20	54	17	87	23	41
21	132	51.5		35.4	197	18.7	35	57.7	44	35	17	53	23	01	90	39
22	147	51.6		34.4	211	41.2	35	53.1	46	29	14	52	22	43	93	16
23	162	51.8		33.4	226	03.7	35	48.3	48	23	11	51	22	20	99	17
24	177	52.0	-1	32.4	240	26.3	36	43.4	49	16	07	5	49	21	50	108

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 12 ^h 24.7 ^m		Mag: -4.0 PMG: 14 ^h 14 ^m		Mag: +0.7 PMG: 18 ^h 05 ^m		Mag: -2.1 PMG: 13 ^h 23 ^m		Mag: +0.9 PMG: 10 ^h 39 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	173	19.6	146	31.4	+11	08.0	88	16.3	+25	36.2
1	188	22.1	161	31.0		09.2	103	17.5		36.2
2	203	24.5	176	30.6		10.4	118	18.7		36.2
3	218	27.0	191	30.3		11.6	133	19.9		36.2
4	233	29.5	206	29.9		12.8	148	21.1		36.2
5	248	31.9	221	29.5	+11	14.0	163	22.3	+25	36.2
6	263	34.4	236	29.2	+11	15.2	178	23.5	+25	36.2
7	278	36.9	251	28.8		16.4	193	24.7		36.3
8	293	39.3	266	28.5		17.6	208	25.9		36.3
9	308	41.8	281	28.1		18.8	223	27.1		36.3
10	323	44.2	296	27.7		20.0	238	28.3		36.3
11	338	46.7	311	27.4	+11	21.2	253	29.5	+25	36.3
12	353	49.2	326	27.0	+11	22.4	268	30.7	+25	36.3
13	8	51.6	341	26.6		23.6	283	31.9		36.3
14	23	54.1	356	26.3		24.7	298	33.0		36.3
15	38	56.6	11	25.9		25.9	313	34.2		36.3
16	53	59.0	26	25.5		27.1	328	35.4		36.3
17	69	01.5	41	25.2	+11	28.3	343	36.6	+25	36.3
18	84	04.0	56	24.8	+11	29.5	358	37.8	+25	36.4
19	99	06.4	71	24.4		30.7	13	39.0		36.4
20	114	08.9	86	24.1		31.9	28	40.2		36.4
21	129	11.4	101	23.7		33.1	43	41.4		36.4
22	144	13.8	116	23.3		34.3	58	42.6		36.4
23	159	16.3	131	23.0		35.4	73	43.8		36.4
24	174	18.7	146	22.6	+11	36.6	88	45.0	+25	36.4
Dif	—		-4		+12		+12		0	
									+19	
									+2	
										+22
										+

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16 ^h 1 PMG:12 ^h 08.4 ^m				Edad: 24.7 ^d SD: 16 ^h 3 PMG: 8 ^h 19 ^m																	
	PHE		R°: 60 ^m																			
	hG ☉	Dec	hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m				
0	177	52.0	-1	32.4	240	26.3	-26	43.4	52	60 N	18	06	18	48	19	37	6	09	12	10	37	114
1	192	52.2		31.4	254	48.9		38.2	54	58	07		46		32	5	42	21	11	03	106	
2	207	52.4		30.4	269	11.6		32.8	55	56	07		44		28	21	27		24	99		
3	222	52.5		29.4	283	34.2		27.3	57	54	07		42		24	5	04	30		41	95	
4	237	52.7		28.4	297	56.9		21.6	57	52	07		41		21	4	49	34	11	56	91	
5	252	52.9	-1	27.4	312	19.7	-26	15.7	59	50	18	08	18	40	19	18	4	35	37	12	09	88
6	267	53.1	-1	26.5	326	42.5	-26	09.5	62	45	18	08	18	37	19	12	4	08	43	12	35	82
7	282	53.2		25.5	341	05.3	-26	03.3	62	40	09		36		07	3	47	46	12	55	79	
8	297	53.4		24.5	355	28.2	-25	56.8	65	35	09		34		04		29	49	13	13	74	
9	312	53.6		23.5	369	51.1		50.1	67	30	09		33	19	01	3	14	51		27	72	
10	327	53.8		22.5	383	24.0		43.3	68	20	10		32	18	58	2	48	55	13	52	68	
11	342	54.0	-1	21.5	397	37.1	-25	36.3	70	10 N	18	11	18	32	18	56	2	25	58	14	14	63
12	357	54.1	-1	20.5	411	00.1	-25	29.1	72	0	18	12	18	32	18	56	2	04	61	14	34	59
13	12	54.3		19.5	425	23.2		21.7	74	10 S	13		34	18	58	1	43	64	14	53	57	
14	27	54.5		18.5	439	46.4		14.1	77	20	14		36	19	01	1	20	68	15	14	53	
15	42	54.7		17.6	453	09.6	-25	06.4	79	30	15		39	07		0	54	71		39	47	
16	57	54.9		16.6	467	32.9	-24	58.5	81	35	16		41		11		38	74	15	53	45	
17	72	55.0	-1	15.6	481	56.3	-24	50.4	83	40	18	17	18	44	19	16	0	20	76	16	09	42
18	87	55.2	-1	14.6	495	19.7	-24	42.1	84	45	18	18	18	47	19	22	**	**	**	16	29	37
19	102	55.4		13.6	509	43.2		33.7	87	50	19		52		30	**	**	**	16	53	31	
20	117	55.6		12.6	523	06.7		25.0	87	52	20		54		34	**	**	**	17	04	29	
21	132	55.8		11.6	537	30.3		16.3	90	54	21		56		38	**	**	**		17	26	
22	147	55.9		10.6	551	54.0	-24	07.3	91	56	22		18	59	43	**	**	**		32	22	
23	162	56.1		09.6	565	17.8	-23	58.2	93	58	23		19	02	49	23	59	107	17	50	16	
24	177	56.3	-1	08.7	579	41.6	-23	48.9	93	60 S	18	24	19	05	19	56	23	38	114	18	12	8
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 12 ^h 20.7 ^m		Mag: -4.0 PMG: 14 ^h 15 ^m				Mag: +0.7 PMG: 18 ^h 04 ^m				Mag: -2.1 PMG: 13 ^h 20 ^m				Mag: +0.9 PMG: 10 ^h 36 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	174	18.7	146	22.6	+11	36.6	88	45.0	+25	36.4	159	34.4	+5	07.1	200	42.6	-12	18.1				
1	189	21.2	161	22.2		37.8	103	46.2		36.4	174	36.3		07.4	215	44.8		18.0				
2	204	23.7	176	21.9		39.0	118	47.4		36.4	189	38.2		07.6	230	47.0		17.9				
3	219	26.1	191	21.5		40.2	133	48.6		36.4	204	40.1		07.8	245	49.1		17.8				
4	234	28.6	206	21.1		41.4	148	49.8		36.4	219	42.1		08.1	260	51.3		17.7				
5	249	31.1	221	20.8	+11	42.6	163	51.0	+25	36.4	234	44.0	+5	08.3	275	53.5	-12	17.6				
6	264	33.5	236	20.4	+11	43.7	178	52.1	+25	36.5	249	45.9	+5	08.5	290	55.7	-12	17.5				
7	279	36.0	251	20.0		44.9	193	53.3		36.5	264	47.8		08.8	305	57.9		17.4				
8	294	38.5	266	19.6		46.1	208	54.5		36.5	279	49.7		09.0	321	00.1		17.3				
9	309	40.9	281	19.3		47.3	223	55.7		36.5	294	51.7		09.2	336	02.3		17.2				
10	324	43.4	296	18.9		48.5	238	56.9		36.5	309	53.6		09.4	351	04.5		17.1				
11	339	45.9	311	18.5	+11	49.6	253	58.1	+25	36.5	324	55.5	+5	09.7	6	06.7	-12	17.0				
12	354	48.3	326	18.2	+11	50.8	268	59.3	+25	36.5	339	57.4	+5	09.9	21	08.9	-12	16.9				
13	9	50.8	341	17.8		52.0	284	00.5		36.5	354	59.3		10.1	36	11.1		16.8				
14	24	53.2	356	17.4		53.2	299	01.7		36.5	10	01.3		10.4	51	13.2		16.7				
15	39	55.7	11	17.0		54.4	314	02.8		36.5	25	03.2		10.6	66	15.4		16.6				
16	54	58.2	26	16.7		55.5	329	04.0		36.5	40	05.1		10.8	81	17.6		16.5				
17	70	00.6	41	16.3	+11	56.7	344	05.2	+25	36.5	55	07.0	+5	11.0	96	19.8	-12	16.4				
18	85	03.1	56	15.9	+11	57.9	359	06.4	+25	36.5	70	08.9	+5	11.3	111	22.0	-12	16.3				
19	100	05.6	71	15.6	+11	59.1	14	07.6		36.5	85	10.9		11.5	126	24.2		16.2				
20	115	08.0	86	15.2	+12	00.3	29	08.8		36.5	100	12.8		11.7	141	26.4		16.1				
21	130	10.5	101	14.8		01.4	44	10.0		36.5	115	14.7		12.0	156	28.6		16.0				
22	145	13.0	116	14.4		02.6	59	11.1		36.5	130	16.6		12.2	171	30.8		15.9				
23	160	15.4	131	14.1		03.8	74	12.3		36.5	145	18.5		12.4	186	33.0		15.8				
24	175	17.9	146	13.7	+12	05.0	89	13.5	+25	36.5	160	20.5	+5	12.6	201	35.2	-12	15.7				
Dif	—		-4		+12		+12		0		+19		+2		+22		+					

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG:12 ^h 08.1 ^m			Edad: 25.7 ^d SD: 16'4 PMG: 9 ^h 19 ^m												
				PHE { 4 ^h : 60'2 12 ^h : 60'3 20 ^h : 60'4 R°: 58 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	m	h	m	m
0	177	56.3	-1	08.7	225	41.6	49	-23	48.9	95	60 N	4 38	5 27	6 09	6 21 5	12 31 114
1	192	56.5		07.7	240	05.5	49		39.4	96	58	43	30	09	6 03 11	12 49 107
2	207	56.6		06.7	254	29.4	49		29.8	96	56	48	31	08	5 48 16	13 03 102
3	222	56.8		05.7	268	53.4	50		20.0	98	54	52	33	08	34 21	16 97
4	237	57.0		04.7	283	17.6	52	-23	10.1	99	52	55	35	08	23 24	27 93
5	252	57.2	-1	03.7	297	41.7	51	-23	00.0	101	50	4 58	5 36	6 08	5 12 27	13 37 90
6	267	57.4	-1	02.7	312	06.0	53	-22	49.7	103	45	5 04	5 38	6 08	4 51 32	13 57 84
7	282	57.5		01.7	326	30.3	53		39.3	104	40	09	40	07	33 37	14 14 79
8	297	57.7	-1	00.7	340	54.8	55		28.7	106	35	12	42	07	18 41	27 75
9	312	57.9	-0	59.8	355	19.2	54		18.0	107	30	15	43	07	4 05 44	14 39 72
10	327	58.1		58.8	9	43.8	56	-22	07.1	109	20	19	44	06	3 43 49	15 00 65
11	342	58.3	-0	57.8	24	08.5	57	-21	56.1	110	10 N	5 20	5 45	6 06	3 23 54	15 17 61
12	357	58.4	-0	56.8	38	33.2	57	-21	44.9	112	0	5 20	5 44	6 05	3 05 58	15 33 57
13	12	58.6		55.8	52	58.0	58		33.6	113	10 S	19	43	04	2 47 62	15 50 51
14	27	58.8		54.8	67	23.0	60		22.1	115	20	15	41	03	28 66	16 07 47
15	42	59.0		53.8	81	47.9	59	-21	10.5	116	30	10	38	02	2 05 72	26 41
16	57	59.2		52.8	96	13.0	61	-20	58.8	117	35	06	36	01	1 52 75	38 37
17	72	59.4	-0	51.8	110	38.2	62	-20	46.9	119	40	5 01	5 33	6 00	1 36 79	16 51 34
18	87	59.5	-0	50.8	125	03.4	62	-20	34.8	121	45	4 55	5 30	5 59	1 18 83	17 06 29
19	102	59.7		49.9	139	28.7	63		22.6	122	50	47	26	58	0 55 89	24 24
20	117	59.9		48.9	153	54.2	65	-20	10.3	123	52	43	24	57	44 92	33 21
21	133	00.1		47.9	168	19.7	65	-19	57.9	124	54	39	21	57	31 97	43 17
22	148	00.3		46.9	182	45.2	65		45.3	126	56	34	19	56	0 17 100	17 54 13
23	163	00.4		45.9	197	10.9	67		32.6	127	58	28	16	55	** ** *	18 06 9
24	178	00.6	-0	44.9	211	36.7	68	-19	19.8	128	60 S	4 22	5 12	5 54	** ** *	18 20 4

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 12 ^h 16.8 ^m		Mag: -4.0 PMG: 14 ^h 15 ^m			Mag: +0.8 PMG: 18 ^h 02 ^m			Mag: -2.1 PMG: 13 ^h 17 ^m			Mag: +0.9 PMG: 10 ^h 32 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°				
0	175	17.9	146	13.7	+12	05.0	89	13.5	+25	36.5	160	20.5	+5	12.6	201	35.2	-12	15.7
1	190	20.4	161	13.3		06.1	104	14.7		36.6	175	22.4		12.9	216	37.4		15.6
2	205	22.8	176	12.9		07.3	119	15.9		36.6	190	24.3		13.1	231	39.6		15.5
3	220	25.3	191	12.6		08.5	134	17.1		36.6	205	26.2		13.3	246	41.7		15.5
4	235	27.7	206	12.2		09.7	149	18.2		36.6	220	28.1		13.6	261	43.9		15.4
5	250	30.2	221	11.8	+12	10.8	164	19.4	+25	36.6	235	30.1	+5	13.8	276	46.1	-12	15.3
6	265	32.7	236	11.4	+12	12.0	179	20.6	+25	36.6	250	32.0	+5	14.0	291	48.3	-12	15.2
7	280	35.1	251	11.1		13.2	194	21.8		36.6	265	33.9		14.3	306	50.5		15.1
8	295	37.6	266	10.7		14.3	209	23.0		36.6	280	35.8		14.5	321	52.7		15.0
9	310	40.1	281	10.3		15.5	224	24.2		36.6	295	37.7		14.7	336	54.9		14.9
10	325	42.5	296	09.9		16.7	239	25.3		36.6	310	39.6		14.9	351	57.1		14.8
11	340	45.0	311	09.5	+12	17.8	254	26.5	+25	36.6	325	41.6	+5	15.2	6	59.3	-12	14.7
12	355	47.5	326	09.2	+12	19.0	269	27.7	+25	36.6	340	43.5	+5	15.4	22	01.5	-12	14.6
13	10	49.9	341	08.8		20.2	284	28.9		36.6	355	45.4		15.6	37	03.7		14.5
14	25	52.4	356	08.4		21.4	299	30.1		36.6	10	47.3		15.9	52	05.9		14.4
15	40	54.8	11	08.0		22.5	314	31.2		36.6	25	49.2		16.1	67	08.1		14.3
16	55	57.3	26	07.6		23.7	329	32.4		36.6	40	51.2		16.3	82	10.3		14.2
17	70	59.8	41	07.3	+12	24.9	344	33.6	+25	36.6	55	53.1	+5	16.5	97	12.4	-12	14.1
18	86	02.2	56	06.9	+12	26.0	359	34.8	+25	36.6	70	55.0	+5	16.8	112	14.6	-12	14.0
19	101	04.7	71	06.5		27.2	14	35.9		36.6	85	56.9		17.0	127	16.8		13.9
20	116	07.2	86	06.1		28.4	29	37.1		36.6	100	58.8		17.2	142	19.0		13.8
21	131	09.6	101	05.7		29.5	44	38.3		36.6	116	00.7		17.5	157	21.2		13.7
22	146	12.1	116	05.4		30.7	59	39.5		36.6	131	02.7		17.7	172	23.4		13.6
23	161	14.6	131	05.0		31.8	74	40.6		36.6	146	04.6		17.9	187	25.6		13.5
24	176	17.0	146	04.6	+12	33.0	89	41.8	+25	36.6	161	06.5	+5	18.2	202	27.8	-12	13.4
Dif	—		-4		+12		+12		0		+19		+2		+22		+	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16 ^h 1 PMG:12 ^h 07.8 ^m			Edad: 26.7 ^d PHE { 4 ^h : 60/4 12 ^h : 60/5 20 ^h : 60/5 R°: 53 ^m SD: 16/5 PMG: 10 ^h 17 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m	h m	m	h m	m				
0	178 00.6	-0 44.9	211 36.7	68	-19 19.8	130		60 N	18 11	18 53	19 43	6 26	2	14 25	108					
1	193 00.8	43.9	226 02.5	69	-19 06.8	130		58	11	50	37	14	7	36	103					
2	208 01.0	42.9	240 28.4	71	-18 53.8	132		56	11	48	32	6 04	11	45	99					
3	223 01.2	41.9	254 54.5	71	40.6	134		54	11	46	28	5 55	14	14	53	95				
4	238 01.3	41.0	269 20.6	71	27.2	134		52	11	45	24	47	17	15	00	92				
5	253 01.5	-0 40.0	283 46.8	72	-18 13.8	134		50	18 11	18 43	19 21	5 39	21	15	07	89				
6	268 01.7	-0 39.0	298 13.0	72	-18 00.2	136		45	18 11	18 40	19 14	5 23	27	15	21	83				
7	283 01.9	38.0	312 39.4	74	-17 46.6	136		40	11	38	09	5 10	31	33	77					
8	298 02.1	37.0	327 05.8	74	32.8	138		35	11	36	05	4 59	35	42	74					
9	313 02.3	36.0	341 32.4	76	18.9	139		30	11	34	19 02	49	39	15	51	69				
10	328 02.4	35.0	355 59.0	76	-17 04.9	140		20	11	33	18 58	32	45	16	05	64				
11	343 02.6	-0 34.0	10 25.7	77	-16 50.8	141		10 N	18 11	18 32	18 56	4 17	50	16	18	58				
12	358 02.8	-0 33.0	24 52.5	78	-16 36.6	142		0	18 11	18 32	18 56	4 03	55	16	30	53				
13	13 03.0	32.1	39 19.4	79	22.2	144		10 S	11	32	18 57	3 49	60	41	48					
14	28 03.2	31.1	53 46.3	79	-16 07.8	144		20	12	34	19 00	34	65	16	54	42				
15	43 03.3	30.1	68 13.4	81	-15 53.3	145		30	13	36	04	17	71	17	07	37				
16	58 03.5	29.1	82 40.5	81	38.7	146		35	13	38	08	3 07	74	15	33					
17	73 03.7	-0 28.1	97 07.7	82	-15 24.0	147		40	18 14	18 41	19 12	2 55	79	17	25	29				
18	88 03.9	-0 27.1	111 35.0	83	-15 09.2	148		45	18 14	18 44	19 18	2 41	84	17	35	24				
19	103 04.1	26.1	126 02.4	84	-14 54.3	149		50	15	47	25	24	90	48	18					
20	118 04.3	25.1	140 29.8	84	39.3	150		52	15	49	29	16	93	17	54	15				
21	133 04.4	24.1	154 57.4	86	24.2	151		54	16	51	33	2 08	96	18	00	13				
22	148 04.6	23.2	169 25.0	86	-14 09.1	151		56	16	53	38	1 57	101	07	10					
23	163 04.8	22.2	183 52.7	87	-13 53.8	153		58	17	56	43	46	105	15	6					
24	178 05.0	-0 21.2	198 20.4	87	-13 38.5	153		60 S	18 18	18 59	19 49	1 32	111	18	24	2				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 12 ^h 12.9 ^m		Mag: -4.0 PMG: 14 ^h 16 ^m		Mag: +0.8 PMG: 18 ^h 00 ^m		Mag: -2.1 PMG: 13 ^h 14 ^m		Mag: +0.9 PMG: 10 ^h 29 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	176 17.0	146 04.6	+12 33.0	89 41.8	+25 36.6	161 06.5	+5 18.2	202 27.8	-12 13.4	
1	191 19.5	161 04.2	34.2	104 43.0	36.6	176 08.4	18.4	217 30.0	13.3	
2	206 22.0	176 03.8	35.3	119 44.2	36.6	191 10.3	18.6	232 32.2	13.2	
3	221 24.4	191 03.5	36.5	134 45.3	36.6	206 12.3	18.8	247 34.4	13.1	
4	236 26.9	206 03.1	37.7	149 46.5	36.6	221 14.2	19.1	262 36.6	13.1	
5	251 29.3	221 02.7	+12 38.8	164 47.7	+25 36.6	236 16.1	+5 19.3	277 38.8	-12 13.0	
6	266 31.8	236 02.3	+12 40.0	179 48.9	+25 36.6	251 18.0	+5 19.5	292 41.0	-12 12.9	
7	281 34.3	251 01.9	41.1	194 50.0	36.6	266 19.9	19.8	307 43.2	12.8	
8	296 36.7	266 01.5	42.3	209 51.2	36.6	281 21.8	20.0	322 45.4	12.7	
9	311 39.2	281 01.2	43.5	224 52.4	36.6	296 23.8	20.2	337 47.5	12.6	
10	326 41.7	296 00.8	44.6	239 53.6	36.6	311 25.7	20.4	352 49.7	12.5	
11	341 44.1	311 00.4	+12 45.8	254 54.7	+25 36.6	326 27.6	+5 20.7	7 51.9	-12 12.4	
12	356 46.6	326 00.0	+12 46.9	269 55.9	+25 36.6	341 29.5	+5 20.9	22 54.1	-12 12.3	
13	11 49.1	340 59.6	48.1	284 57.1	36.6	356 31.4	21.1	37 56.3	12.2	
14	26 51.5	355 59.2	49.2	299 58.2	36.6	11 33.3	21.4	52 58.5	12.1	
15	41 54.0	10 58.8	50.4	314 59.4	36.6	26 35.3	21.6	68 00.7	12.0	
16	56 56.5	25 58.5	51.5	330 00.6	36.6	41 37.2	21.8	83 02.9	11.9	
17	71 58.9	40 58.1	+12 52.7	345 01.7	+25 36.6	56 39.1	+5 22.1	98 05.1	-12 11.8	
18	87 01.4	55 57.7	+12 53.9	0 02.9	+25 36.6	71 41.0	+5 22.3	113 07.3	-12 11.7	
19	102 03.8	70 57.3	55.0	15 04.1	36.6	86 42.9	22.5	128 09.5	11.6	
20	117 06.3	85 56.9	56.2	30 05.3	36.6	101 44.9	22.7	143 11.7	11.5	
21	132 08.8	100 56.5	57.3	45 06.4	36.6	116 46.8	23.0	158 13.9	11.4	
22	147 11.2	115 56.1	58.5	60 07.6	36.6	131 48.7	23.2	173 16.1	11.3	
23	162 13.7	130 55.7	+12 59.6	75 08.8	36.6	146 50.6	23.4	188 18.3	11.2	
24	177 16.2	145 55.4	+13 00.8	90 09.9	+25 36.6	161 52.5	+5 23.7	203 20.5	-12 11.1	
Dif	—	-4	+12	+12	0	+19	+2	+22	+	

UT	SOL				LUNA							Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16'1 PMG:12 ^h 07.5 ^m				Edad: 27.7 ^d PHE { 4 ^h : 60'4 12 ^h : 60'4 20 ^h : 60'3 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	178	05.0	-0	21.2	198	20.4			-13	38.5	154	60	N	4	31	5	21	6	03	6	28	1	16	13	104
1	193	05.2		20.2	212	48.3				23.1	155	58		37		24		03		21	5		19	99	
2	208	05.4		19.2	227	16.2		89	-13	07.6	155	56		42		26		03		15	8		24	95	
3	223	05.5		18.2	241	44.2		90	-12	52.1	155	54		46		28		03		09	12		28	92	
4	238	05.7		17.2	256	12.3		91		36.5	156	52		50		30		03		04	15		32	89	
5	253	05.9	-0	16.2	270	40.4		91	-12	20.8	157	50		4	53	5	31	6	04	6	00	17	16	36	86
6	268	06.1	-0	15.2	285	08.7		93	-12	05.0	158	45		5	00	5	35	6	04	5	50	22	16	44	80
7	283	06.3		14.3	299	36.9		92	-11	49.2	158	40		06		37		04		41	28		50	75	
8	298	06.4		13.3	314	05.3		94		33.3	159	35		10		39		04		34	31		16	56	70
9	313	06.6		12.3	328	33.8		95		17.3	160	30		13		40		04		28	35		17	00	68
10	328	06.8		11.3	343	02.3		95	-11	01.3	160	20		17		42		04		17	41		09	61	
11	343	07.0	-0	10.3	357	30.9		96	-10	45.2	161	10	N	5	19	5	43	6	04	5	07	46	17	16	55
12	358	07.2	-0	09.3	11	59.5		96	-10	29.1	161	0		5	20	5	44	6	04	4	58	51	17	23	50
13	13	07.4		08.3	26	28.2		97	-10	12.9	162	10	S	19		43		04		49	56		29	45	
14	28	07.5		07.3	40	57.0		98	-9	56.6	163	20		16		42		04		39	62		36	40	
15	43	07.7		06.3	55	25.9		99		40.3	163	30		11		39		03		28	68		44	34	
16	58	07.9		05.4	69	54.8		99		24.0	163	35		08		38		03		21	72		48	30	
17	73	08.1	-0	04.4	84	23.8		100	-9	07.6	164	40		5	04	5	35	6	02	4	14	76	17	54	26
18	88	08.3	-0	03.4	98	52.8		100	-8	51.1	165	45		4	58	5	33	6	02	4	05	81	17	59	22
19	103	08.5		02.4	113	21.9		101		34.6	165	50		51		29		01		3	54	87	18	06	16
20	118	08.7		01.4	127	51.1		102		18.1	165	52		47		27		01		49	90		09	14	
21	133	08.8	-0	00.4	142	20.3		102	-8	01.5	166	54		43		25		01		44	93		13	11	
22	148	09.0	+0	00.6	156	49.6		103	-7	44.9	166	56		39		23		00		38	96		17	8	
23	163	09.2		01.6	171	18.9		103		28.3	166	58		33		20		6	00	31	101		21	4	
24	178	09.4	+0	02.6	185	48.3		104	-7	11.6	167	60	S	4	27	5	17	5	59	3	23	105	18	26	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: -4.0 12 ^h 08.9 ^m		Mag: -4.0 PMG: 14 ^h 17 ^m		Mag: +0.8 PMG: 17 ^h 58 ^m		Mag: -2.1 PMG: 13 ^h 11 ^m		Mag: +0.9 PMG: 10 ^h 25 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	177	16.2	145	55.4	+13	00.8	90	09.9	+25	36.6	161	52.5	+5	23.7	203	20.5	-12	11.1
1	192	18.6	160	55.0		01.9	105	11.1		36.6	176	54.4		23.9	218	22.7		11.0
2	207	21.1	175	54.6		03.1	120	12.3		36.5	191	56.4		24.1	233	24.9		10.9
3	222	23.6	190	54.2		04.2	135	13.4		36.5	206	58.3		24.3	248	27.1		10.9
4	237	26.0	205	53.8		05.4	150	14.6		36.5	222	00.2		24.6	263	29.2		10.8
5	252	28.5	220	53.4	+13	06.5	165	15.8	+25	36.5	237	02.1	+5	24.8	278	31.4	-12	10.7
6	267	30.9	235	53.0	+13	07.7	180	16.9	+25	36.5	252	04.0	+5	25.0	293	33.6	-12	10.6
7	282	33.4	250	52.6		08.8	195	18.1		36.5	267	05.9		25.3	308	35.8		10.5
8	297	35.9	265	52.2		10.0	210	19.3		36.5	282	07.8		25.5	323	38.0		10.4
9	312	38.3	280	51.9		11.1	225	20.4		36.5	297	09.8		25.7	338	40.2		10.3
10	327	40.8	295	51.5		12.3	240	21.6		36.5	312	11.7		26.0	353	42.4		10.2
11	342	43.3	310	51.1	+13	13.4	255	22.7	+25	36.5	327	13.6	+5	26.2	8	44.6	-12	10.1
12	357	45.7	325	50.7	+13	14.5	270	23.9	+25	36.5	342	15.5	+5	26.4	23	46.8	-12	10.0
13	12	48.2	340	50.3		15.7	285	25.1		36.5	357	17.4		26.6	38	49.0		09.9
14	27	50.7	355	49.9		16.8	300	26.2		36.5	12	19.3		26.9	53	51.2		09.8
15	42	53.1	10	49.5		18.0	315	27.4		36.5	27	21.3		27.1	68	53.4		09.7
16	57	55.6	25	49.1		19.1	330	28.6		36.5	42	23.2		27.3	83	55.6		09.6
17	72	58.1	40	48.7	+13	20.3	345	29.7	+25	36.5	57	25.1	+5	27.6	98	57.8	-12	09.5
18	88	00.5	55	48.3	+13	21.4	0	30.9	+25	36.5	72	27.0	+5	27.8	114	00.0	-12	09.4
19	103	03.0	70	47.9		22.5	15	32.0		36.5	87	28.9		28.0	129	02.2		09.3
20	118	05.4	85	47.5		23.7	30	33.2		36.4	102	30.8		28.3	144	04.4		09.2
21	133	07.9	100	47.1		24.8	45	34.4		36.4	117	32.8		28.5	159	06.6		09.1
22	148	10.4	115	46.7		26.0	60	35.5		36.4	132	34.7		28.7	174	08.8		09.0
23	163	12.8	130	46.3		27.1	75	36.7		36.4	147	36.6		28.9	189	11.0		09.0
24	178	15.3	145	45.9	+13	28.2	90	37.8	+25	36.4	162	38.5	+5	29.2	204	13.2	-12	08.9
Dif	—		-4		+11		+12		0		+19		+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 07.2 ^m			Edad: 28.7 ^d PHE { 4 ^h : 60'2 12 ^h : 60'0 20 ^h : 59'9 SD: 16'4 R°: 49 ^m PMG: 12 ^h 01 ^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	09.4	+0	02.6	185	48.3		-7	11.6		60 N	18 16	18 58	19 48	6 29	0		17 57	100					
1	193	09.6		03.5	200	17.8	105	-6	54.9	167	58	16	55	42	26	4		58	96					
2	208	09.8		04.5	214	47.3	105		38.2	167	56	15	52	37	23	7		17 59	93					
3	223	09.9		05.5	229	16.8	105		21.4	168	54	15	50	32	21	10		18 00	90					
4	238	10.1		06.5	243	46.4	106	-6	04.6	168	52	14	48	28	19	12		01	87					
5	253	10.3	+0	07.5	258	16.1	107	-5	47.8	168	50	18 14	18 46	19 24	6 17	15		18 02	84					
6	268	10.5	+0	08.5	272	45.8	107	-5	30.9	169	45	18 13	18 43	19 17	6 12	21		18 04	78					
7	283	10.7		09.5	287	15.6	108	-5	14.1	168	40	13	40	11	09	25		05	73					
8	298	10.9		10.5	301	45.4	108	-4	57.2	169	35	12	37	07	05	30		06	70					
9	313	11.0		11.5	316	15.2	108		40.3	169	30	12	36	19 04	6 03	32		08	65					
10	328	11.2		12.4	330	45.1	109		23.4	169	20	11	33	18 59	5 58	38		10	59					
11	343	11.4	+0	13.4	345	15.1	110	-4	06.5	169	10 N	18 11	18 32	18 56	5 53	44		18 11	54					
12	358	11.6	+0	14.4	359	45.1	110	-3	49.5	170	0	18 10	18 31	18 55	5 49	49		18 13	48					
13	13	11.8		15.4	14	15.1	110		32.6	169	10 S	10	31	56	45	55		14	44					
14	28	12.0		16.4	28	45.2	111	-3	15.6	170	20	10	32	18 58	41	60		16	38					
15	43	12.2		17.4	43	15.3	111	-2	58.6	170	30	10	34	19 02	36	66		18	32					
16	58	12.3		18.4	57	45.4	111		41.7	169	35	10	35	05	33	70		18	29					
17	73	12.5	+0	19.4	72	15.6	112	-2	24.7	170	40	18 10	18 37	19 09	5 30	74		18 20	25					
18	88	12.7	+0	20.3	86	45.8	112	-2	07.7	170	45	18 10	18 40	19 14	5 26	79		18 21	20					
19	103	12.9		21.3	101	16.1	113	-1	50.8	169	50	11	43	21	21	85		22	16					
20	118	13.1		22.3	115	46.4	113		33.8	170	52	11	44	24	19	88		23	13					
21	133	13.3		23.3	130	16.7	113	-1	16.8	170	54	11	46	28	17	90		24	10					
22	148	13.4		24.3	144	47.1	114	-0	59.9	169	56	11	48	32	14	94		25	7					
23	163	13.6		25.3	159	17.4	113		42.9	170	58	11	50	37	12	97		25	4					
24	178	13.8	+0	26.3	173	47.9	115	-0	26.0	169	60 S	18 11	18 53	19 43	5 08	102		18 26	1					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 12 ^h 05.0 ^m			Mag: -4.0 PMG: 14 ^h 17 ^m			Mag: +0.8 PMG: 17 ^h 56 ^m			Mag: -2.1 PMG: 13 ^h 08 ^m			Mag: +0.9 PMG: 10 ^h 22 ^m											
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec											
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	178	15.3	145	45.9	+13	28.2	90	37.8	+25	36.4	162	38.5	+5	29.2	204	13.2	-12	08.9						
1	193	17.8	160	45.5		29.4	105	39.0		36.4	177	40.4		29.4	219	15.4		08.8						
2	208	20.2	175	45.2		30.5	120	40.1		36.4	192	42.3		29.6	234	17.6		08.7						
3	223	22.7	190	44.8		31.6	135	41.3		36.4	207	44.2		29.9	249	19.8		08.6						
4	238	25.2	205	44.4		32.8	150	42.5		36.4	222	46.2		30.1	264	22.0		08.5						
5	253	27.6	220	44.0	+13	33.9	165	43.6	+25	36.4	237	48.1	+5	30.3	279	24.1	-12	08.4						
6	268	30.1	235	43.6	+13	35.1	180	44.8	+25	36.4	252	50.0	+5	30.5	294	26.3	-12	08.3						
7	283	32.5	250	43.2		36.2	195	45.9		36.4	267	51.9		30.8	309	28.5		08.2						
8	298	35.0	265	42.8		37.3	210	47.1		36.4	282	53.8		31.0	324	30.7		08.1						
9	313	37.5	280	42.4		38.5	225	48.2		36.3	297	55.7		31.2	339	32.9		08.0						
10	328	39.9	295	42.0		39.6	240	49.4		36.3	312	57.7		31.5	354	35.1		07.9						
11	343	42.4	310	41.6	+13	40.7	255	50.6	+25	36.3	327	59.6	+5	31.7	9	37.3	-12	07.8						
12	358	44.9	325	41.2	+13	41.8	270	51.7	+25	36.3	343	01.5	+5	31.9	24	39.5	-12	07.7						
13	13	47.3	340	40.8		43.0	285	52.9		36.3	358	03.4		32.2	39	41.7		07.6						
14	28	49.8	355	40.4		44.1	300	54.0		36.3	13	05.3		32.4	54	43.9		07.5						
15	43	52.3	10	40.0		45.2	315	55.2		36.3	28	07.2		32.6	69	46.1		07.4						
16	58	54.7	25	39.6		46.4	330	56.3		36.3	43	09.1		32.8	84	48.3		07.3						
17	73	57.2	40	39.2	+13	47.5	345	57.5	+25	36.3	58	11.1	+5	33.1	99	50.5	-12	07.2						
18	88	59.7	55	38.8	+13	48.6	0	58.6	+25	36.3	73	13.0	+5	33.3	114	52.7	-12	07.2						
19	104	02.1	70	38.4		49.8	15	59.8		36.2	88	14.9		33.5	129	54.9		07.1						
20	119	04.6	85	38.0		50.9	31	00.9		36.2	103	16.8		33.8	144	57.1		07.0						
21	134	07.0	100	37.6		52.0	46	02.1		36.2	118	18.7		34.0	159	59.3		06.9						
22	149	09.5	115	37.2		53.1	61	03.2		36.2	133	20.6		34.2	175	01.5		06.8						
23	164	12.0	130	36.8		54.3	76	04.4		36.2	148	22.5		34.5	190	03.7		06.7						
24	179	14.4	145	36.4	+13	55.4	91	05.5	+25	36.2	163	24.5	+5	34.7	205	05.9	-12	06.6						
Dif	—			-4			+11	+12			0			+19			+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 06.9 ^m			Edad: 0.3 ^d PHE { 4 ^h : 59/7 12 ^h : 59/5 20 ^h : 59/2 Rº: 48 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	Rº	Hora	Rº					
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	m			
0	178	13.8	+0	26.3	173	47.9	114	-0	26.0	170	4	25	5	57	6	29	1	19	37	100
1	193	14.0		27.3	188	18.3	115	-0	09.0	170	31	18	57	30	4	34	95			
2	208	14.2		28.2	202	48.8	115	+0	07.9	169	36	21	58	30	8	32	91			
3	223	14.4		29.2	217	19.3	115		24.8	169	41	23	58	31	10	30	88			
4	238	14.6		30.2	231	49.8	115		41.7	169	45	25	59	31	13	28	85			
5	253	14.7	+0	31.2	246	20.3	115	+0	58.5	168	4	49	5	59	6	32	15	19	26	82
6	268	14.9	+0	32.2	260	50.9	116	+1	15.4	169	4	56	5	31	6	33	20	19	22	77
7	283	15.1		33.2	275	21.5	116		32.2	168	5	02	34	01	34	25	18	73		
8	298	15.3		34.2	289	52.1	116	+1	49.0	168	07	36	01	35	28	16	68			
9	313	15.5		35.2	304	22.7	116	+2	05.8	168	10	38	02	35	32	13	65			
10	328	15.7		36.1	318	53.4	117		22.6	168	15	41	03	36	39	09	58			
11	343	15.9	+0	37.1	333	24.0	116	+2	39.3	167	5	18	5	42	6	37	44	19	05	53
12	358	16.0	+0	38.1	347	54.7	117	+2	56.0	167	5	19	5	43	6	38	49	19	01	49
13	13	16.2		39.1	2	25.4	117	+3	12.7	167	19	43	04	40	53	18	58	43		
14	28	16.4		40.1	16	56.1	117		29.3	166	17	42	04	41	58	54	39			
15	43	16.6		41.1	31	26.8	117	+3	45.9	166	13	41	04	42	65	50	32			
16	58	16.8		42.1	45	57.6	118	+4	02.5	166	10	39	04	43	68	47	30			
17	73	17.0	+0	43.1	60	28.3	117	+4	19.0	165	5	06	5	37	6	44	72	18	45	25
18	88	17.2	+0	44.0	74	59.0	117	+4	35.5	165	5	01	5	35	6	45	77	18	41	21
19	103	17.3		45.0	89	29.8	118	+4	52.0	165	4	54	32	04	46	83	38	15		
20	118	17.5		46.0	104	00.6	118	+5	08.4	164	51	31	04	47	85	36	13			
21	133	17.7		47.0	118	31.3	117		24.7	163	47	29	04	47	89	34	10			
22	148	17.9		48.0	133	02.1	118		41.1	164	43	27	04	48	92	32	7			
23	163	18.1		49.0	147	32.9	118	+5	57.3	162	38	25	04	49	95	29	5			
24	178	18.3	+0	50.0	162	03.7	118	+6	13.6	163	4	33	5	22	6	50	99	18	27	0
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG		Mag: -4.0				Mag: +0.8				Mag: -2.1				Mag: +0.9					
	12 ^h 01.1 ^m		PMG: 14 ^h 18 ^m				PMG: 17 ^h 54 ^m				PMG: 13 ^h 05 ^m				PMG: 10 ^h 18 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	179	14.4	145	36.4	+13	55.4	91	05.5	+25	36.2	163	24.5	+5	34.7	205	05.9	-12	06.6		
1	194	16.9	160	35.9		56.5	106	06.7		36.2	178	26.4		34.9	220	08.1		06.5		
2	209	19.4	175	35.5		57.6	121	07.8		36.2	193	28.3		35.1	235	10.3		06.4		
3	224	21.8	190	35.1		58.8	136	09.0		36.1	208	30.2		35.4	250	12.5		06.3		
4	239	24.3	205	34.7	+13	59.9	151	10.1		36.1	223	32.1		35.6	265	14.7		06.2		
5	254	26.8	220	34.3	+14	01.0	166	11.3	+25	36.1	238	34.0	+5	35.8	280	16.9	-12	06.1		
6	269	29.2	235	33.9	+14	02.1	181	12.4	+25	36.1	253	35.9	+5	36.1	295	19.1	-12	06.0		
7	284	31.7	250	33.5		03.2	196	13.6		36.1	268	37.9		36.3	310	21.3		05.9		
8	299	34.1	265	33.1		04.4	211	14.7		36.1	283	39.8		36.5	325	23.5		05.8		
9	314	36.6	280	32.7		05.5	226	15.9		36.1	298	41.7		36.8	340	25.7		05.7		
10	329	39.1	295	32.3		06.6	241	17.0		36.1	313	43.6		37.0	355	27.9		05.6		
11	344	41.5	310	31.9	+14	07.7	256	18.2	+25	36.0	328	45.5	+5	37.2	10	30.1	-12	05.5		
12	359	44.0	325	31.5	+14	08.8	271	19.3	+25	36.0	343	47.4	+5	37.4	25	32.3	-12	05.5		
13	14	46.5	340	31.1		10.0	286	20.5		36.0	358	49.3		37.7	40	34.5		05.4		
14	29	48.9	355	30.7		11.1	301	21.6		36.0	13	51.2		37.9	55	36.7		05.3		
15	44	51.4	10	30.3		12.2	316	22.8		36.0	28	53.2		38.1	70	38.9		05.2		
16	59	53.9	25	29.9		13.3	331	23.9		36.0	43	55.1		38.4	85	41.1		05.1		
17	74	56.3	40	29.4	+14	14.4	346	25.1	+25	36.0	58	57.0	+5	38.6	100	43.3	-12	05.0		
18	89	58.8	55	29.0	+14	15.5	1	26.2	+25	35.9	73	58.9	+5	38.8	115	45.5	-12	04.9		
19	105	01.3	70	28.6		16.6	16	27.4		35.9	89	00.8		39.0	130	47.7		04.8		
20	120	03.7	85	28.2		17.8	31	28.5		35.9	104	02.7		39.3	145	49.9		04.7		
21	135	06.2	100	27.8		18.9	46	29.6		35.9	119	04.6		39.5	160	52.1		04.6		
22	150	08.6	115	27.4		20.0	61	30.8		35.9	134	06.6		39.7	175	54.3		04.5		
23	165	11.1	130	27.0		21.1	76	31.9		35.9	149	08.5		40.0	190	56.5		04.4		
24	180	13.6	145	26.6	+14	22.2	91	33.1	+25	35.8	164	10.4	+5	40.2	205	58.7	-12	04.3		
Dif	—		-4		+11		+11		0		+19		+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 06.6 ^m			Edad: 1.3 ^d SD: 16 ^{/1} PMG: 13 ^h 38 ^m												
	PHE { 4 ^h : 59 ^{/0} 12 ^h : 58 ^{/7} 20 ^h : 58 ^{/4} R°: 49 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	° /	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m	
0	178 18.3	+0 50.0		162 03.7	+6 13.6			60 N	18 21	19 03	19 54	6 30	0	21 17	99	
1	193 18.5		51.0	176 34.5		29.8	162	58	20	19 00	47	34	5	09	95	
2	208 18.6		51.9	191 05.3	+6 45.9		161	56	19	18 57	41	38	8	21	03	
3	223 18.8		52.9	205 36.0	+7 02.0		161	54	18	54	36	41	11	20	58	
4	238 19.0		53.9	220 06.8		18.0	160	52	18	52	32	44	14	53	84	
5	253 19.2	+0 54.9		234 37.6	+7 34.0		160	50	18 17	18 50	19 28	6 47	17	20	48	
6	268 19.4	+0 55.9		249 08.4	+7 49.9		159	45	18 16	18 45	19 20	6 53	22	20	39	
7	283 19.6		56.9	263 39.2	+8 05.7		158	40	15	42	14	6 59	26	31	71	
8	298 19.8		57.9	278 09.9		21.5	158	35	14	39	09	7 03	30	24	67	
9	313 19.9		58.9	292 40.7		37.3	158	30	13	37	19 05	07	34	18	64	
10	328 20.1	+0 59.8		307 11.5	+8 53.0		157	20	12	34	18 59	15	38	20	07	
11	343 20.3	+1 00.8		321 42.2	+9 08.6		156	10 N	18 11	18 32	18 56	7 21	44	19	58	
12	358 20.5	+1 01.8		336 13.0	+9 24.1		155	0	18 10	18 31	18 55	7 27	48	19	50	
13	13 20.7		02.8	350 43.7		39.6	155	10 S	09	30	54	33	53	41	45	
14	28 20.9		03.8	5 14.4	+9 55.0		154	20	08	30	56	39	59	33	39	
15	43 21.1		04.8	19 45.1	+10 10.4		154	30	08	32	18 59	47	64	22	35	
16	58 21.3		05.8	34 15.8		25.7	153	35	07	33	19 02	51	68	17	31	
17	73 21.4	+1 06.7		48 46.5	+10 40.9		152	40	18 07	18 34	19 06	7 56	72	19	10	
18	88 21.6	+1 07.7		63 17.2	+10 56.0		151	45	18 07	18 36	19 10	8 02	76	19	02	
19	103 21.8		08.7	77 47.8	+11 11.1		151	50	06	38	16	09	82	18	53	
20	118 22.0		09.7	92 18.5		26.1	150	52	06	40	19	12	85	49	15	
21	133 22.2		10.7	106 49.1		41.0	149	54	06	41	23	16	88	44	13	
22	148 22.4		11.7	121 19.7	+11 55.8		148	56	06	43	27	20	91	39	10	
23	163 22.6		12.7	135 50.3	+12 10.6		148	58	06	45	31	24	95	34	5	
24	178 22.7	+1 13.6		150 20.9	+12 25.3		147	60 S	18 05	18 47	19 36	8 29	100	18	27	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 ^h 57.1 ^m	Mag: -4.0 PMG: 14 ^h 19 ^m	Mag: +0.8 PMG: 17 ^h 52 ^m	Mag: -2.1 PMG: 13 ^h 02 ^m	Mag: +1.0 PMG: 10 ^h 15 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	180 13.6	145 26.6	+14 22.2	91 33.1	+25 35.8	164 10.4	+5 40.2	205 58.7	-12 04.3	
1	195 16.0	160 26.2	23.3	106 34.2	35.8	179 12.3	40.4	221 00.9	04.2	
2	210 18.5	175 25.8	24.4	121 35.4	35.8	194 14.2	40.7	236 03.1	04.1	
3	225 21.0	190 25.3	25.5	136 36.5	35.8	209 16.1	40.9	251 05.3	04.0	
4	240 23.4	205 24.9	26.6	151 37.6	35.8	224 18.0	41.1	266 07.5	04.0	
5	255 25.9	220 24.5	+14 27.8	166 38.8	+25 35.8	239 19.9	+5 41.3	281 09.7	-12 03.9	
6	270 28.4	235 24.1	+14 28.9	181 39.9	+25 35.7	254 21.9	+5 41.6	296 11.9	-12 03.8	
7	285 30.8	250 23.7	30.0	196 41.1	35.7	269 23.8	41.8	311 14.1	03.7	
8	300 33.3	265 23.3	31.1	211 42.2	35.7	284 25.7	42.0	326 16.3	03.6	
9	315 35.8	280 22.9	32.2	226 43.3	35.7	299 27.6	42.3	341 18.5	03.5	
10	330 38.2	295 22.4	33.3	241 44.5	35.7	314 29.5	42.5	356 20.7	03.4	
11	345 40.7	310 22.0	+14 34.4	256 45.6	+25 35.7	329 31.4	+5 42.7	11 22.9	-12 03.3	
12	0 43.1	325 21.6	+14 35.5	271 46.8	+25 35.6	344 33.3	+5 43.0	26 25.1	-12 03.2	
13	15 45.6	340 21.2	36.6	286 47.9	35.6	359 35.2	43.2	41 27.3	03.1	
14	30 48.1	355 20.8	37.7	301 49.0	35.6	14 37.2	43.4	56 29.5	03.0	
15	45 50.5	10 20.4	38.8	316 50.2	35.6	29 39.1	43.6	71 31.7	02.9	
16	60 53.0	25 20.0	39.9	331 51.3	35.6	44 41.0	43.9	86 33.9	02.8	
17	75 55.5	40 19.5	+14 41.0	346 52.5	+25 35.5	59 42.9	+5 44.1	101 36.1	-12 02.7	
18	90 57.9	55 19.1	+14 42.1	1 53.6	+25 35.5	74 44.8	+5 44.3	116 38.3	-12 02.6	
19	106 00.4	70 18.7	43.2	16 54.7	35.5	89 46.7	44.6	131 40.5	02.5	
20	121 02.9	85 18.3	44.3	31 55.9	35.5	104 48.6	44.8	146 42.7	02.5	
21	136 05.3	100 17.9	45.4	46 57.0	35.5	119 50.5	45.0	161 44.9	02.4	
22	151 07.8	115 17.5	46.5	61 58.1	35.4	134 52.5	45.3	176 47.1	02.3	
23	166 10.2	130 17.0	47.6	76 59.3	35.4	149 54.4	45.5	191 49.3	02.2	
24	181 12.7	145 16.6	+14 48.7	92 00.4	+25 35.4	164 56.3	+5 45.7	206 51.5	-12 02.1	
Dif	—	-4	+11	+11	0	+19	+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 06.3 ^m			Edad: 2.3 ^d PHE { 4 ^h : 58'2 12 ^h : 57'9 20 ^h : 57'6 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	22.7	+1	13.6	150	20.9	+12	25.3	60 N	4 18	5 09	5 51	6 30	3	22	56 100		
1	193	22.9		14.6	164	51.4		39.9	58	25	12	52	39	6	44	94		
2	208	23.1		15.6	179	22.0	+12	54.4	56	31	15	53	46	11	34	89		
3	223	23.3		16.6	193	52.5	+13	08.8	54	36	18	53	52	14	25	85		
4	238	23.5		17.6	208	23.0		23.2	52	40	20	54	6 58	17	17	82		
5	253	23.7	+1	18.6	222	53.4	+13	37.4	50	4 44	5 23	5 55	7 04	19	22	10 79		
6	268	23.9	+1	19.6	237	23.9	+13	51.6	45	4 53	5 27	5 56	7 15	25	21	54 74		
7	283	24.1		20.5	251	54.3	+14	05.7	40	4 59	31	58	25	29	42	69		
8	298	24.2		21.5	266	24.7		19.7	35	5 04	33	59	33	33	31	66		
9	313	24.4		22.5	280	55.1		33.6	30	08	36	5 59	41	35	22	63		
10	328	24.6		23.5	295	25.4	+14	47.4	20	13	39	6 01	7 53	41	21	06 58		
11	343	24.8	+1	24.5	309	55.8	+15	01.2	10 N	5 17	5 41	6 02	8 05	45	20	52 54		
12	358	25.0	+1	25.5	324	26.1	+15	14.8	0	5 18	5 42	6 03	8 15	50	20	39 50		
13	13	25.2		26.5	338	56.3		28.3	10 S	19	43	04	26	54	26	46		
14	28	25.4		27.4	353	26.6		41.8	20	17	43	05	38	58	20	12 43		
15	43	25.6		28.4	7	56.8	+15	55.1	30	14	42	06	51	64	19	57 37		
16	58	25.7		29.4	22	27.0	+16	08.4	35	11	41	06	8 59	67	48	34		
17	73	25.9	+1	30.4	36	57.1	+16	21.6	40	5 08	5 40	6 07	9 08	70	19	37 32		
18	88	26.1	+1	31.4	51	27.3	+16	34.6	45	5 03	5 38	6 07	9 18	75	19	26 26		
19	103	26.3		32.4	65	57.4	+16	47.6	50	4 57	35	08	31	81	11	22		
20	118	26.5		33.3	80	27.5	+17	00.4	52	55	34	08	37	83	19	04 19		
21	133	26.7		34.3	94	57.5		13.2	54	51	33	08	44	86	18	57 16		
22	148	26.9		35.3	109	27.5		25.8	56	47	31	08	51	90	49	12		
23	163	27.1		36.3	123	57.5		38.4	58	43	29	09	9 59	95	39	9		
24	178	27.2	+1	37.3	138	27.4	+17	50.8	60 S	4 38	5 27	6 09	10 09	100	18	29 3		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG		Mag: -4.0		Mag: +0.9		Mag: -2.1		Mag: +1.0									
	11 ^h 53.2 ^m		PMG: 14 ^h 19 ^m		PMG: 17 ^h 51 ^m		PMG: 12 ^h 59 ^m		PMG: 10 ^h 11 ^m									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	181	12.7	145	16.6	+14	48.7	92	00.4	+25	35.4	164	56.3	+5	45.7	206	51.5	-12	02.1
1	196	15.2	160	16.2		49.8	107	01.5		35.4	179	58.2		45.9	221	53.7		02.0
2	211	17.6	175	15.8		50.9	122	02.7		35.4	195	00.1		46.2	236	55.9		01.9
3	226	20.1	190	15.4		52.0	137	03.8		35.3	210	02.0		46.4	251	58.1		01.8
4	241	22.6	205	14.9		53.1	152	05.0		35.3	225	03.9		46.6	267	00.3		01.7
5	256	25.0	220	14.5	+14	54.2	167	06.1	+25	35.3	240	05.8	+5	46.9	282	02.5	-12	01.6
6	271	27.5	235	14.1	+14	55.3	182	07.2	+25	35.3	255	07.7	+5	47.1	297	04.7	-12	01.5
7	286	30.0	250	13.7		56.4	197	08.4		35.3	270	09.7		47.3	312	06.9		01.4
8	301	32.4	265	13.3		57.4	212	09.5		35.2	285	11.6		47.6	327	09.1		01.3
9	316	34.9	280	12.8		58.5	227	10.6		35.2	300	13.5		47.8	342	11.3		01.2
10	331	37.4	295	12.4	+14	59.6	242	11.8		35.2	315	15.4		48.0	357	13.5		01.1
11	346	39.8	310	12.0	+15	00.7	257	12.9	+25	35.2	330	17.3	+5	48.2	12	15.7	-12	01.1
12	1	42.3	325	11.6	+15	01.8	272	14.0	+25	35.1	345	19.2	+5	48.5	27	17.9	-12	01.0
13	16	44.7	340	11.1		02.9	287	15.1		35.1	0	21.1		48.7	42	20.1		00.9
14	31	47.2	355	10.7		04.0	302	16.3		35.1	15	23.0		48.9	57	22.3		00.8
15	46	49.7	10	10.3		05.1	317	17.4		35.1	30	24.9		49.2	72	24.5		00.7
16	61	52.1	25	09.9		06.2	332	18.5		35.1	45	26.9		49.4	87	26.7		00.6
17	76	54.6	40	09.4	+15	07.2	347	19.7	+25	35.0	60	28.8	+5	49.6	102	28.9	-12	00.5
18	91	57.1	55	09.0	+15	08.3	2	20.8	+25	35.0	75	30.7	+5	49.8	117	31.1	-12	00.4
19	106	59.5	70	08.6		09.4	17	21.9		35.0	90	32.6		50.1	132	33.3		00.3
20	122	02.0	85	08.2		10.5	32	23.1		35.0	105	34.5		50.3	147	35.5		00.2
21	137	04.5	100	07.7		11.6	47	24.2		34.9	120	36.4		50.5	162	37.7	-12	00.1
22	152	06.9	115	07.3		12.7	62	25.3		34.9	135	38.3		50.8	177	39.9	-12	00.0
23	167	09.4	130	06.9		13.8	77	26.4		34.9	150	40.2		51.0	192	42.1	-11	59.9
24	182	11.8	145	06.5	+15	14.8	92	27.6	+25	34.9	165	42.1	+5	51.2	207	44.3	-11	59.8
Dif	—		-4		+11		+11		0		+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 06.0 ^m		Edad: 3.3 ^d SD: 15 ^h 6 PMG: 15 ^h 17 ^m						Civil		Náutico		Hora R°	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif								
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m
0	178 27.2	+1 37.3	138 27.4	+17 50.8	123	58 N	18 26	19 08	19 59	6 33 5	** ** *	** ** *	** ** *	** ** *
1	193 27.4	38.3	152 57.3	+18 03.1	123	58	25	04	52	45 11	** ** *	** ** *	** ** *	** ** *
2	208 27.6	39.2	167 27.2	15.4	121	56	23	19 01	46	6 57 15	** ** *	** ** *	** ** *	** ** *
3	223 27.8	40.2	181 57.1	27.5	120	54	22	18 58	40	7 06 19	23 50 8	23 50 8	23 50 8	23 50 8
4	238 28.0	41.2	196 26.9	39.5	119	52	21	55	36	15 22	39 78	39 78	39 78	39 78
5	253 28.2	+1 42.2	210 56.7	+18 51.4	118	50	18 20	18 53	19 31	7 23 25	23 29 75	23 29 75	23 29 75	23 29 75
6	268 28.4	+1 43.2	225 26.4	+19 03.2	117	45	18 18	18 48	19 23	7 40 30	23 08 71	23 08 71	23 08 71	23 08 71
7	283 28.6	44.2	239 56.1	14.9	115	40	17	44	16	7 54 33	22 51 67	22 51 67	22 51 67	22 51 67
8	298 28.7	45.2	254 25.8	26.4	115	35	15	41	10	8 06 36	37 64	37 64	37 64	37 64
9	313 28.9	46.1	268 55.5	37.9	113	30	14	38	06	16 40	25 62	25 62	25 62	25 62
10	328 29.1	47.1	283 25.1	+19 49.2	112	20	12	34	19 00	34 44	22 04 58	22 04 58	22 04 58	22 04 58
11	343 29.3	+1 48.1	297 54.7	+20 00.4	111	10 N	18 11	18 32	18 56	8 50 48	21 46 55	21 46 55	21 46 55	21 46 55
12	358 29.5	+1 49.1	312 24.2	+20 11.5	110	0	18 09	18 30	18 54	9 05 51	21 29 52	21 29 52	21 29 52	21 29 52
13	13 29.7	50.1	326 53.7	22.5	109	10 S	08	29	53	20 54	21 12 49	21 12 49	21 12 49	21 12 49
14	28 29.9	51.1	341 23.2	33.4	108	20	07	29	54	36 58	20 55 45	20 55 45	20 55 45	20 55 45
15	43 30.1	52.0	355 52.7	44.2	106	30	05	29	57	9 55 62	34 42	34 42	34 42	34 42
16	58 30.2	53.0	10 22.1	+20 54.8	105	35	05	30	18 59	10 06 65	22 39	22 39	22 39	22 39
17	73 30.4	+1 54.0	24 51.5	+21 05.3	104	40	18 04	18 31	19 02	10 18 69	20 09 36	20 09 36	20 09 36	20 09 36
18	88 30.6	+1 55.0	39 20.8	+21 15.7	103	45	18 03	18 32	19 06	10 33 73	19 52 33	19 52 33	19 52 33	19 52 33
19	103 30.8	56.0	53 50.1	26.0	101	50	02	34	12	10 52 78	33 27	33 27	33 27	33 27
20	118 31.0	56.9	68 19.4	36.1	100	52	02	35	14	11 00 81	23 26	23 26	23 26	23 26
21	133 31.2	57.9	82 48.6	46.1	99	54	01	36	18	10 84	13 22	13 22	13 22	13 22
22	148 31.4	58.9	97 17.8	+21 56.0	98	56	01	37	21	21 88	19 01 18	19 01 18	19 01 18	19 01 18
23	163 31.6	+1 59.9	111 47.0	+22 05.8	97	58	18 00	39	25	34 93	18 48 13	18 48 13	18 48 13	18 48 13
24	178 31.7	+2 00.9	126 16.1	+22 15.5	97	60 S	17 59	18 41	19 30	11 49 100	18 32 6	18 32 6	18 32 6	18 32 6

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 ^h 49.3 ^m		Mag: -4.0 PMG: 14 ^h 20 ^m		Mag: +0.9 PMG: 17 ^h 49 ^m		Mag: -2.1 PMG: 12 ^h 56 ^m		Mag: +1.0 PMG: 10 ^h 08 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	182 11.8	145 06.5	+15 14.8	92 27.6	+25 34.9	165 42.1	+5 51.2	207 44.3	-11 59.8	59.8
1	197 14.3	160 06.0	15.9	107 28.7	34.8	180 44.1	51.5	222 46.5	59.8	59.8
2	212 16.8	175 05.6	17.0	122 29.8	34.8	195 46.0	51.7	237 48.7	59.7	59.7
3	227 19.2	190 05.2	18.1	137 31.0	34.8	210 47.9	51.9	252 50.9	59.6	59.6
4	242 21.7	205 04.8	19.2	152 32.1	34.8	225 49.8	52.1	267 53.1	59.5	59.5
5	257 24.2	220 04.3	+15 20.2	167 33.2	+25 34.7	240 51.7	+5 52.4	282 55.3	-11 59.4	59.4
6	272 26.6	235 03.9	+15 21.3	182 34.3	+25 34.7	255 53.6	+5 52.6	297 57.5	-11 59.3	59.3
7	287 29.1	250 03.5	22.4	197 35.5	34.7	270 55.5	52.8	312 59.7	59.2	59.2
8	302 31.6	265 03.0	23.5	212 36.6	34.7	285 57.4	53.1	328 01.9	59.1	59.1
9	317 34.0	280 02.6	24.5	227 37.7	34.6	300 59.3	53.3	343 04.2	59.0	59.0
10	332 36.5	295 02.2	25.6	242 38.8	34.6	316 01.3	53.5	358 06.4	58.9	58.9
11	347 39.0	310 01.7	+15 26.7	257 40.0	+25 34.6	331 03.2	+5 53.8	13 08.6	-11 58.8	58.8
12	2 41.4	325 01.3	+15 27.8	272 41.1	+25 34.6	346 05.1	+5 54.0	28 10.8	-11 58.7	58.7
13	17 43.9	340 00.9	28.8	287 42.2	34.5	1 07.0	54.2	43 13.0	58.6	58.6
14	32 46.3	355 00.5	29.9	302 43.3	34.5	16 08.9	54.4	58 15.2	58.6	58.6
15	47 48.8	10 00.0	31.0	317 44.5	34.5	31 10.8	54.7	73 17.4	58.5	58.5
16	62 51.3	24 59.6	32.1	332 45.6	34.4	46 12.7	54.9	88 19.6	58.4	58.4
17	77 53.7	39 59.2	+15 33.1	347 46.7	+25 34.4	61 14.6	+5 55.1	103 21.8	-11 58.3	58.3
18	92 56.2	54 58.7	+15 34.2	2 47.8	+25 34.4	76 16.5	+5 55.4	118 24.0	-11 58.2	58.2
19	107 58.7	69 58.3	35.3	17 49.0	34.4	91 18.4	55.6	133 26.2	58.1	58.1
20	123 01.1	84 57.9	36.3	32 50.1	34.3	106 20.4	55.8	148 28.4	58.0	58.0
21	138 03.6	99 57.4	37.4	47 51.2	34.3	121 22.3	56.1	163 30.6	57.9	57.9
22	153 06.1	114 57.0	38.5	62 52.3	34.3	136 24.2	56.3	178 32.8	57.8	57.8
23	168 08.5	129 56.6	39.5	77 53.4	34.2	151 26.1	56.5	193 35.0	57.7	57.7
24	183 11.0	144 56.1	+15 40.6	92 54.6	+25 34.2	166 28.0	+5 56.7	208 37.2	-11 57.6	57.6
Dif	—	-4	+11	+11	0	+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 05.7 ^m			Edad: 4.3 ^d SD: 15'4 PMG: 16 ^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	178	31.7	+2	00.9	126	16.1	+22	15.5	4 11	5 03	5 44	6 38	10	0 36	98
1	193	31.9		01.9	140	45.3		25.0	19	06	46	6 56	18	18	90
2	208	32.1		02.8	155	14.3		34.4	25	10	47	7 12	23	0 03	85
3	223	32.3		03.8	169	43.4		43.7	30	13	48	25	27	**	**
4	238	32.5		04.8	184	12.4	+22	52.8	35	16	50	37	29	**	**
5	253	32.7	+2	05.8	198	41.4	+23	01.9	4 40	5 18	5 51	7 48	31	**	**
6	268	32.9	+2	06.8	213	10.3	+23	10.8	4 49	5 23	5 53	8 10	36	**	**
7	283	33.1		07.8	227	39.2		19.5	4 55	27	54	27	40	23	58
8	298	33.3		08.7	242	08.1		28.1	5 01	31	56	42	42	41	61
9	313	33.4		09.7	256	37.0		36.6	05	33	57	8 56	43	27	59
10	328	33.6		10.7	271	05.8		45.0	12	37	5 59	9 18	47	23	02
11	343	33.8	+2	11.7	285	34.6	+23	53.3	5 16	5 40	6 01	9 38	49	22	41
12	358	34.0	+2	12.7	300	03.3	+24	01.4	5 18	5 42	6 02	9 56	52	22	21
13	13	34.2		13.6	314	32.1		09.3	19	43	04	10 14	55	22	01
14	28	34.4		14.6	329	00.8		17.2	18	43	05	34	58	21	40
15	43	34.6		15.6	343	29.4		24.9	15	43	07	10 57	61	16	46
16	58	34.8		16.6	357	58.1		32.5	13	42	08	11 11	62	21	01
17	73	34.9	+2	17.6	12	26.7	+24	39.9	5 10	5 42	6 09	11 27	65	20	45
18	88	35.1	+2	18.6	26	55.3	+24	47.2	5 06	5 40	6 10	11 46	67	20	25
19	103	35.3		19.5	41	23.9	+24	54.4	5 01	39	11	12 10	71	20	00
20	118	35.5		20.5	55	52.4	+25	01.4	4 58	38	11	21	74	19	49
21	133	35.7		21.5	70	21.0		08.3	55	37	12	34	77	35	32
22	148	35.9		22.5	84	49.5		15.1	52	35	12	12 49	81	19	29
23	163	36.1		23.5	99	17.9		21.7	48	34	13	13 07	86	19	01
24	178	36.3	+2	24.4	113	46.4	+25	28.2	4 43	5 32	6 14	13 29	94	18	38

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: -4.0 11 ^h 45.3 ^m		Mag: -4.0 PMG: 14 ^h 21 ^m		Mag: +0.9 PMG: 17 ^h 47 ^m		Mag: -2.1 PMG: 12 ^h 52 ^m		Mag: +1.0 PMG: 10 ^h 04 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	183	11.0	144	56.1	92	54.6	166	28.0	208	37.2
1	198	13.5	159	55.7	107	55.7	181	29.9	223	39.4
2	213	15.9	174	55.2	122	56.8	196	31.8	238	41.6
3	228	18.4	189	54.8	137	57.9	211	33.7	253	43.8
4	243	20.8	204	54.4	152	59.0	226	35.6	268	46.0
5	258	23.3	219	53.9	168	00.2	241	37.5	283	48.2
6	273	25.8	234	53.5	183	01.3	256	39.5	298	50.4
7	288	28.2	249	53.1	198	02.4	271	41.4	313	52.6
8	303	30.7	264	52.6	213	03.5	286	43.3	328	54.8
9	318	33.2	279	52.2	228	04.6	301	45.2	343	57.1
10	333	35.6	294	51.8	243	05.8	316	47.1	358	59.3
11	348	38.1	309	51.3	258	06.9	331	49.0	14	01.5
12	3	40.6	324	50.9	273	08.0	346	50.9	29	03.7
13	18	43.0	339	50.4	288	09.1	1	52.8	44	05.9
14	33	45.5	354	50.0	303	10.2	16	54.7	59	08.1
15	48	48.0	9	49.6	318	11.4	31	56.6	74	10.3
16	63	50.4	24	49.1	333	12.5	46	58.5	89	12.5
17	78	52.9	39	48.7	348	13.6	62	00.5	104	14.7
18	93	55.3	54	48.2	3	14.7	77	02.4	119	16.9
19	108	57.8	69	47.8	18	15.8	92	04.3	134	19.1
20	124	00.3	84	47.3	33	16.9	107	06.2	149	21.3
21	139	02.7	99	46.9	48	18.0	122	08.1	164	23.5
22	154	05.2	114	46.5	63	19.2	137	10.0	179	25.7
23	169	07.7	129	46.0	78	20.3	152	11.9	194	27.9
24	184	10.1	144	45.6	93	21.4	167	13.8	209	30.1
Dif	—		-4	+11	+11	0	+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 05.4 ^m			Edad: 5.3 ^d PHE { 4 ^h : 55 ^h 7 12 ^h : 55 ^h 5 20 ^h : 55 ^h 3 R°: 53 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /		° /		°	h m	h m	h m	h m m		h m m	
0	178 36.3	+2 24.4	113 46.4	94	+25	28.2	63	60 N	18 31	19 13	20 05	6 48 24		2 14 86	
1	193 36.4	25.4	128 14.8	94		34.5	62	58	29	09	19 57	7 14 31		1 48 79	
2	208 36.6	26.4	142 43.2	94		40.7	61	56	27	05	51	35 35		28 74	
3	223 36.8	27.4	157 11.6	94		46.8	59	54	26	19 02	45	7 52 38		1 11 71	
4	238 37.0	28.4	171 40.0	94		52.7	58	52	25	18 59	39	8 06 40		0 57 69	
5	253 37.2	+2 29.3	186 08.3	93	+25	58.5	57	50	18 23	18 56	19 35	8 19 42		0 44 68	
6	268 37.4	+2 30.3	200 36.7	94	+26	04.2	58	45	18 21	18 50	19 25	8 46 44		0 19 64	
7	283 37.6	31.3	215 05.0	93		09.7	55	40	19	46	18	9 07 46	** ** *	** ** *	
8	298 37.8	32.3	229 33.3	93		15.0	53	35	17	42	12	24 47	** ** *	** ** *	
9	313 38.0	33.3	244 01.6	93		20.3	53	30	15	39	07	9 39 49	** ** *	** ** *	
10	328 38.1	34.2	258 29.8	92		25.4	51	20	13	35	19 01	10 05 50		23 59 53	
11	343 38.3	+2 35.2	272 58.1	93	+26	30.3	49	10 N	18 11	18 32	18 56	10 27 52		23 35 53	
12	358 38.5	+2 36.2	287 26.3	92	+26	35.1	48	0	18 09	18 29	18 53	10 48 53		23 14 52	
13	13 38.7	37.2	301 54.6	93		39.8	45	10 S	07	28	52	11 09 54		22 52 52	
14	28 38.9	38.2	316 22.8	92		44.3	44	20	05	27	52	32 55		29 51	
15	43 39.1	39.1	330 51.0	92		48.7	42	30	03	27	55	11 58 57		22 02 50	
16	58 39.3	40.1	345 19.2	92		52.9	42	35	02	27	56	12 13 58		21 46 50	
17	73 39.5	+2 41.1	359 47.4	92	+26	57.0	40	40	18 01	18 28	18 59	12 32 58		21 27 50	
18	88 39.6	+2 42.1	14 15.6	92	+27	01.0	38	45	17 59	18 28	19 03	12 53 60		21 05 48	
19	103 39.8	43.0	28 43.8	92		04.8	37	50	58	30	07	13 21 62		20 37 47	
20	118 40.0	44.0	43 12.0	92		08.5	37	52	57	30	10	35 63		23 46	
21	133 40.2	45.0	57 40.1	91		12.0	35	54	56	31	12	13 51 64		20 07 45	
22	148 40.4	46.0	72 08.3	92		15.4	34	56	55	32	16	14 10 66		19 48 43	
23	163 40.6	47.0	86 36.5	92		18.7	33	58	54	33	19	14 33 69		19 24 41	
24	178 40.8	+2 47.9	101 04.6	91	+27	21.8	31	60 S	17 53	18 35	19 23	15 03 75		18 54 35	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG 11 ^h 41.4 ^m		Mag: -4.0 PMG: 14 ^h 21 ^m		Mag: +0.9 PMG: 17 ^h 45 ^m		Mag: -2.1 PMG: 12 ^h 49 ^m		Mag: +1.0 PMG: 10 ^h 01 ^m						
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	184 10.1	144 45.6	+16 06.0	93 21.4	+25 33.5	167 13.8	+6 02.3	209 30.1	-11 55.4						
1	199 12.6	159 45.1	07.1	108 22.5	33.4	182 15.7	02.5	224 32.3	55.3						
2	214 15.1	174 44.7	08.1	123 23.6	33.4	197 17.6	02.7	239 34.6	55.2						
3	229 17.5	189 44.2	09.2	138 24.7	33.4	212 19.5	02.9	254 36.8	55.2						
4	244 20.0	204 43.8	10.2	153 25.8	33.3	227 21.5	03.2	269 39.0	55.1						
5	259 22.4	219 43.4	+16 11.3	168 27.0	+25 33.3	242 23.4	+6 03.4	284 41.2	-11 55.0						
6	274 24.9	234 42.9	+16 12.3	183 28.1	+25 33.3	257 25.3	+6 03.6	299 43.4	-11 54.9						
7	289 27.4	249 42.5	13.4	198 29.2	33.2	272 27.2	03.9	314 45.6	54.8						
8	304 29.8	264 42.0	14.4	213 30.3	33.2	287 29.1	04.1	329 47.8	54.7						
9	319 32.3	279 41.6	15.4	228 31.4	33.2	302 31.0	04.3	344 50.0	54.6						
10	334 34.8	294 41.1	16.5	243 32.5	33.1	317 32.9	04.6	359 52.2	54.5						
11	349 37.2	309 40.7	+16 17.5	258 33.6	+25 33.1	332 34.8	+6 04.8	14 54.4	-11 54.4						
12	4 39.7	324 40.2	+16 18.6	273 34.7	+25 33.0	347 36.7	+6 05.0	29 56.6	-11 54.3						
13	19 42.2	339 39.8	19.6	288 35.9	33.0	2 38.6	05.2	44 58.8	54.2						
14	34 44.6	354 39.3	20.7	303 37.0	33.0	17 40.5	05.5	60 01.0	54.1						
15	49 47.1	9 38.9	21.7	318 38.1	32.9	32 42.4	05.7	75 03.2	54.1						
16	64 49.6	24 38.4	22.7	333 39.2	32.9	47 44.4	05.9	90 05.4	54.0						
17	79 52.0	39 38.0	+16 23.8	348 40.3	+25 32.9	62 46.3	+6 06.2	105 07.7	-11 53.9						
18	94 54.5	54 37.5	+16 24.8	3 41.4	+25 32.8	77 48.2	+6 06.4	120 09.9	-11 53.8						
19	109 56.9	69 37.1	25.9	18 42.5	32.8	92 50.1	06.6	135 12.1	53.7						
20	124 59.4	84 36.6	26.9	33 43.6	32.8	107 52.0	06.9	150 14.3	53.6						
21	140 01.9	99 36.2	27.9	48 44.7	32.7	122 53.9	07.1	165 16.5	53.5						
22	155 04.3	114 35.7	29.0	63 45.8	32.7	137 55.8	07.3	180 18.7	53.4						
23	170 06.8	129 35.3	30.0	78 47.0	32.6	152 57.7	07.5	195 20.9	53.3						
24	185 09.3	144 34.8	+16 31.0	93 48.1	+25 32.6	167 59.6	+6 07.8	210 23.1	-11 53.2						
Dif	—	-4	+10	+11	0	+19	+2	+22	+1						

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16 ^h 0 PMG: 12 ^h 05.1 ^m			Edad: 6.3 ^d PHE { 4 ^h : 55 ^h 1 12 ^h : 54 ^h 9 20 ^h : 54 ^h 7 R°: 52 ^m PMG: 17 ^h 54 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	178	40.8	+2	47.9	101	04.6	92	+27	21.8	29	60 N	4 04	4 56	5 38	7 12 50	3 40 59
1	193	41.0		48.9	115	32.8	92		24.7	29	58	12	5 01	40	7 45 51	3 07 57
2	208	41.2		49.9	130	01.0	91		27.6	29	56	19	05	42	8 10 52	2 42 57
3	223	41.3		50.9	144	29.1	92		30.2	26	54	25	08	44	30 52	22 55
4	238	41.5		51.8	158	57.3	92		32.8	26	52	30	11	45	8 46 52	2 06 56
5	253	41.7	+2	52.8	173	25.5	92	+27	35.2	24	50	4 35	5 14	5 46	9 01 52	1 52 56
6	268	41.9	+2	53.8	187	53.7	92	+27	37.4	22	45	4 45	5 19	5 49	9 30 52	1 23 55
7	283	42.1		54.8	202	21.9	92		39.5	21	40	52	24	51	9 53 52	1 00 55
8	298	42.3		55.8	216	50.1	92		41.5	20	35	4 58	28	53	10 11 53	0 42 54
9	313	42.5		56.7	231	18.3	92		43.3	18	30	5 03	31	55	28 52	0 26 54
10	328	42.7		57.7	245	46.5	92		45.0	17	20	5 10	35	5 57	10 55 53	** ** *
11	343	42.8	+2	58.7	260	14.7	92	+27	46.5	15	10 N	5 14	5 39	6 00	11 19 52	** ** *
12	358	43.0	+2	59.7	274	42.9	92	+27	47.9	14	0	5 17	5 41	6 02	11 41 52	** ** *
13	13	43.2	+3	00.6	289	11.2	93		49.2	13	10 S	18	43	04	12 03 52	23 44 52
14	28	43.4		01.6	303	39.5	92		50.3	10	20	18	44	06	27 52	23 20 53
15	43	43.6		02.6	318	07.7	93		51.3	8	30	16	44	08	12 55 51	22 52 55
16	58	43.8		03.6	332	36.0	93		52.1	7	35	15	44	09	13 11 51	36 55
17	73	44.0	+3	04.6	347	04.3	93	+27	52.8	6	40	5 12	5 44	6 11	13 30 51	22 17 55
18	88	44.2	+3	05.5	1	32.7	94	+27	53.4	4	45	5 09	5 43	6 12	13 53 51	21 53 57
19	103	44.4		06.5	16	01.0	93		53.8	3	50	04	42	14	14 23 50	24 57
20	118	44.5		07.5	30	29.4	94		54.1	3	52	5 02	41	15	38 49	21 09 58
21	133	44.7		08.5	44	57.8	94		54.2	1	54	4 59	40	16	14 55 49	20 52 59
22	148	44.9		09.4	59	26.2	94		54.2	2	56	56	39	16	15 16 47	31 60
23	163	45.1		10.4	73	54.6	94		54.0	2	58	52	38	17	15 42 46	20 05 62
24	178	45.3	+3	11.4	88	23.1	95	+27	53.7	3	60 S	4 48	5 37	6 19	16 18 43	19 29 65

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 11 ^h 37.5 ^m		Mag: -4.0 PMG: 14 ^h 22 ^m		Mag: +0.9 PMG: 17 ^h 43 ^m		Mag: -2.1 PMG: 12 ^h 46 ^m		Mag: +1.0 PMG: 9 ^h 57 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	185	09.3	144	34.8	+16	31.0	93	48.1	+25	32.6	167	59.6	+6	07.8	210	23.1	-11	53.2
1	200	11.7	159	34.4		32.1	108	49.2		32.6	183	01.5		08.0	225	25.3		53.1
2	215	14.2	174	33.9		33.1	123	50.3		32.5	198	03.4		08.2	240	27.5		53.1
3	230	16.7	189	33.5		34.1	138	51.4		32.5	213	05.3		08.5	255	29.7		53.0
4	245	19.1	204	33.0		35.2	153	52.5		32.4	228	07.3		08.7	270	31.9		52.9
5	260	21.6	219	32.6	+16	36.2	168	53.6	+25	32.4	243	09.2	+6	08.9	285	34.1	-11	52.8
6	275	24.1	234	32.1	+16	37.2	183	54.7	+25	32.4	258	11.1	+6	09.1	300	36.4	-11	52.7
7	290	26.5	249	31.7		38.3	198	55.8		32.3	273	13.0		09.4	315	38.6		52.6
8	305	29.0	264	31.2		39.3	213	56.9		32.3	288	14.9		09.6	330	40.8		52.5
9	320	31.4	279	30.8		40.3	228	58.0		32.3	303	16.8		09.8	345	43.0		52.4
10	335	33.9	294	30.3		41.3	243	59.1		32.2	318	18.7		10.1	0	45.2		52.3
11	350	36.4	309	29.9	+16	42.4	259	00.2	+25	32.2	333	20.6	+6	10.3	15	47.4	-11	52.2
12	5	38.8	324	29.4	+16	43.4	274	01.3	+25	32.1	348	22.5	+6	10.5	30	49.6	-11	52.2
13	20	41.3	339	28.9		44.4	289	02.4		32.1	3	24.4		10.8	45	51.8		52.1
14	35	43.8	354	28.5		45.4	304	03.5		32.0	18	26.3		11.0	60	54.0		52.0
15	50	46.2	9	28.0		46.5	319	04.6		32.0	33	28.2		11.2	75	56.2		51.9
16	65	48.7	24	27.6		47.5	334	05.7		32.0	48	30.1		11.4	90	58.4		51.8
17	80	51.2	39	27.1	+16	48.5	349	06.9	+25	31.9	63	32.1	+6	11.7	106	00.7	-11	51.7
18	95	53.6	54	26.7	+16	49.5	4	08.0	+25	31.9	78	34.0	+6	11.9	121	02.9	-11	51.6
19	110	56.1	69	26.2		50.6	19	09.1		31.8	93	35.9		12.1	136	05.1		51.5
20	125	58.6	84	25.7		51.6	34	10.2		31.8	108	37.8		12.4	151	07.3		51.4
21	141	01.0	99	25.3		52.6	49	11.3		31.8	123	39.7		12.6	166	09.5		51.3
22	156	03.5	114	24.8		53.6	64	12.4		31.7	138	41.6		12.8	181	11.7		51.2
23	171	05.9	129	24.4		54.6	79	13.5		31.7	153	43.5		13.1	196	13.9		51.2
24	186	08.4	144	23.9	+16	55.7	94	14.6	+25	31.6	168	45.4	+6	13.3	211	16.1	-11	51.1
Dif	—		-5		+10		+11		0		+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 04.8 ^m			Edad: 7.3 ^d SD: 14 ^h 9 PMG: 18 ^h 46 ^m PHE 4^h: 54^m6 12^h: 54^m5 20^h: 54^m4 R°: 50^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	45.3	+3	11.4	88	23.1	+27	53.7	60 N	18 36	19 18	20 11	8 02 77	4 39 30	
1	193	45.5		12.4	102	51.6		53.3	58	34	14	20 02	8 36 71	4 04 36	
2	208	45.7		13.3	117	20.1		52.8	56	32	09	19 55	9 02 66	3 39 39	
3	223	45.9		14.3	131	48.6		52.1	54	30	06	49	22 64	19 4	
4	238	46.0		15.3	146	17.2		51.2	52	28	19 02	43	38 63	3 02 43	
5	253	46.2	+3	16.3	160	45.8	+27	50.2	50	18 27	18 59	19 38	9 53 62	2 48 43	
6	268	46.4	+3	17.2	175	14.4	+27	49.1	45	18 23	18 53	19 28	10 22 60	2 18 46	
7	283	46.6		18.2	189	43.1		47.9	40	21	48	20	10 45 58	1 55 47	
8	298	46.8		19.2	204	11.8		46.5	35	19	44	14	11 04 56	36 48	
9	313	47.0		20.2	218	40.5		45.0	30	17	41	09	20 55	1 20 48	
10	328	47.2		21.1	233	09.3		43.3	20	13	35	19 01	11 48 53	0 52 50	
11	343	47.4	+3	22.1	247	38.1	+27	41.5	10 N	18 11	18 32	18 56	12 11 52	0 28 51	
12	358	47.6	+3	23.1	262	06.9	+27	39.6	0	18 08	18 29	18 53	12 33 51	0 06 52	
13	13	47.7		24.1	276	35.8		37.5	10 S	06	27	51	12 55 49	*** ** *	
14	28	47.9		25.0	291	04.7		35.3	20	03	25	51	13 19 47	*** ** *	
15	43	48.1		26.0	305	33.7		33.0	30	18 01	24	52	13 46 46	23 47 56	
16	58	48.3		27.0	320	02.6		30.6	35	17 59	24	54	14 02 44	31 57	
17	73	48.5	+3	28.0	334	31.7	+27	28.0	40	17 57	18 24	18 56	14 21 43	23 12 60	
18	88	48.7	+3	28.9	349	00.7	+27	25.2	45	17 56	18 25	18 59	14 44 40	22 50 62	
19	103	48.9		29.9	3	29.9		22.4	50	53	25	19 03	15 13 37	21 65	
20	118	49.1		30.9	17	59.0		19.4	52	52	26	05	27 36	22 07 67	
21	133	49.2		31.8	32	28.2		16.3	54	51	26	07	15 44 33	21 51 69	
22	148	49.4		32.8	46	57.5		13.0	56	50	27	10	16 03 31	31 73	
23	163	49.6		33.8	61	26.7		09.7	58	49	28	13	16 28 26	21 07 77	
24	178	49.8	+3	34.8	75	56.1	+27	06.2	60 S	17 47	18 29	19 17	17 01 18	20 34 85	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 11 ^h 33.5 ^m		Mag: -4.0 PMG: 14 ^h 23 ^m		Mag: +0.9 PMG: 17 ^h 42 ^m		Mag: -2.1 PMG: 12 ^h 43 ^m		Mag: +1.0 PMG: 9 ^h 53 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	186	08.4	144	23.9	+16	55.7	94	14.6	+25	31.6	168	45.4	+6	13.3	211	16.1	-11	51.1
1	201	10.9	159	23.4		56.7	109	15.7		31.6	183	47.3		13.5	226	18.3		51.0
2	216	13.3	174	23.0		57.7	124	16.8		31.5	198	49.2		13.7	241	20.5		50.9
3	231	15.8	189	22.5		58.7	139	17.9		31.5	213	51.1		14.0	256	22.7		50.8
4	246	18.3	204	22.1	+16	59.7	154	19.0		31.5	228	53.0		14.2	271	25.0		50.7
5	261	20.7	219	21.6	+17	00.7	169	20.1	+25	31.4	243	54.9	+6	14.4	286	27.2	-11	50.6
6	276	23.2	234	21.1	+17	01.7	184	21.2	+25	31.4	258	56.8	+6	14.7	301	29.4	-11	50.5
7	291	25.7	249	20.7		02.8	199	22.3		31.3	273	58.8		14.9	316	31.6		50.4
8	306	28.1	264	20.2		03.8	214	23.4		31.3	289	00.7		15.1	331	33.8		50.3
9	321	30.6	279	19.7		04.8	229	24.5		31.2	304	02.6		15.3	346	36.0		50.3
10	336	33.0	294	19.3		05.8	244	25.6		31.2	319	04.5		15.6	1	38.2		50.2
11	351	35.5	309	18.8	+17	06.8	259	26.7	+25	31.1	334	06.4	+6	15.8	16	40.4	-11	50.1
12	6	38.0	324	18.4	+17	07.8	274	27.8	+25	31.1	349	08.3	+6	16.0	31	42.6	-11	50.0
13	21	40.4	339	17.9		08.8	289	28.9		31.1	4	10.2		16.3	46	44.9		49.9
14	36	42.9	354	17.4		09.8	304	30.0		31.0	19	12.1		16.5	61	47.1		49.8
15	51	45.4	9	17.0		10.8	319	31.1		31.0	34	14.0		16.7	76	49.3		49.7
16	66	47.8	24	16.5		11.8	334	32.2		30.9	49	15.9		17.0	91	51.5		49.6
17	81	50.3	39	16.0	+17	12.8	349	33.3	+25	30.9	64	17.8	+6	17.2	106	53.7	-11	49.5
18	96	52.8	54	15.6	+17	13.9	4	34.4	+25	30.8	79	19.7	+6	17.4	121	55.9	-11	49.4
19	111	55.2	69	15.1		14.9	19	35.4		30.8	94	21.6		17.6	136	58.1		49.4
20	126	57.7	84	14.6		15.9	34	36.5		30.7	109	23.5		17.9	152	00.3		49.3
21	142	00.2	99	14.2		16.9	49	37.6		30.7	124	25.4		18.1	167	02.5		49.2
22	157	02.6	114	13.7		17.9	64	38.7		30.6	139	27.4		18.3	182	04.8		49.1
23	172	05.1	129	13.2		18.9	79	39.8		30.6	154	29.3		18.6	197	07.0		49.0
24	187	07.5	144	12.8	+17	19.9	94	40.9	+25	30.5	169	31.2	+6	18.8	212	09.2	-11	48.9
Dif	—		-5		+10		+11		0		+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 04.5 ^m			Edad: 8.3 ^d SD: 14'8 PMG: 19 ^h 36 ^m												
	PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'2 R°: 47 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	49.8	+3	75	56.1	+27	06.2	60 N	3	57	4	50	5	32	9	19
1	193	50.0		90	25.5	+27	02.5	58	4	06		55	35	9	47	81
2	208	50.2		104	54.9	+26	58.8	56	13	4	59	37	10	08	77	18
3	223	50.4		119	24.4		54.9	54	20	5	03	39	26	73	4	00
4	238	50.6		133	53.9		50.9	52	25		06	40	41	70	3	45
5	253	50.7	+3	148	23.5	+26	46.7	50	4	30	5	09	5	42	10	55
6	268	50.9	+3	162	53.1	+26	42.5	45	4	41	5	16	5	45	11	22
7	283	51.1		177	22.8		38.1	44	49		21	48	11	43	61	36
8	298	51.3		191	52.5		33.6	45	4	55	25	50	12	00	59	24
9	313	51.5		206	22.3		28.9	47	5	00	28	52	15	57	2	08
10	328	51.7		220	52.1		24.2	47		08	34	56	12	41	54	1
11	343	51.9	+3	235	22.0	+26	19.3	49	5	13	5	38	5	59	13	03
12	358	52.1	+3	249	51.9	+26	14.3	50	5	17	5	41	6	01	13	24
13	13	52.2		264	21.9		09.2	51		18	43	04	13	44	46	36
14	28	52.4		278	52.0	+26	03.9	53	20	19	44	06	14	06	43	0
15	43	52.6		293	22.1	+25	58.5	54	30	18	45	09	32	39	**	**
16	58	52.8		307	52.2		53.1	54	35	16	46	11	14	46	38	**
17	73	53.0	+3	322	22.4	+25	47.5	56	40	5	14	5	46	6	13	15
18	88	53.2	+3	336	52.7	+25	41.7	58	45	5	11	5	45	6	15	15
19	103	53.4		351	23.0		35.9	58	50	07	45	17	15	50	29	26
20	118	53.6		5	53.4		30.0	59	52	05	44	18	16	03	26	14
21	133	53.7		20	23.8		23.9	61	54	03	44	19	17	24	23	00
22	148	53.9		34	54.3		17.7	62	56	5	00	43	21	34	20	22
23	163	54.1		49	24.9		11.4	63	58	4	57	43	22	16	54	15
24	178	54.3	+3	63	55.5	+25	05.0	64	60 S	4	53	5	42	6	23	17

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 ^h 29.6 ^m		Mag: -4.0 PMG: 14 ^h 24 ^m		Mag: +0.9 PMG: 17 ^h 40 ^m		Mag: -2.1 PMG: 12 ^h 40 ^m		Mag: +1.0 PMG: 9 ^h 50 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	187	07.5	144	12.8	94	40.9	169	31.2	212	09.2
1	202	10.0	159	12.3	109	42.0	184	33.1	227	11.4
2	217	12.5	174	11.8	124	43.1	199	35.0	242	13.6
3	232	14.9	189	11.4	139	44.2	214	36.9	257	15.8
4	247	17.4	204	10.9	154	45.3	229	38.8	272	18.0
5	262	19.9	219	10.4	169	46.4	244	40.7	287	20.2
6	277	22.3	234	09.9	184	47.5	259	42.6	302	22.4
7	292	24.8	249	09.5	199	48.6	274	44.5	317	24.7
8	307	27.3	264	09.0	214	49.7	289	46.4	332	26.9
9	322	29.7	279	08.5	229	50.8	304	48.3	347	29.1
10	337	32.2	294	08.1	244	51.9	319	50.2	362	31.3
11	352	34.7	309	07.6	259	53.0	334	52.1	377	33.5
12	7	37.1	324	07.1	274	54.1	349	54.0	392	35.7
13	22	39.6	339	06.6	289	55.1	4	55.9	407	37.9
14	37	42.0	354	06.2	304	56.2	19	57.9	422	40.1
15	52	44.5	9	05.7	319	57.3	34	59.8	437	42.4
16	67	47.0	24	05.2	334	58.4	50	01.7	452	44.6
17	82	49.4	39	04.7	349	59.5	65	03.6	467	46.8
18	97	51.9	54	04.3	5	00.6	80	05.5	482	49.0
19	112	54.4	69	03.8	20	01.7	95	07.4	497	51.2
20	127	56.8	84	03.3	35	02.8	110	09.3	512	53.4
21	142	59.3	99	02.8	50	03.9	125	11.2	527	55.6
22	158	01.8	114	02.4	65	05.0	140	13.1	542	57.8
23	173	04.2	129	01.9	80	06.1	155	15.0	557	00.1
24	188	06.7	144	01.4	95	07.1	170	16.9	572	02.3
Dif	—		-5	+10	+11	0	+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 04.2 ^m			Edad: 9.3 ^d SD: 14 ^h 8 PMG: 20 ^h 23 ^m PHE { 4 ^h : 54 ^m 2 12 ^h : 54 ^m 2 20 ^h : 54 ^m 2 R°: 46 ^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 54.3	+3 58.1	63 55.5	+25 05.0	65	60 N	18 41	19 23	20 17	10 47	90	5 22	5					
1	193 54.5	+3 59.0	78 26.1	+24 58.5	67	58	38	18	08	11 08	84	5 01	11					
2	208 54.7	+4 00.0	92 56.9	51.8	67	56	36	14	20 00	25 79	4 43	16						
3	223 54.9	+4 01.0	107 27.7	45.1	67	54	33	09	19 53	39 76	28 22							
4	238 55.1	02.0	121 58.5	38.2	69	52	32	06	47	11 51	74	15 23						
5	253 55.2	+4 02.9	136 29.4	+24 31.3	71	50	18 30	19 03	19 42	12 02	71	4 04	25					
6	268 55.4	+4 03.9	151 00.4	+24 24.2	72	45	18 26	18 56	19 31	12 25	66	3 40	29					
7	283 55.6	04.9	165 31.4	17.0	73	40	23	50	22	44 62	21 33							
8	298 55.8	05.8	180 02.4	09.7	74	35	20	46	16	12 59	59	3 05	35					
9	313 56.0	06.8	194 33.6	+24 02.3	75	30	18	42	10	13 12	57	2 51	38					
10	328 56.2	07.8	209 04.8	+23 54.8	76	20	14	36	19 02	35 52	27 42							
11	343 56.4	+4 08.7	223 36.0	+23 47.2	77	10 N	18 11	18 32	18 56	13 54	49	2 07	44					
12	358 56.5	+4 09.7	238 07.3	+23 39.5	78	0	18 07	18 28	18 52	14 12	46	1 47	48					
13	13 56.7	10.7	252 38.7	31.7	80	10 S	05	26	50	30 43	28 50							
14	28 56.9	11.6	267 10.2	23.7	80	20	18 02	24	49	14 49	40	1 07	53					
15	43 57.1	12.6	281 41.6	15.7	81	30	17 58	22	50	15 11	36	0 43	57					
16	58 57.3	13.6	296 13.2	+23 07.6	82	35	56	22	51	24 33	28 59							
17	73 57.5	+4 14.5	310 44.8	+22 59.4	84	40	17 54	18 21	18 53	15 39	30	0 12	61					
18	88 57.7	+4 15.5	325 16.5	+22 51.0	84	45	17 52	18 21	18 55	15 57	26	** ** *						
19	103 57.9	16.5	339 48.2	42.6	85	50	49	21	18 59	16 19	21	** ** *						
20	118 58.0	17.4	354 20.0	34.1	85	52	48	21	19 00	29 19	** ** *							
21	133 58.2	18.4	8 51.8	25.4	87	54	46	22	02	41 16	** ** *							
22	148 58.4	19.4	23 23.7	16.7	87	56	45	22	05	16 54	13	** ** *						
23	163 58.6	20.3	37 55.7	+22 07.9	88	58	43	22	08	17 09	9	23 48	84					
24	178 58.8	+4 21.3	52 27.7	+21 59.0	89	60 S	17 41	18 23	19 11	17 27	4	23 30	90					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 ^h 25.7 ^m		Mag: -4.0 PMG: 14 ^h 24 ^m		Mag: +1.0 PMG: 17 ^h 38 ^m		Mag: -2.1 PMG: 12 ^h 37 ^m		Mag: +1.0 PMG: 9 ^h 46 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	188 06.7	144 01.4	+17 43.7	95 07.1	+25 29.4	170 16.9	+6 24.3	213 02.3	-11 46.8	
1	203 09.1	159 00.9	44.6	110 08.2	29.3	185 18.8	24.5	228 04.5	46.7	
2	218 11.6	174 00.5	45.6	125 09.3	29.2	200 20.7	24.8	243 06.7	46.6	
3	233 14.1	189 00.0	46.6	140 10.4	29.2	215 22.6	25.0	258 08.9	46.5	
4	248 16.5	203 59.5	47.6	155 11.5	29.1	230 24.5	25.2	273 11.1	46.4	
5	263 19.0	218 59.0	+17 48.6	170 12.6	+25 29.1	245 26.4	+6 25.4	288 13.3	-11 46.3	
6	278 21.5	233 58.5	+17 49.5	185 13.7	+25 29.0	260 28.3	+6 25.7	303 15.6	-11 46.2	
7	293 23.9	248 58.1	50.5	200 14.8	29.0	275 30.2	25.9	318 17.8	46.1	
8	308 26.4	263 57.6	51.5	215 15.9	28.9	290 32.2	26.1	333 20.0	46.1	
9	323 28.9	278 57.1	52.5	230 16.9	28.9	305 34.1	26.4	348 22.2	46.0	
10	338 31.3	293 56.6	53.4	245 18.0	28.8	320 36.0	26.6	3 24.4	45.9	
11	353 33.8	308 56.1	+17 54.4	260 19.1	+25 28.8	335 37.9	+6 26.8	18 26.6	-11 45.8	
12	8 36.3	323 55.7	+17 55.4	275 20.2	+25 28.7	350 39.8	+6 27.0	33 28.8	-11 45.7	
13	23 38.7	338 55.2	56.4	290 21.3	28.7	5 41.7	27.3	48 31.1	45.6	
14	38 41.2	353 54.7	57.3	305 22.4	28.6	20 43.6	27.5	63 33.3	45.5	
15	53 43.6	8 54.2	58.3	320 23.5	28.5	35 45.5	27.7	78 35.5	45.4	
16	68 46.1	23 53.7	+17 59.3	335 24.5	28.5	50 47.4	28.0	93 37.7	45.4	
17	83 48.6	38 53.3	+18 00.3	350 25.6	+25 28.4	65 49.3	+6 28.2	108 39.9	-11 45.3	
18	98 51.0	53 52.8	+18 01.2	5 26.7	+25 28.4	80 51.2	+6 28.4	123 42.1	-11 45.2	
19	113 53.5	68 52.3	02.2	20 27.8	28.3	95 53.1	28.6	138 44.3	45.1	
20	128 56.0	83 51.8	03.2	35 28.9	28.3	110 55.0	28.9	153 46.6	45.0	
21	143 58.4	98 51.3	04.1	50 30.0	28.2	125 56.9	29.1	168 48.8	44.9	
22	159 00.9	113 50.8	05.1	65 31.1	28.2	140 58.8	29.3	183 51.0	44.8	
23	174 03.4	128 50.4	06.1	80 32.1	28.1	156 00.7	29.6	198 53.2	44.7	
24	189 05.8	143 49.9	+18 07.0	95 33.2	+25 28.0	171 02.6	+6 29.8	213 55.4	-11 44.6	
Dif	—	-5	+10	+11	-1	+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 03.9 ^m			Edad: 10.3 ^d PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/3 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	178	58.8	+4	21.3	52	27.7	+21	59.0	90	60 N	3	50	4	44	5	26	12	17	89	5	27	3
1	193	59.0		22.3	66	59.8		50.0	92	58	3	59	49	29		32	83		5	12	7	
2	208	59.2		23.2	81	31.9		40.8	92	56	4	07	54	32		44	80		4	59	11	
3	223	59.3		24.2	96	04.1		31.6	92	54	14	4	58	34		12	55	76		48	14	
4	238	59.5		25.2	110	36.4		22.4	94	52	20	5	01	36		13	05	73		38	16	
5	253	59.7	+4	26.1	125	08.7	+21	13.0	94	50	4	26	5	05	5	38	13	13	71	4	29	19
6	268	59.9	+4	27.1	139	41.0	+21	03.5	95	45	4	37	5	12	5	41	13	31	66	4	09	24
7	284	00.1		28.1	154	13.4	+20	53.9	96	40	45		17	45		46	62		3	54	27	
8	299	00.3		29.0	168	45.9		44.3	96	35	52		22	47		13	58	59		40	31	
9	314	00.5		30.0	183	18.4		34.5	98	30	4	58	26	50		14	09	56		29	33	
10	329	00.7		31.0	197	51.0		24.7	98	20	5	06	32	54		27	52		3	09	37	
11	344	00.8	+4	31.9	212	23.7	+20	14.7	100	10 N	5	12	5	36	5	57	14	43	48	2	51	41
12	359	01.0	+4	32.9	226	56.4	+20	04.7	100	0	5	16	5	40	6	01	14	58	44	2	35	44
13	14	01.2		33.9	241	29.1	+19	54.6	101	10 S	18		43	04		15	13	40		18	48	
14	29	01.4		34.8	256	01.9		44.4	102	20	19		45	07		29	36		2	00	52	
15	44	01.6		35.8	270	34.8		34.2	102	30	19		47	10		47	31		1	40	56	
16	59	01.8		36.8	285	07.7		23.8	104	35	18		47	12		15	57	29		27	60	
17	74	02.0	+4	37.7	299	40.6	+19	13.4	104	40	5	16	5	48	6	15	16	09	25	1	13	63
18	89	02.1	+4	38.7	314	13.6	+19	02.9	105	45	5	14	5	48	6	17	16	23	22	0	57	66
19	104	02.3		39.6	328	46.7	+18	52.2	107	50	10		48	20		40	17		36	71		
20	119	02.5		40.6	343	19.8		41.6	106	52	09		48	21		48	15		26	74		
21	134	02.7		41.6	357	53.0		30.8	108	54	07		48	23		16	57	12		15	77	
22	149	02.9		42.5	12	26.2		20.0	108	56	04		47	25		17	07	9	0	02	80	
23	164	03.1		43.5	26	59.4	+18	09.0	110	58	5	02	47	26		18	6		**	**	**	
24	179	03.3	+4	44.5	41	32.8	+17	58.0	110	60 S	4	58	5	47	6	28	17	31	1	**	**	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 11 ^h 21.7 ^m		Mag: -4.0 PMG: 14 ^h 25 ^m		Mag: +1.0 PMG: 17 ^h 37 ^m		Mag: -2.1 PMG: 12 ^h 34 ^m		Mag: +1.0 PMG: 9 ^h 43 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	189	05.8	143	49.9	+18	07.0	95	33.2	+25	28.0	171	02.6	+6	29.8	213	55.4	-11	44.6
1	204	08.3	158	49.4		08.0	110	34.3		28.0	186	04.5		30.0	228	57.6		44.6
2	219	10.8	173	48.9		08.9	125	35.4		27.9	201	06.4		30.3	243	59.8		44.5
3	234	13.2	188	48.4		09.9	140	36.5		27.9	216	08.3		30.5	259	02.1		44.4
4	249	15.7	203	47.9		10.9	155	37.6		27.8	231	10.3		30.7	274	04.3		44.3
5	264	18.1	218	47.4	+18	11.8	170	38.6	+25	27.8	246	12.2	+6	30.9	289	06.5	-11	44.2
6	279	20.6	233	47.0	+18	12.8	185	39.7	+25	27.7	261	14.1	+6	31.2	304	08.7	-11	44.1
7	294	23.1	248	46.5		13.8	200	40.8		27.6	276	16.0		31.4	319	10.9		44.0
8	309	25.5	263	46.0		14.7	215	41.9		27.6	291	17.9		31.6	334	13.1		43.9
9	324	28.0	278	45.5		15.7	230	43.0		27.5	306	19.8		31.9	349	15.4		43.9
10	339	30.5	293	45.0		16.6	245	44.0		27.5	321	21.7		32.1	4	17.6		43.8
11	354	32.9	308	44.5	+18	17.6	260	45.1	+25	27.4	336	23.6	+6	32.3	19	19.8	-11	43.7
12	9	35.4	323	44.0	+18	18.5	275	46.2	+25	27.3	351	25.5	+6	32.5	34	22.0	-11	43.6
13	24	37.9	338	43.5		19.5	290	47.3		27.3	6	27.4		32.8	49	24.2		43.5
14	39	40.3	353	43.0		20.4	305	48.4		27.2	21	29.3		33.0	64	26.4		43.4
15	54	42.8	8	42.5		21.4	320	49.5		27.2	36	31.2		33.2	79	28.7		43.3
16	69	45.2	23	42.1		22.3	335	50.5		27.1	51	33.1		33.5	94	30.9		43.2
17	84	47.7	38	41.6	+18	23.3	350	51.6	+25	27.0	66	35.0	+6	33.7	109	33.1	-11	43.2
18	99	50.2	53	41.1	+18	24.3	5	52.7	+25	27.0	81	36.9	+6	33.9	124	35.3	-11	43.1
19	114	52.6	68	40.6		25.2	20	53.8		26.9	96	38.8		34.1	139	37.5		43.0
20	129	55.1	83	40.1		26.1	35	54.9		26.9	111	40.7		34.4	154	39.7		42.9
21	144	57.6	98	39.6		27.1	50	55.9		26.8	126	42.6		34.6	169	42.0		42.8
22	160	00.0	113	39.1		28.0	65	57.0		26.7	141	44.5		34.8	184	44.2		42.7
23	175	02.5	128	38.6		29.0	80	58.1		26.7	156	46.4		35.1	199	46.4		42.6
24	190	05.0	143	38.1	+18	29.9	95	59.2	+25	26.6	171	48.3	+6	35.3	214	48.6	-11	42.5
Dif	—		-5		+10		+11		-1		+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 03.6 ^m			Edad: 11.3 ^d SD: 14 ^h 8 PMG: 21 ^h 52 ^m												
	PHE { 4 ^h : 54 ^h /4 12 ^h : 54 ^h /5 20 ^h : 54 ^h /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	
0	179 03.3	+4 44.5		41 32.8		+17 58.0		60 N	18 45	19 29	20 23	13 46	86	5 30	1	
1	194 03.4			56 06.1 ¹⁴³		47.0 ¹¹⁰		58	42	23	13	13 55	83	19	5	
2	209 03.6			70 39.5 ¹⁴⁴		35.8 ¹¹²		56	40	18	20 05	14 04	79	10	8	
3	224 03.8			85 13.0 ¹⁴⁵		24.6 ¹¹²		54	37	13	19 57	11 76		5 02	10	
4	239 04.0			99 46.5 ¹⁴⁵		13.3 ¹¹³		52	35	09	51	18 73		4 54	14	
5	254 04.2	+4 49.3		114 20.0 ¹⁴⁵	+17 01.9 ¹¹⁴			50	18 33	19 06	19 45	14 24	71	4 48	15	
6	269 04.4	+4 50.2		128 53.6 ¹⁴⁶	+16 50.4 ¹¹⁵			45	18 29	18 58	19 34	14 37	66	4 33	20	
7	284 04.5			143 27.3 ¹⁴⁷		38.9 ¹¹⁵		40	25	52	25	48 62		21 24		
8	299 04.7			158 00.9 ¹⁴⁶		27.3 ¹¹⁶		35	22	47	17	14 57	59	11 27		
9	314 04.9			172 34.7 ¹⁴⁸		15.6 ¹¹⁷		30	19	43	11	15 05	56	4 02	30	
10	329 05.1			187 08.4 ¹⁴⁷	+16 03.9 ¹¹⁷			20	14	37	19 02	19 50		3 46	35	
11	344 05.3	+4 55.0		201 42.2 ¹⁴⁸	+15 52.1 ¹¹⁸			10 N	18 11	18 32	18 56	15 31	46	3 32	39	
12	359 05.5	+4 56.0		216 16.1 ¹⁴⁹	+15 40.2 ¹¹⁹			0	18 07	18 28	18 52	15 42	42	3 19	43	
13	14 05.7			230 50.0 ¹⁴⁹		28.3 ¹¹⁹		10 S	03	24	49	15 53	38	3 06	47	
14	29 05.8			245 23.9 ¹⁴⁹		16.3 ¹²⁰		20	18 00	22	47	16 05	33	2 52	51	
15	44 06.0			259 57.9 ¹⁵⁰	+15 04.2 ¹²¹			30	17 56	20	47	18 29		36 56		
16	59 06.2	+4 59.9		274 31.9 ¹⁵⁰	+14 52.0 ¹²²			35	54	19	48	26 26		27 58		
17	74 06.4	+5 00.8		289 05.9 ¹⁵⁰	+14 39.8 ¹²²			40	17 51	18 18	18 49	16 34	23	2 16	62	
18	89 06.6	+5 01.8		303 40.0 ¹⁵¹	+14 27.5 ¹²³			45	17 48	18 17	18 51	16 45	19	2 03	66	
19	104 06.8			318 14.1 ¹⁵¹		15.2 ¹²³		50	45	17	54	16 57	14	1 47	71	
20	119 06.9			332 48.3 ¹⁵²	+14 02.8 ¹²⁴			52	43	17	56	17 03	12	40 73		
21	134 07.1			347 22.5 ¹⁵²	+13 50.3 ¹²⁵			54	41	17	18 58	09 10		32 76		
22	149 07.3			1 56.7 ¹⁵²		37.8 ¹²⁵		56	40	17	19 00	16 7		22 80		
23	164 07.5			16 30.9 ¹⁵²		25.2 ¹²⁶		58	38	17	02	24 3		12 83		
24	179 07.7	+5 07.5		31 05.2 ¹⁵³	+13 12.6 ¹²⁶			60 S	17 35	18 17	19 05	17 32	1	1 00	87	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 11 ^h 17.8 ^m		Mag: -4.0 PMG: 14 ^h 26 ^m		Mag: +1.0 PMG: 17 ^h 35 ^m		Mag: -2.1 PMG: 12 ^h 31 ^m		Mag: +1.0 PMG: 9 ^h 39 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	190 05.0	143 38.1	+18 29.9	95 59.2	+25 26.6	171 48.3	+6 35.3	214 48.6	-11 42.5	
1	205 07.4	158 37.6		111 00.2	26.5	186 50.2	35.5	229 50.8	42.5	
2	220 09.9	173 37.1		126 01.3	26.5	201 52.2	35.7	244 53.0	42.4	
3	235 12.4	188 36.6		141 02.4	26.4	216 54.1	36.0	259 55.3	42.3	
4	250 14.8	203 36.1		156 03.5	26.4	231 56.0	36.2	274 57.5	42.2	
5	265 17.3	218 35.6	+18 34.7	171 04.6	+25 26.3	246 57.9	+6 36.4	289 59.7	-11 42.1	
6	280 19.7	233 35.1	+18 35.6	186 05.6	+25 26.2	261 59.8	+6 36.7	305 01.9	-11 42.0	
7	295 22.2	248 34.7		201 06.7	26.2	277 01.7	36.9	320 04.1	41.9	
8	310 24.7	263 34.2		216 07.8	26.1	292 03.6	37.1	335 06.3	41.8	
9	325 27.1	278 33.7		231 08.9	26.0	307 05.5	37.3	350 08.6	41.8	
10	340 29.6	293 33.2		246 09.9	26.0	322 07.4	37.6	5 10.8	41.7	
11	355 32.1	308 32.7	+18 40.3	261 11.0	+25 25.9	337 09.3	+6 37.8	20 13.0	-11 41.6	
12	10 34.5	323 32.2	+18 41.2	276 12.1	+25 25.9	352 11.2	+6 38.0	35 15.2	-11 41.5	
13	25 37.0	338 31.7		291 13.2	25.8	7 13.1	38.3	50 17.4	41.4	
14	40 39.5	353 31.2		306 14.2	25.7	22 15.0	38.5	65 19.7	41.3	
15	55 41.9	8 30.7		321 15.3	25.7	37 16.9	38.7	80 21.9	41.2	
16	70 44.4	23 30.2		336 16.4	25.6	52 18.8	38.9	95 24.1	41.1	
17	85 46.9	38 29.7	+18 45.9	351 17.5	+25 25.5	67 20.7	+6 39.2	110 26.3	-11 41.1	
18	100 49.3	53 29.2	+18 46.8	6 18.5	+25 25.5	82 22.6	+6 39.4	125 28.5	-11 41.0	
19	115 51.8	68 28.7		21 19.6	25.4	97 24.5	39.6	140 30.8	40.9	
20	130 54.2	83 28.2		36 20.7	25.3	112 26.4	39.9	155 33.0	40.8	
21	145 56.7	98 27.7		51 21.8	25.3	127 28.3	40.1	170 35.2	40.7	
22	160 59.2	113 27.2		66 22.8	25.2	142 30.2	40.3	185 37.4	40.6	
23	176 01.6	128 26.7		81 23.9	25.1	157 32.1	40.5	200 39.6	40.5	
24	191 04.1	143 26.2	+18 52.4	96 25.0	+25 25.1	172 34.0	+6 40.8	215 41.8	-11 40.4	
Dif	—	-5	+9	+11	-1	+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 03.3 ^m			Edad: 12.3 ^d PHE { 4 ^h : 54'7 12 ^h : 54'8 20 ^h : 54'9 PMG: 22 ^h 34 ^m R°: 41 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	07.7	+5	07.5	31	05.2	+13	12.6	60 N	3	43	4	37	5	20	15	12
1	194	07.9		08.5	45	39.6	+12	59.9	58	3	53		43	23	18	82	24
2	209	08.1		09.5	60	13.9		47.1	56	4	01		48	26	23	79	18
3	224	08.2		10.4	74	48.3		34.3	54		09		53	29	27	76	12
4	239	08.4		11.4	89	22.7		21.4	52		15	4	57	31	31	74	08
5	254	08.6	+5	12.3	103	57.1	+12	08.5	50	4	21	5	00	5	33	15	35
6	269	08.8	+5	13.3	118	31.6	+11	55.5	45	4	33	5	08	5	38	15	43
7	284	09.0		14.2	133	06.1		42.4	40		42		14	41	50	62	45
8	299	09.2		15.2	147	40.6		29.4	35		49		19	45	15	56	58
9	314	09.3		16.2	162	15.2		16.2	30	4	55		23	47	16	01	55
10	329	09.5		17.1	176	49.8	+11	03.0	20	5	04		30	52	09	51	21
11	344	09.7	+5	18.1	191	24.3	+10	49.7	10 N	5	11	5	35	5	56	16	17
12	359	09.9	+5	19.0	205	59.0	+10	36.4	0	5	15	5	39	6	00	16	24
13	14	10.1		20.0	220	33.6		23.1	10 S		18		43	04	31	37	3
14	29	10.3		20.9	235	08.3	+10	09.7	20		20		45	07	38	33	43
15	44	10.4		21.9	249	42.9	+9	56.2	30		20		48	12	47	27	32
16	59	10.6		22.9	264	17.6		42.7	35		19		49	14	52	24	25
17	74	10.8	+5	23.8	278	52.4	+9	29.2	40	5	18	5	50	6	17	16	57
18	89	11.0	+5	24.8	293	27.1	+9	15.6	45	5	16	5	50	6	20	17	04
19	104	11.2		25.7	308	01.9	+9	02.0	50		13		51	23	11	13	2
20	119	11.4		26.7	322	36.6	+8	48.3	52		12		51	25	15	10	53
21	134	11.5		27.6	337	11.4		34.6	54		10		51	27	19	8	48
22	149	11.7		28.6	351	46.2		20.8	56		08		51	29	23	6	42
23	164	11.9		29.6	6	21.0	+8	07.0	58		06		52	31	27	3	35
24	179	12.1	+5	30.5	20	55.8	+7	53.1	60 S	5	03	5	52	6	33	17	33

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 ^h 13.9 ^m		Mag: -4.0 PMG: 14 ^h 27 ^m		Mag: +1.0 PMG: 17 ^h 33 ^m		Mag: -2.1 PMG: 12 ^h 28 ^m		Mag: +1.0 PMG: 9 ^h 36 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	191	04.1	143	26.2	+18	52.4	172	34.0	+6	40.8
1	206	06.6	158	25.7		53.3	187	35.9		41.0
2	221	09.0	173	25.2		54.3	202	37.8		41.2
3	236	11.5	188	24.7		55.2	217	39.7		41.5
4	251	14.0	203	24.2		56.1	232	41.7		41.7
5	266	16.4	218	23.6	+18	57.0	247	43.6	+6	41.9
6	281	18.9	233	23.1	+18	57.9	262	45.5	+6	42.1
7	296	21.3	248	22.6		58.9	277	47.4		42.4
8	311	23.8	263	22.1	+18	59.8	292	49.3		42.6
9	326	26.3	278	21.6	+19	00.7	307	51.2		42.8
10	341	28.7	293	21.1		01.6	322	53.1		43.1
11	356	31.2	308	20.6	+19	02.5	337	55.0	+6	43.3
12	11	33.7	323	20.1	+19	03.5	352	56.9	+6	43.5
13	26	36.1	338	19.6		04.4	7	58.8		43.7
14	41	38.6	353	19.1		05.3	23	00.7		44.0
15	56	41.1	8	18.6		06.2	38	02.6		44.2
16	71	43.5	23	18.1		07.1	53	04.5		44.4
17	86	46.0	38	17.6	+19	08.0	68	06.4	+6	44.7
18	101	48.5	53	17.1	+19	08.9	83	08.3	+6	44.9
19	116	50.9	68	16.6		09.9	98	10.2		45.1
20	131	53.4	83	16.0		10.8	113	12.1		45.3
21	146	55.8	98	15.5		11.7	128	14.0		45.6
22	161	58.3	113	15.0		12.6	143	15.9		45.8
23	177	00.8	128	14.5		13.5	158	17.8		46.0
24	192	03.2	143	14.0	+19	14.4	173	19.7	+6	46.3
Dif	—		-5	+9	+11	-1	+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 03.0 ^m			Edad: 13.3 ^d PHE { 4 ^h : 55/1 12 ^h : 55/2 20 ^h : 55/4 R°: 42 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	/	°	/	°	/	°	/	°	h	m	h	m	h	m	h	m
0	179	12.1	+5	30.5	20	55.8	+7	53.1	60 N	18	50	19	34	20	29	16	37
1	194	12.3		31.5	35	30.7 ¹⁵⁹		39.2 ¹³⁹	58	47	28		19	40	82	27	3
2	209	12.5		32.4	50	05.5 ¹⁵⁸		25.3 ¹³⁹	56	44	22		10	42	79	24	6
3	224	12.6		33.4	64	40.4 ¹⁵⁹	+7	11.3 ¹⁴⁰	54	41	17	20	02	43	77	21	9
4	239	12.8		34.3	79	15.2 ¹⁵⁸	+6	57.3 ¹⁴⁰	52	38	13	19	55	45	74	19	10
5	254	13.0	+5	35.3	93	50.1 ¹⁵⁹	+6	43.3 ¹⁴⁰	50	18	36	19	09	19	49	16	46
6	269	13.2	+5	36.2	108	25.0 ¹⁵⁹	+6	29.2 ¹⁴¹	45	18	31	19	01	19	37	16	49
7	284	13.4		37.2	122	59.9 ¹⁵⁹		15.1 ¹⁴¹	40	27	18	54	27	52	63	07	21
8	299	13.5		38.1	137	34.8 ¹⁵⁹	+6	01.0 ¹⁴¹	35	23	49		19	54	59	03	24
9	314	13.7		39.1	152	09.6 ¹⁵⁸	+5	46.8 ¹⁴²	30	20	44	13	16	56	56	5	00
10	329	13.9		40.1	166	44.5 ¹⁵⁹		32.6 ¹⁴²	20	15	37	19	03	17	00	50	4
11	344	14.1	+5	41.0	181	19.4 ¹⁵⁹	+5	18.3 ¹⁴³	10 N	18	10	18	32	18	56	17	03
12	359	14.3	+5	42.0	195	54.3 ¹⁵⁹	+5	04.0 ¹⁴³	0	18	06	18	27	18	51	17	05
13	14	14.5		42.9	210	29.2 ¹⁵⁹	+4	49.7 ¹⁴³	10 S	18	02		23	48	08	37	39
14	29	14.6		43.9	225	04.1 ¹⁵⁹		35.4 ¹⁴³	20	17	58	20		46	11	33	33
15	44	14.8		44.8	239	39.0 ¹⁵⁹		21.0 ¹⁴⁴	30	53	17	45		14	28	27	56
16	59	15.0		45.8	254	13.9 ¹⁵⁹	+4	06.6 ¹⁴⁴	35	51	16	45		16	25	24	59
17	74	15.2	+5	46.7	268	48.8 ¹⁵⁹	+3	52.2 ¹⁴⁴	40	17	48	18	15	18	46	17	19
18	89	15.4	+5	47.7	283	23.7 ¹⁵⁹	+3	37.8 ¹⁴⁴	45	17	44	18	14	18	48	17	21
19	104	15.5		48.6	297	58.5 ¹⁵⁸		23.3 ¹⁴⁵	50	40	13	50		24	13	09	72
20	119	15.7		49.6	312	33.4 ¹⁵⁹	+3	08.8 ¹⁴⁵	52	39	12	51		25	11	07	73
21	134	15.9		50.5	327	08.3 ¹⁵⁹	+2	54.3 ¹⁴⁵	54	37	12	53		27	8	04	76
22	149	16.1		51.5	341	43.1 ¹⁵⁸		39.7 ¹⁴⁶	56	34	12	54		29	5	4	01
23	164	16.3		52.4	356	17.9 ¹⁵⁸		25.2 ¹⁴⁵	58	32	11	57		30	3	3	57
24	179	16.5	+5	53.4	10	52.8 ¹⁵⁹	+2	10.6 ¹⁴⁶	60 S	17	29	18	11	18	59	17	32
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 11 ^h 09.9 ^m		Mag: -4.0 PMG: 14 ^h 28 ^m			Mag: +1.0 PMG: 17 ^h 31 ^m			Mag: -2.1 PMG: 12 ^h 25 ^m			Mag: +1.0 PMG: 9 ^h 32 ^m					
	hG ♈	hG ♀	Dec		hG ♂	Dec		hG ♏	Dec		hG ♏	Dec		hG ♏	Dec		
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/	
0	192	03.2	143	14.0	+19	14.4	96	50.7	+25	23.4	173	19.7	+6	46.3	216	35.1	
1	207	05.7	158	13.5		15.3	111	51.7		23.3	188	21.6		46.5	231	37.4	
2	222	08.2	173	13.0		16.2	126	52.8		23.3	203	23.5		46.7	246	39.6	
3	237	10.6	188	12.5		17.1	141	53.9		23.2	218	25.4		46.9	261	41.8	
4	252	13.1	203	12.0		18.0	156	54.9		23.1	233	27.3		47.2	276	44.0	
5	267	15.6	218	11.4	+19	18.9	171	56.0	+25	23.0	248	29.2	+6	47.4	291	46.2	
6	282	18.0	233	10.9	+19	19.8	186	57.1	+25	23.0	263	31.1	+6	47.6	306	48.5	
7	297	20.5	248	10.4		20.7	201	58.1		22.9	278	33.0		47.9	321	50.7	
8	312	22.9	263	09.9		21.6	216	59.2		22.8	293	34.9		48.1	336	52.9	
9	327	25.4	278	09.4		22.5	232	00.3		22.7	308	36.8		48.3	351	55.1	
10	342	27.9	293	08.9		23.4	247	01.3		22.7	323	38.7		48.5	6	57.3	
11	357	30.3	308	08.4	+19	24.3	262	02.4	+25	22.6	338	40.6	+6	48.8	21	59.6	
12	12	32.8	323	07.9	+19	25.2	277	03.5	+25	22.5	353	42.6	+6	49.0	37	01.8	
13	27	35.3	338	07.3		26.1	292	04.5		22.5	8	44.5		49.2	52	04.0	
14	42	37.7	353	06.8		27.0	307	05.6		22.4	23	46.4		49.5	67	06.2	
15	57	40.2	8	06.3		27.9	322	06.7		22.3	38	48.3		49.7	82	08.5	
16	72	42.7	23	05.8		28.8	337	07.7		22.2	53	50.2		49.9	97	10.7	
17	87	45.1	38	05.3	+19	29.7	352	08.8	+25	22.2	68	52.1	+6	50.1	112	12.9	
18	102	47.6	53	04.8	+19	30.6	7	09.9	+25	22.1	83	54.0	+6	50.4	127	15.1	
19	117	50.1	68	04.2		31.5	22	10.9		22.0	98	55.9		50.6	142	17.4	
20	132	52.5	83	03.7		32.4	37	12.0		21.9	113	57.8		50.8	157	19.6	
21	147	55.0	98	03.2		33.3	52	13.0		21.8	128	59.7		51.1	172	21.8	
22	162	57.4	113	02.7		34.1	67	14.1		21.8	144	01.6		51.3	187	24.0	
23	177	59.9	128	02.2		35.0	82	15.2		21.7	159	03.5		51.5	202	26.2	
24	193	02.4	143	01.6	+19	35.9	97	16.2	+25	21.6	174	05.4	+6	51.7	217	28.5	
Dif	—		-5		+9		+11		-1		+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: 14.3 ^d PHE { 4 ^h : 55'5 12 ^h : 55'7 20 ^h : 55'9 R°: 44 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	
0	179	16.5	+5	53.4	10	52.8	+2	10.6	60 N	3	36	4	31	5	14	18	04	
1	194	16.6		54.3	25	27.6	+1	56.0	58	46	37	18		02	85	30	3	
2	209	16.8		55.3	40	02.4		41.3	56	3	55	43	21		01	82	30	6
3	224	17.0		56.2	54	37.2		26.7	54	4	03	48	24	18	00	79	30	8
4	239	17.2		57.2	69	11.9	+1	12.0	52	10	52	27	17	59	76	29	11	
5	254	17.4	+5	58.1	83	46.7	+0	57.4	50	4	16	4	56	5	29	17	58	13
6	269	17.5	+5	59.1	98	21.4	+0	42.7	45	4	29	5	04	5	34	17	56	
7	284	17.7	+6	00.0	112	56.1		28.0	40	38	11	38	55	64	28	28	21	
8	299	17.9	+6	01.0	127	30.8	+0	13.3	35	46	16	42	53	61	27	25		
9	314	18.1		01.9	142	05.5	-0	01.5	30	4	53	21	45	52	58	27	28	
10	329	18.3		02.9	156	40.2		16.2	20	5	02	28	51	50	53	26	33	
11	344	18.4	+6	03.8	171	14.8	-0	31.0	10 N	5	09	5	34	5	55	17	49	
12	359	18.6	+6	04.8	185	49.4	-0	45.7	0	5	15	5	39	5	59	17	47	
13	14	18.8		05.7	200	24.0	-1	00.5	10 S	18	43	6	04	45	39	25	46	
14	29	19.0		06.7	214	58.6		15.3	20	20	46	08	44	34	24	51		
15	44	19.2		07.6	229	33.1		30.1	30	21	49	13	42	28	23	57		
16	59	19.3		08.6	244	07.6		44.8	35	21	50	16	41	25	23	59		
17	74	19.5	+6	09.5	258	42.1	-1	59.6	40	5	20	5	52	6	19	17	40	
18	89	19.7	+6	10.5	273	16.5	-2	14.4	45	5	19	5	53	6	22	17	38	
19	104	19.9		11.4	287	50.9		29.2	50	17	54	26	37	13	21	72		
20	119	20.1		12.4	302	25.3		44.0	52	15	54	28	36	11	20	75		
21	134	20.2		13.3	316	59.7	-2	58.8	54	14	55	30	35	9	20	77		
22	149	20.4		14.3	331	34.0	-3	13.7	56	12	55	33	34	6	19	81		
23	164	20.6		15.2	346	08.3		28.5	58	10	56	35	33	4	19	84		
24	179	20.8	+6	16.2	0	42.5	-3	43.3	60 S	5	08	5	56	6	38	17	32	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 11 ^h 06.0 ^m		Mag: -4.0 PMG: 14 ^h 28 ^m		Mag: +1.0 PMG: 17 ^h 30 ^m		Mag: -2.1 PMG: 12 ^h 22 ^m		Mag: +1.0 PMG: 9 ^h 29 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	193	02.4	143	01.6	+19	35.9	174	05.4	+6	51.7
1	208	04.8	158	01.1		36.8	189	07.3		52.0
2	223	07.3	173	00.6		37.7	204	09.2		52.2
3	238	09.8	188	00.1		38.6	219	11.1		52.4
4	253	12.2	202	59.6		39.5	234	13.0		52.6
5	268	14.7	217	59.0	+19	40.3	249	14.9	+6	52.9
6	283	17.2	232	58.5	+19	41.2	264	16.8	+6	53.1
7	298	19.6	247	58.0		42.1	279	18.7		53.3
8	313	22.1	262	57.5		43.0	294	20.6		53.6
9	328	24.5	277	57.0		43.9	309	22.5		53.8
10	343	27.0	292	56.4		44.7	324	24.4		54.0
11	358	29.5	307	55.9	+19	45.6	339	26.3	+6	54.2
12	13	31.9	322	55.4	+19	46.5	354	28.2	+6	54.5
13	28	34.4	337	54.9		47.4	9	30.1		54.7
14	43	36.9	352	54.3		48.3	24	32.0		54.9
15	58	39.3	7	53.8		49.1	39	33.9		55.2
16	73	41.8	22	53.3		50.0	54	35.8		55.4
17	88	44.3	37	52.8	+19	50.9	69	37.7	+6	55.6
18	103	46.7	52	52.2	+19	51.7	84	39.6	+6	55.8
19	118	49.2	67	51.7		52.6	99	41.5		56.1
20	133	51.7	82	51.2		53.5	114	43.4		56.3
21	148	54.1	97	50.7		54.4	129	45.3		56.5
22	163	56.6	112	50.1		55.2	144	47.2		56.8
23	178	59.0	127	49.6		56.1	159	49.1		57.0
24	194	01.5	142	49.1	+19	57.0	174	51.0	+6	57.2
Dif	—		-5	+9	+11	-1	+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: 15.3 ^d SD: 15/2 PMG: **h **m PHE { 4 ^h : 56/0 12 ^h : 56/2 20 ^h : 56/4 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	179	20.8	+6	16.2	0	42.5			-3	43.3	147	60 N	18 55	19 39	20 35	19 32	94		5	30	0
1	194	21.0		17.1	15	16.7	152		-3	58.0	147	58	51	32	24	27	90		33	4	
2	209	21.1		18.1	29	50.9	152		-4	12.8	148	56	48	27	15	23	85		36	6	
3	224	21.3		19.0	44	25.0	151			27.6	148	54	45	21	20 06	19 82		38	9		
4	239	21.5		19.9	58	59.1	151			42.4	148	52	42	17	19 59	15 80		40	12		
5	254	21.7	+6	20.9	73	33.1	150		-4	57.2	148	50	18 39	19 12	19 53	19 12	77		5	42	14
6	269	21.8	+6	21.8	88	07.1	150		-5	11.9	147	45	18 34	19 04	19 40	19 05	72		5	46	19
7	284	22.0		22.8	102	41.1	150			26.7	148	40	29	18 57	29	18 59	67		49	23	
8	299	22.2		23.7	117	15.0	149			41.4	147	35	25	51	21	54	64		52	27	
9	314	22.4		24.7	131	48.9	149		-5	56.2	148	30	22	46	14	50	60		55	29	
10	329	22.6		25.6	146	22.7	148		-6	10.9	147	20	16	38	19 04	43 54		5	59	35	
11	344	22.7	+6	26.6	160	56.5	148		-6	25.6	147	10 N	18 10	18 32	18 56	18 36	50		6	03	40
12	359	22.9	+6	27.5	175	30.2	147		-6	40.3	147	0	18 06	18 27	18 51	18 30	45		6	07	44
13	14	23.1		28.5	190	03.8	146		-6	54.9	146	10 S	18 01	22	47	24	41		11	49	
14	29	23.3		29.4	204	37.5	147		-7	09.6	147	20	17 56	18	44	18	36		15	53	
15	44	23.5		30.3	219	11.0	145			24.2	146	30	51	15	43	10	31		20	59	
16	59	23.6		31.3	233	44.5	145			38.9	147	35	48	13	43	06	28		22	62	
17	74	23.8	+6	32.2	248	18.0	145		-7	53.4	145	40	17 45	18 12	18 43	18 02	24		6	26	65
18	89	24.0	+6	33.2	262	51.4	144		-8	08.0	146	45	17 41	18 10	18 44	17 56	21		6	29	70
19	104	24.2		34.1	277	24.7	143			22.6	146	50	36	09	46	50	15		33	76	
20	119	24.3		35.1	291	58.0	143			37.1	145	52	34	08	47	47	13		35	78	
21	134	24.5		36.0	306	31.3	143		-8	51.6	145	54	32	07	48	44	10		37	81	
22	149	24.7		36.9	321	04.4	141		-9	06.1	145	56	29	06	49	40	8		40	83	
23	164	24.9		37.9	335	37.5	141			20.5	144	58	27	06	51	37	4		43	86	
24	179	25.1	+6	38.8	350	10.6	141		-9	34.9	144	60 S	17 23	18 05	18 53	17 32	1		6	46	90
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO						
	PMG: 11 ^h 02.1 ^m		Mag: -4.0 PMG: 14 ^h 29 ^m				Mag: +1.0 PMG: 17 ^h 28 ^m				Mag: -2.1 PMG: 12 ^h 19 ^m				Mag: +1.0 PMG: 9 ^h 25 ^m						
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	194	01.5	142	49.1	+19	57.0	97	41.7	+25	19.7	174	51.0	+6	57.2	218	21.8	-11	34.3			
1	209	04.0	157	48.6		57.8	112	42.7		19.6	189	52.9		57.4	233	24.1		34.2			
2	224	06.4	172	48.0		58.7	127	43.8		19.5	204	54.8		57.7	248	26.3		34.1			
3	239	08.9	187	47.5	+19	59.6	142	44.9		19.5	219	56.7		57.9	263	28.5		34.0			
4	254	11.4	202	47.0	+20	00.4	157	45.9		19.4	234	58.6		58.1	278	30.8		34.0			
5	269	13.8	217	46.4	+20	01.3	172	47.0	+25	19.3	250	00.5	+6	58.3	293	33.0	-11	33.9			
6	284	16.3	232	45.9	+20	02.1	187	48.0	+25	19.2	265	02.4	+6	58.6	308	35.2	-11	33.8			
7	299	18.8	247	45.4		03.0	202	49.1		19.1	280	04.4		58.8	323	37.4		33.7			
8	314	21.2	262	44.9		03.9	217	50.2		19.1	295	06.3		59.0	338	39.7		33.6			
9	329	23.7	277	44.3		04.7	232	51.2		19.0	310	08.2		59.3	353	41.9		33.5			
10	344	26.2	292	43.8		05.6	247	52.3		18.9	325	10.1		59.5	8	44.1		33.4			
11	359	28.6	307	43.3	+20	06.4	262	53.3	+25	18.8	340	12.0	+6	59.7	23	46.3	-11	33.4			
12	14	31.1	322	42.7	+20	07.3	277	54.4	+25	18.7	355	13.9	+6	59.9	38	48.6	-11	33.3			
13	29	33.5	337	42.2		08.1	292	55.4		18.6	10	15.8	+7	00.2	53	50.8		33.2			
14	44	36.0	352	41.7		09.0	307	56.5		18.5	25	17.7		00.4	68	53.0		33.1			
15	59	38.5	7	41.1		09.9	322	57.5		18.5	40	19.6		00.6	83	55.2		33.0			
16	74	40.9	22	40.6		10.7	337	58.6		18.4	55	21.5		00.9	98	57.5		32.9			
17	89	43.4	37	40.1	+20	11.6	352	59.7	+25	18.3	70	23.4	+7	01.1	113	59.7	-11	32.9			
18	104	45.9	52	39.5	+20	12.4	8	00.7	+25	18.2	85	25.3	+7	01.3	129	01.9	-11	32.8			
19	119	48.3	67	39.0		13.3	23	01.8		18.1	100	27.2		01.5	144	04.1		32.7			
20	134	50.8	82	38.5		14.1	38	02.8		18.0	115	29.1		01.8	159	06.4		32.6			
21	149	53.3	97	37.9		15.0	53	03.9		17.9	130	31.0		02.0	174	08.6		32.5			
22	164	55.7	112	37.4		15.8	68	04.9		17.9	145	32.9		02.2	189	10.8		32.4			
23	179	58.2	127	36.9		16.7	83	06.0		17.8	160	34.8		02.4	204	13.1		32.4			
24	195	00.6	142	36.3	+20	17.5	98	07.0	+25	17.7	175	36.7	+7	02.7	219	15.3	-11	32.3			
Dif	—		-5		+9		+11		-1		+19		+2		+22		+3				

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16'0 PMG:12 ^h 02.2 ^m			Edad: 16.3 ^d PHE { 4 ^h : 56'6 12 ^h : 56'7 20 ^h : 56'9 PMG: 0 ^h 41 ^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			
0	179	25.1	+6	38.8	350	10.6	-9	34.9	140	60 N	3	28	4	24	5	08	21	06		
1	194	25.2		39.8		4	43.6	140		58	40	31	12	20	57	94	37	4		
2	209	25.4		40.7	19	16.5	139	-10	03.6	143	56	49	37	16	48	90	42	8		
3	224	25.6		41.7	33	49.3	138		18.0	144	54	3	57	42	19	41	86	47	12	
4	239	25.8		42.6	48	22.1	138		32.2	142	52	4	05	47	22	35	83	52	14	
5	254	25.9	+6	43.5	62	54.8	137	-10	46.5	143	50	4	11	4	51	5	25	20	29	
6	269	26.1	+6	44.5	77	27.5	137	-11	00.7	142	45	4	24	5	00	5	30	20	17	
7	284	26.3		45.4	92	00.0	135		14.9	142	40	35	08	35	20	06	70	12	26	
8	299	26.5		46.4	106	32.5	135		29.0	141	35	43	14	39	19	58	66	19	29	
9	314	26.6		47.3	121	05.0	135		43.1	141	30	4	50	19	43	50	63	24	33	
10	329	26.8		48.2	135	37.3	133	-11	57.2	141	20	5	01	27	49	37	58	34	38	
11	344	27.0	+6	49.2	150	09.6	133	-12	11.2	140	10 N	5	08	5	33	5	54	19	26	
12	359	27.2	+6	50.1	164	41.8	132	-12	25.1	139	0	5	14	5	38	5	59	19	15	
13	14	27.3		51.1	179	14.0	132		39.0	139	10 S	18	43	6	04	19	05	45	7	
14	29	27.5		52.0	193	46.0	130	-12	52.9	139	20	21	46	09	18	54	40	08	56	
15	44	27.7		52.9	208	18.0	130	-13	06.7	138	30	22	50	14	41	35	19	61		
16	59	27.9		53.9	222	49.9	129		20.5	138	35	22	52	17	34	32	24	65		
17	74	28.0	+6	54.8	237	21.8	129	-13	34.2	137	40	5	22	5	53	6	21	18	26	
18	89	28.2	+6	55.8	251	53.5	127	-13	47.9	137	45	5	21	5	55	6	25	18	17	
19	104	28.4		56.7	266	25.2	127	-14	01.5	136	50	20	57	29	05	19	49	78		
20	119	28.6		57.6	280	56.8	126		15.1	136	52	19	58	32	18	00	16	53	81	
21	134	28.7		58.6	295	28.3	125		28.6	135	54	18	59	34	17	54	14	7	58	
22	149	28.9	+6	59.5	309	59.7	124		42.0	134	56	16	5	59	37	48	10	8	03	
23	164	29.1	+7	00.4	324	31.0	123	-14	55.4	134	58	15	6	00	40	41	6	09	92	
24	179	29.3	+7	01.4	339	02.2	122	-15	08.7	133	60 S	5	13	6	01	6	43	17	33	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 10 ^h 58.2 ^m			Mag: -4.0 PMG: 14 ^h 30 ^m			Mag: +1.1 PMG: 17 ^h 26 ^m			Mag: -2.1 PMG: 12 ^h 16 ^m			Mag: +1.0 PMG: 9 ^h 22 ^m							
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	195	00.6			142	36.3	+20	17.5	98	07.0	+25	17.7	175	36.7	+7	02.7	219	15.3	-11	32.3
1	210	03.1			157	35.8		18.3	113	08.1		17.6	190	38.6		02.9	234	17.5		32.2
2	225	05.6			172	35.3		19.2	128	09.1		17.5	205	40.5		03.1	249	19.7		32.1
3	240	08.0			187	34.7		20.0	143	10.2		17.4	220	42.4		03.4	264	22.0		32.0
4	255	10.5			202	34.2		20.9	158	11.2		17.3	235	44.3		03.6	279	24.2		31.9
5	270	13.0			217	33.6	+20	21.7	173	12.3	+25	17.2	250	46.2	+7	03.8	294	26.4	-11	31.9
6	285	15.4			232	33.1	+20	22.6	188	13.3	+25	17.2	265	48.1	+7	04.0	309	28.7	-11	31.8
7	300	17.9			247	32.6		23.4	203	14.4		17.1	280	50.0		04.3	324	30.9		31.7
8	315	20.4			262	32.0		24.2	218	15.5		17.0	295	51.9		04.5	339	33.1		31.6
9	330	22.8			277	31.5		25.1	233	16.5		16.9	310	53.8		04.7	354	35.3		31.5
10	345	25.3			292	31.0		25.9	248	17.6		16.8	325	55.7		04.9	9	37.6		31.4
11	0	27.8			307	30.4	+20	26.7	263	18.6	+25	16.7	340	57.6	+7	05.2	24	39.8	-11	31.4
12	15	30.2			322	29.9	+20	27.6	278	19.7	+25	16.6	355	59.5	+7	05.4	39	42.0	-11	31.3
13	30	32.7			337	29.3		28.4	293	20.7		16.5	11	01.4		05.6	54	44.2		31.2
14	45	35.1			352	28.8		29.2	308	21.8		16.4	26	03.3		05.9	69	46.5		31.1
15	60	37.6			7	28.3		30.1	323	22.8		16.4	41	05.2		06.1	84	48.7		31.0
16	75	40.1			22	27.7		30.9	338	23.9		16.3	56	07.1		06.3	99	50.9		30.9
17	90	42.5			37	27.2	+20	31.7	353	24.9	+25	16.2	71	09.0	+7	06.5	114	53.2	-11	30.9
18	105	45.0			52	26.6	+20	32.6	8	26.0	+25	16.1	86	10.9	+7	06.8	129	55.4	-11	30.8
19	120	47.5			67	26.1		33.4	23	27.0		16.0	101	12.8		07.0	144	57.6		30.7
20	135	49.9			82	25.5		34.2	38	28.1		15.9	116	14.7		07.2	159	59.9		30.6
21	150	52.4			97	25.0		35.1	53	29.1		15.8	131	16.6		07.4	175	02.1		30.5
22	165	54.9			112	24.5		35.9	68	30.2		15.7	146	18.5		07.7	190	04.3		30.4
23	180	57.3			127	23.9		36.7	83	31.2		15.6	161	20.4		07.9	205	06.5		30.4
24	195	59.8			142	23.4	+20	37.5	98	32.3	+25	15.5	176	22.3	+7	08.1	220	08.8	-11	30.3
Dif	—			-5	+8	+11			-1	+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 01.9 ^m				Edad: 17.3 ^d PHE { 4 ^h : 57.1 12 ^h : 57.2 20 ^h : 57.4 Rº: 49 ^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	29.3	+7	01.4	339	02.2	-15	08.7	133		60 N	19 00	19 45	20 42	22 46	105	5	31	3			
1	194	29.4		02.3	353	33.4		22.0	131	58	18 56	37	30	31	98		41	8				
2	209	29.6		03.3	8	04.5		35.1	132	56	52	31	20	18	93		50	13				
3	224	29.8		04.2	22	35.5	-15	48.3	130	54	48	25	11	22	07	88	5	59	15			
4	239	30.0		05.1	37	06.4	-16	01.3	130	52	45	20	20 03	21	58	84	6	06	18			
5	254	30.1	+7	06.1	51	37.2	-16	14.3	130	50	18 42	19 16	19 56	21	49	82	6	12	22			
6	269	30.3	+7	07.0	66	07.9	-16	27.3	130	45	18 36	19 06	19 42	21	31	76	6	26	27			
7	284	30.5		07.9	80	38.5		40.1	128	40	31	18 59	32	16	72		38	31				
8	299	30.7		08.9	95	09.0	-16	52.9	128	35	27	52	23	21	04	68		48	35			
9	314	30.8		09.8	109	39.5	-17	05.6	127	30	23	47	16	20	53	66	6	57	37			
10	329	31.0		10.7	124	09.8		18.2	126	20	16	38	19 04	35	61		7	12	43			
11	344	31.2	+7	11.7	138	40.0	-17	30.8	126	10 N	18 10	18 32	18 56	20	19	57	7	26	46			
12	359	31.4	+7	12.6	153	10.2	-17	43.2	124	0	18 05	18 26	18 50	20	04	53	7	38	51			
13	14	31.5		13.5	167	40.3	-17	55.6	124	10 S	18 00	21	46	19	50	49	7	51	55			
14	29	31.7		14.5	182	10.2	-18	08.0	124	20	17 55	17	42	34	45		8	04	60			
15	44	31.9		15.4	196	40.1		20.2	122	30	49	13	41	16	41		20	64				
16	59	32.1		16.4	211	09.8		32.3	121	35	45	11	40	19	06	38		29	67			
17	74	32.2	+7	17.3	225	39.5	-18	44.4	121	40	17 42	18 09	18 40	18	54	35	8	40	70			
18	89	32.4	+7	18.2	240	09.1	-18	56.4	120	45	17 37	18 07	18 41	18	41	30	8	52	75			
19	104	32.6		19.2	254	38.6	-19	08.2	118	50	32	04	42	24	25		9	07	81			
20	119	32.7		20.1	269	07.9		20.0	118	52	30	03	42	16	23		14	84				
21	134	32.9		21.0	283	37.2		31.7	117	54	27	02	43	18	08	19		22	87			
22	149	33.1		21.9	298	06.4		43.3	116	56	24	01	44	17	58	16		31	91			
23	164	33.3		22.9	312	35.4	-19	54.8	115	58	21	18 00	46	47	11		41	95				
24	179	33.4	+7	23.8	327	04.4	-20	06.3	115	60 S	17 17	17 59	18 47	17	35	5	9	52	102			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG 10 ^h 54.2 ^m			Mag: -4.0 PMG: 14 ^h 31 ^m			Mag: +1.1 PMG: 17 ^h 25 ^m			Mag: -2.1 PMG: 12 ^h 13 ^m			Mag: +1.0 PMG: 9 ^h 18 ^m									
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	195	59.8	142	23.4	+20	37.5	98	32.3	+25	15.5	176	22.3	+7	08.1	220	08.8	-11	30.3				
1	211	02.2	157	22.8		38.4	113	33.3		15.4	191	24.2		08.4	235	11.0		30.2				
2	226	04.7	172	22.3		39.2	128	34.4		15.3	206	26.1		08.6	250	13.2		30.1				
3	241	07.2	187	21.7		40.0	143	35.4		15.3	221	28.0		08.8	265	15.5		30.0				
4	256	09.6	202	21.2		40.8	158	36.5		15.2	236	29.9		09.0	280	17.7		29.9				
5	271	12.1	217	20.6	+20	41.6	173	37.5	+25	15.1	251	31.8	+7	09.3	295	19.9	-11	29.9				
6	286	14.6	232	20.1	+20	42.5	188	38.6	+25	15.0	266	33.7	+7	09.5	310	22.1	-11	29.8				
7	301	17.0	247	19.6		43.3	203	39.6		14.9	281	35.6		09.7	325	24.4		29.7				
8	316	19.5	262	19.0		44.1	218	40.7		14.8	296	37.5		09.9	340	26.6		29.6				
9	331	22.0	277	18.5		44.9	233	41.7		14.7	311	39.4		10.2	355	28.8		29.5				
10	346	24.4	292	17.9		45.7	248	42.7		14.6	326	41.3		10.4	10	31.1		29.5				
11	1	26.9	307	17.4	+20	46.5	263	43.8	+25	14.5	341	43.2	+7	10.6	25	33.3	-11	29.4				
12	16	29.4	322	16.8	+20	47.4	278	44.8	+25	14.4	356	45.1	+7	10.8	40	35.5	-11	29.3				
13	31	31.8	337	16.3		48.2	293	45.9		14.3	11	47.0		11.1	55	37.8		29.2				
14	46	34.3	352	15.7		49.0	308	46.9		14.2	26	48.9		11.3	70	40.0		29.1				
15	61	36.7	7	15.2		49.8	323	48.0		14.1	41	50.8		11.5	85	42.2		29.0				
16	76	39.2	22	14.6		50.6	338	49.0		14.0	56	52.7		11.8	100	44.5		29.0				
17	91	41.7	37	14.1	+20	51.4	353	50.1	+25	13.9	71	54.6	+7	12.0	115	46.7	-11	28.9				
18	106	44.1	52	13.5	+20	52.2	8	51.1	+25	13.8	86	56.5	+7	12.2	130	48.9	-11	28.8				
19	121	46.6	67	13.0		53.0	23	52.2		13.7	101	58.4		12.4	145	51.1		28.7				
20	136	49.1	82	12.4		53.8	38	53.2		13.6	117	00.3		12.7	160	53.4		28.6				
21	151	51.5	97	11.9		54.6	53	54.3		13.6	132	02.2		12.9	175	55.6		28.5				
22	166	54.0	112	11.3		55.4	68	55.3		13.5	147	04.1		13.1	190	57.8		28.5				
23	181	56.5	127	10.8		56.2	83	56.3		13.4	162	06.0		13.3	206	00.1		28.4				
24	196	58.9	142	10.2	+20	57.0	98	57.4	+25	13.3	177	07.9	+7	13.6	221	02.3	-11	28.3				
Dif	—		-5		+8		+10		-1		+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 01.6 ^m			Edad: 18.3 ^d PHE { 4 ^h : 57'6 12 ^h : 57'7 20 ^h : 57'9 PMG: 2 ^h 16 ^m R°: 55 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	33.4	+7	23.8	327	04.4	99	-20	06.3	113	60 N	3 21	4 18	5 02	**	**	**	5 34	6
1	194	33.6		24.7	341	33.3			17.6	112	58	33	25	07	**	**	**	5 49	14
2	209	33.8		25.7	356	02.0	97		28.8	111	56	43	32	11	23	51	88	6 03	19
3	224	33.9		26.6	10	30.7	97		39.9	111	54	3 52	37	14		35	85	14	23
4	239	34.1		27.5	24	59.2	95	-20	50.9	110	52	4 00	42	17		22	82	24	27
5	254	34.3	+7	28.5	39	27.7	95	-21	01.8	109	50	4 06	4 47	5 20	23	11	79	6 34	29
6	269	34.5	+7	29.4	53	56.1	94	-21	12.6	108	45	4 20	4 57	5 27	22	47	75	6 53	34
7	284	34.6		30.3	68	24.3	92		23.3	107	40	31	5 04	32		28	71	7 09	38
8	299	34.8		31.3	82	52.4	91		33.9	106	35	40	11	36	22	12	69	23	41
9	314	35.0		32.2	97	20.5	91		44.3	104	30	48	16	40	21	59	66	34	44
10	329	35.1		33.1	111	48.4	89	-21	54.7	104	20	4 59	25	47		36	63	7 55	48
11	344	35.3	+7	34.1	126	16.3	89	-22	04.9	102	10 N	5 07	5 32	5 53	21	16	60	8 12	52
12	359	35.5	+7	35.0	140	44.0	87	-22	15.1	102	0	5 13	5 37	5 58	20	57	58	8 29	55
13	14	35.7		35.9	155	11.6	86		25.1	100	10 S	18	42	6 04		39	54	8 46	58
14	29	35.8		36.8	169	39.1	85		34.9	98	20	21	47	09	20	19	52	9 04	62
15	44	36.0		37.8	184	06.6	85		44.7	98	30	23	51	15	19	57	48	24	66
16	59	36.2		38.7	198	33.9	83	-22	54.4	97	35	24	53	19		44	46	36	69
17	74	36.3	+7	39.6	213	01.1	82	-23	03.9	95	40	5 24	5 55	6 23	19	29	43	9 50	72
18	89	36.5	+7	40.6	227	28.2	81	-23	13.3	94	45	5 24	5 58	6 27	19	11	40	10 07	76
19	104	36.7		41.5	241	55.2	80		22.6	93	50	23	6 00	33	18	49	35	28	81
20	119	36.9		42.4	256	22.1	79		31.7	91	52	22	01	35		39	32	38	83
21	134	37.0		43.3	270	48.9	78		40.7	90	54	21	02	38		27	29	10 49	87
22	149	37.2		44.3	285	15.6	77		49.6	89	56	20	03	41	18	14	25	11 02	91
23	164	37.4		45.2	299	42.2	76	-23	58.3	87	58	19	04	44	17	58	20	16	97
24	179	37.5	+7	46.1	314	08.7	75	-24	07.0	87	60 S	5 17	6 06	6 48	17	40	12	11 34	105

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 50.3 ^m		Mag: -4.1 PMG: 14 ^h 32 ^m		Mag: +1.1 PMG: 17 ^h 23 ^m		Mag: -2.1 PMG: 12 ^h 10 ^m		Mag: +1.0 PMG: 9 ^h 14 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	196	58.9	142	10.2	+20	57.0	98	57.4	+25	13.3
1	212	01.4	157	09.7		57.8	113	58.4		13.2
2	227	03.9	172	09.1		58.6	128	59.5		13.1
3	242	06.3	187	08.6	+20	59.4	144	00.5		13.0
4	257	08.8	202	08.0	+21	00.2	159	01.6		12.9
5	272	11.2	217	07.5	+21	01.0	174	02.6	+25	12.8
6	287	13.7	232	06.9	+21	01.8	189	03.7	+25	12.7
7	302	16.2	247	06.4		02.6	204	04.7		12.6
8	317	18.6	262	05.8		03.4	219	05.7		12.5
9	332	21.1	277	05.2		04.2	234	06.8		12.4
10	347	23.6	292	04.7		05.0	249	07.8		12.3
11	2	26.0	307	04.1	+21	05.8	264	08.9	+25	12.2
12	17	28.5	322	03.6	+21	06.6	279	09.9	+25	12.1
13	32	31.0	337	03.0		07.4	294	11.0		12.0
14	47	33.4	352	02.5		08.2	309	12.0		11.9
15	62	35.9	7	01.9		09.0	324	13.0		11.8
16	77	38.3	22	01.4		09.8	339	14.1		11.7
17	92	40.8	37	00.8	+21	10.6	354	15.1	+25	11.6
18	107	43.3	52	00.2	+21	11.3	9	16.2	+25	11.5
19	122	45.7	66	59.7		12.1	24	17.2		11.4
20	137	48.2	81	59.1		12.9	39	18.3		11.3
21	152	50.7	96	58.6		13.7	54	19.3		11.2
22	167	53.1	111	58.0		14.5	69	20.3		11.1
23	182	55.6	126	57.4		15.3	84	21.4		11.0
24	197	58.1	141	56.9	+21	16.0	99	22.4	+25	10.9
Dif	—		-6		+8		+10		-1	
							+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 01.4 ^m			Edad: 19.3 ^d SD: 15 ^h 8 PMG: 3 ^h 11 ^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	37.5	+7	46.1	314	08.7	-24	07.0	60 N	19 05	19 50	20 48	0 31	104	5 40	17		
1	194	37.7		47.1	328	35.1		15.4	58	19 00	42	36	0 09	94	6 03	27		
2	209	37.9		48.0	343	01.4		23.8	56	18 56	35	25	** ** *		22	32		
3	224	38.0		48.9	357	27.6		32.0	54	52	29	15	** ** *		37	36		
4	239	38.2		49.8	11	53.7		40.0	52	49	24	07	** ** *		6 51	39		
5	254	38.4	+7	50.8	26	19.8	-24	48.0	50	18 45	19 19	20 00	** ** *		7 03	41		
6	269	38.5	+7	51.7	40	45.7	-24	55.7	45	18 39	19 09	19 45	** ** *		7 27	46		
7	284	38.7		52.6	55	11.5	-25	03.4	40	33	19 01	34	23 39	67	7 47	48		
8	299	38.9		53.5	69	37.2		10.8	35	28	18 54	25	21 65		8 04	50		
9	314	39.1		54.5	84	02.8		18.2	30	24	48	17	23 05	65	18	52		
10	329	39.2		55.4	98	28.4		25.4	20	17	39	19 05	22 39	63	8 43	55		
11	344	39.4	+7	56.3	112	53.8	-25	32.4	10 N	18 10	18 32	18 56	22 16	62	9 04	57		
12	359	39.6	+7	57.2	127	19.1	-25	39.3	0	18 05	18 26	18 50	21 55	60	9 24	59		
13	14	39.7		58.2	141	44.4		46.0	10 S	17 59	20	45	33 60		9 44	61		
14	29	39.9	+7	59.1	156	09.6		52.6	20	53	15	41	21 11	58	10 06	63		
15	44	40.1	+8	00.0	170	34.6	-25	59.0	30	46	11	38	20 45	56	30	66		
16	59	40.2	+8	00.9	184	59.6	-26	05.3	35	43	08	37	30 55		10 45	67		
17	74	40.4	+8	01.9	199	24.5	-26	11.4	40	17 38	18 06	18 37	20 12	53	11 02	69		
18	89	40.6	+8	02.8	213	49.4	-26	17.4	45	17 34	18 03	18 37	19 51	51	11 23	71		
19	104	40.7		03.7	228	14.1		23.1	50	28	18 00	38	24 49		11 49	75		
20	119	40.9		04.6	242	38.8		28.8	52	25	17 59	38	19 11	47	12 01	77		
21	134	41.1		05.5	257	03.4		34.2	54	22	58	39	18 56	45	16	79		
22	149	41.2		06.5	271	27.9		39.5	56	19	57	39	39 42		33	82		
23	164	41.4		07.4	285	52.3		44.7	58	16	55	40	18 18	38	12 53	87		
24	179	41.6	+8	08.3	300	16.6	-26	49.6	60 S	17 12	17 54	18 42	17 52	30	13 19	95		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 46.4 ^m		Mag: -4.1 PMG: 14 ^h 33 ^m		Mag: +1.1 PMG: 17 ^h 21 ^m		Mag: -2.1 PMG: 12 ^h 07 ^m		Mag: +1.0 PMG: 9 ^h 11 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	/	°	/	°	/	°	/	°	/
0	197	58.1	141	56.9	99	22.4	177	53.5	221	55.9
1	213	00.5	156	56.3	114	23.5	192	55.4	236	58.1
2	228	03.0	171	55.8	129	24.5	207	57.3	252	00.4
3	243	05.5	186	55.2	144	25.5	222	59.2	267	02.6
4	258	07.9	201	54.6	159	26.6	238	01.1	282	04.8
5	273	10.4	216	54.1	174	27.6	253	03.0	297	07.1
6	288	12.8	231	53.5	189	28.7	268	04.9	312	09.3
7	303	15.3	246	53.0	204	29.7	283	06.8	327	11.5
8	318	17.8	261	52.4	219	30.7	298	08.7	342	13.8
9	333	20.2	276	51.8	234	31.8	313	10.6	357	16.0
10	348	22.7	291	51.3	249	32.8	328	12.5	12	18.2
11	3 25.2	306	50.7	21 24.6	264	33.9	343	14.4	27 20.5	-11 25.5
12	18 27.6	321	50.2	21 25.3	279	34.9	358	16.3	42 22.7	-11 25.4
13	33 30.1	336	49.6	26.1	294	35.9	13 18.2	22.0	57 24.9	25.3
14	48 32.6	351	49.0	26.9	309	37.0	28 20.1	22.2	72 27.2	25.2
15	63 35.0	6 48.5	27.6	27.6	324	38.0	43 22.0	22.4	87 29.4	25.1
16	78 37.5	21 47.9	28.4	28.4	339	39.0	58 23.9	22.6	102 31.7	25.1
17	93 40.0	36 47.3	21 29.2	29.2	354	40.1	73 25.8	22.9	117 33.9	-11 25.0
18	108 42.4	51 46.8	21 29.9		9 41.1	25 09.0	88 27.7	23.1	132 36.1	-11 24.9
19	123 44.9	66 46.2	30.7		24 42.2	08.9	103 29.6	23.3	147 38.4	24.8
20	138 47.3	81 45.6	31.5		39 43.2	08.8	118 31.5	23.5	162 40.6	24.7
21	153 49.8	96 45.1	32.2		54 44.2	08.7	133 33.4	23.8	177 42.8	24.6
22	168 52.3	111 44.5	33.0		69 45.3	08.5	148 35.3	24.0	192 45.1	24.6
23	183 54.7	126 43.9	33.7		84 46.3	08.4	163 37.2	24.2	207 47.3	24.5
24	198 57.2	141 43.4	21 34.5		99 47.3	25 08.3	178 39.1	24.4	222 49.5	-11 24.4
Dif	—	-6	+8		+10	-1	+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 01.1 ^m			Edad: 20.3 ^d PHE { 4 ^h : 58'4 12 ^h : 58'6 20 ^h : 58'7 SD: 15'9 PMG: 4 ^h 09 ^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	h	m
0	179	41.6	+8	08.3	300	16.6	53	-26	49.6	48	60 N	3	13	4	11	4	56	2	15
1	194	41.7		09.2	314	40.9	52		54.4	47	58	26	19	5	01	1	43	76	6
2	209	41.9		10.2	329	05.1	52	-26	59.1	47	56	37	26	06	19	74	6	30	51
3	224	42.1		11.1	343	29.2	51	-27	03.5	44	54	46	32	09	1	00	72	7	13
4	239	42.2		12.0	357	53.3	51		07.8	43	52	3	54	13	0	44	70	30	56
5	254	42.4	+8	12.9	12	17.3	50	-27	11.9	41	50	4	02	4	43	5	16	0	30
6	269	42.6	+8	13.8	26	41.2	49	-27	15.8	39	45	4	16	4	53	5	23	0	02
7	284	42.7		14.8	41	05.1	49		19.6	38	40	28	5	01	29	**	**	**	8
8	299	42.9		15.7	55	28.9	48		23.2	36	35	37	08	34	**	**	**	8	54
9	314	43.1		16.6	69	52.6	47		26.6	34	30	45	14	38	**	**	**	9	10
10	329	43.2		17.5	84	16.3	47		29.9	33	20	4	57	23	46	23	42	60	9
11	344	43.4	+8	18.4	98	40.0	47	-27	32.9	30	10 N	5	06	5	31	5	52	23	18
12	359	43.5	+8	19.3	113	03.5	45	-27	35.8	29	0	5	13	5	37	5	58	22	55
13	14	43.7		20.3	127	27.1	46		38.5	27	10 S	18	42	6	04		33	62	10
14	29	43.9		21.2	141	50.5	45		41.0	25	20	22	47	10	22	09	63	11	09
15	44	44.0		22.1	156	14.0	45		43.4	24	30	25	52	16	21	41	64	36	62
16	59	44.2		23.0	170	37.4	44		45.5	21	35	25	55	20		25	63	11	52
17	74	44.4	+8	23.9	185	00.7	43	-27	47.5	20	40	5	26	5	57	6	25	21	05
18	89	44.5	+8	24.9	199	24.0	43	-27	49.3	18	45	5	26	6	00	6	30	20	42
19	104	44.7		25.8	213	47.3	43		50.9	16	50	26	03	36	20	13	65	13	04
20	119	44.9		26.7	228	10.5	42		52.3	14	52	25	04	38	19	58	66	18	62
21	134	45.0		27.6	242	33.7	42		53.6	13	54	25	06	41		41	66	35	62
22	149	45.2		28.5	256	56.8	41		54.6	10	56	24	07	45	19	21	67	13	55
23	164	45.4		29.4	271	20.0	42		55.5	9	58	23	09	48	18	56	67	14	20
24	179	45.5	+8	30.4	285	43.1	41	-27	56.2	7	60 S	5	22	6	10	6	52	18	22

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 42.4 ^m		Mag: -4.1 PMG: 14 ^h 34 ^m		Mag: +1.1 PMG: 17 ^h 20 ^m		Mag: -2.1 PMG: 12 ^h 04 ^m		Mag: +1.0 PMG: 9 ^h 07 ^m	
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	198	57.2	141	43.4	+21	34.5	99	47.3	+25	08.3
1	213	59.7	156	42.8		35.3	114	48.4		08.2
2	229	02.1	171	42.2		36.0	129	49.4		08.1
3	244	04.6	186	41.7		36.8	144	50.4		08.0
4	259	07.1	201	41.1		37.5	159	51.5		07.9
5	274	09.5	216	40.5	+21	38.3	174	52.5	+25	07.8
6	289	12.0	231	40.0	+21	39.0	189	53.6	+25	07.7
7	304	14.5	246	39.4		39.8	204	54.6		07.6
8	319	16.9	261	38.8		40.5	219	55.6		07.5
9	334	19.4	276	38.3		41.3	234	56.7		07.4
10	349	21.8	291	37.7		42.0	249	57.7		07.2
11	4	24.3	306	37.1	+21	42.8	264	58.7	+25	07.1
12	19	26.8	321	36.5	+21	43.5	279	59.8	+25	07.0
13	34	29.2	336	36.0		44.3	295	00.8		06.9
14	49	31.7	351	35.4		45.0	310	01.8		06.8
15	64	34.2	6	34.8		45.8	325	02.9		06.7
16	79	36.6	21	34.3		46.5	340	03.9		06.6
17	94	39.1	36	33.7	+21	47.2	355	04.9	+25	06.5
18	109	41.6	51	33.1	+21	48.0	10	06.0	+25	06.4
19	124	44.0	66	32.5		48.7	25	07.0		06.2
20	139	46.5	81	32.0		49.5	40	08.0		06.1
21	154	49.0	96	31.4		50.2	55	09.1		06.0
22	169	51.4	111	30.8		50.9	70	10.1		05.9
23	184	53.9	126	30.2		51.7	85	11.1		05.8
24	199	56.3	141	29.7	+21	52.4	100	12.2	+25	05.7
Dif	—		-6		+7		+10		-1	
							+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 00.8 ^m			Edad: 21.3 ^d PHE { 4 ^h : 58'8 12 ^h : 58'9 20 ^h : 59'0 PMG: 5 ^h 10 ^m 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	179 45.5	+ 8 30.4	285 43.1	40	-27 56.2	5	60 N	19 10	19 55	20 55	3 37	40	6 44	88			
1	194 45.7		300 06.1	41	56.7	3	58	05	47	42	2 59	47	7 21	82			
2	209 45.8		314 29.2	40	57.0	1	56	19 00	40	30	33	50	7 47	78			
3	224 46.0		328 52.2	40	57.1	0	54	18 56	33	20	2 12	52	8 08	76			
4	239 46.2		343 15.2	40	57.1	3	52	52	28	12	1 54	54	26	74			
5	254 46.3	+ 8 34.9	357 38.2	40	-27 56.8	4	50	18 49	19 22	20 04	1 39	55	8 41	73			
6	269 46.5	+ 8 35.8	12 01.2	40	-27 56.4	6	45	18 41	19 12	19 48	1 09	57	9 11	70			
7	284 46.7		26 24.2	40	55.8	9	40	35	19 03	36	0 46	58	34	69			
8	299 46.8		40 47.2	39	54.9	10	35	30	18 56	26	26	59	9 54	67			
9	314 47.0		55 10.1	40	53.9	12	30	25	50	18	0 10	59	10 10	67			
10	329 47.1		69 33.1	39	52.7	13	20	17	40	19 06	** ** *	**	10 38	65			
11	344 47.3	+ 8 40.4	83 56.0	40	-27 51.4	16	10 N	18 10	18 32	18 57	** ** *	**	11 02	63			
12	359 47.5	+ 8 41.3	98 19.0	39	-27 49.8	18	0	18 04	18 25	18 49	23 57	60	11 25	61			
13	14 47.6		112 41.9	40	48.0	19	10 S	17 58	19	44	35	63	11 47	60			
14	29 47.8		127 04.9	40	46.1	21	20	51	14	39	23 12	65	12 11	58			
15	44 47.9		141 27.9	40	44.0	23	30	44	08	36	22 45	68	38	56			
16	59 48.1		155 50.9	39	41.7	25	35	40	06	35	28	71	12 55	54			
17	74 48.3	+ 8 45.9	170 13.8	40	-27 39.2	27	40	17 35	18 03	18 34	22 10	72	13 14	53			
18	89 48.4	+ 8 46.8	184 36.8	41	-27 36.5	29	45	17 30	18 00	18 34	21 47	75	13 37	50			
19	104 48.6		198 59.9	40	33.6	31	50	24	17 56	34	18	79	14 06	47			
20	119 48.8		213 22.9	41	30.5	32	52	21	55	34	21 04	81	20	46			
21	134 48.9		227 46.0	41	27.3	35	54	18	53	34	20 47	84	37	43			
22	149 49.1		242 09.1	41	23.8	36	56	14	52	35	28	87	14 57	40			
23	164 49.2		256 32.2	41	20.2	38	58	10	50	35	20 03	93	15 22	35			
24	179 49.4	+ 8 52.3	270 55.3	41	-27 16.4		60 S	17 06	17 48	18 36	19 30	101	15 55	26			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 10 ^h 38.5 ^m		Mag: -4.1 PMG: 14 ^h 35 ^m			Mag: +1.1 PMG: 17 ^h 18 ^m			Mag: -2.1 PMG: 12 ^h 01 ^m			Mag: +1.0 PMG: 9 ^h 04 ^m					
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♉	Dec	hG ♊	Dec	hG ♋	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	199 56.3	141 29.7	+21 52.4	100 12.2	+25 05.7	179 24.7	+7 29.9	223 43.2	-11 22.5								
1	214 58.8	156 29.1	53.1	115 13.2	05.6	194 26.6	30.1	238 45.5	22.4								
2	230 01.3	171 28.5	53.9	130 14.2	05.5	209 28.5	30.3	253 47.7	22.3								
3	245 03.7	186 27.9	54.6	145 15.3	05.3	224 30.4	30.5	268 50.0	22.3								
4	260 06.2	201 27.4	55.3	160 16.3	05.2	239 32.3	30.8	283 52.2	22.2								
5	275 08.7	216 26.8	+21 56.1	175 17.3	+25 05.1	254 34.2	+7 31.0	298 54.4	-11 22.1								
6	290 11.1	231 26.2	+21 56.8	190 18.4	+25 05.0	269 36.1	+7 31.2	313 56.7	-11 22.0								
7	305 13.6	246 25.6	57.5	205 19.4	04.9	284 38.0	31.4	328 58.9	21.9								
8	320 16.1	261 25.1	58.3	220 20.4	04.8	299 39.9	31.7	344 01.2	21.9								
9	335 18.5	276 24.5	59.0	235 21.5	04.7	314 41.8	31.9	359 03.4	21.8								
10	350 21.0	291 23.9	+21 59.7	250 22.5	04.5	329 43.7	32.1	14 05.6	21.7								
11	5 23.4	306 23.3	+22 00.4	265 23.5	+25 04.4	344 45.6	+7 32.3	29 07.9	-11 21.6								
12	20 25.9	321 22.8	+22 01.2	280 24.6	+25 04.3	359 47.5	+7 32.6	44 10.1	-11 21.5								
13	35 28.4	336 22.2	01.9	295 25.6	04.2	14 49.4	32.8	59 12.3	21.5								
14	50 30.8	351 21.6	02.6	310 26.6	04.1	29 51.3	33.0	74 14.6	21.4								
15	65 33.3	6 21.0	03.3	325 27.6	04.0	44 53.2	33.2	89 16.8	21.3								
16	80 35.8	21 20.4	04.0	340 28.7	03.8	59 55.1	33.5	104 19.1	21.2								
17	95 38.2	36 19.9	+22 04.8	355 29.7	+25 03.7	74 57.0	+7 33.7	119 21.3	-11 21.1								
18	110 40.7	51 19.3	+22 05.5	10 30.7	+25 03.6	89 58.9	+7 33.9	134 23.5	-11 21.1								
19	125 43.2	66 18.7	06.2	25 31.8	03.5	105 00.8	34.1	149 25.8	21.0								
20	140 45.6	81 18.1	06.9	40 32.8	03.4	120 02.7	34.4	164 28.0	20.9								
21	155 48.1	96 17.5	07.6	55 33.8	03.3	135 04.6	34.6	179 30.3	20.8								
22	170 50.6	111 17.0	08.3	70 34.9	03.1	150 06.5	34.8	194 32.5	20.8								
23	185 53.0	126 16.4	09.1	85 35.9	03.0	165 08.4	35.0	209 34.8	20.7								
24	200 55.5	141 15.8	+22 09.8	100 36.9	+25 02.9	180 10.3	+7 35.3	224 37.0	-11 20.6								
Dif	—	-6	+7	+10	-1	+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 00.6 ^m			Edad: 22.3 ^d PHE { 4 ^h : 59'1 12 ^h : 59'2 20 ^h : 59'3 SD: 16'1 PMG: 6 ^h 11 ^m R°: 60 ^m																							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°											
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m									
0	179	49.4	+8	52.3	270	55.3	42	-27	16.4	40	3	05	4	05	4	50	4	17									
1	194	49.6		53.2	285	18.5	42		12.4	42	19	13	4	56	3	46	25	8									
2	209	49.7		54.1	299	41.7	42		08.2	42	31	21	5	00	23	30	9	05									
3	224	49.9		55.0	314	04.9	42	-27	03.8	44	40	27	05	3	04	35	24	90									
4	239	50.0		55.9	328	28.2	43	-26	59.3	45	49	33	09	2	48	38	40	86									
5	254	50.2	+8	56.8	342	51.5	43	-26	54.6	47	3	57	4	38	5	12	2	34									
6	269	50.3	+8	57.7	357	14.9	44	-26	49.7	49	4	12	4	49	5	20	2	06									
7	284	50.5		58.6	11	38.2	43		44.6	51	25	4	58	26	1	44	47	10									
8	299	50.7	+8	59.5	26	01.7	45		39.3	53	35	5	05	31	25	50	11	01									
9	314	50.8	+9	00.4	40	25.2	45		33.9	54	43	11	36	1	09	52	17	69									
10	329	51.0		01.4	54	48.7	45		28.2	57	4	55	22	44	0	42	55	11									
11	344	51.1	+9	02.3	69	12.3	46	-26	22.4	58	5	05	5	30	0	19	58	12									
12	359	51.3	+9	03.2	83	35.9	46	-26	16.4	60	5	12	5	36	5	57	**	**									
13	14	51.5		04.1	97	59.6	47		10.3	61	18	42	6	04	**	**	**	**									
14	29	51.6		05.0	112	23.3	47	-26	03.9	64	22	48	10	**	**	**	**	13									
15	44	51.8		05.9	126	47.1	48	-25	57.4	65	26	54	18	23	53	70	34	49									
16	59	51.9		06.8	141	11.0	49		50.7	67	27	56	22	39	72	13	49	46									
17	74	52.1	+9	07.7	155	34.9	49	-25	43.9	68	5	28	5	59	6	27	23	22									
18	89	52.2	+9	08.6	169	58.9	50	-25	36.9	70	5	28	6	02	6	32	23	02									
19	104	52.4		09.5	184	22.9	50		29.7	72	29	06	39	22	37	86	14	57									
20	119	52.6		10.4	198	47.0	51		22.3	74	28	08	42	25	89	15	06	31									
21	134	52.7		11.3	213	11.2	52		14.8	75	28	09	45	22	11	93	20	28									
22	149	52.9		12.2	227	35.4	52	-25	07.1	77	28	11	49	21	55	97	37	24									
23	164	53.0		13.1	241	59.7	53	-24	59.2	79	27	13	53	36	102	15	57	18									
24	179	53.2	+9	14.0	256	24.0	53	-24	51.2	80	5	27	6	15	6	57	21	11									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 10 ^h 34.6 ^m			Mag: -4.1 PMG: 14 ^h 36 ^m			Mag: +1.1 PMG: 17 ^h 16 ^m			Mag: -2.1 PMG: 11 ^h 58 ^m			Mag: +1.0 PMG: 9 ^h 00 ^m														
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	200	55.5	141	15.8	+22	09.8	100	36.9	+25	02.9	180	10.3	+7	35.3	224	37.0											
1	215	57.9	156	15.2		10.5	115	37.9		02.8	195	12.2		35.5	239	39.2											
2	231	00.4	171	14.6		11.2	130	39.0		02.7	210	14.1		35.7	254	41.5											
3	246	02.9	186	14.0		11.9	145	40.0		02.5	225	16.0		35.9	269	43.7											
4	261	05.3	201	13.5		12.6	160	41.0		02.4	240	17.9		36.2	284	46.0											
5	276	07.8	216	12.9	+22	13.3	175	42.1	+25	02.3	255	19.8	+7	36.4	299	48.2											
6	291	10.3	231	12.3	+22	14.0	190	43.1	+25	02.2	270	21.7	+7	36.6	314	50.4											
7	306	12.7	246	11.7		14.7	205	44.1		02.1	285	23.6		36.8	329	52.7											
8	321	15.2	261	11.1		15.4	220	45.1		01.9	300	25.5		37.1	344	54.9											
9	336	17.7	276	10.5		16.1	235	46.2		01.8	315	27.4		37.3	359	57.2											
10	351	20.1	291	10.0		16.8	250	47.2		01.7	330	29.3		37.5	14	59.4											
11	6	22.6	306	09.4	+22	17.5	265	48.2	+25	01.6	345	31.2	+7	37.7	30	01.6											
12	21	25.1	321	08.8	+22	18.2	280	49.2	+25	01.5	0	33.1	+7	38.0	45	03.9											
13	36	27.5	336	08.2		18.9	295	50.3		01.3	15	35.0		38.2	60	06.1											
14	51	30.0	351	07.6		19.6	310	51.3		01.2	30	36.9		38.4	75	08.4											
15	66	32.4	6	07.0		20.3	325	52.3		01.1	45	38.8		38.6	90	10.6											
16	81	34.9	21	06.4		21.0	340	53.3		01.0	60	40.7		38.9	105	12.9											
17	96	37.4	36	05.9	+22	21.7	355	54.4	+25	00.9	75	42.6	+7	39.1	120	15.1											
18	111	39.8	51	05.3	+22	22.4	10	55.4	+25	00.7	90	44.5	+7	39.3	135	17.3											
19	126	42.3	66	04.7		23.1	25	56.4		00.6	105	46.4		39.5	150	19.6											
20	141	44.8	81	04.1		23.8	40	57.5		00.5	120	48.3		39.8	165	21.8											
21	156	47.2	96	03.5		24.5	55	58.5		00.4	135	50.2		40.0	180	24.1											
22	171	49.7	111	02.9		25.2	70	59.5		00.2	150	52.1		40.2	195	26.3											
23	186	52.2	126	02.3		25.9	86	00.5	+25	00.1	165	54.0		40.4	210	28.6											
24	201	54.6	141	01.7	+22	26.6	101	01.6	+25	00.0	180	55.9	+7	40.7	225	30.8											
Dif	—			-6			+7			+10			-1			+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 00.3 ^m			Edad: 23.3 ^d PHE { 4 ^h : 59/4 12 ^h : 59/4 20 ^h : 59/5 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	
0	179	53.2	+9	14.0	256	24.0	55	-24	51.2	82	60 N	19 15	20 01	21 02	4 32	6	10 02	112		
1	194	53.3		14.9	270	48.5	55		43.0	84	58	09	19 52	20 48	4 11	13	23 104			
2	209	53.5		15.8	285	13.0	56		34.6	85	56	04	44	35	3 53	19	40 98			
3	224	53.7		16.7	299	37.6	56		26.1	87	54	19 00	37	25	39 22	10 54	94			
4	239	53.8		17.6	314	02.2	56		17.4	88	52	18 55	31	16	26 25	11 06	91			
5	254	54.0	+9	18.5	328	27.0	58	-24	08.6	90	50	18 52	19 26	20 08	3 14	29	11 17	87		
6	269	54.1	+9	19.4	342	51.8	58	-23	59.6	92	45	18 44	19 14	19 51	2 50	35	11 40	81		
7	284	54.3		20.3	357	16.6	58		50.4	93	40	37	19 05	39	31 39	11 58	76			
8	299	54.4		21.2	11	41.6	60		41.1	94	35	31	18 57	28	15 42	12 13	73			
9	314	54.6		22.1	26	06.6	60		31.7	96	30	26	51	20	2 01	45	26 70			
10	329	54.7		23.1	40	31.8	62		22.1	98	20	18	40	19 07	1 37	50	12 48	65		
11	344	54.9	+9	24.0	54	56.9	61	-23	12.3	98	10 N	18 10	18 32	18 57	1 17	53	13 07	60		
12	359	55.0	+9	24.9	69	22.2	63	-23	02.4	99	0	18 04	18 25	18 49	0 57	58	13 25	56		
13	14	55.2		25.8	83	47.6	64	-22	52.3	101	10 S	17 57	18	43	38 61	13 43	51			
14	29	55.4		26.7	98	13.0	64		42.1	102	20	50	12	38	0 17	65	14 01	48		
15	44	55.5		27.6	112	38.5	65		31.8	103	30	42	06	34	** ** *	**	23 42			
16	59	55.7		28.5	127	04.1	66		21.3	105	35	38	03	32	** ** *	**	35 39			
17	74	55.8	+9	29.4	141	29.8	67	-22	10.7	106	40	17 32	18 00	18 31	** ** *	**	14 50	35		
18	89	56.0	+9	30.3	155	55.6	68	-21	59.9	108	45	17 27	17 56	18 30	** ** *	**	15 07	30		
19	104	56.1		31.1	170	21.4	68		49.0	109	50	20	52	30	** ** *	**	27 25			
20	119	56.3		32.0	184	47.4	70		37.9	111	52	16	51	30	23 54	90	37 22			
21	134	56.4		32.9	199	13.4	70		26.7	112	54	13	49	30	44 93	15 48	19			
22	149	56.6		33.8	213	39.5	71		15.4	113	56	09	47	30	32 98	16 01	14			
23	164	56.7		34.7	228	05.7	72	-21	04.0	114	58	05	45	30	18 103	15 10				
24	179	56.9	+9	35.6	242	32.0	73	-20	52.4	116	60 S	17 00	17 42	18 30	23 02 109	16 32	4			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG 10 ^h 30.6 ^m			Mag: -4.1 PMG: 14 ^h 36 ^m			Mag: +1.2 PMG: 17 ^h 15 ^m			Mag: -2.1 PMG: 11 ^h 55 ^m			Mag: +1.0 PMG: 8 ^h 57 ^m							
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	201	54.6	141	01.7	+22	26.6	101	01.6	+25	00.0	180	55.9	+7	40.7	225	30.8	-11	18.7		
1	216	57.1	156	01.2		27.2	116	02.6	+24	59.9	195	57.8		40.9	240	33.0		18.6		
2	231	59.6	171	00.6		27.9	131	03.6		59.7	210	59.7		41.1	255	35.3		18.6		
3	247	02.0	186	00.0		28.6	146	04.6		59.6	226	01.6		41.3	270	37.5		18.5		
4	262	04.5	200	59.4		29.3	161	05.7		59.5	241	03.5		41.6	285	39.8		18.4		
5	277	06.9	215	58.8	+22	30.0	176	06.7	+24	59.4	256	05.4	+7	41.8	300	42.0	-11	18.3		
6	292	09.4	230	58.2	+22	30.7	191	07.7	+24	59.2	271	07.3	+7	42.0	315	44.3	-11	18.3		
7	307	11.9	245	57.6		31.4	206	08.7		59.1	286	09.2		42.2	330	46.5		18.2		
8	322	14.3	260	57.0		32.0	221	09.8		59.0	301	11.1		42.5	345	48.8		18.1		
9	337	16.8	275	56.4		32.7	236	10.8		58.9	316	13.0		42.7	0	51.0		18.0		
10	352	19.3	290	55.8		33.4	251	11.8		58.7	331	14.9		42.9	15	53.2		17.9		
11	7	21.7	305	55.3	+22	34.1	266	12.8	+24	58.6	346	16.8	+7	43.1	30	55.5	-11	17.9		
12	22	24.2	320	54.7	+22	34.7	281	13.8	+24	58.5	1	18.7	+7	43.4	45	57.7	-11	17.8		
13	37	26.7	335	54.1		35.4	296	14.9		58.4	16	20.6		43.6	61	00.0		17.7		
14	52	29.1	350	53.5		36.1	311	15.9		58.2	31	22.5		43.8	76	02.2		17.6		
15	67	31.6	5	52.9		36.8	326	16.9		58.1	46	24.4		44.0	91	04.5		17.6		
16	82	34.1	20	52.3		37.4	341	17.9		58.0	61	26.3		44.3	106	06.7		17.5		
17	97	36.5	35	51.7	+22	38.1	356	19.0	+24	57.9	76	28.2	+7	44.5	121	09.0	-11	17.4		
18	112	39.0	50	51.1	+22	38.8	11	20.0	+24	57.7	91	30.1	+7	44.7	136	11.2	-11	17.3		
19	127	41.4	65	50.5		39.5	26	21.0		57.6	106	32.0		44.9	151	13.4		17.3		
20	142	43.9	80	49.9		40.1	41	22.0		57.5	121	33.9		45.2	166	15.7		17.2		
21	157	46.4	95	49.3		40.8	56	23.1		57.3	136	35.8		45.4	181	17.9		17.1		
22	172	48.8	110	48.7		41.5	71	24.1		57.2	151	37.7		45.6	196	20.2		17.0		
23	187	51.3	125	48.1		42.1	86	25.1		57.1	166	39.6		45.8	211	22.4		16.9		
24	202	53.8	140	47.5	+22	42.8	101	26.1	+24	57.0	181	41.5	+7	46.1	226	24.7	-11	16.9		
Dif	—			-6	+7		+10			-1		+19			+2		+22			+

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'9 PMG: 12 ^h 00.1 ^m			Edad: 24.3 ^d SD: 16'2 PMG: 8 ^h 08 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	179	56.9	+9	35.6	242	32.0	73	-20	52.4	117	60 N	2 57	3 58	4 44	4 38	2 11 54 107	
1	194	57.0		36.5	256	58.3	75		40.7	119	58	3 12	4 07	50	24	7 12 07 101	
2	209	57.2		37.4	271	24.8	75		28.8	119	56	24	15	4 55	12	11 18 97	
3	224	57.3		38.3	285	51.3	76		16.9	121	54	35	22	5 00	4 01	16 28 93	
4	239	57.5		39.2	300	17.9	76	-20	04.8	121	52	44	28	04	3 51	19 37 89	
5	254	57.7	+9	40.1	314	44.6	77	-19	52.6	122	50	3 52	4 34	5 08	3 43	22 12 44 87	
6	269	57.8	+9	41.0	329	11.4	78	-19	40.2	124	45	4 08	4 45	5 16	3 25	27 13 01 81	
7	284	58.0		41.9	343	38.2	78		27.8	124	40	21	4 55	23	3 10	32 14 76	
8	299	58.1		42.8	358	05.2	80		15.2	126	35	32	5 03	29	2 57	36 26 71	
9	314	58.3		43.7	372	32.2	80	-19	02.5	127	30	40	09	34	46	39 36 68	
10	329	58.4		44.6	386	59.3	81	-18	49.7	128	20	4 54	20	42	27	45 13 53 62	
11	344	58.6	+9	45.5	400	26.5	82	-18	36.8	129	10 N	5 04	5 28	5 50	2 10	50 14 07 57	
12	359	58.7	+9	46.4	414	53.8	83	-18	23.8	130	0	5 11	5 36	5 57	1 55	54 14 21 52	
13	14	58.9		47.3	428	21.2	84	-18	10.6	132	10 S	18	42	6 04	39	58 34 48	
14	29	59.0		48.2	442	48.6	84	-17	57.4	132	20	23	49	11	22	63 14 49 42	
15	44	59.2		49.1	456	16.2	86		44.0	134	30	27	55	19	1 03	69 15 05 37	
16	59	59.3		50.0	470	43.8	86		30.6	134	35	28	5 58	23	0 51	73 14 34	
17	74	59.5	+9	50.9	484	11.5	87	-17	17.0	136	40	5 30	6 01	6 29	0 38	76 15 25 29	
18	89	59.6	+9	51.7	498	39.3	88	-17	03.4	136	45	5 31	6 05	6 35	0 22	82 15 37 25	
19	104	59.8		52.6	512	07.1	88	-16	49.6	138	50	31	09	42	0 03	87 52 20	
20	119	59.9		53.5	526	35.1	90		35.7	139	52	32	11	45	**	**	** 15 59 17
21	135	00.1		54.4	540	03.1	90		21.8	139	54	32	13	49	**	**	** 16 07 14
22	150	00.2		55.3	554	31.2	91	-16	07.7	141	56	32	15	53	**	**	** 15 11
23	165	00.4		56.2	568	59.3	91	-15	53.6	141	58	31	17	6 57	**	**	** 25 6
24	180	00.5	+9	57.1	582	27.6	93	-15	39.4	142	60 S	5 31	6 19	7 02	**	**	** 16 36 2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: -4.1 10 ^h 26.7 ^m		Mag: -4.1 PMG: 14 ^h 37 ^m		Mag: +1.2 PMG: 17 ^h 13 ^m		Mag: -2.1 PMG: 11 ^h 52 ^m		Mag: +1.0 PMG: 8 ^h 53 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec
h	°	'	°	'	°	'	°	'	°	'
0	202	53.8	140	47.5	+22	42.8	101	26.1	+24	57.0
1	217	56.2	155	46.9		43.5	116	27.1		56.8
2	232	58.7	170	46.4		44.1	131	28.2		56.7
3	248	01.2	185	45.8		44.8	146	29.2		56.6
4	263	03.6	200	45.2		45.4	161	30.2		56.4
5	278	06.1	215	44.6	+22	46.1	176	31.2	+24	56.3
6	293	08.5	230	44.0	+22	46.8	191	32.2	+24	56.2
7	308	11.0	245	43.4		47.4	206	33.3		56.1
8	323	13.5	260	42.8		48.1	221	34.3		55.9
9	338	15.9	275	42.2		48.7	236	35.3		55.8
10	353	18.4	290	41.6		49.4	251	36.3		55.7
11	8	20.9	305	41.0	+22	50.0	266	37.3	+24	55.5
12	23	23.3	320	40.4	+22	50.7	281	38.4	+24	55.4
13	38	25.8	335	39.8		51.3	296	39.4		55.3
14	53	28.3	350	39.2		52.0	311	40.4		55.1
15	68	30.7	5	38.6		52.6	326	41.4		55.0
16	83	33.2	20	38.0		53.3	341	42.4		54.9
17	98	35.7	35	37.4	+22	53.9	356	43.5	+24	54.7
18	113	38.1	50	36.8	+22	54.6	11	44.5	+24	54.6
19	128	40.6	65	36.2		55.2	26	45.5		54.5
20	143	43.0	80	35.6		55.9	41	46.5		54.3
21	158	45.5	95	35.0		56.5	56	47.5		54.2
22	173	48.0	110	34.4		57.2	71	48.6		54.1
23	188	50.4	125	33.8		57.8	86	49.6		53.9
24	203	52.9	140	33.2	+22	58.4	101	50.6	+24	53.8
Dif	—		-6		+7		+10		-1	
							+19		+2	
									+22	
										+1

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15 ^h 9 PMG:11 ^h 59.8 ^m			Edad: 25.3 ^d SD: 16 ^h 2 PMG: 9 ^h 01 ^m														
				PHE { 4 ^h : 59 ^h 6 12 ^h : 59 ^h 6 20 ^h : 59 ^h 6 Rº: 50 ^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	h m m	h m m	
0	180 00.5	+9 57.1	229 27.6	93	-15 39.4	25.0	144	60 N	19 20	20 07	21 09	4 40 1	13 41 102					
1	195 00.7		243 55.9	94			144	58	14	19 57	20 54	31 5	48 98					
2	210 00.8		258 24.3	95	-15 10.6	145		56	08	49	41	23 9	13 55 94					
3	225 01.0	+9 59.8	272 52.8	95	-14 56.1	145		54	19 03	42	30	17 11	14 01 91					
4	240 01.1	+10 00.7	287 21.3	95	41.6	145		52	18 59	35	20	10 15	06 88					
5	255 01.2	+10 01.5	301 50.0	97	-14 26.9	147		50	18 55	19 29	20 12	4 05 17	14 11 85					
6	270 01.4	+10 02.4	316 18.7	97	-14 12.1	148		45	18 46	19 17	19 54	3 52 23	14 22 78					
7	285 01.5		330 47.4	97	-13 57.3	148		40	39	19 07	41	42 27	30 74					
8	300 01.7		345 16.3	99		149		35	33	18 59	30	33 31	37 70					
9	315 01.8		359 45.2	99		150		30	28	52	21	25 35	44 66					
10	330 02.0		14 14.2	100	-13 12.4	150		20	18	41	19 07	12 41	14 55 60					
11	345 02.1	+10 06.9	28 43.2	100	-12 57.3	151		10 N	18 11	18 32	18 57	3 00 46	15 04 55					
12	0 02.3	+10 07.8	43 12.3	101	-12 42.1	152		0	18 03	18 24	18 49	2 49 51	15 13 50					
13	15 02.4		57 41.5	102		153		10 S	17 56	17	42	37 56	22 45					
14	30 02.6		72 10.8	103	-12 11.5	153		20	48	11	36	25 61	31 40					
15	45 02.7		86 40.1	103	-11 56.1	154		30	40	04	32	12 67	42 33					
16	60 02.9		101 09.5	104		155		35	35	18 01	30	2 04 70	48 30					
17	75 03.0	+10 12.2	115 38.9	104	-11 25.1	155		40	17 29	17 57	18 28	1 54 75	15 54 26					
18	90 03.2	+10 13.1	130 08.4	105	-11 09.5	156		45	17 23	17 53	18 27	1 44 79	16 02 22					
19	105 03.3		144 38.0	106	-10 53.8	157		50	16	48	26	30 86	12 16					
20	120 03.4		159 07.6	106		157		52	12	46	26	24 89	16 13					
21	135 03.6		173 37.3	107		157		54	08	44	25	17 92	21 10					
22	150 03.7		188 07.0	107	-10 06.6	158		56	17 04	42	25	10 95	26 8					
23	165 03.9		202 36.8	108	-9 50.7	159		58	16 59	40	25	1 01 99	31 5					
24	180 04.0	+10 18.4	217 06.7	109	-9 34.8	159		60 S	16 54	17 37	18 25	0 51 104	16 38 1					

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG: 10 ^h 22.8 ^m			Mag: -4.1 PMG: 14 ^h 38 ^m			Mag: +1.2 PMG: 17 ^h 11 ^m			Mag: -2.1 PMG: 11 ^h 49 ^m			Mag: +1.0 PMG: 8 ^h 49 ^m		
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	203 52.9	140 33.2	+22 58.4	101 50.6	+24 53.8	182 27.1	+7 51.4	227 18.6	-11 15.0						
1	218 55.4	155 32.6	59.1	116 51.6	53.7	197 29.0	51.7	242 20.8	15.0						
2	233 57.8	170 32.0	+22 59.7	131 52.6	53.5	212 30.9	51.9	257 23.1	14.9						
3	249 00.3	185 31.4	+23 00.3	146 53.6	53.4	227 32.8	52.1	272 25.3	14.8						
4	264 02.8	200 30.8	01.0	161 54.7	53.3	242 34.7	52.3	287 27.6	14.7						
5	279 05.2	215 30.2	+23 01.6	176 55.7	+24 53.1	257 36.6	+7 52.6	302 29.8	-11 14.7						
6	294 07.7	230 29.6	+23 02.3	191 56.7	+24 53.0	272 38.5	+7 52.8	317 32.1	-11 14.6						
7	309 10.2	245 29.0	02.9	206 57.7	52.8	287 40.4	53.0	332 34.3	14.5						
8	324 12.6	260 28.4	03.5	221 58.7	52.7	302 42.3	53.2	347 36.6	14.4						
9	339 15.1	275 27.8	04.2	236 59.7	52.6	317 44.2	53.5	2 38.8	14.4						
10	354 17.5	290 27.2	04.8	252 00.8	52.4	332 46.1	53.7	17 41.1	14.3						
11	9 20.0	305 26.6	+23 05.4	267 01.8	+24 52.3	347 48.0	+7 53.9	32 43.3	-11 14.2						
12	24 22.5	320 26.0	+23 06.0	282 02.8	+24 52.2	2 49.9	+7 54.1	47 45.6	-11 14.1						
13	39 24.9	335 25.3	06.7	297 03.8	52.0	17 51.8	54.3	62 47.8	14.1						
14	54 27.4	350 24.7	07.3	312 04.8	51.9	32 53.7	54.6	77 50.1	14.0						
15	69 29.9	5 24.1	07.9	327 05.8	51.8	47 55.6	54.8	92 52.3	13.9						
16	84 32.3	20 23.5	08.5	342 06.9	51.6	62 57.5	55.0	107 54.6	13.8						
17	99 34.8	35 22.9	+23 09.2	357 07.9	+24 51.5	77 59.4	+7 55.2	122 56.8	-11 13.8						
18	114 37.3	50 22.3	+23 09.8	12 08.9	+24 51.3	93 01.3	+7 55.5	137 59.1	-11 13.7						
19	129 39.7	65 21.7	10.4	27 09.9	51.2	108 03.2	55.7	153 01.3	13.6						
20	144 42.2	80 21.1	11.0	42 10.9	51.1	123 05.1	55.9	168 03.6	13.5						
21	159 44.6	95 20.5	11.6	57 11.9	50.9	138 07.0	56.1	183 05.8	13.5						
22	174 47.1	110 19.9	12.3	72 13.0	50.8	153 08.9	56.4	198 08.1	13.4						
23	189 49.6	125 19.3	12.9	87 14.0	50.6	168 10.8	56.6	213 10.3	13.3						
24	204 52.0	140 18.7	+23 13.5	102 15.0	+24 50.5	183 12.7	+7 56.8	228 12.6	-11 13.2						

Dif	—	-6	+6	+10	-1	+19	+2	+22	+

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15 ^h 9 PMG:11 ^h 59.6 ^m				Edad: 26.3 ^d PHE { 4 ^h : 59 ^h 5 12 ^h : 59 ^h 4 20 ^h : 59 ^h 4 R°: 48 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	04.0	+10	18.4	217	06.7			-9	34.8	160	60 N	2	49	3	52	4	39	
1	195	04.2		19.3	231	36.6	109			18.8	160	58	3	05	4	01	45	36	4
2	210	04.3		20.2	246	06.6	110			02.8	160	56	18		10	50	32	7	29
3	225	04.5		21.0	260	36.6	110			46.8	160	54	29		17	4	55	28	11
4	240	04.6		21.9	275	06.6	110			30.7	161	52	39		24	5	00	25	13
5	255	04.8	+10	22.8	289	36.8	112			14.5	162	50	3	47	4	29	5	04	4
6	270	04.9	+10	23.7	304	06.9	111			58.3	162	45	4	04	4	42	5	13	4
7	285	05.0		24.6	318	37.1	112			42.1	162	40	18		4	52	20	09	25
8	300	05.2		25.4	333	07.4	113			25.8	163	35	29		5	00	26	04	29
9	315	05.3		26.3	347	37.7	113			09.5	163	30	38		07	31	4	00	32
10	330	05.5		27.2	2	08.1	114			53.2	163	20	4	52	18	41	3	53	38
11	345	05.6	+10	28.1	16	38.4	113			36.9	163	10 N	5	02	5	27	5	49	3
12	0	05.8	+10	29.0	31	08.9	115			20.5	164	0	5	11	5	35	5	56	3
13	15	05.9		29.8	45	39.4	115			04.0	165	10 S	18		42	6	04	33	54
14	30	06.0		30.7	60	09.9	115			47.6	164	20	23		49	11	26	59	
15	45	06.2		31.6	74	40.4	115			31.1	165	30	28		56	20	19	65	
16	60	06.3		32.5	89	11.0	116			14.6	165	35	30		5	59	25	14	69
17	75	06.5	+10	33.4	103	41.7	117			58.1	165	40	5	32	6	03	6	31	3
18	90	06.6	+10	34.2	118	12.3	116			41.6	165	45	5	33	6	07	6	37	3
19	105	06.7		35.1	132	43.0	117			25.0	166	50	34		12	45	2	56	83
20	120	06.9		36.0	147	13.8	118			08.4	166	52	35		14	48	53	86	
21	135	07.0		36.9	161	44.5	117			51.8	166	54	35		16	52	49	89	
22	150	07.2		37.8	176	15.3	118			35.2	166	56	35		18	6	57	45	92
23	165	07.3		38.6	190	46.2	119			18.6	166	58	35		21	7	01	40	96
24	180	07.5	+10	39.5	205	17.0	118			02.0	166	60 S	5	36	6	24	7	07	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 18.8 ^m		Mag: -4.1 PMG: 14 ^h 39 ^m		Mag: +1.2 PMG: 17 ^h 10 ^m		Mag: -2.1 PMG: 11 ^h 46 ^m		Mag: +1.0 PMG: 8 ^h 46 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	204	52.0	140	18.7	+23	13.5	102	15.0	+24	50.5
1	219	54.5	155	18.1		14.1	117	16.0		50.4
2	234	57.0	170	17.5		14.7	132	17.0		50.2
3	249	59.4	185	16.9		15.3	147	18.0		50.1
4	265	01.9	200	16.3		15.9	162	19.0		49.9
5	280	04.4	215	15.6	+23	16.6	177	20.1	+24	49.8
6	295	06.8	230	15.0	+23	17.2	192	21.1	+24	49.7
7	310	09.3	245	14.4		17.8	207	22.1		49.5
8	325	11.8	260	13.8		18.4	222	23.1		49.4
9	340	14.2	275	13.2		19.0	237	24.1		49.2
10	355	16.7	290	12.6		19.6	252	25.1		49.1
11	10	19.1	305	12.0	+23	20.2	267	26.1	+24	48.9
12	25	21.6	320	11.4	+23	20.8	282	27.2	+24	48.8
13	40	24.1	335	10.8		21.4	297	28.2		48.7
14	55	26.5	350	10.2		22.0	312	29.2		48.5
15	70	29.0	5	09.6		22.6	327	30.2		48.4
16	85	31.5	20	08.9		23.2	342	31.2		48.2
17	100	33.9	35	08.3	+23	23.8	357	32.2	+24	48.1
18	115	36.4	50	07.7	+23	24.4	12	33.2	+24	47.9
19	130	38.9	65	07.1		25.0	27	34.2		47.8
20	145	41.3	80	06.5		25.6	42	35.3		47.7
21	160	43.8	95	05.9		26.2	57	36.3		47.5
22	175	46.2	110	05.3		26.8	72	37.3		47.4
23	190	48.7	125	04.7		27.4	87	38.3		47.2
24	205	51.2	140	04.0	+23	28.0	102	39.3	+24	47.1
Dif	—		-6		+6		+10		-1	
							+19		+2	
									+23	
									+1	

UT	SOL		● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 59.4 ^m		Edad: 27.3 ^d SD: 16'2 PMG: 10 ^h 39 ^m PHE 4^h: 59'3 12^h: 59'2 20^h: 59'0 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 07.5	+10 39.5	205 17.0		-3 02.0		60 N	19 25	20 12	21 17	4 41 0	17 02 99		
1	195 07.6		219 47.9	119	-2 45.3	167	58	18	20 02	21 00	40 4	01 95		
2	210 07.7		234 18.8	119		28.7	56	12	19 53	20 46	39 7	01 90		
3	225 07.9		248 49.7	119	-2 12.0	167	54	07	46	35	39 9	17 00 87		
4	240 08.0		263 20.7	120	-1 55.3	167	52	19 02	39	24	38 12	16 59 85		
5	255 08.2	+10 43.9	277 51.7	120	-1 38.7	166	50	18 58	19 33	20 16	4 37 15	16 59 82		
6	270 08.3	+10 44.8	292 22.7	120	-1 22.0	167	45	18 49	19 20	19 57	4 36 20	16 57 77		
7	285 08.4		306 53.7	120	-1 05.3	167	40	41	09	43	34 25	56 72		
8	300 08.6		321 24.7	120	-0 48.7	166	35	35	19 01	32	33 29	55 68		
9	315 08.7		335 55.8	121		32.0	30	29	18 54	23	32 32	55 64		
10	330 08.9		350 26.9	121	-0 15.4	166	20	19	42	19 08	31 37	53 58		
11	345 09.0	+10 49.1	4 57.9	120	+0 01.3	167	10 N	18 11	18 32	18 57	4 29 43	16 52 53		
12	0 09.1	+10 50.0	19 29.0	121	+0 17.9	166	0	18 03	18 24	18 48	4 28 48	16 51 48		
13	15 09.3		34 00.2	122		34.6	10 S	17 55		41	27 53	50 42		
14	30 09.4		48 31.3	121	+0 51.2	166	20	47	09	35	25 59	48 38		
15	45 09.5		63 02.4	121	+1 07.8	166	30	38	18 02	30	24 64	47 32		
16	60 09.7		77 33.6	122		24.4	35	32	17 58	28	23 68	46 28		
17	75 09.8	+10 54.4	92 04.7	121	+1 41.0	166	40	17 27	17 54	18 26	4 22 72	16 45 25		
18	90 10.0	+10 55.2	106 35.9	122	+1 57.6	166	45	17 20	17 50	18 24	4 21 76	16 44 20		
19	105 10.1		121 07.1	122	+2 14.1	165	50	12	45	22	19 83	43 14		
20	120 10.2		135 38.3	122		30.6	52	08	42	22	19 85	42 12		
21	135 10.4		150 09.4	121	+2 47.1	165	54	17 04	40	21	18 88	41 10		
22	150 10.5		164 40.6	122	+3 03.6	165	56	16 59	37	21	17 91	41 7		
23	165 10.6	+10 59.6	179 11.8	122		20.1	58	54	35	20	16 95	40 4		
24	180 10.8	+11 00.5	193 43.0	122	+3 36.5	164	60 S	16 49	17 32	18 20	4 16 98	16 39 0		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 10 ^h 14.9 ^m		Mag: -4.1 PMG: 14 ^h 40 ^m		Mag: +1.2 PMG: 17 ^h 08 ^m		Mag: -2.1 PMG: 11 ^h 43 ^m		Mag: +1.0 PMG: 8 ^h 42 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /		° /		° /		° /		° /	
0	205 51.2		140 04.0	+23 28.0	102 39.3	+24 47.1	183 58.2	+8 02.2	229 06.6	-11 11.5
1	220 53.6		155 03.4	28.6	117 40.3	46.9	199 00.1	02.4	244 08.9	11.4
2	235 56.1		170 02.8	29.1	132 41.3	46.8	214 02.0	02.6	259 11.1	11.3
3	250 58.6		185 02.2	29.7	147 42.3	46.6	229 03.9	02.8	274 13.4	11.2
4	266 01.0		200 01.6	30.3	162 43.3	46.5	244 05.8	03.0	289 15.6	11.2
5	281 03.5		215 01.0	+23 30.9	177 44.4	+24 46.3	259 07.7	+8 03.3	304 17.9	-11 11.1
6	296 06.0		230 00.4	+23 31.5	192 45.4	+24 46.2	274 09.6	+8 03.5	319 20.2	-11 11.0
7	311 08.4		244 59.8	32.1	207 46.4	46.0	289 11.5	03.7	334 22.4	10.9
8	326 10.9		259 59.1	32.6	222 47.4	45.9	304 13.4	03.9	349 24.7	10.9
9	341 13.4		274 58.5	33.2	237 48.4	45.8	319 15.3	04.2	4 26.9	10.8
10	356 15.8		289 57.9	33.8	252 49.4	45.6	334 17.2	04.4	19 29.2	10.7
11	11 18.3		304 57.3	+23 34.4	267 50.4	+24 45.5	349 19.1	+8 04.6	34 31.4	-11 10.6
12	26 20.7		319 56.7	+23 35.0	282 51.4	+24 45.3	4 21.0	+8 04.8	49 33.7	-11 10.6
13	41 23.2		334 56.1	35.5	297 52.4	45.2	19 22.9	05.1	64 35.9	10.5
14	56 25.7		349 55.5	36.1	312 53.4	45.0	34 24.8	05.3	79 38.2	10.4
15	71 28.1		4 54.8	36.7	327 54.5	44.9	49 26.7	05.5	94 40.4	10.4
16	86 30.6		19 54.2	37.3	342 55.5	44.7	64 28.6	05.7	109 42.7	10.3
17	101 33.1		34 53.6	+23 37.8	357 56.5	+24 44.6	79 30.5	+8 05.9	124 45.0	-11 10.2
18	116 35.5		49 53.0	+23 38.4	12 57.5	+24 44.4	94 32.4	+8 06.2	139 47.2	-11 10.1
19	131 38.0		64 52.4	39.0	27 58.5	44.3	109 34.3	06.4	154 49.5	10.1
20	146 40.5		79 51.8	39.6	42 59.5	44.1	124 36.2	06.6	169 51.7	10.0
21	161 42.9		94 51.1	40.1	58 00.5	44.0	139 38.1	06.8	184 54.0	09.9
22	176 45.4		109 50.5	40.7	73 01.5	43.8	154 40.0	07.1	199 56.2	09.8
23	191 47.8		124 49.9	41.3	88 02.5	43.7	169 41.9	07.3	214 58.5	09.8
24	206 50.3		139 49.3	+23 41.8	103 03.5	+24 43.5	184 43.8	+8 07.5	230 00.7	-11 09.7
Dif	—		-6	+6	+10	-1	+19	+2	+23	+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: 28.3 ^d SD: 16'1 PMG: 11 ^h 27 ^m												
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico Civil			Hora R°	Hora R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	10.8	+11	00.5	193	43.0	+3	36.5	60 N	2	41	3	45	4	33	4	41
1	195	10.9		01.3	208	14.2	+3	52.9	58	2	58	3	56	39	44	4	36
2	210	11.0		02.2	222	45.4	+4	09.3	56	3	11	4	04	45	46	8	31
3	225	11.2		03.1	237	16.5		25.6	54	23	12	51		48	11	27	88
4	240	11.3		03.9	251	47.7		42.0	52	33	19	4	55	50	13	24	84
5	255	11.5	+11	04.8	266	18.9	+4	58.2	50	3	42	4	25	5	00	4	52
6	270	11.6	+11	05.7	280	50.1	+5	14.5	45	4	01	4	38	5	09	4	56
7	285	11.7		06.5	295	21.2		30.7	40	15	49	17		4	59	25	08
8	300	11.9		07.4	309	52.4	+5	46.9	35	26	4	57	23	5	02	28	18
9	315	12.0		08.3	324	23.5	+6	03.0	30	35	5	05	29	04	32	17	59
10	330	12.1		09.1	338	54.7		19.1	20	4	50	17	39	08	38	51	58
11	345	12.3	+11	10.0	353	25.8	+6	35.1	10 N	5	01	5	26	5	48	5	12
12	0	12.4	+11	10.9	7	56.9	+6	51.1	0	5	10	5	35	5	56	5	16
13	15	12.5		11.7	22	28.0	+7	07.1	10 S	18		42	6	04	20	52	32
14	30	12.7		12.6	36	59.1		23.0	20	24		50	12	24	58	26	39
15	45	12.8		13.5	51	30.2		38.9	30	29	5	57	21	28	64	19	33
16	60	12.9		14.3	66	01.2	+7	54.7	35	31	6	01	27	31	67	14	30
17	75	13.1	+11	15.2	80	32.3	+8	10.4	40	5	33	6	05	6	33	5	34
18	90	13.2	+11	16.0	95	03.3	+8	26.1	45	5	35	6	10	6	40	5	37
19	105	13.3		16.9	109	34.3		41.8	50	37		15	48	42	82	16	57
20	120	13.5		17.8	124	05.3	+8	57.4	52	38	17		52	44	84	54	14
21	135	13.6		18.6	138	36.3	+9	12.9	54	38	20	6	56	46	87	51	11
22	150	13.7		19.5	153	07.2		28.4	56	39	22	7	01	48	91	48	8
23	165	13.9		20.4	167	38.1		43.9	58	39	25	06		51	95	44	4
24	180	14.0	+11	21.2	182	09.0	+9	59.2	60 S	5	40	6	28	7	12	5	54

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 11.0 ^m		Mag: -4.1 PMG: 14 ^h 41 ^m		Mag: +1.2 PMG: 17 ^h 07 ^m		Mag: -2.1 PMG: 11 ^h 40 ^m		Mag: +1.0 PMG: 8 ^h 39 ^m	
	hG ♈ Dec		hG ♀ Dec		hG ♂ Dec		hG ♃ Dec		hG ♄ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	206	50.3	139	49.3	+23	41.8	103	03.5	+24	43.5
1	221	52.8	154	48.7		42.4	118	04.5		43.4
2	236	55.2	169	48.1		43.0	133	05.6		43.2
3	251	57.7	184	47.4		43.5	148	06.6		43.1
4	267	00.2	199	46.8		44.1	163	07.6		42.9
5	282	02.6	214	46.2	+23	44.6	178	08.6	+24	42.8
6	297	05.1	229	45.6	+23	45.2	193	09.6	+24	42.6
7	312	07.6	244	45.0		45.8	208	10.6		42.5
8	327	10.0	259	44.3		46.3	223	11.6		42.3
9	342	12.5	274	43.7		46.9	238	12.6		42.1
10	357	15.0	289	43.1		47.4	253	13.6		42.0
11	12	17.4	304	42.5	+23	48.0	268	14.6	+24	41.8
12	27	19.9	319	41.9	+23	48.5	283	15.6	+24	41.7
13	42	22.3	334	41.2		49.1	298	16.6		41.5
14	57	24.8	349	40.6		49.6	313	17.6		41.4
15	72	27.3	4	40.0		50.2	328	18.7		41.2
16	87	29.7	19	39.4		50.7	343	19.7		41.1
17	102	32.2	34	38.8	+23	51.3	358	20.7	+24	40.9
18	117	34.7	49	38.1	+23	51.8	13	21.7	+24	40.8
19	132	37.1	64	37.5		52.4	28	22.7		40.6
20	147	39.6	79	36.9		52.9	43	23.7		40.4
21	162	42.1	94	36.3		53.5	58	24.7		40.3
22	177	44.5	109	35.7		54.0	73	25.7		40.1
23	192	47.0	124	35.0		54.5	88	26.7		40.0
24	207	49.5	139	34.4	+23	55.1	103	27.7	+24	39.8
Dif	—		-6		+6		+10		-2	
							+19		+2	
									+23	
									+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: 29.3 ^d SD: 15°9 PMG: 12 ^h 15 ^m						PHE { 4 ^h : 58'3 12 ^h : 58'1 20 ^h : 57'9 R°: 50 ^m										
	hG ☉	Dec			hG ☾	Dif								Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	14.0	+11	21.2	182	09.0	+9	59.2	60 N	19	30	20	18	21	25	4	42	1	20	20	101
1	195	14.1		22.1	196	39.9	+10	14.5	58	23	20	07	21	07	48	6			11	95	
2	210	14.3		22.9	211	10.7		29.8	56	16	19	58	20	52	54	9	20	02	91		
3	225	14.4		23.8	225	41.6	+10	45.0	54	11	50	40	4	59	12	19	55	87			
4	240	14.5		24.7	240	12.4	+11	00.1	52	06	43	29	5	03	15	48	85				
5	255	14.7	+11	25.5	254	43.1	+11	15.1	50	19	01	19	36	20	20	5	07	18	19	42	82
6	270	14.8	+11	26.4	269	13.9	+11	30.1	45	18	51	19	23	20	01	5	16	23	19	30	75
7	285	14.9		27.2	283	44.6		45.0	40	43	12	19	46	24	27	19	71				
8	300	15.1		28.1	298	15.3	+11	59.8	35	36	19	03	34	30	32	11	67				
9	315	15.2		29.0	312	46.0	+12	14.6	30	30	18	55	24	36	35	19	03	64			
10	330	15.3		29.8	327	16.6		29.3	20	20	42	19	09	46	40	18	49	59			
11	345	15.4	+11	30.7	341	47.2	+12	43.9	10 N	18	11	18	32	18	57	5	55	45	18	38	54
12	0	15.6	+11	31.5	356	17.7	+12	58.4	0	18	02	18	23	18	48	6	04	49	18	27	50
13	15	15.7		32.4	10	48.3	+13	12.9	10 S	17	54	15	40	12	54	16	46				
14	30	15.8		33.2	25	18.8		27.2	20	45	08	34	22	58	18	05	41				
15	45	16.0		34.1	39	49.2		41.5	30	36	18	00	28	32	64	17	52	36			
16	60	16.1		35.0	54	19.7	+13	55.7	35	30	17	56	25	38	68	44	33				
17	75	16.2	+11	35.8	68	50.1	+14	09.9	40	17	24	17	51	18	23	6	45	72	17	36	29
18	90	16.3	+11	36.7	83	20.4	+14	23.9	45	17	16	17	46	18	21	6	54	75	17	26	25
19	105	16.5		37.5	97	50.7		37.9	50	08	41	18	7	04	81	14	19				
20	120	16.6		38.4	112	21.0	+14	51.8	52	17	04	38	18	08	85	08	17				
21	135	16.7		39.2	126	51.3	+15	05.5	54	16	59	36	17	13	88	17	02	14			
22	150	16.9		40.1	141	21.5		19.2	56	54	33	16	19	91	16	56	10				
23	165	17.0		40.9	155	51.6		32.8	58	49	30	15	26	95	48	7					
24	180	17.1	+11	41.8	170	21.8	+15	46.3	60 S	16	43	17	26	18	15	7	33	100	16	40	2
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 10 ^h 07.0 ^m			Mag: -4.1 PMG: 14 ^h 42 ^m			Mag: +1.2 PMG: 17 ^h 05 ^m			Mag: -2.1 PMG: 11 ^h 37 ^m			Mag: +1.0 PMG: 8 ^h 35 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	°	'	°	°	'	°						
0	207	49.5	139	34.4	+23	55.1	103	27.7	+24	39.8	185	29.4	+8	12.8	230	54.9	-11	08.0			
1	222	51.9	154	33.8		55.6	118	28.7		39.7	200	31.3		13.0	245	57.2		07.9			
2	237	54.4	169	33.2		56.2	133	29.7		39.5	215	33.2		13.3	260	59.4		07.8			
3	252	56.8	184	32.5		56.7	148	30.7		39.3	230	35.1		13.5	276	01.7		07.8			
4	267	59.3	199	31.9		57.2	163	31.7		39.2	245	37.0		13.7	291	03.9		07.7			
5	283	01.8	214	31.3	+23	57.8	178	32.7	+24	39.0	260	38.9	+8	13.9	306	06.2	-11	07.6			
6	298	04.2	229	30.7	+23	58.3	193	33.7	+24	38.9	275	40.8	+8	14.2	321	08.5	-11	07.5			
7	313	06.7	244	30.1		58.8	208	34.7		38.7	290	42.7		14.4	336	10.7		07.5			
8	328	09.2	259	29.4		59.4	223	35.7		38.6	305	44.6		14.6	351	13.0		07.4			
9	343	11.6	274	28.8	+23	59.9	238	36.7		38.4	320	46.5		14.8	6	15.2		07.3			
10	358	14.1	289	28.2	+24	00.4	253	37.8		38.2	335	48.4		15.0	21	17.5		07.3			
11	13	16.6	304	27.6	+24	00.9	268	38.8	+24	38.1	350	50.3	+8	15.3	36	19.8	-11	07.2			
12	28	19.0	319	26.9	+24	01.5	283	39.8	+24	37.9	5	52.2	+8	15.5	51	22.0	-11	07.1			
13	43	21.5	334	26.3		02.0	298	40.8		37.8	20	54.1		15.7	66	24.3		07.0			
14	58	23.9	349	25.7		02.5	313	41.8		37.6	35	56.0		15.9	81	26.5		07.0			
15	73	26.4	4	25.1		03.0	328	42.8		37.4	50	57.9		16.1	96	28.8		06.9			
16	88	28.9	19	24.4		03.6	343	43.8		37.3	65	59.8		16.4	111	31.1		06.8			
17	103	31.3	34	23.8	+24	04.1	358	44.8	+24	37.1	81	01.7	+8	16.6	126	33.3	-11	06.8			
18	118	33.8	49	23.2	+24	04.6	13	45.8	+24	37.0	96	03.6	+8	16.8	141	35.6	-11	06.7			
19	133	36.3	64	22.6		05.1	28	46.8		36.8	111	05.5		17.0	156	37.8		06.6			
20	148	38.7	79	21.9		05.6	43	47.8		36.6	126	07.4		17.2	171	40.1		06.5			
21	163	41.2	94	21.3		06.2	58	48.8		36.5	141	09.3		17.5	186	42.4		06.5			
22	178	43.7	109	20.7		06.7	73	49.8		36.3	156	11.2		17.7	201	44.6		06.4			
23	193	46.1	124	20.1		07.2	88	50.8		36.2	171	13.1		17.9	216	46.9		06.3			
24	208	48.6	139	19.4	+24	07.7	103	51.8	+24	36.0	186	15.0	+8	18.1	231	49.1	-11	06.3			
Dif	—			-6			+10			-2			+19			+23			+		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG:11 ^h 58.8 ^m				Edad: 0.8 ^d SD: 15'7 PMG: 13 ^h 05 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	17.1	+11	41.8	170	21.8	+15	46.3	60 N	2	32	3	39	4	27	4	43	3	22 01 101
1	195	17.2		42.6	184	51.9	+15	59.8	58	2	50		50	34	4	54	8	21 46 94	
2	210	17.4		43.5	199	21.9	+16	13.1	56	3	05	3	59	40	5	03	12	33 89	
3	225	17.5		44.4	213	51.9		26.3	54		17	4	07	46		11	16	22 85	
4	240	17.6		45.2	228	21.9		39.5	52		28		14	51		18	20	13 81	
5	255	17.8	+11	46.1	242	51.8	+16	52.5	50	3	38	4	21	4	56	5	25	22	21 04 79
6	270	17.9	+11	46.9	257	21.7	+17	05.4	45	3	57	4	35	5	06	5	39	28	20 45 74
7	285	18.0		47.8	271	51.6		18.3	40	4	11		46	14	5	51	32	30 70	
8	300	18.1		48.6	286	21.4		31.0	35		23	4	55	21	6	02	34	18 66	
9	315	18.3		49.5	300	51.1		43.6	30		33	5	02	27		11	37	20 07 64	
10	330	18.4		50.3	315	20.9	+17	56.2	20	4	49		15	38	26	43	19	48 59	
11	345	18.5	+11	51.2	329	50.5	+18	08.6	10 N	5	00	5	25	5	47	6	40	47	19 32 55
12	0	18.6	+11	52.0	344	20.2	+18	20.9	0	5	10	5	34	5	55	6	53	51	19 17 52
13	15	18.8		52.9	358	49.8		33.1	10 S		18		42	6	04	7	06	55	19 02 48
14	30	18.9		53.7	13	19.3		45.2	20		24		50	13	20	59	18	46	44
15	45	19.0		54.6	27	48.8	+18	57.2	30		30	5	58	23	36	64	28	40	
16	60	19.1		55.4	42	18.3	+19	09.1	35		33	6	02	28	46	67	17	37	
17	75	19.3	+11	56.3	56	47.7	+19	20.9	40	5	35	6	07	6	35	7	57	70	18 05 34
18	90	19.4	+11	57.1	71	17.1	+19	32.5	45	5	38	6	12	6	42	8	09	75	17 51 30
19	105	19.5		58.0	85	46.4		44.1	50		40		18	51	25	81	33	25	
20	120	19.6		58.8	100	15.7	+19	55.5	52		41	20		6	55	33	83	25	22
21	135	19.8	+11	59.6	114	45.0	+20	06.9	54		42	23	7	00	41	87	16	19	
22	150	19.9	+12	00.5	129	14.2		18.1	56		43		26	05	8	50	91	17	06 15
23	165	20.0		01.3	143	43.3		29.1	58		43		29	10	9	01	95	16	55 10
24	180	20.1	+12	02.2	158	12.4	+20	40.1	60 S	5	44	6	33	7	16	9	13	102	16 42 4

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 10 ^h 03.1 ^m		Mag: -4.1 PMG: 14 ^h 43 ^m		Mag: +1.2 PMG: 17 ^h 03 ^m		Mag: -2.1 PMG: 11 ^h 34 ^m		Mag: +1.0 PMG: 8 ^h 31 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	208	48.6	139	19.4	+24	07.7	103	51.8	+24	36.0
1	223	51.1	154	18.8		08.2	118	52.8		35.8
2	238	53.5	169	18.2		08.7	133	53.8		35.7
3	253	56.0	184	17.6		09.2	148	54.8		35.5
4	268	58.4	199	16.9		09.8	163	55.8		35.3
5	284	00.9	214	16.3	+24	10.3	178	56.8	+24	35.2
6	299	03.4	229	15.7	+24	10.8	193	57.8	+24	35.0
7	314	05.8	244	15.1		11.3	208	58.8		34.9
8	329	08.3	259	14.4		11.8	223	59.8		34.7
9	344	10.8	274	13.8		12.3	239	00.8		34.5
10	359	13.2	289	13.2		12.8	254	01.8		34.4
11	14	15.7	304	12.5	+24	13.3	269	02.8	+24	34.2
12	29	18.2	319	11.9	+24	13.8	284	03.8	+24	34.0
13	44	20.6	334	11.3		14.3	299	04.8		33.9
14	59	23.1	349	10.7		14.8	314	05.8		33.7
15	74	25.6	4	10.0		15.3	329	06.8		33.5
16	89	28.0	19	09.4		15.8	344	07.8		33.4
17	104	30.5	34	08.8	+24	16.3	359	08.8	+24	33.2
18	119	32.9	49	08.2	+24	16.8	14	09.8	+24	33.0
19	134	35.4	64	07.5		17.3	29	10.8		32.9
20	149	37.9	79	06.9		17.8	44	11.8		32.7
21	164	40.3	94	06.3		18.3	59	12.8		32.5
22	179	42.8	109	05.6		18.7	74	13.8		32.4
23	194	45.3	124	05.0		19.2	89	14.8		32.2
24	209	47.7	139	04.4	+24	19.7	104	15.8	+24	32.0
Dif	—		-6		+5		+10		-2	
							+19		+2	
									+23	
									+1	

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'9 PMG: 11 ^h 58.6 ^m				Edad: 1.8 ^d PHE { 4 ^h : 57'0 12 ^h : 56'8 20 ^h : 56'5 PMG: 13 ^h 56 ^m R°: 53 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180	20.1	+12	02.2	158	12.4	+20	40.1	109	58	60 N	19 35	20 24	21 33	4 46	8	23 42	95			
1	195	20.3		03.0	172	41.5	+20	51.0	107	58		27	12	21 13	5 02	14	20 87				
2	210	20.4		03.9	187	10.6	+21	01.7	106	56		20	20 03	20 58	15	19	23 02	82			
3	225	20.5		04.7	201	39.5		12.3	106	54		15	19 54	45	27	23	22 47	78			
4	240	20.6		05.6	216	08.5		22.8	105	52		09	46	33	38	25	34	75			
5	255	20.7	+12	06.4	230	37.4	+21	33.2	104	50		19 04	19 39	20 24	5 47	28	22 23	72			
6	270	20.9	+12	07.2	245	06.2	+21	43.4	102	45		18 54	19 25	20 04	6 07	33	21 59	69			
7	285	21.0		08.1	259	35.1	+21	53.5	101	40		45	14	19 48	23	37	40	66			
8	300	21.1		08.9	274	03.8	+22	03.5	100	35		38	19 04	36	36	40	24	64			
9	315	21.2		09.8	288	32.6		13.4	99	30		31	18 56	26	6 48	43	21 11	61			
10	330	21.4		10.6	303	01.3		23.1	97	20		20	43	19 10	7 09	46	20 47	59			
11	345	21.5	+12	11.5	317	29.9	+22	32.7	96	10 N		18 11	18 32	18 57	7 27	49	20 27	56			
12	0	21.6	+12	12.3	331	58.5	+22	42.2	95	0		18 02	18 23	18 48	7 44	52	20 09	53			
13	15	21.7		13.1	346	27.1	+22	51.6	94	10 S		17 53	15	39	8 01	55	19 50	51			
14	30	21.8		14.0	0	55.6	+23	00.8	92	20		44	18 06	32	19	59	30	48			
15	45	22.0		14.8	15	24.1		09.9	91	30		34	17 58	26	40	63	19 08	44			
16	60	22.1		15.7	29	52.6		18.9	90	35		28	53	23	8 53	65	18 54	43			
17	75	22.2	+12	16.5	44	21.0	+23	27.7	88	40		17 21	17 49	18 20	9 07	68	18 39	40			
18	90	22.3	+12	17.3	58	49.4	+23	36.4	87	45		17 13	17 43	18 18	9 24	72	18 21	37			
19	105	22.4		18.2	73	17.7		44.9	85	50		04	37	15	46	76	17 58	33			
20	120	22.6		19.0	87	46.0	+23	53.4	85	52		17 00	34	14	9 56	79	47	31			
21	135	22.7		19.9	102	14.3	+24	01.7	83	54		16 55	31	13	10 08	82	35	27			
22	150	22.8		20.7	116	42.5		09.8	81	56		50	28	12	21	86	21	24			
23	165	22.9		21.5	131	10.7		17.8	80	58		44	25	11	36	92	17 05	18			
24	180	23.0	+12	22.4	145	38.9	+24	25.7	79	60 S		16 37	17 21	18 10	10 55	100	16 46	10			

UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 9 ^h 59.2 ^m				Mag: -4.1 PMG: 14 ^h 44 ^m				Mag: +1.2 PMG: 17 ^h 02 ^m				Mag: -2.1 PMG: 11 ^h 31 ^m				Mag: +1.0 PMG: 8 ^h 28 ^m							
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	209	47.7	139	04.4	+24	19.7	104	15.8	+24	32.0	187	00.6	+8	23.4	232	43.4	-11	04.6						
1	224	50.2	154	03.8		20.2	119	16.8		31.9	202	02.5		23.6	247	45.7		04.5						
2	239	52.7	169	03.1		20.7	134	17.8		31.7	217	04.4		23.9	262	48.0		04.4						
3	254	55.1	184	02.5		21.2	149	18.8		31.5	232	06.3		24.1	277	50.2		04.4						
4	269	57.6	199	01.9		21.7	164	19.8		31.4	247	08.2		24.3	292	52.5		04.3						
5	285	00.0	214	01.2	+24	22.2	179	20.8	+24	31.2	262	10.1	+8	24.5	307	54.8	-11	04.2						
6	300	02.5	229	00.6	+24	22.6	194	21.8	+24	31.0	277	12.0	+8	24.7	322	57.0	-11	04.2						
7	315	05.0	244	00.0		23.1	209	22.8		30.9	292	13.9		25.0	337	59.3		04.1						
8	330	07.4	258	59.3		23.6	224	23.8		30.7	307	15.8		25.2	353	01.6		04.0						
9	345	09.9	273	58.7		24.1	239	24.8		30.5	322	17.7		25.4	8	03.8		03.9						
10	0	12.4	288	58.1		24.5	254	25.8		30.3	337	19.6		25.6	23	06.1		03.9						
11	15	14.8	303	57.5	+24	25.0	269	26.8	+24	30.2	352	21.5	+8	25.8	38	08.4	-11	03.8						
12	30	17.3	318	56.8	+24	25.5	284	27.8	+24	30.0	7	23.4	+8	26.1	53	10.6	-11	03.7						
13	45	19.8	333	56.2		26.0	299	28.8		29.8	22	25.3		26.3	68	12.9		03.7						
14	60	22.2	348	55.6		26.4	314	29.8		29.7	37	27.2		26.5	83	15.2		03.6						
15	75	24.7	3	54.9		26.9	329	30.8		29.5	52	29.1		26.7	98	17.4		03.5						
16	90	27.2	18	54.3		27.4	344	31.8		29.3	67	31.0		26.9	113	19.7		03.5						
17	105	29.6	33	53.7	+24	27.9	359	32.8	+24	29.1	82	32.9	+8	27.2	128	21.9	-11	03.4						
18	120	32.1	48	53.0	+24	28.3	14	33.8	+24	29.0	97	34.8	+8	27.4	143	24.2	-11	03.3						
19	135	34.5	63	52.4		28.8	29	34.8		28.8	112	36.7		27.6	158	26.5		03.3						
20	150	37.0	78	51.8		29.3	44	35.8		28.6	127	38.6		27.8	173	28.7		03.2						
21	165	39.5	93	51.1		29.7	59	36.8		28.5	142	40.5		28.0	188	31.0		03.1						
22	180	41.9	108	50.5		30.2	74	37.8		28.3	157	42.4		28.3	203	33.3		03.1						
23	195	44.4	123	49.9		30.7	89	38.8		28.1	172	44.3		28.5	218	35.5		03.0						
24	210	46.9	138	49.2	+24	31.1	104	39.8	+24	27.9	187	46.2	+8	28.7	233	37.8	-11	02.9						
Dif	—				-6				+10				+19				+2				+23			

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: 2.8 ^d SD: 15'4 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	23.0	+12	22.4	145	38.9	+24	25.7	78	60 N	2 23	3 32	4 21	4 54	16	**	**	**	
1	195	23.1		23.2	160	07.1		33.5	76	58	43	44	29	5 16	25	**	**	**	
2	210	23.3		24.0	174	35.2		41.1	74	56	2 58	3 54	36	34	30	**	**	**	
3	225	23.4		24.9	189	03.2		48.5	74	54	3 12	4 02	42	5 50	33	**	**	**	
4	240	23.5		25.7	203	31.3	+24	55.9	74	52	23	10	47	6 03	36	23	49	63	
5	255	23.6	+12	26.5	217	59.3	+25	03.1	72	50	3 33	4 17	4 52	6 15	38	23	35	63	
6	270	23.7	+12	27.4	232	27.3	+25	10.1	70	45	3 53	4 31	5 02	6 40	41	23	08	60	
7	285	23.9		28.2	246	55.2		17.0	69	40	4 08	43	11	7 00	43	22	46	59	
8	300	24.0		29.1	261	23.2		23.8	68	35	21	4 52	19	16	46	28	58		
9	315	24.1		29.9	275	51.1		30.4	66	30	31	5 00	25	31	47	22	12	57	
10	330	24.2		30.7	290	18.9		36.9	65	20	47	14	36	7 55	50	21	46	56	
11	345	24.3	+12	31.6	304	46.8	+25	43.2	63	10 N	4 59	5 24	5 46	8 16	52	21	23	55	
12	0	24.4	+12	32.4	319	14.6	+25	49.4	62	0	5 09	5 34	5 55	8 36	54	21	02	54	
13	15	24.6		33.2	333	42.4	+25	55.5	61	10 S	18	42	6 04	8 56	56	20	41	52	
14	30	24.7		34.1	348	10.2	+26	01.4	59	20	25	51	13	9 18	57	20	18	52	
15	45	24.8		34.9	2	38.0		07.2	58	30	31	5 59	24	43	60	19	52	50	
16	60	24.9		35.7	17	05.7		12.8	56	35	34	6 04	30	9 58	61	37	48		
17	75	25.0	+12	36.5	31	33.5	+26	18.3	55	40	5 37	6 09	6 37	10 15	63	19	19	47	
18	90	25.1	+12	37.4	46	01.2	+26	23.6	53	45	5 40	6 14	6 45	10 36	65	18	58	45	
19	105	25.2		38.2	60	28.9		28.8	52	50	43	21	54	11 02	68	31	43		
20	120	25.4		39.0	74	56.6		33.8	50	52	44	23	6 58	15	70	18	41		
21	135	25.5		39.9	89	24.2		38.7	49	54	45	26	7 03	30	72	18	02	40	
22	150	25.6		40.7	103	51.9		43.5	48	56	46	30	09	11 47	75	17	45	36	
23	165	25.7		41.5	118	19.5		48.1	46	58	47	33	14	12 08	79	17	23	33	
24	180	25.8	+12	42.4	132	47.2	+26	52.5	44	60 S	5 48	6 37	7 21	12 35	87	16	56	25	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 55.2 ^m		Mag: -4.1 PMG: 14 ^h 45 ^m		Mag: +1.3 PMG: 17 ^h 00 ^m		Mag: -2.1 PMG: 11 ^h 27 ^m		Mag: +1.0 PMG: 8 ^h 24 ^m	
	hG ♂ Dec		hG ♀ Dec		hG ♂ Dec		hG ♀ Dec		hG ♄ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	210	46.9	138	49.2	+24	31.1	104	39.8	+24	27.9
1	225	49.3	153	48.6		31.6	119	40.8		27.8
2	240	51.8	168	48.0		32.0	134	41.8		27.6
3	255	54.3	183	47.4		32.5	149	42.8		27.4
4	270	56.7	198	46.7		32.9	164	43.8		27.2
5	285	59.2	213	46.1	+24	33.4	179	44.8	+24	27.1
6	301	01.7	228	45.5	+24	33.9	194	45.8	+24	26.9
7	316	04.1	243	44.8		34.3	209	46.8		26.7
8	331	06.6	258	44.2		34.8	224	47.8		26.5
9	346	09.0	273	43.6		35.2	239	48.8		26.4
10	1	11.5	288	42.9		35.7	254	49.8		26.2
11	16	14.0	303	42.3	+24	36.1	269	50.8	+24	26.0
12	31	16.4	318	41.7	+24	36.6	284	51.8	+24	25.8
13	46	18.9	333	41.0		37.0	299	52.8		25.7
14	61	21.4	348	40.4		37.5	314	53.8		25.5
15	76	23.8	3	39.8		37.9	329	54.7		25.3
16	91	26.3	18	39.1		38.4	344	55.7		25.1
17	106	28.8	33	38.5	+24	38.8	359	56.7	+24	25.0
18	121	31.2	48	37.9	+24	39.2	14	57.7	+24	24.8
19	136	33.7	63	37.2		39.7	29	58.7		24.6
20	151	36.2	78	36.6		40.1	44	59.7		24.4
21	166	38.6	93	36.0		40.6	60	00.7		24.2
22	181	41.1	108	35.3		41.0	75	01.7		24.1
23	196	43.5	123	34.7		41.4	90	02.7		23.9
24	211	46.0	138	34.1	+24	41.9	105	03.7	+24	23.7
Dif	—		-6		+4		+10		-2	
							+19		+2	
									+23	
									+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: 3.8 ^d SD: 15'2 PMG: 15 ^h 43 ^m PHE { 4 ^h : 55'6 12 ^h : 55'4 20 ^h : 55'2 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	180	25.8	+12	42.4	132	47.2	86	+26	52.5	43	60 N	19 40	20 30	21 41	5 10	38	1 17	74			
1	195	25.9		43.2	147	14.8	86	+26	56.8	42	58	32	18	20	5 41	42	0 47	68			
2	210	26.0		44.0	161	42.4	86	+27	01.0	40	56	25	20 07	21 04	6 04	45	24	66			
3	225	26.2		44.8	176	10.0	86		05.0	39	54	18	19 58	20 50	23 46		0 05	64			
4	240	26.3		45.7	190	37.6	86		08.9	37	52	13	50	38	39 47		** ** *	**			
5	255	26.4	+12	46.5	205	05.2	86	+27	12.6	36	50	19 07	19 43	20 28	6 53	48	** ** *	**			
6	270	26.5	+12	47.3	219	32.8	86	+27	16.2	34	45	18 56	19 28	20 07	7 21	50	** ** *	**			
7	285	26.6		48.1	234	00.4	86		19.6	34	40	47	16	19 51	7 43	51	23 45	51			
8	300	26.7		49.0	248	28.0	86		22.9	33	35	39	19 06	38	8 02	51	26	51			
9	315	26.8		49.8	262	55.6	86		26.0	31	30	33	18 58	27	18 51	23 09	52				
10	330	26.9		50.6	277	23.2	86		29.0	30	20	21	44	19 11	8 45	52	22 42	52			
11	345	27.1	+12	51.4	291	50.8	86	+27	31.8	28	10 N	18 11	18 33	18 58	9 08	53	22 18	53			
12	0	27.2	+12	52.3	306	18.4	86	+27	34.5	27	0	18 02	18 23	18 47	9 30	53	21 56	53			
13	15	27.3		53.1	320	46.1	86		37.0	25	10 S	17 52	14	39	9 52	54	33	54			
14	30	27.4		53.9	335	13.7	86		39.4	23	20	43	18 05	31	10 15	54	21 10	53			
15	45	27.5		54.7	349	41.3	86		41.7	23	30	32	17 56	24	43 54		20 42	54			
16	60	27.6		55.6	4	08.9	86		43.8	21	35	25	51	21	10 59	55	25	54			
17	75	27.7	+12	56.4	18	36.6	87	+27	45.7	19	40	17 18	17 46	18 18	11 18	55	20 06	54			
18	90	27.8	+12	57.2	33	04.3	87	+27	47.5	18	45	17 10	17 40	18 15	11 41	55	19 43	54			
19	105	27.9		58.0	47	31.9	86		49.2	17	50	17 00	34	11	12 10	56	19 14	54			
20	120	28.1		58.8	61	59.6	87		50.7	15	52	16 56	31	10	25 56		18 59	54			
21	135	28.2	+12	59.7	76	27.3	87		52.0	13	54	51	27	09	12 42	56	42	54			
22	150	28.3	+13	00.5	90	55.0	87		53.2	12	56	45	24	07	13 02	56	18 21	54			
23	165	28.4		01.3	105	22.8	88		54.3	11	58	39	20	06	13 27	57	17 56	54			
24	180	28.5	+13	02.1	119	50.6	88	+27	55.2	9	60 S	16 32	17 16	18 05	14 02	58	17 21	53			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 51.3 ^m		Mag: -4.1 PMG: 14 ^h 46 ^m		Mag: +1.3 PMG: 16 ^h 59 ^m		Mag: -2.1 PMG: 11 ^h 24 ^m		Mag: +1.0 PMG: 8 ^h 21 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	211	46.0	138	34.1	+24	41.9	105	03.7	+24	23.7
1	226	48.5	153	33.4		42.3	120	04.7		23.5
2	241	50.9	168	32.8		42.7	135	05.7		23.4
3	256	53.4	183	32.2		43.2	150	06.7		23.2
4	271	55.9	198	31.5		43.6	165	07.7		23.0
5	286	58.3	213	30.9	+24	44.0	180	08.7	+24	22.8
6	302	00.8	228	30.3	+24	44.5	195	09.7	+24	22.6
7	317	03.3	243	29.6		44.9	210	10.7		22.5
8	332	05.7	258	29.0		45.3	225	11.7		22.3
9	347	08.2	273	28.4		45.7	240	12.7		22.1
10	2	10.6	288	27.7		46.2	255	13.7		21.9
11	17	13.1	303	27.1	+24	46.6	270	14.6	+24	21.7
12	32	15.6	318	26.4	+24	47.0	285	15.6	+24	21.5
13	47	18.0	333	25.8		47.4	300	16.6		21.4
14	62	20.5	348	25.2		47.8	315	17.6		21.2
15	77	23.0	3	24.5		48.3	330	18.6		21.0
16	92	25.4	18	23.9		48.7	345	19.6		20.8
17	107	27.9	33	23.3	+24	49.1	0	20.6	+24	20.6
18	122	30.4	48	22.6	+24	49.5	15	21.6	+24	20.5
19	137	32.8	63	22.0		49.9	30	22.6		20.3
20	152	35.3	78	21.4		50.3	45	23.6		20.1
21	167	37.8	93	20.7		50.7	60	24.6		19.9
22	182	40.2	108	20.1		51.2	75	25.6		19.7
23	197	42.7	123	19.5		51.6	90	26.6		19.5
24	212	45.1	138	18.8	+24	52.0	105	27.6	+24	19.4
Dif	—		-6		+4		+10		-2	
							+19		+2	
									+23	
									+1	

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: 4.8 ^d SD: 15'0 PMG: 16 ^h 36 ^m												
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	28.5	+13	02.1	119	50.6	+27	55.2	8	60 N	2 14	3 26	4 16	5 48	68	2 31	41
1	195	28.6		02.9	134	18.3		56.0	6	58	35	38	24	6 23	64	1 55	46
2	210	28.7		03.8	148	46.1		56.6	5	56	2 52	48	31	6 49	62	30	47
3	225	28.8		04.6	163	14.0		57.1	4	54	3 06	3 57	37	7 09	61	1 09	49
4	240	28.9		05.4	177	41.8		57.5	2	52	18	4 05	43	26	60	0 52	49
5	255	29.0	+13	06.2	192	09.7	+27	57.7	0	50	3 28	4 13	4 48	7 41	59	0 38	49
6	270	29.1	+13	07.0	206	37.6	+27	57.7	1	45	3 49	4 28	4 59	8 11	57	0 08	51
7	285	29.3		07.8	221	05.5		57.6	2	40	4 05	40	5 08	34	56	**	**
8	300	29.4		08.7	235	33.5		57.4	2	35	18	50	16	8 53	56	**	**
9	315	29.5		09.5	250	01.5		57.0	4	30	29	4 58	23	9 09	55	**	**
10	330	29.6		10.3	264	29.5		56.5	5	20	45	5 12	35	9 37	54	23	34
11	345	29.7	+13	11.1	278	57.6	+27	55.9	6	10 N	4 58	5 24	5 45	10 01	53	23	11
12	0	29.8	+13	11.9	293	25.7	+27	55.1	8	0	5 09	5 33	5 55	10 23	52	22	49
13	15	29.9		12.7	307	53.8		54.1	10	10 S	18	42	6 04	10 46	51	27	52
14	30	30.0		13.6	322	22.0		53.0	11	20	25	5 51	14	11 09	50	22	03
15	45	30.1		14.4	336	50.2		51.8	12	30	32	6 00	25	37	49	21	36
16	60	30.2		15.2	351	18.4		50.4	14	35	36	05	31	11 54	48	19	58
17	75	30.3	+13	16.0	5	46.7	+27	48.9	15	40	5 39	6 11	6 39	12 13	47	21	00
18	90	30.4	+13	16.8	20	15.1	+27	47.3	16	45	5 42	6 17	6 47	12 36	45	20	37
19	105	30.5		17.6	34	43.4		45.5	18	50	46	24	6 57	13 06	43	20	08
20	120	30.6		18.4	49	11.8		43.6	19	52	47	27	7 02	21	41	19	53
21	135	30.7		19.2	63	40.3		41.5	21	54	48	30	07	38	40	36	66
22	150	30.8		20.1	78	08.8		39.3	22	56	50	33	13	13 58	38	19	15
23	165	31.0		20.9	92	37.3		37.0	23	58	51	37	19	14 24	34	18	50
24	180	31.1	+13	21.7	107	05.9	+27	34.5	25	60 S	5 53	6 42	7 26	15 00	27	18	14

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 47.4 ^m		Mag: -4.1 PMG: 14 ^h 47 ^m		Mag: +1.3 PMG: 16 ^h 57 ^m		Mag: -2.1 PMG: 11 ^h 21 ^m		Mag: +1.0 PMG: 8 ^h 17 ^m	
	hG ♈		hG ♀ Dec		hG ♂ Dec		hG ♃ Dec		hG ♄ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	212	45.1	138	18.8	+24	52.0	105	27.6	+24	19.4
1	227	47.6	153	18.2		52.4	120	28.6		19.2
2	242	50.1	168	17.6		52.8	135	29.5		19.0
3	257	52.5	183	16.9		53.2	150	30.5		18.8
4	272	55.0	198	16.3		53.6	165	31.5		18.6
5	287	57.5	213	15.6	+24	54.0	180	32.5	+24	18.4
6	302	59.9	228	15.0	+24	54.4	195	33.5	+24	18.2
7	318	02.4	243	14.4		54.8	210	34.5		18.1
8	333	04.9	258	13.7		55.2	225	35.5		17.9
9	348	07.3	273	13.1		55.6	240	36.5		17.7
10	3	09.8	288	12.5		56.0	255	37.5		17.5
11	18	12.3	303	11.8	+24	56.4	270	38.5	+24	17.3
12	33	14.7	318	11.2	+24	56.8	285	39.5	+24	17.1
13	48	17.2	333	10.6		57.2	300	40.5		16.9
14	63	19.6	348	09.9		57.6	315	41.5		16.7
15	78	22.1	3	09.3		58.0	330	42.4		16.6
16	93	24.6	18	08.7		58.4	345	43.4		16.4
17	108	27.0	33	08.0	+24	58.8	0	44.4	+24	16.2
18	123	29.5	48	07.4	+24	59.1	15	45.4	+24	16.0
19	138	32.0	63	06.7		59.5	30	46.4		15.8
20	153	34.4	78	06.1	+24	59.9	45	47.4		15.6
21	168	36.9	93	05.5	+25	00.3	60	48.4		15.4
22	183	39.4	108	04.8		00.7	75	49.4		15.2
23	198	41.8	123	04.2		01.1	90	50.4		15.0
24	213	44.3	138	03.6	+25	01.4	105	51.4	+24	14.9
Dif	—		-6		+4		+10		-2	
							+19		+2	
									+23	
									+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG: 11 ^h 57.8 ^m				Edad: 5.8 ^d SD: 14'9 PMG: 17 ^h 28 ^m								Civil		Náutico		Hora R°		Hora R°		
	hG ☉		Dec		hG ☾		Dif		Dec				Dif								
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m	m
0	180	31.1	+13	21.7	107	05.9		+27	34.5		26	60 N	19	45	20	36	21	50	6	56	86
1	195	31.2		22.5	121	34.6	97		31.9		27	58	36		23		27	7	27	79	
2	210	31.3		23.3	136	03.3	97		29.2		29	56	29		12		21	10	71	74	
3	225	31.4		24.1	150	32.0	97		26.3		29	54	22		20	02	20	55	8	10	
4	240	31.5		24.9	165	00.8	98		23.3		30	52	16		19	54		42	26	68	
5	255	31.6	+13	25.7	179	29.6		+27	20.2		31	50	19	11	19	46	20	32	8	40	
6	270	31.7	+13	26.5	193	58.5	99	+27	16.9		33	45	18	59	19	31	20	10	9	08	
7	285	31.8		27.3	208	27.5	100		13.5		34	40	49		18	19	53	30	61	36	
8	300	31.9		28.1	222	56.5	100		10.0		35	35	41		19	08		40	9	49	
9	315	32.0		29.0	237	25.5	100		06.4		36	30	34		18	59	29	10	04	57	
10	330	32.1		29.8	251	54.6	101	+27	02.6		38	20	22		45	19	11	31	54		
11	345	32.2	+13	30.6	266	23.8	102	+26	58.6		40	10 N	18	11	18	33	18	58	10	54	
12	0	32.3	+13	31.4	280	53.0	102	+26	54.6		40	0	18	01	18	23	18	47	11	15	
13	15	32.4		32.2	295	22.3	103		50.4		42	10 S	17	52		13	38		37	47	
14	30	32.5		33.0	309	51.6	103		46.1		43	20	41		18	04	30	11	59	46	
15	45	32.6		33.8	324	21.0	104		41.7		44	30	30		17	54	22	12	26	42	
16	60	32.7		34.6	338	50.5	105		37.1		46	35	23		49		19	12	42	40	
17	75	32.8	+13	35.4	353	20.0	105	+26	32.5		46	40	17	16	17	43	18	15	13	00	
18	90	32.9	+13	36.2	7	49.6	106	+26	27.7		48	45	17	07	17	37	18	12	13	21	
19	105	33.0		37.0	22	19.2	106		22.7		50	50	16	56		30	08	13	49	32	
20	120	33.1		37.8	36	48.9	107		17.7		50	52	52		27	06	14	02	30	20	
21	135	33.2		38.6	51	18.7	108		12.5		52	54	46		23	05	18	27	42	74	
22	150	33.3		39.4	65	48.5	108		07.2		53	56	40		20	03	36	24	24	78	
23	165	33.4		40.2	80	18.4	109	+26	01.8		54	58	34		15	02	14	58	19	20	
24	180	33.5	+13	41.0	94	48.3	109	+25	56.3		55	60 S	16	26	17	11	18	00	15	27	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 43.5 ^m		Mag: -4.1 PMG: 14 ^h 48 ^m		Mag: +1.3 PMG: 16 ^h 55 ^m		Mag: -2.1 PMG: 11 ^h 18 ^m		Mag: +1.0 PMG: 8 ^h 13 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	213	44.3	138	03.6	+25	01.4	105	51.4	+24	14.9
1	228	46.8	153	02.9		01.8	120	52.4		14.7
2	243	49.2	168	02.3		02.2	135	53.3		14.5
3	258	51.7	183	01.7		02.6	150	54.3		14.3
4	273	54.1	198	01.0		03.0	165	55.3		14.1
5	288	56.6	213	00.4	+25	03.3	180	56.3	+24	13.9
6	303	59.1	227	59.8	+25	03.7	195	57.3	+24	13.7
7	319	01.5	242	59.1		04.1	210	58.3		13.5
8	334	04.0	257	58.5		04.5	225	59.3		13.3
9	349	06.5	272	57.8		04.8	241	00.3		13.1
10	4	08.9	287	57.2		05.2	256	01.3		12.9
11	19	11.4	302	56.6	+25	05.6	271	02.3	+24	12.7
12	34	13.9	317	55.9	+25	05.9	286	03.3	+24	12.6
13	49	16.3	332	55.3		06.3	301	04.2		12.4
14	64	18.8	347	54.7		06.7	316	05.2		12.2
15	79	21.2	2	54.0		07.0	331	06.2		12.0
16	94	23.7	17	53.4		07.4	346	07.2		11.8
17	109	26.2	32	52.8	+25	07.8	1	08.2	+24	11.6
18	124	28.6	47	52.1	+25	08.1	16	09.2	+24	11.4
19	139	31.1	62	51.5		08.5	31	10.2		11.2
20	154	33.6	77	50.8		08.8	46	11.2		11.0
21	169	36.0	92	50.2		09.2	61	12.2		10.8
22	184	38.5	107	49.6		09.6	76	13.1		10.6
23	199	41.0	122	48.9		09.9	91	14.1		10.4
24	214	43.4	137	48.3	+25	10.3	106	15.1	+24	10.2
Dif	—		-6		+4		+10		-2	
									+19	+2
										+23
										+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: 6.8 ^d SD: 14'8 PMG: 18 ^h 17 ^m																	
	hG ☉ Dec				hG ☾ Dif Dec Dif							Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m				
0	180	33.5	+13	41.0	94	48.3	+25	56.3	56	60 N	2	05	3	19	4	10	8	22	91	3	31	8
1	195	33.6		41.8	109	18.3		50.7	58	58	27		32	19		8	46	83	3	07	14	
2	210	33.7		42.6	123	48.4		44.9	59	56	2	45	43	26		9	05	79	2	47	19	
3	225	33.8		43.4	138	18.5		39.0	59	54	3	00	3	53	33		21	75		31	22	
4	240	33.9		44.2	152	48.7		33.0	60	52	12		4	01	39		34	73		17	25	
5	255	34.0	+13	45.0	167	19.0	+25	26.9	61	50	3	23	4	09	4	44	9	46	70	2	04	28
6	270	34.1	+13	45.8	181	49.3	+25	20.7	62	45	3	45	4	24	4	56	10	11	65	1	39	32
7	285	34.2		46.6	196	19.7		14.3	64	40	4	02		37	5	06	31	62		19	35	
8	300	34.3		47.4	210	50.2		07.9	64	35		15		47	14		10	47	59	1	02	37
9	315	34.4		48.2	225	20.7	+25	01.3	66	30		26	4	56	21		11	01	57	0	47	39
10	330	34.5		49.0	239	51.3	+24	54.6	67	20		44	5	11	34		25	53		22	43	
11	345	34.6	+13	49.8	254	22.0	+24	47.8	68	10 N	4	57	5	23	5	44	11	46	50	0	00	46
12	0	34.7	+13	50.6	268	52.7	+24	40.9	69	0	5	08	5	33	5	54	12	05	47	**	**	**
13	15	34.8		51.4	283	23.5		33.9	70	10 S		18		43	6	04		24	44	**	**	**
14	30	34.9		52.2	297	54.3		26.8	71	20		26	5	52	15		12	45	40	23	51	52
15	45	35.0		53.0	312	25.3		19.6	72	30		33	6	02	26		13	08	37		29	56
16	60	35.1		53.8	326	56.2		12.3	73	35		37		07	33		22	35		16	59	
17	75	35.2	+13	54.6	341	27.3	+24	04.8	75	40	5	41	6	13	6	41	13	38	32	23	00	63
18	90	35.3	+13	55.4	355	58.4	+23	57.3	75	45	5	44	6	19	6	49	13	57	28	22	42	66
19	105	35.3		56.2	10	29.6		49.6	77	50		48		26	7	00	14	21	23		20	70
20	120	35.4		57.0	25	00.9		41.9	77	52		50		30	05		32	21		22	09	73
21	135	35.5		57.7	39	32.2		34.0	79	54		52		33	10		14	45	18	21	56	77
22	150	35.6		58.5	54	03.6		26.0	80	56		53		37	16		15	00	15		42	80
23	165	35.7	+13	59.3	68	35.0		18.0	80	58		55		41	23		17	11		25	85	
24	180	35.8	+14	00.1	83	06.5	+23	09.8	82	60 S	5	57	6	46	7	31	15	38	5	21	05	90

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 39.5 ^m		Mag: -4.1 PMG: 14 ^h 49 ^m		Mag: +1.3 PMG: 16 ^h 54 ^m		Mag: -2.1 PMG: 11 ^h 15 ^m		Mag: +1.0 PMG: 8 ^h 10 ^m	
	hG ♈		hG ♀ Dec		hG ♂ Dec		hG ♃ Dec		hG ♄ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	214	43.4	137	48.3	+25	10.3	190	48.6	+8	49.7
1	229	45.9	152	47.7		10.6	205	50.5		49.9
2	244	48.4	167	47.0		11.0	220	52.4		50.1
3	259	50.8	182	46.4		11.3	235	54.3		50.3
4	274	53.3	197	45.8		11.7	250	56.2		50.5
5	289	55.7	212	45.1	+25	12.0	265	58.1	+8	50.7
6	304	58.2	227	44.5	+25	12.4	281	00.0	+8	51.0
7	320	00.7	242	43.8		12.7	296	01.9		51.2
8	335	03.1	257	43.2		13.1	311	03.8		51.4
9	350	05.6	272	42.6		13.4	326	05.7		51.6
10	5	08.1	287	41.9		13.8	341	07.6		51.8
11	20	10.5	302	41.3	+25	14.1	356	09.5	+8	52.0
12	35	13.0	317	40.7	+25	14.4	11	11.4	+8	52.3
13	50	15.5	332	40.0		14.8	26	13.3		52.5
14	65	17.9	347	39.4		15.1	41	15.3		52.7
15	80	20.4	2	38.8		15.5	56	17.2		52.9
16	95	22.9	17	38.1		15.8	71	19.1		53.1
17	110	25.3	32	37.5	+25	16.1	86	21.0	+8	53.3
18	125	27.8	47	36.8	+25	16.5	101	22.9	+8	53.6
19	140	30.2	62	36.2		16.8	116	24.8		53.8
20	155	32.7	77	35.6		17.1	131	26.7		54.0
21	170	35.2	92	34.9		17.5	146	28.6		54.2
22	185	37.6	107	34.3		17.8	161	30.5		54.4
23	200	40.1	122	33.7		18.1	176	32.4		54.6
24	215	42.6	137	33.0	+25	18.4	191	34.3	+8	54.9
Dif	—		-6		+3		+19		+2	
									</	

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: 7.8 ^d SD: 14'8 PMG: 19 ^h 03 ^m														
					PHE { 4 ^h : 54/2 12 ^h : 54/2 20 ^h : 54/3 R°: 44 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif		Civil	Náutico	Hora	R°	Hora	R°		
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m	h m m		
0	180	35.8	+14	00.1	83	06.5	+23	09.8	82	60 N	19 50	20 42	21 59	9 53 89	3 39 3				
1	195	35.9		00.9	97	38.1	+23	01.6	84	58	41	28	35	10 09 84	21 8				
2	210	36.0		01.7	112	09.8	+22	53.2	85	56	33	16	16	24 79	3 06 13				
3	225	36.1		02.5	126	41.5		44.7	85	54	26	20 06	21 00	36 76	2 53 16				
4	240	36.2		03.3	141	13.2		36.2	85	52	19	19 58	20 47	47 73	42 19				
5	255	36.3	+14	04.1	155	45.1	+22	27.5	87	50	19 14	19 50	20 36	10 56 71	2 32 21				
6	270	36.4	+14	04.9	170	17.0	+22	18.8	87	45	19 01	19 33	20 13	11 16 66	2 11 25				
7	285	36.5		05.6	184	49.0		09.9	89	40	18 51	20	19 56	33 62	1 54 29				
8	300	36.6		06.4	199	21.0	+22	01.0	89	35	43	10	42	46 59	39 32				
9	315	36.7		07.2	213	53.1	+21	52.0	90	30	35	19 00	30	11 58 56	26 35				
10	330	36.8		08.0	228	25.2		42.8	92	20	22	18 45	19 12	12 18 52	1 05 39				
11	345	36.8	+14	08.8	242	57.5	+21	33.6	92	10 N	18 11	18 33	18 58	12 36 48	0 46 42				
12	0	36.9	+14	09.6	257	29.8	+21	24.3	93	0	18 01	18 22	18 47	12 52 44	0 28 46				
13	15	37.0		10.4	272	02.1		14.9	94	10 S	17 51	12	37	13 08 41	0 10 49				
14	30	37.1		11.2	286	34.5	+21	05.4	95	20	40	18 03	29	25 38	** ** *				
15	45	37.2		11.9	301	07.0	+20	55.8	96	30	28	17 52	21	45 33	** ** *				
16	60	37.3		12.7	315	39.5		46.2	96	35	21	47	17	13 57 30	** ** *				
17	75	37.4	+14	13.5	330	12.1	+20	36.4	98	40	17 13	17 41	18 13	14 10 27	** ** *				
18	90	37.5	+14	14.3	344	44.7	+20	26.6	98	45	17 04	17 34	18 09	14 25 24	23 48 66				
19	105	37.6		15.1	359	17.5		16.6	100	50	16 53	27	05	44 19	30 71				
20	120	37.7		15.9	13	50.2	+20	06.6	100	52	48	23	03	14 53 16	22 73				
21	135	37.8		16.6	28	23.0	+19	56.5	101	54	42	19	18 01	15 03 14	13 76				
22	150	37.8		17.4	42	55.9		46.3	102	56	36	15	17 59	15 10	23 02 79				
23	165	37.9		18.2	57	28.9		36.1	102	58	29	11	57	28 6	22 50 83				
24	180	38.0	+14	19.0	72	01.9	+19	25.7	104	60 S	16 21	17 06	17 55	15 43 2	22 35 89				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 9 ^h 35.6 ^m		Mag: -4.2 PMG: 14 ^h 50 ^m			Mag: +1.3 PMG: 16 ^h 52 ^m			Mag: -2.1 PMG: 11 ^h 12 ^m			Mag: +1.0 PMG: 8 ^h 06 ^m							
	hG ♈	hG ♀			hG ♂			hG ♃			hG ♄								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	215	42.6	137	33.0	+25	18.4	106	38.8	+24	05.5	191	34.3	+8	54.9	238	10.6	-10	55.0	
1	230	45.0	152	32.4		18.8	121	39.8		05.3	206	36.2		55.1	253	12.9		55.0	
2	245	47.5	167	31.8		19.1	136	40.8		05.1	221	38.1		55.3	268	15.2		54.9	
3	260	50.0	182	31.1		19.4	151	41.8		04.8	236	40.0		55.5	283	17.5		54.8	
4	275	52.4	197	30.5		19.7	166	42.8		04.6	251	41.9		55.7	298	19.8		54.8	
5	290	54.9	212	29.9	+25	20.1	181	43.8	+24	04.4	266	43.8	+8	55.9	313	22.0	-10	54.7	
6	305	57.4	227	29.2	+25	20.4	196	44.8	+24	04.2	281	45.7	+8	56.1	328	24.3	-10	54.6	
7	320	59.8	242	28.6		20.7	211	45.7		04.0	296	47.6		56.4	343	26.6		54.6	
8	336	02.3	257	28.0		21.0	226	46.7		03.8	311	49.5		56.6	358	28.9		54.5	
9	351	04.7	272	27.3		21.3	241	47.7		03.6	326	51.4		56.8	13	31.2		54.5	
10	6	07.2	287	26.7		21.7	256	48.7		03.4	341	53.3		57.0	28	33.5		54.4	
11	21	09.7	302	26.0	+25	22.0	271	49.7	+24	03.2	356	55.2	+8	57.2	43	35.7	-10	54.3	
12	36	12.1	317	25.4	+25	22.3	286	50.7	+24	03.0	11	57.1	+8	57.4	58	38.0	-10	54.3	
13	51	14.6	332	24.8		22.6	301	51.7		02.8	26	59.0		57.7	73	40.3		54.2	
14	66	17.1	347	24.1		22.9	316	52.6		02.6	42	00.9		57.9	88	42.6		54.1	
15	81	19.5	2	23.5		23.2	331	53.6		02.4	57	02.8		58.1	103	44.9		54.1	
16	96	22.0	17	22.9		23.5	346	54.6		02.2	72	04.7		58.3	118	47.2		54.0	
17	111	24.5	32	22.2	+25	23.8	1	55.6	+24	02.0	87	06.6	+8	58.5	133	49.4	-10	54.0	
18	126	26.9	47	21.6	+25	24.1	16	56.6	+24	01.8	102	08.5	+8	58.7	148	51.7	-10	53.9	
19	141	29.4	62	21.0		24.4	31	57.6		01.6	117	10.4		59.0	163	54.0		53.8	
20	156	31.8	77	20.3		24.8	46	58.6		01.4	132	12.3		59.2	178	56.3		53.8	
21	171	34.3	92	19.7		25.1	61	59.5		01.2	147	14.2		59.4	193	58.6		53.7	
22	186	36.8	107	19.1		25.4	77	00.5		01.0	162	16.1		59.6	209	00.9		53.6	
23	201	39.2	122	18.4		25.7	92	01.5		00.8	177	18.0	+8	59.8	224	03.1		53.6	
24	216	41.7	137	17.8	+25	26.0	107	02.5	+24	00.6	192	19.9	+9	00.0	239	05.4	-10	53.5	
Dif	—		-6			+3	+10			-2	+19		+2		+23			+1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 9 PMG: 11 ^h 57.4 ^m			Edad: 8.8 ^d PHE { 4 ^h : 54 ^h /3 12 ^h : 54 ^h /4 20 ^h : 54 ^h /4 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	180	38.0	+14	19.0	72	01.9	+19	25.7	60 N	1	55	3	13	4	04	11	22	86
1	195	38.1		19.8	86	34.9		15.3	58	2	19		26	13		33	83	29
2	210	38.2		20.6	101	08.0	+19	04.8	56		39		38	21		43	79	19
3	225	38.3		21.3	115	41.2	+18	54.2	54	2	54		48	29		11	52	76
4	240	38.4		22.1	130	14.4		43.5	52	3	07	3	57	35		12	00	73
5	255	38.5	+14	22.9	144	47.7	+18	32.8	50	3	19	4	04	4	41	12	07	71
6	270	38.6	+14	23.7	159	21.0	+18	22.0	45	3	41	4	21	4	53	12	22	66
7	285	38.6		24.5	173	54.4		11.1	40	3	59		34	5	03		35	61
8	300	38.7		25.2	188	27.8	+18	00.1	35	4	13		45	12		45	59	
9	315	38.8		26.0	203	01.3	+17	49.0	30		24	4	54	19		12	54	56
10	330	38.9		26.8	217	34.8		37.9	20	42	5	09		32		13	10	51
11	345	39.0	+14	27.6	232	08.4	+17	26.7	10 N	4	56	5	22	5	44	13	24	46
12	0	39.1	+14	28.3	246	42.0	+17	15.4	0	5	08	5	33	5	54	13	36	43
13	15	39.2		29.1	261	15.7	+17	04.1	10 S		18		43	6	04	13	49	39
14	30	39.2		29.9	275	49.4	+16	52.7	20	26		5	53	15		14	03	34
15	45	39.3		30.7	290	23.2		41.2	30	35	6	03		28		18	29	25
16	60	39.4		31.4	304	57.0	+16	29.6	35	39		08		35		27	27	
17	75	39.5	+14	32.2	319	30.9	+16	18.0	40	5	43	6	15	6	43	14	37	23
18	90	39.6	+14	33.0	334	04.8	+16	06.3	45	5	47	6	21	6	52	14	49	19
19	105	39.7		33.8	348	38.7	+15	54.5	50		51		29	7	03	15	03	15
20	120	39.8		34.5	3	12.7		42.7	52	53		33		08		09	13	
21	135	39.8		35.3	17	46.8		30.8	54	55		37		14		17	10	
22	150	39.9		36.1	32	20.9		18.8	56	57		41		20		25	7	
23	165	40.0		36.9	46	55.0	+15	06.8	58	5	59	45		27		34	4	
24	180	40.1	+14	37.6	61	29.1	+14	54.7	60 S	6	01	6	50	7	36	15	45	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 31.7 ^m		Mag: -4.2 PMG: 14 ^h 51 ^m		Mag: +1.3 PMG: 16 ^h 51 ^m		Mag: -2.1 PMG: 11 ^h 09 ^m		Mag: +1.0 PMG: 8 ^h 02 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	216	41.7	137	17.8	+25	26.0	192	19.9	+9	00.0
1	231	44.2	152	17.2		26.3	207	21.8	+9	00.2
2	246	46.6	167	16.5		26.6	222	23.7		00.5
3	261	49.1	182	15.9		26.9	237	25.6		00.7
4	276	51.6	197	15.3		27.1	252	27.5		00.9
5	291	54.0	212	14.6	+25	27.4	267	29.4	+9	01.1
6	306	56.5	227	14.0	+25	27.7	282	31.3	+9	01.3
7	321	59.0	242	13.4		28.0	297	33.2		01.5
8	337	01.4	257	12.7		28.3	312	35.1		01.7
9	352	03.9	272	12.1		28.6	327	37.0		02.0
10	7	06.3	287	11.5		28.9	342	38.9		02.2
11	22	08.8	302	10.8	+25	29.2	357	40.9	+9	02.4
12	37	11.3	317	10.2	+25	29.5	12	42.8	+9	02.6
13	52	13.7	332	09.6		29.8	27	44.7		02.8
14	67	16.2	347	08.9		30.0	42	46.6		03.0
15	82	18.7	2	08.3		30.3	57	48.5		03.3
16	97	21.1	17	07.7		30.6	72	50.4		03.5
17	112	23.6	32	07.0	+25	30.9	87	52.3	+9	03.7
18	127	26.1	47	06.4	+25	31.2	102	54.2	+9	03.9
19	142	28.5	62	05.8		31.4	117	56.1		04.1
20	157	31.0	77	05.1		31.7	132	58.0		04.3
21	172	33.5	92	04.5		32.0	147	59.9		04.5
22	187	35.9	107	03.9		32.3	163	01.8		04.8
23	202	38.4	122	03.2		32.5	178	03.7		05.0
24	217	40.8	137	02.6	+25	32.8	193	05.6	+9	05.2
Dif	—		-6		+3		+19		+2	
									+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: 9.8 ^d SD: 14'8 PMG: 20 ^h 29 ^m PHE { 4 ^h : 54'5 12 ^h : 54'7 20 ^h : 54'8 R°: 41 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	40.1	+14	37.6	61	29.1	+14	54.7	122	60 N	19	55	20	48	22	09	12	48	86
1	195	40.2		38.4	76	03.3		42.5	122	58	45	33	21	42	12	56	81	35	4
2	210	40.3		39.2	90	37.6		30.3	122	56	37	21	22		13	02	79	27	7
3	225	40.3		39.9	105	11.8		18.0	123	54	29	11	21	05	08	76	21	9	
4	240	40.4		40.7	119	46.1	+14	05.7	123	52	23	20	01	20	52	13	73	15	12
5	255	40.5	+14	41.5	134	20.5	+13	53.3	124	50	19	17	19	53	20	40	13	18	71
6	270	40.6	+14	42.2	148	54.9	+13	40.8	125	45	19	04	19	36	20	16	13	28	66
7	285	40.7		43.0	163	29.3		28.3	125	40	18	53	23	19	58	36	62	48	22
8	300	40.8		43.8	178	03.7		15.7	126	35	44	11	44		44	58	39	26	
9	315	40.8		44.6	192	38.2	+13	03.0	127	30	37	19	02	32	13	50	55	32	29
10	330	40.9		45.3	207	12.7	+12	50.3	127	20	23	18	46	19	13	14	01	50	19
11	345	41.0	+14	46.1	221	47.3	+12	37.6	127	10 N	18	11	18	33	18	59	14	10	46
12	0	41.1	+14	46.9	236	21.8	+12	24.7	129	0	18	01	18	22	18	47	14	19	41
13	15	41.2		47.6	250	56.4	+12	11.9	128	10 S	17	50	12	37		28	37	46	46
14	30	41.2		48.4	265	31.0	+11	58.9	130	20	39	18	01	28	37	33	35	50	
15	45	41.3		49.2	280	05.7		45.9	130	30	26	17	51	19	47	28	21	55	
16	60	41.4		49.9	294	40.4		32.9	130	35	19	45	15		14	54	24	13	59
17	75	41.5	+14	50.7	309	15.1	+11	19.8	131	40	17	10	17	39	18	11	15	00	22
18	90	41.6	+14	51.4	323	49.8	+11	06.7	131	45	17	01	17	31	18	06	15	08	18
19	105	41.6		52.2	338	24.5	+10	53.5	132	50	16	49	23	18	01	18	13	41	71
20	120	41.7		53.0	352	59.3		40.2	133	52	44	20	17	59	22	11	35	73	
21	135	41.8		53.7	7	34.1		27.0	132	54	38	16	57		27	9	29	75	
22	150	41.9		54.5	22	08.9		13.6	134	56	31	11	55		32	7	21	79	
23	165	42.0		55.3	36	43.7	+10	00.2	134	58	24	06	53		38	4	13	82	
24	180	42.0	+14	56.0	51	18.6	+9	46.8	134	60 S	16	16	17	01	17	51	15	45	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 9 ^h 27.7 ^m		Mag: -4.2 PMG: 14 ^h 52 ^m		Mag: +1.3 PMG: 16 ^h 49 ^m		Mag: -2.1 PMG: 11 ^h 06 ^m		Mag: +1.0 PMG: 7 ^h 59 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	217	40.8	137	02.6	+25	32.8	107	26.1	+23	55.5
1	232	43.3	152	02.0		33.1	122	27.1		55.3
2	247	45.8	167	01.3		33.4	137	28.1		55.1
3	262	48.2	182	00.7		33.6	152	29.1		54.9
4	277	50.7	197	00.1		33.9	167	30.1		54.7
5	292	53.2	211	59.4	+25	34.2	182	31.1	+23	54.4
6	307	55.6	226	58.8	+25	34.4	197	32.0	+23	54.2
7	322	58.1	241	58.2		34.7	212	33.0		54.0
8	338	00.6	256	57.5		35.0	227	34.0		53.8
9	353	03.0	271	56.9		35.2	242	35.0		53.6
10	8	05.5	286	56.3		35.5	257	36.0		53.4
11	23	07.9	301	55.7	+25	35.7	272	37.0	+23	53.2
12	38	10.4	316	55.0	+25	36.0	287	37.9	+23	52.9
13	53	12.9	331	54.4		36.3	302	38.9		52.7
14	68	15.3	346	53.8		36.5	317	39.9		52.5
15	83	17.8	1	53.1		36.8	332	40.9		52.3
16	98	20.3	16	52.5		37.0	347	41.9		52.1
17	113	22.7	31	51.9	+25	37.3	2	42.9	+23	51.9
18	128	25.2	46	51.2	+25	37.5	17	43.8	+23	51.6
19	143	27.7	61	50.6		37.8	32	44.8		51.4
20	158	30.1	76	50.0		38.0	47	45.8		51.2
21	173	32.6	91	49.3		38.3	62	46.8		51.0
22	188	35.1	106	48.7		38.5	77	47.8		50.8
23	203	37.5	121	48.1		38.8	92	48.8		50.6
24	218	40.0	136	47.5	+25	39.0	107	49.7	+23	50.3
Dif	—		-6		+3		+10		-2	
									+19	+2
									+23	+1

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: 10.8 ^d PHE { 4 ^h : 54'9 12 ^h : 55'1 20 ^h : 55'3 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	180	42.0	+14	56.0	51	18.6	+9	46.8	135	60 N	1 44	3 06	3 59	14 14	85	3 43	0	
1	195	42.1		56.8	65	53.5		33.3	135	58	2 11	20	4 08	17 82		39	2	
2	210	42.2		57.5	80	28.3		19.8	135	56	32	33	17	21 78		34	6	
3	225	42.3		58.3	95	03.2	+9	06.2	136	54	2 48	43	24	24 76		30	9	
4	240	42.4		59.1	109	38.1	+8	52.6	136	52	3 02	3 52	31	26 74		27	10	
5	255	42.4	+14	59.8	124	13.1	+8	38.9	137	50	3 14	4 01	4 37	14 29	71	3 23	13	
6	270	42.5	+15	00.6	138	48.0	+8	25.2	137	45	3 38	4 18	4 50	14 34	66	3 16	18	
7	285	42.6		01.3	153	22.9	+8	11.4	138	40	3 56	31	5 01	38 62		10	21	
8	300	42.7		02.1	167	57.9	+7	57.7	137	35	4 10	43	10	42 59		05	25	
9	315	42.7		02.9	182	32.9		43.8	139	30	22	4 52	18	45 56		3 01	27	
10	330	42.8		03.6	197	07.8		29.9	139	20	41	5 08	31	51 50		2 53	32	
11	345	42.9	+15	04.4	211	42.8	+7	16.0	139	10 N	4 56	5 21	5 43	14 56	45	2 45	37	
12	0	43.0	+15	05.1	226	17.8	+7	02.1	139	0	5 07	5 32	5 54	15 00	42	2 39	41	
13	15	43.0		05.9	240	52.8	+6	48.1	140	10 S	18	43	6 04	05 37		32	45	
14	30	43.1		06.6	255	27.8		34.1	140	20	27	5 53	16	10 32		25	50	
15	45	43.2		07.4	270	02.8		20.0	141	30	36	6 04	29	15 28		16	56	
16	60	43.3		08.1	284	37.8	+6	05.9	141	35	40	10	36	18 25		12	58	
17	75	43.3	+15	08.9	299	12.8	+5	51.8	141	40	5 44	6 16	6 45	15 22	21	2 06	62	
18	90	43.4	+15	09.7	313	47.8	+5	37.6	142	45	5 49	6 24	6 54	15 26	17	2 00	66	
19	105	43.5		10.4	328	22.8		23.4	142	50	54	32	7 06	31 13		1 52	71	
20	120	43.6		11.2	342	57.8	+5	09.1	143	52	56	36	12	33 11		48	73	
21	135	43.6		11.9	357	32.8	+4	54.9	142	54	5 58	40	18	36 8		44	76	
22	150	43.7		12.7	12	07.7		40.6	143	56	6 00	44	24	39 5		40	78	
23	165	43.8		13.4	26	42.7		26.2	144	58	02	49	32	42 2		35	82	
24	180	43.9	+15	14.2	41	17.7	+4	11.9	143	60 S	6 05	6 55	7 40	15 45	0	1 29	86	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 23.8 ^m		Mag: -4.2 PMG: 14 ^h 53 ^m			Mag: +1.3 PMG: 16 ^h 48 ^m			Mag: -2.1 PMG: 11 ^h 03 ^m			Mag: +1.0 PMG: 7 ^h 55 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	218	40.0	136	47.5	+25	39.0	107	49.7	+23	50.3	193	51.3	+9	10.3	240	55.2	-10	50.6
1	233	42.4	151	46.8		39.3	122	50.7		50.1	208	53.2		10.5	255	57.5		50.5
2	248	44.9	166	46.2		39.5	137	51.7		49.9	223	55.1		10.7	270	59.8		50.5
3	263	47.4	181	45.6		39.8	152	52.7		49.7	238	57.0		11.0	286	02.0		50.4
4	278	49.8	196	44.9		40.0	167	53.7		49.5	253	58.9		11.2	301	04.3		50.4
5	293	52.3	211	44.3	+25	40.2	182	54.6	+23	49.2	269	00.8	+9	11.4	316	06.6	-10	50.3
6	308	54.8	226	43.7	+25	40.5	197	55.6	+23	49.0	284	02.7	+9	11.6	331	08.9	-10	50.3
7	323	57.2	241	43.1		40.7	212	56.6		48.8	299	04.6		11.8	346	11.2		50.2
8	338	59.7	256	42.4		40.9	227	57.6		48.6	314	06.5		12.0	1	13.5		50.1
9	354	02.2	271	41.8		41.2	242	58.6		48.4	329	08.4		12.2	16	15.8		50.1
10	9	04.6	286	41.2		41.4	257	59.6		48.1	344	10.3		12.5	31	18.1		50.0
11	24	07.1	301	40.5	+25	41.6	273	00.5	+23	47.9	359	12.2	+9	12.7	46	20.4	-10	50.0
12	39	09.5	316	39.9	+25	41.9	288	01.5	+23	47.7	14	14.1	+9	12.9	61	22.7	-10	49.9
13	54	12.0	331	39.3		42.1	303	02.5		47.5	29	16.0		13.1	76	25.0		49.8
14	69	14.5	346	38.7		42.3	318	03.5		47.3	44	17.9		13.3	91	27.2		49.8
15	84	16.9	1	38.0		42.6	333	04.5		47.0	59	19.8		13.5	106	29.5		49.7
16	99	19.4	16	37.4		42.8	348	05.4		46.8	74	21.7		13.7	121	31.8		49.7
17	114	21.9	31	36.8	+25	43.0	3	06.4	+23	46.6	89	23.6	+9	13.9	136	34.1	-10	49.6
18	129	24.3	46	36.2	+25	43.2	18	07.4	+23	46.4	104	25.5	+9	14.2	151	36.4	-10	49.5
19	144	26.8	61	35.5		43.5	33	08.4		46.1	119	27.4		14.4	166	38.7		49.5
20	159	29.3	76	34.9		43.7	48	09.4		45.9	134	29.4		14.6	181	41.0		49.4
21	174	31.7	91	34.3		43.9	63	10.4		45.7	149	31.3		14.8	196	43.3		49.4
22	189	34.2	106	33.6		44.1	78	11.3		45.5	164	33.2		15.0	211	45.6		49.3
23	204	36.7	121	33.0		44.3	93	12.3		45.3	179	35.1		15.2	226	47.9		49.3
24	219	39.1	136	32.4	+25	44.6	108	13.3	+23	45.0	194	37.0	+9	15.4	241	50.2	-10	49.2
Dif	—		-6			+2	+10			-2	+19		+2	+23		+		

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: 11.8 ^d SD: 15'1 PMG: 21 ^h 52 ^m PHE { 4 ^h : 55'4 12 ^h : 55'6 20 ^h : 55'8 R°: 42 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico			Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h m	h m	h m	h m m	h m m	h m m	h m m	
0	180	43.9	+15	14.2	41	17.7	+4	11.9	60 N	20 00	20 54	22 20	15 39 88	3 43	0			
1	195	43.9		14.9	55	52.7 ¹⁶⁰	+3	57.5 ¹⁴⁴	58	19 50	39	21 50	39 85	41	3			
2	210	44.0		15.7	70	27.6 ¹⁶⁰		43.1 ¹⁴⁴	56	41	26	28	39 81	40	5			
3	225	44.1		16.4	85	02.6 ¹⁶⁰		28.6 ¹⁴⁵	54	33	15	21 11	40 78	39	8			
4	240	44.1		17.2	99	37.5 ¹⁵⁹	+3	14.1 ¹⁴⁵	52	26	20 05	20 56	40 75	37	11			
5	255	44.2	+15	17.9	114	12.4 ¹⁵⁹	+2	59.6 ¹⁴⁵	50	19 20	19 57	20 44	15 40 73	3 36	13			
6	270	44.3	+15	18.7	128	47.3 ¹⁵⁹	+2	45.1 ¹⁴⁵	45	19 06	19 39	20 19	15 40 68	3 34	17			
7	285	44.4		19.4	143	22.2 ¹⁵⁹		30.6 ¹⁴⁶	40	18 55	25	20 01	40 64	31	21			
8	300	44.4		20.2	157	57.1 ¹⁵⁹		16.0 ¹⁴⁶	35	46	13	19 46	41 60	30	24			
9	315	44.5		20.9	172	32.0 ¹⁵⁹	+2	01.4 ¹⁴⁶	30	38	19 03	34	41 57	28	27			
10	330	44.6		21.6	187	06.8 ¹⁵⁸	+1	46.8 ¹⁴⁶	20	24	18 47	19 14	41 52	25	33			
11	345	44.6	+15	22.4	201	41.6 ¹⁵⁸	+1	32.2 ¹⁴⁶	10 N	18 12	18 34	18 59	15 41 47	3 22	38			
12	0	44.7	+15	23.1	216	16.4 ¹⁵⁸	+1	17.5 ¹⁴⁷	0	18 00	18 22	18 47	15 42 42	3 20	42			
13	15	44.8		23.9	230	51.2 ¹⁵⁸	+1	02.8 ¹⁴⁷	10 S	17 49	11	36	42 38	17	47			
14	30	44.9		24.6	245	26.0 ¹⁵⁸	+0	48.1 ¹⁴⁷	20	38	18 00	27	42 33	15	51			
15	45	44.9		25.4	260	00.7 ¹⁵⁷		33.4 ¹⁴⁷	30	24	17 49	18	43 28	12	56			
16	60	45.0		26.1	274	35.4 ¹⁵⁷		18.7 ¹⁴⁷	35	17	43	13	43 25	10	59			
17	75	45.1	+15	26.9	289	10.1 ¹⁵⁷	+0	03.9 ¹⁴⁸	40	17 08	17 36	18 08	15 43 22	3 08	63			
18	90	45.1	+15	27.6	303	44.8 ¹⁵⁷	-0	10.8 ¹⁴⁷	45	16 58	17 29	18 04	15 43 18	3 06	67			
19	105	45.2		28.3	318	19.4 ¹⁵⁶		25.6 ¹⁴⁸	50	46	20	17 58	44 13	03	72			
20	120	45.3		29.1	332	54.0 ¹⁵⁶		40.4 ¹⁴⁸	52	40	16	56	44 11	01	75			
21	135	45.3		29.8	347	28.6 ¹⁵⁶	-0	55.2 ¹⁴⁸	54	34	12	54	44 8	3 00	77			
22	150	45.4		30.6	2	03.1 ¹⁵⁵	-1	10.0 ¹⁴⁸	56	27	07	51	44 6	2 58	80			
23	165	45.5		31.3	16	37.6 ¹⁵⁵		24.8 ¹⁴⁸	58	19	17 02	49	44 3	57	82			
24	180	45.5	+15	32.1	31	12.1 ¹⁵⁵	-1	39.6 ¹⁴⁸	60 S	16 11	16 56	17 46	15 45 **	2 55	86			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 9 ^h 19.9 ^m		Mag: -4.2 PMG: 14 ^h 54 ^m			Mag: +1.3 PMG: 16 ^h 46 ^m			Mag: -2.1 PMG: 11 ^h 00 ^m			Mag: +1.0 PMG: 7 ^h 51 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	219	39.1	136	32.4	+25	44.6	108	13.3	+23	45.0	194	37.0	+9	15.4	241	50.2	-10	49.2
1	234	41.6	151	31.8		44.8	123	14.3		44.8	209	38.9		15.6	256	52.5		49.1
2	249	44.0	166	31.1		45.0	138	15.3		44.6	224	40.8		15.9	271	54.8		49.1
3	264	46.5	181	30.5		45.2	153	16.2		44.4	239	42.7		16.1	286	57.0		49.0
4	279	49.0	196	29.9		45.4	168	17.2		44.1	254	44.6		16.3	301	59.3		49.0
5	294	51.4	211	29.3	+25	45.6	183	18.2	+23	43.9	269	46.5	+9	16.5	317	01.6	-10	48.9
6	309	53.9	226	28.6	+25	45.8	198	19.2	+23	43.7	284	48.4	+9	16.7	332	03.9	-10	48.8
7	324	56.4	241	28.0		46.1	213	20.2		43.5	299	50.3		16.9	347	06.2		48.8
8	339	58.8	256	27.4		46.3	228	21.2		43.2	314	52.2		17.1	2	08.5		48.7
9	355	01.3	271	26.8		46.5	243	22.1		43.0	329	54.1		17.3	17	10.8		48.7
10	10	03.8	286	26.1		46.7	258	23.1		42.8	344	56.0		17.6	32	13.1		48.6
11	25	06.2	301	25.5	+25	46.9	273	24.1	+23	42.6	359	57.9	+9	17.8	47	15.4	-10	48.6
12	40	08.7	316	24.9	+25	47.1	288	25.1	+23	42.3	14	59.8	+9	18.0	62	17.7	-10	48.5
13	55	11.2	331	24.3		47.3	303	26.1		42.1	30	01.7		18.2	77	20.0		48.4
14	70	13.6	346	23.7		47.5	318	27.0		41.9	45	03.6		18.4	92	22.3		48.4
15	85	16.1	1	23.0		47.7	333	28.0		41.6	60	05.5		18.6	107	24.6		48.3
16	100	18.5	16	22.4		47.9	348	29.0		41.4	75	07.4		18.8	122	26.9		48.3
17	115	21.0	31	21.8	+25	48.1	3	30.0	+23	41.2	90	09.3	+9	19.0	137	29.2	-10	48.2
18	130	23.5	46	21.2	+25	48.3	18	31.0	+23	41.0	105	11.3	+9	19.3	152	31.5	-10	48.2
19	145	25.9	61	20.5		48.5	33	31.9		40.7	120	13.2		19.5	167	33.7		48.1
20	160	28.4	76	19.9		48.7	48	32.9		40.5	135	15.1		19.7	182	36.0		48.0
21	175	30.9	91	19.3		48.9	63	33.9		40.3	150	17.0		19.9	197	38.3		48.0
22	190	33.3	106	18.7		49.1	78	34.9		40.0	165	18.9		20.1	212	40.6		47.9
23	205	35.8	121	18.1		49.3	93	35.9		39.8	180	20.8		20.3	227	42.9		47.9
24	220	38.3	136	17.4	+25	49.4	108	36.8	+23	39.6	195	22.7	+9	20.5	242	45.2	-10	47.8
Dif	—		-6		+2		+10		-2		+19		+2		+23		+	

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: 12.8 ^d PHE { 4 ^h : 56'0 12 ^h : 56'2 20 ^h : 56'5 PMG: 22 ^h 34 ^m R°: 46 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	180	45.5	+15	32.1	31	12.1			-1	39.6	148	60 N	1	33	2	59	3	53	17 07 92	3 43 0
1	195	45.6		32.8	45	46.5			-1	54.4	148	58	2	03	3	15	4	04	04 88	44 3
2	210	45.7		33.5	60	20.9			-2	09.3	149	56		25		27	12	17	00 85	45 6
3	225	45.7		34.3	74	55.3				24.1	148	54		42		38	20	16	58 81	47 8
4	240	45.8		35.0	89	29.6				39.0	149	52	2	57		48	27	55	79	48 11
5	255	45.9	+15	35.7	104	03.9			-2	53.9	149	50	3	09	3	57	4	34	16 53 76	3 49 13
6	270	45.9	+15	36.5	118	38.2			-3	08.7	148	45	3	34	4	14	4	47	16 48 71	3 51 18
7	285	46.0		37.2	133	12.4				23.6	149	40	3	53		29	4	58	44 67	52 23
8	300	46.1		38.0	147	46.5				38.4	148	35	4	08		40	5	08	41 63	54 26
9	315	46.1		38.7	162	20.6			-3	53.3	149	30		20	4	50	16	38	59	55 29
10	330	46.2		39.4	176	54.7			-4	08.2	149	20		40	5	07	30	33	54	3 58 34
11	345	46.3	+15	40.2	191	28.7			-4	23.0	148	10 N	4	55	5	20	5	42	16 28 49	4 00 39
12	0	46.3	+15	40.9	206	02.7			-4	37.9	149	0	5	07	5	32	5	53	16 24 45	4 02 43
13	15	46.4		41.6	220	36.6			-4	52.7	148	10 S		18		43	6	05	20 40	04 47
14	30	46.5		42.4	235	10.5			-5	07.6	149	20		28	5	54	17	15	36	06 52
15	45	46.5		43.1	249	44.3				22.4	148	30		37	6	05	30	11	30	08 58
16	60	46.6		43.8	264	18.1				37.3	149	35		41		11	38	08	27	09 62
17	75	46.7	+15	44.6	278	51.8			-5	52.1	148	40	5	46	6	18	6	47	16 05 23	4 11 65
18	90	46.7	+15	45.3	293	25.5			-6	06.9	148	45	5	51	6	26	6	57	16 01 19	4 13 69
19	105	46.8		46.0	307	59.1				21.7	148	50		56		35	7	09	15 57 14	15 74
20	120	46.8		46.8	322	32.6				36.5	148	52	5	59	39	15		55	12	16 77
21	135	46.9		47.5	337	06.1			-6	51.3	148	54	6	01		43	21	52	10	17 79
22	150	47.0		48.2	351	39.6			-7	06.1	148	56		03		48	28	50	7	18 82
23	165	47.0		49.0	6	12.9				20.8	147	58		06		53	36	47	4	19 86
24	180	47.1	+15	49.7	20	46.3			-7	35.6	148	60 S	6	09	6	59	7	45	15 44 1	4 21 89

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 9 ^h 15.9 ^m		Mag: -4.2 PMG: 14 ^h 55 ^m		Mag: +1.4 PMG: 16 ^h 44 ^m		Mag: -2.1 PMG: 10 ^h 57 ^m		Mag: +1.0 PMG: 7 ^h 48 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	220	38.3	136	17.4	+25	49.4	195	22.7	+9	20.5
1	235	40.7	151	16.8		49.6	210	24.6		20.7
2	250	43.2	166	16.2		49.8	225	26.5		20.9
3	265	45.6	181	15.6		50.0	240	28.4		21.2
4	280	48.1	196	14.9		50.2	255	30.3		21.4
5	295	50.6	211	14.3	+25	50.4	270	32.2	+9	21.6
6	310	53.0	226	13.7	+25	50.6	285	34.1	+9	21.8
7	325	55.5	241	13.1		50.7	300	36.0		22.0
8	340	58.0	256	12.5		50.9	315	37.9		22.2
9	356	00.4	271	11.8		51.1	330	39.8		22.4
10	11	02.9	286	11.2		51.3	345	41.7		22.6
11	26	05.4	301	10.6	+25	51.5	0	43.6	+9	22.9
12	41	07.8	316	10.0	+25	51.6	15	45.5	+9	23.1
13	56	10.3	331	09.4		51.8	30	47.5		23.3
14	71	12.8	346	08.7		52.0	45	49.4		23.5
15	86	15.2	1	08.1		52.2	60	51.3		23.7
16	101	17.7	16	07.5		52.3	75	53.2		23.9
17	116	20.1	31	06.9	+25	52.5	90	55.1	+9	24.1
18	131	22.6	46	06.3	+25	52.7	105	57.0	+9	24.3
19	146	25.1	61	05.7		52.8	120	58.9		24.5
20	161	27.5	76	05.0		53.0	136	00.8		24.8
21	176	30.0	91	04.4		53.2	151	02.7		25.0
22	191	32.5	106	03.8		53.3	166	04.6		25.2
23	206	34.9	121	03.2		53.5	181	06.5		25.4
24	221	37.4	136	02.6	+25	53.7	196	08.4	+9	25.6
Dif	—		-6		+2		+19		+2	

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: 13.8 ^d SD: 15'4 PMG: 23 ^h 20 ^m							Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec		hG ☾	Dif	Dec	Dif										
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	47.1	+15	49.7	20	46.3	-7	35.6	60 N	20	05	21	00	22	32	18	39 99
1	195	47.2		50.4	35	19.5	-7	50.3	58	19	54	20	44	21	59	32	94 47 4
2	210	47.2		51.1	49	52.7	-8	05.0	56	45		31		35	25	90 51 8	
3	225	47.3		51.9	64	25.8		19.7	54	37		19		16	19	87 55 1	
4	240	47.3		52.6	78	58.9		34.3	52	29		09	21	01	14	83 3 59 13	
5	255	47.4	+15	53.3	93	31.8	-8	49.0	50	19	23	20	00	20	48	18	09 81 4 02 15
6	270	47.5	+15	54.1	108	04.7	-9	03.6	45	19	09	19	42	20	23	17	59 75 4 09 20
7	285	47.5		54.8	122	37.6		18.2	40	18	57	27	20	03	51	70 15 24	
8	300	47.6		55.5	137	10.4		32.7	35	48		15	19	48	44	66 20 28	
9	315	47.6		56.2	151	43.1	-9	47.3	30	39		19	05	35	37	63 24 32	
10	330	47.7		57.0	166	15.7	-10	01.8	20	25		18	48	15	27	57 32 37	
11	345	47.8	+15	57.7	180	48.3	-10	16.3	10 N	18	12	18	34	19	00	17	17 53 4 39 41
12	0	47.8	+15	58.4	195	20.7	-10	30.7	0	18	00	18	22	18	47	17	09 48 4 45 46
13	15	47.9		59.1	209	53.1		45.1	10 S	17	49	18	10		36	17	00 44 51 51
14	30	47.9	+15	59.8	224	25.5	-10	59.5	20	36		17	59	26	16	51	39 4 58 56
15	45	48.0	+16	00.6	238	57.7	-11	13.9	30	23		48		16	41	33 5 06 61	
16	60	48.1		01.3	253	29.9		28.2	35	15		41		11	35	30 11 64	
17	75	48.1	+16	02.0	268	01.9	-11	42.4	40	17	06	17	34	18	06	16	28 27 5 16 68
18	90	48.2	+16	02.7	282	34.0	-11	56.7	45	16	55	17	26	18	01	16	20 23 5 22 72
19	105	48.2		03.5	297	05.9	-12	10.8	50	42		17		17	55	11	17 29 78
20	120	48.3		04.2	311	37.7		25.0	52	37		13		53	07	15 33 80	
21	135	48.3		04.9	326	09.5		39.1	54	30		08		50	16	02 12 36 84	
22	150	48.4		05.6	340	41.1	-12	53.1	56	23		17	03	48	15	57 9 40 87	
23	165	48.5		06.3	355	12.7	-13	07.2	58	15		16	58	45	51	6 45 91	
24	180	48.5	+16	07.1	9	44.2	-13	21.1	60 S	16	05	16	52	17	42	15	45 1 5 50 95

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 12.0 ^m		Mag: -4.2 PMG: 14 ^h 56 ^m		Mag: +1.4 PMG: 16 ^h 43 ^m		Mag: -2.1 PMG: 10 ^h 54 ^m		Mag: +1.0 PMG: 7 ^h 44 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	221	37.4	136	02.6	+25	53.7	109	00.3	+23	34.0	196	08.4	+9	25.6	243	40.4	-10	46.5
1	236	39.9	151	02.0		53.8	124	01.3		33.8	211	10.3		25.8	258	42.7		46.4
2	251	42.3	166	01.3		54.0	139	02.3		33.5	226	12.2		26.0	273	45.0		46.3
3	266	44.8	181	00.7		54.1	154	03.3		33.3	241	14.1		26.2	288	47.3		46.3
4	281	47.2	196	00.1		54.3	169	04.3		33.1	256	16.0		26.4	303	49.6		46.2
5	296	49.7	210	59.5	+25	54.5	184	05.2	+23	32.8	271	17.9	+9	26.7	318	51.9	-10	46.2
6	311	52.2	225	58.9	+25	54.6	199	06.2	+23	32.6	286	19.9	+9	26.9	333	54.2	-10	46.1
7	326	54.6	240	58.3		54.8	214	07.2		32.4	301	21.8		27.1	348	56.5		46.1
8	341	57.1	255	57.7		54.9	229	08.2		32.1	316	23.7		27.3	3	58.8		46.0
9	356	59.6	270	57.0		55.1	244	09.2		31.9	331	25.6		27.5	19	01.1		46.0
10	12	02.0	285	56.4		55.2	259	10.1		31.6	346	27.5		27.7	34	03.4		45.9
11	27	04.5	300	55.8	+25	55.4	274	11.1	+23	31.4	1	29.4	+9	27.9	49	05.7	-10	45.8
12	42	07.0	315	55.2	+25	55.5	289	12.1	+23	31.2	16	31.3	+9	28.1	64	08.0	-10	45.8
13	57	09.4	330	54.6		55.7	304	13.1		30.9	31	33.2		28.3	79	10.3		45.7
14	72	11.9	345	54.0		55.8	319	14.1		30.7	46	35.1		28.5	94	12.6		45.7
15	87	14.4	0	53.4		56.0	334	15.0		30.5	61	37.0		28.8	109	14.9		45.6
16	102	16.8	15	52.7		56.1	349	16.0		30.2	76	38.9		29.0	124	17.2		45.6
17	117	19.3	30	52.1	+25	56.3	4	17.0	+23	30.0	91	40.8	+9	29.2	139	19.5	-10	45.5
18	132	21.7	45	51.5	+25	56.4	19	18.0	+23	29.7	106	42.7	+9	29.4	154	21.8	-10	45.5
19	147	24.2	60	50.9		56.5	34	18.9		29.5	121	44.6		29.6	169	24.1		45.4
20	162	26.7	75	50.3		56.7	49	19.9		29.3	136	46.5		29.8	184	26.4		45.4
21	177	29.1	90	49.7		56.8	64	20.9		29.0	151	48.4		30.0	199	28.7		45.3
22	192	31.6	105	49.1		57.0	79	21.9		28.8	166	50.4		30.2	214	31.0		45.2
23	207	34.1	120	48.5		57.1	94	22.9		28.5	181	52.3		30.4	229	33.3		45.2
24	222	36.5	135	47.9	+25	57.2	109	23.8	+23	28.3	196	54.2	+9	30.7	244	35.6	-10	45.1
Dif	—		-6	+1		+10	-2			+19	+2			+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: 14.8 ^d PHE { 4 ^h : 57'3 12 ^h : 57'5 20 ^h : 57'7 PMG: **h **m R°: **m													
	hG ☉	Dec			hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	48.5	+16	07.1	9	44.2	-13	21.1	139	60 N	1	21	2	53	3	48	20	18
1	195	48.6		07.8	24	15.6		35.0	139	58	1	54	3	09	3	59	20	06
2	210	48.6		08.5	38	46.9	-13	48.9	139	56	2	18	22	4	08	19	55	94
3	225	48.7		09.2	53	18.1	-14	02.7	138	54		36	34	16	46	89	4	06
4	240	48.7		09.9	67	49.2		16.5	138	52	2	52	44	24	37	86		12
5	255	48.8	+16	10.6	82	20.3	-14	30.2	137	50	3	05	3	53	4	30	19	30
6	270	48.8	+16	11.4	96	51.2	-14	43.8	136	45	3	30	4	11	4	44	19	14
7	285	48.9		12.1	111	22.0	-14	57.4	136	40	3	50	26	4	56	19	01	73
8	300	48.9		12.8	125	52.8	-15	10.9	135	35	4	05	38	5	06	18	50	69
9	315	49.0		13.5	140	23.4		24.4	135	30		18	4	49	14	40	67	4
10	330	49.1		14.2	154	54.0		37.8	134	20	38	5	06	29	24	61	5	09
11	345	49.1	+16	14.9	169	24.4	-15	51.1	133	10 N	4	54	5	20	5	41	18	10
12	0	49.2	+16	15.6	183	54.8	-16	04.4	133	0	5	07	5	32	5	53	17	57
13	15	49.2		16.3	198	25.0		17.5	131	10 S	18		43	6	05	44	48	
14	30	49.3		17.1	212	55.2		30.7	132	20	28	5	54	17	30	44	5	54
15	45	49.3		17.8	227	25.2		43.7	130	30	38	6	06	31	14	39	6	07
16	60	49.4		18.5	241	55.2	-16	56.7	130	35	43		13	39	17	05	36	15
17	75	49.4	+16	19.2	256	25.0	-17	09.6	129	40	5	48	6	20	6	49	16	55
18	90	49.5	+16	19.9	270	54.8	-17	22.4	128	45	5	53	6	28	6	59	16	43
19	105	49.5		20.6	285	24.4		35.2	128	50	5	59	37	7	12	28	23	47
20	120	49.6		21.3	299	53.9	-17	47.9	127	52	6	01	42	18	22	20	6	53
21	135	49.6		22.0	314	23.4	-18	00.5	126	54	04		46	25	14	17	7	00
22	150	49.7		22.7	328	52.7		13.0	125	56	07		51	32	16	06	13	07
23	165	49.7		23.4	343	21.9		25.4	124	58	10	6	57	40	15	57	9	16
24	180	49.8	+16	24.2	357	51.0	-18	37.7	123	60 S	6	13	7	03	7	50	15	46
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 08.1 ^m		Mag: -4.2 PMG: 14 ^h 57 ^m			Mag: +1.4 PMG: 16 ^h 41 ^m			Mag: -2.1 PMG: 10 ^h 51 ^m			Mag: +1.0 PMG: 7 ^h 40 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	222	36.5	135	47.9	+25	57.2	109	23.8	+23	28.3	196	54.2	+9	30.7	244	35.6	-10	45.1
1	237	39.0	150	47.2		57.4	124	24.8		28.1	211	56.1		30.9	259	37.9		45.1
2	252	41.5	165	46.6		57.5	139	25.8		27.8	226	58.0		31.1	274	40.2		45.0
3	267	43.9	180	46.0		57.6	154	26.8		27.6	241	59.9		31.3	289	42.5		45.0
4	282	46.4	195	45.4		57.8	169	27.7		27.3	257	01.8		31.5	304	44.8		44.9
5	297	48.9	210	44.8	+25	57.9	184	28.7	+23	27.1	272	03.7	+9	31.7	319	47.1	-10	44.9
6	312	51.3	225	44.2	+25	58.0	199	29.7	+23	26.8	287	05.6	+9	31.9	334	49.4	-10	44.8
7	327	53.8	240	43.6		58.1	214	30.7		26.6	302	07.5		32.1	349	51.7		44.8
8	342	56.2	255	43.0		58.3	229	31.7		26.4	317	09.4		32.3	4	54.0		44.7
9	357	58.7	270	42.4		58.4	244	32.6		26.1	332	11.3		32.5	19	56.3		44.6
10	13	01.2	285	41.8		58.5	259	33.6		25.9	347	13.2		32.8	34	58.6		44.6
11	28	03.6	300	41.2	+25	58.6	274	34.6	+23	25.6	2	15.1	+9	33.0	50	00.9	-10	44.5
12	43	06.1	315	40.5	+25	58.8	289	35.6	+23	25.4	17	17.0	+9	33.2	65	03.2	-10	44.5
13	58	08.6	330	39.9		58.9	304	36.5		25.1	32	19.0		33.4	80	05.5		44.4
14	73	11.0	345	39.3		59.0	319	37.5		24.9	47	20.9		33.6	95	07.8		44.4
15	88	13.5	0	38.7		59.1	334	38.5		24.7	62	22.8		33.8	110	10.1		44.3
16	103	16.0	15	38.1		59.2	349	39.5		24.4	77	24.7		34.0	125	12.4		44.3
17	118	18.4	30	37.5	+25	59.3	4	40.5	+23	24.2	92	26.6	+9	34.2	140	14.7	-10	44.2
18	133	20.9	45	36.9	+25	59.5	19	41.4	+23	23.9	107	28.5	+9	34.4	155	17.0	-10	44.2
19	148	23.3	60	36.3		59.6	34	42.4		23.7	122	30.4		34.6	170	19.3		44.1
20	163	25.8	75	35.7		59.7	49	43.4		23.4	137	32.3		34.8	185	21.6		44.1
21	178	28.3	90	35.1		59.8	64	44.4		23.2	152	34.2		35.1	200	23.9		44.0
22	193	30.7	105	34.5	+25	59.9	79	45.3		22.9	167	36.1		35.3	215	26.2		43.9
23	208	33.2	120	33.9	+26	00.0	94	46.3		22.7	182	38.0		35.5	230	28.5		43.9
24	223	35.7	135	33.3	+26	00.1	109	47.3	+23	22.4	197	39.9	+9	35.7	245	30.9	-10	43.8
Dif	—		-6		+1		+10		-2		+19		+2		+23		+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15 ^h 9 ^m PMG: 11 ^h 56.6 ^m				Edad: 15.8 ^d SD: 15 ^h 7 ^m PMG: 0 ^h 09 ^m PHE { 4 ^h : 57/9 12 ^h : 58/1 20 ^h : 58/3 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	180	49.8	+16	24.2	357	51.0	100	−18	37.7	123	60 N	20 10	21 06	22 46	22 04	108	3 45	4		
1	195	49.8		24.9	12	20.0	99	−18	50.0	121	58	19 58	20 49	22 07	21 45	99	3 58	11		
2	210	49.9		25.6	26	48.9	97	−19	02.1	121	56	49	35	21 42	29	93	4 10	16		
3	225	49.9		26.3	41	17.6	97		14.2	121	54	40	23	22	15	89	20	20		
4	240	50.0		27.0	55	46.3	96		26.2	120	52	33	13	21 06	21 03	86	29	23		
5	255	50.0	+16	27.7	70	14.9	96	−19	38.1	119	50	19 26	20 04	20 52	20 53	83	4 37	26		
6	270	50.1	+16	28.4	84	43.3	94	−19	49.8	117	45	19 11	19 44	20 26	20 31	78	4 54	32		
7	285	50.1		29.1	99	11.6	93	−20	01.5	117	40	18 59	29	20 06	20 14	73	5 09	36		
8	300	50.2		29.8	113	39.9	93		13.1	116	35	49	17	19 50	19 59	71	21	39		
9	315	50.2		30.5	128	08.0	91		24.6	115	30	40	19 06	37	47	68	32	42		
10	330	50.3		31.2	142	36.0	90		36.0	114	20	25	18 49	16	25	64	5 50	47		
11	345	50.3	+16	31.9	157	03.9	89	−20	47.2	112	10 N	18 12	18 34	19 00	19 07	60	6 06	51		
12	0	50.4	+16	32.6	171	31.7	88	−20	58.4	112	0	18 00	18 22	18 47	18 49	58	6 21	55		
13	15	50.4		33.3	185	59.3	86	−21	09.5	109	10 S	17 48	18 10	35	32	54	36	59		
14	30	50.5		34.0	200	26.9	86		20.4	109	20	35	17 58	25	18 14	51	6 53	62		
15	45	50.5		34.7	214	54.3	84		31.2	108	30	21	46	15	17 53	47	7 12	67		
16	60	50.6		35.4	229	21.6	83		42.0	108	35	13	39	09	41	44	23	70		
17	75	50.6	+16	36.1	243	48.9	83	−21	52.6	106	40	17 03	17 32	18 04	17 27	41	7 35	74		
18	90	50.6	+16	36.8	258	16.0	81	−22	03.0	104	45	16 52	17 24	17 59	17 11	37	7 50	78		
19	105	50.7		37.5	272	43.0	80		13.4	104	50	39	14	52	16 51	32	8 09	83		
20	120	50.7		38.2	287	09.8	78		23.6	102	52	33	09	50	42	29	18	86		
21	135	50.8		38.9	301	36.6	78		33.8	102	54	26	17 05	47	31	26	28	89		
22	150	50.8		39.6	316	03.3	77		43.8	100	56	19	16 59	44	19	22	39	94		
23	165	50.9		40.3	330	29.8	75	−22	53.6	98	58	10	54	41	16 06	16	8 52	99		
24	180	50.9	+16	41.0	344	56.3	75	−23	03.4	98	60 S	16 00	16 47	17 38	15 50	9	9 07	107		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 9 ^h 04.1 ^m		Mag: −4.2 PMG: 14 ^h 58 ^m		Mag: +1.4 PMG: 16 ^h 40 ^m		Mag: −2.1 PMG: 10 ^h 48 ^m		Mag: +1.0 PMG: 7 ^h 37 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	223	35.7	135	33.3	+26	00.1	109	47.3	+23	22.4	197	39.9	+9	35.7	245	30.9	−10	43.8
1	238	38.1	150	32.7		00.2	124	48.3		22.2	212	41.8		35.9	260	33.2		43.8
2	253	40.6	165	32.1		00.3	139	49.3		22.0	227	43.8		36.1	275	35.5		43.7
3	268	43.1	180	31.5		00.4	154	50.2		21.7	242	45.7		36.3	290	37.8		43.7
4	283	45.5	195	30.9		00.5	169	51.2		21.5	257	47.6		36.5	305	40.1		43.6
5	298	48.0	210	30.3	+26	00.6	184	52.2	+23	21.2	272	49.5	+9	36.7	320	42.4	−10	43.6
6	313	50.5	225	29.7	+26	00.7	199	53.2	+23	21.0	287	51.4	+9	36.9	335	44.7	−10	43.5
7	328	52.9	240	29.1		00.8	214	54.1		20.7	302	53.3		37.1	350	47.0		43.5
8	343	55.4	255	28.5		00.9	229	55.1		20.5	317	55.2		37.4	5	49.3		43.4
9	358	57.8	270	27.9		01.0	244	56.1		20.2	332	57.1		37.6	20	51.6		43.4
10	14	00.3	285	27.3		01.1	259	57.1		20.0	347	59.0		37.8	35	53.9		43.3
11	29	02.8	300	26.7	+26	01.2	274	58.0	+23	19.7	3	00.9	+9	38.0	50	56.2	−10	43.3
12	44	05.2	315	26.1	+26	01.3	289	59.0	+23	19.5	18	02.8	+9	38.2	65	58.5	−10	43.2
13	59	07.7	330	25.5		01.4	305	00.0		19.2	33	04.7		38.4	81	00.8		43.1
14	74	10.2	345	24.9		01.5	320	01.0		19.0	48	06.6		38.6	96	03.1		43.1
15	89	12.6	0	24.3		01.6	335	02.0		18.7	63	08.6		38.8	111	05.4		43.0
16	104	15.1	15	23.7		01.7	350	02.9		18.5	78	10.5		39.0	126	07.7		43.0
17	119	17.6	30	23.1	+26	01.8	5	03.9	+23	18.2	93	12.4	+9	39.2	141	10.1	−10	42.9
18	134	20.0	45	22.5	+26	01.9	20	04.9	+23	18.0	108	14.3	+9	39.4	156	12.4	−10	42.9
19	149	22.5	60	21.9		02.0	35	05.9		17.7	123	16.2		39.6	171	14.7		42.8
20	164	25.0	75	21.3		02.0	50	06.8		17.5	138	18.1		39.9	186	17.0		42.8
21	179	27.4	90	20.7		02.1	65	07.8		17.2	153	20.0		40.1	201	19.3		42.7
22	194	29.9	105	20.1		02.2	80	08.8		17.0	168	21.9		40.3	216	21.6		42.7
23	209	32.3	120	19.5		02.3	95	09.8		16.7	183	23.8		40.5	231	23.9		42.6
24	224	34.8	135	18.9	+26	02.4	110	10.7	+23	16.5	198	25.7	+9	40.7	246	26.2	−10	42.6
Dif	—		−6		+1		+10		−2		+19		+2		+23		+1	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15'9 PMG:11 ^h 56.6 ^m				Edad: 16.8 ^d PHE { 4 ^h : 58'4 12 ^h : 58'6 20 ^h : 58'7 SD: 15'9 PMG: 1 ^h 03 ^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	50.9	+16	41.0	344	56.3	73	-23	03.4	96	60 N	1	07	2	46	3	43	23	52	95	3	49	13
1	195	51.0		41.7	359	22.6	72		13.0	94	58	1	45	3	03	3	54	24	86		4	09	22
2	210	51.0		42.4	13	48.8	71		22.4	94	56	2	11	17	4	04	23	02	82		26	27	
3	225	51.1		43.1	28	14.9	70		31.8	92	54		31	29	12	22	44	79		40	32		
4	240	51.1		43.8	42	40.9	69		41.0	91	52	2	47	40	20	29	77		4	52	35		
5	255	51.1	+16	44.5	57	06.8	68	-23	50.1	89	50	3	00	3	49	4	27	22	16	75	5	03	38
6	270	51.2	+16	45.1	71	32.6	67	-23	59.0	88	45	3	27	4	08	4	41	21	49	72	5	26	42
7	285	51.2		45.8	85	58.3	67	-24	07.8	88	40	3	47	24	4	53	27	70		5	45	45	
8	300	51.3		46.5	100	23.8	65		16.4	86	35	4	03	36	5	04	21	10	68	6	00	49	
9	315	51.3		47.2	114	49.3	65		24.9	85	30		16	4	47	12	20	55	67		14	50	
10	330	51.3		47.9	129	14.7	64		33.3	84	20	37	5	04	28	29	65		37	54			
11	345	51.4	+16	48.6	143	39.9	62	-24	41.5	82	10 N	4	53	5	19	5	41	20	07	63	6	57	57
12	0	51.4	+16	49.3	158	05.1	62	-24	49.6	81	0	5	06	5	32	5	53	19	47	61	7	16	59
13	15	51.5		50.0	172	30.1	60	-24	57.5	79	10 S	18		43	6	05	26	60		35	62		
14	30	51.5		50.7	186	55.1	60	-25	05.2	77	20	29	5	55	18	19	05	57		7	55	65	
15	45	51.6		51.4	201	20.0	59		12.9	77	30	39	6	08	33	18	40	54		8	19	68	
16	60	51.6		52.0	215	44.7	57		20.3	74	35	44	14	41	41	25	53		33	70			
17	75	51.6	+16	52.7	230	09.4	57	-25	27.6	73	40	5	50	6	22	6	50	18	08	51	8	49	72
18	90	51.7	+16	53.4	244	33.9	55	-25	34.7	71	45	5	55	6	30	7	02	17	48	49	9	08	75
19	105	51.7		54.1	258	58.4	55		41.7	70	50	6	01	40	15	23	45		32	80			
20	120	51.8		54.8	273	22.8	54		48.5	68	52	04	45	21	17	11	42		44	82			
21	135	51.8		55.5	287	47.1	53	-25	55.2	67	54	07	49	28	16	57	40		9	57	85		
22	150	51.8		56.2	302	11.3	52	-26	01.7	65	56	10	6	55	36	41	37		10	13	88		
23	165	51.9		56.8	316	35.4	51		08.0	63	58	13	7	01	45	16	22	31		31	94		
24	180	51.9	+16	57.5	330	59.4	50	-26	14.2	62	60 S	6	17	7	07	7	54	15	59	22	10	54	103

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 9 ^h 00.2 ^m		Mag: -4.2 PMG: 14 ^h 59 ^m			Mag: +1.4 PMG: 16 ^h 38 ^m			Mag: -2.1 PMG: 10 ^h 45 ^m			Mag: +1.0 PMG: 7 ^h 33 ^m						
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	224	34.8	135	18.9	+26	02.4	110	10.7	+23	16.5	198	25.7	+9	40.7	246	26.2	-10	42.6
1	239	37.3	150	18.3		02.4	125	11.7		16.2	213	27.6		40.9	261	28.5		42.5
2	254	39.7	165	17.7		02.5	140	12.7		16.0	228	29.5		41.1	276	30.8		42.5
3	269	42.2	180	17.1		02.6	155	13.7		15.7	243	31.5		41.3	291	33.1		42.4
4	284	44.7	195	16.5		02.7	170	14.6		15.4	258	33.4		41.5	306	35.4		42.4
5	299	47.1	210	15.9	+26	02.7	185	15.6	+23	15.2	273	35.3	+9	41.7	321	37.8	-10	42.3
6	314	49.6	225	15.3	+26	02.8	200	16.6	+23	14.9	288	37.2	+9	41.9	336	40.1	-10	42.3
7	329	52.1	240	14.7		02.9	215	17.6		14.7	303	39.1		42.1	351	42.4		42.2
8	344	54.5	255	14.1		03.0	230	18.6		14.4	318	41.0		42.4	6	44.7		42.2
9	359	57.0	270	13.5		03.0	245	19.5		14.2	333	42.9		42.6	21	47.0		42.1
10	14	59.5	285	12.9		03.1	260	20.5		13.9	348	44.8		42.8	36	49.3		42.1
11	30	01.9	300	12.3	+26	03.2	275	21.5	+23	13.7	3	46.7	+9	43.0	51	51.6	-10	42.0
12	45	04.4	315	11.7	+26	03.2	290	22.5	+23	13.4	18	48.6	+9	43.2	66	53.9	-10	41.9
13	60	06.8	330	11.2		03.3	305	23.4		13.2	33	50.5		43.4	81	56.2		41.9
14	75	09.3	345	10.6		03.4	320	24.4		12.9	48	52.4		43.6	96	58.5		41.8
15	90	11.8	0	10.0		03.4	335	25.4		12.6	63	54.4		43.8	112	00.8		41.8
16	105	14.2	15	09.4		03.5	350	26.4		12.4	78	56.3		44.0	127	03.2		41.7
17	120	16.7	30	08.8	+26	03.6	5	27.3	+23	12.1	93	58.2	+9	44.2	142	05.5	-10	41.7
18	135	19.2	45	08.2	+26	03.6	20	28.3	+23	11.9	109	00.1	+9	44.4	157	07.8	-10	41.6
19	150	21.6	60	07.6		03.7	35	29.3		11.6	124	02.0		44.6	172	10.1		41.6
20	165	24.1	75	07.0		03.7	50	30.3		11.4	139	03.9		44.8	187	12.4		41.5
21	180	26.6	90	06.4		03.8	65	31.2		11.1	154	05.8		45.1	202	14.7		41.5
22	195	29.0	105	05.8		03.8	80	32.2		10.9	169	07.7		45.3	217	17.0		41.4
23	210	31.5	120	05.3		03.9	95	33.2		10.6	184	09.6		45.5	232	19.3		41.4
24	225	33.9	135	04.7	+26	03.9	110	34.2	+23	10.3	199	11.5	+9	45.7	247	21.6	-10	41.3
Dif	—		-6			+1	+10			-3	+19		+2	+23			+1	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna			
	SD: 15'9 PMG: 11 ^h 56.5 ^m				Edad: 17.8 ^d SD: 16'0 PMG: 2 ^h 01 ^m								PHE { 4 ^h : 58'9 12 ^h : 59'0 20 ^h : 59'1 Rº: 62 ^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	51.9	+16	57.5	330	59.4	50	-26	14.2	60	60 N	20 14	21 13	23 02	** ** *	4 02	35				
1	195	51.9		58.2	345	23.4	48		20.2	58	58	20 03	20 55	22 17	** ** *				31	43	
2	210	52.0		58.9	359	47.2	48		26.0	56	56	19 53	40	21 49	** ** *				4 53	47	
3	225	52.0	+16	59.6	14	11.0	47		31.6	56	54	44	27	28	** ** *				5 12	44	
4	240	52.1	+17	00.3	28	34.7	46		37.1	55	52	36	17	21 11	23 46	60			27	51	
5	255	52.1	+17	00.9	42	58.3	46	-26	42.4	53	50	19 29	20 07	20 57	23 31	61			5 41	52	
6	270	52.1	+17	01.6	57	21.9	46	-26	47.5	51	45	19 14	19 47	20 29	23 01	61			6 08	55	
7	285	52.2		02.3	71	45.3	44		52.5	50	40	19 01	31	20 08	22 37	62			30	57	
8	300	52.2		03.0	86	08.7	44	-26	57.3	48	35	18 51	18	19 52	18 62				6 49	57	
9	315	52.2		03.7	100	32.0	43	-27	01.9	46	30	42	19 07	38	22 02	62			7 04	59	
10	330	52.3		04.3	114	55.3	43		06.3	44	20	26	18 49	17	21 34	62			31	60	
11	345	52.3	+17	05.0	129	18.5	42	-27	10.5	42	10 N	18 13	18 35	19 00	21 10	63			7 54	61	
12	0	52.4	+17	05.7	143	41.6	41	-27	14.6	41	0	18 00	18 22	18 47	20 48	62			8 15	63	
13	15	52.4		06.4	158	04.7	40		18.5	39	10 S	17 48	18 09	35	26 62				8 37	63	
14	30	52.4		07.1	172	27.7	40		22.2	37	20	34	17 57	24	20 02	63			9 00	64	
15	45	52.5		07.7	186	50.7	40		25.7	35	30	20	45	13 34	63				27	65	
16	60	52.5		08.4	201	13.6	39		29.0	33	35	11	38	08	19 18	63			9 43	65	
17	75	52.5	+17	09.1	215	36.4	38	-27	32.1	31	40	17 01	17 30	18 02	18 59	62			10 01	67	
18	90	52.6	+17	09.8	229	59.2	38	-27	35.1	30	45	16 50	17 21	17 56	18 37	61			10 23	68	
19	105	52.6		10.4	244	22.0	38		37.9	28	50	36	11	50	18 08	61			10 52	68	
20	120	52.6		11.1	258	44.7	37		40.4	25	52	30	06	47	17 53	61			11 06	69	
21	135	52.7		11.8	273	07.3	36		42.8	24	54	23	17 01	44	37 60				22	70	
22	150	52.7		12.5	287	29.9	36		45.0	22	56	15	16 56	41	17 18	59			11 41	71	
23	165	52.7		13.1	301	52.5	36		47.1	21	58	16 06	50	37	16 53	59			12 05	73	
24	180	52.8	+17	13.8	316	15.1	36	-27	48.9	18	60 S	15 56	16 43	17 34	16 21	56			12 37	75	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 56.3 ^m		Mag: -4.2 PMG: 15 ^h 00 ^m		Mag: +1.4 PMG: 16 ^h 37 ^m		Mag: -2.1 PMG: 10 ^h 42 ^m		Mag: +1.0 PMG: 7 ^h 29 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	225	33.9	135	04.7	+26	03.9	110	34.2	+23	10.3	199	11.5	+9	45.7	247	21.6	-10	41.3
1	240	36.4	150	04.1		04.0	125	35.1		10.1	214	13.4		45.9	262	24.0		41.3
2	255	38.9	165	03.5		04.1	140	36.1		09.8	229	15.4		46.1	277	26.3		41.2
3	270	41.3	180	02.9		04.1	155	37.1		09.6	244	17.3		46.3	292	28.6		41.2
4	285	43.8	195	02.3		04.2	170	38.1		09.3	259	19.2		46.5	307	30.9		41.1
5	300	46.3	210	01.7	+26	04.2	185	39.0	+23	09.0	274	21.1	+9	46.7	322	33.2	-10	41.1
6	315	48.7	225	01.1	+26	04.2	200	40.0	+23	08.8	289	23.0	+9	46.9	337	35.5	-10	41.0
7	330	51.2	240	00.6		04.3	215	41.0		08.5	304	24.9		47.1	352	37.8		41.0
8	345	53.7	255	00.0		04.3	230	42.0		08.3	319	26.8		47.3	7	40.1		40.9
9	0	56.1	269	59.4		04.4	245	42.9		08.0	334	28.7		47.5	22	42.5		40.9
10	15	58.6	284	58.8		04.4	260	43.9		07.7	349	30.6		47.8	37	44.8		40.8
11	31	01.1	299	58.2	+26	04.5	275	44.9	+23	07.5	4	32.5	+9	48.0	52	47.1	-10	40.8
12	46	03.5	314	57.6	+26	04.5	290	45.9	+23	07.2	19	34.5	+9	48.2	67	49.4	-10	40.7
13	61	06.0	329	57.0		04.5	305	46.8		07.0	34	36.4		48.4	82	51.7		40.7
14	76	08.4	344	56.5		04.6	320	47.8		06.7	49	38.3		48.6	97	54.0		40.6
15	91	10.9	359	55.9		04.6	335	48.8		06.4	64	40.2		48.8	112	56.3		40.6
16	106	13.4	14	55.3		04.6	350	49.8		06.2	79	42.1		49.0	127	58.6		40.5
17	121	15.8	29	54.7	+26	04.7	5	50.7	+23	05.9	94	44.0	+9	49.2	143	01.0	-10	40.5
18	136	18.3	44	54.1	+26	04.7	20	51.7	+23	05.7	109	45.9	+9	49.4	158	03.3	-10	40.4
19	151	20.8	59	53.6		04.7	35	52.7		05.4	124	47.8		49.6	173	05.6		40.4
20	166	23.2	74	53.0		04.8	50	53.7		05.1	139	49.7		49.8	188	07.9		40.3
21	181	25.7	89	52.4		04.8	65	54.6		04.9	154	51.6		50.0	203	10.2		40.3
22	196	28.2	104	51.8		04.8	80	55.6		04.6	169	53.6		50.2	218	12.5		40.2
23	211	30.6	119	51.2		04.9	95	56.6		04.3	184	55.5		50.4	233	14.8		40.2
24	226	33.1	134	50.7	+26	04.9	110	57.6	+23	04.1	199	57.4	+9	50.6	248	17.2	-10	40.1
Dif	—		-6		0		+10		-3		+19		+2		+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: 18.8 ^d PHE { 4 ^h : 59'1 12 ^h : 59'2 20 ^h : 59'3 Rº: 62 ^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	52.8	+17	13.8	316	15.1	35	-27	48.9	16	60 N	0 50	2 40	3 38	1 27	54	4 37	78				
1	195	52.8		14.5	330	37.6	35		50.5	14	58	1 36	2 58	3 49	0 50	57	5 14	74				
2	210	52.8		15.1	345	00.1	34		51.9	13	56	2 04	3 12	4 00	24	59	5 40	72				
3	225	52.9		15.8	359	22.5	34		53.2	10	54	25	25	08	0 03	60	6 01	71				
4	240	52.9		16.5	13	45.0	35		54.2	9	52	42	36	16	**	**	**	18	70			
5	255	52.9	+17	17.2	28	07.4	34	-27	55.1	7	50	2 56	3 46	4 24	**	**	**	6 33	70			
6	270	52.9	+17	17.8	42	29.8	34	-27	55.8	4	45	3 24	4 05	4 39	**	**	**	7 03	68			
7	285	53.0		18.5	56	52.2	34		56.2	3	40	3 44	21	4 51	23	39	52	27	67			
8	300	53.0		19.2	71	14.5	33		56.5	1	35	4 01	34	5 02	20	54	7 46	67				
9	315	53.0		19.8	85	36.9	34		56.6	1	30	14	4 45	11	23	04	55	8 03	66			
10	330	53.1		20.5	99	59.2	33		56.5	3	20	36	5 03	27	22	36	58	31	65			
11	345	53.1	+17	21.2	114	21.6	34	-27	56.2	5	10 N	4 52	5 18	5 40	22	13	59	8 55	64			
12	0	53.1	+17	21.8	128	43.9	33	-27	55.7	7	0	5 06	5 31	5 53	21	50	62	9 18	62			
13	15	53.2		22.5	143	06.3	34		55.0	9	10 S	18	44	6 06	28	64	9 40	62				
14	30	53.2		23.2	157	28.6	33		54.1	10	20	29	5 56	19	21	05	65	10 04	60			
15	45	53.2		23.8	171	50.9	33		53.1	13	30	40	6 09	34	20	37	68	32	59			
16	60	53.2		24.5	186	13.3	34		51.8	15	35	46	16	43	21	69	10 48	58				
17	75	53.3	+17	25.2	200	35.7	34	-27	50.3	16	40	5 51	6 24	6 52	20	01	71	11 08	56			
18	90	53.3	+17	25.8	214	58.0	33	-27	48.7	19	45	5 57	6 33	7 04	19	38	74	11 31	55			
19	105	53.3		26.5	229	20.4	34		46.8	20	50	6 04	43	18	19	09	76	12 00	53			
20	120	53.4		27.1	243	42.8	34		44.8	23	52	07	48	24	18	54	78	15	51			
21	135	53.4		27.8	258	05.3	35		42.5	24	54	10	53	32	37	80	32	49				
22	150	53.4		28.5	272	27.7	34		40.1	26	56	13	6 58	40	18	17	83	12 52	47			
23	165	53.4		29.1	286	50.2	35		37.5	28	58	17	7 04	49	17	52	87	13 18	43			
24	180	53.5	+17	29.8	301	12.7	35	-27	34.7		60 S	6 20	7 11	7 59	17	17	95	13 52	36			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 52.3 ^m		Mag: -4.2 PMG: 15 ^h 01 ^m		Mag: +1.4 PMG: 16 ^h 35 ^m		Mag: -2.1 PMG: 10 ^h 39 ^m		Mag: +1.0 PMG: 7 ^h 26 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	226	33.1	134	50.7	+26	04.9	110	57.6	+23	04.1	199	57.4	+9	50.6	248	17.2	-10	40.1
1	241	35.6	149	50.1		04.9	125	58.6		03.8	214	59.3		50.9	263	19.5		40.1
2	256	38.0	164	49.5		04.9	140	59.5		03.6	230	01.2		51.1	278	21.8		40.0
3	271	40.5	179	48.9		05.0	156	00.5		03.3	245	03.1		51.3	293	24.1		40.0
4	286	42.9	194	48.3		05.0	171	01.5		03.0	260	05.0		51.5	308	26.4		39.9
5	301	45.4	209	47.8	+26	05.0	186	02.4	+23	02.8	275	06.9	+9	51.7	323	28.7	-10	39.9
6	316	47.9	224	47.2	+26	05.0	201	03.4	+23	02.5	290	08.8	+9	51.9	338	31.0	-10	39.8
7	331	50.3	239	46.6		05.0	216	04.4		02.2	305	10.7		52.1	353	33.4		39.8
8	346	52.8	254	46.0		05.0	231	05.4		02.0	320	12.7		52.3	8	35.7		39.7
9	1	55.3	269	45.5		05.1	246	06.3		01.7	335	14.6		52.5	23	38.0		39.7
10	16	57.7	284	44.9		05.1	261	07.3		01.4	350	16.5		52.7	38	40.3		39.6
11	32	00.2	299	44.3	+26	05.1	276	08.3	+23	01.2	5	18.4	+9	52.9	53	42.6	-10	39.6
12	47	02.7	314	43.7	+26	05.1	291	09.3	+23	00.9	20	20.3	+9	53.1	68	44.9	-10	39.5
13	62	05.1	329	43.2		05.1	306	10.2		00.6	35	22.2		53.3	83	47.3		39.5
14	77	07.6	344	42.6		05.1	321	11.2		00.4	50	24.1		53.5	98	49.6		39.4
15	92	10.1	359	42.0		05.1	336	12.2	+23	00.1	65	26.0		53.7	113	51.9		39.4
16	107	12.5	14	41.4		05.1	351	13.2	+22	59.8	80	27.9		53.9	128	54.2		39.3
17	122	15.0	29	40.9	+26	05.1	6	14.1	+22	59.6	95	29.9	+9	54.1	143	56.5	-10	39.3
18	137	17.4	44	40.3	+26	05.2	21	15.1	+22	59.3	110	31.8	+9	54.4	158	58.8	-10	39.2
19	152	19.9	59	39.7		05.2	36	16.1		59.0	125	33.7		54.6	174	01.2		39.2
20	167	22.4	74	39.2		05.2	51	17.1		58.8	140	35.6		54.8	189	03.5		39.1
21	182	24.8	89	38.6		05.2	66	18.0		58.5	155	37.5		55.0	204	05.8		39.1
22	197	27.3	104	38.0		05.2	81	19.0		58.2	170	39.4		55.2	219	08.1		39.1
23	212	29.8	119	37.4		05.2	96	20.0		58.0	185	41.3		55.4	234	10.4		39.0
24	227	32.2	134	36.9	+26	05.2	111	21.0	+22	57.7	200	43.2	+9	55.6	249	12.7	-10	39.0
Dif	—		-6		0		+10		-3		+19		+2		+23		0	

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: 19.8 ^d SD: 16'1 PMG: 4 ^h 05 ^m						Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec	hG ☾	Dif	Dec	Dif									
h	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	180	53.5	+17	29.8	301	12.7	-27	34.7	30	60 N	20 19	21 19	23 26	2 21	20
1	195	53.5		30.4	315	35.2	35	31.7	32	58	20 07	21 00	22 26	1 47	31
2	210	53.5		31.1	329	57.8	36	28.5	34	56	19 57	20 45	21 56	23 35	6 52
3	225	53.5		31.8	344	20.4	36	25.1	36	54	47	32	33	1 03	39
4	240	53.6		32.4	358	43.1	37	21.5	36	52	39	20	16	0 46	42
5	255	53.6	+17	33.1	13	05.8	37	-27	17.8	50	19 32	20 10	21 01	0 32	44
6	270	53.6	+17	33.7	27	28.5	37	-27	13.8	40	19 16	19 50	20 32	0 02	49
7	285	53.6		34.4	41	51.3	38	09.7	43	40	19 03	34	20 11	***	***
8	300	53.7		35.1	56	14.1	38	05.4	45	35	18 52	20	19 54	***	***
9	315	53.7		35.7	70	37.0	39	-27	00.9	30	43	19 09	40	23 59	47
10	330	53.7		36.4	84	59.9	39	-26	56.2	20	27	18 50	18	34	51
11	345	53.7	+17	37.0	99	22.9	40	-26	51.3	10 N	18 13	18 35	19 01	23 12	55
12	0	53.8	+17	37.7	113	45.9	40	-26	46.3	0	18 00	18 22	18 47	22 52	59
13	15	53.8		38.3	128	09.0	41	41.0	53	10 S	17 47	18 09	34	32	62
14	30	53.8		39.0	142	32.1	41	35.6	54	20	33	17 57	23	22 10	65
15	45	53.8		39.6	156	55.3	42	30.0	56	30	18	43	12	21 45	69
16	60	53.8		40.3	171	18.6	43	24.2	58	35	17 09	36	06	30	72
17	75	53.9	+17	40.9	185	42.0	44	-26	18.3	40	16 59	17 28	18 00	21 12	76
18	90	53.9	+17	41.6	200	05.4	44	-26	12.1	45	16 47	17 19	17 54	20 52	79
19	105	53.9		42.2	214	28.8	44	-26	05.8	50	33	08	47	25	85
20	120	53.9		42.9	228	52.4	46	-25	59.3	52	26	17 03	44	20 12	88
21	135	54.0		43.5	243	16.0	46	52.7	66	54	19	16 58	41	19 57	91
22	150	54.0		44.2	257	39.7	47	45.9	68	56	11	52	37	40	95
23	165	54.0		44.8	272	03.5	48	38.9	70	58	16 01	46	34	19 19	101
24	180	54.0	+17	45.5	286	27.3	48	-25	31.7	60 S	15 51	16 39	17 30	18 52	110

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 ^h 48.4 ^m		Mag: -4.2 PMG: 15 ^h 02 ^m		Mag: +1.4 PMG: 16 ^h 34 ^m		Mag: -2.1 PMG: 10 ^h 36 ^m		Mag: +1.0 PMG: 7 ^h 22 ^m	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'
0	227	32.2	134	36.9	+26	05.2	111	21.0	+22	57.7
1	242	34.7	149	36.3		05.2	126	21.9		57.4
2	257	37.2	164	35.7		05.2	141	22.9		57.2
3	272	39.6	179	35.2		05.2	156	23.9		56.9
4	287	42.1	194	34.6		05.1	171	24.9		56.6
5	302	44.6	209	34.0	+26	05.1	186	25.8	+22	56.4
6	317	47.0	224	33.5	+26	05.1	201	26.8	+22	56.1
7	332	49.5	239	32.9		05.1	216	27.8		55.8
8	347	51.9	254	32.3		05.1	231	28.8		55.5
9	2	54.4	269	31.8		05.1	246	29.7		55.3
10	17	56.9	284	31.2		05.1	261	30.7		55.0
11	32	59.3	299	30.6	+26	05.1	276	31.7	+22	54.7
12	48	01.8	314	30.1	+26	05.1	291	32.7	+22	54.5
13	63	04.3	329	29.5		05.0	306	33.6		54.2
14	78	06.7	344	28.9		05.0	321	34.6		53.9
15	93	09.2	359	28.4		05.0	336	35.6		53.6
16	108	11.7	14	27.8		05.0	351	36.6		53.4
17	123	14.1	29	27.2	+26	05.0	6	37.5	+22	53.1
18	138	16.6	44	26.7	+26	04.9	21	38.5	+22	52.8
19	153	19.1	59	26.1		04.9	36	39.5		52.5
20	168	21.5	74	25.6		04.9	51	40.5		52.3
21	183	24.0	89	25.0		04.9	66	41.4		52.0
22	198	26.4	104	24.4		04.8	81	42.4		51.7
23	213	28.9	119	23.9		04.8	96	43.4		51.5
24	228	31.4	134	23.3	+26	04.8	111	44.3	+22	51.2
Dif	—	—	-6	0		+10	-3	+19	+2	+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: 20.8 ^d PHE { SD: 16/2 PMG: 5 ^h 06 ^m 4 ^h : 59/4 12 ^h : 59/4 20 ^h : 59/4 R°: 58 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m
0	180	54.0	+17	45.5	286	27.3	50	-25	31.7	73	60 N	0 26	2 33	3 33	2 41	8	7 42	111
1	195	54.0		46.1	300	51.3	50		24.4	76	58	1 26	2 52	45	2 18	15	8 05	103
2	210	54.1		46.8	315	15.3	50		16.8	76	56	1 56	3 07	3 56	1 58	21	23	98
3	225	54.1		47.4	329	39.3	50		09.2	79	54	2 19	21	4 05	42	26	39	93
4	240	54.1		48.1	344	03.5	52	-25	01.3	80	52	37	32	13	28	29	8 52	90
5	255	54.1	+17	48.7	358	27.8	53	-24	53.3	81	50	2 51	3 42	4 20	1 16	32	9 04	87
6	270	54.1	+17	49.4	12	52.1	53	-24	45.2	81	45	3 20	4 03	4 36	0 51	37	9 29	80
7	285	54.2		50.0	27	16.5	54		36.9	83	40	42	19	4 49	31	41	9 48	76
8	300	54.2		50.6	41	41.0	55		28.4	85	35	3 59	32	5 00	0 14	44	10 04	73
9	315	54.2		51.3	56	05.6	56		19.8	86	30	4 13	4 44	10	**	**	*	18 69
10	330	54.2		51.9	70	30.3	57		11.0	88	20	35	5 02	26	**	**	*	10 41 65
11	345	54.2	+17	52.6	84	55.1	58	-24	02.0	90	10 N	4 52	5 18	5 40	**	**	*	11 02 60
12	0	54.2	+17	53.2	99	20.0	59	-23	52.9	91	0	5 06	5 31	5 53	23	51	54	11 20 57
13	15	54.3		53.9	113	44.9	59		43.7	92	10 S	18	44	6 06		34	58	39 53
14	30	54.3		54.5	128	10.0	61		34.3	94	20	30	5 56	20	23	15	64	11 59 48
15	45	54.3		55.1	142	35.1	61		24.7	96	30	41	6 10	35	22	54	69	12 22 43
16	60	54.3		55.8	157	00.4	63		15.1	96	35	47	17	44	42	72		35 41
17	75	54.3	+17	56.4	171	25.7	63	-23	05.2	99	40	5 53	6 25	6 54	22	28	76	12 50 37
18	90	54.3	+17	57.1	185	51.1	64	-22	55.2	100	45	5 59	6 35	7 06	22	11	80	13 08 33
19	105	54.4		57.7	200	16.7	66		45.1	101	50	6 06	45	21	21	50	86	31 27
20	120	54.4		58.3	214	42.3	66		34.9	102	52	09	50	27	40	89		41 25
21	135	54.4		59.0	229	08.0	67		24.4	105	54	13	6 56	35	28	93	13 53	21
22	150	54.4	+17	59.6	243	33.8	68		13.9	105	56	16	7 02	43	15	97	14 07	17
23	165	54.4	+18	00.2	257	59.7	69	-22	03.2	107	58	20	08	7 53	21	00	102	23 12
24	180	54.4	+18	00.9	272	25.7	70	-21	52.4	108	60 S	6 24	7 15	8 04	20	42	109	14 42 6

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 ^h 44.5 ^m		Mag: -4.2 PMG: 15 ^h 03 ^m		Mag: +1.4 PMG: 16 ^h 32 ^m		Mag: -2.1 PMG: 10 ^h 33 ^m		Mag: +1.0 PMG: 7 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	228	31.4	134	23.3	+26	04.8	111	44.3	+22	51.2
1	243	33.8	149	22.8		04.8	126	45.3		50.9
2	258	36.3	164	22.2		04.7	141	46.3		50.6
3	273	38.8	179	21.7		04.7	156	47.3		50.4
4	288	41.2	194	21.1		04.7	171	48.2		50.1
5	303	43.7	209	20.5	+26	04.6	186	49.2	+22	49.8
6	318	46.2	224	20.0	+26	04.6	201	50.2	+22	49.5
7	333	48.6	239	19.4		04.6	216	51.2		49.2
8	348	51.1	254	18.9		04.5	231	52.1		49.0
9	3	53.6	269	18.3		04.5	246	53.1		48.7
10	18	56.0	284	17.8		04.5	261	54.1		48.4
11	33	58.5	299	17.2	+26	04.4	276	55.1	+22	48.1
12	49	00.9	314	16.7	+26	04.4	291	56.0	+22	47.9
13	64	03.4	329	16.1		04.3	306	57.0		47.6
14	79	05.9	344	15.5		04.3	321	58.0		47.3
15	94	08.3	359	15.0		04.2	336	59.0		47.0
16	109	10.8	14	14.4		04.2	351	59.9		46.8
17	124	13.3	29	13.9	+26	04.1	7	00.9	+22	46.5
18	139	15.7	44	13.3	+26	04.1	22	01.9	+22	46.2
19	154	18.2	59	12.8		04.0	37	02.8		45.9
20	169	20.7	74	12.2		04.0	52	03.8		45.6
21	184	23.1	89	11.7		03.9	67	04.8		45.4
22	199	25.6	104	11.1		03.9	82	05.8		45.1
23	214	28.0	119	10.6		03.8	97	06.7		44.8
24	229	30.5	134	10.0	+26	03.8	112	07.7	+22	44.5
Dif	—		-6		0		+10		-3	
									+19	+2
										+23
										0

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: 21.8 ^d SD: 16'2 PMG: 6 ^h 04 ^m														
	hG ☉		Dec		hG ☾		Dif				Dec		Dif						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	54.4	+18	00.9	272	25.7	-21	52.4	60 N	20	24	21	25	**	**		2	49	3
1	195	54.4		01.5	286	51.8		41.5	58		11	21	06	22	37		33	9	9
2	210	54.5		02.1	301	18.0		30.4	56	20	00	20	49	22	03		19	14	10
3	225	54.5		02.8	315	44.3		19.2	54	19	51	36	21	39		2	08	17	12
4	240	54.5		03.4	330	10.7	-21	07.9	52		42	24		20		1	57	20	22
5	255	54.5	+18	04.0	344	37.2	-20	56.4	50	19	35	20	14	21	05		1	48	23
6	270	54.5	+18	04.7	359	03.8	-20	44.9	45	19	18	19	52	20	35		1	28	29
7	285	54.5		05.3	13	30.5		33.2	40	19	05	36	20	13		1	12	33	10
8	300	54.5		05.9	27	57.2		21.4	35	18	54	22	19	56		0	58	37	17
9	315	54.5		06.6	42	24.1	-20	09.4	30		44	19	10	41		46	40		27
10	330	54.6		07.2	56	51.1	-19	57.4	20		28	18	51	19		25	46		11
11	345	54.6	+18	07.8	71	18.1	-19	45.2	10 N	18	13	18	35	19	01		0	07	51
12	0	54.6	+18	08.5	85	45.3	-19	32.9	0	18	00	18	22	18	47	**	**	**	12
13	15	54.6		09.1	100	12.6		20.5	10 S	17	47	18	09	34	**	**	**		32
14	30	54.6		09.7	114	39.9	-19	08.0	20		33	17	56	22	**	**	**		12
15	45	54.6		10.3	129	07.4	-18	55.4	30		17	42	11	**	**	**		13	05
16	60	54.6		11.0	143	34.9		42.7	35	17	08	34	18	05	23	54	70		16
17	75	54.6	+18	11.6	158	02.6	-18	29.9	40	16	57	17	26	17	59	23	44	73	13
18	90	54.6	+18	12.2	172	30.3	-18	16.9	45	16	45	17	16	17	52	23	31	79	13
19	105	54.6		12.9	186	58.1	-18	03.9	50		30	05	45	16	85	13	58	20	13
20	120	54.7		13.5	201	26.0	-17	50.8	52	23	17	00	41	09	87	14	06	17	
21	135	54.7		14.1	215	54.0		37.6	54	15	16	55	38	23	01	91		14	15
22	150	54.7		14.7	230	22.1		24.2	56	16	07	49	34	22	52	95		24	11
23	165	54.7		15.4	244	50.3	-17	10.8	58	15	57	42	30	42	99	35		7	
24	180	54.7	+18	16.0	259	18.6	-16	57.3	60 S	15	46	16	35	17	26	22	31	103	14

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 8 ^h 40.5 ^m		Mag: -4.2 PMG: 15 ^h 04 ^m		Mag: +1.4 PMG: 16 ^h 30 ^m		Mag: -2.1 PMG: 10 ^h 30 ^m		Mag: +1.0 PMG: 7 ^h 15 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	229	30.5	134	10.0	+26	03.8	112	07.7	+22	44.5	202	15.0	+10	05.4	251	04.2	-10	36.7	
1	244	33.0	149	09.5		03.7	127	08.7		44.2	217	16.9		05.6	266	06.5		36.7	
2	259	35.4	164	08.9		03.7	142	09.7		44.0	232	18.8		05.8	281	08.8		36.6	
3	274	37.9	179	08.4		03.6	157	10.6		43.7	247	20.8		06.0	296	11.1		36.6	
4	289	40.4	194	07.9		03.6	172	11.6		43.4	262	22.7		06.2	311	13.5		36.5	
5	304	42.8	209	07.3	+26	03.5	187	12.6	+22	43.1	277	24.6	+10	06.4	326	15.8	-10	36.5	
6	319	45.3	224	06.8	+26	03.4	202	13.6	+22	42.8	292	26.5	+10	06.6	341	18.1	-10	36.4	
7	334	47.8	239	06.2		03.4	217	14.5		42.6	307	28.4		06.8	356	20.4		36.4	
8	349	50.2	254	05.7		03.3	232	15.5		42.3	322	30.3		07.0	11	22.8		36.3	
9	4	52.7	269	05.1		03.2	247	16.5		42.0	337	32.2		07.2	26	25.1		36.3	
10	19	55.2	284	04.6		03.2	262	17.4		41.7	352	34.2		07.4	41	27.4		36.2	
11	34	57.6	299	04.0	+26	03.1	277	18.4	+22	41.4	7	36.1	+10	07.6	56	29.7	-10	36.2	
12	50	00.1	314	03.5	+26	03.0	292	19.4	+22	41.1	22	38.0	+10	07.8	71	32.1	-10	36.2	
13	65	02.5	329	03.0		03.0	307	20.4		40.9	37	39.9		08.0	86	34.4		36.1	
14	80	05.0	344	02.4		02.9	322	21.3		40.6	52	41.8		08.2	101	36.7		36.1	
15	95	07.5	359	01.9		02.8	337	22.3		40.3	67	43.7		08.4	116	39.0		36.0	
16	110	09.9	14	01.3		02.8	352	23.3		40.0	82	45.6		08.6	131	41.4		36.0	
17	125	12.4	29	00.8	+26	02.7	7	24.3	+22	39.7	97	47.6	+10	08.9	146	43.7	-10	35.9	
18	140	14.9	44	00.3	+26	02.6	22	25.2	+22	39.4	112	49.5	+10	09.1	161	46.0	-10	35.9	
19	155	17.3	58	59.7		02.5	37	26.2		39.2	127	51.4		09.3	176	48.3		35.8	
20	170	19.8	73	59.2		02.5	52	27.2		38.9	142	53.3		09.5	191	50.7		35.8	
21	185	22.3	88	58.6		02.4	67	28.2		38.6	157	55.2		09.7	206	53.0		35.8	
22	200	24.7	103	58.1		02.3	82	29.1		38.3	172	57.1		09.9	221	55.3		35.7	
23	215	27.2	118	57.6		02.2	97	30.1		38.0	187	59.0		10.1	236	57.7		35.7	
24	230	29.7	133	57.0	+26	02.1	112	31.1	+22	37.7	203	01.0	+10	10.3	252	00.0	-10	35.6	
Dif	—		-5		-1		+10		-3		+19		+2		+23				

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15 ^h 8 PMG:11 ^h 56.3 ^m				Edad: 22.8 ^d SD: 16 ^h 1 PMG: 6 ^h 57 ^m															
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico Civil			Hora R°	Hora R°						
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m			
0	180	54.7	+18	16.0	259	18.6	94	−16	57.3	60 N	2 27	3 28	2 52	1	11	20	102			
1	195	54.7		16.6	273	47.0	94		43.7	58	1 15	2 46	42	5		29	97			
2	210	54.7		17.2	288	15.4	96		30.0	56	1 49	3 03	3 52	33	9		37	93		
3	225	54.7		17.8	302	44.0	96		16.2	54	2 13	16	4 01	25	12		44	90		
4	240	54.7		18.5	317	12.6	96	−16	02.3	52	32	28	10	17	16		51	86		
5	255	54.7	+18	19.1	331	41.3	97	−15	48.4	50	2 47	3 39	4 17	2 11	18	11	57	83		
6	270	54.7	+18	19.7	346	10.1	98	−15	34.3	45	3 17	4 00	4 34	1 57	23	12	09	77		
7	285	54.7		20.3	0	39.0	99		20.2	40	39	17	47	45	28		19	73		
8	300	54.7		20.9	15	08.0	100	−15	06.0	35	3 57	30	4 58	35	32		28	68		
9	315	54.7		21.6	29	37.0	100	−14	51.7	30	4 11	4 42	5 08	26	35		35	65		
10	330	54.8		22.2	44	06.2	102		37.4	20	34	5 01	25	1 11	41		48	59		
11	345	54.8	+18	22.8	58	35.4	102	−14	22.9	10 N	4 51	5 17	5 39	0 58	46	12	59	54		
12	0	54.8	+18	23.4	73	04.7	103	−14	08.4	0	5 06	5 31	5 53	0 45	51	13	09	50		
13	15	54.8		24.0	87	34.1	104	−13	53.9	10 S	19	44	6 06	32	56		20	44		
14	30	54.8		24.6	102	03.5	104		39.2	20	31	5 57	20	19	60		31	39		
15	45	54.8		25.3	116	33.0	105		24.5	30	42	6 11	36	0 03	66		43	33		
16	60	54.8		25.9	131	02.6	106	−13	09.7	35	48	19	46	** ** *	**		50	30		
17	75	54.8	+18	26.5	145	32.3	107	−12	54.8	40	5 55	6 27	6 56	** ** *	**	13	58	26		
18	90	54.8	+18	27.1	160	02.0	107	−12	39.9	45	6 01	6 37	7 09	** ** *	**	14	07	22		
19	105	54.8		27.7	174	31.9	109		24.9	50	09	48	24	** ** *	**		18	17		
20	120	54.8		28.3	189	01.8	109	−12	09.9	52	12	53	31	** ** *	**		23	14		
21	135	54.8		28.9	203	31.7	109	−11	54.8	54	15	6 59	38	** ** *	**		29	11		
22	150	54.8		29.5	218	01.8	111		39.7	56	19	7 05	47	** ** *	**		35	9		
23	165	54.8		30.2	232	31.9	111		24.4	58	23	12	7 57	** ** *	**		42	5		
24	180	54.8	+18	30.8	247	02.0	111	−11	09.2	60 S	6 28	7 19	8 08	** ** *	**	14	50	1		
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO			
	PMG: −4.3 8 ^h 36.6 ^m				Mag: −4.3 PMG: 15 ^h 05 ^m				Mag: +1.4 PMG: 16 ^h 29 ^m				Mag: −2.1 PMG: 10 ^h 27 ^m				Mag: +1.0 PMG: 7 ^h 11 ^m			
	hG ♈ Dec				hG ♊ Dec				hG ♂ Dec				hG ♃ Dec				hG ♄ Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	230	29.7	133	57.0	+26	02.1	112	31.1	+22	37.7	203	01.0	+10	10.3	252	00.0	−10	35.6		
1	245	32.1	148	56.5		02.1	127	32.0		37.4	218	02.9		10.5	267	02.3		35.6		
2	260	34.6	163	56.0		02.0	142	33.0		37.2	233	04.8		10.7	282	04.6		35.5		
3	275	37.0	178	55.4		01.9	157	34.0		36.9	248	06.7		10.9	297	07.0		35.5		
4	290	39.5	193	54.9		01.8	172	35.0		36.6	263	08.6		11.1	312	09.3		35.4		
5	305	42.0	208	54.4	+26	01.7	187	35.9	+22	36.3	278	10.5	+10	11.3	327	11.6	−10	35.4		
6	320	44.4	223	53.8	+26	01.6	202	36.9	+22	36.0	293	12.4	+10	11.5	342	13.9	−10	35.4		
7	335	46.9	238	53.3		01.5	217	37.9		35.7	308	14.4		11.7	357	16.3		35.3		
8	350	49.4	253	52.8		01.4	232	38.9		35.4	323	16.3		11.9	12	18.6		35.3		
9	5	51.8	268	52.2		01.4	247	39.8		35.2	338	18.2		12.1	27	20.9		35.2		
10	20	54.3	283	51.7		01.3	262	40.8		34.9	353	20.1		12.3	42	23.3		35.2		
11	35	56.8	298	51.2	+26	01.2	277	41.8	+22	34.6	8	22.0	+10	12.5	57	25.6	−10	35.1		
12	50	59.2	313	50.6	+26	01.1	292	42.7	+22	34.3	23	23.9	+10	12.7	72	27.9	−10	35.1		
13	66	01.7	328	50.1		01.0	307	43.7		34.0	38	25.8		12.9	87	30.3		35.0		
14	81	04.1	343	49.6		00.9	322	44.7		33.7	53	27.8		13.1	102	32.6		35.0		
15	96	06.6	358	49.1		00.8	337	45.7		33.4	68	29.7		13.3	117	34.9		35.0		
16	111	09.1	13	48.5		00.7	352	46.6		33.1	83	31.6		13.5	132	37.2		34.9		
17	126	11.5	28	48.0	+26	00.6	7	47.6	+22	32.8	98	33.5	+10	13.7	147	39.6	−10	34.9		
18	141	14.0	43	47.5	+26	00.5	22	48.6	+22	32.6	113	35.4	+10	13.9	162	41.9	−10	34.8		
19	156	16.5	58	47.0		00.4	37	49.6		32.3	128	37.3		14.1	177	44.2		34.8		
20	171	18.9	73	46.4		00.3	52	50.5		32.0	143	39.3		14.3	192	46.6		34.7		
21	186	21.4	88	45.9		00.2	67	51.5		31.7	158	41.2		14.5	207	48.9		34.7		
22	201	23.9	103	45.4	+26	00.1	82	52.5		31.4	173	43.1		14.7	222	51.2		34.7		
23	216	26.3	118	44.9	+26	00.0	97	53.4		31.1	188	45.0		14.9	237	53.6		34.6		
24	231	28.8	133	44.3	+25	59.9	112	54.4	+22	30.8	203	46.9	+10	15.1	252	55.9	−10	34.6		
Dif	—				−5 −1				+10 −3				+19 +2				+23 0			

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: 23.8 ^d SD: 16'1 PMG: 7 ^h 47 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	h m
0	180	54.8	+18	30.8	247	02.0	-11	09.2	60 N	20 29	21 32	** **	2 53	0	13 02	97
1	195	54.8		31.4	261	32.2	-10	53.8	58	16	21 11	22 49	47	4	06	94
2	210	54.8		32.0	276	02.5		38.5	56	20 04	20 54	22 11	42	7	10	90
3	225	54.8		32.6	290	32.9		23.1	54	19 54	40	21 45	37	10	14	86
4	240	54.8		33.2	305	03.3	-10	07.6	52	46	28	25	33	13	17	84
5	255	54.8	+18	33.8	319	33.8	-9	52.1	50	19 38	20 17	21 09	2 29	15	13 20	81
6	270	54.8	+18	34.4	334	04.3	-9	36.5	45	19 21	19 55	20 38	2 20	21	13 26	76
7	285	54.8		35.0	348	34.9		20.9	40	19 07	38	20 16	13	25	32	71
8	300	54.8		35.6	3 05.6	117	-9	05.2	35	18 56	24	19 58	07	29	36	67
9	315	54.8		36.2	17 36.3	117	-8	49.5	30	46	19 12	43	2 01	33	40	64
10	330	54.8		36.8	32 07.1	118		33.8	20	28	18 52	20	1 52	38	47	58
11	345	54.8	+18	37.4	46 37.9	118	-8	18.0	10 N	18 14	18 36	19 02	1 44	43	13 53	52
12	0	54.8	+18	38.0	61 08.8	119	-8	02.2	0	18 00	18 22	18 47	1 36	48	13 59	47
13	15	54.8		38.6	75 39.7	119	-7	46.4	10 S	17 46	18 08	34	28	53	14 04	42
14	30	54.8		39.2	90 10.7	120		30.5	20	32	17 55	22	19	58	10	37
15	45	54.8		39.9	104 41.7	120	-7	14.6	30	15	41	10	09	65	16	32
16	60	54.8		40.5	119 12.7	120	-6	58.7	35	17 06	33	18 03	1 04	67	20	28
17	75	54.8	+18	41.1	133 43.9	122	-6	42.7	40	16 55	17 24	17 57	0 57	72	14 24	25
18	90	54.8	+18	41.7	148 15.0	121	-6	26.7	45	16 43	17 14	17 50	0 50	76	14 29	20
19	105	54.8		42.3	162 46.2	122	-6	10.7	50	27	17 03	42	41	82	35	15
20	120	54.8		42.9	177 17.5	123	-5	54.6	52	20	16 58	39	36	85	37	13
21	135	54.8		43.5	191 48.7	122		38.6	54	12	52	35	32	88	40	10
22	150	54.8		44.0	206 20.1	124		22.5	56	16 03	46	31	27	91	44	6
23	165	54.8		44.6	220 51.4	123	-5	06.4	58	15 53	39	27	21	94	47	4
24	180	54.8	+18	45.2	235 22.8	124	-4	50.2	60 S	15 42	16 31	17 23	0 14	99	14 51	0

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 8 ^h 32.7 ^m		Mag: -4.3 PMG: 15 ^h 06 ^m			Mag: +1.5 PMG: 16 ^h 27 ^m			Mag: -2.1 PMG: 10 ^h 24 ^m			Mag: +1.0 PMG: 7 ^h 07 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	231	28.8	133	44.3	+25	59.9	112	54.4	+22	30.8	203	46.9	+10	15.1	252	55.9	-10	34.6
1	246	31.3	148	43.8		59.7	127	55.4		30.5	218	48.8		15.3	267	58.2		34.5
2	261	33.7	163	43.3		59.6	142	56.4		30.2	233	50.7		15.5	283	00.6		34.5
3	276	36.2	178	42.8		59.5	157	57.3		29.9	248	52.7		15.7	298	02.9		34.4
4	291	38.6	193	42.2		59.4	172	58.3		29.6	263	54.6		15.9	313	05.2		34.4
5	306	41.1	208	41.7	+25	59.3	187	59.3	+22	29.4	278	56.5	+10	16.1	328	07.5	-10	34.4
6	321	43.6	223	41.2	+25	59.2	203	00.3	+22	29.1	293	58.4	+10	16.3	343	09.9	-10	34.3
7	336	46.0	238	40.7		59.1	218	01.2		28.8	309	00.3		16.5	358	12.2		34.3
8	351	48.5	253	40.2		58.9	233	02.2		28.5	324	02.2		16.7	13	14.5		34.2
9	6	51.0	268	39.6		58.8	248	03.2		28.2	339	04.2		16.9	28	16.9		34.2
10	21	53.4	283	39.1		58.7	263	04.1		27.9	354	06.1		17.1	43	19.2		34.1
11	36	55.9	298	38.6	+25	58.6	278	05.1	+22	27.6	9	08.0	+10	17.3	58	21.5	-10	34.1
12	51	58.4	313	38.1	+25	58.5	293	06.1	+22	27.3	24	09.9	+10	17.5	73	23.9	-10	34.1
13	67	00.8	328	37.6		58.3	308	07.1		27.0	39	11.8		17.7	88	26.2		34.0
14	82	03.3	343	37.1		58.2	323	08.0		26.7	54	13.7		17.9	103	28.5		34.0
15	97	05.8	358	36.5		58.1	338	09.0		26.4	69	15.7		18.1	118	30.9		33.9
16	112	08.2	13	36.0		58.0	353	10.0		26.1	84	17.6		18.3	133	33.2		33.9
17	127	10.7	28	35.5	+25	57.9	8	10.9	+22	25.8	99	19.5	+10	18.5	148	35.5	-10	33.9
18	142	13.1	43	35.0	+25	57.7	23	11.9	+22	25.5	114	21.4	+10	18.7	163	37.9	-10	33.8
19	157	15.6	58	34.5		57.6	38	12.9		25.2	129	23.3		18.9	178	40.2		33.8
20	172	18.1	73	34.0		57.5	53	13.9		24.9	144	25.2		19.1	193	42.5		33.7
21	187	20.5	88	33.5		57.3	68	14.8		24.6	159	27.2		19.3	208	44.9		33.7
22	202	23.0	103	33.0		57.2	83	15.8		24.4	174	29.1		19.5	223	47.2		33.6
23	217	25.5	118	32.5		57.1	98	16.8		24.1	189	31.0		19.7	238	49.5		33.6
24	232	27.9	133	31.9	+25	56.9	113	17.8	+22	23.8	204	32.9	+10	19.9	253	51.9	-10	33.6
Dif	—		-5		-1		+10		-3		+19		+2		+23		0	

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: 24.8 ^d PHE { 4 ^h : 58'7 12 ^h : 58'6 20 ^h : 58'5 SD: 16'0 PMG: 8 ^h 35 ^m R°: 46 ^m																				
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico		Civil		Hora		R°		Hora		R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	h	m	m
0	180	54.8	+18	45.2	235	22.8		125	-4	50.2	161	60 N	**	**	2	20	3	23	2	53	0	14	39	96	
1	195	54.8		45.8	249	54.3		124		34.1	162	58	1	03	41	36		51	4		40	91			
2	210	54.8		46.4	264	25.7		125		17.9	162	56	1	42	2	58	48	49	7		40	89			
3	225	54.7		47.0	278	57.2		125	-4	01.7	162	54	2	07	3	12	3	58	47	10		40	86		
4	240	54.7		47.6	293	28.8		126	-3	45.5	162	52		27		25	4	07	46	12		41	82		
5	255	54.7	+18	48.2	308	00.3		125	-3	29.3	162	50	2	43	3	35	4	15	2	44	14	14	41	80	
6	270	54.7	+18	48.8	322	31.9		126	-3	13.1	162	45	3	14	3	57	4	31	2	41	19	14	42	75	
7	285	54.7		49.4	337	03.6		127	-2	56.9	162	40		37	4	15	45	38	24		43	70			
8	300	54.7		50.0	351	35.2		126		40.7	162	35	3	55		29	4	57	36	27		43	66		
9	315	54.7		50.6	6	06.9		127		24.4	163	30	4	09	4	41	5	07	34	30		44	62		
10	330	54.7		51.2	20	38.6		127	-2	08.2	162	20		33	5	00	24	30	37		45	56			
11	345	54.7	+18	51.8	35	10.3		127	-1	51.9	163	10 N	4	51	5	17	5	39	2	27	41	14	45	52	
12	0	54.7	+18	52.4	49	42.0		127	-1	35.7	162	0	5	06	5	31	5	53	2	24	46	14	46	46	
13	15	54.7		53.0	64	13.8		128		19.4	163	10 S		19		44	6	07	21	51		46	42		
14	30	54.7		53.5	78	45.6		128	-1	03.2	163	20		31	5	58	21	17	57		47	37			
15	45	54.7		54.1	93	17.4		128	-0	46.9	163	30		43	6	12	38	14	62		48	30			
16	60	54.7		54.7	107	49.2		128		30.7	162	35		50		20	47	11	67		48	28			
17	75	54.7	+18	55.3	122	21.0		128	-0	14.4	163	40	5	56	6	29	6	58	2	09	70	14	49	23	
18	90	54.6	+18	55.9	136	52.9		129	+0	01.8	162	45	6	03	6	39	7	11	2	06	75	14	49	19	
19	105	54.6		56.5	151	24.7		128		18.0	163	50		11		51	26		03	80		50	14		
20	120	54.6		57.1	165	56.6		129		34.3	163	52	15	6	56	34		01	83		50	12			
21	135	54.6		57.7	180	28.5		129	+0	50.5	162	54	18	7	02	42		2	00	85		50	10		
22	150	54.6		58.2	195	00.4		129	+1	06.7	162	56		22		08	7	51	1	58	88		50	7	
23	165	54.6		58.8	209	32.3		129		22.9	162	58	26		15	8	01	55	93		51	3			
24	180	54.6	+18	59.4	224	04.2		129	+1	39.0	161	60 S	6	31	7	23	8	13	1	53	96	14	51	0	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO																
	PMG: 8 ^h 28.7 ^m		Mag: -4.3 PMG: 15 ^h 06 ^m		Mag: +1.5 PMG: 16 ^h 26 ^m		Mag: -2.1 PMG: 10 ^h 20 ^m		Mag: +1.0 PMG: 7 ^h 03 ^m																
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄																
h	°	'	°	'	°	'	°	'	°	'															
0	232	27.9	133	31.9	+25	56.9	113	17.8	+22	23.8															
1	247	30.4	148	31.4		56.8	128	18.7		23.5															
2	262	32.9	163	30.9		56.7	143	19.7		23.2															
3	277	35.3	178	30.4		56.5	158	20.7		22.9															
4	292	37.8	193	29.9		56.4	173	21.6		22.6															
5	307	40.2	208	29.4	+25	56.3	188	22.6	+22	22.3															
6	322	42.7	223	28.9	+25	56.1	203	23.6	+22	22.0															
7	337	45.2	238	28.4		56.0	218	24.6		21.7															
8	352	47.6	253	27.9		55.8	233	25.5		21.4															
9	7	50.1	268	27.4		55.7	248	26.5		21.1															
10	22	52.6	283	26.9		55.5	263	27.5		20.8															
11	37	55.0	298	26.4	+25	55.4	278	28.4	+22	20.5															
12	52	57.5	313	25.9	+25	55.2	293	29.4	+22	20.2															
13	68	00.0	328	25.4		55.1	308	30.4		19.9															
14	83	02.4	343	24.9		54.9	323	31.4		19.6															
15	98	04.9	358	24.4		54.8	338	32.3		19.3															
16	113	07.4	13	23.9		54.6	353	33.3		19.0															
17	128	09.8	28	23.4	+25	54.5	8	34.3	+22	18.7															
18	143	12.3	43	22.9	+25	54.3	23	35.3	+22	18.4															
19	158	14.7	58	22.4		54.2	38	36.2		18.1															
20	173	17.2	73	21.9		54.0	53	37.2		17.8															
21	188	19.7	88	21.4		53.9	68	38.2		17.5															
22	203	22.1	103	20.9		53.7	83	39.1		17.2															
23	218	24.6	118	20.4		53.6	98	40.1		16.9															
24	233	27.1	133	19.9	+25	53.4	113	41.1	+22	16.6															
Dif	—		-5		-1		+10		-3																
											+19	+2	+23	0											

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: 25.8 ^d SD: 15'9 PMG: 9 ^h 21 ^m PHE { 4 ^h : 58'4 12 ^h : 58'2 20 ^h : 58'1 R°: 47 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m
0	180	54.6	+18	59.4	224	04.2	+1	39.0	60 N	20 34	21 39	** **	2 53	1	16 15
1	195	54.6	+19	00.0	238	36.1	+1	55.2	58	20	21 16	23 03	55	3	11 93
2	210	54.6	+19	00.6	253	08.0	+2	11.3	56	20 08	20 59	22 18	56	7	09 88
3	225	54.5		01.2	267	39.9		27.5	54	19 58	44	21 51	57	9	06 85
4	240	54.5		01.7	282	11.9		43.6	52	49	31	30	58	12	03 83
5	255	54.5	+19	02.3	296	43.8	+2	59.6	50	19 40	20 20	21 13	2 58	15	16 01
6	270	54.5	+19	02.9	311	15.7	+3	15.7	45	19 23	19 58	20 41	3 00	20	15 57
7	285	54.5		03.5	325	47.6		31.8	40	19 09	40	18	02	24	53 69
8	300	54.5		04.1	340	19.5	+3	47.8	35	18 57	25	20 00	03	28	49 66
9	315	54.5		04.6	354	51.5	+4	03.8	30	47	19 13	19 45	04	31	46 63
10	330	54.5		05.2	9	23.4		19.7	20	29	18 53	21	07	36	41 57
11	345	54.5	+19	05.8	23	55.3	+4	35.6	10 N	18 14	18 36	19 03	3 08	42	15 37
12	0	54.4	+19	06.4	38	27.2	+4	51.6	0	18 00	18 22	18 47	3 10	47	15 32
13	15	54.4		06.9	52	59.0	+5	07.4	10 S	17 46	18 08	34	12	51	28 42
14	30	54.4		07.5	67	30.9		23.3	20	31	17 54	21	14	57	24 37
15	45	54.4		08.1	82	02.8		39.1	30	14	40	09	16	63	18 32
16	60	54.4		08.7	96	34.6	+5	54.8	35	17 05	32	18 02	18	66	16 28
17	75	54.4	+19	09.2	111	06.5	+6	10.6	40	16 53	17 23	17 55	3 19	70	15 12
18	90	54.4	+19	09.8	125	38.3	+6	26.3	45	16 40	17 12	17 48	3 21	74	15 08
19	105	54.3		10.4	140	10.1		41.9	50	25	17 00	40	23	80	04 15
20	120	54.3		11.0	154	41.9	+6	57.6	52	17	16 55	36	24	83	02 13
21	135	54.3		11.5	169	13.7	+7	13.1	54	09	49	33	25	86	15 00
22	150	54.3		12.1	183	45.4		28.7	56	16 00	42	28	26	89	14 57
23	165	54.3		12.7	198	17.2		44.2	58	15 49	35	24	28	92	54 4
24	180	54.3	+19	13.2	212	48.9	+7	59.6	60 S	15 37	16 27	17 19	3 29	96	14 51

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG: 8 ^h 24.8 ^m		Mag: -4.3 PMG: 15 ^h 07 ^m			Mag: +1.5 PMG: 16 ^h 24 ^m			Mag: -2.1 PMG: 10 ^h 17 ^m			Mag: +1.0 PMG: 7 ^h 00 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	233	27.1	133	19.9	+25	53.4	113	41.1	+22	16.6	205	18.9	+10	24.7	
1	248	29.5	148	19.4		53.2	128	42.1		16.3	220	20.8		24.9	
2	263	32.0	163	18.9		53.1	143	43.0		16.0	235	22.8		25.1	
3	278	34.5	178	18.4		52.9	158	44.0		15.7	250	24.7		25.3	
4	293	36.9	193	17.9		52.7	173	45.0		15.4	265	26.6		25.5	
5	308	39.4	208	17.4	+25	52.6	188	45.9	+22	15.1	280	28.5	+10	25.7	
6	323	41.8	223	16.9	+25	52.4	203	46.9	+22	14.8	295	30.4	+10	25.9	
7	338	44.3	238	16.4		52.2	218	47.9		14.4	310	32.4		26.1	
8	353	46.8	253	15.9		52.1	233	48.9		14.1	325	34.3		26.3	
9	8	49.2	268	15.5		51.9	248	49.8		13.8	340	36.2		26.5	
10	23	51.7	283	15.0		51.7	263	50.8		13.5	355	38.1		26.7	
11	38	54.2	298	14.5	+25	51.6	278	51.8	+22	13.2	10	40.0	+10	26.9	
12	53	56.6	313	14.0	+25	51.4	293	52.7	+22	12.9	25	42.0	+10	27.1	
13	68	59.1	328	13.5		51.2	308	53.7		12.6	40	43.9		27.3	
14	84	01.6	343	13.0		51.0	323	54.7		12.3	55	45.8		27.5	
15	99	04.0	358	12.5		50.9	338	55.7		12.0	70	47.7		27.7	
16	114	06.5	13	12.0		50.7	353	56.6		11.7	85	49.6		27.9	
17	129	09.0	28	11.6	+25	50.5	8	57.6	+22	11.4	100	51.5	+10	28.1	
18	144	11.4	43	11.1	+25	50.3	23	58.6	+22	11.1	115	53.5	+10	28.3	
19	159	13.9	58	10.6		50.2	38	59.5		10.8	130	55.4		28.5	
20	174	16.3	73	10.1		50.0	54	00.5		10.5	145	57.3		28.7	
21	189	18.8	88	09.6		49.8	69	01.5		10.2	160	59.2		28.9	
22	204	21.3	103	09.1		49.6	84	02.5		09.9	176	01.1		29.1	
23	219	23.7	118	08.7		49.4	99	03.4		09.6	191	03.1		29.3	
24	234	26.2	133	08.2	+25	49.2	114	04.4	+22	09.2	206	05.0	+10	29.5	
Dif	—		-5		-2		+10		-3		+19		+2		+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: 26.8 ^d SD: 15'8 PMG: 10 ^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	180	54.3	+19	13.2	212	48.9	+7	59.6	60 N	0 49	2 14	3 18	2 54	0	17 51	99	
1	195	54.2		13.8	227	20.6	+8	15.0	58	0 49	36	32	2 58	5	44	94	
2	210	54.2		14.4	241	52.3		30.3	56	1 34	2 54	44	3 03	8	37	90	
3	225	54.2		15.0	256	23.9	+8	45.6	54	2 01	3 08	3 55	06	12	31	86	
4	240	54.2		15.5	270	55.5	+9	00.9	52	22	21	4 04	10	14	26	83	
5	255	54.2	+19	16.1	285	27.1	+9	16.1	50	2 39	3 32	4 12	3 13	16	17 21	80	
6	270	54.2	+19	16.7	299	58.7	+9	31.2	45	3 11	3 55	4 29	3 20	22	17 11	75	
7	285	54.1		17.2	314	30.2	+9	46.3	40	34	4 13	43	26	26	17 02	70	
8	300	54.1		17.8	329	01.8	+10	01.4	35	3 53	27	4 55	31	29	16 55	66	
9	315	54.1		18.4	343	33.3		16.3	30	4 08	4 39	5 06	35	33	49	63	
10	330	54.1		18.9	358	04.7		31.3	20	32	5 00	23	43	38	38	57	
11	345	54.1	+19	19.5	12	36.1	+10	46.1	10 N	4 50	5 16	5 39	3 50	43	16 28	53	
12	0	54.0	+19	20.0	27	07.5	+11	00.9	0	5 05	5 31	5 53	3 57	47	16 19	49	
13	15	54.0		20.6	41	38.9		15.7	10 S	19	45	6 07	4 03	53	10	44	
14	30	54.0		21.2	56	10.2		30.3	20	32	5 59	22	11	57	16 01	39	
15	45	54.0		21.7	70	41.5		44.9	30	44	6 13	39	19	63	15 50	34	
16	60	54.0		22.3	85	12.8	+11	59.5	35	51	22	6 49	24	66	44	31	
17	75	53.9	+19	22.9	99	44.0	+12	14.0	40	5 58	6 31	7 00	4 29	70	15 37	27	
18	90	53.9	+19	23.4	114	15.2	+12	28.4	45	6 05	6 41	7 13	4 35	75	15 29	23	
19	105	53.9		24.0	128	46.3		42.7	50	13	53	29	43	80	19	18	
20	120	53.9		24.5	143	17.4	+12	57.0	52	17	6 59	36	47	82	15	15	
21	135	53.9		25.1	157	48.5	+13	11.2	54	21	7 05	45	51	85	10	12	
22	150	53.8		25.7	172	19.6		25.3	56	25	11	7 54	4 55	89	15 04	10	
23	165	53.8		26.2	186	50.5		39.3	58	30	19	8 05	5 00	93	14 58	6	
24	180	53.8	+19	26.8	201	21.5	+13	53.3	60 S	6 34	7 27	8 17	5 05	98	14 52	1	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 8 ^h 20.9 ^m		Mag: -4.3 PMG: 15 ^h 08 ^m		Mag: +1.5 PMG: 16 ^h 23 ^m		Mag: -2.1 PMG: 10 ^h 14 ^m		Mag: +1.0 PMG: 6 ^h 56 ^m	
	hG ♈		hG ♀ Dec		hG ♂ Dec		hG ♃ Dec		hG ♄ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	234	26.2	133	08.2	+25	49.2	114	04.4	+10	29.5
1	249	28.7	148	07.7		49.1	129	05.4		29.7
2	264	31.1	163	07.2		48.9	144	06.3		29.9
3	279	33.6	178	06.7		48.7	159	07.3		30.1
4	294	36.1	193	06.3		48.5	174	08.3		30.3
5	309	38.5	208	05.8	+25	48.3	189	09.3	+22	30.5
6	324	41.0	223	05.3	+25	48.1	204	10.2	+22	30.7
7	339	43.5	238	04.8		47.9	219	11.2		30.9
8	354	45.9	253	04.4		47.7	234	12.2		31.1
9	9	48.4	268	03.9		47.5	249	13.2		31.3
10	24	50.8	283	03.4		47.3	264	14.1		31.5
11	39	53.3	298	02.9	+25	47.1	279	15.1	+22	31.7
12	54	55.8	313	02.5	+25	46.9	294	16.1	+22	31.9
13	69	58.2	328	02.0		46.7	309	17.0		32.1
14	85	00.7	343	01.5		46.5	324	18.0		32.3
15	100	03.2	358	01.1		46.3	339	19.0		32.5
16	115	05.6	13	00.6		46.1	354	20.0		32.7
17	130	08.1	28	00.1	+25	45.9	9	20.9	+22	32.9
18	145	10.6	42	59.7	+25	45.7	24	21.9	+22	33.1
19	160	13.0	57	59.2		45.5	39	22.9		33.3
20	175	15.5	72	58.7		45.3	54	23.8		33.4
21	190	17.9	87	58.3		45.1	69	24.8		33.6
22	205	20.4	102	57.8		44.9	84	25.8		33.8
23	220	22.9	117	57.3		44.7	99	26.8		34.0
24	235	25.3	132	56.9	+25	44.5	114	27.7	+22	34.2
Dif	—		-5		-2		+10		-3	
							+19		+2	
									+23	
									0	

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: 27.8 ^d SD: 15'7 PMG: 10 ^h 56 ^m PHE { 4 ^h : 57'5 12 ^h : 57'3 20 ^h : 57'1 R°: 50 ^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	h m m
0	180	53.8	+19 26.8	201	21.5	+13 53.3		60 N	20 38	21 45	** **	2 54	3	19 30	100
1	195	53.8	27.3	215	52.4	+14 07.2	139	58	24	22	23 21	3 03	7	18	94
2	210	53.7	27.9	230	23.3		21.0	56	12	21 03	22 27	11	11	19 07	89
3	225	53.7	28.4	244	54.1		34.8	54	20 01	20 48	21 57	18	14	18 57	86
4	240	53.7	29.0	259	24.9	+14 48.4	136	52	19 52	35	35	24	17	49	82
5	255	53.7	+19 29.5	273	55.6	+15 02.0	136	50	19 43	20 23	21 17	3 29	20	18 41	80
6	270	53.6	+19 30.1	288	26.3	+15 15.5	135	45	19 25	20 00	20 44	3 42	24	18 26	73
7	285	53.6	30.6	302	56.9		28.9	40	19 11	19 42	20	3 52	29	12	70
8	300	53.6	31.2	317	27.5		42.2	35	18 59	27	20 02	4 00	33	18 01	67
9	315	53.6	31.7	331	58.1	+15 55.4	132	30	48	19 14	19 46	08	36	17 52	63
10	330	53.5	32.3	346	28.6	+16 08.6	132	20	30	18 54	22	21	41	35	59
11	345	53.5	+19 32.9	0	59.0	+16 21.7	131	10 N	18 14	18 37	19 03	4 33	45	17 21	54
12	0	53.5	+19 33.4	15	29.4	+16 34.6	129	0	18 00	18 22	18 47	4 44	50	17 08	50
13	15	53.5	34.0	29	59.8	+16 47.5	129	10 S	17 46	18 08	34	4 56	53	16 54	47
14	30	53.4	34.5	44	30.1	+17 00.3	127	20	30	17 54	21	5 08	58	40	43
15	45	53.4	35.0	59	00.4		113	30	13	39	08	22	63	24	38
16	60	53.4	35.6	73	30.6		112	35	17 03	30	18 01	30	66	15	35
17	75	53.4	+19 36.1	88	00.7	+17 38.1	125	40	16 52	17 21	17 54	5 39	70	16 04	32
18	90	53.3	+19 36.7	102	30.8	+17 50.5	124	45	16 38	17 10	17 46	5 50	74	15 52	27
19	105	53.3	37.2	117	00.9	+18 02.8	123	50	22	16 58	38	6 03	80	37	22
20	120	53.3	37.8	131	30.9		122	52	14	52	34	09	83	30	19
21	135	53.3	38.3	146	00.9		121	54	16 06	46	30	16	87	22	17
22	150	53.2	38.9	160	30.8		120	56	15 56	39	26	24	90	14	12
23	165	53.2	39.4	175	00.6	+18 51.0	119	58	46	32	21	33	94	15	04
24	180	53.2	+19 40.0	189	30.4	+19 02.8	118	60 S	15 33	16 23	17 16	6 43	100	14 53	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 8 ^h 16.9 ^m		Mag: -4.3 PMG: 15 ^h 09 ^m		Mag: +1.5 PMG: 16 ^h 21 ^m		Mag: -2.1 PMG: 10 ^h 11 ^m		Mag: +1.0 PMG: 6 ^h 52 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /					
0	235	25.3	132	56.9	+25 44.5	114	27.7	+22 01.8	206	51.1	+10 34.2	256	40.3	-10 30.7	
1	250	27.8	147	56.4	44.3	129	28.7	01.5	221	53.0	34.4	271	42.7	30.7	
2	265	30.3	162	55.9	44.0	144	29.7	01.2	236	54.9	34.6	286	45.0	30.6	
3	280	32.7	177	55.5	43.8	159	30.6	00.9	251	56.8	34.8	301	47.4	30.6	
4	295	35.2	192	55.0	43.6	174	31.6	00.5	266	58.8	35.0	316	49.7	30.6	
5	310	37.7	207	54.5	+25 43.4	189	32.6	+22 00.2	282	00.7	+10 35.2	331	52.1	-10 30.5	
6	325	40.1	222	54.1	+25 43.2	204	33.6	+21 59.9	297	02.6	+10 35.4	346	54.4	-10 30.5	
7	340	42.6	237	53.6	43.0	219	34.5	59.6	312	04.5	35.6	1	56.8	30.5	
8	355	45.1	252	53.2	42.7	234	35.5	59.3	327	06.4	35.8	16	59.1	30.4	
9	10	47.5	267	52.7	42.5	249	36.5	59.0	342	08.4	36.0	32	01.4	30.4	
10	25	50.0	282	52.3	42.3	264	37.4	58.7	357	10.3	36.2	47	03.8	30.3	
11	40	52.4	297	51.8	+25 42.1	279	38.4	+21 58.3	12	12.2	+10 36.4	62	06.1	-10 30.3	
12	55	54.9	312	51.3	+25 41.9	294	39.4	+21 58.0	27	14.1	+10 36.6	77	08.5	-10 30.3	
13	70	57.4	327	50.9	41.6	309	40.4	57.7	42	16.0	36.8	92	10.8	30.2	
14	85	59.8	342	50.4	41.4	324	41.3	57.4	57	18.0	37.0	107	13.2	30.2	
15	101	02.3	357	50.0	41.2	339	42.3	57.1	72	19.9	37.2	122	15.5	30.2	
16	116	04.8	12	49.5	41.0	354	43.3	56.8	87	21.8	37.4	137	17.9	30.1	
17	131	07.2	27	49.1	+25 40.7	9	44.2	+21 56.4	102	23.7	+10 37.6	152	20.2	-10 30.1	
18	146	09.7	42	48.6	+25 40.5	24	45.2	+21 56.1	117	25.7	+10 37.8	167	22.6	-10 30.1	
19	161	12.2	57	48.2	40.3	39	46.2	55.8	132	27.6	38.0	182	24.9	30.0	
20	176	14.6	72	47.7	40.0	54	47.2	55.5	147	29.5	38.2	197	27.3	30.0	
21	191	17.1	87	47.3	39.8	69	48.1	55.2	162	31.4	38.4	212	29.6	29.9	
22	206	19.6	102	46.8	39.6	84	49.1	54.8	177	33.3	38.6	227	32.0	29.9	
23	221	22.0	117	46.4	39.3	99	50.1	54.5	192	35.3	38.8	242	34.3	29.9	
24	236	24.5	132	45.9	+25 39.1	114	51.0	+21 54.2	207	37.2	+10 39.0	257	36.7	-10 29.8	
Dif	—		-5		-2	+10		-3	+19		+2	+23			

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: 28.8 ^d SD: 15'5 PMG: 11 ^h 46 ^m													
				PHE { 4 ^h : 56'9 12 ^h : 56'8 20 ^h : 56'6 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	h m m		
0	180	53.2	+19	40.0	189	30.4	+19	02.8	60 N	** **	2 07	3 14	2 57 5	21 10 99			
1	195	53.1		40.5	204	00.2		14.5	58	0 31	31	28	3 10 11	20 52 90			
2	210	53.1		41.0	218	29.9		26.0	56	1 26	2 49	41	22 15	36 85			
3	225	53.1		41.6	232	59.5		37.5	54	1 56	3 05	3 51	32 19	23 88			
4	240	53.1		42.1	247	29.1	+19	48.9	52	2 17	18	4 01	41 22	11 78			
5	255	53.0	+19	42.7	261	58.7	+20	00.1	50	2 35	3 29	4 09	3 49 25	20 01 76			
6	270	53.0	+19	43.2	276	28.2	+20	11.3	45	3 08	3 52	4 27	4 06 31	19 39 71			
7	285	53.0		43.7	290	57.6		22.3	40	32	4 11	42	21 34	22 68			
8	300	52.9		44.3	305	27.0		33.2	35	3 51	26	4 54	33 37	19 08 65			
9	315	52.9		44.8	319	56.3		44.1	30	4 06	38	5 05	4 44 40	18 55 63			
10	330	52.9		45.3	334	25.6	+20	54.8	20	31	4 59	23	5 02 45	34 59			
11	345	52.8	+19	45.9	348	54.9	+21	05.3	10 N	4 50	5 16	5 38	5 18 49	18 15 56			
12	0	52.8	+19	46.4	3	24.0	+21	15.8	0	5 05	5 31	5 53	5 34 51	17 58 53			
13	15	52.8		47.0	17	53.2		26.1	10 S	19	45	6 07	5 49 55	41 50			
14	30	52.8		47.5	32	22.3		36.4	20	32	5 59	23	6 06 58	23 46			
15	45	52.7		48.0	46	51.3		46.5	30	45	6 15	40	25 63	17 02 42			
16	60	52.7		48.6	61	20.3	+21	56.5	35	52	23	6 50	36 66	16 50 40			
17	75	52.7	+19	49.1	75	49.2	+22	06.3	40	5 59	6 32	7 02	6 49 69	16 36 37			
18	90	52.6	+19	49.6	90	18.1	+22	16.1	45	6 07	6 43	7 15	7 04 73	16 19 34			
19	105	52.6		50.2	104	46.9		25.7	50	16	6 55	32	23 79	15 59 29			
20	120	52.6		50.7	119	15.7		35.2	52	19	7 01	39	32 81	49 27			
21	135	52.5		51.2	133	44.4		44.5	54	24	07	48	43 84	39 23			
22	150	52.5		51.7	148	13.1	+22	53.8	56	28	14	7 58	7 54 88	26 20			
23	165	52.5		52.3	162	41.7	+23	02.9	58	33	22	8 09	8 07 94	15 12 15			
24	180	52.4	+19	52.8	177	10.3	+23	11.9	60 S	6 38	7 31	8 21	8 23 101	14 56 7			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 8 ^h 13.0 ^m		Mag: -4.3 PMG: 15 ^h 09 ^m		Mag: +1.5 PMG: 16 ^h 20 ^m		Mag: -2.1 PMG: 10 ^h 08 ^m		Mag: +1.0 PMG: 6 ^h 48 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	236	24.5	132	45.9	+25	39.1	114	51.0	+21	54.2	207	37.2	+10	39.0	257	36.7	-10	29.8
1	251	26.9	147	45.5		38.9	129	52.0		53.9	222	39.1		39.1	272	39.0		29.8
2	266	29.4	162	45.0		38.6	144	53.0		53.6	237	41.0		39.3	287	41.4		29.8
3	281	31.9	177	44.6		38.4	159	54.0		53.3	252	43.0		39.5	302	43.7		29.7
4	296	34.3	192	44.1		38.1	174	54.9		52.9	267	44.9		39.7	317	46.1		29.7
5	311	36.8	207	43.7	+25	37.9	189	55.9	+21	52.6	282	46.8	+10	39.9	332	48.4	-10	29.7
6	326	39.3	222	43.3	+25	37.7	204	56.9	+21	52.3	297	48.7	+10	40.1	347	50.8	-10	29.6
7	341	41.7	237	42.8		37.4	219	57.8		52.0	312	50.7		40.3	2	53.1		29.6
8	356	44.2	252	42.4		37.2	234	58.8		51.7	327	52.6		40.5	17	55.5		29.5
9	11	46.7	267	41.9		36.9	249	59.8		51.3	342	54.5		40.7	32	57.8		29.5
10	26	49.1	282	41.5		36.7	265	00.8		51.0	357	56.4		40.9	48	00.2		29.5
11	41	51.6	297	41.0	+25	36.4	280	01.7	+21	50.7	12	58.3	+10	41.1	63	02.5	-10	29.4
12	56	54.1	312	40.6	+25	36.2	295	02.7	+21	50.4	28	00.3	+10	41.3	78	04.9	-10	29.4
13	71	56.5	327	40.2		35.9	310	03.7		50.0	43	02.2		41.5	93	07.2		29.4
14	86	59.0	342	39.7		35.7	325	04.6		49.7	58	04.1		41.7	108	09.6		29.3
15	102	01.4	357	39.3		35.4	340	05.6		49.4	73	06.0		41.9	123	11.9		29.3
16	117	03.9	12	38.9		35.2	355	06.6		49.1	88	08.0		42.1	138	14.3		29.3
17	132	06.4	27	38.4	+25	34.9	10	07.6	+21	48.8	103	09.9	+10	42.3	153	16.6	-10	29.2
18	147	08.8	42	38.0	+25	34.7	25	08.5	+21	48.4	118	11.8	+10	42.5	168	19.0	-10	29.2
19	162	11.3	57	37.6		34.4	40	09.5		48.1	133	13.7		42.7	183	21.3		29.2
20	177	13.8	72	37.1		34.2	55	10.5		47.8	148	15.7		42.9	198	23.7		29.1
21	192	16.2	87	36.7		33.9	70	11.4		47.5	163	17.6		43.1	213	26.0		29.1
22	207	18.7	102	36.3		33.7	85	12.4		47.1	178	19.5		43.2	228	28.4		29.1
23	222	21.2	117	35.8		33.4	100	13.4		46.8	193	21.4		43.4	243	30.7		29.0
24	237	23.6	132	35.4	+25	33.1	115	14.4	+21	46.5	208	23.3	+10	43.6	258	33.1	-10	29.0
Dif	—		-4		-2		+10		-3		+19		+2		+24		0	

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: 29.8 ^d SD: 15'4 PMG: 12 ^h 38 ^m PHE 4^h: 56'4 12^h: 56'2 20^h: 56'0 R°: 54^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Civil			Náutico	Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m			
0	180	52.4	+19	52.8	177	10.3	95	+23	11.9	88	60 N	20 43	21 52	** **	3 02	12	22 49	85		
1	195	52.4		53.3	191	38.8	95		20.7	88	58	28	27	** **	21 20		22 78			
2	210	52.4		53.9	206	07.3	95		29.5	86	56	15	21 08	22 35	37 25	22 01	74			
3	225	52.3		54.4	220	35.8	94		38.1	84	54	20 04	20 52	22 03	3 51	29	21 44	71		
4	240	52.3		54.9	235	04.2	94		46.5	84	52	19 55	38	21 40	4 03	31	29 70			
5	255	52.3	+19	55.4	249	32.6	94	+23	54.9	84	50	19 46	20 26	21 21	4 14	34	21 17	67		
6	270	52.2	+19	56.0	264	00.9	93	+24	03.1	82	45	19 28	20 03	20 47	4 37	37	20 50	65		
7	285	52.2		56.5	278	29.1	92		11.1	80	40	13	19 44	23	4 55	41	30 62			
8	300	52.1		57.0	292	57.4	93		19.1	80	35	19 00	29	20 03	5 10	44	20 13	61		
9	315	52.1		57.5	307	25.6	92		26.9	78	30	18 49	19 16	19 48	24 45		19 58	59		
10	330	52.1		58.1	321	53.7	91		34.5	76	20	31	18 55	23	5 47	48	33 57			
11	345	52.0	+19	58.6	336	21.8	91	+24	42.0	75	10 N	18 15	18 37	19 04	6 07	51	19 11	56		
12	0	52.0	+19	59.1	350	49.9	91	+24	49.4	74	0	18 00	18 22	18 48	6 25	54	18 51	54		
13	15	52.0	+19	59.6	5	17.9	90	+24	56.7	73	10 S	17 45	18 08	33	6 44	56	31 52			
14	30	51.9	+20	00.1	19	45.9	90	+25	03.8	71	20	30	17 53	20	7 04	59	18 09	50		
15	45	51.9		00.7	34	13.9	90		10.8	70	30	12	38	07	28 61		17 44	48		
16	60	51.9		01.2	48	41.8	89		17.6	68	35	17 02	29	18 00	42 63		30 46			
17	75	51.8	+20	01.7	63	09.7	89	+25	24.3	67	40	16 50	17 20	17 53	7 58	65	17 13	44		
18	90	51.8	+20	02.2	77	37.6	89	+25	30.9	66	45	16 36	17 09	17 45	8 17	68	16 53	42		
19	105	51.7		02.7	92	05.4	88		37.3	64	50	20	16 56	36	42 72		28 38			
20	120	51.7		03.3	106	33.2	88		43.5	62	52	12	50	32	8 53	75	16 36			
21	135	51.7		03.8	121	00.9	87		49.7	62	54	16 03	44	28	9 07	77	16 02	34		
22	150	51.6		04.3	135	28.7	88	+25	55.6	59	56	15 53	37	23	22 81		15 46	30		
23	165	51.6		04.8	149	56.4	87	+26	01.5	59	58	42	29	18	9 41	86	27 25			
24	180	51.5	+20	05.3	164	24.0	86	+26	07.2	57	60 S	15 29	16 20	17 13	10 04	94	15 03	18		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 8 ^h 09.1 ^m			Mag: -4.3 PMG: 15 ^h 10 ^m			Mag: +1.5 PMG: 16 ^h 18 ^m			Mag: -2.1 PMG: 10 ^h 05 ^m			Mag: +1.0 PMG: 6 ^h 45 ^m							
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°					
0	237	23.6	132	35.4	+25	33.1	115	14.4	+21	46.5	208	23.3	+10	43.6	258	33.1	-10	29.0		
1	252	26.1	147	35.0		32.9	130	15.3		46.2	223	25.3		43.8	273	35.4		29.0		
2	267	28.5	162	34.5		32.6	145	16.3		45.8	238	27.2		44.0	288	37.8		28.9		
3	282	31.0	177	34.1		32.3	160	17.3		45.5	253	29.1		44.2	303	40.1		28.9		
4	297	33.5	192	33.7		32.1	175	18.2		45.2	268	31.0		44.4	318	42.5		28.9		
5	312	35.9	207	33.3	+25	31.8	190	19.2	+21	44.9	283	33.0	+10	44.6	333	44.8	-10	28.8		
6	327	38.4	222	32.8	+25	31.5	205	20.2	+21	44.5	298	34.9	+10	44.8	348	47.2	-10	28.8		
7	342	40.9	237	32.4		31.3	220	21.2		44.2	313	36.8		45.0	3 49.5		28.7			
8	357	43.3	252	32.0		31.0	235	22.1		43.9	328	38.7		45.2	18 51.9		28.7			
9	12	45.8	267	31.6		30.7	250	23.1		43.6	343	40.7		45.4	33 54.2		28.7			
10	27	48.3	282	31.1		30.5	265	24.1		43.2	358	42.6		45.6	48 56.6		28.6			
11	42	50.7	297	30.7	+25	30.2	280	25.0	+21	42.9	13 44.5	+10	45.8	63 58.9	-10	28.6				
12	57	53.2	312	30.3	+25	29.9	295	26.0	+21	42.6	28 46.4	+10	46.0	79 01.3	-10	28.6				
13	72	55.7	327	29.9		29.7	310	27.0		42.3	43 48.4		46.2	94 03.7		28.5				
14	87	58.1	342	29.5		29.4	325	28.0		41.9	58 50.3		46.4	109 06.0		28.5				
15	103	00.6	357	29.0		29.1	340	28.9		41.6	73 52.2		46.6	124 08.4		28.5				
16	118	03.0	12	28.6		28.8	355	29.9		41.3	88 54.1		46.7	139 10.7		28.4				
17	133	05.5	27	28.2	+25	28.5	10	30.9	+21	40.9	103 56.1	+10	46.9	154 13.1	-10	28.4				
18	148	08.0	42	27.8	+25	28.3	25	31.8	+21	40.6	118 58.0	+10	47.1	169 15.4	-10	28.4				
19	163	10.4	57	27.4		28.0	40	32.8		40.3	133 59.9		47.3	184 17.8		28.3				
20	178	12.9	72	27.0		27.7	55	33.8		40.0	149 01.8		47.5	199 20.1		28.3				
21	193	15.4	87	26.5		27.4	70	34.8		39.6	164 03.8		47.7	214 22.5		28.3				
22	208	17.8	102	26.1		27.1	85	35.7		39.3	179 05.7		47.9	229 24.8		28.2				
23	223	20.3	117	25.7		26.9	100	36.7		39.0	194 07.6		48.1	244 27.2		28.2				
24	238	22.8	132	25.3	+25	26.6	115	37.7	+21	38.6	209 09.5	+10	48.3	259 29.6	-10	28.2				
Dif	—		-4		-3		+10		-3		+19		+2		+24		0			

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: 1.3 ^d SD: 15/2 PMG: 13 ^h 32 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	51.5	+20	05.3	164	24.0	+26	07.2	55	60 N	** **	2 01	3 10	3 14	27	** **	**		
1	195	51.5		05.8	178	51.7		12.7	54	58	** **	26	25	3 41	34	23	40	56	
2	210	51.5		06.3	193	19.3		18.1	53	56	1 17	2 45	37	4 02	38	23	15	56	
3	225	51.4		06.9	207	46.9		23.4	51	54	1 50	3 01	48	20	40	22	55	56	
4	240	51.4		07.4	222	14.5		28.5	50	52	2 13	15	3 58	34	43	39	55		
5	255	51.3	+20	07.9	236	42.1	+26	33.5	51	50	2 31	3 26	4 07	4 48	43	22	24	56	
6	270	51.3	+20	08.4	251	09.6	+26	38.3	48	45	3 05	3 50	4 25	5 14	47	21	55	55	
7	285	51.3		08.9	265	37.2		43.0	47	40	30	4 09	40	36	48	32	55		
8	300	51.2		09.4	280	04.7		47.5	45	35	3 49	24	4 53	5 54	49	21	14	54	
9	315	51.2		09.9	294	32.2		51.9	44	30	4 05	37	5 03	6 09	50	20	57	55	
10	330	51.1		10.4	308	59.6	+26	56.2	43	20	30	4 58	22	35	52	30	55		
11	345	51.1	+20	10.9	323	27.1	+27	00.2	40	10 N	4 49	5 16	5 38	6 58	53	20	07	54	
12	0	51.1	+20	11.4	337	54.5	+27	04.2	40	0	5 05	5 31	5 53	7 19	54	19	45	54	
13	15	51.0		11.9	352	22.0		08.0	38	10 S	20	5 45	6 08	7 40	55	19	23	53	
14	30	51.0		12.5	6	49.4		11.6	36	20	33	6 00	23	8 03	56	18	59	53	
15	45	50.9		13.0	21	16.9		15.1	35	30	46	16	41	29	58	32	53		
16	60	50.9		13.5	35	44.3		18.5	34	35	5 53	24	6 52	8 45	58	18	16	52	
17	75	50.8	+20	14.0	50	11.7	+27	21.7	32	40	6 01	6 34	7 03	9 03	59	17	57	52	
18	90	50.8	+20	14.5	64	39.1	+27	24.7	30	45	6 09	6 45	7 17	9 25	61	17	35	51	
19	105	50.7		15.0	79	06.5		27.6	28	50	18	6 58	34	9 54	62	17	06	50	
20	120	50.7		15.5	93	33.9		30.4	28	52	22	7 04	42	10 08	62	16	52	49	
21	135	50.7		16.0	108	01.3		33.0	26	54	26	10	7 51	24	64	36	48		
22	150	50.6		16.5	122	28.8		35.4	24	56	31	17	8 01	10 43	65	16	16	47	
23	165	50.6		17.0	136	56.2		37.7	23	58	36	25	12	11 07	67	15	52	45	
24	180	50.5	+20	17.5	151	23.6	+27	39.9	22	60 S	6 41	7 34	8 25	11 38	73	15	21	40	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 8 ^h 05.2 ^m		Mag: -4.3 PMG: 15 ^h 11 ^m		Mag: +1.5 PMG: 16 ^h 16 ^m		Mag: -2.1 PMG: 10 ^h 02 ^m		Mag: +1.0 PMG: 6 ^h 41 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	238	22.8	132	25.3	+25	26.6	115	37.7	+21	38.6
1	253	25.2	147	24.9		26.3	130	38.6		38.3
2	268	27.7	162	24.5		26.0	145	39.6		38.0
3	283	30.2	177	24.1		25.7	160	40.6		37.7
4	298	32.6	192	23.7		25.4	175	41.6		37.3
5	313	35.1	207	23.3	+25	25.1	190	42.5	+21	37.0
6	328	37.5	222	22.9	+25	24.8	205	43.5	+21	36.7
7	343	40.0	237	22.4		24.6	220	44.5		36.3
8	358	42.5	252	22.0		24.3	235	45.4		36.0
9	13	44.9	267	21.6		24.0	250	46.4		35.7
10	28	47.4	282	21.2		23.7	265	47.4		35.3
11	43	49.9	297	20.8	+25	23.4	280	48.4	+21	35.0
12	58	52.3	312	20.4	+25	23.1	295	49.3	+21	34.7
13	73	54.8	327	20.0		22.8	310	50.3		34.3
14	88	57.3	342	19.6		22.5	325	51.3		34.0
15	103	59.7	357	19.2		22.2	340	52.2		33.7
16	119	02.2	12	18.8		21.9	355	53.2		33.3
17	134	04.7	27	18.4	+25	21.6	10	54.2	+21	33.0
18	149	07.1	42	18.0	+25	21.3	25	55.2	+21	32.7
19	164	09.6	57	17.6		21.0	40	56.1		32.3
20	179	12.0	72	17.2		20.7	55	57.1		32.0
21	194	14.5	87	16.8		20.4	70	58.1		31.7
22	209	17.0	102	16.5		20.1	85	59.1		31.3
23	224	19.4	117	16.1		19.7	101	00.0		31.0
24	239	21.9	132	15.7	+25	19.4	116	01.0	+21	30.7
Dif	—		-4		-3		+10		-3	

h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	180	51.5	+20	05.3	164	24.0	+26	07.2	55	60 N	** **	2 01	3 10	3 14	27	** **	**			
1	195	51.5		05.8	178	51.7		12.7	54	58	** **	26	25	3 41	34	23	40	56		
2	210	51.5		06.3	193	19.3		18.1	53	56	1 17	2 45	37	4 02	38	23	15	56		
3	225	51.4		06.9	207	46.9		23.4	51	54	1 50	3 01	48	20	40	22	55	56		
4	240	51.4		07.4	222	14.5		28.5	50	52	2 13	15	3 58	34	43	39	55			
5	255	51.3	+20	07.9	236	42.1	+26	33.5	51	50	2 31	3 26	4 07	4 48	43	22	24	56		
6	270	51.3	+20	08.4	251	09.6	+26	38.3	48	45	3 05	3 50	4 25	5 14	47	21	55	55		
7	285	51.3		08.9	265	37.2		43.0	47	40	30	4 09	40	36	48	32	55			
8	300	51.2		09.4	280	04.7		47.5	45	35	3 49	24	4 53	5 54	49	21	14	54		
9	315	51.2		09.9	294	32.2		51.9	44	30	4 05	37	5 03	6 09	50	20	57	55		
10	330	51.1		10.4	308	59.6	+26	56.2	43	20	30	4 58	22	35	52	30	55			
11	345	51.1	+20	10.9	323	27.1	+27	00.2	40	10 N	4 49	5 16	5 38	6 58	53	20	07	54		
12	0	51.1	+20	11.4	337	54.5	+27	04.2	40	0	5 05	5 31	5 53	7 19	54	19	45	54		
13	15	51.0		11.9	352	22.0		08.0	38	10 S	20	5 45	6 08	7 40	55	19	23	53		
14	30	51.0		12.5	6	49.4		11.6	36	20	33	6 00	23	8 03	56	18	59	53		
15	45	50.9		13.0	21	16.9		15.1	35	30	46	16	41	29	58	32	53			
16	60	50.9		13.5	35	44.3		18.5	34	35	5 53	24	6 52	8 45	58	18	16	52		
17	75	50.8	+20	14.0	50	11.7	+27	21.7	32	40	6 01	6 34	7 03	9 03	59	17	57	52		
18	90	50.8	+20	14.5	64	39.1	+27	24.7	30	45	6 09	6 45	7 17	9 25	61	17	35	51		
19	105	50.7		15.0	79	06.5		27.6	28	50	18	6 58	34	9 54	62	17	06	50		
20	120	50.7		15.5	93	33.9		30.4	28	52	22	7 04	42	10 08	62	16	52	49		
21	135	50.7		16.0	108	01.3		33.0	26	54	26	10	7 51	24	64	36	48			
22	150	50.6		16.5	122	28.8		35.4	24	56	31	17	8 01	10 43	65	16	16	47		
23	165	50.6		17.0	136	56.2		37.7	23	58	36	25	12	11 07	67	15	52	45		
24	180	50.5	+20	17.5	151	23.6	+27	39.9	22	60 S	6 41	7 34	8 25	11 38	73	15	21	40		

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15/8 PMG: 11 ^h 56.7 ^m				Edad: 2.3 ^d PHE { 4 ^h : 55/3 12 ^h : 55/1 20 ^h : 55/0 R°: 52 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	h m	h m	h m	h m			
0	180	50.5	+20	17.5	151	23.6	84	+27	39.9	20	60 N	20 47	21 58	** **	** **	3 41	56	0 14	56		
1	195	50.5		18.0	165	51.0	85		41.9	19	58	32	32	** **	** **	4 15	56	** **	** **		
2	210	50.4		18.5	180	18.5	84		43.8	17	56	19	21 12	22 44		4 40	56	** **	** **		
3	225	50.4		19.0	194	45.9	84		45.5	17	54	20 07	20 56	22 09		5 00	56	23 51	39		
4	240	50.3		19.5	209	13.4	85		47.1	16	52	19 57	42	21 45		17 55		34	41		
5	255	50.3	+20	20.0	223	40.9	85	+27	48.5	14	50	19 48	20 29	21 25		5 31	56	23 20	42		
6	270	50.3	+20	20.5	238	08.3	84	+27	49.7	12	45	19 30	20 05	20 50		6 01	55	22 50	45		
7	285	50.2		21.0	252	35.8	85		50.9	12	40	15	19 46	25	24	54		27	47		
8	300	50.2		21.5	267	03.4	86		51.8	9	35	19 02	30	20 05		43 54		22	08		
9	315	50.1		22.0	281	30.9	85		52.7	9	30	18 51	19 17	19 49		6 59	54	21	52		
10	330	50.1		22.5	295	58.5	86		53.3	6	20	32	18 56	24	7	27	54	25	50		
11	345	50.0	+20	22.9	310	26.0	85	+27	53.9	6	10 N	18 15	18 38	19 04		7 51	53	21	01		
12	0	50.0	+20	23.4	324	53.6	86	+27	54.2	3	0	18 00	18 22	18 48		8 13	53	20	39		
13	15	49.9		23.9	339	21.3	87		54.5	3	10 S	17 45	18 08	33		35 53		20	16		
14	30	49.9		24.4	353	48.9	86		54.6	1	20	29	17 53	20		8 59	52	19	52		
15	45	49.8		24.9	8	16.6	87		54.5	1	30	11	37	18 06		9 27	51	25	55		
16	60	49.8		25.4	22	44.3	87		54.3	2	35	17 01	28	17 59		9 43	51	19	08		
17	75	49.7	+20	25.9	37	12.0	87	+27	54.0	3	40	16 49	17 18	17 51		10 02	51	18	49		
18	90	49.7	+20	26.4	51	39.8	88	+27	53.5	5	45	16 35	17 07	17 43		10 26	50	18	26		
19	105	49.6		26.9	66	07.6	88		52.8	7	50	17	16 54	34		10 56	48	17	56		
20	120	49.6		27.4	80	35.4	88		52.1	7	52	09	48	30		11 10	48	41	61		
21	135	49.5		27.8	95	03.3	89		51.1	10	54	16 00	41	26		28 46		24	62		
22	150	49.5		28.3	109	31.2	89		50.1	10	56	15 50	34	21		11 48	46	17	03		
23	165	49.4		28.8	123	59.2	90		48.9	12	58	39	26	16		12 14	44	16	37		
24	180	49.4	+20	29.3	138	27.1	89	+27	47.5	14	60 S	15 25	16 17	17 10		12 51	38	16	01		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 8 ^h 01.2 ^m			Mag: -4.3 PMG: 15 ^h 11 ^m			Mag: +1.5 PMG: 16 ^h 15 ^m			Mag: -2.1 PMG: 9 ^h 59 ^m			Mag: +1.0 PMG: 6 ^h 37 ^m					
	hG ♈	hG ♀	Dec	hG ♂	hG ♃	Dec	hG ♎	hG ♄	Dec	hG ♏	hG ♅	Dec	hG ♁	hG ♇	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /			
0	239	21.9	132	15.7	+25	19.4	116	01.0	+21	30.7	209	55.8	+10	52.9	260	26.1	-10	27.4
1	254	24.4	147	15.3		19.1	131	02.0		30.3	224	57.7		53.1	275	28.5		27.4
2	269	26.8	162	14.9		18.8	146	02.9		30.0	239	59.6		53.3	290	30.9		27.3
3	284	29.3	177	14.5		18.5	161	03.9		29.7	255	01.6		53.5	305	33.2		27.3
4	299	31.8	192	14.1		18.2	176	04.9		29.3	270	03.5		53.7	320	35.6		27.3
5	314	34.2	207	13.7	+25	17.9	191	05.9	+21	29.0	285	05.4	+10	53.9	335	37.9	-10	27.2
6	329	36.7	222	13.3	+25	17.6	206	06.8	+21	28.6	300	07.3	+10	54.1	350	40.3	-10	27.2
7	344	39.2	237	12.9		17.3	221	07.8		28.3	315	09.3		54.3	5	42.7		27.2
8	359	41.6	252	12.6		16.9	236	08.8		28.0	330	11.2		54.5	20	45.0		27.1
9	14	44.1	267	12.2		16.6	251	09.7		27.6	345	13.1		54.7	35	47.4		27.1
10	29	46.5	282	11.8		16.3	266	10.7		27.3	0	15.1		54.8	50	49.7		27.1
11	44	49.0	297	11.4	+25	16.0	281	11.7	+21	27.0	15	17.0	+10	55.0	65	52.1	-10	27.1
12	59	51.5	312	11.0	+25	15.7	296	12.7	+21	26.6	30	18.9	+10	55.2	80	54.5	-10	27.0
13	74	53.9	327	10.6		15.3	311	13.6		26.3	45	20.8		55.4	95	56.8		27.0
14	89	56.4	342	10.3		15.0	326	14.6		25.9	60	22.8		55.6	110	59.2		27.0
15	104	58.9	357	09.9		14.7	341	15.6		25.6	75	24.7		55.8	126	01.5		26.9
16	120	01.3	12	09.5		14.4	356	16.5		25.3	90	26.6		56.0	141	03.9		26.9
17	135	03.8	27	09.1	+25	14.0	11	17.5	+21	24.9	105	28.6	+10	56.2	156	06.3	-10	26.9
18	150	06.3	42	08.7	+25	13.7	26	18.5	+21	24.6	120	30.5	+10	56.4	171	08.6	-10	26.8
19	165	08.7	57	08.4		13.4	41	19.5		24.3	135	32.4		56.6	186	11.0		26.8
20	180	11.2	72	08.0		13.1	56	20.4		23.9	150	34.3		56.8	201	13.4		26.8
21	195	13.6	87	07.6		12.7	71	21.4		23.6	165	36.3		57.0	216	15.7		26.7
22	210	16.1	102	07.2		12.4	86	22.4		23.2	180	38.2		57.1	231	18.1		26.7
23	225	18.6	117	06.9		12.1	101	23.3		22.9	195	40.1		57.3	246	20.4		26.7
24	240	21.0	132	06.5	+25	11.7	116	24.3	+21	22.6	210	42.1	+10	57.5	261	22.8	-10	26.7
Dif	—		-4		-3		+10		-3		+19		+2		+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 56.7 ^m		Edad: 3.3 ^d PHE { 4 ^h : 54/8 12 ^h : 54/7 20 ^h : 54/6 PMG: 15 ^h 18 ^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						
0	180	49.4	+20	29.3	138	27.1	+27	47.5	15	60 N	** **	1 54	3 06	4 37	82	1 10	26	
1	195	49.3		29.8	152	55.2		46.0	16	58	** **	2 21	21	5 11	74	0 36	33	
2	210	49.3		30.3	167	23.2		44.4	18	56	1 09	41	34	36	70	0 11	37	
3	225	49.2		30.8	181	51.3		42.6	19	54	1 44	2 57	46	5 56	67	** **	**	
4	240	49.2		31.2	196	19.5		40.7	21	52	2 08	3 11	3 56	6 12	66	** **	**	
5	255	49.1	+20	31.7	210	47.7	+27	38.6	22	50	2 28	3 24	4 05	6 27	64	** **	**	
6	270	49.1	+20	32.2	225	15.9	+27	36.4	23	45	3 03	3 48	4 23	6 56	61	23 35	35	
7	285	49.0		32.7	239	44.2		34.1	25	40	28	4 07	39	7 18	60	23 14	38	
8	300	49.0		33.2	254	12.5		31.6	26	35	3 48	23	4 51	37	58	22 56	40	
9	315	48.9		33.6	268	40.9		29.0	27	30	4 04	36	5 03	7 53	57	41	42	
10	330	48.9		34.1	283	09.4		26.3	29	20	29	4 58	22	8 21	54	22 15	45	
11	345	48.8	+20	34.6	297	37.8	+27	23.4	30	10 N	4 49	5 15	5 38	8 44	53	21 52	48	
12	0	48.8	+20	35.1	312	06.4	+27	20.4	31	0	5 05	5 31	5 53	9 06	51	21 31	50	
13	15	48.7		35.6	326	35.0		17.3	33	10 S	20	5 46	6 08	28	49	21 10	52	
14	30	48.6		36.0	341	03.6		14.0	34	20	34	6 01	24	9 51	48	20 47	54	
15	45	48.6		36.5	355	32.3		10.6	36	30	48	17	43	10 18	46	20	58	
16	60	48.5		37.0	10	01.1		07.0	37	35	5 55	26	6 53	34	44	20 05	59	
17	75	48.5	+20	37.5	24	29.9	+27	03.3	38	40	6 02	6 36	7 05	10 53	42	19 46	61	
18	90	48.4	+20	37.9	38	58.8	+26	59.5	39	45	6 11	6 47	7 19	11 16	39	19 24	64	
19	105	48.4		38.4	53	27.7		55.6	41	50	20	7 00	37	44	36	18 56	68	
20	120	48.3		38.9	67	56.7		51.5	42	52	24	06	45	11 58	35	42	70	
21	135	48.3		39.4	82	25.8		47.3	43	54	28	13	7 54	12 14	33	26	72	
22	150	48.2		39.8	96	54.9		43.0	44	56	33	20	8 04	34	29	18 07	75	
23	165	48.2		40.3	111	24.1		38.5	45	58	38	28	16	12 58	24	17 43	81	
24	180	48.1	+20	40.8	125	53.3	+26	33.9	46	60 S	6 44	7 38	8 30	13 29	17	17 12	88	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 7 ^h 57.3 ^m		Mag: -4.3 PMG: 15 ^h 12 ^m		Mag: +1.5 PMG: 16 ^h 13 ^m		Mag: -2.1 PMG: 9 ^h 56 ^m		Mag: +1.0 PMG: 6 ^h 33 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	240	21.0	132	06.5	+25	11.7	210	42.1	+10	57.5	261	22.8	-10	26.7				
1	255	23.5	147	06.1		11.4	225	44.0		57.7	276	25.2		26.6				
2	270	26.0	162	05.8		11.1	240	45.9		57.9	291	27.5		26.6				
3	285	28.4	177	05.4		10.7	255	47.8		58.1	306	29.9		26.6				
4	300	30.9	192	05.0		10.4	270	49.8		58.3	321	32.3		26.5				
5	315	33.4	207	04.7	+25	10.1	285	51.7	+10	58.5	336	34.6	-10	26.5				
6	330	35.8	222	04.3	+25	09.7	300	53.6	+10	58.7	351	37.0	-10	26.5				
7	345	38.3	237	03.9		09.4	315	55.6		58.9	6	39.3		26.4				
8	0	40.8	252	03.6		09.0	330	57.5		59.1	21	41.7		26.4				
9	15	43.2	267	03.2		08.7	345	59.4		59.2	36	44.1		26.4				
10	30	45.7	282	02.8		08.4	1	01.3		59.4	51	46.4		26.4				
11	45	48.1	297	02.5	+25	08.0	16	03.3	+10	59.6	66	48.8	-10	26.3				
12	60	50.6	312	02.1	+25	07.7	31	05.2	+10	59.8	81	51.2	-10	26.3				
13	75	53.1	327	01.7		07.3	46	07.1	+11	00.0	96	53.5		26.3				
14	90	55.5	342	01.4		07.0	61	09.1	+11	00.2	111	55.9		26.2				
15	105	58.0	357	01.0		06.6	76	11.0		00.4	126	58.3		26.2				
16	121	00.5	12	00.7		06.3	91	12.9		00.6	142	00.6		26.2				
17	136	02.9	27	00.3	+25	05.9	106	14.9	+11	00.8	157	03.0	-10	26.1				
18	151	05.4	41	59.9	+25	05.6	121	16.8	+11	01.0	172	05.4	-10	26.1				
19	166	07.9	56	59.6		05.2	136	18.7		01.1	187	07.7		26.1				
20	181	10.3	71	59.2		04.9	151	20.6		01.3	202	10.1		26.1				
21	196	12.8	86	58.9		04.5	166	22.6		01.5	217	12.5		26.0				
22	211	15.3	101	58.5		04.2	181	24.5		01.7	232	14.8		26.0				
23	226	17.7	116	58.2		03.8	196	26.4		01.9	247	17.2		26.0				
24	241	20.2	131	57.8	+25	03.5	211	28.4	+11	02.1	262	19.6	-10	25.9				
Dif	—		-4		-3		+10		-3		+19		+2		+24		0	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG: 11 ^h 56.8 ^m			Edad: 4.3 ^d SD: 14'9 PMG: 16 ^h 09 ^m PHE { 4 ^h : 54'5 12 ^h : 54'4 20 ^h : 54'3 Rº: 47 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	
0	180	48.1	+20 40.8	125	53.3	+26 33.9	47	60 N	20 52	22 05	** **	5 59 90	1 36 11			
1	195	48.0	41.2	140	22.6	29.2	48	58	36	21 37	** **	6 25 83	1 09 18			
2	210	48.0	41.7	154	52.0	24.4	49	56	22	21 16	22 54	6 46 78	0 48 23			
3	225	47.9	42.2	169	21.4	19.5	51	54	10	20 59	22 15	7 03 75	30 27			
4	240	47.9	42.6	183	50.9	14.4	51	52	20 00	45	21 49	18 72	15 29			
5	255	47.8	+20 43.1	198	20.5	+26 09.2	52	50	19 51	20 32	21 29	7 31 69	0 02 31			
6	270	47.8	+20 43.6	212	50.1	+26 03.8	54	45	19 32	20 07	20 53	7 57 65	** * *			
7	285	47.7	44.0	227	19.8	+25 58.4	54	40	16	19 48	27	8 18 62	23 52 31			
8	300	47.7	44.5	241	49.6	52.8	56	35	19 03	32	20 07	35 59	36 35			
9	315	47.6	45.0	256	19.4	47.2	56	30	18 52	19 19	19 51	8 50 57	23 36			
10	330	47.5	45.4	270	49.3	41.4	58	20	33	18 57	25	9 15 54	23 00 40			
11	345	47.5	+20 45.9	285	19.3	+25 35.4	60	10 N	18 16	18 38	19 05	9 37 51	22 40 43			
12	0	47.4	+20 46.4	299	49.3	+25 29.4	60	0	18 00	18 23	18 48	9 57 48	22 21 46			
13	15	47.4	46.8	314	19.4	23.2	62	10 S	17 45	18 08	33	10 17 46	22 02 50			
14	30	47.3	47.3	328	49.6	17.0	64	20	29	17 52	19	10 39 42	21 41 53			
15	45	47.2	47.8	343	19.8	10.6	64	30	10	36	18 05	11 04 39	18 57			
16	60	47.2	48.2	357	50.1	+25 04.1	65	35	17 00	27	17 58	18 37	21 04 59			
17	75	47.1	+20 48.7	12	20.5	+24 57.5	66	40	16 47	17 17	17 50	11 35 34	20 47 63			
18	90	47.1	+20 49.1	26	51.0	+24 50.8	67	45	16 33	17 06	17 42	11 55 31	20 28 66			
19	105	47.0	49.6	41	21.5	43.9	69	50	15	16 52	32	12 20 27	20 04 70			
20	120	46.9	50.1	55	52.1	37.0	69	52	16 07	46	28	33 24	19 52 73			
21	135	46.9	50.5	70	22.8	30.0	70	54	15 58	39	24	12 47 21	38 76			
22	150	46.8	51.0	84	53.5	22.8	72	56	47	32	19	13 03 18	22 80			
23	165	46.8	51.4	99	24.4	15.5	73	58	35	23	13	22 13	19 04 84			
24	180	46.7	+20 51.9	113	55.2	+24 08.2	73	60 S	15 22	16 14	17 08	13 46 6	18 40 92			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 7 ^h 53.4 ^m		Mag: -4.3 PMG: 15 ^h 12 ^m		Mag: +1.5 PMG: 16 ^h 12 ^m		Mag: -2.1 PMG: 9 ^h 53 ^m		Mag: +1.0 PMG: 6 ^h 30 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	241	20.2	131 57.8	+25 03.5	116 47.7	+21 14.3	211 28.4	+11 02.1	262 19.6	-10 25.9
1	256	22.6	146 57.5	03.1	131 48.6	14.0	226 30.3	02.3	277 21.9	25.9
2	271	25.1	161 57.1	02.8	146 49.6	13.6	241 32.2	02.5	292 24.3	25.9
3	286	27.6	176 56.8	02.4	161 50.6	13.3	256 34.2	02.7	307 26.7	25.9
4	301	30.0	191 56.4	02.0	176 51.5	12.9	271 36.1	02.9	322 29.0	25.8
5	316	32.5	206 56.1	+25 01.7	191 52.5	+21 12.6	286 38.0	+11 03.0	337 31.4	-10 25.8
6	331	35.0	221 55.7	+25 01.3	206 53.5	+21 12.2	301 40.0	+11 03.2	352 33.8	-10 25.8
7	346	37.4	236 55.4	01.0	221 54.5	11.9	316 41.9	03.4	7 36.1	25.7
8	1	39.9	251 55.0	00.6	236 55.4	11.5	331 43.8	03.6	22 38.5	25.7
9	16	42.4	266 54.7	+25 00.2	251 56.4	11.2	346 45.7	03.8	37 40.9	25.7
10	31	44.8	281 54.4	+24 59.9	266 57.4	10.8	1 47.7	04.0	52 43.2	25.7
11	46	47.3	296 54.0	+24 59.5	281 58.3	+21 10.5	16 49.6	+11 04.2	67 45.6	-10 25.6
12	61	49.8	311 53.7	+24 59.1	296 59.3	+21 10.2	31 51.5	+11 04.4	82 48.0	-10 25.6
13	76	52.2	326 53.3	58.8	312 00.3	09.8	46 53.5	04.6	97 50.3	25.6
14	91	54.7	341 53.0	58.4	327 01.3	09.5	61 55.4	04.8	112 52.7	25.5
15	106	57.1	356 52.7	58.0	342 02.2	09.1	76 57.3	04.9	127 55.1	25.5
16	121	59.6	11 52.3	57.6	357 03.2	08.8	91 59.3	05.1	142 57.4	25.5
17	137	02.1	26 52.0	+24 57.3	12 04.2	+21 08.4	107 01.2	+11 05.3	157 59.8	-10 25.5
18	152	04.5	41 51.7	+24 56.9	27 05.2	+21 08.1	122 03.1	+11 05.5	173 02.2	-10 25.4
19	167	07.0	56 51.3	56.5	42 06.1	07.7	137 05.1	05.7	188 04.5	25.4
20	182	09.5	71 51.0	56.2	57 07.1	07.4	152 07.0	05.9	203 06.9	25.4
21	197	11.9	86 50.7	55.8	72 08.1	07.0	167 08.9	06.1	218 09.3	25.4
22	212	14.4	101 50.3	55.4	87 09.0	06.7	182 10.9	06.3	233 11.7	25.3
23	227	16.9	116 50.0	55.0	102 10.0	06.3	197 12.8	06.5	248 14.0	25.3
24	242	19.3	131 49.7	+24 54.6	117 11.0	+21 06.0	212 14.7	+11 06.6	263 16.4	-10 25.3
Dif	—		-3	-4	+10	-3	+19	+2	+24	

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:11 ^h 56.9 ^m			Edad: 5.3 ^d PHE { 4 ^h : 54 ^h /3 12 ^h : 54 ^h /2 20 ^h : 54 ^h /2 R°: 45 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m			
0	180	46.7	+20	51.9	113	55.2	+24	08.2	60 N	** **	1 48	3 02	7 29	89	1 47 5			
1	195	46.6		52.3	128	26.2	+24	00.7	58	** **	2 16	18	7 48	84	27 11			
2	210	46.6		52.8	142	57.2	+23	53.1	56	0 59	37	31	8 04	80	1 11 15			
3	225	46.5		53.2	157	28.3		45.4	54	1 38	2 54	43	18	76	0 57 18			
4	240	46.5		53.7	171	59.5		37.6	52	2 04	3 09	3 53	30	73	44 2			
5	255	46.4	+20	54.2	186	30.8	+23	29.7	50	2 24	3 21	4 02	8 40	71	0 33 24			
6	270	46.3	+20	54.6	201	02.1	+23	21.7	45	3 00	3 46	4 22	9 02	66	0 10 28			
7	285	46.3		55.1	215	33.5		13.7	40	26	4 06	37	20	62	** ** *			
8	300	46.2		55.5	230	04.9	+23	05.5	35	3 46	22	4 50	34	60	** ** *			
9	315	46.1		56.0	244	36.4	+22	57.2	30	4 03	35	5 02	9 47	57	23 59 33			
10	330	46.1		56.4	259	08.0		48.8	20	29	4 57	21	10 09	52	40 37			
11	345	46.0	+20	56.9	273	39.7	+22	40.3	10 N	4 49	5 15	5 38	10 28	48	23 23 41			
12	0	46.0	+20	57.3	288	11.5	+22	31.7	0	5 05	5 31	5 53	10 45	46	23 07 45			
13	15	45.9		57.7	302	43.3		23.0	10 S	20	5 46	6 09	11 03	42	22 52 47			
14	30	45.8		58.2	317	15.2		14.3	20	34	6 01	25	21	39	34 52			
15	45	45.8		58.6	331	47.1	+22	05.4	30	49	18	44	43	34	15 56			
16	60	45.7		59.1	346	19.1	+21	56.4	35	5 56	27	6 54	11 55	32	22 03 59			
17	75	45.6	+20	59.5	0	51.2	+21	47.4	40	6 04	6 37	7 07	12 09	29	21 50 62			
18	90	45.6	+21	00.0	15	23.4	+21	38.3	45	6 12	6 49	7 21	12 26	25	21 34 65			
19	105	45.5	+21	00.4	29	55.6		29.0	50	22	7 02	39	47	20	14 71			
20	120	45.4		00.9	44	27.9		19.7	52	26	09	48	12	57	18 21 05 73			
21	135	45.4		01.3	59	00.3		10.3	54	31	15	7 57	13	08	15 20 54 76			
22	150	45.3		01.7	73	32.7	+21	00.8	56	36	23	8 07	21	12	42 80			
23	165	45.3		02.2	88	05.2	+20	51.2	58	41	31	19	35	8	28 84			
24	180	45.2	+21	02.6	102	37.8	+20	41.6	60 S	6 47	7 41	8 33	13 52	3	20 12 88			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 7 ^h 49.4 ^m		Mag: -4.3 PMG: 15 ^h 13 ^m		Mag: +1.5 PMG: 16 ^h 10 ^m		Mag: -2.1 PMG: 9 ^h 50 ^m		Mag: +1.0 PMG: 6 ^h 26 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	242	19.3	131	49.7	+24	54.6	117	11.0	+21	06.0								
1	257	21.8	146	49.3		54.3	132	12.0		05.6								
2	272	24.3	161	49.0		53.9	147	12.9		05.3								
3	287	26.7	176	48.7		53.5	162	13.9		04.9								
4	302	29.2	191	48.4		53.1	177	14.9		04.5								
5	317	31.6	206	48.0	+24	52.7	192	15.9	+21	04.2								
6	332	34.1	221	47.7	+24	52.4	207	16.8	+21	03.8								
7	347	36.6	236	47.4		52.0	222	17.8		03.5								
8	2	39.0	251	47.1		51.6	237	18.8		03.1								
9	17	41.5	266	46.7		51.2	252	19.7		02.8								
10	32	44.0	281	46.4		50.8	267	20.7		02.4								
11	47	46.4	296	46.1	+24	50.4	282	21.7	+21	02.1								
12	62	48.9	311	45.8	+24	50.0	297	22.7	+21	01.7								
13	77	51.4	326	45.5		49.6	312	23.6		01.4								
14	92	53.8	341	45.1		49.3	327	24.6		01.0								
15	107	56.3	356	44.8		48.9	342	25.6		00.7								
16	122	58.7	11	44.5		48.5	357	26.6	+21	00.3								
17	138	01.2	26	44.2	+24	48.1	12	27.5	+21	00.0								
18	153	03.7	41	43.9	+24	47.7	27	28.5	+20	59.6								
19	168	06.1	56	43.6		47.3	42	29.5		59.2								
20	183	08.6	71	43.3		46.9	57	30.4		58.9								
21	198	11.1	86	43.0		46.5	72	31.4		58.5								
22	213	13.5	101	42.6		46.1	87	32.4		58.2								
23	228	16.0	116	42.3		45.7	102	33.4		57.8								
24	243	18.5	131	42.0	+24	45.3	117	34.3	+20	57.5								
Dif	—		-3		-4		+10		-4		+19		+2		+24		0	

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: 6.3 ^d SD: 14'8 PMG: 17 ^h 41 ^m		PHE $\left\{ \begin{array}{l} 4^h: 54/2 \\ 12^h: 54/2 \\ 20^h: 54/3 \\ R^{\circ}: 43^m \end{array} \right.$				Civil		Náutico	Hora	R°	Hora	R°		
	hG ☉	Dec	hG ☾	Dif	Dec	Dif											
h	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	h m	h m		
0	180	45.2	+21	02.6	102	37.8	+20	41.6	98	60 N	20 56	22 12	** **	8 58	88	1 52	2
1	195	45.1		03.1	117	10.4		31.8	98	58	39	21 42	** **	9 12	83	38	6
2	210	45.1		03.5	131	43.1		22.0	98	56	25	20	23 05	24	78	26	10
3	225	45.0		03.9	146	15.8		12.0	100	54	13	21 03	22 21	34	75	15	13
4	240	44.9		04.4	160	48.7	+20	02.0	100	52	20 03	20 48	21 54	43	73	1 05	16
5	255	44.9	+21	04.8	175	21.6	+19	52.0	100	50	19 53	20 35	21 33	9 51	70	0 57	18
6	270	44.8	+21	05.3	189	54.5	+19	41.8	102	45	19 34	20 10	20 56	10 08	65	0 38	23
7	285	44.7		05.7	204	27.5		31.5	103	40	18	19 50	29	22	61	23	27
8	300	44.7		06.1	219	00.6		21.2	103	35	19 05	33	20 09	34	58	0 11	29
9	315	44.6		06.6	233	33.7		10.8	104	30	18 53	19 20	19 52	10 44	55	** **	**
10	330	44.5		07.0	248	06.9	+19	00.3	105	20	33	18 57	26	11 01	51	** **	**
11	345	44.5	+21	07.4	262	40.2	+18	49.8	105	10 N	18 16	18 39	19 06	11 16	47	** **	**
12	0	44.4	+21	07.9	277	13.5	+18	39.1	107	0	18 01	18 23	18 49	11 31	42	23 52	41
13	15	44.3		08.3	291	46.9		28.4	107	10 S	17 45	18 08	33	11 45	39	39	46
14	30	44.2		08.7	306	20.3		17.6	108	20	28	17 52	19	12 00	35	26	50
15	45	44.2		09.2	320	53.8	+18	06.8	108	30	17 10	35	18 05	17	30	11	55
16	60	44.1		09.6	335	27.4	+17	55.8	110	35	16 59	26	17 57	27	28	23 02	58
17	75	44.0	+21	10.0	350	01.0	+17	44.8	110	40	16 46	17 16	17 49	12 38	25	22 52	61
18	90	44.0	+21	10.5	4	34.6	+17	33.7	111	45	16 31	17 04	17 41	12 51	21	22 39	66
19	105	43.9		10.9	19	08.3		22.6	111	50	13	16 50	31	13 07	17	25	70
20	120	43.8		11.3	33	42.1		11.4	112	52	16 05	44	26	15	14	18	72
21	135	43.8		11.7	48	15.9	+17	00.1	113	54	15 55	37	22	23	12	10	75
22	150	43.7		12.2	62	49.8	+16	48.7	114	56	45	29	17	33	8	22 02	78
23	165	43.6		12.6	77	23.7		37.3	114	58	32	21	11	43	5	21 52	81
24	180	43.5	+21	13.0	91	57.7	+16	25.8	115	60 S	15 18	16 11	17 05	13 55	1	21 40	86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 45.5 ^m		Mag: -4.4 PMG: 15 ^h 14 ^m		Mag: +1.5 PMG: 16 ^h 09 ^m		Mag: -2.1 PMG: 9 ^h 47 ^m		Mag: +1.0 PMG: 6 ^h 22 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	243	18.5	131	42.0	+24	45.3	117	34.3	+20	57.5	213	01.1	+11	11.2	264	13.3	-10	24.6
1	258	20.9	146	41.7		44.9	132	35.3		57.1	228	03.1		11.3	279	15.7		24.6
2	273	23.4	161	41.4		44.5	147	36.3		56.7	243	05.0		11.5	294	18.1		24.6
3	288	25.9	176	41.1		44.1	162	37.3		56.4	258	06.9		11.7	309	20.4		24.6
4	303	28.3	191	40.8		43.7	177	38.2		56.0	273	08.9		11.9	324	22.8		24.5
5	318	30.8	206	40.5	+24	43.3	192	39.2	+20	55.7	288	10.8	+11	12.1	339	25.2	-10	24.5
6	333	33.2	221	40.2	+24	42.9	207	40.2	+20	55.3	303	12.7	+11	12.3	354	27.6	-10	24.5
7	348	35.7	236	39.9		42.5	222	41.2		55.0	318	14.7		12.5	9	29.9		24.5
8	3	38.2	251	39.6		42.1	237	42.1		54.6	333	16.6		12.6	24	32.3		24.4
9	18	40.6	266	39.3		41.6	252	43.1		54.2	348	18.5		12.8	39	34.7		24.4
10	33	43.1	281	39.0		41.2	267	44.1		53.9	3	20.5		13.0	54	37.1		24.4
11	48	45.6	296	38.7	+24	40.8	282	45.0	+20	53.5	18	22.4	+11	13.2	69	39.4	-10	24.4
12	63	48.0	311	38.4	+24	40.4	297	46.0	+20	53.2	33	24.3	+11	13.4	84	41.8	-10	24.3
13	78	50.5	326	38.1		40.0	312	47.0		52.8	48	26.3		13.6	99	44.2		24.3
14	93	53.0	341	37.8		39.6	327	48.0		52.4	63	28.2		13.8	114	46.6		24.3
15	108	55.4	356	37.5		39.2	342	48.9		52.1	78	30.2		14.0	129	48.9		24.3
16	123	57.9	11	37.2		38.8	357	49.9		51.7	93	32.1		14.1	144	51.3		24.2
17	139	00.4	26	36.9	+24	38.3	12	50.9	+20	51.4	108	34.0	+11	14.3	159	53.7	-10	24.2
18	154	02.8	41	36.7	+24	37.9	27	51.9	+20	51.0	123	36.0	+11	14.5	174	56.1	-10	24.2
19	169	05.3	56	36.4		37.5	42	52.8		50.6	138	37.9		14.7	189	58.5		24.2
20	184	07.7	71	36.1		37.1	57	53.8		50.3	153	39.8		14.9	205	00.8		24.1
21	199	10.2	86	35.8		36.7	72	54.8		49.9	168	41.8		15.1	220	03.2		24.1
22	214	12.7	101	35.5		36.2	87	55.8		49.6	183	43.7		15.3	235	05.6		24.1
23	229	15.1	116	35.2		35.8	102	56.7		49.2	198	45.6		15.4	250	08.0		24.1
24	244	17.6	131	34.9	+24	35.4	117	57.7	+20	48.8	213	47.6	+11	15.6	265	10.3	-10	24.0
Dif	—		-3		-4		+10		-4		+19		+2		+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 57.2 ^m			Edad: 7.3 ^d PHE { 4 ^h : 54 ^h 3 12 ^h : 54 ^h 4 20 ^h : 54 ^h 5 R°: 41 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	h m	h m	h m	h m m	h m m	h m m	
0	180	43.5	+21	13.0	91	57.7	+16	25.8	60 N	1 42	2 58	10 26	84	1 54	
1	195	43.5		13.4	106	31.7		14.2	58	2 11	3 15	35	80	44	
2	210	43.4		13.9	121	05.8	+16	02.6	56	0 49	33	42	78	36	
3	225	43.3		14.3	135	39.9	+15	50.9	54	1 33	2 51	49	75	28	
4	240	43.3		14.7	150	14.1		39.2	52	2 00	3 06	10 56	72	21	
5	255	43.2	+21	15.1	164	48.3	+15	27.3	50	2 21	3 19	4 00	11 01	70	
6	270	43.1	+21	15.6	179	22.6	+15	15.5	45	2 58	3 44	4 20	11 13	65	
7	285	43.1		16.0	193	56.9	+15	03.5	40	3 25	4 04	36	23	61	
8	300	43.0		16.4	208	31.2	+14	51.5	35	3 45	21	4 49	32	57	
9	315	42.9		16.8	223	05.6		39.4	30	4 02	34	5 01	39	55	
10	330	42.8		17.2	237	40.1		27.3	20	28	4 57	21	11 52	50	
11	345	42.8	+21	17.7	252	14.5	+14	15.1	10 N	4 48	5 15	5 38	12 03	45	
12	0	42.7	+21	18.1	266	49.1	+14	02.9	0	5 06	5 31	5 54	12 13	42	
13	15	42.6		18.5	281	23.6	+13	50.6	10 S	21	5 47	6 09	24	37	
14	30	42.5		18.9	295	58.2		38.2	20	35	6 02	26	35	33	
15	45	42.5		19.3	310	32.9		25.8	30	50	19	45	47	28	
16	60	42.4		19.7	325	07.5		13.3	35	5 57	28	6 56	12 55	25	
17	75	42.3	+21	20.1	339	42.2	+13	00.8	40	6 05	6 39	7 08	13 03	22	
18	90	42.2	+21	20.6	354	17.0	+12	48.2	45	6 14	6 50	7 23	13 12	18	
19	105	42.2		21.0	8	51.8		35.6	50	24	7 04	41	24	13	
20	120	42.1		21.4	23	26.6		22.9	52	28	11	7 50	29	11	
21	135	42.0		21.8	38	01.4	+12	10.1	54	33	18	8 00	35	9	
22	150	41.9		22.2	52	36.3	+11	57.3	56	38	26	10	41	7	
23	165	41.9		22.6	67	11.2		44.5	58	44	34	23	48	4	
24	180	41.8	+21	23.0	81	46.1	+11	31.6	60 S	6 50	7 44	8 37	13 56	1	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO						
	PMG: 7 ^h 41.6 ^m		Mag: -4.4 PMG: 15 ^h 14 ^m		Mag: +1.6 PMG: 16 ^h 07 ^m		Mag: -2.1 PMG: 9 ^h 44 ^m		Mag: +1.0 PMG: 6 ^h 18 ^m						
	hG ♊	Dec	hG ♍	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'					
0	244	17.6	131	34.9	+24	35.4	213	47.6	+11	15.6					
1	259	20.1	146	34.7		35.0	228	49.5		15.8					
2	274	22.5	161	34.4		34.6	243	51.4		16.0					
3	289	25.0	176	34.1		34.1	258	53.4		16.2					
4	304	27.5	191	33.8		33.7	273	55.3		16.4					
5	319	29.9	206	33.5	+24	33.3	288	57.3	+11	16.6					
6	334	32.4	221	33.3	+24	32.9	303	59.2	+11	16.7					
7	349	34.9	236	33.0		32.4	319	01.1		16.9					
8	4	37.3	251	32.7		32.0	334	03.1		17.1					
9	19	39.8	266	32.4		31.6	349	05.0		17.3					
10	34	42.2	281	32.2		31.1	4	06.9		17.5					
11	49	44.7	296	31.9	+24	30.7	19	08.9	+11	17.7					
12	64	47.2	311	31.6	+24	30.3	34	10.8	+11	17.9					
13	79	49.6	326	31.3		29.8	49	12.8		18.0					
14	94	52.1	341	31.1		29.4	64	14.7		18.2					
15	109	54.6	356	30.8		29.0	79	16.6		18.4					
16	124	57.0	11	30.5		28.5	94	18.6		18.6					
17	139	59.5	26	30.3	+24	28.1	109	20.5	+11	18.8					
18	155	02.0	41	30.0	+24	27.6	124	22.4	+11	19.0					
19	170	04.4	56	29.7		27.2	139	24.4		19.2					
20	185	06.9	71	29.5		26.8	154	26.3		19.3					
21	200	09.3	86	29.2		26.3	169	28.3		19.5					
22	215	11.8	101	28.9		25.9	184	30.2		19.7					
23	230	14.3	116	28.7		25.4	199	32.1		19.9					
24	245	16.7	131	28.4	+24	25.0	214	34.1	+11	20.1					
Dif	—		-3		-4		+19		+2						
									+24						
									0						

UT	SOL		☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG: 11 ^h 57.3 ^m		Edad: 8.3 ^d SD: 14'8 PMG: 19 ^h 05 ^m		PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'9 R°: 40 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	h m	h m	
0	180	41.8	+21	23.0	81	46.1	+11	31.6	60 N	21 00	22 18	** **	11 50	84	1 55	0
1	195	41.7		23.4	96	21.1		18.7	58	20 43	21 47	** **	11 55	81	49	3
2	210	41.6		23.9	110	56.1	+11	05.7	56	28	24	23 17	12 00	77	43	6
3	225	41.6		24.3	125	31.1	+10	52.6	54	16	21 06	22 27	04 75		38	9
4	240	41.5		24.7	140	06.1		39.5	52	20 05	20 51	21 58	08 72		34	10
5	255	41.4	+21	25.1	154	41.2	+10	26.4	50	19 56	20 38	21 37	12 11	70	1 29	13
6	270	41.3	+21	25.5	169	16.2	+10	13.2	45	19 36	20 12	20 58	12 18	65	1 20	18
7	285	41.3		25.9	183	51.4	+10	00.0	40	20	19 51	31	24 61		13	21
8	300	41.2		26.3	198	26.5	+9	46.7	35	19 06	35	20 10	29 58		06	25
9	315	41.1		26.7	213	01.6		33.4	30	18 54	19 21	19 54	34 54		1 01	27
10	330	41.0		27.1	227	36.8		20.0	20	34	18 58	27	42 49		0 51	32
11	345	41.0	+21	27.5	242	12.0	+9	06.6	10 N	18 17	18 40	19 06	12 48	45	0 42	37
12	0	40.9	+21	27.9	256	47.2	+8	53.2	0	18 01	18 23	18 49	12 55	40	0 33	41
13	15	40.8		28.3	271	22.4		39.7	10 S	17 45	18 08	34	13 01	37	25	45
14	30	40.7		28.7	285	57.6		26.1	20	28	17 52	19	08 32		16	49
15	45	40.6		29.1	300	32.9	+8	12.6	30	17 09	35	18 04	15 27		06	54
16	60	40.6		29.5	315	08.1	+7	59.0	35	16 58	25	17 57	20 24		0 00	57
17	75	40.5	+21	29.9	329	43.4	+7	45.3	40	16 45	17 15	17 48	13 25	21	** **	**
18	90	40.4	+21	30.3	344	18.6	+7	31.6	45	16 30	17 03	17 39	13 30	18	** **	**
19	105	40.3		30.7	358	53.9		17.9	50	12	16 49	29	37 13		** **	**
20	120	40.3		31.1	13	29.2	+7	04.1	52	16 03	42	25	40 11		** **	**
21	135	40.2		31.5	28	04.5	+6	50.3	54	15 53	35	20	44 8		** **	**
22	150	40.1		31.9	42	39.8		36.5	56	42	27	15	48 5		** **	**
23	165	40.0		32.3	57	15.1		22.6	58	30	18	09	52 3		** **	**
24	180	39.9	+21	32.7	71	50.4	+6	08.7	60 S	15 15	16 08	17 03	13 57	**	** **	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 37.6 ^m		Mag: -4.4 PMG: 15 ^h 14 ^m		Mag: +1.6 PMG: 16 ^h 06 ^m		Mag: -2.1 PMG: 9 ^h 40 ^m		Mag: +1.0 PMG: 6 ^h 15 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	245	16.7	131	28.4	+24	25.0	118	21.1	+20	40.1	214	34.1	+11	20.1	266	07.4	-10	23.5
1	260	19.2	146	28.2		24.6	133	22.1		39.7	229	36.0		20.3	281	09.8		23.4
2	275	21.7	161	27.9		24.1	148	23.0		39.4	244	37.9		20.4	296	12.2		23.4
3	290	24.1	176	27.6		23.7	163	24.0		39.0	259	39.9		20.6	311	14.6		23.4
4	305	26.6	191	27.4		23.2	178	25.0		38.6	274	41.8		20.8	326	17.0		23.4
5	320	29.1	206	27.1	+24	22.8	193	26.0	+20	38.3	289	43.8	+11	21.0	341	19.3	-10	23.4
6	335	31.5	221	26.9	+24	22.3	208	26.9	+20	37.9	304	45.7	+11	21.2	356	21.7	-10	23.3
7	350	34.0	236	26.6		21.9	223	27.9		37.5	319	47.6		21.4	11	24.1		23.3
8	5	36.5	251	26.4		21.4	238	28.9		37.2	334	49.6		21.6	26	26.5		23.3
9	20	38.9	266	26.1		21.0	253	29.9		36.8	349	51.5		21.7	41	28.9		23.3
10	35	41.4	281	25.9		20.5	268	30.8		36.4	4	53.5		21.9	56	31.3		23.2
11	50	43.8	296	25.6	+24	20.1	283	31.8	+20	36.0	19	55.4	+11	22.1	71	33.6	-10	23.2
12	65	46.3	311	25.4	+24	19.6	298	32.8	+20	35.7	34	57.3	+11	22.3	86	36.0	-10	23.2
13	80	48.8	326	25.1		19.1	313	33.7		35.3	49	59.3		22.5	101	38.4		23.2
14	95	51.2	341	24.9		18.7	328	34.7		34.9	65	01.2		22.7	116	40.8		23.2
15	110	53.7	356	24.6		18.2	343	35.7		34.6	80	03.2		22.8	131	43.2		23.1
16	125	56.2	11	24.4		17.8	358	36.7		34.2	95	05.1		23.0	146	45.6		23.1
17	140	58.6	26	24.2	+24	17.3	13	37.6	+20	33.8	110	07.0	+11	23.2	161	47.9	-10	23.1
18	156	01.1	41	23.9	+24	16.9	28	38.6	+20	33.5	125	09.0	+11	23.4	176	50.3	-10	23.1
19	171	03.6	56	23.7		16.4	43	39.6		33.1	140	10.9		23.6	191	52.7		23.0
20	186	06.0	71	23.4		15.9	58	40.6		32.7	155	12.9		23.8	206	55.1		23.0
21	201	08.5	86	23.2		15.5	73	41.5		32.3	170	14.8		23.9	221	57.5		23.0
22	216	10.9	101	23.0		15.0	88	42.5		32.0	185	16.7		24.1	236	59.9		23.0
23	231	13.4	116	22.7		14.6	103	43.5		31.6	200	18.7		24.3	252	02.3		23.0
24	246	15.9	131	22.5	+24	14.1	118	44.5	+20	31.2	215	20.6	+11	24.5	267	04.6	-10	22.9
Dif	—		-2		-5		+10		-4		+19		+2		+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 57.4 ^m			Edad: 9.3 ^d PHE { 4 ^h : 55 ⁰ 12 ^h : 55 ² 20 ^h : 55 ⁴ SD: 15 ^h 0 PMG: 19 ^h 45 ^m R°: 42 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	39.9	+21	32.7	71	50.4	+6	08.7	60 N	** **	1 36	2 55	13 14	86	1 55	**		
1	195	39.9		33.1	86	25.8	+5	54.8	58	** **	2 07	3 12	16 82		52	3		
2	210	39.8		33.5	101	01.1		40.8	56	0 37	30	26	17 79		49	6		
3	225	39.7		33.9	115	36.4		26.8	54	1 27	2 48	38	19 76		47	8		
4	240	39.6		34.2	130	11.7	+5	12.7	52	1 56	3 03	49	20 73		44	11		
5	255	39.5	+21	34.6	144	47.0	+4	58.7	50	2 18	3 16	3 59	13 21	71	1 42	13		
6	270	39.5	+21	35.0	159	22.3	+4	44.6	45	2 56	3 43	4 19	13 23	67	1 38	17		
7	285	39.4		35.4	173	57.6		30.5	40	3 23	4 03	35	25 63		34	21		
8	300	39.3		35.8	188	32.9		16.3	35	3 44	20	4 48	27 59		31	24		
9	315	39.2		36.2	203	08.2	+4	02.1	30	4 01	33	5 00	28 56		28	27		
10	330	39.1		36.6	217	43.5	+3	47.9	20	28	4 56	20	31 50		23	32		
11	345	39.0	+21	37.0	232	18.8	+3	33.7	10 N	4 48	5 15	5 38	13 33	46	1 19	36		
12	0	39.0	+21	37.4	246	54.0	+3	19.4	0	5 06	5 32	5 54	13 35	42	1 14	41		
13	15	38.9		37.7	261	29.3	+3	05.1	10 S	21	5 47	6 10	38 37		10	45		
14	30	38.8		38.1	276	04.5	+2	50.8	20	36	6 03	27	40 32		05	50		
15	45	38.7		38.5	290	39.7		36.4	30	51	20	46	42 28		1 00	55		
16	60	38.6		38.9	305	15.0		22.1	35	5 58	30	6 57	44 24		0 57	58		
17	75	38.6	+21	39.3	319	50.1	+2	07.7	40	6 07	6 40	7 10	13 46	20	0 54	61		
18	90	38.5	+21	39.7	334	25.3	+1	53.3	45	6 16	6 52	7 25	13 48	17	0 49	66		
19	105	38.4		40.0	349	00.5		38.9	50	26	7 06	44	50 12		45	70		
20	120	38.3		40.4	3	35.6		24.4	52	30	13	7 52	51 10		42	73		
21	135	38.2		40.8	18	10.7	+1	09.9	54	35	20	8 02	52 8		40	75		
22	150	38.1		41.2	32	45.8	+0	55.5	56	40	28	13	53 6		37	78		
23	165	38.1		41.6	47	20.9		41.0	58	46	37	26	55 3		34	81		
24	180	38.0	+21	41.9	61	55.9	+0	26.4	60 S	6 52	7 47	8 41	13 56	0	0 31	84		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG: 7 ^h 33.7 ^m		Mag: -4.4 PMG: 15 ^h 15 ^m				Mag: +1.6 PMG: 16 ^h 04 ^m				Mag: -2.1 PMG: 9 ^h 37 ^m				Mag: +1.0 PMG: 6 ^h 11 ^m			
	hG ♀	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♃	Dec	hG ♄	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	246	15.9	131	22.5	+24	14.1	118	44.5	+20	31.2	215	20.6	+11	24.5	267	04.6	-10	22.9
1	261	18.3	146	22.3		13.6	133	45.4		30.9	230	22.6		24.7	282	07.0		22.9
2	276	20.8	161	22.0		13.2	148	46.4		30.5	245	24.5		24.9	297	09.4		22.9
3	291	23.3	176	21.8		12.7	163	47.4		30.1	260	26.4		25.0	312	11.8		22.9
4	306	25.7	191	21.6		12.2	178	48.4		29.7	275	28.4		25.2	327	14.2		22.8
5	321	28.2	206	21.3	+24	11.7	193	49.3	+20	29.4	290	30.3	+11	25.4	342	16.6	-10	22.8
6	336	30.7	221	21.1	+24	11.3	208	50.3	+20	29.0	305	32.3	+11	25.6	357	18.9	-10	22.8
7	351	33.1	236	20.9		10.8	223	51.3		28.6	320	34.2		25.8	12	21.3		22.8
8	6	35.6	251	20.6		10.3	238	52.3		28.2	335	36.1		26.0	27	23.7		22.8
9	21	38.1	266	20.4		09.9	253	53.2		27.9	350	38.1		26.1	42	26.1		22.7
10	36	40.5	281	20.2		09.4	268	54.2		27.5	5	40.0		26.3	57	28.5		22.7
11	51	43.0	296	20.0	+24	08.9	283	55.2	+20	27.1	20	42.0	+11	26.5	72	30.9	-10	22.7
12	66	45.4	311	19.7	+24	08.4	298	56.2	+20	26.7	35	43.9	+11	26.7	87	33.3	-10	22.7
13	81	47.9	326	19.5		08.0	313	57.2		26.4	50	45.8		26.9	102	35.7		22.7
14	96	50.4	341	19.3		07.5	328	58.1		26.0	65	47.8		27.1	117	38.0		22.6
15	111	52.8	356	19.1		07.0	343	59.1		25.6	80	49.7		27.2	132	40.4		22.6
16	126	55.3	11	18.9		06.5	359	00.1		25.2	95	51.7		27.4	147	42.8		22.6
17	141	57.8	26	18.6	+24	06.1	14	01.1	+20	24.9	110	53.6	+11	27.6	162	45.2	-10	22.6
18	157	00.2	41	18.4	+24	05.6	29	02.0	+20	24.5	125	55.6	+11	27.8	177	47.6	-10	22.6
19	172	02.7	56	18.2		05.1	44	03.0		24.1	140	57.5		28.0	192	50.0		22.5
20	187	05.2	71	18.0		04.6	59	04.0		23.7	155	59.4		28.2	207	52.4		22.5
21	202	07.6	86	17.8		04.1	74	05.0		23.4	171	01.4		28.3	222	54.8		22.5
22	217	10.1	101	17.6		03.6	89	05.9		23.0	186	03.3		28.5	237	57.1		22.5
23	232	12.6	116	17.4		03.2	104	06.9		22.6	201	05.3		28.7	252	59.5		22.5
24	247	15.0	131	17.2	+24	02.7	119	07.9	+20	22.2	216	07.2	+11	28.9	268	01.9	-10	22.4
Dif	—		-2		-5		+10		-4		+19		+2		+24		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: 10.3 ^d SD: 15'1 PMG: 20 ^h 27 ^m PHE 4^h: 55'6 12^h: 55'8 20^h: 56'1 R°: 44^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	38.0	+21	61	55.9	+0	26.4	60 N	21	04	22	25	** **	14	40	89	1	54	0	
1	195	37.9		76	31.0 ¹⁶¹	+0	11.9 ¹⁴⁵	58	20	46	21	52	** **	38	85		55	2		
2	210	37.8		91	05.9 ¹⁵⁹	-0	02.7 ¹⁴⁶	56		31	28	23	34	36	82		55	5		
3	225	37.7		105	40.9 ¹⁶⁰		17.2 ¹⁴⁵	54		19	21	10	22	33	35	79		55	8	
4	240	37.6		120	15.8 ¹⁵⁹		31.8 ¹⁴⁶	52	20	08	20	54	22	03	33	77		55	10	
5	255	37.5	+21	134	50.7 ¹⁵⁹	-0	46.4 ¹⁴⁶	50	19	58	20	41	21	40	14	32	74	1	55	12
6	270	37.5	+21	149	25.6 ¹⁵⁹	-1	01.0 ¹⁴⁶	45	19	38	20	14	21	01	14	30	69	1	55	17
7	285	37.4		164	00.4 ¹⁵⁸		15.6 ¹⁴⁶	40		21	19	53	20	33	28	64		55	21	
8	300	37.3		178	35.2 ¹⁵⁸		30.3 ¹⁴⁷	35	19	07	36	20	12	26	61		55	25		
9	315	37.2		193	10.0 ¹⁵⁸		44.9 ¹⁴⁶	30	18	55	19	22	19	55	24	58		55	28	
10	330	37.1		207	44.7 ¹⁵⁷	-1	59.6 ¹⁴⁷	20		35	18	59	28	21	53		55	33		
11	345	37.0	+21	222	19.4 ¹⁵⁷	-2	14.2 ¹⁴⁶	10 N	18	17	18	40	19	07	14	19	48	1	55	38
12	0	36.9	+21	236	54.1 ¹⁵⁷	-2	28.9 ¹⁴⁷	0	18	01	18	23	18	49	14	17	43	1	55	42
13	15	36.9		251	28.7 ¹⁵⁶		43.5 ¹⁴⁶	10 S	17	45	18	08	34	15	38		55	46		
14	30	36.8		266	03.2 ¹⁵⁵	-2	58.2 ¹⁴⁷	20		28	17	52	19	12	34		55	51		
15	45	36.7		280	37.8 ¹⁵⁶	-3	12.9 ¹⁴⁷	30	17	08	34	18	04	10	28		55	57		
16	60	36.6		295	12.2 ¹⁵⁴		27.6 ¹⁴⁷	35	16	57	25	17	56	08	26		55	60		
17	75	36.5	+21	309	46.7 ¹⁵⁵	-3	42.3 ¹⁴⁷	40	16	44	17	14	17	48	14	06	23	1	55	63
18	90	36.4	+21	324	21.0 ¹⁵³	-3	57.0 ¹⁴⁷	45	16	29	17	02	17	38	14	05	18	1	55	67
19	105	36.3		338	55.4 ¹⁵⁴	-4	11.6 ¹⁴⁶	50		10	16	47	28	02	14		55	72		
20	120	36.2		353	29.7 ¹⁵³		26.3 ¹⁴⁷	52	16	01	41	23	01	12		55	75			
21	135	36.2		8	03.9 ¹⁵²		41.0 ¹⁴⁷	54	15	51	33	18	14	00	9		55	77		
22	150	36.1		22	38.1 ¹⁵²	-4	55.7 ¹⁴⁷	56		40	25	13	13	59	6		55	80		
23	165	36.0		37	12.2 ¹⁵¹	-5	10.4 ¹⁴⁷	58		27	16	07	58	3		55	83			
24	180	35.9	+21	51	46.3 ¹⁵¹	-5	25.1 ¹⁴⁷	60 S	15	12	16	06	17	01	13	56	0	1	55	86

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 29.8 ^m	Mag: -4.4 PMG: 15 ^h 15 ^m		Mag: +1.6 PMG: 16 ^h 02 ^m		Mag: -2.1 PMG: 9 ^h 34 ^m		Mag: +1.0 PMG: 6 ^h 07 ^m										
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	°	'	°	'	°	'	°	'	°	'							
0	247	15.0	131	17.2	+24	02.7	119	07.9	+20	22.2	216	07.2	+11	28.9	268	01.9	-10	22.4
1	262	17.5	146	16.9		02.2	134	08.9		21.9	231	09.1		29.1	283	04.3		22.4
2	277	19.9	161	16.7		01.7	149	09.8		21.5	246	11.1		29.2	298	06.7		22.4
3	292	22.4	176	16.5		01.2	164	10.8		21.1	261	13.0		29.4	313	09.1		22.4
4	307	24.9	191	16.3		00.7	179	11.8		20.7	276	15.0		29.6	328	11.5		22.4
5	322	27.3	206	16.1	+24	00.2	194	12.8	+20	20.3	291	16.9	+11	29.8	343	13.9	-10	22.3
6	337	29.8	221	15.9	+23	59.7	209	13.7	+20	20.0	306	18.9	+11	30.0	358	16.3	-10	22.3
7	352	32.3	236	15.7		59.3	224	14.7		19.6	321	20.8		30.2	13	18.6		22.3
8	7	34.7	251	15.5		58.8	239	15.7		19.2	336	22.7		30.3	28	21.0		22.3
9	22	37.2	266	15.3		58.3	254	16.7		18.8	351	24.7		30.5	43	23.4		22.3
10	37	39.7	281	15.1		57.8	269	17.6		18.5	6	26.6		30.7	58	25.8		22.2
11	52	42.1	296	14.9	+23	57.3	284	18.6	+20	18.1	21	28.6	+11	30.9	73	28.2	-10	22.2
12	67	44.6	311	14.7	+23	56.8	299	19.6	+20	17.7	36	30.5	+11	31.1	88	30.6	-10	22.2
13	82	47.0	326	14.5		56.3	314	20.6		17.3	51	32.5		31.2	103	33.0		22.2
14	97	49.5	341	14.3		55.8	329	21.5		16.9	66	34.4		31.4	118	35.4		22.2
15	112	52.0	356	14.1		55.3	344	22.5		16.6	81	36.3		31.6	133	37.8		22.1
16	127	54.4	11	13.9		54.8	359	23.5		16.2	96	38.3		31.8	148	40.2		22.1
17	142	56.9	26	13.8	+23	54.3	14	24.5	+20	15.8	111	40.2	+11	32.0	163	42.5	-10	22.1
18	157	59.4	41	13.6	+23	53.8	29	25.4	+20	15.4	126	42.2	+11	32.1	178	44.9	-10	22.1
19	173	01.8	56	13.4		53.3	44	26.4		15.0	141	44.1		32.3	193	47.3		22.1
20	188	04.3	71	13.2		52.8	59	27.4		14.6	156	46.1		32.5	208	49.7		22.1
21	203	06.8	86	13.0		52.3	74	28.4		14.3	171	48.0		32.7	223	52.1		22.0
22	218	09.2	101	12.8		51.8	89	29.4		13.9	186	50.0		32.9	238	54.5		22.0
23	233	11.7	116	12.6		51.3	104	30.3		13.5	201	51.9		33.1	253	56.9		22.0
24	248	14.2	131	12.4	+23	50.8	119	31.3	+20	13.1	216	53.8	+11	33.2	268	59.3	-10	22.0
Dif	—		-2		-5		+10		-4		+19		+2		+24			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15 ^h 8 PMG:11 ^h 57.7 ^m			Edad: 11.3 ^d PHE { 4 ^h : 56 ^h 3 12 ^h : 56 ^h 6 20 ^h : 56 ^h 8 R°: 47 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	35.9	+21	50.8	51	46.3	150	-5	25.1	60 N	**	**	1	30	2	51	16	09	95	
1	195	35.8		51.2	66	20.3	149		39.7	58	**	**	2	03	3	09	16	03	91	
2	210	35.7		51.6	80	54.2	149	-5	54.4	56	0	20	27	23	15	58	87	2	00	7
3	225	35.6		51.9	95	28.1	149	-6	09.1	54	1	22	2	45	36	54	84	03	9	
4	240	35.5		52.3	110	02.0	149		23.7	52	1	52	3	01	47	50	81	05	12	
5	255	35.4	+21	52.6	124	35.8	148	-6	38.4	50	2	15	3	14	3	57	15	46	78	
6	270	35.4	+21	53.0	139	09.5	147	-6	53.0	45	2	54	3	41	4	17	15	39	72	
7	285	35.3		53.4	153	43.1	146	-7	07.6	40	3	22	4	02	34	32	68	16	23	
8	300	35.2		53.7	168	16.7	146		22.2	35	3	43	19	4	48	27	64	20	26	
9	315	35.1		54.1	182	50.2	145		36.8	30	4	00	33	5	00	22	61	23	30	
10	330	35.0		54.4	197	23.7	145	-7	51.4	20	27	4	56	20	14	55	28	35		
11	345	34.9	+21	54.8	211	57.0	143	-8	06.0	10 N	4	48	5	15	5	38	15	07	50	
12	0	34.8	+21	55.1	226	30.4	144	-8	20.5	0	5	06	5	32	5	54	15	00	46	
13	15	34.7		55.5	241	03.6	142		35.1	10 S	22	5	48	6	10	14	53	42	41	49
14	30	34.6		55.9	255	36.8	142	-8	49.6	20	36	6	04	27	46	37	46	54		
15	45	34.5		56.2	270	09.8	140	-9	04.1	30	51	21	47	38	32	52	59			
16	60	34.5		56.6	284	42.9	141		18.5	35	5	59	31	6	58	34	28	55	62	
17	75	34.4	+21	56.9	299	15.8	139	-9	33.0	40	6	08	6	41	7	12	14	29	25	
18	90	34.3	+21	57.3	313	48.6	138	-9	47.4	45	6	17	6	54	7	27	14	23	21	
19	105	34.2		57.6	328	21.4	138	-10	01.8	50	28	7	08	46	16	16	07	76		
20	120	34.1		58.0	342	54.1	137		16.2	52	32	15	7	55	13	13	10	78		
21	135	34.0		58.3	357	26.7	136		30.5	54	37	22	8	05	09	11	12	81		
22	150	33.9		58.7	11	59.3	136		44.8	56	43	31	16	05	8	15	84			
23	165	33.8		59.0	26	31.7	134	-10	59.1	58	49	40	29	14	01	5	18	88		
24	180	33.7	+21	59.4	41	04.1	134	-11	13.4	60 S	6	55	7	50	8	44	13	56	1	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 7 ^h 25.8 ^m		Mag: -4.4 PMG: 15 ^h 15 ^m			Mag: +1.6 PMG: 16 ^h 01 ^m			Mag: -2.1 PMG: 9 ^h 31 ^m			Mag: +1.0 PMG: 6 ^h 03 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	248	14.2	131	12.4	+23	50.8	119	31.3	+20	13.1	216	53.8	+11	33.2	268	59.3	-10	22.0
1	263	16.6	146	12.3		50.3	134	32.3		12.7	231	55.8		33.4	284	01.7		22.0
2	278	19.1	161	12.1		49.8	149	33.3		12.4	246	57.7		33.6	299	04.1		21.9
3	293	21.5	176	11.9		49.3	164	34.2		12.0	261	59.7		33.8	314	06.5		21.9
4	308	24.0	191	11.7		48.8	179	35.2		11.6	277	01.6		34.0	329	08.9		21.9
5	323	26.5	206	11.5	+23	48.2	194	36.2	+20	11.2	292	03.6	+11	34.1	344	11.3	-10	21.9
6	338	28.9	221	11.4	+23	47.7	209	37.2	+20	10.8	307	05.5	+11	34.3	359	13.6	-10	21.9
7	353	31.4	236	11.2		47.2	224	38.1		10.4	322	07.5		34.5	14	16.0		21.9
8	8	33.9	251	11.0		46.7	239	39.1		10.0	337	09.4		34.7	29	18.4		21.8
9	23	36.3	266	10.8		46.2	254	40.1		09.7	352	11.3		34.9	44	20.8		21.8
10	38	38.8	281	10.7		45.7	269	41.1		09.3	7	13.3		35.0	59	23.2		21.8
11	53	41.3	296	10.5	+23	45.2	284	42.1	+20	08.9	22	15.2	+11	35.2	74	25.6	-10	21.8
12	68	43.7	311	10.3	+23	44.7	299	43.0	+20	08.5	37	17.2	+11	35.4	89	28.0	-10	21.8
13	83	46.2	326	10.2		44.1	314	44.0		08.1	52	19.1		35.6	104	30.4		21.7
14	98	48.7	341	10.0		43.6	329	45.0		07.7	67	21.1		35.8	119	32.8		21.7
15	113	51.1	356	09.8		43.1	344	46.0		07.4	82	23.0		35.9	134	35.2		21.7
16	128	53.6	11	09.7		42.6	359	46.9		07.0	97	25.0		36.1	149	37.6		21.7
17	143	56.0	26	09.5	+23	42.1	14	47.9	+20	06.6	112	26.9	+11	36.3	164	40.0	-10	21.7
18	158	58.5	41	09.3	+23	41.6	29	48.9	+20	06.2	127	28.9	+11	36.5	179	42.4	-10	21.7
19	174	01.0	56	09.2		41.0	44	49.9		05.8	142	30.8		36.7	194	44.8		21.6
20	189	03.4	71	09.0		40.5	59	50.8		05.4	157	32.8		36.8	209	47.2		21.6
21	204	05.9	86	08.8		40.0	74	51.8		05.0	172	34.7		37.0	224	49.6		21.6
22	219	08.4	101	08.7		39.5	89	52.8		04.7	187	36.6		37.2	239	52.0		21.6
23	234	10.8	116	08.5		38.9	104	53.8		04.3	202	38.6		37.4	254	54.4		21.6
24	249	13.3	131	08.4	+23	38.4	119	54.8	+20	03.9	217	40.5	+11	37.6	269	56.8	-10	21.6
Dif	—			-2		-5		+10		-4		+19		+2		+24		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna							
	SD: 15 ^h 8 PMG:11 ^h 57.8 ^m				Edad: 12.3 ^d SD: 15 ^h 5 PMG: 21 ^h 58 ^m PHE { 4 ^h : 57/1 12 ^h : 57/4 20 ^h : 57/6 R°: 52 ^m																					
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil			Náutico			Hora		R°		Hora	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	h	m	m
0	180	33.7	+21	59.4	41	04.1	-11	13.4	133	142	60 N	21 07	22 31	**	**	17	44	103	1	54	1					
1	195	33.6	+21	59.7	55	36.4	-11	27.6	131	142	58	20 49	21 57	**	**	34	97	2	01	5						
2	210	33.5	+22	00.0	70	08.5	-11	41.8	131	141	56	34	32	**	**	25	93	07	9							
3	225	33.4	+22	00.4	84	40.6	-11	55.9	130	141	54	21	21 13	22 39	18	88	12	13								
4	240	33.3		00.7	99	12.6	-12	10.0	130	141	52	10	20 57	22 07	11	85	17	15								
5	255	33.3	+22	01.1	113	44.6	-12	24.1	130	141	50	20 00	20 43	21 44	17	04	83	2	22	17						
6	270	33.2	+22	01.4	128	16.4	-12	38.1	128	140	45	19 39	20 16	21 03	16	51	77	2	31	23						
7	285	33.1		01.8	142	48.1	-12	52.1	127	140	40	23	19 55	20 35	40	72	39	27								
8	300	33.0		02.1	157	19.7	-13	06.1	126	139	35	19 09	38	20 14	31	68	46	31								
9	315	32.9		02.4	171	51.3		20.0	126	140	30	18 56	23	19 56	23	65	2	53	33							
10	330	32.8		02.8	186	22.7		33.8	124	138	20	36	19 00	29	16	09	60	3	03	39						
11	345	32.7	+22	03.1	200	54.1	-13	47.7	124	139	10 N	18 18	18 41	19 08	15	57	55	3	13	43						
12	0	32.6	+22	03.5	215	25.3	-14	01.4	122	137	0	18 01	18 24	18 50	15	46	51	3	21	49						
13	15	32.5		03.8	229	56.4		15.1	121	137	10 S	17 45	18 08	34	35	47	30	53								
14	30	32.4		04.1	244	27.5		28.8	121	137	20	28	17 52	19	23	42	40	57								
15	45	32.3		04.5	258	58.4		42.4	119	136	30	17 08	34	18 04	10	37	51	63								
16	60	32.2		04.8	273	29.2	-14	56.0	118	136	35	16 56	24	17 56	15	02	34	3	57	66						
17	75	32.1	+22	05.2	287	59.9	-15	09.5	117	135	40	16 43	17 13	17 47	14	54	30	4	04	70						
18	90	32.0	+22	05.5	302	30.6	-15	22.9	117	134	45	16 28	17 01	17 38	14	44	25	4	13	74						
19	105	31.9		05.8	317	01.1		36.3	115	134	50	09	16 46	27	32	20	23	80								
20	120	31.8		06.2	331	31.5	-15	49.6	115	133	52	16 00	39	22	26	18	28	83								
21	135	31.7		06.5	346	01.8	-16	02.9	113	133	54	15 49	32	17	20	15	33	86								
22	150	31.6		06.8	0	31.9		16.1	111	132	56	38	24	12	13	12	39	89								
23	165	31.5		07.2	15	02.0		29.2	111	131	58	25	14	17 06	14	06	7	46	93							
24	180	31.4	+22	07.5	29	32.0	-16	42.2	110	130	60 S	15 09	16 04	16 59	13	57	3	4	53	99						
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO													
	PMG: 7 ^h 21.9 ^m			Mag: -4.4 PMG: 15 ^h 16 ^m			Mag: +1.6 PMG: 15 ^h 59 ^m			Mag: -2.1 PMG: 9 ^h 28 ^m			Mag: +1.0 PMG: 5 ^h 59 ^m													
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	249	13.3	131	08.4	+23	38.4	119	54.8	+20	03.9	217	40.5	+11	37.6	269	56.8	-10	21.6								
1	264	15.8	146	08.2		37.9	134	55.7		03.5	232	42.5		37.7	284	59.2		21.5								
2	279	18.2	161	08.1		37.4	149	56.7		03.1	247	44.4		37.9	300	01.5		21.5								
3	294	20.7	176	07.9		36.8	164	57.7		02.7	262	46.4		38.1	315	03.9		21.5								
4	309	23.1	191	07.8		36.3	179	58.7		02.3	277	48.3		38.3	330	06.3		21.5								
5	324	25.6	206	07.6	+23	35.8	194	59.6	+20	01.9	292	50.3	+11	38.5	345	08.7	-10	21.5								
6	339	28.1	221	07.5	+23	35.3	210	00.6	+20	01.5	307	52.2	+11	38.6	0	11.1	-10	21.5								
7	354	30.5	236	07.3		34.7	225	01.6		01.2	322	54.2		38.8	15	13.5		21.4								
8	9	33.0	251	07.2		34.2	240	02.6		00.8	337	56.1		39.0	30	15.9		21.4								
9	24	35.5	266	07.0		33.7	255	03.6	+20	00.4	352	58.1		39.2	45	18.3		21.4								
10	39	37.9	281	06.9		33.1	270	04.5	+20	00.0	8	00.0		39.3	60	20.7		21.4								
11	54	40.4	296	06.7	+23	32.6	285	05.5	+19	59.6	23	02.0	+11	39.5	75	23.1	-10	21.4								
12	69	42.9	311	06.6	+23	32.1	300	06.5	+19	59.2	38	03.9	+11	39.7	90	25.5	-10	21.4								
13	84	45.3	326	06.4		31.5	315	07.5		58.8	53	05.9		39.9	105	27.9		21.3								
14	99	47.8	341	06.3		31.0	330	08.4		58.4	68	07.8		40.1	120	30.3		21.3								
15	114	50.3	356	06.2		30.5	345	09.4		58.0	83	09.7		40.2	135	32.7		21.3								
16	129	52.7	11	06.0		29.9	0	10.4		57.6	98	11.7		40.4	150	35.1		21.3								
17	144	55.2	26	05.9	+23	29.4	15	11.4	+19	57.3	113	13.6	+11	40.6	165	37.5	-10	21.3								
18	159	57.6	41	05.7	+23	28.9	30	12.4	+19	56.9	128	15.6	+11	40.8	180	39.9	-10	21.3								
19	175	00.1	56	05.6		28.3	45	13.3		56.5	143	17.5		41.0	195	42.3		21.2								
20	190	02.6	71	05.5		27.8	60	14.3		56.1	158	19.5		41.1	210	44.7		21.2								
21	205	05.0	86	05.3		27.2	75	15.3		55.7	173	21.4		41.3	225	47.1		21.2								
22	220	07.5	101	05.2		26.7	90	16.3		55.3	188	23.4		41.5	240	49.5		21.2								
23	235	10.0	116	05.1		26.1	105	17.2		54.9	203	25.3		41.7	255	51.9		21.2								
24	250	12.4	131	05.0	+23	25.6	120	18.2	+19	54.5	218	27.3	+11	41.8	270	54.3	-10	21.2								
Dif	—		-1		-5		+10		-4		+19		+2		+24		0									

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:11 ^h 58.0 ^m				Edad: 13.3 ^d PHE { 4 ^h : 57'9 12 ^h : 58'2 20 ^h : 58'4 SD: 15'7 PMG: 22 ^h 50 ^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	180	31.4	+22	07.5	29	32.0	108	-16	42.2	130	60 N	** **	1 24	2 48	19 27	110	1 55	4		
1	195	31.3		07.8	44	01.8	107	-16	55.2	129	58	** **	1 59	3 06	19 11	102	2 06	9		
2	210	31.3		08.1	58	31.5	106	-17	08.1	129	56	** **	2 23	21	18 58	96	16	14		
3	225	31.2		08.5	73	01.1	106		21.0	128	54	1 17	43	34	46	92	25	11		
4	240	31.1		08.8	87	30.6	105		33.8	128	52	1 49	2 59	45	36	88	32	2		
5	255	31.0	+22	09.1	102	00.0	104	-17	46.5	127	50	2 12	3 13	3 55	18 27	85	2 39	23		
6	270	30.9	+22	09.5	116	29.3	103	-17	59.1	126	45	2 52	3 40	4 16	18 08	79	2 54	29		
7	285	30.8		09.8	130	58.4	101	-18	11.6	125	40	3 20	4 01	33	17 52	75	3 06	34		
8	300	30.7		10.1	145	27.4	100		24.1	125	35	42	18	47	39	72	17	37		
9	315	30.6		10.4	159	56.3	99		36.4	123	30	3 59	32	4 59	28	69	26	40		
10	330	30.5		10.8	174	25.1	98	-18	48.7	123	20	4 27	4 56	5 20	17 09	64	42	45		
11	345	30.4	+22	11.1	188	53.8	97	-19	00.9	122	10 N	4 48	5 15	5 38	16 52	60	3 56	50		
12	0	30.3	+22	11.4	203	22.3	95	-19	13.0	121	0	5 06	5 32	5 54	16 37	56	4 10	53		
13	15	30.2		11.7	217	50.7	94		25.0	120	10 S	22	5 48	6 11	22	52	23	57		
14	30	30.1		12.0	232	19.0	93		37.0	120	20	37	6 04	28	16 05	49	37	62		
15	45	30.0		12.4	246	47.2	92	-19	48.8	118	30	5 52	22	6 48	15 47	43	4 54	66		
16	60	29.9		12.7	261	15.3	91	-20	00.5	117	35	6 00	32	7 00	36	41	5 03	70		
17	75	29.8	+22	13.0	275	43.2	89	-20	12.2	117	40	6 09	6 43	7 13	15 24	37	5 14	74		
18	90	29.7	+22	13.3	290	11.0	88	-20	23.7	115	45	6 19	6 55	7 29	15 09	34	5 27	78		
19	105	29.6		13.6	304	38.7	87		35.2	115	50	29	7 10	48	14 52	28	43	84		
20	120	29.5		14.0	319	06.2	85		46.5	113	52	34	17	7 57	44	25	51	86		
21	135	29.4		14.3	333	33.6	84	-20	57.7	112	54	39	24	8 07	35	21	5 59	90		
22	150	29.3		14.6	348	00.9	83	-21	08.8	111	56	45	33	19	25	17	6 08	95		
23	165	29.2		14.9	2	28.1	82		19.8	110	58	51	42	32	13	13	19	100		
24	180	29.1	+22	15.2	16	55.1	80	-21	30.7	109	60 S	6 57	7 53	8 48	14 00	6	6 32	106		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 7 ^h 18.0 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m				Mag: +1.6 PMG: 15 ^h 58 ^m				Mag: -2.1 PMG: 9 ^h 25 ^m				Mag: +0.9 PMG: 5 ^h 55 ^m					
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	250	12.4	131	05.0	+23	25.6	120	18.2	+19	54.5	218	27.3	+11	41.8	270	54.3	-10	21.2		
1	265	14.9	146	04.8		25.1	135	19.2		54.1	233	29.2		42.0	285	56.7		21.2		
2	280	17.4	161	04.7		24.5	150	20.2		53.7	248	31.2		42.2	300	59.1		21.1		
3	295	19.8	176	04.6		24.0	165	21.2		53.3	263	33.1		42.4	316	01.5		21.1		
4	310	22.3	191	04.4		23.4	180	22.1		52.9	278	35.1		42.6	331	03.9		21.1		
5	325	24.8	206	04.3	+23	22.9	195	23.1	+19	52.5	293	37.0	+11	42.7	346	06.3	-10	21.1		
6	340	27.2	221	04.2	+23	22.3	210	24.1	+19	52.2	308	39.0	+11	42.9	1	08.7	-10	21.1		
7	355	29.7	236	04.1		21.8	225	25.1		51.8	323	40.9		43.1	16	11.1		21.1		
8	10	32.1	251	04.0		21.2	240	26.0		51.4	338	42.9		43.3	31	13.5		21.0		
9	25	34.6	266	03.8		20.7	255	27.0		51.0	353	44.8		43.4	46	15.9		21.0		
10	40	37.1	281	03.7		20.1	270	28.0		50.6	8	46.8		43.6	61	18.3		21.0		
11	55	39.5	296	03.6	+23	19.6	285	29.0	+19	50.2	23	48.7	+11	43.8	76	20.7	-10	21.0		
12	70	42.0	311	03.5	+23	19.0	300	30.0	+19	49.8	38	50.7	+11	44.0	91	23.1	-10	21.0		
13	85	44.5	326	03.4		18.5	315	30.9		49.4	53	52.6		44.2	106	25.5		21.0		
14	100	46.9	341	03.3		17.9	330	31.9		49.0	68	54.6		44.3	121	27.9		21.0		
15	115	49.4	356	03.2		17.4	345	32.9		48.6	83	56.5		44.5	136	30.3		20.9		
16	130	51.9	11	03.0		16.8	0	33.9		48.2	98	58.5		44.7	151	32.7		20.9		
17	145	54.3	26	02.9	+23	16.3	15	34.9	+19	47.8	114	00.4	+11	44.9	166	35.1	-10	20.9		
18	160	56.8	41	02.8	+23	15.7	30	35.8	+19	47.4	129	02.4	+11	45.0	181	37.5	-10	20.9		
19	175	59.2	56	02.7		15.1	45	36.8		47.0	144	04.3		45.2	196	39.9		20.9		
20	191	01.7	71	02.6		14.6	60	37.8		46.6	159	06.3		45.4	211	42.3		20.9		
21	206	04.2	86	02.5		14.0	75	38.8		46.2	174	08.2		45.6	226	44.7		20.9		
22	221	06.6	101	02.4		13.5	90	39.7		45.8	189	10.2		45.7	241	47.1		20.8		
23	236	09.1	116	02.3		12.9	105	40.7		45.4	204	12.1		45.9	256	49.5		20.8		
24	251	11.6	131	02.2	+23	12.3	120	41.7	+19	45.0	219	14.1	+11	46.1	271	52.0	-10	20.8		
Dif	—		-1		-6		+10		-4		+19		+2		+24					

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG: 11 ^h 58.1 ^m				Edad: 14.3 ^d SD: 15'9 PMG: 23 ^h 47 ^m PHE { 4 ^h : 58'6 12 ^h : 58'9 20 ^h : 59'1 R°: 62 ^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	29.1	+22	15.2	16	55.1	80	-21	30.7	108	60 N	21 11	22 38	** **	21 17 106	1 59 9					
1	195	29.0		15.5	31	22.1	78	-21	41.5	107	58	20 52	22 01	** **	20 53 96	2 15 17					
2	210	28.9		15.9	45	48.9	76	-21	52.2	105	56	37	21 35	** **	34 90	30 22					
3	225	28.8		16.2	60	15.5	76	-22	02.7	105	54	24	21 16	22 45	18 86	42 26					
4	240	28.7		16.5	74	42.1	74		13.2	105	52	12	20 59	22 11	20 04 83	2 53 30					
5	255	28.6	+22	16.8	89	08.5		-22	23.5	103	50	20 02	20 45	21 47	19 52 81	3 02 33					
6	270	28.5	+22	17.1	103	34.8	73	-22	33.6	101	45	19 41	20 18	21 06	19 27 77	3 23 38					
7	285	28.4		17.4	118	00.9	71		43.7	101	40	24	19 56	20 37	19 07 74	40 42					
8	300	28.3		17.7	132	27.0	71	-22	53.6	99	35	19 10	39	20 15	18 51 71	3 54 45					
9	315	28.2		18.0	146	52.9	69	-23	03.4	98	30	18 57	25	19 57	37 69	4 06 48					
10	330	28.1		18.3	161	18.7	68		13.1	97	20	36	19 01	30	18 13 66	27 52					
11	345	28.0	+22	18.6	175	44.3	66	-23	22.6	95	10 N	18 18	18 41	19 08	17 52 64	4 46 55					
12	0	27.9	+22	19.0	190	09.9	66	-23	32.1	95	0	18 02	18 24	18 50	17 33 61	5 03 58					
13	15	27.8		19.3	204	35.3	64		41.3	92	10 S	17 45	18 08	34	17 14 58	20 62					
14	30	27.7		19.6	219	00.6	63		50.4	91	20	28	17 51	19	16 54 55	5 39 65					
15	45	27.6		19.9	233	25.8	62	-23	59.4	90	30	17 08	34	18 03	30 53	6 00 70					
16	60	27.5		20.2	247	50.8	60	-24	08.3	89	35	16 56	24	17 55	17 50	13 72					
17	75	27.3	+22	20.5	262	15.8	60	-24	17.0	87	40	16 42	17 13	17 46	16 01 48	6 28 74					
18	90	27.2	+22	20.8	276	40.6	58	-24	25.5	85	45	16 27	17 00	17 37	15 43 44	6 45 79					
19	105	27.1		21.1	291	05.3	57		33.9	84	50	16 07	16 45	26	20 39	7 07 83					
20	120	27.0		21.4	305	29.8	55		42.2	83	52	15 58	38	21	15 09 37	17 87					
21	135	26.9		21.7	319	54.3	55		50.3	81	54	48	30	16	14 56 35	29 90					
22	150	26.8		22.0	334	18.6	53	-24	58.2	79	56	36	22	10	42 30	43 93					
23	165	26.7		22.3	348	42.9	53	-25	06.0	78	58	23	13	17 04	26 24	7 59 99					
24	180	26.6	+22	22.6	3	07.0	51	-25	13.7	77	60 S	15 07	16 02	16 57	14 06 16	8 18 108					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 7 ^h 14.0 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m		Mag: +1.6 PMG: 15 ^h 56 ^m		Mag: -2.1 PMG: 9 ^h 22 ^m		Mag: +0.9 PMG: 5 ^h 52 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	251	11.6	131	02.2	+23	12.3	120	41.7	+19	45.0	219	14.1	+11	46.1	271	52.0	-10	20.8
1	266	14.0	146	02.1		11.8	135	42.7		44.6	234	16.0		46.3	286	54.4		20.8
2	281	16.5	161	02.0		11.2	150	43.7		44.2	249	18.0		46.5	301	56.8		20.8
3	296	19.0	176	01.9		10.7	165	44.6		43.8	264	19.9		46.6	316	59.2		20.8
4	311	21.4	191	01.8		10.1	180	45.6		43.4	279	21.9		46.8	332	01.6		20.8
5	326	23.9	206	01.7	+23	09.5	195	46.6	+19	43.0	294	23.8	+11	47.0	347	04.0	-10	20.7
6	341	26.4	221	01.6	+23	09.0	210	47.6	+19	42.6	309	25.8	+11	47.2	2	06.4	-10	20.7
7	356	28.8	236	01.5		08.4	225	48.6		42.2	324	27.7		47.3	17	08.8		20.7
8	11	31.3	251	01.4		07.8	240	49.5		41.8	339	29.7		47.5	32	11.2		20.7
9	26	33.7	266	01.4		07.3	255	50.5		41.4	354	31.6		47.7	47	13.6		20.7
10	41	36.2	281	01.3		06.7	270	51.5		41.0	9	33.6		47.9	62	16.0		20.7
11	56	38.7	296	01.2	+23	06.1	285	52.5	+19	40.6	24	35.5	+11	48.0	77	18.4	-10	20.7
12	71	41.1	311	01.1	+23	05.5	300	53.5	+19	40.2	39	37.5	+11	48.2	92	20.8	-10	20.7
13	86	43.6	326	01.0		05.0	315	54.4		39.8	54	39.5		48.4	107	23.2		20.6
14	101	46.1	341	00.9		04.4	330	55.4		39.4	69	41.4		48.6	122	25.6		20.6
15	116	48.5	356	00.8		03.8	345	56.4		39.0	84	43.4		48.7	137	28.0		20.6
16	131	51.0	11	00.8		03.3	0	57.4		38.6	99	45.3		48.9	152	30.4		20.6
17	146	53.5	26	00.7	+23	02.7	15	58.4	+19	38.2	114	47.3	+11	49.1	167	32.8	-10	20.6
18	161	55.9	41	00.6	+23	02.1	30	59.3	+19	37.8	129	49.2	+11	49.3	182	35.2	-10	20.6
19	176	58.4	56	00.5		01.5	46	00.3		37.4	144	51.2		49.4	197	37.7		20.6
20	192	00.9	71	00.4		01.0	61	01.3		37.0	159	53.1		49.6	212	40.1		20.6
21	207	03.3	86	00.4	+23	00.4	76	02.3		36.6	174	55.1		49.8	227	42.5		20.5
22	222	05.8	101	00.3	+22	59.8	91	03.3		36.2	189	57.0		50.0	242	44.9		20.5
23	237	08.2	116	00.2		59.2	106	04.2		35.8	204	59.0		50.1	257	47.3		20.5
24	252	10.7	131	00.2	+22	58.6	121	05.2	+19	35.4	220	00.9	+11	50.3	272	49.7	-10	20.5
Dif	—		-1		-6		+10		-4		+20		+2		+24		0	

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:11 ^h 58.3 ^m			Edad: 15.3 ^d PHE { SD: 16'1 PMG: **h **m														
				R°: **m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m			
0	180	26.6	+22	22.6	3	07.0	50	-25	13.7	74	60 N	1 18	2 46	23 03	**	2 08	23	
1	195	26.5		22.9	17	31.0	50		21.1	74	58	1 55	3 04	22 29	71	32	34	
2	210	26.4		23.2	31	54.9	48		28.5	71	56	2 21	19	22 04	70	2 52	39	
3	225	26.3		23.5	46	18.7	48		35.6	70	54	1 11	41	33	21 44	70	3 08	43
4	240	26.2		23.8	60	42.4	47		42.6	68	52	1 46	2 57	44	27 69	23	45	
5	255	26.1	+22	24.1	75	05.9	45	-25	49.4	67	50	2 09	3 11	3 54	21 13	69	3 35	47
6	270	26.0	+22	24.4	89	29.4	45	-25	56.1	65	45	2 51	3 39	4 15	20 44	68	4 01	51
7	285	25.9		24.7	103	52.8	44	-26	02.6	63	40	3 19	4 00	32	21 67	22	53	
8	300	25.8		24.9	118	16.0	42		08.9	63	35	41	17	47	20 02	67	39	55
9	315	25.7		25.2	132	39.2	42		15.0	61	30	3 59	32	4 59	19 46	66	4 54	56
10	330	25.6		25.5	147	02.3	41		21.0	60	20	4 27	4 56	5 20	19 19	65	5 19	59
11	345	25.5	+22	25.8	161	25.2	39	-26	26.8	58	10 N	4 48	5 15	5 38	18 56	64	5 41	61
12	0	25.4	+22	26.1	175	48.1	39	-26	32.4	56	0	5 06	5 32	5 55	18 34	64	6 01	63
13	15	25.3		26.4	190	10.9	38		37.8	54	10 S	22	5 49	6 11	18 12	64	22	64
14	30	25.1		26.7	204	33.6	37		43.0	52	20	38	6 05	29	17 49	63	6 44	66
15	45	25.0		27.0	218	56.2	36		48.1	51	30	5 53	23	6 49	23 61	7 10	68	
16	60	24.9		27.3	233	18.8	36		53.0	49	35	6 02	33	7 01	17 07	60	25	69
17	75	24.8	+22	27.6	247	41.2	34	-26	57.7	47	40	6 10	6 44	7 14	16 49	59	7 42	72
18	90	24.7	+22	27.8	262	03.6	34	-27	02.2	45	45	6 20	6 57	7 30	16 27	58	8 04	73
19	105	24.6		28.1	276	25.9	33		06.5	43	50	31	7 12	50	15 59	57	30	76
20	120	24.5		28.4	290	48.1	32		10.7	42	52	36	19	7 59	46 55	44	77	
21	135	24.4		28.7	305	10.2	31		14.6	39	54	41	26	8 09	31 53	8 59	79	
22	150	24.3		29.0	319	32.3	31		18.4	38	56	47	35	21	15 12	52	9 16	82
23	165	24.2		29.3	333	54.3	30		22.0	36	58	6 53	44	35	14 50	48	9 38	85
24	180	24.1	+22	29.5	348	16.2	29	-27	25.3	33	60 S	7 00	7 55	8 51	14 22	42	10 06	92

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: -4.4 7 ^h 10.1 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m		Mag: +1.6 PMG: 15 ^h 55 ^m		Mag: -2.1 PMG: 9 ^h 19 ^m		Mag: +0.9 PMG: 5 ^h 48 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♀	Dec	hG ♀	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	252	10.7	131	00.2	+22	58.6	121	05.2	+19	35.4	220	00.9	+11	50.3	272	49.7	-10	20.5
1	267	13.2	146	00.1		58.1	136	06.2		35.0	235	02.9		50.5	287	52.1		20.5
2	282	15.6	161	00.0		57.5	151	07.2		34.6	250	04.8		50.7	302	54.5		20.5
3	297	18.1	175	59.9		56.9	166	08.2		34.2	265	06.8		50.8	317	56.9		20.5
4	312	20.6	190	59.9		56.3	181	09.1		33.8	280	08.7		51.0	332	59.3		20.5
5	327	23.0	205	59.8	+22	55.7	196	10.1	+19	33.4	295	10.7	+11	51.2	348	01.7	-10	20.4
6	342	25.5	220	59.7	+22	55.2	211	11.1	+19	33.0	310	12.7	+11	51.4	3	04.1	-10	20.4
7	357	28.0	235	59.7		54.6	226	12.1		32.6	325	14.6		51.5	18	06.5		20.4
8	12	30.4	250	59.6		54.0	241	13.1		32.2	340	16.6		51.7	33	09.0		20.4
9	27	32.9	265	59.6		53.4	256	14.0		31.8	355	18.5		51.9	48	11.4		20.4
10	42	35.4	280	59.5		52.8	271	15.0		31.4	10	20.5		52.1	63	13.8		20.4
11	57	37.8	295	59.4	+22	52.2	286	16.0	+19	31.0	25	22.4	+11	52.2	78	16.2	-10	20.4
12	72	40.3	310	59.4	+22	51.6	301	17.0	+19	30.6	40	24.4	+11	52.4	93	18.6	-10	20.4
13	87	42.7	325	59.3		51.0	316	18.0		30.2	55	26.3		52.6	108	21.0		20.3
14	102	45.2	340	59.3		50.5	331	18.9		29.8	70	28.3		52.8	123	23.4		20.3
15	117	47.7	355	59.2		49.9	346	19.9		29.4	85	30.2		52.9	138	25.8		20.3
16	132	50.1	10	59.2		49.3	1	20.9		29.0	100	32.2		53.1	153	28.2		20.3
17	147	52.6	25	59.1	+22	48.7	16	21.9	+19	28.6	115	34.2	+11	53.3	168	30.6	-10	20.3
18	162	55.1	40	59.1	+22	48.1	31	22.9	+19	28.1	130	36.1	+11	53.5	183	33.0	-10	20.3
19	177	57.5	55	59.0		47.5	46	23.8		27.7	145	38.1		53.6	198	35.5		20.3
20	193	00.0	70	59.0		46.9	61	24.8		27.3	160	40.0		53.8	213	37.9		20.3
21	208	02.5	85	58.9		46.3	76	25.8		26.9	175	42.0		54.0	228	40.3		20.3
22	223	04.9	100	58.9		45.7	91	26.8		26.5	190	43.9		54.2	243	42.7		20.2
23	238	07.4	115	58.8		45.1	106	27.8		26.1	205	45.9		54.3	258	45.1		20.2
24	253	09.9	130	58.8	+22	44.5	121	28.7	+19	25.7	220	47.8	+11	54.5	273	47.5	-10	20.2
Dif	—		-1		-6		+10		-4		+20		+2		+24		0	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 15'8 PMG: 11 ^h 58.5 ^m			Edad: 16.3 ^d SD: 16'3 PMG: 0 ^h 49 ^m PHE { 4 ^h : 59'8 12 ^h : 59'9 20 ^h : 60'0 R°: 64 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m					
0	180	24.1	+22	29.5	348	16.2	29	-27	25.3	60 N	21	14	22	44	** **	0	02	14	2	31	62	
1	195	24.0		29.8	2	38.1	29		28.5	58	20	55	22	05	** **	23	40	40	3	06	63	
2	210	23.9		30.1	16	59.9	28		31.5	56	39	21	39	** **	23	14	45	3	1	64		
3	225	23.8		30.4	31	21.7	28		34.3	54	26	18	22	50	22	54	48	3	51	64		
4	240	23.6		30.7	45	43.4	27		36.9	52	14	21	02	22	14	36	51	4	08	65		
5	255	23.5	+22	30.9	60	05.0	26	-27	39.3	50	20	04	20	47	21	50	22	22	52	4	22	65
6	270	23.4	+22	31.2	74	26.6	26	-27	41.5	45	19	42	20	19	21	08	21	52	55	4	52	65
7	285	23.3		31.5	88	48.2	26		43.5	40	25	19	58	20	39	28	57	5	15	65		
8	300	23.2		31.8	103	09.7	25		45.3	35	19	11	40	20	16	21	09	58	34	65		
9	315	23.1		32.1	117	31.2	25		46.9	30	18	58	26	19	59	20	52	60	5	50	66	
10	330	23.0		32.3	131	52.6	24		48.3	20	37	19	02	31	24	62	6	18	65			
11	345	22.9	+22	32.6	146	14.1	25	-27	49.4	10 N	18	19	18	42	19	09	20	00	63	6	42	65
12	0	22.8	+22	32.9	160	35.4	23	-27	50.4	0	18	02	18	25	18	51	19	38	64	7	04	65
13	15	22.7		33.2	174	56.8	24		51.2	10 S	17	45	18	08	34	19	16	65		26	65	
14	30	22.6		33.4	189	18.1	23		51.8	20	28	17	51	19	18	52	67	7	50	64		
15	45	22.4		33.7	203	39.4	23		52.2	30	17	07	33	18	03	24	68	8	18	63		
16	60	22.3		34.0	218	00.7	23		52.4	35	16	55	23	17	55	18	07	70	34	63		
17	75	22.2	+22	34.2	232	22.0	23	-27	52.3	40	16	42	17	12	17	46	17	48	71	8	54	62
18	90	22.1	+22	34.5	246	43.3	23	-27	52.1	45	16	26	16	59	17	36	17	25	72	9	17	61
19	105	22.0		34.8	261	04.5	22		51.7	50	16	06	44	25	16	56	73	9	46	61		
20	120	21.9		35.0	275	25.8	23		51.0	52	15	57	37	20	41	74	10	01	60			
21	135	21.8		35.3	289	47.0	22		50.2	54	46	46	29	15	24	76		18	59			
22	150	21.7		35.6	304	08.3	23		49.1	56	34	21	09	16	04	77	10	38	58			
23	165	21.6		35.8	318	29.5	22		47.9	58	21	11	17	03	15	38	80	11	03	56		
24	180	21.4	+22	36.1	332	50.8	23	-27	46.4	60 S	15	05	16	00	16	56	15	04	84	11	38	51

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 7 ^h 06.2 ^m		Mag: -4.4 PMG: 15 ^h 16 ^m		Mag: +1.6 PMG: 15 ^h 53 ^m		Mag: -2.1 PMG: 9 ^h 16 ^m		Mag: +0.9 PMG: 5 ^h 44 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	253	09.9	130	58.8	+22	44.5	121	28.7	+19	25.7	220	47.8	+11	54.5	273	47.5	-10	20.2	
1	268	12.3	145	58.8		43.9	136	29.7		25.3	235	49.8		54.7	288	49.9		20.2	
2	283	14.8	160	58.7		43.3	151	30.7		24.9	250	51.8		54.9	303	52.3		20.2	
3	298	17.2	175	58.7		42.7	166	31.7		24.5	265	53.7		55.0	318	54.7		20.2	
4	313	19.7	190	58.6		42.1	181	32.7		24.1	280	55.7		55.2	333	57.2		20.2	
5	328	22.2	205	58.6	+22	41.5	196	33.6	+19	23.7	295	57.6	+11	55.4	348	59.6	-10	20.2	
6	343	24.6	220	58.6	+22	40.9	211	34.6	+19	23.3	310	59.6	+11	55.6	4	02.0	-10	20.2	
7	358	27.1	235	58.5		40.3	226	35.6		22.8	326	01.5		55.7	19	04.4		20.1	
8	13	29.6	250	58.5		39.7	241	36.6		22.4	341	03.5		55.9	34	06.8		20.1	
9	28	32.0	265	58.5		39.1	256	37.6		22.0	356	05.4		56.1	49	09.2		20.1	
10	43	34.5	280	58.4		38.5	271	38.6		21.6	11	07.4		56.2	64	11.6		20.1	
11	58	37.0	295	58.4	+22	37.9	286	39.5	+19	21.2	26	09.4	+11	56.4	79	14.0	-10	20.1	
12	73	39.4	310	58.4	+22	37.3	301	40.5	+19	20.8	41	11.3	+11	56.6	94	16.5	-10	20.1	
13	88	41.9	325	58.4		36.7	316	41.5		20.4	56	13.3		56.8	109	18.9		20.1	
14	103	44.4	340	58.3		36.1	331	42.5		20.0	71	15.2		56.9	124	21.3		20.1	
15	118	46.8	355	58.3		35.5	346	43.5		19.6	86	17.2		57.1	139	23.7		20.1	
16	133	49.3	10	58.3		34.9	1	44.4		19.2	101	19.1		57.3	154	26.1		20.1	
17	148	51.7	25	58.3	+22	34.3	16	45.4	+19	18.7	116	21.1	+11	57.5	169	28.5	-10	20.0	
18	163	54.2	40	58.3	+22	33.7	31	46.4	+19	18.3	131	23.1	+11	57.6	184	30.9	-10	20.0	
19	178	56.7	55	58.2		33.1	46	47.4		17.9	146	25.0		57.8	199	33.4		20.0	
20	193	59.1	70	58.2		32.5	61	48.4		17.5	161	27.0		58.0	214	35.8		20.0	
21	209	01.6	85	58.2		31.8	76	49.4		17.1	176	28.9		58.2	229	38.2		20.0	
22	224	04.1	100	58.2		31.2	91	50.3		16.7	191	30.9		58.3	244	40.6		20.0	
23	239	06.5	115	58.2		30.6	106	51.3		16.3	206	32.8		58.5	259	43.0		20.0	
24	254	09.0	130	58.2	+22	30.0	121	52.3	+19	15.9	221	34.8	+11	58.7	274	45.4	-10	20.0	
Dif	—		0		-6		+10		-4		+20		+2		+24				

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'8 PMG:11 ^h 58.7 ^m				Edad: 17.3 ^d PHE { 4 ^h : 60'0 12 ^h : 60'1 20 ^h : 60'1 SD: 16'3 PMG: 1 ^h 53 ^m R°: 64 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	180	21.4	+22	36.1	332	50.8			-27	46.4	17	60 N	** **	1 13	2 43		0 16	31	3 33	103
1	195	21.3		36.4	347	12.1	23			44.7	18	58	** **	1 52	3 02	** **	** **	4 09	94	
2	210	21.2		36.6	1	33.3	23			42.9	21	56	** **	2 18	18	23 59	26	35	88	
3	225	21.1		36.9	15	54.6	23			40.8	21	54	1 07	39	31	42 30		4 55	85	
4	240	21.0		37.2	30	16.0	24			38.5	23	52	1 43	2 55	43	27 33		5 13	82	
5	255	20.9	+22	37.4	44	37.3	23		-27	36.1	24	50	2 07	3 10	3 53	23 14	36	5 27	81	
6	270	20.8	+22	37.7	58	58.7	24		-27	33.4	27	45	2 49	3 38	4 14	22 47	41	5 57	77	
7	285	20.7		38.0	73	20.1	24			30.5	29	40	3 18	3 59	32	25 46		6 20	74	
8	300	20.6		38.2	87	41.5	24			27.4	31	35	41	4 17	46	22 07	49	39	72	
9	315	20.4		38.5	102	03.0	25			24.1	33	30	3 58	31	4 59	21 52	51	6 56	70	
10	330	20.3		38.7	116	24.5	25			20.6	35	20	4 26	4 55	5 20	26 55		7 23	68	
11	345	20.2	+22	39.0	130	46.0	25		-27	17.0	36	10 N	4 48	5 15	5 38	21 03	59	7 47	65	
12	0	20.1	+22	39.3	145	07.6	26		-27	13.1	39	0	5 07	5 33	5 55	20 42	62	8 09	63	
13	15	20.0		39.5	159	29.2	26			09.0	41	10 S	23	5 49	6 12	20 21	65	31	61	
14	30	19.9		39.8	173	50.9	27			04.7	43	20	38	6 06	30	19 59	67	8 54	59	
15	45	19.8		40.0	188	12.6	27		-27	00.2	45	30	5 54	24	6 50	32 72		9 21	56	
16	60	19.6		40.3	202	34.4	28		-26	55.6	46	35	6 02	34	7 02	19 17	73	37	54	
17	75	19.5	+22	40.5	216	56.3	29		-26	50.7	49	40	6 11	6 45	7 16	18 59	76	9 56	51	
18	90	19.4	+22	40.8	231	18.2	29		-26	45.7	50	45	6 21	6 58	7 32	18 37	80	10 18	49	
19	105	19.3		41.0	245	40.1	29			40.4	53	50	32	7 13	7 51	18 09	85	10 47	44	
20	120	19.2		41.3	260	02.2	31			35.0	54	52	37	21	8 01	17 55	88	11 01	41	
21	135	19.1		41.5	274	24.3	31			29.3	57	54	43	28	11	40 90		17	38	
22	150	19.0		41.8	288	46.4	31			23.5	58	56	48	37	23	17 21	95	36	34	
23	165	18.8		42.0	303	08.6	32			17.5	60	58	6 55	47	37	16 58	101	11 59	29	
24	180	18.7	+22	42.3	317	31.0	34		-26	11.3	62	60 S	7 02	7 58	8 53	16 28	110	12 29	20	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO					
	PMG: 7 ^h 02.2 ^m		Mag: -4.5 PMG: 15 ^h 16 ^m				Mag: +1.6 PMG: 15 ^h 51 ^m				Mag: -2.1 PMG: 9 ^h 12 ^m				Mag: +0.9 PMG: 5 ^h 40 ^m					
	hG ♈		hG ♊		Dec		hG ♉		Dec		hG ♌		Dec		hG ♍		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	254	09.0	130	58.2	+22	30.0	121	52.3	+19	15.9	221	34.8	+11	58.7	274	45.4	-10	20.0		
1	269	11.5	145	58.2		29.4	136	53.3		15.4	236	36.8		58.8	289	47.8		20.0		
2	284	13.9	160	58.1		28.8	151	54.3		15.0	251	38.7		59.0	304	50.3		20.0		
3	299	16.4	175	58.1		28.2	166	55.2		14.6	266	40.7		59.2	319	52.7		20.0		
4	314	18.9	190	58.1		27.6	181	56.2		14.2	281	42.6		59.4	334	55.1		19.9		
5	329	21.3	205	58.1	+22	26.9	196	57.2	+19	13.8	296	44.6	+11	59.5	349	57.5	-10	19.9		
6	344	23.8	220	58.1	+22	26.3	211	58.2	+19	13.4	311	46.6	+11	59.7	4	59.9	-10	19.9		
7	359	26.2	235	58.1		25.7	226	59.2		13.0	326	48.5	+11	59.9	20	02.3		19.9		
8	14	28.7	250	58.1		25.1	242	00.2		12.6	341	50.5	+12	00.0	35	04.8		19.9		
9	29	31.2	265	58.1		24.5	257	01.1		12.1	356	52.4	+12	00.2	50	07.2		19.9		
10	44	33.6	280	58.1		23.8	272	02.1		11.7	11	54.4		00.4	65	09.6		19.9		
11	59	36.1	295	58.1	+22	23.2	287	03.1	+19	11.3	26	56.4	+12	00.6	80	12.0	-10	19.9		
12	74	38.6	310	58.1	+22	22.6	302	04.1	+19	10.9	41	58.3	+12	00.7	95	14.4	-10	19.9		
13	89	41.0	325	58.1		22.0	317	05.1		10.5	57	00.3		00.9	110	16.8		19.9		
14	104	43.5	340	58.1		21.4	332	06.0		10.1	72	02.2		01.1	125	19.3		19.9		
15	119	46.0	355	58.1		20.7	347	07.0		09.7	87	04.2		01.2	140	21.7		19.8		
16	134	48.4	10	58.2		20.1	2	08.0		09.2	102	06.1		01.4	155	24.1		19.8		
17	149	50.9	25	58.2	+22	19.5	17	09.0	+19	08.8	117	08.1	+12	01.6	170	26.5	-10	19.8		
18	164	53.4	40	58.2	+22	18.9	32	10.0	+19	08.4	132	10.1	+12	01.8	185	28.9	-10	19.8		
19	179	55.8	55	58.2		18.2	47	11.0		08.0	147	12.0		01.9	200	31.3		19.8		
20	194	58.3	70	58.2		17.6	62	11.9		07.6	162	14.0		02.1	215	33.8		19.8		
21	210	00.7	85	58.2		17.0	77	12.9		07.2	177	15.9		02.3	230	36.2		19.8		
22	225	03.2	100	58.2		16.4	92	13.9		06.7	192	17.9		02.4	245	38.6		19.8		
23	240	05.7	115	58.3		15.7	107	14.9		06.3	207	19.9		02.6	260	41.0		19.8		
24	255	08.1	130	58.3	+22	15.1	122	15.9	+19	05.9	222	21.8	+12	02.8	275	43.4	-10	19.8		
Dif	—		0		-6		+10		-4		+20		+2		+24		0			

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: 18.3 ^d SD: 16'4 PMG: 2 ^h 57 ^m									PHE { 4 ^h : 60'1 12 ^h : 60'1 20 ^h : 60'0 Rº: 61 ^m									
	hG ☉	Dec			hG ☾	Dif			Dec	Dif				Civil	Náutico	Hora	Rº	Hora	Rº				
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	180	18.7	+22	42.3	317	31.0	33	-26	11.3	64	60 N	21	17	22	50	**	**	0	47	11	5	16	115
1	195	18.6		42.5	331	53.3	35	-26	04.9	65	58	20	57	22	09	**	**	0	20	20	5	43	105
2	210	18.5		42.8	346	15.8	35	-25	58.4	68	56	41	21	42	**	**	**	**	**	6	03	99	
3	225	18.4		43.0	0	38.3	35		51.6	68	54	28	21	22	56	**	**	**	**	20	95		
4	240	18.3		43.3	15	01.0	37		44.7	69	52	16	21	04	22	18	**	**	**	35	91		
5	255	18.2	+22	43.5	29	23.7	37	-25	37.6	71	50	20	06	20	49	21	52	23	50	26	6	48	87
6	270	18.0	+22	43.8	43	46.4	37	-25	30.3	73	45	19	44	20	21	21	10	23	28	32	7	14	82
7	285	17.9		44.0	58	09.3	39		22.8	75	40	27	19	59	20	40	23	11	36	34	78		
8	300	17.8		44.3	72	32.3	40		15.2	76	35	19	12	41	18	22	56	40	7	51	75		
9	315	17.7		44.5	86	55.3	40	-25	07.4	78	30	18	59	27	20	00	43	43	8	06	72		
10	330	17.6		44.7	101	18.5	42	-24	59.4	80	20	38	19	02	19	31	21	48	31	67			
11	345	17.5	+22	45.0	115	41.7	42	-24	51.3	81	10 N	18	20	18	43	19	09	22	02	53	8	52	63
12	0	17.3	+22	45.2	130	05.1	44	-24	42.9	84	0	18	03	18	25	18	51	21	44	57	9	12	59
13	15	17.2		45.5	144	28.5	44		34.4	85	10 S	17	46	18	08	35	26	61	32	56			
14	30	17.1		45.7	158	52.0	45		25.8	86	20	28	17	52	19	21	06	66	9	53	52		
15	45	17.0		46.0	173	15.6	46		17.0	88	30	17	07	33	18	03	20	44	70	10	17	47	
16	60	16.9		46.2	187	39.4	48	-24	08.0	90	35	16	55	23	17	55	30	74	31	44			
17	75	16.8	+22	46.4	202	03.2	48	-23	58.8	92	40	16	41	17	12	17	46	20	15	78	10	47	41
18	90	16.6	+22	46.7	216	27.1	49	-23	49.5	93	45	16	25	16	59	17	36	19	57	82	11	07	36
19	105	16.5		46.9	230	51.2	51		40.1	94	50	16	05	43	24	34	88	31	31				
20	120	16.4		47.1	245	15.3	51		30.5	96	52	15	56	36	19	23	91	42	28				
21	135	16.3		47.4	259	39.5	52		20.7	98	54	45	28	14	19	10	95	11	55	25			
22	150	16.2		47.6	274	03.9	54		10.8	99	56	33	20	08	18	56	99	12	10	21			
23	165	16.1		47.8	288	28.3	54	-23	00.7	101	58	19	16	10	17	02	39	105	28	15			
24	180	15.9	+22	48.1	302	52.9	56	-22	50.5	102	60 S	15	03	15	59	16	55	18	18	112	12	49	8

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 6 ^h 58.3 ^m		Mag: -4.5 PMG: 15 ^h 16 ^m			Mag: +1.6 PMG: 15 ^h 50 ^m			Mag: -2.2 PMG: 9 ^h 09 ^m			Mag: +0.9 PMG: 5 ^h 36 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	255	08.1	130	58.3	+22	15.1	122	15.9	+19	05.9	222	21.8	+12	02.8	275	43.4	-10	19.8
1	270	10.6	145	58.3		14.5	137	16.9		05.5	237	23.8		03.0	290	45.9		19.8
2	285	13.1	160	58.3		13.8	152	17.8		05.1	252	25.8		03.1	305	48.3		19.8
3	300	15.5	175	58.3		13.2	167	18.8		04.7	267	27.7		03.3	320	50.7		19.7
4	315	18.0	190	58.4		12.6	182	19.8		04.2	282	29.7		03.5	335	53.1		19.7
5	330	20.5	205	58.4	+22	12.0	197	20.8	+19	03.8	297	31.6	+12	03.6	350	55.5	-10	19.7
6	345	22.9	220	58.4	+22	11.3	212	21.8	+19	03.4	312	33.6	+12	03.8	5	58.0	-10	19.7
7	0	25.4	235	58.4		10.7	227	22.8		03.0	327	35.6		04.0	21	00.4		19.7
8	15	27.9	250	58.5		10.1	242	23.7		02.6	342	37.5		04.2	36	02.8		19.7
9	30	30.3	265	58.5		09.4	257	24.7		02.1	357	39.5		04.3	51	05.2		19.7
10	45	32.8	280	58.5		08.8	272	25.7		01.7	12	41.4		04.5	66	07.6		19.7
11	60	35.2	295	58.6	+22	08.1	287	26.7	+19	01.3	27	43.4	+12	04.7	81	10.1	-10	19.7
12	75	37.7	310	58.6	+22	07.5	302	27.7	+19	00.9	42	45.4	+12	04.8	96	12.5	-10	19.7
13	90	40.2	325	58.6		06.9	317	28.7	+19	00.5	57	47.3		05.0	111	14.9		19.7
14	105	42.6	340	58.7		06.2	332	29.6	+19	00.0	72	49.3		05.2	126	17.3		19.7
15	120	45.1	355	58.7		05.6	347	30.6	+18	59.6	87	51.3		05.4	141	19.7		19.7
16	135	47.6	10	58.8		05.0	2	31.6		59.2	102	53.2		05.5	156	22.2		19.7
17	150	50.0	25	58.8	+22	04.3	17	32.6	+18	58.8	117	55.2	+12	05.7	171	24.6	-10	19.6
18	165	52.5	40	58.8	+22	03.7	32	33.6	+18	58.4	132	57.1	+12	05.9	186	27.0	-10	19.6
19	180	55.0	55	58.9		03.0	47	34.6		57.9	147	59.1		06.0	201	29.4		19.6
20	195	57.4	70	58.9		02.4	62	35.5		57.5	163	01.1		06.2	216	31.8		19.6
21	210	59.9	85	59.0		01.8	77	36.5		57.1	178	03.0		06.4	231	34.3		19.6
22	226	02.3	100	59.0		01.1	92	37.5		56.7	193	05.0		06.5	246	36.7		19.6
23	241	04.8	115	59.1	+22	00.5	107	38.5		56.3	208	07.0		06.7	261	39.1		19.6
24	256	07.3	130	59.1	+21	59.8	122	39.5	+18	55.8	223	08.9	+12	06.9	276	41.5	-10	19.6
Dif	—		0		-6		+10		-4		+20		+2		+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: 19.3 ^d PHE { 4 ^h : 60'0 12 ^h : 59'9 20 ^h : 59'8 PMG: 3 ^h 58 ^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	180	15.9	+22	48.1	302	52.9	57	-22	50.5	103	60 N	** **	1 08	2 41	0 58	5	7 11	110									
1	195	15.8		48.3	317	17.6	58		40.2	105	58	** **	1 49	3 00	40 11		28 104										
2	210	15.7		48.5	331	42.4	59		29.7	107	56	** **	2 16	16	25 16		42 99										
3	225	15.6		48.8	346	07.3	59		19.0	107	54	1 02	37	30	12 20		7 55 95										
4	240	15.5		49.0	0	32.3	60	-22	08.2	108	52	1 40	2 54	42	0 00 23		8 06 9										
5	255	15.4	+22	49.2	14	57.4	61	-21	57.3	109	50	2 05	3 08	3 52	** ** *		8 15 89										
6	270	15.2	+22	49.5	29	22.6	62	-21	46.3	110	45	2 48	3 37	4 14	** ** *		8 36 82										
7	285	15.1		49.7	43	47.9	63		35.1	112	40	3 18	3 59	31	23 47 30		8 52 77										
8	300	15.0		49.9	58	13.4	65		23.7	114	35	40	4 16	46	36 34		9 06 73										
9	315	14.9		50.1	72	38.9	65		12.3	114	30	3 58	31	4 58	26 37		18 69										
10	330	14.8		50.4	87	04.6	67	-21	00.7	116	20	4 26	4 55	5 20	23 09 43		38 64										
11	345	14.6	+22	50.6	101	30.3	67	-20	49.0	117	10 N	4 48	5 15	5 38	22 55 47		9 55 59										
12	0	14.5	+22	50.8	115	56.2	69	-20	37.1	119	0	5 07	5 33	5 55	22 41 52		10 11 55										
13	15	14.4		51.0	130	22.2	70		25.2	119	10 S	23	5 50	6 12	27 57		28 50										
14	30	14.3		51.3	144	48.3	71		13.1	121	20	39	6 06	30	22 12 62		10 45 45										
15	45	14.2		51.5	159	14.5	72	-20	00.9	122	30	5 55	25	6 51	21 54 68		11 04 40										
16	60	14.0		51.7	173	40.9	74	-19	48.6	123	35	6 03	35	7 03	44 72		15 37										
17	75	13.9	+22	51.9	188	07.3	74	-19	36.1	125	40	6 12	6 46	7 17	21 33 75		11 28 33										
18	90	13.8	+22	52.1	202	33.9	76	-19	23.6	125	45	6 22	6 59	7 33	21 19 80		11 43 29										
19	105	13.7		52.4	217	00.5	76	-19	10.9	127	50	34	7 15	7 53	21 02 87		12 02 22										
20	120	13.6		52.6	231	27.3	78	-18	58.2	127	52	39	22	8 03	20 54 90		10 20										
21	135	13.4		52.8	245	54.2	79		45.3	129	54	44	30	13	45 93		20 17										
22	150	13.3		53.0	260	21.2	80		32.3	130	56	50	39	25	35 97		31 13										
23	165	13.2		53.2	274	48.2	80		19.2	131	58	6 56	7 48	39	24 101		43 9										
24	180	13.1	+22	53.5	289	15.5	83	-18	06.1	131	60 S	7 04	8 00	8 56	20 10 107		12 57 4										
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 6 ^h 54.4 ^m			Mag: -4.5 PMG: 15 ^h 16 ^m			Mag: +1.6 PMG: 15 ^h 48 ^m			Mag: -2.2 PMG: 9 ^h 06 ^m			Mag: +0.9 PMG: 5 ^h 32 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	256	07.3	130	59.1	+21	59.8	122	39.5	+18	55.8	223	08.9	+12	06.9	276	41.5	-10	19.6									
1	271	09.7	145	59.2		59.2	137	40.5		55.4	238	10.9		07.0	291	44.0		19.6									
2	286	12.2	160	59.2		58.5	152	41.4		55.0	253	12.8		07.2	306	46.4		19.6									
3	301	14.7	175	59.3		57.9	167	42.4		54.6	268	14.8		07.4	321	48.8		19.6									
4	316	17.1	190	59.3		57.2	182	43.4		54.1	283	16.8		07.6	336	51.2		19.6									
5	331	19.6	205	59.4	+21	56.6	197	44.4	+18	53.7	298	18.7	+12	07.7	351	53.7	-10	19.6									
6	346	22.1	220	59.5	+21	55.9	212	45.4	+18	53.3	313	20.7	+12	07.9	6	56.1	-10	19.6									
7	1	24.5	235	59.5		55.3	227	46.4		52.9	328	22.7		08.1	21	58.5		19.6									
8	16	27.0	250	59.6		54.6	242	47.3		52.4	343	24.6		08.2	37	00.9		19.6									
9	31	29.5	265	59.6		54.0	257	48.3		52.0	358	26.6		08.4	52	03.3		19.5									
10	46	31.9	280	59.7		53.3	272	49.3		51.6	13	28.6		08.6	67	05.8		19.5									
11	61	34.4	295	59.8	+21	52.7	287	50.3	+18	51.2	28	30.5	+12	08.7	82	08.2	-10	19.5									
12	76	36.8	310	59.8	+21	52.0	302	51.3	+18	50.7	43	32.5	+12	08.9	97	10.6	-10	19.5									
13	91	39.3	325	59.9		51.4	317	52.3		50.3	58	34.4		09.1	112	13.0		19.5									
14	106	41.8	341	00.0		50.7	332	53.2		49.9	73	36.4		09.2	127	15.5		19.5									
15	121	44.2	356	00.0		50.1	347	54.2		49.5	88	38.4		09.4	142	17.9		19.5									
16	136	46.7	11	00.1		49.4	2	55.2		49.0	103	40.3		09.6	157	20.3		19.5									
17	151	49.2	26	00.2	+21	48.8	17	56.2	+18	48.6	118	42.3	+12	09.8	172	22.7	-10	19.5									
18	166	51.6	41	00.3	+21	48.1	32	57.2	+18	48.2	133	44.3	+12	09.9	187	25.2	-10	19.5									
19	181	54.1	56	00.3		47.5	47	58.2		47.8	148	46.2		10.1	202	27.6		19.5									
20	196	56.6	71	00.4		46.8	62	59.2		47.3	163	48.2		10.3	217	30.0		19.5									
21	211	59.0	86	00.5		46.2	78	00.1		46.9	178	50.2		10.4	232	32.5		19.5									
22	227	01.5	101	00.6		45.5	93	01.1		46.5	193	52.1		10.6	247	34.9		19.5									
23	242	04.0	116	00.7		44.8	108	02.1		46.1	208	54.1		10.8	262	37.3		19.5									
24	257	06.4	131	00.7	+21	44.2	123	03.1	+18	45.6	223	56.1	+12	10.9	277	39.7	-10	19.5									
Dif	—			+1			-7			+10			-4			+20			+2			+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: 20.3 ^d SD: 16'3 PMG: 4 ^h 54 ^m PHE { 4 ^h : 59'7 12 ^h : 59'5 20 ^h : 59'4 Rº: 51 ^m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m
0	180	13.1	+22	53.5	289	15.5		-18	06.1	133	60 N	21 19	22 55	** **	1 03	1		9 01	104	
1	195	13.0		53.7	303	42.8	83	-17	52.8	134	58	21 00	22 12	** **	0 51	6		12 99		
2	210	12.8		53.9	318	10.2	84		39.4	135	56	20 43	21 44	** **		41	10	21 95		
3	225	12.7		54.1	332	37.7	85		25.9	135	54	30	23	23 01	32	13	30	99		
4	240	12.6		54.3	347	05.3	86	-17	12.3	136	52	18	21 06	22 21	23	17	37	88		
5	255	12.5	+22	54.5	1	33.1	88	-16	58.7	136	50	20 07	20 51	21 55	0 16	20	9 44	84		
6	270	12.4	+22	54.7	16	00.9	88	-16	44.9	138	45	19 45	20 22	21 11	0 00	26	9 58	79		
7	285	12.2		54.9	30	28.8	89		31.1	138	40	28	20 00	20 42	** **	**	10 09	74		
8	300	12.1		55.2	44	56.9	91		17.2	139	35	13	19 42	19	** **	**	19 70			
9	315	12.0		55.4	59	25.0	91	-16	03.1	141	30	19 00	28	20 01	** **	**	27 67			
10	330	11.9		55.6	73	53.2	92	-15	49.0	141	20	18 39	19 03	19 32	23 52	39	42	60		
11	345	11.7	+22	55.8	88	21.6	94	-15	34.9	141	10 N	18 20	18 43	19 10	23 42	44	10 54	56		
12	0	11.6	+22	56.0	102	50.0	94	-15	20.6	143	0	18 03	18 25	18 51	23 33	49	11 06	51		
13	15	11.5		56.2	117	18.6	96	-15	06.3	143	10 S	17 46	18 09	35	24 54		18 45			
14	30	11.4		56.4	131	47.2	96	-14	51.9	144	20	28	17 52	19	14 59		30 41			
15	45	11.3		56.6	146	15.9	97		37.4	145	30	17 07	33	18 03	23 02	65	44 35			
16	60	11.1		56.8	160	44.7	98		22.8	146	35	16 55	23	17 54	22 56	68	11 52	32		
17	75	11.0	+22	57.0	175	13.6	99	-14	08.2	146	40	16 41	17 11	17 45	22 48	73	12 01	28		
18	90	10.9	+22	57.2	189	42.7	101	-13	53.5	147	45	16 25	16 58	17 35	22 39	78	12 12	23		
19	105	10.8		57.4	204	11.8	101		38.8	147	50	16 05	43	24	29 83		24 18			
20	120	10.6		57.6	218	40.9	101		23.9	149	52	15 55	35	19	24 85		30 15			
21	135	10.5		57.8	233	10.2	103	-13	09.0	149	54	44	28	13	18 89		37 12			
22	150	10.4		58.0	247	39.6	104	-12	54.1	149	56	32	19	07	12 92		44 9			
23	165	10.3		58.2	262	09.0	104		39.1	150	58	18	16 09	17 01	22 05	96	12 52	5		
24	180	10.2	+22	58.4	276	38.6	106	-12	24.0	151	60 S	15 01	15 58	16 54	21 57	100	13 01	1		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 6 ^h 50.4 ^m		Mag: -4.5 PMG: 15 ^h 16 ^m		Mag: +1.6 PMG: 15 ^h 47 ^m		Mag: -2.2 PMG: 9 ^h 03 ^m		Mag: +0.9 PMG: 5 ^h 28 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	257	06.4	131	00.7	+21	44.2	123	03.1	+18	45.6	223	56.1	+12	10.9	277	39.7	-10	19.5	
1	272	08.9	146	00.8		43.5	138	04.1		45.2	238	58.0		11.1	292	42.2		19.5	
2	287	11.3	161	00.9		42.9	153	05.1		44.8	254	00.0		11.3	307	44.6		19.5	
3	302	13.8	176	01.0		42.2	168	06.0		44.4	269	02.0		11.4	322	47.0		19.5	
4	317	16.3	191	01.1		41.5	183	07.0		43.9	284	03.9		11.6	337	49.4		19.5	
5	332	18.7	206	01.2	+21	40.9	198	08.0	+18	43.5	299	05.9	+12	11.8	352	51.9	-10	19.4	
6	347	21.2	221	01.3	+21	40.2	213	09.0	+18	43.1	314	07.9	+12	11.9	7	54.3	-10	19.4	
7	2	23.7	236	01.4		39.5	228	10.0		42.6	329	09.8		12.1	22	56.7		19.4	
8	17	26.1	251	01.5		38.9	243	11.0		42.2	344	11.8		12.3	37	59.1		19.4	
9	32	28.6	266	01.6		38.2	258	12.0		41.8	359	13.8		12.4	53	01.6		19.4	
10	47	31.1	281	01.6		37.6	273	12.9		41.4	14	15.7		12.6	68	04.0		19.4	
11	62	33.5	296	01.7	+21	36.9	288	13.9	+18	40.9	29	17.7	+12	12.8	83	06.4	-10	19.4	
12	77	36.0	311	01.8	+21	36.2	303	14.9	+18	40.5	44	19.7	+12	12.9	98	08.9	-10	19.4	
13	92	38.5	326	01.9		35.6	318	15.9		40.1	59	21.6		13.1	113	11.3		19.4	
14	107	40.9	341	02.0		34.9	333	16.9		39.6	74	23.6		13.3	128	13.7		19.4	
15	122	43.4	356	02.2		34.2	348	17.9		39.2	89	25.6		13.4	143	16.1		19.4	
16	137	45.8	11	02.3		33.6	3	18.8		38.8	104	27.5		13.6	158	18.6		19.4	
17	152	48.3	26	02.4	+21	32.9	18	19.8	+18	38.4	119	29.5	+12	13.8	173	21.0	-10	19.4	
18	167	50.8	41	02.5	+21	32.2	33	20.8	+18	37.9	134	31.5	+12	14.0	188	23.4	-10	19.4	
19	182	53.2	56	02.6		31.5	48	21.8		37.5	149	33.4		14.1	203	25.9		19.4	
20	197	55.7	71	02.7		30.9	63	22.8		37.1	164	35.4		14.3	218	28.3		19.4	
21	212	58.2	86	02.8		30.2	78	23.8		36.6	179	37.4		14.5	233	30.7		19.4	
22	228	00.6	101	02.9		29.5	93	24.8		36.2	194	39.3		14.6	248	33.2		19.4	
23	243	03.1	116	03.0		28.9	108	25.7		35.8	209	41.3		14.8	263	35.6		19.4	
24	258	05.6	131	03.1	+21	28.2	123	26.7	+18	35.3	224	43.3	+12	15.0	278	38.0	-10	19.4	
Dif	—		+1		-7		+10		-4		+20		+2		+24				

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: 21.3 ^d PHE { 4 ^h : 59 ^h 3 12 ^h : 59 ^h 1 20 ^h : 59 ^h 0 PMG: 5 ^h 45 ^m R°: 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	h m m		
0	180	10.2	+22	58.4	276	38.6	-12	24.0	151	60 N	** **	1 03	2 39	1 04	1	10 45	98			
1	195	10.0		58.6	291	08.2	-12	08.9	152	58	** **	1 46	2 59	0 57	5	51 94				
2	210	09.9		58.8	305	37.9	-11	53.7	152	56	** **	2 14	3 15	51	8	10 56	90			
3	225	09.8		59.0	320	07.7		38.5	152	54	0 58	35	29	45	11	11 01	87			
4	240	09.7		59.2	334	37.6		23.2	153	52	1 38	2 53	41	40	14	05 84				
5	255	09.5	+22	59.4	349	07.5	-11	07.9	153	50	2 04	3 07	3 51	0 36	16	11 08	82			
6	270	09.4	+22	59.6	3	37.5	-10	52.5	154	45	2 47	3 36	4 13	0 26	21	11 17	75			
7	285	09.3	+22	59.8	18	07.7		37.0	155	40	3 17	3 58	31	17	26	23 71				
8	300	09.2	+23	00.0	32	37.8		21.6	154	35	40	4 16	46	10	29	29 67				
9	315	09.0	+23	00.2	47	08.1	-10	06.1	155	30	3 58	31	4 58	0 03	33	34 64				
10	330	08.9		00.4	61	38.4	-9	50.5	156	20	4 26	4 55	5 20	** ** *	**	42 58				
11	345	08.8	+23	00.6	76	08.8	-9	34.9	156	10 N	4 49	5 16	5 39	** ** *	**	11 50	52			
12	0	08.7	+23	00.8	90	39.3	-9	19.3	156	0	5 07	5 33	5 56	** ** *	**	11 57	47			
13	15	08.5		01.0	105	09.8	-9	03.6	157	10 S	24	5 50	6 13	** ** *	**	12 03	43			
14	30	08.4		01.1	119	40.4	-8	47.9	157	20	40	6 07	31	** ** *	**	11 37				
15	45	08.3		01.3	134	11.1		32.1	158	30	5 56	26	6 52	** ** *	**	19 32				
16	60	08.2		01.5	148	41.9		16.4	157	35	6 04	36	7 04	** ** *	**	24 28				
17	75	08.0	+23	01.7	163	12.7	-8	00.6	158	40	6 13	6 47	7 18	** ** *	**	12 29	24			
18	90	07.9	+23	01.9	177	43.5	-7	44.7	159	45	6 23	7 01	7 34	23 57	74	12 35	20			
19	105	07.8		02.1	192	14.4		28.9	159	50	35	16	7 54	52	80	42	15			
20	120	07.7		02.3	206	45.4	-7	13.0	159	52	40	23	8 04	49	83	45	13			
21	135	07.5		02.5	221	16.5	-6	57.0	160	54	45	31	15	47	85	49	10			
22	150	07.4		02.6	235	47.6		41.1	159	56	51	40	27	44	89	53	7			
23	165	07.3		02.8	250	18.7		25.1	160	58	6 58	7 50	41	41	92	12 57	4			
24	180	07.2	+23	03.0	264	50.0	-6	09.2	159	60 S	7 05	8 02	8 58	23 37	97	13 02	1			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 6 ^h 46.5 ^m		Mag: -4.5 PMG: 15 ^h 16 ^m		Mag: +1.6 PMG: 15 ^h 45 ^m		Mag: -2.2 PMG: 9 ^h 00 ^m		Mag: +0.9 PMG: 5 ^h 25 ^m	
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	258	05.6	131	03.1	+21	28.2	123	26.7	+18	35.3
1	273	08.0	146	03.3		27.5	138	27.7		34.9
2	288	10.5	161	03.4		26.8	153	28.7		34.5
3	303	12.9	176	03.5		26.2	168	29.7		34.0
4	318	15.4	191	03.6		25.5	183	30.7		33.6
5	333	17.9	206	03.7	+21	24.8	198	31.7	+18	33.2
6	348	20.3	221	03.9	+21	24.1	213	32.6	+18	32.7
7	3	22.8	236	04.0		23.5	228	33.6		32.3
8	18	25.3	251	04.1		22.8	243	34.6		31.9
9	33	27.7	266	04.2		22.1	258	35.6		31.4
10	48	30.2	281	04.4		21.4	273	36.6		31.0
11	63	32.7	296	04.5	+21	20.7	288	37.6	+18	30.6
12	78	35.1	311	04.6	+21	20.1	303	38.6	+18	30.1
13	93	37.6	326	04.8		19.4	318	39.5		29.7
14	108	40.1	341	04.9		18.7	333	40.5		29.3
15	123	42.5	356	05.0		18.0	348	41.5		28.8
16	138	45.0	11	05.2		17.3	3	42.5		28.4
17	153	47.4	26	05.3	+21	16.7	18	43.5	+18	28.0
18	168	49.9	41	05.5	+21	16.0	33	44.5	+18	27.5
19	183	52.4	56	05.6		15.3	48	45.5		27.1
20	198	54.8	71	05.7		14.6	63	46.4		26.7
21	213	57.3	86	05.9		13.9	78	47.4		26.2
22	228	59.8	101	06.0		13.2	93	48.4		25.8
23	244	02.2	116	06.2		12.5	108	49.4		25.4
24	259	04.7	131	06.3	+21	11.9	123	50.4	+18	24.9
Dif	—		+1		-7		+10		-4	
									</	

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: 22.3 ^d SD: 16'0 PMG: 6 ^h 33 ^m								PHE { 4 ^h : 58'8 12 ^h : 58'6 20 ^h : 58'4 Rº: 46 ^m												
	hG ☉		Dec		hG ☾		Dif		Dec				Dif		Civil			Náutico			Hora		Rº		Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	h	m	m
0	180	07.2	+23	03.0	264	50.0		-6	09.2	160	60 N	21 21	23 00	** **	1 05	0	12 23	95							
1	195	07.0		03.2	279	21.2	122	-5	53.2	161	58	21 02	22 15	** **	1 02	3	25 91								
2	210	06.9		03.4	293	52.5	123		37.1	161	56	20 45	21 47	** **	0 59	7	26 88								
3	225	06.8		03.5	308	23.9	124		21.1	160	54		31	25	23 06	56	10	28 85							
4	240	06.7		03.7	322	55.3	124	-5	05.1	160	52	19	21 08	22 24	54	12	29 82								
5	255	06.5	+23	03.9	337	26.8	125	-4	49.0	161	50	20 09	20 53	21 57	0 52	14	12 30	80							
6	270	06.4	+23	04.1	351	58.3	125	-4	32.9	161	45	19 46	20 24	21 13	0 47	19	12 32	74							
7	285	06.3		04.3	6	29.9	126		16.8	161	40	29	20 01	20 43	43	24	34 70								
8	300	06.1		04.4	21	01.5	126	-4	00.8	160	35	14	19 43	20	39	28	36 66								
9	315	06.0		04.6	35	33.1	126	-3	44.6	162	30	19 01	28	20 02	36	31	38 62								
10	330	05.9		04.8	50	04.8	127		28.5	161	20	18 39	19 04	19 33	31	37	40 56								
11	345	05.8	+23	05.0	64	36.5	127	-3	12.4	161	10 N	18 21	18 44	19 11	0 26	42	12 42	51							
12	0	05.6	+23	05.1	79	08.3	128	-2	56.3	161	0	18 03	18 26	18 52	0 22	47	12 44	46							
13	15	05.5		05.3	93	40.0	127		40.2	161	10 S	17 46	18 09	35	18 51	46 42									
14	30	05.4		05.5	108	11.9	129		24.1	161	20	28	17 52	19	13 56	48 37									
15	45	05.3		05.7	122	43.7	128	-2	07.9	162	30	17 07	33	18 03	07 63	51 30									
16	60	05.1		05.8	137	15.6	129	-1	51.8	161	35	16 55	23	17 54	04 66	52 27									
17	75	05.0	+23	06.0	151	47.6	130	-1	35.7	161	40	16 41	17 11	17 45	0 01	70	12 53	24							
18	90	04.9	+23	06.2	166	19.5	129	-1	19.6	161	45	16 24	16 58	17 35	** ** *	12 55	19								
19	105	04.7		06.3	180	51.5	130	-1	03.5	161	50	16 04	42	24	** ** *	57 14									
20	120	04.6		06.5	195	23.5	130	-0	47.4	161	52	15 54	35	18	** ** *	58 12									
21	135	04.5		06.7	209	55.5	130		31.3	161	54	43	27	13	** ** *	12 59	9								
22	150	04.4		06.8	224	27.6	131	-0	15.2	161	56	31	18	07	** ** *	13 00	7								
23	165	04.2		07.0	238	59.7	131	+0	00.9	161	58	17	16 08	17 00	** ** *	01 4									
24	180	04.1	+23	07.2	253	31.8	131	+0	16.9	160	60 S	15 00	15 57	16 53	** ** *	13 03	0								
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO										
	PMG: 6 ^h 42.6 ^m		Mag: -4.5 PMG: 15 ^h 15 ^m				Mag: +1.6 PMG: 15 ^h 44 ^m				Mag: -2.2 PMG: 8 ^h 57 ^m				Mag: +0.9 PMG: 5 ^h 21 ^m										
h	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec								
	° /		° /		° /		° /		° /		° /		° /		° /		° /								
0	259	04.7	131	06.3	+21	11.9	123	50.4	+18	24.9	225	30.5	+12	18.9	279	36.4	-10	19.3							
1	274	07.2	146	06.5		11.2	138	51.4		24.5	240	32.5		19.1	294	38.8		19.3							
2	289	09.6	161	06.6		10.5	153	52.4		24.0	255	34.5		19.3	309	41.3		19.3							
3	304	12.1	176	06.8		09.8	168	53.4		23.6	270	36.5		19.4	324	43.7		19.3							
4	319	14.6	191	06.9		09.1	183	54.3		23.2	285	38.4		19.6	339	46.1		19.3							
5	334	17.0	206	07.1	+21	08.4	198	55.3	+18	22.7	300	40.4	+12	19.8	354	48.6	-10	19.3							
6	349	19.5	221	07.3	+21	07.7	213	56.3	+18	22.3	315	42.4	+12	19.9	9	51.0	-10	19.3							
7	4	21.9	236	07.4		07.0	228	57.3		21.9	330	44.3		20.1	24	53.4		19.3							
8	19	24.4	251	07.6		06.3	243	58.3		21.4	345	46.3		20.3	39	55.9		19.3							
9	34	26.9	266	07.7		05.6	258	59.3		21.0	0	48.3		20.4	54	58.3		19.3							
10	49	29.3	281	07.9		05.0	274	00.3		20.5	15	50.3		20.6	70	00.7		19.3							
11	64	31.8	296	08.1	+21	04.3	289	01.2	+18	20.1	30	52.2	+12	20.7	85	03.2	-10	19.3							
12	79	34.3	311	08.2	+21	03.6	304	02.2	+18	19.7	45	54.2	+12	20.9	100	05.6	-10	19.3							
13	94	36.7	326	08.4		02.9	319	03.2		19.2	60	56.2		21.1	115	08.1		19.3							
14	109	39.2	341	08.6		02.2	334	04.2		18.8	75	58.1		21.2	130	10.5		19.3							
15	124	41.7	356	08.7		01.5	349	05.2		18.3	91	00.1		21.4	145	12.9		19.3							
16	139	44.1	11	08.9		00.8	4	06.2		17.9	106	02.1		21.6	160	15.4		19.3							
17	154	46.6	26	09.1	+21	00.1	19	07.2	+18	17.5	121	04.1	+12	21.7	175	17.8	-10	19.3							
18	169	49.0	41	09.3	+20	59.4	34	08.2	+18	17.0	136	06.0	+12	21.9	190	20.2	-10	19.3							
19	184	51.5	56	09.4		58.7	49	09.1		16.6	151	08.0		22.1	205	22.7		19.3							
20	199	54.0	71	09.6		58.0	64	10.1		16.1	166	10.0		22.2	220	25.1		19.3							
21	214	56.4	86	09.8		57.3	79	11.1		15.7	181	12.0		22.4	235	27.6		19.3							
22	229	58.9	101	10.0		56.6	94	12.1		15.3	196	13.9		22.6	250	30.0		19.3							
23	245	01.4	116	10.2		55.9	109	13.1		14.8	211	15.9		22.7	265	32.4		19.3							
24	260	03.8	131	10.3	+20	55.2	124	14.1	+18	14.4	226	17.9	+12	22.9	280	34.9	-10	19.3							
Dif	—		+2		-7		+10		-4		+20		+2		+24		0								

UT	SOL			☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15'8 PMG:11 ^h 59.8 ^m			Edad: 23.3 ^d PHE { 4 ^h : 58'3 12 ^h : 58'1 20 ^h : 57'9 SD: 15'9 PMG: 7 ^h 19 ^m R°: 46 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°				
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m	
0	180	04.1	+23	07.2	253	31.8	131	+0	16.9	161	60 N	0 59	2 38	1 05	0	13	58	95	
1	195	04.0		07.3	268	03.9	131		33.0	160	58	1 44	2 58	05	4	56	91		
2	210	03.8		07.5	282	36.1	132	+0	49.0	160	56	2 13	3 14	06	6	54	87		
3	225	03.7		07.7	297	08.2	131	+1	05.0	160	54	0 54	34	28	06	9	53	83	
4	240	03.6		07.8	311	40.4	132		21.1	161	52	1 36	2 52	40	06	12	51	81	
5	255	03.5	+23	08.0	326	12.6	132	+1	37.0	159	50	2 02	3 07	3 51	1 06	14	13	50	78
6	270	03.3	+23	08.2	340	44.8	132	+1	53.0	160	45	2 46	3 36	4 13	1 06	20	13	46	74
7	285	03.2		08.3	355	17.0	132	+2	09.0	160	40	3 17	3 58	31	07	23	44	68	
8	300	03.1		08.5	9	49.2	132		24.9	159	35	39	4 16	45	07	27	42	64	
9	315	02.9		08.6	24	21.5	133		40.8	159	30	3 58	31	4 58	07	31	40	61	
10	330	02.8		08.8	38	53.7	132	+2	56.7	159	20	4 26	4 56	5 20	08	36	36	56	
11	345	02.7	+23	08.9	53	26.0	133	+3	12.5	158	10 N	4 49	5 16	5 39	1 08	41	13	33	51
12	0	02.6	+23	09.1	67	58.2	132	+3	28.4	159	0	5 08	5 34	5 56	1 09	45	13	30	46
13	15	02.4		09.3	82	30.5	133		44.2	158	10 S	24	5 51	6 13	09	51	28	41	
14	30	02.3		09.4	97	02.8	133	+3	59.9	157	20	40	6 08	32	09	56	25	36	
15	45	02.2		09.6	111	35.0	132	+4	15.7	158	30	5 56	26	6 53	10	62	21	31	
16	60	02.0		09.7	126	07.3	133		31.4	157	35	6 05	37	7 05	10	65	19	28	
17	75	01.9	+23	09.9	140	39.6	133	+4	47.1	157	40	6 14	6 48	7 19	1 11	69	13	17	24
18	90	01.8	+23	10.0	155	11.8	132	+5	02.7	156	45	6 24	7 02	7 35	1 11	74	13	14	20
19	105	01.7		10.2	169	44.1	133		18.3	156	50	36	17	7 56	12	79	11	15	
20	120	01.5		10.3	184	16.4	133		33.9	156	52	41	25	8 05	12	81	10	12	
21	135	01.4		10.5	198	48.6	132	+5	49.4	155	54	47	33	16	12	84	08	10	
22	150	01.3		10.6	213	20.9	133	+6	05.0	156	56	53	42	29	13	87	07	7	
23	165	01.1		10.8	227	53.1	132		20.4	154	58	6 59	7 52	8 43	13	91	05	4	
24	180	01.0	+23	10.9	242	25.3	132	+6	35.8	154	60 S	7 07	8 03	9 00	1 14	94	13	03	0
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 38.7 ^m			Mag: -4.5 PMG: 15 ^h 15 ^m			Mag: +1.6 PMG: 15 ^h 42 ^m			Mag: -2.2 PMG: 8 ^h 54 ^m			Mag: +0.9 PMG: 5 ^h 17 ^m						
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	260	03.8	131	10.3	+20	55.2	124	14.1	+18	14.4	226	17.9	+12	22.9	280	34.9	-10	19.3	
1	275	06.3	146	10.5		54.5	139	15.1		13.9	241	19.8		23.0	295	37.3		19.3	
2	290	08.8	161	10.7		53.8	154	16.1		13.5	256	21.8		23.2	310	39.7		19.3	
3	305	11.2	176	10.9		53.1	169	17.0		13.1	271	23.8		23.4	325	42.2		19.3	
4	320	13.7	191	11.1		52.4	184	18.0		12.6	286	25.8		23.5	340	44.6		19.3	
5	335	16.2	206	11.3	+20	51.7	199	19.0	+18	12.2	301	27.7	+12	23.7	355	47.1	-10	19.3	
6	350	18.6	221	11.5	+20	51.0	214	20.0	+18	11.7	316	29.7	+12	23.9	10	49.5	-10	19.3	
7	5	21.1	236	11.7		50.3	229	21.0		11.3	331	31.7		24.0	25	51.9		19.3	
8	20	23.5	251	11.9		49.6	244	22.0		10.8	346	33.7		24.2	40	54.4		19.3	
9	35	26.0	266	12.1		48.9	259	23.0		10.4	1	35.6		24.3	55	56.8		19.3	
10	50	28.5	281	12.3		48.2	274	24.0		10.0	16	37.6		24.5	70	59.3		19.3	
11	65	30.9	296	12.5	+20	47.5	289	24.9	+18	09.5	31	39.6	+12	24.7	86	01.7	-10	19.3	
12	80	33.4	311	12.7	+20	46.8	304	25.9	+18	09.1	46	41.6	+12	24.8	101	04.1	-10	19.3	
13	95	35.9	326	12.9		46.1	319	26.9		08.6	61	43.5		25.0	116	06.6		19.3	
14	110	38.3	341	13.1		45.4	334	27.9		08.2	76	45.5		25.2	131	09.0		19.3	
15	125	40.8	356	13.3		44.6	349	28.9		07.7	91	47.5		25.3	146	11.5		19.3	
16	140	43.3	11	13.5		43.9	4	29.9		07.3	106	49.5		25.5	161	13.9		19.3	
17	155	45.7	26	13.7	+20	43.2	19	30.9	+18	06.9	121	51.4	+12	25.7	176	16.3	-10	19.3	
18	170	48.2	41	13.9	+20	42.5	34	31.9	+18	06.4	136	53.4	+12	25.8	191	18.8	-10	19.3	
19	185	50.6	56	14.1		41.8	49	32.8		06.0	151	55.4		26.0	206	21.2		19.3	
20	200	53.1	71	14.3		41.1	64	33.8		05.5	166	57.4		26.1	221	23.7		19.3	
21	215	55.6	86	14.5		40.4	79	34.8		05.1	181	59.3		26.3	236	26.1		19.3	
22	230	58.0	101	14.7		39.7	94	35.8		04.6	197	01.3		26.5	251	28.5		19.3	
23	246	00.5	116	15.0		39.0	109	36.8		04.2	212	03.3		26.6	266	31.0		19.3	
24	261	03.0	131	15.2	+20	38.3	124	37.8	+18	03.7	227	05.3	+12	26.8	281	33.4	-10	19.3	
Dif	—			+2	-7			+10	-4			+20	+2			+24	0		

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna				
	SD: 15'7 PMG:12 ^h 00.0 ^m				Edad: 24.3 ^d SD: 15'8 PMG: 8 ^h 05 ^m PHE { 4 ^h : 57'7 12 ^h : 57'6 20 ^h : 57'4 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	01.0	+23	10.9	242	25.3	+6	35.8	154	58	N	21	23	23	05	**	**	1	05	1	15	33	96
1	195	00.9		11.1	256	57.6	+6	51.2	154	58		21	03	22	18	**	**		09	4	27	91	
2	210	00.7		11.2	271	29.8	+7	06.6	154	56		20	47	21	49	**	**		12	8	21	88	
3	225	00.6		11.4	286	02.0		21.9	153	54			33		27	23	10	15	11	16	8		
4	240	00.5		11.5	300	34.1		37.1	152	52			21	21	09	22	26	18	13	12	81		
5	255	00.3	+23	11.7	315	06.3	+7	52.3	152	50		20	10	20	54	21	59	1	20	16	15	08	79
6	270	00.2	+23	11.8	329	38.5	+8	07.5	152	45		19	47	20	25	21	14	1	26	20	15	00	73
7	285	00.1		12.0	344	10.6		22.6	151	40			30	20	02	20	44	30	25	14	52	69	
8	300	00.0		12.1	358	42.7		37.6	150	35			15	19	44	21		34	28		46	65	
9	314	59.8		12.2	13	14.8	+8	52.7	151	30		19	02		29	20	03	38	31		41	62	
10	329	59.7		12.4	27	46.9	+9	07.6	149	20		18	40	19	04	19	34	44	37		32	56	
11	344	59.6	+23	12.5	42	19.0	+9	22.5	149	10 N		18	21	18	44	19	11	1	49	42	14	24	51
12	359	59.4	+23	12.7	56	51.0	+9	37.4	149	0		18	04	18	26	18	52	1	54	47	14	16	47
13	14	59.3		12.8	71	23.0	+9	52.2	148	10 S		17	46	18	09		36	2	00	50		09	42
14	29	59.2		12.9	85	55.0	+10	06.9	147	20			28	17	52		20		05	56	14	01	38
15	44	59.0		13.1	100	27.0		21.6	147	30		17	07		33	18	03	12	61		13	52	32
16	59	58.9		13.2	114	58.9		36.2	146	35		16	55		23	17	55	15	65		47	29	
17	74	58.8	+23	13.4	129	30.8	+10	50.8	146	40		16	41	17	11	17	45	2	20	68	13	41	26
18	89	58.6	+23	13.5	144	02.7	+11	05.3	145	45		16	24	16	58	17	35	2	25	73	13	34	22
19	104	58.5		13.6	158	34.5		19.7	144	50		16	04		42	23		31	78		26	17	
20	119	58.4		13.8	173	06.3		34.1	144	52		15	54		35	18		33	82		22	14	
21	134	58.2		13.9	187	38.1	+11	48.4	143	54			43		27	13		36	85		18	12	
22	149	58.1		14.0	202	09.9	+12	02.7	143	56			30		18	07		40	87		14	8	
23	164	58.0		14.2	216	41.6		16.9	142	58		15	16	16	07	17	00	44	91		09	5	
24	179	57.8	+23	14.3	231	13.3	+12	31.0	141	60 S		14	59	15	56	16	52	2	48	95	13	03	1

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG	6 ^h 34.7 ^m	Mag: -4.5	PMG: 15 ^h 15 ^m	Mag: +1.6	PMG: 15 ^h 40 ^m	Mag: -2.2	PMG: 8 ^h 50 ^m	Mag: +0.9	PMG: 5 ^h 13 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'							
0	261	03.0	131	15.2	+20	38.3	124	37.8	+18	03.7	227	05.3	+12	26.8	281	33.4	-10	19.3	
1	276	05.4	146	15.4		37.5	139	38.8		03.3	242	07.3		27.0	296	35.9		19.3	
2	291	07.9	161	15.6		36.8	154	39.8		02.8	257	09.2		27.1	311	38.3		19.3	
3	306	10.4	176	15.8		36.1	169	40.8		02.4	272	11.2		27.3	326	40.8		19.3	
4	321	12.8	191	16.1		35.4	184	41.7		01.9	287	13.2		27.4	341	43.2		19.3	
5	336	15.3	206	16.3	+20	34.7	199	42.7	+18	01.5	302	15.2	+12	27.6	356	45.6	-10	19.3	
6	351	17.8	221	16.5	+20	34.0	214	43.7	+18	01.1	317	17.1	+12	27.8	11	48.1	-10	19.3	
7	6	20.2	236	16.7		33.3	229	44.7		00.6	332	19.1		27.9	26	50.5		19.3	
8	21	22.7	251	17.0		32.5	244	45.7	+18	00.2	347	21.1		28.1	41	53.0		19.3	
9	36	25.1	266	17.2		31.8	259	46.7	+17	59.7	2	23.1		28.2	56	55.4		19.3	
10	51	27.6	281	17.4		31.1	274	47.7		59.3	17	25.0		28.4	71	57.9		19.3	
11	66	30.1	296	17.7	+20	30.4	289	48.7	+17	58.8	32	27.0	+12	28.6	87	00.3	-10	19.3	
12	81	32.5	311	17.9	+20	29.7	304	49.7	+17	58.4	47	29.0	+12	28.7	102	02.7	-10	19.3	
13	96	35.0	326	18.1		28.9	319	50.6		57.9	62	31.0		28.9	117	05.2		19.3	
14	111	37.5	341	18.4		28.2	334	51.6		57.5	77	33.0		29.1	132	07.6		19.3	
15	126	39.9	356	18.6		27.5	349	52.6		57.0	92	34.9		29.2	147	10.1		19.3	
16	141	42.4	11	18.9		26.8	4	53.6		56.6	107	36.9		29.4	162	12.5		19.3	
17	156	44.9	26	19.1	+20	26.1	19	54.6	+17	56.1	122	38.9	+12	29.5	177	15.0	-10	19.3	
18	171	47.3	41	19.4	+20	25.3	34	55.6	+17	55.7	137	40.9	+12	29.7	192	17.4	-10	19.3	
19	186	49.8	56	19.6		24.6	49	56.6		55.2	152	42.9		29.9	207	19.9		19.4	
20	201	52.3	71	19.9		23.9	64	57.6		54.8	167	44.8		30.0	222	22.3		19.4	
21	216	54.7	86	20.1		23.2	79	58.6		54.3	182	46.8		30.2	237	24.8		19.4	
22	231	57.2	101	20.4		22.5	94	59.5		53.9	197	48.8		30.3	252	27.2		19.4	
23	246	59.6	116	20.6		21.7	110	00.5		53.4	212	50.8		30.5	267	29.6		19.4	
24	262	02.1	131	20.9	+20	21.0	125	01.5	+17	53.0	227	52.7	+12	30.7	282	32.1	-10	19.4	
Dif	—		+2		-7		+10		-4		+20		+2		+24				

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: 25.3 ^d SD: 15'6 PMG: 8 ^h 52 ^m						PHE { 4 ^h : 57'2 12 ^h : 57'0 20 ^h : 56'9 R°: 48 ^m			Hora		R°			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m		
0	179	57.8	+23	14.3	231	13.3	+12	31.0	60 N	0 55	2 37	1 06	2	17 09	98			
1	194	57.7		14.4	245	45.0		45.1	58	1 42	2 57	13	6	16 58	93			
2	209	57.6		14.5	260	16.6	+12	59.0	56	2 12	3 13	20	9	49	88			
3	224	57.4		14.7	274	48.2	+13	12.9	54	0 50	33	26	12	41	84			
4	239	57.3		14.8	289	19.7		26.8	52	1 34	2 51	31	15	33	82			
5	254	57.2	+23	14.9	303	51.2	+13	40.6	50	2 01	3 06	3 50	1 36	18	16 27	78		
6	269	57.1	+23	15.1	318	22.7	+13	54.3	45	2 46	3 35	4 13	1 46	23	16 13	73		
7	284	56.9		15.2	332	54.1	+14	07.9	40	3 16	3 58	31	1 55	27	16 01	69		
8	299	56.8		15.3	347	25.5		21.4	35	3 39	4 16	46	2 02	31	15 51	66		
9	314	56.7		15.4	1	56.8		34.9	30	3 58	31	4 58	09	34	43	62		
10	329	56.5		15.6	16	28.1	+14	48.3	20	4 27	4 56	5 20	21	39	28	57		
11	344	56.4	+23	15.7	30	59.4	+15	01.6	10 N	4 49	5 16	5 39	2 31	44	15 15	53		
12	359	56.3	+23	15.8	45	30.6	+15	14.8	0	5 08	5 34	5 57	2 41	48	15 03	49		
13	14	56.1		15.9	60	01.8		27.9	10 S	5 25	5 51	6 14	2 50	53	14 51	45		
14	29	56.0		16.1	74	32.9		41.0	20	41	6 08	32	3 01	57	39	41		
15	44	55.9		16.2	89	04.0	+15	54.0	30	5 57	27	6 53	13	62	24	36		
16	59	55.7		16.3	103	35.0	+16	06.9	35	6 06	37	7 06	20	65	16	33		
17	74	55.6	+23	16.4	118	06.0	+16	19.7	40	6 15	6 49	7 20	3 28	69	14 07	29		
18	89	55.5	+23	16.5	132	37.0	+16	32.4	45	6 25	7 03	7 36	3 38	73	13 56	25		
19	104	55.3		16.7	147	07.9		45.1	50	37	19	7 57	49	79	43	20		
20	119	55.2		16.8	161	38.7	+16	57.6	52	42	26	8 07	3 55	81	36	18		
21	134	55.1		16.9	176	09.5	+17	10.1	54	48	34	18	4 01	84	30	14		
22	149	54.9		17.0	190	40.3		22.4	56	6 54	43	30	07	88	22	11		
23	164	54.8		17.1	205	11.0		34.7	58	7 01	7 53	8 45	15	92	14	7		
24	179	54.7	+23	17.2	219	41.6	+17	46.9	60 S	7 08	8 05	9 02	4 23	97	13 04	3		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 30.8 ^m		Mag: -4.5 PMG: 15 ^h 14 ^m			Mag: +1.7 PMG: 15 ^h 39 ^m			Mag: -2.2 PMG: 8 ^h 47 ^m			Mag: +0.9 PMG: 5 ^h 09 ^m						
h	hG ♈	Dec	hG ♊	Dec	hG ♂	Dec	hG ♏	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec		
0	262	02.1	131	20.9	+20	21.0	125	01.5	+17	53.0	227	52.7	+12	30.7	282	32.1	-10	19.4
1	277	04.6	146	21.1		20.3	140	02.5		52.5	242	54.7		30.8	297	34.5		19.4
2	292	07.0	161	21.4		19.6	155	03.5		52.1	257	56.7		31.0	312	37.0		19.4
3	307	09.5	176	21.6		18.8	170	04.5		51.6	272	58.7		31.1	327	39.4		19.4
4	322	12.0	191	21.9		18.1	185	05.5		51.2	288	00.7		31.3	342	41.9		19.4
5	337	14.4	206	22.2	+20	17.4	200	06.5	+17	50.7	303	02.6	+12	31.5	357	44.3	-10	19.4
6	352	16.9	221	22.4	+20	16.7	215	07.5	+17	50.3	318	04.6	+12	31.6	12	46.8	-10	19.4
7	7	19.4	236	22.7		15.9	230	08.4		49.8	333	06.6		31.8	27	49.2		19.4
8	22	21.8	251	22.9		15.2	245	09.4		49.4	348	08.6		31.9	42	51.7		19.4
9	37	24.3	266	23.2		14.5	260	10.4		48.9	3	10.6		32.1	57	54.1		19.4
10	52	26.7	281	23.5		13.7	275	11.4		48.5	18	12.5		32.3	72	56.6		19.4
11	67	29.2	296	23.8	+20	13.0	290	12.4	+17	48.0	33	14.5	+12	32.4	87	59.0	-10	19.4
12	82	31.7	311	24.0	+20	12.3	305	13.4	+17	47.6	48	16.5	+12	32.6	103	01.5	-10	19.4
13	97	34.1	326	24.3		11.6	320	14.4		47.1	63	18.5		32.7	118	03.9		19.4
14	112	36.6	341	24.6		10.8	335	15.4		46.6	78	20.5		32.9	133	06.4		19.4
15	127	39.1	356	24.8		10.1	350	16.4		46.2	93	22.5		33.1	148	08.8		19.4
16	142	41.5	11	25.1		09.4	5	17.4		45.7	108	24.4		33.2	163	11.2		19.4
17	157	44.0	26	25.4	+20	08.6	20	18.3	+17	45.3	123	26.4	+12	33.4	178	13.7	-10	19.4
18	172	46.5	41	25.7	+20	07.9	35	19.3	+17	44.8	138	28.4	+12	33.5	193	16.1	-10	19.4
19	187	48.9	56	26.0		07.2	50	20.3		44.4	153	30.4		33.7	208	18.6		19.4
20	202	51.4	71	26.3		06.4	65	21.3		43.9	168	32.4		33.9	223	21.0		19.4
21	217	53.9	86	26.5		05.7	80	22.3		43.5	183	34.3		34.0	238	23.5		19.4
22	232	56.3	101	26.8		05.0	95	23.3		43.0	198	36.3		34.2	253	25.9		19.4
23	247	58.8	116	27.1		04.2	110	24.3		42.6	213	38.3		34.3	268	28.4		19.4
24	263	01.2	131	27.4	+20	03.5	125	25.3	+17	42.1	228	40.3	+12	34.5	283	30.8	-10	19.5
Dif	—		+3		-7		+10		-5		+20		+2		+24			0

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG: 12 ^h 00.5 ^m				Edad: 26.3 ^d SD: 15'5 PMG: 9 ^h 40 ^m														
	PHE { 4 ^h : 56'7 12 ^h : 56'5 20 ^h : 56'4 Rº: 51 ^m																		
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	54.7	+23	17.2	219	41.6	+17	46.9	121				60 N	21 25	23 09	** **	1 08	4	18 47 98
1	194	54.5		17.3	234	12.2	+17	59.0	120				58	21 05	22 20	** **	19	10	31 91
2	209	54.4		17.5	248	42.8	+18	11.0	118				56	20 48	21 50	** **	29	14	17 86
3	224	54.3		17.6	263	13.3		22.8	118				54	34	28	23 13	38	18	18 05 82
4	239	54.1		17.7	277	43.7		34.6	118				52	22	21 10	22 28	46	21	17 55 78
5	254	54.0	+23	17.8	292	14.1	+18	46.3	117				50	20 11	20 55	22 01	1 54	22	17 45 76
6	269	53.8	+23	17.9	306	44.5	+18	57.9	116				45	19 48	20 26	21 15	2 09	28	17 26 71
7	284	53.7		18.0	321	14.8	+19	09.4	115				40	30	20 03	20 45	22	32	17 10 67
8	299	53.6		18.1	335	45.0		20.8	114				35	15	19 45	22	33	35	16 57 64
9	314	53.4		18.2	350	15.2		32.1	113				30	19 03	30	20 03	2	43	38 45 62
10	329	53.3		18.3	4	45.3		43.3	112				20	18 41	19 05	19 34	3	00	42 25 58
11	344	53.2	+23	18.4	19	15.4	+19	54.4	111				10 N	18 22	18 45	19 12	3	15	46 16 08 55
12	359	53.0	+23	18.5	33	45.4	+20	05.4	110				0	18 04	18 27	18 53	3	29	50 15 52 51
13	14	52.9		18.7	48	15.4		16.3	109				10 S	17 47	18 10	36	43	53	36 48
14	29	52.8		18.8	62	45.3		27.0	107				20	28	17 52	20	3	58	57 20 44
15	44	52.6		18.9	77	15.2		37.7	107				30	17 07	34	18 03	4	15	62 15 00 40
16	59	52.5		19.0	91	45.0		48.2	105				35	16 55	23	17 55	25	65	14 49 38
17	74	52.4	+23	19.1	106	14.7	+20	58.7	105				40	16 41	17 11	17 45	4	37	68 14 36 35
18	89	52.2	+23	19.2	120	44.4	+21	09.0	103				45	16 24	16 58	17 35	4	51	72 14 21 31
19	104	52.1		19.3	135	14.1		19.2	102				50	16 03	42	23	5	08	78 14 03 25
20	119	52.0		19.4	149	43.7		29.3	101				52	15 54	34	18	16	81	13 54 23
21	134	51.8		19.5	164	13.2		39.3	100				54	43	26	12	25	84	44 20
22	149	51.7		19.6	178	42.7		49.2	99				56	30	17	06	35	88	33 17
23	164	51.6		19.7	193	12.2	+21	58.9	97				58	15 15	16 07	17 00	5	47	92 21 12
24	179	51.4	+23	19.8	207	41.5	+22	08.5	96				60 S	14 58	15 55	16 52	6	00	99 13 07 5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 26.9 ^m		Mag: -4.5 PMG: 15 ^h 14 ^m		Mag: +1.7 PMG: 15 ^h 37 ^m		Mag: -2.2 PMG: 8 ^h 44 ^m		Mag: +0.9 PMG: 5 ^h 05 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	263	01.2	131	27.4	+20	03.5	125	25.3	+17	42.1
1	278	03.7	146	27.7		02.8	140	26.3		41.6
2	293	06.2	161	28.0		02.0	155	27.3		41.2
3	308	08.6	176	28.3		01.3	170	28.2		40.7
4	323	11.1	191	28.6	+20	00.5	185	29.2		40.3
5	338	13.6	206	28.9	+19	59.8	200	30.2	+17	39.8
6	353	16.0	221	29.2	+19	59.1	215	31.2	+17	39.4
7	8	18.5	236	29.5		58.3	230	32.2		38.9
8	23	21.0	251	29.8		57.6	245	33.2		38.5
9	38	23.4	266	30.1		56.9	260	34.2		38.0
10	53	25.9	281	30.4		56.1	275	35.2		37.5
11	68	28.4	296	30.7	+19	55.4	290	36.2	+17	37.1
12	83	30.8	311	31.0	+19	54.6	305	37.2	+17	36.6
13	98	33.3	326	31.3		53.9	320	38.1		36.2
14	113	35.7	341	31.6		53.2	335	39.1		35.7
15	128	38.2	356	31.9		52.4	350	40.1		35.3
16	143	40.7	11	32.3		51.7	5	41.1		34.8
17	158	43.1	26	32.6	+19	50.9	20	42.1	+17	34.3
18	173	45.6	41	32.9	+19	50.2	35	43.1	+17	33.9
19	188	48.1	56	33.2		49.4	50	44.1		33.4
20	203	50.5	71	33.5		48.7	65	45.1		33.0
21	218	53.0	86	33.9		48.0	80	46.1		32.5
22	233	55.5	101	34.2		47.2	95	47.1		32.0
23	248	57.9	116	34.5		46.5	110	48.1		31.6
24	264	00.4	131	34.8	+19	45.7	125	49.0	+17	31.1
Dif	—		+3		-7		+10		-5	

	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m
	21	25	23	09	**	**	1	08	4	18	47	98								
	21	05	22	20	**	**	19	10		31	91									
	20	48	21	50	**	**	29	14		17	86									
	34	28	23	13	38	18	18	05	82											
	22	21	10	22	28	46	21	17	55	78										
	20	11	20	55	22	01	1	54	22	17	45	76								
	19	48	20	26	21	15	2	09	28	17	26	71								
	30	20	03	20	45	22	32	17	10	67										
	15	19	45	22	33	35	16	57	64											
	19	03	30	20	03	2	43	38	45	62										
	18	41	19	05	19	34	3	00	42	25	58									
	18	22	18	45	19	12	3	15	46	16	08	55								
	18	04	18	27	18	53	3	29	50	15	52	51								
	17	47	18	10	36	43	53		36	48										
	28	17	52	20	3	58	57		20	44										
	17	07	34	18	03	4	15	62	15	00	40									
	16	55	23	17	55	25	65	14	49	38										
	16	41	17	11	17	45	4	37	68	14	36	35								
	16	24	16	58	17	35	4	51	72	14	21	31								
	16	03	42	23	5	08	78	14	03	25										
	15	54	34	18	16	81	13	54	23											
	43	26	12	25	84	44	20													
	30	17	06	35	88	33	17													
	15	15	16	07	17	00	5	47	92	21	12									
	14	58	15	55	16	52	6	00	99	13	07	5								

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 00.7 ^m			Edad: 27.3 ^d PHE { SD: 15'3 PMG: 10 ^h 31 ^m 4 ^h : 56'2 12 ^h : 56'0 20 ^h : 55'9 Rº: 52 ^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	h m m
0	179	51.4	+23	19.8	207	41.5	+22	08.5	60 N	0 52	2 36	1 12	9	20 25	90
1	194	51.3		19.9	222	10.9		18.1	58	1 41	2 56	29	16	20 02	82
2	209	51.2		20.0	236	40.2		27.5	56	2 11	3 13	43	21	19 43	78
3	224	51.0		20.0	251	09.4		36.7	54	0 48	33	1 56	24		27 75
4	239	50.9		20.1	265	38.6		45.9	52	1 33	2 51	2 07	27	13	73
5	254	50.7	+23	20.2	280	07.7	+22	54.9	50	2 00	3 06	2 16	30	19 01	71
6	269	50.6	+23	20.3	294	36.7	+23	03.8	45	2 46	3 35	2 37	35	18 37	66
7	284	50.5		20.4	309	05.8		12.6	40	3 16	3 58	2 54	38	17 64	
8	299	50.3		20.5	323	34.7		21.3	35	3 39	4 16	3 08	41	18 01	62
9	314	50.2		20.6	338	03.7		29.8	30	3 58	31	21	43	17 47	60
10	329	50.1		20.7	352	32.5		38.3	20	4 27	4 56	3 42	47	23	58
11	344	49.9	+23	20.8	7	01.4	+23	46.5	10 N	4 49	5 16	4 01	49	17 03	55
12	359	49.8	+23	20.9	21	30.1	+23	54.7	0	5 08	5 34	4 19	52	16 43	53
13	14	49.7		21.0	35	58.9	+24	02.7	10 S	25	5 52	6 14	36	55	24 51
14	29	49.5		21.0	50	27.5		10.6	20	41	6 09	33	4 55	58	16 04 48
15	44	49.4		21.1	64	56.2		18.4	30	5 58	28	6 54	5 17	62	15 40 46
16	59	49.3		21.2	79	24.8		26.1	35	6 07	38	7 06	30	64	27 43
17	74	49.1	+23	21.3	93	53.3	+24	33.6	40	6 16	6 50	7 20	5 45	66	15 11 41
18	89	49.0	+23	21.4	108	21.8	+24	41.0	45	6 26	7 03	7 37	6 03	70	14 52 38
19	104	48.9		21.5	122	50.2		48.2	50	38	19	7 58	26	74	28 35
20	119	48.7		21.6	137	18.7	+24	55.3	52	43	27	8 08	37	76	17 32
21	134	48.6		21.6	151	47.0	+25	02.3	70	49	35	19	6 49	79	14 04 30
22	149	48.4		21.7	166	15.4		09.1	56	6 55	44	31	7 03	83	13 50 26
23	164	48.3		21.8	180	43.6		15.9	58	7 02	7 54	8 46	19	89	33 21
24	179	48.2	+23	21.9	195	11.9	+25	22.4	60 S	7 09	8 06	9 03	7 39	97	13 12 13

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 6 ^h 22.9 ^m		Mag: -4.5 PMG: 15 ^h 13 ^m		Mag: +1.7 PMG: 15 ^h 36 ^m		Mag: -2.2 PMG: 8 ^h 41 ^m		Mag: +0.9 PMG: 5 ^h 01 ^m	
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	264	00.4	131	34.8	+19	45.7	125	49.0	+17	31.1
1	279	02.9	146	35.2		45.0	140	50.0		30.7
2	294	05.3	161	35.5		44.2	155	51.0		30.2
3	309	07.8	176	35.8		43.5	170	52.0		29.7
4	324	10.2	191	36.2		42.7	185	53.0		29.3
5	339	12.7	206	36.5	+19	42.0	200	54.0	+17	28.8
6	354	15.2	221	36.8	+19	41.2	215	55.0	+17	28.4
7	9	17.6	236	37.2		40.5	230	56.0		27.9
8	24	20.1	251	37.5		39.7	245	57.0		27.4
9	39	22.6	266	37.9		39.0	260	58.0		27.0
10	54	25.0	281	38.2		38.2	275	59.0		26.5
11	69	27.5	296	38.5	+19	37.5	291	00.0	+17	26.0
12	84	30.0	311	38.9	+19	36.7	306	00.9	+17	25.6
13	99	32.4	326	39.2		36.0	321	01.9		25.1
14	114	34.9	341	39.6		35.2	336	02.9		24.7
15	129	37.4	356	39.9		34.5	351	03.9		24.2
16	144	39.8	11	40.3		33.7	6	04.9		23.7
17	159	42.3	26	40.6	+19	33.0	21	05.9	+17	23.3
18	174	44.7	41	41.0	+19	32.2	36	06.9	+17	22.8
19	189	47.2	56	41.4		31.5	51	07.9		22.3
20	204	49.7	71	41.7		30.7	66	08.9		21.9
21	219	52.1	86	42.1		30.0	81	09.9		21.4
22	234	54.6	101	42.4		29.2	96	10.9		21.0
23	249	57.1	116	42.8		28.4	111	11.9		20.5
24	264	59.5	131	43.2	+19	27.7	126	12.8	+17	20.0
Dif	—		+3	-8		+10	-5		+20	+2
										+25

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 00.9 ^m			Edad: 28.3 ^d PHE { 4 ^h : 55'7 12 ^h : 55'6 20 ^h : 55'4 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	48.2	+23	195	11.9	92	+25	22.4	65	60 N	21 26	23 12	** **	1 21 20	21 55 68			
1	194	48.0		209	40.1	92		28.9	63	58	21 06	22 21	** **	1 45 28	24 64			
2	209	47.9		224	08.3	91		35.2	61	56	20 49	21 52	** **	2 04 32	21 01 62			
3	224	47.8		238	36.4	91		41.3	61	54	35	29	23 16	20 36	20 42 61			
4	239	47.6		253	04.5	91		47.3	60	52	23	21 11	22 30	34 38	26 60			
5	254	47.5	+23	267	32.6	91	+25	53.2	59	50	20 12	20 56	22 02	2 46 40	20 12 59			
6	269	47.4	+23	282	00.6	90	+25	59.0	58	45	19 49	20 27	21 16	3 12 42	19 43 59			
7	284	47.2		296	28.6	90	+26	04.6	56	40	31	20 04	20 46	32 45	21 58			
8	299	47.1		310	56.6	90		10.0	54	35	16	19 46	23	3 49 47	19 03 57			
9	314	46.9		325	24.5	89		15.4	54	30	19 03	31	20 04	4 04 48	18 47 57			
10	329	46.8		339	52.4	89		20.5	51	20	18 41	19 06	19 35	29 50	18 21 55			
11	344	46.7	+23	354	20.3	89	+26	25.6	51	10 N	18 22	18 45	19 12	4 50 52	17 58 54			
12	359	46.5	+23	8	48.1	88	+26	30.5	49	0	18 05	18 27	18 53	5 11 53	17 36 54			
13	14	46.4		23	16.0	89		35.2	47	10 S	17 47	18 10	36	31 55	17 15 53			
14	29	46.3		37	43.8	88		39.8	46	20	29	17 53	20	5 53 57	16 52 52			
15	44	46.1		52	11.6	88		44.3	45	30	17 07	34	18 04	6 19 58	26 50			
16	59	46.0		66	39.3	87		48.6	43	35	16 55	23	17 55	34 60	16 10 50			
17	74	45.9	+23	81	07.1	88	+26	52.8	42	40	16 41	17 11	17 46	6 51 62	15 52 49			
18	89	45.7	+23	95	34.8	87	+26	56.8	40	45	16 24	16 58	17 35	7 13 63	15 30 48			
19	104	45.6		110	02.5	87	+27	00.7	39	50	16 03	42	23	40 65	15 03 45			
20	119	45.4		124	30.2	87		04.5	38	52	15 54	34	18	7 53 67	14 49 44			
21	134	45.3		138	57.8	86		08.1	36	54	42	26	12	8 08 69	34 42			
22	149	45.2		153	25.5	87		11.5	34	56	30	17	06	26 71	14 16 40			
23	164	45.0		167	53.1	86		14.8	33	58	15 15	16 07	17 00	8 48 74	13 54 36			
24	179	44.9	+23	182	20.8	87	+27	18.0	32	60 S	14 58	15 55	16 52	9 16 82	13 25 30			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 19.0 ^m		Mag: -4.6 PMG: 15 ^h 13 ^m			Mag: +1.7 PMG: 15 ^h 34 ^m			Mag: -2.2 PMG: 8 ^h 38 ^m			Mag: +0.9 PMG: 4 ^h 57 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec		
h	°	'	°	'	°	'	'	'	°	'	°	'	'	'	°	'	°	
0	264	59.5	131	43.2	+19	27.7	126	12.8	+17	20.0	230	15.6	+12	42.1	285	28.6	-10	19.7
1	280	02.0	146	43.5		26.9	141	13.8		19.6	245	17.6		42.2	300	31.1		19.7
2	295	04.5	161	43.9		26.2	156	14.8		19.1	260	19.6		42.4	315	33.5		19.8
3	310	06.9	176	44.3		25.4	171	15.8		18.6	275	21.6		42.5	330	36.0		19.8
4	325	09.4	191	44.6		24.7	186	16.8		18.2	290	23.6		42.7	345	38.5		19.8
5	340	11.8	206	45.0	+19	23.9	201	17.8	+17	17.7	305	25.5	+12	42.8	0	40.9	-10	19.8
6	355	14.3	221	45.4	+19	23.2	216	18.8	+17	17.2	320	27.5	+12	43.0	15	43.4	-10	19.8
7	10	16.8	236	45.8		22.4	231	19.8		16.8	335	29.5		43.1	30	45.8		19.8
8	25	19.2	251	46.2		21.6	246	20.8		16.3	350	31.5		43.3	45	48.3		19.8
9	40	21.7	266	46.5		20.9	261	21.8		15.8	5	33.5		43.5	60	50.8		19.8
10	55	24.2	281	46.9		20.1	276	22.8		15.4	20	35.5		43.6	75	53.2		19.8
11	70	26.6	296	47.3	+19	19.4	291	23.8	+17	14.9	35	37.5	+12	43.8	90	55.7	-10	19.8
12	85	29.1	311	47.7	+19	18.6	306	24.8	+17	14.4	50	39.5	+12	43.9	105	58.1	-10	19.8
13	100	31.6	326	48.1		17.8	321	25.7		14.0	65	41.5		44.1	121	00.6		19.8
14	115	34.0	341	48.5		17.1	336	26.7		13.5	80	43.4		44.2	136	03.1		19.9
15	130	36.5	356	48.8		16.3	351	27.7		13.0	95	45.4		44.4	151	05.5		19.9
16	145	39.0	11	49.2		15.6	6	28.7		12.6	110	47.4		44.5	166	08.0		19.9
17	160	41.4	26	49.6	+19	14.8	21	29.7	+17	12.1	125	49.4	+12	44.7	181	10.4	-10	19.9
18	175	43.9	41	50.0	+19	14.0	36	30.7	+17	11.6	140	51.4	+12	44.9	196	12.9	-10	19.9
19	190	46.3	56	50.4		13.3	51	31.7		11.2	155	53.4		45.0	211	15.4		19.9
20	205	48.8	71	50.8		12.5	66	32.7		10.7	170	55.4		45.2	226	17.8		19.9
21	220	51.3	86	51.2		11.7	81	33.7		10.2	185	57.4		45.3	241	20.3		19.9
22	235	53.7	101	51.6		11.0	96	34.7		09.8	200	59.4		45.5	256	22.7		19.9
23	250	56.2	116	52.0		10.2	111	35.7		09.3	216	01.4		45.6	271	25.2		19.9
24	265	58.7	131	52.4	+19	09.4	126	36.7	+17	08.8	231	03.4	+12	45.8	286	27.7	-10	19.9
Dif	—		+4			-8	+10			-5	+20		+2	+25			0	

UT	SOL		LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 01.1 ^m		Edad: 29.3 ^d PHE { 4 ^h : 55'3 12 ^h : 55'1 20 ^h : 55'0 SD: 15'1 PMG: 12 ^h 17 ^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	179	44.9	+23	23.6	182	20.8	+27	18.0	30	60 N	** **	0 50	2 36	1 41 45	23 03 36			
1	194	44.8		23.6	196	48.4		21.0	29	58	** **	1 40	2 56	2 13 47	22 28 41			
2	209	44.6		23.7	211	16.0		23.9	27	56	** **	2 10	3 13	36 49	22 03 43			
3	224	44.5		23.8	225	43.6		26.6	27	54	0 46	33	27	2 56 50	21 43 45			
4	239	44.3		23.8	240	11.2		29.2	26	52	1 32	2 51	39	3 12 50	26 46			
5	254	44.2	+23	23.9	254	38.8	+27	31.6	24	50	2 00	3 06	3 50	3 26 51	21 11 47			
6	269	44.1	+23	23.9	269	06.4	+27	33.9	23	45	2 46	3 35	4 13	3 54 52	20 42 49			
7	284	43.9		24.0	283	34.0		36.0	21	40	3 16	3 58	31	4 17 52	19 50			
8	299	43.8		24.1	298	01.6		38.0	20	35	39	4 16	46	36 52	20 00 50			
9	314	43.7		24.1	312	29.2		39.9	19	30	3 58	31	4 59	4 52 52	19 44 51			
10	329	43.5		24.2	326	56.8		41.5	16	20	4 27	4 56	5 21	5 19 53	19 16 52			
11	344	43.4	+23	24.2	341	24.4	+27	43.1	16	10 N	4 50	5 17	5 40	5 42 54	18 52 53			
12	359	43.3	+23	24.3	355	52.0	+27	44.5	14	0	5 09	5 35	5 57	6 04 54	18 30 53			
13	14	43.1		24.3	10	19.6		45.7	12	10 S	26	5 52	6 15	26 54	18 08 53			
14	29	43.0		24.4	24	47.3		46.9	9	20	42	6 09	33	6 50 53	17 44 54			
15	44	42.8		24.4	39	14.9		47.8	9	30	5 58	28	6 55	7 17 54	16 55			
16	59	42.7		24.5	53	42.6		48.6	8	35	6 07	39	7 07	34 53	17 00 55			
17	74	42.6	+23	24.5	68	10.2	+27	49.3	7	40	6 17	6 51	7 21	7 53 53	16 41 55			
18	89	42.4	+23	24.6	82	37.9	+27	49.8	5	45	6 27	7 04	7 38	8 16 53	16 18 56			
19	104	42.3		24.6	97	05.6		50.2	4	50	39	20	7 59	8 45 53	15 48 57			
20	119	42.2		24.7	111	33.4		50.4	2	52	44	28	8 09	9 00 53	33 57			
21	134	42.0		24.7	126	01.1		50.5	1	54	50	36	20	17 53	15 16 58			
22	149	41.9		24.8	140	28.9		50.4	1	56	6 56	45	32	9 37 53	14 56 58			
23	164	41.7		24.8	154	56.6		50.2	2	58	7 03	7 55	8 47	10 02 53	14 30 59			
24	179	41.6	+23	24.9	169	24.4	+27	49.9	3	60 S	7 10	8 07	9 05	10 38 50	13 55 60			
UT	ARIES PMG 6 ^h 15.1 ^m		VENUS Mag: -4.6 PMG: 15 ^h 12 ^m		MARTE Mag: +1.7 PMG: 15 ^h 33 ^m		JÚPITER Mag: -2.2 PMG: 8 ^h 35 ^m		SATURNO Mag: +0.9 PMG: 4 ^h 53 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	265	58.7	131	52.4	+19	09.4	126	36.7	+17	08.8	231	03.4	+12	45.8	286	27.7	-10	19.9
1	281	01.1	146	52.8		08.7	141	37.7		08.4	246	05.4		45.9	301	30.1		20.0
2	296	03.6	161	53.2		07.9	156	38.7		07.9	261	07.3		46.1	316	32.6		20.0
3	311	06.1	176	53.7		07.2	171	39.6		07.4	276	09.3		46.2	331	35.1		20.0
4	326	08.5	191	54.1		06.4	186	40.6		07.0	291	11.3		46.4	346	37.5		20.0
5	341	11.0	206	54.5	+19	05.6	201	41.6	+17	06.5	306	13.3	+12	46.5	1	40.0	-10	20.0
6	356	13.5	221	54.9	+19	04.9	216	42.6	+17	06.0	321	15.3	+12	46.7	16	42.4	-10	20.0
7	11	15.9	236	55.3		04.1	231	43.6		05.5	336	17.3		46.9	31	44.9		20.0
8	26	18.4	251	55.7		03.3	246	44.6		05.1	351	19.3		47.0	46	47.4		20.0
9	41	20.8	266	56.1		02.5	261	45.6		04.6	6	21.3		47.2	61	49.8		20.0
10	56	23.3	281	56.6		01.8	276	46.6		04.1	21	23.3		47.3	76	52.3		20.0
11	71	25.8	296	57.0	+19	01.0	291	47.6	+17	03.7	36	25.3	+12	47.5	91	54.8	-10	20.0
12	86	28.2	311	57.4	+19	00.2	306	48.6	+17	03.2	51	27.3	+12	47.6	106	57.2	-10	20.1
13	101	30.7	326	57.8	+18	59.5	321	49.6		02.7	66	29.3		47.8	121	59.7		20.1
14	116	33.2	341	58.3		58.7	336	50.6		02.2	81	31.3		47.9	137	02.1		20.1
15	131	35.6	356	58.7		57.9	351	51.6		01.8	96	33.3		48.1	152	04.6		20.1
16	146	38.1	11	59.1		57.2	6	52.6		01.3	111	35.2		48.2	167	07.1		20.1
17	161	40.6	26	59.6	+18	56.4	21	53.6	+17	00.8	126	37.2	+12	48.4	182	09.5	-10	20.1
18	176	43.0	42	00.0	+18	55.6	36	54.6	+17	00.4	141	39.2	+12	48.5	197	12.0	-10	20.1
19	191	45.5	57	00.4		54.9	51	55.5	+16	59.9	156	41.2		48.7	212	14.5		20.1
20	206	48.0	72	00.9		54.1	66	56.5		59.4	171	43.2		48.9	227	16.9		20.1
21	221	50.4	87	01.3		53.3	81	57.5		58.9	186	45.2		49.0	242	19.4		20.1
22	236	52.9	102	01.7		52.5	96	58.5		58.5	201	47.2		49.2	257	21.9		20.2
23	251	55.3	117	02.2		51.8	111	59.5		58.0	216	49.2		49.3	272	24.3		20.2
24	266	57.8	132	02.6	+18	51.0	127	00.5	+16	57.5	231	51.2	+12	49.5	287	26.8	-10	20.2
Dif	—		+4		-8		+10		-5		+20		+2		+25		0	

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: 30.3 ^d PHE { 4 ^h : 54'9 12 ^h : 54'7 20 ^h : 54'6 R°: 52 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico			Hora	R°	Hora	R°			
h	° /	° /	° /		° /		°		h m	h m	h m	h m m	h m m	h m m			
0	179 41.6	+23 24.9	169 24.4	89	+27 49.9	5	60 N		21 27	23 14	** **		2 26 73		23 39 15		
1	194 41.5	24.9	183 52.3	88	49.4	6	58		21 07	22 23	** **		3 00 69		23 09 23		
2	209 41.3	25.0	198 20.1	88	48.8	8	56		20 50	21 53	** **		25 66		22 46 28		
3	224 41.2	25.0	212 48.0	89	48.0	9	54		36	30	23 18		3 46 63		28 31		
4	239 41.1	25.1	227 16.0	90	47.1	11	52		23	21 12	22 31		4 02 63		22 12 33		
5	254 40.9	+23 25.1	241 43.9	89	+27 46.0	12	50		20 12	20 57	22 03		4 17 61		21 58 36		
6	269 40.8	+23 25.1	256 11.9	90	+27 44.8	14	45		19 50	20 27	21 17		4 46 60		21 31 38		
7	284 40.6	25.2	270 39.9	90	43.4	15	40		32	20 05	20 46		5 09 58		21 09 41		
8	299 40.5	25.2	285 08.0	91	41.9	16	35		17	19 46	23		28 57		20 50 43		
9	314 40.4	25.3	299 36.0	90	40.3	18	30		19 04	31	20 05		5 44 56		35 44		
10	329 40.2	25.3	314 04.2	92	38.5	19	20		18 42	19 06	19 35		6 12 54		20 08 47		
11	344 40.1	+23 25.3	328 32.3	91	+27 36.6	20	10 N		18 23	18 46	19 13		6 36 53		19 45 49		
12	359 40.0	+23 25.4	343 00.6	92	+27 34.6	22	0		18 05	18 28	18 54		6 58 52		19 23 51		
13	14 39.8	25.4	357 28.8	92	32.4	24	10 S		17 48	18 10	37		7 20 51		19 01 53		
14	29 39.7	25.4	11 57.1	93	30.0	26	20		29	17 53	21		7 43 50		18 38 55		
15	44 39.5	25.5	26 25.4	93	27.6	28	30		17 08	34	18 04		8 11 48		18 11 57		
16	59 39.4	25.5	40 53.8	94	25.0	30	35		16 55	24	17 55		27 47		17 55 58		
17	74 39.3	+23 25.5	55 22.2	94	+27 22.2	32	40		16 41	17 12	17 46		8 46 45		17 36 60		
18	89 39.1	+23 25.6	69 50.7	95	+27 19.3	34	45		16 24	16 58	17 35		9 09 43		17 14 62		
19	104 39.0	25.6	84 19.3	96	16.3	36	50		16 04	42	24		38 41		16 45 65		
20	119 38.9	25.6	98 47.8	95	13.2	38	52		15 54	35	18		9 53 39		30 67		
21	134 38.7	25.7	113 16.5	97	09.9	40	54		43	26	13		10 10 37		16 14 69		
22	149 38.6	25.7	127 45.1	96	06.5	42	56		30	17	07		30 34		15 54 72		
23	164 38.4	25.7	142 13.9	98	+27 02.9	44	58		15 15	16 07	17 00		10 55 30		15 29 76		
24	179 38.3	+23 25.8	156 42.7	98	+26 59.2	46	60 S		14 58	15 55	16 52		11 28 23		14 55 84		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 6 ^h 11.1 ^m		Mag: -4.6 PMG: 15 ^h 11 ^m		Mag: +1.7 PMG: 15 ^h 31 ^m		Mag: -2.2 PMG: 8 ^h 31 ^m		Mag: +0.9 PMG: 4 ^h 49 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	266 57.8	132 02.6	+18 51.0	127 00.5	+16 57.5	231 51.2	+12 49.5	287 26.8	-10 20.2	
1	282 00.3	147 03.1	50.2	142 01.5	57.0	246 53.2	49.6	302 29.3	20.2	
2	297 02.7	162 03.5	49.4	157 02.5	56.6	261 55.2	49.8	317 31.7	20.2	
3	312 05.2	177 04.0	48.7	172 03.5	56.1	276 57.2	49.9	332 34.2	20.2	
4	327 07.7	192 04.4	47.9	187 04.5	55.6	291 59.2	50.1	347 36.7	20.2	
5	342 10.1	207 04.9	+18 47.1	202 05.5	+16 55.2	307 01.2	+12 50.2	2 39.1	-10 20.2	
6	357 12.6	222 05.3	+18 46.3	217 06.5	+16 54.7	322 03.2	+12 50.4	17 41.6	-10 20.2	
7	12 15.1	237 05.8	45.6	232 07.5	54.2	337 05.2	50.5	32 44.1	20.3	
8	27 17.5	252 06.3	44.8	247 08.5	53.7	352 07.2	50.7	47 46.5	20.3	
9	42 20.0	267 06.7	44.0	262 09.5	53.3	7 09.2	50.8	62 49.0	20.3	
10	57 22.5	282 07.2	43.2	277 10.5	52.8	22 11.2	51.0	77 51.5	20.3	
11	72 24.9	297 07.6	+18 42.5	292 11.5	+16 52.3	37 13.2	+12 51.1	92 53.9	-10 20.3	
12	87 27.4	312 08.1	+18 41.7	307 12.4	+16 51.8	52 15.2	+12 51.3	107 56.4	-10 20.3	
13	102 29.8	327 08.6	40.9	322 13.4	51.4	67 17.1	51.4	122 58.9	20.3	
14	117 32.3	342 09.0	40.1	337 14.4	50.9	82 19.1	51.6	138 01.3	20.3	
15	132 34.8	357 09.5	39.4	352 15.4	50.4	97 21.1	51.7	153 03.8	20.3	
16	147 37.2	12 10.0	38.6	7 16.4	49.9	112 23.1	51.9	168 06.3	20.4	
17	162 39.7	27 10.5	+18 37.8	22 17.4	+16 49.4	127 25.1	+12 52.0	183 08.7	-10 20.4	
18	177 42.2	42 10.9	+18 37.0	37 18.4	+16 49.0	142 27.1	+12 52.2	198 11.2	-10 20.4	
19	192 44.6	57 11.4	36.2	52 19.4	48.5	157 29.1	52.4	213 13.7	20.4	
20	207 47.1	72 11.9	35.5	67 20.4	48.0	172 31.1	52.5	228 16.1	20.4	
21	222 49.6	87 12.4	34.7	82 21.4	47.5	187 33.1	52.7	243 18.6	20.4	
22	237 52.0	102 12.8	33.9	97 22.4	47.1	202 35.1	52.8	258 21.1	20.4	
23	252 54.5	117 13.3	33.1	112 23.4	46.6	217 37.1	53.0	273 23.5	20.4	
24	267 57.0	132 13.8	+18 32.3	127 24.4	+16 46.1	232 39.1	+12 53.1	288 26.0	-10 20.5	
Dif	—	+5	-8	+10	-5	+20	+2	+25	0	

UT	SOL			● LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15/7 PMG:12 ^h 01.6 ^m			Edad: 1.8 ^d SD: 14/9 PMG: 14 ^h 02 ^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	38.3	+23	25.8	156	42.7	+26	59.2	60 N	** **	0 49	2 36	3 39 89	23 54 7				
1	194	38.2		25.8	171	11.5		55.4	58	** **	1 40	2 56	4 09 80	32 13				
2	209	38.0		25.8	185	40.4		51.5	56	** **	2 10	3 13	31 76	23 14 17				
3	224	37.9		25.8	200	09.4		47.4	54	0 45	33	27	4 49 73	22 59 21				
4	239	37.8		25.9	214	38.4		43.2	52	1 32	2 51	40	5 05 70	45 24				
5	254	37.6	+23	25.9	229	07.5	+26	38.9	50	2 00	3 06	3 50	5 18 68	22 34 26				
6	269	37.5	+23	25.9	243	36.6	+26	34.4	45	2 46	3 36	4 13	5 46 64	22 09 31				
7	284	37.3		25.9	258	05.8		29.8	40	3 16	3 58	31	6 07 61	21 50 33				
8	299	37.2		26.0	272	35.0		25.1	35	40	4 16	46	25 59	33 37				
9	314	37.1		26.0	287	04.4		20.2	30	3 58	32	4 59	6 40 58	21 19 39				
10	329	36.9		26.0	301	33.7		15.3	20	4 27	4 57	5 21	7 06 55	20 55 42				
11	344	36.8	+23	26.0	316	03.2	+26	10.2	10 N	4 50	5 17	5 40	7 29 52	20 34 45				
12	359	36.7	+23	26.0	330	32.7	+26	05.0	0	5 09	5 35	5 58	7 50 49	20 14 48				
13	14	36.5		26.1	345	02.3	+25	59.6	10 S	26	5 52	6 15	8 11 47	19 54 51				
14	29	36.4		26.1	359	31.9		54.2	20	42	6 10	34	33 44	33 54				
15	44	36.3		26.1	14	01.6		48.6	30	5 59	29	6 55	8 59 41	19 08 57				
16	59	36.1		26.1	28	31.4		42.9	35	6 08	39	7 08	9 14 39	18 53 60				
17	74	36.0	+23	26.1	43	01.3	+25	37.1	40	6 17	6 51	7 22	9 31 38	18 36 62				
18	89	35.8	+23	26.1	57	31.2	+25	31.2	45	6 27	7 05	7 39	9 52 35	18 16 65				
19	104	35.7		26.2	72	01.1		25.1	50	39	21	7 59	10 19 30	17 50 70				
20	119	35.6		26.2	86	31.2		19.0	52	45	28	8 09	32 28	37 73				
21	134	35.4		26.2	101	01.3		12.7	54	50	37	20	10 47 25	23 75				
22	149	35.3		26.2	115	31.5	+25	06.3	56	6 56	46	33	11 04 22	17 06 79				
23	164	35.2		26.2	130	01.8	+24	59.8	58	7 03	7 56	8 48	25 17	16 45 84				
24	179	35.0	+23	26.2	144	32.1	+24	53.1	60 S	7 11	8 08	9 05	11 51 10	16 19 91				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 6 ^h 07.2 ^m		Mag: -4.6 PMG: 15 ^h 11 ^m			Mag: +1.7 PMG: 15 ^h 29 ^m			Mag: -2.2 PMG: 8 ^h 28 ^m			Mag: +0.9 PMG: 4 ^h 45 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	'	°	°	'	°	°	'	°				
0	267	57.0	132	13.8	+18	32.3	127	24.4	+16	46.1	232	39.1	+12	53.1	288	26.0	-10	20.5
1	282	59.4	147	14.3		31.6	142	25.4		45.6	247	41.1		53.3	303	28.5		20.5
2	298	01.9	162	14.8		30.8	157	26.4		45.2	262	43.1		53.4	318	31.0		20.5
3	313	04.3	177	15.3		30.0	172	27.4		44.7	277	45.1		53.6	333	33.4		20.5
4	328	06.8	192	15.8		29.2	187	28.4		44.2	292	47.1		53.7	348	35.9		20.5
5	343	09.3	207	16.3	+18	28.4	202	29.4	+16	43.7	307	49.1	+12	53.9	3	38.4	-10	20.5
6	358	11.7	222	16.8	+18	27.6	217	30.4	+16	43.2	322	51.1	+12	54.0	18	40.8	-10	20.5
7	13	14.2	237	17.3		26.9	232	31.4		42.8	337	53.1		54.2	33	43.3		20.5
8	28	16.7	252	17.8		26.1	247	32.3		42.3	352	55.1		54.3	48	45.8		20.6
9	43	19.1	267	18.3		25.3	262	33.3		41.8	7	57.1		54.5	63	48.3		20.6
10	58	21.6	282	18.8		24.5	277	34.3		41.3	22	59.1		54.6	78	50.7		20.6
11	73	24.1	297	19.3	+18	23.7	292	35.3	+16	40.8	38	01.1	+12	54.8	93	53.2	-10	20.6
12	88	26.5	312	19.8	+18	22.9	307	36.3	+16	40.4	53	03.1	+12	54.9	108	55.7	-10	20.6
13	103	29.0	327	20.3		22.2	322	37.3		39.9	68	05.1		55.1	123	58.1		20.6
14	118	31.4	342	20.8		21.4	337	38.3		39.4	83	07.1		55.2	139	00.6		20.6
15	133	33.9	357	21.3		20.6	352	39.3		38.9	98	09.1		55.4	154	03.1		20.6
16	148	36.4	12	21.8		19.8	7	40.3		38.4	113	11.1		55.5	169	05.6		20.7
17	163	38.8	27	22.3	+18	19.0	22	41.3	+16	38.0	128	13.1	+12	55.7	184	08.0	-10	20.7
18	178	41.3	42	22.8	+18	18.2	37	42.3	+16	37.5	143	15.1	+12	55.8	199	10.5	-10	20.7
19	193	43.8	57	23.4		17.4	52	43.3		37.0	158	17.1		56.0	214	13.0		20.7
20	208	46.2	72	23.9		16.7	67	44.3		36.5	173	19.1		56.1	229	15.4		20.7
21	223	48.7	87	24.4		15.9	82	45.3		36.0	188	21.1		56.3	244	17.9		20.7
22	238	51.2	102	24.9		15.1	97	46.3		35.6	203	23.1		56.4	259	20.4		20.7
23	253	53.6	117	25.5		14.3	112	47.3		35.1	218	25.1		56.6	274	22.9		20.7
24	268	56.1	132	26.0	+18	13.5	127	48.3	+16	34.6	233	27.1	+12	56.7	289	25.3	-10	20.8
Dif	—		+5		-8		+10		-5		+20		+2		+25		0	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 01.8 ^m				Edad: 2.8 ^d SD: 14'8 PMG: 14 ^h 51 ^m PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'1 Rº: 45 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Civil	Náutico			Hora	Rº	Hora	Rº		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	179 35.0	+23 26.2	144 32.1	+24 53.1	67	60 N	21 28	23 15	** **	5 08	90	** **	** **			
1	194 34.9	26.2	159 02.5	46.4	68	58	21 07	22 23	** **	29 84	23 45	8				
2	209 34.7	26.2	173 33.0	39.6	70	56	20 50	21 53	** **	5 47	79	31	12			
3	224 34.6	26.3	188 03.5	32.6	71	54	36	31	23 19	6 02	76	20	14			
4	239 34.5	26.3	202 34.1	25.5	71	52	24	21 13	22 31	15 73	09	17				
5	254 34.3	+23 26.3	217 04.8	+24 18.4	71	50	20 13	20 58	22 03	6 26	71	23 00	19			
6	269 34.2	+23 26.3	231 35.6	+24 11.1	73	45	19 50	20 28	21 18	6 50	65	22 40	24			
7	284 34.1	26.3	246 06.4	+24 03.7	74	40	32	20 05	20 47	7 08	63	23 28				
8	299 33.9	26.3	260 37.3	+23 56.2	75	35	17	19 47	24	24 59	22 10	31				
9	314 33.8	26.3	275 08.3	48.6	76	30	19 04	32	20 05	7 38	57	21 58	33			
10	329 33.6	26.3	289 39.4	40.9	77	20	18 42	19 07	19 36	8 01	53	37 38				
11	344 33.5	+23 26.3	304 10.5	+23 33.1	78	10 N	18 23	18 46	19 13	8 21	49	21 19	41			
12	359 33.4	+23 26.3	318 41.7	+23 25.2	79	0	18 05	18 28	18 54	8 39	47	21 02	45			
13	14 33.2	26.3	333 13.0	17.2	80	10 S	17 48	18 11	37	8 58	43	20 45	48			
14	29 33.1	26.3	347 44.3	09.1	81	20	29	17 53	21	9 17	40	27 52				
15	44 33.0	26.3	2 15.7	+23 00.9	82	30	17 08	35	18 04	40 36	20 05	57				
16	59 32.8	26.3	16 47.2	+22 52.5	84	35	16 56	24	17 56	9 53	34	19 53	59			
17	74 32.7	+23 26.3	31 18.8	+22 44.1	84	40	16 42	17 12	17 46	10 09	30	19 38	62			
18	89 32.5	+23 26.3	45 50.4	+22 35.6	85	45	16 25	16 59	17 36	10 27	27	19 21	66			
19	104 32.4	26.3	60 22.1	27.0	86	50	16 04	42	24	10 49	22	19 00	71			
20	119 32.3	26.3	74 53.9	18.4	86	52	15 54	35	19	11 00	20	18 50	73			
21	134 32.1	26.3	89 25.8	09.6	88	54	43	27	13	12 17	38	76				
22	149 32.0	26.3	103 57.7	+22 00.7	89	56	30	18	07	26 13	25	79				
23	164 31.9	26.3	118 29.7	+21 51.7	90	58	15 15	16 07	17 00	11 42	9	18 09	84			
24	179 31.7	+23 26.3	133 01.8	+21 42.7	90	60 S	14 58	15 56	16 53	12 01	4	17 50	90			
UT	ARIES PMG 6 ^h 03.3 ^m		VENUS Mag: -4.6 PMG: 15 ^h 10 ^m		MARTE Mag: +1.7 PMG: 15 ^h 28 ^m		JÚPITER Mag: -2.2 PMG: 8 ^h 25 ^m		SATURNO Mag: +0.9 PMG: 4 ^h 42 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	268 56.1	132 26.0	+18 13.5	127 48.3	+16 34.6	233 27.1	+12 56.7	289 25.3	-10 20.8							
1	283 58.6	147 26.5	12.7	142 49.3	34.1	248 29.1	56.9	304 27.8	20.8							
2	299 01.0	162 27.0	11.9	157 50.3	33.6	263 31.1	57.0	319 30.3	20.8							
3	314 03.5	177 27.6	11.1	172 51.3	33.1	278 33.1	57.2	334 32.8	20.8							
4	329 05.9	192 28.1	10.4	187 52.3	32.7	293 35.1	57.3	349 35.2	20.8							
5	344 08.4	207 28.6	+18 09.6	202 53.3	+16 32.2	308 37.1	+12 57.5	4 37.7	-10 20.8							
6	359 10.9	222 29.2	+18 08.8	217 54.3	+16 31.7	323 39.1	+12 57.6	19 40.2	-10 20.8							
7	14 13.3	237 29.7	08.0	232 55.3	31.2	338 41.1	57.8	34 42.7	20.9							
8	29 15.8	252 30.3	07.2	247 56.3	30.7	353 43.1	57.9	49 45.1	20.9							
9	44 18.3	267 30.8	06.4	262 57.2	30.2	8 45.1	58.1	64 47.6	20.9							
10	59 20.7	282 31.4	05.6	277 58.2	29.8	23 47.1	58.2	79 50.1	20.9							
11	74 23.2	297 31.9	+18 04.8	292 59.2	+16 29.3	38 49.1	+12 58.4	94 52.6	-10 20.9							
12	89 25.7	312 32.5	+18 04.0	308 00.2	+16 28.8	53 51.2	+12 58.5	109 55.0	-10 20.9							
13	104 28.1	327 33.0	03.2	323 01.2	28.3	68 53.2	58.6	124 57.5	20.9							
14	119 30.6	342 33.6	02.5	338 02.2	27.8	83 55.2	58.8	140 00.0	21.0							
15	134 33.1	357 34.1	01.7	353 03.2	27.3	98 57.2	58.9	155 02.5	21.0							
16	149 35.5	12 34.7	00.9	8 04.2	26.9	113 59.2	59.1	170 04.9	21.0							
17	164 38.0	27 35.2	+18 00.1	23 05.2	+16 26.4	129 01.2	+12 59.2	185 07.4	-10 21.0							
18	179 40.4	42 35.8	+17 59.3	38 06.2	+16 25.9	144 03.2	+12 59.4	200 09.9	-10 21.0							
19	194 42.9	57 36.3	58.5	53 07.2	25.4	159 05.2	59.5	215 12.4	21.0							
20	209 45.4	72 36.9	57.7	68 08.2	24.9	174 07.2	59.7	230 14.8	21.0							
21	224 47.8	87 37.5	56.9	83 09.2	24.4	189 09.2	+12 59.8	245 17.3	21.1							
22	239 50.3	102 38.0	56.1	98 10.2	23.9	204 11.2	+13 00.0	260 19.8	21.1							
23	254 52.8	117 38.6	55.3	113 11.2	23.5	219 13.2	+13 00.1	275 22.3	21.1							
24	269 55.2	132 39.2	+17 54.5	128 12.2	+16 23.0	234 15.2	+13 00.3	290 24.7	-10 21.1							
Dif	—		+5	-8	+10	-5	+20	+1	+25							

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15/7 PMG:12 ^h 02.0 ^m				Edad: 3.8 ^d SD: 14/7 PMG: 15 ^h 36 ^m												
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	31.7	+23	26.3	133	01.8	+21	42.7	60 N	**	**	0 49	2 36	6 38	88	0 01	3
1	194	31.6		26.3	147	33.9		33.5	58	**	**	1 41	2 56	6 53	83	23 53	5
2	209	31.5		26.3	162	06.2		24.3	56	**	**	2 11	3 13	7 06	79	43	8
3	224	31.3		26.3	176	38.4		14.9	54	0	45	33	28	18	75	34	11
4	239	31.2		26.2	191	10.8	+21	05.5	52	1	32	2 51	40	28	73	26	14
5	254	31.0	+23	26.2	205	43.2	+20	56.0	50	2	00	3 06	3 51	7 37	70	23 19	16
6	269	30.9	+23	26.2	220	15.7	+20	46.4	45	2	46	3 36	4 13	7 55	66	23 04	20
7	284	30.8		26.2	234	48.3		36.8	40	3	17	3 59	31	8 11	61	22 51	25
8	299	30.6		26.2	249	20.9		27.0	35	40	4 17	4 47	23	59	41	27	
9	314	30.5		26.2	263	53.6		17.2	30	3	59	32	5 00	35	55	31	30
10	329	30.4		26.2	278	26.4	+20	07.3	20	4	28	4 57	22	8 54	51	15	34
11	344	30.2	+23	26.2	292	59.2	+19	57.2	10 N	4	51	5 18	5 41	9 10	47	22 00	39
12	359	30.1	+23	26.1	307	32.1	+19	47.2	0	5	10	5 36	5 58	9 26	43	21 47	42
13	14	30.0		26.1	322	05.1		37.0	10 S	27	5 53	6 16	41	40	33	46	
14	29	29.8		26.1	336	38.2		26.8	20	43	6 10	34	9	57	36	19	50
15	44	29.7		26.1	351	11.3		16.4	30	5	59	29	6	56	10	16	31
16	59	29.5		26.1	5	44.4	+19	06.0	35	6	08	40	7	08	27	29	20
17	74	29.4	+23	26.1	20	17.7	+18	55.6	40	6	18	6 52	7 22	10	39	26	20
18	89	29.3	+23	26.0	34	51.0	+18	45.0	45	6	28	7 05	7 39	10	54	22	20
19	104	29.1		26.0	49	24.3		34.4	50	40	21	8 00	11	11	18	11	70
20	119	29.0		26.0	63	57.8		23.7	52	45	29	10	20	15	20	03	72
21	134	28.9		26.0	78	31.3		12.9	54	51	37	21	29	13	19	54	75
22	149	28.7		26.0	93	04.8	+18	02.1	56	6	57	46	34	39	10	44	79
23	164	28.6		25.9	107	38.4	+17	51.2	58	7	04	7 56	8 48	11	51	6	33
24	179	28.5	+23	25.9	122	12.1	+17	40.2	60 S	7	11	8 08	9 06	12	05	2	19

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 ^h 59.3 ^m		Mag: -4.6 PMG: 15 ^h 09 ^m		Mag: +1.7 PMG: 15 ^h 26 ^m		Mag: -2.2 PMG: 8 ^h 22 ^m		Mag: +0.9 PMG: 4 ^h 38 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	269	55.2	132	39.2	+17	54.5	128	12.2	+16	23.0
1	284	57.7	147	39.7		53.7	143	13.2		22.5
2	300	00.2	162	40.3		52.9	158	14.2		22.0
3	315	02.6	177	40.9		52.1	173	15.2		21.5
4	330	05.1	192	41.5		51.4	188	16.2		21.0
5	345	07.6	207	42.1	+17	50.6	203	17.2	+16	20.5
6	0	10.0	222	42.6	+17	49.8	218	18.2	+16	20.0
7	15	12.5	237	43.2		49.0	233	19.2		19.6
8	30	14.9	252	43.8		48.2	248	20.2		19.1
9	45	17.4	267	44.4		47.4	263	21.2		18.6
10	60	19.9	282	45.0		46.6	278	22.2		18.1
11	75	22.3	297	45.6	+17	45.8	293	23.2	+16	17.6
12	90	24.8	312	46.2	+17	45.0	308	24.2	+16	17.1
13	105	27.3	327	46.8		44.2	323	25.2		16.6
14	120	29.7	342	47.3		43.4	338	26.2		16.1
15	135	32.2	357	47.9		42.6	353	27.2		15.7
16	150	34.7	12	48.5		41.8	8	28.2		15.2
17	165	37.1	27	49.1	+17	41.0	23	29.2	+16	14.7
18	180	39.6	42	49.8	+17	40.2	38	30.2	+16	14.2
19	195	42.1	57	50.4		39.4	53	31.2		13.7
20	210	44.5	72	51.0		38.6	68	32.2		13.2
21	225	47.0	87	51.6		37.8	83	33.2		12.7
22	240	49.4	102	52.2		37.0	98	34.2		12.2
23	255	51.9	117	52.8		36.2	113	35.2		11.7
24	270	54.4	132	53.4	+17	35.4	128	36.1	+16	11.2
Dif	—		+6 -8		+10 -5		+20 +1		+25 0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15 ^h 7 PMG: 12 ^h 02.2 ^m				Edad: 4.8 ^d SD: 14 ^h 7 PMG: 16 ^h 19 ^m PHE { 4 ^h : 54 ^m 1 12 ^h : 54 ^m 1 20 ^h : 54 ^m 2 R°: 41 ^m								Civil			Náutico			Hora R°		Hora R°	
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico		Hora	R°	Hora	R°			
h	°	/	°	/	°	/	°	/	°	/	°	h	m	h	m	h	m	m	h	m	m	
0	179	28.5	+23	25.9	122	12.1	+17	40.2	110	60 N	21	28	23	14	** **	8	06	85	0	04	1	
1	194	28.3		25.9	136	45.8		29.2	112	58	21	08	22	23	** **	16	81		23	58	3	
2	209	28.2		25.9	151	19.6		18.0	112	56	20	51	21	53	** **	25	78		51	7		
3	224	28.0		25.8	165	53.5	+17	06.8	112	54		36	31	23	18	33	75		45	9		
4	239	27.9		25.8	180	27.4	+16	55.6	112	52		24	21	13	22	31	41	71		40	11	
5	254	27.8	+23	25.8	195	01.3	+16	44.3	113	50	20	13	20	58	22	04	8	47	70	23	35	13
6	269	27.6	+23	25.8	209	35.4	+16	32.9	114	45	19	51	20	28	21	18	9	01	64	23	24	18
7	284	27.5		25.7	224	09.4		21.4	115	40		33	20	06	20	47	12	61		16	21	
8	299	27.4		25.7	238	43.6	+16	09.9	115	35		18	19	47	24		22	57		08	25	
9	314	27.2		25.7	253	17.8	+15	58.3	116	30	19	05		32	20	05	30	55		23	01	28
10	329	27.1		25.6	267	52.0		46.7	116	20	18	42	19	07	19	36	45	49		22	49	33
11	344	27.0	+23	25.6	282	26.3	+15	35.0	117	10 N	18	23	18	47	19	14	9	57	46	22	39	37
12	359	26.8	+23	25.6	297	00.6	+15	23.2	118	0	18	06	18	28	18	55	10	09	42	22	29	41
13	14	26.7		25.5	311	35.0	+15	11.4	118	10 S	17	48	18	11	38		21	37		19	45	
14	29	26.6		25.5	326	09.5	+14	59.5	119	20		30	17	54	21		33	34		22	09	49
15	44	26.4		25.5	340	44.0		47.6	119	30	17	09		35	18	05	47	29		21	57	54
16	59	26.3		25.4	355	18.5		35.6	120	35	16	56		24	17	56	10	56	26		50	57
17	74	26.1	+23	25.4	9	53.1	+14	23.5	121	40	16	42	17	13	17	47	11	05	23	21	42	60
18	89	26.0	+23	25.4	24	27.7	+14	11.4	121	45	16	25	16	59	17	36	11	16	19	21	32	64
19	104	25.9		25.3	39	02.4	+13	59.3	121	50	16	04		43	25		29	14		21	69	
20	119	25.7		25.3	53	37.1		47.0	123	52	15	55		36	19		35	12		15	72	
21	134	25.6		25.3	68	11.9		34.8	122	54		43		27	14		42	9		09	74	
22	149	25.5		25.2	82	46.7		22.4	124	56		31		18	07		49	7		21	03	76
23	164	25.3		25.2	97	21.5	+13	10.0	124	58	15	16	16	08	17	01	11	57	4	20	55	80
24	179	25.2	+23	25.1	111	56.4	+12	57.6	124	60 S	14	58	15	56	16	53	12	07	0	20	47	83
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 5 ^h 55.4 ^m			Mag: -4.6 PMG: 15 ^h 08 ^m			Mag: +1.7 PMG: 15 ^h 25 ^m			Mag: -2.2 PMG: 8 ^h 19 ^m			Mag: +0.8 PMG: 4 ^h 34 ^m									
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♅	Dec								
h	°	/	°	/	°	/	°	/	°	/	°	/	°	/	°	/						
0	270	54.4	132	53.4	+17	35.4	128	36.1	+16	11.2	235	03.4	+13	03.8	291	24.2	-10	21.5				
1	285	56.8	147	54.0		34.6	143	37.1		10.8	250	05.4		03.9	306	26.7		21.5				
2	300	59.3	162	54.6		33.8	158	38.1		10.3	265	07.4		04.1	321	29.2		21.5				
3	316	01.8	177	55.3		33.0	173	39.1		09.8	280	09.4		04.2	336	31.7		21.5				
4	331	04.2	192	55.9		32.2	188	40.1		09.3	295	11.4		04.4	351	34.2		21.6				
5	346	06.7	207	56.5	+17	31.4	203	41.1	+16	08.8	310	13.4	+13	04.5	6	36.7	-10	21.6				
6	1	09.2	222	57.1	+17	30.6	218	42.1	+16	08.3	325	15.4	+13	04.7	21	39.1	-10	21.6				
7	16	11.6	237	57.8		29.8	233	43.1		07.8	340	17.4		04.8	36	41.6		21.6				
8	31	14.1	252	58.4		29.0	248	44.1		07.3	355	19.4		05.0	51	44.1		21.6				
9	46	16.5	267	59.0		28.2	263	45.1		06.8	10	21.5		05.1	66	46.6		21.6				
10	61	19.0	282	59.7		27.4	278	46.1		06.3	25	23.5		05.3	81	49.1		21.7				
11	76	21.5	298	00.3	+17	26.6	293	47.1	+16	05.8	40	25.5	+13	05.4	96	51.5	-10	21.7				
12	91	23.9	313	00.9	+17	25.8	308	48.1	+16	05.3	55	27.5	+13	05.6	111	54.0	-10	21.7				
13	106	26.4	328	01.6		25.0	323	49.1		04.9	70	29.5		05.7	126	56.5		21.7				
14	121	28.9	343	02.2		24.2	338	50.1		04.4	85	31.5		05.8	141	59.0		21.7				
15	136	31.3	358	02.8		23.4	353	51.1		03.9	100	33.5		06.0	157	01.5		21.8				
16	151	33.8	13	03.5		22.6	8	52.1		03.4	115	35.5		06.1	172	04.0		21.8				
17	166	36.3	28	04.1	+17	21.8	23	53.1	+16	02.9	130	37.5	+13	06.3	187	06.4	-10	21.8				
18	181	38.7	43	04.8	+17	21.0	38	54.1	+16	02.4	145	39.6	+13	06.4	202	08.9	-10	21.8				
19	196	41.2	58	05.4		20.2	53	55.1		01.9	160	41.6		06.6	217	11.4		21.8				
20	211	43.7	73	06.1		19.4	68	56.1		01.4	175	43.6		06.7	232	13.9		21.8				
21	226	46.1	88	06.7		18.6	83	57.1		00.9	190	45.6		06.9	247	16.4		21.9				
22	241	48.6	103	07.4		17.8	98	58.1	+16	00.4	205	47.6		07.0	262	18.9		21.9				
23	256	51.0	118	08.1		17.0	113	59.1	+15	59.9	220	49.6		07.1	277	21.4		21.9				
24	271	53.5	133	08.7	+17	16.2	129	00.1	+15	59.4	235	51.6	+13	07.3	292	23.8	-10	21.9				
Dif	—		+6		-8		+10		-5		+20		+1		+25							

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: 5.8 ^d SD: 14/8 PMG: 17 ^h 00 ^m												
					PHE { 4 ^h : 54/2 12 ^h : 54/3 20 ^h : 54/4 R°: 40 ^m												
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	179	25.2	+23	25.1	111	56.4	+12	57.6	125	60 N	**	**	0 50	2 37	9 31	82	0 05 1
1	194	25.1		25.1	126	31.4		45.1	125	58	**	**	1 41	2 57	37	79	** ** *
2	209	24.9		25.1	141	06.3		32.6	126	56	**	**	2 11	3 14	43	76	23 58 5
3	224	24.8		25.0	155	41.3		20.0	126	54	0	46	34	28	48	73	54 8
4	239	24.7		25.0	170	16.4	+12	07.4	126	52	1	33	2 52	41	52	71	51 10
5	254	24.5	+23	24.9	184	51.5	+11	54.7	127	50	2	01	3 07	3 51	9 57	68	23 48 13
6	269	24.4	+23	24.9	199	26.6	+11	42.0	127	45	2	47	3 37	4 14	10 05	64	23 42 17
7	284	24.3		24.8	214	01.7		29.2	128	40	3	17	3 59	32	13	60	37 21
8	299	24.1		24.8	228	36.9		16.4	128	35	41	4 17	4 47	19	57	33	23
9	314	24.0		24.7	243	12.1	+11	03.5	129	30	3	59	33	5 00	25	54	29 26
10	329	23.9		24.7	257	47.4	+10	50.6	129	20	4	28	4 58	22	34	49	22 31
11	344	23.7	+23	24.6	272	22.7	+10	37.6	130	10 N	4	51	5 18	5 41	10 43	44	23 16 36
12	359	23.6	+23	24.6	286	58.0	+10	24.6	130	0	5	10	5 36	5 59	10 51	40	23 10 40
13	14	23.4		24.5	301	33.3	+10	11.6	130	10 S	27	5	53	6 16	10 58	37	23 04 44
14	29	23.3		24.5	316	08.7	+9	58.5	131	20	5	43	6 11	35	11 07	32	22 58 49
15	44	23.2		24.4	330	44.0		45.4	131	30	6	00	30	6 56	16	27	51 54
16	59	23.0		24.4	345	19.5		32.2	132	35	08	40	7 08	22	24	47	56
17	74	22.9	+23	24.3	359	54.9	+9	19.0	132	40	6	18	6 52	7 23	11 28	20	22 42 60
18	89	22.8	+23	24.3	14	30.4	+9	05.7	133	45	6	28	7 06	7 39	11 35	17	22 36 64
19	104	22.6		24.2	29	05.8	+8	52.4	133	50	40	22	8 00	43	13	30	69
20	119	22.5		24.2	43	41.3		39.1	133	52	45	29	10	47	11	27	71
21	134	22.4		24.1	58	16.9		25.8	133	54	51	37	21	51	9	23	74
22	149	22.2		24.1	72	52.4	+8	12.4	134	56	6	57	46	34	11 56	6	19 77
23	164	22.1		24.0	87	28.0	+7	58.9	135	58	7	04	7 57	8 49	12 01	3	15 79
24	179	22.0	+23	24.0	102	03.6	+7	45.5	134	60 S	7	11	8 08	9 06	12 07	0	22 10 83

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 5 ^h 51.5 ^m		Mag: -4.6 PMG: 15 ^h 07 ^m		Mag: +1.7 PMG: 15 ^h 23 ^m		Mag: -2.2 PMG: 8 ^h 15 ^m		Mag: +0.8 PMG: 4 ^h 30 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	271	53.5	133	08.7	+17	16.2	129	00.1	+15	59.4	235	51.6	+13	07.3	292	23.8	-10	21.9
1	286	56.0	148	09.4		15.4	144	01.1		58.9	250	53.6		07.4	307	26.3		21.9
2	301	58.4	163	10.0		14.6	159	02.1		58.4	265	55.6		07.6	322	28.8		22.0
3	317	00.9	178	10.7		13.7	174	03.1		57.9	280	57.7		07.7	337	31.3		22.0
4	332	03.4	193	11.4		12.9	189	04.1		57.4	295	59.7		07.9	352	33.8		22.0
5	347	05.8	208	12.0	+17	12.1	204	05.1	+15	56.9	311	01.7	+13	08.0	7	36.3	-10	22.0
6	2	08.3	223	12.7	+17	11.3	219	06.1	+15	56.4	326	03.7	+13	08.2	22	38.8	-10	22.0
7	17	10.8	238	13.4		10.5	234	07.1		55.9	341	05.7		08.3	37	41.2		22.0
8	32	13.2	253	14.1		09.7	249	08.1		55.5	356	07.7		08.4	52	43.7		22.1
9	47	15.7	268	14.7		08.9	264	09.1		55.0	11	09.7		08.6	67	46.2		22.1
10	62	18.2	283	15.4		08.1	279	10.1		54.5	26	11.8		08.7	82	48.7		22.1
11	77	20.6	298	16.1	+17	07.3	294	11.1	+15	54.0	41	13.8	+13	08.9	97	51.2	-10	22.1
12	92	23.1	313	16.8	+17	06.5	309	12.1	+15	53.5	56	15.8	+13	09.0	112	53.7	-10	22.1
13	107	25.5	328	17.5		05.7	324	13.1		53.0	71	17.8		09.2	127	56.2		22.2
14	122	28.0	343	18.2		04.9	339	14.1		52.5	86	19.8		09.3	142	58.6		22.2
15	137	30.5	358	18.8		04.1	354	15.1		52.0	101	21.8		09.4	158	01.1		22.2
16	152	32.9	13	19.5		03.3	9	16.1		51.5	116	23.8		09.6	173	03.6		22.2
17	167	35.4	28	20.2	+17	02.5	24	17.1	+15	51.0	131	25.9	+13	09.7	188	06.1	-10	22.2
18	182	37.9	43	20.9	+17	01.7	39	18.1	+15	50.5	146	27.9	+13	09.9	203	08.6	-10	22.3
19	197	40.3	58	21.6	+17	00.9	54	19.1		50.0	161	29.9		10.0	218	11.1		22.3
20	212	42.8	73	22.3	+17	00.0	69	20.1		49.5	176	31.9		10.2	233	13.6		22.3
21	227	45.3	88	23.0	+16	59.2	84	21.1		49.0	191	33.9		10.3	248	16.1		22.3
22	242	47.7	103	23.7		58.4	99	22.1		48.5	206	35.9		10.4	263	18.5		22.3
23	257	50.2	118	24.4		57.6	114	23.1		48.0	221	37.9		10.6	278	21.0		22.4
24	272	52.6	133	25.1	+16	56.8	129	24.1	+15	47.5	236	40.0	+13	10.7	293	23.5	-10	22.4
Dif	—		+7		-8		+10		-5		+20		+1		+25			

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: 6.8 ^d SD: 14/8 PMG: 17 ^h 40 ^m PHE { 4 ^h : 54/5 12 ^h : 54/7 20 ^h : 54/8 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	h m m	
0	179 22.0	+23 24.0	102 03.6	+7 45.5			60 N	21 28	23 13	** **	10 53	83	0 06	**		
1	194 21.8	23.9	116 39.1	31.9	136		58	21 07	22 23	** **	56 80	0 01	3			
2	209 21.7	23.8	131 14.8	18.4	135		56	20 51	21 53	** **	10 59	77	** **	**		
3	224 21.6	23.8	145 50.4	04.8	136	+7	54	37	31	23 17	11 01	74	** **	**		
4	239 21.4	23.7	160 26.0	51.2	136	+6	52	24	21 13	22 31	03 72	** **	**			
5	254 21.3	+23 23.7	175 01.6	37.6	136	+6	50	20 13	20 58	22 03	11 05	70	** **	**		
6	269 21.2	+23 23.6	189 37.3	23.9	137	+6	45	19 51	20 28	21 18	11 09	65	23 59	17		
7	284 21.0	23.5	204 13.0	10.2	137	+6	40	33	20 06	20 47	13 60	58 20				
8	299 20.9	23.5	218 48.6	56.5	137	+5	35	18	19 48	24	16 57	56 24				
9	314 20.8	23.4	233 24.3	42.7	138		30	19 05	32	20 06	19 54	55 27				
10	329 20.6	23.3	248 00.0	28.9	138		20	18 43	19 07	19 37	23 49	53 32				
11	344 20.5	+23 23.3	262 35.7	15.1	138	+5	10 N	18 24	18 47	19 14	11 27	44	23 52	36		
12	359 20.4	+23 23.2	277 11.4	01.3	138	+5	0	18 06	18 29	18 55	11 31	40	23 50	41		
13	14 20.2	23.1	291 47.1	47.4	139	+4	10 S	17 49	18 12	38	35 36	48 45				
14	29 20.1	23.1	306 22.8	33.5	139		20	30	17 54	22	39 31	47 49				
15	44 20.0	23.0	320 58.5	19.6	139		30	17 09	36	18 05	43 26	45 54				
16	59 19.8	22.9	335 34.1	05.6	140	+4	35	16 57	25	17 57	46 23	43 58				
17	74 19.7	+23 22.9	350 09.8	51.6	140	+3	40	16 43	17 13	17 47	11 48	21	23 42	61		
18	89 19.6	+23 22.8	4 45.5	37.7	139	+3	45	16 26	17 00	17 37	11 52	16	23 40	66		
19	104 19.4	22.7	19 21.2	23.6	141		50	16 05	16 44	25	56 12	39 69				
20	119 19.3	22.6	33 56.9	09.6	140	+3	52	15 55	36	20	11 58	10	38 72			
21	134 19.2	22.6	48 32.5	55.5	141	+2	54	44	28	14	12 00	8	37 74			
22	149 19.0	22.5	63 08.2	41.4	141		56	32	19	08	02 5	36 77				
23	164 18.9	22.4	77 43.8	27.3	141		58	15 17	16 09	17 01	04 3	34 81				
24	179 18.8	+23 22.3	92 19.5	13.2	141	+2	60 S	14 59	15 57	16 54	12 07	0	23 33	84		

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 5 ^h 47.5 ^m			Mag: -4.6 PMG: 15 ^h 06 ^m			Mag: +1.7 PMG: 15 ^h 21 ^m			Mag: -2.2 PMG: 8 ^h 12 ^m			Mag: +0.8 PMG: 4 ^h 26 ^m		
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /			
0	272 52.6	133 25.1	+16 56.8	129 24.1	+15 47.5	236 40.0	+13 10.7	293 23.5	-10 22.4						
1	287 55.1	148 25.8	56.0	144 25.1	47.0	251 42.0	10.9	308 26.0	22.4						
2	302 57.6	163 26.5	55.2	159 26.1	46.5	266 44.0	11.0	323 28.5	22.4						
3	318 00.0	178 27.3	54.4	174 27.1	46.0	281 46.0	11.2	338 31.0	22.4						
4	333 02.5	193 28.0	53.6	189 28.1	45.5	296 48.0	11.3	353 33.5	22.4						
5	348 05.0	208 28.7	+16 52.8	204 29.1	+15 45.0	311 50.0	+13 11.4	8 36.0	-10 22.5						
6	3 07.4	223 29.4	+16 52.0	219 30.1	+15 44.5	326 52.1	+13 11.6	23 38.5	-10 22.5						
7	18 09.9	238 30.1	51.2	234 31.1	44.0	341 54.1	11.7	38 41.0	22.5						
8	33 12.4	253 30.8	50.3	249 32.1	43.5	356 56.1	11.9	53 43.4	22.5						
9	48 14.8	268 31.6	49.5	264 33.1	43.0	11 58.1	12.0	68 45.9	22.6						
10	63 17.3	283 32.3	48.7	279 34.1	42.5	27 00.1	12.2	83 48.4	22.6						
11	78 19.8	298 33.0	+16 47.9	294 35.1	+15 42.0	42 02.1	+13 12.3	98 50.9	-10 22.6						
12	93 22.2	313 33.7	+16 47.1	309 36.1	+15 41.5	57 04.2	+13 12.4	113 53.4	-10 22.6						
13	108 24.7	328 34.5	46.3	324 37.1	41.0	72 06.2	12.6	128 55.9	22.6						
14	123 27.1	343 35.2	45.5	339 38.1	40.5	87 08.2	12.7	143 58.4	22.7						
15	138 29.6	358 35.9	44.7	354 39.1	40.0	102 10.2	12.9	159 00.9	22.7						
16	153 32.1	13 36.7	43.9	9 40.1	39.5	117 12.2	13.0	174 03.4	22.7						
17	168 34.5	28 37.4	+16 43.1	24 41.1	+15 39.0	132 14.3	+13 13.1	189 05.9	-10 22.7						
18	183 37.0	43 38.2	+16 42.2	39 42.1	+15 38.5	147 16.3	+13 13.3	204 08.4	-10 22.7						
19	198 39.5	58 38.9	41.4	54 43.1	38.0	162 18.3	13.4	219 10.8	22.8						
20	213 41.9	73 39.7	40.6	69 44.1	37.5	177 20.3	13.6	234 13.3	22.8						
21	228 44.4	88 40.4	39.8	84 45.1	37.0	192 22.3	13.7	249 15.8	22.8						
22	243 46.9	103 41.2	39.0	99 46.1	36.5	207 24.4	13.9	264 18.3	22.8						
23	258 49.3	118 41.9	38.2	114 47.1	36.0	222 26.4	14.0	279 20.8	22.8						
24	273 51.8	133 42.7	+16 37.4	129 48.1	+15 35.5	237 28.4	+13 14.1	294 23.3	-10 22.9						
Dif	—	+7	-8	+10	-5	+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 02.9 ^m			Edad: 7.8 ^d SD: 15/0 PMG: 18 ^h 21 ^m	PHE { 4 ^h : 55/0 12 ^h : 55/2 20 ^h : 55/4 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	179	18.8	+23	22.3	92	19.5	+2	13.2	60 N	** **	0 53	2 38	12 16	86	0 05	0		
1	194	18.6		22.3	106	55.1	+1	59.1	58	** **	1 43	2 58	16 82		04	3		
2	209	18.5		22.2	121	30.7		44.9	56	** **	2 12	3 15	16 78		03	6		
3	224	18.4		22.1	136	06.3		30.7	54	0 49	35	29	15 76		02	8		
4	239	18.3		22.0	150	41.9		16.5	52	1 34	2 53	41	15 73		01	11		
5	254	18.1	+23	22.0	165	17.5	+1	02.3	50	2 02	3 08	3 52	12 15	71	0 01	12		
6	269	18.0	+23	21.9	179	53.0	+0	48.1	45	2 48	3 37	4 15	12 14	66	** **	**		
7	284	17.9		21.8	194	28.5		33.8	40	3 18	4 00	33	13 63		** **	**		
8	299	17.7		21.7	209	04.0		19.6	35	3 41	18	4 48	13 59		** **	**		
9	314	17.6		21.6	223	39.5	+0	05.3	30	4 00	33	5 01	13 55		** **	**		
10	329	17.5		21.6	238	15.0	-0	09.0	20	29	4 58	23	12 50		** **	**		
11	344	17.3	+23	21.5	252	50.4	-0	23.3	10 N	4 51	5 19	5 42	12 11	46	** **	**		
12	359	17.2	+23	21.4	267	25.8	-0	37.6	0	5 10	5 37	5 59	12 11	41	** **	**		
13	14	17.1		21.3	282	01.2	-0	51.9	10 S	27	5 54	6 17	11 37		** **	**		
14	29	16.9		21.2	296	36.6	-1	06.2	20	5 44	6 11	35	10 32		** **	**		
15	44	16.8		21.1	311	11.9		20.6	30	6 00	30	6 56	09 28		** **	**		
16	59	16.7		21.1	325	47.2		34.9	35	09	40	7 09	09 25		** **	**		
17	74	16.5	+23	21.0	340	22.5	-1	49.3	40	6 18	6 52	7 23	12 09	21	** **	**		
18	89	16.4	+23	20.9	354	57.7	-2	03.6	45	6 28	7 06	7 40	12 08	18	** **	**		
19	104	16.3		20.8	9	32.9		18.0	50	40	22	8 00	08 13		** **	**		
20	119	16.1		20.7	24	08.1		32.4	52	45	29	10	08 10		** **	**		
21	134	16.0		20.6	38	43.2	-2	46.8	54	51	37	21	08 8		** **	**		
22	149	15.9		20.5	53	18.3	-3	01.1	56	6 57	46	34	07 6		** **	**		
23	164	15.8		20.4	67	53.3		15.5	58	7 04	7 57	8 48	07 3		** **	**		
24	179	15.6	+23	20.3	82	28.3	-3	29.9	60 S	7 11	8 08	9 06	12 07	0	** **	**		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 5 ^h 43.6 ^m		Mag: -4.6 PMG: 15 ^h 04 ^m			Mag: +1.7 PMG: 15 ^h 20 ^m			Mag: -2.2 PMG: 8 ^h 09 ^m			Mag: +0.8 PMG: 4 ^h 22 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'				
0	273	51.8	133	42.7	+16	37.4	129	48.1	+15	35.5	237	28.4	+13	14.1	294	23.3	-10	22.9
1	288	54.2	148	43.4		36.6	144	49.1		35.0	252	30.4		14.3	309	25.8		22.9
2	303	56.7	163	44.2		35.8	159	50.2		34.5	267	32.4		14.4	324	28.3		22.9
3	318	59.2	178	44.9		34.9	174	51.2		34.0	282	34.5		14.6	339	30.8		22.9
4	334	01.6	193	45.7		34.1	189	52.2		33.5	297	36.5		14.7	354	33.3		22.9
5	349	04.1	208	46.5	+16	33.3	204	53.2	+15	32.9	312	38.5	+13	14.8	9	35.8	-10	23.0
6	4	06.6	223	47.2	+16	32.5	219	54.2	+15	32.4	327	40.5	+13	15.0	24	38.3	-10	23.0
7	19	09.0	238	48.0		31.7	234	55.2		31.9	342	42.5		15.1	39	40.8		23.0
8	34	11.5	253	48.8		30.9	249	56.2		31.4	357	44.6		15.3	54	43.3		23.0
9	49	14.0	268	49.5		30.1	264	57.2		30.9	12	46.6		15.4	69	45.7		23.1
10	64	16.4	283	50.3		29.3	279	58.2		30.4	27	48.6		15.5	84	48.2		23.1
11	79	18.9	298	51.1	+16	28.5	294	59.2	+15	29.9	42	50.6	+13	15.7	99	50.7	-10	23.1
12	94	21.4	313	51.9	+16	27.6	310	00.2	+15	29.4	57	52.6	+13	15.8	114	53.2	-10	23.1
13	109	23.8	328	52.6		26.8	325	01.2		28.9	72	54.7		16.0	129	55.7		23.1
14	124	26.3	343	53.4		26.0	340	02.2		28.4	87	56.7		16.1	144	58.2		23.2
15	139	28.7	358	54.2		25.2	355	03.2		27.9	102	58.7		16.2	160	00.7		23.2
16	154	31.2	13	55.0		24.4	10	04.2		27.4	118	00.7		16.4	175	03.2		23.2
17	169	33.7	28	55.8	+16	23.6	25	05.2	+15	26.9	133	02.7	+13	16.5	190	05.7	-10	23.2
18	184	36.1	43	56.6	+16	22.8	40	06.2	+15	26.4	148	04.8	+13	16.7	205	08.2	-10	23.3
19	199	38.6	58	57.4		21.9	55	07.2		25.9	163	06.8		16.8	220	10.7		23.3
20	214	41.1	73	58.2		21.1	70	08.2		25.4	178	08.8		16.9	235	13.2		23.3
21	229	43.5	88	59.0		20.3	85	09.2		24.9	193	10.8		17.1	250	15.7		23.3
22	244	46.0	103	59.8		19.5	100	10.2		24.4	208	12.9		17.2	265	18.2		23.3
23	259	48.5	119	00.6		18.7	115	11.2		23.9	223	14.9		17.4	280	20.7		23.4
24	274	50.9	134	01.4	+16	17.9	130	12.2	+15	23.3	238	16.9	+13	17.5	295	23.2	-10	23.4
Dif	—		+8			-8	+10			-5	+20		+1	+25				

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'7 PMG:12 ^h 03.1 ^m			Edad: 8.8 ^d SD: 15'1 PMG: 19 ^h 02 ^m PHE { 4 ^h : 55'6 12 ^h : 55'8 20 ^h : 56'1 R°: 45 ^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	h m m
0	179	15.6	+23	20.3	82	28.3	160	-3	29.9	21 27	23 10	** **	13 42	90	0 05 0
1	194	15.5		20.2	97	03.3	160		44.3	21 07	22 22	** **	38 86		07 3
2	209	15.4		20.2	111	38.2	159	-3	58.7	20 50	21 53	** **	34 83		09 6
3	224	15.2		20.1	126	13.1	159	-4	13.1	36	31	23 15	31 80		10 9
4	239	15.1		20.0	140	47.9	158		27.5	24	21 13	22 30	28 77		12 11
5	254	15.0	+23	19.9	155	22.7	158	-4	41.8	20 13	20 58	22 03	13 26	74	0 13 13
6	269	14.8	+23	19.8	169	57.4	157	-4	56.2	19 51	20 28	21 18	13 20	70	0 16 18
7	284	14.7		19.7	184	32.1	157	-5	10.6	33	20 06	20 47	16 65		18 22
8	299	14.6		19.6	199	06.7	156		25.0	18	19 48	24	12 61		20 25
9	314	14.5		19.5	213	41.3	156		39.3	19 05	32	20 06	08 59		22 28
10	329	14.3		19.4	228	15.8	155	-5	53.7	18 43	19 08	19 37	13 02	53	25 33
11	344	14.2	+23	19.3	242	50.3	155	-6	08.1	18 24	18 47	19 14	12 57	48	0 28 38
12	359	14.1	+23	19.2	257	24.7	154	-6	22.4	18 07	18 29	18 55	12 52	44	0 31 42
13	14	13.9		19.1	271	59.1	154		36.7	17 49	18 12	39	48 39		33 47
14	29	13.8		19.0	286	33.4	153	-6	51.1	31	17 55	22	42 35		36 51
15	44	13.7		18.9	301	07.6	152	-7	05.4	17 10	36	18 06	37 29		39 57
16	59	13.5		18.8	315	41.8	152		19.7	16 57	26	17 57	34 26		41 60
17	74	13.4	+23	18.7	330	15.9	151	-7	34.0	16 43	17 14	17 48	12 30	23	0 43 63
18	89	13.3	+23	18.6	344	49.9	150	-7	48.3	16 27	17 00	17 38	12 26	19	0 46 67
19	104	13.2		18.5	359	23.9	150	-8	02.5	16 06	16 44	26	21 14		48 73
20	119	13.0		18.3	13	57.8	149		16.8	15 56	37	21	18 12		50 75
21	134	12.9		18.2	28	31.6	148		31.0	45	29	15	16 10		51 78
22	149	12.8		18.1	43	05.4	148		45.2	33	20	09	13 7		53 80
23	164	12.6		18.0	57	39.1	147	-8	59.4	18	16 10	17 02	10 4		55 83
24	179	12.5	+23	17.9	72	12.7	146	-9	13.6	15 01	15 58	16 55	12 07	0	0 57 87

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 5 ^h 39.7 ^m		Mag: -4.6 PMG: 15 ^h 03 ^m		Mag: +1.7 PMG: 15 ^h 18 ^m		Mag: -2.2 PMG: 8 ^h 06 ^m		Mag: +0.8 PMG: 4 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	274	50.9	134	01.4	+16	17.9	130	12.2	+15	23.3
1	289	53.4	149	02.2		17.1	145	13.2		22.8
2	304	55.9	164	03.0		16.3	160	14.2		22.3
3	319	58.3	179	03.8		15.4	175	15.2		21.8
4	335	00.8	194	04.6		14.6	190	16.2		21.3
5	350	03.2	209	05.4	+16	13.8	205	17.2	+15	20.8
6	5	05.7	224	06.2	+16	13.0	220	18.2	+15	20.3
7	20	08.2	239	07.0		12.2	235	19.2		19.8
8	35	10.6	254	07.8		11.4	250	20.2		19.3
9	50	13.1	269	08.7		10.6	265	21.2		18.8
10	65	15.6	284	09.5		09.7	280	22.2		18.3
11	80	18.0	299	10.3	+16	08.9	295	23.2	+15	17.8
12	95	20.5	314	11.1	+16	08.1	310	24.2	+15	17.2
13	110	23.0	329	12.0		07.3	325	25.2		16.7
14	125	25.4	344	12.8		06.5	340	26.2		16.2
15	140	27.9	359	13.6		05.7	355	27.2		15.7
16	155	30.3	14	14.5		04.9	10	28.3		15.2
17	170	32.8	29	15.3	+16	04.0	25	29.3	+15	14.7
18	185	35.3	44	16.2	+16	03.2	40	30.3	+15	14.2
19	200	37.7	59	17.0		02.4	55	31.3		13.7
20	215	40.2	74	17.8		01.6	70	32.3		13.2
21	230	42.7	89	18.7	+16	00.8	85	33.3		12.7
22	245	45.1	104	19.5	+16	00.0	100	34.3		12.1
23	260	47.6	119	20.4	+15	59.2	115	35.3		11.6
24	275	50.1	134	21.2	+15	58.3	130	36.3	+15	11.1
Dif	—		+8		-8		+10		-5	
							+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 03.3 ^m			Edad: 9.8 ^d PHE { 4 ^h : 56/4 12 ^h : 56/6 20 ^h : 56/9 PMG: 19 ^h 47 ^m R°: 49 ^m																							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°											
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m									
0	179	12.5	+23	17.9	72	12.7	−9	13.6	60 N	** **	0 56	2 39	15 12	98	0 05	0											
1	194	12.4		17.8	86	46.3		27.7	58	** **	1 45	2 59	15 04	93	10	4											
2	209	12.3		17.7	101	19.7		41.9	56	** **	2 14	3 16	14 57	89	15	7											
3	224	12.1		17.6	115	53.1	−9	56.0	54	0 52	36	30	51	85	19	10											
4	239	12.0		17.5	130	26.4	−10	10.0	52	1 36	2 54	42	45	82	23	13											
5	254	11.9	+23	17.4	144	59.7	−10	24.1	50	2 04	3 09	3 53	14 40	80	0 26	16											
6	269	11.7	+23	17.2	159	32.8	−10	38.1	45	2 49	3 38	4 15	14 30	73	0 34	20											
7	284	11.6		17.1	174	05.9	−10	52.1	40	3 19	4 01	33	21	69	40	24											
8	299	11.5		17.0	188	38.9	−11	06.1	35	3 42	19	4 48	13	65	45	28											
9	314	11.4		16.9	203	11.8		20.0	30	4 01	34	5 01	14 07	62	50	31											
10	329	11.2		16.8	217	44.6		34.0	20	30	4 59	23	13 55	57	0 58	37											
11	344	11.1	+23	16.7	232	17.4	−11	47.8	10 N	4 52	5 19	5 42	13 45	52	1 06	41											
12	359	11.0	+23	16.5	246	50.0	−12	01.7	0	5 11	5 37	6 00	13 36	48	1 13	45											
13	14	10.8		16.4	261	22.6		15.5	10 S	28	5 54	17	27	43	20	50											
14	29	10.7		16.3	275	55.0		29.3	20	5 44	6 11	35	17	39	27	55											
15	44	10.6		16.2	290	27.4		43.0	30	6 00	30	6 56	06	34	36	60											
16	59	10.5		16.1	304	59.7	−12	56.7	35	09	41	7 09	13 00	31	41	63											
17	74	10.3	+23	15.9	319	31.8	−13	10.4	40	6 18	6 52	7 23	12 53	27	1 46	67											
18	89	10.2	+23	15.8	334	03.9	−13	24.0	45	6 29	7 06	7 40	12 45	23	1 53	71											
19	104	10.1		15.7	348	35.9		37.6	50	40	22	8 00	35	18	2 01	77											
20	119	10.0		15.6	3	07.8	−13	51.1	52	45	29	10	30	16	05	79											
21	134	09.8		15.5	17	39.6	−14	04.6	54	51	37	21	26	12	09	82											
22	149	09.7		15.3	32	11.2		18.0	56	6 57	46	33	20	9	13	85											
23	164	09.6		15.2	46	42.8		31.4	58	7 04	7 56	8 48	14	6	18	89											
24	179	09.5	+23	15.1	61	14.3	−14	44.8	60 S	7 11	8 08	9 05	12 07	2	2 24	93											
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 5 ^h 35.7 ^m			Mag: −4.6 PMG: 15 ^h 02 ^m			Mag: +1.7 PMG: 15 ^h 17 ^m			Mag: −2.2 PMG: 8 ^h 03 ^m			Mag: +0.8 PMG: 4 ^h 14 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°									
0	275	50.1	134	21.2	+15	58.3	130	36.3	+15	11.1	239	05.5	+13	20.8	296	23.1	−10	24.0									
1	290	52.5	149	22.1		57.5	145	37.3		10.6	254	07.5		21.0	311	25.6		24.0									
2	305	55.0	164	23.0		56.7	160	38.3		10.1	269	09.6		21.1	326	28.1		24.0									
3	320	57.5	179	23.8		55.9	175	39.3		09.6	284	11.6		21.2	341	30.6		24.0									
4	335	59.9	194	24.7		55.1	190	40.3		09.1	299	13.6		21.4	356	33.1		24.0									
5	351	02.4	209	25.5	+15	54.3	205	41.3	+15	08.6	314	15.7	+13	21.5	11	35.6	−10	24.1									
6	6	04.8	224	26.4	+15	53.5	220	42.3	+15	08.1	329	17.7	+13	21.6	26	38.1	−10	24.1									
7	21	07.3	239	27.3		52.6	235	43.3		07.5	344	19.7		21.8	41	40.6		24.1									
8	36	09.8	254	28.1		51.8	250	44.3		07.0	359	21.7		21.9	56	43.1		24.1									
9	51	12.2	269	29.0		51.0	265	45.3		06.5	14	23.8		22.0	71	45.6		24.2									
10	66	14.7	284	29.9		50.2	280	46.3		06.0	29	25.8		22.2	86	48.1		24.2									
11	81	17.2	299	30.8	+15	49.4	295	47.3	+15	05.5	44	27.8	+13	22.3	101	50.7	−10	24.2									
12	96	19.6	314	31.6	+15	48.6	310	48.3	+15	05.0	59	29.9	+13	22.5	116	53.2	−10	24.2									
13	111	22.1	329	32.5		47.7	325	49.3		04.5	74	31.9		22.6	131	55.7		24.3									
14	126	24.6	344	33.4		46.9	340	50.3		04.0	89	33.9		22.7	146	58.2		24.3									
15	141	27.0	359	34.3		46.1	355	51.3		03.4	104	35.9		22.9	162	00.7		24.3									
16	156	29.5	14	35.2		45.3	10	52.3		02.9	119	38.0		23.0	177	03.2		24.3									
17	171	32.0	29	36.1	+15	44.5	25	53.4	+15	02.4	134	40.0	+13	23.1	192	05.7	−10	24.4									
18	186	34.4	44	37.0	+15	43.7	40	54.4	+15	01.9	149	42.0	+13	23.3	207	08.2	−10	24.4									
19	201	36.9	59	37.8		42.9	55	55.4		01.4	164	44.1		23.4	222	10.7		24.4									
20	216	39.3	74	38.7		42.0	70	56.4		00.9	179	46.1		23.5	237	13.2		24.4									
21	231	41.8	89	39.6		41.2	85	57.4	+15	00.4	194	48.1		23.7	252	15.7		24.5									
22	246	44.3	104	40.5		40.4	100	58.4	+14	59.8	209	50.2		23.8	267	18.2		24.5									
23	261	46.7	119	41.4		39.6	115	59.4		59.3	224	52.2		24.0	282	20.7		24.5									
24	276	49.2	134	42.3	+15	38.8	131	00.4	+14	58.8	239	54.2	+13	24.1	297	23.2	−10	24.5									
Dif	—			+9			−8			+10			−5			+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 03.5 ^m				Edad: 10.8 ^d SD: 15'5 PMG: 20 ^h 36 ^m PHE { 4 ^h : 57'2 12 ^h : 57'5 20 ^h : 57'8 R°: 54 ^m														
	hG ☉	Dec			hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	09.5	+23	15.1	61	14.3	-14	44.8	132	60 N	21 26	23 07	** **	16 50	106	0 05	2		
1	194	09.3		15.0	75	45.6	-14	58.0	132	58	21 06	22 20	** **	37 99		14	7		
2	209	09.2		14.8	90	16.9	-15	11.3	133	56	20 50	21 52	** **	26 93		22	11		
3	224	09.1		14.7	104	48.1		24.5	132	54	36	30	23 12	16 89		29	15		
4	239	08.9		14.6	119	19.1		37.6	131	52	24	21 12	22 29	07 86		36	17		
5	254	08.8	+23	14.4	133	50.0	-15	50.7	131	50	20 13	20 57	22 02	16 00	83	0 42	19		
6	269	08.7	+23	14.3	148	20.8	-16	03.7	130	45	19 51	20 28	21 17	15 43	77	0 54	25		
7	284	08.6		14.2	162	51.5		16.6	129	40	33	20 06	20 47	30 73		1 04	30		
8	299	08.4		14.0	177	22.1		29.5	129	35	18	19 48	24	18 70		13	34		
9	314	08.3		13.9	191	52.6		42.4	129	30	19 05	33	20 06	15 09	66	21	36		
10	329	08.2		13.8	206	23.0	-16	55.1	127	20	18 43	19 08	19 37	14 52	61	35	41		
11	344	08.1	+23	13.6	220	53.2	-17	07.8	127	10 N	18 25	18 48	19 15	14 37	57	1 47	46		
12	359	07.9	+23	13.5	235	23.3	-17	20.4	126	0	18 07	18 30	18 56	14 24	53	1 58	50		
13	14	07.8		13.4	249	53.3		33.0	126	10 S	17 50	18 13	39	14 10	49	2 10	54		
14	29	07.7		13.2	264	23.2		45.5	125	20	31	17 55	23	13 56	45	22	59		
15	44	07.6		13.1	278	53.0	-17	57.9	124	30	17 10	37	18 07	40 40		36	64		
16	59	07.4		13.0	293	22.6	-18	10.3	124	35	16 58	26	17 58	31 36		44	67		
17	74	07.3	+23	12.8	307	52.1	-18	22.5	122	40	16 44	17 15	17 49	13 20	33	2 53	71		
18	89	07.2	+23	12.7	322	21.5	-18	34.7	122	45	16 28	17 01	17 39	13 08	29	3 04	76		
19	104	07.1		12.5	336	50.8		46.8	121	50	16 07	16 45	27	12 53	23	18	81		
20	119	06.9		12.4	351	19.9	-18	58.8	120	52	15 57	38	22	46 21		24	84		
21	134	06.8		12.3	5	49.0	-19	10.8	120	54	46	30	16	38 18		31	87		
22	149	06.7		12.1	20	17.9		22.6	118	56	34	21	10	29 15		38	91		
23	164	06.6		12.0	34	46.6		34.4	118	58	19	16 11	17 03	20 10		47	96		
24	179	06.4	+23	11.8	49	15.2	-19	46.1	117	60 S	15 02	15 59	16 56	12 09	4	3 57	101		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 5 ^h 31.8 ^m		Mag: -4.6 PMG: 15 ^h 00 ^m		Mag: +1.7 PMG: 15 ^h 15 ^m		Mag: -2.3 PMG: 7 ^h 59 ^m		Mag: +0.8 PMG: 4 ^h 10 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	276	49.2	134	42.3	+15	38.8	131	00.4	+14	58.8
1	291	51.7	149	43.3		38.0	146	01.4		58.3
2	306	54.1	164	44.2		37.1	161	02.4		57.8
3	321	56.6	179	45.1		36.3	176	03.4		57.3
4	336	59.1	194	46.0		35.5	191	04.4		56.7
5	352	01.5	209	46.9	+15	34.7	206	05.4	+14	56.2
6	7	04.0	224	47.8	+15	33.9	221	06.4	+14	55.7
7	22	06.4	239	48.7		33.1	236	07.4		55.2
8	37	08.9	254	49.7		32.2	251	08.4		54.7
9	52	11.4	269	50.6		31.4	266	09.4		54.2
10	67	13.8	284	51.5		30.6	281	10.4		53.7
11	82	16.3	299	52.4	+15	29.8	296	11.4	+14	53.1
12	97	18.8	314	53.4	+15	29.0	311	12.5	+14	52.6
13	112	21.2	329	54.3		28.2	326	13.5		52.1
14	127	23.7	344	55.2		27.4	341	14.5		51.6
15	142	26.2	359	56.2		26.5	356	15.5		51.1
16	157	28.6	14	57.1		25.7	11	16.5		50.5
17	172	31.1	29	58.1	+15	24.9	26	17.5	+14	50.0
18	187	33.6	44	59.0	+15	24.1	41	18.5	+14	49.5
19	202	36.0	59	59.9		23.3	56	19.5		49.0
20	217	38.5	75	00.9		22.5	71	20.5		48.5
21	232	40.9	90	01.8		21.6	86	21.5		48.0
22	247	43.4	105	02.8		20.8	101	22.5		47.4
23	262	45.9	120	03.8		20.0	116	23.5		46.9
24	277	48.3	135	04.7	+15	19.2	131	24.5	+14	46.4
Dif	—		+9		-8		+10		-5	
									+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 03.7 ^m			Edad: 11.8 ^d SD: 15'8 PMG: 21 ^h 30 ^m																				
				PHE { 4 ^h : 58'1 12 ^h : 58'4 20 ^h : 58'7 R°: 60 ^m																				
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°								
h	°	'	°	°	'	°	'	°		h	m	h	m		h	m	m							
0	179	06.4	+23	49	15.2	95	−19	46.1	116	60 N	** **	1 00	2 41	18 36	109	0 07	6							
1	194	06.3		63	43.7	94	−19	57.7	115	58	** **	1 47	3 01	18 16	100	21	13							
2	209	06.2		78	12.1	92	−20	09.2	114	56	** **	2 16	17	17 59	94	33	18							
3	224	06.1		92	40.3	92		20.6	114	54	0 55	37	31	45	90	44	22							
4	239	06.0		107	08.4	91		31.9	113	52	1 38	2 55	43	33	87	0 53	25							
5	254	05.8	+23	121	36.4	90	−20	43.1	112	50	2 05	3 10	3 54	17 23	83	1 01	28							
6	269	05.7	+23	136	04.3	89	−20	54.2	111	45	2 50	3 39	4 16	17 00	79	1 19	33							
7	284	05.6		150	32.0	87	−21	05.2	110	40	3 20	4 02	34	16 43	74	34	37							
8	299	05.5		164	59.5	85		16.2	110	35	3 43	20	4 49	28	71	47	40							
9	314	05.3		179	27.0	85		27.0	108	30	4 01	35	5 02	16 15	69	1 57	44							
10	329	05.2		193	54.3	83		37.6	106	20	30	4 59	24	15 53	65	2 16	48							
11	344	05.1	+23	208	21.5	82	−21	48.2	106	10 N	4 53	5 20	5 43	15 34	62	2 33	52							
12	359	05.0	+23	222	48.5	80	−21	58.7	105	0	5 11	5 37	6 00	15 17	58	2 48	56							
13	14	04.8		237	15.4	79	−22	09.1	104	10 S	28	5 54	17	14 59	56	3 04	59							
14	29	04.7		251	42.2	78		19.3	102	20	5 44	6 12	36	41	52	21	63							
15	44	04.6		266	08.8	76		29.4	101	30	6 00	30	6 57	20	48	40	68							
16	59	04.5		280	35.3	75		39.4	100	35	09	41	7 09	14 07	46	3 51	71							
17	74	04.4	+23	295	01.6	73	−22	49.3	99	40	6 18	6 52	7 23	13 53	43	4 04	74							
18	89	04.2	+23	309	27.9	73	−22	59.1	98	45	6 29	7 06	7 39	13 37	38	4 20	78							
19	104	04.1		323	53.9	70	−23	08.7	96	50	40	22	8 00	16	34	39	83							
20	119	04.0		338	19.9	70		18.2	95	52	45	29	10	13 07	30	48	86							
21	134	03.9		352	45.7	68		27.6	94	54	51	37	21	12 56	27	4 58	90							
22	149	03.7		7	11.4	67		36.9	93	56	6 57	46	33	44	23	5 09	95							
23	164	03.6		21	36.9	65		46.0	91	58	7 04	7 56	8 47	30	18	23	99							
24	179	03.5	+23	36	02.3	64	−23	55.0	90	60 S	7 11	8 07	9 05	12 13	11	5 38	108							
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 5 ^h 27.9 ^m			Mag: −4.7 PMG: 14 ^h 59 ^m			Mag: +1.7 PMG: 15 ^h 13 ^m			Mag: −2.3 PMG: 7 ^h 56 ^m			Mag: +0.8 PMG: 4 ^h 06 ^m											
	hG ♈	Dec		hG ♊	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°	°	'							
0	277	48.3	135	04.7	+15	19.2	131	24.5	+14	46.4	240	43.0	+13	27.3	298	23.3	−10	25.2						
1	292	50.8	150	05.7		18.4	146	25.5		45.9	255	45.0		27.5	313	25.8		25.2						
2	307	53.3	165	06.6		17.6	161	26.5		45.4	270	47.1		27.6	328	28.4		25.2						
3	322	55.7	180	07.6		16.8	176	27.5		44.8	285	49.1		27.7	343	30.9		25.3						
4	337	58.2	195	08.6		15.9	191	28.5		44.3	300	51.2		27.9	358	33.4		25.3						
5	353	00.7	210	09.5	+15	15.1	206	29.6	+14	43.8	315	53.2	+13	28.0	13	35.9	−10	25.3						
6	8	03.1	225	10.5	+15	14.3	221	30.6	+14	43.3	330	55.2	+13	28.1	28	38.4	−10	25.3						
7	23	05.6	240	11.5		13.5	236	31.6		42.8	345	57.3		28.3	43	40.9		25.4						
8	38	08.1	255	12.5		12.7	251	32.6		42.2	0	59.3		28.4	58	43.4		25.4						
9	53	10.5	270	13.4		11.9	266	33.6		41.7	16	01.3		28.5	73	45.9		25.4						
10	68	13.0	285	14.4		11.1	281	34.6		41.2	31	03.4		28.7	88	48.4		25.5						
11	83	15.4	300	15.4	+15	10.2	296	35.6	+14	40.7	46	05.4	+13	28.8	103	50.9	−10	25.5						
12	98	17.9	315	16.4	+15	09.4	311	36.6	+14	40.2	61	07.4	+13	28.9	118	53.4	−10	25.5						
13	113	20.4	330	17.4		08.6	326	37.6		39.6	76	09.5		29.1	133	55.9		25.5						
14	128	22.8	345	18.4		07.8	341	38.6		39.1	91	11.5		29.2	148	58.5		25.6						
15	143	25.3	0	19.3		07.0	356	39.6		38.6	106	13.6		29.3	164	01.0		25.6						
16	158	27.8	15	20.3		06.2	11	40.6		38.1	121	15.6		29.5	179	03.5		25.6						
17	173	30.2	30	21.3	+15	05.3	26	41.6	+14	37.6	136	17.6	+13	29.6	194	06.0	−10	25.6						
18	188	32.7	45	22.3	+15	04.5	41	42.6	+14	37.0	151	19.7	+13	29.7	209	08.5	−10	25.7						
19	203	35.2	60	23.3		03.7	56	43.6		36.5	166	21.7		29.9	224	11.0		25.7						
20	218	37.6	75	24.3		02.9	71	44.7		36.0	181	23.7		30.0	239	13.5		25.7						
21	233	40.1	90	25.3		02.1	86	45.7		35.5	196	25.8		30.1	254	16.0		25.8						
22	248	42.6	105	26.3		01.3	101	46.7		34.9	211	27.8		30.3	269	18.5		25.8						
23	263	45.0	120	27.4	+15	00.5	116	47.7		34.4	226	29.9		30.4	284	21.1		25.8						
24	278	47.5	135	28.4	+14	59.6	131	48.7	+14	33.9	241	31.9	+13	30.5	299	23.6	−10	25.8						
Dif	—			+10			−8			+10			−5			+20			+1			+25		

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG: 12 ^h 03.9 ^m			Edad: 12.8 ^d SD: 16'0 PMG: 22 ^h 30 ^m			PHE { 4 ^h : 59'0 12 ^h : 59'3 20 ^h : 59'6 Rº: 64 ^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	03.5	+23	08.2	36	02.3	63	-23	55.0	88	60 N	21 25	23 03	** **	20 25	93	0 13	15		
1	194	03.4		08.0	50	27.6	62	-24	03.8	87	58	21 05	22 19	** **	19 56	86	34	24		
2	209	03.3		07.9	64	52.8	60		12.5	86	56	20 49	21 50	** **	33	82	0 51	29		
3	224	03.1		07.7	79	17.8	59		21.1	84	54	35	29	23 08	15	79	1 05	34		
4	239	03.0		07.5	93	42.7	57		29.5	83	52	23	21 11	22 27	19 00	77	18	37		
5	254	02.9	+23	07.4	108	07.4	57	-24	37.8	84	50	20 13	20 57	22 01	18 46	76	1 29	40		
6	269	02.8	+23	07.2	122	32.0	56	-24	45.9	81	45	19 51	20 28	21 17	18 19	73	1 52	45		
7	284	02.7		07.1	136	56.5	55	-24	53.9	80	40	33	20 05	20 47	17 57	72	2 11	48		
8	299	02.5		06.9	151	20.9	54	-25	01.7	78	35	18	19 48	24	39	70	27	50		
9	314	02.4		06.7	165	45.1	52		09.4	77	30	19 05	33	20 06	17 24	69	2 41	52		
10	329	02.3		06.6	180	09.2	51		16.9	75	20	18 44	19 08	19 37	16 58	67	3 04	56		
11	344	02.2	+23	06.4	194	33.2	50	-25	24.3	74	10 N	18 25	18 48	19 15	16 36	65	3 25	58		
12	359	02.1	+23	06.2	208	57.0	48	-25	31.5	72	0	18 08	18 30	18 56	16 15	64	3 44	61		
13	14	01.9		06.1	223	20.8	48		38.5	69	10 S	17 50	18 13	39	15 55	62	4 03	64		
14	29	01.8		05.9	237	44.4	46		45.4	67	20	32	17 56	24	33	60	24	66		
15	44	01.7		05.7	252	07.9	45		52.1	66	30	17 11	38	18 07	15 08	57	4 48	69		
16	59	01.6		05.5	266	31.2	43	-25	58.7	64	35	16 59	27	17 59	14 53	56	5 02	71		
17	74	01.5	+23	05.4	280	54.5	43	-26	05.1	60	40	16 45	17 16	17 50	14 36	54	5 18	74		
18	89	01.3	+23	05.2	295	17.6	41	-26	11.3	62	45	16 29	17 02	17 39	14 15	52	5 38	76		
19	104	01.2		05.0	309	40.6	40		17.3	59	50	16 08	16 47	28	13 50	48	6 02	81		
20	119	01.1		04.8	324	03.5	39		23.2	57	52	15 59	39	23	37	47	14	83		
21	134	01.0		04.7	338	26.3	38		28.9	55	54	48	31	17	23	44	28	85		
22	149	00.9		04.5	352	49.0	37		34.4	53	56	35	22	11	13 07	41	6 44	89		
23	164	00.7		04.3	7	11.6	36		39.7	53	58	21	12	17 05	12 48	35	7 02	95		
24	179	00.6	+23	04.1	21	34.1	35	-26	44.9	52	60 S	15 04	16 01	16 57	12 24	27	7 26	103		
UT	ARIES		VENUS			MARTE			JÚPITER				SATURNO							
	PMG 5 ^h 23.9 ^m		Mag: -4.7 PMG: 14 ^h 57 ^m			Mag: +1.7 PMG: 15 ^h 12 ^m			Mag: -2.3 PMG: 7 ^h 53 ^m				Mag: +0.8 PMG: 4 ^h 02 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec						
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /						
0	278	47.5	135	28.4	+14	59.6	131	48.7	+14	33.9	241	31.9	+13	30.5	299	23.6	-10	25.8		
1	293	49.9	150	29.4		58.8	146	49.7		33.4	256	33.9		30.7	314	26.1		25.9		
2	308	52.4	165	30.4		58.0	161	50.7		32.9	271	36.0		30.8	329	28.6		25.9		
3	323	54.9	180	31.4		57.2	176	51.7		32.3	286	38.0		30.9	344	31.1		25.9		
4	338	57.3	195	32.4		56.4	191	52.7		31.8	301	40.1		31.0	359	33.6		26.0		
5	353	59.8	210	33.5	+14	55.6	206	53.7	+14	31.3	316	42.1	+13	31.2	14	36.1	-10	26.0		
6	9	02.3	225	34.5	+14	54.8	221	54.7	+14	30.8	331	44.1	+13	31.3	29	38.6	-10	26.0		
7	24	04.7	240	35.5		54.0	236	55.7		30.2	346	46.2		31.4	44	41.2		26.0		
8	39	07.2	255	36.5		53.1	251	56.7		29.7	1	48.2		31.6	59	43.7		26.1		
9	54	09.7	270	37.6		52.3	266	57.7		29.2	16	50.3		31.7	74	46.2		26.1		
10	69	12.1	285	38.6		51.5	281	58.8		28.7	31	52.3		31.8	89	48.7		26.1		
11	84	14.6	300	39.7	+14	50.7	296	59.8	+14	28.1	46	54.3	+13	32.0	104	51.2	-10	26.2		
12	99	17.1	315	40.7	+14	49.9	312	00.8	+14	27.6	61	56.4	+13	32.1	119	53.7	-10	26.2		
13	114	19.5	330	41.7		49.1	327	01.8		27.1	76	58.4		32.2	134	56.2		26.2		
14	129	22.0	345	42.8		48.3	342	02.8		26.6	92	00.5		32.4	149	58.7		26.2		
15	144	24.4	0	43.8		47.4	357	03.8		26.0	107	02.5		32.5	165	01.3		26.3		
16	159	26.9	15	44.9		46.6	12	04.8		25.5	122	04.6		32.6	180	03.8		26.3		
17	174	29.4	30	45.9	+14	45.8	27	05.8	+14	25.0	137	06.6	+13	32.8	195	06.3	-10	26.3		
18	189	31.8	45	47.0	+14	45.0	42	06.8	+14	24.5	152	08.6	+13	32.9	210	08.8	-10	26.4		
19	204	34.3	60	48.0		44.2	57	07.8		23.9	167	10.7		33.0	225	11.3		26.4		
20	219	36.8	75	49.1		43.4	72	08.8		23.4	182	12.7		33.1	240	13.8		26.4		
21	234	39.2	90	50.2		42.6	87	09.8		22.9	197	14.8		33.3	255	16.3		26.5		
22	249	41.7	105	51.2		41.8	102	10.9		22.4	212	16.8		33.4	270	18.9		26.5		
23	264	44.2	120	52.3		40.9	117	11.9		21.8	227	18.9		33.5	285	21.4		26.5		
24	279	46.6	135	53.4	+14	40.1	132	12.9	+14	21.3	242	20.9	+13	33.7	300	23.9	-10	26.5		
Dif	—		+10			-8		+10			-5		+20		+1		+25			

UT	SOL			☾ LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15'7 PMG:12 ^h 04.1 ^m			Edad: 13.8 ^d PHE { 4 ^h : 59'8 12 ^h : 60'1 20 ^h : 60'3 SD: 16'3 PMG: 23 ^h 34 ^m R°: 66 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	179	00.6	+23	04.1	21	34.1	34	-26	44.9	49	60 N	** **	1 05	2 43	21 58	49	0 28	42
1	194	00.5		04.0	35	56.5	32		49.8	48	58	** **	1 50	3 03	21 22	54	0 58	49
2	209	00.4		03.8	50	18.7	32		54.6	46	56	** **	2 18	19	20 55	58	1 20	53
3	224	00.3		03.6	64	40.9	32	-26	59.2	44	54	1 00	39	33	34	59	39	55
4	239	00.2		03.4	79	03.0	31	-27	03.6	43	52	1 41	2 57	45	17	60	1 55	56
5	254	00.0	+23	03.3	93	25.0	30	-27	07.9	44	50	2 07	3 11	3 55	20 02	61	2 09	57
6	268	59.9	+23	03.1	107	46.9	29	-27	11.9	40	45	2 51	3 40	4 18	19 32	62	2 37	59
7	283	59.8		02.9	122	08.7	28		15.7	38	40	3 21	4 03	35	19 09	63	2 59	61
8	298	59.7		02.7	136	30.4	27		19.4	37	35	3 44	20	4 50	18 49	64	3 17	62
9	313	59.6		02.5	150	52.0	26		22.8	34	30	4 02	4 35	5 03	33	64	3 33	63
10	328	59.4		02.3	165	13.6	26		26.1	33	20	31	5 00	24	18 05	65	4 00	64
11	343	59.3	+23	02.2	179	35.1	25	-27	29.2	31	10 N	4 53	5 20	5 43	17 41	65	4 23	65
12	358	59.2	+23	02.0	193	56.5	24	-27	32.0	28	0	5 12	5 38	6 00	17 19	66	4 45	65
13	13	59.1		01.8	208	17.8	23		34.7	25	10 S	28	5 55	18	16 57	66	5 07	65
14	28	59.0		01.6	222	39.0	22		37.2	22	20	5 44	6 12	36	33	66	30	66
15	43	58.9		01.4	237	00.2	22		39.4	22	30	6 01	30	6 57	16 05	67	5 57	67
16	58	58.7		01.2	251	21.4	22		41.5	21	35	09	41	7 09	15 49	67	6 13	67
17	73	58.6	+23	01.0	265	42.4	20	-27	43.4	19	40	6 18	6 52	7 23	15 30	67	6 32	67
18	88	58.5	+23	00.8	280	03.4	20	-27	45.0	16	45	6 28	7 05	7 39	15 07	67	6 54	68
19	103	58.4		00.7	294	24.4	20		46.5	15	50	40	21	7 59	14 38	67	7 23	69
20	118	58.3		00.5	308	45.3	19		47.7	12	52	45	28	8 09	24	67	37	69
21	133	58.2		00.3	323	06.1	18		48.7	9	54	50	36	20	14 07	67	7 53	70
22	148	58.0	+23	00.1	337	26.9	18		49.6	6	56	6 56	45	32	13 48	66	8 13	70
23	163	57.9	+22	59.9	351	47.7	18		50.2	6	58	7 03	7 55	8 46	13 23	67	8 37	71
24	178	57.8	+22	59.7	6	08.4	17	-27	50.6	4	60 S	7 10	8 07	9 03	12 51	66	9 09	72
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 5 ^h 20.0 ^m		Mag: -4.7 PMG: 14 ^h 55 ^m			Mag: +1.7 PMG: 15 ^h 10 ^m			Mag: -2.3 PMG: 7 ^h 50 ^m			Mag: +0.8 PMG: 3 ^h 58 ^m						
	hG ♊	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	279	46.6	135	53.4	+14	40.1	132	12.9	+14	21.3	242	20.9	+13	33.7	300	23.9	-10	26.5
1	294	49.1	150	54.4		39.3	147	13.9		20.8	257	22.9		33.8	315	26.4		26.6
2	309	51.6	165	55.5		38.5	162	14.9		20.3	272	25.0		33.9	330	28.9		26.6
3	324	54.0	180	56.6		37.7	177	15.9		19.7	287	27.0		34.1	345	31.4		26.6
4	339	56.5	195	57.6		36.9	192	16.9		19.2	302	29.1		34.2	0	34.0		26.7
5	354	58.9	210	58.7	+14	36.1	207	17.9	+14	18.7	317	31.1	+13	34.3	15	36.5	-10	26.7
6	10	01.4	225	59.8	+14	35.3	222	18.9	+14	18.1	332	33.2	+13	34.5	30	39.0	-10	26.7
7	25	03.9	241	00.9		34.5	237	19.9		17.6	347	35.2		34.6	45	41.5		26.8
8	40	06.3	256	02.0		33.6	252	20.9		17.1	2	37.2		34.7	60	44.0		26.8
9	55	08.8	271	03.1		32.8	267	21.9		16.6	17	39.3		34.8	75	46.5		26.8
10	70	11.3	286	04.2		32.0	282	23.0		16.0	32	41.3		35.0	90	49.0		26.8
11	85	13.7	301	05.3	+14	31.2	297	24.0	+14	15.5	47	43.4	+13	35.1	105	51.6	-10	26.9
12	100	16.2	316	06.4	+14	30.4	312	25.0	+14	15.0	62	45.4	+13	35.2	120	54.1	-10	26.9
13	115	18.7	331	07.5		29.6	327	26.0		14.4	77	47.5		35.4	135	56.6		26.9
14	130	21.1	346	08.6		28.8	342	27.0		13.9	92	49.5		35.5	150	59.1		27.0
15	145	23.6	1	09.7		28.0	357	28.0		13.4	107	51.6		35.6	166	01.6		27.0
16	160	26.0	16	10.8		27.2	12	29.0		12.9	122	53.6		35.7	181	04.2		27.0
17	175	28.5	31	11.9	+14	26.3	27	30.0	+14	12.3	137	55.7	+13	35.9	196	06.7	-10	27.1
18	190	31.0	46	13.0	+14	25.5	42	31.0	+14	11.8	152	57.7	+13	36.0	211	09.2	-10	27.1
19	205	33.4	61	14.1		24.7	57	32.0		11.3	167	59.7		36.1	226	11.7		27.1
20	220	35.9	76	15.2		23.9	72	33.0		10.7	183	01.8		36.3	241	14.2		27.2
21	235	38.4	91	16.3		23.1	87	34.1		10.2	198	03.8		36.4	256	16.7		27.2
22	250	40.8	106	17.4		22.3	102	35.1		09.7	213	05.9		36.5	271	19.3		27.2
23	265	43.3	121	18.6		21.5	117	36.1		09.1	228	07.9		36.7	286	21.8		27.2
24	280	45.8	136	19.7	+14	20.7	132	37.1	+14	08.6	243	10.0	+13	36.8	301	24.3	-10	27.3
Dif	—		+11			-8	+10			-5	+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 04.2 ^m			Edad: 14.8 ^d PHE { 4 ^h : 60'4 12 ^h : 60'6 20 ^h : 60'7 R°: **m								Civil			Náutico			Hora R°		Hora R°	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					h m	h m	h m	h m m	h m m	h m m	h m m	h m m		
h	° /	° /	° /	° /		° /		°		h m	h m	h m	h m m	h m m	h m m	h m m	h m m				
0	178 57.8	+22 59.7	6 08.4	17	-27	50.6	2	60 N	21 24	22 59	** **	22 47 18	1 10 89								
1	193 57.7	59.5	20 29.1	17		50.8	0	58	21 04	22 16	** **	22 16 28	1 47 83								
2	208 57.6	59.3	34 49.8	16		50.8	2	56	20 48	21 49	** **	21 53 33	2 13 80								
3	223 57.5	59.1	49 10.4	16		50.6	5	54	34	28	23 04	33 38	34 78								
4	238 57.4	58.9	63 31.0	16		50.1	6	52	22	21 10	22 25	17 41	2 51 77								
5	253 57.2	+22 58.7	77 51.6	16	-27	49.5	9	50	20 12	20 56	21 59	21 03 44	3 06 76								
6	268 57.1	+22 58.5	92 12.2	15	-27	48.6	10	45	19 50	20 27	21 16	20 34 49	3 36 74								
7	283 57.0	58.3	106 32.7	15		47.6	10	40	33	20 05	20 46	20 12 52	4 00 72								
8	298 56.9	58.1	120 53.3	15		46.3	13	35	18	19 47	24	19 53 55	19 71								
9	313 56.8	57.9	135 13.8	15		44.8	15	30	19 05	32	20 06	37 57	4 36 70								
10	328 56.7	57.7	149 34.3	15		43.1	17	20	18 44	19 08	19 37	19 10 60	5 04 68								
11	343 56.6	+22 57.5	163 54.8	15	-27	41.2	19	10 N	18 25	18 48	19 15	18 46 63	5 28 67								
12	358 56.4	+22 57.3	178 15.4	15	-27	39.1	21	0	18 08	18 30	18 56	18 25 64	5 50 66								
13	13 56.3	57.1	192 35.9	15		36.7	24	10 S	17 51	18 14	40	18 03 67	6 12 65								
14	28 56.2	56.9	206 56.4	15		34.2	25	20	33	17 57	24	17 39 70	6 36 63								
15	43 56.1	56.7	221 17.0	16		31.4	28	30	12	38	08	17 12 72	7 04 61								
16	58 56.0	56.5	235 37.6	16		28.4	30	35	17 00	28	18 00	16 56 74	20 60								
17	73 55.9	+22 56.3	249 58.1	15	-27	25.3	31	40	16 46	17 17	17 50	16 37 76	7 39 58								
18	88 55.8	+22 56.1	264 18.7	16	-27	21.9	34	45	16 30	17 03	17 40	16 14 79	8 02 56								
19	103 55.6	55.9	278 39.4	17		18.3	36	50	10	16 48	29	15 45 83	32 52								
20	118 55.5	55.7	293 00.0	16		14.4	39	52	16 00	41	24	31 85	8 46 51								
21	133 55.4	55.5	307 20.7	17		10.4	40	54	15 49	33	19	15 14 88	9 03 48								
22	148 55.3	55.3	321 41.5	18		06.2	42	56	37	24	13	14 54 92	23 45								
23	163 55.2	55.1	336 02.2	17	-27	01.8	44	58	23	14	17 06	14 30 96	9 48 40								
24	178 55.1	+22 54.8	350 23.0	18	-26	57.1	47	60 S	15 06	16 03	16 59	13 57 105	10 21 32								

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO		
	PMG 5 ^h 16.1 ^m			Mag: -4.7 PMG: 14 ^h 54 ^m			Mag: +1.7 PMG: 15 ^h 09 ^m			Mag: -2.3 PMG: 7 ^h 46 ^m			Mag: +0.8 PMG: 3 ^h 54 ^m		
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	280 45.8	136 19.7	+14 20.7	132 37.1	+14 08.6	243 10.0	+13 36.8	301 24.3	-10 27.3						
1	295 48.2	151 20.8	19.9	147 38.1	08.1	258 12.0	36.9	316 26.8	27.3						
2	310 50.7	166 22.0	19.1	162 39.1	07.6	273 14.1	37.0	331 29.3	27.3						
3	325 53.2	181 23.1	18.3	177 40.1	07.0	288 16.1	37.2	346 31.9	27.4						
4	340 55.6	196 24.2	17.4	192 41.1	06.5	303 18.2	37.3	1 34.4	27.4						
5	355 58.1	211 25.4	+14 16.6	207 42.1	+14 06.0	318 20.2	+13 37.4	16 36.9	-10 27.4						
6	11 00.5	226 26.5	+14 15.8	222 43.1	+14 05.4	333 22.3	+13 37.6	31 39.4	-10 27.5						
7	26 03.0	241 27.6	15.0	237 44.1	04.9	348 24.3	37.7	46 41.9	27.5						
8	41 05.5	256 28.8	14.2	252 45.2	04.4	3 26.4	37.8	61 44.5	27.5						
9	56 07.9	271 29.9	13.4	267 46.2	03.8	18 28.4	37.9	76 47.0	27.6						
10	71 10.4	286 31.1	12.6	282 47.2	03.3	33 30.5	38.1	91 49.5	27.6						
11	86 12.9	301 32.2	+14 11.8	297 48.2	+14 02.8	48 32.5	+13 38.2	106 52.0	-10 27.6						
12	101 15.3	316 33.4	+14 11.0	312 49.2	+14 02.2	63 34.6	+13 38.3	121 54.5	-10 27.7						
13	116 17.8	331 34.6	10.2	327 50.2	01.7	78 36.6	38.4	136 57.1	27.7						
14	131 20.3	346 35.7	09.4	342 51.2	01.2	93 38.7	38.6	151 59.6	27.7						
15	146 22.7	1 36.9	08.6	357 52.2	00.6	108 40.7	38.7	167 02.1	27.8						
16	161 25.2	16 38.0	07.8	12 53.2	+14 00.1	123 42.8	38.8	182 04.6	27.8						
17	176 27.7	31 39.2	+14 07.0	27 54.2	+13 59.6	138 44.8	+13 39.0	197 07.1	-10 27.8						
18	191 30.1	46 40.4	+14 06.1	42 55.3	+13 59.0	153 46.9	+13 39.1	212 09.7	-10 27.8						
19	206 32.6	61 41.5	05.3	57 56.3	58.5	168 48.9	39.2	227 12.2	27.9						
20	221 35.0	76 42.7	04.5	72 57.3	58.0	183 51.0	39.3	242 14.7	27.9						
21	236 37.5	91 43.9	03.7	87 58.3	57.4	198 53.0	39.5	257 17.2	27.9						
22	251 40.0	106 45.1	02.9	102 59.3	56.9	213 55.1	39.6	272 19.8	28.0						
23	266 42.4	121 46.3	02.1	118 00.3	56.4	228 57.1	39.7	287 22.3	28.0						
24	281 44.9	136 47.4	+14 01.3	133 01.3	+13 55.8	243 59.2	+13 39.8	302 24.8	-10 28.0						
Dif	—	+12	-8	+10	-5	+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 04.4 ^m				Edad: 15.8 ^d PHE { 4 ^h : 60'8 12 ^h : 60'9 20 ^h : 60'9 PMG: 0 ^h 40 ^m R°: 64 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	55.1	+22	54.8	350	23.0	19	-26	57.1	48	60 N	** **	1 10	2 45	23 05	7	2 39	116	
1	193	55.0		54.6	4	43.9	19		52.3	51	58	** **	1 53	3 05	22 44	14	3 10	106	
2	208	54.9		54.4	19	04.8	19		47.2	53	56	** **	2 20	21	26	20		33 100	
3	223	54.7		54.2	33	25.7	19		41.9	54	54	1 05	41	34	22 11	25	3 52	95	
4	238	54.6		54.0	47	46.7	20		36.5	54	52	1 44	2 58	46	21 58	28	4 08	91	
5	253	54.5	+22	53.8	62	07.8	21	-26	30.8	57	50	2 09	3 13	3 57	21 47	31	4 22	88	
6	268	54.4	+22	53.6	76	28.9	21	-26	25.0	58	45	2 53	3 42	4 19	21 23	37	4 50	83	
7	283	54.3		53.4	90	50.1	22		18.9	61	40	3 22	4 04	36	21 04	41	5 12	79	
8	298	54.2		53.1	105	11.3	22		12.6	63	35	3 45	21	4 51	20 48	44	30	77	
9	313	54.1		52.9	119	32.6	23	-26	06.2	64	30	4 03	4 36	5 04	34 47		5 46	74	
10	328	54.0		52.7	133	54.0	24	-25	59.5	67	20	32	5 01	25	20 10	52	6 12	70	
11	343	53.9	+22	52.5	148	15.4	24	-25	52.7	68	10 N	4 54	5 21	5 44	19 49	57	6 35	66	
12	358	53.7	+22	52.3	162	36.9	25	-25	45.6	71	0	5 12	5 38	6 01	19 29	61	6 56	63	
13	13	53.6		52.0	176	58.5	26		38.4	72	10 S	29	5 55	18	19 10	65	7 17	59	
14	28	53.5		51.8	191	20.2	27		30.9	75	20	5 45	6 12	36	18 49	69	7 39	56	
15	43	53.4		51.6	205	42.0	28		23.3	76	30	6 01	30	6 57	24 74		8 05	52	
16	58	53.3		51.4	220	03.8	28		15.5	78	35	09	41	7 09	18 10	77	20	49	
17	73	53.2	+22	51.2	234	25.7	29	-25	07.5	80	40	6 18	6 52	7 22	17 53	81	8 37	46	
18	88	53.1	+22	50.9	248	47.7	30	-24	59.4	81	45	6 28	7 05	7 39	17 33	85	8 58	42	
19	103	53.0		50.7	263	09.8	31		51.0	84	50	39	21	7 59	17 08	91	9 24	37	
20	118	52.9		50.5	277	32.0	32		42.5	85	52	44	28	8 08	16 56	94	37	34	
21	133	52.7		50.3	291	54.3	33		33.8	87	54	50	36	19	42 98		9 51	31	
22	148	52.6		50.0	306	16.7	34		24.9	89	56	6 56	44	31	26 102		10 08	26	
23	163	52.5		49.8	320	39.2	35		15.8	91	58	7 02	7 54	8 45	16 06	109	28	20	
24	178	52.4	+22	49.6	335	01.7	35	-24	06.5	93	60 S	7 09	8 06	9 02	15 42	117	10 53	12	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 5 ^h 12.2 ^m		Mag: -4.7 PMG: 14 ^h 52 ^m		Mag: +1.7 PMG: 15 ^h 07 ^m		Mag: -2.3 PMG: 7 ^h 43 ^m		Mag: +0.8 PMG: 3 ^h 50 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	281	44.9	136	47.4	+14	01.3	133	01.3	+13	55.8									
1	296	47.4	151	48.6	+14	00.5	148	02.3		55.3									
2	311	49.8	166	49.8	+13	59.7	163	03.3		54.8									
3	326	52.3	181	51.0		58.9	178	04.3		54.2									
4	341	54.8	196	52.2		58.1	193	05.4		53.7									
5	356	57.2	211	53.4	+13	57.3	208	06.4	+13	53.2									
6	11	59.7	226	54.6	+13	56.5	223	07.4	+13	52.6									
7	27	02.2	241	55.8		55.7	238	08.4		52.1									
8	42	04.6	256	57.0		54.9	253	09.4		51.6									
9	57	07.1	271	58.2		54.1	268	10.4		51.0									
10	72	09.5	286	59.4		53.3	283	11.4		50.5									
11	87	12.0	302	00.6	+13	52.5	298	12.4	+13	50.0									
12	102	14.5	317	01.9	+13	51.7	313	13.4	+13	49.4									
13	117	16.9	332	03.1		50.9	328	14.5		48.9									
14	132	19.4	347	04.3		50.1	343	15.5		48.4									
15	147	21.9	2	05.5		49.3	358	16.5		47.8									
16	162	24.3	17	06.7		48.5	13	17.5		47.3									
17	177	26.8	32	08.0	+13	47.7	28	18.5	+13	46.7									
18	192	29.3	47	09.2	+13	46.9	43	19.5	+13	46.2									
19	207	31.7	62	10.4		46.0	58	20.5		45.7									
20	222	34.2	77	11.7		45.2	73	21.5		45.1									
21	237	36.7	92	12.9		44.4	88	22.5		44.6									
22	252	39.1	107	14.1		43.6	103	23.6		44.1									
23	267	41.6	122	15.4		42.8	118	24.6		43.5									
24	282	44.0	137	16.6	+13	42.0	133	25.6	+13	43.0									
Dif	—		+12		-8		+10		-5										
							+21		+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 04.6 ^m			Edad: 16.8 ^d SD: 16'6 PMG: 1 ^h 44 ^m PHE { 4 ^h : 60'9 12 ^h : 60'8 20 ^h : 60'8 R°: 60 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	52.4	+22	49.6	335	01.7	37	−24	06.5	60 N	21 22	22 54	** **	23 12	3	4 35	117
1	193	52.3		49.4	349	24.4	38	−23	57.1	58	21 03	22 13	** **	22 58	8	4 56	109
2	208	52.2		49.1	3	47.2	38		47.5	56	20 47	21 47	** **	46 13		5 13	103
3	223	52.1		48.9	18	10.0	40		37.8	54	33	26	23 00	36 16		27 99	
4	238	52.0		48.7	32	33.0	41		27.9	52	21	21 09	22 23	26 20		39 95	
5	253	51.9	+22	48.4	46	56.1	41	−23	17.8	50	20 11	20 55	21 58	22 18	22	5 50	92
6	268	51.8	+22	48.2	61	19.3	42	−23	07.5	45	19 49	20 26	21 15	22 00	28	6 13	85
7	283	51.7		48.0	75	42.6	43	−22	57.1	40	32	20 05	20 46	21 45	33	31 81	
8	298	51.6		47.8	90	06.0	44		46.6	35	18	19 47	23	32 37		6 47	76
9	313	51.4		47.5	104	29.5	45		35.9	30	19 05	32	20 05	21 41		7 00	73
10	328	51.3		47.3	118	53.2	47		25.0	20	18 44	19 08	19 37	21 02	47	22 67	
11	343	51.2	+22	47.1	133	16.9	47	−22	14.0	10 N	18 25	18 48	19 15	20 46	51	7 41	63
12	358	51.1	+22	46.8	147	40.8	49	−22	02.8	0	18 08	18 31	18 57	20 30	56	7 59	58
13	13	51.0		46.6	162	04.7	51	−21	51.5	10 S	17 51	18 14	40	20 15	60	8 16	55
14	28	50.9		46.3	176	28.8	52		40.0	20	33	17 57	25	19 58	65	35	50
15	43	50.8		46.1	190	53.0	53		28.4	30	13	39	09	38 72		8 57	44
16	58	50.7		45.9	205	17.3	53		16.6	35	17 01	29	18 00	27 75		9 09	41
17	73	50.6	+22	45.6	219	41.7	54	−21	04.7	40	16 47	17 18	17 51	19 14	79	9 23	37
18	88	50.5	+22	45.4	234	06.2	55	−20	52.7	45	16 31	17 05	17 42	18 58	85	9 40	33
19	103	50.4		45.2	248	30.9	57		40.5	50	11	16 49	30	39 91		10 01	26
20	118	50.3		44.9	262	55.7	58		28.2	52	16 02	42	25	30 94		11 23	
21	133	50.2		44.7	277	20.6	59		15.8	54	15 51	34	20	20 97		22 20	
22	148	50.1		44.4	291	45.6	60	−20	03.3	56	39	25	14	18 08	102	34	16
23	163	49.9		44.2	306	10.7	61	−19	50.6	58	25	16	08	17 55	106	10 48	12
24	178	49.8	+22	43.9	320	35.9	62	−19	37.8	60 S	15 08	16 05	17 01	17 39	112	11 05	5

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG 5 ^h 08.2 ^m			Mag: −4.7 PMG: 14 ^h 50 ^m			Mag: +1.7 PMG: 15 ^h 05 ^m			Mag: −2.3 PMG: 7 ^h 40 ^m			Mag: +0.8 PMG: 3 ^h 46 ^m											
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'								
0	282	44.0		137	16.6	+13	42.0	133	25.6	+13	43.0	244	48.5	+13	42.9	303	25.4	−10	28.8					
1	297	46.5		152	17.9		41.2	148	26.6		42.4	259	50.5		43.0	318	27.9		28.9					
2	312	49.0		167	19.1		40.4	163	27.6		41.9	274	52.6		43.1	333	30.4		28.9					
3	327	51.4		182	20.4		39.6	178	28.6		41.4	289	54.6		43.2	348	33.0		28.9					
4	342	53.9		197	21.6		38.8	193	29.6		40.8	304	56.7		43.4	3	35.5		29.0					
5	357	56.4		212	22.9	+13	38.0	208	30.6	+13	40.3	319	58.7	+13	43.5	18	38.0	−10	29.0					
6	12	58.8		227	24.2	+13	37.2	223	31.6	+13	39.8	335	00.8	+13	43.6	33	40.5	−10	29.0					
7	28	01.3		242	25.4		36.4	238	32.7		39.2	350	02.9		43.7	48	43.1		29.1					
8	43	03.8		257	26.7		35.7	253	33.7		38.7	5	04.9		43.9	63	45.6		29.1					
9	58	06.2		272	28.0		34.9	268	34.7		38.1	20	07.0		44.0	78	48.1		29.2					
10	73	08.7		287	29.2		34.1	283	35.7		37.6	35	09.0		44.1	93	50.7		29.2					
11	88	11.2		302	30.5	+13	33.3	298	36.7	+13	37.1	50	11.1	+13	44.2	108	53.2	−10	29.2					
12	103	13.6		317	31.8	+13	32.5	313	37.7	+13	36.5	65	13.1	+13	44.4	123	55.7	−10	29.3					
13	118	16.1		332	33.0		31.7	328	38.7		36.0	80	15.2		44.5	138	58.2		29.3					
14	133	18.5		347	34.3		30.9	343	39.7		35.4	95	17.3		44.6	154	00.8		29.3					
15	148	21.0		2	35.6		30.1	358	40.8		34.9	110	19.3		44.7	169	03.3		29.4					
16	163	23.5		17	36.9		29.3	13	41.8		34.4	125	21.4		44.9	184	05.8		29.4					
17	178	25.9		32	38.2	+13	28.5	28	42.8	+13	33.8	140	23.4	+13	45.0	199	08.4	−10	29.4					
18	193	28.4		47	39.5	+13	27.7	43	43.8	+13	33.3	155	25.5	+13	45.1	214	10.9	−10	29.5					
19	208	30.9		62	40.8		26.9	58	44.8		32.7	170	27.6		45.2	229	13.4		29.5					
20	223	33.3		77	42.1		26.1	73	45.8		32.2	185	29.6		45.4	244	15.9		29.5					
21	238	35.8		92	43.4		25.3	88	46.8		31.7	200	31.7		45.5	259	18.5		29.6					
22	253	38.3		107	44.7		24.5	103	47.8		31.1	215	33.7		45.6	274	21.0		29.6					
23	268	40.7		122	46.0		23.7	118	48.8		30.6	230	35.8		45.7	289	23.5		29.6					
24	283	43.2		137	47.3	+13	22.9	133	49.9	+13	30.0	245	37.9	+13	45.9	304	26.1	−10	29.7					
Dif	—			+13			−8			+10			−5			+21			+1			+25		

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'7 PMG:12 ^h 04.8 ^m			Edad: 17.8 ^d PHE { 4 ^h : 60'7 12 ^h : 60'6 20 ^h : 60'4 SD: 16'5 PMG: 2 ^h 44 ^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 m	h m m	h m m		
0	178	49.8	+22	43.9	320	35.9	-19	37.8	60 N	** **	1 16	2 48	23 15	1	6 32	110		
1	193	49.7		43.7	335	01.3		24.8	58	** **	1 56	3 07	23 06	5	45	104		
2	208	49.6		43.5	349	26.7		11.8	56	** **	2 23	23	22 59	8	6 56	100		
3	223	49.5		43.2	3	52.3		58.6	54	1 10	2 44	36	52 12	7	06	96		
4	238	49.4		43.0	18	18.0		45.4	52	1 47	3 00	48	46 15		14	93		
5	253	49.3	+22	42.7	32	43.8		32.0	50	2 12	3 15	3 58	22 40	18	7 22	89		
6	268	49.2	+22	42.5	47	09.7		18.5	45	2 55	3 43	4 20	22 28	23	7 38	83		
7	283	49.1		42.2	61	35.8		04.9	40	3 24	4 05	37	18 28		7 52	78		
8	298	49.0		42.0	76	01.9		51.1	35	3 46	22	4 52	09 32		8 03	74		
9	313	48.9		41.7	90	28.2		37.3	30	4 04	4 37	5 04	22 02	35	13	70		
10	328	48.8		41.5	104	54.6		23.4	20	32	5 01	26	21 49	41	29	64		
11	343	48.7	+22	41.2	119	21.1		09.4	10 N	4 54	5 21	5 44	21 37	47	8 44	59		
12	358	48.6	+22	41.0	133	47.7		55.2	0	5 13	5 39	6 01	21 26	52	8 57	54		
13	13	48.5		40.7	148	14.4		41.0	10 S	29	5 55	18	15 57		9 11	48		
14	28	48.4		40.5	162	41.3		26.7	20	5 45	6 12	36	21 03	62	25	43		
15	43	48.3		40.2	177	08.2		12.3	30	6 00	30	6 56	20 50	68	41	37		
16	58	48.2		40.0	191	35.3		57.8	35	09	40	7 08	42 72		9 50	34		
17	73	48.1	+22	39.7	206	02.4		43.3	40	6 18	6 52	7 22	20 33	76	10 00	31		
18	88	48.0	+22	39.5	220	29.7		28.6	45	6 28	7 05	7 38	20 23	80	10 13	25		
19	103	47.9		39.2	234	57.1		13.9	50	39	20	7 58	10 87		27	20		
20	118	47.8		38.9	249	24.6		59.0	52	44	27	8 07	20 04	89	34	17		
21	133	47.7		38.7	263	52.2		44.1	54	49	35	18	19 57	93	42	14		
22	148	47.6		38.4	278	19.9		29.2	56	6 55	43	30	50 96		10 50	11		
23	163	47.5		38.2	292	47.7		14.1	58	7 01	7 53	8 44	41 101		11 00	6		
24	178	47.3	+22	37.9	307	15.6		59.0	60 S	7 08	8 04	9 00	19 31	106	11 10	2		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 5 ^h 04.3 ^m		Mag: -4.7 PMG: 14 ^h 48 ^m			Mag: +1.7 PMG: 15 ^h 04 ^m			Mag: -2.3 PMG: 7 ^h 36 ^m			Mag: +0.8 PMG: 3 ^h 42 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	283	43.2	137	47.3	+13	22.9	133	49.9	+13	30.0	245	37.9	+13	45.9	304	26.1	-10	29.7
1	298	45.7	152	48.6		22.1	148	50.9		29.5	260	39.9		46.0	319	28.6		29.7
2	313	48.1	167	49.9		21.3	163	51.9		29.0	275	42.0		46.1	334	31.1		29.7
3	328	50.6	182	51.2		20.5	178	52.9		28.4	290	44.0		46.2	349	33.6		29.8
4	343	53.0	197	52.5		19.7	193	53.9		27.9	305	46.1		46.3	4	36.2		29.8
5	358	55.5	212	53.9	+13	18.9	208	54.9	+13	27.3	320	48.2	+13	46.5	19	38.7	-10	29.9
6	13	58.0	227	55.2	+13	18.1	223	55.9	+13	26.8	335	50.2	+13	46.6	34	41.2	-10	29.9
7	29	00.4	242	56.5		17.4	238	56.9		26.2	350	52.3		46.7	49	43.8		29.9
8	44	02.9	257	57.8		16.6	253	58.0		25.7	5	54.3		46.8	64	46.3		30.0
9	59	05.4	272	59.2		15.8	268	59.0		25.2	20	56.4		47.0	79	48.8		30.0
10	74	07.8	288	00.5		15.0	284	00.0		24.6	35	58.5		47.1	94	51.4		30.0
11	89	10.3	303	01.8	+13	14.2	299	01.0	+13	24.1	51	00.5	+13	47.2	109	53.9	-10	30.1
12	104	12.8	318	03.2	+13	13.4	314	02.0	+13	23.5	66	02.6	+13	47.3	124	56.4	-10	30.1
13	119	15.2	333	04.5		12.6	329	03.0		23.0	81	04.6		47.4	139	59.0		30.1
14	134	17.7	348	05.9		11.8	344	04.0		22.4	96	06.7		47.6	155	01.5		30.2
15	149	20.1	3	07.2		11.0	359	05.0		21.9	111	08.8		47.7	170	04.0		30.2
16	164	22.6	18	08.6		10.2	14	06.1		21.4	126	10.8		47.8	185	06.6		30.3
17	179	25.1	33	09.9	+13	09.4	29	07.1	+13	20.8	141	12.9	+13	47.9	200	09.1	-10	30.3
18	194	27.5	48	11.3	+13	08.7	44	08.1	+13	20.3	156	15.0	+13	48.1	215	11.6	-10	30.3
19	209	30.0	63	12.6		07.9	59	09.1		19.7	171	17.0		48.2	230	14.2		30.4
20	224	32.5	78	14.0		07.1	74	10.1		19.2	186	19.1		48.3	245	16.7		30.4
21	239	34.9	93	15.4		06.3	89	11.1		18.6	201	21.2		48.4	260	19.2		30.4
22	254	37.4	108	16.7		05.5	104	12.1		18.1	216	23.2		48.5	275	21.7		30.5
23	269	39.9	123	18.1		04.7	119	13.2		17.5	231	25.3		48.7	290	24.3		30.5
24	284	42.3	138	19.5	+13	03.9	134	14.2	+13	17.0	246	27.3	+13	48.8	305	26.8	-10	30.5
Dif	—		+13			-8	+10			-5	+21		+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: 18.8 ^d SD: 16'4 PMG: 3 ^h 39 ^m PHE { 4 ^h : 60'2 12 ^h : 60'1 20 ^h : 59'9 Rº: 50 ^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	47.3	+22	37.9	307	15.6			-13	59.0	60 N	21 19	22 49	** **	23 16	0		8 22	103		
1	193	47.2		37.6	321	43.6	90			43.8	58	21 01	22 10	** **	11 4			29 99			
2	208	47.1		37.4	336	11.7	91			28.5	56	20 45	21 44	** **	07 7			36 94			
3	223	47.0		37.1	350	39.9	92		-13	13.2	54	32	24	22 55	04 10			42 91			
4	238	46.9		36.9	5	08.3	94		-12	57.8	52	20	21 08	22 20	23 01	12		47 88			
5	253	46.8	+22	36.6	19	36.7	94		-12	42.4	50	20 10	20 53	21 56	22 58	15	8 51	85			
6	268	46.7	+22	36.3	34	05.2	95		-12	26.9	45	19 49	20 25	21 14	22 51	21	9 01	80			
7	283	46.6		36.1	48	33.8	96		-12	11.3	40	32	20 04	20 45	46 25		10 74				
8	298	46.5		35.8	63	02.5	97		-11	55.7	35	17	19 47	23	41 29		17 70				
9	313	46.4		35.5	77	31.3	98			40.0	30	19 05	32	20 05	37 32		23 66				
10	328	46.3		35.3	92	00.1	98			24.3	20	18 44	19 08	19 37	30 38		33 61				
11	343	46.2	+22	35.0	106	29.1	100		-11	08.5	10 N	18 25	18 48	19 15	22 24	43	9 43	54			
12	358	46.1	+22	34.7	120	58.2	101		-10	52.7	0	18 09	18 31	18 57	22 18	48	9 51	50			
13	13	46.0		34.5	135	27.3	101			36.8	10 S	17 52	18 15	41	12 53		9 59	45			
14	28	45.9		34.2	149	56.6	103			20.9	20	34	17 58	25	22 05	59	10 08	40			
15	43	45.8		33.9	164	25.9	103		-10	04.9	30	14	40	10	21 58	65	18 34				
16	58	45.7		33.7	178	55.3	104		-9	48.9	35	17 02	30	18 01	54 68		24 30				
17	73	45.6	+22	33.4	193	24.8	105		-9	32.9	40	16 48	17 19	17 52	21 49	72	10 31	26			
18	88	45.5	+22	33.1	207	54.4	106		-9	16.8	45	16 32	17 06	17 43	21 43	78	10 38	22			
19	103	45.4		32.8	222	24.0	106		-9	00.7	50	13	16 51	32	37 83		47 16				
20	118	45.3		32.6	236	53.7	107		-8	44.5	52	16 03	44	27	33 86		51 14				
21	133	45.2		32.3	251	23.6	109			28.3	54	15 53	36	21	30 89		10 56	11			
22	148	45.1		32.0	265	53.4	108		-8	12.1	56	41	27	16	26 92		11 01	8			
23	163	45.0		31.8	280	23.4	110		-7	55.9	58	27	18	09	22 95		06 5				
24	178	44.9	+22	31.5	294	53.5	111		-7	39.6	60 S	15 11	16 07	17 02	21 17	100	11 12	1			
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 5 ^h 00.4 ^m			Mag: -4.7 PMG: 14 ^h 45 ^m			Mag: +1.7 PMG: 15 ^h 02 ^m			Mag: -2.3 PMG: 7 ^h 33 ^m			Mag: +0.8 PMG: 3 ^h 38 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	284	42.3	138	19.5	+13	03.9	134	14.2	+13	17.0	246	27.3	+13	48.8	305	26.8	-10	30.5			
1	299	44.8	153	20.8		03.1	149	15.2		16.5	261	29.4		48.9	320	29.3		30.6			
2	314	47.3	168	22.2		02.3	164	16.2		15.9	276	31.5		49.0	335	31.9		30.6			
3	329	49.7	183	23.6		01.6	179	17.2		15.4	291	33.5		49.2	350	34.4		30.7			
4	344	52.2	198	25.0	+13	00.8	194	18.2		14.8	306	35.6		49.3	5	37.0		30.7			
5	359	54.6	213	26.4	+13	00.0	209	19.2	+13	14.3	321	37.7	+13	49.4	20	39.5	-10	30.7			
6	14	57.1	228	27.7	+12	59.2	224	20.2	+13	13.7	336	39.7	+13	49.5	35	42.0	-10	30.8			
7	29	59.6	243	29.1		58.4	239	21.3		13.2	351	41.8		49.6	50	44.6		30.8			
8	45	02.0	258	30.5		57.6	254	22.3		12.6	6	43.9		49.8	65	47.1		30.8			
9	60	04.5	273	31.9		56.8	269	23.3		12.1	21	45.9		49.9	80	49.6		30.9			
10	75	07.0	288	33.3		56.1	284	24.3		11.5	36	48.0		50.0	95	52.2		30.9			
11	90	09.4	303	34.7	+12	55.3	299	25.3	+13	11.0	51	50.1	+13	50.1	110	54.7	-10	31.0			
12	105	11.9	318	36.1	+12	54.5	314	26.3	+13	10.5	66	52.1	+13	50.2	125	57.2	-10	31.0			
13	120	14.4	333	37.5		53.7	329	27.3		09.9	81	54.2		50.4	140	59.8		31.0			
14	135	16.8	348	38.9		52.9	344	28.4		09.4	96	56.3		50.5	156	02.3		31.1			
15	150	19.3	3	40.4		52.1	359	29.4		08.8	111	58.3		50.6	171	04.8		31.1			
16	165	21.8	18	41.8		51.4	14	30.4		08.3	127	00.4		50.7	186	07.4		31.1			
17	180	24.2	33	43.2	+12	50.6	29	31.4	+13	07.7	142	02.5	+13	50.8	201	09.9	-10	31.2			
18	195	26.7	48	44.6	+12	49.8	44	32.4	+13	07.2	157	04.5	+13	51.0	216	12.4	-10	31.2			
19	210	29.1	63	46.0		49.0	59	33.4		06.6	172	06.6		51.1	231	15.0		31.3			
20	225	31.6	78	47.5		48.2	74	34.4		06.1	187	08.7		51.2	246	17.5		31.3			
21	240	34.1	93	48.9		47.4	89	35.4		05.5	202	10.7		51.3	261	20.1		31.3			
22	255	36.5	108	50.3		46.7	104	36.5		05.0	217	12.8		51.4	276	22.6		31.4			
23	270	39.0	123	51.8		45.9	119	37.5		04.4	232	14.9		51.6	291	25.1		31.4			
24	285	41.5	138	53.2	+12	45.1	134	38.5	+13	03.9	247	17.0	+13	51.7	306	27.7	-10	31.4			
Dif	—			+14	-8			+10			-5	+21			+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 05.1 ^m				Edad: 19.8 ^d SD: 16/3 PMG: 4 ^h 29 ^m															
					PHE { 4 ^h : 59/6 12 ^h : 59/4 20 ^h : 59/2 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	44.9	+22	31.5	294	53.5	-7	39.6	163	60 N	** **	1 22	2 51	23 16	0	10 05	98			
1	193	44.8		31.2	309	23.6		23.3	163	58	** **	2 00	3 10	15 4		08 94				
2	208	44.7		30.9	323	53.7	-7	07.0	163	56	** **	26	25	14 7		10 91				
3	223	44.6		30.6	338	24.0	-6	50.7	163	54	1 15	2 46	38 14	9	13 8					
4	238	44.6		30.4	352	54.3		34.3	163	52	1 50	3 03	3 50	13 12		15 84				
5	253	44.5	+22	30.1	7	24.7	-6	18.0	164	50	2 15	3 17	4 00	23 13	14	10 16	82			
6	268	44.4	+22	29.8	21	55.2	-6	01.6	164	45	2 57	3 45	4 21	23 12	19	10 21	76			
7	283	44.3		29.5	36	25.7	-5	45.2	164	40	3 25	4 06	39 11	24	24	71				
8	298	44.2		29.2	50	56.3		28.8	164	35	3 47	24	4 53	10 28		27 67				
9	313	44.1		29.0	65	26.9	-5	12.3	164	30	4 05	4 38	5 05	09 31		29 64				
10	328	44.0		28.7	79	57.6	-4	55.9	164	20	33	5 02	26	08 37		34 57				
11	343	43.9	+22	28.4	94	28.4	-4	39.4	165	10 N	4 55	5 22	5 45	23 07	42	10 37	53			
12	358	43.8	+22	28.1	108	59.2	-4	23.0	164	0	5 13	5 39	6 01	23 06	47	10 41	47			
13	13	43.7		27.8	123	30.0	-4	06.5	164	10 S	29	5 55	18	05 52		44 43				
14	28	43.6		27.5	138	01.0	-3	50.1	164	20	5 45	6 12	36	04 57		48 37				
15	43	43.5		27.3	152	32.0		33.6	165	30	6 00	30	6 56	03 63		52 31				
16	58	43.4		27.0	167	03.0		17.1	165	35	09	40	7 08	02 66		54 28				
17	73	43.3	+22	26.7	181	34.1	-3	00.7	164	40	6 17	6 51	7 21	23 01	71	10 57	24			
18	88	43.2	+22	26.4	196	05.2	-2	44.2	165	45	6 27	7 04	7 37	23 01	74	11 00	20			
19	103	43.1		26.1	210	36.4		27.8	164	50	38	19	7 57	23 00	80	03 15				
20	118	43.0		25.8	225	07.6	-2	11.3	165	52	43	26	8 06	22 59	83	05 12				
21	133	42.9		25.5	239	38.9	-1	54.9	164	54	48	34	17	59 85		07 10				
22	148	42.8		25.2	254	10.2		38.4	165	56	6 54	42	28	58 89		09 7				
23	163	42.7		24.9	268	41.5		22.0	164	58	7 00	7 52	42	57 93		11 4				
24	178	42.6	+22	24.7	283	12.9	-1	05.6	164	60 S	7 07	8 03	8 58	22 57	96	11 13	1			
UT	ARIES PMG 4 ^h 56.4 ^m		VENUS Mag: -4.7 PMG: 14 ^h 43 ^m			MARTE Mag: +1.7 PMG: 15 ^h 00 ^m			JÚPITER Mag: -2.3 PMG: 7 ^h 30 ^m			SATURNO Mag: +0.8 PMG: 3 ^h 34 ^m								
	hG ♊	hG ♀			Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	285	41.5	138	53.2	+12	45.1	134	38.5	+13	03.9	247	17.0	+13	51.7	306	27.7	-10	31.4		
1	300	43.9	153	54.6		44.3	149	39.5		03.3	262	19.0		51.8	321	30.2		31.5		
2	315	46.4	168	56.1		43.5	164	40.5		02.8	277	21.1		51.9	336	32.7		31.5		
3	330	48.9	183	57.5		42.8	179	41.5		02.2	292	23.2		52.0	351	35.3		31.6		
4	345	51.3	198	59.0		42.0	194	42.5		01.7	307	25.2		52.2	6	37.8		31.6		
5	0	53.8	214	00.4	+12	41.2	209	43.6	+13	01.1	322	27.3	+13	52.3	21	40.3	-10	31.6		
6	15	56.2	229	01.9	+12	40.4	224	44.6	+13	00.6	337	29.4	+13	52.4	36	42.9	-10	31.7		
7	30	58.7	244	03.3		39.7	239	45.6	+13	00.0	352	31.4		52.5	51	45.4		31.7		
8	46	01.2	259	04.8		38.9	254	46.6	+12	59.5	7	33.5		52.6	66	48.0		31.7		
9	61	03.6	274	06.3		38.1	269	47.6		58.9	22	35.6		52.8	81	50.5		31.8		
10	76	06.1	289	07.7		37.3	284	48.6		58.4	37	37.7		52.9	96	53.0		31.8		
11	91	08.6	304	09.2	+12	36.6	299	49.6	+12	57.8	52	39.7	+13	53.0	111	55.6	-10	31.9		
12	106	11.0	319	10.7	+12	35.8	314	50.7	+12	57.3	67	41.8	+13	53.1	126	58.1	-10	31.9		
13	121	13.5	334	12.1		35.0	329	51.7		56.7	82	43.9		53.2	142	00.7		31.9		
14	136	16.0	349	13.6		34.2	344	52.7		56.2	97	45.9		53.3	157	03.2		32.0		
15	151	18.4	4	15.1		33.4	359	53.7		55.6	112	48.0		53.5	172	05.7		32.0		
16	166	20.9	19	16.6		32.7	14	54.7		55.1	127	50.1		53.6	187	08.3		32.1		
17	181	23.4	34	18.0	+12	31.9	29	55.7	+12	54.5	142	52.2	+13	53.7	202	10.8	-10	32.1		
18	196	25.8	49	19.5	+12	31.1	44	56.7	+12	54.0	157	54.2	+13	53.8	217	13.4	-10	32.1		
19	211	28.3	64	21.0		30.4	59	57.8		53.4	172	56.3		53.9	232	15.9		32.2		
20	226	30.7	79	22.5		29.6	74	58.8		52.9	187	58.4		54.1	247	18.4		32.2		
21	241	33.2	94	24.0		28.8	89	59.8		52.3	203	00.4		54.2	262	21.0		32.3		
22	256	35.7	109	25.5		28.0	105	00.8		51.8	218	02.5		54.3	277	23.5		32.3		
23	271	38.1	124	27.0		27.3	120	01.8		51.2	233	04.6		54.4	292	26.1		32.3		
24	286	40.6	139	28.5	+12	26.5	135	02.8	+12	50.7	248	06.7	+13	54.5	307	28.6	-10	32.4		
Dif	—		+15			-8			+10			-6			+21			+1		

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: 20.8 ^d SD: 16'1 PMG: 5 ^h 17 ^m													
					PHE { 4 ^h : 58'9 12 ^h : 58'7 20 ^h : 58'4 Rº: 47 ^m													
	hG ☉	Dec			hG ☾	Dif		Dec	Dif		Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m		h m m			
0	178	42.6	+22	24.7	283	12.9	-1	05.6	60 N	21 17	22 43	** **	23 16 0		11 43 95			
1	193	42.5		24.4	297	44.3	-0	49.2	58	20 59	22 07	** **	19 4		42 91			
2	208	42.4		24.1	312	15.8		32.8	56	43	21 42	** **	21 7		41 88			
3	223	42.3		23.8	326	47.3	-0	16.4	54	30	22	22 50	23 10		40 85			
4	238	42.3		23.5	341	18.9	+0	00.0	52	19	21 06	22 17	25 13		39 82			
5	253	42.2	+22	23.2	355	50.4	+0	16.3	50	20 09	20 52	21 53	23 27 15		11 38 80			
6	268	42.1	+22	22.9	10	22.0	+0	32.7	45	19 48	20 24	21 12	23 31 20		11 37 74			
7	283	42.0		22.6	24	53.7	+0	49.0	40	31	20 03	20 44	35 24		35 70			
8	298	41.9		22.3	39	25.3	+1	05.3	35	17	19 46	22	38 28		34 66			
9	313	41.8		22.0	53	57.0		21.5	30	19 04	32	20 04	40 31		33 62			
10	328	41.7		21.7	68	28.7		37.8	20	18 44	19 08	19 37	45 37		31 57			
11	343	41.6	+22	21.4	83	00.5	+1	54.0	10 N	18 26	18 48	19 15	23 49 42		11 30 51			
12	358	41.5	+22	21.1	97	32.2	+2	10.2	0	18 09	18 31	18 57	23 53 46		11 28 47			
13	13	41.4		20.8	112	04.0		26.3	10 S	17 52	18 15	41	23 57 51		27 41			
14	28	41.3		20.5	126	35.8		42.5	20	35	17 59	26	** ** **		25 37			
15	43	41.2		20.2	141	07.6	+2	58.6	30	15	41	10	** ** **		23 31			
16	58	41.1		19.9	155	39.5	+3	14.6	35	17 03	31	18 02	** ** **		22 28			
17	73	41.0	+22	19.6	170	11.3	+3	30.7	40	16 50	17 20	17 54	** ** **		11 21 24			
18	88	41.0	+22	19.3	184	43.2	+3	46.7	45	16 34	17 07	17 44	** ** **		11 20 20			
19	103	40.9		19.0	199	15.1	+4	02.6	50	14	16 52	33	** ** **		18 15			
20	118	40.8		18.7	213	47.0		18.6	52	16 05	45	28	** ** **		17 13			
21	133	40.7		18.4	228	18.9		34.5	54	15 55	38	23	** ** **		17 9			
22	148	40.6		18.1	242	50.8	+4	50.3	56	43	29	18	** ** **		16 7			
23	163	40.5		17.8	257	22.8	+5	06.1	58	30	20	11	** ** **		15 4			
24	178	40.4	+22	17.4	271	54.7	+5	21.9	60 S	15 14	16 09	17 05	** ** **		11 14 0			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 4 ^h 52.5 ^m		Mag: -4.7 PMG: 14 ^h 41 ^m			Mag: +1.7 PMG: 14 ^h 59 ^m			Mag: -2.3 PMG: 7 ^h 27 ^m			Mag: +0.7 PMG: 3 ^h 30 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	286	40.6	139	28.5	+12	26.5	135	02.8	+12	50.7	248	06.7	+13	54.5	307	28.6	-10	32.4
1	301	43.1	154	30.0		25.7	150	03.9		50.1	263	08.7		54.6	322	31.1		32.4
2	316	45.5	169	31.5		25.0	165	04.9		49.6	278	10.8		54.8	337	33.7		32.5
3	331	48.0	184	33.0		24.2	180	05.9		49.0	293	12.9		54.9	352	36.2		32.5
4	346	50.5	199	34.6		23.4	195	06.9		48.5	308	15.0		55.0	7	38.8		32.5
5	1	52.9	214	36.1	+12	22.6	210	07.9	+12	47.9	323	17.0	+13	55.1	22	41.3	-10	32.6
6	16	55.4	229	37.6	+12	21.9	225	08.9	+12	47.4	338	19.1	+13	55.2	37	43.8	-10	32.6
7	31	57.9	244	39.1		21.1	240	09.9		46.8	353	21.2		55.3	52	46.4		32.7
8	47	00.3	259	40.7		20.3	255	11.0		46.3	8	23.3		55.5	67	48.9		32.7
9	62	02.8	274	42.2		19.6	270	12.0		45.7	23	25.3		55.6	82	51.5		32.7
10	77	05.2	289	43.7		18.8	285	13.0		45.2	38	27.4		55.7	97	54.0		32.8
11	92	07.7	304	45.3	+12	18.0	300	14.0	+12	44.6	53	29.5	+13	55.8	112	56.5	-10	32.8
12	107	10.2	319	46.8	+12	17.3	315	15.0	+12	44.0	68	31.6	+13	55.9	127	59.1	-10	32.9
13	122	12.6	334	48.3		16.5	330	16.0		43.5	83	33.6		56.1	143	01.6		32.9
14	137	15.1	349	49.9		15.7	345	17.0		42.9	98	35.7		56.2	158	04.2		32.9
15	152	17.6	4	51.4		15.0	0	18.1		42.4	113	37.8		56.3	173	06.7		33.0
16	167	20.0	19	53.0		14.2	15	19.1		41.8	128	39.9		56.4	188	09.3		33.0
17	182	22.5	34	54.5	+12	13.4	30	20.1	+12	41.3	143	41.9	+13	56.5	203	11.8	-10	33.1
18	197	25.0	49	56.1	+12	12.7	45	21.1	+12	40.7	158	44.0	+13	56.6	218	14.3	-10	33.1
19	212	27.4	64	57.6		11.9	60	22.1		40.2	173	46.1		56.7	233	16.9		33.1
20	227	29.9	79	59.2		11.1	75	23.1		39.6	188	48.2		56.9	248	19.4		33.2
21	242	32.3	95	00.8		10.4	90	24.2		39.1	203	50.3		57.0	263	22.0		33.2
22	257	34.8	110	02.3		09.6	105	25.2		38.5	218	52.3		57.1	278	24.5		33.3
23	272	37.3	125	03.9		08.9	120	26.2		37.9	233	54.4		57.2	293	27.1		33.3
24	287	39.7	140	05.5	+12	08.1	135	27.2	+12	37.4	248	56.5	+13	57.3	308	29.6	-10	33.3
Dif	—		+15		-8		+10		-6		+21		+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 05.4 ^m				Edad: 21.8 ^d SD: 15'9 PMG: 6 ^h 04 ^m													
	hG ☉	Dec			hG ☾	Dif				Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m		
0	178	40.4	+22	17.4	271	54.7	+5	21.9	158	60 N	** **	1 28	2 54	23 16	2	13 18 96		
1	193	40.3		17.1	286	26.7		37.7	158	58	** **	2 04	3 12	23 5		13 91		
2	208	40.2		16.8	300	58.6	+5	53.3	156	56	** **	29	28	28 9		09 87		
3	223	40.1		16.5	315	30.6	+6	09.0	157	54	1 21	2 49	41	33 12		05 8		
4	238	40.1		16.2	330	02.5		24.6	156	52	1 54	3 05	3 52	38 15	13 01	8		
5	253	40.0	+22	15.9	344	34.5	+6	40.1	155	50	2 18	3 19	4 02	23 42	17	12 58 79		
6	268	39.9	+22	15.6	359	06.5	+6	55.7	156	45	2 59	3 47	4 23	23 51	23	12 51 73		
7	283	39.8		15.3	13	38.4	+7	11.1	154	40	3 27	4 08	40	23 59	26	45 69		
8	298	39.7		15.0	28	10.4		26.5	154	35	3 49	25	4 54	** **	**	40 65		
9	313	39.6		14.6	42	42.3		41.9	154	30	4 06	4 39	5 06	** **	**	35 62		
10	328	39.5		14.3	57	14.3	+7	57.2	153	20	34	5 03	27	** **	**	28 56		
11	343	39.4	+22	14.0	71	46.2	+8	12.4	152	10 N	4 55	5 22	5 45	** **	**	12 21 51		
12	358	39.3	+22	13.7	86	18.1	+8	27.6	152	0	5 13	5 39	6 02	** **	**	12 15 46		
13	13	39.3		13.4	100	50.1		42.8	152	10 S	29	5 56	18	** **	**	08 43		
14	28	39.2		13.1	115	22.0	+8	57.9	151	20	5 45	6 12	36	0 01	56	12 02 37		
15	43	39.1		12.7	129	53.9	+9	12.9	150	30	6 00	30	6 56	06 61		11 54 32		
16	58	39.0		12.4	144	25.8		27.9	150	35	08	40	7 07	08 66		50 29		
17	73	38.9	+22	12.1	158	57.7	+9	42.8	149	40	6 17	6 51	7 21	0 12	69	11 45 25		
18	88	38.8	+22	11.8	173	29.5	+9	57.6	148	45	6 26	7 03	7 36	0 15	74	11 40 21		
19	103	38.7		11.5	188	01.4	+10	12.4	148	50	37	18	7 56	20 79		33 16		
20	118	38.6		11.1	202	33.2		27.1	147	52	42	25	8 05	22 82		30 13		
21	133	38.6		10.8	217	05.0		41.8	147	54	47	32	15	24 85		26 11		
22	148	38.5		10.5	231	36.9	+10	56.4	146	56	53	41	27	27 88		23 8		
23	163	38.4		10.2	246	08.6	+11	10.9	145	58	6 59	7 50	40	30 91		19 4		
24	178	38.3	+22	09.9	260	40.4	+11	25.4	145	60 S	7 05	8 01	8 56	0 33	95	11 14 1		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO			
	PMG 4 ^h 48.6 ^m		Mag: -4.7 PMG: 14 ^h 38 ^m				Mag: +1.7 PMG: 14 ^h 57 ^m				Mag: -2.3 PMG: 7 ^h 23 ^m				Mag: +0.7 PMG: 3 ^h 25 ^m			
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	287	39.7	140	05.5	+12	08.1	135	27.2	+12	37.4	248	56.5	+13	57.3	308	29.6	-10	33.3
1	302	42.2	155	07.1		07.3	150	28.2		36.8	263	58.6		57.4	323	32.2		33.4
2	317	44.7	170	08.6		06.6	165	29.2		36.3	279	00.7		57.6	338	34.7		33.4
3	332	47.1	185	10.2		05.8	180	30.2		35.7	294	02.7		57.7	353	37.2		33.5
4	347	49.6	200	11.8		05.1	195	31.3		35.2	309	04.8		57.8	8	39.8		33.5
5	2	52.1	215	13.4	+12	04.3	210	32.3	+12	34.6	324	06.9	+13	57.9	23	42.3	-10	33.5
6	17	54.5	230	15.0	+12	03.5	225	33.3	+12	34.1	339	09.0	+13	58.0	38	44.9	-10	33.6
7	32	57.0	245	16.6		02.8	240	34.3		33.5	354	11.0		58.1	53	47.4		33.6
8	47	59.5	260	18.2		02.0	255	35.3		32.9	9	13.1		58.3	68	50.0		33.7
9	63	01.9	275	19.8		01.3	270	36.3		32.4	24	15.2		58.4	83	52.5		33.7
10	78	04.4	290	21.4	+12	00.5	285	37.4		31.8	39	17.3		58.5	98	55.1		33.7
11	93	06.8	305	23.0	+11	59.8	300	38.4	+12	31.3	54	19.4	+13	58.6	113	57.6	-10	33.8
12	108	09.3	320	24.6	+11	59.0	315	39.4	+12	30.7	69	21.4	+13	58.7	129	00.1	-10	33.8
13	123	11.8	335	26.2		58.2	330	40.4		30.2	84	23.5		58.8	144	02.7		33.9
14	138	14.2	350	27.8		57.5	345	41.4		29.6	99	25.6		58.9	159	05.2		33.9
15	153	16.7	5	29.4		56.7	0	42.4		29.0	114	27.7		59.1	174	07.8		34.0
16	168	19.2	20	31.1		56.0	15	43.5		28.5	129	29.8		59.2	189	10.3		34.0
17	183	21.6	35	32.7	+11	55.2	30	44.5	+12	27.9	144	31.9	+13	59.3	204	12.9	-10	34.0
18	198	24.1	50	34.3	+11	54.5	45	45.5	+12	27.4	159	33.9	+13	59.4	219	15.4	-10	34.1
19	213	26.6	65	35.9		53.7	60	46.5		26.8	174	36.0		59.5	234	18.0		34.1
20	228	29.0	80	37.6		53.0	75	47.5		26.3	189	38.1		59.6	249	20.5		34.2
21	243	31.5	95	39.2		52.2	90	48.5		25.7	204	40.2		59.7	264	23.1		34.2
22	258	34.0	110	40.9		51.5	105	49.6		25.1	219	42.3	+13	59.9	279	25.6		34.2
23	273	36.4	125	42.5		50.7	120	50.6		24.6	234	44.3	+14	00.0	294	28.2		34.3
24	288	38.9	140	44.1	+11	50.0	135	51.6	+12	24.0	249	46.4	+14	00.1	309	30.7	-10	34.3
Dif	—		+16		-8		+10		-6		+21		+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: 22.8 ^d SD: 15'7 PMG: 6 ^h 50 ^m										
	hG ☉	Dec		hG ☾	Dif	Dec			Dif	Civil	Náutico	Hora	R°	Hora
h	° /	° /		° /	° /	° /		h m	h m	h m	h m	h m	h m	h m
0	178 38.3	+22 09.9		260 40.4	+11 25.4		60 N	21 14	22 37	** **	23 18	3	14 54	97
1	193 38.2	09.5		275 12.1 ¹²⁷		39.8 ¹⁴⁴	58	20 56	22 03	** **	28 8		44 92	
2	208 38.1	09.2		289 43.9 ¹²⁸	+11 54.1		56	41	21 39	** **	37 13		36 88	
3	223 38.0	08.9		304 15.6 ¹²⁷	+12 08.4		54	29	20	22 45	45 16		29 88	
4	238 38.0	08.5		318 47.2 ¹²⁶		22.6 ¹⁴²	52	17	21 04	22 13	53 18		22 81	
5	253 37.9	+22 08.2		333 18.9 ¹²⁷	+12 36.7		50	20 07	20 50	21 51	23 59	21	14 17	78
6	268 37.8	+22 07.9		347 50.5 ¹²⁶	+12 50.7		45	19 47	20 23	21 11	** **	**	14 04	73
7	283 37.7	07.6		2 22.1 ¹²⁶	+13 04.7		40	30	20 02	20 43	** **	**	13 54	68
8	298 37.6	07.2		16 53.7 ¹²⁶		18.6 ¹³⁹	35	16	19 45	21	0 06	30	45 65	
9	313 37.5	06.9		31 25.2 ¹²⁵		32.4 ¹³⁸	30	19 04	31	20 04	11 33		37 62	
10	328 37.4	06.6		45 56.7 ¹²⁵		46.1 ¹³⁷	20	18 43	19 08	19 36	22 38		24 56	
11	343 37.4	+22 06.2		60 28.2 ¹²⁵	+13 59.8		10 N	18 26	18 48	19 15	0 31	43	13 12	52
12	358 37.3	+22 05.9		74 59.6 ¹²⁴	+14 13.4		0	18 09	18 31	18 57	0 39	47	13 01	49
13	13 37.2	05.6		89 31.1 ¹²⁵		26.9 ¹³⁵	10 S	17 53	18 15	42	48 51		12 51	44
14	28 37.1	05.2		104 02.4 ¹²³		40.3 ¹³⁴	20	35	17 59	26	0 57	56	39 40	
15	43 37.0	04.9		118 33.8 ¹²⁴	+14 53.6		30	16	42	11	1 07	62	26 35	
16	58 36.9	04.6		133 05.1 ¹²³	+15 06.9		35	17 04	32	18 03	14 65		19 31	
17	73 36.9	+22 04.2		147 36.4 ¹²³	+15 20.1		40	16 51	17 21	17 55	1 21	68	12 10	29
18	88 36.8	+22 03.9		162 07.6 ¹²²	+15 33.2		45	16 35	17 09	17 45	1 29	73	12 01	24
19	103 36.7	03.6		176 38.8 ¹²²		46.2 ¹³⁰	50	16	16 54	35	39 79		11 49	18
20	118 36.6	03.2		191 10.0 ¹²²	+15 59.1		52	16 07	47	30	44 81		43 17	
21	133 36.5	02.9		205 41.1 ¹²¹	+16 11.9		54	15 57	40	25	49 84		37 14	
22	148 36.4	02.6		220 12.2 ¹²¹		24.6 ¹²⁷	56	46	31	19	1 55	87	31 10	
23	163 36.4	02.2		234 43.3 ¹²¹		37.3 ¹²⁷	58	32	22	13	2 01	92	23 6	
24	178 36.3	+22 01.9		249 14.3 ¹²⁰	+16 49.9		60 S	15 17	16 12	17 07	2 08	97	11 15	2

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 44.6 ^m		Mag: -4.7 PMG: 14 ^h 35 ^m		Mag: +1.7 PMG: 14 ^h 56 ^m		Mag: -2.3 PMG: 7 ^h 20 ^m		Mag: +0.7 PMG: 3 ^h 21 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	288 38.9	140 44.1	+11 50.0	135 51.6	+12 24.0	249 46.4	+14 00.1	309 30.7	-10 34.3	
1	303 41.3	155 45.8	49.2	150 52.6	23.5	264 48.5	00.2	324 33.3	34.4	
2	318 43.8	170 47.4	48.5	165 53.6	22.9	279 50.6	00.3	339 35.8	34.4	
3	333 46.3	185 49.1	47.7	180 54.6	22.3	294 52.7	00.4	354 38.4	34.5	
4	348 48.7	200 50.7	47.0	195 55.7	21.8	309 54.8	00.5	9 40.9	34.5	
5	3 51.2	215 52.4	+11 46.2	210 56.7	+12 21.2	324 56.8	+14 00.7	24 43.4	-10 34.5	
6	18 53.7	230 54.1	+11 45.5	225 57.7	+12 20.7	339 58.9	+14 00.8	39 46.0	-10 34.6	
7	33 56.1	245 55.7	44.7	240 58.7	20.1	355 01.0	00.9	54 48.5	34.6	
8	48 58.6	260 57.4	44.0	255 59.7	19.5	10 03.1	01.0	69 51.1	34.7	
9	64 01.1	275 59.1	43.2	271 00.7	19.0	25 05.2	01.1	84 53.6	34.7	
10	79 03.5	291 00.8	42.5	286 01.7	18.4	40 07.3	01.2	99 56.2	34.8	
11	94 06.0	306 02.4	+11 41.7	301 02.8	+12 17.9	55 09.4	+14 01.3	114 58.7	-10 34.8	
12	109 08.4	321 04.1	+11 41.0	316 03.8	+12 17.3	70 11.4	+14 01.4	130 01.3	-10 34.8	
13	124 10.9	336 05.8	40.2	331 04.8	16.7	85 13.5	01.6	145 03.8	34.9	
14	139 13.4	351 07.5	39.5	346 05.8	16.2	100 15.6	01.7	160 06.4	34.9	
15	154 15.8	6 09.2	38.7	1 06.8	15.6	115 17.7	01.8	175 08.9	35.0	
16	169 18.3	21 10.9	38.0	16 07.8	15.1	130 19.8	01.9	190 11.5	35.0	
17	184 20.8	36 12.6	+11 37.3	31 08.9	+12 14.5	145 21.9	+14 02.0	205 14.0	-10 35.1	
18	199 23.2	51 14.3	+11 36.5	46 09.9	+12 13.9	160 24.0	+14 02.1	220 16.6	-10 35.1	
19	214 25.7	66 16.0	35.8	61 10.9	13.4	175 26.0	02.2	235 19.1	35.1	
20	229 28.2	81 17.7	35.0	76 11.9	12.8	190 28.1	02.3	250 21.7	35.2	
21	244 30.6	96 19.4	34.3	91 12.9	12.3	205 30.2	02.5	265 24.2	35.2	
22	259 33.1	111 21.1	33.6	106 14.0	11.7	220 32.3	02.6	280 26.8	35.3	
23	274 35.6	126 22.8	32.8	121 15.0	11.1	235 34.4	02.7	295 29.3	35.3	
24	289 38.0	141 24.5	+11 32.1	136 16.0	+12 10.6	250 36.5	+14 02.8	310 31.9	-10 35.4	
Dif	—	+17	-7	+10	-6	+21	+1	+25		

UT	SOL				☾ LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15 ^h 7 ^m PMG: 12 ^h 05.6 ^m				Edad: 23.8 ^d SD: 15 ^h 5 ^m PMG: 7 ^h 38 ^m												
	hG ☉ Dec				hG ☾ Dif Dec Dif					Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	36.3	+22	01.9	249	14.3	+16	49.9	60 N	**	**	1	34	23	21	7	16
1	193	36.2		01.5	263	45.2	+17	02.3	58	**	**	2	08	3	15	36	14
2	208	36.1		01.2	278	16.2		14.7	56	**	**	3	30	23	50	18	16
3	223	36.0		00.9	292	47.1		27.0	54	1	27	2	52	43	**	**	**
4	238	36.0		00.5	307	17.9		39.2	52	1	58	3	08	3	54	**	**
5	253	35.9	+22	00.2	321	48.7	+17	51.3	50	2	21	3	21	4	04	**	**
6	268	35.8	+21	59.8	336	19.5	+18	03.3	45	3	01	3	48	4	25	0	14
7	283	35.7		59.5	350	50.2		15.2	40	29	4	09	41	25	31	15	02
8	298	35.6		59.1	5	20.9		27.0	35	3	50	26	4	55	36	33	14
9	313	35.6		58.8	19	51.5		38.7	30	4	08	4	40	5	07	0	44
10	328	35.5		58.4	34	22.1	+18	50.3	20	35	5	04	28	1	00	41	20
11	343	35.4	+21	58.1	48	52.6	+19	01.8	10 N	4	56	5	23	5	46	1	14
12	358	35.3	+21	57.7	63	23.1	+19	13.2	0	5	14	5	40	6	02	1	26
13	13	35.2		57.4	77	53.5		24.5	10 S	30	5	56	18	39	53	35	46
14	28	35.2		57.0	92	23.9		35.7	20	5	45	6	12	36	1	53	57
15	43	35.1		56.7	106	54.3		46.8	30	6	00	29	6	55	2	09	62
16	58	35.0		56.3	121	24.6	+19	57.7	35	08	39	7	07	7	07	19	64
17	73	34.9	+21	56.0	135	54.9	+20	08.6	40	6	16	6	50	7	20	2	29
18	88	34.8	+21	55.6	150	25.1	+20	19.4	45	6	26	7	02	7	35	2	42
19	103	34.8		55.3	164	55.2		30.1	50	36	17	7	54	2	58	77	07
20	118	34.7		54.9	179	25.3		40.6	52	41	24	8	03	3	05	80	12
21	133	34.6		54.6	193	55.4	+20	51.1	54	46	31	13		13	84	11	51
22	148	34.5		54.2	208	25.4	+21	01.4	56	51	39	25		22	88	41	14
23	163	34.5		53.9	222	55.4		11.6	58	6	57	48	38	33	92	29	11
24	178	34.4	+21	53.5	237	25.3	+21	21.7	60 S	7	04	7	59	8	53	3	45

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 4 ^h 40.7 ^m		Mag: -4.7 PMG: 14 ^h 33 ^m		Mag: +1.7 PMG: 14 ^h 54 ^m		Mag: -2.3 PMG: 7 ^h 17 ^m		Mag: +0.7 PMG: 3 ^h 17 ^m	
	hG ♂ Dec		hG ♀ Dec		hG ♂ Dec		hG ♀ Dec		hG ♀ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	289	38.0	141	24.5	+11	32.1	136	16.0	+12	10.6
1	304	40.5	156	26.2		31.3	151	17.0		10.0
2	319	42.9	171	28.0		30.6	166	18.0		09.4
3	334	45.4	186	29.7		29.9	181	19.0		08.9
4	349	47.9	201	31.4		29.1	196	20.1		08.3
5	4	50.3	216	33.2	+11	28.4	211	21.1	+12	07.8
6	19	52.8	231	34.9	+11	27.7	226	22.1	+12	07.2
7	34	55.3	246	36.6		26.9	241	23.1		06.6
8	49	57.7	261	38.4		26.2	256	24.1		06.1
9	65	00.2	276	40.1		25.5	271	25.1		05.5
10	80	02.7	291	41.9		24.7	286	26.2		04.9
11	95	05.1	306	43.6	+11	24.0	301	27.2	+12	04.4
12	110	07.6	321	45.4	+11	23.3	316	28.2	+12	03.8
13	125	10.1	336	47.1		22.5	331	29.2		03.2
14	140	12.5	351	48.9		21.8	346	30.2		02.7
15	155	15.0	6	50.7		21.1	1	31.2		02.1
16	170	17.4	21	52.4		20.3	16	32.3		01.6
17	185	19.9	36	54.2	+11	19.6	31	33.3	+12	01.0
18	200	22.4	51	56.0	+11	18.9	46	34.3	+12	00.4
19	215	24.8	66	57.8		18.1	61	35.3	+11	59.9
20	230	27.3	81	59.5		17.4	76	36.3		59.3
21	245	29.8	97	01.3		16.7	91	37.3		58.7
22	260	32.2	112	03.1		16.0	106	38.4		58.2
23	275	34.7	127	04.9		15.2	121	39.4		57.6
24	290	37.2	142	06.7	+11	14.5	136	40.4	+11	57.0
Dif	—		+18		-7		+10		-6	
							+21		+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 05.8 ^m				Edad: 24.8 ^d SD: 15'3 PMG: 8 ^h 27 ^m														
	PHE { 4 ^h : 56/2 12 ^h : 56/0 20 ^h : 55'8 Rº: 52 ^m																		
	hG ☉	Dec			hG ☾	Dif			Dec	Dif		Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m		
0	178	34.4	+21	53.5	237	25.3	+21	21.7	100	60 N	21 11	22 31	** **	23 28 16	18 09 93				
1	193	34.3		53.2	251	55.2		31.7	99	58	20 54	21 59	** **	23 50 23	17 47 85				
2	208	34.2		52.8	266	25.0		41.6	98	56		36	23 36	** **	30 80				
3	223	34.1		52.5	280	54.8	+21	51.4	98	54	27	17	22 40	0 01 22	15 77				
4	238	34.1		52.1	295	24.5	+22	01.1	97	52	16	21 02	22 10	11 25	17 02 74				
5	253	34.0	+21	51.7	309	54.2	+22	10.6	95	50	20 06	20 48	21 48	0 20 28	16 51 72				
6	268	33.9	+21	51.4	324	23.8	+22	20.0	94	45	19 46	20 22	21 09	0 40 32	16 28 68				
7	283	33.8		51.0	338	53.4		29.3	93	40	29	20 01	20 41	0 56 35	16 09 65				
8	298	33.8		50.7	353	22.9		38.5	92	35	15	19 44	20	1 09 38	15 54 62				
9	313	33.7		50.3	7	52.4		47.6	91	30	19 03	30	20 03	21 41	40 61				
10	328	33.6		49.9	22	21.8	+22	56.5	89	20	18 43	19 07	19 36	41 45	15 18 57				
11	343	33.5	+21	49.6	36	51.2	+23	05.3	88	10 N	18 26	18 48	19 15	1 59 48	14 58 54				
12	358	33.5	+21	49.2	51	20.6	+23	14.0	87	0	18 09	18 32	18 58	2 15 51	14 40 52				
13	13	33.4		48.8	65	49.9		22.6	86	10 S	17 53	16	42	32 54	21 50				
14	28	33.3		48.5	80	19.1		31.1	85	20	36	18 00	27	2 50 57	14 02 46				
15	43	33.2		48.1	94	48.3		39.4	83	30	17	17 43	12	3 11 61	13 39 44				
16	58	33.2		47.7	109	17.5		47.6	82	35	17 05	33	18 04	23 64	26 42				
17	73	33.1	+21	47.4	123	46.6	+23	55.7	81	40	16 52	17 22	17 56	3 37 67	13 11 39				
18	88	33.0	+21	47.0	138	15.7	+24	03.7	80	45	16 37	17 10	17 47	3 54 70	12 53 36				
19	103	33.0		46.6	152	44.7		11.5	78	50	18	16 56	36	4 15 75	31 31				
20	118	32.9		46.3	167	13.7		19.2	77	52	16 09	49	32	25 77	21 29				
21	133	32.8		45.9	181	42.6		26.8	76	54	15 59	42	27	37 80	12 09 26				
22	148	32.7		45.5	196	11.5		34.2	74	56	48	34	21	4 50 84	11 55 23				
23	163	32.7		45.2	210	40.3		41.5	73	58	35	25	16	5 05 89	40 17				
24	178	32.6	+21	44.8	225	09.1	+24	48.7	72	60 S	15 20	16 14	17 09	5 23 97	11 21 10				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 36.8 ^m		Mag: -4.7 PMG: 14 ^h 30 ^m		Mag: +1.7 PMG: 14 ^h 52 ^m		Mag: -2.3 PMG: 7 ^h 13 ^m		Mag: +0.7 PMG: 3 ^h 13 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	290	37.2	142	06.7	+11	14.5	136	40.4	+11	57.0
1	305	39.6	157	08.5		13.8	151	41.4		56.5
2	320	42.1	172	10.3		13.1	166	42.4		55.9
3	335	44.5	187	12.1		12.3	181	43.5		55.3
4	350	47.0	202	13.9		11.6	196	44.5		54.8
5	5	49.5	217	15.7	+11	10.9	211	45.5	+11	54.2
6	20	51.9	232	17.5	+11	10.2	226	46.5	+11	53.6
7	35	54.4	247	19.3		09.4	241	47.5		53.1
8	50	56.9	262	21.1		08.7	256	48.5		52.5
9	65	59.3	277	23.0		08.0	271	49.6		51.9
10	81	01.8	292	24.8		07.3	286	50.6		51.4
11	96	04.3	307	26.6	+11	06.6	301	51.6	+11	50.8
12	111	06.7	322	28.4	+11	05.8	316	52.6	+11	50.2
13	126	09.2	337	30.3		05.1	331	53.6		49.7
14	141	11.7	352	32.1		04.4	346	54.6		49.1
15	156	14.1	7	34.0		03.7	1	55.7		48.5
16	171	16.6	22	35.8		03.0	16	56.7		48.0
17	186	19.0	37	37.7	+11	02.3	31	57.7	+11	47.4
18	201	21.5	52	39.5	+11	01.5	46	58.7	+11	46.8
19	216	24.0	67	41.4		00.8	61	59.7		46.3
20	231	26.4	82	43.2	+11	00.1	77	00.8		45.7
21	246	28.9	97	45.1	+10	59.4	92	01.8		45.1
22	261	31.4	112	46.9		58.7	107	02.8		44.6
23	276	33.8	127	48.8		58.0	122	03.8		44.0
24	291	36.3	142	50.7	+10	57.3	137	04.8	+11	43.4
Dif	—		+18	-7			+10	-6		
									+21	+1
										+26

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: 25.8 ^d SD: 15/2 PMG: 9 ^h 19 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	178	32.6	+21	44.8	225	09.1	98	+24	48.7	71	60 N	23	44	35	19	42
1	193	32.5		44.4	239	37.9	98	+24	55.8	69	58	23	44	35	19	12
2	208	32.4		44.0	254	06.6	97	+25	02.7	68	56	0	36	36	18	50
3	223	32.4		43.7	268	35.3	97		09.5	68	54	1	32	2	31	32
4	238	32.3		43.3	283	04.0	97		16.1	66	52	2	02	3	34	16
5	253	32.2	+21	42.9	297	32.6	96	+25	22.7	66	50	2	24	3	36	18
6	268	32.2	+21	42.5	312	01.1	95	+25	29.1	64	45	3	03	3	39	17
7	283	32.1		42.2	326	29.7	96		35.3	62	40	3	31	4	42	17
8	298	32.0		41.8	340	58.2	95		41.4	61	35	3	52	4	57	16
9	313	31.9		41.4	355	26.6	94		47.4	60	30	4	09	5	08	15
10	328	31.9		41.0	9	55.1	95		53.3	59	20	4	36	5	04	16
11	343	31.8	+21	40.7	24	23.5	94	+25	59.0	57	10 N	4	57	5	46	15
12	358	31.7	+21	40.3	38	51.8	93	+26	04.6	56	0	5	14	6	02	15
13	13	31.7		39.9	53	20.1	93		10.0	54	10 S	30	5	56	18	15
14	28	31.6		39.5	67	48.4	93		15.3	53	20	44	6	12	35	14
15	43	31.5		39.1	82	16.7	93		20.5	52	30	5	59	29	6	57
16	58	31.5		38.8	96	45.0	93		25.5	50	35	6	07	38	7	06
17	73	31.4	+21	38.4	111	13.2	92	+26	30.4	49	40	6	15	6	49	7
18	88	31.3	+21	38.0	125	41.4	92	+26	35.1	47	45	6	25	7	01	8
19	103	31.3		37.6	140	09.5	91		39.7	46	50	35	16	7	53	9
20	118	31.2		37.2	154	37.7	92		44.2	45	52	39	22	8	02	10
21	133	31.1		36.8	169	05.8	91		48.5	43	54	44	29	11	5	11
22	148	31.1		36.5	183	33.9	91		52.7	42	56	50	37	23	6	14
23	163	31.0		36.1	198	01.9	90	+26	56.7	40	58	6	55	46	35	6
24	178	30.9	+21	35.7	212	30.0	91	+27	00.6	39	60 S	7	02	7	56	8

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 32.8 ^m		Mag: -4.7 PMG: 14 ^h 27 ^m		Mag: +1.8 PMG: 14 ^h 51 ^m		Mag: -2.3 PMG: 7 ^h 10 ^m		Mag: +0.7 PMG: 3 ^h 09 ^m	
h	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
0	291	36.3	142	50.7	137	04.8	252	16.9	312	34.5
1	306	38.8	157	52.5	152	05.8	267	19.0	327	37.1
2	321	41.2	172	54.4	167	06.9	282	21.1	342	39.6
3	336	43.7	187	56.3	182	07.9	297	23.2	357	42.2
4	351	46.2	202	58.2	197	08.9	312	25.3	12	44.7
5	6	48.6	218	00.1	212	09.9	327	27.4	27	47.3
6	21	51.1	233	02.0	227	10.9	342	29.5	42	49.9
7	36	53.5	248	03.9	242	12.0	357	31.6	57	52.4
8	51	56.0	263	05.8	257	13.0	12	33.7	72	55.0
9	66	58.5	278	07.6	272	14.0	27	35.8	87	57.5
10	82	00.9	293	09.6	287	15.0	42	37.9	103	00.1
11	97	03.4	308	11.5	302	16.0	57	40.0	118	02.7
12	112	05.9	323	13.4	317	17.0	72	42.1	133	05.2
13	127	08.3	338	15.3	332	18.1	87	44.2	148	07.8
14	142	10.8	353	17.2	347	19.1	102	46.3	163	10.3
15	157	13.3	8	19.1	2	20.1	117	48.4	178	12.9
16	172	15.7	23	21.0	17	21.1	132	50.5	193	15.5
17	187	18.2	38	23.0	32	22.1	147	52.6	208	18.0
18	202	20.7	53	24.9	47	23.2	162	54.7	223	20.6
19	217	23.1	68	26.8	62	24.2	177	56.8	238	23.1
20	232	25.6	83	28.8	77	25.2	192	58.9	253	25.7
21	247	28.0	98	30.7	92	26.2	208	01.0	268	28.3
22	262	30.5	113	32.6	107	27.2	223	03.1	283	30.8
23	277	33.0	128	34.6	122	28.3	238	05.2	298	33.4
24	292	35.4	143	36.5	137	29.3	253	07.4	313	35.9
Dif	—		+19	-7	+10	-6	+21	+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 06.0 ^m				Edad: 26.8 ^d SD: 15'0 PMG: 10 ^h 12 ^m PHE 4^h: 55'1 12^h: 55'0 20^h: 54'9 R°: 53^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	178 30.9	+21 35.7	212 30.0	90	+27 00.6	38	60 N	21 08	22 25	** **	** **	20 57	44						
1	193 30.9	35.3	226 58.0	90	04.4	36	58	20 51	21 55	** **	0 13	41	20 22	48					
2	208 30.8	34.9	241 26.0	90	08.0	34	56	37	32	23 22	36 43	19 57	49						
3	223 30.7	34.5	255 54.0	90	11.4	34	54	24	21 14	22 34	0 54	45	37	50					
4	238 30.7	34.1	270 22.0	90	14.8	34	52	14	20 59	22 06	1 10	46	20	50					
5	253 30.6	+21 33.7	284 50.0	90	+27 18.0	32	50	20 04	20 46	21 45	1 24	47	19 06	50					
6	268 30.5	+21 33.4	299 17.9	89	+27 21.0	30	45	19 44	20 20	21 07	1 51	49	18 36	51					
7	283 30.5	33.0	313 45.9	90	23.9	29	40	28	20 00	20 40	2 13	50	18 13	52					
8	298 30.4	32.6	328 13.8	89	26.6	27	35	15	19 43	19	32	50	17 54	52					
9	313 30.3	32.2	342 41.8	90	29.3	27	30	19 03	30	20 02	2 48	51	38	52					
10	328 30.3	31.8	357 09.7	89	31.7	24	20	18 43	19 07	19 36	3 14	52	17 10	53					
11	343 30.2	+21 31.4	11 37.6	89	+27 34.0	23	10 N	18 26	18 48	19 15	3 37	53	16 47	52					
12	358 30.1	+21 31.0	26 05.5	89	+27 36.2	22	0	18 10	18 32	18 58	3 59	53	16 25	53					
13	13 30.1	30.6	40 33.4	89	38.3	21	10 S	17 54	16	42	4 21	53	16 03	53					
14	28 30.0	30.2	55 01.3	89	40.2	19	20	37	18 01	28	4 44	54	15 39	53					
15	43 29.9	29.8	69 29.2	89	41.9	17	30	18	17 44	13	5 11	55	15 11	54					
16	58 29.9	29.4	83 57.1	89	43.5	16	35	17 07	34	18 05	27	55	14 55	53					
17	73 29.8	+21 29.0	98 25.0	89	+27 45.0	15	40	16 54	17 24	17 57	5 46	55	14 36	53					
18	88 29.7	+21 28.6	112 52.9	89	+27 46.3	13	45	16 39	17 12	17 48	6 08	57	14 13	53					
19	103 29.7	28.2	127 20.9	90	47.4	11	50	20	16 58	38	38	56	13 44	53					
20	118 29.6	27.8	141 48.8	89	48.5	11	52	12	51	34	6 52	57	29	53					
21	133 29.6	27.4	156 16.7	89	49.3	8	54	16 02	44	29	7 08	58	13 13	52					
22	148 29.5	27.0	170 44.7	90	50.1	8	56	15 51	36	24	28	58	12 53	52					
23	163 29.4	26.6	185 12.6	89	50.7	6	58	38	27	18	7 53	59	12 28	51					
24	178 29.4	+21 26.2	199 40.6	90	+27 51.1	4	60 S	15 24	16 17	17 12	8 27	61	11 54	50					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 28.9 ^m		Mag: -4.7 PMG: 14 ^h 24 ^m		Mag: +1.8 PMG: 14 ^h 49 ^m		Mag: -2.3 PMG: 7 ^h 07 ^m		Mag: +0.7 PMG: 3 ^h 05 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	292 35.4	143 36.5	+10 40.4	137 29.3	+11 29.7	253 07.4	+14 10.7	313 35.9	-10 38.6	
1	307 37.9	158 38.5	39.7	152 30.3	29.2	268 09.5	10.8	328 38.5	38.7	
2	322 40.4	173 40.4	39.0	167 31.3	28.6	283 11.6	10.9	343 41.1	38.7	
3	337 42.8	188 42.4	38.3	182 32.3	28.0	298 13.7	11.0	358 43.6	38.7	
4	352 45.3	203 44.4	37.6	197 33.3	27.4	313 15.8	11.1	13 46.2	38.8	
5	7 47.8	218 46.3	+10 36.9	212 34.4	+11 26.9	328 17.9	+14 11.2	28 48.7	-10 38.8	
6	22 50.2	233 48.3	+10 36.2	227 35.4	+11 26.3	343 20.0	+14 11.3	43 51.3	-10 38.9	
7	37 52.7	248 50.3	35.5	242 36.4	25.7	358 22.1	11.4	58 53.9	38.9	
8	52 55.2	263 52.2	34.8	257 37.4	25.1	13 24.2	11.5	73 56.4	39.0	
9	67 57.6	278 54.2	34.2	272 38.4	24.6	28 26.3	11.6	88 59.0	39.0	
10	83 00.1	293 56.2	33.5	287 39.5	24.0	43 28.4	11.7	104 01.6	39.1	
11	98 02.5	308 58.2	+10 32.8	302 40.5	+11 23.4	58 30.5	+14 11.8	119 04.1	-10 39.1	
12	113 05.0	324 00.2	+10 32.1	317 41.5	+11 22.9	73 32.6	+14 11.9	134 06.7	-10 39.2	
13	128 07.5	339 02.2	31.4	332 42.5	22.3	88 34.7	12.0	149 09.2	39.2	
14	143 09.9	354 04.2	30.7	347 43.5	21.7	103 36.8	12.1	164 11.8	39.3	
15	158 12.4	9 06.2	30.0	2 44.6	21.1	118 38.9	12.2	179 14.4	39.3	
16	173 14.9	24 08.2	29.3	17 45.6	20.6	133 41.0	12.3	194 16.9	39.4	
17	188 17.3	39 10.2	+10 28.7	32 46.6	+11 20.0	148 43.1	+14 12.5	209 19.5	-10 39.4	
18	203 19.8	54 12.2	+10 28.0	47 47.6	+11 19.4	163 45.2	+14 12.6	224 22.1	-10 39.5	
19	218 22.3	69 14.2	27.3	62 48.6	18.8	178 47.3	12.7	239 24.6	39.5	
20	233 24.7	84 16.2	26.6	77 49.7	18.3	193 49.5	12.8	254 27.2	39.6	
21	248 27.2	99 18.2	25.9	92 50.7	17.7	208 51.6	12.9	269 29.8	39.6	
22	263 29.7	114 20.3	25.2	107 51.7	17.1	223 53.7	13.0	284 32.3	39.7	
23	278 32.1	129 22.3	24.6	122 52.7	16.5	238 55.8	13.1	299 34.9	39.7	
24	293 34.6	144 24.3	+10 23.9	137 53.7	+11 16.0	253 57.9	+14 13.2	314 37.4	-10 39.7	
Dif	—	+20	-7	+10	-6	+21	+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 06.1 ^m				Edad: 27.8 ^d SD: 14 ^h 9 PMG: 11 ^h 05 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	29.4	+21	26.2	199	40.6	+27	51.1	3	60 N	***	***	1	47	3	05	0	19	65
1	193	29.3		25.8	214	08.6		51.4	2	58	***	***	2	18	22		0	54	62
2	208	29.2		25.4	228	36.6		51.6	0	56	0	50	40	36			1	19	61
3	223	29.2		25.0	243	04.6		51.6	0	54	1	38	2	58	48		39	60	27
4	238	29.1		24.6	257	32.6		51.5	1	52	2	07	3	13	3	59	1	56	59
5	253	29.1	+21	24.2	272	00.6	+27	51.2	3	50	2	28	3	26	4	08	2	11	58
6	268	29.0	+21	23.8	286	28.7	+27	50.8	4	45	3	06	3	52	4	28	2	40	57
7	283	28.9		23.4	300	56.8		50.2	6	40	33	4	12	44	24		3	03	56
8	298	28.9		23.0	315	24.9		49.6	9	35	3	53	29	4	58		22	56	18
9	313	28.8		22.6	329	53.0		48.7	6	30	4	10	4	43	5	09	3	39	54
10	328	28.8		22.2	344	21.2		47.7	10	20	37	5	05	29			4	06	54
11	343	28.7	+21	21.8	358	49.4	+27	46.6	11	10 N	4	57	5	24	5	47	4	30	53
12	358	28.6	+21	21.3	13	17.6	+27	45.4	12	0	5	14	5	40	6	02	4	52	52
13	13	28.6		20.9	27	45.8		44.0	16	10 S	30	5	56	18			5	14	52
14	28	28.5		20.5	42	14.1		42.4	14	20	44	6	11	35			5	38	51
15	43	28.5		20.1	56	42.4		40.8	16	30	5	59	28	6	54		6	06	49
16	58	28.4		19.7	71	10.8		38.9	19	35	6	06	38	7	05		22	49	15
17	73	28.3	+21	19.3	85	39.2	+27	37.0	19	40	6	15	6	48	7	18	6	41	48
18	88	28.3	+21	18.9	100	07.6	+27	34.9	21	45	6	23	7	00	7	33	7	05	46
19	103	28.2		18.5	114	36.0		32.7	22	50	34	14	7	51			34	44	14
20	118	28.2		18.0	129	04.5		30.3	24	52	38	20	8	00			7	49	43
21	133	28.1		17.6	143	33.1		27.8	25	54	43	28	09				8	06	42
22	148	28.1		17.2	158	01.6		25.1	27	56	48	35	20				26	40	13
23	163	28.0		16.8	172	30.2		22.4	27	58	6	54	44	33			8	52	36
24	178	27.9	+21	16.4	186	58.9	+27	19.4	30	60 S	7	00	7	54	8	47	9	28	29

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 4 ^h 25.0 ^m		Mag: -4.7 PMG: 14 ^h 20 ^m		Mag: +1.8 PMG: 14 ^h 47 ^m		Mag: -2.3 PMG: 7 ^h 03 ^m		Mag: +0.7 PMG: 3 ^h 01 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	293	34.6	144	24.3	+10	23.9	137	53.7	+11	16.0
1	308	37.0	159	26.4		23.2	152	54.8		15.4
2	323	39.5	174	28.4		22.5	167	55.8		14.8
3	338	42.0	189	30.4		21.9	182	56.8		14.2
4	353	44.4	204	32.5		21.2	197	57.8		13.7
5	8	46.9	219	34.5	+10	20.5	212	58.8	+11	13.1
6	23	49.4	234	36.6	+10	19.8	227	59.8	+11	12.5
7	38	51.8	249	38.6		19.2	243	00.9		11.9
8	53	54.3	264	40.7		18.5	258	01.9		11.4
9	68	56.8	279	42.7		17.8	273	02.9		10.8
10	83	59.2	294	44.8		17.1	288	03.9		10.2
11	99	01.7	309	46.9	+10	16.5	303	04.9	+11	09.6
12	114	04.1	324	48.9	+10	15.8	318	06.0	+11	09.0
13	129	06.6	339	51.0		15.1	333	07.0		08.5
14	144	09.1	354	53.1		14.5	348	08.0		07.9
15	159	11.5	9	55.2		13.8	3	09.0		07.3
16	174	14.0	24	57.3		13.1	18	10.0		06.7
17	189	16.5	39	59.4	+10	12.5	33	11.1	+11	06.2
18	204	18.9	55	01.5	+10	11.8	48	12.1	+11	05.6
19	219	21.4	70	03.5		11.1	63	13.1		05.0
20	234	23.9	85	05.6		10.5	78	14.1		04.4
21	249	26.3	100	07.7		09.8	93	15.1		03.9
22	264	28.8	115	09.9		09.1	108	16.2		03.3
23	279	31.3	130	12.0		08.5	123	17.2		02.7
24	294	33.7	145	14.1	+10	07.8	138	18.2	+11	02.1
Dif	—		+21		-7		+10		-6	
							+21		+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 06.2 ^m				Edad: 28.8 ^d SD: 14'8 PMG: 11 ^h 57 ^m												
	hG ☉		Dec		hG ☾		Dif										
	h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	178	27.9	+21	16.4	186	58.9	+27	19.4	30	60 N	21 04	22 19	** **	1 24 86	22 02	9	
1	193	27.9		16.0	201	27.6		16.4	32	58	20 48	21 50	** **	1 56 78	21 37	16	
2	208	27.8		15.5	215	56.4		13.2	33	56	34	29	23 11	2 20 73	18	20	
3	223	27.8		15.1	230	25.2		09.9	34	54	22	21 11	22 29	39 70	21 01	21	
4	238	27.7		14.7	244	54.0		06.5	36	52	12	20 57	22 02	2 55 68	20 47	26	
5	253	27.7	+21	14.3	259	22.9	+27	02.9	37	50	20 02	20 44	21 41	3 09 66	20 35	28	
6	268	27.6	+21	13.9	273	51.8	+26	59.2	37	45	19 43	20 18	21 04	3 37 63	20 09	33	
7	283	27.6		13.4	288	20.8		55.3	39	40	27	19 59	20 38	3 59 61	19 48	36	
8	298	27.5		13.0	302	49.9		51.3	40	35	14	42	18	4 18 58	31	39	
9	313	27.4		12.6	317	19.0		47.2	41	30	19 02	29	20 01	4 33 57	19 17	40	
10	328	27.4		12.2	331	48.1		43.0	42	20	18 42	19 06	19 35	5 00 54	18 51	44	
11	343	27.3	+21	11.8	346	17.3	+26	38.7	43	10 N	18 25	18 48	19 15	5 23 52	18 29	47	
12	358	27.3	+21	11.3	0	46.6	+26	34.2	45	0	18 10	18 32	18 58	5 44 51	18 09	49	
13	13	27.2		10.9	15	15.9		29.6	46	10 S	17 54	17	43	6 06 48	17 48	52	
14	28	27.2		10.5	29	45.3		24.8	48	20	38	18 01	28	29 46	26	54	
15	43	27.1		10.0	44	14.7		20.0	48	30	19	17 45	14	6 55 43	17 01	57	
16	58	27.1		09.6	58	44.2		15.0	50	35	17 08	35	18 07	7 11 41	16 46	59	
17	73	27.0	+21	09.2	73	13.8	+26	09.9	51	40	16 55	17 25	17 59	7 29 39	16 28	61	
18	88	27.0	+21	08.8	87	43.4	+26	04.6	53	45	16 41	17 13	17 50	7 51 37	16 06	65	
19	103	26.9		08.3	102	13.1	+25	59.3	55	50	23	17 00	40	8 18 33	15 39	69	
20	118	26.9		07.9	116	42.8		53.8	55	52	14	16 53	36	32 31	26	71	
21	133	26.8		07.5	131	12.6		48.2	56	54	16 05	46	31	8 48 28	15 11	74	
22	148	26.8		07.0	145	42.5		42.5	57	56	15 54	39	26	9 06 25	14 53	77	
23	163	26.7		06.6	160	12.4		36.6	59	58	42	30	20	28 20	31	82	
24	178	26.7	+21	06.2	174	42.4	+25	30.7	59	60 S	15 27	16 20	17 14	9 57 13	14 02	90	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO								
	PMG 4 ^h 21.0 ^m		Mag: -4.7 PMG: 14 ^h 17 ^m		Mag: +1.8 PMG: 14 ^h 46 ^m		Mag: -2.4 PMG: 7 ^h 00 ^m		Mag: +0.7 PMG: 2 ^h 57 ^m								
	hG ♈		hG ♊	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	294	33.7	145	14.1	+10	07.8	138	18.2	+11	02.1	254	48.5	+14	15.7	315	39.0	-10 40.9
1	309	36.2	160	16.2		07.2	153	19.2		01.5	269	50.7		15.8	330	41.6	41.0
2	324	38.6	175	18.3		06.5	168	20.2		01.0	284	52.8		15.9	345	44.2	41.0
3	339	41.1	190	20.4		05.8	183	21.3	+11	00.4	299	54.9		16.0	0	46.7	41.1
4	354	43.6	205	22.6		05.2	198	22.3	+10	59.8	314	57.0		16.1	15	49.3	41.1
5	9	46.0	220	24.7	+10	04.5	213	23.3	+10	59.2	329	59.1	+14	16.2	30	51.9	-10 41.2
6	24	48.5	235	26.8	+10	03.9	228	24.3	+10	58.6	345	01.2	+14	16.3	45	54.4	-10 41.2
7	39	51.0	250	29.0		03.2	243	25.3		58.1	0	03.3		16.4	60	57.0	41.3
8	54	53.4	265	31.1		02.6	258	26.4		57.5	15	05.5		16.5	75	59.6	41.3
9	69	55.9	280	33.3		01.9	273	27.4		56.9	30	07.6		16.6	91	02.1	41.4
10	84	58.4	295	35.4		01.2	288	28.4		56.3	45	09.7		16.7	106	04.7	41.4
11	100	00.8	310	37.6	+10	00.6	303	29.4	+10	55.7	60	11.8	+14	16.8	121	07.3	-10 41.5
12	115	03.3	325	39.7	+9	59.9	318	30.4	+10	55.2	75	13.9	+14	16.9	136	09.9	-10 41.5
13	130	05.8	340	41.9		59.3	333	31.5		54.6	90	16.0		17.0	151	12.4	41.6
14	145	08.2	355	44.0		58.6	348	32.5		54.0	105	18.2		17.1	166	15.0	41.6
15	160	10.7	10	46.2		58.0	3	33.5		53.4	120	20.3		17.2	181	17.6	41.7
16	175	13.1	25	48.4		57.3	18	34.5		52.8	135	22.4		17.3	196	20.1	41.7
17	190	15.6	40	50.5	+9	56.7	33	35.5	+10	52.3	150	24.5	+14	17.4	211	22.7	-10 41.8
18	205	18.1	55	52.7	+9	56.0	48	36.6	+10	51.7	165	26.6	+14	17.5	226	25.3	-10 41.8
19	220	20.5	70	54.9		55.4	63	37.6		51.1	180	28.7		17.6	241	27.8	41.9
20	235	23.0	85	57.1		54.8	78	38.6		50.5	195	30.9		17.7	256	30.4	41.9
21	250	25.5	100	59.3		54.1	93	39.6		49.9	210	33.0		17.8	271	33.0	42.0
22	265	27.9	116	01.5		53.5	108	40.6		49.4	225	35.1		17.9	286	35.6	42.0
23	280	30.4	131	03.7		52.8	123	41.7		48.8	240	37.2		18.0	301	38.1	42.1
24	295	32.9	146	05.9	+9	52.2	138	42.7	+10	48.2	255	39.3	+14	18.1	316	40.7	-10 42.1
Dif	—		+22		-7		+10		-6		+21		+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 06.3 ^m				Edad: 0.2 ^d SD: 14'8 PMG: 12 ^h 46 ^m															
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	178	26.7	+21	06.2	174	42.4	+25	30.7	61	60 N	** **	1 54	3 09	2 50	90	22 11	3			
1	193	26.6		05.8	189	42.5		24.6	62	58	** **	2 22	25	3 14	83	21 53	9			
2	208	26.5		05.3	203	42.6		18.4	63	56	1 02	2 44	39	33	79	38	13			
3	223	26.5		04.9	218	42.8		12.1	64	54	1 44	3 02	3 51	3 49	75	25	16			
4	238	26.4		04.4	232	43.1	+25	05.7	64	52	2 11	16	4 01	4 03	72	13	19			
5	253	26.4	+21	04.0	247	43.4	+24	59.1	66	50	2 31	3 29	4 11	4 15	70	21 03	21			
6	268	26.3	+21	03.6	261	43.8	+24	52.5	66	45	3 08	3 54	4 30	4 40	65	20 42	26			
7	283	26.3		03.1	276	44.3		45.7	68	40	35	4 14	46	5 00	62	24	30			
8	298	26.2		02.7	290	44.8		38.9	68	35	3 55	30	4 59	16	59	20 10	32			
9	313	26.2		02.3	305	45.4		31.9	70	30	4 12	4 44	5 11	30	57	19 57	35			
10	328	26.2		01.8	319	46.1		24.8	71	20	38	5 06	30	5 54	54	35	39			
11	343	26.1	+21	01.4	334	46.8	+24	17.6	72	10 N	4 58	5 24	5 47	6 15	51	19 16	42			
12	358	26.1	+21	00.9	348	47.6	+24	10.3	73	0	5 15	5 41	6 03	6 35	47	18 58	46			
13	13	26.0		00.5	3	48.5	+24	02.9	74	10 S	30	5 56	18	6 54	44	40	49			
14	28	26.0	+21	00.1	17	49.4	+23	55.3	76	20	44	6 11	35	7 15	41	18 20	53			
15	43	25.9	+20	59.6	32	50.5		47.7	76	30	5 58	28	6 53	38	38	17 58	57			
16	58	25.9		59.2	46	51.5		40.0	77	35	6 06	37	7 04	7 52	35	45	59			
17	73	25.8	+20	58.7	61	52.7	+23	32.2	78	40	6 14	6 47	7 17	8 08	33	17 29	63			
18	88	25.8	+20	58.3	75	53.9	+23	24.2	80	45	6 22	6 59	7 31	8 28	29	17 11	66			
19	103	25.7		57.9	90	55.2		16.2	80	50	32	7 12	49	8 51	25	16 48	71			
20	118	25.7		57.4	104	56.6	+23	08.0	82	52	36	19	7 58	9 03	22	37	73			
21	133	25.6		57.0	119	58.1	+22	59.8	82	54	41	26	8 07	16	19	25	76			
22	148	25.6		56.5	133	59.6		51.5	83	56	46	33	18	31	15	16 10	80			
23	163	25.5		56.1	148	61.2		43.0	85	58	51	42	30	9 48	12	15 53	84			
24	178	25.5	+20	55.6	163	62.8	+22	34.5	85	60 S	6 57	7 51	8 44	10 10	5	15 32	91			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 4 ^h 17.1 ^m		Mag: -4.7 PMG: 14 ^h 13 ^m		Mag: +1.8 PMG: 14 ^h 44 ^m		Mag: -2.4 PMG: 6 ^h 56 ^m		Mag: +0.7 PMG: 2 ^h 53 ^m	
	hG ♂		hG ♀ Dec		hG ♂ Dec		hG ♀ Dec		hG ♀ Dec	
h	°	'	°	'	°	'	°	'	°	'
0	295	32.9	146	05.9	+9	52.2	138	42.7	+10	48.2
1	310	35.3	161	08.1		51.5	153	43.7		47.6
2	325	37.8	176	10.3		50.9	168	44.7		47.0
3	340	40.3	191	12.5		50.3	183	45.8		46.5
4	355	42.7	206	14.7		49.6	198	46.8		45.9
5	10	45.2	221	16.9	+9	49.0	213	47.8	+10	45.3
6	25	47.6	236	19.1	+9	48.4	228	48.8	+10	44.7
7	40	50.1	251	21.3		47.7	243	49.8		44.1
8	55	52.6	266	23.6		47.1	258	50.9		43.5
9	70	55.0	281	25.8		46.5	273	51.9		43.0
10	85	57.5	296	28.0		45.8	288	52.9		42.4
11	101	00.0	311	30.3	+9	45.2	303	53.9	+10	41.8
12	116	02.4	326	32.5	+9	44.6	318	54.9	+10	41.2
13	131	04.9	341	34.8		43.9	333	56.0		40.6
14	146	07.4	356	37.0		43.3	348	57.0		40.0
15	161	09.8	11	39.3		42.7	3	58.0		39.5
16	176	12.3	26	41.5		42.0	18	59.0		38.9
17	191	14.8	41	43.8	+9	41.4	34	00.0	+10	38.3
18	206	17.2	56	46.0	+9	40.8	49	01.1	+10	37.7
19	221	19.7	71	48.3		40.2	64	02.1		37.1
20	236	22.1	86	50.6		39.5	79	03.1		36.5
21	251	24.6	101	52.8		38.9	94	04.1		36.0
22	266	27.1	116	55.1		38.3	109	05.1		35.4
23	281	29.5	131	57.4		37.7	124	06.2		34.8
24	296	32.0	146	59.7	+9	37.0	139	07.2	+10	34.2
Dif	—		+22		-6		+10		-6	
							+21		+1	
									+26	
									-1	

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: 1.2 ^d SD: 14'7 PMG: 13 ^h 33 ^m PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 R°: 44 ^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	25.5	+20	55.6	163	02.8	+22	34.5	86	60	N	21	00	22	13	**	**	4	20	89	22	14	2		
1	193	25.4		55.2	177	34.6		25.9	88	58		20	44	21	46	**	**		37	84	22	02	5		
2	208	25.4		54.7	192	06.4		17.1	88	56		31		25		23	01	4	52	79	21	51	9		
3	223	25.4		54.3	206	38.2	+22	08.3	88	54		19		21	08	22	23	5	04	76	41	11	1		
4	238	25.3		53.8	221	10.2	+21	59.4	89	52		09		20	54	21	58		15	73		32	15		
5	253	25.3	+20	53.4	235	42.2	+21	50.4	90	50		20	00	20	41	21	38	5	25	71	21	24	17		
6	268	25.2	+20	52.9	250	14.3	+21	41.3	91	45		19	41	20	16	21	02	5	45	66	21	08	21		
7	283	25.2		52.5	264	46.4		32.1	92	40		26		19	57	20	36	6	02	62	20	54	25		
8	298	25.1		52.0	279	18.7		22.9	92	35		13			41		16		15	59		42	28		
9	313	25.1		51.6	293	51.0		13.5	94	30		19	01		28	20	00		27	57		32	31		
10	328	25.0		51.1	308	23.3	+21	04.1	94	20		18	42	19	06	19	34	6	48	52	20	14	36		
11	343	25.0	+20	50.7	322	55.8	+20	54.5	96	10	N	18	25	18	48	19	14	7	06	47	19	58	40		
12	358	25.0	+20	50.2	337	28.3	+20	44.9	96	0		18	10	18	32	18	58	7	22	44	19	44	43		
13	13	24.9		49.8	352	00.9		35.2	97	10	S	17	55		17		43		38	41		29	47		
14	28	24.9		49.3	6	33.5		25.4	98	20		38		18	02	29		7	56	37	19	13	51		
15	43	24.8		48.9	21	06.2		15.5	99	30		20		17	46	15		8	16	33	18	55	55		
16	58	24.8		48.4	35	39.0	+20	05.6	99	35		17	09		37		08		27	31		44	58		
17	73	24.8	+20	47.9	50	11.8	+19	55.5	101	40		16	57	17	27	18	00	8	41	27	18	32	61		
18	88	24.7	+20	47.5	64	44.8	+19	45.4	101	45		16	42	17	15	17	51	8	57	23	18	17	65		
19	103	24.7		47.0	79	17.7		35.2	102	50			25	17	02	42		9	16	18	17	59	70		
20	118	24.6		46.6	93	50.8		24.9	103	52		17		16	55	38		25	16		50	73			
21	133	24.6		46.1	108	23.9		14.6	103	54		16	07		49	33		35	14		41	75			
22	148	24.6		45.6	122	57.1	+19	04.1	105	56		15	57		41	28		9	46	11	30	79			
23	163	24.5		45.2	137	30.4	+18	53.6	105	58			45		33	23		10	00	6	17	83			
24	178	24.5	+20	44.7	152	03.7	+18	43.1	105	60	S	15	31	16	23	17	17	10	15	2	17	03	87		
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO										
	PMG 4 ^h 13.2 ^m		Mag: -4.6 PMG: 14 ^h 10 ^m				Mag: +1.8 PMG: 14 ^h 43 ^m				Mag: -2.4 PMG: 6 ^h 53 ^m				Mag: +0.7 PMG: 2 ^h 49 ^m										
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	296	32.0	146	59.7	+9	37.0	139	07.2	+10	34.2	256	30.2	+14	20.5	317	42.4	-10	43.3							
1	311	34.5	162	02.0		36.4	154	08.2		33.6	271	32.4		20.6	332	45.0		43.4							
2	326	36.9	177	04.3		35.8	169	09.2		33.0	286	34.5		20.7	347	47.6		43.4							
3	341	39.4	192	06.6		35.2	184	10.2		32.5	301	36.6		20.8		2	50.2	43.5							
4	356	41.9	207	08.9		34.6	199	11.3		31.9	316	38.7		20.9	17	52.7		43.6							
5	11	44.3	222	11.2	+9	34.0	214	12.3	+10	31.3	331	40.9	+14	21.0	32	55.3	-10	43.6							
6	26	46.8	237	13.5	+9	33.3	229	13.3	+10	30.7	346	43.0	+14	21.1	47	57.9	-10	43.7							
7	41	49.2	252	15.8		32.7	244	14.3		30.1	1	45.1		21.2	63	00.5		43.7							
8	56	51.7	267	18.1		32.1	259	15.4		29.5	16	47.2		21.3	78	03.0		43.8							
9	71	54.2	282	20.4		31.5	274	16.4		28.9	31	49.4		21.4	93	05.6		43.8							
10	86	56.6	297	22.7		30.9	289	17.4		28.4	46	51.5		21.5	108	08.2		43.9							
11	101	59.1	312	25.1	+9	30.3	304	18.4	+10	27.8	61	53.6	+14	21.6	123	10.8	-10	43.9							
12	117	01.6	327	27.4	+9	29.7	319	19.4	+10	27.2	76	55.7	+14	21.7	138	13.3	-10	44.0							
13	132	04.0	342	29.7		29.1	334	20.5		26.6	91	57.9		21.7	153	15.9		44.0							
14	147	06.5	357	32.1		28.4	349	21.5		26.0	107	00.0		21.8	168	18.5		44.1							
15	162	09.0	12	34.4		27.8	4	22.5		25.4	122	02.1		21.9	183	21.1		44.1							
16	177	11.4	27	36.8		27.2	19	23.5		24.8	137	04.3		22.0	198	23.6		44.2							
17	192	13.9	42	39.1	+9	26.6	34	24.5	+10	24.3	152	06.4	+14	22.1	213	26.2	-10	44.2							
18	207	16.4	57	41.5	+9	26.0	49	25.6	+10	23.7	167	08.5	+14	22.2	228	28.8	-10	44.3							
19	222	18.8	72	43.8		25.4	64	26.6		23.1	182	10.6		22.3	243	31.4		44.3							
20	237	21.3	87	46.2		24.8	79	27.6		22.5	197	12.8		22.4	258	33.9		44.4							
21	252	23.7	102	48.5		24.2	94	28.6		21.9	212	14.9		22.5	273	36.5		44.4							
22	267	26.2	117	50.9		23.6	109	29.7		21.3	227	17.0		22.6	288	39.1		44.5							
23	282	28.7	132	53.3		23.0	124	30.7		20.7	242	19.2		22.7	303	41.7		44.5							
24	297	31.1	147	55.6	+9	22.4	139	31.7	+10	20.1	257	21.3	+14	22.8	318	44.2	-10	44.6							
Dif	—		+23		-6		+10		-6		+21		+1		+26		-1								

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 06.5 ^m				Edad: 3.2 ^d SD: 14'7 PMG: 14 ^h 58 ^m PHE { 4 ^h : 54'0 12 ^h : 54'1 20 ^h : 54'1 R°: 40 ^m											
	hG ☉	Dec			hG ☾	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	
0	178	23.6	+20	33.5	141	41.1	+14	08.8	60 N	20 56	22 07	** **	7 15	83	22 16 0	
1	193	23.6		33.0	156	15.9	+13	56.6	58	41	21 41	** **	22 80		11 3	
2	208	23.5		32.5	170	50.7		44.4	56	28	21	22 52	29 76	06	6	
3	223	23.5		32.0	185	25.5		32.1	54	17	21 05	22 17	35 73	22 02	8	
4	238	23.5		31.6	200	00.4		19.8	52	20 07	20 51	21 53	40 71	21 59	10	
5	253	23.4	+20	31.1	214	35.3	+13	07.4	50	19 58	20 39	21 34	7 45	69	21 55 12	
6	268	23.4	+20	30.6	229	10.3	+12	55.0	45	19 39	20 14	21 00	7 56	64	21 48 16	
7	283	23.4		30.1	243	45.3		42.5	40	24	19 55	20 34	8 04	60	41 21	
8	298	23.3		29.6	258	20.3		29.9	35	11	40	20 15	12 56		36 23	
9	313	23.3		29.2	272	55.4		17.4	30	19 00	27	19 59	18 54	31	26	
10	328	23.3		28.7	287	30.5	+12	04.7	20	18 41	19 05	34	29 49		22 32	
11	343	23.2	+20	28.2	302	05.7	+11	52.1	10 N	18 25	18 48	19 14	8 39	45	21 15 36	
12	358	23.2	+20	27.7	316	40.9	+11	39.3	0	18 10	18 32	18 58	8 48	41	21 08 40	
13	13	23.2		27.2	331	16.2		26.6	10 S	17 55	17	43	8 57	37	21 01 44	
14	28	23.1		26.7	345	51.5		13.8	20	39	18 03	30	9 07	32	20 53 48	
15	43	23.1		26.3	0	26.8	+11	00.9	30	21	17 47	16	18 27		44 54	
16	58	23.1		25.8	15	02.2	+10	48.0	35	17 11	38	09	24 25		39 57	
17	73	23.1	+20	25.3	29	37.6	+10	35.1	40	16 59	17 28	18 01	9 31	22	20 33 60	
18	88	23.0	+20	24.8	44	13.0	+10	22.1	45	16 44	17 17	17 53	9 40	17	20 27 63	
19	103	23.0		24.3	58	48.4	+10	09.1	50	27	17 04	44	50 12		18 69	
20	118	23.0		23.8	73	23.9	+9	56.0	52	19	16 58	40	54 11		15 70	
21	133	22.9		23.3	87	59.5		42.9	54	10	51	35	9 59	9	10 73	
22	148	22.9		22.8	102	35.0		29.8	56	16 00	44	31	10 05	6	06 75	
23	163	22.9		22.3	117	10.6		16.6	58	15 48	36	26	11 3		20 01 78	
24	178	22.9	+20	21.9	131	46.2	+9	03.4	60 S	15 35	16 27	17 20	10 18	0	19 55 82	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 4 ^h 05.3 ^m		Mag: -4.6 PMG: 14 ^h 02 ^m		Mag: +1.8 PMG: 14 ^h 39 ^m		Mag: -2.4 PMG: 6 ^h 46 ^m		Mag: +0.7 PMG: 2 ^h 40 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	298	30.3	148	53.7	+9	08.3	139	56.2	+10	06.0	258	12.5	+14	25.1	319	46.1	-10	45.9
1	313	32.7	163	56.2		07.8	154	57.2		05.4	273	14.6		25.2	334	48.7		45.9
2	328	35.2	178	58.7		07.2	169	58.3		04.8	288	16.7		25.3	349	51.3		46.0
3	343	37.7	194	01.2		06.6	184	59.3		04.2	303	18.9		25.4	4	53.9		46.0
4	358	40.1	209	03.6		06.1	200	00.3		03.7	318	21.0		25.5	19	56.5		46.1
5	13	42.6	224	06.1	+9	05.5	215	01.3	+10	03.1	333	23.1	+14	25.6	34	59.0	-10	46.1
6	28	45.1	239	08.6	+9	04.9	230	02.3	+10	02.5	348	25.3	+14	25.7	50	01.6	-10	46.2
7	43	47.5	254	11.1		04.3	245	03.4		01.9	3	27.4		25.8	65	04.2		46.3
8	58	50.0	269	13.6		03.8	260	04.4		01.3	18	29.6		25.9	80	06.8		46.3
9	73	52.5	284	16.1		03.2	275	05.4		00.7	33	31.7		25.9	95	09.4		46.4
10	88	54.9	299	18.6		02.7	290	06.4	+10	00.1	48	33.8		26.0	110	11.9		46.4
11	103	57.4	314	21.1	+9	02.1	305	07.5	+9	59.5	63	36.0	+14	26.1	125	14.5	-10	46.5
12	118	59.8	329	23.6	+9	01.5	320	08.5	+9	58.9	78	38.1	+14	26.2	140	17.1	-10	46.5
13	134	02.3	344	26.1		01.0	335	09.5		58.3	93	40.2		26.3	155	19.7		46.6
14	149	04.8	359	28.6	+9	00.4	350	10.5		57.7	108	42.4		26.4	170	22.3		46.6
15	164	07.2	14	31.2	+8	59.8	5	11.5		57.2	123	44.5		26.5	185	24.9		46.7
16	179	09.7	29	33.7		59.3	20	12.6		56.6	138	46.7		26.6	200	27.4		46.7
17	194	12.2	44	36.2	+8	58.7	35	13.6	+9	56.0	153	48.8	+14	26.7	215	30.0	-10	46.8
18	209	14.6	59	38.7	+8	58.2	50	14.6	+9	55.4	168	50.9	+14	26.8	230	32.6	-10	46.9
19	224	17.1	74	41.3		57.6	65	15.6		54.8	183	53.1		26.9	245	35.2		46.9
20	239	19.6	89	43.8		57.1	80	16.7		54.2	198	55.2		27.0	260	37.8		47.0
21	254	22.0	104	46.4		56.5	95	17.7		53.6	213	57.4		27.1	275	40.4		47.0
22	269	24.5	119	48.9		56.0	110	18.7		53.0	228	59.5		27.2	290	42.9		47.1
23	284	27.0	134	51.5		55.4	125	19.7		52.4	244	01.6		27.2	305	45.5		47.1
24	299	29.4	149	54.0	+8	54.9	140	20.7	+9	51.8	259	03.8	+14	27.3	320	48.1	-10	47.2
Dif	—		+25		-6		+10		-6		+21		+1		+26		-	

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: 4.2 ^d PHE { 4 ^h : 54'2 12 ^h : 54'3 20 ^h : 54'4 R°: 40 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	22.9	+20	21.9	131	46.2	+9	03.4	60 N	**	**	2	07	3	17	8	38	81	22 16 0
1	193	22.8		21.4	146	21.8	+8	50.2	58	**	**		33		33		42	78	14 2
2	208	22.8		20.9	160	57.5		36.9	56	1	22	2	52		45		45	76	12 5
3	223	22.8		20.4	175	33.2		23.6	54	1	56	3	09	3	57		48	73	10 8
4	238	22.7		19.9	190	08.9	+8	10.2	52	2	20		23	4	07		51	71	09 10
5	253	22.7	+20	19.4	204	44.6	+7	56.8	50	2	39	3	35	4	15	8	54	68	22 07 12
6	268	22.7	+20	18.9	219	20.4	+7	43.4	45	3	14	3	59	4	34	9	00	63	22 04 16
7	283	22.7		18.4	233	56.2		30.0	40		39	4	18	4	49	04	60	22 02 20	
8	298	22.6		17.9	248	31.9		16.5	35	3	58		33	5	02		08	57	21 59 24
9	313	22.6		17.4	263	07.8	+7	03.0	30	4	14	4	46		13		12	53	57 26
10	328	22.6		16.9	277	43.6	+6	49.4	20		39	5	08	32	18		48	54	31
11	343	22.6	+20	16.4	292	19.4	+6	35.9	10 N	4	59	5	25	5	48	9	24	43	21 51 35
12	358	22.5	+20	15.9	306	55.3	+6	22.3	0	5	15	5	41	6	03	9	29	39	21 48 39
13	13	22.5		15.4	321	31.2	+6	08.7	10 S		30	5	56		18		34	35	45 43
14	28	22.5		14.9	336	07.1	+5	55.0	20		43	6	10		34		39	31	41 49
15	43	22.5		14.4	350	43.0		41.3	30	5	57	26	6	52	45		53	26	38 53
16	58	22.4		13.9	5	18.9		27.6	35	6	04	35	7	02		49	23		36 56
17	73	22.4	+20	13.4	19	54.8	+5	13.9	40	6	11	6	44	7	14	9	53	20	21 33 60
18	88	22.4	+20	12.9	34	30.7	+5	00.2	45	6	19	6	56	7	28	9	57	16	21 30 64
19	103	22.4		12.4	49	06.7	+4	46.4	50		29	7	09		45	10	02	12	27 68
20	118	22.4		11.9	63	42.6		32.6	52		33	15	7	53		05	10		25 71
21	133	22.3		11.4	78	18.6		18.8	54		37	21	8	02		08	7		23 73
22	148	22.3		10.9	92	54.6	+4	04.9	56		42	28		12		11	5		21 76
23	163	22.3		10.4	107	30.5	+3	51.1	58		47	36	23	14		3			19 79
24	178	22.3	+20	09.9	122	06.5	+3	37.2	60 S	6	52	7	45	8	37	10	18	**	21 17 82
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 4 ^h 01.4 ^m		Mag: -4.6 PMG: 13 ^h 58 ^m		Mag: +1.8 PMG: 14 ^h 38 ^m		Mag: -2.4 PMG: 6 ^h 43 ^m		Mag: +0.7 PMG: 2 ^h 36 ^m										
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄										
h	°	'	°	'	°	'	°	'	°	'									
0	299	29.4	149	54.0	+8	54.9	140	20.7	+9	51.8									
1	314	31.9	164	56.6		54.3	155	21.8		51.2									
2	329	34.3	179	59.1		53.8	170	22.8		50.6									
3	344	36.8	195	01.7		53.2	185	23.8		50.0									
4	359	39.3	210	04.3		52.7	200	24.8		49.4									
5	14	41.7	225	06.9	+8	52.1	215	25.9	+9	48.9									
6	29	44.2	240	09.4	+8	51.6	230	26.9	+9	48.3									
7	44	46.7	255	12.0		51.0	245	27.9		47.7									
8	59	49.1	270	14.6		50.5	260	28.9		47.1									
9	74	51.6	285	17.2		50.0	275	29.9		46.5									
10	89	54.1	300	19.8		49.4	290	31.0		45.9									
11	104	56.5	315	22.4	+8	48.9	305	32.0	+9	45.3									
12	119	59.0	330	25.0	+8	48.3	320	33.0	+9	44.7									
13	135	01.4	345	27.6		47.8	335	34.0		44.1									
14	150	03.9	0	30.2		47.3	350	35.1		43.5									
15	165	06.4	15	32.8		46.7	5	36.1		42.9									
16	180	08.8	30	35.4		46.2	20	37.1		42.3									
17	195	11.3	45	38.1	+8	45.7	35	38.1	+9	41.7									
18	210	13.8	60	40.7	+8	45.1	50	39.1	+9	41.1									
19	225	16.2	75	43.3		44.6	65	40.2		40.5									
20	240	18.7	90	45.9		44.1	80	41.2		39.9									
21	255	21.2	105	48.6		43.6	95	42.2		39.3									
22	270	23.6	120	51.2		43.0	110	43.2		38.7									
23	285	26.1	135	53.9		42.5	125	44.3		38.1									
24	300	28.6	150	56.5	+8	42.0	140	45.3	+9	37.6									
Dif	—		+26		-5		+10		-6		+21		+1		+26		-		-1

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: 5.2 ^d SD: 14'8 PMG: 16 ^h 18 ^m						PHE { 4 ^h : 54'5 12 ^h : 54'6 20 ^h : 54'8 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	178	22.3	+20	09.9	122	06.5	+3	37.2	60 N	20 52	22 00	** **	9 59	83	22 16	**
1	193	22.2		09.4	136	42.4		23.3	58	37	21 36	** **	10 00	80	16	3
2	208	22.2		08.9	151	18.4	+3	09.4	56	25	17	22 43	01 76		17	6
3	223	22.2		08.4	165	54.4	+2	55.4	54	14	21 01	22 12	01 74		18	8
4	238	22.2		07.9	180	30.4		41.5	52	20 04	20 48	21 49	02 71		19	10
5	253	22.2	+20	07.4	195	06.3	+2	27.5	50	19 56	20 36	21 31	10 02	69	22 19	12
6	268	22.1	+20	06.9	209	42.3	+2	13.5	45	19 37	20 12	20 57	10 03	64	22 20	17
7	283	22.1		06.4	224	18.2	+1	59.5	40	23	19 54	32	04 60		22	20
8	298	22.1		05.9	238	54.2		45.5	35	19 10	39	20 13	05 57		23	23
9	313	22.1		05.3	253	30.1		31.5	30	18 59	26	19 58	05 54		23	27
10	328	22.1		04.8	268	06.0		17.4	20	41	19 05	33	06 49		25	32
11	343	22.0	+20	04.3	282	42.0	+1	03.4	10 N	18 25	18 47	19 14	10 07	45	22 26	36
12	358	22.0	+20	03.8	297	17.9	+0	49.3	0	18 10	18 32	18 58	10 08	40	22 27	41
13	13	22.0		03.3	311	53.8		35.2	10 S	17 55	18	43	09 36		28	45
14	28	22.0		02.8	326	29.7		21.1	20	40	18 03	30	10 31		30	49
15	43	22.0		02.3	341	05.5	+0	07.0	30	22	17 48	17	11 27		31	55
16	58	22.0		01.8	355	41.4	-0	07.1	35	12	39	10	12 23		32	58
17	73	21.9	+20	01.3	10	17.2	-0	21.2	40	17 00	17 30	18 03	10 13	20	22 33	61
18	88	21.9	+20	00.7	24	53.0	-0	35.3	45	16 46	17 19	17 55	10 13	17	22 34	65
19	103	21.9	+20	00.2	39	28.8	-0	49.5	50	30	06	46	14 12		35	70
20	118	21.9	+19	59.7	54	04.6	-1	03.6	52	22	17 00	42	15 10		36	72
21	133	21.9		59.2	68	40.4		17.8	54	13	16 54	38	15 8		36	75
22	148	21.9		58.7	83	16.1		31.9	56	16 03	47	33	16 5		37	78
23	163	21.8		58.2	97	51.8	-1	46.1	58	15 52	39	28	17 2		38	81
24	178	21.8	+19	57.6	112	27.5	-2	00.2	60 S	15 39	16 30	17 23	10 17	0	22 39	84
UT	ARIES PMG 3 ^h 57.4 ^m		VENUS Mag: -4.6 PMG: 13 ^h 54 ^m		MARTE Mag: +1.8 PMG: 14 ^h 36 ^m		JÚPITER Mag: -2.4 PMG: 6 ^h 39 ^m		SATURNO Mag: +0.6 PMG: 2 ^h 32 ^m							
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	300	28.6	150	56.5	+8	42.0	140	45.3	+9	37.6						
1	315	31.0	165	59.2		41.5	155	46.3		37.0						
2	330	33.5	181	01.8		40.9	170	47.3		36.4						
3	345	35.9	196	04.5		40.4	185	48.4		35.8						
4	0	38.4	211	07.2		39.9	200	49.4		35.2						
5	15	40.9	226	09.8	+8	39.4	215	50.4	+9	34.6						
6	30	43.3	241	12.5	+8	38.9	230	51.4	+9	34.0						
7	45	45.8	256	15.2		38.4	245	52.4		33.4						
8	60	48.3	271	17.9		37.8	260	53.5		32.8						
9	75	50.7	286	20.5		37.3	275	54.5		32.2						
10	90	53.2	301	23.2		36.8	290	55.5		31.6						
11	105	55.7	316	25.9	+8	36.3	305	56.5	+9	31.0						
12	120	58.1	331	28.6	+8	35.8	320	57.6	+9	30.4						
13	136	00.6	346	31.3		35.3	335	58.6		29.8						
14	151	03.1	1	34.0		34.8	350	59.6		29.2						
15	166	05.5	16	36.7		34.3	6	00.6		28.6						
16	181	08.0	31	39.4		33.8	21	01.7		28.0						
17	196	10.4	46	42.2	+8	33.3	36	02.7	+9	27.4						
18	211	12.9	61	44.9	+8	32.8	51	03.7	+9	26.8						
19	226	15.4	76	47.6		32.3	66	04.7		26.2						
20	241	17.8	91	50.3		31.8	81	05.7		25.6						
21	256	20.3	106	53.1		31.3	96	06.8		25.0						
22	271	22.8	121	55.8		30.8	111	07.8		24.4						
23	286	25.2	136	58.5		30.3	126	08.8		23.8						
24	301	27.7	152	01.3	+8	29.8	141	09.8	+9	23.2						
Dif	—		+27		-5		+10		-6		+21		+1		+26	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 7 PMG:12 ^h 06.6 ^m			Edad: 6.2 ^d PHE { 4 ^h : 54 ^m 9 12 ^h : 55 ^m 1 20 ^h : 55 ^m 3 Rº: 42 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	Rº	Hora	Rº		
h	°	'	°	°	'	°	'	°		h	m	h	m	h	m	h	m		
0	178	21.8	+19	57.6	112	27.5	167	-2	00.2	142	60 N	** **	2 13	3 22	11 22	86	22 15	0	
1	193	21.8		57.1	127	03.2	167		14.4	142	58	** **	38	36	20	82	19	4	
2	208	21.8		56.6	141	38.8	166		28.6	142	56	1 31	2 57	3 49	17	79	23	6	
3	223	21.8		56.1	156	14.4	166		42.7	141	54	2 02	3 13	4 00	15	76	26	9	
4	238	21.8		55.6	170	50.0	166	-2	56.9	142	52	25	26	09	13	74	29	12	
5	253	21.7	+19	55.0	185	25.5	165	-3	11.0	141	50	2 43	3 38	4 18	11 11	72	22 31	14	
6	268	21.7	+19	54.5	200	01.1	166	-3	25.2	142	45	3 17	4 01	4 36	11 07	67	22 37	19	
7	283	21.7		54.0	214	36.5	164		39.4	142	40	3 41	20	4 51	04	63	42	23	
8	298	21.7		53.5	229	12.0	165	-3	53.5	141	35	4 00	35	5 03	11 02	59	46	26	
9	313	21.7		52.9	243	47.4	164	-4	07.7	142	30	16	4 48	14	10 59	56	50	29	
10	328	21.7		52.4	258	22.7	163		21.8	141	20	40	5 09	32	55	51	22	57	34
11	343	21.7	+19	51.9	272	58.1	164	-4	36.0	142	10 N	4 59	5 26	5 48	10 52	46	23 02	39	
12	358	21.7	+19	51.4	287	33.4	163	-4	50.1	141	0	5 15	5 41	6 03	10 48	42	23 08	43	
13	13	21.6		50.8	302	08.6	162	-5	04.3	142	10 S	30	5 55	18	45	37	13	48	
14	28	21.6		50.3	316	43.8	162		18.4	141	20	43	6 10	33	41	33	19	52	
15	43	21.6		49.8	331	19.0	162		32.5	141	30	5 56	25	6 51	38	27	26	57	
16	58	21.6		49.3	345	54.1	161	-5	46.6	141	35	6 03	34	7 01	35	25	30	60	
17	73	21.6	+19	48.7	0	29.2	161	-6	00.7	141	40	6 10	6 43	7 12	10 33	21	23 34	64	
18	88	21.6	+19	48.2	15	04.2	160	-6	14.8	141	45	6 18	6 54	7 26	10 30	18	23 39	68	
19	103	21.6		47.7	29	39.2	160		28.9	141	50	27	7 06	43	26	14	45	73	
20	118	21.6		47.1	44	14.1	159		43.0	141	52	30	12	50	25	11	48	76	
21	133	21.6		46.6	58	49.0	159	-6	57.0	140	54	35	19	7 59	23	9	51	78	
22	148	21.5		46.1	73	23.8	158	-7	11.1	141	56	39	26	8 09	21	6	55	81	
23	163	21.5		45.6	87	58.6	158		25.1	140	58	44	33	20	19	3	23 59	84	
24	178	21.5	+19	45.0	102	33.3	157	-7	39.1	140	60 S	6 49	7 42	8 33	10 17	0	** **	**	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 3 ^h 53.5 ^m			Mag: -4.6 PMG: 13 ^h 49 ^m			Mag: +1.8 PMG: 14 ^h 34 ^m			Mag: -2.4 PMG: 6 ^h 36 ^m			Mag: +0.6 PMG: 2 ^h 28 ^m						
	hG ♊			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°				
0	301	27.7	152	01.3	+8	29.8	141	09.8	+9	23.2	260	46.8	+14	31.7	322	52.2	-10	49.9	
1	316	30.2	167	04.0		29.3	156	10.9		22.6	275	49.0		31.8	337	54.8		49.9	
2	331	32.6	182	06.8		28.8	171	11.9		22.0	290	51.1		31.8	352	57.4		50.0	
3	346	35.1	197	09.5		28.3	186	12.9		21.4	305	53.3		31.9	8	00.0		50.0	
4	1	37.5	212	12.3		27.8	201	13.9		20.8	320	55.4		32.0	23	02.6		50.1	
5	16	40.0	227	15.0	+8	27.3	216	15.0	+9	20.2	335	57.6	+14	32.1	38	05.2	-10	50.2	
6	31	42.5	242	17.8	+8	26.8	231	16.0	+9	19.6	350	59.7	+14	32.2	53	07.8	-10	50.2	
7	46	44.9	257	20.6		26.3	246	17.0		19.0	6	01.9		32.3	68	10.4		50.3	
8	61	47.4	272	23.4		25.8	261	18.0		18.4	21	04.0		32.4	83	12.9		50.3	
9	76	49.9	287	26.1		25.4	276	19.0		17.8	36	06.2		32.5	98	15.5		50.4	
10	91	52.3	302	28.9		24.9	291	20.1		17.2	51	08.3		32.5	113	18.1		50.4	
11	106	54.8	317	31.7	+8	24.4	306	21.1	+9	16.6	66	10.5	+14	32.6	128	20.7	-10	50.5	
12	121	57.3	332	34.5	+8	23.9	321	22.1	+9	16.0	81	12.7	+14	32.7	143	23.3	-10	50.6	
13	136	59.7	347	37.3		23.4	336	23.1		15.4	96	14.8		32.8	158	25.9		50.6	
14	152	02.2	2	40.1		23.0	351	24.2		14.8	111	17.0		32.9	173	28.5		50.7	
15	167	04.7	17	42.9		22.5	6	25.2		14.2	126	19.1		33.0	188	31.1		50.7	
16	182	07.1	32	45.7		22.0	21	26.2		13.6	141	21.3		33.1	203	33.7		50.8	
17	197	09.6	47	48.5	+8	21.5	36	27.2	+9	13.0	156	23.4	+14	33.1	218	36.3	-10	50.8	
18	212	12.0	62	51.3	+8	21.0	51	28.3	+9	12.4	171	25.6	+14	33.2	233	38.9	-10	50.9	
19	227	14.5	77	54.1		20.6	66	29.3		11.8	186	27.7		33.3	248	41.4		51.0	
20	242	17.0	92	57.0		20.1	81	30.3		11.2	201	29.9		33.4	263	44.0		51.0	
21	257	19.4	107	59.8		19.6	96	31.3		10.6	216	32.1		33.5	278	46.6		51.1	
22	272	21.9	123	02.6		19.2	111	32.3		10.0	231	34.2		33.6	293	49.2		51.1	
23	287	24.4	138	05.4		18.7	126	33.4		09.4	246	36.4		33.7	308	51.8		51.2	
24	302	26.8	153	08.3	+8	18.2	141	34.4	+9	08.8	261	38.5	+14	33.8	323	54.4	-10	51.2	
Dif	—			+28	-5		+10	-6			+22	+1		+26	-1				

ALMANAQUE NÁUTICO PERSEIS

UT	SOL				LUNA								Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna					
	SD: 15 ^h 7 PMG:12 ^h 06.6 ^m				Edad: 8.2 ^d PHE { 4 ^h : 56 ^h 3 12 ^h : 56 ^h 5 20 ^h : 56 ^h 8 R°: 50 ^m																				
	hG ☉		Dec		hG ☾		Dif		Dec		Dif			Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m			
0	178	21.4	+19	32.1	92	06.4	-13	08.3	139	21.6	133	60 N	**	**	2	20	3	26	14	20	100	22	16	3	
1	193	21.4		31.5	106	39.3			138	34.9	133	58	0	48	2	43	40		10	94		28	9		
2	208	21.4		31.0	121	12.1			137		132	56	1	39	3	01	3	52	14	00	90		38	14	
3	223	21.4		30.4	135	44.8	-13	48.1	137		132	54	2	08	16		4	03	13	52	85		47	17	
4	238	21.4		29.9	150	17.4	-14	01.3	136		132	52		29	29		12		45	82		22	55	21	
5	253	21.4	+19	29.3	164	50.0	-14	14.5	136		132	50	2	47	3	41	4	21	13	38	79		23	03	23
6	268	21.4	+19	28.8	179	22.4	-14	27.6	134		131	45	3	19	4	04	4	38	13	24	74		23	18	29
7	283	21.4		28.2	193	54.8		40.6	134		130	40	3	43	22		4	53		12	70		31	33	
8	298	21.4		27.7	208	27.0	-14	53.6	132		130	35	4	02	36		5	05	13	02	66		42	36	
9	313	21.4		27.1	222	59.2	-15	06.6	132		130	30		17	4	49	15		12	54	63		23	52	39
10	328	21.4		26.6	237	31.2		19.5	130		129	20	4	41	5	09	33		39	58		**	**	**	
11	343	21.4	+19	26.0	252	03.2	-15	32.3	130		128	10 N	5	00	5	26	5	49	12	26	54		**	**	**
12	358	21.4	+19	25.5	266	35.0	-15	45.1	128		128	0	5	16	5	41	6	03	12	15	49		**	**	**
13	13	21.4		24.9	281	06.8	-15	57.8	128		127	10 S		29	5	55	17		12	03	45		0	01	50
14	28	21.4		24.4	295	38.4	-16	10.5	126		126	20		42	6	09	32		11	50	41		11	55	
15	43	21.4		23.8	310	10.0		23.1	126		126	30	5	55	24		50			36	36		23	60	
16	58	21.4		23.3	324	41.4		35.7	124		126	35	6	02	32		6	59	28	33		30	63		
17	73	21.4	+19	22.7	339	12.7	-16	48.2	123		125	40	6	09	6	42	7	11	11	19	29		0	38	67
18	88	21.4	+19	22.2	353	44.0	-17	00.6	123		124	45	6	16	6	52	7	24	11	08	25		0	47	72
19	103	21.4		21.6	8	15.1		13.0	121		124	50		25	7	04	40		10	55	20		0	58	77
20	118	21.4		21.1	22	46.1		25.3	120		123	52		28	10		48		49	18		1	04	79	
21	133	21.4		20.5	37	16.9		37.5	118		122	54		32	16		7	56	43	14		09	83		
22	148	21.4		19.9	51	47.7	-17	49.7	118		122	56		36	23		8	06		35	11		16	86	
23	163	21.4		19.4	66	18.4	-18	01.8	117		121	58		41	30		16		27	7		23	90		
24	178	21.4	+19	18.8	80	48.9	-18	13.8	115		120	60 S	6	46	7	38	8	29	10	18	2		1	31	96

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 3 ^h 45.7 ^m			Mag: -4.5 PMG: 13 ^h 40 ^m			Mag: +1.8 PMG: 14 ^h 31 ^m			Mag: -2.4 PMG: 6 ^h 29 ^m			Mag: +0.6 PMG: 2 ^h 20 ^m					
	hG ♈		Dec	hG ♊		Dec	hG ♊		Dec	hG ♏		Dec	hG ♎		Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	303	26.0	154	17.6	+8	07.4	141	59.0	+8	54.4	262	30.4	+14	35.8	324	56.6	-10	52.7
1	318	28.4	169	20.5		07.0	157	00.0		53.8	277	32.6		35.9	339	59.2		52.7
2	333	30.9	184	23.4		06.6	172	01.0		53.2	292	34.7		36.0	355	01.8		52.8
3	348	33.4	199	26.4		06.1	187	02.0		52.6	307	36.9		36.0	10	04.4		52.8
4	3	35.8	214	29.3		05.7	202	03.1		51.9	322	39.1		36.1	25	07.0		52.9
5	18	38.3	229	32.3	+8	05.3	217	04.1	+8	51.3	337	41.2	+14	36.2	40	09.6	-10	52.9
6	33	40.8	244	35.2	+8	04.8	232	05.1	+8	50.7	352	43.4	+14	36.3	55	12.2	-10	53.0
7	48	43.2	259	38.2		04.4	247	06.1		50.1	7	45.6		36.4	70	14.8		53.1
8	63	45.7	274	41.2		04.0	262	07.2		49.5	22	47.7		36.5	85	17.4		53.1
9	78	48.1	289	44.1		03.6	277	08.2		48.9	37	49.9		36.5	100	20.0		53.2
10	93	50.6	304	47.1		03.1	292	09.2		48.3	52	52.1		36.6	115	22.6		53.2
11	108	53.1	319	50.1	+8	02.7	307	10.2	+8	47.7	67	54.2	+14	36.7	130	25.2	-10	53.3
12	123	55.5	334	53.1	+8	02.3	322	11.2	+8	47.1	82	56.4	+14	36.8	145	27.8	-10	53.4
13	138	58.0	349	56.0		01.9	337	12.3		46.5	97	58.6		36.9	160	30.4		53.4
14	154	00.5	4	59.0		01.5	352	13.3		45.9	113	00.7		37.0	175	33.0		53.5
15	169	02.9	20	02.0		01.0	7	14.3		45.3	128	02.9		37.0	190	35.6		53.5
16	184	05.4	35	05.0		00.6	22	15.3		44.7	143	05.1		37.1	205	38.2		53.6
17	199	07.9	50	08.0	+8	00.2	37	16.4	+8	44.1	158	07.2	+14	37.2	220	40.8	-10	53.7
18	214	10.3	65	11.0	+7	59.8	52	17.4	+8	43.5	173	09.4	+14	37.3	235	43.4	-10	53.7
19	229	12.8	80	14.0		59.4	67	18.4		42.9	188	11.6		37.4	250	46.0		53.8
20	244	15.2	95	17.0		59.0	82	19.4		42.3	203	13.7		37.5	265	48.5		53.8
21	259	17.7	110	20.1		58.6	97	20.5		41.7	218	15.9		37.5	280	51.1		53.9
22	274	20.2	125	23.1		58.2	112	21.5		41.1	233	18.1		37.6	295	53.7		54.0
23	289	22.6	140	26.1		57.8	127	22.5		40.4	248	20.2		37.7	310	56.3		54.0
24	304	25.1	155	29.1	+7	57.4	142	23.5	+8	39.8	263	22.4	+14	37.8	325	58.9	-10	54.1
Dif	—		+30		-4		+10		-6		+22		+1		+26		-	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'7 PMG:12 ^h 06.6 ^m				Edad: 9.2 ^d SD: 15'5 PMG: 19 ^h 16 ^m PHE { 4 ^h : 57'1 12 ^h : 57'4 20 ^h : 57'8 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	21.4	+19	18.8	80	48.9	-18	13.8	120	60 N	20 43	21 47	** **	16 00	107	22 19	9				
1	193	21.4		18.3	95	19.3		25.8	119	58	29	26	23 10	15 44	98	37	17				
2	208	21.4		17.7	109	49.6		37.7	118	56	18	21 08	22 27	30 92	22 52	22					
3	223	21.4		17.1	124	19.8	-18	49.5	118	54	20 07	20 53	22 00	17 89	23 04	27					
4	238	21.4		16.6	138	49.9	-19	01.2	117	52	19 58	41	21 39	15 07	85	16	29				
5	253	21.4	+19	16.0	153	19.8	-19	12.9	117	50	19 50	20 30	21 23	14 57	82	23 26	32				
6	268	21.4	+19	15.5	167	49.7	-19	24.5	116	45	19 33	20 07	20 51	14 38	76	23 47	37				
7	283	21.4		14.9	182	19.4		36.0	115	40	19	19 50	28	22 72	** ** *	** ** *					
8	298	21.4		14.3	196	49.0		47.4	114	35	19 07	35	20 10	14 08	69	** ** *	** ** *				
9	313	21.5		13.8	211	18.4	-19	58.7	113	30	18 57	23	19 55	13 57	66	** ** *	** ** *				
10	328	21.5		13.2	225	47.7	-20	09.9	112	20	39	19 03	31	37 61	0 09	43					
11	343	21.5	+19	12.6	240	16.9	-20	21.1	112	10 N	18 24	18 47	19 13	13 20	58	0 24	47				
12	358	21.5	+19	12.1	254	46.0	-20	32.1	110	0	18 10	18 32	18 57	13 04	54	0 37	52				
13	13	21.5		11.5	269	15.0		43.1	109	10 S	17 56	18	44	12 48	51	0 51	56				
14	28	21.5		10.9	283	43.8	-20	54.0	109	20	41	18 05	31	31 47	1 06	60					
15	43	21.5		10.4	298	12.5	-21	04.8	108	30	24	17 50	19	12 43	23 65						
16	58	21.5		09.8	312	41.1		15.5	107	35	15	42	12	12 01	40	33 68					
17	73	21.5	+19	09.2	327	09.5	-21	26.0	105	40	17 04	17 33	18 06	11 48	37	1 45	71				
18	88	21.5	+19	08.7	341	37.8	-21	36.5	105	45	16 51	17 23	17 58	11 33	33	1 59	75				
19	103	21.5		08.1	356	06.0		46.9	104	50	35	11	50	15 28	2 15	81					
20	118	21.5		07.5	10	34.0	-21	57.2	103	52	27	17 05	47	11 07	24	23 84					
21	133	21.5		07.0	25	01.9	-22	07.4	102	54	19	16 59	43	10 57	22	32 87					
22	148	21.6		06.4	39	29.7		17.4	100	56	16 10	53	39	46 18	42 91						
23	163	21.6		05.8	53	57.4		27.4	100	58	15 59	45	34	34 13	2 53 96						
24	178	21.6	+19	05.2	68	24.9	-22	37.2	98	60 S	15 47	16 37	17 29	10 20	7	3 07	102				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 3 ^h 41.7 ^m			Mag: -4.5 PMG: 13 ^h 35 ^m			Mag: +1.8 PMG: 14 ^h 29 ^m			Mag: -2.4 PMG: 6 ^h 26 ^m			Mag: +0.6 PMG: 2 ^h 16 ^m								
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	304	25.1	155	29.1	+7	57.4	142	23.5	+8	39.8	263	22.4	+14	37.8	325	58.9	-10	54.1			
1	319	27.6	170	32.2		57.0	157	24.6		39.2	278	24.6		37.9	341	01.5		54.1			
2	334	30.0	185	35.2		56.6	172	25.6		38.6	293	26.7		37.9	356	04.1		54.2			
3	349	32.5	200	38.2		56.2	187	26.6		38.0	308	28.9		38.0	11	06.7		54.3			
4	4	35.0	215	41.3		55.8	202	27.6		37.4	323	31.1		38.1	26	09.3		54.3			
5	19	37.4	230	44.3	+7	55.4	217	28.7	+8	36.8	338	33.3	+14	38.2	41	11.9	-10	54.4			
6	34	39.9	245	47.4	+7	55.0	232	29.7	+8	36.2	353	35.4	+14	38.3	56	14.5	-10	54.4			
7	49	42.4	260	50.4		54.6	247	30.7		35.6	8	37.6		38.4	71	17.1		54.5			
8	64	44.8	275	53.5		54.2	262	31.7		35.0	23	39.8		38.4	86	19.7		54.6			
9	79	47.3	290	56.6		53.8	277	32.8		34.4	38	41.9		38.5	101	22.3		54.6			
10	94	49.7	305	59.6		53.4	292	33.8		33.8	53	44.1		38.6	116	24.9		54.7			
11	109	52.2	321	02.7	+7	53.0	307	34.8	+8	33.2	68	46.3	+14	38.7	131	27.5	-10	54.7			
12	124	54.7	336	05.8	+7	52.6	322	35.8	+8	32.6	83	48.5	+14	38.8	146	30.1	-10	54.8			
13	139	57.1	351	08.8		52.2	337	36.8		32.0	98	50.6		38.8	161	32.7		54.9			
14	154	59.6	6	11.9		51.9	352	37.9		31.3	113	52.8		38.9	176	35.3		54.9			
15	170	02.1	21	15.0		51.5	7	38.9		30.7	128	55.0		39.0	191	37.9		55.0			
16	185	04.5	36	18.1		51.1	22	39.9		30.1	143	57.2		39.1	206	40.5		55.0			
17	200	07.0	51	21.2	+7	50.7	37	40.9	+8	29.5	158	59.3	+14	39.2	221	43.1	-10	55.1			
18	215	09.5	66	24.3	+7	50.3	52	42.0	+8	28.9	174	01.5	+14	39.2	236	45.7	-10	55.2			
19	230	11.9	81	27.4		50.0	67	43.0		28.3	189	03.7		39.3	251	48.3		55.2			
20	245	14.4	96	30.5		49.6	82	44.0		27.7	204	05.9		39.4	266	50.9		55.3			
21	260	16.9	111	33.6		49.2	97	45.0		27.1	219	08.0		39.5	281	53.5		55.3			
22	275	19.3	126	36.7		48.8	112	46.1		26.5	234	10.2		39.6	296	56.1		55.4			
23	290	21.8	141	39.8		48.5	127	47.1		25.9	249	12.4		39.6	311	58.7		55.5			
24	305	24.2	156	43.0	+7	48.1	142	48.1	+8	25.3	264	14.6	+14	39.7	327	01.3	-10	55.5			
Dif	—		+31		-4		+10		-6		+22		+1		+26		-1				

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'7 PMG: 12 ^h 06.6 ^m				Edad: 10.2 ^d PHE { 4 ^h : 58'1 12 ^h : 58'4 20 ^h : 58'7 Rº: 61 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	21.6	+19	05.2	68	24.9	-22	37.2	98	58	60 N	**	**	2	26	3	31	17	47	103
1	193	21.6		04.7	82	52.2		47.0	98	58		1	04	2	48		44	22	93	22
2	208	21.6		04.1	97	19.5	-22	56.6	96	56		1	47	3	06	3	56	17	02	88
3	223	21.6		03.5	111	46.6	-23	06.1	95	54		2	14		20	4	06	16	46	84
4	238	21.6		02.9	126	13.6		15.5	94	52			34		33		15	32	81	45
5	253	21.6	+19	02.4	140	40.4	-23	24.8	93	50		2	51	3	44	4	23	16	19	79
6	268	21.6	+19	01.8	155	07.1	-23	33.9	91	45		3	22	4	06	4	40	15	54	75
7	283	21.7		01.2	169	33.7		42.9	90	40		3	46		24	4	54	34	72	0
8	298	21.7		00.6	184	00.1	-23	51.8	89	35		4	04		38	5	06	17	70	18
9	313	21.7	+19	00.1	198	26.4	-24	00.6	88	30			19	4	50	16	15	03	68	31
10	328	21.7	+18	59.5	212	52.6		09.2	86	20		4	42	5	10	34	14	38	65	0
11	343	21.7	+18	58.9	227	18.7	-24	17.7	85	10 N		5	01	5	27	5	49	14	18	62
12	358	21.7	+18	58.3	241	44.6	-24	26.1	84	0		5	16	5	41	6	03	13	58	60
13	13	21.7		57.8	256	10.3		34.3	82	10 S			29	5	55	17		39	58	1
14	28	21.7		57.2	270	36.0		42.4	81	20			42	6	08	32	13	18	55	2
15	43	21.8		56.6	285	01.5		50.4	80	30			5	54	23	48	12	55	51	28
16	58	21.8		56.0	299	26.8	-24	58.2	78	35		6	00		31	6	58	41	50	41
17	73	21.8	+18	55.4	313	52.1	-25	05.9	77	40		6	07	6	40	7	09	12	25	47
18	88	21.8	+18	54.8	328	17.2	-25	13.4	75	45		6	14	6	50	7	22	12	06	44
19	103	21.8		54.3	342	42.2		20.8	74	50			22	7	02	38	11	43	39	36
20	118	21.8		53.7	357	07.0		28.0	72	52			26		07	45		31	38	47
21	133	21.9		53.1	11	31.7		35.1	71	54			30	13		7	53	19	34	3
22	148	21.9		52.5	25	56.3		42.1	70	56			34		20	8	02	11	04	31
23	163	21.9		51.9	40	20.8		48.8	67	58			38		27	12	10	47	25	29
24	178	21.9	+18	51.3	54	45.1	-25	55.5	67	60 S		6	43	7	35	8	24	10	27	16

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 ^h 37.8 ^m		Mag: -4.5 PMG: 13 ^h 30 ^m		Mag: +1.8 PMG: 14 ^h 28 ^m		Mag: -2.4 PMG: 6 ^h 22 ^m		Mag: +0.6 PMG: 2 ^h 12 ^m	
	hG ♀		hG ♀		hG ♂		hG ♀		hG ♀	
h	°	'	°	'	°	'	°	'	°	'
0	305	24.2	156	43.0	+7	48.1	142	48.1	+8	25.3
1	320	26.7	171	46.1		47.7	157	49.1		24.7
2	335	29.2	186	49.2		47.3	172	50.2		24.0
3	350	31.6	201	52.4		47.0	187	51.2		23.4
4	5	34.1	216	55.5		46.6	202	52.2		22.8
5	20	36.6	231	58.6	+7	46.3	217	53.2	+8	22.2
6	35	39.0	247	01.8	+7	45.9	232	54.3	+8	21.6
7	50	41.5	262	04.9		45.5	247	55.3		21.0
8	65	44.0	277	08.1		45.2	262	56.3		20.4
9	80	46.4	292	11.2		44.8	277	57.3		19.8
10	95	48.9	307	14.4		44.5	292	58.4		19.2
11	110	51.4	322	17.6	+7	44.1	307	59.4	+8	18.6
12	125	53.8	337	20.7	+7	43.8	323	00.4	+8	17.9
13	140	56.3	352	23.9		43.4	338	01.4		17.3
14	155	58.7	7	27.1		43.0	353	02.5		16.7
15	171	01.2	22	30.3		42.7	8	03.5		16.1
16	186	03.7	37	33.4		42.4	23	04.5		15.5
17	201	06.1	52	36.6	+7	42.0	38	05.5	+8	14.9
18	216	08.6	67	39.8	+7	41.7	53	06.6	+8	14.3
19	231	11.1	82	43.0		41.3	68	07.6		13.7
20	246	13.5	97	46.2		41.0	83	08.6		13.1
21	261	16.0	112	49.4		40.6	98	09.6		12.5
22	276	18.5	127	52.6		40.3	113	10.7		11.8
23	291	20.9	142	55.8		40.0	128	11.7		11.2
24	306	23.4	157	59.0	+7	39.6	143	12.7	+8	10.6
Dif	—		+32		-4		+10		-6	
							+22		+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: 11.2 ^d SD: 16'0 PMG: 21 ^h 13 ^m PHE { 4 ^h : 59'0 12 ^h : 59'3 20 ^h : 59'6 R°: 65 ^m																		
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m		
0	178	21.9	+18	51.3	54	45.1	53	-25	55.5	64	60 N	20	38	21	41	**	**	19	30	71	22	53	65
1	193	21.9		50.8	69	09.4	50	-26	01.9	63	58		25		20	22	56	18	55	70	23	28	66
2	208	21.9		50.2	83	33.4	50		08.2	62	56		14	21	03	22	19		30	69	23	53	67
3	223	22.0		49.6	97	57.4	49		14.4	60	54	20	04	20	49	21	54	18	10	69	**	**	**
4	238	22.0		49.0	112	21.3	49		20.4	58	52	19	55		37	35	17	53	68	**	**	**	**
5	253	22.0	+18	48.4	126	45.0	47	-26	26.2	50	50	19	47	20	27	21	19	17	38	68	**	**	**
6	268	22.0	+18	47.8	141	08.6	46	-26	31.8	56	45	19	31	20	05	20	48	17	09	67	0	24	51
7	283	22.0		47.2	155	32.1	45		37.3	55	40	17	19	48		25	16	46	67	0	45	54	
8	298	22.0		46.6	169	55.5	44		42.6	53	35	19	06		34	20	08		27	67	1	03	55
9	313	22.1		46.1	184	18.7	42		47.8	49	30	18	56		22	19	53	16	11	66		18	56
10	328	22.1		45.5	198	41.9	42		52.7	48	20	39		19	02	30	15	43	66	1	43	59	
11	343	22.1	+18	44.9	213	04.9	40	-26	57.5	48	10 N	18	24	18	46	19	12	15	20	65	2	05	61
12	358	22.1	+18	44.3	227	27.8	39	-27	02.1	46	0	18	10	18	32	18	57	14	58	65	2	26	62
13	13	22.1		43.7	241	50.7	39		06.6	45	10 S	17	56		19	44	37	63		2	47	64	
14	28	22.2		43.1	256	13.4	37		10.8	41	20	42	18	05		32	14	13	63	3	09	66	
15	43	22.2		42.5	270	36.0	36		14.9	39	30	26	17	51		20	13	46	62		35	68	
16	58	22.2		41.9	284	58.5	35		18.8	39	35	16		43		14	31	61		3	50	69	
17	73	22.2	+18	41.3	299	20.9	34	-27	22.5	37	40	17	05	17	34	18	07	13	12	60	4	08	70
18	88	22.2	+18	40.7	313	43.2	33	-27	26.0	35	45	16	53	17	25	18	00	12	50	59	4	30	71
19	103	22.3		40.1	328	05.4	32		29.3	33	50	37		13	17	52	22	57		4	57	74	
20	118	22.3		39.5	342	27.6	32		32.5	32	52	30	08		49	12	09	56		5	10	76	
21	133	22.3		38.9	356	49.6	30		35.4	29	54	22	17	02		45	11	53	55		26	77	
22	148	22.3		38.3	11	11.6	30		38.2	28	56	13	16	56		42	35	52		5	44	79	
23	163	22.4		37.7	25	33.4	28		40.8	26	58	16	03		49	37	11	12	50	6	06	83	
24	178	22.4	+18	37.1	39	55.2	28	-27	43.1	23	60 S	15	52	16	41	17	33	10	43	44	6	34	90

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 3 ^h 33.9 ^m		Mag: -4.4 PMG: 13 ^h 25 ^m		Mag: +1.8 PMG: 14 ^h 26 ^m		Mag: -2.4 PMG: 6 ^h 19 ^m		Mag: +0.6 PMG: 2 ^h 07 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	306	23.4	157	59.0	+7	39.6	143	12.7	+8	10.6	265	06.9	+14	41.6	328	03.7	-10	57.0
1	321	25.9	173	02.3		39.3	158	13.7		10.0	280	09.0		41.7	343	06.3		57.0
2	336	28.3	188	05.5		39.0	173	14.8		09.4	295	11.2		41.8	358	08.9		57.1
3	351	30.8	203	08.7		38.6	188	15.8		08.8	310	13.4		41.8	13	11.5		57.2
4	6	33.2	218	11.9		38.3	203	16.8		08.2	325	15.6		41.9	28	14.1		57.2
5	21	35.7	233	15.2	+7	38.0	218	17.8	+8	07.6	340	17.8	+14	42.0	43	16.7	-10	57.3
6	36	38.2	248	18.4	+7	37.6	233	18.8	+8	06.9	355	20.0	+14	42.1	58	19.3	-10	57.4
7	51	40.6	263	21.7		37.3	248	19.9		06.3	10	22.1		42.2	73	21.9		57.4
8	66	43.1	278	24.9		37.0	263	20.9		05.7	25	24.3		42.2	88	24.5		57.5
9	81	45.6	293	28.1		36.7	278	21.9		05.1	40	26.5		42.3	103	27.2		57.5
10	96	48.0	308	31.4		36.3	293	22.9		04.5	55	28.7		42.4	118	29.8		57.6
11	111	50.5	323	34.7	+7	36.0	308	24.0	+8	03.9	70	30.9	+14	42.5	133	32.4	-10	57.7
12	126	53.0	338	37.9	+7	35.7	323	25.0	+8	03.3	85	33.1	+14	42.5	148	35.0	-10	57.7
13	141	55.4	353	41.2		35.4	338	26.0		02.7	100	35.3		42.6	163	37.6		57.8
14	156	57.9	8	44.4		35.1	353	27.0		02.1	115	37.4		42.7	178	40.2		57.8
15	172	00.3	23	47.7		34.8	8	28.1		01.4	130	39.6		42.8	193	42.8		57.9
16	187	02.8	38	51.0		34.4	23	29.1		00.8	145	41.8		42.8	208	45.4		58.0
17	202	05.3	53	54.3	+7	34.1	38	30.1	+8	00.2	160	44.0	+14	42.9	223	48.0	-10	58.0
18	217	07.7	68	57.6	+7	33.8	53	31.1	+7	59.6	175	46.2	+14	43.0	238	50.6	-10	58.1
19	232	10.2	84	00.8		33.5	68	32.2		59.0	190	48.4		43.1	253	53.2		58.2
20	247	12.7	99	04.1		33.2	83	33.2		58.4	205	50.6		43.2	268	55.8		58.2
21	262	15.1	114	07.4		32.9	98	34.2		57.8	220	52.7		43.2	283	58.4		58.3
22	277	17.6	129	10.7		32.6	113	35.2		57.1	235	54.9		43.3	299	01.0		58.3
23	292	20.1	144	14.0		32.3	128	36.3		56.5	250	57.1		43.4	314	03.6		58.4
24	307	22.5	159	17.3	+7	32.0	143	37.3	+7	55.9	265	59.3	+14	43.5	329	06.2	-10	58.5
Dif	—		+33		-3		+10		-6		+22		+1		+26		-1	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 15 ^h 8 PMG:12 ^h 06.5 ^m			Edad: 12.2 ^d PHE { 4 ^h : 59 ^h 9 12 ^h : 60 ^h 2 20 ^h : 60 ^h 5 R°: 66 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	178	22.4	+18	37.1	39	55.2	27	-27	43.1	22	58	23	35	20	41	29	23	58	**
1	193	22.4		36.5	54	16.9	26		45.3	20	1	17	2	53	3	48	20	05	39
2	208	22.4		35.9	68	38.5	26		47.3	18	56	1	54	3	10	4	00	19	39
3	223	22.5		35.3	83	00.1	26		49.1	15	54	2	19	24	09	19	47	0	14
4	238	22.5		34.7	97	21.6	25		50.6	14	52		39	36	18	19	01	50	31
5	253	22.5	+18	34.1	111	43.0	24	-27	52.0	12	50	2	55	3	47	4	26	18	46
6	268	22.5	+18	33.5	126	04.3	23	-27	53.2	10	45	3	25	4	09	4	43	18	16
7	283	22.6		32.9	140	25.6	22		54.2	7	40	3	48	26	4	56	17	53	
8	298	22.6		32.3	154	46.8	22		54.9	6	35	4	06	40	5	08	34	59	1
9	313	22.6		31.7	169	08.0	21		55.5	3	30		20	4	52	18	17	17	
10	328	22.6		31.1	183	29.1	21		55.8	2	20	4	43	5	11	35	16	49	
11	343	22.7	+18	30.5	197	50.2	20	-27	56.0	1	10 N	5	01	5	27	5	49	16	
12	358	22.7	+18	29.9	212	11.2	19	-27	55.9	2	0	5	16	5	41	6	03	16	
13	13	22.7		29.3	226	32.1	19		55.7	5	10 S		29	5	54	16	15	40	
14	28	22.7		28.7	240	53.0	19		55.2	7	20	41	6	08	31	15	16	69	
15	43	22.8		28.1	255	13.9	19		54.5	9	30	53	22		47	14	48	70	
16	58	22.8		27.5	269	34.8	18		53.6	11	35	5	59	30	6	56	32	71	
17	73	22.8	+18	26.9	283	55.6	18	-27	52.5	13	40	6	05	6	38	7	07	14	
18	88	22.8	+18	26.3	298	16.4	17	-27	51.2	15	45	6	12	6	48	7	20	13	
19	103	22.9		25.7	312	37.1	18		49.7	17	50		20	6	59	35	19	77	
20	118	22.9		25.1	326	57.9	17		48.0	20	52	23	7	04	42	13	05	77	
21	133	22.9		24.5	341	18.6	17		46.0	21	54	27		10	50	12	48	78	
22	148	23.0		23.9	355	39.3	17		43.9	24	56	31		16	7	59	27	81	
23	163	23.0		23.2	10	00.0	16		41.5	26	58	35		23	8	09	12	02	
24	178	23.0	+18	22.6	24	20.6	16	-27	38.9	26	60 S	6	39	7	31	8	20	11	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 3 ^h 29.9 ^m		Mag: -4.4 PMG: 13 ^h 20 ^m		Mag: +1.8 PMG: 14 ^h 25 ^m		Mag: -2.4 PMG: 6 ^h 15 ^m		Mag: +0.6 PMG: 2 ^h 03 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	307	22.5	159	17.3	+7	32.0	143	37.3	+7	55.9
1	322	25.0	174	20.6		31.7	158	38.3		55.3
2	337	27.5	189	24.0		31.4	173	39.3		54.7
3	352	29.9	204	27.3		31.1	188	40.4		54.1
4	7	32.4	219	30.6		30.8	203	41.4		53.5
5	22	34.8	234	33.9	+7	30.5	218	42.4	+7	52.9
6	37	37.3	249	37.2	+7	30.2	233	43.4	+7	52.2
7	52	39.8	264	40.6		29.9	248	44.5		51.6
8	67	42.2	279	43.9		29.7	263	45.5		51.0
9	82	44.7	294	47.3		29.4	278	46.5		50.4
10	97	47.2	309	50.6		29.1	293	47.5		49.8
11	112	49.6	324	53.9	+7	28.8	308	48.6	+7	49.2
12	127	52.1	339	57.3	+7	28.5	323	49.6	+7	48.6
13	142	54.6	355	00.6		28.2	338	50.6		47.9
14	157	57.0	10	04.0		28.0	353	51.6		47.3
15	172	59.5	25	07.4		27.7	8	52.7		46.7
16	188	02.0	40	10.7		27.4	23	53.7		46.1
17	203	04.4	55	14.1	+7	27.1	38	54.7	+7	45.5
18	218	06.9	70	17.5	+7	26.9	53	55.7	+7	44.9
19	233	09.3	85	20.9		26.6	68	56.8		44.2
20	248	11.8	100	24.2		26.3	83	57.8		43.6
21	263	14.3	115	27.6		26.0	98	58.8		43.0
22	278	16.7	130	31.0		25.8	113	59.8		42.4
23	293	19.2	145	34.4		25.5	129	00.9		41.8
24	308	21.7	160	37.8	+7	25.3	144	01.9	+7	41.2
Dif	—		+34		-3		+10		-6	

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: 13.2 ^d SD: 16'5 PMG: 23 ^h 24 ^m PHE { 4 ^h : 60'7 12 ^h : 60'9 20 ^h : 61'0 Rº: 63 ^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														
0	178	23.0	+18	22.6	24	20.6	17	-27	38.9	27	60 N	20	34	21	34	**	**	21	10	10	23	56	**													
1	193	23.0		22.0	38	41.3	17		36.2	27	58	21		21	15	22	45	20	44	19	0	34	98													
2	208	23.1		21.4	53	02.0	17		33.2	30	56	10		20	59	22	12	23	26	1	00	92														
3	223	23.1		20.8	67	22.6	16		29.9	33	54	20	01	45	21	48	20	06	30	20	89															
4	238	23.1		20.2	81	43.3	17		26.5	34	52	19	52	34	30		19	51	34	37	87															
5	253	23.2	+18	19.6	96	04.0	17	-27	22.9	36	50	19	45	20	23	21	14	19	38	37	1	52	84													
6	268	23.2	+18	19.0	110	24.6	16	-27	19.0	39	45	19	28	20	02	20	45	19	12	42	2	22	80													
7	283	23.2		18.3	124	45.3	17		15.0	40	40	15		19	46	23	18	50	47	2	45	77														
8	298	23.3		17.7	139	06.0	17		10.7	43	35	19	04	32	20	06		33	50	3	04	75														
9	313	23.3		17.1	153	26.8	18		06.2	45	30	18	54	20	19	51	18	18	52	21	73															
10	328	23.3		16.5	167	47.5	17	-27	01.5	47	20	38		19	01	29	17	52	56	3	48	70														
11	343	23.4	+18	15.9	182	08.3	18	-26	56.6	49	10 N	18	23	18	45	19	11	17	29	61	4	12	67													
12	358	23.4	+18	15.3	196	29.1	18	-26	51.5	51	0	18	10	18	32	18	57	17	08	64	4	34	65													
13	13	23.4		14.7	210	49.9	18		46.2	53	10 S	17	57		19	44	16	47	67	4	56	62														
14	28	23.5		14.0	225	10.8	19		40.7	55	20	43		18	06	32	16	25	70	5	19	60														
15	43	23.5		13.4	239	31.7	19		35.0	57	30	27		17	52	21	15	58	75	5	46	57														
16	58	23.5		12.8	253	52.7	20		29.0	60	35	18		44	15		43	77		6	02	55														
17	73	23.6	+18	12.2	268	13.7	20	-26	22.9	61	40	17	07	17	36	18	09	15	25	80	6	21	52													
18	88	23.6	+18	11.6	282	34.7	20	-26	16.6	63	45	16	55	17	27	18	02	15	03	84	6	43	49													
19	103	23.6		10.9	296	55.8	21		10.0	66	50	40		15	17	55	14	36	89	7	11	44														
20	118	23.7		10.3	311	16.9	21	-26	03.3	67	52	33		10	51		22	92		25	42															
21	133	23.7		09.7	325	38.1	22	-25	56.3	70	54	25		17	05	48	14	06	96	7	41	38														
22	148	23.7		09.1	339	59.3	22		49.2	71	56	17		16	59	44	13	48	100	8	00	34														
23	163	23.8		08.5	354	20.6	23		41.8	74	58	16	07	52	40		13	25	107	23	28															
24	178	23.8	+18	07.8	8	42.0	24	-25	34.3	75	60 S	15	56	16	45	17	36	12	56	116	8	53	19													
UT	ARIES PMG 3 ^h 26.0 ^m				VENUS Mag: -4.3 PMG: 13 ^h 14 ^m				MARTE Mag: +1.8 PMG: 14 ^h 23 ^m				JÚPITER Mag: -2.4 PMG: 6 ^h 12 ^m				SATURNO Mag: +0.6 PMG: 1 ^h 59 ^m																			
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec																		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'														
0	308	21.7	160	37.8	+7	25.3	144	01.9	+7	41.2	266	51.9	+14	45.2	330	08.8	-11	00.0																		
1	323	24.1	175	41.2		25.0	159	02.9		40.6	281	54.1		45.3	345	11.4	-11	00.0																		
2	338	26.6	190	44.6		24.7	174	03.9		39.9	296	56.3		45.4	0	14.0	-11	00.1																		
3	353	29.1	205	48.0		24.5	189	05.0		39.3	311	58.5		45.5	15	16.6		00.2																		
4	8	31.5	220	51.4		24.2	204	06.0		38.7	327	00.7		45.5	30	19.2		00.2																		
5	23	34.0	235	54.8	+7	24.0	219	07.0	+7	38.1	342	02.9	+14	45.6	45	21.8	-11	00.3																		
6	38	36.5	250	58.2	+7	23.7	234	08.0	+7	37.5	357	05.1	+14	45.7	60	24.4	-11	00.3																		
7	53	38.9	266	01.7		23.4	249	09.1		36.9	12	07.3		45.8	75	27.0		00.4																		
8	68	41.4	281	05.1		23.2	264	10.1		36.2	27	09.5		45.8	90	29.6		00.5																		
9	83	43.8	296	08.5		22.9	279	11.1		35.6	42	11.7		45.9	105	32.2		00.5																		
10	98	46.3	311	11.9		22.7	294	12.1		35.0	57	13.9		46.0	120	34.8		00.6																		
11	113	48.8	326	15.4	+7	22.5	309	13.2	+7	34.4	72	16.1	+14	46.0	135	37.4	-11	00.7																		
12	128	51.2	341	18.8	+7	22.2	324	14.2	+7	33.8	87	18.3	+14	46.1	150	40.0	-11	00.7																		
13	143	53.7	356	22.2		22.0	339	15.2		33.2	102	20.5		46.2	165	42.7		00.8																		
14	158	56.2	11	25.7		21.7	354	16.2		32.5	117	22.7		46.3	180	45.3		00.9																		
15	173	58.6	26	29.1		21.5	9	17.3		31.9	132	24.9		46.3	195	47.9		00.9																		
16	189	01.1	41	32.6		21.2	24	18.3		31.3	147	27.1		46.4	210	50.5		01.0																		
17	204	03.6	56	36.0	+7	21.0	39	19.3	+7	30.7	162	29.3	+14	46.5	225	53.1	-11	01.0																		
18	219	06.0	71	39.5	+7	20.8	54	20.3	+7	30.1	177	31.5	+14	46.6	240	55.7	-11	01.1																		
19	234	08.5	86	43.0		20.5	69	21.4		29.4	192	33.7		46.6	255	58.3		01.2																		
20	249	11.0	101	46.4		20.3	84	22.4		28.8	207	35.9		46.7	271	00.9		01.2																		
21	264	13.4	116	49.9		20.1	99	23.4		28.2	222	38.1		46.8	286	03.5		01.3																		
22	279	15.9	131	53.4		19.8	114	24.4		27.6	237	40.3		46.8	301	06.1		01.4																		
23	294	18.3	146	56.9		19.6	129	25.5		27.0	252	42.5		46.9	316	08.7		01.4																		
24	309	20.8	162	00.3	+7	19.4	144	26.5	+7	26.4	267	44.7	+14	47.0	331	11.4	-11	01.5																		
Dif	—				+34				-2				+10				-6				+22				+1				+26				-1			

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 06.4 ^m			Edad: 14.2 ^d PHE { 4 ^h : 61'2 12 ^h : 61'3 20 ^h : 61'3 Rº: **m														
	hG ☉	Dec		hG ☾	Dif		Dec		Dif		Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	°	'	°	'	°	'	°	h	m	h	m	h	m	m	
0	178	23.8	+18 07.8	8	42.0	24	-25 34.3	77	60 N	** **	2 39	3 40	21 20	4	1	47	120	
1	193	23.8	07.2	23	03.4	25	26.6	80	58	1 29	2 59	3 52	21 03	11	2	12	112	
2	208	23.9	06.6	37	24.9	26	18.6	81	56	2 02	3 15	4 03	20 49	15		32	105	
3	223	23.9	06.0	51	46.5	26	10.5	81	54	25	28	13	36	20	2	49	100	
4	238	24.0	05.3	66	08.1	26	-25 02.2	83	52	44	40	21	25	23	3	04	96	
5	253	24.0	+18 04.7	80	29.8	27	-24 53.7	85	50	2 59	3 50	4 29	20 15	26	3	16	93	
6	268	24.0	+18 04.1	94	51.6	28	-24 45.0	87	45	3 28	4 11	4 45	19 54	33	3	42	86	
7	283	24.1	03.5	109	13.5	29	36.1	89	40	3 50	28	4 58	37	37	4	02	82	
8	298	24.1	02.8	123	35.4	29	27.0	91	35	4 08	41	5 09	23	41	19		78	
9	313	24.1	02.2	137	57.4	30	17.8	92	30	22	4 53	19	19	10	45	34	75	
10	328	24.2	01.6	152	19.5	31	-24 08.3	95	20	4 44	5 12	35	18	48	51	4	58	70
11	343	24.2	+18 00.9	166	41.7	32	-23 58.7	96	10 N	5 01	5 27	5 50	18	30	55	5	19	66
12	358	24.3	+18 00.3	181	04.0	33	-23 48.9	98	0	5 16	5 41	6 03	18	12	60	5	39	62
13	13	24.3	+17 59.7	195	26.3	33	39.0	99	10 S	29	5 54	16	17	54	64	5	58	58
14	28	24.3	59.1	209	48.8	35	28.8	102	20	40	6 07	30	35	69	6	19	54	
15	43	24.4	58.4	224	11.3	35	18.5	103	30	52	20	46	13	75	43	48		
16	58	24.4	57.8	238	33.9	36	-23 08.0	105	35	5 58	28	6 55	17	00	78	6	57	45
17	73	24.5	+17 57.2	252	56.7	38	-22 57.3	107	40	6 04	6 36	7 05	16	45	82	7	13	42
18	88	24.5	+17 56.5	267	19.5	38	-22 46.5	108	45	6 10	6 46	7 17	16	27	87	7	32	37
19	103	24.5	55.9	281	42.4	39	35.5	110	50	18	6 57	32	16	05	94	7	55	32
20	118	24.6	55.3	296	05.4	40	24.3	112	52	21	7 02	39	15	54	97	8	07	28
21	133	24.6	54.6	310	28.6	42	13.0	113	54	24	07	46	42	101		19	25	
22	148	24.7	54.0	324	51.8	42	-22 01.5	115	56	28	13	7 55	28	106		34	20	
23	163	24.7	53.4	339	15.1	43	-21 49.9	116	58	31	20	8 04	15	12	111	8	51	15
24	178	24.8	+17 52.7	353	38.5	44	-21 38.1	118	60 S	6 36	7 27	8 15	14	52	119	9	12	7

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 3 ^h 22.1 ^m		Mag: -4.3 PMG: 13 ^h 09 ^m		Mag: +1.8 PMG: 14 ^h 21 ^m		Mag: -2.4 PMG: 6 ^h 08 ^m		Mag: +0.6 PMG: 1 ^h 55 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	309	20.8	162 00.3	+7 19.4	144 26.5	+7 26.4	267 44.7	+14 47.0	331 11.4	-11 01.5
1	324	23.3	177 03.8	19.2	159 27.5	25.7	282 46.9	47.1	346 14.0	01.6
2	339	25.7	192 07.3	18.9	174 28.5	25.1	297 49.1	47.1	1 16.6	01.6
3	354	28.2	207 10.8	18.7	189 29.6	24.5	312 51.3	47.2	16 19.2	01.7
4	9	30.7	222 14.3	18.5	204 30.6	23.9	327 53.5	47.3	31 21.8	01.7
5	24	33.1	237 17.8	+7 18.3	219 31.6	+7 23.3	342 55.7	+14 47.3	46 24.4	-11 01.8
6	39	35.6	252 21.3	+7 18.1	234 32.6	+7 22.6	357 57.9	+14 47.4	61 27.0	-11 01.9
7	54	38.1	267 24.8	17.8	249 33.7	22.0	13 00.1	47.5	76 29.6	01.9
8	69	40.5	282 28.3	17.6	264 34.7	21.4	28 02.3	47.6	91 32.2	02.0
9	84	43.0	297 31.8	17.4	279 35.7	20.8	43 04.5	47.6	106 34.8	02.1
10	99	45.5	312 35.3	17.2	294 36.7	20.2	58 06.7	47.7	121 37.5	02.1
11	114	47.9	327 38.9	+7 17.0	309 37.8	+7 19.6	73 08.9	+14 47.8	136 40.1	-11 02.2
12	129	50.4	342 42.4	+7 16.8	324 38.8	+7 18.9	88 11.1	+14 47.8	151 42.7	-11 02.3
13	144	52.8	357 45.9	16.6	339 39.8	18.3	103 13.3	47.9	166 45.3	02.3
14	159	55.3	12 49.4	16.4	354 40.8	17.7	118 15.5	48.0	181 47.9	02.4
15	174	57.8	27 53.0	16.2	9 41.9	17.1	133 17.7	48.0	196 50.5	02.5
16	190	00.2	42 56.5	16.0	24 42.9	16.5	148 19.9	48.1	211 53.1	02.5
17	205	02.7	58 00.0	+7 15.8	39 43.9	+7 15.8	163 22.1	+14 48.2	226 55.7	-11 02.6
18	220	05.2	73 03.6	+7 15.6	54 44.9	+7 15.2	178 24.3	+14 48.3	241 58.3	-11 02.6
19	235	07.6	88 07.1	15.4	69 46.0	14.6	193 26.5	48.3	257 01.0	02.7
20	250	10.1	103 10.7	15.2	84 47.0	14.0	208 28.7	48.4	272 03.6	02.8
21	265	12.6	118 14.2	15.0	99 48.0	13.4	223 30.9	48.5	287 06.2	02.8
22	280	15.0	133 17.8	14.8	114 49.0	12.7	238 33.1	48.5	302 08.8	02.9
23	295	17.5	148 21.3	14.6	129 50.1	12.1	253 35.4	48.6	317 11.4	03.0
24	310	20.0	163 24.9	+7 14.4	144 51.1	+7 11.5	268 37.6	+14 48.7	332 14.0	-11 03.0
Dif	—		+35	-2	+10	-6	+22	+1	+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 06.3 ^m		Edad: 15.2 ^d SD: 16 ^h 7 PMG: 0 ^h 27 ^m		PHE { 4 ^h : 61 ^h 4 12 ^h : 61 ^h 4 20 ^h : 61 ^h 3 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					
0	178	24.8	+17	52.7	353	38.5	-21	38.1	60 N	20 29	21 28	23 29	21 24	2	3 47 117			
1	193	24.8		52.1	8	02.0	45	26.2	58	17	21 09	22 34	14	6	4 04 110			
2	208	24.8		51.5	22	25.7	47	14.1	56	20 06	20 54	22 04	21 04	11	17 105			
3	223	24.9		50.8	36	49.4	47	-21	01.8	54	19 57	41	21 42	20 56	14	29 101		
4	238	24.9		50.2	51	13.2	48	-20	49.4	52	49	30	25	48	17	40 96		
5	253	25.0	+17	49.5	65	37.2	50	-20	36.9	50	19 41	20 20	21 10	20 41	20	4 49 93		
6	268	25.0	+17	48.9	80	01.2	50	-20	24.2	45	19 26	19 59	20 42	20 27	25	5 08 87		
7	283	25.1		48.3	94	25.4	52	-20	11.4	40	13	43	20	14	31	24 82		
8	298	25.1		47.6	108	49.6	52	-19	58.5	35	19 02	30	20 03	20 04	35	37 78		
9	313	25.1		47.0	123	14.0	54		45.4	30	18 53	19	19 50	19 55	38	5 49 74		
10	328	25.2		46.4	137	38.5	55		32.1	20	37	19 00	28	39	44	6 08 68		
11	343	25.2	+17	45.7	152	03.1	56	-19	18.8	10 N	18 23	18 45	19 11	19 25	50	6 25 62		
12	358	25.3	+17	45.1	166	27.8	57	-19	05.3	0	18 10	18 31	18 57	19 12	55	6 41 57		
13	13	25.3		44.4	180	52.6	58	-18	51.7	10 S	17 57	19	44	18 58	61	6 56 53		
14	28	25.4		43.8	195	17.5	59		37.9	20	43	18 06	33	44	66	7 13 47		
15	43	25.4		43.1	209	42.5	60		24.1	30	28	17 53	22	28	72	31 42		
16	58	25.5		42.5	224	07.6	61	-18	10.1	35	19	46	16	18	76	42 38		
17	73	25.5	+17	41.9	238	32.8	62	-17	56.0	40	17 09	17 38	18 10	18 07	80	7 55 33		
18	88	25.6	+17	41.2	252	58.2	64	-17	41.8	45	16 57	17 29	18 04	17 54	86	8 09 29		
19	103	25.6		40.6	267	23.6	64		27.5	50	43	18	17 57	39	91	27 22		
20	118	25.7		39.9	281	49.2	66	-17	13.1	52	36	13	54	31	95	35 20		
21	133	25.7		39.3	296	14.9	67	-16	58.5	54	29	08	51	23	98	44 17		
22	148	25.7		38.6	310	40.6	67		43.9	56	20	17 02	47	14	102	8 54 13		
23	163	25.8		38.0	325	06.5	69		29.1	58	11	16 56	44	17	03 107	9 06 8		
24	178	25.8	+17	37.3	339	32.5	70	-16	14.3	60 S	16 00	16 48	17 40	16 51	112	9 19 3		
UT	ARIES PMG 3 ^h 18.1 ^m		VENUS Mag: -4.3 PMG: 13 ^h 03 ^m		MARTE Mag: +1.8 PMG: 14 ^h 20 ^m		JÚPITER Mag: -2.5 PMG: 6 ^h 05 ^m		SATURNO Mag: +0.6 PMG: 1 ^h 51 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	/	°	/	°	/	°	/	°	/								
0	310	20.0	163	24.9	+7	14.4	144	51.1	+7	11.5	268	37.6	+14	48.7	332	14.0	-11	03.0
1	325	22.4	178	28.5		14.2	159	52.1		10.9	283	39.8		48.7	347	16.6		03.1
2	340	24.9	193	32.0		14.1	174	53.1		10.3	298	42.0		48.8	2	19.2		03.2
3	355	27.3	208	35.6		13.9	189	54.2		09.6	313	44.2		48.9	17	21.8		03.2
4	10	29.8	223	39.2		13.7	204	55.2		09.0	328	46.4		48.9	32	24.5		03.3
5	25	32.3	238	42.8	+7	13.5	219	56.2	+7	08.4	343	48.6	+14	49.0	47	27.1	-11	03.4
6	40	34.7	253	46.3	+7	13.3	234	57.2	+7	07.8	358	50.8	+14	49.1	62	29.7	-11	03.4
7	55	37.2	268	49.9		13.1	249	58.2		07.2	13	53.0		49.2	77	32.3		03.5
8	70	39.7	283	53.5		13.0	264	59.3		06.5	28	55.2		49.2	92	34.9		03.5
9	85	42.1	298	57.1		12.8	280	00.3		05.9	43	57.4		49.3	107	37.5		03.6
10	100	44.6	314	00.7		12.6	295	01.3		05.3	58	59.7		49.4	122	40.1		03.7
11	115	47.1	329	04.3	+7	12.5	310	02.3	+7	04.7	74	01.9	+14	49.4	137	42.7	-11	03.7
12	130	49.5	344	07.9	+7	12.3	325	03.4	+7	04.0	89	04.1	+14	49.5	152	45.4	-11	03.8
13	145	52.0	359	11.5		12.1	340	04.4		03.4	104	06.3		49.6	167	48.0		03.9
14	160	54.4	14	15.1		12.0	355	05.4		02.8	119	08.5		49.6	182	50.6		03.9
15	175	56.9	29	18.7		11.8	10	06.4		02.2	134	10.7		49.7	197	53.2		04.0
16	190	59.4	44	22.3		11.6	25	07.5		01.6	149	12.9		49.8	212	55.8		04.1
17	206	01.8	59	26.0	+7	11.5	40	08.5	+7	00.9	164	15.1	+14	49.8	227	58.4	-11	04.1
18	221	04.3	74	29.6	+7	11.3	55	09.5	+7	00.3	179	17.3	+14	49.9	243	01.0	-11	04.2
19	236	06.8	89	33.2		11.1	70	10.5	+6	59.7	194	19.6		50.0	258	03.7		04.3
20	251	09.2	104	36.8		11.0	85	11.6		59.1	209	21.8		50.0	273	06.3		04.3
21	266	11.7	119	40.5		10.8	100	12.6		58.5	224	24.0		50.1	288	08.9		04.4
22	281	14.2	134	44.1		10.7	115	13.6		57.8	239	26.2		50.2	303	11.5		04.5
23	296	16.6	149	47.7		10.5	130	14.6		57.2	254	28.4		50.2	318	14.1		04.5
24	311	19.1	164	51.4	+7	10.4	145	15.7	+6	56.6	269	30.6	+14	50.3	333	16.7	-11	04.6
Dif	—		+36		-2		+10		-6		+22		+1		+26		-	

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: 16.2 ^d PHE { 4 ^h : 61'2 12 ^h : 61'1 20 ^h : 61'0 PMG: 1 ^h 25 ^m R°: 54 ^m														
	hG ☉	Dec		hG ☾	Dif		Dec	Dif			Náutico	Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	178	25.8	+17	37.3	339	32.5	71	-16	14.3	150	60 N	0 44	2 45	3 45	21 26	0	5 44	110
1	193	25.9		36.7	353	58.6	72	-15	59.3	150	58	1 39	3 04	3 57	20 4		5 54	104
2	208	25.9		36.0	8	24.8	73		44.3	152	56	2 09	19	4 07	15 7		6 02	101
3	223	26.0		35.4	22	51.1	74		29.1	152	54	31	32	16	10 11		10 96	
4	238	26.0		34.7	37	17.5	75	-15	13.9	152	52	2 48	43	24	05 14		16 94	
5	253	26.1	+17	34.1	51	44.0	76	-14	58.6	153	50	3 03	3 53	4 32	21 01	17	6 22	91
6	268	26.1	+17	33.4	66	10.6	77	-14	43.2	154	45	3 31	4 14	4 47	20 52	23	6 35	84
7	283	26.2		32.8	80	37.3	78		27.7	155	40	3 53	30	5 00	45 27		46 78	
8	298	26.2		32.1	95	04.1	80	-14	12.1	156	35	4 09	43	11	39 31		6 55	74
9	313	26.3		31.5	109	31.1	81	-13	56.5	157	30	23	4 54	20	33 35		7 03	70
10	328	26.3		30.8	123	58.1	82		40.8	158	20	4 45	5 13	36	23 41		16 64	
11	343	26.4	+17	30.2	138	25.2	83	-13	25.0	158	10 N	5 02	5 28	5 50	20 15	46	7 27	59
12	358	26.5	+17	29.5	152	52.4	84	-13	09.1	159	0	5 16	5 41	6 03	20 07	51	7 38	53
13	13	26.5		28.9	167	19.7	85	-12	53.1	160	10 S	28	5 54	15	19 59	56	7 49	48
14	28	26.6		28.2	181	47.1	86		37.1	161	20	39	6 06	29	50 62		8 00	43
15	43	26.6		27.6	196	14.6	87		21.0	161	30	50	19	44	40 68		13 36	
16	58	26.7		26.9	210	42.2	88	-12	04.9	161	35	5 56	26	6 53	34 72		20 33	
17	73	26.7	+17	26.3	225	09.9	87	-11	48.7	162	40	6 02	6 34	7 03	19 27	77	8 28	29
18	88	26.8	+17	25.6	239	37.7	88	-11	32.4	163	45	6 08	6 43	7 15	19 20	81	8 38	24
19	103	26.8		25.0	254	05.6	89	-11	16.1	163	50	15	54	29	10 88		49 19	
20	118	26.9		24.3	268	33.5	89	-10	59.7	164	52	18	6 59	36	06 91		8 55	15
21	133	26.9		23.6	283	01.6	91		43.3	164	54	21	7 04	43	19 01	94	9 01	12
22	148	27.0		23.0	297	29.7	91		26.8	165	56	24	10	7 51	18 56	97	07 9	
23	163	27.0		22.3	311	57.9	92	-10	10.3	165	58	28	16	8 00	50 101		14 6	
24	178	27.1	+17	21.7	326	26.3	94	-9	53.7	166	60 S	6 32	7 23	8 11	18 43	106	9 22	1
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 3 ^h 14.2 ^m		Mag: -4.2 PMG: 12 ^h 57 ^m			Mag: +1.8 PMG: 14 ^h 18 ^m			Mag: -2.5 PMG: 6 ^h 01 ^m			Mag: +0.6 PMG: 1 ^h 47 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'						
0	311	19.1	164	51.4	+7	10.4	145	15.7	+6	56.6	269	30.6	+14	50.3	333	16.7	-11	04.6
1	326	21.6	179	55.0		10.2	160	16.7		56.0	284	32.8		50.4	348	19.3		04.7
2	341	24.0	194	58.7		10.1	175	17.7		55.3	299	35.0		50.4	3	22.0		04.7
3	356	26.5	210	02.3		09.9	190	18.7		54.7	314	37.3		50.5	18	24.6		04.8
4	11	28.9	225	06.0		09.8	205	19.8		54.1	329	39.5		50.6	33	27.2		04.8
5	26	31.4	240	09.6	+7	09.7	220	20.8	+6	53.5	344	41.7	+14	50.6	48	29.8	-11	04.9
6	41	33.9	255	13.3	+7	09.5	235	21.8	+6	52.8	359	43.9	+14	50.7	63	32.4	-11	05.0
7	56	36.3	270	16.9		09.4	250	22.8		52.2	14	46.1		50.8	78	35.0		05.0
8	71	38.8	285	20.6		09.2	265	23.9		51.6	29	48.3		50.8	93	37.6		05.1
9	86	41.3	300	24.3		09.1	280	24.9		51.0	44	50.6		50.9	108	40.3		05.2
10	101	43.7	315	27.9		09.0	295	25.9		50.4	59	52.8		51.0	123	42.9		05.2
11	116	46.2	330	31.6	+7	08.8	310	26.9	+6	49.7	74	55.0	+14	51.0	138	45.5	-11	05.3
12	131	48.7	345	35.3	+7	08.7	325	28.0	+6	49.1	89	57.2	+14	51.1	153	48.1	-11	05.4
13	146	51.1	0	39.0		08.6	340	29.0		48.5	104	59.4		51.2	168	50.7		05.4
14	161	53.6	15	42.7		08.4	355	30.0		47.9	120	01.6		51.2	183	53.3		05.5
15	176	56.1	30	46.3		08.3	10	31.0		47.2	135	03.9		51.3	198	55.9		05.6
16	191	58.5	45	50.0		08.2	25	32.1		46.6	150	06.1		51.4	213	58.6		05.6
17	207	01.0	60	53.7	+7	08.1	40	33.1	+6	46.0	165	08.3	+14	51.4	229	01.2	-11	05.7
18	222	03.4	75	57.4	+7	07.9	55	34.1	+6	45.4	180	10.5	+14	51.5	244	03.8	-11	05.8
19	237	05.9	91	01.1		07.8	70	35.1		44.7	195	12.7		51.6	259	06.4		05.8
20	252	08.4	106	04.8		07.7	85	36.2		44.1	210	15.0		51.6	274	09.0		05.9
21	267	10.8	121	08.5		07.6	100	37.2		43.5	225	17.2		51.7	289	11.6		06.0
22	282	13.3	136	12.2		07.5	115	38.2		42.9	240	19.4		51.8	304	14.3		06.0
23	297	15.8	151	15.9		07.4	130	39.2		42.2	255	21.6		51.8	319	16.9		06.1
24	312	18.2	166	19.6	+7	07.3	145	40.3	+6	41.6	270	23.8	+14	51.9	334	19.5	-11	06.2
Dif	—		+37		-1		+10		-6		+22		+1		+26		-	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna				
	SD: 15'8 PMG:12 ^h 06.1 ^m			Edad: 17.2 ^d SD: 16'6 PMG: 2 ^h 19 ^m PHE { 4 ^h : 60'8 12 ^h : 60'6 20 ^h : 60'4 R°: 51 ^m																	
	hG ☉	Dec		hG ☾	Dif	Dec	Dif						Civil	Náutico	Hora	R°	Hora	R°			
h	°	'		°	'	°	'	°		h	m	h	m	h	m	m	h	m	m		
0	178	27.1	+17	21.7	326	26.3	94	-9	53.7	60 N	20 24	21 21	23 08	21 26	0		7 34	103			
1	193	27.1		21.0	340	54.7	94		37.1	58	12	21 04	22 24	24	4		38	100			
2	208	27.2		20.3	355	23.1	94		20.4	56	20 02	20 49	21 57	22	7		43	95			
3	223	27.3		19.7	9	51.7	96	-9	03.7	54	19 53	37	36	21	10		46	92			
4	238	27.3		19.0	24	20.3	96	-8	46.9	52	45	26	20	19	13		50	88			
5	253	27.4	+17	18.4	38	49.1	98	-8	30.2	50	19 38	20 16	21 06	21 18	15	7 53	86				
6	268	27.4	+17	17.7	53	17.9	98	-8	13.3	45	19 23	19 56	20 38	21 15	20	7 59	80				
7	283	27.5		17.0	67	46.8	99	-7	56.5	40	11	41	18	12	25	8 04	76				
8	298	27.5		16.4	82	15.7	99		39.6	35	19 00	28	20 01	10	28	09	71				
9	313	27.6		15.7	96	44.7	100		22.7	30	18 51	19 17	19 48	08	32	13	67				
10	328	27.7		15.0	111	13.8	101	-7	05.8	20	36	18 59	27	04	38	20	61				
11	343	27.7	+17	14.4	125	43.0	102	-6	48.8	10 N	18 22	18 44	19 10	21 01	44	8 26	55				
12	358	27.8	+17	13.7	140	12.3	103	-6	31.9	0	18 10	18 31	18 56	20 58	49	8 31	50				
13	13	27.8		13.1	154	41.6	103	-6	14.9	10 S	17 57	19	44	55	54	37	45				
14	28	27.9		12.4	169	11.0	104	-5	57.8	20	44	18 07	34	52	60	43	39				
15	43	27.9		11.7	183	40.4	104		40.8	30	29	17 54	23	48	66	49	33				
16	58	28.0		11.1	198	09.9	105		23.8	35	21	47	17	46	70	53	30				
17	73	28.1	+17	10.4	212	39.5	106	-5	06.7	40	17 11	17 39	18 12	20 44	74	8 57	26				
18	88	28.1	+17	09.7	227	09.2	107	-4	49.6	45	16 59	17 31	18 06	20 41	79	9 02	21				
19	103	28.2		09.1	241	38.9	107		32.6	50	45	20	17 59	38	85	08	15				
20	118	28.2		08.4	256	08.7	108	-4	15.5	52	39	16	57	37	87	10	13				
21	133	28.3		07.7	270	38.5	108	-3	58.4	54	32	11	54	35	90	13	10				
22	148	28.4		07.0	285	08.4	109		41.3	56	24	17 05	50	33	94	16	8				
23	163	28.4		06.4	299	38.3	109		24.2	58	15	16 59	47	31	97	20	4				
24	178	28.5	+17	05.7	314	08.3	110	-3	07.1	60 S	16 05	16 52	17 43	20 29	101	9 23	1				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG 3 ^h 10.3 ^m			Mag: -4.2 PMG: 12 ^h 51 ^m			Mag: +1.8 PMG: 14 ^h 16 ^m			Mag: -2.5 PMG: 5 ^h 58 ^m			Mag: +0.6 PMG: 1 ^h 42 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'		°	'	°	'	°	'	°	'	°	'	°	'						
0	312	18.2		166	19.6	+7	07.3	145	40.3	+6	41.6	270	23.8	+14	51.9	334	19.5	-11	06.2		
1	327	20.7		181	23.4		07.1	160	41.3		41.0	285	26.1		52.0	349	22.1		06.2		
2	342	23.2		196	27.1		07.0	175	42.3		40.4	300	28.3		52.0	4	24.7		06.3		
3	357	25.6		211	30.8		06.9	190	43.3		39.7	315	30.5		52.1	19	27.3		06.4		
4	12	28.1		226	34.5		06.8	205	44.4		39.1	330	32.7		52.2	34	30.0		06.4		
5	27	30.5		241	38.3	+7	06.7	220	45.4	+6	38.5	345	34.9	+14	52.2	49	32.6	-11	06.5		
6	42	33.0		256	42.0	+7	06.6	235	46.4	+6	37.9	0	37.2	+14	52.3	64	35.2	-11	06.6		
7	57	35.5		271	45.7		06.5	250	47.4		37.2	15	39.4		52.3	79	37.8		06.6		
8	72	37.9		286	49.4		06.4	265	48.5		36.6	30	41.6		52.4	94	40.4		06.7		
9	87	40.4		301	53.2		06.3	280	49.5		36.0	45	43.8		52.5	109	43.0		06.8		
10	102	42.9		316	56.9		06.2	295	50.5		35.4	60	46.1		52.5	124	45.7		06.8		
11	117	45.3		332	00.7	+7	06.1	310	51.5	+6	34.7	75	48.3	+14	52.6	139	48.3	-11	06.9		
12	132	47.8		347	04.4	+7	06.0	325	52.6	+6	34.1	90	50.5	+14	52.7	154	50.9	-11	07.0		
13	147	50.3		2	08.2		06.0	340	53.6		33.5	105	52.7		52.7	169	53.5		07.0		
14	162	52.7		17	11.9		05.9	355	54.6		32.9	120	54.9		52.8	184	56.1		07.1		
15	177	55.2		32	15.7		05.8	10	55.6		32.2	135	57.2		52.9	199	58.7		07.2		
16	192	57.7		47	19.4		05.7	25	56.7		31.6	150	59.4		52.9	215	01.4		07.2		
17	208	00.1		62	23.2	+7	05.6	40	57.7	+6	31.0	166	01.6	+14	53.0	230	04.0	-11	07.3		
18	223	02.6		77	26.9	+7	05.5	55	58.7	+6	30.4	181	03.8	+14	53.1	245	06.6	-11	07.4		
19	238	05.0		92	30.7		05.4	70	59.7		29.7	196	06.1		53.1	260	09.2		07.4		
20	253	07.5		107	34.5		05.4	86	00.8		29.1	211	08.3		53.2	275	11.8		07.5		
21	268	10.0		122	38.3		05.3	101	01.8		28.5	226	10.5		53.2	290	14.4		07.6		
22	283	12.4		137	42.0		05.2	116	02.8		27.9	241	12.8		53.3	305	17.1		07.6		
23	298	14.9		152	45.8		05.1	131	03.8		27.2	256	15.0		53.4	320	19.7		07.7		
24	313	17.4		167	49.6	+7	05.1	146	04.8	+6	26.6	271	17.2	+14	53.4	335	22.3	-11	07.8		
Dif	—			+37			-1			+10			-6			+22			+1		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:12 ^h 06.1 ^m				Edad: 18.2 ^d PHE { 4 ^h : 60'1 12 ^h : 59'8 20 ^h : 59'6 PMG: 3 ^h 10 ^m R°: 48 ^m															
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	
0	178	28.5	+17	05.7	314	08.3			-3	07.1	171	60 N	1 05	2 52	3 49		21 26	1	9 17 100	
1	193	28.5		05.0	328	38.4	111		-2	50.0	171	58	1 48	3 09	4 01		28 4		18 95	
2	208	28.6		04.4	343	08.5	111			32.9	171	56	2 16	24	11		29 7		18 92	
3	223	28.7		03.7	357	38.6	111		-2	15.8	171	54	36	36	20		31 10		18 89	
4	238	28.7		03.0	12	08.8	112		-1	58.8	170	52	2 53	47	27		32 12		18 86	
5	253	28.8	+17	02.3	26	39.1	113		-1	41.7	171	50	3 07	3 57	4 35	21 33	15	9 19	83	
6	268	28.9	+17	01.7	41	09.4	113		-1	24.6	171	45	3 34	4 16	4 49	21 35	20	9 19	78	
7	283	28.9		01.0	55	39.7	113		-1	07.6	170	40	3 55	32	5 02	37 24	20	72		
8	298	29.0	+17	00.3	70	10.1	114		-0	50.6	170	35	4 11	45	12	38 29	20	68		
9	313	29.0	+16	59.6	84	40.5	114			33.5	171	30	25	4 55	21	40 32	20	65		
10	328	29.1		59.0	99	11.0	115		-0	16.5	170	20	4 46	5 13	37	42 38	21	58		
11	343	29.2	+16	58.3	113	41.5	115		+0	00.4	169	10 N	5 02	5 28	5 50	21 45	43	9 21	53	
12	358	29.2	+16	57.6	128	12.0	115		+0	17.4	170	0	5 16	5 41	6 03	21 47	48	9 21	49	
13	13	29.3		56.9	142	42.6	116			34.3	169	10 S	28	5 53	15	49 53	22	43		
14	28	29.4		56.3	157	13.2	116		+0	51.2	169	20	39	6 05	28	52 58	22	38		
15	43	29.4		55.6	171	43.9	117		+1	08.1	169	30	49	18	43	54 64	22	32		
16	58	29.5		54.9	186	14.6	117			25.0	169	35	5 54	25	6 51	56 68	23	28		
17	73	29.6	+16	54.2	200	45.3	117		+1	41.8	168	40	6 00	6 32	7 01	21 58	71	9 23	24	
18	88	29.6	+16	53.6	215	16.1	118		+1	58.6	168	45	6 06	6 41	7 12	22 00	76	9 23	20	
19	103	29.7		52.9	229	46.8	117		+2	15.4	168	50	12	51	26	03 82	23	15		
20	118	29.8		52.2	244	17.6	118			32.2	168	52	15	6 56	32	04 85	23	13		
21	133	29.8		51.5	258	48.5	119		+2	48.9	167	54	18	7 00	39	05 88	23	10		
22	148	29.9		50.8	273	19.3	118		+3	05.5	166	56	21	06	47	07 91	24	7		
23	163	30.0		50.2	287	50.2	119			22.2	167	58	24	12	7 56	08 95	24	3		
24	178	30.0	+16	49.5	302	21.1	119		+3	38.8	166	60 S	6 28	7 19	8 06	22 10	99	9 24	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 3 ^h 06.3 ^m		Mag: -4.1 PMG: 12 ^h 45 ^m		Mag: +1.8 PMG: 14 ^h 15 ^m		Mag: -2.5 PMG: 5 ^h 54 ^m		Mag: +0.6 PMG: 1 ^h 38 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	313	17.4	167	49.6	+7	05.1	146	04.8	+6	26.6	271	17.2	+14	53.4	335	22.3	-11	07.8
1	328	19.8	182	53.4		05.0	161	05.9		26.0	286	19.4		53.5	350	24.9		07.8
2	343	22.3	197	57.1		04.9	176	06.9		25.4	301	21.7		53.6	5	27.5		07.9
3	358	24.8	213	00.9		04.9	191	07.9		24.7	316	23.9		53.6	20	30.2		08.0
4	13	27.2	228	04.7		04.8	206	08.9		24.1	331	26.1		53.7	35	32.8		08.0
5	28	29.7	243	08.5	+7	04.7	221	10.0	+6	23.5	346	28.3	+14	53.7	50	35.4	-11	08.1
6	43	32.1	258	12.3	+7	04.7	236	11.0	+6	22.8	1	30.6	+14	53.8	65	38.0	-11	08.2
7	58	34.6	273	16.1		04.6	251	12.0		22.2	16	32.8		53.9	80	40.6		08.2
8	73	37.1	288	19.9		04.5	266	13.0		21.6	31	35.0		53.9	95	43.3		08.3
9	88	39.5	303	23.7		04.5	281	14.1		21.0	46	37.3		54.0	110	45.9		08.4
10	103	42.0	318	27.5		04.4	296	15.1		20.3	61	39.5		54.1	125	48.5		08.4
11	118	44.5	333	31.3	+7	04.4	311	16.1	+6	19.7	76	41.7	+14	54.1	140	51.1	-11	08.5
12	133	46.9	348	35.1	+7	04.3	326	17.1	+6	19.1	91	44.0	+14	54.2	155	53.7	-11	08.6
13	148	49.4	3	38.9		04.3	341	18.2		18.5	106	46.2		54.2	170	56.3		08.6
14	163	51.9	18	42.7		04.2	356	19.2		17.8	121	48.4		54.3	185	59.0		08.7
15	178	54.3	33	46.6		04.2	11	20.2		17.2	136	50.6		54.4	201	01.6		08.8
16	193	56.8	48	50.4		04.1	26	21.2		16.6	151	52.9		54.4	216	04.2		08.8
17	208	59.3	63	54.2	+7	04.1	41	22.3	+6	15.9	166	55.1	+14	54.5	231	06.8	-11	08.9
18	224	01.7	78	58.0	+7	04.0	56	23.3	+6	15.3	181	57.3	+14	54.5	246	09.4	-11	09.0
19	239	04.2	94	01.8		04.0	71	24.3		14.7	196	59.6		54.6	261	12.1		09.0
20	254	06.6	109	05.7		03.9	86	25.3		14.1	212	01.8		54.7	276	14.7		09.1
21	269	09.1	124	09.5		03.9	101	26.4		13.4	227	04.0		54.7	291	17.3		09.2
22	284	11.6	139	13.3		03.9	116	27.4		12.8	242	06.3		54.8	306	19.9		09.2
23	299	14.0	154	17.2		03.8	131	28.4		12.2	257	08.5		54.9	321	22.5		09.3
24	314	16.5	169	21.0	+7	03.8	146	29.4	+6	11.5	272	10.7	+14	54.9	336	25.2	-11	09.4
Dif	—		+38		-1		+10		-6		+22		+1		+26		-	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna			
	SD: 15 ^h 8 PMG:12 ^h 05.9 ^m				Edad: 19.2 ^d SD: 16'2 PMG: 3 ^h 58 ^m PHE { 4 ^h : 59'3 12 ^h : 59'0 20 ^h : 58'7 R°: 48 ^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	30.0	+16	49.5	302	21.1	+3	38.8	165	58	60 N	20 18	21 15	22 52	21 27	0	10 57	98				
1	193	30.1		48.8	316	52.0	+3	55.3	166	58	58	20 07	20 58	22 15	32	5	53	94				
2	208	30.2		48.1	331	23.0	+4	11.9	166	56	56	19 58	44	21 50	36	9	50	90				
3	223	30.2		47.4	345	54.0		28.3	164	54	54	49	32	31	41	11	47	87				
4	238	30.3		46.7	0	24.9	+4	44.8	165	52	52	42	22	15	44	14	44	84				
5	253	30.4	+16	46.1	14	55.9	+5	01.2	164	50	50	19 35	20 13	21 01	21 48	16	10 42	81				
6	268	30.4	+16	45.4	29	27.0	+5	17.5	163	45	45	19 20	19 53	20 35	21 55	22	10 37	75				
7	283	30.5		44.7	43	58.0		33.8	163	40	40	19 09	38	20 15	22 01	27	32	71				
8	298	30.6		44.0	58	29.0	+5	50.0	162	35	35	18 58	26	19 59	07	30	28	68				
9	313	30.6		43.3	73	00.1	+6	06.2	162	30	30	50	19 15	46	12	33	25	64				
10	328	30.7		42.6	87	31.1		22.4	162	20	20	35	18 58	25	20	39	19	58				
11	343	30.8	+16	41.9	102	02.2	+6	38.5	161	10 N	10 N	18 22	18 44	19 09	22 28	43	10 14	53				
12	358	30.8	+16	41.2	116	33.3	+6	54.5	160	0	0	18 09	18 31	18 56	22 35	48	10 10	48				
13	13	30.9		40.6	131	04.4	+7	10.5	160	10 S	10 S	17 57	19	45	42	53	05	43				
14	28	31.0		39.9	145	35.4		26.4	159	20	20	45	18 08	34	50	57	10 00	38				
15	43	31.1		39.2	160	06.5		42.3	159	30	30	30	17 55	24	22 58	64	9 54	33				
16	58	31.1		38.5	174	37.6	+7	58.1	158	35	35	22	49	19	23 04	66	51	29				
17	73	31.2	+16	37.8	189	08.7	+8	13.8	157	40	40	17 13	17 41	18 13	23 09	71	9 47	26				
18	88	31.3	+16	37.1	203	39.8	+8	29.5	157	45	45	17 02	17 33	18 08	23 16	75	9 43	21				
19	103	31.3		36.4	218	10.9	+8	45.2	157	50	50	16 48	23	18 02	25	80	38	16				
20	118	31.4		35.7	232	42.0	+9	00.7	155	52	52	42	19	17 59	29	83	36	13				
21	133	31.5		35.0	247	13.1		16.2	155	54	54	35	14	56	33	86	33	11				
22	148	31.6		34.3	261	44.2		31.6	154	56	56	28	09	53	38	90	31	7				
23	163	31.6		33.7	276	15.3	+9	47.0	154	58	58	19	17 03	50	43	94	27	5				
24	178	31.7	+16	33.0	290	46.3	+10	02.3	153	60 S	60 S	16 09	16 56	17 47	23 49	98	9 24	0				

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG 3 ^h 02.4 ^m			Mag: -4.1 PMG: 12 ^h 39 ^m			Mag: +1.8 PMG: 14 ^h 13 ^m			Mag: -2.5 PMG: 5 ^h 50 ^m			Mag: +0.5 PMG: 1 ^h 34 ^m														
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec																
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'													
0	314	16.5	169	21.0	+7	03.8	146	29.4	+6	11.5	272	10.7	+14	54.9	336	25.2	-11	09.4									
1	329	19.0	184	24.9		03.8	161	30.5		10.9	287	13.0		55.0	351	27.8		09.4									
2	344	21.4	199	28.7		03.7	176	31.5		10.3	302	15.2		55.0	6	30.4		09.5									
3	359	23.9	214	32.5		03.7	191	32.5		09.7	317	17.4		55.1	21	33.0		09.6									
4	14	26.4	229	36.4		03.7	206	33.5		09.0	332	19.7		55.2	36	35.6		09.6									
5	29	28.8	244	40.2	+7	03.6	221	34.6	+6	08.4	347	21.9	+14	55.2	51	38.3	-11	09.7									
6	44	31.3	259	44.1	+7	03.6	236	35.6	+6	07.8	2	24.1	+14	55.3	66	40.9	-11	09.8									
7	59	33.8	274	47.9		03.6	251	36.6		07.1	17	26.4		55.3	81	43.5		09.8									
8	74	36.2	289	51.8		03.6	266	37.6		06.5	32	28.6		55.4	96	46.1		09.9									
9	89	38.7	304	55.7		03.5	281	38.6		05.9	47	30.9		55.5	111	48.8		10.0									
10	104	41.1	319	59.5		03.5	296	39.7		05.3	62	33.1		55.5	126	51.4		10.0									
11	119	43.6	335	03.4	+7	03.5	311	40.7	+6	04.6	77	35.3	+14	55.6	141	54.0	-11	10.1									
12	134	46.1	350	07.2	+7	03.5	326	41.7	+6	04.0	92	37.6	+14	55.6	156	56.6	-11	10.2									
13	149	48.5	5	11.1		03.5	341	42.7		03.4	107	39.8		55.7	171	59.2		10.2									
14	164	51.0	20	15.0		03.5	356	43.8		02.7	122	42.0		55.8	187	01.9		10.3									
15	179	53.5	35	18.9		03.5	11	44.8		02.1	137	44.3		55.8	202	04.5		10.4									
16	194	55.9	50	22.7		03.4	26	45.8		01.5	152	46.5		55.9	217	07.1		10.4									
17	209	58.4	65	26.6	+7	03.4	41	46.8	+6	00.8	167	48.8	+14	55.9	232	09.7	-11	10.5									
18	225	00.9	80	30.5	+7	03.4	56	47.9	+6	00.2	182	51.0	+14	56.0	247	12.3	-11	10.6									
19	240	03.3	95	34.4		03.4	71	48.9	+5	59.6	197	53.2		56.0	262	15.0		10.6									
20	255	05.8	110	38.2		03.4	86	49.9		59.0	212	55.5		56.1	277	17.6		10.7									
21	270	08.2	125	42.1		03.4	101	50.9		58.3	227	57.7		56.2	292	20.2		10.8									
22	285	10.7	140	46.0		03.4	116	52.0		57.7	243	00.0		56.2	307	22.8		10.8									
23	300	13.2	155	49.9		03.4	131	53.0		57.1	258	02.2		56.3	322	25.5		10.9									
24	315	15.6	170	53.8	+7	03.4	146	54.0	+5	56.4	273	04.4	+14	56.3	337	28.1	-11	11.0									
Dif	—			+39			0			+10			-6			+22			+1			+26			-1		

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 15'8 PMG:12 ^h 05.8 ^m				Edad: 20.2 ^d SD: 15'9 PMG: 4 ^h 46 ^m												
					PHE { 4 ^h : 58'4 12 ^h : 58'1 20 ^h : 57'8 R°: 48 ^m												
	hG ☉	Dec			hG ☾	Dif			Dec	Dif	Náutico	Civil		Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	178	31.7	+16	33.0	290	46.3	+10	02.3	152	60 N	1	20	2	58	3	54	21 27 3
1	193	31.8		32.3	305	17.4		17.5	152	58	1	57	3	14	4	05	37 7
2	208	31.9		31.6	319	48.4		32.7	152	56	2	22		28	15	45	11
3	223	31.9		30.9	334	19.5	+10	47.8	151	54		42		40	23	52	14
4	238	32.0		30.2	348	50.5	+11	02.8	150	52	2	58	3	51	31	21 58 18	
5	253	32.1	+16	29.5	3	21.6	+11	17.7	149	50	3	11	4	00	4	37	22 04 20
6	268	32.1	+16	28.8	17	52.6	+11	32.6	148	45	3	38	4	19	4	52	22 17 25
7	283	32.2		28.1	32	23.6	+11	47.4	148	40	3	57		34	5	04	28 29
8	298	32.3		27.4	46	54.6	+12	02.1	147	35	4	13		46	14	37	33
9	313	32.4		26.7	61	25.5		16.7	146	30		26	4	57	22	45	36
10	328	32.4		26.0	75	56.5		31.3	146	20	4	47	5	14	37	22 59 41	
11	343	32.5	+16	25.3	90	27.4	+12	45.7	144	10 N	5	03	5	28	5	50	23 11 45
12	358	32.6	+16	24.6	104	58.3	+13	00.1	144	0	5	16	5	41	6	02	23 23 49
13	13	32.7		23.9	119	29.2		14.4	143	10 S		27		52	14	35	53
14	28	32.8		23.2	134	00.1		28.6	142	20		38	6	04	27	23 47 58	
15	43	32.8		22.5	148	31.0		42.8	142	30		48		16	41	** ** *	
16	58	32.9		21.8	163	01.8	+13	56.8	140	35		53		23	49	** ** *	
17	73	33.0	+16	21.1	177	32.6	+14	10.8	140	40	5	58	6	30	6	59	** ** *
18	88	33.1	+16	20.4	192	03.4	+14	24.7	139	45	6	03	6	38	7	09	** ** *
19	103	33.1		19.7	206	34.2		38.5	138	50		09		48	23	** ** *	
20	118	33.2		19.0	221	04.9	+14	52.2	137	52		12		52	29	** ** *	
21	133	33.3		18.3	235	35.6	+15	05.8	136	54		15	6	57	35	** ** *	
22	148	33.4		17.6	250	06.3		19.3	135	56		17	7	02	43	** ** *	
23	163	33.5		16.9	264	37.0		32.7	134	58		21		08	7	51	** ** *
24	178	33.5	+16	16.2	279	07.6	+15	46.1	134	60 S	6	24	7	14	8	01	** ** *

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 58.5 ^m		Mag: -4.0 PMG: 12 ^h 33 ^m		Mag: +1.8 PMG: 14 ^h 11 ^m		Mag: -2.5 PMG: 5 ^h 47 ^m		Mag: +0.5 PMG: 1 ^h 30 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	315	15.6	170	53.8	+7	03.4	146	54.0	+5	56.4
1	330	18.1	185	57.7		03.4	161	55.0		55.8
2	345	20.6	201	01.6		03.4	176	56.1		55.2
3	0	23.0	216	05.5		03.4	191	57.1		54.5
4	15	25.5	231	09.4		03.5	206	58.1		53.9
5	30	28.0	246	13.3	+7	03.5	221	59.1	+5	53.3
6	45	30.4	261	17.2	+7	03.5	237	00.1	+5	52.6
7	60	32.9	276	21.1		03.5	252	01.2		52.0
8	75	35.4	291	25.0		03.5	267	02.2		51.4
9	90	37.8	306	28.9		03.5	282	03.2		50.8
10	105	40.3	321	32.8		03.5	297	04.2		50.1
11	120	42.7	336	36.7	+7	03.6	312	05.3	+5	49.5
12	135	45.2	351	40.6	+7	03.6	327	06.3	+5	48.9
13	150	47.7	6	44.5		03.6	342	07.3		48.2
14	165	50.1	21	48.5		03.6	357	08.3		47.6
15	180	52.6	36	52.4		03.7	12	09.4		47.0
16	195	55.1	51	56.3		03.7	27	10.4		46.3
17	210	57.5	67	00.2	+7	03.7	42	11.4	+5	45.7
18	226	00.0	82	04.2	+7	03.8	57	12.4	+5	45.1
19	241	02.5	97	08.1		03.8	72	13.4		44.4
20	256	04.9	112	12.0		03.8	87	14.5		43.8
21	271	07.4	127	15.9		03.9	102	15.5		43.2
22	286	09.9	142	19.9		03.9	117	16.5		42.5
23	301	12.3	157	23.8		03.9	132	17.5		41.9
24	316	14.8	172	27.7	+7	04.0	147	18.6	+5	41.3
Dif	—		+39		0		+10		-6	
							+22		+1	
									+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 05.7 ^m				Edad: 21.2 ^d SD: 15 ^h 7 PMG: 5 ^h 34 ^m PHE { 4 ^h : 57/5 12 ^h : 57/2 20 ^h : 56/9 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	33.5	+16	16.2	279	07.6	+15	46.1	132	58	60 N	20 13	21 08	22 39	21 30	5	14	14	100					
1	193	33.6		15.5	293	38.2	+15	59.3	132	58		20 03	20 52	22 06	44	11	14	01	93					
2	208	33.7		14.8	308	08.8	+16	12.5	130	56		19 53	39	21 43	21 56	16	13	50	88					
3	223	33.8		14.1	322	39.4		25.5	130	54		45	28	25	22 06	20	40	8						
4	238	33.9		13.4	337	09.9		38.5	130	52		38	18	21 09	16	22	31	81						
5	253	33.9	+16	12.7	351	40.4	+16	51.3	128	50		19 32	20 09	20 57	22 24	25	13	24	78					
6	268	34.0	+16	11.9	6	10.8	+17	04.1	128	45		19 18	19 50	20 31	22 42	30	13	07	73					
7	283	34.1		11.2	20	41.2		16.7	126	40		19 06	36	20 12	22 57	34	12	53	69					
8	298	34.2		10.5	35	11.6		29.3	126	35		18 56	24	19 57	23 10	37	42	65						
9	313	34.3		09.8	49	42.0		41.7	124	30		48	19 13	44	21	39	32	62						
10	328	34.3		09.1	64	12.3	+17	54.1	124	20		33	18 57	24	40	44	15	58						
11	343	34.4	+16	08.4	78	42.6	+18	06.3	122	10 N		18 21	18 43	19 08	23 56	48	12	00	54					
12	358	34.5	+16	07.7	93	12.8	+18	18.5	122	0		18 09	18 31	18 56	** ** *		11	46	50					
13	13	34.6		07.0	107	43.0		30.5	120	10 S		17 58	19	45	** ** *		32	47						
14	28	34.7		06.3	122	13.2		42.5	120	20		45	18 08	35	** ** *		18	42						
15	43	34.7		05.6	136	43.4	+18	54.3	118	30		31	17 56	25	0 02	63	11	01	38					
16	58	34.8		04.9	151	13.5	+19	06.0	117	35		23	50	20	10	66	10	51	35					
17	73	34.9	+16	04.1	165	43.5	+19	17.6	116	40		17 14	17 43	18 15	0 20	69	10	40	32					
18	88	35.0	+16	03.4	180	13.6	+19	29.1	115	45		17 04	17 35	18 10	0 31	74	10	27	28					
19	103	35.1		02.7	194	43.5		40.5	114	50		16 51	26	04	45	80	12	22						
20	118	35.2		02.0	209	13.5	+19	51.8	113	52		45	21	18 02	52	82	10	05	19					
21	133	35.2		01.3	223	43.4	+20	03.0	112	54		39	17	17 59	0 59	86	9	57	16					
22	148	35.3	+16	00.6	238	13.3		14.0	110	56		31	12	57	1 08	89	48	13						
23	163	35.4	+15	59.9	252	43.1		25.0	110	58		23	06	54	17	94	37	9						
24	178	35.5	+15	59.1	267	12.9	+20	35.8	108	60 S		16 14	17 00	17 51	1 28	99	9	26	3					
UT	ARIES PMG 2 ^h 54.5 ^m				VENUS Mag: -4.1 PMG: 12 ^h 27 ^m				MARTE Mag: +1.8 PMG: 14 ^h 10 ^m				JÚPITER Mag: -2.5 PMG: 5 ^h 43 ^m				SATURNO Mag: +0.5 PMG: 1 ^h 26 ^m							
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	316	14.8	172	27.7	+7	04.0	147	18.6	+5	41.3	273	58.3	+14	57.7	338	31.0	-11	12.6						
1	331	17.2	187	31.7		04.0	162	19.6		40.6	289	00.5		57.8	353	33.7		12.7						
2	346	19.7	202	35.6		04.1	177	20.6		40.0	304	02.8		57.8	8	36.3		12.7						
3	1	22.2	217	39.6		04.1	192	21.6		39.4	319	05.0		57.9	23	38.9		12.8						
4	16	24.6	232	43.5		04.1	207	22.7		38.7	334	07.3		57.9	38	41.5		12.9						
5	31	27.1	247	47.4	+7	04.2	222	23.7	+5	38.1	349	09.5	+14	58.0	53	44.2	-11	13.0						
6	46	29.6	262	51.4	+7	04.2	237	24.7	+5	37.5	4	11.8	+14	58.1	68	46.8	-11	13.0						
7	61	32.0	277	55.3		04.3	252	25.7		36.8	19	14.0		58.1	83	49.4		13.1						
8	76	34.5	292	59.3		04.3	267	26.8		36.2	34	16.3		58.2	98	52.0		13.2						
9	91	37.0	308	03.2		04.4	282	27.8		35.6	49	18.5		58.2	113	54.7		13.2						
10	106	39.4	323	07.2		04.5	297	28.8		34.9	64	20.8		58.3	128	57.3		13.3						
11	121	41.9	338	11.1	+7	04.5	312	29.8	+5	34.3	79	23.0	+14	58.3	143	59.9	-11	13.4						
12	136	44.3	353	15.1	+7	04.6	327	30.8	+5	33.7	94	25.3	+14	58.4	159	02.5	-11	13.4						
13	151	46.8	8	19.0		04.6	342	31.9		33.0	109	27.5		58.4	174	05.2		13.5						
14	166	49.3	23	23.0		04.7	357	32.9		32.4	124	29.8		58.5	189	07.8		13.6						
15	181	51.7	38	27.0		04.8	12	33.9		31.8	139	32.0		58.6	204	10.4		13.6						
16	196	54.2	53	30.9		04.8	27	34.9		31.1	154	34.3		58.6	219	13.0		13.7						
17	211	56.7	68	34.9	+7	04.9	42	36.0	+5	30.5	169	36.5	+14	58.7	234	15.7	-11	13.8						
18	226	59.1	83	38.8	+7	05.0	57	37.0	+5	29.9	184	38.8	+14	58.7	249	18.3	-11	13.8						
19	242	01.6	98	42.8		05.0	72	38.0		29.2	199	41.0		58.8	264	20.9		13.9						
20	257	04.1	113	46.8		05.1	87	39.0		28.6	214	43.3		58.8	279	23.5		14.0						
21	272	06.5	128	50.7		05.2	102	40.0		28.0	229	45.6		58.9	294	26.2		14.0						
22	287	09.0	143	54.7		05.2	117	41.1		27.3	244	47.8		58.9	309	28.8		14.1						
23	302	11.5	158	58.7		05.3	132	42.1		26.7	259	50.1		59.0	324	31.4		14.2						
24	317	13.9	174	02.6	+7	05.4	147	43.1	+5	26.1	274	52.3	+14	59.0	339	34.0	-11	14.3						
Dif	—				+40				+10				+23				+26				—			

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: 22.2 ^d SD: 15'5 PMG: 6 ^h 24 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec		Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	m	h	m	m
0	178	35.5	+15	59.1	267	12.9	+20	35.8	60 N	1	33	3	04	3	59	21	35	12
1	193	35.6		58.4	281	42.7		46.5	58	2	06		20	4	09	21	55	20
2	208	35.7		57.7	296	12.4	+20	57.1	56		29		33	19	22	12	24	18
3	223	35.8		57.0	310	42.1	+21	07.6	54	2	47		44	27		26	28	15
4	238	35.8		56.3	325	11.7		18.0	52	3	02	3	54	34		38	31	14
5	253	35.9	+15	55.6	339	41.3	+21	28.2	50	3	15	4	03	4	40	22	49	34
6	268	36.0	+15	54.8	354	10.9	+21	38.4	45	3	41	4	21	4	54	23	12	38
7	283	36.1		54.1	8	40.4		48.4	40	4	00		36	5	06	31	40	14
8	298	36.2		53.4	23	09.9	+21	58.3	35		15		48	15	23	47	42	13
9	313	36.3		52.7	37	39.3	+22	08.0	30		28	4	58	24	**	**	**	34
10	328	36.4		52.0	52	08.7		17.7	20	4	48	5	15	38	**	**	**	13
11	343	36.5	+15	51.2	66	38.1	+22	27.2	10 N	5	03	5	29	5	51	**	**	**
12	358	36.5	+15	50.5	81	07.4	+22	36.6	0	5	16	5	41	6	02	0	12	51
13	13	36.6		49.8	95	36.7		45.9	10 S		27	5	52	14		28	54	19
14	28	36.7		49.1	110	05.9	+22	55.0	20		37	6	03	26		0	45	58
15	43	36.8		48.4	124	35.1	+23	04.1	30		46	15		39	1	05	62	11
16	58	36.9		47.6	139	04.3		13.0	35		51	21		47		16	65	26
17	73	37.0	+15	46.9	153	33.4	+23	21.8	40	5	56	6	28	6	56	1	29	68
18	88	37.1	+15	46.2	168	02.5	+23	30.4	45	6	01	6	36	7	07	1	45	72
19	103	37.2		45.5	182	31.5		38.9	50		06	45		19	2	05	76	34
20	118	37.3		44.7	197	00.6		47.3	52		09	49		25	14	79	24	27
21	133	37.3		44.0	211	29.5	+23	55.6	54		11	53		32	25	82	13	23
22	148	37.4		43.3	225	58.5	+24	03.7	56		14	6	58	39	37	86	10	01
23	163	37.5		42.6	240	27.4		11.7	58		17	7	04	47	2	51	91	46
24	178	37.6	+15	41.8	254	56.2	+24	19.6	60 S	6	20	7	10	7	56	3	07	99

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 50.6 ^m		Mag: -4.1 PMG: 12 ^h 21 ^m		Mag: +1.8 PMG: 14 ^h 08 ^m		Mag: -2.5 PMG: 5 ^h 40 ^m		Mag: +0.5 PMG: 1 ^h 21 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	317	13.9	174	02.6	+7	05.4	147	43.1	+5	26.1
1	332	16.4	189	06.6		05.5	162	44.1		25.4
2	347	18.8	204	10.6		05.5	177	45.2		24.8
3	2	21.3	219	14.6		05.6	192	46.2		24.2
4	17	23.8	234	18.5		05.7	207	47.2		23.5
5	32	26.2	249	22.5	+7	05.8	222	48.2	+5	22.9
6	47	28.7	264	26.5	+7	05.9	237	49.3	+5	22.3
7	62	31.2	279	30.5		06.0	252	50.3		21.6
8	77	33.6	294	34.5		06.1	267	51.3		21.0
9	92	36.1	309	38.4		06.1	282	52.3		20.4
10	107	38.6	324	42.4		06.2	297	53.3		19.7
11	122	41.0	339	46.4	+7	06.3	312	54.4	+5	19.1
12	137	43.5	354	50.4	+7	06.4	327	55.4	+5	18.4
13	152	46.0	9	54.4		06.5	342	56.4		17.8
14	167	48.4	24	58.4		06.6	357	57.4		17.2
15	182	50.9	40	02.4		06.7	12	58.5		16.5
16	197	53.3	55	06.4		06.8	27	59.5		15.9
17	212	55.8	70	10.4	+7	06.9	43	00.5	+5	15.3
18	227	58.3	85	14.3	+7	07.0	58	01.5	+5	14.6
19	243	00.7	100	18.3		07.1	73	02.5		14.0
20	258	03.2	115	22.3		07.2	88	03.6		13.4
21	273	05.7	130	26.3		07.3	103	04.6		12.7
22	288	08.1	145	30.3		07.4	118	05.6		12.1
23	303	10.6	160	34.3		07.6	133	06.6		11.5
24	318	13.1	175	38.3	+7	07.7	148	07.7	+5	10.8
Dif	—		+40		+1		+10		-6	
									+23	
									+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 05.4 ^m				Edad: 23.2 ^d SD: 15/3 PMG: 7 ^h 15 ^m PHE { 4 ^h : 55/9 12 ^h : 55/7 20 ^h : 55/5 Rº: 53 ^m														
	hG ☉	Dec			hG ☾	Dif					Civil			Náutico			Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	178	37.6	+15	41.8	254	56.2	+24	19.6	78	60 N	20 08	21 02	22 27	21 47	28		17 30	83	
1	193	37.7		41.1	269	25.0		27.4	76	58	19 58	20 47	21 58	22 15	34		17 03	75	
2	208	37.8		40.4	283	53.8		35.0	75	56	49	34	36	36	39		16 41	72	
3	223	37.9		39.7	298	22.6		42.5	73	54	41	23	19	22 54	41		24	66	
4	238	38.0		38.9	312	51.3		49.8	72	52	34	13	21 04	23 09	43		16 09	67	
5	253	38.1	+15	38.2	327	20.0	+24	57.0	70	50	19 28	20 05	20 52	23 23	43		15 56	65	
6	268	38.2	+15	37.5	341	48.6	+25	04.1	71	45	19 15	19 47	20 28	23 50	46		15 29	63	
7	283	38.3		36.8	356	17.3		11.1	70	40	19 04	33	20 09	** ** *	**		15 08	61	
8	298	38.3		36.0	10	45.8	96	17.9	68	35	18 54	21	19 54	** ** *	**		14 51	59	
9	313	38.4		35.3	25	14.4	95	24.5	66	30	46	19 12	42	0 00	45		36	58	
10	328	38.5		34.6	39	42.9	95	31.1	66	20	32	18 55	23	24	47		14 10	56	
11	343	38.6	+15	33.8	54	11.4	+25	37.5	64	10 N	18 20	18 42	19 08	0 44	50		13 48	55	
12	358	38.7	+15	33.1	68	39.9	+25	43.8	63	0	18 09	18 30	18 55	1 03	52		13 28	53	
13	13	38.8		32.4	83	08.3		49.9	61	10 S	17 58	19	45	22	55		13 08	51	
14	28	38.9		31.6	97	36.7	+25	55.9	60	20	46	18 09	35	1 43	57		12 46	49	
15	43	39.0		30.9	112	05.1	+26	01.7	58	30	33	17 57	26	2 07	59		21	47	
16	58	39.1		30.2	126	33.4		07.4	57	35	25	51	21	21	61		12 06	46	
17	73	39.2	+15	29.4	141	01.8	+26	13.0	56	40	17 16	17 45	18 17	2 37	64		11 49	44	
18	88	39.3	+15	28.7	155	30.1	+26	18.5	55	45	17 06	17 37	18 12	2 57	66		11 29	41	
19	103	39.4		28.0	169	58.3		23.8	53	50	16 54	28	07	3 21	71		11 03	38	
20	118	39.5		27.2	184	26.6		28.9	51	52	48	24	04	33	73		10 51	36	
21	133	39.6		26.5	198	54.8		33.9	50	54	42	20	02	3 47	75		36	34	
22	148	39.7		25.8	213	23.0		38.8	49	56	35	15	18 00	4 03	79		20	31	
23	163	39.8		25.0	227	51.2		43.5	47	58	27	10	17 57	22	84		10 00	26	
24	178	39.9	+15	24.3	242	19.4	+26	48.1	46	60 S	16 18	17 04	17 54	4 46	92		9 36	17	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 2 ^h 46.7 ^m		Mag: -4.1 PMG: 12 ^h 14 ^m			Mag: +1.8 PMG: 14 ^h 07 ^m			Mag: -2.5 PMG: 5 ^h 36 ^m			Mag: +0.5 PMG: 1 ^h 17 ^m							
	hG ♈	hG ♀		Dec	hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	318	13.1	175	38.3	+7	07.7	148	07.7	+5	10.8	275	46.5	+15	00.3	340	37.1	-11	15.9	
1	333	15.5	190	42.3		07.8	163	08.7		10.2	290	48.8		00.4	355	39.7		16.0	
2	348	18.0	205	46.3		07.9	178	09.7		09.5	305	51.0		00.4	10	42.3		16.0	
3	3	20.4	220	50.3		08.0	193	10.7		08.9	320	53.3		00.5	25	45.0		16.1	
4	18	22.9	235	54.3		08.1	208	11.7		08.3	335	55.6		00.5	40	47.6		16.2	
5	33	25.4	250	58.3	+7	08.2	223	12.8	+5	07.6	350	57.8	+15	00.6	55	50.2	-11	16.3	
6	48	27.8	266	02.3	+7	08.4	238	13.8	+5	07.0	6	00.1	+15	00.6	70	52.8	-11	16.3	
7	63	30.3	281	06.3		08.5	253	14.8		06.4	21	02.4		00.7	85	55.5		16.4	
8	78	32.8	296	10.4		08.6	268	15.8		05.7	36	04.6		00.7	100	58.1		16.5	
9	93	35.2	311	14.4		08.7	283	16.9		05.1	51	06.9		00.8	116	00.7		16.5	
10	108	37.7	326	18.4		08.9	298	17.9		04.4	66	09.1		00.8	131	03.4		16.6	
11	123	40.2	341	22.4	+7	09.0	313	18.9	+5	03.8	81	11.4	+15	00.9	146	06.0	-11	16.7	
12	138	42.6	356	26.4	+7	09.1	328	19.9	+5	03.2	96	13.7	+15	00.9	161	08.6	-11	16.7	
13	153	45.1	11	30.4		09.3	343	20.9		02.5	111	15.9		01.0	176	11.2		16.8	
14	168	47.6	26	34.4		09.4	358	22.0		01.9	126	18.2		01.0	191	13.9		16.9	
15	183	50.0	41	38.4		09.5	13	23.0		01.3	141	20.5		01.1	206	16.5		17.0	
16	198	52.5	56	42.4		09.6	28	24.0	+5	00.6	156	22.7		01.1	221	19.1		17.0	
17	213	54.9	71	46.4	+7	09.8	43	25.0	+5	00.0	171	25.0	+15	01.2	236	21.8	-11	17.1	
18	228	57.4	86	50.5	+7	09.9	58	26.1	+4	59.4	186	27.3	+15	01.2	251	24.4	-11	17.2	
19	243	59.9	101	54.5		10.1	73	27.1		58.7	201	29.5		01.3	266	27.0		17.2	
20	259	02.3	116	58.5		10.2	88	28.1		58.1	216	31.8		01.3	281	29.6		17.3	
21	274	04.8	132	02.5		10.3	103	29.1		57.4	231	34.1		01.4	296	32.3		17.4	
22	289	07.3	147	06.5		10.5	118	30.1		56.8	246	36.3		01.4	311	34.9		17.4	
23	304	09.7	162	10.5		10.6	133	31.2		56.2	261	38.6		01.5	326	37.5		17.5	
24	319	12.2	177	14.6	+7	10.8	148	32.2	+4	55.5	276	40.9	+15	01.5	341	40.2	-11	17.6	
Dif	—		+40		+1		+10		-6		+23		+1		+26		-1		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 15 ^h 8 PMG:12 ^h 05.3 ^m			Edad: 24.2 ^d SD: 15 ^h 1 PMG: 8 ^h 08 ^m												
				PHE { 4 ^h : 55/3 12 ^h : 55/1 20 ^h : 55/0 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	178	39.9	+15	242	19.4	+26	48.1	60 N	1 45	3 10	4 04	22 15	56	18 53	53	
1	193	40.0		256	47.5		52.6	58	2 14	25	14	22 49	56	18 18	54	
2	208	40.1		271	15.7	+26	56.9	56		38	22	23 15	55	17 53	54	
3	223	40.2		285	43.8	+27	01.1	54	2 53	48	30		35 55		33 54	
4	238	40.3		300	11.9		05.1	52	3 07	3 58	37	23 52	55		16 54	
5	253	40.4	+15	314	40.0	+27	09.0	50	3 19	4 06	4 43	** ** *		17 01	54	
6	268	40.4	+15	329	08.0	+27	12.7	45	3 44	4 24	4 57	** ** *		16 32	54	
7	283	40.5		343	36.1		16.3	40	4 02	38	5 07	0 11	48	16 09	54	
8	298	40.6		358	04.1		19.8	35		50	17	29 49		15 50	54	
9	313	40.7		12	32.2		23.1	30	29	4 59	25	0 45	49		34 53	
10	328	40.8		16.9	27 00.2		26.3	20	4 48	5 16	39	1 11	51	15 06	54	
11	343	40.9	+15	16.2	41 28.2	+27	29.3	10 N	5 03	5 29	5 51	1 34	52	14 43	53	
12	358	41.0	+15	15.4	55 56.2	+27	32.2	0	5 16	5 40	6 02	1 55	53	14 21	53	
13	13	41.1		14.7	70 24.2		34.9	10 S	26	5 51	13	2 17	54	13 59	52	
14	28	41.2		13.9	84 52.3		37.5	20	36	6 02	25	2 40	55		35 53	
15	43	41.3		13.2	99 20.3		39.9	30	45	13	38	3 06	56	13 08	52	
16	58	41.4		12.5	113 48.3		42.3	35	49	19	45	22 57		12 52	51	
17	73	41.5	+15	11.7	128 16.3	+27	44.4	40	5 54	6 26	6 54	3 41	57	12 33	51	
18	88	41.6	+15	11.0	142 44.3	+27	46.4	45	5 58	6 33	7 04	4 03	59	12 10	51	
19	103	41.7		10.2	157 12.3		48.3	50	6 03	42	16	32 60		11 41	50	
20	118	41.8		09.5	171 40.3		50.0	52	05	46	21	4 46	61	27 49		
21	133	41.9		08.7	186 08.3		51.6	54	08	50	28	5 02	62	11 10	48	
22	148	42.0		08.0	200 36.3		53.1	56	10	54	34	22 63		10 51	47	
23	163	42.2		07.2	215 04.3		54.4	58	13	6 59	42	5 46	65	10 26	45	
24	178	42.3	+15	06.5	229 32.3	+27	55.5	60 S	6 15	7 05	7 51	6 18	70	9 53	41	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 2 ^h 42.7 ^m		Mag: -4.1 PMG: 12 ^h 08 ^m			Mag: +1.8 PMG: 14 ^h 05 ^m			Mag: -2.5 PMG: 5 ^h 32 ^m			Mag: +0.5 PMG: 1 ^h 13 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°				
0	319	12.2	177	14.6	+7	10.8	148	32.2	+4	55.5	276	40.9	+15	01.5	341	40.2	-11	17.6
1	334	14.7	192	18.6		10.9	163	33.2		54.9	291	43.1		01.6	356	42.8		17.6
2	349	17.1	207	22.6		11.1	178	34.2		54.2	306	45.4		01.6	11	45.4		17.7
3	4	19.6	222	26.6		11.2	193	35.2		53.6	321	47.7		01.7	26	48.0		17.8
4	19	22.1	237	30.6		11.4	208	36.3		53.0	336	50.0		01.7	41	50.7		17.9
5	34	24.5	252	34.7	+7	11.5	223	37.3	+4	52.3	351	52.2	+15	01.8	56	53.3	-11	17.9
6	49	27.0	267	38.7	+7	11.7	238	38.3	+4	51.7	6	54.5	+15	01.8	71	55.9	-11	18.0
7	64	29.4	282	42.7		11.8	253	39.3		51.1	21	56.8		01.9	86	58.6		18.1
8	79	31.9	297	46.7		12.0	268	40.4		50.4	36	59.0		01.9	102	01.2		18.1
9	94	34.4	312	50.7		12.1	283	41.4		49.8	52	01.3		02.0	117	03.8		18.2
10	109	36.8	327	54.8		12.3	298	42.4		49.1	67	03.6		02.0	132	06.5		18.3
11	124	39.3	342	58.8	+7	12.5	313	43.4	+4	48.5	82	05.9	+15	02.1	147	09.1	-11	18.3
12	139	41.8	358	02.8	+7	12.6	328	44.4	+4	47.9	97	08.1	+15	02.1	162	11.7	-11	18.4
13	154	44.2	13	06.8		12.8	343	45.5		47.2	112	10.4		02.2	177	14.3		18.5
14	169	46.7	28	10.9		13.0	358	46.5		46.6	127	12.7		02.2	192	17.0		18.6
15	184	49.2	43	14.9		13.1	13	47.5		45.9	142	14.9		02.3	207	19.6		18.6
16	199	51.6	58	18.9		13.3	28	48.5		45.3	157	17.2		02.3	222	22.2		18.7
17	214	54.1	73	22.9	+7	13.5	43	49.5	+4	44.7	172	19.5	+15	02.4	237	24.9	-11	18.8
18	229	56.6	88	27.0	+7	13.6	58	50.6	+4	44.0	187	21.8	+15	02.4	252	27.5	-11	18.8
19	244	59.0	103	31.0		13.8	73	51.6		43.4	202	24.0		02.5	267	30.1		18.9
20	260	01.5	118	35.0		14.0	88	52.6		42.7	217	26.3		02.5	282	32.8		19.0
21	275	03.9	133	39.0		14.1	103	53.6		42.1	232	28.6		02.5	297	35.4		19.0
22	290	06.4	148	43.1		14.3	118	54.6		41.5	247	30.9		02.6	312	38.0		19.1
23	305	08.9	163	47.1		14.5	133	55.7		40.8	262	33.1		02.6	327	40.6		19.2
24	320	11.3	178	51.1	+7	14.7	148	56.7	+4	40.2	277	35.4	+15	02.7	342	43.3	-11	19.3
Dif	—		+40		+2		+10		-6		+23		0		+26		-	

UT	SOL				☾ LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna	
	SD: 15'8 PMG:12 ^h 05.1 ^m				Edad: 25.2 ^d SD: 14'9 PMG: 9 ^h 01 ^m PHE { 4 ^h : 54'8 12 ^h : 54'7 20 ^h : 54'6 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	h m m	h m m	
0	178 42.3	+15 06.5	229 32.3	91	+27 55.5	10	60 N	20 02	20 55	22 16	23 11 82	19 46 25					
1	193 42.4	05.8	244 00.4	90	56.5	9	58	19 53	41	21 49	23 45 74	19 12 32					
2	208 42.5	05.0	258 28.4	91	57.4	7	56	44	29	29	** ** *	18 47 35					
3	223 42.6	04.3	272 56.5	91	58.1	6	54	37	18	21 13	** ** *	27 38					
4	238 42.7	03.5	287 24.6	91	58.7	4	52	30	09	20 59	** ** *	18 10 40					
5	253 42.8	+15 02.8	301 52.7	91	+27 59.1	3	50	19 24	20 01	20 47	0 06 55	17 55 42					
6	268 42.9	+15 02.0	316 20.8	91	+27 59.4	2	45	19 12	19 44	20 24	0 36 54	17 26 44					
7	283 43.0	01.3	330 48.9	91	59.6	0	40	19 01	30	20 06	0 59 54	17 03 45					
8	298 43.1	+15 00.5	345 17.0	92	59.6	1	35	18 52	19	19 52	1 18 54	16 44 47					
9	313 43.2	+14 59.8	359 45.2	92	59.5	3	30	44	19 10	40	1 34 54	27 48					
10	328 43.3	59.0	14 13.4	92	59.2	4	20	31	18 54	21	2 02 53	16 00 49					
11	343 43.4	+14 58.3	28 41.6	92	+27 58.8	6	10 N	18 19	18 41	19 07	2 26 53	15 36 51					
12	358 43.5	+14 57.5	43 09.8	92	+27 58.2	7	0	18 09	18 30	18 55	2 48 53	15 14 51					
13	13 43.6	56.8	57 38.0	93	57.5	8	10 S	17 58	19	45	3 11 52	14 51 53					
14	28 43.7	56.0	72 06.3	93	56.7	10	20	47	18 09	35	3 35 51	28 54					
15	43 43.8	55.3	86 34.6	94	55.7	11	30	34	17 59	27	4 02 51	14 00 55					
16	58 43.9	54.5	101 03.0	93	54.6	13	35	26	53	23	19 50	13 43 56					
17	73 44.0	+14 53.7	115 31.3	94	+27 53.3	14	40	17 18	17 46	18 18	4 38 50	13 24 57					
18	88 44.1	+14 53.0	129 59.7	94	+27 51.9	15	45	17 08	17 39	18 14	5 02 48	13 01 58					
19	103 44.2	52.2	144 28.1	95	50.4	17	50	16 57	31	09	32 47	12 31 60					
20	118 44.3	51.5	158 56.6	95	48.7	18	52	51	27	07	5 47 46	12 16 61					
21	133 44.5	50.7	173 25.1	95	46.9	19	54	45	23	05	6 04 46	11 58 63					
22	148 44.6	50.0	187 53.6	95	45.0	21	56	39	19	03	25 44	38 63					
23	163 44.7	49.2	202 22.1	95	42.9	23	58	31	14	18 01	6 51 42	11 11 67					
24	178 44.8	+14 48.5	216 50.7	96	+27 40.6	23	60 S	16 23	17 08	17 58	7 28 37	10 34 72					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 38.8 ^m		Mag: -4.1 PMG: 12 ^h 01 ^m		Mag: +1.8 PMG: 14 ^h 03 ^m		Mag: -2.5 PMG: 5 ^h 29 ^m		Mag: +0.5 PMG: 1 ^h 09 ^m	
	hG ♈	hG ♀	Dec		hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	320 11.3	178 51.1	+7 14.7	148 56.7	+4 40.2	277 35.4	+15 02.7	342 43.3	-11 19.3	
1	335 13.8	193 55.1	14.8	163 57.7	39.5	292 37.7	02.7	357 45.9	19.3	
2	350 16.3	208 59.2	15.0	178 58.7	38.9	307 40.0	02.8	12 48.5	19.4	
3	5 18.7	224 03.2	15.2	193 59.8	38.3	322 42.2	02.8	27 51.2	19.5	
4	20 21.2	239 07.2	15.4	209 00.8	37.6	337 44.5	02.9	42 53.8	19.5	
5	35 23.7	254 11.3	+7 15.6	224 01.8	+4 37.0	352 46.8	+15 02.9	57 56.4	-11 19.6	
6	50 26.1	269 15.3	+7 15.8	239 02.8	+4 36.3	7 49.1	+15 03.0	72 59.1	-11 19.7	
7	65 28.6	284 19.3	15.9	254 03.8	35.7	22 51.4	03.0	88 01.7	19.7	
8	80 31.1	299 23.3	16.1	269 04.9	35.1	37 53.6	03.1	103 04.3	19.8	
9	95 33.5	314 27.4	16.3	284 05.9	34.4	52 55.9	03.1	118 07.0	19.9	
10	110 36.0	329 31.4	16.5	299 06.9	33.8	67 58.2	03.2	133 09.6	20.0	
11	125 38.4	344 35.4	+7 16.7	314 07.9	+4 33.1	83 00.5	+15 03.2	148 12.2	-11 20.0	
12	140 40.9	359 39.5	+7 16.9	329 08.9	+4 32.5	98 02.7	+15 03.3	163 14.9	-11 20.1	
13	155 43.4	14 43.5	17.1	344 10.0	31.9	113 05.0	03.3	178 17.5	20.2	
14	170 45.8	29 47.5	17.3	359 11.0	31.2	128 07.3	03.3	193 20.1	20.2	
15	185 48.3	44 51.5	17.5	14 12.0	30.6	143 09.6	03.4	208 22.7	20.3	
16	200 50.8	59 55.6	17.7	29 13.0	29.9	158 11.9	03.4	223 25.4	20.4	
17	215 53.2	74 59.6	+7 17.9	44 14.0	+4 29.3	173 14.2	+15 03.5	238 28.0	-11 20.4	
18	230 55.7	90 03.6	+7 18.1	59 15.1	+4 28.7	188 16.4	+15 03.5	253 30.6	-11 20.5	
19	245 58.2	105 07.7	18.3	74 16.1	28.0	203 18.7	03.6	268 33.3	20.6	
20	261 00.6	120 11.7	18.5	89 17.1	27.4	218 21.0	03.6	283 35.9	20.7	
21	276 03.1	135 15.7	18.7	104 18.1	26.7	233 23.3	03.7	298 38.5	20.7	
22	291 05.5	150 19.7	18.9	119 19.1	26.1	248 25.6	03.7	313 41.2	20.8	
23	306 08.0	165 23.8	19.1	134 20.2	25.5	263 27.8	03.8	328 43.8	20.9	
24	321 10.5	180 27.8	+7 19.3	149 21.2	+4 24.8	278 30.1	+15 03.8	343 46.4	-11 20.9	
Dif	—	+40	+2	+10	-6	+23	0	+26	-1	

UT	SOL			LUNA			Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna
	SD: 15 ^h 8 PMG:12 ^h 04.9 ^m			Edad: 26.2 ^d SD: 14 ^h 8 PMG: 9 ^h 53 ^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	178	44.8	+14	48.5	216	50.7	+27	40.6	1 55	3 16	4 09	** ** *	20 11 10
1	193	44.9		47.7	231	19.4		38.3	2 21	30	18	** ** *	19 44 17
2	208	45.0		46.9	245	48.1		35.8	42	42	26	0 10 70	22 23
3	223	45.1		46.2	260	16.8		33.1	2 58	3 52	34	30 68	19 05 26
4	238	45.2		45.4	274	45.5		30.4	3 12	4 02	40	0 47 65	18 50 28
5	253	45.3	+14	44.7	289	14.3	+27	27.5	3 23	4 10	4 46	1 01 64	18 37 30
6	268	45.4	+14	43.9	303	43.2	+27	24.4	3 47	4 27	4 59	1 30 62	18 10 35
7	283	45.5		43.2	318	12.1		21.3	4 05	40	5 09	1 53 59	17 48 38
8	298	45.7		42.4	332	41.0		18.0	19	4 51	18	2 12 58	31 40
9	313	45.8		41.6	347	10.0		14.5	31	5 01	26	28 56	17 15 42
10	328	45.9		40.9	1	39.0		11.0	4 49	16	39	2 55 55	16 49 45
11	343	46.0	+14	40.1	16	08.1	+27	07.3	5 04	5 29	5 51	3 19 52	16 27 47
12	358	46.1	+14	39.4	30	37.2	+27	03.4	5 15	5 40	6 02	3 41 50	16 05 50
13	13	46.2		38.6	45	06.4	+26	59.5	25	5 50	12	4 03 49	15 44 52
14	28	46.3		37.8	59	35.6		55.4	34	6 01	23	26 47	15 22 54
15	43	46.4		37.1	74	04.9		51.2	43	11	36	4 53 45	14 55 57
16	58	46.5		36.3	88	34.2		46.8	47	17	43	5 09 43	39 59
17	73	46.7	+14	35.5	103	03.6	+26	42.4	5 51	6 23	6 51	5 28 41	14 21 61
18	88	46.8	+14	34.8	117	33.1	+26	37.8	5 56	6 30	7 01	5 50 40	13 59 63
19	103	46.9		34.0	132	02.6		33.0	6 00	38	12	6 19 36	31 67
20	118	47.0		33.2	146	32.1		28.2	02	42	18	33 34	17 69
21	133	47.1		32.5	161	01.7		23.2	04	46	23	6 50 31	13 01 72
22	148	47.2		31.7	175	31.4		18.1	06	50	30	7 09 28	12 41 76
23	163	47.3		30.9	190	01.2		12.9	08	6 55	37	7 33 23	12 18 80
24	178	47.4	+14	30.2	204	30.9	+26	07.6	6 11	7 00	7 45	8 05 15	11 46 89

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG 2 ^h 34.9 ^m		Mag: -4.1 PMG: 11 ^h 55 ^m		Mag: +1.8 PMG: 14 ^h 02 ^m		Mag: -2.5 PMG: 5 ^h 25 ^m		Mag: +0.5 PMG: 1 ^h 05 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'				
0	321	10.5	180	27.8	+7	19.3	278	30.1	+15	03.8	343	46.4	-11	20.9
1	336	12.9	195	31.8		19.5	293	32.4		03.8	358	49.1		21.0
2	351	15.4	210	35.9		19.7	308	34.7		03.9	13	51.7		21.1
3	6	17.9	225	39.9		19.9	323	37.0		03.9	28	54.3		21.2
4	21	20.3	240	43.9		20.2	338	39.3		04.0	43	57.0		21.2
5	36	22.8	255	47.9	+7	20.4	353	41.5	+15	04.0	58	59.6	-11	21.3
6	51	25.3	270	52.0	+7	20.6	8	43.8	+15	04.1	74	02.2	-11	21.4
7	66	27.7	285	56.0		20.8	23	46.1		04.1	89	04.9		21.4
8	81	30.2	301	00.0		21.0	38	48.4		04.2	104	07.5		21.5
9	96	32.7	316	04.0		21.2	53	50.7		04.2	119	10.1		21.6
10	111	35.1	331	08.1		21.5	68	53.0		04.2	134	12.8		21.6
11	126	37.6	346	12.1	+7	21.7	83	55.3	+15	04.3	149	15.4	-11	21.7
12	141	40.0	1	16.1	+7	21.9	98	57.5	+15	04.3	164	18.0	-11	21.8
13	156	42.5	16	20.1		22.1	113	59.8		04.4	179	20.7		21.9
14	171	45.0	31	24.2		22.4	129	02.1		04.4	194	23.3		21.9
15	186	47.4	46	28.2		22.6	144	04.4		04.5	209	25.9		22.0
16	201	49.9	61	32.2		22.8	159	06.7		04.5	224	28.6		22.1
17	216	52.4	76	36.2	+7	23.0	174	09.0	+15	04.6	239	31.2	-11	22.1
18	231	54.8	91	40.2	+7	23.3	189	11.3	+15	04.6	254	33.8	-11	22.2
19	246	57.3	106	44.3		23.5	204	13.6		04.6	269	36.5		22.3
20	261	59.8	121	48.3		23.7	219	15.9		04.7	284	39.1		22.4
21	277	02.2	136	52.3		24.0	234	18.1		04.7	299	41.7		22.4
22	292	04.7	151	56.3		24.2	249	20.4		04.8	314	44.4		22.5
23	307	07.2	167	00.3		24.4	264	22.7		04.8	329	47.0		22.6
24	322	09.6	182	04.4	+7	24.7	279	25.0	+15	04.9	344	49.6	-11	22.6
Dif	—		+40		+2		+23		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 04.7 ^m				Edad: 27.2 ^d SD: 14'8 PMG: 10 ^h 43 ^m PHE { 4 ^h : 54'2 12 ^h : 54'1 20 ^h : 54'0 Rº: 48 ^m													
	hG ☉	Dec			hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m			
0	178	47.4	+14	30.2	204	30.9	+26	07.6	55	60 N	19 57	20 48	22 06	0 33 90	20 21 5			
1	193	47.6		29.4	219	00.8	+26	02.1	56	58	48	35	21 41	0 59 83	20 01 11			
2	208	47.7		28.6	233	30.7	+25	56.5	57	56	40	23	22	1 20 78	19 45 14			
3	223	47.8		27.9	248	00.7		50.8	57	54	33	13	21 07	38 74	31 18			
4	238	47.9		27.1	262	30.7		45.0	58	52	27	20 05	20 54	1 52 72	18 21			
5	253	48.0	+14	26.3	277	00.8	+25	39.1	59	50	19 21	19 57	20 43	2 05 70	19 07 23			
6	268	48.1	+14	25.6	291	31.0	+25	33.0	61	45	19 09	19 41	20 20	2 32 64	18 45 27			
7	283	48.2		24.8	306	01.2		26.8	62	40	18 59	28	20 03	2 52 62	26 31			
8	298	48.4		24.0	320	31.5		20.5	63	35	50	17	19 49	3 10 59	18 11 34			
9	313	48.5		23.3	335	01.8		14.1	64	30	42	19 08	38	24 58	17 57 36			
10	328	48.6		22.5	349	32.2		07.6	65	20	30	18 53	20	3 50 53	34 40			
11	343	48.7	+14	21.7	4	02.7	+25	01.0	66	10 N	18 18	18 40	19 06	4 11 51	17 14 43			
12	358	48.8	+14	21.0	18	33.3	+24	54.2	68	0	18 08	18 29	18 54	4 31 48	16 55 47			
13	13	48.9		20.2	33	03.9		47.4	68	10 S	17 58	20	45	4 52 45	36 50			
14	28	49.1		19.4	47	34.5		40.4	70	20	47	10	36	5 13 42	16 16 53			
15	43	49.2		18.6	62	05.3		33.3	71	30	35	18 00	28	38 39	15 52 57			
16	58	49.3		17.9	76	36.1		26.1	72	35	28	17 54	24	5 52 37	38 59			
17	73	49.4	+14	17.1	91	07.0	+24	18.8	73	40	17 20	17 48	18 20	6 09 34	15 22 62			
18	88	49.5	+14	16.3	105	37.9	+24	11.4	74	45	17 11	17 41	18 16	6 30 30	15 02 66			
19	103	49.6		15.5	120	08.9	+24	03.9	75	50	17 00	34	12	6 55 26	14 38 71			
20	118	49.8		14.8	134	40.0	+23	56.3	76	52	16 55	30	10	7 07 24	26 73			
21	133	49.9		14.0	149	11.2		48.6	77	54	49	26	08	21 21	14 13 76			
22	148	50.0		13.2	163	42.4		40.8	78	56	43	22	06	37 18	13 57 80			
23	163	50.1		12.4	178	13.7		32.8	80	58	36	18	04	7 56 13	38 85			
24	178	50.2	+14	11.7	192	45.0	+23	24.8	80	60 S	16 28	17 13	18 02	8 20 6	13 15 91			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 2 ^h 30.9 ^m		Mag: -4.1 PMG: 11 ^h 49 ^m			Mag: +1.8 PMG: 14 ^h 00 ^m			Mag: -2.5 PMG: 5 ^h 22 ^m			Mag: +0.5 PMG: 1 ^h 01 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	322	09.6	182	04.4	+7	24.7	149	45.7	+4	09.4	279	25.0	+15	04.9	344	49.6	-11	22.6
1	337	12.1	197	08.4		24.9	164	46.7		08.8	294	27.3		04.9	359	52.3		22.7
2	352	14.5	212	12.4		25.1	179	47.7		08.1	309	29.6		04.9	14	54.9		22.8
3	7	17.0	227	16.4		25.4	194	48.7		07.5	324	31.9		05.0	29	57.5		22.9
4	22	19.5	242	20.4		25.6	209	49.7		06.8	339	34.2		05.0	45	00.2		22.9
5	37	21.9	257	24.4	+7	25.9	224	50.8	+4	06.2	354	36.5	+15	05.1	60	02.8	-11	23.0
6	52	24.4	272	28.4	+7	26.1	239	51.8	+4	05.5	9	38.8	+15	05.1	75	05.4	-11	23.1
7	67	26.9	287	32.5		26.4	254	52.8		04.9	24	41.1		05.2	90	08.1		23.1
8	82	29.3	302	36.5		26.6	269	53.8		04.3	39	43.3		05.2	105	10.7		23.2
9	97	31.8	317	40.5		26.8	284	54.8		03.6	54	45.6		05.2	120	13.3		23.3
10	112	34.3	332	44.5		27.1	299	55.8		03.0	69	47.9		05.3	135	16.0		23.3
11	127	36.7	347	48.5	+7	27.3	314	56.9	+4	02.3	84	50.2	+15	05.3	150	18.6	-11	23.4
12	142	39.2	2	52.5	+7	27.6	329	57.9	+4	01.7	99	52.5	+15	05.4	165	21.2	-11	23.5
13	157	41.7	17	56.5		27.8	344	58.9		01.0	114	54.8		05.4	180	23.9		23.6
14	172	44.1	33	00.5		28.1	359	59.9	+4	00.4	129	57.1		05.4	195	26.5		23.6
15	187	46.6	48	04.5		28.3	15	00.9	+3	59.7	144	59.4		05.5	210	29.1		23.7
16	202	49.0	63	08.6		28.6	30	02.0		59.1	160	01.7		05.5	225	31.8		23.8
17	217	51.5	78	12.6	+7	28.9	45	03.0	+3	58.5	175	04.0	+15	05.6	240	34.4	-11	23.8
18	232	54.0	93	16.6	+7	29.1	60	04.0	+3	57.8	190	06.3	+15	05.6	255	37.0	-11	23.9
19	247	56.4	108	20.6		29.4	75	05.0		57.2	205	08.6		05.7	270	39.7		24.0
20	262	58.9	123	24.6		29.6	90	06.0		56.5	220	10.9		05.7	285	42.3		24.1
21	278	01.4	138	28.6		29.9	105	07.1		55.9	235	13.2		05.7	300	44.9		24.1
22	293	03.8	153	32.6		30.2	120	08.1		55.2	250	15.5		05.8	315	47.6		24.2
23	308	06.3	168	36.6		30.4	135	09.1		54.6	265	17.8		05.8	330	50.2		24.3
24	323	08.8	183	40.6	+7	30.7	150	10.1	+3	53.9	280	20.1	+15	05.9	345	52.8	-11	24.3
Dif	—		+40		+3		+10		-6		+23		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 04.6 ^m				Edad: 28.2 ^d PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 53'9 SD: 14'7 PMG: 11 ^h 31 ^m R°: 44 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	178	50.2	+14	11.7	192	45.0	+23	24.8	60 N	2	05	3	22	4	13	2	03	90
1	193	50.4		10.9	207	16.4		16.7	58	29	35		22		22	85	20	12
2	208	50.5		10.1	221	47.9		08.5	56	2	48	47	30		38	80	19	59
3	223	50.6		09.3	236	19.5	+23	00.1	54	3	03	3	57	37	2	52	76	49
4	238	50.7		08.6	250	51.1	+22	51.7	52	16	4	05	43		3	04	73	39
5	253	50.8	+14	07.8	265	22.8	+22	43.2	50	3	27	4	13	4	49	3	15	70
6	268	51.0	+14	07.0	279	54.6	+22	34.5	45	3	50	4	29	5	01	3	36	66
7	283	51.1		06.2	294	26.4		25.8	40	4	07	42	11		3	54	62	18
8	298	51.2		05.5	308	58.3		17.0	35	21	4	53	20		4	09	59	45
9	313	51.3		04.7	323	30.3	+22	08.1	30	32	5	02	27		22	56	33	32
10	328	51.4		03.9	338	02.3	+21	59.1	20	4	50	17	40		4	43	52	18
11	343	51.6	+14	03.1	352	34.4	+21	50.0	10 N	5	04	5	29	5	51	5	02	49
12	358	51.7	+14	02.3	7	06.6	+21	40.8	0	5	15	5	40	6	01	5	19	46
13	13	51.8		01.6	21	38.9		31.5	10 S	25	50		11		37	42	26	47
14	28	51.9	+14	00.8	36	11.2		22.1	20	33	5	59	22		5	55	39	17
15	43	52.1	+14	00.0	50	43.5		12.7	30	41	6	09	34		6	17	34	16
16	58	52.2	+13	59.2	65	16.0	+21	03.1	35	45	15		41		29	32	37	59
17	73	52.3	+13	58.4	79	48.5	+20	53.5	40	5	49	6	21	6	49	6	43	29
18	88	52.4	+13	57.6	94	21.1	+20	43.8	45	5	53	6	27	6	58	7	00	25
19	103	52.6		56.9	108	53.7		34.0	50	57	35	7	09		21	20	15	49
20	118	52.7		56.1	123	26.5		24.1	52	5	59	38	14		31	18	39	73
21	133	52.8		55.3	137	59.2		14.1	54	6	00	42	19		42	15	29	76
22	148	52.9		54.5	152	32.1	+20	04.1	56	02	46	25		7	55	11	17	79
23	163	53.0		53.7	167	05.0	+19	53.9	58	04	50	32		8	09	8	15	03
24	178	53.2	+13	52.9	181	38.0	+19	43.7	60 S	6	06	6	55	7	40	8	26	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 27.0 ^m		Mag: -4.1 PMG: 11 ^h 42 ^m		Mag: +1.8 PMG: 13 ^h 58 ^m		Mag: -2.5 PMG: 5 ^h 18 ^m		Mag: +0.5 PMG: 0 ^h 56 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	323	08.8	183	40.6	+7	30.7	150	10.1	+3	53.9
1	338	11.2	198	44.6		30.9	165	11.1		53.3
2	353	13.7	213	48.6		31.2	180	12.1		52.7
3	8	16.1	228	52.6		31.5	195	13.2		52.0
4	23	18.6	243	56.6		31.7	210	14.2		51.4
5	38	21.1	259	00.6	+7	32.0	225	15.2	+3	50.7
6	53	23.5	274	04.5	+7	32.3	240	16.2	+3	50.1
7	68	26.0	289	08.5		32.5	255	17.2		49.4
8	83	28.5	304	12.5		32.8	270	18.3		48.8
9	98	30.9	319	16.5		33.1	285	19.3		48.1
10	113	33.4	334	20.5		33.4	300	20.3		47.5
11	128	35.9	349	24.5	+7	33.6	315	21.3	+3	46.9
12	143	38.3	4	28.5	+7	33.9	330	22.3	+3	46.2
13	158	40.8	19	32.5		34.2	345	23.3		45.6
14	173	43.3	34	36.4		34.5	0	24.4		44.9
15	188	45.7	49	40.4		34.7	15	25.4		44.3
16	203	48.2	64	44.4		35.0	30	26.4		43.6
17	218	50.6	79	48.4	+7	35.3	45	27.4	+3	43.0
18	233	53.1	94	52.4	+7	35.6	60	28.4	+3	42.3
19	248	55.6	109	56.3		35.9	75	29.5		41.7
20	263	58.0	125	00.3		36.1	90	30.5		41.0
21	279	00.5	140	04.3		36.4	105	31.5		40.4
22	294	03.0	155	08.3		36.7	120	32.5		39.8
23	309	05.4	170	12.2		37.0	135	33.5		39.1
24	324	07.9	185	16.2	+7	37.3	150	34.5	+3	38.5
Dif	—		+40		+3		+10		-6	
									+23	
									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: 29.2 ^d SD: 14'7 PMG: 12 ^h 15 ^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	53.2	+13	52.9	181	38.0	+19	43.7	103	58	60 N	19 51	20 42	21 56	3 33	87	20 27	1			
1	193	53.3		52.2	196	11.0		33.4	104	58		43	29	33	47	82	18	4			
2	208	53.4		51.4	210	44.1		23.0	104	56		35	18	16	3 58	79	09	7			
3	223	53.5		50.6	225	17.3		12.6	104	54		28	09	21 01	4 08	76	20 01	10			
4	238	53.7		49.8	239	50.5	+19	02.0	106	52		22	20 00	20 49	17 73	19 54	13				
5	253	53.8	+13	49.0	254	23.8	+18	51.4	106	50		19 17	19 53	20 38	4 25	71	19 48	15			
6	268	53.9	+13	48.2	268	57.2	+18	40.7	107	45		19 05	19 37	20 16	4 42	66	19 35	19			
7	283	54.1		47.4	283	30.6		30.0	107	40		18 56	25	20 00	4 56	61	23	23			
8	298	54.2		46.6	298	04.1		19.1	109	35		48	14	19 46	5 08	58	14	26			
9	313	54.3		45.9	312	37.6	+18	08.2	109	30		41	19 06	35	18 55	19 05	29				
10	328	54.4		45.1	327	11.2	+17	57.3	109	20		28	18 51	18	35 51	18 51	33				
11	343	54.6	+13	44.3	341	44.9	+17	46.2	111	10 N		18 18	18 39	19 05	5 51	46	18 38	37			
12	358	54.7	+13	43.5	356	18.6	+17	35.1	111	0		18 08	18 29	18 54	6 05	42	18 26	41			
13	13	54.8		42.7	10	52.4		23.9	112	10 S		17 58	20	44	19 39	13	46				
14	28	54.9		41.9	25	26.3		12.6	113	20		48	10	36	34 35	18 00	50				
15	43	55.1		41.1	40	00.2	+17	01.3	113	30		36	18 01	29	6 51	30	17 45	55			
16	58	55.2		40.3	54	34.1	+16	49.9	114	35		29	17 55	25	7 01	27	36	58			
17	73	55.3	+13	39.5	69	08.1	+16	38.5	114	40		17 22	17 50	18 22	7 12	24	17 26	61			
18	88	55.5	+13	38.7	83	42.2	+16	26.9	116	45		17 13	17 43	18 18	7 25	21	17 14	65			
19	103	55.6		38.0	98	16.4		15.4	115	50		17 03	36	14	41 16	16 59	70				
20	118	55.7		37.2	112	50.5	+16	03.7	117	52		16 58	33	13	49 13	52	73				
21	133	55.8		36.4	127	24.8	+15	52.0	117	54		52	29	11	7 57	11	45	75			
22	148	56.0		35.6	141	59.1		40.2	118	56		46	26	10	8 06	8	36	78			
23	163	56.1		34.8	156	33.4		28.4	118	58		40	21	08	17 4	27	81				
24	178	56.2	+13	34.0	171	07.8	+15	16.5	119	60 S		16 32	17 17	18 06	8 29	0	16 15	86			
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO				
	PMG 2 ^h 23.1 ^m				Mag: -4.1 PMG: 11 ^h 36 ^m				Mag: +1.8 PMG: 13 ^h 57 ^m				Mag: -2.5 PMG: 5 ^h 14 ^m				Mag: +0.5 PMG: 0 ^h 52 ^m				
	hG ♈				hG ♀ Dec				hG ♂ Dec				hG ♃ Dec				hG ♄ Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	324	07.9	185	16.2	+7	37.3	150	34.5	+3	38.5	281	15.3	+15	06.8	346	56.1	-11	26.1			
1	339	10.4	200	20.2		37.6	165	35.6		37.8	296	17.6		06.8	1 58.7	26.1					
2	354	12.8	215	24.2		37.9	180	36.6		37.2	311	19.9		06.9	17 01.4	26.2					
3	9	15.3	230	28.1		38.2	195	37.6		36.5	326	22.2		06.9	32 04.0	26.3					
4	24	17.8	245	32.1		38.4	210	38.6		35.9	341	24.5		07.0	47 06.6	26.3					
5	39	20.2	260	36.1	+7	38.7	225	39.6	+3	35.2	356	26.9	+15	07.0	62 09.3	-11	26.4				
6	54	22.7	275	40.0	+7	39.0	240	40.7	+3	34.6	11	29.2	+15	07.0	77 11.9	-11	26.5				
7	69	25.1	290	44.0		39.3	255	41.7		33.9	26	31.5		07.1	92 14.6	26.6					
8	84	27.6	305	47.9		39.6	270	42.7		33.3	41	33.8		07.1	107 17.2	26.6					
9	99	30.1	320	51.9		39.9	285	43.7		32.6	56	36.1		07.1	122 19.8	26.7					
10	114	32.5	335	55.9		40.2	300	44.7		32.0	71	38.4		07.2	137 22.5	26.8					
11	129	35.0	350	59.8	+7	40.5	315	45.7	+3	31.4	86	40.7	+15	07.2	152 25.1	-11	26.8				
12	144	37.5	6	03.8	+7	40.8	330	46.8	+3	30.7	101	43.0	+15	07.3	167 27.7	-11	26.9				
13	159	39.9	21	07.7		41.1	345	47.8		30.1	116	45.3		07.3	182 30.4	27.0					
14	174	42.4	36	11.7		41.4	0	48.8		29.4	131	47.6		07.3	197 33.0	27.1					
15	189	44.9	51	15.6		41.7	15	49.8		28.8	146	49.9		07.4	212 35.6	27.1					
16	204	47.3	66	19.6		42.0	30	50.8		28.1	161	52.3		07.4	227 38.3	27.2					
17	219	49.8	81	23.5	+7	42.3	45	51.8	+3	27.5	176	54.6	+15	07.4	242 40.9	-11	27.3				
18	234	52.2	96	27.5	+7	42.6	60	52.9	+3	26.8	191	56.9	+15	07.5	257 43.6	-11	27.3				
19	249	54.7	111	31.4		42.9	75	53.9		26.2	206	59.2		07.5	272 46.2	27.4					
20	264	57.2	126	35.3		43.2	90	54.9		25.5	222	01.5		07.5	287 48.8	27.5					
21	279	59.6	141	39.3		43.5	105	55.9		24.9	237	03.8		07.6	302 51.5	27.6					
22	295	02.1	156	43.2		43.8	120	56.9		24.2	252	06.1		07.6	317 54.1	27.6					
23	310	04.6	171	47.1		44.1	135	57.9		23.6	267	08.4		07.7	332 56.7	27.7					
24	325	07.0	186	51.1	+7	44.5	150	59.0	+3	22.9	282	10.7	+15	07.7	347 59.4	-11	27.8				
Dif	—				+40 +3				+10 -6				+23 0				+26 -1				

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15 ^h 8 PMG: 12 ^h 04.1 ^m				Edad: 0.6 ^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	178	56.2	+13	34.0	171	07.8	+15	16.5	120	60 N	2 14	3 28	4 18	5 00	84	20 28	**			
1	193	56.4		33.2	185	42.3	+15	04.5	120	58	36	40	27	09	80	22	2			
2	208	56.5		32.4	200	16.8	+14	52.5	121	56	2 54	3 51	34	17	77	16	6			
3	223	56.6		31.6	214	51.3		40.4	121	54	3 08	4 01	41	24	74	11	8			
4	238	56.8		30.8	229	25.9		28.3	121	52	20	09	47	30	71	07	10			
5	253	56.9	+13	30.0	244	00.6	+14	16.1	122	50	3 31	4 16	4 52	5 36	69	20 03	12			
6	268	57.0	+13	29.2	258	35.3	+14	03.9	122	45	3 53	4 32	5 04	5 48	64	19 54	17			
7	283	57.2		28.4	273	10.0	+13	51.6	123	40	4 09	44	13	5 57	61	46	21			
8	298	57.3		27.6	287	44.8		39.3	123	35	23	4 55	21	6 06	57	40	24			
9	313	57.4		26.8	302	19.7		26.9	124	30	33	5 03	28	13	54	34	27			
10	328	57.6		26.0	316	54.5		14.4	125	20	4 51	18	40	26	49	24	32			
11	343	57.7	+13	25.2	331	29.5	+13	01.9	125	10 N	5 04	5 29	5 51	6 37	45	19 15	36			
12	358	57.8	+13	24.4	346	04.4	+12	49.4	125	0	5 15	5 40	6 01	6 47	41	19 07	40			
13	13	58.0		23.6	0	39.5		36.8	126	10 S	24	49	10	6 58	36	18 59	44			
14	28	58.1		22.8	15	14.5		24.1	127	20	32	5 58	21	7 09	32	50	48			
15	43	58.2		22.0	29	49.6	+12	11.4	127	30	39	6 07	32	21	28	40	53			
16	58	58.4		21.2	44	24.8	+11	58.7	127	35	43	13	39	28	25	34	56			
17	73	58.5	+13	20.4	58	59.9	+11	45.9	128	40	5 46	6 18	6 46	7 36	22	18 27	60			
18	88	58.6	+13	19.6	73	35.2	+11	33.0	128	45	5 50	6 24	6 55	7 46	17	18 19	64			
19	103	58.8		18.8	88	10.4		20.2	129	50	53	31	7 05	7 57	13	09	69			
20	118	58.9		18.0	102	45.7	+11	07.2	130	52	55	35	10	8 02	11	05	71			
21	133	59.0		17.2	117	21.0	+10	54.3	129	54	56	38	15	08	9	18 00	73			
22	148	59.2		16.4	131	56.4		41.3	130	56	5 58	42	21	14	6	17 54	76			
23	163	59.3		15.6	146	31.8		28.2	131	58	6 00	46	27	21	4	48	79			
24	178	59.4	+13	14.8	161	07.3	+10	15.1	131	60 S	6 01	6 50	7 35	8 29	0	17 41	83			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 2 ^h 19.2 ^m		Mag: -4.1 PMG: 11 ^h 30 ^m		Mag: +1.8 PMG: 13 ^h 55 ^m		Mag: -2.6 PMG: 5 ^h 10 ^m		Mag: +0.5 PMG: 0 ^h 48 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	325	07.0	186	51.1	+7	44.5	150	59.0	+3	22.9	282	10.7	+15	07.7	347	59.4	-11	27.8
1	340	09.5	201	55.0		44.8	166	00.0		22.3	297	13.1		07.7	3	02.0		27.8
2	355	12.0	216	58.9		45.1	181	01.0		21.6	312	15.4		07.8	18	04.7		27.9
3	10	14.4	232	02.9		45.4	196	02.0		21.0	327	17.7		07.8	33	07.3		28.0
4	25	16.9	247	06.8		45.7	211	03.0		20.4	342	20.0		07.8	48	09.9		28.1
5	40	19.4	262	10.7	+7	46.0	226	04.0	+3	19.7	357	22.3	+15	07.9	63	12.6	-11	28.1
6	55	21.8	277	14.7	+7	46.3	241	05.1	+3	19.1	12	24.6	+15	07.9	78	15.2	-11	28.2
7	70	24.3	292	18.6		46.6	256	06.1		18.4	27	26.9		07.9	93	17.8		28.3
8	85	26.7	307	22.5		47.0	271	07.1		17.8	42	29.3		08.0	108	20.5		28.3
9	100	29.2	322	26.4		47.3	286	08.1		17.1	57	31.6		08.0	123	23.1		28.4
10	115	31.7	337	30.3		47.6	301	09.1		16.5	72	33.9		08.0	138	25.8		28.5
11	130	34.1	352	34.2	+7	47.9	316	10.1	+3	15.8	87	36.2	+15	08.1	153	28.4	-11	28.6
12	145	36.6	7	38.2	+7	48.2	331	11.2	+3	15.2	102	38.5	+15	08.1	168	31.0	-11	28.6
13	160	39.1	22	42.1		48.5	346	12.2		14.5	117	40.8		08.1	183	33.7		28.7
14	175	41.5	37	46.0		48.9	1	13.2		13.9	132	43.2		08.2	198	36.3		28.8
15	190	44.0	52	49.9		49.2	16	14.2		13.2	147	45.5		08.2	213	38.9		28.8
16	205	46.5	67	53.8		49.5	31	15.2		12.6	162	47.8		08.3	228	41.6		28.9
17	220	48.9	82	57.7	+7	49.8	46	16.2	+3	11.9	177	50.1	+15	08.3	243	44.2	-11	29.0
18	235	51.4	98	01.6	+7	50.1	61	17.3	+3	11.3	192	52.4	+15	08.3	258	46.9	-11	29.1
19	250	53.9	113	05.5		50.5	76	18.3		10.6	207	54.8		08.4	273	49.5		29.1
20	265	56.3	128	09.4		50.8	91	19.3		10.0	222	57.1		08.4	288	52.1		29.2
21	280	58.8	143	13.3		51.1	106	20.3		09.3	237	59.4		08.4	303	54.8		29.3
22	296	01.2	158	17.2		51.5	121	21.3		08.7	253	01.7		08.5	318	57.4		29.3
23	311	03.7	173	21.1		51.8	136	22.3		08.0	268	04.0		08.5	334	00.0		29.4
24	326	06.2	188	25.0	+7	52.1	151	23.3	+3	07.4	283	06.4	+15	08.5	349	02.7	-11	29.5
Dif	—		+39		+3		+10		-6		+23		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 03.9 ^m				Edad: 1.6 ^d SD: 14'7 PMG: 13 ^h 38 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'2 R°: 39 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	°	h m			h m	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 59.4	+13 14.8	161 07.3	+10 15.1	131	60 N	19 46	20 35	21 46	6 24 82	20 27 0					
1	193 59.6	14.0	175 42.7	+10 02.0	132	58	37	23	26	29 79	24 3					
2	208 59.7	13.2	190 18.2	+9 48.8	132	56	30	13	21 09	34 75	22 5					
3	223 59.8	12.4	204 53.8	35.6	132	54	24	20 04	20 55	38 73	19 8					
4	239 00.0	11.6	219 29.3	22.4	132	52	18	19 56	43	41 71	17 10					
5	254 00.1	+13 10.8	234 04.9	+9 09.1	133	50	19 13	19 49	20 33	6 45 68	20 15 12					
6	269 00.2	+13 10.0	248 40.5	+8 55.8	133	45	19 02	19 34	20 12	6 52 63	20 11 16					
7	284 00.4	09.2	263 16.2	42.5	133	40	18 53	22	19 56	6 58 59	07 20					
8	299 00.5	08.4	277 51.9	29.1	134	35	45	12	44	7 03 56	04 23					
9	314 00.7	07.6	292 27.6	15.7	134	30	38	19 03	33	07 54	20 01 26					
10	329 00.8	06.8	307 03.3	+8 02.2	135	20	27	18 50	16	15 48	19 56 31					
11	344 00.9	+13 06.0	321 39.0	+7 48.7	135	10 N	18 17	18 38	19 04	7 22 44	19 51 36					
12	359 01.1	+13 05.1	336 14.8	+7 35.2	135	0	18 07	18 28	18 53	7 28 40	19 47 40					
13	14 01.2	04.3	350 50.6	21.7	135	10 S	17 58	20	44	34 36	43 44					
14	29 01.4	03.5	5 26.4	+7 08.1	136	20	48	11	37	41 31	38 48					
15	44 01.5	02.7	20 02.2	+6 54.5	136	30	37	18 02	30	49 26	33 53					
16	59 01.6	01.9	34 38.1	40.9	136	35	31	17 57	27	53 23	30 56					
17	74 01.8	+13 01.1	49 14.0	+6 27.2	137	40	17 24	17 52	18 23	7 58 20	19 27 59					
18	89 01.9	+13 00.3	63 49.9	+6 13.5	137	45	17 15	17 46	18 20	8 03 17	19 23 63					
19	104 02.0	+12 59.5	78 25.8	+5 59.8	137	50	05	39	17	10 12	18 68					
20	119 02.2	58.7	93 01.7	46.1	137	52	17 01	36	16	13 10	16 70					
21	134 02.3	57.9	107 37.6	32.3	138	54	16 56	33	14	17 7	13 73					
22	149 02.5	57.1	122 13.6	18.5	138	56	50	29	13	20 6	10 76					
23	164 02.6	56.2	136 49.5	+5 04.7	138	58	44	25	11	25 2	07 79					
24	179 02.8	+12 55.4	151 25.5	+4 50.9	138	60 S	16 37	17 21	18 10	8 29 0	19 04 82					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 15.2 ^m		Mag: -4.1 PMG: 11 ^h 23 ^m		Mag: +1.8 PMG: 13 ^h 54 ^m		Mag: -2.6 PMG: 5 ^h 07 ^m		Mag: +0.5 PMG: 0 ^h 44 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	326 06.2	188 25.0	+7 52.1	151 23.3	+3 07.4	283 06.4	+15 08.5	349 02.7	-11 29.5	
1	341 08.6	203 28.8	52.4	166 24.4	06.7	298 08.7	08.6	4 05.3	29.6	
2	356 11.1	218 32.7	52.8	181 25.4	06.1	313 11.0	08.6	19 08.0	29.6	
3	11 13.6	233 36.6	53.1	196 26.4	05.4	328 13.3	08.6	34 10.6	29.7	
4	26 16.0	248 40.5	53.4	211 27.4	04.8	343 15.6	08.7	49 13.2	29.8	
5	41 18.5	263 44.4	+7 53.8	226 28.4	+3 04.1	358 18.0	+15 08.7	64 15.9	-11 29.9	
6	56 21.0	278 48.2	+7 54.1	241 29.4	+3 03.5	13 20.3	+15 08.7	79 18.5	-11 29.9	
7	71 23.4	293 52.1	54.4	256 30.5	02.8	28 22.6	08.8	94 21.2	30.0	
8	86 25.9	308 56.0	54.8	271 31.5	02.2	43 24.9	08.8	109 23.8	30.1	
9	101 28.3	323 59.9	55.1	286 32.5	01.5	58 27.3	08.8	124 26.4	30.1	
10	116 30.8	339 03.7	55.4	301 33.5	00.9	73 29.6	08.9	139 29.1	30.2	
11	131 33.3	354 07.6	+7 55.8	316 34.5	+3 00.3	88 31.9	+15 08.9	154 31.7	-11 30.3	
12	146 35.7	9 11.5	+7 56.1	331 35.5	+2 59.6	103 34.2	+15 08.9	169 34.3	-11 30.4	
13	161 38.2	24 15.3	56.4	346 36.6	59.0	118 36.6	09.0	184 37.0	30.4	
14	176 40.7	39 19.2	56.8	1 37.6	58.3	133 38.9	09.0	199 39.6	30.5	
15	191 43.1	54 23.0	57.1	16 38.6	57.7	148 41.2	09.0	214 42.3	30.6	
16	206 45.6	69 26.9	57.5	31 39.6	57.0	163 43.5	09.0	229 44.9	30.6	
17	221 48.1	84 30.7	+7 57.8	46 40.6	+2 56.4	178 45.9	+15 09.1	244 47.5	-11 30.7	
18	236 50.5	99 34.6	+7 58.1	61 41.6	+2 55.7	193 48.2	+15 09.1	259 50.2	-11 30.8	
19	251 53.0	114 38.4	58.5	76 42.6	55.1	208 50.5	09.1	274 52.8	30.9	
20	266 55.5	129 42.3	58.8	91 43.7	54.4	223 52.8	09.2	289 55.5	30.9	
21	281 57.9	144 46.1	59.2	106 44.7	53.8	238 55.2	09.2	304 58.1	31.0	
22	297 00.4	159 50.0	59.5	121 45.7	53.1	253 57.5	09.2	320 00.7	31.1	
23	312 02.8	174 53.8	+7 59.8	136 46.7	52.5	268 59.8	09.3	335 03.4	31.1	
24	327 05.3	189 57.6	+8 00.2	151 47.7	+2 51.8	284 02.1	+15 09.3	350 06.0	-11 31.2	
Dif	—	+39	+3	+10	-6	+23	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 03.7 ^m				Edad: 2.6 ^d SD: 14'8 PMG: 14 ^h 17 ^m														
	hG ☉		Dec		hG ☾		Dif			Náutico	Civil		Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	179	02.8	+12	55.4	151	25.5	+4	50.9	60 N	2	22	3	33	4	23	7	46	82	20 27 **
1	194	02.9		54.6	166	01.5		37.0	58		43		45	31	48	79		27	2
2	209	03.0		53.8	180	37.5		23.2	56	2	59	3	56	38	49	76		27	5
3	224	03.2		53.0	195	13.5	+4	09.3	54	3	13	4	05	44	51	73		27	7
4	239	03.3		52.2	209	49.5	+3	55.4	52		25		13	50	52	71		27	9
5	254	03.5	+12	51.4	224	25.5	+3	41.4	50	3	35	4	20	4	55	7	53	69	20 27 12
6	269	03.6	+12	50.6	239	01.5	+3	27.5	45	3	56	4	34	5	06	7	55	64	20 27 16
7	284	03.7		49.7	253	37.6	+3	13.5	40	4	12		46	15	57	60		27	20
8	299	03.9		48.9	268	13.6	+2	59.5	35		24	4	56	23	7	59	57		27 23
9	314	04.0		48.1	282	49.6		45.5	30		35	5	05	30	8	01	53		27 26
10	329	04.2		47.3	297	25.7		31.5	20	4	52		18	41	03	49		27	31
11	344	04.3	+12	46.5	312	01.7	+2	17.5	10 N	5	04	5	29	5	51	8	06	43	20 27 35
12	359	04.5	+12	45.7	326	37.7	+2	03.5	0	5	15	5	39	6	00	8	08	39	20 27 39
13	14	04.6		44.9	341	13.8	+1	49.4	10 S		23		48	09	10	35		27	44
14	29	04.7		44.0	355	49.8		35.3	20		31	5	57	19	12	31		26	49
15	44	04.9		43.2	10	25.8		21.3	30		37	6	06	30	15	26		26	54
16	59	05.0		42.4	25	01.8	+1	07.2	35		41		10	36	16	23		26	57
17	74	05.2	+12	41.6	39	37.8	+0	53.1	40	5	44	6	16	6	43	8	18	20	20 26 61
18	89	05.3	+12	40.8	54	13.9	+0	39.0	45	5	47	6	21	6	51	8	20	16	20 26 64
19	104	05.5		39.9	68	49.9		24.9	50		50		28	7	01	22	12		26 69
20	119	05.6		39.1	83	25.8	+0	10.7	52		51		31	06	23	10		26	71
21	134	05.8		38.3	98	01.8	-0	03.4	54		53		34	11	24	8		26	74
22	149	05.9		37.5	112	37.8		17.5	56		54		37	16	26	5		26	76
23	164	06.1		36.7	127	13.7		31.7	58		55		41	22	27	2		26	79
24	179	06.2	+12	35.8	141	49.7	-0	45.8	60 S	5	57	6	45	7	29	8	29	**	20 26 82

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 2 ^h 11.3 ^m		Mag: -4.1 PMG: 11 ^h 17 ^m		Mag: +1.8 PMG: 13 ^h 52 ^m		Mag: -2.6 PMG: 5 ^h 03 ^m		Mag: +0.5 PMG: 0 ^h 39 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	327	05.3	189	57.6	+8	00.2	151	47.7	+2	51.8
1	342	07.8	205	01.5		00.5	166	48.7		51.2
2	357	10.2	220	05.3		00.9	181	49.7		50.5
3	12	12.7	235	09.1		01.2	196	50.8		49.9
4	27	15.2	250	12.9		01.6	211	51.8		49.2
5	42	17.6	265	16.8	+8	01.9	226	52.8	+2	48.6
6	57	20.1	280	20.6	+8	02.3	241	53.8	+2	47.9
7	72	22.6	295	24.4		02.6	256	54.8		47.3
8	87	25.0	310	28.2		03.0	271	55.8		46.6
9	102	27.5	325	32.0		03.3	286	56.8		46.0
10	117	29.9	340	35.8		03.7	301	57.9		45.3
11	132	32.4	355	39.7	+8	04.0	316	58.9	+2	44.7
12	147	34.9	10	43.5	+8	04.4	331	59.9	+2	44.0
13	162	37.3	25	47.3		04.7	347	00.9		43.4
14	177	39.8	40	51.1		05.1	2	01.9		42.7
15	192	42.3	55	54.9		05.4	17	02.9		42.1
16	207	44.7	70	58.7		05.8	32	03.9		41.4
17	222	47.2	86	02.5	+8	06.2	47	05.0	+2	40.7
18	237	49.7	101	06.2	+8	06.5	62	06.0	+2	40.1
19	252	52.1	116	10.0		06.9	77	07.0		39.4
20	267	54.6	131	13.8		07.2	92	08.0		38.8
21	282	57.1	146	17.6		07.6	107	09.0		38.1
22	297	59.5	161	21.4		07.9	122	10.0		37.5
23	313	02.0	176	25.2		08.3	137	11.0		36.8
24	328	04.4	191	28.9	+8	08.7	152	12.1	+2	36.2
Dif	—		+38		+4		+10		-7	
									+23	
									0	
									+26	
									-	

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: 3.6 ^d SD: 14'8 PMG: 14 ^h 57 ^m							PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'8 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			
0	179	06.2	+12 35.8	141	49.7	-0 45.8	141	58	60 N	19 40	20 29	21 37	9 08 85	20 26 0					
1	194	06.3	35.0	156	25.6	-0 59.9	141	58	32	17	18	07 80	29 3						
2	209	06.5	34.2	171	01.5	-1 14.1	142	56	26	20 07	21 02	05 78	32 6						
3	224	06.6	33.4	185	37.4	28.3	142	54	20	19 59	20 49	04 75	34 9						
4	239	06.8	32.6	200	13.3	42.4	141	52	14	51	38	03 72	36 11						
5	254	06.9	+12 31.7	214	49.2	-1 56.6	142	50	19 09	19 44	20 28	9 02 70	20 39 12						
6	269	07.1	+12 30.9	229	25.0	-2 10.7	141	45	18 59	19 30	20 09	8 59 65	20 43 18						
7	284	07.2	30.1	244	00.8	24.9	141	40	50	19	19 53	57 61	47 21						
8	299	07.4	29.3	258	36.6	39.0	141	35	43	09	41	56 57	50 25						
9	314	07.5	28.5	273	12.4	-2 53.2	142	30	36	19 01	31	54 55	53 28						
10	329	07.7	27.6	287	48.1	-3 07.3	141	20	25	18 48	15	52 49	20 58 33						
11	344	07.8	+12 26.8	302	23.8	-3 21.5	142	10 N	18 16	18 37	19 02	8 49 45	21 02 38						
12	359	08.0	+12 26.0	316	59.5	-3 35.6	141	0	18 07	18 28	18 53	8 47 41	21 06 42						
13	14	08.1	25.2	331	35.2	-3 49.7	141	10 S	17 58	19	44	45 37	11 45						
14	29	08.3	24.3	346	10.8	-4 03.9	142	20	49	11	37	43 32	15 50						
15	44	08.4	23.5	0	46.4	18.0	141	30	38	18 03	31	41 26	20 56						
16	59	08.6	22.7	15	22.0	32.1	141	35	32	17 58	28	39 24	23 59						
17	74	08.7	+12 21.9	29	57.6	-4 46.2	141	40	17 26	17 53	18 25	8 38 20	21 27 62						
18	89	08.9	+12 21.0	44	33.1	-5 00.3	141	45	17 18	17 48	18 22	8 36 17	21 30 67						
19	104	09.0	20.2	59	08.6	14.4	141	50	08	42	20	34 12	35 71						
20	119	09.2	19.4	73	44.0	28.5	141	52	17 04	39	18	33 10	37 74						
21	134	09.3	18.5	88	19.4	42.5	140	54	16 59	36	17	32 8	40 76						
22	149	09.5	17.7	102	54.8	-5 56.6	141	56	54	33	16	31 5	42 79						
23	164	09.6	16.9	117	30.1	-6 10.6	140	58	48	29	15	29 3	45 82						
24	179	09.8	+12 16.1	132	05.4	-6 24.6	140	60 S	16 41	17 25	18 14	8 28 **	21 48 86						

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 07.4 ^m		Mag: -4.1 PMG: 11 ^h 11 ^m		Mag: +1.8 PMG: 13 ^h 50 ^m		Mag: -2.6 PMG: 4 ^h 59 ^m		Mag: +0.5 PMG: 0 ^h 35 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	328	04.4	191 28.9	+8 08.7	152 12.1	+2 36.2	284 58.1	+15 10.0	351 09.4	-11 32.9
1	343	06.9	206 32.7	09.0	167 13.1	35.5	300 00.5	10.1	6 12.0	33.0
2	358	09.4	221 36.5	09.4	182 14.1	34.9	315 02.8	10.1	21 14.6	33.1
3	13	11.8	236 40.2	09.7	197 15.1	34.2	330 05.1	10.1	36 17.3	33.2
4	28	14.3	251 44.0	10.1	212 16.1	33.6	345 07.5	10.1	51 19.9	33.2
5	43	16.8	266 47.8	+8 10.5	227 17.1	+2 32.9	0 09.8	+15 10.2	66 22.6	-11 33.3
6	58	19.2	281 51.5	+8 10.8	242 18.1	+2 32.3	15 12.1	+15 10.2	81 25.2	-11 33.4
7	73	21.7	296 55.3	11.2	257 19.2	31.6	30 14.5	10.2	96 27.8	33.5
8	88	24.2	311 59.0	11.5	272 20.2	31.0	45 16.8	10.3	111 30.5	33.5
9	103	26.6	327 02.8	11.9	287 21.2	30.3	60 19.2	10.3	126 33.1	33.6
10	118	29.1	342 06.5	12.3	302 22.2	29.7	75 21.5	10.3	141 35.8	33.7
11	133	31.6	357 10.3	+8 12.6	317 23.2	+2 29.0	90 23.8	+15 10.3	156 38.4	-11 33.7
12	148	34.0	12 14.0	+8 13.0	332 24.2	+2 28.4	105 26.2	+15 10.4	171 41.0	-11 33.8
13	163	36.5	27 17.7	13.4	347 25.2	27.7	120 28.5	10.4	186 43.7	33.9
14	178	38.9	42 21.5	13.7	2 26.2	27.1	135 30.9	10.4	201 46.3	34.0
15	193	41.4	57 25.2	14.1	17 27.3	26.4	150 33.2	10.4	216 49.0	34.0
16	208	43.9	72 28.9	14.5	32 28.3	25.8	165 35.5	10.5	231 51.6	34.1
17	223	46.3	87 32.7	+8 14.8	47 29.3	+2 25.1	180 37.9	+15 10.5	246 54.2	-11 34.2
18	238	48.8	102 36.4	+8 15.2	62 30.3	+2 24.5	195 40.2	+15 10.5	261 56.9	-11 34.2
19	253	51.3	117 40.1	15.6	77 31.3	23.8	210 42.6	10.6	276 59.5	34.3
20	268	53.7	132 43.8	16.0	92 32.3	23.2	225 44.9	10.6	292 02.2	34.4
21	283	56.2	147 47.5	16.3	107 33.3	22.5	240 47.3	10.6	307 04.8	34.5
22	298	58.7	162 51.3	16.7	122 34.3	21.9	255 49.6	10.6	322 07.4	34.5
23	314	01.1	177 55.0	17.1	137 35.4	21.2	270 51.9	10.7	337 10.1	34.6
24	329	03.6	192 58.7	+8 17.4	152 36.4	+2 20.5	285 54.3	+15 10.7	352 12.7	-11 34.7
Dif	—		+37	+4	+10	-7	+23	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 03.2 ^m			Edad: 4.6 ^d PHE { 4 ^h : 55/0 12 ^h : 55/2 20 ^h : 55/3 R°: 43 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	179	09.8	+12	16.1	132	05.4	-6	24.6	60 N	2 30	3 39	4 28	10 33	88	20 26	0
1	194	09.9		15.2	146	40.6		38.7	58	2 50	3 50	35	27 85		32 4	
2	209	10.1		14.4	161	15.8	-6	52.6	56	3 05	4 00	42	23 81		38 7	
3	224	10.2		13.6	175	51.0	-7	06.6	54		18 09	48	19 78		43 10	
4	239	10.4		12.7	190	26.1		20.6	52		29 16	53	15 75		47 13	
5	254	10.5	+12	11.9	205	01.1	-7	34.5	50	3 39	4 23	4 58	10 12	72	20 51	16
6	269	10.7	+12	11.1	219	36.2	-7	48.4	45	3 59	4 37	5 08	10 04	68	21 01	20
7	284	10.8		10.3	234	11.1	-8	02.3	40	4 14	48	17	9 58	64	08 24	
8	299	11.0		09.4	248	46.0		16.2	35		26 48	24	53 60		15 27	
9	314	11.1		08.6	263	20.9		30.1	30		36 50	31	49 57		21 30	
10	329	11.3		07.8	277	55.7		43.9	20	4 52	19 42	41 51	31 35			
11	344	11.4	+12	06.9	292	30.5	-8	57.7	10 N	5 04	5 30	5 51	9 34	47	21 40	40
12	359	11.6	+12	06.1	307	05.2	-9	11.5	0	5 14	5 39	6 00	9 28	43	21 48	44
13	14	11.8		05.3	321	39.9		25.3	10 S		22 47	09	22 38		21 56	49
14	29	11.9		04.4	336	14.4		39.0	20	29	5 55	18	15 34		22 05	53
15	44	12.1		03.6	350	49.0	-9	52.7	30		36 60	28	07 29		16 58	
16	59	12.2		02.8	5	23.5	-10	06.4	35		38 08	34	9 03	26	22 61	
17	74	12.4	+12	01.9	19	57.9	-10	20.1	40	5 41	6 13	6 40	8 58	23	22 29	64
18	89	12.5	+12	01.1	34	32.2	-10	33.7	45	5 44	6 18	6 48	8 53	19	22 37	69
19	104	12.7	+12	00.3	49	06.5	-10	47.3	50		46 24	6 57	46 14		46 74	
20	119	12.8	+11	59.4	63	40.8	-11	00.8	52		47 27	7 02	43 12		51 76	
21	134	13.0		58.6	78	14.9		14.3	54		48 30	06	40 9		22 56	79
22	149	13.1		57.8	92	49.0		27.8	56		49 33	11	36 7		23 01	83
23	164	13.3		56.9	107	23.0		41.3	58		51 36	17	32 4		07 87	
24	179	13.5	+11	56.1	121	57.0	-11	54.7	60 S	5 52	6 40	7 24	8 27	1	23 14	91

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 2 ^h 03.4 ^m		Mag: -4.2 PMG: 11 ^h 05 ^m		Mag: +1.8 PMG: 13 ^h 49 ^m		Mag: -2.6 PMG: 4 ^h 56 ^m		Mag: +0.4 PMG: 0 ^h 31 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	329	03.6	192	58.7	+8	17.4	152	36.4	+2	20.5
1	344	06.0	208	02.4		17.8	167	37.4		19.9
2	359	08.5	223	06.1		18.2	182	38.4		19.2
3	14	11.0	238	09.8		18.5	197	39.4		18.6
4	29	13.4	253	13.5		18.9	212	40.4		17.9
5	44	15.9	268	17.2	+8	19.3	227	41.4	+2	17.3
6	59	18.4	283	20.8	+8	19.7	242	42.4	+2	16.6
7	74	20.8	298	24.5		20.0	257	43.5		16.0
8	89	23.3	313	28.2		20.4	272	44.5		15.3
9	104	25.8	328	31.9		20.8	287	45.5		14.7
10	119	28.2	343	35.6		21.2	302	46.5		14.0
11	134	30.7	358	39.2	+8	21.5	317	47.5	+2	13.4
12	149	33.2	13	42.9	+8	21.9	332	48.5	+2	12.7
13	164	35.6	28	46.6		22.3	347	49.5		12.1
14	179	38.1	43	50.2		22.7	2	50.5		11.4
15	194	40.5	58	53.9		23.1	17	51.6		10.8
16	209	43.0	73	57.6		23.4	32	52.6		10.1
17	224	45.5	89	01.2	+8	23.8	47	53.6	+2	09.5
18	239	47.9	104	04.9	+8	24.2	62	54.6	+2	08.8
19	254	50.4	119	08.5		24.6	77	55.6		08.1
20	269	52.9	134	12.1		24.9	92	56.6		07.5
21	284	55.3	149	15.8		25.3	107	57.6		06.8
22	299	57.8	164	19.4		25.7	122	58.6		06.2
23	315	00.3	179	23.1		26.1	137	59.7		05.5
24	330	02.7	194	26.7	+8	26.5	153	00.7	+2	04.9
Dif	—		+37		+4		+10		-7	
									+23	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: 5.6 ^d SD: 15'1 PMG: 16 ^h 21 ^m								Civil		Náutico	Hora	R°	Hora	R°
	hG ☉	Dec			hG ☾	Dif			Dec	Dif									
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	13.5	+11	56.1	121	57.0	-11	54.7	134	60 N	19	34	20	22	21	28	12	01	95
1	194	13.6		55.3	136	30.9	-12	08.1	133	58	27		11	21	10	11	52	90	
2	209	13.8		54.4	151	04.7		21.4	133	56	21	20	02	20	56	44	85	45	
3	224	13.9		53.6	165	38.5		34.8	134	54	15	19	54	43		37	82	20	
4	239	14.1		52.7	180	12.1	-12	48.0	132	52	10		47		33	30	79	21	
5	254	14.2	+11	51.9	194	45.7	-13	01.2	132	50	19	05	19	40	20	24	11	24	
6	269	14.4	+11	51.1	209	19.3	-13	14.4	132	45	18	56	19	27	20	05	11	12	
7	284	14.6		50.2	223	52.7		27.6	132	40	47		16	19	50	11	02	66	
8	299	14.7		49.4	238	26.1		40.7	131	35	40	19	07		38	10	53	63	
9	314	14.9		48.5	252	59.4	-13	53.7	130	30	34	18	59		28	46	59	21	
10	329	15.0		47.7	267	32.6	-14	06.7	130	20	24		46		13	32	55	22	
11	344	15.2	+11	46.9	282	05.7	-14	19.7	130	10 N	18	15	18	36	19	01	10	21	
12	359	15.3	+11	46.0	296	38.7	-14	32.6	129	0	18	06	18	27	18	52	10	11	
13	14	15.5		45.2	311	11.7		45.5	129	10 S	17	58		19	44	10	00	42	
14	29	15.7		44.3	325	44.6	-14	58.3	128	20	49		12		38	9	49	38	
15	44	15.8		43.5	340	17.4	-15	11.0	127	30	39		04		32	36	33	23	
16	59	16.0		42.7	354	50.1		23.7	127	35	34	18	00		29	29	30	23	
17	74	16.1	+11	41.8	9	22.7	-15	36.4	127	40	17	27	17	55	18	27	9	21	
18	89	16.3	+11	41.0	23	55.2	-15	49.0	126	45	17	20	17	50	18	24	9	12	
19	104	16.5		40.1	38	27.6	-16	01.5	125	50		11		44	22		9	00	
20	119	16.6		39.3	53	00.0		14.0	125	52	07		42		21		8	55	
21	134	16.8		38.5	67	32.2		26.4	124	54	17	03		39		21		49	
22	149	16.9		37.6	82	04.4		38.8	124	56	16	58		36		20		43	
23	164	17.1		36.8	96	36.4	-16	51.1	123	58		52		33		19		36	
24	179	17.3	+11	35.9	111	08.4	-17	03.3	122	60 S	16	46	17	30	18	18	8	28	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 1 ^h 59.5 ^m		Mag: -4.2 PMG: 11 ^h 00 ^m		Mag: +1.8 PMG: 13 ^h 47 ^m		Mag: -2.6 PMG: 4 ^h 52 ^m		Mag: +0.4 PMG: 0 ^h 27 ^m										
h	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec								
0	330	02.7	194	26.7	+8	26.5	153	00.7	+2	04.9	286	50.6	+15	11.3	353	16.1	-11	36.4	
1	345	05.2	209	30.3		26.8	168	01.7		04.2	301	53.0		11.3	8	18.8		36.5	
2	0	07.6	224	33.9		27.2	183	02.7		03.6	316	55.3		11.3	23	21.4		36.6	
3	15	10.1	239	37.6		27.6	198	03.7		02.9	331	57.7		11.4	38	24.0		36.6	
4	30	12.6	254	41.2		28.0	213	04.7		02.3	347	00.0		11.4	53	26.7		36.7	
5	45	15.0	269	44.8	+8	28.4	228	05.7	+2	01.6	2	02.4	+15	11.4	68	29.3	-11	36.8	
6	60	17.5	284	48.4	+8	28.8	243	06.7	+2	01.0	17	04.8	+15	11.4	83	32.0	-11	36.8	
7	75	20.0	299	52.0		29.1	258	07.7	+2	00.3	32	07.1		11.5	98	34.6		36.9	
8	90	22.4	314	55.6		29.5	273	08.8	+1	59.7	47	09.5		11.5	113	37.2		37.0	
9	105	24.9	329	59.2		29.9	288	09.8		59.0	62	11.8		11.5	128	39.9		37.1	
10	120	27.4	345	02.8		30.3	303	10.8		58.3	77	14.2		11.5	143	42.5		37.1	
11	135	29.8	0	06.4	+8	30.7	318	11.8	+1	57.7	92	16.5	+15	11.6	158	45.2	-11	37.2	
12	150	32.3	15	10.0	+8	31.1	333	12.8	+1	57.0	107	18.9	+15	11.6	173	47.8	-11	37.3	
13	165	34.8	30	13.6		31.4	348	13.8		56.4	122	21.2		11.6	188	50.5		37.3	
14	180	37.2	45	17.2		31.8	3	14.8		55.7	137	23.6		11.6	203	53.1		37.4	
15	195	39.7	60	20.8		32.2	18	15.8		55.1	152	25.9		11.7	218	55.7		37.5	
16	210	42.1	75	24.4		32.6	33	16.8		54.4	167	28.3		11.7	233	58.4		37.6	
17	225	44.6	90	27.9	+8	33.0	48	17.8	+1	53.8	182	30.7	+15	11.7	249	01.0	-11	37.6	
18	240	47.1	105	31.5	+8	33.4	63	18.9	+1	53.1	197	33.0	+15	11.7	264	03.7	-11	37.7	
19	255	49.5	120	35.1		33.8	78	19.9		52.5	212	35.4		11.7	279	06.3		37.8	
20	270	52.0	135	38.6		34.1	93	20.9		51.8	227	37.7		11.8	294	08.9		37.9	
21	285	54.5	150	42.2		34.5	108	21.9		51.2	242	40.1		11.8	309	11.6		37.9	
22	300	56.9	165	45.8		34.9	123	22.9		50.5	257	42.5		11.8	324	14.2		38.0	
23	315	59.4	180	49.3		35.3	138	23.9		49.8	272	44.8		11.8	339	16.9		38.1	
24	331	01.9	195	52.9	+8	35.7	153	24.9	+1	49.2	287	47.2	+15	11.9	354	19.5	-11	38.1	
Dif	—		+36		+4		+10		-7		+24		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 02.7 ^m			Edad: 6.6 ^d PHE { 4 ^h : 56/2 12 ^h : 56/4 20 ^h : 56/7 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	179	17.3	+11	35.9	111	08.4	129	-17	03.3	60 N	2	38	3	45	4	33	13
1	194	17.4		35.1	125	40.3	122		15.5	58	2	56	3	55	40	22	95
2	209	17.6		34.2	140	12.0	127		27.6	56	3	11	4	05	46	13	09
3	224	17.8		33.4	154	43.7	127		39.7	54		23		13	52	12	59
4	239	17.9		32.5	169	15.3	126	-17	51.6	52		34	20	4	57	49	82
5	254	18.1	+11	31.7	183	46.7	124	-18	03.5	50	3	43	4	26	5	01	12
6	269	18.2	+11	30.9	198	18.1	124	-18	15.4	45	4	02	4	40	5	11	12
7	284	18.4		30.0	212	49.3	122		27.1	40		16	50	19	12	08	70
8	299	18.6		29.2	227	20.5	122		38.8	35		28	4	59	26	11	56
9	314	18.7		28.3	241	51.6	121	-18	50.4	30		38	5	07	32	45	63
10	329	18.9		27.5	256	22.5	119	-19	02.0	20	4	53		20	42	27	59
11	344	19.1	+11	26.6	270	53.3	118	-19	13.5	10 N	5	05	5	30	5	51	11
12	359	19.2	+11	25.8	285	24.1	118	-19	24.8	0	5	14	5	38	5	59	10
13	14	19.4		24.9	299	54.7	116		36.2	10 S		21	46	6	08	42	47
14	29	19.5		24.1	314	25.2	115		47.4	20		28	5	54	16	27	43
15	44	19.7		23.2	328	55.6	114	-19	58.5	30		34	6	02	26	10	09
16	59	19.9		22.4	343	25.9	113	-20	09.6	35		36	06	31	9	59	36
17	74	20.0	+11	21.5	357	56.1	112	-20	20.6	40	5	38	6	10	6	38	9
18	89	20.2	+11	20.7	12	26.1	110	-20	31.4	45	5	41	6	15	6	45	9
19	104	20.4		19.8	26	56.1	110		42.2	50		43	20	53	18	23	0
20	119	20.5		19.0	41	25.9	108	-20	53.0	52		44	23	6	57	10	21
21	134	20.7		18.1	55	55.7	108	-21	03.6	54		44	25	7	02	9	01
22	149	20.9		17.3	70	25.3	106		14.1	56		45	28	07	8	52	14
23	164	21.0		16.4	84	54.8	105		24.5	58		46	31	12	41	10	34
24	179	21.2	+11	15.6	99	24.1	103	-21	34.9	60 S	5	46	6	35	7	18	8

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 ^h 55.6 ^m		Mag: -4.3 PMG: 10 ^h 54 ^m		Mag: +1.8 PMG: 13 ^h 45 ^m		Mag: -2.6 PMG: 4 ^h 48 ^m		Mag: +0.4 PMG: 0 ^h 23 ^m	
	hG ♂		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	331	01.9	195	52.9	+8	35.7	153	24.9	+1	49.2
1	346	04.3	210	56.4		36.1	168	25.9		48.5
2	1	06.8	226	00.0		36.5	183	26.9		47.9
3	16	09.3	241	03.5		36.9	198	28.0		47.2
4	31	11.7	256	07.0		37.2	213	29.0		46.6
5	46	14.2	271	10.6	+8	37.6	228	30.0	+1	45.9
6	61	16.6	286	14.1	+8	38.0	243	31.0	+1	45.3
7	76	19.1	301	17.6		38.4	258	32.0		44.6
8	91	21.6	316	21.1		38.8	273	33.0		44.0
9	106	24.0	331	24.7		39.2	288	34.0		43.3
10	121	26.5	346	28.2		39.6	303	35.0		42.6
11	136	29.0	1	31.7	+8	40.0	318	36.0	+1	42.0
12	151	31.4	16	35.2	+8	40.4	333	37.0	+1	41.3
13	166	33.9	31	38.7		40.7	348	38.1		40.7
14	181	36.4	46	42.2		41.1	3	39.1		40.0
15	196	38.8	61	45.7		41.5	18	40.1		39.4
16	211	41.3	76	49.2		41.9	33	41.1		38.7
17	226	43.7	91	52.7	+8	42.3	48	42.1	+1	38.1
18	241	46.2	106	56.2	+8	42.7	63	43.1	+1	37.4
19	256	48.7	121	59.7		43.1	78	44.1		36.7
20	271	51.1	137	03.2		43.5	93	45.1		36.1
21	286	53.6	152	06.6		43.9	108	46.1		35.4
22	301	56.1	167	10.1		44.3	123	47.1		34.8
23	316	58.5	182	13.6		44.7	138	48.1		34.1
24	332	01.0	197	17.0	+8	45.1	153	49.2	+1	33.5
Dif	—		+35		+4		+10		-7	
									+24	
									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: 7.6 ^d SD: 15'5 PMG: 18 ^h 01 ^m						PHE { 4 ^h : 57'0 12 ^h : 57'3 20 ^h : 57'5 R°: 57 ^m						
	hG ☉	Dec			hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m	
0	179	21.2	+11	15.6	99	24.1	-21	34.9	60 N	19 28	20 15	21 20	15 18 105	20 33 14			
1	194	21.4		14.7	113	53.4		45.1	58	22	20 05	21 03	14 57 94	20 55 24			
2	209	21.5		13.9	128	22.5		55.3	56	16	19 57	20 49	39 88	21 13 30			
3	224	21.7		13.0	142	51.6		05.3	54	10	49	38	24 84	28 34			
4	239	21.9		12.2	157	20.5		15.2	52	06	42	28	11 81	42 36			
5	254	22.0	+11	11.3	171	49.2	-22	25.1	50	19 01	19 36	20 19	14 00 78	21 54 39			
6	269	22.2	+11	10.5	186	17.9	-22	34.8	45	18 52	19 23	20 01	13 36 74	22 18 43			
7	284	22.4		09.6	200	46.4		44.4	40	44	13	19 47	18 70	38 46			
8	299	22.5		08.8	215	14.9	-22	53.9	35	38	19 04	35	13 02 68	22 54 49			
9	314	22.7		07.9	229	43.2	-23	03.3	30	32	18 57	26	12 48 66	23 09 50			
10	329	22.9		07.1	244	11.3		12.6	20	22	45	11	26 61	33 53			
11	344	23.0	+11	06.2	258	39.4	-23	21.8	10 N	18 14	18 35	19 00	12 06 59	23 54 56			
12	359	23.2	+11	05.3	273	07.3	-23	30.9	0	18 06	18 27	18 51	11 48 56	** ** *			
13	14	23.4		04.5	287	35.2		39.8	10 S	17 58	19	44	29 54	** ** *			
14	29	23.5		03.6	302	02.8		48.7	20	50	12	38	11 10 50	** ** *			
15	44	23.7		02.8	316	30.4	-23	57.4	30	41	05	33	10 48 46	0 15 65			
16	59	23.9		01.9	330	57.9	-24	06.0	35	35	18 01	31	35 44	27 67			
17	74	24.0	+11	01.1	345	25.2	-24	14.5	40	17 29	17 57	18 28	10 20 41	0 41 70			
18	89	24.2	+11	00.2	359	52.4	-24	22.8	45	17 22	17 52	18 27	10 03 37	0 58 73			
19	104	24.4	+10	59.3	14	19.5		31.0	50	14	47	25	9 41 33	1 18 79			
20	119	24.5		58.5	28	46.4		39.1	52	10	45	24	31 30	28 82			
21	134	24.7		57.6	43	13.3		47.1	54	06	43	24	19 27	39 85			
22	149	24.9		56.8	57	40.0	-24	54.9	56	17 02	40	23	9 06 23	1 51 90			
23	164	25.1		55.9	72	06.6	-25	02.6	58	16 56	37	23	8 51 17	2 06 95			
24	179	25.2	+10	55.1	86	33.0	-25	10.2	60 S	16 51	17 34	18 22	8 33 9	2 23 103			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 ^h 51.6 ^m		Mag: -4.3 PMG: 10 ^h 48 ^m		Mag: +1.8 PMG: 13 ^h 44 ^m		Mag: -2.6 PMG: 4 ^h 44 ^m		Mag: +0.4 PMG: 0 ^h 18 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	332	01.0	197	17.0	+8	45.1	153	49.2	+15	12.4
1	347	03.5	212	20.5		45.4	168	50.2		12.4
2	2	05.9	227	24.0		45.8	183	51.2		12.4
3	17	08.4	242	27.4		46.2	198	52.2		12.4
4	32	10.9	257	30.9		46.6	213	53.2		12.4
5	47	13.3	272	34.3	+8	47.0	228	54.2	+15	12.4
6	62	15.8	287	37.8	+8	47.4	243	55.2	+15	12.5
7	77	18.2	302	41.2		47.8	258	56.2		12.5
8	92	20.7	317	44.6		48.2	273	57.2		12.5
9	107	23.2	332	48.1		48.6	288	58.2		12.5
10	122	25.6	347	51.5		49.0	303	59.2		12.5
11	137	28.1	2	54.9	+8	49.4	319	00.2	+15	12.6
12	152	30.6	17	58.4	+8	49.8	334	01.3	+15	12.6
13	167	33.0	33	01.8		50.2	349	02.3		12.6
14	182	35.5	48	05.2		50.6	4	03.3		12.6
15	197	38.0	63	08.6		51.0	19	04.3		12.6
16	212	40.4	78	12.0		51.3	34	05.3		12.7
17	227	42.9	93	15.4	+8	51.7	49	06.3	+15	12.7
18	242	45.4	108	18.8	+8	52.1	64	07.3	+15	12.7
19	257	47.8	123	22.2		52.5	79	08.3		12.7
20	272	50.3	138	25.6		52.9	94	09.3		12.7
21	287	52.7	153	29.0		53.3	109	10.3		12.7
22	302	55.2	168	32.4		53.7	124	11.3		12.8
23	317	57.7	183	35.8		54.1	139	12.3		12.8
24	333	00.1	198	39.1	+8	54.5	154	13.4	+15	12.8
Dif	—		+34		+4		+10		+24	
							-7		0	
									+26	
									-1	

ALMANAQUE NÁUTICO PERSEIS

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: 9.6 ^d PHE { 4 ^h : 58'7 12 ^h : 59'1 20 ^h : 59'3 PMG: 19 ^h 59 ^m R°: 64 ^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	29.4	+10	34.4	72	33.7			-27	27.3	37	60 N	19	22	20	09	21	11	18	30	44
1	194	29.5		33.5	86	57.4				31.0	35	58	16	19	59	20	56	17	51	51	
2	209	29.7		32.6	101	21.0				34.5	33	56	11		51	43		24	54		
3	224	29.9		31.8	115	44.5				37.8	33	54	06		44	32		17	03	55	
4	239	30.1		30.9	130	07.9				41.0	30	52	19	01		37	22	16	45	57	
5	254	30.3	+10	30.0	144	31.2			-27	44.0	28	50	18	57	19	32	20	14	16	30	
6	269	30.4	+10	29.2	158	54.4			-27	46.8	26	45	18	49	19	19	19	57	15	59	
7	284	30.6		28.3	173	17.6				49.4	24	40	41		10	43		35	61		
8	299	30.8		27.4	187	40.6				51.8	24	35	35		19	01	32	15	16	61	
9	314	31.0		26.6	202	03.6				54.1	23	30	30		18	54	23	14	59	62	
10	329	31.1		25.7	216	26.5				56.1	20	20	21		43	19	09	31	62		
11	344	31.3	+10	24.8	230	49.4			-27	58.0	19	10 N	18	13	18	34	18	59	14	07	
12	359	31.5	+10	24.0	245	12.1			-27	59.7	17	0	18	05	18	26	18	51	13	44	
13	14	31.7		23.1	259	34.8			-28	01.2	15	10 S	17	58	19	44		13	22		
14	29	31.8		22.2	273	57.4				02.5	13	20	50		13	38		12	58		
15	44	32.0		21.3	288	20.0				03.7	12	30	42		06	34		30	64		
16	59	32.2		20.5	302	42.4				04.6	9	35	37		18	02	32	12	13		
17	74	32.4	+10	19.6	317	04.8			-28	05.3	7	40	17	31	17	59	18	30	11		
18	89	32.6	+10	18.7	331	27.2			-28	05.9	6	45	17	25	17	55	18	29	11		
19	104	32.7		17.9	345	49.5				06.2	3	50	17		50	28		11			
20	119	32.9		17.0	0	11.7				06.4	2	52	14		48	27		10			
21	134	33.1		16.1	14	33.9				06.4	0	54	10		46	27		29			
22	149	33.3		15.3	28	56.1				06.1	3	56	05		44	27		10			
23	164	33.4		14.4	43	18.1				05.7	4	58	17	01	41	27		9			
24	179	33.6	+10	13.5	57	40.2			-28	05.1	6	60 S	16	55	17	38	18	27	9		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 ^h 43.8 ^m		Mag: -4.4 PMG: 10 ^h 38 ^m		Mag: +1.8 PMG: 13 ^h 41 ^m		Mag: -2.6 PMG: 4 ^h 37 ^m		Mag: +0.4 PMG: 0 ^h 10 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	333	59.3	199	59.0	+9	04.0	154	37.5	+1	02.0
1	349	01.7	215	02.3		04.4	169	38.5		01.3
2	4	04.2	230	05.6		04.8	184	39.5	+1	00.7
3	19	06.7	245	08.8		05.2	199	40.5	+1	00.0
4	34	09.1	260	12.1		05.6	214	41.5	+0	59.3
5	49	11.6	275	15.4	+9	06.0	229	42.6	+0	58.7
6	64	14.1	290	18.6	+9	06.4	244	43.6	+0	58.0
7	79	16.5	305	21.9		06.7	259	44.6		57.4
8	94	19.0	320	25.1		07.1	274	45.6		56.7
9	109	21.5	335	28.4		07.5	289	46.6		56.1
10	124	23.9	350	31.6		07.9	304	47.6		55.4
11	139	26.4	5	34.9	+9	08.3	319	48.6	+0	54.7
12	154	28.8	20	38.1	+9	08.7	334	49.6	+0	54.1
13	169	31.3	35	41.4		09.1	349	50.6		53.4
14	184	33.8	50	44.6		09.5	4	51.6		52.8
15	199	36.2	65	47.8		09.9	19	52.6		52.1
16	214	38.7	80	51.0		10.3	34	53.6		51.5
17	229	41.2	95	54.2	+9	10.7	49	54.6	+0	50.8
18	244	43.6	110	57.5	+9	11.1	64	55.6	+0	50.1
19	259	46.1	126	00.7		11.5	79	56.6		49.5
20	274	48.6	141	03.9		11.9	94	57.6		48.8
21	289	51.0	156	07.1		12.3	109	58.6		48.2
22	304	53.5	171	10.3		12.7	124	59.6		47.5
23	319	56.0	186	13.5		13.1	140	00.6		46.9
24	334	58.4	201	16.6	+9	13.4	155	01.7	+0	46.2
Dif	—		+32		+4		+10		-7	
									+24	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 01.6 ^m			Edad: 10.6 ^d SD: 16'2 PMG: 21 ^h 03 ^m													
				PHE { 4 ^h : 59'6 12 ^h : 59'9 20 ^h : 60'2 R°: 63 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	°	'	°	'	°	h	m	h	m		h	m	m	
0	179	33.6	+10	13.5	57	40.2	30	-28	05.1	9	60 N	2	53	3	56	4	42
1	194	33.8		12.6	72	02.2	29		04.2	10	58	3	08	4	05	48	19
2	209	34.0		11.8	86	24.1	30		03.2	12	56	21	13	54	54	18	18
3	224	34.2		10.9	100	46.1	30		02.0	15	54	32	21	4	59	17	58
4	239	34.3		10.0	115	08.0	29	-28	00.5	16	52	42	27	5	03	42	40
5	254	34.5	+10	09.1	129	29.8	28	-27	58.9	18	50	3	50	4	33	5	07
6	269	34.7	+10	08.3	143	51.6	28	-27	57.1	21	45	4	07	4	45	5	16
7	284	34.9		07.4	158	13.4	28		55.0	22	40	21	4	55	23	36	50
8	299	35.1		06.5	172	35.2	28		52.8	24	35	32	5	03	29	17	53
9	314	35.2		05.6	186	57.0	28		50.4	27	30	40	09	34	16	01	55
10	329	35.4		04.8	201	18.7	27		47.7	28	20	4	54	21	43	15	33
11	344	35.6	+10	03.9	215	40.4	27	-27	44.9	31	10 N	5	05	5	30	5	51
12	359	35.8	+10	03.0	230	02.1	27	-27	41.8	32	0	5	13	5	37	5	58
13	14	36.0		02.1	244	23.8	27		38.6	35	10 S	20	44	6	05	26	66
14	29	36.1		01.3	258	45.5	27		35.1	36	20	25	51	13	14	02	69
15	44	36.3	+10	00.4	273	07.2	27		31.5	39	30	29	5	57	21	13	34
16	59	36.5	+9	59.5	287	28.9	27		27.6	40	35	31	6	01	26	13	18
17	74	36.7	+9	58.6	301	50.6	27	-27	23.6	43	40	5	33	6	04	6	32
18	89	36.9	+9	57.8	316	12.3	27	-27	19.3	44	45	5	34	6	08	6	38
19	104	37.1		56.9	330	34.0	27		14.9	47	50	35	13	45	12	07	82
20	119	37.2		56.0	344	55.7	27		10.2	49	52	35	15	49	11	52	85
21	134	37.4		55.1	359	17.4	27		05.3	51	54	36	17	53	35	88	29
22	149	37.6		54.2	13	39.1	27	-27	00.2	52	56	36	19	6	57	11	15
23	164	37.8		53.4	28	00.9	28	-26	55.0	55	58	36	21	7	01	10	50
24	179	38.0	+9	52.5	42	22.6	27	-26	49.5		60 S	5	36	6	24	7	07

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 ^h 39.8 ^m		Mag: -4.4 PMG: 10 ^h 33 ^m		Mag: +1.8 PMG: 13 ^h 39 ^m		Mag: -2.6 PMG: 4 ^h 33 ^m		Mag: +0.4 PMG: 0 ^h 06 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	334	58.4	201	16.6	+9	13.4	155	01.7	+0	46.2
1	350	00.9	216	19.8		13.8	170	02.7		45.5
2	5	03.3	231	23.0		14.2	185	03.7		44.9
3	20	05.8	246	26.2		14.6	200	04.7		44.2
4	35	08.3	261	29.4		15.0	215	05.7		43.6
5	50	10.7	276	32.5	+9	15.4	230	06.7	+0	42.9
6	65	13.2	291	35.7	+9	15.8	245	07.7	+0	42.3
7	80	15.7	306	38.8		16.2	260	08.7		41.6
8	95	18.1	321	42.0		16.6	275	09.7		40.9
9	110	20.6	336	45.1		17.0	290	10.7		40.3
10	125	23.1	351	48.3		17.4	305	11.7		39.6
11	140	25.5	6	51.4	+9	17.8	320	12.7	+0	39.0
12	155	28.0	21	54.6	+9	18.2	335	13.7	+0	38.3
13	170	30.5	36	57.7		18.5	350	14.7		37.6
14	185	32.9	52	00.8		18.9	5	15.7		37.0
15	200	35.4	67	04.0		19.3	20	16.7		36.3
16	215	37.8	82	07.1		19.7	35	17.7		35.7
17	230	40.3	97	10.2	+9	20.1	50	18.7	+0	35.0
18	245	42.8	112	13.3	+9	20.5	65	19.7	+0	34.4
19	260	45.2	127	16.4		20.9	80	20.7		33.7
20	275	47.7	142	19.5		21.3	95	21.7		33.0
21	290	50.2	157	22.6		21.7	110	22.7		32.4
22	305	52.6	172	25.7		22.1	125	23.7		31.7
23	320	55.1	187	28.8		22.4	140	24.8		31.1
24	335	57.6	202	31.9	+9	22.8	155	25.8	+0	30.4
Dif	—		+31		+4		+10		-7	
									+24	
									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 01.3 ^m			Edad: 11.6 ^d SD: 16'4 PMG: 22 ^h 06 ^m PHE { 4 ^h : 60'4 12 ^h : 60'7 20 ^h : 60'9 R°: 60 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	38.0	+9	52.5	42	22.6	28	-26	49.5	57	60 N	19	16	20	02	21	03
1	194	38.2		51.6	56	44.4	28		43.8	58	58	11	19	53	20	49	19
2	209	38.3		50.7	71	06.2	29		38.0	61	56	06	46	37	18	50	19
3	224	38.5		49.9	85	28.1	29		31.9	63	54	19	01	39	26	35	23
4	239	38.7		49.0	99	50.0	29		25.6	65	52	18	57	33	17	22	27
5	254	38.9	+9	48.1	114	11.9	29	-26	19.1	66	50	18	53	19	27	20	09
6	269	39.1	+9	47.2	128	33.8	29	-26	12.5	66	45	18	45	19	16	19	53
7	284	39.3		46.3	142	55.8	30	-26	05.6	69	40	38	19	06	40	26	42
8	299	39.4		45.4	157	17.8	30	-25	58.6	70	35	33	18	59	29	17	10
9	314	39.6		44.6	171	39.9	31		51.3	73	30	28	52	21	16	56	48
10	329	39.8		43.7	186	02.0	31		43.9	74	20	19	41	19	08	32	53
11	344	40.0	+9	42.8	200	24.1	31	-25	36.2	77	10 N	18	12	18	33	18	58
12	359	40.2	+9	41.9	214	46.3	32	-25	28.4	78	0	18	05	18	26	18	50
13	14	40.4		41.0	229	08.6	33		20.4	80	10 S	17	58	19	44	32	65
14	29	40.6		40.2	243	30.9	33		12.2	82	20	51	13	39	15	11	69
15	44	40.7		39.3	257	53.2	33	-25	03.8	84	30	43	07	35	14	46	74
16	59	40.9		38.4	272	15.6	34	-24	55.2	86	35	38	04	33	32	77	4
17	74	41.1	+9	37.5	286	38.1	35	-24	46.4	88	40	17	33	18	00	18	32
18	89	41.3	+9	36.6	301	00.6	35	-24	37.5	89	45	17	27	17	57	18	31
19	104	41.5		35.7	315	23.2	36		28.3	92	50	20	53	30	29	92	5
20	119	41.7		34.9	329	45.9	37		19.0	93	52	17	51	30	17	95	6
21	134	41.9		34.0	344	08.6	37	-24	09.5	95	54	13	49	30	13	03	98
22	149	42.0		33.1	358	31.4	38	-23	59.8	97	56	09	47	30	12	46	104
23	164	42.2		32.2	12	54.2	38		50.0	98	58	05	45	30	26	110	6
24	179	42.4	+9	31.3	27	17.2	40	-23	39.9	101	60 S	17	00	17	43	18	31

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 1 ^h 35.9 ^m		Mag: -4.5 PMG: 10 ^h 28 ^m		Mag: +1.8 PMG: 13 ^h 37 ^m		Mag: -2.6 PMG: 4 ^h 29 ^m		Mag: +0.4 PMG: 0 ^h 02 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	335	57.6	202	31.9	+9	22.8	155	25.8	+0	30.4
1	351	00.0	217	35.0		23.2	170	26.8		29.7
2	6	02.5	232	38.1		23.6	185	27.8		29.1
3	21	05.0	247	41.2		24.0	200	28.8		28.4
4	36	07.4	262	44.2		24.4	215	29.8		27.8
5	51	09.9	277	47.3	+9	24.8	230	30.8	+0	27.1
6	66	12.3	292	50.4	+9	25.2	245	31.8	+0	26.5
7	81	14.8	307	53.4		25.6	260	32.8		25.8
8	96	17.3	322	56.5		25.9	275	33.8		25.1
9	111	19.7	337	59.5		26.3	290	34.8		24.5
10	126	22.2	353	02.6		26.7	305	35.8		23.8
11	141	24.7	8	05.6	+9	27.1	320	36.8	+0	23.2
12	156	27.1	23	08.7	+9	27.5	335	37.8	+0	22.5
13	171	29.6	38	11.7		27.9	350	38.8		21.8
14	186	32.1	53	14.7		28.3	5	39.8		21.2
15	201	34.5	68	17.8		28.7	20	40.8		20.5
16	216	37.0	83	20.8		29.0	35	41.8		19.9
17	231	39.5	98	23.8	+9	29.4	50	42.8	+0	19.2
18	246	41.9	113	26.8	+9	29.8	65	43.8	+0	18.5
19	261	44.4	128	29.8		30.2	80	44.8		17.9
20	276	46.8	143	32.8		30.6	95	45.8		17.2
21	291	49.3	158	35.8		31.0	110	46.8		16.6
22	306	51.8	173	38.8		31.3	125	47.8		15.9
23	321	54.2	188	41.8		31.7	140	48.8		15.3
24	336	56.7	203	44.8	+9	32.1	155	49.8	+0	14.6
Dif	—		+30		+4		+10		-7	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna		
	SD: 15'8 PMG:12 ^h 01.0 ^m			Edad: 12.6 ^d SD: 16'6 PMG: 23 ^h 06 ^m														
	PHE { 4 ^h : 61'0 12 ^h : 61'2 20 ^h : 61'3 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	179	42.4	+9	31.3		27	17.2	-23	39.9	102	60 N	3	00	4	47	19	35	
1	194	42.6		30.4	40	41	40.2		29.7	104	58	14	10	53	21	7	1	
2	209	42.8		29.5	41	56	03.3		19.3	105	56	27	18	4	58	19	09	
3	224	43.0		28.7	41	70	26.4	-23	08.8	107	54	37	24	5	02	18	58	
4	239	43.2		27.8	42	84	49.6	-22	58.1	109	52	46	30	06	49	19	2	
5	254	43.4	+9	26.9	43	99	12.9	-22	47.2		50	3	54	4	36	5	10	
6	269	43.5	+9	26.0	44	113	36.3	-22	36.1	111	45	4	10	4	47	5	18	
7	284	43.7		25.1	45	127	59.8		24.9	112	40	23	4	57	25	18	08	
8	299	43.9		24.2	45	142	23.3		13.5	114	35	33	5	04	30	17	55	
9	314	44.1		23.3	46	156	46.9	-22	01.9	116	30	42	11	35	44	41	21	
10	329	44.3		22.5	47	171	10.6	-21	50.2	117	20	4	55	21	44	25	47	
11	344	44.5	+9	21.6	48	185	34.4	-21	38.4	118	10 N	5	05	5	30	5	51	
12	359	44.7	+9	20.7	49	199	58.3	-21	26.3	121	0	5	12	5	37	5	58	
13	14	44.9		19.8	49	214	22.2		14.1	122	10 S	19	43	6	04	37	62	
14	29	45.1		18.9	51	228	46.3	-21	01.8	123	20	23	49	11	20	68	4	
15	44	45.2		18.0	51	243	10.4	-20	49.3	125	30	27	55	19	16	00	74	
16	59	45.4		17.1	52	257	34.6		36.7	126	35	29	5	58	24	15	49	
17	74	45.6	+9	16.2	53	271	58.9	-20	23.9	128	40	5	30	6	01	6	29	
18	89	45.8	+9	15.3	54	286	23.3	-20	11.0	129	45	5	31	6	05	6	34	
19	104	46.0		14.4	55	300	47.8	-19	57.9	131	50	31	09	41	15	01	93	
20	119	46.2		13.6	56	315	12.4		44.7	132	52	31	10	45	14	52	97	
21	134	46.4		12.7	56	329	37.0		31.4	133	54	31	12	48	41	101	45	
22	149	46.6		11.8	58	344	01.8		17.9	135	56	31	14	52	30	105	6	
23	164	46.8		10.9	58	358	26.6	-19	04.3	136	58	31	16	6	56	16	110	
24	179	47.0	+9	10.0	60	12	51.6	-18	50.6	137	60 S	5	30	6	18	7	01	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 1 ^h 32.0 ^m		Mag: -4.5 PMG: 10 ^h 23 ^m			Mag: +1.8 PMG: 13 ^h 36 ^m			Mag: -2.6 PMG: 4 ^h 25 ^m			Mag: +0.4 PMG: 23 ^h 53 ^m				
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	336	56.7	203	44.8	+9	32.1	155	49.8	+0	14.6	293	30.4	+15	14.0	0	
1	351	59.2	218	47.8		32.5	170	50.8		13.9	308	32.8		14.0	15	
2	7	01.6	233	50.8		32.9	185	51.8		13.3	323	35.2		14.0	30	
3	22	04.1	248	53.8		33.3	200	52.8		12.6	338	37.6		14.0	45	
4	37	06.6	263	56.7		33.6	215	53.8		12.0	353	40.0		14.0	60	
5	52	09.0	278	59.7	+9	34.0	230	54.8	+0	11.3	8	42.5	+15	14.1	75	
6	67	11.5	294	02.7	+9	34.4	245	55.8	+0	10.6	23	44.9	+15	14.1	90	
7	82	13.9	309	05.6		34.8	260	56.8		10.0	38	47.3		14.1	105	
8	97	16.4	324	08.6		35.2	275	57.8		09.3	53	49.7		14.1	121	
9	112	18.9	339	11.5		35.6	290	58.8		08.7	68	52.1		14.1	136	
10	127	21.3	354	14.5		35.9	305	59.8		08.0	83	54.5		14.1	151	
11	142	23.8	9	17.4	+9	36.3	321	00.8	+0	07.3	98	56.9	+15	14.1	166	
12	157	26.3	24	20.4	+9	36.7	336	01.8	+0	06.7	113	59.3	+15	14.1	181	
13	172	28.7	39	23.3		37.1	351	02.8		06.0	129	01.7		14.1	196	
14	187	31.2	54	26.2		37.5	6	03.8		05.4	144	04.1		14.1	211	
15	202	33.7	69	29.2		37.8	21	04.8		04.7	159	06.6		14.1	226	
16	217	36.1	84	32.1		38.2	36	05.8		04.0	174	09.0		14.1	241	
17	232	38.6	99	35.0	+9	38.6	51	06.8	+0	03.4	189	11.4	+15	14.1	256	
18	247	41.1	114	37.9	+9	39.0	66	07.8	+0	02.7	204	13.8	+15	14.1	271	
19	262	43.5	129	40.8		39.3	81	08.8		02.1	219	16.2		14.1	286	
20	277	46.0	144	43.7		39.7	96	09.8		01.4	234	18.6		14.2	301	
21	292	48.4	159	46.6		40.1	111	10.8		00.8	249	21.0		14.2	316	
22	307	50.9	174	49.5		40.5	126	11.8	+0	00.1	264	23.5		14.2	331	
23	322	53.4	189	52.4		40.9	141	12.8	-0	00.6	279	25.9		14.2	346	
24	337	55.8	204	55.3	+9	41.2	156	13.8	-0	01.2	294	28.3	+15	14.2	1	
Dif	—		+29		+4		+10		-7		+24		0		+26	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 15 ^h 8 PMG: 12 ^h 00.7 ^m			Edad: 13.6 ^d SD: 16 ^h 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	m	h m	m	h m	m	
0	179	47.0	+9	12	51.6	60	-18	50.6	19 10	19 56	20 55	19 37	0	2 55	115			
1	194	47.1		27	16.6	61		36.7	05	47	42	28	5	3 08	109			
2	209	47.3		41	41.7	62		22.7	19 00	40	30	21	9	19 104				
3	224	47.5		56	06.9	63	-18	08.6	18 56	34	20	14	12	29 100				
4	239	47.7		70	32.2	64	-17	54.3	52	28	12	08	16	37 97				
5	254	47.9	+9	84	57.6	64	-17	39.9	18 49	19 23	20 04	19 03	18	3 45	93			
6	269	48.1	+9	99	23.0	64	-17	25.5	18 41	19 12	19 49	18 51	24	4 01	87			
7	284	48.3		113	48.6	66	-17	10.8	35	19 03	36	41	29	15 81				
8	299	48.5		128	14.3	67	-16	56.1	30	18 56	27	33	33	26 77				
9	314	48.7		142	40.0	67		41.3	25	50	18	25	37	36 72				
10	329	48.9		157	05.8	68		26.3	17	40	19 06	12	43	4 52	67			
11	344	49.1	+9	171	31.8	70	-16	11.3	18 10	18 32	18 56	18 01	48	5 07	61			
12	359	49.3	+8	185	57.8	70	-15	56.1	18 04	18 25	18 49	17 50	54	5 20	56			
13	14	49.5		200	23.9	71		40.9	17 58	19	44	39	59	33 51				
14	29	49.6		214	50.1	72		25.5	51	13	39	28	64	5 48	45			
15	44	49.8		229	16.3	72	-15	10.0	44	08	36	14	72	6 03	39			
16	59	50.0		243	42.7	74	-14	54.5	40	05	35	17 06	76	13 35				
17	74	50.2	+8	258	09.1	74	-14	38.8	17 35	18 02	18 34	16 58	79	6 23	31			
18	89	50.4	+8	272	35.7	76	-14	23.1	17 29	17 59	18 33	16 47	85	6 35	26			
19	104	50.6		287	02.3	76	-14	07.3	23	56	33	34	92	50 20				
20	119	50.8		301	29.0	77	-13	51.3	20	54	33	29	94	6 57	17			
21	134	51.0		315	55.8	78		35.3	17	52	33	22	98	7 04	14			
22	149	51.2		330	22.7	79		19.2	13	51	34	15	101	13 10				
23	164	51.4		344	49.6	79	-13	03.1	09	49	34	16 06	106	22 6				
24	179	51.6	+8	359	16.7	81	-12	46.8	17 05	17 47	18 35	15 57	111	7 33	1			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 1 ^h 28.0 ^m		Mag: -4.5 PMG: 10 ^h 18 ^m			Mag: +1.8 PMG: 13 ^h 34 ^m			Mag: -2.6 PMG: 4 ^h 21 ^m			Mag: +0.4 PMG: 23 ^h 49 ^m						
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♆	Dec				
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	337	55.8	204	55.3	+9	41.2	156	13.8	-0	01.2	294	28.3	+15	14.2	1	43.5	-11	50.2
1	352	58.3	219	58.2		41.6	171	14.8		01.9	309	30.7		14.2	16	46.1		50.3
2	8	00.8	235	01.1		42.0	186	15.8		02.5	324	33.1		14.2	31	48.8		50.3
3	23	03.2	250	03.9		42.4	201	16.8		03.2	339	35.5		14.2	46	51.4		50.4
4	38	05.7	265	06.8		42.7	216	17.8		03.9	354	38.0		14.2	61	54.1		50.5
5	53	08.2	280	09.7	+9	43.1	231	18.8	-0	04.5	9	40.4	+15	14.2	76	56.7	-11	50.5
6	68	10.6	295	12.5	+9	43.5	246	19.8	-0	05.2	24	42.8	+15	14.2	91	59.3	-11	50.6
7	83	13.1	310	15.4		43.9	261	20.8		05.8	39	45.2		14.2	107	02.0		50.7
8	98	15.6	325	18.3		44.2	276	21.8		06.5	54	47.6		14.2	122	04.6		50.8
9	113	18.0	340	21.1		44.6	291	22.8		07.2	69	50.0		14.2	137	07.3		50.8
10	128	20.5	355	23.9		45.0	306	23.8		07.8	84	52.5		14.2	152	09.9		50.9
11	143	22.9	10	26.8	+9	45.3	321	24.8	-0	08.5	99	54.9	+15	14.2	167	12.6	-11	51.0
12	158	25.4	25	29.6	+9	45.7	336	25.8	-0	09.1	114	57.3	+15	14.2	182	15.2	-11	51.0
13	173	27.9	40	32.5		46.1	351	26.8		09.8	129	59.7		14.2	197	17.8		51.1
14	188	30.3	55	35.3		46.5	6	27.8		10.5	145	02.1		14.2	212	20.5		51.2
15	203	32.8	70	38.1		46.8	21	28.8		11.1	160	04.6		14.3	227	23.1		51.3
16	218	35.3	85	40.9		47.2	36	29.8		11.8	175	07.0		14.3	242	25.8		51.3
17	233	37.7	100	43.7	+9	47.6	51	30.8	-0	12.4	190	09.4	+15	14.3	257	28.4	-11	51.4
18	248	40.2	115	46.6	+9	47.9	66	31.8	-0	13.1	205	11.8	+15	14.3	272	31.1	-11	51.5
19	263	42.7	130	49.4		48.3	81	32.8		13.8	220	14.3		14.3	287	33.7		51.5
20	278	45.1	145	52.2		48.7	96	33.8		14.4	235	16.7		14.3	302	36.3		51.6
21	293	47.6	160	55.0		49.0	111	34.8		15.1	250	19.1		14.3	317	39.0		51.7
22	308	50.0	175	57.8		49.4	126	35.8		15.7	265	21.5		14.3	332	41.6		51.8
23	323	52.5	191	00.6		49.8	141	36.8		16.4	280	23.9		14.3	347	44.3		51.8
24	338	55.0	206	03.3	+9	50.1	156	37.8	-0	17.1	295	26.4	+15	14.3	2	46.9	-11	51.9
Dif	—		+28		+4		+10		-7		+24		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 00.4 ^m			Edad: 14.6 ^d PHE { 4 ^h : 61 ^h /3 12 ^h : 61 ^h /3 20 ^h : 61 ^h /2 R°: 53 ^m SD: 16 ^h 7 PMG: 0 ^h 03 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	51.6	+8	48.5	359	16.7	81	-12	46.8	60 N	3	07	4	52	19	37	0
1	194	51.8		47.6	13	43.8	82		30.5	58	20	15	4	57	33	4	4
2	209	52.0		46.7	28	11.0	83	-12	14.1	56	32	22	5	02	30	7	5
3	224	52.2		45.8	42	38.3	83	-11	57.6	54	42	28	06	26	11	09	96
4	239	52.4		44.9	57	05.7	84		41.1	52	50	34	10	24	13	14	92
5	254	52.6	+8	44.0	71	33.1	84	-11	24.4	50	3	58	4	39	19	21	16
6	269	52.7	+8	43.1	86	00.6	85	-11	07.8	45	4	13	4	50	19	15	21
7	284	52.9		42.2	100	28.2	86	-10	51.0	40	25	4	59	26	10	26	36
8	299	53.1		41.3	114	55.9	87		34.2	35	35	5	06	32	06	30	43
9	314	53.3		40.4	129	23.6	87		17.4	30	43	12	36	19	02	34	48
10	329	53.5		39.5	143	51.4	88	-10	00.5	20	4	56	22	44	18	55	40
11	344	53.7	+8	38.6	158	19.3	89	-9	43.5	10 N	5	05	5	30	18	49	46
12	359	53.9	+8	37.7	172	47.3	90	-9	26.5	0	5	12	5	36	18	44	51
13	14	54.1		36.8	187	15.3	90	-9	09.4	10 S	17	42	6	03	38	57	24
14	29	54.3		35.9	201	43.4	91	-8	52.3	20	22	47	10	32	63	33	41
15	44	54.5		35.0	216	11.6	92		35.1	30	25	53	17	26	68	42	35
16	59	54.7		34.1	230	39.9	93		17.9	35	26	56	21	22	72	48	31
17	74	54.9	+8	33.2	245	08.2	93	-8	00.7	40	5	27	5	58	6	26	18
18	89	55.1	+8	32.3	259	36.5	93	-7	43.4	45	5	27	6	01	6	31	18
19	104	55.3		31.4	274	05.0	95		26.1	50	27	05	37	06	88	10	17
20	119	55.5		30.5	288	33.5	95	-7	08.7	52	27	06	40	03	91	14	14
21	134	55.7		29.6	303	02.0	95	-6	51.3	54	27	08	43	18	00	94	18
22	149	55.9		28.7	317	30.6	96		33.9	56	26	09	47	17	56	98	23
23	164	56.1		27.8	331	59.3	97	-6	16.5	58	26	11	51	52	102	28	5
24	179	56.3	+8	26.9	346	28.1	98	-5	59.0	60 S	5	25	6	13	17	48	106

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 1 ^h 24.1 ^m		Mag: -4.6 PMG: 10 ^h 14 ^m		Mag: +1.8 PMG: 13 ^h 33 ^m		Mag: -2.7 PMG: 4 ^h 18 ^m		Mag: +0.4 PMG: 23 ^h 45 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	338	55.0	206	03.3	+9	50.1	156	37.8	-0	17.1
1	353	57.4	221	06.1		50.5	171	38.8		17.7
2	8	59.9	236	08.9		50.9	186	39.8		18.4
3	24	02.4	251	11.7		51.2	201	40.8		19.0
4	39	04.8	266	14.4		51.6	216	41.8		19.7
5	54	07.3	281	17.2	+9	52.0	231	42.8	-0	20.4
6	69	09.8	296	20.0	+9	52.3	246	43.8	-0	21.0
7	84	12.2	311	22.7		52.7	261	44.8		21.7
8	99	14.7	326	25.5		53.1	276	45.8		22.3
9	114	17.2	341	28.2		53.4	291	46.8		23.0
10	129	19.6	356	31.0		53.8	306	47.8		23.7
11	144	22.1	11	33.7	+9	54.2	321	48.8	-0	24.3
12	159	24.5	26	36.4	+9	54.5	336	49.8	-0	25.0
13	174	27.0	41	39.2		54.9	351	50.8		25.6
14	189	29.5	56	41.9		55.2	6	51.8		26.3
15	204	31.9	71	44.6		55.6	21	52.8		27.0
16	219	34.4	86	47.3		56.0	36	53.8		27.6
17	234	36.9	101	50.0	+9	56.3	51	54.8	-0	28.3
18	249	39.3	116	52.8	+9	56.7	66	55.8	-0	28.9
19	264	41.8	131	55.5		57.0	81	56.8		29.6
20	279	44.3	146	58.2		57.4	96	57.8		30.3
21	294	46.7	162	00.9		57.8	111	58.8		30.9
22	309	49.2	177	03.6		58.1	126	59.8		31.6
23	324	51.6	192	06.2		58.5	142	00.8		32.2
24	339	54.1	207	08.9	+9	58.8	157	01.8	-0	32.9
Dif	—		+27		+4		+10		-7	

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 15'8 PMG: 12 ^h 00.1 ^m			Edad: 15.6 ^d SD: 16'6 PMG: 0 ^h 56 ^m								PHE { 4 ^h : 61'0 12 ^h : 60'8 20 ^h : 60'6 Rº: 51 ^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	56.3	+8 26.9	346	28.1	98	-5 59.0	175	60 N	19 05	19 49	20 48	19 37 0	6 38 105									
1	194	56.5	26.0	0	56.9	98		41.5	58	19 00	41	35	37 4	41 100									
2	209	56.7	25.1	15	25.7	99		24.0	56	18 55	35	24	37 7	43 96									
3	224	56.9	24.2	29	54.6	99	-5 06.4	176	54	51	29	15	37 10	45 93									
4	239	57.1	23.3	44	23.6	100	-4 48.9	175	52	48	23	20 06	37 12	46 90									
5	254	57.3	+8 22.4	58	52.6	100	-4 31.3	176	50	18 45	19 18	19 59	19 37 15	6 48 87									
6	269	57.5	+8 21.5	73	21.6	100	-4 13.7	176	45	18 38	19 08	19 44	19 36 21	6 51 81									
7	284	57.7	20.6	87	50.8	102	-3 56.2	175	40	32	19 00	33	36 25	54 76									
8	299	57.9	19.7	102	19.9	101		38.5	35	27	18 53	24	36 29	57 71									
9	314	58.1	18.8	116	49.1	102		20.9	30	23	47	16	36 32	6 59 68									
10	329	58.3	17.9	131	18.4	103	-3 03.3	176	20	16	38	19 04	35 39	7 02 62									
11	344	58.5	+8 17.0	145	47.7	103	-2 45.7	176	10 N	18 09	18 30	18 55	19 35 45	7 05 56									
12	359	58.7	+8 16.1	160	17.0	103	-2 28.1	176	0	18 03	18 24	18 48	19 35 50	7 08 51									
13	14	58.9	15.2	174	46.4	104	-2 10.5	176	10 S	17 58	19	43	35 55	11 45									
14	29	59.1	14.3	189	15.8	104	-1 52.9	176	20	52	14	39	35 60	14 39									
15	44	59.3	13.4	203	45.3	105		35.3	30	45	09	37	34 67	17 34									
16	59	59.5	12.4	218	14.8	105		17.6	35	41	06	36	34 71	19 30									
17	74	59.7	+8 11.5	232	44.3	105	-1 00.1	175	40	17 37	18 04	18 35	19 34 75	7 21 26									
18	89	59.9	+8 10.6	247	13.9	106	-0 42.5	176	45	17 32	18 01	18 35	19 34 80	7 24 21									
19	105	00.1	09.7	261	43.5	106		24.9	50	26	17 58	36	34 86	27 15									
20	120	00.3	08.8	276	13.2	107	-0 07.3	176	52	23	57	36	34 89	28 13									
21	135	00.5	07.9	290	42.9	107	+0 10.2	175	54	20	56	37	34 92	29 10									
22	150	00.7	07.0	305	12.6	107		27.7	56	17	54	37	34 95	31 7									
23	165	00.9	06.1	319	42.3	107	+0 45.2	175	58	13	53	38	34 99	33 3									
24	180	01.1	+8 05.2	334	12.1	108	+1 02.7	175	60 S	17 09	17 51	18 39	19 34 103	7 35 0									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO										
	PMG 1 ^h 20.2 ^m			Mag: -4.6 PMG: 10 ^h 10 ^m			Mag: +1.8 PMG: 13 ^h 31 ^m			Mag: -2.7 PMG: 4 ^h 14 ^m			Mag: +0.4 PMG: 23 ^h 40 ^m										
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	°	'	°	'	°	'	°	'	°					
0	339	54.1	207 08.9	+9 58.8			157 01.8	-0 32.9		296 24.6	+15 14.3		3 50.3	-11 53.6									
1	354	56.6	222 11.6		59.2		172 02.8		33.6	311 27.1		14.3	18 53.0		53.7								
2	9	59.0	237 14.3		59.5		187 03.8		34.2	326 29.5		14.3	33 55.6		53.7								
3	25	01.5	252 16.9	+9 59.9			202 04.8		34.9	341 31.9		14.3	48 58.3		53.8								
4	40	04.0	267 19.6	+10 00.2			217 05.8		35.5	356 34.4		14.3	64 00.9		53.9								
5	55	06.4	282 22.3	+10 00.6			232 06.7	-0 36.2		11 36.8	+15 14.3		79 03.5	-11 53.9									
6	70	08.9	297 24.9	+10 00.9			247 07.7	-0 36.9		26 39.2	+15 14.3		94 06.2	-11 54.0									
7	85	11.4	312 27.6		01.3		262 08.7		37.5	41 41.7		14.3	109 08.8		54.1								
8	100	13.8	327 30.2		01.7		277 09.7		38.2	56 44.1		14.3	124 11.5		54.2								
9	115	16.3	342 32.9		02.0		292 10.7		38.8	71 46.5		14.3	139 14.1		54.2								
10	130	18.8	357 35.5		02.4		307 11.7		39.5	86 49.0		14.3	154 16.8		54.3								
11	145	21.2	12 38.2	+10 02.7			322 12.7	-0 40.2		101 51.4	+15 14.3		169 19.4	-11 54.4									
12	160	23.7	27 40.8	+10 03.1			337 13.7	-0 40.8		116 53.9	+15 14.3		184 22.0	-11 54.4									
13	175	26.1	42 43.4		03.4		352 14.7		41.5	131 56.3		14.3	199 24.7		54.5								
14	190	28.6	57 46.0		03.8		7 15.7		42.2	146 58.7		14.3	214 27.3		54.6								
15	205	31.1	72 48.7		04.1		22 16.7		42.8	162 01.2		14.3	229 30.0		54.6								
16	220	33.5	87 51.3		04.5		37 17.7		43.5	177 03.6		14.3	244 32.6		54.7								
17	235	36.0	102 53.9	+10 04.8			52 18.7	-0 44.1		192 06.0	+15 14.3		259 35.3	-11 54.8									
18	250	38.5	117 56.5	+10 05.2			67 19.7	-0 44.8		207 08.5	+15 14.3		274 37.9	-11 54.9									
19	265	40.9	132 59.1		05.5		82 20.7		45.5	222 10.9		14.3	289 40.5		54.9								
20	280	43.4	148 01.7		05.8		97 21.7		46.1	237 13.4		14.3	304 43.2		55.0								
21	295	45.9	163 04.3		06.2		112 22.7		46.8	252 15.8		14.3	319 45.8		55.1								
22	310	48.3	178 06.9		06.5		127 23.7		47.4	267 18.2		14.3	334 48.5		55.1								
23	325	50.8	193 09.5		06.9		142 24.7		48.1	282 20.7		14.3	349 51.1		55.2								
24	340	53.3	208 12.1	+10 07.2			157 25.7	-0 48.8		297 23.1	+15 14.3		4 53.7	-11 55.3									
Dif	—			+26			+10			-7			+24			0			+26				
																			-1				

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 15'8 PMG: 11 ^h 59.8 ^m			Edad: 16.6 ^d SD: 16'5 PMG: 1 ^h 47 ^m PHE 4^h: 60'4 12^h: 60'1 20^h: 59'9 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	01.1	+8	05.2	334	12.1	+1	02.7	175	60 N	3	13	4	12	4	56	19	37	0	8	23	102
1	195	01.3		04.3	348	41.9		20.2	174	58	26	19	5	01	41	4	21	01	26	10	21	98
2	210	01.5		03.4	3	11.7		37.6	174	56	37	26		06	44	8	19	05	11	18	19	95
3	225	01.7		02.5	17	41.6	+1	55.0	174	54	46	32		09	47	11	18	05	11	18	19	91
4	240	01.9		01.5	32	11.4	+2	12.4	174	52	3	54	37	13	49	14	16	08	34	07	16	88
5	255	02.1	+8	00.6	46	41.3	+2	29.7	173	50	4	01	4	42	5	16	19	52	16	8	15	85
6	270	02.3	+7	59.7	61	11.3	+2	47.1	174	45	4	16	4	52	5	23	19	57	22	8	12	80
7	285	02.5		58.8	75	41.2	+3	04.4	173	40	27	5	01	28	20	01	26	01	26	10	07	75
8	300	02.7		57.9	90	11.1		21.6	172	35	37	07	33	05	30	08	07	00	30	08	07	70
9	315	02.9		57.0	104	41.1		38.8	172	30	44	13	37	08	34	07	06	08	34	07	06	66
10	330	03.1		56.1	119	11.1	+3	56.0	172	20	4	56	22	45	14	40	04	04	40	04	06	60
11	345	03.3	+7	55.2	133	41.1	+4	13.1	171	10 N	5	05	5	30	5	51	20	20	44	8	01	55
12	0	03.5	+7	54.3	148	11.1	+4	30.2	171	0	5	11	5	36	5	56	20	25	49	7	59	49
13	15	03.7		53.4	162	41.2	+4	47.2	170	10 S	16	41	6	02	30	54	56	45	56	45	56	45
14	30	03.9		52.4	177	11.2	+5	04.2	170	20	20	46		08	35	60	53	40	53	40	53	40
15	45	04.1		51.5	191	41.3		21.2	170	30	23	51	15	41	66	51	33	51	33	51	33	33
16	60	04.3		50.6	206	11.3		38.1	169	35	24	53	18	45	70	49	29	49	29	49	29	29
17	75	04.5	+7	49.7	220	41.4	+5	55.0	169	40	5	24	5	55	6	22	20	49	74	7	47	25
18	90	04.7	+7	48.8	235	11.5	+6	11.8	168	45	5	24	5	58	6	27	20	54	79	7	45	21
19	105	04.9		47.9	249	41.6		28.5	167	50	23	6	01	33	21	00	84	42	16	42	16	16
20	120	05.1		47.0	264	11.7	+6	45.2	167	52	23	02	36	03	87	41	13	41	13	41	13	13
21	135	05.3		46.1	278	41.7	+7	01.8	166	54	22	03	39	06	90	39	11	39	11	39	11	11
22	150	05.5		45.1	293	11.8		18.4	166	56	21	04	42	09	94	38	7	38	7	38	7	7
23	165	05.7		44.2	307	41.9		34.9	165	58	20	06	45	13	98	36	4	36	4	36	4	4
24	180	05.9	+7	43.3	322	12.0	+7	51.4	165	60 S	5	19	6	07	6	49	21	17	102	7	35	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG	1 ^h 16.2 ^m	Mag: -4.6	PMG: 10 ^h 05 ^m	Mag: +1.7	PMG: 13 ^h 29 ^m	Mag: -2.7	PMG: 4 ^h 10 ^m	Mag: +0.4	PMG: 23 ^h 36 ^m
	hG ♊		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	340	53.3	208	12.1	+10	07.2	157	25.7	-0	48.8
1	355	55.7	223	14.6		07.6	172	26.7		49.4
2	10	58.2	238	17.2		07.9	187	27.7		50.1
3	26	00.6	253	19.8		08.3	202	28.6		50.7
4	41	03.1	268	22.3		08.6	217	29.6		51.4
5	56	05.6	283	24.9	+10	08.9	232	30.6	-0	52.1
6	71	08.0	298	27.5	+10	09.3	247	31.6	-0	52.7
7	86	10.5	313	30.0		09.6	262	32.6		53.4
8	101	13.0	328	32.6		10.0	277	33.6		54.0
9	116	15.4	343	35.1		10.3	292	34.6		54.7
10	131	17.9	358	37.6		10.6	307	35.6		55.4
11	146	20.4	13	40.2	+10	11.0	322	36.6	-0	56.0
12	161	22.8	28	42.7	+10	11.3	337	37.6	-0	56.7
13	176	25.3	43	45.2		11.6	352	38.6		57.3
14	191	27.7	58	47.8		12.0	7	39.6		58.0
15	206	30.2	73	50.3		12.3	22	40.6		58.7
16	221	32.7	88	52.8		12.7	37	41.6	-0	59.3
17	236	35.1	103	55.3	+10	13.0	52	42.6	-1	00.0
18	251	37.6	118	57.8	+10	13.3	67	43.6	-1	00.7
19	266	40.1	134	00.3		13.7	82	44.5		01.3
20	281	42.5	149	02.8		14.0	97	45.5		02.0
21	296	45.0	164	05.3		14.3	112	46.5		02.6
22	311	47.5	179	07.8		14.7	127	47.5		03.3
23	326	49.9	194	10.3		15.0	142	48.5		04.0
24	341	52.4	209	12.8	+10	15.3	157	49.5	-1	04.6
Dif	—		+25		+3		+10		-7	
								+24		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 59.4 ^m			Edad: 17.6 ^d PHE { 4 ^h : 59/6 12 ^h : 59/3 20 ^h : 59/0 SD: 16'3 PMG: 2 ^h 36 ^m 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	180	05.9	+7	43.3	322	12.0	+7	51.4	164	60 N	18 59	19 43	20 40	19 37	2		10 05	103	
1	195	06.1		42.4	336	42.1	+8	07.8	163	58	54	36	28	45	6		9 59	98	
2	210	06.3		41.5	351	12.2		24.1	163	56	50	29	18	52	9		54	93	
3	225	06.5		40.6	5	42.3		40.4	163	54	47	23	09	19 58	13		49	90	
4	240	06.7		39.7	20	12.4	+8	56.6	162	52	43	18	20 01	20 03	16		44	87	
5	255	06.9	+7	38.7	34	42.5	+9	12.7	161	50	18 40	19 14	19 54	20 08	19		9 40	84	
6	270	07.1	+7	37.8	49	12.6	+9	28.8	161	45	18 34	19 04	19 40	20 19	24		9 32	78	
7	285	07.3		36.9	63	42.7	+9	44.8	160	40	29	18 57	29	27 29			25	73	
8	300	07.5		36.0	78	12.7	+10	00.7	159	35	24	50	21	35 33			18	70	
9	315	07.7		35.1	92	42.8		16.6	159	30	21	45	13	42 36			13	66	
10	330	08.0		34.2	107	12.8		32.3	157	20	14	36	19 02	20 54	41		9 04	60	
11	345	08.2	+7	33.2	121	42.9	+10	48.0	157	10 N	18 08	18 29	18 54	21 04	46		8 56	54	
12	0	08.4	+7	32.3	136	12.9	+11	03.6	156	0	18 03	18 24	18 48	21 14	51		8 48	50	
13	15	08.6		31.4	150	42.9		19.2	156	10 S	17 57	19	43	24 55			41	45	
14	30	08.8		30.5	165	12.9		34.6	154	20	52	14	40	35 60			33	40	
15	45	09.0		29.6	179	42.9	+11	50.0	154	30	46	10	38	47 66			24	34	
16	60	09.2		28.7	194	12.9	+12	05.3	153	35	42	08	37	21 55	68		18	31	
17	75	09.4	+7	27.7	208	42.8	+12	20.5	152	40	17 39	18 06	18 37	22 03	72		8 12	28	
18	90	09.6	+7	26.8	223	12.7	+12	35.7	152	45	17 34	18 04	18 38	22 13	77		8 06	22	
19	105	09.8		25.9	237	42.7	+12	50.7	150	50	29	01	39	24 84			7 58	17	
20	120	10.0		25.0	252	12.6	+13	05.6	149	52	26	18 00	39	30 86			54	15	
21	135	10.2		24.1	266	42.4		20.5	149	54	24	17 59	40	36 89			50	12	
22	150	10.4		23.2	281	12.3		35.3	148	56	21	58	41	43 93			45	9	
23	165	10.6		22.2	295	42.1	+13	50.0	147	58	17	57	42	51 97			40	5	
24	180	10.8	+7	21.3	310	12.0	+14	04.5	145	60 S	17 14	17 56	18 44	22 59	104		7 35	0	
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO				
	PMG 1 ^h 12.3 ^m		Mag: -4.6 PMG: 10 ^h 02 ^m				Mag: +1.7 PMG: 13 ^h 28 ^m				Mag: -2.7 PMG: 4 ^h 06 ^m				Mag: +0.4 PMG: 23 ^h 32 ^m				
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	341	52.4	209	12.8	+10	15.3	157	49.5	-1	04.6	298	21.8	+15	14.3	5	57.2	-11	57.0	
1	356	54.9	224	15.2		15.6	172	50.5		05.3	313	24.2		14.3	20	59.8		57.0	
2	11	57.3	239	17.7		16.0	187	51.5		05.9	328	26.7		14.3	36	02.4		57.1	
3	26	59.8	254	20.2		16.3	202	52.5		06.6	343	29.1		14.3	51	05.1		57.2	
4	42	02.2	269	22.6		16.6	217	53.5		07.3	358	31.6		14.3	66	07.7		57.2	
5	57	04.7	284	25.1	+10	17.0	232	54.5	-1	07.9	13	34.0	+15	14.2	81	10.4	-11	57.3	
6	72	07.2	299	27.6	+10	17.3	247	55.5	-1	08.6	28	36.5	+15	14.2	96	13.0	-11	57.4	
7	87	09.6	314	30.0		17.6	262	56.5		09.2	43	38.9		14.2	111	15.6		57.4	
8	102	12.1	329	32.5		17.9	277	57.4		09.9	58	41.4		14.2	126	18.3		57.5	
9	117	14.6	344	34.9		18.3	292	58.4		10.6	73	43.8		14.2	141	20.9		57.6	
10	132	17.0	359	37.3		18.6	307	59.4		11.2	88	46.3		14.2	156	23.6		57.6	
11	147	19.5	14	39.8	+10	18.9	323	00.4	-1	11.9	103	48.7	+15	14.2	171	26.2	-11	57.7	
12	162	22.0	29	42.2	+10	19.2	338	01.4	-1	12.6	118	51.2	+15	14.2	186	28.8	-11	57.8	
13	177	24.4	44	44.6		19.6	353	02.4		13.2	133	53.6		14.2	201	31.5		57.9	
14	192	26.9	59	47.1		19.9	8	03.4		13.9	148	56.1		14.2	216	34.1		57.9	
15	207	29.3	74	49.5		20.2	23	04.4		14.5	163	58.5		14.2	231	36.8		58.0	
16	222	31.8	89	51.9		20.5	38	05.4		15.2	179	01.0		14.2	246	39.4		58.1	
17	237	34.3	104	54.3	+10	20.8	53	06.4	-1	15.9	194	03.5	+15	14.2	261	42.1	-11	58.1	
18	252	36.7	119	56.7	+10	21.2	68	07.4	-1	16.5	209	05.9	+15	14.2	276	44.7	-11	58.2	
19	267	39.2	134	59.1		21.5	83	08.4		17.2	224	08.4		14.2	291	47.3		58.3	
20	282	41.7	150	01.5		21.8	98	09.3		17.8	239	10.8		14.2	306	50.0		58.3	
21	297	44.1	165	03.9		22.1	113	10.3		18.5	254	13.3		14.2	321	52.6		58.4	
22	312	46.6	180	06.3		22.4	128	11.3		19.2	269	15.7		14.2	336	55.3		58.5	
23	327	49.1	195	08.7		22.8	143	12.3		19.8	284	18.2		14.2	351	57.9		58.6	
24	342	51.5	210	11.1	+10	23.1	158	13.3	-1	20.5	299	20.6	+15	14.1	7	00.5	-11	58.6	
Dif	—		+24		+3		+10		-7		+25		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 59.1 ^m			Edad: 18.6 ^d SD: 16'0 PMG: 3 ^h 26 ^m PHE 4^h: 58'6 12^h: 58'3 20^h: 58'0 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	10.8	+7	21.3	310	12.0	+14	04.5	60 N	3	20	4	17	5	01	19	39
1	195	11.0		20.4	324	41.8		19.0	58	32		24	06	19	51	9	37
2	210	11.2		19.5	339	11.5		33.4	56	42		30	09	20	01	14	27
3	225	11.4		18.6	353	41.3	+14	47.7	54	50		36	13	11	17	19	88
4	240	11.6		17.6	8	11.0	+15	01.9	52	3	58	41	16	19	21	11	85
5	255	11.9	+7	16.7	22	40.7	+15	16.0	50	4	05	4	45	5	19	20	27
6	270	12.1	+7	15.8	37	10.4	+15	30.0	45	4	19	4	55	5	25	20	43
7	285	12.3		14.9	51	40.0		44.0	40	30		5	03	30	20	56	33
8	300	12.5		14.0	66	09.6	+15	57.8	35	38		09	35	21	08	36	28
9	315	12.7		13.0	80	39.2	+16	11.5	30	46		14	38	18	39	19	65
10	330	12.9		12.1	95	08.8		25.1	20	4	57	23	45	35	44	10	04
11	345	13.1	+7	11.2	109	38.3	+16	38.5	10 N	5	05	5	29	5	51	21	50
12	0	13.3	+7	10.3	124	07.8	+16	51.9	0	5	11	5	35	5	56	22	05
13	15	13.5		09.3	138	37.3	+17	05.2	10 S	15		40	6	01	19	56	26
14	30	13.7		08.4	153	06.8		18.4	20	19		44	06	35	59	9	13
15	45	13.9		07.5	167	36.2		31.4	30	20		48	12	22	53	64	8
16	60	14.1		06.6	182	05.6		44.4	35	21		50	16	23	03	67	49
17	75	14.3	+7	05.7	196	34.9	+17	57.2	40	5	21	5	52	6	19	23	15
18	90	14.5	+7	04.7	211	04.2	+18	10.0	45	5	20	5	54	6	24	23	30
19	105	14.8		03.8	225	33.5		22.6	50	19		56	29	48	80	15	21
20	120	15.0		02.9	240	02.8		35.1	52	18		57	31	23	56	83	09
21	135	15.2		02.0	254	32.0		47.5	54	18		58	34	**	**	**	8
22	150	15.4		01.0	269	01.2	+18	59.7	56	16		5	59	37	**	**	7
23	165	15.6	+7	00.1	283	30.4	+19	11.9	58	15		6	00	40	**	**	45
24	180	15.8	+6	59.2	297	59.5	+19	23.9	60 S	5	14	6	01	6	43	**	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 1 ^h 08.4 ^m		Mag: -4.7 PMG: 9 ^h 58 ^m		Mag: +1.7 PMG: 13 ^h 26 ^m		Mag: -2.7 PMG: 4 ^h 02 ^m		Mag: +0.4 PMG: 23 ^h 28 ^m									
	hG ♈	Dec		hG ♀	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	°	'	°	°	'	°	°	'							
0	342	51.5	210	11.1	+10	23.1	158	13.3	-1	20.5	299	20.6	+15	14.1	7	00.5	-11	58.6
1	357	54.0	225	13.4		23.4	173	14.3		21.2	314	23.1		14.1	22	03.2		58.7
2	12	56.5	240	15.8		23.7	188	15.3		21.8	329	25.6		14.1	37	05.8		58.8
3	27	58.9	255	18.2		24.0	203	16.3		22.5	344	28.0		14.1	52	08.5		58.8
4	43	01.4	270	20.5		24.3	218	17.3		23.1	359	30.5		14.1	67	11.1		58.9
5	58	03.8	285	22.9	+10	24.6	233	18.3	-1	23.8	14	32.9	+15	14.1	82	13.7	-11	59.0
6	73	06.3	300	25.3	+10	25.0	248	19.3	-1	24.5	29	35.4	+15	14.1	97	16.4	-11	59.0
7	88	08.8	315	27.6		25.3	263	20.2		25.1	44	37.8		14.1	112	19.0		59.1
8	103	11.2	330	30.0		25.6	278	21.2		25.8	59	40.3		14.1	127	21.7		59.2
9	118	13.7	345	32.3		25.9	293	22.2		26.4	74	42.8		14.1	142	24.3		59.2
10	133	16.2	0	34.6		26.2	308	23.2		27.1	89	45.2		14.1	157	27.0		59.3
11	148	18.6	15	37.0	+10	26.5	323	24.2	-1	27.8	104	47.7	+15	14.1	172	29.6	-11	59.4
12	163	21.1	30	39.3	+10	26.8	338	25.2	-1	28.4	119	50.1	+15	14.1	187	32.2	-11	59.4
13	178	23.6	45	41.6		27.1	353	26.2		29.1	134	52.6		14.1	202	34.9		59.5
14	193	26.0	60	44.0		27.4	8	27.2		29.7	149	55.1		14.1	217	37.5		59.6
15	208	28.5	75	46.3		27.7	23	28.2		30.4	164	57.5		14.0	232	40.2		59.7
16	223	31.0	90	48.6		28.0	38	29.2		31.1	180	00.0		14.0	247	42.8		59.7
17	238	33.4	105	50.9	+10	28.3	53	30.1	-1	31.7	195	02.5	+15	14.0	262	45.4	-11	59.8
18	253	35.9	120	53.2	+10	28.6	68	31.1	-1	32.4	210	04.9	+15	14.0	277	48.1	-11	59.9
19	268	38.3	135	55.5		29.0	83	32.1		33.1	225	07.4		14.0	292	50.7	-11	59.9
20	283	40.8	150	57.8		29.3	98	33.1		33.7	240	09.8		14.0	307	53.4	-12	00.0
21	298	43.3	166	00.1		29.6	113	34.1		34.4	255	12.3		14.0	322	56.0	-12	00.1
22	313	45.7	181	02.4		29.9	128	35.1		35.0	270	14.8		14.0	337	58.6		00.1
23	328	48.2	196	04.7		30.2	143	36.1		35.7	285	17.2		14.0	353	01.3		00.2
24	343	50.7	211	07.0	+10	30.5	158	37.1	-1	36.4	300	19.7	+15	14.0	8	03.9	-12	00.3
Dif	—		+23		+3		+10		-7		+25		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 58.8 ^m			Edad: 19.6 ^d SD: 15'7 PMG: 4 ^h 17 ^m PHE { 4 ^h : 57'7 12 ^h : 57'4 20 ^h : 57'0 R°: 52 ^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	180	15.8	+6	59.2	297	59.5	+19	23.9	60 N	18 52	19 36	20 32	19 42	9	13 31	102
1	195	16.0		58.3	312	28.6		35.9	58	48	30	21	20 00	16	13 14	94
2	210	16.2		57.3	326	57.6		47.7	56	45	24	12	15 22		12 59	89
3	225	16.4		56.4	341	26.7	+19	59.3	54	42	18	20 03	28 26		47 8	
4	240	16.6		55.5	355	55.7	+20	10.9	52	39	14	19 56	40 28		36 81	
5	255	16.8	+6	54.6	10	24.6	+20	22.3	50	18 36	19 09	19 50	20 50	31	12 26	78
6	270	17.1	+6	53.6	24	53.5	+20	33.6	45	18 30	19 00	19 36	21 12	35	12 06	73
7	285	17.3		52.7	39	22.4		44.8	40	26	18 53	26	29 39		11 49	70
8	300	17.5		51.8	53	51.3	+20	55.9	35	22	47	18	44 42		36 66	
9	315	17.7		50.9	68	20.1	+21	06.8	30	18	42	11	21 57	44	24	63
10	330	17.9		49.9	82	48.9		17.7	20	12	34	19 00	22 19	47	11 03	60
11	345	18.1	+6	49.0	97	17.6	+21	28.3	10 N	18 07	18 28	18 53	22 38	51	10 46	55
12	0	18.3	+6	48.1	111	46.3	+21	38.9	0	18 02	18 23	18 47	22 56	54	10 29	53
13	15	18.5		47.2	126	15.0		49.3	10 S	17 57	18	43	23 15	55	10 13	49
14	30	18.7		46.2	140	43.6	+21	59.6	20	52	15	40	34 59		9 55	46
15	45	18.9		45.3	155	12.2	+22	09.8	30	47	11	39	23 57	62	35	42
16	60	19.1		44.4	169	40.8		19.8	35	44	09	39	** ** *	**	24 39	
17	75	19.4	+6	43.5	184	09.4	+22	29.8	40	17 40	18 08	18 39	** ** *	**	9 10	36
18	90	19.6	+6	42.5	198	37.9	+22	39.5	45	17 36	18 06	18 40	** ** *	**	8 55	32
19	105	19.8		41.6	213	06.3		49.2	50	32	04	41	** ** *	**	36 26	
20	120	20.0		40.7	227	34.8	+22	58.7	52	30	03	42	** ** *	**	27 24	
21	135	20.2		39.7	242	03.2	+23	08.1	54	27	03	44	0 05	87	17 20	
22	150	20.4		38.8	256	31.5		17.3	56	25	02	45	16 91		8 05	17
23	165	20.6		37.9	270	59.9		26.4	58	22	01	47	28 97		7 52	12
24	180	20.8	+6	37.0	285	28.2	+23	35.4	60 S	17 18	18 00	18 48	0 43	103	7 37	5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG 1 ^h 04.4 ^m		Mag: -4.7 PMG: 9 ^h 54 ^m		Mag: +1.7 PMG: 13 ^h 25 ^m		Mag: -2.7 PMG: 3 ^h 58 ^m		Mag: +0.4 PMG: 23 ^h 24 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	343	50.7	211	07.0	+10	30.5	158	37.1	-1	36.4	300	19.7	+15	14.0	8 03.9 -12 00.3	
1	358	53.1	226	09.3		30.8	173	38.0		37.0	315	22.2		14.0	23 06.6 00.3	
2	13	55.6	241	11.5		31.1	188	39.0		37.7	330	24.6		14.0	38 09.2 00.4	
3	28	58.1	256	13.8		31.4	203	40.0		38.3	345	27.1		13.9	53 11.8 00.5	
4	44	00.5	271	16.1		31.7	218	41.0		39.0	0	29.6		13.9	68 14.5 00.6	
5	59	03.0	286	18.3	+10	31.9	233	42.0	-1	39.7	15	32.0	+15	13.9	83 17.1 -12 00.6	
6	74	05.4	301	20.6	+10	32.2	248	43.0	-1	40.3	30	34.5	+15	13.9	98 19.8 -12 00.7	
7	89	07.9	316	22.8		32.5	263	44.0		41.0	45	37.0		13.9	113 22.4 00.8	
8	104	10.4	331	25.1		32.8	278	45.0		41.7	60	39.4		13.9	128 25.0 00.8	
9	119	12.8	346	27.3		33.1	293	46.0		42.3	75	41.9		13.9	143 27.7 00.9	
10	134	15.3	1	29.6		33.4	308	46.9		43.0	90	44.4		13.9	158 30.3 01.0	
11	149	17.8	16	31.8	+10	33.7	323	47.9	-1	43.6	105	46.8	+15	13.9	173 33.0 -12 01.0	
12	164	20.2	31	34.1	+10	34.0	338	48.9	-1	44.3	120	49.3	+15	13.9	188 35.6 -12 01.1	
13	179	22.7	46	36.3		34.3	353	49.9		45.0	135	51.8		13.9	203 38.2 01.2	
14	194	25.2	61	38.5		34.6	8	50.9		45.6	150	54.3		13.8	218 40.9 01.2	
15	209	27.6	76	40.7		34.9	23	51.9		46.3	165	56.7		13.8	233 43.5 01.3	
16	224	30.1	91	43.0		35.2	38	52.9		47.0	180	59.2		13.8	248 46.2 01.4	
17	239	32.6	106	45.2	+10	35.5	53	53.9	-1	47.6	196	01.7	+15	13.8	263 48.8 -12 01.4	
18	254	35.0	121	47.4	+10	35.7	68	54.8	-1	48.3	211	04.1	+15	13.8	278 51.4 -12 01.5	
19	269	37.5	136	49.6		36.0	83	55.8		48.9	226	06.6		13.8	293 54.1 01.6	
20	284	39.9	151	51.8		36.3	98	56.8		49.6	241	09.1		13.8	308 56.7 01.6	
21	299	42.4	166	54.0		36.6	113	57.8		50.3	256	11.6		13.8	323 59.4 01.7	
22	314	44.9	181	56.2		36.9	128	58.8		50.9	271	14.0		13.8	339 02.0 01.8	
23	329	47.3	196	58.4		37.2	143	59.8		51.6	286	16.5		13.7	354 04.6 01.9	
24	344	49.8	212	00.6	+10	37.5	159	00.8	-1	52.2	301	19.0	+15	13.7	9 07.3 -12 01.9	
Dif	—		+22		+3		+10		-7		+25		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 58.4 ^m			Edad: 20.6 ^d SD: 15'5 PMG: 5 ^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	20.8	+6	37.0	285	28.2	+23	35.4	88	60 N	3 26	4 22	5 06	19 51	20	15 13	91
1	195	21.0		36.0	299	56.5	93	44.2	88	58	37	29	10	20 16	29	14 48	82
2	210	21.2		35.1	314	24.7	92	+23	52.9	87	56	47	35	13	37 33		28 77
3	225	21.5		34.2	328	52.9	92	+24	01.5	86	54	3 55	40	16	20 54	36	14 11
4	240	21.7		33.2	343	21.1	92		09.9	84	52	4 02	44	19	21 08	39	13 57
5	255	21.9	+6	32.3	357	49.3	92	+24	18.2	83	50	4 08	4 49	5 22	21 21	40	13 44
6	270	22.1	+6	31.4	12	17.4	91	+24	26.4	82	45	4 22	4 57	5 27	21 47	44	13 19
7	285	22.3		30.5	26	45.5	91		34.4	80	40	32	5 05	32	22 08	46	12 59
8	300	22.5		29.5	41	13.5	90		42.2	78	35	40	10	36	26 47		42 62
9	315	22.7		28.6	55	41.6	91		50.0	78	30	47	15	39	22 41	48	27 61
10	330	22.9		27.7	70	09.6	90	+24	57.5	75	20	4 57	23	45	23 06	51	12 03
11	345	23.1	+6	26.7	84	37.6	90	+25	05.0	75	10 N	5 05	5 29	5 50	23 29	52	11 41
12	0	23.4	+6	25.8	99	05.5	89	+25	12.3	73	0	5 10	5 34	5 55	23 50	53	11 22
13	15	23.6		24.9	113	33.5	90		19.5	70	10 S	14	39	6 00	** ** *	**	11 02
14	30	23.8		23.9	128	01.4	89		26.5	72	20	17	42	04	** ** *	**	10 41
15	45	24.0		23.0	142	29.3	89		30.3	68	30	18	46	10	** ** *	**	17 46
16	60	24.2		22.1	156	57.1	88		43.1	68	35	18	47	13	0 10	65	10 03
17	75	24.4	+6	21.1	171	25.0	89	+25	46.7	66	40	5 18	5 49	6 16	0 26	67	9 46
18	90	24.6	+6	20.2	185	52.8	88	+25	53.1	64	45	5 17	5 51	6 20	0 45	70	9 27
19	105	24.8		19.3	200	20.6	88	+25	59.4	63	50	15	52	25	1 08	75	9 02
20	120	25.1		18.3	214	48.3	87	+26	05.5	61	52	14	53	27	19 77		8 51
21	135	25.3		17.4	229	16.1	88		11.5	60	54	13	54	29	32 80		37 31
22	150	25.5		16.5	243	43.8	87		17.4	59	56	11	54	31	1 47	84	22 27
23	165	25.7		15.5	258	11.6	88		23.1	57	58	10	55	34	2 05	89	8 04
24	180	25.9	+6	14.6	272	39.3	87	+26	28.7	56	60 S	5 08	5 56	6 37	2 26	99	7 42

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 1 ^h 00.5 ^m		Mag: -4.7 PMG: 9 ^h 51 ^m		Mag: +1.7 PMG: 13 ^h 23 ^m		Mag: -2.7 PMG: 3 ^h 54 ^m		Mag: +0.4 PMG: 23 ^h 19 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	344	49.8	212	00.6	+10	37.5	159	00.8	-1	52.2	301	19.0	+15	13.7	9	07.3	-12	01.9
1	359	52.3	227	02.7		37.7	174	01.7		52.9	316	21.4		13.7	24	09.9		02.0
2	14	54.7	242	04.9		38.0	189	02.7		53.6	331	23.9		13.7	39	12.6		02.1
3	29	57.2	257	07.1		38.3	204	03.7		54.2	346	26.4		13.7	54	15.2		02.1
4	44	59.7	272	09.3		38.6	219	04.7		54.9	1	28.9		13.7	69	17.8		02.2
5	60	02.1	287	11.4	+10	38.9	234	05.7	-1	55.6	16	31.3	+15	13.7	84	20.5	-12	02.3
6	75	04.6	302	13.6	+10	39.1	249	06.7	-1	56.2	31	33.8	+15	13.7	99	23.1	-12	02.3
7	90	07.1	317	15.8		39.4	264	07.7		56.9	46	36.3		13.7	114	25.8		02.4
8	105	09.5	332	17.9		39.7	279	08.6		57.5	61	38.8		13.6	129	28.4		02.5
9	120	12.0	347	20.1		40.0	294	09.6		58.2	76	41.2		13.6	144	31.0		02.5
10	135	14.4	2	22.2		40.3	309	10.6		58.9	91	43.7		13.6	159	33.7		02.6
11	150	16.9	17	24.4	+10	40.5	324	11.6	-1	59.5	106	46.2	+15	13.6	174	36.3	-12	02.7
12	165	19.4	32	26.5	+10	40.8	339	12.6	-2	00.2	121	48.7	+15	13.6	189	39.0	-12	02.7
13	180	21.8	47	28.6		41.1	354	13.6		00.8	136	51.2		13.6	204	41.6		02.8
14	195	24.3	62	30.8		41.4	9	14.6		01.5	151	53.6		13.6	219	44.2		02.9
15	210	26.8	77	32.9		41.6	24	15.5		02.2	166	56.1		13.6	234	46.9		02.9
16	225	29.2	92	35.0		41.9	39	16.5		02.8	181	58.6		13.6	249	49.5		03.0
17	240	31.7	107	37.1	+10	42.2	54	17.5	-2	03.5	197	01.1	+15	13.5	264	52.1	-12	03.1
18	255	34.2	122	39.3	+10	42.4	69	18.5	-2	04.2	212	03.5	+15	13.5	279	54.8	-12	03.1
19	270	36.6	137	41.4		42.7	84	19.5		04.8	227	06.0		13.5	294	57.4		03.2
20	285	39.1	152	43.5		43.0	99	20.5		05.5	242	08.5		13.5	310	00.1		03.3
21	300	41.5	167	45.6		43.2	114	21.4		06.1	257	11.0		13.5	325	02.7		03.3
22	315	44.0	182	47.7		43.5	129	22.4		06.8	272	13.5		13.5	340	05.3		03.4
23	330	46.5	197	49.8		43.8	144	23.4		07.5	287	16.0		13.5	355	08.0		03.5
24	345	48.9	212	51.9	+10	44.0	159	24.4	-2	08.1	302	18.4	+15	13.4	10	10.6	-12	03.6
Dif	—		+21		+3		+10		-7		+25		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 58.1 ^m				Edad: 21.6 ^d SD: 15'3 PMG: 6 ^h 02 ^m PHE { 4 ^h : 55'9 12 ^h : 55'7 20 ^h : 55'5 Rº: 54 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico		Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m			
0	180	25.9	+6	14.6	272	39.3	+26	28.7	54	60 N	18 46	19 30	20 25	20 11	47	16 44	65				
1	195	26.1		13.7	287	07.0		34.1	53	58	43	24	14	20 45	49	16 10	62				
2	210	26.3		12.7	301	34.6		39.4	51	56	40	18	20 05	21 10	51	15 45	61				
3	225	26.5		11.8	316	02.3		44.5	50	54	37	13	19 58	30 51		26 59					
4	240	26.8		10.9	330	29.9		49.5	48	52	34	09	51	21 47	52	15 09	59				
5	255	27.0	+6	09.9	344	57.6	+26	54.3	47	50	18 32	19 05	19 45	22 01	52	14 55	58				
6	270	27.2	+6	09.0	359	25.2	+26	59.0	45	45	18 27	18 57	19 32	22 31	52	14 25	58				
7	285	27.4		08.1	13	52.8	+27	03.5	44	40	22	50	22	22 54	53	14 03	57				
8	300	27.6		07.1	28	20.4		07.9	43	35	19	44	15	23 13	53	13 44	56				
9	315	27.8		06.2	42	48.0		12.2	40	30	16	40	19 08	29 53		28 56					
10	330	28.0		05.3	57	15.6		16.2	40	20	10	32	18 58	23 57	53	13 01	55				
11	345	28.2	+6	04.3	71	43.2	+27	20.2	38	10 N	18 06	18 27	18 51	** ** *		12 37	55				
12	0	28.5	+6	03.4	86	10.8	+27	24.0	36	0	18 01	18 22	18 46	** ** *		12 15	54				
13	15	28.7		02.5	100	38.4		27.6	35	10 S	17 57	18	43	0 10	56	11 54	53				
14	30	28.9		01.5	115	06.0		31.1	34	20	53	15	41	33 57		30 52					
15	45	29.1	+6	00.6	129	33.5		34.5	32	30	48	12	40	0 59	59	11 03	51				
16	60	29.3	+5	59.7	144	01.1		37.7	32	35	45	11	40	1 15	59	10 47	51				
17	75	29.5	+5	58.7	158	28.7	+27	40.7	30	40	17 42	18 09	18 41	1 33	61	10 29	49				
18	90	29.7	+5	57.8	172	56.3	+27	43.6	29	45	17 39	18 08	18 42	1 55	62	10 06	48				
19	105	30.0		56.8	187	23.9		46.4	28	50	35	07	44	2 23	64	9 38	46				
20	120	30.2		55.9	201	51.5		49.0	26	52	33	07	46	36 66		24 45					
21	135	30.4		55.0	216	19.1		51.4	24	54	31	06	47	2 52	68	9 08	43				
22	150	30.6		54.0	230	46.7		53.8	21	56	28	06	49	3 11	70	8 49	41				
23	165	30.8		53.1	245	14.3		55.9	21	58	26	05	51	3 34	74	8 25	38				
24	180	31.0	+5	52.2	259	41.9	+27	57.9	20	60 S	17 23	18 05	18 53	4 05	81	7 54	31				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 0 ^h 56.6 ^m		Mag: -4.7 PMG: 9 ^h 47 ^m		Mag: +1.7 PMG: 13 ^h 21 ^m		Mag: -2.7 PMG: 3 ^h 50 ^m		Mag: +0.4 PMG: 23 ^h 15 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	345	48.9	212	51.9	159	24.4	-2	08.1	302	18.4	+15	13.4	10	10.6	-12	03.6		
1	0	51.4	227	54.0	174	25.4		08.8	317	20.9		13.4	25	13.3		03.6		
2	15	53.9	242	56.0	189	26.4		09.5	332	23.4		13.4	40	15.9		03.7		
3	30	56.3	257	58.1	204	27.4		10.1	347	25.9		13.4	55	18.5		03.8		
4	45	58.8	273	00.2	219	28.3		10.8	2	28.4		13.4	70	21.2		03.8		
5	61	01.3	288	02.3	234	29.3	-2	11.4	17	30.8	+15	13.4	85	23.8	-12	03.9		
6	76	03.7	303	04.3	249	30.3	-2	12.1	32	33.3	+15	13.4	100	26.5	-12	04.0		
7	91	06.2	318	06.4	264	31.3		12.8	47	35.8		13.4	115	29.1		04.0		
8	106	08.7	333	08.5	279	32.3		13.4	62	38.3		13.3	130	31.7		04.1		
9	121	11.1	348	10.5	294	33.3		14.1	77	40.8		13.3	145	34.4		04.2		
10	136	13.6	3	12.6	309	34.2		14.7	92	43.3		13.3	160	37.0		04.2		
11	151	16.0	18	14.6	324	35.2	-2	15.4	107	45.8	+15	13.3	175	39.6	-12	04.3		
12	166	18.5	33	16.7	339	36.2	-2	16.1	122	48.2	+15	13.3	190	42.3	-12	04.4		
13	181	21.0	48	18.7	354	37.2		16.7	137	50.7		13.3	205	44.9		04.4		
14	196	23.4	63	20.8	9	38.2		17.4	152	53.2		13.3	220	47.6		04.5		
15	211	25.9	78	22.8	24	39.1		18.1	167	55.7		13.2	235	50.2		04.6		
16	226	28.4	93	24.8	39	40.1		18.7	182	58.2		13.2	250	52.8		04.6		
17	241	30.8	108	26.9	54	41.1	-2	19.4	198	00.7	+15	13.2	265	55.5	-12	04.7		
18	256	33.3	123	28.9	69	42.1	-2	20.0	213	03.2	+15	13.2	280	58.1	-12	04.8		
19	271	35.8	138	30.9	84	43.1		20.7	228	05.6		13.2	296	00.8		04.8		
20	286	38.2	153	32.9	99	44.1		21.4	243	08.1		13.2	311	03.4		04.9		
21	301	40.7	168	34.9	114	45.0		22.0	258	10.6		13.1	326	06.0		05.0		
22	316	43.2	183	36.9	129	46.0		22.7	273	13.1		13.1	341	08.7		05.0		
23	331	45.6	198	38.9	144	47.0		23.4	288	15.6		13.1	356	11.3		05.1		
24	346	48.1	213	40.9	159	48.0	-2	24.0	303	18.1	+15	13.1	11	13.9	-12	05.2		
Dif	—		+20		+3		+10		-7		+25		0		+26		-	

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: 22.6 ^d SD: 15'1 PMG: 6 ^h 56 ^m														
	PHE { 4 ^h : 55'3 12 ^h : 55'1 20 ^h : 54'9 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	180	31.0	+5	52.2	259	41.9	87	+27	57.9	19	60 N	3 32	4 27	5 11	20 58	77	17 49	31
1	195	31.2		51.2	274	09.6	86	+27	59.8	17	58	42	33	14	21 34	71	17 12	38
2	210	31.5		50.3	288	37.2	87	+28	01.5	16	56	51	39	17	22 01	66	16 46	41
3	225	31.7		49.3	303	04.9	87		03.1	16	54	3 59	44	20	21 65		25	43
4	240	31.9		48.4	317	32.6	87		04.5	14	52	4 06	48	23	39 63	16 08	44	
5	255	32.1	+5	47.5	332	00.3	87	+28	05.8	13	50	4 12	4 52	5 25	22 53	62	15 53	45
6	270	32.3	+5	46.5	346	28.0	87	+28	06.9	11	45	4 24	5 00	5 30	23 23	60	15 23	47
7	285	32.5		45.6	0	55.7	87		07.9	10	40	34	06	34	23 47	58	15 00	48
8	300	32.7		44.7	15	23.4	87		08.7	8	35	42	12	37	** ** *	**	14 40	49
9	315	33.0		43.7	29	51.2	88		09.4	7	30	48	16	41	** ** *	**	14 24	50
10	330	33.2		42.8	44	19.0	88		09.9	5	20	4 58	24	46	** ** *	**	13 56	51
11	345	33.4	+5	41.8	58	46.8	88	+28	10.3	4	10 N	5 05	5 29	5 50	0 21	53	13 32	51
12	0	33.6	+5	40.9	73	14.7	89	+28	10.6	3	0	5 10	5 34	5 54	0 43	53	13 09	53
13	15	33.8		40.0	87	42.5	88		10.7	1	10 S	13	37	5 59	1 06	53	12 47	53
14	30	34.0		39.0	102	10.4	89		10.7	0	20	15	41	6 03	30	53	12 22	54
15	45	34.3		38.1	116	38.3	89		10.5	2	30	16	43	07	1 58	53	11 54	55
16	60	34.5		37.1	131	06.3	90		10.1	4	35	15	45	10	2 14	53	38	55
17	75	34.7	+5	36.2	145	34.3	90	+28	09.7	4	40	5 15	5 46	6 13	2 34	52	11 18	56
18	90	34.9	+5	35.3	160	02.3	90	+28	09.0	7	45	5 13	5 47	6 16	2 57	52	10 54	57
19	105	35.1		34.3	174	30.3	90		08.3	7	50	11	48	20	3 27	52	24	57
20	120	35.3		33.4	188	58.4	91		07.4	9	52	09	48	22	3 42	52	10 09	58
21	135	35.5		32.4	203	26.5	91		06.3	11	54	08	49	24	4 00	51	9 51	59
22	150	35.8		31.5	217	54.7	92		05.2	11	56	06	49	26	21	50	30	60
23	165	36.0		30.6	232	22.8	91		03.8	14	58	04	50	29	4 48	49	9 03	61
24	180	36.2	+5	29.6	246	51.1	93	+28	02.4	14	60 S	5 02	5 50	6 31	5 26	46	8 25	64

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 52.7 ^m		Mag: -4.7 PMG: 9 ^h 44 ^m			Mag: +1.7 PMG: 13 ^h 20 ^m			Mag: -2.7 PMG: 3 ^h 46 ^m			Mag: +0.5 PMG: 23 ^h 11 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°	'			
0	346	48.1	213	40.9	+10	50.2	159	48.0	-2	24.0	303	18.1	+15	13.1	11	13.9	-12	05.2
1	1	50.5	228	42.9		50.5	174	49.0		24.7	318	20.6		13.1	26	16.6		05.2
2	16	53.0	243	44.9		50.7	189	50.0		25.3	333	23.1		13.1	41	19.2		05.3
3	31	55.5	258	46.9		50.9	204	50.9		26.0	348	25.6		13.1	56	21.9		05.4
4	46	57.9	273	48.9		51.2	219	51.9		26.7	3	28.1		13.0	71	24.5		05.4
5	62	00.4	288	50.9	+10	51.4	234	52.9	-2	27.3	18	30.6	+15	13.0	86	27.1	-12	05.5
6	77	02.9	303	52.9	+10	51.7	249	53.9	-2	28.0	33	33.0	+15	13.0	101	29.8	-12	05.6
7	92	05.3	318	54.8		51.9	264	54.9		28.6	48	35.5		13.0	116	32.4		05.6
8	107	07.8	333	56.8		52.2	279	55.8		29.3	63	38.0		13.0	131	35.0		05.7
9	122	10.3	348	58.8		52.4	294	56.8		30.0	78	40.5		13.0	146	37.7		05.8
10	137	12.7	4	00.7		52.6	309	57.8		30.6	93	43.0		12.9	161	40.3		05.8
11	152	15.2	19	02.7	+10	52.9	324	58.8	-2	31.3	108	45.5	+15	12.9	176	43.0	-12	05.9
12	167	17.7	34	04.7	+10	53.1	339	59.8	-2	32.0	123	48.0	+15	12.9	191	45.6	-12	06.0
13	182	20.1	49	06.6		53.4	355	00.7		32.6	138	50.5		12.9	206	48.2		06.0
14	197	22.6	64	08.6		53.6	10	01.7		33.3	153	53.0		12.9	221	50.9		06.1
15	212	25.0	79	10.5		53.8	25	02.7		33.9	168	55.5		12.9	236	53.5		06.2
16	227	27.5	94	12.4		54.1	40	03.7		34.6	183	58.0		12.8	251	56.1		06.2
17	242	30.0	109	14.4	+10	54.3	55	04.7	-2	35.3	199	00.5	+15	12.8	266	58.8	-12	06.3
18	257	32.4	124	16.3	+10	54.5	70	05.6	-2	35.9	214	03.0	+15	12.8	282	01.4	-12	06.4
19	272	34.9	139	18.2		54.8	85	06.6		36.6	229	05.5		12.8	297	04.1		06.4
20	287	37.4	154	20.2		55.0	100	07.6		37.3	244	08.0		12.8	312	06.7		06.5
21	302	39.8	169	22.1		55.2	115	08.6		37.9	259	10.5		12.8	327	09.3		06.6
22	317	42.3	184	24.0		55.5	130	09.6		38.6	274	13.0		12.7	342	12.0		06.6
23	332	44.8	199	25.9		55.7	145	10.5		39.2	289	15.5		12.7	357	14.6		06.7
24	347	47.2	214	27.8	+10	55.9	160	11.5	-2	39.9	304	18.0	+15	12.7	12	17.2	-12	06.8
Dif	—		+20		+2		+10		-7		+25		0		+26		-	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 15'9 PMG: 11 ^h 57.4 ^m			Edad: 23.6 ^d SD: 14'9 PMG: 7 ^h 49 ^m							PHE { 4 ^h : 54'7 12 ^h : 54'6 20 ^h : 54'4 R°: 51 ^m									
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m			
0	180	36.2	+5	29.6	246	51.1	92	+28	02.4	60 N	18 40	19 23	20 18	22 15	90	18 20	13			
1	195	36.4		28.7	261	19.3	93	+28	00.7	58	37	18	20 08	22 45	81	17 50	21			
2	210	36.6		27.7	275	47.6	94	+27	59.0	56	34	13	19 59	23 07	77	27	26			
3	225	36.8		26.8	290	16.0	94		57.1	54	32	08	52	26	73	17 08	29			
4	240	37.1		25.8	304	44.4	94		55.1	52	30	04	46	42	70	16 52	32			
5	255	37.3	+5	24.9	319	12.8	94	+27	52.9	50	18 27	19 00	19 40	23 55	69	16 38	34			
6	270	37.5	+5	24.0	333	41.3	95	+27	50.6	45	18 23	18 53	19 28	**	**	**	16 10	38		
7	285	37.7		23.0	348	09.8	95		48.2	40	19	47	19	**	**	**	15 48	40		
8	300	37.9		22.1	2	38.4	96		45.6	35	16	42	12	0	06	57	29	42		
9	315	38.1		21.1	17	07.0	96		42.9	30	13	37	19 06	22	56	15	14	43		
10	330	38.4		20.2	31	35.6	96		40.0	20	08	31	18 56	0	50	54	14	47		
11	345	38.6	+5	19.2	46	04.3	97	+27	37.0	10 N	18 04	18 25	18 50	1	14	53	14	23	49	
12	0	38.8	+5	18.3	60	33.1	98	+27	33.9	0	18 01	18 21	18 46	1	36	52	14	02	50	
13	15	39.0		17.4	75	01.9	98		30.7	32	17 57	18	43	1	59	50	13	40	52	
14	30	39.2		16.4	89	30.8	99		27.3	34	20	53	15	41	2	23	48	13	16	55
15	45	39.4		15.5	103	59.7	99		23.8	35	30	49	13	41	2	51	46	12	49	57
16	60	39.7		14.5	118	28.7	100		20.1	37	35	47	12	41	3	07	45	33	58	
17	75	39.9	+5	13.6	132	57.7	100	+27	16.3	38	40	17 44	18 11	18 43	3	26	44	12	14	60
18	90	40.1	+5	12.6	147	26.8	101	+27	12.4	39	45	17 41	18 10	18 44	3	49	42	11	51	62
19	105	40.3		11.7	161	55.9	101		08.4	40	50	38	10	47	4	19	39	21	66	
20	120	40.5		10.7	176	25.1	102	+27	04.2	42	52	36	10	49	34	37	11	07	68	
21	135	40.7		09.8	190	54.4	103	+26	59.9	43	54	34	10	50	4	51	35	10	50	70
22	150	41.0		08.9	205	23.7	103		55.5	44	56	32	09	53	5	11	32	30	73	
23	165	41.2		07.9	219	53.0	103		50.9	46	58	30	09	55	5	37	28	10	04	78
24	180	41.4	+5	07.0	234	22.5	105	+26	46.2	47	60 S	17 28	18 09	18 58	6	12	19	9	29	87
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO								
	PMG 0 ^h 48.7 ^m		Mag: -4.7 PMG: 9 ^h 41 ^m			Mag: +1.7 PMG: 13 ^h 18 ^m			Mag: -2.7 PMG: 3 ^h 42 ^m			Mag: +0.5 PMG: 23 ^h 07 ^m								
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	347	47.2	214	27.8	+10	55.9	160	11.5	-2	39.9	304	18.0	+15	12.7	12	17.2	-12	06.8		
1	2	49.7	229	29.7		56.2	175	12.5		40.6	319	20.5		12.7	27	19.9		06.8		
2	17	52.1	244	31.6		56.4	190	13.5		41.2	334	23.0		12.7	42	22.5		06.9		
3	32	54.6	259	33.5		56.6	205	14.5		41.9	349	25.5		12.6	57	25.1		07.0		
4	47	57.1	274	35.4		56.8	220	15.4		42.5	4	28.0		12.6	72	27.8		07.0		
5	62	59.5	289	37.3	+10	57.1	235	16.4	-2	43.2	19	30.5	+15	12.6	87	30.4	-12	07.1		
6	78	02.0	304	39.2	+10	57.3	250	17.4	-2	43.9	34	33.0	+15	12.6	102	33.1	-12	07.2		
7	93	04.5	319	41.1		57.5	265	18.4		44.5	49	35.5		12.6	117	35.7		07.2		
8	108	06.9	334	43.0		57.7	280	19.3		45.2	64	38.0		12.6	132	38.3		07.3		
9	123	09.4	349	44.9		58.0	295	20.3		45.9	79	40.5		12.5	147	41.0		07.4		
10	138	11.9	4	46.7		58.2	310	21.3		46.5	94	43.0		12.5	162	43.6		07.4		
11	153	14.3	19	48.6	+10	58.4	325	22.3	-2	47.2	109	45.5	+15	12.5	177	46.2	-12	07.5		
12	168	16.8	34	50.5	+10	58.6	340	23.3	-2	47.8	124	48.0	+15	12.5	192	48.9	-12	07.6		
13	183	19.3	49	52.3		58.8	355	24.2		48.5	139	50.5		12.5	207	51.5		07.6		
14	198	21.7	64	54.2		59.0	10	25.2		49.2	154	53.0		12.4	222	54.1		07.7		
15	213	24.2	79	56.1		59.3	25	26.2		49.8	169	55.5		12.4	237	56.8		07.8		
16	228	26.6	94	57.9		59.5	40	27.2		50.5	184	58.0		12.4	252	59.4		07.8		
17	243	29.1	109	59.8	+10	59.7	55	28.1	-2	51.1	200	00.5	+15	12.4	268	02.1	-12	07.9		
18	258	31.6	125	01.6	+10	59.9	70	29.1	-2	51.8	215	03.0	+15	12.4	283	04.7	-12	08.0		
19	273	34.0	140	03.5	+11	00.1	85	30.1		52.5	230	05.5		12.3	298	07.3		08.0		
20	288	36.5	155	05.3		00.3	100	31.1		53.1	245	08.0		12.3	313	10.0		08.1		
21	303	39.0	170	07.1		00.5	115	32.1		53.8	260	10.5		12.3	328	12.6		08.2		
22	318	41.4	185	09.0		00.8	130	33.0		54.5	275	13.0		12.3	343	15.2		08.2		
23	333	43.9	200	10.8		01.0	145	34.0		55.1	290	15.5		12.3	358	17.9		08.3		
24	348	46.4	215	12.6	+11	01.2	160	35.0	-2	55.8	305	18.0	+15	12.2	13	20.5	-12	08.4		
Dif	—		+19		+2		+10		-7		+25		0		+26		-		-	

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: 24.6 ^d SD: 14'8 PMG: 8 ^h 40 ^m PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'2 R°: 48 ^m																			
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil		Hora	R°	Hora	R°							
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m						
0	180	41.4	+5	07.0	234	22.5	+26	46.2	48	60 N	3	38	4	32	5	15	23	45	91	18	33	5	
1	195	41.6		06.0	248	52.0		41.4	48	58		48		38	18		**	**	**	18	11	11	
2	210	41.8		05.1	263	21.5		36.5	49	56	3	56		43	21		**	**	**	17	53	16	
3	225	42.1		04.1	277	51.1		31.5	50	54	4	03		47	24		**	**	**			37	20
4	240	42.3		03.2	292	20.8		26.3	52	52		10		51	26		**	**	**			24	22
5	255	42.5	+5	02.2	306	50.5	+26	21.0	53	50	4	15		4	55	5	28	**	**	**	17	12	25
6	270	42.7	+5	01.3	321	20.3	+26	15.6	54	45	4	27		5	02	5	32	0	23	64	16	48	29
7	285	42.9	+5	00.3	335	50.2		10.0	56	40		36		08	36		0	45	61			28	33
8	300	43.1	+4	59.4	350	20.1	+26	04.4	56	35		43		13	39		1	03	59	16	11	36	
9	315	43.4		58.4	4	50.1	+25	58.6	58	30		49		18	42			18	57	15	57	38	
10	330	43.6		57.5	19	20.2		52.7	59	20	4	58		24	46		1	44	54			33	41
11	345	43.8	+4	56.6	33	50.3	+25	46.6	61	10 N	5	05		5	29	5	50	2	07	51	15	12	44
12	0	44.0	+4	55.6	48	20.5	+25	40.5	61	0	5	09		5	33	5	54	2	28	49	14	52	47
13	15	44.2		54.7	62	50.7		34.3	62	10 S		12		36	5	57	2	49	46			32	50
14	30	44.4		53.7	77	21.1		27.9	64	20		13		39	6	01	3	11	44	14	11	53	
15	45	44.7		52.8	91	51.4		21.4	65	30		13		41	05			37	41	13	46	57	
16	60	44.9		51.8	106	21.9		14.8	66	35		13		42	07		3	52	39			31	59
17	75	45.1	+4	50.9	120	52.4	+25	08.1	67	40	5	11		5	43	6	10	4	10	36	13	14	62
18	90	45.3	+4	49.9	135	23.0	+25	01.3	68	45	5	09		5	43	6	13	4	31	33	12	53	66
19	105	45.5		49.0	149	53.7	+24	54.3	70	50		06		44	16		4	58	29			27	70
20	120	45.8		48.0	164	24.4		47.3	70	52		05		44	17		5	11	26			15	72
21	135	46.0		47.1	178	55.2		40.1	72	54		03		44	19			26	24	12	00	76	
22	150	46.2		46.1	193	26.0		32.9	72	56	5	01		44	21		5	43	20	11	43	79	
23	165	46.4		45.2	207	57.0		25.5	74	58	4	59		44	23		6	05	14	11	22	85	
24	180	46.6	+4	44.2	222	28.0	+24	18.0	75	60 S	4	56		5	44	6	25	6	31	8	10	56	92

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG 0 ^h 44.8 ^m		Mag: -4.7 PMG: 9 ^h 38 ^m			Mag: +1.7 PMG: 13 ^h 17 ^m			Mag: -2.7 PMG: 3 ^h 38 ^m			Mag: +0.5 PMG: 23 ^h 03 ^m						
	hG ♊	Dec	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	°	'	°	°	'	°	°	'	°	'			
0	348	46.4	215	12.6	+11	01.2	160	35.0	-2	55.8	305	18.0	+15	12.2	13	20.5	-12	08.4
1	3	48.8	230	14.4		01.4	175	36.0		56.4	320	20.5		12.2	28	23.1		08.4
2	18	51.3	245	16.2		01.6	190	36.9		57.1	335	23.0		12.2	43	25.8		08.5
3	33	53.8	260	18.1		01.8	205	37.9		57.8	350	25.5		12.2	58	28.4		08.6
4	48	56.2	275	19.9		02.0	220	38.9		58.4	5	28.1		12.2	73	31.1		08.6
5	63	58.7	290	21.7	+11	02.2	235	39.9	-2	59.1	20	30.6	+15	12.1	88	33.7	-12	08.7
6	79	01.1	305	23.5	+11	02.4	250	40.8	-2	59.7	35	33.1	+15	12.1	103	36.3	-12	08.8
7	94	03.6	320	25.3		02.6	265	41.8	-3	00.4	50	35.6		12.1	118	39.0		08.8
8	109	06.1	335	27.1		02.8	280	42.8		01.1	65	38.1		12.1	133	41.6		08.9
9	124	08.5	350	28.9		03.0	295	43.8		01.7	80	40.6		12.1	148	44.2		09.0
10	139	11.0	5	30.7		03.2	310	44.7		02.4	95	43.1		12.0	163	46.9		09.0
11	154	13.5	20	32.4	+11	03.4	325	45.7	-3	03.1	110	45.6	+15	12.0	178	49.5	-12	09.1
12	169	15.9	35	34.2	+11	03.6	340	46.7	-3	03.7	125	48.1	+15	12.0	193	52.1	-12	09.2
13	184	18.4	50	36.0		03.8	355	47.7		04.4	140	50.6		12.0	208	54.8		09.2
14	199	20.9	65	37.8		04.0	10	48.6		05.0	155	53.2		11.9	223	57.4		09.3
15	214	23.3	80	39.5		04.2	25	49.6		05.7	170	55.7		11.9	239	00.0		09.4
16	229	25.8	95	41.3		04.4	40	50.6		06.4	185	58.2		11.9	254	02.7		09.4
17	244	28.3	110	43.1	+11	04.6	55	51.6	-3	07.0	201	00.7	+15	11.9	269	05.3	-12	09.5
18	259	30.7	125	44.8	+11	04.8	70	52.5	-3	07.7	216	03.2	+15	11.9	284	07.9	-12	09.5
19	274	33.2	140	46.6		05.0	85	53.5		08.4	231	05.7		11.8	299	10.6		09.6
20	289	35.6	155	48.3		05.2	100	54.5		09.0	246	08.2		11.8	314	13.2		09.7
21	304	38.1	170	50.1		05.4	115	55.5		09.7	261	10.7		11.8	329	15.8		09.7
22	319	40.6	185	51.8		05.6	130	56.4		10.3	276	13.3		11.8	344	18.5		09.8
23	334	43.0	200	53.6		05.8	145	57.4		11.0	291	15.8		11.7	359	21.1		09.9
24	349	45.5	215	55.3	+11	06.0	160	58.4	-3	11.7	306	18.3	+15	11.7	14	23.8	-12	09.9
Dif	—		+18		+2		+10		-7		+25		0		+26		-	

UT	SOL			LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 56.7 ^m			Edad: 25.6 ^d SD: 14'7 PMG: 9 ^h 28 ^m PHE { 4 ^h : 54'1 12 ^h : 54'0 20 ^h : 54'0 R°: 46 ^m											
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	46.6	+4	44.2	222	28.0	+24	18.0	60 N	18 34	19 17	20 10	** ** *	18 38	2
1	195	46.9		43.3	236	59.0		10.5	58	32	12	20 01	0 07	84	22 7
2	210	47.1		42.3	251	30.2	+24	02.8	56	29	07	19 53	24	80	18 09 10
3	225	47.3		41.4	266	01.4	+23	55.0	54	27	19 03	46	39	77	17 57 13
4	240	47.5		40.4	280	32.7		47.1	52	25	18 59	40	0 52	74	46 17
5	255	47.7	+4	39.5	295	04.0	+23	39.1	50	18 23	18 56	19 35	1 04	70	17 37 19
6	270	47.9	+4	38.5	309	35.4	+23	31.0	45	18 19	18 49	19 24	1 27	66	17 17 24
7	285	48.2		37.6	324	06.9		22.8	40	16	43	15	1 46	62	17 01 27
8	300	48.4		36.6	338	38.5		14.5	35	13	39	09	2 02	59	16 47 30
9	315	48.6		35.7	353	10.1	+23	06.1	30	11	35	19 03	15	57	35 33
10	330	48.8		34.7	7	41.8	+22	57.5	20	07	29	18 55	38	53	16 14 38
11	345	49.0	+4	33.8	22	13.6	+22	48.9	10 N	18 03	18 24	18 49	2 58	50	15 56 42
12	0	49.3	+4	32.8	36	45.4	+22	40.2	0	18 00	18 21	18 45	3 17	46	15 39 45
13	15	49.5		31.9	51	17.3		31.5	10 S	17 57	18	42	35	43	22 49
14	30	49.7		30.9	65	49.3		22.6	20	54	16	41	3 55	39	15 04 52
15	45	49.9		30.0	80	21.3		13.6	30	50	14	42	4 18	35	14 43 56
16	60	50.1		29.0	94	53.4	+22	04.5	35	48	13	43	31	33	30 59
17	75	50.4	+4	28.1	109	25.6	+21	55.3	40	17 46	18 13	18 44	4 46	30	14 16 62
18	90	50.6	+4	27.1	123	57.8	+21	46.1	45	17 43	18 13	18 47	5 04	27	13 59 66
19	105	50.8		26.2	138	30.1		36.7	50	41	13	50	27	21	37 72
20	120	51.0		25.2	153	02.5		27.3	52	39	13	52	37	19	27 74
21	135	51.2		24.3	167	34.9		17.8	54	38	13	54	5 50	16	16 76
22	150	51.5		23.3	182	07.4	+21	08.1	56	36	13	56	6 03	13	13 02 81
23	165	51.7		22.4	196	40.0	+20	58.4	58	34	13	18 59	19	9	12 47 85
24	180	51.9	+4	21.4	211	12.7	+20	48.6	60 S	17 32	18 14	19 02	6 39	2	12 28 91

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 0 ^h 40.9 ^m		Mag: -4.7 PMG: 9 ^h 35 ^m		Mag: +1.7 PMG: 13 ^h 15 ^m		Mag: -2.7 PMG: 3 ^h 34 ^m		Mag: +0.5 PMG: 22 ^h 58 ^m	
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'
0	349	45.5	215	55.3	+11	06.0	160	58.4	-3	11.7
1	4	48.0	230	57.1		06.1	175	59.4		12.3
2	19	50.4	245	58.8		06.3	191	00.3		13.0
3	34	52.9	261	00.5		06.5	206	01.3		13.6
4	49	55.4	276	02.3		06.7	221	02.3		14.3
5	64	57.8	291	04.0	+11	06.9	236	03.3	-3	15.0
6	80	00.3	306	05.7	+11	07.1	251	04.2	-3	15.6
7	95	02.7	321	07.4		07.3	266	05.2		16.3
8	110	05.2	336	09.1		07.4	281	06.2		16.9
9	125	07.7	351	10.8		07.6	296	07.2		17.6
10	140	10.1	6	12.5		07.8	311	08.1		18.3
11	155	12.6	21	14.2	+11	08.0	326	09.1	-3	18.9
12	170	15.1	36	15.9	+11	08.2	341	10.1	-3	19.6
13	185	17.5	51	17.6		08.3	356	11.0		20.3
14	200	20.0	66	19.3		08.5	11	12.0		20.9
15	215	22.5	81	21.0		08.7	26	13.0		21.6
16	230	24.9	96	22.7		08.9	41	14.0		22.2
17	245	27.4	111	24.4	+11	09.1	56	14.9	-3	22.9
18	260	29.9	126	26.1	+11	09.2	71	15.9	-3	23.6
19	275	32.3	141	27.7		09.4	86	16.9		24.2
20	290	34.8	156	29.4		09.6	101	17.8		24.9
21	305	37.2	171	31.1		09.7	116	18.8		25.5
22	320	39.7	186	32.7		09.9	131	19.8		26.2
23	335	42.2	201	34.4		10.1	146	20.8		26.9
24	350	44.6	216	36.1	+11	10.3	161	21.7	-3	27.5
Dif	—		+17		+2		+10		-7	
									+25	
									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 56.4 ^m			Edad: 26.6 ^d SD: 14'7 PMG: 10 ^h 14 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	180	51.9	+4	21.4	211	12.7	+20	48.6	98	60 N	3	44	4	37	5	20	1	16
1	195	52.1		20.5	225	45.4		38.8	98	58	3	53		42	23	31	84	
2	210	52.3		19.5	240	18.1		28.8	100	56	4	01		47	25	44	80	
3	225	52.6		18.6	254	51.0		18.7	101	54	07	51	27	1	56	76	10	
4	240	52.8		17.6	269	23.9	+20	08.6	101	52	13	55	29	2	06	73	18	
5	255	53.0	+4	16.7	283	56.8	+19	58.4	102	50	4	19	4	58	5	31	2	14
6	270	53.2	+4	15.7	298	29.9	+19	48.1	103	45	4	30	5	05	5	35	2	33
7	285	53.4		14.7	313	03.0		37.7	104	40	38	10	38	2	48	62	28	
8	300	53.7		13.8	327	36.1		27.3	104	35	45	15	40	3	01	59	17	
9	315	53.9		12.8	342	09.3		16.8	105	30	50	19	43	12	56	17	08	
10	330	54.1		11.9	356	42.6	+19	06.1	107	20	4	59	25	47	31	51	16	
11	345	54.3	+4	10.9	11	16.0	+18	55.5	106	10 N	5	04	5	29	5	50	3	48
12	0	54.5	+4	10.0	25	49.4	+18	44.7	108	0	5	08	5	32	5	53	4	03
13	15	54.8		09.0	40	22.8		33.9	108	10 S	11	35		56	18	40	16	
14	30	55.0		08.1	54	56.4		22.9	110	20	12	37	5	59	34	36	15	
15	45	55.2		07.1	69	30.0		12.0	109	30	11	39	6	02	4	53	31	
16	60	55.4		06.2	84	03.6	+18	00.9	111	35	10	39	04	5	04	28	29	
17	75	55.6	+4	05.2	98	37.3	+17	49.8	111	40	5	08	5	39	6	06	5	
18	90	55.9	+4	04.3	113	11.1	+17	38.6	112	45	5	06	5	40	6	09	5	
19	105	56.1		03.3	127	44.9		27.3	113	50	02	39	12	48	17	14		
20	120	56.3		02.3	142	18.8		15.9	114	52	5	00	39	13	5	56		
21	135	56.5		01.4	156	52.7	+17	04.5	114	54	4	58	39	14	6	06		
22	150	56.7	+4	00.4	171	26.7	+16	53.1	114	56	56	39	16	16	9	23		
23	165	57.0	+3	59.5	186	00.7		41.5	116	58	53	38	17	28	5	14		
24	180	57.2	+3	58.5	200	34.8	+16	29.9	116	60 S	4	50	5	38	6	19	6	

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 0 ^h 36.9 ^m		Mag: -4.7 PMG: 9 ^h 33 ^m			Mag: +1.7 PMG: 13 ^h 14 ^m			Mag: -2.7 PMG: 3 ^h 30 ^m			Mag: +0.5 PMG: 22 ^h 54 ^m					
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	350	44.6	216	36.1	+11	10.3	161	21.7	-3	27.5	307	18.8	+15	11.2			
1	5	47.1	231	37.7		10.4	176	22.7		28.2	322	21.3		11.1			
2	20	49.6	246	39.4		10.6	191	23.7		28.9	337	23.8		11.1			
3	35	52.0	261	41.0		10.8	206	24.6		29.5	352	26.3		11.1			
4	50	54.5	276	42.7		10.9	221	25.6		30.2	7	28.9		11.1			
5	65	57.0	291	44.3	+11	11.1	236	26.6	-3	30.8	22	31.4	+15	11.0			
6	80	59.4	306	45.9	+11	11.2	251	27.6	-3	31.5	37	33.9	+15	11.0			
7	96	01.9	321	47.6		11.4	266	28.5		32.2	52	36.4		11.0			
8	111	04.4	336	49.2		11.6	281	29.5		32.8	67	39.0		10.9			
9	126	06.8	351	50.8		11.7	296	30.5		33.5	82	41.5		10.9			
10	141	09.3	6	52.5		11.9	311	31.4		34.1	97	44.0		10.9			
11	156	11.7	21	54.1	+11	12.1	326	32.4	-3	34.8	112	46.5	+15	10.9			
12	171	14.2	36	55.7	+11	12.2	341	33.4	-3	35.5	127	49.1	+15	10.8			
13	186	16.7	51	57.3		12.4	356	34.4		36.1	142	51.6		10.8			
14	201	19.1	66	58.9		12.5	11	35.3		36.8	157	54.1		10.8			
15	216	21.6	82	00.5		12.7	26	36.3		37.4	172	56.7		10.8			
16	231	24.1	97	02.1		12.8	41	37.3		38.1	187	59.2		10.7			
17	246	26.5	112	03.7	+11	13.0	56	38.2	-3	38.8	203	01.7	+15	10.7			
18	261	29.0	127	05.3	+11	13.1	71	39.2	-3	39.4	218	04.2	+15	10.7			
19	276	31.5	142	06.9		13.3	86	40.2		40.1	233	06.8		10.7			
20	291	33.9	157	08.5		13.4	101	41.1		40.8	248	09.3		10.6			
21	306	36.4	172	10.1		13.6	116	42.1		41.4	263	11.8		10.6			
22	321	38.8	187	11.7		13.7	131	43.1		42.1	278	14.4		10.6			
23	336	41.3	202	13.3		13.9	146	44.0		42.7	293	16.9		10.5			
24	351	43.8	217	14.9	+11	14.0	161	45.0	-3	43.4	308	19.4	+15	10.5			
Dif	—		+16		+2		+10		-7		+25		0		+26		-

UT	SOL			● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 15'9 PMG: 11 ^h 56.0 ^m			Edad: 27.6 ^d SD: 14'7 PMG: 10 ^h 56 ^m PHE { 4 ^h : 54'0 12 ^h : 54'0 20 ^h : 54'0 Rº: 41 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	Rº	Hora	Rº
h	° /	° /		° /		° /		°		h m	h m	h m	h m m	h m m	h m m		
0	180 57.2	+3 58.5		200 34.8	152	+16 29.9	117	60 N	18 28	19 11	20 03	2 44	86	18 40	0		
1	195 57.4			215 09.0	152		117	58	26	06	19 55	2 55	81	33	3		
2	210 57.6			229 43.2	152	+16 06.5	118	56	24	19 02	47	3 04	78	27	5		
3	225 57.9			244 17.4	152	+15 54.7	118	54	22	18 58	41	12 74		21	8		
4	240 58.1			258 51.7	153		119	52	20	54	35	19 72		16	10		
5	255 58.3	+3 53.7		273 26.1	154	+15 30.9	119	50	18 19	18 51	19 30	3 25	70	18 11	13		
6	270 58.5	+3 52.8		288 00.5	154	+15 18.9	120	45	18 15	18 45	19 20	3 39	65	18 00	18		
7	285 58.7			302 34.9	154	+15 06.8	121	40	13	40	12	3 50	61	17 52	21		
8	300 59.0			317 09.4	155	+14 54.7	121	35	10	36	06	4 00	57	44	25		
9	315 59.2			331 44.0	156		121	30	08	32	19 00	48 54		38	27		
10	330 59.4			346 18.6	156		123	20	05	27	18 53	22 50		26	32		
11	345 59.6	+3 48.0		0 53.2	156	+14 18.0	123	10 N	18 02	18 23	18 47	4 35	45	17 16	36		
12	0 59.8	+3 47.0		15 27.9	157	+14 05.7	123	0	17 59	18 20	18 44	4 46	42	17 06	41		
13	16 00.1			30 02.7	158	+13 53.3	124	10 S	57	18	42	4 58	37	16 57	44		
14	31 00.3			44 37.5	158		124	20	54	16	42	5 10	33	46	49		
15	46 00.5			59 12.3	158		125	30	51	15	43	24 28		34	54		
16	61 00.7			73 47.2	159		126	35	50	15	44	32 26		27	57		
17	76 00.9	+3 42.3		88 22.1	159	+13 03.2	126	40	17 48	18 15	18 46	5 41	22	16 20	60		
18	91 01.2	+3 41.3		102 57.0	159	+12 50.5	127	45	17 46	18 15	18 49	5 52	18	16 10	65		
19	106 01.4			117 32.0	160		127	50	43	16	53	6 05	14	15 59	69		
20	121 01.6			132 07.0	160		127	52	42	16	55	11 11		54	71		
21	136 01.8			146 42.1	161	+12 12.2	129	54	41	16	18 58	17 9		48	74		
22	151 02.1			161 17.2	161	+11 59.4	128	56	40	17	19 00	25 6		41	77		
23	166 02.3			175 52.4	162		129	58	39	18	03	33 3		34	80		
24	181 02.5	+3 35.6		190 27.6	162	+11 33.5	130	60 S	17 37	18 18	19 07	6 42	0	15 26	84		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG 0 ^h 33.0 ^m		Mag: -4.8 PMG: 9 ^h 30 ^m			Mag: +1.7 PMG: 13 ^h 12 ^m			Mag: -2.7 PMG: 3 ^h 26 ^m			Mag: +0.5 PMG: 22 ^h 50 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	° /	° /		° /	° /		° /	° /		° /	° /		° /	° /			
0	351 43.8	217 14.9	+11 14.0	161 45.0	-3 43.4	308 19.4	+15 10.5	16 30.1	-12 13.0								
1	6 46.2	232 16.4		176 46.0	44.1	323 22.0	10.5	31 32.8	13.1								
2	21 48.7	247 18.0		191 47.0	44.7	338 24.5	10.5	46 35.4	13.2								
3	36 51.2	262 19.6		206 47.9	45.4	353 27.0	10.4	61 38.0	13.2								
4	51 53.6	277 21.2		221 48.9	46.0	8 29.6	10.4	76 40.7	13.3								
5	66 56.1	292 22.7	+11 14.8	236 49.9	-3 46.7	23 32.1	+15 10.4	91 43.3	-12 13.4								
6	81 58.6	307 24.3	+11 14.9	251 50.8	-3 47.4	38 34.6	+15 10.4	106 45.9	-12 13.4								
7	97 01.0	322 25.8		266 51.8	48.0	53 37.2	10.3	121 48.6	13.5								
8	112 03.5	337 27.4		281 52.8	48.7	68 39.7	10.3	136 51.2	13.6								
9	127 06.0	352 28.9		296 53.7	49.3	83 42.2	10.3	151 53.8	13.6								
10	142 08.4	7 30.5		311 54.7	50.0	98 44.8	10.2	166 56.5	13.7								
11	157 10.9	22 32.0	+11 15.6	326 55.7	-3 50.7	113 47.3	+15 10.2	181 59.1	-12 13.7								
12	172 13.3	37 33.6	+11 15.8	341 56.6	-3 51.3	128 49.8	+15 10.2	197 01.7	-12 13.8								
13	187 15.8	52 35.1		356 57.6	52.0	143 52.4	10.2	212 04.4	13.9								
14	202 18.3	67 36.6		11 58.6	52.6	158 54.9	10.1	227 07.0	13.9								
15	217 20.7	82 38.2		26 59.5	53.3	173 57.4	10.1	242 09.6	14.0								
16	232 23.2	97 39.7		42 00.5	54.0	189 00.0	10.1	257 12.2	14.1								
17	247 25.7	112 41.2	+11 16.4	57 01.5	-3 54.6	204 02.5	+15 10.0	272 14.9	-12 14.1								
18	262 28.1	127 42.7	+11 16.6	72 02.4	-3 55.3	219 05.1	+15 10.0	287 17.5	-12 14.2								
19	277 30.6	142 44.3		87 03.4	55.9	234 07.6	10.0	302 20.1	14.2								
20	292 33.1	157 45.8		102 04.4	56.6	249 10.1	10.0	317 22.8	14.3								
21	307 35.5	172 47.3		117 05.3	57.3	264 12.7	09.9	332 25.4	14.4								
22	322 38.0	187 48.8		132 06.3	57.9	279 15.2	09.9	347 28.0	14.4								
23	337 40.4	202 50.3		147 07.3	58.6	294 17.7	09.9	2 30.7	14.5								
24	352 42.9	217 51.8	+11 17.3	162 08.2	-3 59.3	309 20.3	+15 09.8	17 33.3	-12 14.6								
Dif	—	+15	+1	+10	-7	+25	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 55.7 ^m				Edad: 28.6 ^d PHE { 4 ^h : 54 ^h 1 12 ^h : 54 ^h 1 20 ^h : 54 ^h 2 SD: 14 ^h 7 R°: 40 ^m PMG: 11 ^h 37 ^m																	
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°								
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m						
0	181	02.5	+3	35.6	190	27.6	+11	33.5	60 N	3	50	4	42	5	25	4	10	83	18	40	**	
1	196	02.7		34.6	205	02.8		20.5	58	3	58		47	27	16	80		36	2			
2	211	02.9		33.6	219	38.0	+11	07.5	56	4	05		51	29	22	76		32	5			
3	226	03.2		32.7	234	13.3	+10	54.4	54		12		55	31	26	74		29	8			
4	241	03.4		31.7	248	48.7		41.3	52	17	4	58		32	31	71		26	10			
5	256	03.6	+3	30.8	263	24.0	+10	28.1	50	4	22	5	01	5	34	4	35	69	18	24	11	
6	271	03.8	+3	29.8	277	59.4	+10	14.9	45	4	32	5	07	5	37	4	44	64	18	18	16	
7	286	04.0		28.8	292	34.8	+10	01.6	40		40		12	40	51	60		13	20			
8	301	04.3		27.9	307	10.3	+9	48.3	35		47		16	42	4	57	57		09	23		
9	316	04.5		26.9	321	45.7		35.0	30		52		20	44	5	02	54		18	05	26	
10	331	04.7		26.0	336	21.2		21.6	20		4	59		25	47	12	48		17	58	31	
11	346	04.9	+3	25.0	350	56.8	+9	08.2	10 N		5	04	5	29	5	50	5	20	44	17	52	36
12	1	05.2	+3	24.1	5	32.3	+8	54.8	0		5	08	5	32	5	52	5	28	40	17	47	40
13	16	05.4		23.1	20	07.9		41.3	10 S		09		34	55	35	36		41	44			
14	31	05.6		22.1	34	43.5		27.8	20		10		35	5	57	43	32		35	49		
15	46	05.8		21.2	49	19.2		14.2	30		08		36	6	00	52	27		28	54		
16	61	06.0		20.2	63	54.8	+8	00.6	35		07		36	01	5	58	23		24	57		
17	76	06.3	+3	19.3	78	30.5	+7	47.0	40		5	05	5	36	6	03	6	03	21	17	20	60
18	91	06.5	+3	18.3	93	06.2	+7	33.4	45		5	02	5	36	6	05	6	10	17	17	15	64
19	106	06.7		17.3	107	41.9		19.7	50		4	58		35	07	19	12		08	69		
20	121	06.9		16.4	122	17.6	+7	06.0	52		56		35	08	22	10		05	71			
21	136	07.2		15.4	136	53.4	+6	52.2	54		53		34	09	26	8		17	02	73		
22	151	07.4		14.5	151	29.2		38.4	56		50		34	11	31	5		16	58	77		
23	166	07.6		13.5	166	05.0		24.6	58		47		33	12	36	3		54	80			
24	181	07.8	+3	12.5	180	40.8	+6	10.8	60 S		4	43	5	32	6	13	6	42	**	16	50	83
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 0 ^h 29.1 ^m		Mag: -4.8 PMG: 9 ^h 28 ^m				Mag: +1.7 PMG: 13 ^h 11 ^m				Mag: -2.7 PMG: 3 ^h 22 ^m				Mag: +0.5 PMG: 22 ^h 46 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	352	42.9	217	51.8	+11	17.3	162	08.2	-3	59.3	309	20.3	+15	09.8	17	33.3	-12	14.6				
1	7	45.4	232	53.3		17.5	177	09.2	-3	59.9	324	22.8		09.8	32	35.9		14.6				
2	22	47.8	247	54.8		17.6	192	10.2	-4	00.6	339	25.4		09.8	47	38.6		14.7				
3	37	50.3	262	56.3		17.7	207	11.1		01.2	354	27.9		09.7	62	41.2		14.8				
4	52	52.8	277	57.8		17.8	222	12.1		01.9	9	30.5		09.7	77	43.8		14.8				
5	67	55.2	292	59.3	+11	18.0	237	13.1	-4	02.6	24	33.0	+15	09.7	92	46.4	-12	14.9				
6	82	57.7	308	00.8	+11	18.1	252	14.0	-4	03.2	39	35.5	+15	09.7	107	49.1	-12	14.9				
7	98	00.2	323	02.2		18.2	267	15.0		03.9	54	38.1		09.6	122	51.7		15.0				
8	113	02.6	338	03.7		18.3	282	16.0		04.5	69	40.6		09.6	137	54.3		15.1				
9	128	05.1	353	05.2		18.4	297	16.9		05.2	84	43.2		09.6	152	57.0		15.1				
10	143	07.6	8	06.7		18.6	312	17.9		05.9	99	45.7		09.5	167	59.6		15.2				
11	158	10.0	23	08.1	+11	18.7	327	18.8	-4	06.5	114	48.3	+15	09.5	183	02.2	-12	15.3				
12	173	12.5	38	09.6	+11	18.8	342	19.8	-4	07.2	129	50.8	+15	09.5	198	04.8	-12	15.3				
13	188	14.9	53	11.1		18.9	357	20.8		07.8	144	53.3		09.4	213	07.5		15.4				
14	203	17.4	68	12.5		19.0	12	21.7		08.5	159	55.9		09.4	228	10.1		15.4				
15	218	19.9	83	14.0		19.1	27	22.7		09.2	174	58.4		09.4	243	12.7		15.5				
16	233	22.3	98	15.4		19.2	42	23.7		09.8	190	01.0		09.3	258	15.4		15.6				
17	248	24.8	113	16.9	+11	19.4	57	24.6	-4	10.5	205	03.5	+15	09.3	273	18.0	-12	15.6				
18	263	27.3	128	18.3	+11	19.5	72	25.6	-4	11.1	220	06.1	+15	09.3	288	20.6	-12	15.7				
19	278	29.7	143	19.8		19.6	87	26.6		11.8	235	08.6		09.3	303	23.3		15.8				
20	293	32.2	158	21.2		19.7	102	27.5		12.5	250	11.2		09.2	318	25.9		15.8				
21	308	34.7	173	22.7		19.8	117	28.5		13.1	265	13.7		09.2	333	28.5		15.9				
22	323	37.1	188	24.1		19.9	132	29.5		13.8	280	16.3		09.2	348	31.1		15.9				
23	338	39.6	203	25.5		20.0	147	30.4		14.4	295	18.8		09.1	3	33.8		16.0				
24	353	42.1	218	27.0	+11	20.1	162	31.4	-4	15.1	310	21.4	+15	09.1	18	36.4	-12	16.1				
Dif	—		+15		+1		+10		-7		+25		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 55.3 ^m			Edad: 29.6 ^d SD: 14'8 PMG: 12 ^h 17 ^m PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'4 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	181	07.8	+3	12.5	180	40.8	+6	10.8	139	60 N	18 22	19 04	19 56	5 33	82		18 39	**	
1	196	08.0		11.6	195	16.6	+5	56.9	139	58	20	19 00	48	36	79		38	2	
2	211	08.3		10.6	209	52.4		43.0	139	56	19	18 56	41	38	76		37	5	
3	226	08.5		09.6	224	28.3		29.1	139	54	17	53	35	40	74		37	7	
4	241	08.7		08.7	239	04.1		15.2	139	52	16	50	30	42	71		36	9	
5	256	08.9	+3	07.7	253	40.0	+5	01.2	140	50	18 14	18 47	19 26	5 44	69		18 35	12	
6	271	09.2	+3	06.8	268	15.9	+4	47.3	139	45	18 12	18 41	19 16	5 48	64		18 34	16	
7	286	09.4		05.8	282	51.7		33.3	140	40	09	37	08	51	60		33	20	
8	301	09.6		04.8	297	27.6		19.2	141	35	07	33	19 03	54	56		32	23	
9	316	09.8		03.9	312	03.5	+4	05.2	140	30	06	30	18 58	5 56	54		31	26	
10	331	10.0		02.9	326	39.4	+3	51.1	141	20	03	25	51	6 00	49		29	31	
11	346	10.3	+3	02.0	341	15.4	+3	37.0	141	10 N	18 01	18 22	18 46	6 04	44		18 28	35	
12	1	10.5	+3	01.0	355	51.3	+3	22.9	141	0	17 59	18 19	18 43	6 08	39		18 27	39	
13	16	10.7	+3	00.0	10	27.2	+3	08.8	141	10 S	57	18	42	11	35		25	44	
14	31	10.9	+2	59.1	25	03.1	+2	54.7	141	20	55	17	42	15	31		24	48	
15	46	11.2		58.1	39	39.0		40.5	142	30	52	16	44	19	26		22	54	
16	61	11.4		57.1	54	15.0		26.3	142	35	51	16	46	21	23		21	57	
17	76	11.6	+2	56.2	68	50.9	+2	12.2	141	40	17 50	18 17	18 48	6 24	20		18 20	60	
18	91	11.8	+2	55.2	83	26.8	+1	58.0	142	45	17 48	18 17	18 52	6 27	16		18 19	64	
19	106	12.0		54.3	98	02.7		43.8	142	50	46	19	56	31	11		17	69	
20	121	12.3		53.3	112	38.6		29.5	143	52	46	19	18 59	32	10		16	72	
21	136	12.5		52.3	127	14.5		15.3	142	54	45	20	19 01	34	7		15	74	
22	151	12.7		51.4	141	50.4	+1	01.1	142	56	44	21	04	36	5		15	76	
23	166	12.9		50.4	156	26.3	+0	46.8	143	58	43	22	08	39	2		14	79	
24	181	13.2	+2	49.4	171	02.2	+0	32.5	143	60 S	17 42	18 23	19 12	6 41	**		18 13	82	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 0 ^h 25.1 ^m		Mag: -4.8 PMG: 9 ^h 25 ^m			Mag: +1.7 PMG: 13 ^h 09 ^m			Mag: -2.7 PMG: 3 ^h 18 ^m			Mag: +0.5 PMG: 22 ^h 42 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	353	42.1	218	27.0	+11	20.1	162	31.4	-4	15.1	310	21.4	+15	09.1	18	36.4	-12	16.1	
1	8	44.5	233	28.4		20.2	177	32.3		15.8	325	23.9		09.1	33	39.0		16.1	
2	23	47.0	248	29.8		20.3	192	33.3		16.4	340	26.5		09.0	48	41.7		16.2	
3	38	49.4	263	31.2		20.4	207	34.3		17.1	355	29.0		09.0	63	44.3		16.3	
4	53	51.9	278	32.6		20.5	222	35.2		17.7	10	31.6		09.0	78	46.9		16.3	
5	68	54.4	293	34.1	+11	20.6	237	36.2	-4	18.4	25	34.1	+15	08.9	93	49.5	-12	16.4	
6	83	56.8	308	35.5	+11	20.7	252	37.2	-4	19.1	40	36.7	+15	08.9	108	52.2	-12	16.4	
7	98	59.3	323	36.9		20.8	267	38.1		19.7	55	39.2		08.9	123	54.8		16.5	
8	114	01.8	338	38.3		20.9	282	39.1		20.4	70	41.8		08.8	138	57.4		16.6	
9	129	04.2	353	39.7		21.0	297	40.0		21.0	85	44.3		08.8	154	00.1		16.6	
10	144	06.7	8	41.1		21.1	312	41.0		21.7	100	46.9		08.8	169	02.7		16.7	
11	159	09.2	23	42.5	+11	21.2	327	42.0	-4	22.4	115	49.4	+15	08.7	184	05.3	-12	16.8	
12	174	11.6	38	43.9	+11	21.3	342	42.9	-4	23.0	130	52.0	+15	08.7	199	07.9	-12	16.8	
13	189	14.1	53	45.3		21.4	357	43.9		23.7	145	54.5		08.7	214	10.6		16.9	
14	204	16.5	68	46.7		21.5	12	44.8		24.3	160	57.1		08.6	229	13.2		16.9	
15	219	19.0	83	48.0		21.6	27	45.8		25.0	175	59.6		08.6	244	15.8		17.0	
16	234	21.5	98	49.4		21.7	42	46.8		25.7	191	02.2		08.6	259	18.4		17.1	
17	249	23.9	113	50.8	+11	21.8	57	47.7	-4	26.3	206	04.7	+15	08.5	274	21.1	-12	17.1	
18	264	26.4	128	52.2	+11	21.8	72	48.7	-4	27.0	221	07.3	+15	08.5	289	23.7	-12	17.2	
19	279	28.9	143	53.6		21.9	87	49.7		27.6	236	09.8		08.5	304	26.3		17.2	
20	294	31.3	158	54.9		22.0	102	50.6		28.3	251	12.4		08.4	319	29.0		17.3	
21	309	33.8	173	56.3		22.1	117	51.6		28.9	266	14.9		08.4	334	31.6		17.4	
22	324	36.3	188	57.7		22.2	132	52.5		29.6	281	17.5		08.4	349	34.2		17.4	
23	339	38.7	203	59.0		22.3	147	53.5		30.3	296	20.1		08.3	4	36.8		17.5	
24	354	41.2	219	00.4	+11	22.4	162	54.5	-4	30.9	311	22.6	+15	08.3	19	39.5	-12	17.6	
Dif	—		+14		+1		+10		-7		+26		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 54.9 ^m			Edad: 0.9 ^d SD: 14'8 PMG: 12 ^h 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	181	13.2	+2	49.4	171	02.2	+0	32.5	60 N	3 55	4 47	5 29	6 55	84	18 38	**		
1	196	13.4		48.5	185	38.1		18.3	58	4 03	51	31	55	80	40	3		
2	211	13.6		47.5	200	14.0	+0	04.0	56	10	55	33	54	78	42	5		
3	226	13.8		46.6	214	49.8	-0	10.3	54	16	4 59	34	54	74	44	8		
4	241	14.1		45.6	229	25.7		24.6	52	21	5 02	36	53	72	45	11		
5	256	14.3	+2	44.6	244	01.5	-0	38.9	50	4 25	5 04	5 37	6 53	70	18 47	12		
6	271	14.5	+2	43.7	258	37.3	-0	53.2	45	4 35	5 10	5 39	6 52	65	18 50	17		
7	286	14.7		42.7	273	13.1	-1	07.5	40	42	14	41	51	61	53	20		
8	301	14.9		41.7	287	48.9		21.8	35	48	18	43	50	58	55	24		
9	316	15.2		40.8	302	24.7		36.1	30	4 53	21	45	50	54	18 57	27		
10	331	15.4		39.8	317	00.4	-1	50.4	20	5 00	25	48	49	49	19 00	33		
11	346	15.6	+2	38.8	331	36.2	-2	04.7	10 N	5 04	5 29	5 50	6 48	45	19 03	37		
12	1	15.8	+2	37.9	346	11.9	-2	19.0	0	5 07	5 31	5 52	6 47	40	19 06	41		
13	16	16.1		36.9	0	47.6		33.3	10 S	08	33	54	46	36	09	46		
14	31	16.3		35.9	15	23.3	-2	47.6	20	08	33	55	46	31	12	50		
15	46	16.5		35.0	29	58.9	-3	01.9	30	06	34	57	45	26	16	55		
16	61	16.7		34.0	44	34.5		16.2	35	04	33	5 59	44	24	18	58		
17	76	16.9	+2	33.1	59	10.1	-3	30.5	40	5 02	5 33	6 00	6 44	20	19 20	62		
18	91	17.2	+2	32.1	73	45.7	-3	44.8	45	4 58	5 32	6 01	6 43	16	19 23	66		
19	106	17.4		31.1	88	21.3	-3	59.1	50	53	31	03	42	12	26	71		
20	121	17.6		30.2	102	56.8	-4	13.3	52	51	30	04	42	10	28	73		
21	136	17.8		29.2	117	32.3		27.6	54	48	29	04	41	8	29	76		
22	151	18.1		28.2	132	07.7		41.8	56	45	28	05	41	5	31	79		
23	166	18.3		27.3	146	43.1	-4	56.1	58	41	27	06	41	2	33	82		
24	181	18.5	+2	26.3	161	18.5	-5	10.3	60 S	4 37	5 26	6 07	6 40	**	19 35	86		

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 21.2 ^m		Mag: -4.8 PMG: 9 ^h 23 ^m			Mag: +1.7 PMG: 13 ^h 08 ^m			Mag: -2.8 PMG: 3 ^h 14 ^m			Mag: +0.5 PMG: 22 ^h 37 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	354	41.2	219	00.4	+11	22.4	162	54.5	-4	30.9	311	22.6	+15	08.3	19	39.5	-12	17.6
1	9	43.7	234	01.7		22.4	177	55.4		31.6	326	25.2		08.3	34	42.1		17.6
2	24	46.1	249	03.1		22.5	192	56.4		32.2	341	27.7		08.2	49	44.7		17.7
3	39	48.6	264	04.4		22.6	207	57.3		32.9	356	30.3		08.2	64	47.3		17.7
4	54	51.0	279	05.8		22.7	222	58.3		33.6	11	32.8		08.2	79	50.0		17.8
5	69	53.5	294	07.1	+11	22.8	237	59.3	-4	34.2	26	35.4	+15	08.1	94	52.6	-12	17.9
6	84	56.0	309	08.5	+11	22.8	253	00.2	-4	34.9	41	38.0	+15	08.1	109	55.2	-12	17.9
7	99	58.4	324	09.8		22.9	268	01.2		35.5	56	40.5		08.1	124	57.9		18.0
8	115	00.9	339	11.1		23.0	283	02.1		36.2	71	43.1		08.0	140	00.5		18.0
9	130	03.4	354	12.5		23.1	298	03.1		36.9	86	45.6		08.0	155	03.1		18.1
10	145	05.8	9	13.8		23.1	313	04.1		37.5	101	48.2		07.9	170	05.7		18.2
11	160	08.3	24	15.1	+11	23.2	328	05.0	-4	38.2	116	50.8	+15	07.9	185	08.4	-12	18.2
12	175	10.8	39	16.5	+11	23.3	343	06.0	-4	38.8	131	53.3	+15	07.9	200	11.0	-12	18.3
13	190	13.2	54	17.8		23.4	358	06.9		39.5	146	55.9		07.8	215	13.6		18.4
14	205	15.7	69	19.1		23.4	13	07.9		40.2	161	58.4		07.8	230	16.2		18.4
15	220	18.1	84	20.4		23.5	28	08.8		40.8	177	01.0		07.8	245	18.9		18.5
16	235	20.6	99	21.7		23.6	43	09.8		41.5	192	03.6		07.7	260	21.5		18.5
17	250	23.1	114	23.0	+11	23.6	58	10.8	-4	42.1	207	06.1	+15	07.7	275	24.1	-12	18.6
18	265	25.5	129	24.3	+11	23.7	73	11.7	-4	42.8	222	08.7	+15	07.7	290	26.7	-12	18.7
19	280	28.0	144	25.6		23.8	88	12.7		43.4	237	11.3		07.6	305	29.4		18.7
20	295	30.5	159	26.9		23.8	103	13.6		44.1	252	13.8		07.6	320	32.0		18.8
21	310	32.9	174	28.2		23.9	118	14.6		44.8	267	16.4		07.5	335	34.6		18.8
22	325	35.4	189	29.5		24.0	133	15.5		45.4	282	18.9		07.5	350	37.2		18.9
23	340	37.9	204	30.8		24.0	148	16.5		46.1	297	21.5		07.5	5	39.9		19.0
24	355	40.3	219	32.1	+11	24.1	163	17.5	-4	46.7	312	24.1	+15	07.4	20	42.5	-12	19.0
Dif	—		+13		+1		+10		-7		+26		0		+26		-	

UT	SOL			● LUNA			Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 15'9 PMG: 11 ^h 54.6 ^m			Edad: 1.9 ^d PHE { 4 ^h : 54'9 12 ^h : 55'0 20 ^h : 55'1 R°: 43 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec			Dif	Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m		
0	181	18.5	+2	26.3	161	18.5	-5	10.3	60 N	18 16	18 58	19 49	8 19	88	18 37 0		
1	196	18.7		25.3	175	53.9	164	24.5	58	15	54	42	15 84	43 3			
2	211	19.0		24.4	190	29.2	163	38.7	56	13	51	36	12 80	47 7			
3	226	19.2		23.4	205	04.5	163	-5 52.9	54	12	48	30	08 78	52 9			
4	241	19.4		22.4	219	39.8	163	-6 07.1	52	11	45	25	05 75	56 12			
5	256	19.6	+2	21.5	234	15.0	162	-6 21.3	50	18 10	18 42	19 21	8 03 72	18 59 14			
6	271	19.8	+2	20.5	248	50.2	162	-6 35.4	45	18 08	18 37	19 12	7 57 67	19 07 19			
7	286	20.1		19.5	263	25.3	161	-6 49.5	40	06	33	05	52 63	13 23			
8	301	20.3		18.6	278	00.4	161	-7 03.7	35	05	30	19 00	48 59	19 26			
9	316	20.5		17.6	292	35.4	160	17.7	30	03	27	18 55	44 56	24 29			
10	331	20.7		16.6	307	10.5	161	31.8	20	18 01	23	49	38 51	33 34			
11	346	21.0	+2	15.7	321	45.4	159	-7 45.9	10 N	17 59	18 20	18 45	7 33 46	19 40 39			
12	1	21.2	+2	14.7	336	20.3	159	-7 59.9	0	17 58	18 19	18 43	7 27 43	19 47 44			
13	16	21.4		13.7	350	55.2	159	-8 13.9	10 S	56	17	42	22 38	19 55 47			
14	31	21.6		12.8	5	30.0	158	27.9	20	55	17	42	17 33	20 02 52			
15	46	21.8		11.8	20	04.8	158	41.8	30	53	17	45	11 28	11 57			
16	61	22.1		10.8	34	39.6	158	-8 55.8	35	53	18	47	08 25	16 61			
17	76	22.3	+2	09.9	49	14.2	156	-9 09.7	40	17 52	18 19	18 50	7 04 22	20 22 64			
18	91	22.5	+2	08.9	63	48.9	157	-9 23.6	45	17 51	18 20	18 54	6 59 18	20 29 68			
19	106	22.7		07.9	78	23.4	155	37.4	50	49	22	18 59	54 13	37 73			
20	121	23.0		07.0	92	58.0	156	-9 51.2	52	49	23	19 02	52 11	41 76			
21	136	23.2		06.0	107	32.4	154	-10 05.0	54	48	24	05	49 9	45 79			
22	151	23.4		05.0	122	06.8	154	18.8	56	48	25	08	46 6	50 81			
23	166	23.6		04.1	136	41.2	154	32.5	58	47	26	12	43 3	20 55 85			
24	181	23.9	+2	03.1	151	15.5	153	-10 46.2	60 S	17 46	18 28	19 17	6 39 0	21 01 89			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 0 ^h 17.3 ^m		Mag: -4.8 PMG: 9 ^h 21 ^m			Mag: +1.7 PMG: 13 ^h 06 ^m			Mag: -2.8 PMG: 3 ^h 10 ^m			Mag: +0.5 PMG: 22 ^h 33 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°		
0	355	40.3	219	32.1	+11	24.1	163	17.5	-4	46.7	312	24.1	+15	07.4	20 42.5	-12 19.0	
1	10	42.8	234	33.4		24.1	178	18.4		47.4	327	26.6		07.4	35 45.1	19.1	
2	25	45.3	249	34.7		24.2	193	19.4		48.1	342	29.2		07.4	50 47.7	19.1	
3	40	47.7	264	36.0		24.3	208	20.3		48.7	357	31.8		07.3	65 50.4	19.2	
4	55	50.2	279	37.3		24.3	223	21.3		49.4	12	34.3		07.3	80 53.0	19.3	
5	70	52.6	294	38.5	+11	24.4	238	22.2	-4	50.0	27	36.9	+15	07.3	95 55.6	-12 19.3	
6	85	55.1	309	39.8	+11	24.4	253	23.2	-4	50.7	42	39.5	+15	07.2	110 58.2	-12 19.4	
7	100	57.6	324	41.1		24.5	268	24.2		51.4	57	42.0		07.2	126 00.9	19.4	
8	116	00.0	339	42.3		24.5	283	25.1		52.0	72	44.6		07.1	141 03.5	19.5	
9	131	02.5	354	43.6		24.6	298	26.1		52.7	87	47.2		07.1	156 06.1	19.6	
10	146	05.0	9	44.9		24.6	313	27.0		53.3	102	49.7		07.1	171 08.7	19.6	
11	161	07.4	24	46.1	+11	24.7	328	28.0	-4	54.0	117	52.3	+15	07.0	186 11.4	-12 19.7	
12	176	09.9	39	47.4	+11	24.8	343	28.9	-4	54.6	132	54.9	+15	07.0	201 14.0	-12 19.7	
13	191	12.4	54	48.6		24.8	358	29.9		55.3	147	57.4		07.0	216 16.6	19.8	
14	206	14.8	69	49.9		24.8	13	30.9		56.0	163	00.0		06.9	231 19.2	19.9	
15	221	17.3	84	51.1		24.9	28	31.8		56.6	178	02.6		06.9	246 21.9	19.9	
16	236	19.7	99	52.4		24.9	43	32.8		57.3	193	05.2		06.8	261 24.5	20.0	
17	251	22.2	114	53.6	+11	25.0	58	33.7	-4	57.9	208	07.7	+15	06.8	276 27.1	-12 20.0	
18	266	24.7	129	54.9	+11	25.0	73	34.7	-4	58.6	223	10.3	+15	06.8	291 29.7	-12 20.1	
19	281	27.1	144	56.1		25.1	88	35.6		59.3	238	12.9		06.7	306 32.4	20.2	
20	296	29.6	159	57.4		25.1	103	36.6	-4	59.9	253	15.4		06.7	321 35.0	20.2	
21	311	32.1	174	58.6		25.2	118	37.5	-5	00.6	268	18.0		06.6	336 37.6	20.3	
22	326	34.5	189	59.8		25.2	133	38.5		01.2	283	20.6		06.6	351 40.2	20.3	
23	341	37.0	205	01.0		25.2	148	39.4		01.9	298	23.2		06.6	6 42.9	20.4	
24	356	39.5	220	02.3	+11	25.3	163	40.4	-5	02.5	313	25.7	+15	06.5	21 45.5	-12 20.5	
Dif	—		+13		0		+10		-7		+26		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 54.2 ^m			Edad: 2.9 ^d PHE { 4 ^h : 55'3 12 ^h : 55'4 20 ^h : 55'6 Rº: 46 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	23.9	+2	03.1	151	15.5	-10	46.2	60 N	4	01	4	52	5	34	9	47
1	196	24.1		02.1	165	49.7 ¹⁵²	-10	59.9 ¹³⁷	58	08		56	35		39	88	46
2	211	24.3		01.2	180	23.9 ¹⁵²	-11	13.5 ¹³⁶	56	14	4	59	37		32	84	18
3	226	24.5	+2	00.2	194	58.0 ¹⁵¹		27.1 ¹³⁶	54	20	5	02	38		26	80	19
4	241	24.7	+1	59.2	209	32.1 ¹⁵¹		40.6 ¹³⁵	52	24		05	39		20	78	08
5	256	25.0	+1	58.3	224	06.0 ¹⁴⁹	-11	54.1 ¹³⁵	50	4	29	5	07	5	40	9	15
6	271	25.2	+1	57.3	238	40.0 ¹⁵⁰	-12	07.6 ¹³⁵	45	4	38	5	12	5	42	9	04
7	286	25.4		56.3	253	13.8 ¹⁴⁸		21.0 ¹³⁴	40	44		16	43		8	55	65
8	301	25.6		55.4	267	47.6 ¹⁴⁸		34.4 ¹³⁴	35	50		19	45		47	62	45
9	316	25.9		54.4	282	21.3 ¹⁴⁷	-12	47.8 ¹³⁴	30	4	54	22	46		40	59	19
10	331	26.1		53.4	296	55.0 ¹⁴⁷	-13	01.1 ¹³³	20	5	00	26	48		29	53	20
11	346	26.3	+1	52.5	311	28.6 ¹⁴⁶	-13	14.3 ¹³²	10 N	5	04	5	29	5	50	8	19
12	1	26.5	+1	51.5	326	02.1 ¹⁴⁵	-13	27.5 ¹³²	0	5	06	5	30	5	51	8	10
13	16	26.8		50.5	340	35.6 ¹⁴⁵		40.7 ¹³²	10 S	07		31	52		8	00	41
14	31	27.0		49.6	355	08.9 ¹⁴³	-13	53.8 ¹³¹	20	06		32	54		7	50	37
15	46	27.2		48.6	9	42.2 ¹⁴³	-14	06.9 ¹³¹	30	03		31	55		39	32	21
16	61	27.4		47.6	24	15.4 ¹⁴²		19.9 ¹³⁰	35	5	01	31	56		33	28	17
17	76	27.6	+1	46.7	38	48.6 ¹⁴²	-14	32.9 ¹³⁰	40	4	58	5	30	5	57	7	26
18	91	27.9	+1	45.7	53	21.7 ¹⁴¹	-14	45.8 ¹²⁹	45	4	54	5	28	5	57	7	17
19	106	28.1		44.7	67	54.7 ¹⁴⁰	-14	58.7 ¹²⁹	50	49		26	58		07	16	50
20	121	28.3		43.8	82	27.6 ¹³⁹	-15	11.5 ¹²⁸	52	46		25	59		7	03	13
21	136	28.5		42.8	97	00.4 ¹³⁸		24.2 ¹²⁷	54	43		24	5	59	6	58	11
22	151	28.8		41.8	111	33.2 ¹³⁸		36.9 ¹²⁷	56	39		23	6	00	52	8	11
23	166	29.0		40.8	126	05.9 ¹³⁷	-15	49.6 ¹²⁷	58	35		22	01		46	4	20
24	181	29.2	+1	39.9	140	38.4 ¹³⁵	-16	02.1 ¹²⁵	60 S	4	31	5	20	6	01	6	39

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 0 ^h 13.3 ^m		Mag: -4.8 PMG: 9 ^h 19 ^m			Mag: +1.7 PMG: 13 ^h 04 ^m			Mag: -2.8 PMG: 3 ^h 06 ^m			Mag: +0.5 PMG: 22 ^h 29 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	356	39.5	220	02.3	+11	25.3	163	40.4	-5	02.5	313	25.7	+15	06.5	21	45.5	-12	20.5
1	11	41.9	235	03.5		25.3	178	41.4		03.2	328	28.3		06.5	36	48.1		20.5
2	26	44.4	250	04.7		25.4	193	42.3		03.9	343	30.9		06.5	51	50.7		20.6
3	41	46.9	265	05.9		25.4	208	43.3		04.5	358	33.4		06.4	66	53.4		20.6
4	56	49.3	280	07.1		25.4	223	44.2		05.2	13	36.0		06.4	81	56.0		20.7
5	71	51.8	295	08.4	+11	25.5	238	45.2	-5	05.8	28	38.6	+15	06.3	96	58.6	-12	20.8
6	86	54.2	310	09.6	+11	25.5	253	46.1	-5	06.5	43	41.2	+15	06.3	112	01.2	-12	20.8
7	101	56.7	325	10.8		25.5	268	47.1		07.1	58	43.7		06.3	127	03.8		20.9
8	116	59.2	340	12.0		25.6	283	48.0		07.8	73	46.3		06.2	142	06.5		20.9
9	132	01.6	355	13.2		25.6	298	49.0		08.5	88	48.9		06.2	157	09.1		21.0
10	147	04.1	10	14.4		25.6	313	49.9		09.1	103	51.5		06.1	172	11.7		21.1
11	162	06.6	25	15.6	+11	25.6	328	50.9	-5	09.8	118	54.1	+15	06.1	187	14.3	-12	21.1
12	177	09.0	40	16.8	+11	25.7	343	51.8	-5	10.4	133	56.6	+15	06.1	202	17.0	-12	21.2
13	192	11.5	55	17.9		25.7	358	52.8		11.1	148	59.2		06.0	217	19.6		21.2
14	207	14.0	70	19.1		25.7	13	53.7		11.8	164	01.8		06.0	232	22.2		21.3
15	222	16.4	85	20.3		25.8	28	54.7		12.4	179	04.4		05.9	247	24.8		21.4
16	237	18.9	100	21.5		25.8	43	55.7		13.1	194	06.9		05.9	262	27.4		21.4
17	252	21.3	115	22.7	+11	25.8	58	56.6	-5	13.7	209	09.5	+15	05.9	277	30.1	-12	21.5
18	267	23.8	130	23.9	+11	25.8	73	57.6	-5	14.4	224	12.1	+15	05.8	292	32.7	-12	21.5
19	282	26.3	145	25.0		25.8	88	58.5		15.0	239	14.7		05.8	307	35.3		21.6
20	297	28.7	160	26.2		25.9	103	59.5		15.7	254	17.3		05.7	322	37.9		21.7
21	312	31.2	175	27.4		25.9	119	00.4		16.4	269	19.8		05.7	337	40.6		21.7
22	327	33.7	190	28.5		25.9	134	01.4		17.0	284	22.4		05.6	352	43.2		21.8
23	342	36.1	205	29.7		25.9	149	02.3		17.7	299	25.0		05.6	7	45.8		21.8
24	357	38.6	220	30.9	+11	25.9	164	03.3	-5	18.3	314	27.6	+15	05.6	22	48.4	-12	21.9
Dif	—		+12		0		+10		-7		+26		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 53.9 ^m			Edad: 3.9 ^d SD: 15'2 PMG: 15 ^h 06 ^m											
	PHE { 4 ^h : 55'8 12 ^h : 56'0 20 ^h : 56'1 R°: 49 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /		° /	° /	° /	° /	°	h m	h m	h m	h m	m	h m	m
0	181	29.2	+1	39.9	140	38.4	-16	02.1	60 N	18 10	18 52	19 42	11 20	99	18 38 3
1	196	29.4		38.9	155	11.0	136	14.7	58	09	48	36	11 07	93	18 51 10
2	211	29.6		37.9	169	43.4	134	27.1	56	08	45	30	10 56	88	19 03 14
3	226	29.9		37.0	184	15.7	133	39.5	54	07	42	25	46	84	14 18
4	241	30.1		36.0	198	48.0	133	-16	51.8	06	40	20	38	80	23 21
5	256	30.3	+1	35.0	213	20.1	131	-17	04.1	18 06	18 38	19 16	10 30	78	19 31 24
6	271	30.5	+1	34.1	227	52.2	131	-17	16.3	18 04	18 33	19 08	10 14	72	19 49 29
7	286	30.8		33.1	242	24.2	130	28.4	40	03	30	19 02	10 00	68	20 04 33
8	301	31.0		32.1	256	56.1	129	40.5	35	02	27	18 57	9 49	64	16 36
9	316	31.2		31.2	271	27.9	128	-17	52.5	18 01	25	53	39	62	27 39
10	331	31.4		30.2	285	59.6	127	-18	04.4	17 59	21	47	22	57	20 46 43
11	346	31.6	+1	29.2	300	31.3	127	-18	16.3	17 58	18 19	18 44	9 08	52	21 02 47
12	1	31.9	+1	28.2	315	02.8	125	-18	28.0	17 57	18 18	18 42	8 54	49	21 17 51
13	16	32.1		27.3	329	34.3	125	39.7	10 S	56	17	42	41	45	33 54
14	31	32.3		26.3	344	05.6	123	-18	51.4	55	17	43	27	41	21 49 58
15	46	32.5		25.3	358	36.9	123	-19	02.9	54	18	46	11	36	22 08 63
16	61	32.8		24.4	13	08.0	121	14.4	35	54	19	49	8 01	34	20 65
17	76	33.0	+1	23.4	27	39.1	121	-19	25.8	17 54	18 21	18 52	7 51	30	22 32 69
18	91	33.2	+1	22.4	42	10.0	119	-19	37.1	17 53	18 22	18 57	7 38	26	22 48 72
19	106	33.4		21.5	56	40.9	119	48.3	50	52	25	19 02	23	21	23 07 78
20	121	33.7		20.5	71	11.7	118	-19	59.4	52	26	05	16	18	16 80
21	136	33.9		19.5	85	42.3	116	-20	10.5	52	27	09	09	15	26 84
22	151	34.1		18.5	100	12.9	116	21.5	56	52	29	13	7 00	12	37 88
23	166	34.3		17.6	114	43.4	115	32.3	58	51	30	17	6 50	8	23 50 94
24	181	34.5	+1	16.6	129	13.7	113	-20	43.1	17 51	18 32	19 22	6 39	3	** ** *

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 0 ^h 09.4 ^m		Mag: -4.8 PMG: 9 ^h 17 ^m		Mag: +1.7 PMG: 13 ^h 03 ^m		Mag: -2.8 PMG: 3 ^h 02 ^m		Mag: +0.5 PMG: 22 ^h 25 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	357	38.6	220	30.9	+11	25.9	164	03.3	-5	18.3	314	27.6	+15	05.6	22	48.4	-12	21.9
1	12	41.1	235	32.0		25.9	179	04.2		19.0	329	30.2		05.5	37	51.0		21.9
2	27	43.5	250	33.2		26.0	194	05.2		19.6	344	32.7		05.5	52	53.7		22.0
3	42	46.0	265	34.3		26.0	209	06.1		20.3	359	35.3		05.4	67	56.3		22.1
4	57	48.5	280	35.5		26.0	224	07.1		21.0	14	37.9		05.4	82	58.9		22.1
5	72	50.9	295	36.6	+11	26.0	239	08.0	-5	21.6	29	40.5	+15	05.4	98	01.5	-12	22.2
6	87	53.4	310	37.8	+11	26.0	254	09.0	-5	22.3	44	43.1	+15	05.3	113	04.1	-12	22.2
7	102	55.8	325	38.9		26.0	269	09.9		22.9	59	45.7		05.3	128	06.8		22.3
8	117	58.3	340	40.1		26.0	284	10.9		23.6	74	48.2		05.2	143	09.4		22.4
9	133	00.8	355	41.2		26.0	299	11.8		24.2	89	50.8		05.2	158	12.0		22.4
10	148	03.2	10	42.3		26.0	314	12.8		24.9	104	53.4		05.1	173	14.6		22.5
11	163	05.7	25	43.5	+11	26.1	329	13.7	-5	25.6	119	56.0	+15	05.1	188	17.3	-12	22.5
12	178	08.2	40	44.6	+11	26.1	344	14.7	-5	26.2	134	58.6	+15	05.1	203	19.9	-12	22.6
13	193	10.6	55	45.7		26.1	359	15.6		26.9	150	01.2		05.0	218	22.5		22.6
14	208	13.1	70	46.9		26.1	14	16.6		27.5	165	03.7		05.0	233	25.1		22.7
15	223	15.6	85	48.0		26.1	29	17.5		28.2	180	06.3		04.9	248	27.7		22.8
16	238	18.0	100	49.1		26.1	44	18.5		28.8	195	08.9		04.9	263	30.4		22.8
17	253	20.5	115	50.2	+11	26.1	59	19.4	-5	29.5	210	11.5	+15	04.8	278	33.0	-12	22.9
18	268	23.0	130	51.3	+11	26.1	74	20.4	-5	30.1	225	14.1	+15	04.8	293	35.6	-12	22.9
19	283	25.4	145	52.5		26.1	89	21.3		30.8	240	16.7		04.8	308	38.2		23.0
20	298	27.9	160	53.6		26.1	104	22.3		31.5	255	19.3		04.7	323	40.8		23.1
21	313	30.3	175	54.7		26.1	119	23.2		32.1	270	21.9		04.7	338	43.5		23.1
22	328	32.8	190	55.8		26.1	134	24.2		32.8	285	24.4		04.6	353	46.1		23.2
23	343	35.3	205	56.9		26.1	149	25.1		33.4	300	27.0		04.6	8	48.7		23.2
24	358	37.7	220	58.0	+11	26.0	164	26.1	-5	34.1	315	29.6	+15	04.5	23	51.3	-12	23.3
Dif	—		+11	0			+9	-7			+26	0			+26	-		

ALMANAQUE NÁUTICO PERSEUS

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: 5.9 ^d PHE { 4 ^h : 57'0 12 ^h : 57'2 20 ^h : 57'5 R°: 58 ^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	39.9	+0	53.3		116	51.0	87	-24	31.7	81	18 04	18 45	19 36	14 43	95	18 50	26
1	196	40.1		52.3		131	18.7	86		39.8	80	03	42	29	14 14	85	19 19	36
2	211	40.3		51.4		145	46.3	85		47.8	78	03	40	24	13 52	80	41	41
3	226	40.5		50.4		160	13.8	84	-24	55.6	77	02	37	19	34 77	19	59	44
4	241	40.8		49.4		174	41.2	83	-25	03.3	76	02	35	15	19 74	20	15	46
5	256	41.0	+0	48.5		189	08.5	82	-25	10.9	75	18 01	18 33	19 11	13 05	73	20 28	48
6	271	41.2	+0	47.5		203	35.7	81	-25	18.4	73	18 00	18 29	19 04	12 38	70	20 56	51
7	286	41.4		46.5		218	02.8	80		25.7	72	17 59	26	18 58	12 17	67	21 18	53
8	301	41.6		45.5		232	29.8	79		32.9	70	59	24	54	11 59	66	36	54
9	316	41.9		44.6		246	56.7	77		39.9	70	58	22	50	44	64	21 52	55
10	331	42.1		43.6		261	23.4	77		46.9	67	57	19	45	11 19	61	22 19	57
11	346	42.3	+0	42.6		275	50.1	76	-25	53.6	67	17 57	18 18	18 42	10 57	59	22 42	58
12	1	42.5	+0	41.7		290	16.7	74	-26	00.3	67	17 56	18 17	18 41	10 36	58	23 03	60
13	16	42.8		40.7		304	43.1	74		06.8	65	56	17	41	10 16	56	25	60
14	31	43.0		39.7		319	09.5	72		13.1	62	56	18	43	9 54	54	23 48	62
15	46	43.2		38.7		333	35.7	72		19.3	61	56	19	47	29 51		***	***
16	61	43.4		37.8		348	01.9	71		25.4	59	55	21	50	9 15	49	***	***
17	76	43.6	+0	36.8		2	28.0	69	-26	31.3	58	17 55	18 22	18 54	8 58	47	***	***
18	91	43.9	+0	35.8		16	53.9	69	-26	37.1	56	17 55	18 25	18 59	8 38	44	0 00	72
19	106	44.1		34.8		31	19.8	67		42.7	54	55	28	19 06	12 41		25	75
20	121	44.3		33.9		45	45.5	67		48.1	54	55	29	09	8 00	39	36	79
21	136	44.5		32.9		60	11.2	67		53.5	54	55	31	13	7 46	36	0 50	81
22	151	44.7		31.9		74	36.8	66	-26	58.6	50	55	33	17	30 32		1 05	85
23	166	45.0		31.0		89	02.3	65	-27	03.6	50	56	35	21	7 11	27	24	91
24	181	45.2	+0	30.0		103	27.7	64	-27	08.5	49	17 56	18 37	19 27	6 48	17	1 47	100

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 0 ^h 01.5 ^m		Mag: -4.8 PMG: 9 ^h 14 ^m		Mag: +1.7 PMG: 13 ^h 00 ^m		Mag: -2.8 PMG: 2 ^h 53 ^m		Mag: +0.5 PMG: 22 ^h 17 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "								
0	359	36.9	221	23.7	+11	25.6	164	48.8	-5	49.8	316	31.9	+15	03.5	24	54.2	-12	24.7
1	14	39.3	236	24.7		25.6	179	49.7		50.5	331	34.4		03.4	39	56.8		24.7
2	29	41.8	251	25.8		25.6	194	50.7		51.1	346	37.0		03.4	54	59.4		24.8
3	44	44.3	266	26.8		25.5	209	51.6		51.8	1	39.6		03.3	70	02.0		24.8
4	59	46.7	281	27.8		25.5	224	52.5		52.4	16	42.2		03.3	85	04.6		24.9
5	74	49.2	296	28.9	+11	25.5	239	53.5	-5	53.1	31	44.8	+15	03.2	100	07.2	-12	24.9
6	89	51.7	311	29.9	+11	25.4	254	54.4	-5	53.8	46	47.4	+15	03.2	115	09.9	-12	25.0
7	104	54.1	326	30.9		25.4	269	55.4		54.4	61	50.0		03.2	130	12.5		25.1
8	119	56.6	341	31.9		25.3	284	56.3		55.1	76	52.6		03.1	145	15.1		25.1
9	134	59.1	356	33.0		25.3	299	57.3		55.7	91	55.2		03.1	160	17.7		25.2
10	150	01.5	11	34.0		25.3	314	58.2		56.4	106	57.8		03.0	175	20.3		25.2
11	165	04.0	26	35.0	+11	25.2	329	59.2	-5	57.0	122	00.4	+15	03.0	190	22.9	-12	25.3
12	180	06.4	41	36.0	+11	25.2	345	00.1	-5	57.7	137	03.0	+15	02.9	205	25.6	-12	25.3
13	195	08.9	56	37.0		25.2	0	01.0		58.3	152	05.6		02.9	220	28.2		25.4
14	210	11.4	71	38.0		25.1	15	02.0		59.0	167	08.2		02.8	235	30.8		25.5
15	225	13.8	86	39.0		25.1	30	02.9	-5	59.6	182	10.8		02.8	250	33.4		25.5
16	240	16.3	101	40.0		25.0	45	03.9	-6	00.3	197	13.4		02.7	265	36.0		25.6
17	255	18.8	116	41.0	+11	25.0	60	04.8	-6	01.0	212	16.0	+15	02.7	280	38.6	-12	25.6
18	270	21.2	131	42.0	+11	24.9	75	05.8	-6	01.6	227	18.7	+15	02.6	295	41.3	-12	25.7
19	285	23.7	146	43.0		24.9	90	06.7		02.3	242	21.3		02.6	310	43.9		25.7
20	300	26.2	161	44.0		24.8	105	07.6		02.9	257	23.9		02.5	325	46.5		25.8
21	315	28.6	176	45.0		24.8	120	08.6		03.6	272	26.5		02.5	340	49.1		25.8
22	330	31.1	191	46.0		24.7	135	09.5		04.2	287	29.1		02.4	355	51.7		25.9
23	345	33.6	206	47.0		24.7	150	10.5		04.9	302	31.7		02.4	10	54.3		26.0
24	0	36.0	221	48.0	+11	24.6	165	11.4	-6	05.5	317	34.3	+15	02.4	25	56.9	-12	26.0
Dif	—		+10		0		+9		-7		+26		0		+26		-1	

ALMANAQUE NÁUTICO PERSEUS

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: 7.9 ^d PHE { 4 ^h : 58'4 12 ^h : 58'7 20 ^h : 58'9 Rº: 62 ^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	181	50.5	+0	06.6	89	13.3	46	-28	14.8	5	60 N	17 58	18 39	19 29	17 17	21	20 25	107													
1	196	50.7		05.7	103	36.9	45		15.3	4	58	58	37	23	16 40	32	21 02	96													
2	211	50.9		04.7	118	00.4	45		15.7	2	56	57	34	18	16 13	38	29 89														
3	226	51.2		03.7	132	23.9	45		15.9	2	54	57	32	14	15 52	42	21 49	86													
4	241	51.4		02.8	146	47.4	45		16.0	1	52	57	30	10	13 35	44	22 07	83													
5	256	51.6	+0	01.8	161	10.8	44	-28	15.8	2	50	17 57	18 29	19 07	15 20	46	22 22	80													
6	271	51.8	+0	00.8	175	34.1	43	-28	15.4	4	45	17 56	18 26	19 00	14 49	51	22 51	77													
7	286	52.0	-0	00.2	189	57.5	44		14.9	5	40	56	23	18 55	26 52	23 15	73														
8	301	52.3		01.1	204	20.8	43		14.2	7	35	56	21	51	14 06	55	34 71														
9	316	52.5		02.1	218	44.0	42		13.3	9	30	56	20	47	13 50	55	23 50	70													
10	331	52.7		03.1	233	07.3	43		12.2	11	20	56	18	43	13 21	58	** ** *	**													
11	346	52.9	-0	04.1	247	30.5	42	-28	10.9	13	10 N	17 56	18 17	18 41	12 57	60	** ** *	**													
12	1	53.1	-0	05.0	261	53.7	42	-28	09.4	15	0	17 56	18 16	18 40	12 34	62	0 03	61													
13	16	53.4		06.0	276	16.8	41		07.7	17	10 S	56	17	41	12 12	63	25 61														
14	31	53.6		07.0	290	39.9	41		05.9	18	20	56	18	44	11 48	64	0 50	59													
15	46	53.8		07.9	305	03.1	42		03.8	21	30	57	21	48	20 66	1 18	59														
16	61	54.0		08.9	319	26.2	41	-28	01.6	22	35	57	22	52	11 03	68	35 58														
17	76	54.2	-0	09.9	333	49.2	40	-27	59.2	24	40	17 57	18 24	18 56	10 43	70	1 54	57													
18	91	54.4	-0	10.9	348	12.3	41	-27	56.6	26	45	17 58	18 27	19 02	10 20	71	2 18	56													
19	106	54.7		11.8	2	35.4	41		53.8	28	50	58	31	09	9 49	74	2 48	54													
20	121	54.9		12.8	16	58.4	40		50.8	30	52	59	32	12	34 75	3 03	53														
21	136	55.1		13.8	31	21.5	41		47.6	32	54	59	34	16	9 17	77	21 51														
22	151	55.3		14.8	45	44.5	40		44.2	34	56	17 59	37	21	8 56	79	3 42	49													
23	166	55.5		15.7	60	07.6	41		40.7	35	58	18 00	39	26	8 29	83	4 08	46													
24	181	55.8	-0	16.7	74	30.6	40	-27	36.9	38	60 S	18 00	18 42	19 32	7 52	90	4 46	38													
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO																		
	PMG: 23 ^h 49.7 ^m			Mag: -4.7 PMG: 9 ^h 11 ^m			Mag: +1.7 PMG: 12 ^h 57 ^m			Mag: -2.8 PMG: 2 ^h 45 ^m			Mag: +0.5 PMG: 22 ^h 08 ^m																		
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♅		Dec														
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'													
0	1	35.2	222	11.0	+11	23.1	165	34.0	-6	21.2	318	36.9	+15	01.2	26	59.7	-12	27.3													
1	16	37.6	237	11.9		23.0	180	34.9		21.9	333	39.5		01.1	42	02.3		27.4													
2	31	40.1	252	12.9		23.0	195	35.8		22.5	348	42.1		01.1	57	04.9		27.4													
3	46	42.5	267	13.8		22.9	210	36.8		23.2	3	44.7		01.0	72	07.5		27.5													
4	61	45.0	282	14.7		22.8	225	37.7		23.8	18	47.3		01.0	87	10.1		27.6													
5	76	47.5	297	15.6	+11	22.7	240	38.7	-6	24.5	33	49.9	+15	00.9	102	12.7	-12	27.6													
6	91	49.9	312	16.6	+11	22.6	255	39.6	-6	25.1	48	52.6	+15	00.9	117	15.4	-12	27.7													
7	106	52.4	327	17.5		22.6	270	40.5		25.8	63	55.2		00.8	132	18.0		27.7													
8	121	54.9	342	18.4		22.5	285	41.5		26.4	78	57.8		00.8	147	20.6		27.8													
9	136	57.3	357	19.3		22.4	300	42.4		27.1	94	00.4		00.7	162	23.2		27.8													
10	151	59.8	12	20.2		22.3	315	43.3		27.8	109	03.0		00.7	177	25.8		27.9													
11	167	02.3	27	21.1	+11	22.2	330	44.3	-6	28.4	124	05.6	+15	00.6	192	28.4	-12	27.9													
12	182	04.7	42	22.0	+11	22.1	345	45.2	-6	29.1	139	08.3	+15	00.6	207	31.0	-12	28.0													
13	197	07.2	57	22.9		22.0	0	46.2		29.7	154	10.9		00.5	222	33.6		28.0													
14	212	09.7	72	23.8		22.0	15	47.1		30.4	169	13.5		00.5	237	36.2		28.1													
15	227	12.1	87	24.7		21.9	30	48.0		31.0	184	16.1		00.4	252	38.9		28.2													
16	242	14.6	102	25.6		21.8	45	49.0		31.7	199	18.7		00.4	267	41.5		28.2													
17	257	17.0	117	26.5	+11	21.7	60	49.9	-6	32.3	214	21.3	+15	00.3	282	44.1	-12	28.3													
18	272	19.5	132	27.4	+11	21.6	75	50.8	-6	33.0	229	24.0	+15	00.3	297	46.7	-12	28.3													
19	287	22.0	147	28.3		21.5	90	51.8		33.6	244	26.6		00.2	312	49.3		28.4													
20	302	24.4	162	29.2		21.4	105	52.7		34.3	259	29.2		00.2	327	51.9		28.4													
21	317	26.9	177	30.1		21.3	120	53.6		34.9	274	31.8		00.1	342	54.5		28.5													
22	332	29.4	192	31.0		21.2	135	54.6		35.6	289	34.4	+15	00.1	357	57.1		28.5													
23	347	31.8	207	31.9		21.1	150	55.5		36.2	304	37.1	+15	00.0	12	59.7		28.6													
24	2	34.3	222	32.7	+11	21.0	165	56.4	-6	36.9	319	39.7	+14	59.9	28	02.4	-12	28.6													
Dif	—		+9		-1		+9		-7		+26		-1		+26		-1														

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 15'9 PMG: 11 ^h 52.1 ^m			Edad: 8.9 ^d PHE { 4 ^h : 59'2 12 ^h : 59'4 20 ^h : 59'7 PMG: 19 ^h 51 ^m R°: 59 ^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	55.8	-0	16.7	74	30.6	41	-27	36.9	39	60 N	4	17	5	06	5	48	17	38	8	
1	196	56.0		17.7	88	53.7	41		33.0	42	58	22		09	48	17	12	17		38	
2	211	56.2		18.7	103	16.7	41		28.8	43	56	27		11	48	16	51	23	22	58	
3	226	56.4		19.6	117	39.8	41		24.5	43	54	31		13	49	34	27	23	15	96	
4	241	56.6		20.6	132	02.8	40		20.0	45	52	35		15	49	19	31		30	92	
5	256	56.9	-0	21.6	146	25.9	41	-27	15.3	47	50	4	39	5	17	5	49	16	06	34	
6	271	57.1	-0	22.5	160	49.0	41	-27	10.4	49	45	4	45	5	20	5	49	15	40	39	
7	286	57.3		23.5	175	12.1	42		05.3	51	40	50		22	49		18	44		**	
8	301	57.5		24.5	189	35.3	42	-27	00.1	52	35	54		24	49	15	01	46		**	
9	316	57.7		25.5	203	58.4	42	-26	54.6	55	30	4	57		25	49	14	45	50	**	
10	331	58.0		26.4	218	21.6	42		49.0	56	20	5	02		27	49	14	19	54	0	
11	346	58.2	-0	27.4	232	44.8	42	-26	43.2	58	10 N	5	04	5	28	5	49	13	57	57	0
12	1	58.4	-0	28.4	247	08.0	42	-26	37.1	61	0	5	04	5	28	5	49	13	36	60	1
13	16	58.6		29.4	261	31.3	43		30.9	62	10 S		03		28	49	13	15	64		26
14	31	58.8		30.3	275	54.6	43		24.6	63	20	5	01		26	48	12	52	67	1	
15	46	59.0		31.3	290	17.9	43		18.0	66	30	4	56		24	47		26	71	2	
16	61	59.3		32.3	304	41.3	44		11.2	68	35		52		22	47	12	11	73		33
17	76	59.5	-0	33.3	319	04.7	44	-26	04.3	69	40	4	48	5	20	5	47	11	53	76	2
18	91	59.7	-0	34.2	333	28.1	44	-25	57.2	71	45	4	42	5	17	5	46	11	31	80	3
19	106	59.9		35.2	347	51.6	45		49.9	73	50		35		13	45	11	03	86		42
20	122	00.1		36.2	2	15.1	45		42.4	75	52		31		11	45	10	49	89	3	
21	137	00.4		37.1	16	38.6	45		34.8	76	54		27		09	44		34	92	4	
22	152	00.6		38.1	31	02.2	46		26.9	79	56		23		07	44	10	15	97		31
23	167	00.8		39.1	45	25.9	47		18.9	80	58		17		04	44	9	52	103	4	
24	182	01.0	-0	40.1	59	49.6	47	-25	10.7	82	60 S	4	11	5	01	5	43	9	22	113	5

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 23 ^h 45.8 ^m			Mag: -4.7 PMG: 9 ^h 09 ^m			Mag: +1.7 PMG: 12 ^h 55 ^m			Mag: -2.8 PMG: 2 ^h 41 ^m			Mag: +0.5 PMG: 22 ^h 04 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	2	34.3	222	32.7	+11	21.0	165	56.4	-6	36.9	319	39.7	+14	59.9	28	02.4		
1	17	36.8	237	33.6		20.9	180	57.4		37.5	334	42.3		59.9	43	05.0		
2	32	39.2	252	34.5		20.8	195	58.3		38.2	349	44.9		59.8	58	07.6		
3	47	41.7	267	35.4		20.7	210	59.3		38.8	4	47.5		59.8	73	10.2		
4	62	44.2	282	36.3		20.6	226	00.2		39.5	19	50.2		59.7	88	12.8		
5	77	46.6	297	37.1	+11	20.5	241	01.1	-6	40.1	34	52.8	+14	59.7	103	15.4		
6	92	49.1	312	38.0	+11	20.4	256	02.1	-6	40.8	49	55.4	+14	59.6	118	18.0		
7	107	51.5	327	38.9		20.3	271	03.0		41.4	64	58.0		59.6	133	20.6		
8	122	54.0	342	39.7		20.2	286	03.9		42.1	80	00.6		59.5	148	23.2		
9	137	56.5	357	40.6		20.1	301	04.9		42.8	95	03.3		59.5	163	25.8		
10	152	58.9	12	41.4		20.0	316	05.8		43.4	110	05.9		59.4	178	28.5		
11	168	01.4	27	42.3	+11	19.9	331	06.7	-6	44.1	125	08.5	+14	59.4	193	31.1		
12	183	03.9	42	43.2	+11	19.8	346	07.7	-6	44.7	140	11.1	+14	59.3	208	33.7		
13	198	06.3	57	44.0		19.7	1	08.6		45.4	155	13.8		59.3	223	36.3		
14	213	08.8	72	44.9		19.6	16	09.5		46.0	170	16.4		59.2	238	38.9		
15	228	11.3	87	45.7		19.4	31	10.5		46.7	185	19.0		59.2	253	41.5		
16	243	13.7	102	46.6		19.3	46	11.4		47.3	200	21.6		59.1	268	44.1		
17	258	16.2	117	47.4	+11	19.2	61	12.3	-6	48.0	215	24.3	+14	59.0	283	46.7		
18	273	18.7	132	48.3	+11	19.1	76	13.3	-6	48.6	230	26.9	+14	59.0	298	49.3		
19	288	21.1	147	49.1		19.0	91	14.2		49.3	245	29.5		58.9	313	51.9		
20	303	23.6	162	49.9		18.9	106	15.1		49.9	260	32.1		58.9	328	54.5		
21	318	26.0	177	50.8		18.8	121	16.0		50.6	275	34.8		58.8	343	57.2		
22	333	28.5	192	51.6		18.6	136	17.0		51.2	290	37.4		58.8	358	59.8		
23	348	31.0	207	52.5		18.5	151	17.9		51.9	305	40.0		58.7	14	02.4		
24	3	33.4	222	53.3	+11	18.4	166	18.8	-6	52.5	320	42.7	+14	58.7	29	05.0		
Dif	—			+9			-1			+9			-7			+26		

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: 9.9 ^d SD: 16'3 PMG: 20 ^h 50 ^m PHE { 4 ^h : 59'9 12 ^h : 60'1 20 ^h : 60'3 R°: 57 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	01.0	-0	40.1	59	49.6	47	-25	10.7	84	60 N	17	52	18	33	19	23
1	197	01.2		41.0	74	13.3		-25	02.3	85	58	52	31	17	29	9	
2	212	01.4		42.0	88	37.1	48	-24	53.8	87	56	52	29	13	14	14	
3	227	01.7		43.0	103	01.0	49		45.1	89	54	52	27	09	17	01	18
4	242	01.9		44.0	117	24.9	49		36.2	91	52	52	26	05	16	50	22
5	257	02.1	-0	44.9	131	48.8	49	-24	27.1	92	50	17	52	18	24	19	02
6	272	02.3	-0	45.9	146	12.8	50	-24	17.9	94	45	17	53	18	22	18	56
7	287	02.5		46.9	160	36.9	51	-24	08.5	96	40	53	20	51	16	02	35
8	302	02.8		47.9	175	01.0	51	-23	58.9	98	35	53	18	48	15	47	40
9	317	03.0		48.8	189	25.2	52		49.1	99	30	53	17	45	35	42	
10	332	03.2		49.8	203	49.5	53		39.2	100	20	54	16	41	15	13	48
11	347	03.4	-0	50.8	218	13.8	53	-23	29.2	103	10 N	17	54	18	15	14	54
12	2	03.6	-0	51.7	232	38.2	54	-23	18.9	104	0	17	55	18	16	14	36
13	17	03.8		52.7	247	02.6	54	-23	08.5	105	10 S	56	17	41	14	19	61
14	32	04.1		53.7	261	27.1	55	-22	58.0	108	20	57	19	44	13	59	67
15	47	04.3		54.7	275	51.7	56		47.2	110	30	58	22	50	37	73	
16	62	04.5		55.6	290	16.4	57		36.4	112	35	58	24	53	24	76	
17	77	04.7	-0	56.6	304	41.1	57	-22	25.3	111	40	17	59	18	26	18	58
18	92	04.9	-0	57.6	319	05.8	57	-22	14.1	112	45	18	00	18	30	19	04
19	107	05.1		58.6	333	30.7	59	-22	02.8	113	50	01	34	12	29	91	
20	122	05.4	-0	59.5	347	55.6	59	-21	51.3	115	52	02	36	16	18	94	
21	137	05.6	-1	00.5	2	20.6	60		39.6	117	54	03	38	20	12	06	98
22	152	05.8		01.5	16	45.7	61		27.8	118	56	03	41	25	11	52	102
23	167	06.0		02.5	31	10.8	61		15.9	119	58	04	44	31	35	108	
24	182	06.2	-1	03.4	45	36.0	62	-21	03.8	121	60 S	18	05	18	47	19	38

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 23 ^h 41.9 ^m		Mag: -4.7 PMG: 9 ^h 08 ^m		Mag: +1.7 PMG: 12 ^h 54 ^m		Mag: -2.8 PMG: 2 ^h 37 ^m		Mag: +0.5 PMG: 22 ^h 00 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	3	33.4	222	53.3	+11	18.4	166	18.8	-6	52.5
1	18	35.9	237	54.1		18.3	181	19.8		53.2
2	33	38.4	252	54.9		18.1	196	20.7		53.8
3	48	40.8	267	55.8		18.0	211	21.6		54.5
4	63	43.3	282	56.6		17.9	226	22.6		55.1
5	78	45.8	297	57.4	+11	17.8	241	23.5	-6	55.8
6	93	48.2	312	58.2	+11	17.6	256	24.4	-6	56.4
7	108	50.7	327	59.1		17.5	271	25.4		57.1
8	123	53.1	342	59.9		17.4	286	26.3		57.7
9	138	55.6	358	00.7		17.3	301	27.2		58.4
10	153	58.1	13	01.5		17.1	316	28.2		59.0
11	169	00.5	28	02.3	+11	17.0	331	29.1	-6	59.7
12	184	03.0	43	03.1	+11	16.9	346	30.0	-7	00.3
13	199	05.5	58	03.9		16.7	1	30.9		01.0
14	214	07.9	73	04.7		16.6	16	31.9		01.6
15	229	10.4	88	05.5		16.5	31	32.8		02.3
16	244	12.9	103	06.3		16.3	46	33.7		02.9
17	259	15.3	118	07.1	+11	16.2	61	34.7	-7	03.6
18	274	17.8	133	07.9	+11	16.1	76	35.6	-7	04.2
19	289	20.3	148	08.7		15.9	91	36.5		04.9
20	304	22.7	163	09.5		15.8	106	37.4		05.5
21	319	25.2	178	10.3		15.6	121	38.4		06.2
22	334	27.6	193	11.1		15.5	136	39.3		06.8
23	349	30.1	208	11.9		15.4	151	40.2		07.5
24	4	32.6	223	12.7	+11	15.2	166	41.2	-7	08.1
Dif	—		+8		-1		+9		-6	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 15'9 PMG:11 ^h 51.4 ^m			Edad: 10.9 ^d PHE { 4 ^h : 60'4 12 ^h : 60'6 20 ^h : 60'7 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	06.2	-1	03.4	45	36.0	63	-21	03.8	122	4	22	5	53	17	49	0	0	09		
1	197	06.4		04.4	60	01.3	63	-20	51.6	124	27	13		53	38	5		26	108		
2	212	06.7		05.4	74	26.6	64		39.2	125	31	15		52	28	9		39	103		
3	227	06.9		06.3	88	52.0	64		26.7	127	35	17		52	19	13	0	51	99		
4	242	07.1		07.3	103	17.5	65		14.0	127	39	18		52	12	16	1	02	95		
5	257	07.3	-1	08.3	117	43.1	66	-20	01.2	128	4	42	5	52	17	05	19	1	11		
6	272	07.5	-1	09.3	132	08.8	67	-19	48.3	129	4	48	5	52	16	50	25	1	31		
7	287	07.7		10.2	146	34.5	67		35.2	131	52	24		51	37	30	1	47	80		
8	302	07.9		11.2	161	00.3	68		22.0	132	56	25		51	27	34	2	00	76		
9	317	08.2		12.2	175	26.1	68	-19	08.7	133	4	59	26		50	17	38	12	72		
10	332	08.4		13.2	189	52.1	70	-18	55.2	135	5	02	28		50	16	01	44	31		
11	347	08.6	-1	14.1	204	18.1	70	-18	41.6	136	5	04	5	49	15	47	49	2	48		
12	2	08.8	-1	15.1	218	44.2	71	-18	27.9	137	5	04	5	48	15	34	54	3	04		
13	17	09.0		16.1	233	10.4	72		14.0	139	5	02	26		47	20	60	20	51		
14	32	09.2		17.1	247	36.6	72	-18	00.1	139	4	59	24		46	15	06	65	36		
15	47	09.5		18.0	262	02.9	73	-17	46.0	141	53	21		45	14	50	71	3	55		
16	62	09.7		19.0	276	29.3	74		31.8	142	49	19		44	40	75	4	06	37		
17	77	09.9	-1	20.0	290	55.8	75	-17	17.5	143	4	45	5	43	14	29	79	4	18		
18	92	10.1	-1	20.9	305	22.3	75	-17	03.0	145	4	38	5	42	14	16	84	4	33		
19	107	10.3		21.9	319	48.9	76	-16	48.5	145	30	09		41	14	00	91	51	21		
20	122	10.5		22.9	334	15.6	77		33.8	147	26	06		40	13	52	94	4	59		
21	137	10.7		23.9	348	42.4	78		19.0	148	22	04		40	44	97	5	08	16		
22	152	11.0		24.8	3	09.2	78	-16	04.2	148	17	5	02		39	34	102	19	11		
23	167	11.2		25.8	17	36.1	79	-15	49.2	150	11	4	59		38	23	107	30	8		
24	182	11.4	-1	26.8	32	03.1	80	-15	34.1	151	4	05	4	55	5	37	13	11	112		
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO								
	PMG: 23 ^h 37.9 ^m			Mag: -4.7 PMG: 9 ^h 07 ^m			Mag: +1.7 PMG: 12 ^h 52 ^m			Mag: -2.8 PMG: 2 ^h 32 ^m			Mag: +0.5 PMG: 21 ^h 56 ^m								
	hG ♈			hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'					
0	4	32.6	223	12.7	+11	15.2	166	41.2	-7	08.1	321	45.8	+14	57.3	30	07.5					
1	19	35.0	238	13.4		15.1	181	42.1		08.8	336	48.4		57.3	45	10.2					
2	34	37.5	253	14.2		14.9	196	43.0		09.4	351	51.1		57.2	60	12.8					
3	49	40.0	268	15.0		14.8	211	43.9		10.1	6	53.7		57.2	75	15.4					
4	64	42.4	283	15.8		14.6	226	44.9		10.7	21	56.4		57.1	90	18.0					
5	79	44.9	298	16.6	+11	14.5	241	45.8	-7	11.4	36	59.0	+14	57.1	105	20.6					
6	94	47.4	313	17.3	+11	14.3	256	46.7	-7	12.0	52	01.6	+14	57.0	120	23.2					
7	109	49.8	328	18.1		14.2	271	47.7		12.7	67	04.3		56.9	135	25.8					
8	124	52.3	343	18.9		14.0	286	48.6		13.3	82	06.9		56.9	150	28.4					
9	139	54.8	358	19.6		13.9	301	49.5		14.0	97	09.5		56.8	165	31.0					
10	154	57.2	13	20.4		13.7	316	50.4		14.6	112	12.2		56.8	180	33.6					
11	169	59.7	28	21.2	+11	13.6	331	51.4	-7	15.2	127	14.8	+14	56.7	195	36.2					
12	185	02.1	43	21.9	+11	13.4	346	52.3	-7	15.9	142	17.5	+14	56.7	210	38.8					
13	200	04.6	58	22.7		13.3	1	53.2		16.5	157	20.1		56.6	225	41.4					
14	215	07.1	73	23.4		13.1	16	54.1		17.2	172	22.7		56.5	240	44.0					
15	230	09.5	88	24.2		12.9	31	55.1		17.8	187	25.4		56.5	255	46.6					
16	245	12.0	103	25.0		12.8	46	56.0		18.5	202	28.0		56.4	270	49.2					
17	260	14.5	118	25.7	+11	12.6	61	56.9	-7	19.1	217	30.7	+14	56.4	285	51.8					
18	275	16.9	133	26.5	+11	12.5	76	57.8	-7	19.8	232	33.3	+14	56.3	300	54.4					
19	290	19.4	148	27.2		12.3	91	58.8		20.4	247	35.9		56.2	315	57.0					
20	305	21.9	163	27.9		12.1	106	59.7		21.1	262	38.6		56.2	330	59.6					
21	320	24.3	178	28.7		12.0	122	00.6		21.7	277	41.2		56.1	346	02.2					
22	335	26.8	193	29.4		11.8	137	01.5		22.4	292	43.9		56.1	1	04.8					
23	350	29.2	208	30.2		11.6	152	02.5		23.0	307	46.5		56.0	16	07.4					
24	5	31.7	223	30.9	+11	11.5	167	03.4	-7	23.7	322	49.1	+14	56.0	31	10.0					
Dif	—			+8			-2			+9			-6			+26			-1		

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'0 PMG: 11 ^h 51.1 ^m			Edad: 11.9 ^d SD: 16'6 PMG: 22 ^h 41 ^m PHE { 4 ^h : 60'8 12 ^h : 60'9 20 ^h : 60'9 Rº: 51 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Civil			Náutico	Hora	Rº	Hora	Rº		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m	
0	182	11.4	-1	26.8	32	03.1	80	-15	34.1	52	60 N	17 46	18 27	19 16	17 49	0	2 04	
1	197	11.6		27.8	46	30.1	81		18.9	152	58	46	25	11	43	4	14	
2	212	11.8		28.7	60	57.2	82	-15	03.6	153	56	47	24	07	37	8	22	
3	227	12.0		29.7	75	24.4	82	-14	48.2	154	54	47	22	04	32	11	30	
4	242	12.2		30.7	89	51.6	82		32.7	155	52	48	21	19 00	28	14	37	
5	257	12.5	-1	31.6	104	19.0	84	-14	17.2	155	50	17 48	18 20	18 58	17 24	16	2 43	
6	272	12.7	-1	32.6	118	46.3	83	-14	01.5	157	45	17 49	18 18	18 52	17 15	22	2 56	
7	287	12.9		33.6	133	13.8	85	-13	45.7	158	40	50	16	48	07	27	3 07	
8	302	13.1		34.6	147	41.3	85		29.9	158	35	50	15	45	17 01	31	16	
9	317	13.3		35.5	162	08.9	86	-13	14.0	159	30	51	15	42	16 55	35	24	
10	332	13.5		36.5	176	36.6	87	-12	58.0	160	20	52	14	40	45	41	37	
11	347	13.7	-1	37.5	191	04.3	87	-12	41.9	161	10 N	17 53	18 14	18 38	16 36	47	3 49	
12	2	14.0	-1	38.5	205	32.0	87	-12	25.7	162	0	17 54	18 15	18 39	16 28	52	4 00	
13	17	14.2		39.4	219	59.9	89	-12	09.4	163	10 S	56	17	41	20	57	11	
14	32	14.4		40.4	234	27.8	89	-11	53.1	163	20	57	19	45	11	63	22	
15	47	14.6		41.4	248	55.8	90		36.7	164	30	17 59	23	51	16	01	69	
16	62	14.8		42.3	263	23.8	90		20.2	165	35	18 00	25	18 55	15	55	73	
17	77	15.0	-1	43.3	277	51.9	91	-11	03.7	165	40	18 01	18 28	19 00	15	48	78	
18	92	15.2	-1	44.3	292	20.0	91	-10	47.1	166	45	18 03	18 32	19 07	15	40	83	
19	107	15.5		45.3	306	48.2	92		30.4	167	50	04	37	15	31	89	12	
20	122	15.7		46.2	321	16.5	93	-10	13.6	168	52	05	39	20	26	92	18	
21	137	15.9		47.2	335	44.8	93	-9	56.8	168	54	06	42	24	21	95	24	
22	152	16.1		48.2	350	13.2	94		40.0	168	56	07	45	30	16	99	30	
23	167	16.3		49.2	4	41.6	94		23.0	170	58	08	48	36	10	103	38	
24	182	16.5	-1	50.1	19	10.1	95	-9	06.1	169	60 S	18 10	18 52	19 43	15	03	107	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 23 ^h 34.0 ^m			Mag: -4.7 PMG: 9 ^h 05 ^m			Mag: +1.7 PMG: 12 ^h 51 ^m			Mag: -2.8 PMG: 2 ^h 28 ^m			Mag: +0.5 PMG: 21 ^h 52 ^m					
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec			
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°			
0	5	31.7	223	30.9	+11	11.5	167	03.4	-7	23.7	322	49.1	+14	56.0	31	10.0	-12	32.4
1	20	34.2	238	31.7		11.3	182	04.3		24.3	337	51.8		55.9	46	12.7		32.4
2	35	36.6	253	32.4		11.1	197	05.2		25.0	352	54.4		55.8	61	15.3		32.5
3	50	39.1	268	33.1		11.0	212	06.2		25.6	7	57.1		55.8	76	17.9		32.5
4	65	41.6	283	33.9		10.8	227	07.1		26.3	22	59.7		55.7	91	20.5		32.6
5	80	44.0	298	34.6	+11	10.6	242	08.0	-7	26.9	38	02.4	+14	55.7	106	23.1	-12	32.6
6	95	46.5	313	35.3	+11	10.4	257	08.9	-7	27.6	53	05.0	+14	55.6	121	25.7	-12	32.7
7	110	49.0	328	36.0		10.3	272	09.9		28.2	68	07.7		55.5	136	28.3		32.7
8	125	51.4	343	36.8		10.1	287	10.8		28.9	83	10.3		55.5	151	30.9		32.8
9	140	53.9	358	37.5		09.9	302	11.7		29.5	98	12.9		55.4	166	33.5		32.8
10	155	56.4	13	38.2		09.7	317	12.6		30.1	113	15.6		55.4	181	36.1		32.9
11	170	58.8	28	38.9	+11	09.6	332	13.6	-7	30.8	128	18.2	+14	55.3	196	38.7	-12	32.9
12	186	01.3	43	39.6	+11	09.4	347	14.5	-7	31.4	143	20.9	+14	55.2	211	41.3	-12	33.0
13	201	03.7	58	40.4		09.2	2	15.4		32.1	158	23.5		55.2	226	43.9		33.0
14	216	06.2	73	41.1		09.0	17	16.3		32.7	173	26.2		55.1	241	46.5		33.1
15	231	08.7	88	41.8		08.8	32	17.2		33.4	188	28.8		55.1	256	49.1		33.1
16	246	11.1	103	42.5		08.7	47	18.2		34.0	203	31.5		55.0	271	51.7		33.2
17	261	13.6	118	43.2	+11	08.5	62	19.1	-7	34.7	218	34.1	+14	54.9	286	54.3	-12	33.2
18	276	16.1	133	43.9	+11	08.3	77	20.0	-7	35.3	233	36.8	+14	54.9	301	56.9	-12	33.3
19	291	18.5	148	44.6		08.1	92	20.9		36.0	248	39.4		54.8	316	59.5		33.3
20	306	21.0	163	45.3		07.9	107	21.8		36.6	263	42.1		54.8	332	02.1		33.4
21	321	23.5	178	46.0		07.7	122	22.8		37.3	278	44.7		54.7	347	04.7		33.4
22	336	25.9	193	46.7		07.6	137	23.7		37.9	293	47.4		54.6	2	07.3		33.5
23	351	28.4	208	47.4		07.4	152	24.6		38.6	308	50.0		54.6	17	09.9		33.5
24	6	30.9	223	48.1	+11	07.2	167	25.5	-7	39.2	323	52.7	+14	54.5	32	12.5	-12	33.6
Dif	—			+7			-2			+9			-6			+26		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:11 ^h 50.7 ^m			Edad: 12.9 ^d SD: 16'6 PMG: 23 ^h 32 ^m												
	PHE { 4 ^h : 60'9 12 ^h : 60'9 20 ^h : 60'8 Rº: 50 ^m			hG ☾ Dif		Dec Dif										
	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	182	16.5	-1	50.1	19	10.1	-9	06.1	60 N	4 27	5 16	5 58	17 49	0	3 54	106
1	197	16.7		51.1	33	38.6	-8	49.0	58	32	18	57	47	3	3 59	101
2	212	16.9		52.1	48	07.2		32.0	56	36	19	56	45	7	4 03	98
3	227	17.2		53.0	62	35.8	-8	14.8	54	39	21	56	43	10	07	94
4	242	17.4		54.0	77	04.5	-7	57.6	52	42	22	55	42	12	10	91
5	257	17.6	-1	55.0	91	33.2	-7	40.4	50	4 45	5 23	5 55	17 40	15	4 13	88
6	272	17.8	-1	56.0	106	02.0	-7	23.1	45	4 50	5 25	5 54	17 37	21	4 20	82
7	287	18.0		56.9	120	30.8	-7	05.8	40	54	26	53	34	26	25	77
8	302	18.2		57.9	134	59.6	-6	48.5	35	4 58	27	52	32	29	30	72
9	317	18.4		58.9	149	28.5		31.1	30	5 00	28	51	30	33	34	69
10	332	18.6	-1	59.8	163	57.5	-6	13.7	20	03	28	50	26	40	41	62
11	347	18.8	-2	00.8	178	26.5	-5	56.2	10 N	5 03	5 28	5 49	17 23	45	4 47	57
12	2	19.1	-2	01.8	192	55.5	-5	38.7	0	5 03	5 27	5 47	17 20	50	4 53	51
13	17	19.3		02.8	207	24.6		21.2	10 S	5 01	25	46	17	56	4 58	46
14	32	19.5		03.7	221	53.7	-5	03.7	20	4 57	22	44	14	61	5 04	40
15	47	19.7		04.7	236	22.8	-4	46.1	30	51	19	43	10	68	11	34
16	62	19.9		05.7	250	52.0		28.5	35	46	16	41	08	72	15	30
17	77	20.1	-2	06.7	265	21.2	-4	10.9	40	4 41	5 13	5 40	17 06	76	5 19	26
18	92	20.3	-2	07.6	279	50.4	-3	53.3	45	4 34	5 09	5 38	17 03	81	5 24	21
19	107	20.5		08.6	294	19.7		35.6	50	26	04	36	17 00	87	30	16
20	122	20.7		09.6	308	49.0		18.0	52	21	5 02	36	16 58	90	33	13
21	137	21.0		10.5	323	18.4	-3	00.3	54	17	4 59	35	56	94	36	10
22	152	21.2		11.5	337	47.7	-2	42.6	56	11	56	33	55	96	39	7
23	167	21.4		12.5	352	17.1		24.9	58	4 05	53	32	53	100	42	4
24	182	21.6	-2	13.5	6	46.5	-2	07.2	60 S	3 58	4 49	5 31	16 50	105	5 46	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG 23 ^h 30.1 ^m		Mag: -4.7 PMG: 9 ^h 04 ^m		Mag: +1.7 PMG: 12 ^h 50 ^m		Mag: -2.8 PMG: 2 ^h 24 ^m		Mag: +0.5 PMG: 21 ^h 47 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	6	30.9	223	48.1	+11	07.2	167	25.5	-7	39.2	323	52.7	+14	54.5	32	12.5	-12	33.6
1	21	33.3	238	48.8		07.0	182	26.5		39.8	338	55.3		54.5	47	15.1		33.6
2	36	35.8	253	49.5		06.8	197	27.4		40.5	353	58.0		54.4	62	17.7		33.7
3	51	38.2	268	50.2		06.6	212	28.3		41.1	9	00.6		54.3	77	20.3		33.7
4	66	40.7	283	50.9		06.4	227	29.2		41.8	24	03.3		54.3	92	22.9		33.8
5	81	43.2	298	51.6	+11	06.2	242	30.1	-7	42.4	39	05.9	+14	54.2	107	25.5	-12	33.8
6	96	45.6	313	52.2	+11	06.0	257	31.1	-7	43.1	54	08.6	+14	54.2	122	28.1	-12	33.9
7	111	48.1	328	52.9		05.8	272	32.0		43.7	69	11.2		54.1	137	30.7		33.9
8	126	50.6	343	53.6		05.6	287	32.9		44.4	84	13.9		54.0	152	33.3		34.0
9	141	53.0	358	54.3		05.4	302	33.8		45.0	99	16.5		54.0	167	35.9		34.0
10	156	55.5	13	55.0		05.2	317	34.7		45.7	114	19.2		53.9	182	38.5		34.1
11	171	58.0	28	55.6	+11	05.0	332	35.7	-7	46.3	129	21.8	+14	53.9	197	41.1	-12	34.1
12	187	00.4	43	56.3	+11	04.8	347	36.6	-7	46.9	144	24.5	+14	53.8	212	43.7	-12	34.2
13	202	02.9	58	57.0		04.6	2	37.5		47.6	159	27.1		53.7	227	46.3		34.2
14	217	05.3	73	57.7		04.4	17	38.4		48.2	174	29.8		53.7	242	48.9		34.3
15	232	07.8	88	58.3		04.2	32	39.3		48.9	189	32.4		53.6	257	51.5		34.3
16	247	10.3	103	59.0		04.0	47	40.2		49.5	204	35.1		53.5	272	54.1		34.4
17	262	12.7	118	59.7	+11	03.8	62	41.2	-7	50.2	219	37.8	+14	53.5	287	56.7	-12	34.4
18	277	15.2	134	00.3	+11	03.6	77	42.1	-7	50.8	234	40.4	+14	53.4	302	59.3	-12	34.5
19	292	17.7	149	01.0		03.4	92	43.0		51.5	249	43.1		53.4	318	01.9		34.5
20	307	20.1	164	01.6		03.2	107	43.9		52.1	264	45.7		53.3	333	04.5		34.6
21	322	22.6	179	02.3		03.0	122	44.8		52.8	279	48.4		53.2	348	07.1		34.6
22	337	25.1	194	03.0		02.7	137	45.8		53.4	294	51.0		53.2	3	09.7		34.7
23	352	27.5	209	03.6		02.5	152	46.7		54.0	309	53.7		53.1	18	12.3		34.7
24	7	30.0	224	04.3	+11	02.3	167	47.6	-7	54.7	324	56.3	+14	53.0	33	14.9	-12	34.7
Dif	—		+7		-2		+9		-6		+27		-1		+26		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 16'0 PMG: 11 ^h 50.4 ^m			Edad: 13.9 ^d SD: 16'6 PMG: **h **m PHE { 4 ^h : 60'7 12 ^h : 60'6 20 ^h : 60'5 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	182	21.6	-2	13.5	6	46.5	105	-2	07.2	177	40	18	21	19	10	17	49	**	5					
1	197	21.8		14.4	21	16.0	104	-1	49.5	177	41	19	05	50	4				40					
2	212	22.0		15.4	35	45.4	105		31.8	178	41	18	19	02	52	7			41					
3	227	22.2		16.4	50	14.9	105	-1	14.0	177	42	17	18	58	53	10			41					
4	242	22.4		17.3	64	44.4	105	-0	56.3	177	43	16	56	54	13				41					
5	257	22.6	-2	18.3	79	14.0	106	-0	38.6	177	17	44	18	16	18	53	17	55	16					
6	272	22.8	-2	19.3	93	43.5	105	-0	20.9	177	17	45	18	14	18	48	17	58	21					
7	287	23.1		20.3	108	13.1	106	-0	03.2	177	46	13	45	18	00	25			42					
8	302	23.3		21.2	122	42.7	106	+0	14.5	177	47	13	42		01	30			42					
9	317	23.5		22.2	137	12.3	106		32.2	177	48	12	40		03	33			43					
10	332	23.7		23.2	151	41.9	106	+0	49.8	176	50	12	38		06	39			43					
11	347	23.9	-2	24.1	166	11.5	106	+1	07.5	177	17	52	18	13	18	37	18	08	45					
12	2	24.1	-2	25.1	180	41.2	107	+1	25.1	176	17	54	18	14	18	38	18	10	51					
13	17	24.3		26.1	195	10.8	106	+1	42.8	177	55	16	41		13	55			44					
14	32	24.5		27.1	209	40.5	107	+2	00.4	176	17	58	20		45	15	61		44					
15	47	24.7		28.0	224	10.1	106		17.9	175	18	00	24		52	18	68		45					
16	62	24.9		29.0	238	39.8	107		35.5	176	01	27	18	57		20	71		45					
17	77	25.1	-2	30.0	253	09.5	107	+2	53.0	175	18	03	18	30	19	02	18	22	76					
18	92	25.3	-2	30.9	267	39.2	107	+3	10.5	175	18	05	18	35	19	09	18	24	81					
19	107	25.6		31.9	282	08.9	107		28.0	175	08	40	19		27	87			46					
20	122	25.8		32.9	296	38.6	107	+3	45.4	174	09	43	23		28	90			46					
21	137	26.0		33.9	311	08.3	107	+4	02.9	175	10	46	28		30	92			46					
22	152	26.2		34.8	325	38.0	107		20.2	173	11	49	34		31	97			46					
23	167	26.4		35.8	340	07.7	107		37.6	174	13	53	41		33	100			46					
24	182	26.6	-2	36.8	354	37.4	107	+4	54.9	173	18	14	18	57	19	48	18	35	105					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 23 ^h 26.2 ^m			Mag: -4.7 PMG: 9 ^h 03 ^m			Mag: +1.7 PMG: 12 ^h 48 ^m			Mag: -2.8 PMG: 2 ^h 20 ^m			Mag: +0.6 PMG: 21 ^h 43 ^m											
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec									
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°									
0	7	30.0	224	04.3	+11	02.3	167	47.6	-7	54.7	324	56.3	+14	53.0	33	14.9								
1	22	32.5	239	04.9		02.1	182	48.5		55.3	339	59.0		53.0	48	17.5								
2	37	34.9	254	05.6		01.9	197	49.4		56.0	355	01.7		52.9	63	20.1								
3	52	37.4	269	06.2		01.7	212	50.3		56.6	10	04.3		52.9	78	22.7								
4	67	39.8	284	06.9		01.5	227	51.3		57.3	25	07.0		52.8	93	25.3								
5	82	42.3	299	07.5	+11	01.2	242	52.2	-7	57.9	40	09.6	+14	52.7	108	27.9								
6	97	44.8	314	08.2	+11	01.0	257	53.1	-7	58.6	55	12.3	+14	52.7	123	30.4								
7	112	47.2	329	08.8		00.8	272	54.0		59.2	70	15.0		52.6	138	33.0								
8	127	49.7	344	09.4		00.6	287	54.9	-7	59.8	85	17.6		52.5	153	35.6								
9	142	52.2	359	10.1		00.4	302	55.8	-8	00.5	100	20.3		52.5	168	38.2								
10	157	54.6	14	10.7	+11	00.1	317	56.8		01.1	115	22.9		52.4	183	40.8								
11	172	57.1	29	11.3	+10	59.9	332	57.7	-8	01.8	130	25.6	+14	52.4	198	43.4								
12	187	59.6	44	12.0	+10	59.7	347	58.6	-8	02.4	145	28.3	+14	52.3	213	46.0								
13	203	02.0	59	12.6		59.5	2	59.5		03.1	160	30.9		52.2	228	48.6								
14	218	04.5	74	13.2		59.2	18	00.4		03.7	175	33.6		52.2	243	51.2								
15	233	06.9	89	13.9		59.0	33	01.3		04.3	190	36.2		52.1	258	53.8								
16	248	09.4	104	14.5		58.8	48	02.2		05.0	205	38.9		52.0	273	56.4								
17	263	11.9	119	15.1	+10	58.5	63	03.2	-8	05.6	220	41.6	+14	52.0	288	59.0								
18	278	14.3	134	15.7	+10	58.3	78	04.1	-8	06.3	235	44.2	+14	51.9	304	01.6								
19	293	16.8	149	16.4		58.1	93	05.0		06.9	250	46.9		51.8	319	04.2								
20	308	19.3	164	17.0		57.9	108	05.9		07.6	265	49.6		51.8	334	06.8								
21	323	21.7	179	17.6		57.6	123	06.8		08.2	280	52.2		51.7	349	09.4								
22	338	24.2	194	18.2		57.4	138	07.7		08.8	295	54.9		51.6	4	12.0								
23	353	26.7	209	18.8		57.2	153	08.6		09.5	310	57.5		51.6	19	14.6								
24	8	29.1	224	19.5	+10	56.9	168	09.6	-8	10.1	326	00.2	+14	51.5	34	17.2								
Dif	—			+6			-2			+9			-6			+27			-1			+26		

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: 14.9 ^d SD: 16'4 PMG: 0 ^h 22 ^m PHE { 4 ^h : 60'3 12 ^h : 60'1 20 ^h : 59'8 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	182	26.6	-2	36.8	354	37.4	+4	54.9	60 N	4	32	5	21	6	02	17	48
1	197	26.8		37.7		9	07.0	+5	12.1	58	36		22		01	54	5
2	212	27.0		38.7		23	36.7		29.4	56	40		23	6	00	17	59
3	227	27.2		39.7		38	06.4	+5	46.5	54	43		24	5	59	18	03
4	242	27.4		40.6		52	36.1	+6	03.7	52	46		25		59	07	15
5	257	27.6	-2	41.6	67	05.8		+6	20.8	50	4	48	5	26	5	58	18
6	272	27.8	-2	42.6	81	35.4		+6	37.8	45	4	53	5	27	5	56	18
7	287	28.0		43.6	96	05.1		+6	54.8	40	56		28	55	25	28	6
8	302	28.3		44.5	110	34.7		+7	11.7	35	4	59	28	54	31	32	54
9	317	28.5		45.5	125	04.4			28.6	30	5	01	29	53	36	36	51
10	332	28.7		46.5	139	34.0		+7	45.4	20		03	29	51	45	41	44
11	347	28.9	-2	47.4	154	03.6		+8	02.2	10 N	5	03	5	28	5	49	18
12	2	29.1	-2	48.4	168	33.2		+8	18.9	0	5	02	5	26	5	47	19
13	17	29.3		49.4	183	02.8			35.5	10 S	4	59		24	45	08	56
14	32	29.5		50.4	197	32.3		+8	52.1	20	55		21	43	16	62	24
15	47	29.7		51.3	212	01.9		+9	08.6	30	48		16	40	26	67	18
16	62	29.9		52.3	226	31.4			25.1	35	43		13	38	31	71	14
17	77	30.1	-2	53.3	241	00.9		+9	41.5	40	4	38	5	10	5	37	19
18	92	30.3	-2	54.2	255	30.4		+9	57.8	45	4	30	5	05	5	35	19
19	107	30.5		55.2	269	59.9		+10	14.0	50	21		5	00	32	54	86
20	122	30.7		56.2	284	29.3			30.2	52	16		4	57	31	19	58
21	137	30.9		57.1	298	58.7		+10	46.3	54	11		54	30	20	02	93
22	152	31.1		58.1	313	28.1		+11	02.3	56	4	05	51	28	08	96	53
23	167	31.3	-2	59.1	327	57.5			18.3	58	3	59	47	27		13	101
24	182	31.5	-3	00.0	342	26.9		+11	34.1	60 S	3	51	4	43	5	25	20

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG 23 ^h 22.2 ^m		Mag: -4.7 PMG: 9 ^h 02 ^m			Mag: +1.7 PMG: 12 ^h 47 ^m			Mag: -2.8 PMG: 2 ^h 16 ^m			Mag: +0.6 PMG: 21 ^h 39 ^m		
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	8	29.1	224	19.5	+10	56.9	168	09.6	-8	10.1	326	00.2	+14	51.5
1	23	31.6	239	20.1		56.7	183	10.5		10.8	341	02.9		51.5
2	38	34.1	254	20.7		56.4	198	11.4		11.4	356	05.5		51.4
3	53	36.5	269	21.3		56.2	213	12.3		12.1	11	08.2		51.3
4	68	39.0	284	21.9		56.0	228	13.2		12.7	26	10.9		51.3
5	83	41.4	299	22.5	+10	55.7	243	14.1	-8	13.3	41	13.5	+14	51.2
6	98	43.9	314	23.1	+10	55.5	258	15.0	-8	14.0	56	16.2	+14	51.1
7	113	46.4	329	23.7		55.2	273	15.9		14.6	71	18.9		51.1
8	128	48.8	344	24.3		55.0	288	16.9		15.3	86	21.5		51.0
9	143	51.3	359	24.9		54.7	303	17.8		15.9	101	24.2		50.9
10	158	53.8	14	25.5		54.5	318	18.7		16.6	116	26.9		50.9
11	173	56.2	29	26.1	+10	54.3	333	19.6	-8	17.2	131	29.5	+14	50.8
12	188	58.7	44	26.7	+10	54.0	348	20.5	-8	17.8	146	32.2	+14	50.7
13	204	01.2	59	27.3		53.8	3	21.4		18.5	161	34.9		50.7
14	219	03.6	74	27.9		53.5	18	22.3		19.1	176	37.5		50.6
15	234	06.1	89	28.5		53.3	33	23.2		19.8	191	40.2		50.5
16	249	08.5	104	29.1		53.0	48	24.1		20.4	206	42.9		50.5
17	264	11.0	119	29.6	+10	52.8	63	25.1	-8	21.0	221	45.5	+14	50.4
18	279	13.5	134	30.2	+10	52.5	78	26.0	-8	21.7	236	48.2	+14	50.3
19	294	15.9	149	30.8		52.2	93	26.9		22.3	251	50.9		50.3
20	309	18.4	164	31.4		52.0	108	27.8		23.0	266	53.5		50.2
21	324	20.9	179	32.0		51.7	123	28.7		23.6	281	56.2		50.1
22	339	23.3	194	32.5		51.5	138	29.6		24.3	296	58.9		50.1
23	354	25.8	209	33.1		51.2	153	30.5		24.9	312	01.6		50.0
24	9	28.3	224	33.7	+10	51.0	168	31.4	-8	25.5	327	04.2	+14	49.9
Dif	—		+6	-2			+9	-6			+27	-1		

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16 ^h 0 PMG: 11 ^h 49.7 ^m			Edad: 15.9 ^d SD: 16 ^h 3 PMG: 1 ^h 13 ^m								PHE { 4 ^h : 59/6 12 ^h : 59/3 20 ^h : 59/0 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	182	31.5	-3	00.0	342	26.9	+11	34.1	158	60 N	17 34	18 15	19 03	17 49	2	9 09	107				
1	197	31.7	-3	01.0	356	56.2	+11	49.9	157	58	35	14	19 00	17 59	7	9 01	100				
2	212	32.0		02.0	11	25.5	+12	05.6	157	56	36	13	18 56	18 07	12	8 53	96				
3	227	32.2		03.0	25	54.8		21.3	157	54	37	12	53	15 16		46	92				
4	242	32.4		03.9	40	24.0		36.8	155	52	38	12	51	22 19		40	89				
5	257	32.6	-3	04.9	54	53.2	+12	52.3	155	50	17 39	18 11	18 49	18 28	22	8 35	85				
6	272	32.8	-3	05.9	69	22.4	+13	07.6	153	45	17 41	18 10	18 44	18 42	27	8 23	80				
7	287	33.0		06.8	83	51.6		22.9	153	40	43	10	41	18 53	32	13	75				
8	302	33.2		07.8	98	20.7		38.1	152	35	45	10	39	19 03	35	8 05	71				
9	317	33.4		08.8	112	49.8	+13	53.2	151	30	46	10	37	12 38		7 58	67				
10	332	33.6		09.7	127	18.9	+14	08.2	150	20	48	10	36	26 44		46	61				
11	347	33.8	-3	10.7	141	47.9	+14	23.1	149	10 N	17 51	18 12	18 36	19 39	49	7 35	56				
12	2	34.0	-3	11.7	156	16.9	+14	37.9	148	0	17 53	18 14	18 38	19 52	53	7 25	52				
13	17	34.2		12.6	170	45.9	+14	52.6	147	10 S	55	16	41	20 04	57	15	47				
14	32	34.4		13.6	185	14.8	+15	07.2	146	20	17 58	20	46	18 61		7 04	43				
15	47	34.6		14.6	199	43.7		21.7	145	30	18 01	25	53	33 67		6 52	37				
16	62	34.8		15.6	214	12.6		36.1	144	35	03	28	18 58	42 70		45	34				
17	77	35.0	-3	16.5	228	41.4	+15	50.4	143	40	18 05	18 32	19 04	20 53	74	6 37	30				
18	92	35.2	-3	17.5	243	10.2	+16	04.6	142	45	18 08	18 37	19 12	21 05	79	6 28	25				
19	107	35.4		18.5	257	38.9		18.7	141	50	11	43	22	20 85		17	19				
20	122	35.6		19.4	272	07.7		32.7	140	52	12	46	27	27 88		12	17				
21	137	35.8		20.4	286	36.3	+16	46.6	139	54	14	49	33	35 91		07	13				
22	152	36.0		21.4	301	05.0	+17	00.3	137	56	15	53	39	44 95		6 00	10				
23	167	36.2		22.3	315	33.6		14.0	137	58	17	18 57	46	21 54	100	5 54	5				
24	182	36.4	-3	23.3	330	02.2	+17	27.5	135	60 S	18 19	19 02	19 54	22 05	108	5 46	1				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 23 ^h 18.3 ^m		Mag: -4.7 PMG: 9 ^h 01 ^m			Mag: +1.7 PMG: 12 ^h 45 ^m			Mag: -2.8 PMG: 2 ^h 11 ^m			Mag: +0.6 PMG: 21 ^h 35 ^m									
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°				
0	9	28.3	224	33.7	+10	51.0	168	31.4	-8	25.5	327	04.2	+14	49.9	35	19.4	-12	37.0			
1	24	30.7	239	34.3		50.7	183	32.3		26.2	342	06.9		49.9	50	22.0		37.0			
2	39	33.2	254	34.8		50.4	198	33.2		26.8	357	09.6		49.8	65	24.6		37.1			
3	54	35.7	269	35.4		50.2	213	34.2		27.5	12	12.2		49.7	80	27.2		37.1			
4	69	38.1	284	36.0		49.9	228	35.1		28.1	27	14.9		49.7	95	29.8		37.2			
5	84	40.6	299	36.6	+10	49.6	243	36.0	-8	28.7	42	17.6	+14	49.6	110	32.4	-12	37.2			
6	99	43.0	314	37.1	+10	49.4	258	36.9	-8	29.4	57	20.3	+14	49.5	125	35.0	-12	37.3			
7	114	45.5	329	37.7		49.1	273	37.8		30.0	72	22.9		49.5	140	37.6		37.3			
8	129	48.0	344	38.2		48.8	288	38.7		30.7	87	25.6		49.4	155	40.2		37.4			
9	144	50.4	359	38.8		48.6	303	39.6		31.3	102	28.3		49.3	170	42.7		37.4			
10	159	52.9	14	39.4		48.3	318	40.5		31.9	117	31.0		49.3	185	45.3		37.4			
11	174	55.4	29	39.9	+10	48.0	333	41.4	-8	32.6	132	33.6	+14	49.2	200	47.9	-12	37.5			
12	189	57.8	44	40.5	+10	47.8	348	42.3	-8	33.2	147	36.3	+14	49.1	215	50.5	-12	37.5			
13	205	00.3	59	41.0		47.5	3	43.2		33.9	162	39.0		49.1	230	53.1		37.6			
14	220	02.8	74	41.6		47.2	18	44.1		34.5	177	41.7		49.0	245	55.7		37.6			
15	235	05.2	89	42.1		46.9	33	45.0		35.1	192	44.3		48.9	260	58.3		37.7			
16	250	07.7	104	42.7		46.7	48	46.0		35.8	207	47.0		48.9	276	00.9		37.7			
17	265	10.2	119	43.2	+10	46.4	63	46.9	-8	36.4	222	49.7	+14	48.8	291	03.5	-12	37.8			
18	280	12.6	134	43.8	+10	46.1	78	47.8	-8	37.1	237	52.4	+14	48.7	306	06.1	-12	37.8			
19	295	15.1	149	44.3		45.8	93	48.7		37.7	252	55.0		48.7	321	08.7		37.9			
20	310	17.5	164	44.9		45.6	108	49.6		38.3	267	57.7		48.6	336	11.2		37.9			
21	325	20.0	179	45.4		45.3	123	50.5		39.0	283	00.4		48.5	351	13.8		37.9			
22	340	22.5	194	46.0		45.0	138	51.4		39.6	298	03.1		48.5	6	16.4		38.0			
23	355	24.9	209	46.5		44.7	153	52.3		40.3	313	05.7		48.4	21	19.0		38.0			
24	10	27.4	224	47.0	+10	44.4	168	53.2	-8	40.9	328	08.4	+14	48.3	36	21.6	-12	38.1			
Dif	—		+6		-3		+9		-6		+27		-1		+26		0				

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG:11 ^h 49.4 ^m			Edad: 16.9 ^d SD: 16'0 PMG: 2 ^h 04 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico		Civil	Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	36.4	-3	23.3	330	02.2	95	+17	27.5	60 N	4	37	5	26	6	07	17 51 5
1	197	36.6		24.3	344	30.7	95		41.0	58	41	26	06	18	06	13	41 100
2	212	36.8		25.2	358	59.2	94	+17	54.3	56	44	27	04	19	18	29	94
3	227	37.0		26.2	13	27.6	94	+18	07.5	54	47	28	03	31	22	18	90
4	242	37.2		27.2	27	56.0	94		20.6	52	49	28	02	41	25	09	86
5	257	37.4	-3	28.1	42	24.4	94	+18	33.5	50	4	51	5	29	6	01	18 50 28
6	272	37.6	-3	29.1	56	52.7	93	+18	46.4	45	4	55	5	29	5	59	19 09 33
7	287	37.8		30.1	71	21.0	93	+18	59.1	40	4	58	30	57	25	37	28 73
8	302	38.0		31.0	85	49.3	93	+19	11.7	35	5	01	30	55	38	41	16 69
9	317	38.2		32.0	100	17.5	92		24.2	30	02	30	54	19	50	43	9 05 67
10	332	38.4		33.0	114	45.7	92		36.5	20	03	29	51	20	10	48	8 47 62
11	347	38.6	-3	33.9	129	13.8	91	+19	48.8	10 N	5	03	5	28	5	49	20 28 51
12	2	38.8	-3	34.9	143	41.9	91	+20	00.9	0	5	01	5	25	5	46	20 45 54
13	17	39.0		35.9	158	09.9	90		12.8	10 S	4	58	23	44	21	01	58
14	32	39.2		36.9	172	37.9	90		24.7	20	53	19	41	19	61	7	47 45
15	47	39.4		37.8	187	05.9	90		36.4	30	46	14	38	40	66	29	40
16	62	39.6		38.8	201	33.9	90		48.0	35	40	10	36	21	52	68	19 37
17	77	39.8	-3	39.8	216	01.7	88	+20	59.5	40	4	34	5	06	5	33	22 07 71
18	92	40.0	-3	40.7	230	29.6	89	+21	10.8	45	4	26	5	01	5	31	22 24 75
19	107	40.2		41.7	244	57.4	88		22.0	50	16	4	55	28	45	80	36 25
20	122	40.4		42.7	259	25.2	88		33.0	52	11	52	26	22	55	83	29 21
21	137	40.6		43.6	273	52.9	87		43.9	54	4	06	49	25	23	06	87
22	152	40.8		44.6	288	20.6	87	+21	54.7	56	3	59	45	23	19	91	6 10 14
23	167	41.0		45.6	302	48.3	87	+22	05.4	58	52	41	21	34	97	5	59 10
24	182	41.2	-3	46.5	317	15.9	86	+22	15.9	60 S	3	44	4	36	5	19	23 53 106

UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 23 ^h 14.4 ^m			Mag: -4.7 PMG: 9 ^h 01 ^m			Mag: +1.7 PMG: 12 ^h 44 ^m			Mag: -2.8 PMG: 2 ^h 07 ^m			Mag: +0.6 PMG: 21 ^h 31 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	10	27.4	224	47.0	+10	44.4	168	53.2	-8	40.9	328	08.4	+14	48.3	36	21.6	-12	38.1
1	25	29.9	239	47.6		44.2	183	54.1		41.5	343	11.1		48.2	51	24.2		38.1
2	40	32.3	254	48.1		43.9	198	55.0		42.2	358	13.8		48.2	66	26.8		38.2
3	55	34.8	269	48.7		43.6	213	55.9		42.8	13	16.5		48.1	81	29.4		38.2
4	70	37.3	284	49.2		43.3	228	56.8		43.5	28	19.1		48.0	96	32.0		38.3
5	85	39.7	299	49.7	+10	43.0	243	57.7	-8	44.1	43	21.8	+14	48.0	111	34.5	-12	38.3
6	100	42.2	314	50.2	+10	42.7	258	58.6	-8	44.7	58	24.5	+14	47.9	126	37.1	-12	38.3
7	115	44.6	329	50.8		42.4	273	59.5		45.4	73	27.2		47.8	141	39.7		38.4
8	130	47.1	344	51.3		42.1	289	00.4		46.0	88	29.9		47.8	156	42.3		38.4
9	145	49.6	359	51.8		41.9	304	01.3		46.7	103	32.5		47.7	171	44.9		38.5
10	160	52.0	14	52.4		41.6	319	02.2		47.3	118	35.2		47.6	186	47.5		38.5
11	175	54.5	29	52.9	+10	41.3	334	03.1	-8	47.9	133	37.9	+14	47.6	201	50.1	-12	38.6
12	190	57.0	44	53.4	+10	41.0	349	04.0	-8	48.6	148	40.6	+14	47.5	216	52.7	-12	38.6
13	205	59.4	59	53.9		40.7	4	05.0		49.2	163	43.3		47.4	231	55.2		38.6
14	221	01.9	74	54.4		40.4	19	05.9		49.8	178	45.9		47.3	246	57.8		38.7
15	236	04.4	89	54.9		40.1	34	06.8		50.5	193	48.6		47.3	262	00.4		38.7
16	251	06.8	104	55.5		39.8	49	07.7		51.1	208	51.3		47.2	277	03.0		38.8
17	266	09.3	119	56.0	+10	39.5	64	08.6	-8	51.8	223	54.0	+14	47.1	292	05.6	-12	38.8
18	281	11.8	134	56.5	+10	39.2	79	09.5	-8	52.4	238	56.7	+14	47.1	307	08.2	-12	38.9
19	296	14.2	149	57.0		38.9	94	10.4		53.0	253	59.4		47.0	322	10.8		38.9
20	311	16.7	164	57.5		38.6	109	11.3		53.7	269	02.0		46.9	337	13.4		39.0
21	326	19.1	179	58.0		38.3	124	12.2		54.3	284	04.7		46.9	352	15.9		39.0
22	341	21.6	194	58.5		38.0	139	13.1		54.9	299	07.4		46.8	7	18.5		39.0
23	356	24.1	209	59.0		37.7	154	14.0		55.6	314	10.1		46.7	22	21.1		39.1
24	11	26.5	224	59.5	+10	37.4	169	14.9	-8	56.2	329	12.8	+14	46.6	37	23.7	-12	39.1
Dif	—		+5	-3			+9	-6			+27	-1			+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 49.1 ^m			Edad: 17.9 ^d SD: 15 ^h 8 PMG: 2 ^h 57 ^m								PHE { 4 ^h : 57'8 12 ^h : 57'5 20 ^h : 57'2 R°: 55 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif							Civil	Náutico	Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°		h	m	h	m	h	m	m	h	m	m							
0	182	41.2	-3	46.5	317	15.9	+22	15.9	104	60 N	17 28	18 09	18 57	17 56	14	12	42	101									
1	197	41.4		47.5	331	43.5		26.3	102	58	29	08	54	18 19	23		21	91									
2	212	41.6		48.5	346	11.1		36.5	101	56	31	08	51	37	28	12	03	86									
3	227	41.8		49.4	0	38.6		46.6	99	54	32	07	48	18 53	32	11	48	82									
4	242	42.0		50.4	15	06.0		56.5	99	52	34	07	46	19 06	35		35	79									
5	257	42.2	-3	51.4	29	33.5	+23	06.4	96	50	17 35	18 07	18 44	19 18	37	11	23	77									
6	272	42.4	-3	52.3	44	00.9	+23	16.0	95	45	17 37	18 07	18 41	19 42	42	11	00	72									
7	287	42.6		53.3	58	28.3		25.5	94	40	40	07	38	20 02	44	10	41	69									
8	302	42.8		54.3	72	55.6		34.9	93	35	42	07	36	19	46		25	66									
9	317	43.0		55.2	87	22.9		44.2	90	30	43	07	35	33	48	10	12	64									
10	332	43.2		56.2	101	50.2	+23	53.2	90	20	47	09	34	20 58	50	9	49	60									
11	347	43.4	-3	57.1	116	17.4	+24	02.2	88	10 N	17 50	18 11	18 35	21 19	53	9	29	57									
12	2	43.6	-3	58.1	130	44.6	+24	11.0	86	0	17 52	18 13	18 37	21 39	55	9	10	55									
13	17	43.8	-3	59.1	145	11.8		19.6	85	10 S	55	16	41	21 59	57	8	52	52									
14	32	44.0	-4	00.0	159	39.0		28.1	84	20	17 59	21	46	22 20	60		32	49									
15	47	44.2	-4	01.0	174	06.1		36.5	82	30	18 02	26	18 54	22 46	62	8	09	46									
16	62	44.4		02.0	188	33.2		44.7	80	35	05	30	19 00	23 00	64	7	56	44									
17	77	44.6	-4	02.9	203	00.2	+24	52.7	79	40	18 07	18 34	19 07	23 18	65	7	41	41									
18	92	44.8	-4	03.9	217	27.3	+25	00.6	78	45	18 10	18 40	19 15	23 39	67	7	23	37									
19	107	45.0		04.9	231	54.3		08.4	76	50	14	46	26	** ** *	**	7	01	32									
20	122	45.2		05.8	246	21.3		16.0	74	52	15	50	31	** ** *	**	6	50	30									
21	137	45.3		06.8	260	48.2		23.4	73	54	17	53	37	** ** *	**		38	26									
22	152	45.5		07.8	275	15.2		30.7	72	56	19	18 57	43	** ** *	**		24	23									
23	167	45.7		08.7	289	42.1		37.9	70	58	22	19 02	19 51	** ** *	**	6	09	16									
24	182	45.9	-4	09.7	304	09.0	+25	44.9	70	60 S	18 24	19 07	20 00	** ** *	**	5	50	7									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 23 ^h 10.4 ^m			Mag: -4.7 PMG: 9 ^h 00 ^m			Mag: +1.7 PMG: 12 ^h 42 ^m			Mag: -2.8 PMG: 2 ^h 03 ^m			Mag: +0.6 PMG: 21 ^h 27 ^m														
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec													
h	°	'	°	'	°	'	°	'	°		°	'	°	'	°	'											
0	11	26.5	224	59.5	+10	37.4	169	14.9	-8	56.2	329	12.8	+14	46.6	37	23.7	-12	39.1									
1	26	29.0	240	00.0		37.1	184	15.8		56.9	344	15.5		46.6	52	26.3		39.2									
2	41	31.5	255	00.5		36.8	199	16.7		57.5	359	18.1		46.5	67	28.9		39.2									
3	56	33.9	270	01.0		36.5	214	17.6		58.1	14	20.8		46.4	82	31.5		39.3									
4	71	36.4	285	01.5		36.1	229	18.5		58.8	29	23.5		46.4	97	34.0		39.3									
5	86	38.9	300	02.0	+10	35.8	244	19.4	-8	59.4	44	26.2	+14	46.3	112	36.6	-12	39.3									
6	101	41.3	315	02.5	+10	35.5	259	20.3	-9	00.0	59	28.9	+14	46.2	127	39.2	-12	39.4									
7	116	43.8	330	03.0		35.2	274	21.2	-9	00.7	74	31.6		46.2	142	41.8		39.4									
8	131	46.3	345	03.5		34.9	289	22.1		01.3	89	34.3		46.1	157	44.4		39.5									
9	146	48.7	0	04.0		34.6	304	23.0		02.0	104	37.0		46.0	172	47.0		39.5									
10	161	51.2	15	04.5		34.3	319	23.9		02.6	119	39.6		45.9	187	49.6		39.6									
11	176	53.6	30	05.0	+10	34.0	334	24.8	-9	03.2	134	42.3	+14	45.9	202	52.1	-12	39.6									
12	191	56.1	45	05.5	+10	33.6	349	25.7	-9	03.9	149	45.0	+14	45.8	217	54.7	-12	39.6									
13	206	58.6	60	06.0		33.3	4	26.6		04.5	164	47.7		45.7	232	57.3		39.7									
14	222	01.0	75	06.4		33.0	19	27.5		05.1	179	50.4		45.7	247	59.9		39.7									
15	237	03.5	90	06.9		32.7	34	28.4		05.8	194	53.1		45.6	263	02.5		39.8									
16	252	06.0	105	07.4		32.4	49	29.3		06.4	209	55.8		45.5	278	05.1		39.8									
17	267	08.4	120	07.9	+10	32.0	64	30.2	-9	07.0	224	58.5	+14	45.4	293	07.7	-12	39.9									
18	282	10.9	135	08.4	+10	31.7	79	31.1	-9	07.7	240	01.1	+14	45.4	308	10.2	-12	39.9									
19	297	13.4	150	08.8		31.4	94	32.0		08.3	255	03.8		45.3	323	12.8		39.9									
20	312	15.8	165	09.3		31.1	109	32.9		09.0	270	06.5		45.2	338	15.4		40.0									
21	327	18.3	180	09.8		30.8	124	33.8		09.6	285	09.2		45.1	353	18.0		40.0									
22	342	20.7	195	10.3		30.4	139	34.7		10.2	300	11.9		45.1	8	20.6		40.1									
23	357	23.2	210	10.7		30.1	154	35.6		10.9	315	14.6		45.0	23	23.2		40.1									
24	12	25.7	225	11.2	+10	29.8	169	36.5	-9	11.5	330	17.3	+14	44.9	38	25.7	-12	40.1									
Dif	—			+5			-3			+9			-6			+27			-1			+26			0		

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna						
	SD: 16'0 PMG: 11 ^h 48.8 ^m			Edad: 18.9 ^d SD: 15'5 PMG: 3 ^h 52 ^m PHE { 4 ^h : 56'9 12 ^h : 56'6 20 ^h : 56'3 R°: 55 ^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	182	45.9	-4	09.7	304	09.0	79	+25	44.9	68	4	42	5	30	6	12	18	10	35	14	23	80	
1	197	46.1		10.7	318	35.9	78		51.7	68		45		31	10	18	42	41	13	52	74		
2	212	46.3		11.6	333	02.7	79	+25	58.4	67		48		31	08	19	05	45		29	70		
3	227	46.5		12.6	347	29.6	79	+26	04.9	65		50		31	07		25	46	13	10	68		
4	242	46.7		13.6	1	56.4	78		11.3	64		52		32	05		41	48	12	54	66		
5	257	46.9	-4	14.5	16	23.2	78	+26	17.5	62		4	54	5	32	6	04	19	55	49	12	40	65
6	272	47.1	-4	15.5	30	50.0	78	+26	23.6	61		4	58	5	32	6	01	20	24	50	12	12	63
7	287	47.3		16.4	45	16.8	78		29.5	59		5	00		32	5	59	20	46	51	11	50	61
8	302	47.5		17.4	59	43.5	77		35.2	57			02	31	57		21	05	52		31	61	
9	317	47.7		18.4	74	10.3	78		40.8	56			03	31	55		21	51	53	11	16	59	
10	332	47.9		19.3	88	37.0	78		46.3	55			04	29	52		21	48	54	10	49	58	
11	347	48.1	-4	20.3	103	03.8	78	+26	51.6	53	10 N	5	03	5	27	5	48	22	12	54	10	26	57
12	2	48.3	-4	21.3	117	30.5	77	+26	56.7	51	0	5	01	5	25	5	46	22	34	55	10	05	55
13	17	48.4		22.2	131	57.2	77	+27	01.7	50	10 S	4	57		21	42	22	56	55	9	44	54	
14	32	48.6		23.2	146	24.0	78		06.5	48	20		51	17	39	23	20	56	9	21	53		
15	47	48.8		24.2	160	50.7	77		11.1	46	30		43	11	35	23	48	56	8	55	51		
16	62	49.0		25.1	175	17.4	77		15.6	45	35		38	07	33	**	**	**		40	49		
17	77	49.2	-4	26.1	189	44.1	77	+27	20.0	44	40	4	31	5	03	5	30	**	**	**	8	22	47
18	92	49.4	-4	27.0	204	10.8	77	+27	24.2	42	45	4	22	4	57	5	27	**	**	**	8	00	46
19	107	49.6		28.0	218	37.5	77		28.2	40	50		11	51	23	0	05	71	7	33	43		
20	122	49.8		29.0	233	04.2	77		32.1	39	52		06	47	22	18	73		20	41			
21	137	50.0		29.9	247	31.0	78		35.8	37	54	4	00	44	20		33	76	7	04	39		
22	152	50.2		30.9	261	57.7	77		39.3	35	56	3	54	40	18		0	50	79	6	47	35	
23	167	50.4		31.9	276	24.4	77		42.7	34	58		46	35	15		1	11	85	6	25	31	
24	182	50.6	-4	32.8	290	51.2	78	+27	46.0	33	60 S	3	37	4	30	5	13	1	39	94	5	57	22

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 23 ^h 06.5 ^m		Mag: -4.7 PMG: 8 ^h 59 ^m			Mag: +1.7 PMG: 12 ^h 41 ^m			Mag: -2.9 PMG: 1 ^h 58 ^m			Mag: +0.6 PMG: 21 ^h 23 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	12	25.7	225	11.2	+10	29.8	169	36.5	-9	11.5	330	17.3	+14	44.9	38	25.7	-12	40.1
1	27	28.1	240	11.7		29.4	184	37.4		12.1	345	20.0		44.9	53	28.3		40.2
2	42	30.6	255	12.1		29.1	199	38.2		12.8	0	22.7		44.8	68	30.9		40.2
3	57	33.1	270	12.6		28.8	214	39.1		13.4	15	25.4		44.7	83	33.5		40.3
4	72	35.5	285	13.1		28.4	229	40.0		14.0	30	28.1		44.6	98	36.1		40.3
5	87	38.0	300	13.5	+10	28.1	244	40.9	-9	14.7	45	30.8	+14	44.6	113	38.7	-12	40.4
6	102	40.5	315	14.0	+10	27.8	259	41.8	-9	15.3	60	33.4	+14	44.5	128	41.2	-12	40.4
7	117	42.9	330	14.5		27.4	274	42.7		15.9	75	36.1		44.4	143	43.8		40.4
8	132	45.4	345	14.9		27.1	289	43.6		16.6	90	38.8		44.4	158	46.4		40.5
9	147	47.9	0	15.4		26.8	304	44.5		17.2	105	41.5		44.3	173	49.0		40.5
10	162	50.3	15	15.8		26.4	319	45.4		17.8	120	44.2		44.2	188	51.6		40.6
11	177	52.8	30	16.3	+10	26.1	334	46.3	-9	18.5	135	46.9	+14	44.1	203	54.1	-12	40.6
12	192	55.2	45	16.7	+10	25.8	349	47.2	-9	19.1	150	49.6	+14	44.1	218	56.7	-12	40.6
13	207	57.7	60	17.2		25.4	4	48.1		19.7	165	52.3		44.0	233	59.3		40.7
14	223	00.2	75	17.6		25.1	19	49.0		20.4	180	55.0		43.9	249	01.9		40.7
15	238	02.6	90	18.1		24.7	34	49.9		21.0	195	57.7		43.8	264	04.5		40.8
16	253	05.1	105	18.5		24.4	49	50.8		21.6	211	00.4		43.8	279	07.1		40.8
17	268	07.6	120	19.0	+10	24.1	64	51.7	-9	22.3	226	03.1	+14	43.7	294	09.6	-12	40.8
18	283	10.0	135	19.4	+10	23.7	79	52.6	-9	22.9	241	05.8	+14	43.6	309	12.2	-12	40.9
19	298	12.5	150	19.9		23.4	94	53.5		23.5	256	08.5		43.5	324	14.8		40.9
20	313	15.0	165	20.3		23.0	109	54.4		24.2	271	11.2		43.5	339	17.4		41.0
21	328	17.4	180	20.8		22.7	124	55.3		24.8	286	13.9		43.4	354	20.0		41.0
22	343	19.9	195	21.2		22.3	139	56.1		25.4	301	16.6		43.3	9	22.5		41.1
23	358	22.4	210	21.7		22.0	154	57.0		26.1	316	19.3		43.2	24	25.1		41.1
24	13	24.8	225	22.1	+10	21.6	169	57.9	-9	26.7	331	22.0	+14	43.2	39	27.7	-12	41.1
Dif	—		+5		-3		+9		-6		+27		-1		+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 48.5 ^m			Edad: 19.9 ^d SD: 15 ^h 3 PMG: 4 ^h 47 ^m PHE { 4 ^h : 56 ^h 1 12 ^h : 55 ^h 8 20 ^h : 55 ^h 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 m	h m m	h m m		
0	182 50.6	-4 32.8	290 51.2	77	+27	46.0	31	60 N	17 22	18 03	18 51	18 45 69	15 43 44				
1	197 50.7	33.8	305 17.9	78		49.1	29	58	24	03	48	19 23 65	15 06 47				
2	212 50.9	34.8	319 44.7	77		52.0	28	56	26	03	46	19 50 62	14 39 49				
3	227 51.1	35.7	334 11.4	78		54.8	26	54	27	03	44	20 11 61	18 50				
4	242 51.3	36.7	348 38.2	78		57.4	25	52	29	03	42	20 29 60	14 00 51				
5	257 51.5	-4 37.6	3 05.0	78	+27	59.9	23	50	17 31	18 03	18 40	20 44 59	13 45 51				
6	272 51.7	-4 38.6	17 31.9	79	+28	02.2	21	45	17 34	18 03	18 37	21 14 58	13 15 52				
7	287 51.9	39.6	31 58.7	78		04.3	20	40	37	04	35	21 37 58	12 51 53				
8	302 52.1	40.5	46 25.6	79		06.3	20	35	39	04	33	21 57 57	32 53				
9	317 52.3	41.5	60 52.4	78		08.1	18	30	41	05	33	22 14 56	12 15 54				
10	332 52.5	42.4	75 19.3	79		09.8	17	20	45	07	32	22 42 55	11 47 54				
11	347 52.6	-4 43.4	89 46.3	80	+28	11.3	15	10 N	17 48	18 09	18 34	23 06 54	11 23 54				
12	2 52.8	-4 44.4	104 13.2	79	+28	12.7	14	0	17 52	18 12	18 37	23 29 53	11 00 55				
13	17 53.0	45.3	118 40.2	80		13.9	12	10 S	55	16	41	23 51 53	10 38 54				
14	32 53.2	46.3	133 07.2	80		15.0	9	20	17 59	21	47	** ** *	10 14 54				
15	47 53.4	47.3	147 34.2	80		15.9	9	30	18 03	28	18 56	** ** *	9 46 54				
16	62 53.6	48.2	162 01.3	81		16.7	8	35	06	32	19 02	0 04 57	29 55				
17	77 53.8	-4 49.2	176 28.3	80	+28	17.3	6	40	18 09	18 36	19 09	0 23 57	9 09 55				
18	92 54.0	-4 50.1	190 55.5	82	+28	17.7	4	45	18 13	18 42	19 18	0 46 58	8 46 55				
19	107 54.2	51.1	205 22.6	81		18.0	3	50	17	50	29	1 16 59	16 54				
20	122 54.3	52.1	219 49.8	82		18.2	2	52	19	53	35	31 59	8 01 54				
21	137 54.5	53.0	234 17.0	82		18.2	2	54	21	18 57	41	1 49 58	7 43 54				
22	152 54.7	54.0	248 44.3	83		18.0	3	56	23	19 01	48	2 09 60	7 22 54				
23	167 54.9	54.9	263 11.6	83		17.7	3	58	26	06	19 56	2 36 60	6 56 53				
24	182 55.1	-4 55.9	277 39.0	84	+28	17.3	4	60 S	18 29	19 12	20 06	3 13 62	6 19 51				
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO				
	PMG: 23 ^h 02.6 ^m			Mag: -4.7 PMG: 8 ^h 58 ^m			Mag: +1.7 PMG: 12 ^h 39 ^m			Mag: -2.9 PMG: 1 ^h 54 ^m			Mag: +0.6 PMG: 21 ^h 18 ^m				
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	13 24.8	225 22.1	+10 21.6	169 57.9	-9 26.7	331 22.0	+14 43.2	39 27.7	-12 41.1								
1	28 27.3	240 22.5	21.3	184 58.8	27.3	346 24.7	43.1	54 30.3	41.2								
2	43 29.7	255 23.0	20.9	199 59.7	28.0	1 27.4	43.0	69 32.9	41.2								
3	58 32.2	270 23.4	20.6	215 00.6	28.6	16 30.1	42.9	84 35.4	41.3								
4	73 34.7	285 23.8	20.2	230 01.5	29.2	31 32.8	42.9	99 38.0	41.3								
5	88 37.1	300 24.3	+10 19.9	245 02.4	-9 29.9	46 35.5	+14 42.8	114 40.6	-12 41.3								
6	103 39.6	315 24.7	+10 19.5	260 03.3	-9 30.5	61 38.2	+14 42.7	129 43.2	-12 41.4								
7	118 42.1	330 25.1	19.1	275 04.2	31.1	76 40.9	42.7	144 45.8	41.4								
8	133 44.5	345 25.6	18.8	290 05.1	31.8	91 43.6	42.6	159 48.3	41.5								
9	148 47.0	0 26.0	18.4	305 06.0	32.4	106 46.3	42.5	174 50.9	41.5								
10	163 49.5	15 26.4	18.1	320 06.9	33.0	121 49.0	42.4	189 53.5	41.5								
11	178 51.9	30 26.8	+10 17.7	335 07.7	-9 33.7	136 51.7	+14 42.4	204 56.1	-12 41.6								
12	193 54.4	45 27.3	+10 17.3	350 08.6	-9 34.3	151 54.4	+14 42.3	219 58.7	-12 41.6								
13	208 56.9	60 27.7	17.0	5 09.5	34.9	166 57.1	42.2	235 01.2	41.7								
14	223 59.3	75 28.1	16.6	20 10.4	35.6	181 59.8	42.1	250 03.8	41.7								
15	239 01.8	90 28.5	16.3	35 11.3	36.2	197 02.5	42.1	265 06.4	41.7								
16	254 04.2	105 28.9	15.9	50 12.2	36.8	212 05.2	42.0	280 09.0	41.8								
17	269 06.7	120 29.4	+10 15.5	65 13.1	-9 37.5	227 07.9	+14 41.9	295 11.5	-12 41.8								
18	284 09.2	135 29.8	+10 15.2	80 14.0	-9 38.1	242 10.6	+14 41.8	310 14.1	-12 41.9								
19	299 11.6	150 30.2	14.8	95 14.9	38.7	257 13.3	41.7	325 16.7	41.9								
20	314 14.1	165 30.6	14.4	110 15.8	39.4	272 16.0	41.7	340 19.3	41.9								
21	329 16.6	180 31.0	14.0	125 16.6	40.0	287 18.7	41.6	355 21.9	42.0								
22	344 19.0	195 31.4	13.7	140 17.5	40.6	302 21.4	41.5	10 24.4	42.0								
23	359 21.5	210 31.8	13.3	155 18.4	41.3	317 24.1	41.4	25 27.0	42.1								
24	14 24.0	225 32.2	+10 12.9	170 19.3	-9 41.9	332 26.8	+14 41.4	40 29.6	-12 42.1								
Dif	—	+4	-4	+9	-6	+27	-1	+26	0								

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 0 PMG: 11 ^h 48.2 ^m		Edad: 20.9 ^d SD: 15 ^h 1 PMG: 5 ^h 42 ^m													
			PHE { 4 ^h : 55 ^h /3 12 ^h : 55 ^h /1 20 ^h : 54 ^h /9 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	55.1	-4	55.9	277	39.0	+28	17.3	6	60 N	4	47	5	35	6	17
1	197	55.3		56.9	292	06.3		16.7	8	58	50	35	14	20	28	80
2	212	55.5		57.8	306	33.8		15.9	9	56	52	35	12	20	52	76
3	227	55.7		58.8	321	01.2		15.0	9	54	54	35	10	21	12	72
4	242	55.8	-4	59.7	335	28.8		14.0	10	52	56	35	09	29	69	14
5	257	56.0	-5	00.7	349	56.3	+28	12.8	12	50	4	57	5	35	6	07
6	272	56.2	-5	01.7	4	23.9	+28	11.5	13	45	5	00	5	34	6	04
7	287	56.4		02.6	18	51.6		10.0	15	40	02	34	6	01	35	61
8	302	56.6		03.6	33	19.3		08.4	16	35	04	33	5	58	22	54
9	317	56.8		04.5	47	47.1		06.6	18	30	04	32	56	23	10	57
10	332	57.0		05.5	62	14.9		04.7	19	20	04	30	52	23	37	55
11	347	57.1	-5	06.5	76	42.8	+28	02.6	21	10 N	5	03	5	27	5	48
12	2	57.3	-5	07.4	91	10.7	+28	00.4	22	0	5	00	5	24	5	45
13	17	57.5		08.4	105	38.7	+27	58.1	23	10 S	4	56	20	41	**	**
14	32	57.7		09.3	120	06.7		55.6	25	20	49	15	37	0	16	51
15	47	57.9		10.3	134	34.8		53.0	26	30	40	09	33	0	44	50
16	62	58.1		11.3	149	02.9		50.2	28	35	35	05	30	1	01	49
17	77	58.2	-5	12.2	163	31.1	+27	47.3	29	40	4	27	5	00	5	27
18	92	58.4	-5	13.2	177	59.4	+27	44.3	30	45	4	18	4	54	5	23
19	107	58.6		14.1	192	27.7		41.1	32	50	07	46	19	2	15	44
20	122	58.8		15.1	206	56.1		37.8	33	52	4	01	43	17	30	43
21	137	59.0		16.0	221	24.5		34.3	35	54	3	55	39	15	2	47
22	152	59.2		17.0	235	53.1		30.7	36	56	48	34	12	3	09	38
23	167	59.3		18.0	250	21.6		27.0	37	58	39	29	10	3	36	35
24	182	59.5	-5	18.9	264	50.3	+27	23.2	38	60 S	3	30	4	24	5	07

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 58.6 ^m		Mag: -4.7 PMG: 8 ^h 58 ^m		Mag: +1.6 PMG: 12 ^h 38 ^m		Mag: -2.9 PMG: 1 ^h 50 ^m		Mag: +0.6 PMG: 21 ^h 14 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	14	24.0	225	32.2	+10	12.9	170	19.3	-9	41.9	332	26.8	+14	41.4	40	29.6	-12	42.1
1	29	26.4	240	32.6		12.6	185	20.2		42.5	347	29.5		41.3	55	32.2		42.1
2	44	28.9	255	33.1		12.2	200	21.1		43.2	2	32.2		41.2	70	34.7		42.2
3	59	31.4	270	33.5		11.8	215	22.0		43.8	17	34.9		41.1	85	37.3		42.2
4	74	33.8	285	33.9		11.4	230	22.9		44.4	32	37.6		41.1	100	39.9		42.2
5	89	36.3	300	34.3	+10	11.1	245	23.7	-9	45.0	47	40.3	+14	41.0	115	42.5	-12	42.3
6	104	38.7	315	34.7	+10	10.7	260	24.6	-9	45.7	62	43.0	+14	40.9	130	45.0	-12	42.3
7	119	41.2	330	35.1		10.3	275	25.5		46.3	77	45.7		40.8	145	47.6		42.4
8	134	43.7	345	35.5		09.9	290	26.4		46.9	92	48.4		40.8	160	50.2		42.4
9	149	46.1	0	35.9		09.5	305	27.3		47.6	107	51.1		40.7	175	52.8		42.4
10	164	48.6	15	36.3		09.2	320	28.2		48.2	122	53.8		40.6	190	55.4		42.5
11	179	51.1	30	36.6	+10	08.8	335	29.1	-9	48.8	137	56.6	+14	40.5	205	57.9	-12	42.5
12	194	53.5	45	37.0	+10	08.4	350	30.0	-9	49.5	152	59.3	+14	40.5	221	00.5	-12	42.6
13	209	56.0	60	37.4		08.0	5	30.8		50.1	168	02.0		40.4	236	03.1		42.6
14	224	58.5	75	37.8		07.6	20	31.7		50.7	183	04.7		40.3	251	05.7		42.6
15	240	00.9	90	38.2		07.2	35	32.6		51.3	198	07.4		40.2	266	08.2		42.7
16	255	03.4	105	38.6		06.8	50	33.5		52.0	213	10.1		40.1	281	10.8		42.7
17	270	05.8	120	39.0	+10	06.5	65	34.4	-9	52.6	228	12.8	+14	40.1	296	13.4	-12	42.8
18	285	08.3	135	39.4	+10	06.1	80	35.3	-9	53.2	243	15.5	+14	40.0	311	16.0	-12	42.8
19	300	10.8	150	39.8		05.7	95	36.2		53.9	258	18.2		39.9	326	18.5		42.8
20	315	13.2	165	40.1		05.3	110	37.0		54.5	273	20.9		39.8	341	21.1		42.9
21	330	15.7	180	40.5		04.9	125	37.9		55.1	288	23.6		39.8	356	23.7		42.9
22	345	18.2	195	40.9		04.5	140	38.8		55.8	303	26.3		39.7	11	26.2		42.9
23	0	20.6	210	41.3		04.1	155	39.7		56.4	318	29.1		39.6	26	28.8		43.0
24	15	23.1	225	41.7	+10	03.7	170	40.6	-9	57.0	333	31.8	+14	39.5	41	31.4	-12	43.0
Dif	—		+4		-4		+9		-6		+27		-1		+26		0	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna		
	SD: 16'0 PMG: 11 ^h 47.9 ^m			Edad: 21.9 ^d SD: 14'9 PMG: 6 ^h 34 ^m							PHE { 4 ^h : 54'8 12 ^h : 54'6 20 ^h : 54'5 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	182	59.5	-5	18.9	264	50.3	+27	23.2	40	60 N	17	16	17	57	18	45	21	23	92
1	197	59.7		19.9	279	19.0		19.2	41	58	18		57		43	21	48	85	
2	212	59.9		20.8	293	47.8		15.1	41	56	20		58		40	22	08	80	
3	228	00.1		21.8	308	16.6		10.8	43	54	23		58		39	24	76	41	
4	243	00.3		22.8	322	45.5		06.4	44	52	24		58		37	38	73	27	
5	258	00.4	-5	23.7	337	14.5	+27	01.9	45	50	17	26	17	58	18	36	22	50	71
6	273	00.6	-5	24.7	351	43.5	+26	57.3	46	45	17	30	17	59	18	33	23	16	66
7	288	00.8		25.6	6	12.6		52.5	48	40	33		18	00	32		36	62	27
8	303	01.0		26.6	20	41.8		47.6	49	35	36		01	31	31	23	53	59	14
9	318	01.2		27.5	35	11.1		42.6	50	30	39		03	30	**	**	**		13
10	333	01.3		28.5	49	40.4		37.5	51	20	43		05	31	**	**	**		29
11	348	01.5	-5	29.5	64	09.8	+26	32.2	53	10 N	17	47	18	08	18	33	0	00	53
12	3	01.7	-5	30.4	78	39.2	+26	26.8	54	0	17	51	18	12	18	36	0	22	50
13	18	01.9		31.4	93	08.8		21.3	55	10 S	17	55		16	41	0	44	48	26
14	33	02.1		32.3	107	38.4		15.7	56	20	18	00		22	48	1	07	46	12
15	48	02.2		33.3	122	08.1		09.9	58	30		05		29	18	57	34	43	11
16	63	02.4		34.2	136	37.8	+26	04.0	59	35		08		33	19	03	1	50	41
17	78	02.6	-5	35.2	151	07.7	+25	58.0	60	40	18	11	18	39	19	11	2	08	39
18	93	02.8	-5	36.1	165	37.6	+25	51.9	61	45	18	15	18	45	19	21	2	30	37
19	108	03.0		37.1	180	07.6		45.7	62	50		20		53	33	2	59	32	14
20	123	03.1		38.1	194	37.6		39.4	63	52		22	18	57	39	3	13	29	10
21	138	03.3		39.0	209	07.7		32.9	65	54		25	19	01		45	28	28	9
22	153	03.5		40.0	223	37.9		26.3	66	56		27		06	19	53	3	47	24
23	168	03.7		40.9	238	08.2		19.6	67	58		30	11	20	02	4	11	18	9
24	183	03.9	-5	41.9	252	38.6	+25	12.8	68	60 S	18	34	19	17	20	12	4	41	10

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO			
	PMG: 22 ^h 54.7 ^m		Mag: -4.6 PMG: 8 ^h 57 ^m			Mag: +1.6 PMG: 12 ^h 37 ^m			Mag: -2.9 PMG: 1 ^h 46 ^m			Mag: +0.6 PMG: 21 ^h 10 ^m			
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	15	23.1	225	41.7	+10	03.7	170	40.6	-9	57.0	333	31.8	+14	39.5	
1	30	25.6	240	42.1		03.3	185	41.5		57.6	348	34.5		39.4	
2	45	28.0	255	42.4		02.9	200	42.3		58.3	3	37.2		39.4	
3	60	30.5	270	42.8		02.5	215	43.2		58.9	18	39.9		39.3	
4	75	33.0	285	43.2		02.1	230	44.1	-9	59.5	33	42.6		39.2	
5	90	35.4	300	43.6	+10	01.7	245	45.0	-10	00.2	48	45.3	+14	39.1	
6	105	37.9	315	43.9	+10	01.3	260	45.9	-10	00.8	63	48.0	+14	39.1	
7	120	40.3	330	44.3		00.9	275	46.8		01.4	78	50.7		39.0	
8	135	42.8	345	44.7		00.5	290	47.6		02.0	93	53.5		38.9	
9	150	45.3	0	45.0	+10	00.1	305	48.5		02.7	108	56.2		38.8	
10	165	47.7	15	45.4	+9	59.7	320	49.4		03.3	123	58.9		38.7	
11	180	50.2	30	45.8	+9	59.3	335	50.3	-10	03.9	139	01.6	+14	38.7	
12	195	52.7	45	46.1	+9	58.9	350	51.2	-10	04.6	154	04.3	+14	38.6	
13	210	55.1	60	46.5		58.5	5	52.1		05.2	169	07.0		38.5	
14	225	57.6	75	46.9		58.1	20	52.9		05.8	184	09.7		38.4	
15	241	00.1	90	47.2		57.7	35	53.8		06.4	199	12.5		38.3	
16	256	02.5	105	47.6		57.3	50	54.7		07.1	214	15.2		38.3	
17	271	05.0	120	47.9	+9	56.9	65	55.6	-10	07.7	229	17.9	+14	38.2	
18	286	07.5	135	48.3	+9	56.4	80	56.5	-10	08.3	244	20.6	+14	38.1	
19	301	09.9	150	48.7		56.0	95	57.3		08.9	259	23.3		38.0	
20	316	12.4	165	49.0		55.6	110	58.2		09.6	274	26.0		38.0	
21	331	14.8	180	49.4		55.2	125	59.1		10.2	289	28.7		37.9	
22	346	17.3	195	49.7		54.8	141	00.0		10.8	304	31.5		37.8	
23	1	19.8	210	50.1		54.4	156	00.9		11.5	319	34.2		37.7	
24	16	22.2	225	50.4	+9	54.0	171	01.7	-10	12.1	334	36.9	+14	37.6	
Dif	—		+4		-4		+9		-6		+27		-1		+26

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16'0 PMG: 11 ^h 47.6 ^m			Edad: 22.9 ^d SD: 14'8 PMG: 7 ^h 24 ^m PHE 4^h: 54'4 12^h: 54'3 20^h: 54'2 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	183	03.9	-5	41.9	252	38.6	+25	12.8	69	60 N	4	51	5	40	6	21	22	55	90	16	51	2	
1	198	04.0		42.8	267	09.0	+25	05.9	70	58		54		39	19	23	13	84		32	8		
2	213	04.2		43.8	281	39.5	+24	58.9	72	56		56		39	16		28	80		17	12		
3	228	04.4		44.7	296	10.1		51.7	72	54		58		39	14		40	77		16	04	15	
4	243	04.6		45.7	310	40.7		44.5	72	52		4	59	38	12	23	51	74		15	52	18	
5	258	04.7	-5	46.6	325	11.5	+24	37.1	74	50		5	00	5	38	6	10	**	**	**	15	42	21
6	273	04.9	-5	47.6	339	42.3	+24	29.7	74	45		5	03	5	37	6	06	**	**	**	15	20	26
7	288	05.1		48.6	354	13.2		22.1	76	40		04		36	03		**	**	**	15	03	29	
8	303	05.3		49.5	8	44.1		14.4	77	35		05		35	6	00	**	**	**	14	48	32	
9	318	05.5		50.5	23	15.2	+24	06.6	78	30		06		33	5	57	0	07	57		35	35	
10	333	05.6		51.4	37	46.3	+23	58.8	78	20		05		30	53		32	53		14	13	39	
11	348	05.8	-5	52.4	52	17.5	+23	50.8	80	10 N		5	03	5	27	5	48	0	53	50	13	54	42
12	3	06.0	-5	53.3	66	48.7	+23	42.7	81	0		4	59	5	24	5	44	1	12	47	13	35	46
13	18	06.2		54.3	81	20.1		34.5	82	10 S		54		19	40		32	44		13	17	49	
14	33	06.3		55.2	95	51.5		26.2	83	20		48		13	36		1	53	41	12	58	52	
15	48	06.5		56.2	110	23.0		17.8	84	30		38		06	30		2	17	37		35	57	
16	63	06.7		57.1	124	54.5		09.3	85	35		32		5	02	27		31	35		21	60	
17	78	06.9	-5	58.1	139	26.2	+23	00.7	86	40		4	24	4	56	5	24	2	47	32	12	06	62
18	93	07.0	-5	59.0	153	57.9	+22	52.0	87	45		4	14	4	50	5	20	3	07	28	11	47	67
19	108	07.2	-6	00.0	168	29.6		43.2	88	50		4	02		42	15		31	23		24	71	
20	123	07.4	-6	00.9	183	01.5		34.4	88	52		3	56		38	12		42	21		13	74	
21	138	07.6		01.9	197	33.4		25.4	90	54		49		34	10		3	56	18	11	00	77	
22	153	07.7		02.9	212	05.4		16.3	91	56		42		29	07		4	11	14	10	45	81	
23	168	07.9		03.8	226	37.5	+22	07.2	91	58		33		23	04		29	10		28	86		
24	183	08.1	-6	04.8	241	09.7	+21	57.9	93	60 S		3	22	4	17	5	00	4	51	3	10	07	92

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 22 ^h 50.8 ^m		Mag: -4.6 PMG: 8 ^h 56 ^m		Mag: +1.6 PMG: 12 ^h 35 ^m		Mag: -2.9 PMG: 1 ^h 41 ^m		Mag: +0.6 PMG: 21 ^h 06 ^m											
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	16	22.2	225	50.4	+9	54.0	171	01.7	-10	12.1	334	36.9	+14	37.6	42	33.1	-12	43.9		
1	31	24.7	240	50.8		53.5	186	02.6		12.7	349	39.6		37.6	57	35.7		43.9		
2	46	27.2	255	51.1		53.1	201	03.5		13.3	4	42.3		37.5	72	38.3		44.0		
3	61	29.6	270	51.5		52.7	216	04.4		14.0	19	45.0		37.4	87	40.8		44.0		
4	76	32.1	285	51.8		52.3	231	05.3		14.6	34	47.8		37.3	102	43.4		44.1		
5	91	34.6	300	52.2	+9	51.9	246	06.1	-10	15.2	49	50.5	+14	37.2	117	46.0	-12	44.1		
6	106	37.0	315	52.5	+9	51.4	261	07.0	-10	15.8	64	53.2	+14	37.2	132	48.6	-12	44.1		
7	121	39.5	330	52.9		51.0	276	07.9		16.5	79	55.9		37.1	147	51.1		44.2		
8	136	41.9	345	53.2		50.6	291	08.8		17.1	94	58.6		37.0	162	53.7		44.2		
9	151	44.4	0	53.6		50.2	306	09.6		17.7	110	01.3		36.9	177	56.3		44.2		
10	166	46.9	15	53.9		49.7	321	10.5		18.3	125	04.1		36.8	192	58.8		44.3		
11	181	49.3	30	54.2	+9	49.3	336	11.4	-10	19.0	140	06.8	+14	36.8	208	01.4	-12	44.3		
12	196	51.8	45	54.6	+9	48.9	351	12.3	-10	19.6	155	09.5	+14	36.7	223	04.0	-12	44.3		
13	211	54.3	60	54.9		48.5	6	13.2		20.2	170	12.2		36.6	238	06.5		44.4		
14	226	56.7	75	55.3		48.0	21	14.0		20.8	185	14.9		36.5	253	09.1		44.4		
15	241	59.2	90	55.6		47.6	36	14.9		21.5	200	17.7		36.4	268	11.7		44.5		
16	257	01.7	105	55.9		47.2	51	15.8		22.1	215	20.4		36.4	283	14.2		44.5		
17	272	04.1	120	56.3	+9	46.7	66	16.7	-10	22.7	230	23.1	+14	36.3	298	16.8	-12	44.5		
18	287	06.6	135	56.6	+9	46.3	81	17.5	-10	23.3	245	25.8	+14	36.2	313	19.4	-12	44.6		
19	302	09.1	150	56.9		45.9	96	18.4		24.0	260	28.5		36.1	328	21.9		44.6		
20	317	11.5	165	57.2		45.4	111	19.3		24.6	275	31.3		36.0	343	24.5		44.6		
21	332	14.0	180	57.6		45.0	126	20.2		25.2	290	34.0		36.0	358	27.1		44.7		
22	347	16.4	195	57.9		44.6	141	21.0		25.8	305	36.7		35.9	13	29.6		44.7		
23	2	18.9	210	58.2		44.1	156	21.9		26.5	320	39.4		35.8	28	32.2		44.7		
24	17	21.4	225	58.6	+9	43.7	171	22.8	-10	27.1	335	42.2	+14	35.7	43	34.8	-12	44.8		
Dif	—		+3		-4		+9		-6		+27		-1		+26					

UT	SOL			☾ LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 0 PMG: 11 ^h 47.3 ^m			Edad: 23.9 ^d SD: 14 ^h 8 PMG: 8 ^h 10 ^m PHE { 4 ^h : 54 ^m /2 12 ^h : 54 ^m /1 20 ^h : 54 ^m /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		h m m		
0	183 08.1	-6 04.8	241 09.7	132	+21	57.9	93	60 N	17 10	17 51	18 39	** ** *		16 53	0	
1	198 08.3	05.7	255 41.9	133		48.6	94	58	13	52	37	** ** *		40	5	
2	213 08.4	06.7	270 14.2	133		39.2	96	56	15	52	35	** ** *		29	8	
3	228 08.6	07.6	284 46.5	135		29.6	96	54	18	53	34	** ** *		19	11	
4	243 08.8	08.6	299 19.0	135		20.0	97	52	20	54	33	** ** *		10	14	
5	258 08.9	-6 09.5	313 51.5	135	+21	10.3	97	50	17 22	17 54	18 32	0 01	71	16 03	16	
6	273 09.1	-6 10.5	328 24.1	136	+21	00.6	97	45	17 26	17 56	18 30	0 22	66	15 46	20	
7	288 09.3	11.4	342 56.7	136	+20	50.7	99	40	30	57	29	38	63	32	24	
8	303 09.5	12.4	357 29.4	137		40.7	100	35	33	57	28	0 52	59	20	28	
9	318 09.6	13.3	12 02.2	138		30.7	100	30	36	18 00	28	1 04	57	15 10	30	
10	333 09.8	14.3	26 35.0	138		20.6	101	20	42	04	29	25	52	14 52	35	
11	348 10.0	-6 15.2	41 08.0	140	+20	10.4	102	10 N	17 46	18 07	18 32	1 43	48	14 36	39	
12	3 10.1	-6 16.2	55 40.9	139	+20	00.1	103	0	17 51	18 11	18 36	1 59	45	14 21	43	
13	18 10.3	17.1	70 14.0	141	+19	49.8	103	10 S	17 55	16	41	2 16	41	14 06	47	
14	33 10.5	18.1	84 47.1	141		39.3	105	20	18 00	22	48	34	36	13 50	51	
15	48 10.7	19.0	99 20.3	142		28.8	105	30	06	30	18 59	2 54	32	32	55	
16	63 10.8	20.0	113 53.5	142		18.2	106	35	09	35	19 05	3 06	29	21	58	
17	78 11.0	-6 20.9	128 26.8	143	+19	07.5	107	40	18 13	18 41	19 13	3 19	27	13 08	62	
18	93 11.2	-6 21.9	143 00.2	144	+18	56.8	107	45	18 18	18 48	19 24	3 35	23	12 54	65	
19	108 11.3	22.8	157 33.7	145		46.0	108	50	23	18 56	37	3 54	18	35	71	
20	123 11.5	23.8	172 07.2	145		35.1	109	52	26	19 00	43	4 03	16	27	73	
21	138 11.7	24.7	186 40.7	145		24.1	110	54	28	05	50	14	13	17	76	
22	153 11.8	25.7	201 14.3	146		13.0	111	56	31	10	19 58	25	10	12 06	80	
23	168 12.0	26.6	215 48.0	147	+18	01.9	111	58	35	16	20 07	39	5	11 54	83	
24	183 12.2	-6 27.6	230 21.8	148	+17	50.7	112	60 S	18 39	19 23	20 18	4 54	1	11 39	88	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO				
	PMG 22 ^h 46.8 ^m		Mag: -4.6 PMG: 8 ^h 56 ^m			Mag: +1.6 PMG: 12 ^h 34 ^m			Mag: -2.9 PMG: 1 ^h 37 ^m			Mag: +0.6 PMG: 21 ^h 02 ^m				
	hG ♈	hG ♀	Dec	hG ♂	Dec	hG ♎	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	hG ♏	Dec	
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	17 21.4	225 58.6	+9 43.7	171 22.8	-10 27.1	335 42.2	+14 35.7	43 34.8	-12 44.8							
1	32 23.8	240 58.9	43.2	186 23.7	27.7	350 44.9	35.6	58 37.4	44.8							
2	47 26.3	255 59.2	42.8	201 24.5	28.3	5 47.6	35.5	73 39.9	44.8							
3	62 28.8	270 59.5	42.4	216 25.4	29.0	20 50.3	35.5	88 42.5	44.9							
4	77 31.2	285 59.9	41.9	231 26.3	29.6	35 53.0	35.4	103 45.1	44.9							
5	92 33.7	301 00.2	+9 41.5	246 27.2	-10 30.2	50 55.8	+14 35.3	118 47.6	-12 44.9							
6	107 36.2	316 00.5	+9 41.0	261 28.0	-10 30.8	65 58.5	+14 35.2	133 50.2	-12 45.0							
7	122 38.6	331 00.8	40.6	276 28.9	31.5	81 01.2	35.1	148 52.8	45.0							
8	137 41.1	346 01.1	40.2	291 29.8	32.1	96 03.9	35.1	163 55.3	45.1							
9	152 43.6	1 01.4	39.7	306 30.7	32.7	111 06.7	35.0	178 57.9	45.1							
10	167 46.0	16 01.8	39.3	321 31.5	33.3	126 09.4	34.9	194 00.4	45.1							
11	182 48.5	31 02.1	+9 38.8	336 32.4	-10 33.9	141 12.1	+14 34.8	209 03.0	-12 45.2							
12	197 50.9	46 02.4	+9 38.4	351 33.3	-10 34.6	156 14.8	+14 34.7	224 05.6	-12 45.2							
13	212 53.4	61 02.7	37.9	6 34.2	35.2	171 17.6	34.6	239 08.1	45.2							
14	227 55.9	76 03.0	37.5	21 35.0	35.8	186 20.3	34.6	254 10.7	45.3							
15	242 58.3	91 03.3	37.0	36 35.9	36.4	201 23.0	34.5	269 13.3	45.3							
16	258 00.8	106 03.6	36.6	51 36.8	37.1	216 25.7	34.4	284 15.8	45.3							
17	273 03.3	121 03.9	+9 36.1	66 37.6	-10 37.7	231 28.5	+14 34.3	299 18.4	-12 45.4							
18	288 05.7	136 04.3	+9 35.6	81 38.5	-10 38.3	246 31.2	+14 34.2	314 21.0	-12 45.4							
19	303 08.2	151 04.6	35.2	96 39.4	38.9	261 33.9	34.2	329 23.5	45.4							
20	318 10.7	166 04.9	34.7	111 40.3	39.6	276 36.6	34.1	344 26.1	45.5							
21	333 13.1	181 05.2	34.3	126 41.1	40.2	291 39.4	34.0	359 28.7	45.5							
22	348 15.6	196 05.5	33.8	141 42.0	40.8	306 42.1	33.9	14 31.2	45.5							
23	3 18.0	211 05.8	33.4	156 42.9	41.4	321 44.8	33.8	29 33.8	45.6							
24	18 20.5	226 06.1	+9 32.9	171 43.7	-10 42.0	336 47.6	+14 33.7	44 36.4	-12 45.6							
Dif	—	+3	-4	+9	-6	+27	-1	+26	0							

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'0 PMG: 11 ^h 47.1 ^m			Edad: 24.9 ^d SD: 14'7 PMG: 8 ^h 54 ^m PHE { 4 ^h : 54'1 12 ^h : 54'1 20 ^h : 54'1 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	183	12.2	-6	27.6	230	21.8	+17	50.7	60 N	4	56	5	44	6	26	0	25
1	198	12.4		28.5	244	55.6		39.5	58	4	58		44	23	37	83	45
2	213	12.5		29.5	259	29.4		28.1	56	5	00		43	20	48	78	37
3	228	12.7		30.4	274	03.3		16.7	54	01			42	18	0	57	75
4	243	12.9		31.4	288	37.3	+17	05.3	52	03			42	15	1	05	73
5	258	13.0	-6	32.3	303	11.3	+16	53.7	50	5	04	5	41	6	13	1	12
6	273	13.2	-6	33.2	317	45.4	+16	42.1	45	5	05	5	39	6	09	1	28
7	288	13.4		34.2	332	19.5		30.5	40	06			38	05	41	61	15
8	303	13.5		35.1	346	53.7		18.7	35	07			36	6	01	1	51
9	318	13.7		36.1	1	28.0	+16	06.9	30	07			34	5	58	2	01
10	333	13.9		37.0	16	02.3	+15	55.1	20	05			31	53	17	50	27
11	348	14.0	-6	38.0	30	36.6	+15	43.2	10 N	5	03	5	27	5	48	2	31
12	3	14.2	-6	38.9	45	11.0	+15	31.2	0	4	59	5	23	5	44	2	44
13	18	14.4		39.9	59	45.5		19.1	10 S	53			18	39	2	57	38
14	33	14.5		40.8	74	20.0	+15	07.0	20	46			12	34	3	10	34
15	48	14.7		41.8	88	54.5	+14	54.9	30	35	5	04	28	26	29	27	55
16	63	14.9		42.7	103	29.1		42.6	35	29	4	59	25	35	26	19	58
17	78	15.0	-6	43.7	118	03.7	+14	30.4	40	4	20	4	53	5	21	3	46
18	93	15.2	-6	44.6	132	38.4	+14	18.0	45	4	10	4	46	5	16	3	58
19	108	15.4		45.6	147	13.2	+14	05.6	50	3	57		37	10	4	12	15
20	123	15.5		46.5	161	47.9	+13	53.2	52	51			33	08	19	12	40
21	138	15.7		47.4	176	22.7		40.7	54	44			28	05	27	9	33
22	153	15.9		48.4	190	57.6		28.1	56	35			23	5	02	35	7
23	168	16.0		49.3	205	32.5		15.5	58	26			17	4	58	44	4
24	183	16.2	-6	50.3	220	07.4	+13	02.8	60 S	3	15	4	11	4	54	4	55

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 ^h 42.9 ^m		Mag: -4.6 PMG: 8 ^h 55 ^m		Mag: +1.6 PMG: 12 ^h 32 ^m		Mag: -2.9 PMG: 1 ^h 33 ^m		Mag: +0.6 PMG: 20 ^h 58 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	18	20.5	226	06.1	+9	32.9	171	43.7	-10	42.0
1	33	23.0	241	06.4		32.4	186	44.6		42.7
2	48	25.4	256	06.7		32.0	201	45.5		43.3
3	63	27.9	271	07.0		31.5	216	46.3		43.9
4	78	30.4	286	07.3		31.1	231	47.2		44.5
5	93	32.8	301	07.6	+9	30.6	246	48.1	-10	45.1
6	108	35.3	316	07.9	+9	30.1	261	49.0	-10	45.8
7	123	37.8	331	08.2		29.7	276	49.8		46.4
8	138	40.2	346	08.4		29.2	291	50.7		47.0
9	153	42.7	361	08.7		28.7	306	51.6		47.6
10	168	45.2	376	09.0		28.3	321	52.4		48.3
11	183	47.6	391	09.3	+9	27.8	336	53.3	-10	48.9
12	198	50.1	406	09.6	+9	27.3	351	54.2	-10	49.5
13	213	52.5	421	09.9		26.8	366	55.0		50.1
14	228	55.0	436	10.2		26.4	381	55.9		50.7
15	243	57.5	451	10.5		25.9	396	56.8		51.4
16	258	59.9	466	10.8		25.4	411	57.6		52.0
17	274	02.4	481	11.0	+9	25.0	426	58.5	-10	52.6
18	289	04.9	496	11.3	+9	24.5	441	59.4	-10	53.2
19	304	07.3	511	11.6		24.0	456	00.2		53.8
20	319	09.8	526	11.9		23.5	471	01.1		54.5
21	334	12.3	541	12.2		23.0	486	02.0		55.1
22	349	14.7	556	12.4		22.6	501	02.8		55.7
23	4	17.2	571	12.7		22.1	516	03.7		56.3
24	19	19.7	586	13.0	+9	21.6	531	04.6	-10	56.9
Dif	—		+3	-5		+9	-6	+27	-1	+26

UT	SOL			☾ LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16'0 PMG: 11 ^h 46.8 ^m			Edad: 25.9 ^d SD: 14'7 PMG: 9 ^h 35 ^m PHE { 4 ^h : 54'2 12 ^h : 54'2 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	m	h	m	m		
0	183	16.2	-6	50.3	220	07.4	+13	02.8	60 N	17	04	17	45	18	33	1	52	84	16	53	**
1	198	16.3		51.2	234	42.4	+12	50.1	58	07	46	32	2	00	80		48	2			
2	213	16.5		52.2	249	17.4		37.3	56	10	47	30		06	77		43	5			
3	228	16.7		53.1	263	52.5		24.5	54	13	48	29		12	74		39	8			
4	243	16.8		54.1	278	27.6	+12	11.7	52	16	49	28		18	71		35	10			
5	258	17.0	-6	55.0	293	02.7	+11	58.7	50	17	18	17	50	18	27	2	23	69	16	32	12
6	273	17.2	-6	55.9	307	37.9	+11	45.8	45	17	23	17	52	18	26	2	33	64	16	24	17
7	288	17.3		56.9	322	13.1		32.8	40	27	54	26		42	60		18	20			
8	303	17.5		57.8	336	48.3		19.7	35	31	56	25		49	57		13	23			
9	318	17.6		58.8	351	23.6	+11	06.6	30	34	17	58	26	2	56	54		08	26		
10	333	17.8	-6	59.7	5	58.9	+10	53.5	20	40	18	02	28	3	07	49	16	00	31		
11	348	18.0	-7	00.7	20	34.2	+10	40.3	10 N	17	45	18	06	18	31	3	16	45	15	52	36
12	3	18.1	-7	01.6	35	09.6	+10	27.0	0	17	50	18	11	18	35	3	26	40	15	45	40
13	18	18.3		02.5	49	45.0		13.8	10 S	17	55		16		41	35	36		38	44	
14	33	18.5		03.5	64	20.4	+10	00.4	20	18	01	23	18	49		44	32		30	49	
15	48	18.6		04.4	78	55.9	+9	47.1	30	07	31	19	00	3	55	27		22	54		
16	63	18.8		05.4	93	31.3		33.7	35	11	37		07		4	01	25		17	57	
17	78	18.9	-7	06.3	108	06.8	+9	20.2	40	18	15	18	43	19	16	4	09	20	15	11	60
18	93	19.1	-7	07.3	122	42.4	+9	06.8	45	18	20	18	50	19	26	4	17	17	15	04	64
19	108	19.3		08.2	137	17.9	+8	53.2	50	26	19	00		40		27	12		14	56	69
20	123	19.4		09.1	151	53.5		39.7	52	29	04		47	31	11		52		72		
21	138	19.6		10.1	166	29.1		26.1	54	32	09	19	55		36	8		48	74		
22	153	19.7		11.0	181	04.7	+8	12.5	56	36	15	20	03		42	5		44	76		
23	168	19.9		12.0	195	40.3	+7	58.8	58	39	21		13		48	2		38	80		
24	183	20.1	-7	12.9	210	15.9	+7	45.1	60 S	18	44	19	28	20	25	4	55	**	14	32	84
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO												
	PMG: 22 ^h 39.0 ^m		Mag: -4.6 PMG: 8 ^h 55 ^m		Mag: +1.6 PMG: 12 ^h 31 ^m		Mag: -2.9 PMG: 1 ^h 28 ^m		Mag: +0.6 PMG: 20 ^h 54 ^m												
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec											
h	°	'	°	'	°	'	°	'	°	'											
0	19	19.7	226	13.0	+9	21.6	172	04.6	-10	56.9											
1	34	22.1	241	13.3		21.1	187	05.4		57.5											
2	49	24.6	256	13.6		20.6	202	06.3		58.2											
3	64	27.0	271	13.8		20.2	217	07.2		58.8											
4	79	29.5	286	14.1		19.7	232	08.0	-10	59.4											
5	94	32.0	301	14.4	+9	19.2	247	08.9	-11	00.0											
6	109	34.4	316	14.7	+9	18.7	262	09.8	-11	00.6											
7	124	36.9	331	14.9		18.2	277	10.6		01.3											
8	139	39.4	346	15.2		17.7	292	11.5		01.9											
9	154	41.8	1	15.5		17.2	307	12.4		02.5											
10	169	44.3	16	15.7		16.8	322	13.2		03.1											
11	184	46.8	31	16.0	+9	16.3	337	14.1	-11	03.7											
12	199	49.2	46	16.3	+9	15.8	352	14.9	-11	04.4											
13	214	51.7	61	16.5		15.3	7	15.8		05.0											
14	229	54.1	76	16.8		14.8	22	16.7		05.6											
15	244	56.6	91	17.1		14.3	37	17.5		06.2											
16	259	59.1	106	17.3		13.8	52	18.4		06.8											
17	275	01.5	121	17.6	+9	13.3	67	19.3	-11	07.4											
18	290	04.0	136	17.8	+9	12.8	82	20.1	-11	08.1											
19	305	06.5	151	18.1		12.3	97	21.0		08.7											
20	320	08.9	166	18.4		11.8	112	21.8		09.3											
21	335	11.4	181	18.6		11.3	127	22.7		09.9											
22	350	13.9	196	18.9		10.8	142	23.6		10.5											
23	5	16.3	211	19.1		10.3	157	24.4		11.1											
24	20	18.8	226	19.4	+9	09.8	172	25.3	-11	11.8											
Dif	—		+3		-5		+9		-6												
									+27	-1											
										+26											
										0											

ALMANAQUE NÁUTICO PERSEUS

UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 11 ^h 46.3 ^m		Edad: 27.9 ^d SD: 14'9 PMG: 10 ^h 55 ^m PHE { 4 ^h : 54'6 12 ^h : 54'7 20 ^h : 54'9 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	183	23.8	-7	35.4	200	34.6	+2 07.9	60 N	16 58	17 40	18 28	4 39 84	16 51 **	
1	198	23.9		36.4	215	10.4	+1 53.6 ¹⁴³	58	17 02	41	26	39 81	52 2	
2	213	24.1		37.3	229	46.2	39.2 ¹⁴⁴	56	05	43	25	40 77	53 5	
3	228	24.3		38.3	244	22.0	24.9 ¹⁴³	54	08	44	25	40 75	54 7	
4	243	24.4		39.2	258	57.7	+1 10.5 ¹⁴⁴	52	11	45	24	41 72	55 9	
5	258	24.6	-7	40.1	273	33.5	+0 56.2 ¹⁴³	50	17 14	17 46	18 23	4 41 70	16 55 12	
6	273	24.7	-7	41.1	288	09.2	+0 41.8 ¹⁴⁴	45	17 19	17 49	18 23	4 42 65	16 57 16	
7	288	24.9		42.0	302	45.0	27.4 ¹⁴⁴	40	24	51	23	42 62	58 21	
8	303	25.0		42.9	317	20.7	+0 13.0 ¹⁴⁴	35	28	54	23	43 58	16 59 24	
9	318	25.2		43.9	331	56.4	-0 01.4 ¹⁴⁴	30	32	17 56	24	43 55	17 00 27	
10	333	25.3		44.8	346	32.1	15.9 ¹⁴⁵	20	38	18 00	26	44 50	02 32	
11	348	25.5	-7	45.7	1	07.8	-0 30.3 ¹⁴⁴	10 N	17 44	18 05	18 30	4 45 45	17 04 36	
12	3	25.6	-7	46.7	15	43.5	-0 44.7 ¹⁴⁴	0	17 50	18 10	18 35	4 46 40	17 05 41	
13	18	25.8		47.6	30	19.1	-0 59.2 ¹⁴⁵	10 S	17 55	16	41	46 36	06 46	
14	33	25.9		48.5	44	54.7	-1 13.6 ¹⁴⁴	20	18 01	24	18 50	47 32	08 50	
15	48	26.1		49.5	59	30.3	28.0 ¹⁴⁴	30	08	33	19 01	48 26	10 55	
16	63	26.2		50.4	74	05.9	42.5 ¹⁴⁵	35	13	38	09	49 23	11 58	
17	78	26.4	-7	51.3	88	41.5	-1 56.9 ¹⁴⁴	40	18 17	18 45	19 18	4 49 20	17 12 62	
18	93	26.5	-7	52.3	103	17.0	-2 11.4 ¹⁴⁵	45	18 23	18 53	19 29	4 50 16	17 13 66	
19	108	26.7		53.2	117	52.5	25.9 ¹⁴⁵	50	30	19 03	44	51 11	15 70	
20	123	26.8		54.1	132	28.0	40.3 ¹⁴⁴	52	33	08	51	51 10	15 74	
21	138	27.0		55.1	147	03.5	-2 54.8 ¹⁴⁵	54	36	13	19 59	52 7	16 76	
22	153	27.1		56.0	161	38.9	-3 09.2 ¹⁴⁴	56	40	19	20 08	52 5	17 79	
23	168	27.3		56.9	176	14.3	23.7 ¹⁴⁴	58	44	26	19	52 3	18 82	
24	183	27.4	-7	57.9	190	49.7	-3 38.1 ¹⁴⁴	60 S	18 49	19 34	20 32	4 53 **	17 19 85	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG: 22 ^h 31.1 ^m		Mag: -4.6 PMG: 8 ^h 54 ^m		Mag: +1.6 PMG: 12 ^h 28 ^m		Mag: -2.9 PMG: 1 ^h 19 ^m		Mag: +0.6 PMG: 20 ^h 46 ^m					
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'				
0	21	17.9	226	25.2	+8 57.5	172	45.9	-11 26.5	340	04.6	+14 27.6	47	40.6	-12 47.9
1	36	20.4	241	25.5	57.0	187	46.8	27.1	355	07.3	27.5	62	43.1	47.9
2	51	22.9	256	25.7	56.5	202	47.6	27.7	10	10.0	27.4	77	45.7	48.0
3	66	25.3	271	25.9	56.0	217	48.5	28.4	25	12.8	27.3	92	48.2	48.0
4	81	27.8	286	26.2	55.4	232	49.3	29.0	40	15.5	27.3	107	50.8	48.0
5	96	30.2	301	26.4	+8 54.9	247	50.2	-11 29.6	55	18.3	+14 27.2	122	53.3	-12 48.0
6	111	32.7	316	26.6	+8 54.4	262	51.0	-11 30.2	70	21.0	+14 27.1	137	55.9	-12 48.1
7	126	35.2	331	26.9	53.8	277	51.9	30.8	85	23.8	27.0	152	58.5	48.1
8	141	37.6	346	27.1	53.3	292	52.7	31.4	100	26.5	26.9	168	01.0	48.1
9	156	40.1	1	27.3	52.8	307	53.6	32.0	115	29.3	26.8	183	03.6	48.2
10	171	42.6	16	27.5	52.3	322	54.5	32.6	130	32.0	26.7	198	06.1	48.2
11	186	45.0	31	27.8	+8 51.7	337	55.3	-11 33.3	145	34.7	+14 26.6	213	08.7	-12 48.2
12	201	47.5	46	28.0	+8 51.2	352	56.2	-11 33.9	160	37.5	+14 26.6	228	11.2	-12 48.2
13	216	50.0	61	28.2	50.7	7	57.0	34.5	175	40.2	26.5	243	13.8	48.3
14	231	52.4	76	28.4	50.1	22	57.9	35.1	190	43.0	26.4	258	16.3	48.3
15	246	54.9	91	28.6	49.6	37	58.7	35.7	205	45.7	26.3	273	18.9	48.3
16	261	57.3	106	28.9	49.1	52	59.6	36.3	220	48.5	26.2	288	21.4	48.4
17	276	59.8	121	29.1	+8 48.5	68	00.4	-11 36.9	235	51.2	+14 26.1	303	24.0	-12 48.4
18	292	02.3	136	29.3	+8 48.0	83	01.3	-11 37.5	250	54.0	+14 26.0	318	26.5	-12 48.4
19	307	04.7	151	29.5	47.4	98	02.1	38.2	265	56.7	25.9	333	29.1	48.4
20	322	07.2	166	29.7	46.9	113	03.0	38.8	280	59.5	25.8	348	31.6	48.5
21	337	09.7	181	30.0	46.4	128	03.8	39.4	296	02.2	25.8	3	34.2	48.5
22	352	12.1	196	30.2	45.8	143	04.7	40.0	311	05.0	25.7	18	36.7	48.5
23	7	14.6	211	30.4	45.3	158	05.5	40.6	326	07.7	25.6	33	39.3	48.6
24	22	17.1	226	30.6	+8 44.7	173	06.4	-11 41.2	341	10.5	+14 25.5	48	41.8	-12 48.6
Dif	—		+2		-5		+9		+27		-1		+26	

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: 28.9 ^d SD: 15'0 PMG: 11 ^h 36 ^m PHE { 4 ^h : 55'0 12 ^h : 55'1 20 ^h : 55'3 R°: 42 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	183	27.4	-7	57.9	190	49.7	-3	38.1	60 N	5	06	5	54	6	03	87
1	198	27.6		58.8	205	25.0 ¹⁶³	-3	52.6 ¹⁴⁵	58	07	52	32	6	00	83	
2	213	27.7	-7	59.7	220	00.3 ¹⁶³	-4	07.0 ¹⁴⁴	56	08	51	28	5	57	81	
3	228	27.9	-8	00.7	234	35.6 ¹⁶³		21.4 ¹⁴⁴	54	09	50	25	55	77	17	
4	243	28.0		01.6	249	10.9 ¹⁶³		35.8 ¹⁴⁴	52	09	48	22	53	75	04	
5	258	28.1	-8	02.5	263	46.1 ¹⁶²	-4	50.3 ¹⁴⁵	50	5	10	5	47	6	20	
6	273	28.3	-8	03.5	278	21.2 ¹⁶¹	-5	04.7 ¹⁴⁴	45	5	10	5	44	6	14	
7	288	28.4		04.4	292	56.4 ¹⁶²		19.0 ¹⁴³	40	10	42	09	44	62	19	
8	303	28.6		05.3	307	31.5 ¹⁶¹		33.4 ¹⁴⁴	35	10	39	05	41	59	23	
9	318	28.7		06.3	322	06.5 ¹⁶⁰	-5	47.8 ¹⁴⁴	30	09	37	6	01	38	56	
10	333	28.9		07.2	336	41.5 ¹⁶⁰	-6	02.2 ¹⁴⁴	20	07	32	5	54	34	50	
11	348	29.0	-8	08.1	351	16.5 ¹⁶⁰	-6	16.5 ¹⁴³	10 N	5	03	5	27	5	48	
12	3	29.2	-8	09.0	5	51.5 ¹⁶⁰	-6	30.8 ¹⁴³	0	4	58	5	22	5	43	
13	18	29.3		10.0	20	26.3 ¹⁵⁸		45.1 ¹⁴³	10 S	51	16	37	22	38	52	
14	33	29.5		10.9	35	01.2 ¹⁵⁹	-6	59.4 ¹⁴³	20	42	5	08	31	19	33	
15	48	29.6		11.8	49	36.0 ¹⁵⁸	-7	13.7 ¹⁴³	30	31	4	59	23	14	28	
16	63	29.7		12.8	64	10.7 ¹⁵⁷		28.0 ¹⁴³	35	23	53	19	12	25	09	
17	78	29.9	-8	13.7	78	45.5 ¹⁵⁸	-7	42.2 ¹⁴²	40	4	14	4	47	5	14	
18	93	30.0	-8	14.6	93	20.1 ¹⁵⁶	-7	56.4 ¹⁴²	45	4	02	4	39	5	09	
19	108	30.2		15.5	107	54.7 ¹⁵⁶	-8	10.6 ¹⁴²	50	3	48	28	5	02	02	
20	123	30.3		16.5	122	29.3 ¹⁵⁶		24.8 ¹⁴²	52	40	24	4	59	5	01	
21	138	30.5		17.4	137	03.8 ¹⁵⁵		38.9 ¹⁴¹	54	32	18	55	4	59	8	
22	153	30.6		18.3	151	38.2 ¹⁵⁴	-8	53.1 ¹⁴²	56	23	12	52	57	5	36	
23	168	30.7		19.3	166	12.6 ¹⁵⁴	-9	07.2 ¹⁴¹	58	12	4	06	47	55	2	
24	183	30.9	-8	20.2	180	47.0 ¹⁵⁴	-9	21.2 ¹⁴⁰	60 S	3	00	3	58	4	52	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 22 ^h 27.2 ^m		Mag: -4.6 PMG: 8 ^h 54 ^m		Mag: +1.6 PMG: 12 ^h 27 ^m		Mag: -2.9 PMG: 1 ^h 15 ^m		Mag: +0.6 PMG: 20 ^h 42 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	22	17.1	226	30.6	+8	44.7	173	06.4	-11	41.2
1	37	19.5	241	30.8		44.2	188	07.2		41.8
2	52	22.0	256	31.0		43.7	203	08.1		42.4
3	67	24.5	271	31.2		43.1	218	09.0		43.0
4	82	26.9	286	31.4		42.6	233	09.8		43.6
5	97	29.4	301	31.7	+8	42.0	248	10.7	-11	44.3
6	112	31.8	316	31.9	+8	41.5	263	11.5	-11	44.9
7	127	34.3	331	32.1		40.9	278	12.4		45.5
8	142	36.8	346	32.3		40.4	293	13.2		46.1
9	157	39.2	1	32.5		39.8	308	14.1		46.7
10	172	41.7	16	32.7		39.3	323	14.9		47.3
11	187	44.2	31	32.9	+8	38.7	338	15.8	-11	47.9
12	202	46.6	46	33.1	+8	38.2	353	16.6	-11	48.5
13	217	49.1	61	33.3		37.6	8	17.4		49.1
14	232	51.6	76	33.5		37.1	23	18.3		49.7
15	247	54.0	91	33.7		36.5	38	19.1		50.4
16	262	56.5	106	33.9		36.0	53	20.0		51.0
17	277	59.0	121	34.1	+8	35.4	68	20.8	-11	51.6
18	293	01.4	136	34.3	+8	34.9	83	21.7	-11	52.2
19	308	03.9	151	34.5		34.3	98	22.5		52.8
20	323	06.3	166	34.7		33.7	113	23.4		53.4
21	338	08.8	181	34.9		33.2	128	24.2		54.0
22	353	11.3	196	35.1		32.6	143	25.1		54.6
23	8	13.7	211	35.3		32.1	158	25.9		55.2
24	23	16.2	226	35.5	+8	31.5	173	26.8	-11	55.8
Dif	—		+2		-6		+8		-6	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna								
	SD: 16'0 PMG: 11 ^h 45.8 ^m				Edad: 29.9 ^d SD: 15'1 PMG: 12 ^h 18 ^m																		
	hG ☉		Dec		hG ☾		Dif				Dec		Dif		Civil		Náutico		Hora		R°		Hora
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m	h	m	m	
0	183	30.9	-8	20.2	180	47.0	-9	21.2	60 N	16	52	17	34	18	22		7	30	92	16	49	0	
1	198	31.0		21.1	195	21.3		35.3	58	16	56		36		21		23	88	16	57	5		
2	213	31.2		22.0	209	55.5	-9	49.3	56	17	00		38		21		18	83	17	04	8		
3	228	31.3		23.0	224	29.7	-10	03.3	54		04		39		20		12	81	10		12		
4	243	31.5		23.9	239	03.8		17.2	52		07		41		20		08	77		16	14		
5	258	31.6	-8	24.8	253	37.8	-10	31.2	50	17	10	17	42	18	19	7	03	75	17	21	16		
6	273	31.7	-8	25.7	268	11.8	-10	45.1	45	17	16	17	45	18	19	6	54	70	17	32	22		
7	288	31.9		26.7	282	45.8	-10	58.9	40		21		48	20		46	66		41	26			
8	303	32.0		27.6	297	19.6	-11	12.7	35		26		51	20		40	62		49	29			
9	318	32.2		28.5	311	53.4		26.5	30		30		54	22		34	59		17	56	32		
10	333	32.3		29.5	326	27.2		40.3	20		37	17	59	25		24	54		18	08	38		
11	348	32.4	-8	30.4	341	00.8	-11	54.0	10 N	17	43	18	04	18	29	6	16	49	18	19	42		
12	3	32.6	-8	31.3	355	34.4	-12	07.6	0	17	49	18	10	18	34	6	08	44	18	29	46		
13	18	32.7		32.2	10	08.0		21.2	10 S	17	55		17		41	6	00	40		39	50		
14	33	32.9		33.2	24	41.4		34.8	20	18	02	24	18	51		5	52	35	18	50	54		
15	48	33.0		34.1	39	14.8	-12	48.4	30		10	34	19	03		42	31		19	02	60		
16	63	33.1		35.0	53	48.2	-13	01.9	35		14		40	11		37	27		09	63			
17	78	33.3	-8	35.9	68	21.4	-13	15.3	40	18	19	18	47	19	21	5	31	24	19	18	66		
18	93	33.4	-8	36.9	82	54.6	-13	28.7	45	18	25	18	56	19	33	5	24	20	19	27	71		
19	108	33.5		37.8	97	27.7		42.1	50		33	19	07		48	15	15		39	76			
20	123	33.7		38.7	112	00.8	-13	55.4	52		36	12	19	55		11	13		44	79			
21	138	33.8		39.6	126	33.7	-14	08.6	54		40	17	20	04		07	10		50	83			
22	153	34.0		40.5	141	06.6		21.8	56		44		24	14		5	02	8	19	57	86		
23	168	34.1		41.5	155	39.4		35.0	58		49	31	25			4	57	4	20	05	90		
24	183	34.2	-8	42.4	170	12.1	-14	48.1	60 S	18	54	19	39	20	38	4	51	0	20	13	95		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO														
	PMG: 22 ^h 23.2 ^m		Mag: -4.6 PMG: 8 ^h 54 ^m		Mag: +1.6 PMG: 12 ^h 26 ^m		Mag: -2.9 PMG: 1 ^h 11 ^m		Mag: +0.6 PMG: 20 ^h 38 ^m														
	hG ♈		hG ♊		hG ♈		hG ♃		hG ♄		hG ♅		hG ♅		hG ♅								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'							
0	23	16.2	226	35.5	+8	31.5	173	26.8	-11	55.8	342	16.5	+14	23.3	49	43.0							
1	38	18.7	241	35.7		30.9	188	27.6		56.4	357	19.2		23.2	64	45.5							
2	53	21.1	256	35.9		30.4	203	28.5		57.0	12	22.0		23.2	79	48.1							
3	68	23.6	271	36.1		29.8	218	29.3		57.7	27	24.8		23.1	94	50.6							
4	83	26.1	286	36.3		29.2	233	30.2		58.3	42	27.5		23.0	109	53.2							
5	98	28.5	301	36.4	+8	28.7	248	31.0	-11	58.9	57	30.3	+14	22.9	124	55.7							
6	113	31.0	316	36.6	+8	28.1	263	31.9	-11	59.5	72	33.0	+14	22.8	139	58.2							
7	128	33.4	331	36.8		27.5	278	32.7	-12	00.1	87	35.8		22.7	155	00.8							
8	143	35.9	346	37.0		27.0	293	33.5		00.7	102	38.5		22.6	170	03.3							
9	158	38.4	1	37.2		26.4	308	34.4		01.3	117	41.3		22.5	185	05.9							
10	173	40.8	16	37.4		25.8	323	35.2		01.9	132	44.0		22.4	200	08.4							
11	188	43.3	31	37.6	+8	25.3	338	36.1	-12	02.5	147	46.8	+14	22.3	215	11.0							
12	203	45.8	46	37.8	+8	24.7	353	36.9	-12	03.1	162	49.5	+14	22.3	230	13.5							
13	218	48.2	61	37.9		24.1	8	37.8		03.7	177	52.3		22.2	245	16.1							
14	233	50.7	76	38.1		23.5	23	38.6		04.3	192	55.1		22.1	260	18.6							
15	248	53.2	91	38.3		23.0	38	39.5		04.9	207	57.8		22.0	275	21.1							
16	263	55.6	106	38.5		22.4	53	40.3		05.5	223	00.6		21.9	290	23.7							
17	278	58.1	121	38.7	+8	21.8	68	41.1	-12	06.1	238	03.3	+14	21.8	305	26.2							
18	294	00.6	136	38.9	+8	21.2	83	42.0	-12	06.7	253	06.1	+14	21.7	320	28.8							
19	309	03.0	151	39.0		20.7	98	42.8		07.4	268	08.8		21.6	335	31.3							
20	324	05.5	166	39.2		20.1	113	43.7		08.0	283	11.6		21.5	350	33.9							
21	339	07.9	181	39.4		19.5	128	44.5		08.6	298	14.4		21.4	5	36.4							
22	354	10.4	196	39.6		18.9	143	45.3		09.2	313	17.1		21.3	20	39.0							
23	9	12.9	211	39.7		18.3	158	46.2		09.8	328	19.9		21.3	35	41.5							
24	24	15.3	226	39.9	+8	17.8	173	47.0	-12	10.4	343	22.6	+14	21.2	50	44.0							
Dif	—		+2		-6		+8		-6		+28		-1		+25								

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16'0 PMG: 11 ^h 45.6 ^m			Edad: 1.3 ^d SD: 15'2 PMG: 13 ^h 03 ^m	PHE { 4 ^h : 55'9 12 ^h : 56'0 20 ^h : 56'2 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	183	34.2	-8	42.4	170	12.1	-14	48.1	60 N	5	10	5	59	6	41	9	02	99	16	49	2
1	198	34.4		43.3	184	44.8	-15	01.1	58	11	57	37	8	51	93	17	02	7			
2	213	34.5		44.2	199	17.3		14.1	56	12	55	33	41	88	12	12					
3	228	34.6		45.2	213	49.8		27.0	54	12	53	29	33	84	22	16					
4	243	34.8		46.1	228	22.2		39.9	52	13	52	26	25	81	30	19					
5	258	34.9	-8	47.0	242	54.6	-15	52.7	50	5	13	5	50	6	23	8	18	78	17	37	22
6	273	35.0	-8	47.9	257	26.8	-16	05.5	45	5	13	5	47	6	16	8	04	72	17	54	27
7	288	35.2		48.8	271	59.0		18.1	40	12	44	11	7	52	68	18	07	31			
8	303	35.3		49.8	286	31.0		30.8	35	11	41	06	42	64	18	35					
9	318	35.5		50.7	301	03.0		43.3	30	10	38	6	02	33	61	28	38				
10	333	35.6		51.6	315	34.9	-16	55.8	20	07	33	5	55	18	56	18	46	42			
11	348	35.7	-8	52.5	330	06.7	-17	08.2	10 N	5	03	5	27	5	48	7	05	52	19	01	46
12	3	35.9	-8	53.4	344	38.4	-17	20.6	0	4	57	5	21	5	42	6	52	48	19	15	50
13	18	36.0		54.4	359	10.1		32.9	10 S	50	15	36	40	44	29	54					
14	33	36.1		55.3	13	41.6		45.1	20	41	5	07	29	27	40	19	44	58			
15	48	36.3		56.2	28	13.1	-17	57.2	30	28	4	57	21	13	34	20	02	62			
16	63	36.4		57.1	42	44.4	-18	09.3	35	20	51	17	6	04	32	12	66				
17	78	36.5	-8	58.0	57	15.7	-18	21.3	40	4	10	4	44	5	11	5	55	28	20	24	69
18	93	36.7	-8	59.0	71	46.9	-18	33.2	45	3	58	4	35	5	05	5	44	24	20	38	73
19	108	36.8	-8	59.9	86	18.0		45.0	50	43	24	4	58	30	19	20	55	79			
20	123	36.9	-9	00.8	100	48.9	-18	56.8	52	35	19	54	24	17	21	03	82				
21	138	37.0		01.7	115	19.8	-19	08.4	54	27	13	51	17	14	13	84					
22	153	37.2		02.6	129	50.6		20.0	56	17	07	47	10	10	23	89					
23	168	37.3		03.5	144	21.4		31.5	58	3	06	4	00	42	5	01	6	35	93		
24	183	37.4	-9	04.5	158	52.0	-19	42.9	60 S	2	52	3	51	4	37	4	51	2	21	48	101

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 19.3 ^m		Mag: -4.6 PMG: 8 ^h 53 ^m		Mag: +1.6 PMG: 12 ^h 24 ^m		Mag: -2.9 PMG: 1 ^h 06 ^m		Mag: +0.6 PMG: 20 ^h 34 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	24	15.3	226	39.9	+8	17.8	173	47.0	-12	10.4	343	22.6	+14	21.2	50	44.0	-12	49.9
1	39	17.8	241	40.1		17.2	188	47.9		11.0	358	25.4		21.1	65	46.6		49.9
2	54	20.3	256	40.3		16.6	203	48.7		11.6	13	28.1		21.0	80	49.1		49.9
3	69	22.7	271	40.4		16.0	218	49.6		12.2	28	30.9		20.9	95	51.7		49.9
4	84	25.2	286	40.6		15.4	233	50.4		12.8	43	33.7		20.8	110	54.2		50.0
5	99	27.7	301	40.8	+8	14.8	248	51.2	-12	13.4	58	36.4	+14	20.7	125	56.7	-12	50.0
6	114	30.1	316	41.0	+8	14.3	263	52.1	-12	14.0	73	39.2	+14	20.6	140	59.3	-12	50.0
7	129	32.6	331	41.1		13.7	278	52.9		14.6	88	41.9		20.5	156	01.8		50.0
8	144	35.0	346	41.3		13.1	293	53.8		15.2	103	44.7		20.4	171	04.4		50.1
9	159	37.5	1	41.5		12.5	308	54.6		15.8	118	47.5		20.3	186	06.9		50.1
10	174	40.0	16	41.6		11.9	323	55.4		16.4	133	50.2		20.2	201	09.5		50.1
11	189	42.4	31	41.8	+8	11.3	338	56.3	-12	17.0	148	53.0	+14	20.1	216	12.0	-12	50.1
12	204	44.9	46	42.0	+8	10.7	353	57.1	-12	17.6	163	55.7	+14	20.1	231	14.5	-12	50.2
13	219	47.4	61	42.1		10.1	8	58.0		18.2	178	58.5		20.0	246	17.1		50.2
14	234	49.8	76	42.3		09.5	23	58.8		18.8	194	01.3		19.9	261	19.6		50.2
15	249	52.3	91	42.5		09.0	38	59.6		19.4	209	04.0		19.8	276	22.2		50.2
16	264	54.8	106	42.6		08.4	54	00.5		20.0	224	06.8		19.7	291	24.7		50.3
17	279	57.2	121	42.8	+8	07.8	69	01.3	-12	20.6	239	09.5	+14	19.6	306	27.2	-12	50.3
18	294	59.7	136	43.0	+8	07.2	84	02.2	-12	21.2	254	12.3	+14	19.5	321	29.8	-12	50.3
19	310	02.2	151	43.1		06.6	99	03.0		21.8	269	15.1		19.4	336	32.3		50.3
20	325	04.6	166	43.3		06.0	114	03.8		22.4	284	17.8		19.3	351	34.9		50.4
21	340	07.1	181	43.4		05.4	129	04.7		23.0	299	20.6		19.2	6	37.4		50.4
22	355	09.5	196	43.6		04.8	144	05.5		23.6	314	23.3		19.1	21	39.9		50.4
23	10	12.0	211	43.8		04.2	159	06.3		24.2	329	26.1		19.0	36	42.5		50.4
24	25	14.5	226	43.9	+8	03.6	174	07.2	-12	24.8	344	28.9	+14	18.9	51	45.0	-12	50.5
Dif	—		+2		-6		+8		-6		+28		-1		+25		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'0 PMG: 11 ^h 45.4 ^m			Edad: 2.3 ^d PHE { 4 ^h : 56'3 12 ^h : 56'5 20 ^h : 56'7 R°: 54 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	183	37.4	-9	04.5	158	52.0	-19	42.9	114	60 N	16 46	17 29	18 17	10 41	104	16 51	7
1	198	37.6		05.4	173	22.5	115	-19	54.3	112	58	51	31	16	24 95	17 09	15
2	213	37.7		06.3	187	52.9	114	-20	05.5	112	56	55	33	16	10 09	90	24
3	228	37.8		07.2	202	23.2	113		16.7	112	54	16 59	35	16	9 57	85	38
4	243	38.0		08.1	216	53.4	112		27.7	110	52	17 02	37	16	46 82	49	28
5	258	38.1	-9	09.1	231	23.6	112	-20	38.7	110	50	17 06	17 38	18 16	9 36	79	17
6	273	38.2	-9	10.0	245	53.6	110	-20	49.6	109	45	17 12	17 42	18 16	9 16	74	18
7	288	38.3		10.9	260	23.5	109	-21	00.4	108	40	18	45	17	9 00	69	38
8	303	38.5		11.8	274	53.3	108		11.0	106	35	23	49	18	8 46	66	18
9	318	38.6		12.7	289	23.1	108		21.6	106	30	27	52	19	34 64	19	06
10	333	38.7		13.6	303	52.7	106		32.1	105	20	35	17 57	23	8 14	59	28
11	348	38.9	-9	14.5	318	22.2	105	-21	42.5	104	10 N	17 42	18 03	18 28	7 57	55	19
12	3	39.0	-9	15.5	332	51.6	104	-21	52.8	103	0	17 49	18 10	18 34	7 40	52	20
13	18	39.1		16.4	347	21.0	104	-22	03.0	102	10 S	17 55	17	42	24 49	23	57
14	33	39.2		17.3	1	50.2	102		13.1	101	20	18 03	25	18 51	7 07	45	20
15	48	39.4		18.2	16	19.3	101		23.0	99	30	11	36	19 04	6 47	41	21
16	63	39.5		19.1	30	48.3	100		32.9	99	35	16	42	13	36 38	18	66
17	78	39.6	-9	20.0	45	17.2	99	-22	42.7	98	40	18 22	18 50	19 23	6 23	35	21
18	93	39.7	-9	20.9	59	46.1	99	-22	52.3	96	45	18 28	18 59	19 36	6 08	31	21
19	108	39.9		21.9	74	14.8	97	-23	01.8	95	50	36	19 10	19 52	5 49	26	22
20	123	40.0		22.8	88	43.4	96		11.3	95	52	40	15	20 00	41 23	25	80
21	138	40.1		23.7	103	11.9	95		20.6	93	54	44	21	09	31 20	37	83
22	153	40.2		24.6	117	40.3	94		29.8	92	56	48	28	19	20 16	22	52
23	168	40.4		25.5	132	08.6	93		38.8	90	58	53	36	31	5 07	11	23
24	183	40.5	-9	26.4	146	36.8	92	-23	47.8	90	60 S	18 59	19 45	20 46	4 53	4	23

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 15.4 ^m		Mag: -4.6 PMG: 8 ^h 53 ^m		Mag: +1.6 PMG: 12 ^h 23 ^m		Mag: -2.9 PMG: 1 ^h 02 ^m		Mag: +0.6 PMG: 20 ^h 30 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	25	14.5	226	43.9	+8	03.6	174	07.2	-12	24.8	344	28.9	+14	18.9	51	45.0	-12	50.5
1	40	16.9	241	44.1		03.0	189	08.0		25.5	359	31.6		18.9	66	47.6		50.5
2	55	19.4	256	44.2		02.4	204	08.8		26.1	14	34.4		18.8	81	50.1		50.5
3	70	21.9	271	44.4		01.8	219	09.7		26.7	29	37.2		18.7	96	52.6		50.5
4	85	24.3	286	44.5		01.2	234	10.5		27.3	44	39.9		18.6	111	55.2		50.6
5	100	26.8	301	44.7	+8	00.6	249	11.4	-12	27.9	59	42.7	+14	18.5	126	57.7	-12	50.6
6	115	29.3	316	44.9	+8	00.0	264	12.2	-12	28.5	74	45.4	+14	18.4	142	00.2	-12	50.6
7	130	31.7	331	45.0	+7	59.4	279	13.0		29.1	89	48.2		18.3	157	02.8		50.6
8	145	34.2	346	45.2		58.7	294	13.9		29.7	104	51.0		18.2	172	05.3		50.6
9	160	36.7	1	45.3		58.1	309	14.7		30.3	119	53.7		18.1	187	07.9		50.7
10	175	39.1	16	45.5		57.5	324	15.5		30.9	134	56.5		18.0	202	10.4		50.7
11	190	41.6	31	45.6	+7	56.9	339	16.4	-12	31.5	149	59.3	+14	17.9	217	12.9	-12	50.7
12	205	44.0	46	45.8	+7	56.3	354	17.2	-12	32.1	165	02.0	+14	17.8	232	15.5	-12	50.7
13	220	46.5	61	45.9		55.7	9	18.0		32.7	180	04.8		17.7	247	18.0		50.8
14	235	49.0	76	46.1		55.1	24	18.9		33.3	195	07.6		17.6	262	20.5		50.8
15	250	51.4	91	46.2		54.5	39	19.7		33.9	210	10.3		17.6	277	23.1		50.8
16	265	53.9	106	46.4		53.9	54	20.5		34.5	225	13.1		17.5	292	25.6		50.8
17	280	56.4	121	46.5	+7	53.2	69	21.4	-12	35.1	240	15.9	+14	17.4	307	28.1	-12	50.9
18	295	58.8	136	46.7	+7	52.6	84	22.2	-12	35.7	255	18.6	+14	17.3	322	30.7	-12	50.9
19	311	01.3	151	46.8		52.0	99	23.0		36.3	270	21.4		17.2	337	33.2		50.9
20	326	03.8	166	46.9		51.4	114	23.9		36.9	285	24.1		17.1	352	35.8		50.9
21	341	06.2	181	47.1		50.8	129	24.7		37.5	300	26.9		17.0	7	38.3		50.9
22	356	08.7	196	47.2		50.2	144	25.5		38.0	315	29.7		16.9	22	40.8		51.0
23	11	11.1	211	47.4		49.6	159	26.4		38.6	330	32.4		16.8	37	43.4		51.0
24	26	13.6	226	47.5	+7	48.9	174	27.2	-12	39.2	345	35.2	+14	16.7	52	45.9	-12	51.0
Dif	—		+1		-6		+8		-6		+28		-1		+25		0	

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: 3.3 ^d SD: 15'5 PMG: 14 ^h 46 ^m PHE 4^h: 56'8 12^h: 57'0 20^h: 57'2 Rº: 57^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	183	40.5	-9	26.4	146	36.8	92	-23	47.8	88	60 N	5 15	6 03	6 46	12 25 100	16 58 18
1	198	40.6		27.3	161	05.0	90	-23	56.6	87	58	16	6 01	41	11 59 90	17 24 29
2	213	40.7		28.2	175	33.0	89	-24	05.3	86	56	16	5 59	37	39 84	17 45 34
3	228	40.9		29.1	190	00.9	89		13.9	86	54	16	57	33	22 80	18 02 38
4	243	41.0		30.1	204	28.7	88		22.4	85	52	16	55	29	11 08 77	17 40
5	258	41.1	-9	31.0	218	56.4	87	-24	30.7	83	50	5 16	5 53	6 26	10 55 75	18 29 43
6	273	41.2	-9	31.9	233	24.0	86	-24	38.9	82	45	5 15	5 49	6 19	10 30 71	18 56 46
7	288	41.4		32.8	247	51.5	85		47.0	81	40	14	46	13	10 09 68	19 17 49
8	303	41.5		33.7	262	18.9	84	-24	54.9	79	35	13	43	08	9 52 66	35 50
9	318	41.6		34.6	276	46.2	83	-25	02.8	79	30	12	39	6 04	38 64	19 50 52
10	333	41.7		35.5	291	13.5	83		10.4	76	20	08	33	5 56	9 13 61	20 16 54
11	348	41.8	-9	36.4	305	40.6	81	-25	18.0	76	10 N	5 03	5 27	5 49	8 52 59	20 38 56
12	3	42.0	-9	37.3	320	07.6	80	-25	25.4	74	0	4 57	5 21	5 42	8 32 57	20 59 58
13	18	42.1		38.2	334	34.5	79		32.7	73	10 S	49	14	35	8 13 54	21 20 59
14	33	42.2		39.2	349	01.4	79		39.8	71	20	39	5 05	28	7 52 51	21 42 62
15	48	42.3		40.1	3	28.1	77		46.8	70	30	26	4 55	19	28 48	22 09 63
16	63	42.5		41.0	17	54.8	77	-25	53.7	69	35	17	48	14	7 14 46	24 64
17	78	42.6	-9	41.9	32	21.3	75	-26	00.4	67	40	4 07	4 40	5 08	6 58 44	22 42 66
18	93	42.7	-9	42.8	46	47.8	75	-26	07.0	66	45	3 54	4 31	5 02	6 39 41	23 04 67
19	108	42.8		43.7	61	14.2	74		13.4	64	50	38	20	4 54	15 36	31 71
20	123	42.9		44.6	75	40.4	72		19.7	63	52	30	14	50	6 04 34	23 45 72
21	138	43.1		45.5	90	06.6	72		25.8	61	54	21	08	46	5 51 31	** ** *
22	153	43.2		46.4	104	32.7	71		31.8	60	56	3 11	4 01	41	36 27	** ** *
23	168	43.3		47.3	118	58.8	71		37.6	58	58	2 58	3 54	36	5 18 22	** ** *
24	183	43.4	-9	48.2	133	24.7	69	-26	43.3	57	60 S	2 44	3 45	4 31	4 57 13	** ** *

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 11.4 ^m		Mag: -4.6 PMG: 8 ^h 53 ^m		Mag: +1.6 PMG: 12 ^h 22 ^m		Mag: -2.9 PMG: 0 ^h 57 ^m		Mag: +0.7 PMG: 20 ^h 25 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	26	13.6	226	47.5	+7	48.9	174	27.2	-12	39.2	345	35.2	+14	16.7	52	45.9	-12	51.0
1	41	16.1	241	47.7		48.3	189	28.0		39.8	0	38.0		16.6	67	48.4		51.0
2	56	18.5	256	47.8		47.7	204	28.9		40.4	15	40.7		16.5	82	51.0		51.1
3	71	21.0	271	47.9		47.1	219	29.7		41.0	30	43.5		16.4	97	53.5		51.1
4	86	23.5	286	48.1		46.4	234	30.5		41.6	45	46.3		16.3	112	56.0		51.1
5	101	25.9	301	48.2	+7	45.8	249	31.4	-12	42.2	60	49.0	+14	16.2	127	58.6	-12	51.1
6	116	28.4	316	48.4	+7	45.2	264	32.2	-12	42.8	75	51.8	+14	16.1	143	01.1	-12	51.1
7	131	30.9	331	48.5		44.6	279	33.0		43.4	90	54.6		16.1	158	03.6		51.2
8	146	33.3	346	48.6		44.0	294	33.8		44.0	105	57.3		16.0	173	06.2		51.2
9	161	35.8	1	48.8		43.3	309	34.7		44.6	121	00.1		15.9	188	08.7		51.2
10	176	38.3	16	48.9		42.7	324	35.5		45.2	136	02.9		15.8	203	11.2		51.2
11	191	40.7	31	49.0	+7	42.1	339	36.3	-12	45.8	151	05.6	+14	15.7	218	13.8	-12	51.2
12	206	43.2	46	49.2	+7	41.4	354	37.2	-12	46.4	166	08.4	+14	15.6	233	16.3	-12	51.3
13	221	45.6	61	49.3		40.8	9	38.0		47.0	181	11.2		15.5	248	18.8		51.3
14	236	48.1	76	49.4		40.2	24	38.8		47.6	196	14.0		15.4	263	21.4		51.3
15	251	50.6	91	49.6		39.6	39	39.6		48.2	211	16.7		15.3	278	23.9		51.3
16	266	53.0	106	49.7		38.9	54	40.5		48.8	226	19.5		15.2	293	26.4		51.4
17	281	55.5	121	49.8	+7	38.3	69	41.3	-12	49.4	241	22.3	+14	15.1	308	29.0	-12	51.4
18	296	58.0	136	50.0	+7	37.7	84	42.1	-12	50.0	256	25.0	+14	15.0	323	31.5	-12	51.4
19	312	00.4	151	50.1		37.0	99	43.0		50.6	271	27.8		14.9	338	34.0		51.4
20	327	02.9	166	50.2		36.4	114	43.8		51.2	286	30.6		14.8	353	36.6		51.4
21	342	05.4	181	50.3		35.8	129	44.6		51.8	301	33.3		14.7	8	39.1		51.5
22	357	07.8	196	50.5		35.1	144	45.4		52.4	316	36.1		14.6	23	41.6		51.5
23	12	10.3	211	50.6		34.5	159	46.3		53.0	331	38.9		14.5	38	44.2		51.5
24	27	12.8	226	50.7	+7	33.8	174	47.1	-12	53.6	346	41.6	+14	14.4	53	46.7	-12	51.5
Dif	—		+1		-6		+8		-6		+28		-1		+25		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: 4.3 ^d SD: 15/6 PMG: 15 ^h 43 ^m PHE { 4 ^h : 57/3 12 ^h : 57/5 20 ^h : 57/7 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	
0	183	43.4	-9	48.2	133	24.7		-26	43.3	60 N	16 41	17 23	18 11	14 05	72	17 16	54		
1	198	43.5		49.1	147	50.5	68		48.8	55	58	46	26	11	13 29	68	17 53	56	
2	213	43.6		50.0	162	16.3	67		54.2	54	56	50	28	11	13 03	67	18 19	58	
3	228	43.8		50.9	176	42.0	67	-26	59.4	52	54	54	30	11	12 42	66	40	58	
4	243	43.9		51.8	191	07.6	66	-27	04.5	51	52	16 58	32	12	25 65	18 57	59		
5	258	44.0	-9	52.8	205	33.1	65	-27	09.4	49	50	17 02	17 34	18 12	12 10	65	19 12	59	
6	273	44.1	-9	53.7	219	58.6	65	-27	14.1	47	45	17 09	17 39	18 13	11 41	63	19 42	60	
7	288	44.2		54.6	234	23.9	63		18.7	46	40	15	43	14	11 17	63	20 06	60	
8	303	44.3		55.5	248	49.2	63		23.1	44	35	21	46	16	10 58	63	25	60	
9	318	44.5		56.4	263	14.4	62		27.4	43	30	25	50	17	42 62	20 42	60		
10	333	44.6		57.3	277	39.6	62		31.5	41	20	34	17 56	22	10 14	61	21 10	60	
11	348	44.7	-9	58.2	292	04.7	61	-27	35.5	40	10 N	17 41	18 03	18 27	9 51	60	21 34	60	
12	3	44.8	-9	59.1	306	29.7	60	-27	39.2	37	0	17 48	18 09	18 34	9 29	59	21 57	60	
13	18	44.9	-10	00.0	320	54.6	59		42.8	36	10 S	17 56	17	42	9 07	58	22 19	60	
14	33	45.0	-10	00.9	335	19.5	59		46.3	35	20	18 03	26	18 52	8 43	58	22 44	59	
15	48	45.1		01.8	349	44.3	58		49.6	33	30	12	37	19 06	16 57	23 12	59		
16	63	45.3		02.7	4	09.0	57		52.7	31	35	18	44	15	8 00	56	28	60	
17	78	45.4	-10	03.6	18	33.7	57	-27	55.6	29	40	18 24	18 52	19 26	7 42	54	23 48	59	
18	93	45.5	-10	04.5	32	58.3	56	-27	58.4	28	45	18 31	19 02	19 39	7 20	53	** ** *		
19	108	45.6		05.4	47	22.9	56	-28	01.0	26	50	39	14	19 56	6 51	51	** ** *		
20	123	45.7		06.3	61	47.4	55		03.4	24	52	43	19	20 04	38 49	** ** *			
21	138	45.8		07.2	76	11.9	55		05.7	23	54	48	26	14	22 48	0 00	74		
22	153	45.9		08.1	90	36.3	54		07.7	20	56	52	33	25	6 03	45	19 76		
23	168	46.1		09.0	105	00.7	54		09.6	19	58	18 58	41	38	5 40	42	0 42	80	
24	183	46.2	-10	09.9	119	25.0	53	-28	11.4	18	60 S	19 04	19 51	20 53	5 10	34	1 11	89	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 07.5 ^m		Mag: -4.5 PMG: 8 ^h 53 ^m		Mag: +1.6 PMG: 12 ^h 20 ^m		Mag: -2.9 PMG: 0 ^h 53 ^m		Mag: +0.7 PMG: 20 ^h 21 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	/	°	/	°	/	°	/	°	/								
0	27	12.8	226	50.7	+7	33.8	174	47.1	-12	53.6	346	41.6	+14	14.4	53	46.7	-12	51.5
1	42	15.2	241	50.8		33.2	189	47.9		54.2	1	44.4		14.3	68	49.2		51.5
2	57	17.7	256	51.0		32.6	204	48.8		54.8	16	47.2		14.3	83	51.8		51.6
3	72	20.1	271	51.1		31.9	219	49.6		55.3	31	50.0		14.2	98	54.3		51.6
4	87	22.6	286	51.2		31.3	234	50.4		55.9	46	52.7		14.1	113	56.8		51.6
5	102	25.1	301	51.3	+7	30.6	249	51.2	-12	56.5	61	55.5	+14	14.0	128	59.3	-12	51.6
6	117	27.5	316	51.5	+7	30.0	264	52.1	-12	57.1	76	58.3	+14	13.9	144	01.9	-12	51.6
7	132	30.0	331	51.6		29.4	279	52.9		57.7	92	01.0		13.8	159	04.4		51.7
8	147	32.5	346	51.7		28.7	294	53.7		58.3	107	03.8		13.7	174	06.9		51.7
9	162	34.9	1	51.8		28.1	309	54.5		58.9	122	06.6		13.6	189	09.5		51.7
10	177	37.4	16	51.9		27.4	324	55.4	-12	59.5	137	09.3		13.5	204	12.0		51.7
11	192	39.9	31	52.1	+7	26.8	339	56.2	-13	00.1	152	12.1	+14	13.4	219	14.5	-12	51.7
12	207	42.3	46	52.2	+7	26.1	354	57.0	-13	00.7	167	14.9	+14	13.3	234	17.1	-12	51.8
13	222	44.8	61	52.3		25.5	9	57.8		01.3	182	17.7		13.2	249	19.6		51.8
14	237	47.3	76	52.4		24.8	24	58.7		01.9	197	20.4		13.1	264	22.1		51.8
15	252	49.7	91	52.5		24.2	39	59.5		02.5	212	23.2		13.0	279	24.6		51.8
16	267	52.2	106	52.6		23.5	55	00.3		03.1	227	26.0		12.9	294	27.2		51.8
17	282	54.6	121	52.8	+7	22.9	70	01.1	-13	03.7	242	28.8	+14	12.8	309	29.7	-12	51.9
18	297	57.1	136	52.9	+7	22.2	85	01.9	-13	04.2	257	31.5	+14	12.7	324	32.2	-12	51.9
19	312	59.6	151	53.0		21.6	100	02.8		04.8	272	34.3		12.6	339	34.8		51.9
20	328	02.0	166	53.1		20.9	115	03.6		05.4	287	37.1		12.5	354	37.3		51.9
21	343	04.5	181	53.2		20.3	130	04.4		06.0	302	39.8		12.4	9	39.8		51.9
22	358	07.0	196	53.3		19.6	145	05.2		06.6	317	42.6		12.3	24	42.3		52.0
23	13	09.4	211	53.4		19.0	160	06.1		07.2	332	45.4		12.3	39	44.9		52.0
24	28	11.9	226	53.5	+7	18.3	175	06.9	-13	07.8	347	48.2	+14	12.2	54	47.4	-12	52.0
Dif	—		+1		-6		+8		-6		+28		-1		+25			

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16 ^h 1 PMG: 11 ^h 44.8 ^m			Edad: 5.3 ^d SD: 15 ^h 7 PMG: 16 ^h 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	183	46.2	-10	09.9	119	25.0	52	-28	11.4	15	60 N	5 20	6 08	6 51	15 17	30	18 10	96
1	198	46.3		10.8	133	49.2	53		12.9	14	58	20	05	46	14 37	40	18 49	86
2	213	46.4		11.7	148	13.5	51		14.3	12	56	20	03	41	14 10	44	19 17	81
3	228	46.5		12.6	162	37.6	52		15.5	10	54	19	6 01	37	13 48	47	38	78
4	243	46.6		13.5	177	01.8	51		16.5	9	52	19	5 58	33	30 49	19 56	76	
5	258	46.7	-10	14.4	191	25.9	51	-28	17.4	7	50	5 19	5 56	6 29	13 15	50	20 11	75
6	273	46.8	-10	15.3	205	49.9	50	-28	18.1	5	45	5 18	5 52	6 22	12 44	53	20 42	71
7	288	46.9		16.2	220	14.0	51		18.6	3	40	16	48	15	20 55	53	21 06	69
8	303	47.0		17.1	234	38.0	50		18.9	1	35	15	44	10	12 01	55	25	68
9	318	47.2		18.0	249	01.9	49		19.0	1	30	13	41	6 05	11 44	56	21 42	66
10	333	47.3		18.9	263	25.9	50		18.9	2	20	08	34	5 56	11 15	58	22 10	64
11	348	47.4	-10	19.8	277	49.8	49	-28	18.7	4	10 N	5 03	5 27	5 49	10 51	59	22 34	62
12	3	47.5	-10	20.7	292	13.7	49	-28	18.3	6	0	4 56	5 20	5 41	10 28	60	22 57	60
13	18	47.6		21.6	306	37.6	48		17.7	7	10 S	48	13	34	10 05	62	23 19	58
14	33	47.7		22.5	321	01.4	48		17.0	10	20	37	5 04	26	9 41	62	23 43	56
15	48	47.8		23.4	335	25.3	48		16.0	11	30	23	4 52	17	9 13	63	** ** *	**
16	63	47.9		24.3	349	49.1	48		14.9	14	35	15	46	12	8 56	64	** ** *	**
17	78	48.0	-10	25.1	4	12.9	48	-28	13.5	15	40	4 04	4 37	5 06	8 36	65	** ** *	**
18	93	48.1	-10	26.0	18	36.7	48	-28	12.0	16	45	3 50	4 28	4 58	8 13	65	0 11	59
19	108	48.2		26.9	33	00.5	48		10.4	19	50	33	15	50	7 42	67	42	57
20	123	48.3		27.8	47	24.3	48		08.5	20	52	25	10	46	27	68	0 57	57
21	138	48.5		28.7	61	48.1	48		06.5	23	54	15	4 03	41	7 10	68	1 14	57
22	153	48.6		29.6	76	11.9	48		04.2	24	56	3 04	3 56	36	6 48	71	1 35	56
23	168	48.7		30.5	90	35.7	48	-28	01.8	26	58	2 51	48	31	6 22	72	2 02	54
24	183	48.8	-10	31.4	104	59.4	47	-27	59.2		60 S	2 36	3 38	4 25	5 44	76	2 40	49

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 22 ^h 03.6 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.6 PMG: 12 ^h 19 ^m		Mag: -2.9 PMG: 0 ^h 49 ^m		Mag: +0.7 PMG: 20 ^h 17 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	28	11.9	226	53.5	+7	18.3	175	06.9	-13	07.8	347	48.2	+14	12.2	54	47.4	-12	52.0
1	43	14.4	241	53.7		17.7	190	07.7		08.4	2	50.9		12.1	69	49.9		52.0
2	58	16.8	256	53.8		17.0	205	08.5		09.0	17	53.7		12.0	84	52.4		52.0
3	73	19.3	271	53.9		16.3	220	09.3		09.6	32	56.5		11.9	99	55.0		52.1
4	88	21.8	286	54.0		15.7	235	10.2		10.2	47	59.3		11.8	114	57.5		52.1
5	103	24.2	301	54.1	+7	15.0	250	11.0	-13	10.8	63	02.0	+14	11.7	130	00.0	-12	52.1
6	118	26.7	316	54.2	+7	14.4	265	11.8	-13	11.3	78	04.8	+14	11.6	145	02.6	-12	52.1
7	133	29.1	331	54.3		13.7	280	12.6		11.9	93	07.6		11.5	160	05.1		52.1
8	148	31.6	346	54.4		13.0	295	13.4		12.5	108	10.4		11.4	175	07.6		52.2
9	163	34.1	1	54.5		12.4	310	14.3		13.1	123	13.1		11.3	190	10.1		52.2
10	178	36.5	16	54.6		11.7	325	15.1		13.7	138	15.9		11.2	205	12.7		52.2
11	193	39.0	31	54.7	+7	11.1	340	15.9	-13	14.3	153	18.7	+14	11.1	220	15.2	-12	52.2
12	208	41.5	46	54.8	+7	10.4	355	16.7	-13	14.9	168	21.5	+14	11.0	235	17.7	-12	52.2
13	223	43.9	61	54.9		09.7	10	17.5		15.5	183	24.2		10.9	250	20.2		52.2
14	238	46.4	76	55.0		09.1	25	18.4		16.1	198	27.0		10.8	265	22.8		52.3
15	253	48.9	91	55.1		08.4	40	19.2		16.6	213	29.8		10.7	280	25.3		52.3
16	268	51.3	106	55.2		07.7	55	20.0		17.2	228	32.6		10.6	295	27.8		52.3
17	283	53.8	121	55.3	+7	07.1	70	20.8	-13	17.8	243	35.3	+14	10.5	310	30.3	-12	52.3
18	298	56.2	136	55.4	+7	06.4	85	21.6	-13	18.4	258	38.1	+14	10.4	325	32.9	-12	52.3
19	313	58.7	151	55.5		05.7	100	22.4		19.0	273	40.9		10.3	340	35.4		52.4
20	329	01.2	166	55.6		05.0	115	23.3		19.6	288	43.7		10.2	355	37.9		52.4
21	344	03.6	181	55.7		04.4	130	24.1		20.2	303	46.4		10.1	10	40.4		52.4
22	359	06.1	196	55.8		03.7	145	24.9		20.8	318	49.2		10.0	25	43.0		52.4
23	14	08.6	211	55.9		03.0	160	25.7		21.4	333	52.0		09.9	40	45.5		52.4
24	29	11.0	226	56.0	+7	02.4	175	26.5	-13	21.9	348	54.8	+14	09.8	55	48.0	-12	52.4
Dif	—		+1		-7		+8		-6		+28		-1		+25		0	

UT	SOL		 LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/1 PMG: 11 ^h 44.7 ^m		Edad: 6.3 ^d SD: 15/9 PMG: 17 ^h 43 ^m		PHE { 4 ^h : 58/4 12 ^h : 58/6 20 ^h : 58/7 R°: 58 ^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	183 48.8	-10 31.4	104 59.4	-27 59.2	28 58	60 N	16 35	17 18	18 06	15 47	10	19 46	112	
1	198 48.9	32.3	119 23.2	48 56.4	29 58	58	40	21	06	15 17	20	20 15	102	
2	213 49.0	33.2	133 47.0	48 53.5	31 56	56	45	24	07	14 54	26	38	96	
3	228 49.1	34.1	148 10.8	49 50.4	34 54	54	50	26	07	35	30	20	56	
4	243 49.2	35.0	162 34.7	48 47.0	34 52	52	54	28	08	19	34	21	12	
5	258 49.3	-10 35.9	176 58.5	-27 43.5	35 50	50	16 58	17 31	18 08	14 05	37	21	26	
6	273 49.4	-10 36.8	191 22.3	-27 39.8	37 45	45	17 06	17 35	18 10	13 37	41	21	53	
7	288 49.5	37.7	205 46.2	49 36.0	38 40	40	12	40	11	13 15	45	22	15	
8	303 49.6	38.5	220 10.1	49 31.9	41 35	35	18	44	13	12 56	48	33	71	
9	318 49.7	39.4	234 34.0	49 27.7	42 30	30	23	48	16	40	50	22	48	
10	333 49.8	40.3	248 57.9	50 23.3	44 20	20	32	17 55	20	12 13	54	23	14	
11	348 49.9	-10 41.2	263 21.9	-27 18.7	46 10 N	10 N	17 40	18 02	18 26	11 50	57	23	36	
12	3 50.0	-10 42.1	277 45.8	-27 14.0	47 0	0	17 48	18 09	18 34	11 28	59	23	57	
13	18 50.1	43.0	292 09.9	50 09.0	50 10 S	10 S	17 56	17	42	11 07	61	***	***	
14	33 50.2	43.9	306 33.9	-27 03.9	51 20	20	18 04	27	18 53	10 43	65	***	***	
15	48 50.3	44.8	320 58.0	-26 58.6	53 30	30	14	39	19 08	16	68	0	11	
16	63 50.4	45.7	335 22.1	51 53.1	55 35	35	20	46	17	10 00	70	28	54	
17	78 50.5	-10 46.6	349 46.2	-26 47.5	56 40	40	18 26	18 54	19 28	9 41	73	0	47	
18	93 50.6	-10 47.4	4 10.4	-26 41.6	59 45	45	18 34	19 04	19 42	9 18	76	1	10	
19	108 50.7	48.3	18 34.6	60 35.6	60 50	50	43	17	20 00	8 49	81	3	49	
20	123 50.8	49.2	32 58.9	61 29.5	61 52	52	47	23	09	35	83	1	54	
21	138 50.9	50.1	47 23.2	64 23.1	64 54	54	52	30	19	8	18	86	2	
22	153 51.0	51.0	61 47.5	65 16.6	65 56	56	18 57	38	30	7	59	89	31	
23	168 51.1	51.9	76 11.9	67 09.9	67 58	58	19 03	46	20 44	34	95	2	56	
24	183 51.2	-10 52.8	90 36.3	-26 03.0	69 60 S	60 S	19 09	19 56	21 01	7	00	106	3	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 59.7 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.6 PMG: 12 ^h 18 ^m		Mag: -2.9 PMG: 0 ^h 44 ^m		Mag: +0.7 PMG: 20 ^h 13 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	29 11.0	226 56.0	+7 02.4	175 26.5	-13 21.9	348 54.8	+14 09.8	55 48.0	-12 52.4	
1	44 13.5	241 56.1	01.7	190 27.4	22.5	3 57.5	09.7	70 50.5	52.5	
2	59 16.0	256 56.2	01.0	205 28.2	23.1	19 00.3	09.6	85 53.0	52.5	
3	74 18.4	271 56.3	+7 00.3	220 29.0	23.7	34 03.1	09.6	100 55.6	52.5	
4	89 20.9	286 56.4	+6 59.7	235 29.8	24.3	49 05.9	09.5	115 58.1	52.5	
5	104 23.4	301 56.5	+6 59.0	250 30.6	-13 24.9	64 08.7	+14 09.4	131 00.6	-12 52.5	
6	119 25.8	316 56.6	+6 58.3	265 31.4	-13 25.5	79 11.4	+14 09.3	146 03.1	-12 52.6	
7	134 28.3	331 56.7	57.6	280 32.2	26.1	94 14.2	09.2	161 05.7	52.6	
8	149 30.7	346 56.8	56.9	295 33.1	26.6	109 17.0	09.1	176 08.2	52.6	
9	164 33.2	1 56.9	56.3	310 33.9	27.2	124 19.8	09.0	191 10.7	52.6	
10	179 35.7	16 57.0	55.6	325 34.7	27.8	139 22.5	08.9	206 13.2	52.6	
11	194 38.1	31 57.0	+6 54.9	340 35.5	-13 28.4	154 25.3	+14 08.8	221 15.7	-12 52.6	
12	209 40.6	46 57.1	+6 54.2	355 36.3	-13 29.0	169 28.1	+14 08.7	236 18.3	-12 52.7	
13	224 43.1	61 57.2	53.5	10 37.1	29.6	184 30.9	08.6	251 20.8	52.7	
14	239 45.5	76 57.3	52.9	25 37.9	30.2	199 33.7	08.5	266 23.3	52.7	
15	254 48.0	91 57.4	52.2	40 38.8	30.7	214 36.4	08.4	281 25.8	52.7	
16	269 50.5	106 57.5	51.5	55 39.6	31.3	229 39.2	08.3	296 28.4	52.7	
17	284 52.9	121 57.6	+6 50.8	70 40.4	-13 31.9	244 42.0	+14 08.2	311 30.9	-12 52.7	
18	299 55.4	136 57.7	+6 50.1	85 41.2	-13 32.5	259 44.8	+14 08.1	326 33.4	-12 52.8	
19	314 57.9	151 57.7	49.4	100 42.0	33.1	274 47.5	08.0	341 35.9	52.8	
20	330 00.3	166 57.8	48.7	115 42.8	33.7	289 50.3	07.9	356 38.4	52.8	
21	345 02.8	181 57.9	48.1	130 43.6	34.3	304 53.1	07.8	11 41.0	52.8	
22	0 05.2	196 58.0	47.4	145 44.4	34.8	319 55.9	07.7	26 43.5	52.8	
23	15 07.7	211 58.1	46.7	160 45.3	35.4	334 58.7	07.6	41 46.0	52.8	
24	30 10.2	226 58.2	+6 46.0	175 46.1	-13 36.0	350 01.4	+14 07.5	56 48.5	-12 52.9	
Dif	—	+1	-7	+8	-6	+28	-1	+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 44.5 ^m			Edad: 7.3 ^d SD: 16 ^h 0 PMG: 18 ^h 41 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	183	51.2	-10	52.8	90	36.3	-26	03.0	5	24	6	13	6	56	15	57
1	198	51.3		53.7	105	00.8	-25	56.0	24	10	50		37	10	21	57
2	213	51.4		54.5	119	25.4	56	48.8	24	07	45		20	16	22	14
3	228	51.5		55.4	133	49.9	55	41.4	23	04	41		15	05	20	27
4	243	51.6		56.3	148	14.6	57	33.9	22	02	36		14	53	23	39
5	258	51.7	-10	57.2	162	39.3	57	26.1	5	22	6	00	6	33	14	42
6	273	51.8	-10	58.1	177	04.0	57	18.3	5	20	5	54	6	24	14	18
7	288	51.9		59.0	191	28.8	58	10.2	18	50	18		14	00	37	30
8	303	52.0	-10	59.8	205	53.7	59	02.0	16	46	12		13	44	40	44
9	318	52.1	-11	00.7	220	18.6	59	53.6	14	42	6	06		30	44	23
10	333	52.2		01.6	234	43.6	60	45.1	09	35	5	57		13	07	48
11	348	52.3	-11	02.5	249	08.6	60	36.4	5	03	5	49		12	47	52
12	3	52.4	-11	03.4	263	33.7	61	27.6	4	56	5	20	5	41	12	27
13	18	52.5		04.3	277	58.9	62	18.6	47	12	33		12	08	61	0
14	33	52.6		05.2	292	24.1	62	09.4	36	5	02	25		11	48	64
15	48	52.7		06.0	306	49.4	63	00.1	21	4	50	15		24	70	1
16	63	52.8		06.9	321	14.8	64	50.6	12	43	09		11	10	73	19
17	78	52.8	-11	07.8	335	40.2	64	40.9	4	01	4	34	5	03	10	54
18	93	52.9	-11	08.7	350	05.7	65	31.1	3	46	4	24	4	55	10	34
19	108	53.0		09.6	4	31.3	66	21.2	28	11	46		10	10	86	2
20	123	53.1		10.4	18	56.9	66	11.1	20	4	05	42		9	58	89
21	138	53.2		11.3	33	22.6	67	00.9	3	10	3	58	37		44	93
22	153	53.3		12.2	47	48.4	68	50.5	2	58	51		32		28	98
23	168	53.4		13.1	62	14.2	68	39.9	44	42	26		9	09	104	24
24	183	53.5	-11	14.0	76	40.1	69	29.3	2	28	3	32	4	19	8	46

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG: 21 ^h 55.7 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.6 PMG: 12 ^h 16 ^m		Mag: -2.9 PMG: 0 ^h 40 ^m		Mag: +0.7 PMG: 20 ^h 09 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	30	10.2	226	58.2	+6	46.0	175	46.1	-13	36.0	350	01.4	+14	07.5	56	48.5	-12	52.9	
1	45	12.6	241	58.2		45.3	190	46.9		36.6	5	04.2		07.4	71	51.0		52.9	
2	60	15.1	256	58.3		44.6	205	47.7		37.2	20	07.0		07.3	86	53.6		52.9	
3	75	17.6	271	58.4		43.9	220	48.5		37.8	35	09.8		07.2	101	56.1		52.9	
4	90	20.0	286	58.5		43.2	235	49.3		38.3	50	12.6		07.1	116	58.6		52.9	
5	105	22.5	301	58.6	+6	42.5	250	50.1	-13	38.9	65	15.3	+14	07.0	132	01.1	-12	52.9	
6	120	25.0	316	58.6	+6	41.8	265	50.9	-13	39.5	80	18.1	+14	06.9	147	03.6	-12	52.9	
7	135	27.4	331	58.7		41.1	280	51.7		40.1	95	20.9		06.8	162	06.1		53.0	
8	150	29.9	346	58.8		40.4	295	52.6		40.7	110	23.7		06.7	177	08.7		53.0	
9	165	32.4	1	58.9		39.7	310	53.4		41.3	125	26.5		06.6	192	11.2		53.0	
10	180	34.8	16	59.0		39.0	325	54.2		41.8	140	29.3		06.5	207	13.7		53.0	
11	195	37.3	31	59.0	+6	38.3	340	55.0	-13	42.4	155	32.0	+14	06.4	222	16.2	-12	53.0	
12	210	39.7	46	59.1	+6	37.6	355	55.8	-13	43.0	170	34.8	+14	06.3	237	18.7	-12	53.0	
13	225	42.2	61	59.2		36.9	10	56.6		43.6	185	37.6		06.2	252	21.3		53.1	
14	240	44.7	76	59.3		36.2	25	57.4		44.2	200	40.4		06.1	267	23.8		53.1	
15	255	47.1	91	59.3		35.5	40	58.2		44.8	215	43.2		06.0	282	26.3		53.1	
16	270	49.6	106	59.4		34.8	55	59.0		45.3	230	45.9		05.9	297	28.8		53.1	
17	285	52.1	121	59.5	+6	34.1	70	59.8	-13	45.9	245	48.7	+14	05.8	312	31.3	-12	53.1	
18	300	54.5	136	59.5	+6	33.4	86	00.6	-13	46.5	260	51.5	+14	05.7	327	33.8	-12	53.1	
19	315	57.0	151	59.6		32.7	101	01.4		47.1	275	54.3		05.6	342	36.4		53.1	
20	330	59.5	166	59.7		32.0	116	02.2		47.7	290	57.1		05.5	357	38.9		53.2	
21	346	01.9	181	59.8		31.3	131	03.1		48.2	305	59.8		05.4	12	41.4		53.2	
22	1	04.4	196	59.8		30.6	146	03.9		48.8	321	02.6		05.3	27	43.9		53.2	
23	16	06.9	211	59.9		29.9	161	04.7		49.4	336	05.4		05.3	42	46.4		53.2	
24	31	09.3	227	00.0	+6	29.2	176	05.5	-13	50.0	351	08.2	+14	05.2	57	48.9	-12	53.2	
Dif	—		+1	-7			+8	-6			+28	-1			+25				

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16'1 PMG: 11 ^h 44.4 ^m				Edad: 8.3 ^d SD: 16'1 PMG: 19 ^h 37 ^m PHE { 4 ^h : 59'4 12 ^h : 59'5 20 ^h : 59'6 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	h m	m
0	183	53.5	-11	14.0	76	40.1	70	-22	29.3	109	60 N	16 29	17 12	18 01	16 00	1	23 30	108	
1	198	53.6		14.8	91	06.1	70		18.4	109	58	35	16	02	15 47	6	42	103	
2	213	53.7		15.7	105	32.1	72	-22	07.5	111	56	41	19	02	36 10		23 53	98	
3	228	53.8		16.6	119	58.3	72	-21	56.4	111	54	45	22	03	25 15	**	**	**	
4	243	53.9		17.5	134	24.4	71		45.1	113	52	50	24	04	16 18	**	**	**	
5	258	54.0	-11	18.4	148	50.7	73	-21	33.7	114	50	16 54	17 27	18 04	15 08	20	**	**	
6	273	54.0	-11	19.2	163	17.0	73	-21	22.2	115	45	17 02	17 32	18 07	14 51	26	**	**	
7	288	54.1		20.1	177	43.5	75	-21	10.5	117	40	10	37	09	37 30		**	**	
8	303	54.2		21.0	192	09.9	74	-20	58.7	118	35	16	42	11	24 35		**	**	
9	318	54.3		21.9	206	36.5	76		46.8	119	30	21	46	14	14 14	38	**	**	
10	333	54.4		22.7	221	03.1	76		34.7	121	20	31	17 53	19	13 55	44	0 19	64	
11	348	54.5	-11	23.6	235	29.8	77	-20	22.6	121	10 N	17 40	18 01	18 26	13 39	49	0 37	60	
12	3	54.6	-11	24.5	249	56.6	78	-20	10.2	124	0	17 48	18 09	18 33	13 24	53	0 55	55	
13	18	54.7		25.4	264	23.4	78	-19	57.8	124	10 S	17 56	17	43	13 09	58	1 12	51	
14	33	54.8		26.2	278	50.3	79		45.2	126	20	18 05	28	18 54	12 52	64	30	46	
15	48	54.8		27.1	293	17.3	80		32.5	127	30	15	40	19 09	34 69		1 51	41	
16	63	54.9		28.0	307	44.4	81		19.7	128	35	21	48	19	23 72		2 03	38	
17	78	55.0	-11	28.9	322	11.5	81	-19	06.8	129	40	18 28	18 57	19 31	12 10	76	2 17	34	
18	93	55.1	-11	29.7	336	38.7	82	-18	53.7	131	45	18 36	19 07	19 45	11 55	81	2 34	28	
19	108	55.2		30.6	351	06.0	83		40.5	132	50	46	21	20 04	36 88		2 54	23	
20	123	55.3		31.5	5	33.3	83		27.2	133	52	50	27	13	27 91		3 03	20	
21	138	55.4		32.4	20	00.8	85		13.8	134	54	18 55	34	24	17 95		14	17	
22	153	55.4		33.2	34	28.3	85	-18	00.3	135	56	19 01	42	36	11 06	99	26	13	
23	168	55.5		34.1	48	55.8	85	-17	46.6	137	58	07	19 52	20 51	10 53	104	39	9	
24	183	55.6	-11	35.0	63	23.4	86	-17	32.9	137	60 S	19 14	20 02	21 09	10 38	110	3 55	3	
UT	ARIES PMG 21 ^h 51.8 ^m		VENUS Mag: -4.5 PMG: 8 ^h 52 ^m		MARTE Mag: +1.6 PMG: 12 ^h 15 ^m		JÚPITER Mag: -2.9 PMG: 0 ^h 35 ^m		SATURNO Mag: +0.7 PMG: 20 ^h 05 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	'	°	'	°	'	°	'	°	'									
0	31	09.3	227	00.0	+6	29.2	176	05.5	-13	50.0									
1	46	11.8	242	00.0		28.5	191	06.3		50.6									
2	61	14.2	257	00.1		27.8	206	07.1		51.1									
3	76	16.7	272	00.2		27.1	221	07.9		51.7									
4	91	19.2	287	00.2		26.4	236	08.7		52.3									
5	106	21.6	302	00.3	+6	25.7	251	09.5	-13	52.9									
6	121	24.1	317	00.4	+6	24.9	266	10.3	-13	53.5									
7	136	26.6	332	00.4		24.2	281	11.1		54.0									
8	151	29.0	347	00.5		23.5	296	11.9		54.6									
9	166	31.5	2	00.6		22.8	311	12.7		55.2									
10	181	34.0	17	00.6		22.1	326	13.5		55.8									
11	196	36.4	32	00.7	+6	21.4	341	14.3	-13	56.4									
12	211	38.9	47	00.7	+6	20.7	356	15.1	-13	56.9									
13	226	41.3	62	00.8		19.9	11	15.9		57.5									
14	241	43.8	77	00.9		19.2	26	16.7		58.1									
15	256	46.3	92	00.9		18.5	41	17.5		58.7									
16	271	48.7	107	01.0		17.8	56	18.3		59.2									
17	286	51.2	122	01.1	+6	17.1	71	19.1	-13	59.8									
18	301	53.7	137	01.1	+6	16.3	86	20.0	-14	00.4									
19	316	56.1	152	01.2		15.6	101	20.8		01.0									
20	331	58.6	167	01.2		14.9	116	21.6		01.6									
21	347	01.1	182	01.3		14.2	131	22.4		02.1									
22	2	03.5	197	01.3		13.5	146	23.2		02.7									
23	17	06.0	212	01.4		12.7	161	24.0		03.3									
24	32	08.5	227	01.5	+6	12.0	176	24.8	-14	03.9									
Dif	—		+1		-7		+8		-6										
							+28		-1										
									+25	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: 9.3 ^d SD: 16'3 PMG: 20 ^h 30 ^m																		
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m				
0	183	55.6	-11	35.0	63	23.4	87	-17	32.9	139	60 N	5	29	6	17	7	01	16	01	0			
1	198	55.7		35.9	77	51.1	88		19.0	139	58	28	14	6	55	15	53	4					
2	213	55.8		36.7	92	18.9	88	-17	05.1	141	56	27	11		49	46	8						
3	228	55.9		37.6	106	46.7	88	-16	51.0	142	54	27	08	44	40	11	0	02	94				
4	243	56.0		38.5	121	14.7	90		36.8	142	52	26	05	40	34	14		10	91				
5	258	56.0	-11	39.3	135	42.6	89	-16	22.6	142	50	5	25	6	03	6	36	15	28	17			
6	273	56.1	-11	40.2	150	10.7	91	-16	08.2	144	45	5	23	5	57	6	27	15	17	22			
7	288	56.2		41.1	164	38.8	91	-15	53.7	145	40	20	52	20	15	07	27	46	77				
8	303	56.3		42.0	179	06.9	91		39.1	146	35	18	48	13	14	59	31	0	57	72			
9	318	56.4		42.8	193	35.2	93		24.5	146	30	15	43	6	08	52	34	1	07	68			
10	333	56.4		43.7	208	03.5	93	-15	09.7	148	20	10	35	5	58	39	41	23	62				
11	348	56.5	-11	44.6	222	31.8	93	-14	54.9	148	10 N	5	03	5	28	14	28	46	1	37	57		
12	3	56.6	-11	45.4	237	00.2	94	-14	39.9	150	0	4	55	5	20	5	41	14	17	51			
13	18	56.7		46.3	251	28.7	95		24.9	150	10 S	46	11	32	14	07	56	2	03	47			
14	33	56.8		47.2	265	57.3	96	-14	09.7	152	20	34	5	01	23	13	56	61		16	42		
15	48	56.9		48.0	280	25.9	96	-13	54.5	152	30	19	4	48	13	43	67		32	36			
16	63	56.9		48.9	294	54.6	97		39.2	153	35	4	09	40	07	35	72		41	32			
17	78	57.0	-11	49.8	309	23.3	97	-13	23.9	153	40	3	57	4	31	5	00	13	26	76			
18	93	57.1	-11	50.6	323	52.1	98	-13	08.4	155	45	3	43	4	21	4	52	13	16	81			
19	108	57.2		51.5	338	20.9	98	-12	52.9	155	50	24	07	42	13	04	87		17	18			
20	123	57.3		52.4	352	49.8	99		37.3	156	52	14	4	01	37	12	58	90		23	16		
21	138	57.3		53.2	7	18.7	99		21.6	157	54	3	04	3	53	32	52	93		31	12		
22	153	57.4		54.1	21	47.7	100	-12	05.8	158	56	2	51	45	27	45	96		39	9			
23	168	57.5		55.0	36	16.8	101	-11	50.0	158	58	37	36		20	37	101		48	5			
24	183	57.6	-11	55.8	50	45.9	101	-11	34.1	159	60 S	2	19	3	25	4	13	12	28	105	3	58	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 47.9 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.6 PMG: 12 ^h 14 ^m		Mag: -2.9 PMG: 0 ^h 31 ^m		Mag: +0.7 PMG: 20 ^h 01 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♀	
h	°	'	°	'	°	'	°	'	°	'
0	32	08.5	227	01.5	+6	12.0	176	24.8	-14	03.9
1	47	10.9	242	01.5		11.3	191	25.6		04.4
2	62	13.4	257	01.6		10.6	206	26.4		05.0
3	77	15.8	272	01.6		09.8	221	27.2		05.6
4	92	18.3	287	01.7		09.1	236	28.0		06.2
5	107	20.8	302	01.7	+6	08.4	251	28.8	-14	06.7
6	122	23.2	317	01.8	+6	07.7	266	29.6	-14	07.3
7	137	25.7	332	01.8		06.9	281	30.4		07.9
8	152	28.2	347	01.9		06.2	296	31.2		08.5
9	167	30.6	2	01.9		05.5	311	32.0		09.0
10	182	33.1	17	02.0		04.7	326	32.8		09.6
11	197	35.6	32	02.0	+6	04.0	341	33.6	-14	10.2
12	212	38.0	47	02.1	+6	03.3	356	34.4	-14	10.8
13	227	40.5	62	02.1		02.5	11	35.2		11.3
14	242	43.0	77	02.2		01.8	26	35.9		11.9
15	257	45.4	92	02.2		01.1	41	36.7		12.5
16	272	47.9	107	02.3	+6	00.3	56	37.5		13.1
17	287	50.3	122	02.3	+5	59.6	71	38.3	-14	13.6
18	302	52.8	137	02.4	+5	58.9	86	39.1	-14	14.2
19	317	55.3	152	02.4		58.1	101	39.9		14.8
20	332	57.7	167	02.5		57.4	116	40.7		15.4
21	348	00.2	182	02.5		56.7	131	41.5		15.9
22	3	02.7	197	02.6		55.9	146	42.3		16.5
23	18	05.1	212	02.6		55.2	161	43.1		17.1
24	33	07.6	227	02.6	+5	54.4	176	43.9	-14	17.6
Dif	—		0		-7		+8		-6	
							+28		-1	
									+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 44.1 ^m			Edad: 10.3 ^d SD: 16 ^h 3 PMG: 21 ^h 20 ^m															
				PHE { 4 ^h : 60 ^h 0 12 ^h : 60 ^h 1 20 ^h : 60 ^h 1 Rº: 49 ^m															
	hG ☉	Dec		hG ☾	Dif		Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº			
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m		h m m				
0	183	57.6	-11	55.8	50	45.9	-11	34.1	60 N	16 24	17 07	17 56	16 01 0		1 18 104				
1	198	57.6		56.7	65	15.1		18.1	58	30	11	57	15 57 4		25 99				
2	213	57.7		57.6	79	44.3	-11	02.0	56	36	14	58	54 6		31 96				
3	228	57.8		58.4	94	13.5	-10	45.9	54	41	18	59	51 9		36 92				
4	243	57.9	-11	59.3	108	42.9		29.8	52	46	21	00	48 12		41 89				
5	258	57.9	-12	00.1	123	12.2	-10	13.5	50	16 50	17 23	18 01	15 45 15		1 45 87				
6	273	58.0	-12	01.0	137	41.6	-9	57.2	45	16 59	17 29	18 04	15 39 20		1 55 80				
7	288	58.1		01.9	152	11.1		40.9	40	17 07	35	06	34 25		2 03 75				
8	303	58.2		02.7	166	40.5		24.4	35	14	39	09	30 29		09 71				
9	318	58.2		03.6	181	10.1	-9	08.0	30	19	44	12	26 33		15 67				
10	333	58.3		04.5	195	39.7	-8	51.4	20	30	17 52	18	20 38		25 61				
11	348	58.4	-12	05.3	210	09.3	-8	34.9	10 N	17 39	18 00	18 25	15 14 44		2 34 55				
12	3	58.5	-12	06.2	224	38.9	-8	18.2	0	17 47	18 09	18 33	15 08 50		2 42 50				
13	18	58.5		07.0	239	08.6	-8	01.6	10 S	17 56	18	43	15 03 55		50 45				
14	33	58.6		07.9	253	38.3	-7	44.8	20	18 06	28	18 55	14 57 60		2 58 40				
15	48	58.7		08.8	268	08.1		28.1	30	17	42	19 11	50 67		3 08 33				
16	63	58.8		09.6	282	37.9	-7	11.3	35	23	50	21	47 70		13 30				
17	78	58.8	-12	10.5	297	07.8	-6	54.4	40	18 30	18 59	19 33	14 42 75		3 19 26				
18	93	58.9	-12	11.3	311	37.6	-6	37.5	45	18 39	19 10	19 49	14 37 80		3 26 22				
19	108	59.0		12.2	326	07.5		20.6	50	49	24	20 08	31 86		35 15				
20	123	59.1		13.1	340	37.4	-6	03.6	52	54	31	18	28 89		39 13				
21	138	59.1		13.9	355	07.4	-5	46.6	54	18 59	39	29	25 91		43 10				
22	153	59.2		14.8	9	37.4		29.6	56	19 05	47	42	21 95		48 7				
23	168	59.3		15.6	24	07.4	-5	12.5	58	12	19 57	20 58	18 98		53 4				
24	183	59.3	-12	16.5	38	37.4	-4	55.4	60 S	19 20	20 08	21 17	14 13 103		3 59 **				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 21 ^h 43.9 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m			Mag: +1.6 PMG: 12 ^h 12 ^m			Mag: -2.9 PMG: 0 ^h 26 ^m			Mag: +0.7 PMG: 19 ^h 57 ^m							
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	33	07.6	227	02.6	+5	54.4	176	43.9	-14	17.6	353	21.9	+14	00.4	59	49.5	-12	53.9	
1	48	10.1	242	02.7		53.7	191	44.7		18.2	8	24.7		00.3	74	52.0		53.9	
2	63	12.5	257	02.7		53.0	206	45.5		18.8	23	27.5		00.2	89	54.5		53.9	
3	78	15.0	272	02.8		52.2	221	46.3		19.4	38	30.2	+14	00.1	104	57.0		53.9	
4	93	17.4	287	02.8		51.5	236	47.1		19.9	53	33.0	+14	00.0	119	59.5		53.9	
5	108	19.9	302	02.9	+5	50.7	251	47.9	-14	20.5	68	35.8	+13	59.9	135	02.0	-12	53.9	
6	123	22.4	317	02.9	+5	50.0	266	48.7	-14	21.1	83	38.6	+13	59.8	150	04.5	-12	53.9	
7	138	24.8	332	02.9		49.2	281	49.5		21.6	98	41.4		59.7	165	07.0		53.9	
8	153	27.3	347	03.0		48.5	296	50.3		22.2	113	44.2		59.6	180	09.6		53.9	
9	168	29.8	2	03.0		47.7	311	51.1		22.8	128	47.0		59.5	195	12.1		54.0	
10	183	32.2	17	03.1		47.0	326	51.9		23.4	143	49.8		59.4	210	14.6		54.0	
11	198	34.7	32	03.1	+5	46.3	341	52.7	-14	23.9	158	52.6	+13	59.3	225	17.1	-12	54.0	
12	213	37.2	47	03.1	+5	45.5	356	53.4	-14	24.5	173	55.3	+13	59.2	240	19.6	-12	54.0	
13	228	39.6	62	03.2		44.8	11	54.2		25.1	188	58.1		59.1	255	22.1		54.0	
14	243	42.1	77	03.2		44.0	26	55.0		25.6	204	00.9		59.0	270	24.6		54.0	
15	258	44.6	92	03.2		43.3	41	55.8		26.2	219	03.7		58.9	285	27.1		54.0	
16	273	47.0	107	03.3		42.5	56	56.6		26.8	234	06.5		58.8	300	29.6		54.0	
17	288	49.5	122	03.3	+5	41.8	71	57.4	-14	27.3	249	09.3	+13	58.7	315	32.1	-12	54.0	
18	303	51.9	137	03.3	+5	41.0	86	58.2	-14	27.9	264	12.1	+13	58.6	330	34.6	-12	54.1	
19	318	54.4	152	03.4		40.2	101	59.0		28.5	279	14.9		58.5	345	37.1		54.1	
20	333	56.9	167	03.4		39.5	116	59.8		29.1	294	17.7		58.4	0	39.6		54.1	
21	348	59.3	182	03.4		38.7	132	00.6		29.6	309	20.4		58.3	15	42.1		54.1	
22	4	01.8	197	03.5		38.0	147	01.4		30.2	324	23.2		58.2	30	44.6		54.1	
23	19	04.3	212	03.5		37.2	162	02.2		30.8	339	26.0		58.1	45	47.1		54.1	
24	34	06.7	227	03.5	+5	36.5	177	02.9	-14	31.3	354	28.8	+13	58.0	60	49.6	-12	54.1	
Dif	—		0			-7		+8		-6		+28		-1		+25			

UT	SOL				☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna							
	SD: 16 ^h 1 PMG: 11 ^h 44.0 ^m				Edad: 11.3 ^d PHE { 4 ^h : 60 ^h 1 12 ^h : 60 ^h 1 20 ^h : 60 ^h 0 R°: 50 ^m PMG: 22 ^h 09 ^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	59.3	-12	16.5	38	37.4		-4	55.4	171	60 N	5	33	6	22	7	06	16	01	**	3	02	103	
1	198	59.4		17.3	53	07.5	111		38.3	172	58	32		18	6	59		01	3			04	99	
2	213	59.5		18.2	67	37.6	111		21.1	171	56	31		15		54		00	7			07	94	
3	228	59.5		19.1	82	07.7	111	-4	04.0	171	54	30		11		48		00	10			08	92	
4	243	59.6		19.9	96	37.8	111	-3	46.8	172	52	29		09		43		00	12			10	88	
5	258	59.7	-12	20.8	111	08.0	112	-3	29.6	172	50	5	28	6	06	6	39	16	00	15		3	12	85
6	273	59.8	-12	21.6	125	38.1	111	-3	12.3	173	45	5	25	6	00	6	30	15	59	21		3	15	80
7	288	59.8		22.5	140	08.3	112	-2	55.1	172	40	22		5	54	22		59	25			18	74	
8	303	59.9		23.3	154	38.5	112		37.8	173	35	20		49		15		59	29			20	70	
9	319	00.0		24.2	169	08.7	112		20.5	173	30	17		45		6	09	59	32			22	67	
10	334	00.0		25.0	183	39.0	113	-2	03.2	173	20	10		36		5	59	58	39			26	60	
11	349	00.1	-12	25.9	198	09.2	112	-1	45.9	173	10 N	5	03	5	28	5	49	15	58	44		3	29	54
12	4	00.2	-12	26.8	212	39.5	113	-1	28.6	173	0	4	55	5	19	5	41	15	58	49		3	32	49
13	19	00.2		27.6	227	09.7	112	-1	11.3	174	10 S	45		5	10	32		58	54			35	44	
14	34	00.3		28.5	241	40.0	113	-0	53.9	173	20	33		4	59	22		57	60			38	38	
15	49	00.4		29.3	256	10.3	113		36.6	173	30	17		46		11		57	67			41	32	
16	64	00.4		30.2	270	40.5	112		19.3	173	35	4	06	38		5	05	57	70			43	29	
17	79	00.5	-12	31.0	285	10.8	113	-0	01.9	174	40	3	54	4	29	4	57	15	57	74		3	45	25
18	94	00.6	-12	31.9	299	41.1	113	+0	15.4	173	45	3	39	4	17	4	49	15	57	79		3	48	20
19	109	00.6		32.7	314	11.4	113		32.7	173	50	19		4	03		38		57	85			50	15
20	124	00.7		33.6	328	41.7	113	+0	50.1	174	52	3	09	3	56	33		57	88			52	12	
21	139	00.7		34.4	343	12.0	113	+1	07.4	173	54	2	58	49		28		56	92			53	10	
22	154	00.8		35.3	357	42.3	113		24.7	173	56	45		40		22		56	95			55	6	
23	169	00.9		36.1	12	12.6	113		42.0	173	58	29		30		15		56	99			57	3	
24	184	00.9	-12	37.0	26	42.9	113	+1	59.3	173	60 S	2	10	3	19	4	08	15	56	103		3	58	0
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO											
	PMG: 21 ^h 40.0 ^m			Mag: -4.5 PMG: 8 ^h 52 ^m			Mag: +1.6 PMG: 12 ^h 11 ^m			Mag: -2.9 PMG: 0 ^h 22 ^m			Mag: +0.7 PMG: 19 ^h 53 ^m											
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	34	06.7	227	03.5	+5	36.5	177	02.9	-14	31.3	354	28.8	+13	58.0	60	49.6	-12	54.1						
1	49	09.2	242	03.6		35.7	192	03.7		31.9	9	31.6		57.9	75	52.1		54.1						
2	64	11.7	257	03.6		35.0	207	04.5		32.5	24	34.4		57.8	90	54.6		54.1						
3	79	14.1	272	03.6		34.2	222	05.3		33.0	39	37.2		57.7	105	57.1		54.1						
4	94	16.6	287	03.7		33.4	237	06.1		33.6	54	40.0		57.6	120	59.6		54.2						
5	109	19.0	302	03.7	+5	32.7	252	06.9	-14	34.2	69	42.8	+13	57.5	136	02.1	-12	54.2						
6	124	21.5	317	03.7	+5	31.9	267	07.7	-14	34.7	84	45.5	+13	57.4	151	04.7	-12	54.2						
7	139	24.0	332	03.7		31.2	282	08.5		35.3	99	48.3		57.3	166	07.2		54.2						
8	154	26.4	347	03.8		30.4	297	09.3		35.9	114	51.1		57.2	181	09.7		54.2						
9	169	28.9	2	03.8		29.6	312	10.0		36.4	129	53.9		57.1	196	12.2		54.2						
10	184	31.4	17	03.8		28.9	327	10.8		37.0	144	56.7		57.0	211	14.7		54.2						
11	199	33.8	32	03.9	+5	28.1	342	11.6	-14	37.6	159	59.5	+13	56.9	226	17.2	-12	54.2						
12	214	36.3	47	03.9	+5	27.4	357	12.4	-14	38.1	175	02.3	+13	56.8	241	19.7	-12	54.2						
13	229	38.8	62	03.9		26.6	12	13.2		38.7	190	05.1		56.7	256	22.2		54.2						
14	244	41.2	77	03.9		25.8	27	14.0		39.3	205	07.9		56.6	271	24.7		54.3						
15	259	43.7	92	04.0		25.1	42	14.8		39.8	220	10.7		56.5	286	27.2		54.3						
16	274	46.2	107	04.0		24.3	57	15.6		40.4	235	13.5		56.4	301	29.7		54.3						
17	289	48.6	122	04.0	+5	23.5	72	16.3	-14	41.0	250	16.2	+13	56.3	316	32.2	-12	54.3						
18	304	51.1	137	04.0	+5	22.8	87	17.1	-14	41.5	265	19.0	+13	56.2	331	34.7	-12	54.3						
19	319	53.5	152	04.0		22.0	102	17.9		42.1	280	21.8		56.1	346	37.2		54.3						
20	334	56.0	167	04.1		21.2	117	18.7		42.7	295	24.6		56.0	1	39.7		54.3						
21	349	58.5	182	04.1		20.4	132	19.5		43.2	310	27.4		55.9	16	42.2		54.3						
22	5	00.9	197	04.1		19.7	147	20.3		43.8	325	30.2		55.8	31	44.7		54.3						
23	20	03.4	212	04.1		18.9	162	21.1		44.4	340	33.0		55.7	46	47.2		54.3						
24	35	05.9	227	04.2	+5	18.1	177	21.8	-14	44.9	355	35.8	+13	55.6	61	49.7	-12	54.3						
Dif	—			0			-8			+8			-6			+28			-1			+25		

ALMANAQUE NÁUTICO PERSEUS

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna								
	SD: 16'1 PMG:11 ^h 43.8 ^m			Edad: 13.3 ^d PHE { 4 ^h : 59'7 12 ^h : 59'5 20 ^h : 59'3 PMG: 23 ^h 50 ^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	184	02.3	-12	57.2	14	45.7	+8	45.9	164	60 N	5	38	6	27	7	11	16	00	2	6	28	105		
1	199	02.4		58.1	29	15.5	+9	02.3	164	58		36		23	7	04	16	08	6		21	101		
2	214	02.5		58.9	43	45.3		18.7	163	56		35		19	6	58	15	10			16	96		
3	229	02.5	-12	59.8	58	15.1		35.0	163	54		34		15	52	21	13				11	92		
4	244	02.6	-13	00.6	72	44.8	+9	51.2	162	52		32		12	47	26	17				07	89		
5	259	02.6	-13	01.4	87	14.5	+10	07.4	162	50		5	31	6	09	6	42	16	31	19	6	03	86	
6	274	02.7	-13	02.3	101	44.2	+10	23.5	161	45		5	28	6	02	6	32	16	42	25	5	54	80	
7	289	02.7		03.1	116	13.8		39.6	161	40		24		5	56	24		50	30			47	75	
8	304	02.8		04.0	130	43.4	+10	55.6	160	35		21		51	17	16	58	34				41	71	
9	319	02.8		04.8	145	12.9	+11	11.5	159	30		18		46	11	17	05	37				36	67	
10	334	02.9		05.6	159	42.4		27.3	158	20		11		37	6	00	17	42				26	62	
11	349	02.9	-13	06.5	174	11.9	+11	43.1	158	10 N		5	03	5	28	5	50	17	27	48	5	18	56	
12	4	03.0	-13	07.3	188	41.3	+11	58.8	157	0		4	55	5	19	5	40	17	37	53	5	11	51	
13	19	03.0		08.1	203	10.7	+12	14.4	156	10 S		44		5	09	31		47	57			5	03	47
14	34	03.1		09.0	217	40.1		29.9	155	20		31		4	58	21		17	58	62	4	55	41	
15	49	03.1		09.8	232	09.4	+12	45.4	155	30		15		44	09	18	11	67				46	35	
16	64	03.2		10.6	246	38.7	+13	00.8	154	35		4	04	36	5	02	18	71				41	32	
17	79	03.2	-13	11.5	261	07.9	+13	16.1	153	40		3	51	4	26	4	55	18	26	75	4	35	28	
18	94	03.3	-13	12.3	275	37.0	+13	31.3	152	45		3	35	4	14	4	45	18	36	80	4	29	23	
19	109	03.3		13.1	290	06.2	+13	46.4	151	50		14		3	59	34		48	86			20	18	
20	124	03.4		14.0	304	35.3	+14	01.5	151	52		3	04	52	29	18	53	90				17	15	
21	139	03.4		14.8	319	04.3		16.5	150	54		2	52	44	23	19	00	92				13	11	
22	154	03.5		15.6	333	33.3		31.3	148	56		38		35	17		06	97				08	9	
23	169	03.5		16.5	348	02.2	+14	46.1	148	58		22		24	10		14	102				4	03	5
24	184	03.6	-13	17.3	2	31.1	+15	00.8	147	60 S		2	01	3	12	4	02	19	23	107	3	58	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 32.1 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 09 ^m		Mag: -2.9 PMG: 0 ^h 13 ^m		Mag: +0.7 PMG: 19 ^h 45 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	36	05.0	227	04.5	+4	59.4	177	40.6	-14	58.4	356	42.8	+13	53.1	62	49.6	-12	54.5
1	51	07.5	242	04.5		58.6	192	41.4		59.0	11	45.6		53.0	77	52.1		54.5
2	66	09.9	257	04.5		57.9	207	42.2	-14	59.5	26	48.4		52.9	92	54.6		54.5
3	81	12.4	272	04.5		57.1	222	42.9	-15	00.1	41	51.2		52.8	107	57.1		54.5
4	96	14.9	287	04.5		56.3	237	43.7		00.6	56	54.0		52.7	122	59.6		54.6
5	111	17.3	302	04.5	+4	55.5	252	44.5	-15	01.2	71	56.8	+13	52.6	138	02.1	-12	54.6
6	126	19.8	317	04.5	+4	54.7	267	45.3	-15	01.8	86	59.6	+13	52.5	153	04.6	-12	54.6
7	141	22.3	332	04.5		53.9	282	46.1		02.3	102	02.3		52.4	168	07.1		54.6
8	156	24.7	347	04.5		53.1	297	46.8		02.9	117	05.1		52.3	183	09.6		54.6
9	171	27.2	2	04.6		52.3	312	47.6		03.4	132	07.9		52.2	198	12.1		54.6
10	186	29.6	17	04.6		51.5	327	48.4		04.0	147	10.7		52.1	213	14.6		54.6
11	201	32.1	32	04.6	+4	50.7	342	49.2	-15	04.5	162	13.5	+13	52.0	228	17.1	-12	54.6
12	216	34.6	47	04.6	+4	49.9	357	49.9	-15	05.1	177	16.3	+13	51.9	243	19.6	-12	54.6
13	231	37.0	62	04.6		49.2	12	50.7		05.7	192	19.1		51.8	258	22.0		54.6
14	246	39.5	77	04.6		48.4	27	51.5		06.2	207	21.9		51.7	273	24.5		54.6
15	261	42.0	92	04.6		47.6	42	52.3		06.8	222	24.7		51.6	288	27.0		54.6
16	276	44.4	107	04.6		46.8	57	53.0		07.3	237	27.5		51.5	303	29.5		54.6
17	291	46.9	122	04.6	+4	46.0	72	53.8	-15	07.9	252	30.3	+13	51.4	318	32.0	-12	54.6
18	306	49.4	137	04.6	+4	45.2	87	54.6	-15	08.4	267	33.1	+13	51.3	333	34.5	-12	54.6
19	321	51.8	152	04.6		44.4	102	55.4		09.0	282	35.9		51.2	348	37.0		54.6
20	336	54.3	167	04.6		43.6	117	56.1		09.6	297	38.7		51.1	3	39.5		54.7
21	351	56.7	182	04.6		42.8	132	56.9		10.1	312	41.5		51.0	18	42.0		54.7
22	6	59.2	197	04.6		42.0	147	57.7		10.7	327	44.3		50.9	33	44.5		54.7
23	22	01.7	212	04.6		41.2	162	58.5		11.2	342	47.1		50.8	48	47.0		54.7
24	37	04.1	227	04.6	+4	40.4	177	59.2	-15	11.8	357	49.8	+13	50.7	63	49.5	-12	54.7
Dif	—		0		-8		+8		-6		+28		-1		+25		0	

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'1 PMG:11 ^h 43.7 ^m				Edad: 14.3 ^d SD: 16'1 PMG: **h **m											
	PHE { 4 ^h : 59'1 12 ^h : 58'9 20 ^h : 58'7 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	184 03.6	-13 17.3	2 31.1	99	+15 00.8	146	60 N	16 13	16 57	17 46	16 02 3		8 13 108			
1	199 03.6	18.1	17 00.0	97	15.4	145	58	20	17 02	48	14 10		8 02 101			
2	214 03.7	19.0	31 28.7	98	29.9	144	56	27	06	50	25 14		7 52 96			
3	229 03.7	19.8	45 57.5	98	44.3	144	54	33	10	51	34 19		43 93			
4	244 03.8	20.6	60 26.2	97	+15 58.6	143	52	38	13	53	43 21		36 88			
5	259 03.8	-13 21.5	74 54.8	96	+16 12.8	142	50	16 43	17 16	17 54	16 50 25		7 29 85			
6	274 03.9	-13 22.3	89 23.4	96	+16 26.9	141	45	16 53	17 23	17 58	17 07 30		7 14 80			
7	289 03.9	23.1	103 52.0	96	40.9	140	40	17 02	30	18 01	20 35		7 02 75			
8	304 03.9	24.0	118 20.5	95	+16 54.7	138	35	09	35	05	32 38		6 52 71			
9	319 04.0	24.8	132 48.9	94	+17 08.5	138	30	16	40	08	42 41		43 68			
10	334 04.0	25.6	147 17.3	94	22.2	137	20	27	50	16	17 59 47		28 62			
11	349 04.1	-13 26.4	161 45.6	93	+17 35.8	136	10 N	17 37	17 59	18 24	18 15 50		6 14 58			
12	4 04.1	-13 27.3	176 13.9	93	+17 49.2	134	0	17 47	18 08	18 33	18 30 54		6 02 53			
13	19 04.2	28.1	190 42.1	92	+18 02.6	134	10 S	17 57	19	44	18 44 58		5 50 48			
14	34 04.2	28.9	205 10.3	92	15.8	132	20	18 07	30	18 57	19 00 62		36 45			
15	49 04.2	29.8	219 38.4	91	28.9	131	30	20	45	19 15	18 68		21 39			
16	64 04.3	30.6	234 06.5	91	41.9	130	35	27	18 54	26	29 70		13 36			
17	79 04.3	-13 31.4	248 34.5	90	+18 54.8	129	40	18 35	19 04	19 39	19 41 74		5 03 32			
18	94 04.4	-13 32.2	263 02.5	90	+19 07.5	127	45	18 44	19 16	19 55	19 56 78		4 52 27			
19	109 04.4	33.1	277 30.4	89	20.2	127	50	18 56	32	20 17	20 14 84		38 22			
20	124 04.5	33.9	291 58.2	88	32.7	125	52	19 01	39	28	23 87		32 18			
21	139 04.5	34.7	306 26.0	88	45.1	124	54	07	48	40	32 91		24 16			
22	154 04.5	35.5	320 53.8	88	+19 57.4	123	56	14	19 57	20 55	43 96		17 11			
23	169 04.6	36.4	335 21.5	87	+20 09.5	121	58	22	20 08	21 13	20 56 101		4 08 7			
24	184 04.6	-13 37.2	349 49.1	86	+20 21.5	120	60 S	19 30	20 21	21 35	21 10 109		3 58 2			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 28.2 ^m		Mag: -4.5 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 07 ^m		Mag: -2.9 PMG: 0 ^h 09 ^m		Mag: +0.7 PMG: 19 ^h 41 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /		° /		° /		° /	
0	37 04.1	227 04.6	+4 40.4	177 59.2	-15 11.8	357 49.8	+13 50.7	63 49.5	-12 54.7	
1	52 06.6	242 04.6	39.6	193 00.0	12.3	12 52.6	50.6	78 52.0	54.7	
2	67 09.1	257 04.6	38.8	208 00.8	12.9	27 55.4	50.5	93 54.4	54.7	
3	82 11.5	272 04.6	38.0	223 01.6	13.5	42 58.2	50.4	108 56.9	54.7	
4	97 14.0	287 04.6	37.2	238 02.3	14.0	58 01.0	50.3	123 59.4	54.7	
5	112 16.5	302 04.6	+4 36.4	253 03.1	-15 14.6	73 03.8	+13 50.2	139 01.9	-12 54.7	
6	127 18.9	317 04.5	+4 35.6	268 03.9	-15 15.1	88 06.6	+13 50.1	154 04.4	-12 54.7	
7	142 21.4	332 04.5	34.7	283 04.6	15.7	103 09.4	50.0	169 06.9	54.7	
8	157 23.9	347 04.5	33.9	298 05.4	16.2	118 12.2	49.9	184 09.4	54.7	
9	172 26.3	2 04.5	33.1	313 06.2	16.8	133 15.0	49.8	199 11.9	54.7	
10	187 28.8	17 04.5	32.3	328 07.0	17.3	148 17.8	49.7	214 14.4	54.7	
11	202 31.2	32 04.5	+4 31.5	343 07.7	-15 17.9	163 20.6	+13 49.6	229 16.9	-12 54.7	
12	217 33.7	47 04.5	+4 30.7	358 08.5	-15 18.4	178 23.4	+13 49.5	244 19.4	-12 54.7	
13	232 36.2	62 04.5	29.9	13 09.3	19.0	193 26.2	49.4	259 21.8	54.7	
14	247 38.6	77 04.5	29.1	28 10.0	19.5	208 29.0	49.3	274 24.3	54.7	
15	262 41.1	92 04.5	28.3	43 10.8	20.1	223 31.8	49.2	289 26.8	54.7	
16	277 43.6	107 04.5	27.5	58 11.6	20.6	238 34.6	49.1	304 29.3	54.8	
17	292 46.0	122 04.5	+4 26.7	73 12.4	-15 21.2	253 37.4	+13 49.0	319 31.8	-12 54.8	
18	307 48.5	137 04.5	+4 25.8	88 13.1	-15 21.8	268 40.2	+13 48.9	334 34.3	-12 54.8	
19	322 51.0	152 04.4	25.0	103 13.9	22.3	283 42.9	48.8	349 36.8	54.8	
20	337 53.4	167 04.4	24.2	118 14.7	22.9	298 45.7	48.7	4 39.3	54.8	
21	352 55.9	182 04.4	23.4	133 15.4	23.4	313 48.5	48.6	19 41.8	54.8	
22	7 58.4	197 04.4	22.6	148 16.2	24.0	328 51.3	48.5	34 44.2	54.8	
23	23 00.8	212 04.4	21.8	163 17.0	24.5	343 54.1	48.4	49 46.7	54.8	
24	38 03.3	227 04.4	+4 21.0	178 17.7	-15 25.1	358 56.9	+13 48.3	64 49.2	-12 54.8	
Dif	—	0	-8	+8	-6	+28	-1	+25		

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: 15.3 ^d SD: 15 ^h 9 PMG: 0 ^h 42 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	184	04.6	-13	37.2	349	49.1	+20	21.5	119	58	60 N	5 42	6 32	7 16	16 05	9	10 01	107	
1	199	04.7		38.0	4	16.7		33.4	118	58		41	27	09	24	17	9 43	99	
2	214	04.7		38.8	18	44.2		45.2	118	56		39	23	7 02	39	23	28	93	
3	229	04.7		39.6	33	11.7	+20	56.8	116	54		37	19	6 56	16 53	27	16	88	
4	244	04.8		40.5	47	39.2	+21	08.3	115	52		36	15	51	17 04	31	9 04	85	
5	259	04.8	-13	41.3	62	06.6	+21	19.7	114	50		5 34	6 12	6 46	17 15	33	8 54	82	
6	274	04.8	-13	42.1	76	33.9	+21	30.9	112	45		5 30	6 05	6 35	17 37	38	8 34	76	
7	289	04.9		42.9	91	01.2		42.0	111	40		26	5 58	26	17 55	41	17	72	
8	304	04.9		43.8	105	28.4	+21	52.9	109	35		23	53	19	18 10	44	8 03	69	
9	319	05.0		44.6	119	55.6	+22	03.8	109	30		19	47	12	23	47	7 51	66	
10	334	05.0		45.4	134	22.7		14.4	106	20		12	38	6 00	18 46	50	30	62	
11	349	05.0	-13	46.2	148	49.8	+22	25.0	106	10 N		5 04	5 28	5 50	19 05	54	7 12	59	
12	4	05.1	-13	47.0	163	16.8	+22	35.4	104	0		4 54	5 19	5 40	19 24	56	6 55	55	
13	19	05.1		47.8	177	43.8		45.7	103	10 S		43	5 09	30	19 42	59	38	52	
14	34	05.1		48.7	192	10.8	+22	55.8	101	20		30	4 57	20	20 02	62	21	48	
15	49	05.2		49.5	206	37.7	+23	05.7	99	30		12	42	07	26 65		6 00	44	
16	64	05.2		50.3	221	04.5		15.6	99	35		4 01	33	5 00	39 68		5 49	41	
17	79	05.2	-13	51.1	235	31.3	+23	25.3	97	40		3 48	4 23	4 52	20 55	70	5 35	38	
18	94	05.3	-13	51.9	249	58.1	+23	34.8	95	45		3 31	4 10	4 42	21 14	74	5 19	34	
19	109	05.3		52.8	264	24.8		44.2	94	50		3 10	3 55	31	38 78		5 00	28	
20	124	05.3		53.6	278	51.5	+23	53.4	92	52		2 59	47	25	21 50	81	4 50	26	
21	139	05.4		54.4	293	18.1	+24	02.5	91	54		46	39	19	22 03	84	40	22	
22	154	05.4		55.2	307	44.7		11.5	90	56		32	29	12	19 87		28	18	
23	169	05.4		56.0	322	11.2		20.3	88	58		2 14	18	4 05	37 94		15	13	
24	184	05.5	-13	56.8	336	37.8	+24	28.9	86	60 S		1 52	3 06	3 56	22 59	104	4 00	5	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 24.3 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 06 ^m		Mag: -2.9 PMG: 0 ^h 04 ^m		Mag: +0.7 PMG: 19 ^h 37 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	38	03.3	227	04.4	+4	21.0	178	17.7	-15	25.1
1	53	05.7	242	04.4		20.1	193	18.5		25.6
2	68	08.2	257	04.4		19.3	208	19.3		26.2
3	83	10.7	272	04.3		18.5	223	20.0		26.7
4	98	13.1	287	04.3		17.7	238	20.8		27.3
5	113	15.6	302	04.3	+4	16.9	253	21.6	-15	27.8
6	128	18.1	317	04.3	+4	16.1	268	22.3	-15	28.4
7	143	20.5	332	04.3		15.2	283	23.1		28.9
8	158	23.0	347	04.3		14.4	298	23.9		29.5
9	173	25.5	2	04.3		13.6	313	24.6		30.0
10	188	27.9	17	04.2		12.8	328	25.4		30.6
11	203	30.4	32	04.2	+4	12.0	343	26.2	-15	31.1
12	218	32.8	47	04.2	+4	11.1	358	26.9	-15	31.7
13	233	35.3	62	04.2		10.3	13	27.7		32.2
14	248	37.8	77	04.2		09.5	28	28.5		32.8
15	263	40.2	92	04.1		08.7	43	29.2		33.3
16	278	42.7	107	04.1		07.8	58	30.0		33.9
17	293	45.2	122	04.1	+4	07.0	73	30.8	-15	34.4
18	308	47.6	137	04.1	+4	06.2	88	31.5	-15	34.9
19	323	50.1	152	04.1		05.4	103	32.3		35.5
20	338	52.6	167	04.0		04.5	118	33.0		36.0
21	353	55.0	182	04.0		03.7	133	33.8		36.6
22	8	57.5	197	04.0		02.9	148	34.6		37.1
23	24	00.0	212	04.0		02.1	163	35.3		37.7
24	39	02.4	227	04.0	+4	01.2	178	36.1	-15	38.2
Dif	—		0		-8		+8		-5	
							-8972		-1	
									+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: 16.3 ^d PHE { 4 ^h : 57/7 12 ^h : 57/4 20 ^h : 57/1 PMG: 1 ^h 37 ^m R°: 56 ^m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	°	'	°	'	°	'		°	'		°	h	m	h	m	h	m	m
0	184	05.5	-13	56.8	336	37.8	74	+24	28.9	85	60 N	16	08	16	52	17	42	16 14 24
1	199	05.5		57.6	351	04.2	75		37.4	83	58	15		16	57	44	16 41 33	22 85
2	214	05.5		58.5	5	30.7	74		45.7	82	56	22		17	02	46	17 02 38	11 01 80
3	229	05.5	-13	59.3	19	57.1	74	+24	53.9	80	54	28		06	47	20	40	10 44 77
4	244	05.6	-14	00.1	34	23.4	73	+25	01.9	79	52	34		10	49	35	42	29 75
5	259	05.6	-14	00.9	48	49.8	74	+25	09.8	77	50	16	39	17	13	17	48	44 10 16
6	274	05.6	-14	01.7	63	16.1	73	+25	17.5	77	45	16	50	17	21	17	55	9 50 69
7	289	05.7		02.5	77	42.4	73		25.1	76	40	16	59	27	17	59	36	50 29 67
8	304	05.7		03.3	92	08.6	72		32.5	74	35	17	07	33	18	03	18	54 51 9 12
9	319	05.7		04.1	106	34.8	72		39.7	72	30	14		39	07	19	10	52 8 57
10	334	05.8		05.0	121	01.0	72		46.8	69	20	26		49	15	36	54	32 61
11	349	05.8	-14	05.8	135	27.2	72	+25	53.7	68	10 N	17	37	17	58	18	23	19 59 55 8 11
12	4	05.8	-14	06.6	149	53.3	71	+26	00.5	66	0	17	47	18	08	18	33	20 20 56 7 50
13	19	05.8		07.4	164	19.4	71		07.1	64	10 S	17	57	19	44	20	41	58 30 55
14	34	05.9		08.2	178	45.5	71		13.5	63	20	18	08	31	18	58	21	04 59 7 09
15	49	05.9		09.0	193	11.6	71		19.8	63	30	21		46	19	16	31	61 6 44
16	64	05.9		09.8	207	37.6	70		25.9	61	35	29		18	56	28	21	47 61 30 47
17	79	05.9	-14	10.6	222	03.7	71	+26	31.9	60	40	18	37	19	06	19	42	22 05 63 6 13
18	94	06.0	-14	11.4	236	29.7	70	+26	37.7	58	45	18	47	19	19	19	59	22 28 64 5 53
19	109	06.0		12.2	250	55.7	70		43.3	55	50	18	59	36	20	22	56	67 28 38
20	124	06.0		13.0	265	21.7	70		48.8	55	52	19	05	43	33	23	11	67 16 36
21	139	06.0		13.8	279	47.6	69		54.1	53	54	11	19	52	20	46	27	69 5 02
22	154	06.1		14.6	294	13.6	70	+26	59.3	52	56	18	20	02	21	01	23	46 71 4 46
23	169	06.1		15.5	308	39.6	70	+27	04.3	50	58	26		14	20	**	**	** 28 23
24	184	06.1	-14	16.3	323	05.5	69	+27	09.1	48	60 S	19	35	20	27	21	45	** ** ** 4 05

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 21 ^h 20.3 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 05 ^m		Mag: -2.9 PMG: 23 ^h 55 ^m		Mag: +0.7 PMG: 19 ^h 34 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	39	02.4	227	04.0	+4	01.2	178	36.1	-15	38.2
1	54	04.9	242	03.9	+4	00.4	193	36.9		38.8
2	69	07.3	257	03.9	+3	59.6	208	37.6		39.3
3	84	09.8	272	03.9		58.7	223	38.4		39.9
4	99	12.3	287	03.9		57.9	238	39.1		40.4
5	114	14.7	302	03.8	+3	57.1	253	39.9	-15	41.0
6	129	17.2	317	03.8	+3	56.2	268	40.7	-15	41.5
7	144	19.7	332	03.8		55.4	283	41.4		42.1
8	159	22.1	347	03.8		54.6	298	42.2		42.6
9	174	24.6	2	03.7		53.7	313	42.9		43.1
10	189	27.1	17	03.7		52.9	328	43.7		43.7
11	204	29.5	32	03.7	+3	52.1	343	44.5	-15	44.2
12	219	32.0	47	03.6	+3	51.2	358	45.2	-15	44.8
13	234	34.5	62	03.6		50.4	13	46.0		45.3
14	249	36.9	77	03.6		49.6	28	46.7		45.9
15	264	39.4	92	03.6		48.7	43	47.5		46.4
16	279	41.8	107	03.5		47.9	58	48.3		46.9
17	294	44.3	122	03.5	+3	47.0	73	49.0	-15	47.5
18	309	46.8	137	03.5	+3	46.2	88	49.8	-15	48.0
19	324	49.2	152	03.4		45.4	103	50.5		48.6
20	339	51.7	167	03.4		44.5	118	51.3		49.1
21	354	54.2	182	03.4		43.7	133	52.0		49.7
22	9	56.6	197	03.3		42.8	148	52.8		50.2
23	24	59.1	212	03.3		42.0	163	53.6		50.7
24	40	01.6	227	03.3	+3	41.2	178	54.3	-15	51.3
Dif	—		0		-8		+8		-5	
								+28	-1	
									+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: 17.3 ^d PHE { 4 ^h : 56'9 12 ^h : 56'6 20 ^h : 56'3 Rº: 57 ^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	h m m		
0	184	06.1	-14	16.3	323	05.5	69	+27	09.1	46	60 N	5 47	6 36	7 21	16 38 55	13 23 61				
1	199	06.1		17.1	337	31.4	70		13.7	45	58	45	31	13	17 14 56	12 47 60				
2	214	06.1		17.9	351	57.4	69		18.2	44	56	43	27	06	17 40 56	21 60				
3	229	06.2		18.7	6	23.3	69		22.6	44	54	41	22	7 00	18 00 57	12 01 59				
4	244	06.2		19.5	20	49.3	70		26.7	41	52	39	19	6 54	17 57	11 44 59				
5	259	06.2	-14	20.3	35	15.2	69	+27	30.7	40	50	5 37	6 15	6 49	18 32 57	11 29 59				
6	274	06.2	-14	21.1	49	41.1	69	+27	34.6	39	45	5 33	6 07	6 38	19 02 57	10 59 59				
7	289	06.3		21.9	64	07.1	70		38.3	37	40	29	6 01	29	26 56	36 58				
8	304	06.3		22.7	78	33.0	69		41.8	35	35	25	5 54	21	19 45 56	17 58				
9	319	06.3		23.5	92	59.0	70		45.1	33	30	21	49	14	20 02 56	10 01 57				
10	334	06.3		24.3	107	24.9	69		48.3	32	20	12	39	6 01	30 55	9 33 57				
11	349	06.3	-14	25.1	121	50.9	70	+27	51.3	30	10 N	5 04	5 29	5 50	20 54 55	9 09 57				
12	4	06.3	-14	25.9	136	16.9	70	+27	54.2	29	0	4 54	5 19	5 40	21 16 56	8 47 56				
13	19	06.4		26.7	150	42.9	70		56.9	27	10 S	43	5 08	30	21 39 55	25 56				
14	34	06.4		27.5	165	08.9	70	+27	59.4	25	20	29	4 56	19	22 03 55	8 01 55				
15	49	06.4		28.3	179	35.0	71	+28	01.8	24	30	4 10	40	5 06	32 54	7 34 54				
16	64	06.4		29.1	194	01.0	70		04.0	22	35	3 59	31	4 58	22 48 54	7 17 54				
17	79	06.4	-14	29.9	208	27.1	71	+28	06.0	20	40	3 45	4 20	4 49	23 08 53	6 58 53				
18	94	06.5	-14	30.7	222	53.2	71	+28	07.9	19	45	3 28	4 07	4 39	23 32 52	6 36 52				
19	109	06.5		31.5	237	19.3	71		09.6	17	50	3 05	3 51	27	** ** *	6 06 51				
20	124	06.5		32.3	251	45.5	72		11.2	16	52	2 54	43	21	** ** *	5 52 50				
21	139	06.5		33.1	266	11.6	71		12.6	14	54	41	34	15	** ** *	5 35 49				
22	154	06.5		33.9	280	37.8	72		13.8	12	56	25	24	08	** ** *	5 16 46				
23	169	06.5		34.7	295	04.1	73		14.9	11	58	2 06	3 13	4 00	0 11 74	4 51 44				
24	184	06.5	-14	35.5	309	30.3	72	+28	15.8	9	60 S	1 42	2 59	3 51	0 43 82	4 18 37				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: -4.4 21 ^h 16.4 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 04 ^m		Mag: -2.9 PMG: 23 ^h 51 ^m		Mag: +0.7 PMG: 19 ^h 30 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	40	01.6	227	03.3	+3	41.2	178	54.3	-15	51.3
1	55	04.0	242	03.2		40.3	193	55.1		51.8
2	70	06.5	257	03.2		39.5	208	55.8		52.4
3	85	09.0	272	03.2		38.6	223	56.6		52.9
4	100	11.4	287	03.1		37.8	238	57.3		53.5
5	115	13.9	302	03.1	+3	36.9	253	58.1	-15	54.0
6	130	16.3	317	03.1	+3	36.1	268	58.9	-15	54.5
7	145	18.8	332	03.0		35.2	283	59.6		55.1
8	160	21.3	347	03.0		34.4	299	00.4		55.6
9	175	23.7	2	03.0		33.5	314	01.1		56.2
10	190	26.2	17	02.9		32.7	329	01.9		56.7
11	205	28.7	32	02.9	+3	31.8	344	02.6	-15	57.2
12	220	31.1	47	02.8	+3	31.0	359	03.4	-15	57.8
13	235	33.6	62	02.8		30.2	14	04.1		58.3
14	250	36.1	77	02.8		29.3	29	04.9		58.9
15	265	38.5	92	02.7		28.4	44	05.6		59.4
16	280	41.0	107	02.7		27.6	59	06.4	-15	59.9
17	295	43.5	122	02.7	+3	26.7	74	07.1	-16	00.5
18	310	45.9	137	02.6	+3	25.9	89	07.9	-16	01.0
19	325	48.4	152	02.6		25.0	104	08.6		01.5
20	340	50.8	167	02.5		24.2	119	09.4		02.1
21	355	53.3	182	02.5		23.3	134	10.2		02.6
22	10	55.8	197	02.4		22.5	149	10.9		03.2
23	25	58.2	212	02.4		21.6	164	11.7		03.7
24	41	00.7	227	02.4	+3	20.8	179	12.4	-16	04.2
Dif	—		0		-8		+8		-5	

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: 18.3 ^d SD: 15 ^h 3 PMG: 3 ^h 30 ^m		PHE { 4 ^h : 56 ^h 1 12 ^h : 55 ^h 8 20 ^h : 55 ^h 6 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	184	06.5	-14	35.5	309	30.3	+28	15.8	7	60 N	16 02	16 48	17 37	17 33 85	14 24 27				
1	199	06.6		36.3	323	56.6	73	16.5	6	58	11	53	39	18 10 76	13 47 35				
2	214	06.6		37.1	338	23.0	74	17.1	5	56	18	58	42	36 72	21 38				
3	229	06.6		37.8	352	49.3	73	17.6	5	54	24	17 02	44	18 57 69	13 00 41				
4	244	06.6		38.6	7	15.7	74	17.8	2	52	30	06	46	19 14 67	12 43 43				
5	259	06.6	-14	39.4	21	42.2	75	+28	17.9	1	50	16 36	17 10	19 29 65	12 28 44				
6	274	06.6	-14	40.2	36	08.7	75	+28	17.9	0	45	16 47	17 18	19 59 63	11 58 46				
7	289	06.6		41.0	50	35.2	75	17.7	2	40	16 57	25	17 57	20 22 61	34 48				
8	304	06.6		41.8	65	01.8	76	17.4	3	35	17 05	31	18 01	41 60	11 15 49				
9	319	06.7		42.6	79	28.4	76	16.8	6	30	12	37	05	20 58 58	10 58 51				
10	334	06.7		43.4	93	55.1	77	16.2	6	20	25	48	14	21 25 56	30 52				
11	349	06.7	-14	44.2	108	21.8	77	+28	15.4	8	10 N	17 36	17 58	18 23 21 49 55	10 06 53				
12	4	06.7	-14	45.0	122	48.6	78	+28	14.4	10	0	17 47	18 08	18 33 22 12 52	9 43 54				
13	19	06.7		45.8	137	15.4	78		13.3	11	10 S	17 58	20	45	34 51	9 21 55			
14	34	06.7		46.6	151	42.3	79		12.0	13	20	18 09	32	18 59	22 58 49	8 56 56			
15	49	06.7		47.4	166	09.2	79		10.5	15	30	23	48	19 18	23 26 46	28 57			
16	64	06.7		48.1	180	36.2	80		09.0	15	35	31	18 58	30	23 42 45	8 11 58			
17	79	06.7	-14	48.9	195	03.2	80	+28	07.2	18	40	18 40	19 09	19 44	** ** *	7 51 60			
18	94	06.7	-14	49.7	209	30.3	81	+28	05.4	18	45	18 50	19 22	20 02	** ** *	7 28 60			
19	109	06.8		50.5	223	57.5	82		03.3	21	50	19 03	39	26	0 03 51	6 57 62			
20	124	06.8		51.3	238	24.7	82	+28	01.1	22	52	09	48	38	18 50	42 62			
21	139	06.8		52.1	252	52.0	83	+27	58.8	23	54	15	19 57	20 52	36 49	24 64			
22	154	06.8		52.9	267	19.4	84		56.3	25	56	23	20 07	21 08	0 57 48	6 02 66			
23	169	06.8		53.7	281	46.8	84		53.7	26	58	31	19	28	1 25 46	5 35 68			
24	184	06.8	-14	54.4	296	14.2	84	+27	51.0	27	60 S	19 41	20 34	21 55	2 05 40	4 55 73			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 21 ^h 12.5 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 03 ^m		Mag: -2.9 PMG: 23 ^h 46 ^m		Mag: +0.7 PMG: 19 ^h 26 ^m	
h	°	′	°	′	°	′	°	′	°	′
0	41	00.7	227	02.4	+3	20.8	179	12.4	-16	04.2
1	56	03.2	242	02.3		19.9	194	13.2		04.8
2	71	05.6	257	02.3		19.1	209	13.9		05.3
3	86	08.1	272	02.2		18.2	224	14.7		05.8
4	101	10.6	287	02.2		17.3	239	15.4		06.4
5	116	13.0	302	02.1	+3	16.5	254	16.2	-16	06.9
6	131	15.5	317	02.1	+3	15.6	269	16.9	-16	07.5
7	146	17.9	332	02.1		14.8	284	17.7		08.0
8	161	20.4	347	02.0		13.9	299	18.4		08.5
9	176	22.9	2	02.0		13.0	314	19.1		09.1
10	191	25.3	17	01.9		12.2	329	19.9		09.6
11	206	27.8	32	01.9	+3	11.3	344	20.6	-16	10.1
12	221	30.3	47	01.8	+3	10.5	359	21.4	-16	10.7
13	236	32.7	62	01.8		09.6	14	22.1		11.2
14	251	35.2	77	01.7		08.7	29	22.9		11.7
15	266	37.7	92	01.7		07.9	44	23.6		12.3
16	281	40.1	107	01.6		07.0	59	24.4		12.8
17	296	42.6	122	01.6	+3	06.1	74	25.1	-16	13.3
18	311	45.1	137	01.5	+3	05.3	89	25.9	-16	13.9
19	326	47.5	152	01.5		04.4	104	26.6		14.4
20	341	50.0	167	01.4		03.6	119	27.4		14.9
21	356	52.4	182	01.4		02.7	134	28.1		15.5
22	11	54.9	197	01.3		01.8	149	28.9		16.0
23	26	57.4	212	01.3		01.0	164	29.6		16.5
24	41	59.8	227	01.2	+3	00.1	179	30.3	-16	17.1
Dif	—		0		-9		+7		-5	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'1 PMG: 11 ^h 43.5 ^m			Edad: 19.3 ^d SD: 15'1 PMG: 4 ^h 25 ^m PHE 4^h: 55'4 12^h: 55'2 20^h: 55'0 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	184	06.8	-14	54.4	296	14.2	+27	51.0	29	60 N	5	51	6	41	7	26	18	58	93
1	199	06.8		55.2	310	41.8		48.1	31	58	49	35	18		19	26	85	14	22
2	214	06.8		56.0	325	09.4		45.0	32	56	46	31	10		19	48	80	13	59
3	229	06.8		56.8	339	37.1		41.8	33	54	44	26	7	04	20	06	76	41	27
4	244	06.8		57.6	354	04.8		38.5	33	52	42	22	6	58	21	73	26	29	
5	259	06.8	-14	58.4	8	32.7	+27	35.0	35	50	5	40	6	18	6	52	20	34	71
6	274	06.8	-14	59.1	23	00.5	+27	31.4	36	45	5	35	6	10	6	41	21	02	66
7	289	06.8	-14	59.9	37	28.5		27.7	37	40	31	6	03	31	23	63	22	39	
8	304	06.8	-15	00.7	51	56.5		23.8	39	35	26	5	56	22	41	60	12	04	42
9	319	06.8		01.5	66	24.7		19.7	41	30	22	50	15		21	56	58	11	49
10	334	06.8		02.3	80	52.8		15.6	41	20	13	39	6	02	22	21	55	11	22
11	349	06.8	-15	03.1	95	21.1	+27	11.3	43	10 N	5	04	5	29	5	51	22	44	51
12	4	06.8	-15	03.8	109	49.4	+27	06.8	45	0	4	54	5	19	5	40	23	04	49
13	19	06.8		04.6	124	17.9	+27	02.3	47	10 S	42	5	07	29	25	46	10	16	53
14	34	06.8		05.4	138	46.3	+26	57.6	48	20	27	4	54	18	23	47	43	9	52
15	49	06.8		06.2	153	14.9		52.8	50	30	4	09	39	5	04	**	**	**	25
16	64	06.8		07.0	167	43.6		47.8	50	35	3	57	29	4	56	**	**	**	9
17	79	06.8	-15	07.7	182	12.3	+26	42.7	51	40	3	42	4	18	4	47	0	01	43
18	94	06.8	-15	08.5	196	41.1	+26	37.5	52	45	3	24	4	04	4	36	0	24	41
19	109	06.8		09.3	211	10.0		32.2	53	50	3	00	3	47	24	0	54	37	
20	124	06.8		10.1	225	39.0		26.7	55	52	2	49	39	18	1	08	36	44	72
21	139	06.8		10.8	240	08.0		21.1	56	54	35	30	11		25	33	28	74	
22	154	06.8		11.6	254	37.2		15.4	57	56	2	18	19	4	03	1	45	30	7
23	169	06.8		12.4	269	06.4		09.5	59	58	1	58	3	07	3	55	2	11	24
24	184	06.8	-15	13.2	283	35.7	+26	03.6	59	60 S	1	31	2	53	3	45	2	45	15

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 21 ^h 08.5 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 12 ^h 01 ^m		Mag: -2.9 PMG: 23 ^h 42 ^m		Mag: +0.7 PMG: 19 ^h 22 ^m	
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	41	59.8	227	01.2	+3	00.1	179	30.3	-16	17.1
1	57	02.3	242	01.2	+2	59.2	194	31.1		17.6
2	72	04.8	257	01.1		58.3	209	31.8		18.1
3	87	07.2	272	01.1		57.5	224	32.6		18.7
4	102	09.7	287	01.0		56.6	239	33.3		19.2
5	117	12.2	302	01.0	+2	55.7	254	34.1	-16	19.7
6	132	14.6	317	00.9	+2	54.9	269	34.8	-16	20.3
7	147	17.1	332	00.8		54.0	284	35.6		20.8
8	162	19.6	347	00.8		53.1	299	36.3		21.3
9	177	22.0	2	00.7		52.2	314	37.0		21.8
10	192	24.5	17	00.7		51.4	329	37.8		22.4
11	207	26.9	32	00.6	+2	50.5	344	38.5	-16	22.9
12	222	29.4	47	00.6	+2	49.6	359	39.3	-16	23.4
13	237	31.9	62	00.5		48.8	14	40.0		24.0
14	252	34.3	77	00.5		47.9	29	40.8		24.5
15	267	36.8	92	00.4		47.0	44	41.5		25.0
16	282	39.3	107	00.3		46.1	59	42.2		25.6
17	297	41.7	122	00.3	+2	45.3	74	43.0	-16	26.1
18	312	44.2	137	00.2	+2	44.4	89	43.7	-16	26.6
19	327	46.7	152	00.2		43.5	104	44.5		27.1
20	342	49.1	167	00.1		42.6	119	45.2		27.7
21	357	51.6	182	00.0		41.7	134	45.9		28.2
22	12	54.1	197	00.0		40.9	149	46.7		28.7
23	27	56.5	211	59.9		40.0	164	47.4		29.3
24	42	59.0	226	59.9	+2	39.1	179	48.2	-16	29.8
Dif	—		-1		-9		+7		-5	
									+28	
									-1	
									+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 43.5 ^m				Edad: 20.3 ^d PHE { 4 ^h : 54/9 12 ^h : 54/7 20 ^h : 54/6 SD: 15'0 PMG: 5 ^h 16 ^m Rº: 49 ^m													
	hG ☉	Dec	hG ☾	Dif	Dec	Dif			Civil	Náutico			Hora	Rº	Hora	Rº		
h	° /	° /	° /	° /	° /	° /	°	h m	h m	h m	h m m	h m m	h m m	h m m	h m m	h m m	h m m	
0	184	06.8	-15	13.2	283	35.7	+26	03.6	61	60 N	15 57	16 43	17 33	20 31	92	15 01	3	
1	199	06.8		13.9	298	05.1	+25	57.5	62	58	16 06	49	36	20 51	86	14 40	10	
2	214	06.8		14.7	312	34.5		51.3	63	56	14	54	38	21 08	81	23	14	
3	229	06.8		15.5	327	04.1		45.0	65	54	21	16 58	40	22 77		14 08	18	
4	244	06.8		16.3	341	33.7		38.5	65	52	27	17 03	43	34 75		13 55	21	
5	259	06.8	-15	17.0	356	03.5	+25	32.0	65	50	16 32	17 07	17 45	21 45	72	13 44	23	
6	274	06.8	-15	17.8	10	33.3	+25	25.3	67	45	16 45	17 15	17 50	22 08	66	13 20	28	
7	289	06.8		18.6	25	03.2		18.5	68	40	16 55	23	17 55	26 63		13 01	32	
8	304	06.8		19.4	39	33.1		11.6	69	35	17 03	30	18 00	41 60		12 46	34	
9	319	06.8		20.1	54	03.2	+25	04.6	70	30	11	36	04	22 54	57	32	37	
10	334	06.8		20.9	68	33.3	+24	57.5	71	20	24	47	13	23 16	53	12 08	41	
11	349	06.8	-15	21.7	83	03.6	+24	50.2	73	10 N	17 36	17 58	18 23	23 35	49	11 48	44	
12	4	06.8	-15	22.4	97	33.9	+24	42.9	73	0	17 47	18 08	18 33	23 53	46	11 28	48	
13	19	06.8		23.2	112	04.3		35.4	75	10 S	17 58	20	18 46	** ** *	**	11 09	50	
14	34	06.7		24.0	126	34.8		27.9	75	20	18 10	33	19 01	** ** *	**	10 48	54	
15	49	06.7		24.7	141	05.3		20.2	77	30	24	18 50	20	0 12	40	24	58	
16	64	06.7		25.5	155	36.0		12.4	78	35	33	19 00	32	27 38		10 10	60	
17	79	06.7	-15	26.3	170	06.7	+24	04.5	79	40	18 42	19 11	19 47	0 44	35	9 53	63	
18	94	06.7	-15	27.1	184	37.5	+23	56.5	80	45	18 53	19 25	20 06	1 05	32	9 33	67	
19	109	06.7		27.8	199	08.5		48.4	81	50	19 06	43	31	31 27		9 08	72	
20	124	06.7		28.6	213	39.4		40.2	82	52	13	19 52	43	44 24		8 56	74	
21	139	06.7		29.4	228	10.5		32.0	82	54	20	20 01	20 57	1 58	21	42	77	
22	154	06.7		30.1	242	41.7		23.6	84	56	27	12	21 15	2 15	17	25	82	
23	169	06.7		30.9	257	12.9		15.1	85	58	36	25	21 37	2 35	13	8 06	86	
24	184	06.6	-15	31.7	271	44.3	+23	06.5	86	60 S	19 46	20 40	22 07	3 00	5	7 41	94	
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 21 ^h 04.6 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m			Mag: +1.5 PMG: 12 ^h 00 ^m			Mag: -2.9 PMG: 23 ^h 37 ^m			Mag: +0.7 PMG: 19 ^h 18 ^m						
	hG ♈	hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec		hG ♅	Dec			
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	
0	42	59.0	226	59.9	+2	39.1	179	48.2	-16	29.8	4	32.6	+13	36.0	69	46.5	-12	54.8
1	58	01.4	241	59.8		38.2	194	48.9		30.3	19	35.4		35.9	84	49.0		54.8
2	73	03.9	256	59.7		37.3	209	49.6		30.8	34	38.2		35.8	99	51.4		54.8
3	88	06.4	271	59.7		36.5	224	50.4		31.4	49	41.0		35.7	114	53.9		54.8
4	103	08.8	286	59.6		35.6	239	51.1		31.9	64	43.8		35.6	129	56.4		54.8
5	118	11.3	301	59.5	+2	34.7	254	51.8	-16	32.4	79	46.5	+13	35.5	144	58.8	-12	54.8
6	133	13.8	316	59.5	+2	33.8	269	52.6	-16	32.9	94	49.3	+13	35.4	160	01.3	-12	54.8
7	148	16.2	331	59.4		32.9	284	53.3		33.5	109	52.1		35.2	175	03.8		54.7
8	163	18.7	346	59.4		32.0	299	54.1		34.0	124	54.9		35.1	190	06.2		54.7
9	178	21.2	1	59.3		31.2	314	54.8		34.5	139	57.7		35.0	205	08.7		54.7
10	193	23.6	16	59.2		30.3	329	55.5		35.0	155	00.5		34.9	220	11.2		54.7
11	208	26.1	31	59.2	+2	29.4	344	56.3	-16	35.6	170	03.3	+13	34.8	235	13.6	-12	54.7
12	223	28.6	46	59.1	+2	28.5	359	57.0	-16	36.1	185	06.1	+13	34.7	250	16.1	-12	54.7
13	238	31.0	61	59.0		27.6	14	57.7		36.6	200	08.9		34.6	265	18.6		54.7
14	253	33.5	76	59.0		26.7	29	58.5		37.1	215	11.7		34.5	280	21.0		54.7
15	268	35.9	91	58.9		25.8	44	59.2		37.7	230	14.5		34.4	295	23.5		54.7
16	283	38.4	106	58.8		25.0	59	59.9		38.2	245	17.3		34.3	310	26.0		54.7
17	298	40.9	121	58.8	+2	24.1	75	00.7	-16	38.7	260	20.1	+13	34.2	325	28.4	-12	54.7
18	313	43.3	136	58.7	+2	23.2	90	01.4	-16	39.2	275	22.9	+13	34.1	340	30.9	-12	54.7
19	328	45.8	151	58.6		22.3	105	02.1		39.8	290	25.7		34.0	355	33.3		54.7
20	343	48.3	166	58.6		21.4	120	02.9		40.3	305	28.5		33.9	10	35.8		54.7
21	358	50.7	181	58.5		20.5	135	03.6		40.8	320	31.3		33.8	25	38.3		54.7
22	13	53.2	196	58.4		19.6	150	04.3		41.3	335	34.1		33.7	40	40.7		54.7
23	28	55.7	211	58.3		18.7	165	05.1		41.9	350	36.9		33.6	55	43.2		54.7
24	43	58.1	226	58.3	+2	17.8	180	05.8	-16	42.4	5	39.7	+13	33.5	70	45.7	-12	54.7
Dif	—		-1		-9		+7		-5		+28		-1		+25			

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: 21.3 ^d PHE { 4 ^h : 54 ^h 5 12 ^h : 54 ^h 4 20 ^h : 54 ^h 3 R°: 44 ^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	184	06.6	-15	31.7	271	44.3	+23	06.5	87	60 N	5 55	6 45	7 32	22 03	88	15 04	1
1	199	06.6		32.4	286	15.7	+22	57.8	88	58	53	40	23	17 83		14 50	5
2	214	06.6		33.2	300	47.2		49.0	89	56	50	34	15	29 79		37 9	
3	229	06.6		33.9	315	18.7		40.1	89	54	47	30	08	39 76		26 12	
4	244	06.6		34.7	329	50.4		31.2	89	52	45	25	7 01	49 73		16 15	
5	259	06.6	-15	35.5	344	22.1	+22	22.1	91	50	5 43	6 21	6 56	22 57	70	14 07	18
6	274	06.6	-15	36.2	358	53.9	+22	12.9	92	45	5 38	6 12	6 43	23 14	66	13 48	23
7	289	06.6		37.0	13	25.8	+22	03.7	92	40	33	6 05	33	29 61		33 26	
8	304	06.5		37.8	27	57.8	+21	54.3	94	35	28	5 58	24	41 58		20 29	
9	319	06.5		38.5	42	29.9		44.9	94	30	23	52	17	23 51	55	13 09	32
10	334	06.5		39.3	57	02.0		35.4	95	20	14	40	6 03	** ** *		12 49	37
11	349	06.5	-15	40.0	71	34.2	+21	25.8	96	10 N	5 04	5 30	5 51	** ** *		12 32	40
12	4	06.5	-15	40.8	86	06.5	+21	16.1	97	0	4 54	5 19	5 40	** ** *		12 16	44
13	19	06.5		41.6	100	38.9	+21	06.3	98	10 S	41	5 07	29	0 11	42	11 59	48
14	34	06.4		42.3	115	11.4	+20	56.5	98	20	26	4 53	17	30 39		42 52	
15	49	06.4		43.1	129	43.9		46.5	100	30	4 07	37	5 02	0 52	34	22 56	
16	64	06.4		43.8	144	16.5		36.5	100	35	3 54	27	4 54	1 05	31	11 10	59
17	79	06.4	-15	44.6	158	49.2	+20	26.4	101	40	3 39	4 15	4 45	1 19	29	10 56	62
18	94	06.4	-15	45.3	173	21.9	+20	16.2	102	45	3 21	4 01	4 34	1 37	24	10 40	66
19	109	06.4		46.1	187	54.7	+20	05.9	103	50	2 56	3 43	20	1 58	20	20 71	
20	124	06.3		46.9	202	27.6	+19	55.6	103	52	44	35	14	2 08	18	10 10	74
21	139	06.3		47.6	217	00.6		45.1	105	54	29	25	4 07	19 15		9 59	77
22	154	06.3		48.4	231	33.7		34.6	105	56	2 12	14	3 59	32 12		47 80	
23	169	06.3		49.1	246	06.8		24.0	106	58	1 50	3 01	50	2 48	7	32 85	
24	184	06.3	-15	49.9	260	40.0	+19	13.4	106	60 S	1 20	2 46	3 40	3 05	2	9 15	90

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 21 ^h 00.7 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 11 ^h 59 ^m		Mag: -2.9 PMG: 23 ^h 33 ^m		Mag: +0.7 PMG: 19 ^h 14 ^m									
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	43	58.1	226	58.3	+2	17.8	180	05.8	-16	42.4	5	39.7	+13	33.5	70	45.7	-12	54.7
1	59	00.6	241	58.2		17.0	195	06.5		42.9	20	42.5		33.4	85	48.1		54.7
2	74	03.0	256	58.1		16.1	210	07.3		43.4	35	45.3		33.3	100	50.6		54.7
3	89	05.5	271	58.1		15.2	225	08.0		43.9	50	48.1		33.2	115	53.0		54.6
4	104	08.0	286	58.0		14.3	240	08.7		44.5	65	50.9		33.1	130	55.5		54.6
5	119	10.4	301	57.9	+2	13.4	255	09.5	-16	45.0	80	53.7	+13	33.0	145	58.0	-12	54.6
6	134	12.9	316	57.8	+2	12.5	270	10.2	-16	45.5	95	56.5	+13	32.9	161	00.4	-12	54.6
7	149	15.4	331	57.8		11.6	285	10.9		46.0	110	59.3		32.8	176	02.9		54.6
8	164	17.8	346	57.7		10.7	300	11.7		46.5	126	02.1		32.7	191	05.4		54.6
9	179	20.3	1	57.6		09.8	315	12.4		47.1	141	04.9		32.6	206	07.8		54.6
10	194	22.8	16	57.6		08.9	330	13.1		47.6	156	07.7		32.5	221	10.3		54.6
11	209	25.2	31	57.5	+2	08.0	345	13.9	-16	48.1	171	10.5	+13	32.4	236	12.7	-12	54.6
12	224	27.7	46	57.4	+2	07.1	0	14.6	-16	48.6	186	13.3	+13	32.3	251	15.2	-12	54.6
13	239	30.2	61	57.3		06.2	15	15.3		49.1	201	16.1		32.2	266	17.7		54.6
14	254	32.6	76	57.3		05.3	30	16.1		49.7	216	18.9		32.1	281	20.1		54.6
15	269	35.1	91	57.2		04.4	45	16.8		50.2	231	21.6		32.0	296	22.6		54.6
16	284	37.5	106	57.1		03.5	60	17.5		50.7	246	24.4		31.9	311	25.0		54.6
17	299	40.0	121	57.0	+2	02.6	75	18.2	-16	51.2	261	27.2	+13	31.8	326	27.5	-12	54.6
18	314	42.5	136	56.9	+2	01.7	90	19.0	-16	51.7	276	30.0	+13	31.7	341	30.0	-12	54.6
19	329	44.9	151	56.9	+2	00.8	105	19.7		52.3	291	32.8		31.6	356	32.4		54.6
20	344	47.4	166	56.8	+1	59.9	120	20.4		52.8	306	35.6		31.5	11	34.9		54.5
21	359	49.9	181	56.7		59.0	135	21.2		53.3	321	38.4		31.4	26	37.3		54.5
22	14	52.3	196	56.6		58.1	150	21.9		53.8	336	41.2		31.3	41	39.8		54.5
23	29	54.8	211	56.6		57.2	165	22.6		54.3	351	44.0		31.2	56	42.3		54.5
24	44	57.3	226	56.5	+1	56.3	180	23.3	-16	54.8	6	46.8	+13	31.1	71	44.7	-12	54.5
Dif	—		-1		-9		+7		-5		+28		-1		+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: 22.3 ^d SD: 14'8 PMG: 6 ^h 49 ^m						PHE { 4 ^h : 54'2 12 ^h : 54'2 20 ^h : 54'2 R°: 43 ^m														
	hG ☉		Dec		hG ☾		Dif				Dec		Dif												
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m								
0	184	06.3	-15	49.9	260	40.0	+19	13.4	108	60 N	15	52	16	38	17	29	23	31	84	15	05	0			
1	199	06.2		50.6	275	13.2	142	+19	02.6	108	58	16	01		45	32	40	81	14	55	4				
2	214	06.2		51.4	289	46.5	143	+18	51.8	108	56		10		50	35	48	77			46	7			
3	229	06.2		52.1	304	19.9	144		40.9	109	54		17		55	37	23	55	75		38	10			
4	244	06.2		52.9	318	53.4	145		30.0	109	52		23	16	59	40	**	**	**		31	12			
5	259	06.2	-15	53.6	333	26.9	145	+18	19.0	110	50	16	29	17	04	17	42	**	**	**		14	25	14	
6	274	06.1	-15	54.4	348	00.5	146	+18	07.9	111	45		16	42	17	13	17	48	**	**	**		14	11	19
7	289	06.1		55.2	2	34.2	147	+17	56.7	112	40		16	52		21	53	**	**	**		13	59	23	
8	304	06.1		55.9	17	07.9	147		45.5	112	35		17	01		28	17	58	**	**	**		49	26	
9	319	06.1		56.7	31	41.7	148		34.2	113	30		09		34	18	03	**	**	**		41	28		
10	334	06.0		57.4	46	15.5	148		22.8	114	20		23		46	12	0	09	51		26	33			
11	349	06.0	-15	58.2	60	49.5	150	+17	11.3	115	10 N	17	36	17	57	18	23	0	24	47		13	12	38	
12	4	06.0	-15	58.9	75	23.4	149	+16	59.8	115	0	17	47	18	09	18	34	0	39	43		13	00	41	
13	19	06.0	-15	59.6	89	57.5	151		48.3	115	10 S	17	59		21	18	46	0	53	39		12	47	46	
14	34	05.9	-16	00.4	104	31.6	151		36.6	117	20	18	11		35	19	02	1	09	35		34	49		
15	49	05.9		01.1	119	05.7	151		24.9	117	30		26	18	52	22	26	30		36		18	55		
16	64	05.9		01.9	133	39.9	152		13.2	117	35		34	19	02	35		36	28		12	09	58		
17	79	05.9	-16	02.6	148	14.2	153	+16	01.4	118	40	18	44	19	14	19	50	1	48	24		11	58	61	
18	94	05.8	-16	03.4	162	48.5	153	+15	49.5	119	45	18	56	19	29	20	09	2	01	21		11	46	65	
19	109	05.8		04.1	177	22.9	154		37.5	120	50	19	10		47	35		18	16			31	70		
20	124	05.8		04.9	191	57.3	154		25.5	120	52		16	19	56	20	48	26	13			24	72		
21	139	05.7		05.6	206	31.8	155		13.5	120	54		24	20	06	21	03	34	11			16	75		
22	154	05.7		06.4	221	06.3	155	+15	01.4	121	56		32		17	22		44	7		11	07	78		
23	169	05.7		07.1	235	40.9	156	+14	49.2	122	58		41	31	21	46	2	55	4		10	57	82		
24	184	05.7	-16	07.9	250	15.6	157	+14	36.9	123	60 S	19	52	20	47	22	19	3	07	0		10	45	87	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 56.7 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 11 ^h 58 ^m		Mag: -2.9 PMG: 23 ^h 29 ^m		Mag: +0.8 PMG: 19 ^h 10 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	44	57.3	226	56.5	+1	56.3	180	23.3	-16	54.8
1	59	59.7	241	56.4		55.4	195	24.1		55.4
2	75	02.2	256	56.3		54.5	210	24.8		55.9
3	90	04.7	271	56.2		53.6	225	25.5		56.4
4	105	07.1	286	56.2		52.7	240	26.2		56.9
5	120	09.6	301	56.1	+1	51.8	255	27.0	-16	57.4
6	135	12.0	316	56.0	+1	50.9	270	27.7	-16	57.9
7	150	14.5	331	55.9		50.0	285	28.4		58.5
8	165	17.0	346	55.8		49.1	300	29.1		59.0
9	180	19.4		55.8		48.2	315	29.9	-16	59.5
10	195	21.9	16	55.7		47.3	330	30.6	-17	00.0
11	210	24.4	31	55.6	+1	46.4	345	31.3	-17	00.5
12	225	26.8	46	55.5	+1	45.5	0	32.0	-17	01.0
13	240	29.3	61	55.4		44.6	15	32.8		01.5
14	255	31.8	76	55.3		43.6	30	33.5		02.1
15	270	34.2	91	55.3		42.7	45	34.2		02.6
16	285	36.7	106	55.2		41.8	60	34.9		03.1
17	300	39.1	121	55.1	+1	40.9	75	35.7	-17	03.6
18	315	41.6	136	55.0	+1	40.0	90	36.4	-17	04.1
19	330	44.1	151	54.9		39.1	105	37.1		04.6
20	345	46.5	166	54.8		38.2	120	37.8		05.1
21	0	49.0	181	54.7		37.3	135	38.5		05.7
22	15	51.5	196	54.7		36.4	150	39.3		06.2
23	30	53.9	211	54.6		35.4	165	40.0		06.7
24	45	56.4	226	54.5	+1	34.5	180	40.7	-17	07.2
Dif	—		-1		-9		+7		-5	
							+28		-1	
									+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: 23.3 ^d SD: 14 ^h 8 PMG: 7 ^h 32 ^m																
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Hora		R°		Hora		R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	m	h	m	m	h	m	m
0	184	05.7	-16	07.9	250	15.6	+14	36.9	60 N	6 00	6 50	7 37	**	**	**	15	05	0			
1	199	05.6		08.6	264	50.3 ¹⁵⁷		24.7 ¹²²	58	5 57	44	27	**	**	**	14	59	2			
2	214	05.6		09.3	279	25.0 ¹⁵⁷	+14	12.3 ¹²⁴	56	54	38	19	**	**	**			53	5		
3	229	05.6		10.1	293	59.8 ¹⁵⁸	+13	59.9 ¹²⁴	54	51	33	12	**	**	**	48	8				
4	244	05.5		10.8	308	34.6 ¹⁵⁸		47.5 ¹²⁴	52	48	29	7 05	0 02	71	43	11					
5	259	05.5	-16	11.6	323	09.5 ¹⁵⁹	+13	35.0 ¹²⁵	50	5 46	6 24	6 59	0 08	69	14 39	12					
6	274	05.5	-16	12.3	337	44.4 ¹⁵⁹	+13	22.4 ¹²⁶	45	5 40	6 15	6 46	0 20	64	14 30	17					
7	289	05.4		13.0	352	19.4 ¹⁶⁰	+13	09.8 ¹²⁶	40	35	07	35	30	61	22	21					
8	304	05.4		13.8	6	54.4 ¹⁶⁰	+12	57.1 ¹²⁷	35	30	6 00	26	39	57	15	24					
9	319	05.4		14.5	21	29.4 ¹⁶⁰		44.4 ¹²⁷	30	25	5 53	18	0 46	55	14 09	27					
10	334	05.3		15.3	36	04.5 ¹⁶¹		31.7 ¹²⁷	20	15	41	6 04	1 00	49	13 59	32					
11	349	05.3	-16	16.0	50	39.7 ¹⁶²	+12	18.9 ¹²⁸	10 N	5 05	5 30	5 52	1 11	45	13 50	36					
12	4	05.3	-16	16.7	65	14.8 ¹⁶¹	+12	06.0 ¹²⁹	0	4 54	5 19	5 40	1 22	40	13 41	41					
13	19	05.2		17.5	79	50.0 ¹⁶²	+11	53.1 ¹²⁹	10 S	41	5 06	28	32	37	33	44					
14	34	05.2		18.2	94	25.3 ¹⁶³		40.2 ¹²⁹	20	25	4 52	16	44	32	23	49					
15	49	05.2		18.9	109	00.6 ¹⁶³		27.2 ¹³⁰	30	4 05	35	5 01	1 56	28	13	54					
16	64	05.1		19.7	123	35.9 ¹⁶³		14.1 ¹³¹	35	3 52	25	4 52	2 04	24	13 07	56					
17	79	05.1	-16	20.4	138	11.2 ¹⁶³	+11	01.0 ¹³¹	40	3 37	4 13	4 43	2 12	22	12 59	61					
18	94	05.1	-16	21.2	152	46.6 ¹⁶⁴	+10	47.9 ¹³¹	45	3 17	3 58	4 31	2 22	17	12 51	64					
19	109	05.0		21.9	167	22.0 ¹⁶⁴		34.7 ¹³²	50	2 52	40	17	34	13	41	69					
20	124	05.0		22.6	181	57.5 ¹⁶⁵		21.5 ¹³²	52	39	31	10	39	11	36	72					
21	139	05.0		23.4	196	33.0 ¹⁶⁵	+10	08.3 ¹³²	54	23	21	4 03	45	8	31	74					
22	154	04.9		24.1	211	08.5 ¹⁶⁵	+9	55.0 ¹³³	56	2 05	3 09	3 55	51	6	25	77					
23	169	04.9		24.8	225	44.0 ¹⁶⁵		41.6 ¹³⁴	58	1 41	2 56	46	2 59	3	19	80					
24	184	04.8	-16	25.6	240	19.6 ¹⁶⁶	+9	28.3 ¹³³	60 S	1 07	2 40	3 35	3 07	0	12 12	83					

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO											
	PMG: 20 ^h 52.8 ^m		Mag: -4.4 PMG: 8 ^h 52 ^m		Mag: +1.5 PMG: 11 ^h 57 ^m		Mag: -2.9 PMG: 23 ^h 24 ^m		Mag: +0.8 PMG: 19 ^h 06 ^m											
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec										
h	°	'	°	'	°	'	°	'	°	'										
0	45	56.4	226	54.5	+1	34.5	180	40.7	-17	07.2	7	53.9	+13	28.6	72	43.7	-12	54.3		
1	60	58.9	241	54.4		33.6	195	41.4		07.7	22	56.7		28.5	87	46.1		54.3		
2	76	01.3	256	54.3		32.7	210	42.2		08.2	37	59.5		28.4	102	48.6		54.3		
3	91	03.8	271	54.2		31.8	225	42.9		08.7	53	02.3		28.3	117	51.0		54.3		
4	106	06.3	286	54.1		30.9	240	43.6		09.2	68	05.1		28.2	132	53.5		54.3		
5	121	08.7	301	54.0	+1	30.0	255	44.3	-17	09.7	83	07.9	+13	28.1	147	56.0	-12	54.3		
6	136	11.2	316	53.9	+1	29.1	270	45.0	-17	10.3	98	10.7	+13	28.0	162	58.4	-12	54.3		
7	151	13.6	331	53.9		28.1	285	45.8		10.8	113	13.5		27.9	178	00.9		54.3		
8	166	16.1	346	53.8		27.2	300	46.5		11.3	128	16.3		27.8	193	03.3		54.3		
9	181	18.6	1	53.7		26.3	315	47.2		11.8	143	19.1		27.7	208	05.8		54.2		
10	196	21.0	16	53.6		25.4	330	47.9		12.3	158	21.9		27.6	223	08.2		54.2		
11	211	23.5	31	53.5	+1	24.5	345	48.6	-17	12.8	173	24.7	+13	27.5	238	10.7	-12	54.2		
12	226	26.0	46	53.4	+1	23.6	0	49.3	-17	13.3	188	27.5	+13	27.4	253	13.1	-12	54.2		
13	241	28.4	61	53.3		22.6	15	50.1		13.8	203	30.3		27.3	268	15.6		54.2		
14	256	30.9	76	53.2		21.7	30	50.8		14.3	218	33.1		27.2	283	18.0		54.2		
15	271	33.4	91	53.1		20.8	45	51.5		14.8	233	35.8		27.1	298	20.5		54.2		
16	286	35.8	106	53.0		19.9	60	52.2		15.3	248	38.6		27.0	313	22.9		54.2		
17	301	38.3	121	52.9	+1	19.0	75	52.9	-17	15.9	263	41.4	+13	26.9	328	25.4	-12	54.2		
18	316	40.8	136	52.8	+1	18.0	90	53.6	-17	16.4	278	44.2	+13	26.8	343	27.8	-12	54.2		
19	331	43.2	151	52.7		17.1	105	54.4		16.9	293	47.0		26.7	358	30.3		54.2		
20	346	45.7	166	52.7		16.2	120	55.1		17.4	308	49.8		26.6	13	32.7		54.1		
21	1	48.1	181	52.6		15.3	135	55.8		17.9	323	52.6		26.5	28	35.2		54.1		
22	16	50.6	196	52.5		14.4	150	56.5		18.4	338	55.4		26.4	43	37.6		54.1		
23	31	53.1	211	52.4		13.4	165	57.2		18.9	353	58.2		26.3	58	40.1		54.1		
24	46	55.5	226	52.3	+1	12.5	180	57.9	-17	19.4	9	01.0	+13	26.2	73	42.5	-12	54.1		
Dif	—		-1		-9		+7		-5		+28		-1		+25					

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16 ^h 1 PMG: 11 ^h 43.7 ^m				Edad: 24.3 ^d PHE { 4 ^h : 54 ^h /3 12 ^h : 54 ^h /4 20 ^h : 54 ^h /5 Rº: 40 ^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	184	04.8	-16	25.6	240	19.6	+9	28.3	60 N	15 47	16 34	17 25	0 55 83	15 05	**				
1	199	04.8		26.3	254	55.1		14.9	58	15 57	41	28	1 01 79	15 01	2				
2	214	04.8		27.0	269	30.7	+9	01.4	56	16 06	46	31	05 77	14 58	5				
3	229	04.7		27.7	284	06.4	+8	47.9	54	13	52	34	10 73	56	7				
4	244	04.7		28.5	298	42.0		34.4	52	20	16 56	37	13 72	54	9				
5	259	04.7	-16	29.2	313	17.7	+8	20.8	50	16 26	17 01	17 39	1 17 69	14 51	12				
6	274	04.6	-16	29.9	327	53.4	+8	07.2	45	16 39	17 10	17 46	1 24 64	14 47	16				
7	289	04.6		30.7	342	29.1	+7	53.6	40	16 50	19	51	31 60	43	19				
8	304	04.5		31.4	357	04.8		40.0	35	17 00	26	17 56	36 57	39	23				
9	319	04.5		32.1	11	40.6		26.3	30	08	33	18 02	41 53	36	26				
10	334	04.4		32.8	26	16.4	+7	12.5	20	22	45	12	49 48	31	31				
11	349	04.4	-16	33.6	40	52.1	+6	58.8	10 N	17 35	17 57	18 22	1 56 44	14 26	36				
12	4	04.4	-16	34.3	55	27.9	+6	45.0	0	17 47	18 09	18 34	2 02 40	14 22	39				
13	19	04.3		35.0	70	03.7		31.1	10 S	17 59	21	18 47	09 36	17	44				
14	34	04.3		35.8	84	39.6		17.3	20	18 12	36	19 03	16 31	12	49				
15	49	04.2		36.5	99	15.4	+6	03.4	30	28	18 53	24	24 26	07	53				
16	64	04.2		37.2	113	51.2	+5	49.5	35	36	19 04	37	28 24	03	57				
17	79	04.1	-16	37.9	128	27.1	+5	35.6	40	18 47	19 16	19 53	2 34 20	14 00	60				
18	94	04.1	-16	38.6	143	02.9	+5	21.6	45	18 59	19 32	20 13	2 39 17	13 55	64				
19	109	04.1		39.4	157	38.8	+5	07.6	50	19 13	19 51	40	47 11	50	69				
20	124	04.0		40.1	172	14.7	+4	53.6	52	20	20 00	20 53	50 10	48	71				
21	139	04.0		40.8	186	50.5		39.5	54	28	11	21 09	53 8	45	74				
22	154	03.9		41.5	201	26.4		25.5	56	36	23	29	2 57 5	42	77				
23	169	03.9		42.3	216	02.3	+4	11.4	58	46	37	21 55	3 02 2	39	79				
24	184	03.8	-16	43.0	230	38.2	+3	57.3	60 S	19 57	20 54	22 34	3 07 **	13 35	83				
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO							
	PMG 20 ^h 48.9 ^m		Mag: -4.4 PMG: 8 ^h 53 ^m			Mag: +1.5 PMG: 11 ^h 56 ^m			Mag: -2.9 PMG: 23 ^h 20 ^m			Mag: +0.8 PMG: 19 ^h 02 ^m							
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	46	55.5	226	52.3	+1	12.5	180	57.9	-17	19.4	9	01.0	+13	26.2	73	42.5			
1	61	58.0	241	52.2		11.6	195	58.7		19.9	24	03.8		26.1	88	45.0			
2	77	00.5	256	52.1		10.7	210	59.4		20.4	39	06.6		26.0	103	47.4			
3	92	02.9	271	52.0		09.7	226	00.1		20.9	54	09.4		25.9	118	49.9			
4	107	05.4	286	51.9		08.8	241	00.8		21.4	69	12.2		25.8	133	52.3			
5	122	07.9	301	51.8	+1	07.9	256	01.5	-17	21.9	84	15.0	+13	25.7	148	54.8			
6	137	10.3	316	51.7	+1	07.0	271	02.2	-17	22.4	99	17.8	+13	25.6	163	57.2			
7	152	12.8	331	51.6		06.0	286	02.9		22.9	114	20.6		25.5	178	59.7			
8	167	15.2	346	51.5		05.1	301	03.7		23.4	129	23.4		25.4	194	02.1			
9	182	17.7	1	51.4		04.2	316	04.4		24.0	144	26.1		25.3	209	04.6			
10	197	20.2	16	51.3		03.3	331	05.1		24.5	159	28.9		25.2	224	07.0			
11	212	22.6	31	51.2	+1	02.3	346	05.8	-17	25.0	174	31.7	+13	25.1	239	09.5			
12	227	25.1	46	51.1	+1	01.4	1	06.5	-17	25.5	189	34.5	+13	25.0	254	11.9			
13	242	27.6	61	51.0	+1	00.5	16	07.2		26.0	204	37.3		24.9	269	14.4			
14	257	30.0	76	50.9	+0	59.6	31	07.9		26.5	219	40.1		24.8	284	16.8			
15	272	32.5	91	50.8		58.6	46	08.6		27.0	234	42.9		24.7	299	19.3			
16	287	35.0	106	50.7		57.7	61	09.3		27.5	249	45.7		24.6	314	21.7			
17	302	37.4	121	50.6	+0	56.8	76	10.1	-17	28.0	264	48.5	+13	24.5	329	24.2			
18	317	39.9	136	50.5	+0	55.8	91	10.8	-17	28.5	279	51.3	+13	24.4	344	26.6			
19	332	42.4	151	50.4		54.9	106	11.5		29.0	294	54.1		24.3	359	29.1			
20	347	44.8	166	50.3		54.0	121	12.2		29.5	309	56.9		24.2	14	31.5			
21	2	47.3	181	50.2		53.0	136	12.9		30.0	324	59.7		24.1	29	34.0			
22	17	49.7	196	50.1		52.1	151	13.6		30.5	340	02.5		24.0	44	36.4			
23	32	52.2	211	50.0		51.2	166	14.3		31.0	355	05.3		23.9	59	38.9			
24	47	54.7	226	49.9	+0	50.2	181	15.0	-17	31.5	10	08.0	+13	23.8	74	41.3			
Dif	—		-1			-9			+7			+28			-1			+24	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16 ^h 1 PMG: 11 ^h 43.8 ^m				Edad: 25.3 ^d PHE { 4 ^h : 54 ^h /6 12 ^h : 54 ^h /7 20 ^h : 54 ^h /9 R°: 40 ^m											
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m
0	184	03.8	-16	43.0	230	38.2	+3	57.3	60 N	6	04	6	55	7	42	
1	199	03.8		43.7	245	14.0		43.1	58	6	01	48	32	20	80	03
2	214	03.7		44.4	259	49.9		29.0	56	5	57	42	23	22	77	03
3	229	03.7		45.1	274	25.8		14.8	54	54	37	16	23	74	03	7
4	244	03.6		45.9	289	01.7		00.6	52	51	32	09	25	71	03	10
5	259	03.6	-16	46.6	303	37.5	+2	46.4	50	5	49	6	28	2	26	69
6	274	03.5	-16	47.3	318	13.4	+2	32.1	45	5	43	6	18	2	28	65
7	289	03.5		48.0	332	49.2		17.9	40	37	09	38	31	60	02	21
8	304	03.4		48.7	347	25.1		03.6	35	31	6	02	28	33	57	02
9	319	03.4		49.4	2	00.9	+1	49.3	30	26	5	55	20	34	54	02
10	334	03.3		50.2	16	36.7		35.0	20	16	42	6	05	37	49	02
11	349	03.3	-16	50.9	31	12.5	+1	20.7	10 N	5	05	5	52	2	40	44
12	4	03.2	-16	51.6	45	48.3	+1	06.4	0	4	54	5	19	5	40	15
13	19	03.2		52.3	60	24.1	+0	52.0	10 S	40	5	06	28	45	35	01
14	34	03.1		53.0	74	59.9		37.7	20	24	4	52	15	47	31	01
15	49	03.1		53.7	89	35.7		23.3	30	4	03	34	5	00	50	26
16	64	03.0		54.4	104	11.4	+0	08.9	35	3	50	23	4	51	52	23
17	79	03.0	-16	55.2	118	47.1	-0	05.5	40	3	34	4	11	2	54	19
18	94	02.9	-16	55.9	133	22.8	-0	19.9	45	3	14	3	55	2	56	16
19	109	02.9		56.6	147	58.5		34.3	50	2	47	36	14	2	58	12
20	124	02.8		57.3	162	34.2	-0	48.7	52	34	27	4	07	3	00	9
21	139	02.7		58.0	177	09.8	-1	03.1	54	2	17	16	3	59	01	7
22	154	02.7		58.7	191	45.4		17.6	56	1	58	3	04	02	5	59
23	169	02.6	-16	59.4	206	21.0		32.0	58	1	32	2	50	04	2	58
24	184	02.6	-17	00.1	220	56.6	-1	46.4	60 S	0	53	2	33	3	06	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 44.9 ^m		Mag: -4.4 PMG: 8 ^h 53 ^m		Mag: +1.5 PMG: 11 ^h 54 ^m		Mag: -2.9 PMG: 23 ^h 15 ^m		Mag: +0.8 PMG: 18 ^h 58 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	47	54.7	226	49.9	+0	50.2	10	08.0	+13	23.8
1	62	57.1	241	49.8		49.3	25	10.8		23.7
2	77	59.6	256	49.6		48.4	40	13.6		23.6
3	93	02.1	271	49.5		47.5	55	16.4		23.5
4	108	04.5	286	49.4		46.5	70	19.2		23.4
5	123	07.0	301	49.3	+0	45.6	85	22.0	+13	23.3
6	138	09.5	316	49.2	+0	44.6	100	24.8	+13	23.2
7	153	11.9	331	49.1		43.7	115	27.6		23.1
8	168	14.4	346	49.0		42.8	130	30.4		23.0
9	183	16.8	1	48.9		41.8	145	33.2		22.9
10	198	19.3	16	48.8		40.9	160	36.0		22.8
11	213	21.8	31	48.7	+0	40.0	175	38.8	+13	22.7
12	228	24.2	46	48.6	+0	39.0	190	41.6	+13	22.6
13	243	26.7	61	48.5		38.1	205	44.4		22.5
14	258	29.2	76	48.4		37.2	220	47.1		22.4
15	273	31.6	91	48.3		36.2	235	49.9		22.3
16	288	34.1	106	48.1		35.3	250	52.7		22.2
17	303	36.6	121	48.0	+0	34.3	265	55.5	+13	22.1
18	318	39.0	136	47.9	+0	33.4	280	58.3	+13	22.0
19	333	41.5	151	47.8		32.5	296	01.1		21.9
20	348	44.0	166	47.7		31.5	311	03.9		21.8
21	3	46.4	181	47.6		30.6	326	06.7		21.7
22	18	48.9	196	47.5		29.7	341	09.5		21.6
23	33	51.3	211	47.4		28.7	356	12.3		21.5
24	48	53.8	226	47.3	+0	27.8	11	15.1	+13	21.4
Dif	—		-1	-9		+7	-5	+28	-1	
									+24	0

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna						
	SD: 16/1 PMG: 11 ^h 43.9 ^m			Edad: 26.3 ^d SD: 15/0 PMG: 9 ^h 32 ^m							PHE { 4 ^h : 55/0 12 ^h : 55/2 20 ^h : 55/3 R°: 42 ^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	02.6	-17	00.1	220	56.6	-1	46.4	60 N	15	42	16	30	17	21	3	42	86	15	02	0	
1	199	02.5		00.8	235	32.1	165	-2	00.9	58	15	53		37	24		40	82		05	3	
2	214	02.5		01.5	250	07.6	165		15.3	56	16	02		43	28		39	79		08	6	
3	229	02.4		02.2	264	43.1	165		29.8	54		10		48	31		37	77		10	9	
4	244	02.4		03.0	279	18.5	164		44.2	52		17		53	34		36	74		13	10	
5	259	02.3	-17	03.7	293	54.0	165	-2	58.7	50	16	23	16	58	17	37	3	35	72	15	15	13
6	274	02.2	-17	04.4	308	29.4	164	-3	13.1	45	16	37	17	08	17	43	3	33	67	15	19	18
7	289	02.2		05.1	323	04.7	163		27.6	40		48		17	49		31	63		23	21	
8	304	02.1		05.8	337	40.0	163		42.1	35	16	58		25	17	55	30	59		26	25	
9	319	02.1		06.5	352	15.3	163	-3	56.5	30	17	07		32	18	01	28	56		28	29	
10	334	02.0		07.2	6	50.5	162	-4	11.0	20		22		45	11		26	50		33	34	
11	349	01.9	-17	07.9	21	25.7	162	-4	25.4	10 N	17	35	17	57	18	22	3	24	46	15	38	38
12	4	01.9	-17	08.6	36	00.9	162	-4	39.8	0	17	47	18	09	18	34	3	22	41	15	42	42
13	19	01.8		09.3	50	36.0	161	-4	54.3	10 S	18	00		22	18	48		20	37		46	46
14	34	01.8		10.0	65	11.1	161	-5	08.7	20		14		37	19	05		18	33		50	51
15	49	01.7		10.7	79	46.1	160		23.1	30		29		18	55		26	16	27		55	57
16	64	01.6		11.4	94	21.1	160		37.5	35		38		19	06		39	15	24	15	58	60
17	79	01.6	-17	12.1	108	56.1	160	-5	51.9	40	18	49	19	19	19	56	3	13	21	16	01	63
18	94	01.5	-17	12.8	123	31.0	159	-6	06.3	45	19	01	19	35	20	17	3	12	17	16	05	67
19	109	01.4		13.5	138	05.8	158		20.7	50		17	19	55		44		10	12		09	73
20	124	01.4		14.2	152	40.7	159		35.0	52		24	20	04	20	59		09	10		11	76
21	139	01.3		14.9	167	15.4	157	-6	49.4	54		32		15	21	16		08	8		14	78
22	154	01.3		15.6	181	50.1	157	-7	03.7	56		41		28	21	37		07	5		16	81
23	169	01.2		16.3	196	24.8	157		18.0	58	19	51	20	43	22	05		06	2		19	84
24	184	01.1	-17	17.0	210	59.4	156	-7	32.3	60 S	20	02	21	01	22	51	3	05	**	16	22	88

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO										
	PMG 20 ^h 41.0 ^m		Mag: -4.4 PMG: 8 ^h 53 ^m		Mag: +1.5 PMG: 11 ^h 53 ^m		Mag: -2.9 PMG: 23 ^h 11 ^m		Mag: +0.8 PMG: 18 ^h 54 ^m										
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec									
h	°	/	°	/	°	/	°	/	°	/									
0	48	53.8	226	47.3	+0	27.8	181	32.0	-17	43.4	11	15.1	+13	21.4	75	40.0	-12	53.5	
1	63	56.3	241	47.1		26.8	196	32.7		43.9	26	17.9		21.3	90	42.4		53.5	
2	78	58.7	256	47.0		25.9	211	33.4		44.4	41	20.6		21.2	105	44.8		53.5	
3	94	01.2	271	46.9		24.9	226	34.1		44.9	56	23.4		21.1	120	47.3		53.5	
4	109	03.7	286	46.8		24.0	241	34.8		45.4	71	26.2		21.0	135	49.7		53.5	
5	124	06.1	301	46.7	+0	23.1	256	35.5	-17	45.9	86	29.0	+13	20.9	150	52.2	-12	53.5	
6	139	08.6	316	46.6	+0	22.1	271	36.2	-17	46.4	101	31.8	+13	20.8	165	54.6	-12	53.5	
7	154	11.1	331	46.5		21.2	286	36.9		46.9	116	34.6		20.7	180	57.1		53.4	
8	169	13.5	346	46.3		20.2	301	37.6		47.4	131	37.4		20.6	195	59.5		53.4	
9	184	16.0	1	46.2		19.3	316	38.3		47.9	146	40.2		20.5	211	01.9		53.4	
10	199	18.5	16	46.1		18.3	331	39.0		48.4	161	43.0		20.4	226	04.4		53.4	
11	214	20.9	31	46.0	+0	17.4	346	39.7	-17	48.9	176	45.8	+13	20.3	241	06.8	-12	53.4	
12	229	23.4	46	45.9	+0	16.5	1	40.4	-17	49.4	191	48.5	+13	20.2	256	09.3	-12	53.4	
13	244	25.8	61	45.8		15.5	16	41.1		49.9	206	51.3		20.1	271	11.7		53.4	
14	259	28.3	76	45.6		14.6	31	41.8		50.3	221	54.1		20.0	286	14.1		53.3	
15	274	30.8	91	45.5		13.6	46	42.5		50.8	236	56.9		19.9	301	16.6		53.3	
16	289	33.2	106	45.4		12.7	61	43.2		51.3	251	59.7		19.8	316	19.0		53.3	
17	304	35.7	121	45.3	+0	11.7	76	43.9	-17	51.8	267	02.5	+13	19.7	331	21.5	-12	53.3	
18	319	38.2	136	45.2	+0	10.8	91	44.6	-17	52.3	282	05.3	+13	19.6	346	23.9	-12	53.3	
19	334	40.6	151	45.0		09.8	106	45.3		52.8	297	08.1		19.5	1	26.3		53.3	
20	349	43.1	166	44.9		08.9	121	46.0		53.3	312	10.9		19.4	16	28.8		53.3	
21	4	45.6	181	44.8		07.9	136	46.7		53.8	327	13.7		19.3	31	31.2		53.2	
22	19	48.0	196	44.7		07.0	151	47.4		54.3	342	16.4		19.2	46	33.6		53.2	
23	34	50.5	211	44.6		06.0	166	48.1		54.8	357	19.2		19.1	61	36.1		53.2	
24	49	52.9	226	44.4	+0	05.1	181	48.8	-17	55.3	12	22.0	+13	19.0	76	38.5	-12	53.2	
Dif	—		-1		-9		+7		-5		+28		-1		+24				

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: 27.3 ^d SD: 15 ^h 1 ^m PMG: 10 ^h 14 ^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	01.1	-17	17.0	210	59.4	-7	32.3	155	33.9	-7	32.3	6 08	6 59	7 47	5 08	90	15 02	0			
1	199	01.1		17.7	225	33.9	-7	46.6	143	58		58	04	52	37	5 02	87	08	4			
2	214	01.0		18.4	240	08.4	-8	00.9	143	56		56	6 01	46	27	4 58	83	14	7			
3	229	00.9		19.1	254	42.8		15.1	142	54		54	5 58	40	19	54	80	19	10			
4	244	00.9		19.8	269	17.2		29.3	142	52		52	55	35	12	50	77	23	13			
5	259	00.8	-17	20.5	283	51.5	-8	43.5	142	50		50	5 52	6 31	7 06	4 47	74	15 28	15			
6	274	00.7	-17	21.2	298	25.8	-8	57.7	142	45		45	5 45	6 20	6 52	4 40	69	15 37	20			
7	289	00.7		21.8	313	00.0	-9	11.9	142	40		40	39	11	40	34	65	44	25			
8	304	00.6		22.5	327	34.1		26.0	141	35		35	33	6 03	30	29	61	51	28			
9	319	00.5		23.2	342	08.2		40.1	141	30		30	28	5 56	21	24	58	15 57	31			
10	334	00.5		23.9	356	42.2	-9	54.2	141	20		20	17	43	6 06	16	53	16 07	36			
11	349	00.4	-17	24.6	11	16.1	-10	08.3	141	10 N		10 N	5 06	5 31	5 53	4 10	48	16 16	41			
12	4	00.3	-17	25.3	25	50.0	-10	22.3	140	0		0	4 54	5 19	5 40	4 03	44	16 24	45			
13	19	00.2		26.0	40	23.8		36.3	140	10 S		10 S	40	5 06	28	3 57	40	32	50			
14	34	00.2		26.7	54	57.6	-10	50.2	140	20		20	23	4 51	5 14	51	34	41	55			
15	49	00.1		27.4	69	31.2	-11	04.2	139	30		30	4 02	33	4 58	43	30	52	59			
16	64	00.0		28.1	84	04.8		18.1	139	35		35	3 48	21	49	39	27	16 58	62			
17	79	00.0	-17	28.7	98	38.4	-11	31.9	138	40		40	3 32	4 08	4 38	3 34	23	17 04	67			
18	93	59.9	-17	29.4	113	11.8	-11	45.7	138	45		45	3 11	3 53	4 26	3 29	19	17 12	71			
19	108	59.8		30.1	127	45.2	-11	59.5	138	50		50	2 43	33	11	22	14	22	76			
20	123	59.7		30.8	142	18.5	-12	13.3	138	52		52	29	23	4 04	19	12	27	78			
21	138	59.7		31.5	156	51.7		27.0	137	54		54	2 12	3 12	3 56	16	9	32	81			
22	153	59.6		32.2	171	24.9		40.7	137	56		56	1 51	2 59	47	12	7	37	85			
23	168	59.5		32.9	185	57.9	-12	54.3	136	58		58	1 22	44	36	08	4	43	89			
24	183	59.5	-17	33.5	200	30.9	-13	07.9	136	60 S		60 S	0 36	2 26	3 25	3 04	0	17 50	94			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 37.1 ^m		Mag: -4.4 PMG: 8 ^h 53 ^m		Mag: +1.5 PMG: 11 ^h 52 ^m		Mag: -2.9 PMG: 23 ^h 06 ^m		Mag: +0.8 PMG: 18 ^h 50 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	49	52.9	226	44.4	+0	05.1	181	48.8	-17	55.3
1	64	55.4	241	44.3		04.1	196	49.5		55.7
2	79	57.9	256	44.2		03.2	211	50.2		56.2
3	95	00.3	271	44.1		02.2	226	50.9		56.7
4	110	02.8	286	44.0		01.3	241	51.6		57.2
5	125	05.3	301	43.8	+0	00.3	256	52.2	-17	57.7
6	140	07.7	316	43.7	-0	00.6	271	52.9	-17	58.2
7	155	10.2	331	43.6		01.6	286	53.6		58.7
8	170	12.7	346	43.5		02.5	301	54.3		59.2
9	185	15.1	1	43.3		03.5	316	55.0	-17	59.7
10	200	17.6	16	43.2		04.4	331	55.7	-18	00.1
11	215	20.1	31	43.1	-0	05.4	346	56.4	-18	00.6
12	230	22.5	46	43.0	-0	06.3	1	57.1	-18	01.1
13	245	25.0	61	42.8		07.3	16	57.8		01.6
14	260	27.4	76	42.7		08.2	31	58.5		02.1
15	275	29.9	91	42.6		09.2	46	59.2		02.6
16	290	32.4	106	42.5		10.1	61	59.9		03.1
17	305	34.8	121	42.3	-0	11.1	77	00.6	-18	03.5
18	320	37.3	136	42.2	-0	12.1	92	01.3	-18	04.0
19	335	39.8	151	42.1		13.0	107	02.0		04.5
20	350	42.2	166	42.0		14.0	122	02.7		05.0
21	5	44.7	181	41.8		14.9	137	03.3		05.5
22	20	47.2	196	41.7		15.9	152	04.0		06.0
23	35	49.6	211	41.6		16.8	167	04.7		06.4
24	50	52.1	226	41.4	-0	17.8	182	05.4	-18	06.9
Dif	—		-1		-10		+7		-5	
							+28		-1	
									+24	
									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: 28.3 ^d PHE { 4 ^h : 56/0 12 ^h : 56/2 20 ^h : 56/4 PMG: 10 ^h 58 ^m 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	183	59.5	-17	33.5	200	30.9	-13	07.9	15 38	16 26	17 17	6 38 98	15 02 1			
1	198	59.4		34.2	215	03.8		21.4	49	33	21	29 92	12 7			
2	213	59.3		34.9	229	36.7		34.9	15 58	40	25	21 88	21 11			
3	228	59.2		35.6	244	09.4	-13	48.3	16 06	45	28	14 84	29 15			
4	243	59.2		36.3	258	42.1	-14	01.7	14	51	31	07 81	36 18			
5	258	59.1	-17	37.0	273	14.7	-14	15.1	16 20	16 55	17 34	6 01 78	15 43 20			
6	273	59.0	-17	37.6	287	47.2	-14	28.4	16 35	17 06	17 41	5 49 72	15 57 26			
7	288	58.9		38.3	302	19.6		41.6	47	15	48	39 68	16 09 30			
8	303	58.9		39.0	316	51.9	-14	54.8	16 57	23	17 54	30 64	19 33			
9	318	58.8		39.7	331	24.1	-15	08.0	17 06	31	18 00	22 61	28 36			
10	333	58.7		40.4	345	56.3		21.1	21	44	11	5 09 56	43 41			
11	348	58.6	-17	41.0	0	28.3	-15	34.1	17 35	17 57	18 22	4 58 51	16 57 45			
12	3	58.5	-17	41.7	15	00.3	-15	47.0	17 48	18 09	18 35	4 47 47	17 09 50			
13	18	58.5		42.4	29	32.2	-16	00.0	18 01	23	18 49	37 43	22 53			
14	33	58.4		43.1	44	04.0	-16	12.8	15	38	19 06	25 39	36 57			
15	48	58.3		43.7	58	35.7		25.6	31	18 57	28	13 33	17 51 63			
16	63	58.2		44.4	73	07.3		38.3	40	19 08	42	4 06 30	18 00 66			
17	78	58.1	-17	45.1	87	38.8	-16	51.0	18 51	19 22	19 59	3 57 27	18 11 69			
18	93	58.1	-17	45.8	102	10.2	-17	03.5	19 04	19 38	20 20	3 48 23	18 23 74			
19	108	58.0		46.4	116	41.5		16.1	20	19 58	20 49	36 18	38 80			
20	123	57.9		47.1	131	12.7		28.5	27	20 08	21 04	31 15	45 82			
21	138	57.8		47.8	145	43.8		40.9	36	20	22	25 13	18 53 86			
22	153	57.7		48.5	160	14.8	-17	53.2	45	33	21 44	19 9	19 02 89			
23	168	57.7		49.1	174	45.7	-18	05.4	19 55	20 49	22 16	12 5	12 94			
24	183	57.6	-17	49.8	189	16.5	-18	17.6	20 08	21 08	23 18	3 04 1	19 24 100			
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO							
	PMG: 20 ^h 33.2 ^m		Mag: -4.3 PMG: 8 ^h 53 ^m		Mag: +1.5 PMG: 11 ^h 51 ^m		Mag: -2.9 PMG: 23 ^h 02 ^m		Mag: +0.8 PMG: 18 ^h 46 ^m							
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'						
0	50	52.1	226	41.4	-0	17.8	182	05.4	-13	06.6						
1	65	54.6	241	41.3		18.8	197	06.1		16.5						
2	80	57.0	256	41.2		19.7	212	06.8		16.4						
3	95	59.5	271	41.1		20.7	227	07.5		16.3						
4	111	01.9	286	40.9		21.6	242	08.2		16.2						
5	126	04.4	301	40.8	-0	22.6	257	08.9	-18	16.1						
6	141	06.9	316	40.7	-0	23.5	272	09.6	-18	16.0						
7	156	09.3	331	40.5		24.5	287	10.2		15.9						
8	171	11.8	346	40.4		25.5	302	10.9		15.8						
9	186	14.3		40.3		26.4	317	11.6		15.7						
10	201	16.7	16	40.1		27.4	332	12.3		15.6						
11	216	19.2	31	40.0	-0	28.3	347	13.0	-18	15.5						
12	231	21.7	46	39.9	-0	29.3	2	13.7	-18	15.4						
13	246	24.1	61	39.7		30.3	17	14.4		15.3						
14	261	26.6	76	39.6		31.2	32	15.1		15.2						
15	276	29.0	91	39.5		32.2	47	15.7		15.1						
16	291	31.5	106	39.3		33.2	62	16.4		15.0						
17	306	34.0	121	39.2	-0	34.1	77	17.1	-18	14.9						
18	321	36.4	136	39.1	-0	35.1	92	17.8	-18	14.8						
19	336	38.9	151	38.9		36.0	107	18.5		14.7						
20	351	41.4	166	38.8		37.0	122	19.2		14.6						
21	6	43.8	181	38.7		38.0	137	19.9		14.5						
22	21	46.3	196	38.5		38.9	152	20.6		14.4						
23	36	48.8	211	38.4		39.9	167	21.2		14.3						
24	51	51.2	226	38.3	-0	40.9	182	21.9	-18	14.2						
Dif	—		-1	-10		+7	-5		+28	-1		+24	0			

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16'2 PMG: 11 ^h 44.2 ^m			Edad: 29.3 ^d PHE { 4 ^h : 56'6 12 ^h : 56'8 20 ^h : 57'0 PMG: 11 ^h 46 ^m R°: 53 ^m																		
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Náutico	Civil		Hora	R°	Hora	R°					
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m			
0	183	57.6	-17	49.8	189	16.5	-18	17.6	121	60 N	6	12	7	04	7	52	8	16	104	15	03	5
1	198	57.5		50.5	203	47.2		29.7	117	58	08	6	56	41	8	01	97		19	12		
2	213	57.4		51.1	218	17.9		41.6	119	56	04	50	32	7	49	91		32	17			
3	228	57.3		51.8	232	48.4	-18	53.6	120	54	6	01	44	23	38	87		44	22			
4	243	57.2		52.5	247	18.8	-19	05.4	118	52	5	58	39	16	28	83		15	54	25		
5	258	57.2	-17	53.2	261	49.1	-19	17.2	118	50	5	54	6	34	7	09	7	19	81	16	03	28
6	273	57.1	-17	53.8	276	19.3	-19	28.8	116	45	5	47	6	23	6	54	7	01	75	16	23	32
7	288	57.0		54.5	290	49.4		40.4	116	40	41	14	42	6	47	70		39	36			
8	303	56.9		55.2	305	19.4	-19	51.9	115	35	35	6	05	32	34	67		16	52	40		
9	318	56.8		55.8	319	49.3	-20	03.3	114	30	29	5	58	23	23	65		17	04	42		
10	333	56.7		56.5	334	19.0		14.6	113	20	18	44	6	07	6	05	59		24	47		
11	348	56.6	-17	57.2	348	48.7	-20	25.9	113	10 N	5	06	5	32	5	54	5	49	56	17	42	50
12	3	56.5	-17	57.8	3	18.3	-20	37.0	111	0	4	54	5	19	5	41	5	34	52	17	59	53
13	18	56.5		58.5	17	47.7		48.0	110	10 S	39	5	05	28	20	48		18	15	57		
14	33	56.4		59.1	32	17.1	-20	59.0	110	20	22	4	50	5	13	5	04	44		33	61	
15	48	56.3	-17	59.8	46	46.4	-21	09.8	108	30	4	00	31	4	57	4	46	40		18	54	65
16	63	56.2	-18	00.5	61	15.5		20.5	107	35	3	46	20	48	36	36		19	06	68		
17	78	56.1	-18	01.1	75	44.5	-21	31.2	107	40	3	29	4	06	4	37	4	24	33	19	20	71
18	93	56.0	-18	01.8	90	13.4	-21	41.7	105	45	3	08	3	50	4	24	4	11	29	19	37	74
19	108	55.9		02.5	104	42.3	-21	52.1	104	50	2	39	29	08	3	54	24		19	58	79	
20	123	55.8		03.1	119	11.0	-22	02.5	104	52	24	19	4	00	46	21		20	07	83		
21	138	55.7		03.8	133	39.6		12.7	102	54	2	06	3	08	3	52	38	17		19	86	
22	153	55.7		04.4	148	08.1		22.8	101	56	1	43	2	55	43	28	14		31	91		
23	168	55.6		05.1	162	36.5		32.8	100	58	1	12	39	32	17	9		20	46	96		
24	183	55.5	-18	05.8	177	04.7	-22	42.7	99	60 S	0	09	2	20	3	20	3	05	3	21	04	105

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 20 ^h 29.2 ^m		Mag: -4.3 PMG: 8 ^h 54 ^m		Mag: +1.5 PMG: 11 ^h 50 ^m		Mag: -2.9 PMG: 22 ^h 57 ^m		Mag: +0.8 PMG: 18 ^h 43 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	51	51.2	226	38.3	-0	40.9	182	21.9	-18	18.5	14	35.8	+13	14.2	78	35.3	-12	52.4
1	66	53.7	241	38.1		41.8	197	22.6		18.9	29	38.6		14.1	93	37.8		52.4
2	81	56.2	256	38.0		42.8	212	23.3		19.4	44	41.4		14.0	108	40.2		52.4
3	96	58.6	271	37.8		43.8	227	24.0		19.9	59	44.2		13.9	123	42.6		52.4
4	112	01.1	286	37.7		44.7	242	24.7		20.4	74	46.9		13.8	138	45.1		52.3
5	127	03.5	301	37.6	-0	45.7	257	25.3	-18	20.9	89	49.7	+13	13.7	153	47.5	-12	52.3
6	142	06.0	316	37.4	-0	46.7	272	26.0	-18	21.3	104	52.5	+13	13.6	168	49.9	-12	52.3
7	157	08.5	331	37.3		47.6	287	26.7		21.8	119	55.3		13.5	183	52.4		52.3
8	172	10.9	346	37.1		48.6	302	27.4		22.3	134	58.1		13.4	198	54.8		52.3
9	187	13.4		37.0		49.6	317	28.1		22.8	150	00.9		13.3	213	57.2		52.3
10	202	15.9	16	36.9		50.5	332	28.8		23.2	165	03.6		13.3	228	59.6		52.2
11	217	18.3	31	36.7	-0	51.5	347	29.4	-18	23.7	180	06.4	+13	13.2	244	02.1	-12	52.2
12	232	20.8	46	36.6	-0	52.5	2	30.1	-18	24.2	195	09.2	+13	13.1	259	04.5	-12	52.2
13	247	23.3	61	36.4		53.4	17	30.8		24.7	210	12.0		13.0	274	06.9		52.2
14	262	25.7	76	36.3		54.4	32	31.5		25.1	225	14.8		12.9	289	09.3		52.2
15	277	28.2	91	36.2		55.4	47	32.2		25.6	240	17.6		12.8	304	11.8		52.1
16	292	30.7	106	36.0		56.3	62	32.8		26.1	255	20.3		12.7	319	14.2		52.1
17	307	33.1	121	35.9	-0	57.3	77	33.5	-18	26.6	270	23.1	+13	12.6	334	16.6	-12	52.1
18	322	35.6	136	35.7	-0	58.3	92	34.2	-18	27.0	285	25.9	+13	12.5	349	19.1	-12	52.1
19	337	38.0	151	35.6	-0	59.2	107	34.9		27.5	300	28.7		12.4	4	21.5		52.1
20	352	40.5	166	35.4	-1	00.2	122	35.6		28.0	315	31.5		12.3	19	23.9		52.0
21	7	43.0	181	35.3		01.2	137	36.2		28.4	330	34.3		12.2	34	26.3		52.0
22	22	45.4	196	35.2		02.2	152	36.9		28.9	345	37.0		12.1	49	28.8		52.0
23	37	47.9	211	35.0		03.1	167	37.6		29.4	0	39.8		12.0	64	31.2		52.0
24	52	50.4	226	34.9	-1	04.1	182	38.3	-18	29.9	15	42.6	+13	11.9	79	33.6	-12	52.0
Dif	—		-1		-10		+7		-5		+28		-1		+24		0	

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna					
	SD: 16/2 PMG: 11 ^h 44.4 ^m				Edad: 30.3 ^d PHE { 4 ^h : 57/1 12 ^h : 57/3 20 ^h : 57/5 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	183	55.5	-18	05.8	177	04.7			-22	42.7	97	60 N	15 33	16 22	17 14		10 00	105	15 08	13				
1	198	55.4		06.4	191	32.9			-22	52.4	97	58	45	30	18		9 38	95	31	23				
2	213	55.3		07.1	206	01.0			-23	02.1	97	56	15 54	36	22		20 88		15 49	30				
3	228	55.2		07.7	220	28.9				11.6	95	54	16 03	42	26		9 05	84	16 05	34				
4	243	55.1		08.4	234	56.8				21.0	94	52	11	48	29		8 51	82	19	36				
5	258	55.0	-18	09.0	249	24.5			-23	30.3	93	50	16 18	16 53	17 32		8 40	78	16 31	39				
6	273	54.9	-18	09.7	263	52.1			-23	39.5	92	45	16 33	17 04	17 40		8 16	74	16 55	44				
7	288	54.8		10.3	278	19.6				48.6	91	40	45	14	46		7 57	70	17 15	47				
8	303	54.7		11.0	292	47.1			-23	57.5	89	35	16 55	22	53		41 68		32 49					
9	318	54.6		11.7	307	14.4			-24	06.3	88	30	17 05	30	17 59		28 65		17 46	51				
10	333	54.5		12.3	321	41.6				15.0	87	20	21	44	18 10		7 04	62	18 11	53				
11	348	54.4	-18	13.0	336	08.7			-24	23.5	85	10 N	17 35	17 57	18 22		6 45	58	18 32	56				
12	3 54.3	-18	13.6	350	35.7	80			-24	31.9	84	0	17 48	18 10	18 35		6 26	56	18 52	58				
13	18 54.2		14.3	5 02.6	79					40.2	83	10 S	18 01	24	18 50		6 08	53	19 12	60				
14	33 54.2		14.9	19 29.3	77					48.3	81	20	16	39	19 07		5 48	50	34	62				
15	48 54.1		15.6	33 56.0	77	-24				56.3	80	30	33	18 59	30		26 46		19 59	65				
16	63 54.0		16.2	48 22.6	76	-25				04.2	79	35	42	19 10	19 44		5 12	45	20 14	66				
17	78 53.9	-18	16.9	62 49.1	75	-25				11.9	77	40	18 54	19 24	20 02		4 57	42	20 31	68				
18	93 53.8	-18	17.5	77 15.5	74	-25				19.5	76	45	19 07	19 41	20 24		4 40	38	20 51	72				
19	108 53.7		18.2	91 41.8	73					27.0	75	50	23	20 02	20 54		18 33		21 17	75				
20	123 53.6		18.8	106 07.9	71					34.3	73	52	31	13	21 09		4 07	31	30	77				
21	138 53.5		19.4	120 34.0	71					41.4	71	54	40	24	28		3 55	28	21 45	79				
22	153 53.4		20.1	135 00.0	70					48.4	70	56	19 49	38	21 52		42 23		22 02	82				
23	168 53.3		20.7	149 25.9	69	-25				55.3	69	58	20 00	20 55	22 27		26 18		22 88					
24	183 53.2	-18	21.4	163 51.7	68	-26				02.0	67	60 S	20 13	21 15	** **		3 08	9	22 49	97				
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 20 ^h 25.3 ^m				Mag: -4.3 PMG: 8 ^h 54 ^m				Mag: +1.4 PMG: 11 ^h 49 ^m				Mag: -2.9 PMG: 22 ^h 53 ^m				Mag: +0.8 PMG: 18 ^h 39 ^m							
	hG ♈		Dec		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'		
0	52	50.4	226	34.9	-1	04.1	182	38.3	-18	29.9	15	42.6	+13	11.9	79	33.6	-12	52.0						
1	67	52.8	241	34.7		05.1	197	39.0		30.3	30	45.4		11.8	94	36.0		51.9						
2	82	55.3	256	34.6		06.0	212	39.6		30.8	45	48.2		11.7	109	38.5		51.9						
3	97	57.8	271	34.4		07.0	227	40.3		31.3	60	50.9		11.6	124	40.9		51.9						
4	113	00.2	286	34.3		08.0	242	41.0		31.7	75	53.7		11.5	139	43.3		51.9						
5	128	02.7	301	34.1	-1	09.0	257	41.7	-18	32.2	90	56.5	+13	11.4	154	45.7	-12	51.9						
6	143	05.1	316	34.0	-1	09.9	272	42.3	-18	32.7	105	59.3	+13	11.3	169	48.2	-12	51.8						
7	158	07.6	331	33.8		10.9	287	43.0		33.2	121	02.1		11.2	184	50.6		51.8						
8	173	10.1	346	33.7		11.9	302	43.7		33.6	136	04.9		11.1	199	53.0		51.8						
9	188	12.5	1	33.5		12.8	317	44.4		34.1	151	07.6		11.0	214	55.4		51.8						
10	203	15.0	16	33.4		13.8	332	45.1		34.6	166	10.4		10.9	229	57.9		51.8						
11	218	17.5	31	33.3	-1	14.8	347	45.7	-18	35.0	181	13.2	+13	10.8	245	00.3	-12	51.7						
12	233	19.9	46	33.1	-1	15.8	2	46.4	-18	35.5	196	16.0	+13	10.7	260	02.7	-12	51.7						
13	248	22.4	61	33.0		16.7	17	47.1		36.0	211	18.8		10.6	275	05.1		51.7						
14	263	24.9	76	32.8		17.7	32	47.8		36.4	226	21.5		10.5	290	07.5		51.7						
15	278	27.3	91	32.7		18.7	47	48.4		36.9	241	24.3		10.4	305	10.0		51.7						
16	293	29.8	106	32.5		19.7	62	49.1		37.4	256	27.1		10.3	320	12.4		51.6						
17	308	32.3	121	32.4	-1	20.6	77	49.8	-18	37.8	271	29.9	+13	10.3	335	14.8	-12	51.6						
18	323	34.7	136	32.2	-1	21.6	92	50.5	-18	38.3	286	32.7	+13	10.2	350	17.2	-12	51.6						
19	338	37.2	151	32.0		22.6	107	51.1		38.8	301	35.4		10.1	5	19.7		51.6						
20	353	39.6	166	31.9		23.6	122	51.8		39.2	316	38.2		10.0	20	22.1		51.6						
21	8	42.1	181	31.7		24.6	137	52.5		39.7	331	41.0		09.9	35	24.5		51.5						
22	23	44.6	196	31.6		25.5	152	53.1		40.2	346	43.8		09.8	50	26.9		51.5						
23	38	47.0	211	31.4		26.5	167	53.8		40.6	1	46.6		09.7	65	29.3		51.5						
24	53	49.5	226	31.3	-1	27.5	182	54.5	-18	41.1	16	49.3	+13	09.6	80	31.8	-12	51.5						
Dif	—				-1				+7				+28				-1				+24			

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: 1.6 ^d PHE { 4 ^h : 57/6 12 ^h : 57/8 20 ^h : 58/0 PMG: 13 ^h 36 ^m R°: 60 ^m												
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	Náutico	Civil		Hora	R°		Hora	R°			
h	°	'	°	'	°	'	°		h	m	h	m	h	m	h	m	
0	183	53.2	-18	21.4	163	51.7	-26	02.0	60 N	6	16	7	08	7	57	11	45
1	198	53.1		22.0	178	17.4		08.6	58	12	7	00	46	11	13	78	15
2	213	53.0		22.7	192	43.0		15.0	56	08	6	54	36	10	48	75	16
3	228	52.9		23.3	207	08.5		21.3	54	04	47	27	29	72	39	52	51
4	243	52.8		24.0	221	34.0		27.4	52	6	01	42	19	10	13	71	16
5	258	52.7	-18	24.6	235	59.3	-26	33.3	50	5	57	6	37	7	12	9	58
6	273	52.6	-18	25.2	250	24.6	-26	39.1	45	5	50	6	25	6	57	9	30
7	288	52.4		25.9	264	49.8		44.7	40	43	16	45	9	07	67	18	02
8	303	52.3		26.5	279	14.8		50.2	35	37	6	07	34	8	49	65	21
9	318	52.2		27.2	293	39.8	-26	55.5	30	31	5	59	25	33	64	18	37
10	333	52.1		27.8	308	04.8	-27	00.7	20	19	45	6	09	8	06	63	19
11	348	52.0	-18	28.4	322	29.6	-27	05.7	10 N	5	07	5	32	5	54	7	43
12	3	51.9	-18	29.1	336	54.4	-27	10.5	0	4	54	5	19	5	41	7	22
13	18	51.8		29.7	351	19.1		15.1	10 S	39	5	05	27	7	01	58	20
14	33	51.7		30.4	5	43.7		19.6	20	4	21	4	49	5	13	6	38
15	48	51.6		31.0	20	08.2		24.0	30	3	59	30	4	56	6	12	55
16	63	51.5		31.6	34	32.7		28.1	35	44	18	46	5	57	53	20	62
17	78	51.4	-18	32.3	48	57.1	-27	32.1	40	3	27	4	04	4	35	5	39
18	93	51.3	-18	32.9	63	21.5	-27	35.9	45	3	05	3	48	4	21	5	18
19	108	51.2		33.5	77	45.7		39.6	50	2	35	26	4	05	4	51	46
20	123	51.1		34.2	92	10.0		43.0	52	19	16	3	57	3	57	38	45
21	138	51.0		34.8	106	34.1		46.3	54	2	00	3	04	4	23	23	42
22	153	50.9		35.4	120	58.2		49.4	56	1	36	2	50	3	4	05	40
23	168	50.8		36.1	135	22.2		52.4	58	1	01	34	28	3	4	44	35
24	183	50.6	-18	36.7	149	46.2	-27	55.1	60 S	**	**	2	14	3	15	3	17

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 21.4 ^m		Mag: -4.3 PMG: 8 ^h 54 ^m		Mag: +1.4 PMG: 11 ^h 48 ^m		Mag: -2.9 PMG: 22 ^h 48 ^m		Mag: +0.8 PMG: 18 ^h 35 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	53	49.5	226	31.3	-1	27.5	182	54.5	-18	41.1
1	68	52.0	241	31.1		28.5	197	55.2		41.6
2	83	54.4	256	31.0		29.4	212	55.8		42.0
3	98	56.9	271	30.8		30.4	227	56.5		42.5
4	113	59.4	286	30.7		31.4	242	57.2		43.0
5	129	01.8	301	30.5	-1	32.4	257	57.9	-18	43.4
6	144	04.3	316	30.4	-1	33.4	272	58.5	-18	43.9
7	159	06.8	331	30.2		34.3	287	59.2		44.4
8	174	09.2	346	30.1		35.3	302	59.9		44.8
9	189	11.7	1	29.9		36.3	318	00.5		45.3
10	204	14.1	16	29.7		37.3	333	01.2		45.7
11	219	16.6	31	29.6	-1	38.3	348	01.9	-18	46.2
12	234	19.1	46	29.4	-1	39.2	3	02.5	-18	46.7
13	249	21.5	61	29.3		40.2	18	03.2		47.1
14	264	24.0	76	29.1		41.2	33	03.9		47.6
15	279	26.5	91	29.0		42.2	48	04.6		48.1
16	294	28.9	106	28.8		43.2	63	05.2		48.5
17	309	31.4	121	28.6	-1	44.1	78	05.9	-18	49.0
18	324	33.9	136	28.5	-1	45.1	93	06.6	-18	49.4
19	339	36.3	151	28.3		46.1	108	07.2		49.9
20	354	38.8	166	28.2		47.1	123	07.9		50.4
21	9	41.3	181	28.0		48.1	138	08.6		50.8
22	24	43.7	196	27.8		49.1	153	09.2		51.3
23	39	46.2	211	27.7		50.0	168	09.9		51.7
24	54	48.6	226	27.5	-1	51.0	183	10.6	-18	52.2
Dif	—		-2	-10			+7	-5		
									+28	-1
										+24

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: 2.6 ^d PHE { 4 ^h : 58/1 12 ^h : 58/2 20 ^h : 58/4 PMG: 14 ^h 36 ^m R°: 61 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	h m m		
0	183	50.6	-18	36.7	149	46.2	49	-27	55.1	60 N	15 29	16 18	17 10	13 10 42	16 02 86			
1	198	50.5		37.3	164	10.1	49	-27	57.7	58	41	26	15	12 31 48	16 42 79			
2	213	50.4		38.0	178	34.0	49	-28	00.1	56	15 51	33	19	12 03 51	17 10 75			
3	228	50.3		38.6	192	57.9	49		02.4	54	16 00	40	23	11 41 54	31 74			
4	243	50.2		39.2	207	21.6	47		04.4	52	08	45	27	24 54	17 49 72			
5	258	50.1	-18	39.8	221	45.4	48	-28	06.3	50	16 15	16 51	17 30	11 08 56	18 04 71			
6	273	50.0	-18	40.5	236	09.1	47	-28	08.0	45	16 30	17 02	17 38	10 38 56	18 35 69			
7	288	49.9		41.1	250	32.7	46		09.5	40	43	12	45	10 14 58	18 59 67			
8	303	49.8		41.7	264	56.4	47		10.8	35	16 54	21	52	9 54 59	19 19 66			
9	318	49.6		42.4	279	20.0	46		12.0	30	17 04	29	17 58	37 59	19 36 65			
10	333	49.5		43.0	293	43.5	45		13.0	20	20	43	18 10	9 09 60	20 04 63			
11	348	49.4	-18	43.6	308	07.1	46	-28	13.7	10 N	17 35	17 57	18 22	8 44 61	20 28 62			
12	3	49.3	-18	44.2	322	30.6	45	-28	14.3	0	17 48	18 10	18 36	8 22 61	20 51 61			
13	18	49.2		44.9	336	54.0	44		14.8	10 S	18 02	24	18 51	7 59 62	21 13 60			
14	33	49.1		45.5	351	17.5	45		15.0	20	17	18 41	19 09	35 62	21 38 58			
15	48	49.0		46.1	5	40.9	44		15.0	30	34	19 00	32	7 07 62	22 06 56			
16	63	48.8		46.7	20	04.3	44		14.9	35	44	12	19 47	6 50 63	22 55			
17	78	48.7	-18	47.3	34	27.8	45	-28	14.6	40	18 56	19 27	20 05	6 31 63	22 42 53			
18	93	48.6	-18	48.0	48	51.1	43	-28	14.0	45	19 10	19 44	20 27	6 07 63	23 05 51			
19	108	48.5		48.6	63	14.5	44		13.4	50	27	20 06	20 59	5 37 64	35 48			
20	123	48.4		49.2	77	37.9	44		12.5	52	35	17	21 15	23 63	23 50 46			
21	138	48.3		49.8	92	01.3	44		11.4	54	43	29	21 35	5 05 64	** ** *			
22	153	48.2		50.4	106	24.6	43		10.1	56	19 54	20 43	22 01	4 45 63	** ** *			
23	168	48.0		51.1	120	48.0	44		08.7	58	20 05	21 01	22 40	4 19 64	** ** *			
24	183	47.9	-18	51.7	135	11.4	44	-28	07.1	60 S	20 18	21 22	** **	3 43 64	0 26 63			
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 20 ^h 17.4 ^m		Mag: -4.3 PMG: 8 ^h 54 ^m			Mag: +1.4 PMG: 11 ^h 47 ^m			Mag: -2.9 PMG: 22 ^h 44 ^m			Mag: +0.8 PMG: 18 ^h 31 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	54	48.6	226	27.5	-1	51.0	183	10.6	-18	52.2	17	56.0	+13	07.3	81	29.8	-12	51.0
1	69	51.1	241	27.4		52.0	198	11.2		52.7	32	58.8		07.2	96	32.2		50.9
2	84	53.6	256	27.2		53.0	213	11.9		53.1	48	01.5		07.1	111	34.7		50.9
3	99	56.0	271	27.0		54.0	228	12.6		53.6	63	04.3		07.0	126	37.1		50.9
4	114	58.5	286	26.9		55.0	243	13.2		54.0	78	07.1		06.9	141	39.5		50.9
5	130	01.0	301	26.7	-1	55.9	258	13.9	-18	54.5	93	09.9	+13	06.8	156	41.9	-12	50.8
6	145	03.4	316	26.5	-1	56.9	273	14.6	-18	54.9	108	12.6	+13	06.7	171	44.3	-12	50.8
7	160	05.9	331	26.4		57.9	288	15.2		55.4	123	15.4		06.6	186	46.7		50.8
8	175	08.4	346	26.2		58.9	303	15.9		55.9	138	18.2		06.5	201	49.2		50.8
9	190	10.8	1	26.1	-1	59.9	318	16.5		56.3	153	21.0		06.5	216	51.6		50.7
10	205	13.3	16	25.9	-2	00.9	333	17.2		56.8	168	23.7		06.4	231	54.0		50.7
11	220	15.8	31	25.7	-2	01.9	348	17.9	-18	57.2	183	26.5	+13	06.3	246	56.4	-12	50.7
12	235	18.2	46	25.6	-2	02.8	3	18.5	-18	57.7	198	29.3	+13	06.2	261	58.8	-12	50.7
13	250	20.7	61	25.4		03.8	18	19.2		58.1	213	32.1		06.1	277	01.2		50.7
14	265	23.1	76	25.2		04.8	33	19.9		58.6	228	34.8		06.0	292	03.7		50.6
15	280	25.6	91	25.1		05.8	48	20.5		59.1	243	37.6		05.9	307	06.1		50.6
16	295	28.1	106	24.9		06.8	63	21.2	-18	59.5	258	40.4		05.8	322	08.5		50.6
17	310	30.5	121	24.7	-2	07.8	78	21.8	-19	00.0	273	43.2	+13	05.7	337	10.9	-12	50.6
18	325	33.0	136	24.6	-2	08.8	93	22.5	-19	00.4	288	45.9	+13	05.6	352	13.3	-12	50.5
19	340	35.5	151	24.4		09.7	108	23.2		00.9	303	48.7		05.5	7	15.7		50.5
20	355	37.9	166	24.2		10.7	123	23.8		01.3	318	51.5		05.4	22	18.1		50.5
21	10	40.4	181	24.1		11.7	138	24.5		01.8	333	54.2		05.3	37	20.6		50.5
22	25	42.9	196	23.9		12.7	153	25.2		02.2	348	57.0		05.2	52	23.0		50.4
23	40	45.3	211	23.7		13.7	168	25.8		02.7	3	59.8		05.1	67	25.4		50.4
24	55	47.8	226	23.6	-2	14.7	183	26.5	-19	03.1	19	02.6	+13	05.0	82	27.8	-12	50.4
Dif	—		-2	-10		+7	-5			-5	+28		-1		+24			

UT	SOL		LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 44.9 ^m		Edad: 3.6 ^d SD: 15/9 PMG: 15 ^h 37 ^m					PHE { 4 ^h : 58/5 12 ^h : 58/6 20 ^h : 58/7 R°: 60 ^m			Hora R°		Hora R°	
	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	47.9	-18	51.7	135	11.4	-28	07.1	60 N	6 20	7 13	8 02	13 52	14 17 28 110
1	198	47.8		52.3	149	34.7		05.3	58	16	7 04	7 50	13 19	25 18 01 99
2	213	47.7		52.9	163	58.1		03.3	56	11	6 57	40	12 54	31 25 93
3	228	47.6		53.5	178	21.5	-28	01.1	54	07	51	31	35 35	18 45 88
4	243	47.4		54.1	192	44.9	-27	58.7	52	04	45	23	18 38	19 01 85
5	258	47.3	-18	54.8	207	08.3	-27	56.2	50	6 00	6 40	7 15	12 04	40 19 15 82
6	273	47.2	-18	55.4	221	31.7	-27	53.4	45	5 52	6 28	7 00	11 34	45 19 44 77
7	288	47.1		56.0	235	55.2		50.5	40	45	18	6 47	11 12	47 20 06 74
8	303	47.0		56.6	250	18.7		47.4	35	38	09	36	10 53	50 25 71
9	318	46.8		57.2	264	42.1		44.1	30	32	6 01	26	36 52	20 41 68
10	333	46.7		57.8	279	05.7		40.6	20	20	5 46	6 10	10 09	55 21 07 65
11	348	46.6	-18	58.4	293	29.2	-27	37.0	10 N	5 07	5 33	5 55	9 45	58 21 30 62
12	3	46.5	-18	59.0	307	52.8	-27	33.1	0	4 54	5 19	5 41	9 23	60 21 52 58
13	18	46.4	-18	59.6	322	16.4		29.1	10 S	39	5 05	27	9 01	62 22 13 56
14	33	46.2	-19	00.3	336	40.0		24.9	20	4 21	4 49	5 12	8 37	64 22 36 52
15	48	46.1		00.9	351	03.7		20.5	30	3 57	29	4 55	8 09	67 23 02 48
16	63	46.0		01.5	5	27.4		16.0	35	43	17	45	7 53	69 17 46
17	78	45.9	-19	02.1	19	51.2	-27	11.2	40	3 25	4 03	4 33	7 34	70 23 35 43
18	93	45.7	-19	02.7	34	15.0	-27	06.3	45	3 02	3 45	4 19	7 10	74 23 56 40
19	108	45.6		03.3	48	38.8	-27	01.2	50	2 31	23	4 02	6 41	77 *** ** **
20	123	45.5		03.9	63	02.7	-26	55.9	52	2 14	12	3 54	26	79 *** ** **
21	138	45.4		04.5	77	26.6		50.5	54	1 54	3 00	46	6 09	82 0 07 44
22	153	45.2		05.1	91	50.6		44.9	56	1 28	2 46	35	5 48	86 28 40
23	168	45.1		05.7	106	14.7		39.1	58	0 49	28	24	5 23	90 0 54 35
24	183	45.0	-19	06.3	120	38.8	-26	33.1	60 S	** **	2 07	3 11	4 47	100 1 29 27

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 13.5 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.4 PMG: 11 ^h 46 ^m		Mag: -2.9 PMG: 22 ^h 40 ^m		Mag: +0.8 PMG: 18 ^h 27 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	55	47.8	226	23.6	-2	14.7	183	26.5	-19	03.1
1	70	50.3	241	23.4		15.7	198	27.1		03.6
2	85	52.7	256	23.2		16.7	213	27.8		04.1
3	100	55.2	271	23.0		17.7	228	28.5		04.5
4	115	57.6	286	22.9		18.6	243	29.1		05.0
5	131	00.1	301	22.7	-2	19.6	258	29.8	-19	05.4
6	146	02.6	316	22.5	-2	20.6	273	30.4	-19	05.9
7	161	05.0	331	22.4		21.6	288	31.1		06.3
8	176	07.5	346	22.2		22.6	303	31.7		06.8
9	191	10.0	1	22.0		23.6	318	32.4		07.2
10	206	12.4	16	21.8		24.6	333	33.1		07.7
11	221	14.9	31	21.7	-2	25.6	348	33.7	-19	08.1
12	236	17.4	46	21.5	-2	26.6	3	34.4	-19	08.6
13	251	19.8	61	21.3		27.6	18	35.0		09.0
14	266	22.3	76	21.2		28.5	33	35.7		09.5
15	281	24.8	91	21.0		29.5	48	36.3		09.9
16	296	27.2	106	20.8		30.5	63	37.0		10.4
17	311	29.7	121	20.6	-2	31.5	78	37.7	-19	10.8
18	326	32.1	136	20.5	-2	32.5	93	38.3	-19	11.3
19	341	34.6	151	20.3		33.5	108	39.0		11.7
20	356	37.1	166	20.1		34.5	123	39.6		12.2
21	11	39.5	181	19.9		35.5	138	40.3		12.6
22	26	42.0	196	19.8		36.5	153	40.9		13.1
23	41	44.5	211	19.6		37.5	168	41.6		13.5
24	56	46.9	226	19.4	-2	38.5	183	42.3	-19	14.0
Dif	—		-2	-10		+7	-5	+28	-1	+24

UT	SOL			 LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16 ^h 2 PMG: 11 ^h 45.1 ^m			Edad: 4.6 ^d SD: 16 ^h 0 PMG: 16 ^h 37 ^m						PHE $\left\{ \begin{array}{l} 4^{\text{h}}: 58/8 \\ 12^{\text{h}}: 58/9 \\ 20^{\text{h}}: 58/9 \\ \text{R}^{\circ}: 56^{\text{m}} \end{array} \right.$							
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°		
h	°	'	°	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m			
0	183	45.0	-19 06.3	120	38.8	-26 33.1	62	60 N	15 25	16 15	17 07	14 06 5	19 18 111				
1	198	44.9	06.9	135	02.9	26.9	63	58	37	23	12	13 44 12	40 103				
2	213	44.7	07.5	149	27.1	20.6	65	56	48	30	17	25 18	19 58 97				
3	228	44.6	08.1	163	51.4	14.1	67	54	15 57	37	21	13 10 22	20 13 93				
4	243	44.5	08.7	178	15.7	07.4	68	52	16 05	43	25	12 56 26	26 89				
5	258	44.3	-19 09.3	192	40.1	-26 00.6	70	50	16 13	16 49	17 28	12 44 29	20 37 87				
6	273	44.2	-19 09.9	207	04.5	-25 53.6	72	45	16 29	17 01	17 36	12 19 35	21 01 80				
7	288	44.1	10.5	221	29.0	46.4	73	40	42	11	44	11 59 39	20 75				
8	303	44.0	11.1	235	53.6	39.1	75	35	16 53	20	51	43 42	36 71				
9	318	43.8	11.7	250	18.3	31.6	77	30	17 03	28	17 57	28 45	21 49 69				
10	333	43.7	12.3	264	43.0	23.9	78	20	20	43	18 10	11 04 49	22 12 64				
11	348	43.6	-19 12.9	279	07.7	-25 16.1	80	10 N	17 35	17 57	18 22	10 43 53	22 32 59				
12	3	43.4	-19 13.5	293	32.6	-25 08.1	81	0	17 49	18 11	18 36	10 23 57	22 50 55				
13	18	43.3	14.1	307	57.5	-25 00.0	83	10 S	18 03	25	18 52	10 03 60	23 09 51				
14	33	43.2	14.7	322	22.5	-24 51.7	85	20	18	18 42	19 10	9 41 65	28 47				
15	48	43.0	15.3	336	47.6	43.2	86	30	36	19 02	34	16 69	23 50 42				
16	63	42.9	15.9	351	12.7	34.6	88	35	46	15	19 49	9 02 71	** ** *				
17	78	42.8	-19 16.5	5	38.0	-24 25.8	89	40	18 58	19 29	20 07	8 44 75	** ** *				
18	93	42.6	-19 17.1	20	03.3	-24 16.9	91	45	19 13	19 47	20 31	8 24 79	** ** *				
19	108	42.5	17.7	34	28.6	-24 07.8	92	50	30	20 10	21 03	7 58 85	0 23 34				
20	123	42.4	18.3	48	54.1	-23 58.6	94	52	38	21	20	45 88	36 32				
21	138	42.2	18.9	63	19.6	49.2	96	54	47	34	21 41	31 91	0 51 28				
22	153	42.1	19.4	77	45.2	39.6	96	56	19 58	20 49	22 09	7 14 96	1 08 24				
23	168	42.0	20.0	92	10.9	30.0	99	58	20 10	21 07	22 56	6 53 102	29 18				
24	183	41.8	-19 20.6	106	36.7	-23 20.1		60 S	20 24	21 29	** **	6 27 111	1 56 10				

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 09.6 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.4 PMG: 11 ^h 45 ^m		Mag: -2.9 PMG: 22 ^h 35 ^m		Mag: +0.8 PMG: 18 ^h 23 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	56	46.9	226	19.4	-2	38.5	183	42.3	-19	14.0
1	71	49.4	241	19.2		39.5	198	42.9		14.4
2	86	51.9	256	19.0		40.5	213	43.6		14.9
3	101	54.3	271	18.9		41.5	228	44.2		15.3
4	116	56.8	286	18.7		42.4	243	44.9		15.8
5	131	59.2	301	18.5	-2	43.4	258	45.6	-19	16.2
6	147	01.7	316	18.3	-2	44.4	273	46.2	-19	16.7
7	162	04.2	331	18.2		45.4	288	46.9		17.1
8	177	06.6	346	18.0		46.4	303	47.5		17.5
9	192	09.1	1	17.8		47.4	318	48.2		18.0
10	207	11.6	16	17.6		48.4	333	48.8		18.4
11	222	14.0	31	17.4	-2	49.4	348	49.5	-19	18.9
12	237	16.5	46	17.2	-2	50.4	3	50.2	-19	19.3
13	252	19.0	61	17.1		51.4	18	50.8		19.7
14	267	21.4	76	16.9		52.4	33	51.5		20.2
15	282	23.9	91	16.7		53.4	48	52.1		20.6
16	297	26.4	106	16.5		54.4	63	52.8		21.0
17	312	28.8	121	16.3	-2	55.4	78	53.4	-19	21.5
18	327	31.3	136	16.2	-2	56.4	93	54.1	-19	21.9
19	342	33.7	151	16.0		57.4	108	54.7		22.4
20	357	36.2	166	15.8		58.4	123	55.4		22.8
21	12	38.7	181	15.6	-2	59.4	138	56.0		23.2
22	27	41.1	196	15.4	-3	00.4	153	56.6		23.7
23	42	43.6	211	15.2		01.4	168	57.3		24.1
24	57	46.1	226	15.0	-3	02.4	183	57.9	-19	24.6
Dif	—		-2		-10		+7		-4	
							+28		-1	
									+24	
										0

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'2 PMG: 11 ^h 45.3 ^m			Edad: 5.6 ^d SD: 16'1 PMG: 17 ^h 33 ^m PHE { 4 ^h : 59'0 12 ^h : 59'1 20 ^h : 59'1 R°: 52 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	183	41.8	-19	20.6	106	36.7	69	-23	20.1	60 N	6 24	7 17	8 07	14 11	2	21 09	107
1	198	41.7		21.2	121	02.6	69	-23	10.1	58	19	08	7 55	13 56	7	23 10	101
2	213	41.6		21.8	135	28.5	70	-23	00.0	56	15	7 01	44	43 12	35	97	92
3	228	41.4		22.4	149	54.5	71	-22	49.8	54	10	6 54	35	32 15	46	92	96
4	243	41.3		23.0	164	20.6	72		39.4	52	07	48	26	22 18	21 55	89	
5	258	41.2	-19	23.6	178	46.8		-22	28.8	50	6 03	6 43	7 19	13 13	21	22 04	86
6	273	41.0	-19	24.1	193	13.1	73	-22	18.2	45	5 55	6 30	7 02	12 54	27	22 21	80
7	288	40.9		24.7	207	39.5	74	-22	07.4	40	47	20	6 49	38 32	35	75	
8	303	40.8		25.3	222	05.9	74	-21	56.4	35	40	11	38	25 36	47	71	
9	318	40.6		25.9	236	32.4	75		45.3	30	34	6 03	28	12 13	39	22 58	67
10	333	40.5		26.5	250	59.1	77		34.1	20	21	5 48	6 11	11 53	45	23 16	61
11	348	40.3	-19	27.1	265	25.8	77	-21	22.8	10 N	5 08	5 34	5 56	11 36	49	23 31	57
12	3	40.2	-19	27.6	279	52.5	77	-21	11.3	0	4 54	5 20	5 42	11 20	53	23 45	52
13	18	40.1		28.2	294	19.4	79	-20	59.7	10 S	39	5 05	27	11 03	58	***	***
14	33	39.9		28.8	308	46.4	80		48.0	20	4 20	4 48	5 12	10 46	62	***	***
15	48	39.8		29.4	323	13.4	80		36.1	30	3 56	28	4 54	25 68	***	***	***
16	63	39.6		30.0	337	40.5	81		24.2	35	41	16	44	10 13	72	0 03	39
17	78	39.5	-19	30.5	352	07.7	82	-20	12.1	40	3 23	4 01	4 32	9 59	76	0 18	35
18	93	39.4	-19	31.1	6	35.0	83	-19	59.9	45	2 59	3 43	4 17	9 43	80	0 36	30
19	108	39.2		31.7	21	02.4	84		47.5	50	27	20	4 00	23 86	0	57	25
20	123	39.1		32.3	35	29.9	85		35.1	52	2 10	3 09	3 52	13 89	1	08	22
21	138	38.9		32.8	49	57.4	85		22.5	54	1 49	2 56	42	9 02	93	19	19
22	153	38.8		33.4	64	25.0	86	-19	09.9	56	1 20	41	32	8 50	97	32	15
23	168	38.6		34.0	78	52.7	87	-18	57.1	58	0 34	23	20	35 102	1	47	10
24	183	38.5	-19	34.6	93	20.5	88	-18	44.2	60 S	** **	2 01	3 06	8 18	108	2 06	3
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 20 ^h 05.6 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m			Mag: +1.4 PMG: 11 ^h 44 ^m			Mag: -2.9 PMG: 22 ^h 31 ^m			Mag: +0.8 PMG: 18 ^h 20 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	57	46.1	226	15.0	-3	02.4	183	57.9	-19	24.6	21	15.5	+13	00.6			
1	72	48.5	241	14.9		03.4	198	58.6		25.0	36	18.2		00.5			
2	87	51.0	256	14.7		04.4	213	59.2		25.4	51	21.0		00.4			
3	102	53.5	271	14.5		05.4	228	59.9		25.9	66	23.7		00.4			
4	117	55.9	286	14.3		06.4	244	00.5		26.3	81	26.5		00.3			
5	132	58.4	301	14.1	-3	07.4	259	01.2	-19	26.8	96	29.3	+13	00.2			
6	148	00.9	316	13.9	-3	08.4	274	01.8	-19	27.2	111	32.0	+13	00.1			
7	163	03.3	331	13.7		09.3	289	02.5		27.6	126	34.8	+13	00.0			
8	178	05.8	346	13.6		10.3	304	03.1		28.1	141	37.6	+12	59.9			
9	193	08.2	1	13.4		11.3	319	03.8		28.5	156	40.3		59.8			
10	208	10.7	16	13.2		12.3	334	04.4		28.9	171	43.1		59.7			
11	223	13.2	31	13.0	-3	13.3	349	05.1	-19	29.4	186	45.9	+12	59.6			
12	238	15.6	46	12.8	-3	14.3	4	05.7	-19	29.8	201	48.6	+12	59.5			
13	253	18.1	61	12.6		15.3	19	06.3		30.2	216	51.4		59.5			
14	268	20.6	76	12.4		16.3	34	07.0		30.7	231	54.1		59.4			
15	283	23.0	91	12.2		17.3	49	07.6		31.1	246	56.9		59.3			
16	298	25.5	106	12.0		18.3	64	08.3		31.6	261	59.7		59.2			
17	313	28.0	121	11.8	-3	19.3	79	08.9	-19	32.0	277	02.4	+12	59.1			
18	328	30.4	136	11.7	-3	20.3	94	09.6	-19	32.4	292	05.2	+12	59.0			
19	343	32.9	151	11.5		21.3	109	10.2		32.9	307	07.9		58.9			
20	358	35.4	166	11.3		22.3	124	10.9		33.3	322	10.7		58.8			
21	13	37.8	181	11.1		23.3	139	11.5		33.7	337	13.5		58.7			
22	28	40.3	196	10.9		24.3	154	12.1		34.2	352	16.2		58.6			
23	43	42.7	211	10.7		25.3	169	12.8		34.6	7	19.0		58.6			
24	58	45.2	226	10.5	-3	26.3	184	13.4	-19	35.0	22	21.8	+12	58.5			
Dif	—		-2	-10			+6	-4			+28	-1		+24			

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: 6.6 ^d SD: 16/1 PMG: 18 ^h 25 ^m												
	PHE { 4 ^h : 59/2 12 ^h : 59/2 20 ^h : 59/2 R°: 50 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°	
h	° /	° /	° /	° /		° /		°		h m	h m	h m m		h m m		
0	183	38.5	-19	34.6	93	20.5	89	-18	44.2	130	60 N	15 21	16 12	17 04	14 13 0	22 56 102
1	198	38.4		35.1	107	48.4	89		31.2	131	58	34	20	09	14 03 5	23 04 98
2	213	38.2		35.7	122	16.3	91		18.1	132	56	45	28	14	13 55 8	12 93
3	228	38.1		36.3	136	44.4	91	-18	04.9	132	54	15 54	35	18	47 12	18 90
4	243	37.9		36.9	151	12.5	91	-17	51.6	133	52	16 03	41	23	40 15	24 87
5	258	37.8	-19	37.4	165	40.7	92	-17	38.1	135	50	16 10	16 47	17 26	13 34 17	23 30 84
6	273	37.6	-19	38.0	180	09.0	93	-17	24.6	135	45	16 27	16 59	17 35	13 21 23	23 41 78
7	288	37.5		38.6	194	37.3	93	-17	11.0	136	40	40	17 10	43	10 27	50 74
8	303	37.3		39.1	209	05.8	95	-16	57.3	137	35	16 52	19	50	13 01 31	23 58 69
9	318	37.2		39.7	223	34.3	95		43.5	138	30	17 02	27	17 57	12 52 35	** ** *
10	333	37.1		40.3	238	02.8	95		29.6	139	20	19	43	18 10	38 40	** ** *
11	348	36.9	-19	40.8	252	31.5	97	-16	15.6	140	10 N	17 35	17 57	18 23	12 25 46	** ** *
12	3	36.8	-19	41.4	267	00.2	97	-16	01.5	141	0	17 49	18 11	18 37	12 13 50	** ** *
13	18	36.6		42.0	281	29.1	99	-15	47.3	142	10 S	18 04	26	18 52	12 01 55	0 00 47
14	33	36.5		42.5	295	57.9	98		33.0	143	20	19	18 43	19 11	11 48 61	15 42
15	48	36.3		43.1	310	26.9	100		18.6	144	30	38	19 04	36	33 67	32 36
16	63	36.2		43.7	324	55.9	100	-15	04.2	144	35	18 48	17	19 51	25 70	42 33
17	78	36.0	-19	44.2	339	25.0	101	-14	49.7	145	40	19 01	19 32	20 10	11 15 74	0 53 29
18	93	35.9	-19	44.8	353	54.2	102	-14	35.1	146	45	19 15	19 50	20 34	11 03 79	1 06 25
19	108	35.7		45.4	8	23.4	102		20.4	147	50	33	20 13	21 08	10 49 85	22 19
20	123	35.6		45.9	22	52.7	103	-14	05.6	148	52	42	25	26	42 88	30 16
21	138	35.4		46.5	37	22.1	104	-13	50.8	148	54	19 51	38	21 48	35 91	38 13
22	153	35.3		47.1	51	51.6	105		35.8	150	56	20 02	20 54	22 18	27 94	47 10
23	168	35.1		47.6	66	21.1	105		20.9	149	58	14	21 13	23 19	17 99	1 57 6
24	183	35.0	-19	48.2	80	50.6	105	-13	05.8	151	60 S	20 29	21 36	** **	10 06 104	2 09 1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 20 ^h 01.7 ^m		Mag: -4.3 PMG: 8 ^h 55 ^m		Mag: +1.4 PMG: 11 ^h 43 ^m		Mag: -2.9 PMG: 22 ^h 26 ^m		Mag: +0.8 PMG: 18 ^h 16 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	58	45.2	226	10.5	-3	26.3	184	13.4	-19	35.0
1	73	47.7	241	10.3		27.3	199	14.1		35.5
2	88	50.1	256	10.1		28.4	214	14.7		35.9
3	103	52.6	271	09.9		29.4	229	15.3		36.3
4	118	55.1	286	09.7		30.4	244	16.0		36.7
5	133	57.5	301	09.5	-3	31.4	259	16.6	-19	37.2
6	149	00.0	316	09.3	-3	32.4	274	17.3	-19	37.6
7	164	02.5	331	09.1		33.4	289	17.9		38.0
8	179	04.9	346	08.9		34.4	304	18.6		38.5
9	194	07.4	1	08.7		35.4	319	19.2		38.9
10	209	09.8	16	08.5		36.4	334	19.8		39.3
11	224	12.3	31	08.3	-3	37.4	349	20.5	-19	39.8
12	239	14.8	46	08.1	-3	38.4	4	21.1	-19	40.2
13	254	17.2	61	08.0		39.4	19	21.8		40.6
14	269	19.7	76	07.8		40.4	34	22.4		41.1
15	284	22.2	91	07.6		41.4	49	23.0		41.5
16	299	24.6	106	07.4		42.4	64	23.7		41.9
17	314	27.1	121	07.2	-3	43.4	79	24.3	-19	42.3
18	329	29.6	136	07.0	-3	44.4	94	24.9	-19	42.8
19	344	32.0	151	06.8		45.4	109	25.6		43.2
20	359	34.5	166	06.6		46.4	124	26.2		43.6
21	14	37.0	181	06.4		47.4	139	26.9		44.0
22	29	39.4	196	06.2		48.4	154	27.5		44.5
23	44	41.9	211	05.9		49.4	169	28.1		44.9
24	59	44.3	226	05.7	-3	50.4	184	28.8	-19	45.3
Dif	—		-2		-10		+6		-4	
							+28		-1	
									+24	

UT	SOL		LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG: 11 ^h 45.8 ^m		Edad: 7.6 ^d SD: 16/1 PMG: 19 ^h 15 ^m															
	hG ☉	Dec	hG ☾	Dif	Dec	Dif	PHE { 4 ^h : 59/3 12 ^h : 59/3 20 ^h : 59/3 R°: 48 ^m			Náutico	Civil		Hora	R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	183	35.0	-19	48.2	80	50.6	-13	05.8	60 N	6	28	7	21	8	12	14	13	0
1	198	34.8		48.7	95	20.3	-12	50.6	58	23		12	7	59	08	3		
2	213	34.7		49.3	109	50.0		35.4	56	18	7	05	48	14	03	7		
3	228	34.5		49.8	124	19.7		20.2	54	14	6	58	38	13	59	9		
4	243	34.4		50.4	138	49.5	-12	04.8	52	09		51	30	55	12			
5	258	34.2	-19	51.0	153	19.4	-11	49.4	50	6	06	6	45	7	22	13	51	15
6	273	34.1	-19	51.5	167	49.3	-11	33.9	45	5	57	6	33	7	05	13	44	20
7	288	33.9		52.1	182	19.3		18.4	40	49		22	6	51	37	25		
8	303	33.7		52.6	196	49.4	-11	02.8	35	42		13	40	32	28			
9	318	33.6		53.2	211	19.5	-10	47.2	30	35	6	04	30	27	32	0	05	66
10	333	33.4		53.7	225	49.6		31.5	20	22	5	49	6	12	18	38		17
11	348	33.3	-19	54.3	240	19.8	-10	15.7	10 N	5	09	5	34	5	57	13	11	43
12	3	33.1	-19	54.8	254	50.1	-9	59.9	0	4	55	5	20	5	42	13	03	49
13	18	33.0		55.4	269	20.4		44.0	10 S	39		5	05	28	56	53		47
14	33	32.8		55.9	283	50.7		28.1	20	4	20	4	48	5	12	49	58	0
15	48	32.7		56.5	298	21.1	-9	12.1	30	3	55	27	4	53	40	65		1
16	63	32.5		57.0	312	51.6	-8	56.1	35	40		4	14	43	35	68		15
17	78	32.3	-19	57.6	327	22.1	-8	40.0	40	3	21	3	59	4	30	12	29	72
18	93	32.2	-19	58.1	341	52.6	-8	23.9	45	2	56	3	41	4	16	12	22	77
19	108	32.0		58.7	356	23.2	-8	07.7	50	23		17	3	58	14	83		41
20	123	31.9		59.2	10	53.8	-7	51.5	52	2	05	3	06	49	10	86		46
21	138	31.7	-19	59.8	25	24.5		35.3	54	1	43	2	53	40	06	89		51
22	153	31.6	-20	00.3	39	55.2		19.0	56	1	12		37	29	12	01	93	1
23	168	31.4		00.9	54	25.9	-7	02.7	58	0	12	2	18	16	11	56	96	2
24	183	31.2	-20	01.4	68	56.7	-6	46.3	60 S	**	**	1	54	3	02	11	50	100

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO					
	PMG		Mag: -4.3		Mag: +1.4		Mag: -2.9		Mag: +0.8					
	19 ^h 57.8 ^m		PMG: 8 ^h 56 ^m		PMG: 11 ^h 42 ^m		PMG: 22 ^h 22 ^m		PMG: 18 ^h 12 ^m					
h	hG ♈	Dec	hG ♊	Dec	hG ♊	Dec	hG ♏	Dec	hG ♎	Dec				
0	59	44.3	226	05.7	-3	50.4	23	28.0	+12	56.3	86	18.6	-12	47.8
1	74	46.8	241	05.5		51.4	38	30.7		56.3	101	21.0		47.7
2	89	49.3	256	05.3		52.4	53	33.5		56.2	116	23.4		47.7
3	104	51.7	271	05.1		53.4	68	36.2		56.1	131	25.8		47.7
4	119	54.2	286	04.9		54.4	83	39.0		56.0	146	28.2		47.7
5	134	56.7	301	04.7	-3	55.4	98	41.7	+12	55.9	161	30.6	-12	47.6
6	149	59.1	316	04.5	-3	56.4	113	44.5	+12	55.8	176	33.0	-12	47.6
7	165	01.6	331	04.3		57.4	128	47.2		55.7	191	35.4		47.6
8	180	04.1	346	04.1		58.5	143	50.0		55.6	206	37.8		47.5
9	195	06.5	1	03.9	-3	59.5	158	52.7		55.6	221	40.2		47.5
10	210	09.0	16	03.7	-4	00.5	173	55.5		55.5	236	42.6		47.5
11	225	11.5	31	03.5	-4	01.5	188	58.3	+12	55.4	251	45.0	-12	47.4
12	240	13.9	46	03.3	-4	02.5	204	01.0	+12	55.3	266	47.4	-12	47.4
13	255	16.4	61	03.1		03.5	219	03.8		55.2	281	49.8		47.4
14	270	18.8	76	02.9		04.5	234	06.5		55.1	296	52.2		47.3
15	285	21.3	91	02.7		05.5	249	09.3		55.0	311	54.6		47.3
16	300	23.8	106	02.5		06.5	264	12.0		54.9	326	57.0		47.3
17	315	26.2	121	02.3	-4	07.5	279	14.8	+12	54.9	341	59.4	-12	47.2
18	330	28.7	136	02.1	-4	08.5	294	17.5	+12	54.8	357	01.8	-12	47.2
19	345	31.2	151	01.8		09.5	309	20.3		54.7	12	04.2		47.2
20	0	33.6	166	01.6		10.5	324	23.0		54.6	27	06.5		47.2
21	15	36.1	181	01.4		11.5	339	25.8		54.5	42	08.9		47.1
22	30	38.6	196	01.2		12.5	354	28.5		54.4	57	11.3		47.1
23	45	41.0	211	01.0		13.5	9	31.3		54.3	72	13.7		47.1
24	60	43.5	226	00.8	-4	14.5	24	34.0	+12	54.3	87	16.1	-12	47.0
Dif	—		-2	-10		+6	-4		+28	-1		+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: 8.6 ^d SD: 16/1 PMG: 20 ^h 03 ^m PHE { 4 ^h : 59/3 12 ^h : 59/3 20 ^h : 59/2 Rº: 48 ^m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	
0	183	31.2	-20	01.4	68	56.7			-6	46.3	60 N	15 17	16 08	17 01	14 13	**	0 38 99	
1	198	31.1		01.9	83	27.5	118			30.0	58	30	17	07	11	3	42 95	
2	213	30.9		02.5	97	58.3	118		-6	13.5	56	42	25	12	10	6	45 92	
3	228	30.8		03.0	112	29.2	119		-5	57.1	54	15 52	32	16	08	10	48 89	
4	243	30.6		03.6	127	00.1	119			40.6	52	16 00	39	21	07	12	51 86	
5	258	30.4	-20	04.1	141	31.0	119		-5	24.1	50	16 08	16 45	17 25	14 06	14	0 54 82	
6	273	30.3	-20	04.7	156	02.0	120		-5	07.5	45	16 25	16 58	17 34	14 04	19	0 59 77	
7	288	30.1		05.2	170	33.0	120		-4	51.0	40	39	17 09	42	02	24	1 04 72	
8	303	29.9		05.7	185	04.0	120			34.4	35	16 51	18	49	14 00	28	07 69	
9	318	29.8		06.3	199	35.0	120			17.8	30	17 01	27	17 56	13 59	31	11 64	
10	333	29.6		06.8	214	06.1	121		-4	01.2	20	19	43	18 10	56	37	17 58	
11	348	29.5	-20	07.3	228	37.1	120		-3	44.5	10 N	17 35	17 57	18 23	13 54	42	1 22 53	
12	3	29.3	-20	07.9	243	08.2	121		-3	27.8	0	17 50	18 12	18 37	13 52	47	1 26 48	
13	18	29.1		08.4	257	39.4	122		-3	11.1	10 S	18 05	27	18 54	49	53	31 43	
14	33	29.0		09.0	272	10.5	121		-2	54.4	20	21	18 45	19 13	47	58	36 37	
15	48	28.8		09.5	286	41.6	121			37.7	30	39	19 06	38	45	64	41 32	
16	63	28.6		10.0	301	12.8	122			21.0	35	18 50	19	19 54	43	68	45 28	
17	78	28.5	-20	10.6	315	44.0	122		-2	04.3	40	19 03	19 34	20 13	13 41	72	1 48 24	
18	93	28.3	-20	11.1	330	15.2	122		-1	47.5	45	19 18	19 53	20 38	13 39	77	1 52 20	
19	108	28.1		11.6	344	46.4	122			30.7	50	36	20 17	21 12	37	83	57 14	
20	123	28.0		12.2	359	17.6	122		-1	14.0	52	45	29	31	36	85	1 59 12	
21	138	27.8		12.7	373	48.8	122		-0	57.2	54	19 55	43	21 55	35	88	2 02 9	
22	153	27.6		13.2	387	20.1	123			40.4	56	20 06	20 59	22 28	34	91	04 7	
23	168	27.5		13.7	401	51.3	122			23.7	58	19	21 18	** **	32	95	07 3	
24	183	27.3	-20	14.3	415	22.5	122		-0	06.9	60 S	20 34	21 44	** **	13 30	99	2 10 0	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 19 ^h 53.8 ^m			Mag: -4.3 PMG: 8 ^h 56 ^m			Mag: +1.4 PMG: 11 ^h 41 ^m			Mag: -2.9 PMG: 22 ^h 18 ^m			Mag: +0.8 PMG: 18 ^h 08 ^m					
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec			
h	°	'	°	°	'	°	°	'	°	°	'	°	°	'	°			
0	60	43.5	226	00.8	-4	14.5	184	44.0	-19	55.5	24	34.0	+12	54.3	87	16.1	-12	47.0
1	75	45.9	241	00.6		15.6	199	44.6		55.9	39	36.8		54.2	102	18.5		47.0
2	90	48.4	256	00.4		16.6	214	45.2		56.3	54	39.5		54.1	117	20.9		47.0
3	105	50.9	271	00.2		17.6	229	45.9		56.7	69	42.3		54.0	132	23.3		46.9
4	120	53.3	285	59.9		18.6	244	46.5		57.1	84	45.0		53.9	147	25.7		46.9
5	135	55.8	300	59.7	-4	19.6	259	47.1	-19	57.6	99	47.8	+12	53.8	162	28.1	-12	46.9
6	150	58.3	315	59.5	-4	20.6	274	47.8	-19	58.0	114	50.5	+12	53.7	177	30.5	-12	46.8
7	166	00.7	330	59.3		21.6	289	48.4		58.4	129	53.3		53.7	192	32.9		46.8
8	181	03.2	345	59.1		22.6	304	49.0		58.8	144	56.0		53.6	207	35.2		46.8
9	196	05.7	0	58.9		23.6	319	49.6		59.2	159	58.8		53.5	222	37.6		46.7
10	211	08.1	15	58.7		24.6	334	50.3	-19	59.6	175	01.5		53.4	237	40.0		46.7
11	226	10.6	30	58.5	-4	25.6	349	50.9	-20	00.1	190	04.3	+12	53.3	252	42.4	-12	46.7
12	241	13.1	45	58.2	-4	26.6	4	51.5	-20	00.5	205	07.0	+12	53.2	267	44.8	-12	46.6
13	256	15.5	60	58.0		27.6	19	52.1		00.9	220	09.8		53.1	282	47.2		46.6
14	271	18.0	75	57.8		28.7	34	52.8		01.3	235	12.5		53.1	297	49.6		46.6
15	286	20.4	90	57.6		29.7	49	53.4		01.7	250	15.3		53.0	312	52.0		46.5
16	301	22.9	105	57.4		30.7	64	54.0		02.1	265	18.0		52.9	327	54.4		46.5
17	316	25.4	120	57.2	-4	31.7	79	54.7	-20	02.5	280	20.8	+12	52.8	342	56.8	-12	46.5
18	331	27.8	135	56.9	-4	32.7	94	55.3	-20	03.0	295	23.5	+12	52.7	357	59.2	-12	46.4
19	346	30.3	150	56.7		33.7	109	55.9		03.4	310	26.3		52.6	13	01.5		46.4
20	1	32.8	165	56.5		34.7	124	56.5		03.8	325	29.0		52.5	28	03.9		46.4
21	16	35.2	180	56.3		35.7	139	57.2		04.2	340	31.8		52.5	43	06.3		46.3
22	31	37.7	195	56.1		36.7	154	57.8		04.6	355	34.5		52.4	58	08.7		46.3
23	46	40.2	210	55.8		37.7	169	58.4		05.0	10	37.3		52.3	73	11.1		46.3
24	61	42.6	225	55.6	-4	38.7	184	59.0	-20	05.4	25	40.0	+12	52.2	88	13.5	-12	46.2
Dif	—			-2	-10	+6	-4			+27			-1			+24		

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 46.3 ^m			Edad: 9.6 ^d SD: 16/1 PMG: 20 ^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	27.3	-20	14.3	57	22.5	-0	06.9	60 N	6	32	7	25	8	17	14	12
1	198	27.1		14.8	71	53.8	+0	09.9	58	26	16	8	03	14	4	17	95
2	213	27.0		15.3	86	25.0		26.6	56	21	08	7	52	16	7	17	91
3	228	26.8		15.9	100	56.3	+0	43.4	54	17	7	01	42	18	9	17	88
4	243	26.6		16.4	115	27.5	+1	00.2	52	12	6	54	33	19	13	17	85
5	258	26.5	-20	16.9	129	58.8	+1	16.9	50	6	08	6	48	7	25	14	20
6	273	26.3	-20	17.4	144	30.0	+1	33.7	45	5	59	6	35	7	08	14	23
7	288	26.1		18.0	159	01.2	+1	50.4	40	51	24	6	54	26	25	16	72
8	303	26.0		18.5	173	32.5	+2	07.1	35	44	14	42	28	29	16	68	
9	318	25.8		19.0	188	03.7		23.8	30	36	6	06	31	30	32	15	65
10	333	25.6		19.5	202	34.9		40.5	20	23	5	50	6	13	33	38	15
11	348	25.4	-20	20.0	217	06.1	+2	57.2	10 N	5	09	5	35	5	58	14	36
12	3	25.3	-20	20.6	231	37.3	+3	13.9	0	4	55	5	21	5	43	14	39
13	18	25.1		21.1	246	08.5		30.5	10 S	39	5	05	28	42	53	14	43
14	33	24.9		21.6	260	39.7	+3	47.2	20	4	19	4	48	5	11	45	59
15	48	24.8		22.1	275	10.8	+4	03.8	30	3	54	26	4	53	49	65	13
16	63	24.6		22.6	289	42.0		20.3	35	38	4	13	42	51	68	13	28
17	78	24.4	-20	23.2	304	13.1	+4	36.9	40	3	19	3	58	4	29	14	53
18	93	24.2	-20	23.7	318	44.2	+4	53.4	45	2	54	3	39	4	14	14	56
19	108	24.1		24.2	333	15.3	+5	09.9	50	19	15	3	56	15	00	83	11
20	123	23.9		24.7	347	46.3		26.4	52	2	01	3	03	47	01	86	11
21	138	23.7		25.2	2	17.4		42.8	54	1	37	2	49	37	03	89	11
22	153	23.5		25.7	16	48.4	+5	59.3	56	1	04	33	26	05	92	11	6
23	168	23.4		26.3	31	19.4	+6	15.6	58	** **	2	13	3	13	07	96	10
24	183	23.2	-20	26.8	45	50.3	+6	32.0	60 S	** **	1	48	2	58	15	09	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 49.9 ^m		Mag: -4.3 PMG: 8 ^h 56 ^m		Mag: +1.4 PMG: 11 ^h 40 ^m		Mag: -2.9 PMG: 22 ^h 13 ^m		Mag: +0.8 PMG: 18 ^h 04 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	61	42.6	225	55.6	-4	38.7	184	59.0	-20	05.4
1	76	45.1	240	55.4		39.8	199	59.7		05.8
2	91	47.6	255	55.2		40.8	215	00.3		06.3
3	106	50.0	270	55.0		41.8	230	00.9		06.7
4	121	52.5	285	54.7		42.8	245	01.5		07.1
5	136	54.9	300	54.5	-4	43.8	260	02.2	-20	07.5
6	151	57.4	315	54.3	-4	44.8	275	02.8	-20	07.9
7	166	59.9	330	54.1		45.8	290	03.4		08.3
8	182	02.3	345	53.9		46.8	305	04.0		08.7
9	197	04.8	0	53.6		47.8	320	04.6		09.1
10	212	07.3	15	53.4		48.8	335	05.3		09.5
11	227	09.7	30	53.2	-4	49.8	350	05.9	-20	09.9
12	242	12.2	45	53.0	-4	50.9	5	06.5	-20	10.4
13	257	14.7	60	52.7		51.9	20	07.1		10.8
14	272	17.1	75	52.5		52.9	35	07.8		11.2
15	287	19.6	90	52.3		53.9	50	08.4		11.6
16	302	22.0	105	52.1		54.9	65	09.0		12.0
17	317	24.5	120	51.8	-4	55.9	80	09.6	-20	12.4
18	332	27.0	135	51.6	-4	56.9	95	10.2	-20	12.8
19	347	29.4	150	51.4		57.9	110	10.9		13.2
20	2	31.9	165	51.2		58.9	125	11.5		13.6
21	17	34.4	180	50.9	-4	59.9	140	12.1		14.0
22	32	36.8	195	50.7	-5	01.0	155	12.7		14.4
23	47	39.3	210	50.5		02.0	170	13.3		14.8
24	62	41.8	225	50.3	-5	03.0	185	14.0	-20	15.2
Dif	—		-2	-10			+6	-4		
								+27		-1
									+24	

UT	SOL			C LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16/2 PMG: 11 ^h 46.6 ^m			Edad: 10.6 ^d PHE { 4 ^h : 59/0 12 ^h : 58/9 20 ^h : 58/8 PMG: 21 ^h 39 ^m R°: 51 ^m																
	hG ☉	Dec		hG ☾	Dif		Dec		Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m
0	183	23.2	-20	26.8	45	50.3		+6	32.0	163	60 N	15 14	16 06	16 59	14 12	1		3 57	101	
1	198	23.0		27.3	60	21.3	120	+6	48.3	163	58	27	15	17 05	18 5			52	97	
2	213	22.8		27.8	74	52.2	119	+7	04.5	162	56	39	23	10	23 9			48	93	
3	228	22.7		28.3	89	23.1	119		20.8	163	54	49	30	15	27 12			45	89	
4	243	22.5		28.8	103	53.9	118		36.9	161	52	15 58	37	19	32 14			42	86	
5	258	22.3	-20	29.3	118	24.7	118	+7	53.1	162	50	16 06	16 43	17 23	14 35	18		3 39	83	
6	273	22.1	-20	29.8	132	55.5	118	+8	09.2	161	45	16 24	16 56	17 33	14 44	23		3 33	78	
7	288	21.9		30.3	147	26.3	118		25.2	160	40	38	17 08	41	51 27			28	73	
8	303	21.8		30.8	161	57.0	117		41.2	160	35	16 50	18	49	14 57	31		24	68	
9	318	21.6		31.4	176	27.7	117	+8	57.2	160	30	17 01	26	17 56	15 02	35		20	65	
10	333	21.4		31.9	190	58.3	116	+9	13.1	159	20	19	43	18 10	11 41			13	59	
11	348	21.2	-20	32.4	205	28.9	116	+9	29.0	159	10 N	17 35	17 57	18 23	15 20	45		3 07	54	
12	3	21.1	-20	32.9	219	59.5	116	+9	44.8	158	0	17 50	18 12	18 38	15 27	50		3 02	49	
13	18	20.9		33.4	234	30.0	115	+10	00.5	157	10 S	18 05	28	18 55	35 55			2 57	44	
14	33	20.7		33.9	249	00.5	115		16.2	157	20	22	18 46	19 14	44 60			51	39	
15	48	20.5		34.4	263	31.0	115		31.8	156	30	41	19 08	40	54 65			44	33	
16	63	20.3		34.9	278	01.4	114	+10	47.4	156	35	18 52	21	19 56	15 59	70		41	29	
17	78	20.2	-20	35.4	292	31.7	113	+11	02.9	155	40	19 05	19 37	20 16	16 06	73		2 36	26	
18	93	20.0	-20	35.9	307	02.0	113	+11	18.3	154	45	19 21	19 56	20 41	16 13	79		2 32	21	
19	108	19.8		36.4	321	32.3	113		33.7	154	50	39	20 21	21 17	23 84			26	16	
20	123	19.6		36.9	336	02.5	112	+11	49.0	153	52	48	33	21 36	27 87			23	14	
21	138	19.4		37.4	350	32.7	112	+12	04.3	153	54	19 59	20 47	22 01	32 90			20	11	
22	153	19.2		37.9	5	02.8	111		19.5	152	56	20 10	21 04	22 38	37 94			17	8	
23	168	19.1		38.4	19	32.9	111		34.6	151	58	23	24	** **	43 98			14	4	
24	183	18.9	-20	38.9	34	03.0	111	+12	49.6	150	60 S	20 39	21 51	** **	16 50	103		2 10	0	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO							
	PMG: 19 ^h 46.0 ^m			Mag: -4.3 PMG: 8 ^h 57 ^m			Mag: +1.4 PMG: 11 ^h 39 ^m			Mag: -2.9 PMG: 22 ^h 09 ^m			Mag: +0.8 PMG: 18 ^h 00 ^m							
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec						
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	62	41.8	225	50.3	-5	03.0	185	14.0	-20	15.2	26	45.9	+12	50.2	89	10.8	-12	45.4		
1	77	44.2	240	50.0		04.0	200	14.6		15.6	41	48.6		50.1	104	13.1		45.4		
2	92	46.7	255	49.8		05.0	215	15.2		16.0	56	51.4		50.0	119	15.5		45.4		
3	107	49.2	270	49.6		06.0	230	15.8		16.4	71	54.1		50.0	134	17.9		45.3		
4	122	51.6	285	49.3		07.0	245	16.4		16.8	86	56.8		49.9	149	20.3		45.3		
5	137	54.1	300	49.1	-5	08.0	260	17.0	-20	17.3	101	59.6	+12	49.8	164	22.7	-12	45.3		
6	152	56.5	315	48.9	-5	09.0	275	17.7	-20	17.7	117	02.3	+12	49.7	179	25.1	-12	45.2		
7	167	59.0	330	48.6		10.1	290	18.3		18.1	132	05.1		49.6	194	27.5		45.2		
8	183	01.5	345	48.4		11.1	305	18.9		18.5	147	07.8		49.5	209	29.8		45.2		
9	198	03.9	0	48.2		12.1	320	19.5		18.9	162	10.5		49.5	224	32.2		45.1		
10	213	06.4	15	47.9		13.1	335	20.1		19.3	177	13.3		49.4	239	34.6		45.1		
11	228	08.9	30	47.7	-5	14.1	350	20.7	-20	19.7	192	16.0	+12	49.3	254	37.0	-12	45.0		
12	243	11.3	45	47.5	-5	15.1	5	21.4	-20	20.1	207	18.8	+12	49.2	269	39.4	-12	45.0		
13	258	13.8	60	47.3		16.1	20	22.0		20.5	222	21.5		49.1	284	41.7		45.0		
14	273	16.3	75	47.0		17.1	35	22.6		20.9	237	24.2		49.0	299	44.1		44.9		
15	288	18.7	90	46.8		18.1	50	23.2		21.3	252	27.0		49.0	314	46.5		44.9		
16	303	21.2	105	46.5		19.2	65	23.8		21.7	267	29.7		48.9	329	48.9		44.9		
17	318	23.7	120	46.3	-5	20.2	80	24.4	-20	22.1	282	32.5	+12	48.8	344	51.3	-12	44.8		
18	333	26.1	135	46.1	-5	21.2	95	25.1	-20	22.5	297	35.2	+12	48.7	359	53.7	-12	44.8		
19	348	28.6	150	45.8		22.2	110	25.7		22.9	312	37.9		48.6	14	56.0		44.8		
20	3	31.0	165	45.6		23.2	125	26.3		23.3	327	40.7		48.6	29	58.4		44.7		
21	18	33.5	180	45.4		24.2	140	26.9		23.7	342	43.4		48.5	45	00.8		44.7		
22	33	36.0	195	45.1		25.2	155	27.5		24.1	357	46.1		48.4	60	03.2		44.7		
23	48	38.4	210	44.9		26.2	170	28.1		24.5	12	48.9		48.3	75	05.6		44.6		
24	63	40.9	225	44.7	-5	27.2	185	28.7	-20	24.9	27	51.6	+12	48.2	90	07.9	-12	44.6		
Dif	—			-2	-10		+6		-4		+27		-1		+24		0			

UT	SOL			☾ LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna					
	SD: 16'2 PMG:11 ^h 46.9 ^m			Edad: 11.6 ^d PHE { 4 ^h : 58'7 12 ^h : 58'6 20 ^h : 58'4 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	183	18.9	-20	38.9	34	03.0	+12	49.6	60 N	6	35	7	29	8	21	14	13	2	5	38	105
1	198	18.7		39.4	48	32.9	+13	04.6	58	30		20	8	07		23	7		29	99	
2	213	18.5		39.9	63	02.9		19.5	56	24	11		7	56		32	12		21	95	
3	228	18.3		40.4	77	32.7		34.3	54	19	7	04	45	39	16		14	9			
4	243	18.1		40.9	92	02.6	+13	49.1	52	15	6	57	36	46	19		08	87			
5	258	18.0	-20	41.4	106	32.3	+14	03.7	50	6	11	6	51	7	28	14	53	22	5	02	85
6	273	17.8	-20	41.8	121	02.0	+14	18.3	45	6	01	6	38	7	10	15	07	27	4	51	78
7	288	17.6		42.3	135	31.7		32.8	40	5	53	26	6	56	18	32	41		73		
8	303	17.4		42.8	150	01.3	+14	47.2	35	45		16	44	28	35		32	70			
9	318	17.2		43.3	164	30.8	+15	01.5	30	38	6	07	33	37	38		25	66			
10	333	17.0		43.8	179	00.3		15.8	20	24	5	51	6	15	52	44		12	61		
11	348	16.8	-20	44.3	193	29.8	+15	29.9	10 N	5	10	5	36	5	58	16	05	48	4	01	56
12	3	16.6	-20	44.8	207	59.1	+15	44.0	0	4	55	5	21	5	43	16	17	53	3	51	51
13	18	16.5		45.3	222	28.4	+15	58.0	10 S	39	5	05	28	30	57		41	46			
14	33	16.3		45.8	236	57.7	+16	11.9	20	4	19	4	47	5	11	44	61		30	42	
15	48	16.1		46.3	251	26.9		25.7	30	3	53	26	4	52	16	59	67		17	37	
16	63	15.9		46.7	265	56.0		39.4	35	37	4	12	41	17	09	69		10	33		
17	78	15.7	-20	47.2	280	25.1	+16	53.0	40	3	17	3	57	4	28	17	19	74	3	02	30
18	93	15.5	-20	47.7	294	54.1	+17	06.5	45	2	52	3	37	4	13	17	32	78	2	53	25
19	108	15.3		48.2	309	23.0		19.9	50	2	16	12	3	54	47	84		42	19		
20	123	15.1		48.7	323	51.9		33.2	52	1	57	3	00	45	17	54	87		37	16	
21	138	14.9		49.2	338	20.8		46.4	54	1	32	2	46	34	18	02	91		31	13	
22	153	14.8		49.6	352	49.5	+17	59.4	56	0	55	29	23	11	95		25	9			
23	168	14.6		50.1	7	18.2	+18	12.4	58	**	**	2	09	3	10	21	100		18	5	
24	183	14.4	-20	50.6	21	46.9	+18	25.3	60 S	**	**	1	42	2	54	18	33	107	2	10	1

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 19 ^h 42.0 ^m		Mag: -4.2 PMG: 8 ^h 57 ^m		Mag: +1.4 PMG: 11 ^h 38 ^m		Mag: -2.9 PMG: 22 ^h 05 ^m		Mag: +0.8 PMG: 17 ^h 57 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	63	40.9	225	44.7	-5	27.2	185	28.7	-20	24.9
1	78	43.4	240	44.4		28.3	200	29.3		25.3
2	93	45.8	255	44.2		29.3	215	30.0		25.7
3	108	48.3	270	43.9		30.3	230	30.6		26.0
4	123	50.8	285	43.7		31.3	245	31.2		26.4
5	138	53.2	300	43.5	-5	32.3	260	31.8	-20	26.8
6	153	55.7	315	43.2	-5	33.3	275	32.4	-20	27.2
7	168	58.1	330	43.0		34.3	290	33.0		27.6
8	184	00.6	345	42.7		35.3	305	33.6		28.0
9	199	03.1	0	42.5		36.4	320	34.2		28.4
10	214	05.5	15	42.3		37.4	335	34.9		28.8
11	229	08.0	30	42.0	-5	38.4	350	35.5	-20	29.2
12	244	10.5	45	41.8	-5	39.4	5	36.1	-20	29.6
13	259	12.9	60	41.5		40.4	20	36.7		30.0
14	274	15.4	75	41.3		41.4	35	37.3		30.4
15	289	17.9	90	41.1		42.4	50	37.9		30.8
16	304	20.3	105	40.8		43.4	65	38.5		31.2
17	319	22.8	120	40.6	-5	44.5	80	39.1	-20	31.6
18	334	25.3	135	40.3	-5	45.5	95	39.7	-20	32.0
19	349	27.7	150	40.1		46.5	110	40.3		32.4
20	4	30.2	165	39.8		47.5	125	40.9		32.7
21	19	32.6	180	39.6		48.5	140	41.5		33.1
22	34	35.1	195	39.3		49.5	155	42.2		33.5
23	49	37.6	210	39.1		50.5	170	42.8		33.9
24	64	40.0	225	38.8	-5	51.5	185	43.4	-20	34.3
Dif	—		-2	-10			+6	-4		+27

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h /2 PMG: 11 ^h 47.2 ^m				Edad: 12.6 ^d PHE { 4 ^h : 58 ^h /3 12 ^h : 58 ^h /1 20 ^h : 57 ^h /9 R°: 56 ^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	14.4	-20	50.6	21	46.9	95	+18	25.3	15 10	16 03	16 57	14 15	6	7	23	107	
1	198	14.2		51.1	36	15.4	95		38.1	24	12	17 03	30	14	7	08	100	
2	213	14.0		51.6	50	43.9	95	+18	50.7	36	21	08	44	18	6	56	94	
3	228	13.8		52.0	65	12.4	95	+19	03.3	47	28	13	14	55	23	45	90	
4	243	13.6		52.5	79	40.8	94		15.7	15 56	35	18	15	05	27	35	87	
5	258	13.4	-20	53.0	94	09.1	93	+19	28.1	16 05	16 42	17 22	15	15	28	6	27	83
6	273	13.2	-20	53.5	108	37.3	92	+19	40.3	16 23	16 55	17 32	15	34	34	6	09	77
7	288	13.0		54.0	123	05.5	92	+19	52.4	37	17 07	40	15	50	38	5	54	73
8	303	12.8		54.4	137	33.7	92	+20	04.3	16 49	17	48	16	03	42	42	70	
9	318	12.6		54.9	152	01.7	90		16.2	17 00	26	17 55	15	44	31	67		
10	333	12.4		55.4	166	29.7	90		27.9	19	43	18 10	36	48	5	13	62	
11	348	12.3	-20	55.9	180	57.7	90	+20	39.6	17 35	17 58	18 24	16	53	52	4	57	58
12	3	12.1	-20	56.3	195	25.5	88	+20	51.0	17 51	18 13	18 39	17	10	55	4	42	54
13	18	11.9		56.8	209	53.3	88	+21	02.4	18 06	29	18 56	27	58	27	51		
14	33	11.7		57.3	224	21.1	88		13.7	23	18 47	19 16	17	45	62	4	12	46
15	48	11.5		57.7	238	48.8	87		24.8	43	19 09	42	18	06	66	3	54	41
16	63	11.3		58.2	253	16.4	86		35.8	18 54	23	19 58	18	69	43	39		
17	78	11.1	-20	58.7	267	43.9	85	+21	46.6	19 07	19 39	20 19	18	33	72	3	32	34
18	93	10.9	-20	59.2	282	11.4	85	+21	57.3	19 23	19 59	20 45	18	50	76	3	18	30
19	108	10.7	-20	59.6	296	38.9	84	+22	07.9	42	20 24	21 21	19	11	81	3	01	25
20	123	10.5	-21	00.1	311	06.3	84		18.4	19 52	37	21 42	21	84	2	53	22	
21	138	10.3		00.6	325	33.6	83		28.7	20 02	20 51	22 08	33	87	44	19		
22	153	10.1		01.0	340	00.8	82		38.9	14	21 09	22 49	19	46	92	34	15	
23	168	09.9		01.5	354	28.0	82		49.0	28	30	** **	20	01	98	23	10	
24	183	09.7	-21	02.0	8	55.2	82	+22	58.9	20 44	21 59	** **	20	20	107	2	11	3
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 19 ^h 38.1 ^m		Mag: -4.2 PMG: 8 ^h 58 ^m		Mag: +1.4 PMG: 11 ^h 37 ^m		Mag: -2.9 PMG: 22 ^h 00 ^m		Mag: +0.8 PMG: 17 ^h 53 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec	hG ♅	Dec	hG ♅	Dec	hG ♅	Dec		
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /		
0	64	40.0	225	38.8	-5	51.5	185	43.4	-20	34.3	28	57.2	+12	46.3	91	05.0	-12	43.7
1	79	42.5	240	38.6		52.6	200	44.0		34.7	44	00.0		46.2	106	07.4		43.7
2	94	45.0	255	38.4		53.6	215	44.6		35.1	59	02.7		46.2	121	09.8		43.6
3	109	47.4	270	38.1		54.6	230	45.2		35.5	74	05.4		46.1	136	12.2		43.6
4	124	49.9	285	37.9		55.6	245	45.8		35.9	89	08.2		46.0	151	14.5		43.5
5	139	52.4	300	37.6	-5	56.6	260	46.4	-20	36.3	104	10.9	+12	45.9	166	16.9	-12	43.5
6	154	54.8	315	37.4	-5	57.6	275	47.0	-20	36.6	119	13.6	+12	45.8	181	19.3	-12	43.5
7	169	57.3	330	37.1		58.6	290	47.6		37.0	134	16.3		45.8	196	21.7		43.4
8	184	59.8	345	36.9	-5	59.6	305	48.2		37.4	149	19.1		45.7	211	24.0		43.4
9	200	02.2	0	36.6	-6	00.6	320	48.8		37.8	164	21.8		45.6	226	26.4		43.4
10	215	04.7	15	36.4		01.7	335	49.4		38.2	179	24.5		45.5	241	28.8		43.3
11	230	07.1	30	36.1	-6	02.7	350	50.0	-20	38.6	194	27.3	+12	45.4	256	31.2	-12	43.3
12	245	09.6	45	35.9	-6	03.7	5	50.6	-20	39.0	209	30.0	+12	45.4	271	33.5	-12	43.2
13	260	12.1	60	35.6		04.7	20	51.2		39.4	224	32.7		45.3	286	35.9		43.2
14	275	14.5	75	35.4		05.7	35	51.8		39.7	239	35.5		45.2	301	38.3		43.2
15	290	17.0	90	35.1		06.7	50	52.4		40.1	254	38.2		45.1	316	40.7		43.1
16	305	19.5	105	34.8		07.7	65	53.1		40.5	269	40.9		45.1	331	43.0		43.1
17	320	21.9	120	34.6	-6	08.7	80	53.7	-20	40.9	284	43.6	+12	45.0	346	45.4	-12	43.0
18	335	24.4	135	34.3	-6	09.8	95	54.3	-20	41.3	299	46.4	+12	44.9	1	47.8	-12	43.0
19	350	26.9	150	34.1		10.8	110	54.9		41.7	314	49.1		44.8	16	50.2		43.0
20	5	29.3	165	33.8		11.8	125	55.5		42.0	329	51.8		44.7	31	52.5		42.9
21	20	31.8	180	33.6		12.8	140	56.1		42.4	344	54.5		44.7	46	54.9		42.9
22	35	34.2	195	33.3		13.8	155	56.7		42.8	359	57.3		44.6	61	57.3		42.8
23	50	36.7	210	33.1		14.8	170	57.3		43.2	15	00.0		44.5	76	59.6		42.8
24	65	39.2	225	32.8	-6	15.8	185	57.9	-20	43.6	30	02.7	+12	44.4	92	02.0	-12	42.8
Dif	—		-3		-10		+6		-4		+27		-1		+24		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 47.5 ^m			Edad: 13.6 ^d PHE { 4 ^h : 57/8 12 ^h : 57/6 20 ^h : 57/4 R°: *** ^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	183	09.7	-21	02.0	8	55.2	81	+22	58.9	98	6	39	7	33	8	26	14	21
1	198	09.5		02.4	23	22.3	80	+23	08.7	96	33	23	8	12	14	44	25	8
2	213	09.3		02.9	37	49.3	79		18.3	95	27	15	7	59	15	02	31	30
3	228	09.1		03.3	52	16.2	79		27.8	93	22	07	49	18	34		15	82
4	243	08.9		03.8	66	43.2	80		37.1	93	18	7 00	39	32	36	8	02	79
5	258	08.7	-21	04.3	81	10.0	78	+23	46.4	93	6	13	6	54	7	31	15	43
6	273	08.5	-21	04.7	95	36.8	78	+23	55.4	90	6	04	6	40	7	13	16	08
7	288	08.3		05.2	110	03.6	77	+24	04.3	89	5	55	28	6	58		28	46
8	303	08.1		05.6	124	30.3	77		13.1	88	47	18		46	45	48	6	52
9	318	07.9		06.1	138	56.9	76		21.7	86	39	6 09	35	16	59	50		38
10	333	07.7		06.6	153	23.5	76		30.2	85	25	5 52	6	16	17	24	52	6
11	348	07.5	-21	07.0	167	50.1	76	+24	38.6	84	5	11	5	37	5	59	17	45
12	3	07.3	-21	07.5	182	16.6	75	+24	46.7	81	4	56	5	22	5	44	18	05
13	18	07.1		07.9	196	43.0	74	+24	54.8	81	39	5 06		28		25	59	5
14	33	06.9		08.4	211	09.4	74	+25	02.7	79	4	19	4	47	5	11	18	47
15	48	06.7		08.8	225	35.8	74		10.4	77	3	53		25	4	52	19	12
16	63	06.5		09.3	240	02.1	73		18.0	76	36	4 11		40		27	65	22
17	78	06.3	-21	09.8	254	28.4	73	+25	25.4	74	3	16	3	55	4	27	19	45
18	93	06.1	-21	10.2	268	54.6	72	+25	32.6	72	2	50	3	36	4	11	20	06
19	108	05.9		10.7	283	20.8	72		39.7	71	2	13	3	10	3	52		32
20	123	05.6		11.1	297	47.0	72		46.7	70	1	53	2	58	43	20	45	74
21	138	05.4		11.6	312	13.1	71	+25	53.5	68	1	26		43	32	21	00	77
22	153	05.2		12.0	326	39.2	71	+26	00.1	66	0	45		26	20		18	80
23	168	05.0		12.5	341	05.3	71		06.6	65	**	**	2	04	3	07	21	39
24	183	04.8	-21	12.9	355	31.3	70	+26	12.9	63	**	**	1	36	2	50	22	07

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 34.2 ^m		Mag: -4.2 PMG: 8 ^h 58 ^m		Mag: +1.4 PMG: 11 ^h 36 ^m		Mag: -2.9 PMG: 21 ^h 56 ^m		Mag: +0.8 PMG: 17 ^h 49 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	65	39.2	225	32.8	-6	15.8	185	57.9	-20	43.6
1	80	41.6	240	32.6		16.8	200	58.5		44.0
2	95	44.1	255	32.3		17.9	215	59.1		44.3
3	110	46.6	270	32.0		18.9	230	59.7		44.7
4	125	49.0	285	31.8		19.9	246	00.3		45.1
5	140	51.5	300	31.5	-6	20.9	261	00.9	-20	45.5
6	155	54.0	315	31.3	-6	21.9	276	01.5	-20	45.9
7	170	56.4	330	31.0		22.9	291	02.1		46.3
8	185	58.9	345	30.7		23.9	306	02.7		46.6
9	201	01.4	0	30.5		24.9	321	03.3		47.0
10	216	03.8	15	30.2		26.0	336	03.9		47.4
11	231	06.3	30	30.0	-6	27.0	351	04.5	-20	47.8
12	246	08.7	45	29.7	-6	28.0	6	05.1	-20	48.1
13	261	11.2	60	29.4		29.0	21	05.7		48.5
14	276	13.7	75	29.2		30.0	36	06.3		48.9
15	291	16.1	90	28.9		31.0	51	06.9		49.3
16	306	18.6	105	28.7		32.0	66	07.5		49.7
17	321	21.1	120	28.4	-6	33.0	81	08.0	-20	50.0
18	336	23.5	135	28.1	-6	34.1	96	08.6	-20	50.4
19	351	26.0	150	27.9		35.1	111	09.2		50.8
20	6	28.5	165	27.6		36.1	126	09.8		51.2
21	21	30.9	180	27.3		37.1	141	10.4		51.5
22	36	33.4	195	27.1		38.1	156	11.0		51.9
23	51	35.9	210	26.8		39.1	171	11.6		52.3
24	66	38.3	225	26.5	-6	40.1	186	12.2	-20	52.7
Dif	—		-3	-10			+6	-4		
								+27		-1
									+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: 14.6 ^d SD: 15/6 PMG: 0 ^h 19 ^m PHE { 4 ^h : 57/1 12 ^h : 56/9 20 ^h : 56/7 R°: 57 ^m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m m	h m m	h m m	h m m	
0	183	04.8	-21	12.9	355	31.3	70	+26	12.9	62	60 N	15 07	16 00	16 55	14 37	40	10 52	79
1	198	04.6		13.4	9	57.3	69		19.1	60	58	22	10	17 01	15 09	45	10 20	73
2	213	04.4		13.8	24	23.2	70		25.1	58	56	34	19	06	33	48	9 57	70
3	228	04.2		14.2	38	49.2	69		30.9	57	54	45	27	12	15 52	50	37	69
4	243	04.0		14.7	53	15.1	68		36.6	55	52	15 55	34	16	16 08	51	21	68
5	258	03.8	-21	15.1	67	40.9	68	+26	42.1	54	50	16 03	16 40	17 21	16 22	52	9 08	66
6	273	03.6	-21	15.6	82	06.8	69	+26	47.5	54	45	16 21	16 54	17 31	16 51	53	8 39	64
7	288	03.4		16.0	96	32.6	68		52.7	52	40	36	17 06	40	17 14	54	8 17	63
8	303	03.2		16.5	110	58.5	69	+26	57.7	50	35	16 49	17	48	33	54	7 59	62
9	318	03.0		16.9	125	24.3	68	+27	02.6	49	30	17 00	26	17 55	17 49	55	43	61
10	333	02.7		17.3	139	50.0	67		07.3	47	20	19	43	18 10	18 16	56	7 16	60
11	348	02.5	-21	17.8	154	15.8	68	+27	11.8	45	10 N	17 36	17 58	18 24	18 40	56	6 54	58
12	3	02.3	-21	18.2	168	41.6	68	+27	16.2	44	0	17 52	18 14	18 40	19 02	56	6 32	57
13	18	02.1		18.7	183	07.3	67		20.4	42	10 S	18 07	30	18 57	24	57	6 11	56
14	33	01.9		19.1	197	33.0	67		24.5	39	20	25	18 49	19 17	19 48	57	5 48	54
15	48	01.7		19.5	211	58.8	68		28.4	37	30	44	19 11	19 44	20 16	57	22	52
16	63	01.5		20.0	226	24.5	67		32.1	37	35	18 56	25	20 00	32	58	5 06	52
17	78	01.3	-21	20.4	240	50.2	67	+27	35.7	36	40	19 10	19 41	20 21	20 51	58	4 48	50
18	93	01.1	-21	20.9	255	15.9	67	+27	39.0	33	45	19 26	20 01	20 48	21 15	58	4 27	48
19	108	00.8		21.3	269	41.6	67		42.3	30	50	45	27	21 26	45	58	3 59	45
20	123	00.6		21.7	284	07.3	67		45.3	30	52	19 55	40	21 47	21 59	59	46	43
21	138	00.4		22.2	298	33.0	67		48.2	29	54	20 06	20 55	22 15	22 17	59	31	41
22	153	00.2		22.6	312	58.8	68		50.9	27	56	18	21 13	23 02	22 38	59	3 13	38
23	168	00.0		23.0	327	24.5	67		53.5	26	58	32	21 36	** **	23 04	59	2 51	33
24	182	59.8	-21	23.5	341	50.2	67	+27	55.9	24	60 S	20 49	22 06	** **	23 41	60	2 23	24
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 19 ^h 30.2 ^m		Mag: -4.2 PMG: 8 ^h 58 ^m		Mag: +1.4 PMG: 11 ^h 35 ^m		Mag: -2.9 PMG: 21 ^h 52 ^m		Mag: +0.8 PMG: 17 ^h 45 ^m									
	hG ♈	hG ♀		Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /				
0	66	38.3	225	26.5	-6	40.1	186	12.2	-20	52.7	31	08.1	+12	42.6	92	58.9	-12	41.8
1	81	40.8	240	26.3		41.1	201	12.8		53.0	46	10.8		42.5	108	01.3		41.8
2	96	43.2	255	26.0		42.2	216	13.4		53.4	61	13.5		42.5	123	03.7		41.7
3	111	45.7	270	25.7		43.2	231	14.0		53.8	76	16.2		42.4	138	06.0		41.7
4	126	48.2	285	25.5		44.2	246	14.6		54.2	91	18.9		42.3	153	08.4		41.6
5	141	50.6	300	25.2	-6	45.2	261	15.2	-20	54.5	106	21.7	+12	42.2	168	10.8	-12	41.6
6	156	53.1	315	24.9	-6	46.2	276	15.8	-20	54.9	121	24.4	+12	42.2	183	13.1	-12	41.6
7	171	55.6	330	24.7		47.2	291	16.4		55.3	136	27.1		42.1	198	15.5		41.5
8	186	58.0	345	24.4		48.2	306	17.0		55.7	151	29.8		42.0	213	17.9		41.5
9	202	00.5	0	24.1		49.2	321	17.6		56.0	166	32.5		41.9	228	20.2		41.4
10	217	03.0	15	23.9		50.2	336	18.2		56.4	181	35.3		41.9	243	22.6		41.4
11	232	05.4	30	23.6	-6	51.3	351	18.7	-20	56.8	196	38.0	+12	41.8	258	25.0	-12	41.4
12	247	07.9	45	23.3	-6	52.3	6	19.3	-20	57.1	211	40.7	+12	41.7	273	27.3	-12	41.3
13	262	10.4	60	23.0		53.3	21	19.9		57.5	226	43.4		41.6	288	29.7		41.3
14	277	12.8	75	22.8		54.3	36	20.5		57.9	241	46.1		41.6	303	32.1		41.2
15	292	15.3	90	22.5		55.3	51	21.1		58.3	256	48.8		41.5	318	34.4		41.2
16	307	17.7	105	22.2		56.3	66	21.7		58.6	271	51.6		41.4	333	36.8		41.2
17	322	20.2	120	22.0	-6	57.3	81	22.3	-20	59.0	286	54.3	+12	41.3	348	39.2	-12	41.1
18	337	22.7	135	21.7	-6	58.3	96	22.9	-20	59.4	301	57.0	+12	41.3	3	41.5	-12	41.1
19	352	25.1	150	21.4	-6	59.3	111	23.5	-20	59.7	316	59.7		41.2	18	43.9		41.0
20	7	27.6	165	21.1	-7	00.4	126	24.1	-21	00.1	332	02.4		41.1	33	46.3		41.0
21	22	30.1	180	20.9		01.4	141	24.7		00.5	347	05.1		41.0	48	48.6		40.9
22	37	32.5	195	20.6		02.4	156	25.3		00.8	2	07.9		41.0	63	51.0		40.9
23	52	35.0	210	20.3		03.4	171	25.8		01.2	17	10.6		40.9	78	53.4		40.9
24	67	37.5	225	20.0	-7	04.4	186	26.4	-21	01.6	32	13.3	+12	40.8	93	55.7	-12	40.8
Dif	—		-3		-10		+6		-4		+27		-1		+24		0	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna						
	SD: 16/2 PMG: 11 ^h 48.2 ^m			Edad: 15.6 ^d SD: 15/4 PMG: 1 ^h 16 ^m PHE { 4 ^h : 56/5 12 ^h : 56/3 20 ^h : 56/1 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	182	59.8	-21	23.5	341	50.2	68	+27	55.9	22	6	42	7	37	8	30	15	17	75	12	11	40
1	197	59.6		23.9	356	16.0	68	+27	58.1	21	36		27	15		15	54	70	11	33	46	
2	212	59.4		24.3	10	41.8	68	+28	00.2	19	30		18	8	03	16	21	67	11	07	48	
3	227	59.1		24.7	25	07.5	67		02.1	19	25		10	7	52		42	65	10	46	50	
4	242	58.9		25.2	39	33.3	68		03.9	18	20		7	03	42	16	59	64		29	50	
5	257	58.7	-21	25.6	53	59.1	68	+28	05.4	15	6	16	6	56	7	34	17	14	63	10	14	51
6	272	58.5	-21	26.0	68	25.0	69	+28	06.8	14	6	06	6	42	7	15	17	44	61	9	43	53
7	287	58.3		26.5	82	50.8	68		08.1	13	5	57	30	7	00	18	08	60	20	53		
8	302	58.1		26.9	97	16.7	69		09.2	11	49		20	6	47		27	59	9	01	54	
9	317	57.8		27.3	111	42.6	69		10.1	9	41		6	10	36	18	44	58	8	44	54	
10	332	57.6		27.7	126	08.5	69		10.9	8	26		5	53	17	19	12	57	8	16	55	
11	347	57.4	-21	28.2	140	34.5	70	+28	11.5	6	5	12	5	38	6	00	19	36	56	7	52	55
12	2	57.2	-21	28.6	155	00.5	70	+28	11.9	4	4	56	5	22	5	45	19	58	55	7	29	56
13	17	57.0		29.0	169	26.5	70		12.2	3	39		5	06	29	20	21	53	7	07	56	
14	32	56.8		29.4	183	52.6	71		12.3	1	4	19	4	47	5	11	20	45	52	6	42	57
15	47	56.5		29.8	198	18.7	71		12.2	1	3	52	25	4	51	21	13	51	6	14	57	
16	62	56.3		30.3	212	44.8	71		12.0	2	35		4	11	40		30	50	5	58	57	
17	77	56.1	-21	30.7	227	11.0	72	+28	11.6	4	3	15	3	54	4	26	21	49	49	5	38	58
18	92	55.9	-21	31.1	241	37.2	72	+28	11.1	5	2	48	3	34	4	10	22	13	46	5	15	57
19	107	55.7		31.5	256	03.5	73		10.4	7	2	10	3	08	3	50		43	44	4	44	58
20	122	55.4		31.9	270	29.8	73		09.6	8	1	49	2	55	41	22	58	43	29	58		
21	137	55.2		32.4	284	56.1	73		08.6	10	1	21	40	30	23	16	40		4	12	58	
22	152	55.0		32.8	299	22.5	74		07.4	12	0	34	22	18	23	37	37		3	51	58	
23	167	54.8		33.2	313	49.0	75		06.1	13	**	**	2	00	3	04	**	**	**	3	24	59
24	182	54.6	-21	33.6	328	15.5	75	+28	04.6	15	**	**	1	30	2	47	**	**	**	2	47	58

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 19 ^h 26.3 ^m		Mag: -4.2 PMG: 8 ^h 59 ^m			Mag: +1.4 PMG: 11 ^h 34 ^m			Mag: -2.8 PMG: 21 ^h 47 ^m			Mag: +0.9 PMG: 17 ^h 41 ^m						
	hG ♂		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	67	37.5	225	20.0	-7	04.4	186	26.4	-21	01.6	32	13.3	+12	40.8	93	55.7	-12	40.8
1	82	39.9	240	19.8		05.4	201	27.0		01.9	47	16.0		40.7	108	58.1		40.8
2	97	42.4	255	19.5		06.4	216	27.6		02.3	62	18.7		40.7	124	00.5		40.7
3	112	44.9	270	19.2		07.4	231	28.2		02.7	77	21.4		40.6	139	02.8		40.7
4	127	47.3	285	18.9		08.4	246	28.8		03.0	92	24.1		40.5	154	05.2		40.7
5	142	49.8	300	18.7	-7	09.5	261	29.4	-21	03.4	107	26.9	+12	40.5	169	07.5	-12	40.6
6	157	52.2	315	18.4	-7	10.5	276	30.0	-21	03.8	122	29.6	+12	40.4	184	09.9	-12	40.6
7	172	54.7	330	18.1		11.5	291	30.5		04.1	137	32.3		40.3	199	12.3		40.5
8	187	57.2	345	17.8		12.5	306	31.1		04.5	152	35.0		40.2	214	14.6		40.5
9	202	59.6	0	17.5		13.5	321	31.7		04.9	167	37.7		40.2	229	17.0		40.4
10	218	02.1	15	17.3		14.5	336	32.3		05.2	182	40.4		40.1	244	19.4		40.4
11	233	04.6	30	17.0	-7	15.5	351	32.9	-21	05.6	197	43.1	+12	40.0	259	21.7	-12	40.4
12	248	07.0	45	16.7	-7	16.5	6	33.5	-21	06.0	212	45.8	+12	39.9	274	24.1	-12	40.3
13	263	09.5	60	16.4		17.5	21	34.1		06.3	227	48.5		39.9	289	26.5		40.3
14	278	12.0	75	16.1		18.6	36	34.7		06.7	242	51.3		39.8	304	28.8		40.2
15	293	14.4	90	15.9		19.6	51	35.2		07.1	257	54.0		39.7	319	31.2		40.2
16	308	16.9	105	15.6		20.6	66	35.8		07.4	272	56.7		39.7	334	33.5		40.1
17	323	19.4	120	15.3	-7	21.6	81	36.4	-21	07.8	287	59.4	+12	39.6	349	35.9	-12	40.1
18	338	21.8	135	15.0	-7	22.6	96	37.0	-21	08.1	303	02.1	+12	39.5	4	38.3	-12	40.1
19	353	24.3	150	14.7		23.6	111	37.6		08.5	318	04.8		39.4	19	40.6		40.0
20	8	26.7	165	14.4		24.6	126	38.2		08.9	333	07.5		39.4	34	43.0		40.0
21	23	29.2	180	14.2		25.6	141	38.7		09.2	348	10.2		39.3	49	45.3		39.9
22	38	31.7	195	13.9		26.6	156	39.3		09.6	3	12.9		39.2	64	47.7		39.9
23	53	34.1	210	13.6		27.6	171	39.9		09.9	18	15.6		39.2	79	50.1		39.8
24	68	36.6	225	13.3	-7	28.6	186	40.5	-21	10.3	33	18.4	+12	39.1	94	52.4	-12	39.8
Dif	—		-3		-10		+6		-4		+27		-1		+24		0	

UT	SOL			LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 48.5 ^m			Edad: 16.6 ^d SD: 15/2 PMG: 2 ^h 12 ^m PHE { 4 ^h : 55/9 12 ^h : 55/7 20 ^h : 55/5 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
0	182	54.6	-21	33.6		328	15.5	76	+28	04.6	16	58	16	53	16	32	92
1	197	54.3		34.0		342	42.1	76		03.0	18	19	16	08	16	59	17
2	212	54.1		34.4		357	08.7	76	+28	01.2	19	32	17	05	28	78	11
3	227	53.9		34.8		11	35.3	76	+27	59.3	21	43	25	10	17	47	75
4	242	53.7		35.3		26	02.1	78		57.2	21	15	53	33	15	18	03
5	257	53.4	-21	35.7		40	28.9	78	+27	55.0	22	16	02	16	39	17	20
6	272	53.2	-21	36.1		54	55.7	78	+27	52.6	24	16	20	16	53	17	30
7	287	53.0		36.5		69	22.6	79		50.0	26	36	17	06	39	19	08
8	302	52.8		36.9		83	49.6	80		47.4	26	16	49	16	47	26	61
9	317	52.6		37.3		98	16.6	80		44.5	29	17	00	26	17	55	19
10	332	52.3		37.7		112	43.7	81		41.5	30	19	43	18	10	20	09
11	347	52.1	-21	38.1		127	10.9	82	+27	38.4	31	17	36	17	59	18	25
12	2	51.9	-21	38.5		141	38.2	83	+27	35.1	33	17	52	18	14	18	40
13	17	51.7		38.9		156	05.5	83		31.7	34	18	08	31	18	58	21
14	32	51.4		39.3		170	32.9	84		28.2	35	20	26	18	50	19	19
15	47	51.2		39.7		185	00.3	84		24.4	38	30	46	19	13	19	46
16	62	51.0		40.1		199	27.8	85		20.6	38	35	18	58	27	20	03
17	77	50.8	-21	40.5		213	55.5	87	+27	16.6	40	40	19	12	19	44	20
18	92	50.5	-21	40.9		228	23.1	86	+27	12.5	41	45	19	28	20	04	20
19	107	50.3		41.3		242	50.9	88		08.2	43	50	48	31	21	30	23
20	122	50.1		41.7		257	18.7	88	+27	03.8	44	52	19	58	44	21	52
21	137	49.8		42.1		271	46.6	89	+26	59.3	45	54	20	09	20	59	22
22	152	49.6		42.5		286	14.6	90		54.6	47	56	21	18	23	17	**
23	167	49.4		42.9		300	42.7	91		49.8	48	58	36	21	41	**	**
24	182	49.2	-21	43.3		315	10.9	92	+26	44.8	50	60 S	20	53	22	13	**

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 22.4 ^m		Mag: -4.2 PMG: 8 ^h 59 ^m		Mag: +1.4 PMG: 11 ^h 33 ^m		Mag: -2.8 PMG: 21 ^h 43 ^m		Mag: +0.9 PMG: 17 ^h 38 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /
0	68	36.6	225	13.3	-7	28.6	186	40.5	-21	10.3
1	83	39.1	240	13.0		29.7	201	41.1		10.7
2	98	41.5	255	12.7		30.7	216	41.7		11.0
3	113	44.0	270	12.4		31.7	231	42.2		11.4
4	128	46.5	285	12.2		32.7	246	42.8		11.7
5	143	48.9	300	11.9	-7	33.7	261	43.4	-21	12.1
6	158	51.4	315	11.6	-7	34.7	276	44.0	-21	12.5
7	173	53.9	330	11.3		35.7	291	44.6		12.8
8	188	56.3	345	11.0		36.7	306	45.2		13.2
9	203	58.8	0	10.7		37.7	321	45.7		13.5
10	219	01.2	15	10.4		38.7	336	46.3		13.9
11	234	03.7	30	10.1	-7	39.7	351	46.9	-21	14.2
12	249	06.2	45	09.8	-7	40.8	6	47.5	-21	14.6
13	264	08.6	60	09.5		41.8	21	48.1		15.0
14	279	11.1	75	09.3		42.8	36	48.6		15.3
15	294	13.6	90	09.0		43.8	51	49.2		15.7
16	309	16.0	105	08.7		44.8	66	49.8		16.0
17	324	18.5	120	08.4	-7	45.8	81	50.4	-21	16.4
18	339	21.0	135	08.1	-7	46.8	96	51.0	-21	16.7
19	354	23.4	150	07.8		47.8	111	51.5		17.1
20	9	25.9	165	07.5		48.8	126	52.1		17.4
21	24	28.3	180	07.2		49.8	141	52.7		17.8
22	39	30.8	195	06.9		50.8	156	53.3		18.1
23	54	33.3	210	06.6		51.8	171	53.9		18.5
24	69	35.7	225	06.3	-7	52.8	186	54.4	-21	18.8
Dif	—		-3		-10		+6		-4	
									+27	-1
										+24
										0

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG: 11 ^h 48.9 ^m			Edad: 17.6 ^d SD: 15/1 PMG: 3 ^h 06 ^m PHE 4^h: 55/3 12^h: 55/1 20^h: 55/0 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	182	49.2	-21	43.3	315	10.9	+26	44.8	51	60 N	6	45	7	40	8	34	18	04	
1	197	48.9		43.7	329	39.1		39.7	52	58	39		30	19	27	87	12	44	
2	212	48.7		44.1	344	07.4		34.5	53	56	33		21	8	06	18	46	82	
3	227	48.5		44.5	358	35.8		29.2	54	54	28		13	7	55	19	02	78	
4	242	48.3		44.9	13	04.3		23.7	55	52	23		7	05	45	15	75	11	55
5	257	48.0	-21	45.3	27	32.9	+26	18.1	56	50	6	18	6	59	7	36	19	27	
6	272	47.8	-21	45.7	42	01.5	+26	12.4	57	45	6	08	6	44	7	17	19	52	
7	287	47.6		46.1	56	30.3		06.5	59	40	5	59	32	7	02	20	11		
8	302	47.3		46.5	70	59.1	+26	00.5	60	35	50		22	6	49	27	61		
9	317	47.1		46.9	85	28.0	+25	54.4	61	30	42		6	12	38	20	41		
10	332	46.9		47.3	99	57.0		48.2	62	20	27		5	55	18	21	05		
11	347	46.6	-21	47.7	114	26.1	+25	41.8	64	10 N	5	13	5	39	6	01			
12	2	46.4	-21	48.1	128	55.3	+25	35.4	64	0	4	57	5	23	5	45			
13	17	46.2		48.4	143	24.6		28.8	66	10 S	40		5	06	29	22			
14	32	45.9		48.8	157	53.9		22.1	67	20	4	19	4	47	5	12			
15	47	45.7		49.2	172	23.4		15.2	69	30	3	52	24	4	51	22			
16	62	45.5		49.6	186	52.9		08.3	69	35	35		4	10	39	23			
17	77	45.2	-21	50.0	201	22.6	+25	01.2	71	40	3	13	3	54	4	26			
18	92	45.0	-21	50.4	215	52.3	+24	54.0	72	45	2	46	3	33	4	09			
19	107	44.8		50.8	230	22.1		46.8	72	50	2	07	3	06	3	49			
20	122	44.5		51.1	244	52.0		39.4	74	52	1	45	2	53	39	**			
21	137	44.3		51.5	259	22.0		31.8	76	54	1	15		38	28	**			
22	152	44.1		51.9	273	52.1		24.2	76	56	0	20	2	19	16	0			
23	167	43.8		52.3	288	22.2		16.5	77	58	**	**	1	56	3	01			
24	182	43.6	-21	52.7	302	52.5	+24	08.7	78	60 S	**	**	1	24	2	44			

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 18.4 ^m		Mag: -4.2 PMG: 9 ^h 00 ^m		Mag: +1.4 PMG: 11 ^h 32 ^m		Mag: -2.8 PMG: 21 ^h 39 ^m		Mag: +0.9 PMG: 17 ^h 34 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	69	35.7	225	06.3	-7	52.8	186	54.4	-21	18.8
1	84	38.2	240	06.0		53.9	201	55.0		19.2
2	99	40.7	255	05.7		54.9	216	55.6		19.5
3	114	43.1	270	05.4		55.9	231	56.2		19.9
4	129	45.6	285	05.1		56.9	246	56.7		20.2
5	144	48.1	300	04.8	-7	57.9	261	57.3	-21	20.6
6	159	50.5	315	04.5	-7	58.9	276	57.9	-21	20.9
7	174	53.0	330	04.2	-7	59.9	291	58.5		21.3
8	189	55.5	345	03.9	-8	00.9	306	59.0		21.6
9	204	57.9	0	03.6		01.9	321	59.6		22.0
10	220	00.4	15	03.3		02.9	337	00.2		22.3
11	235	02.8	30	03.0	-8	03.9	352	00.8	-21	22.7
12	250	05.3	45	02.7	-8	04.9	7	01.3	-21	23.0
13	265	07.8	60	02.4		05.9	22	01.9		23.4
14	280	10.2	75	02.1		06.9	37	02.5		23.7
15	295	12.7	90	01.8		07.9	52	03.1		24.1
16	310	15.2	105	01.5		08.9	67	03.6		24.4
17	325	17.6	120	01.2	-8	10.0	82	04.2	-21	24.8
18	340	20.1	135	00.9	-8	11.0	97	04.8	-21	25.1
19	355	22.6	150	00.6		12.0	112	05.4		25.5
20	10	25.0	165	00.3		13.0	127	05.9		25.8
21	25	27.5	180	00.0		14.0	142	06.5		26.2
22	40	30.0	194	59.7		15.0	157	07.1		26.5
23	55	32.4	209	59.4		16.0	172	07.6		26.8
24	70	34.9	224	59.1	-8	17.0	187	08.2	-21	27.2
Dif	—		-3		-10		+6		-3	
							+27		-1	
									+24	
									0	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 49.3 ^m				Edad: 18.6 ^d SD: 14/9 PMG: 3 ^h 56 ^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
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	43.6	-21	52.7	302	52.5	+24	08.7	80	60 N	15	02	15	56	16	51	19	38	90
1	197	43.4		53.0	317	22.8	+24	00.7	80	58	17		16	07	16	58	19	54	85
2	212	43.1		53.4	331	53.3	+23	52.7	82	56	30		16		17	04	20	08	80
3	227	42.9		53.8	346	23.8		44.5	82	54	42		24		09	20	77	30	15
4	242	42.7		54.2	0	54.4		36.3	82	52	15	52	31		14		30	74	19
5	257	42.4	-21	54.6	15	25.1	+23	27.9	84	50	16	01	16	38	17	19	20	39	72
6	272	42.2	-21	54.9	29	56.0	+23	19.4	85	45	16	20	16	53	17	29	20	59	66
7	287	42.0		55.3	44	26.8		10.9	85	40	35		17	05	39		21	15	62
8	302	41.7		55.7	58	57.8	+23	02.2	87	35	16	48	16		47		28	59	18
9	317	41.5		56.1	73	28.9	+22	53.5	87	30	17	00	26		17	55	39	57	11
10	332	41.2		56.4	88	00.1		44.6	89	20	19		43		18	10	21	59	52
11	347	41.0	-21	56.8	102	31.3	+22	35.7	89	10 N	17	37	17	59	18	25	22	16	48
12	2	40.8	-21	57.2	117	02.6	+22	26.6	91	0	17	53	18	15	18	41	22	32	44
13	17	40.5		57.5	131	34.1		17.5	91	10 S	18	09	32		18	59	22	48	40
14	32	40.3		57.9	146	05.6	+22	08.2	93	20	27		18	51	19	20	23	05	36
15	47	40.0		58.3	160	37.2	+21	58.9	93	30	18	48	19	15	19	47	24	32	9
16	62	39.8		58.7	175	08.9		49.5	94	35	19	00	29		20	05	35	29	8
17	77	39.6	-21	59.0	189	40.7	+21	40.0	95	40	19	14	19	46	20	26	23	48	26
18	92	39.3	-21	59.4	204	12.5	+21	30.4	96	45	19	30	20	07	20	54	**	**	**
19	107	39.1	-21	59.8	218	44.5		20.7	97	50	19	51	34		21	34	**	**	**
20	122	38.8	-22	00.1	233	16.5		11.0	97	52	20	01	20	47	21	57	0	10	20
21	137	38.6		00.5	247	48.6	+21	01.1	99	54	12		21	03	22	28	22	18	
22	152	38.4		00.8	262	20.8	+20	51.2	99	56	25		22		**	**	37	13	
23	167	38.1		01.2	276	53.1		41.2	100	58	40		21	47	**	**	0	53	10
24	182	37.9	-22	01.6	291	25.5	+20	31.1	101	60 S	20	57	22	21	**	**	1	14	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 14.5 ^m		Mag: -4.2 PMG: 9 ^h 00 ^m		Mag: +1.4 PMG: 11 ^h 31 ^m		Mag: -2.8 PMG: 21 ^h 34 ^m		Mag: +0.9 PMG: 17 ^h 30 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	70	34.9	224	59.1	-8	17.0	187	08.2	-21	27.2
1	85	37.3	239	58.8		18.0	202	08.8		27.5
2	100	39.8	254	58.5		19.0	217	09.4		27.9
3	115	42.3	269	58.2		20.0	232	09.9		28.2
4	130	44.7	284	57.9		21.0	247	10.5		28.6
5	145	47.2	299	57.5	-8	22.0	262	11.1	-21	28.9
6	160	49.7	314	57.2	-8	23.0	277	11.6	-21	29.2
7	175	52.1	329	56.9		24.0	292	12.2		29.6
8	190	54.6	344	56.6		25.0	307	12.8		29.9
9	205	57.1	359	56.3		26.0	322	13.4		30.3
10	220	59.5	14	56.0		27.0	337	13.9		30.6
11	236	02.0	29	55.7	-8	28.0	352	14.5	-21	30.9
12	251	04.5	44	55.4	-8	29.0	7	15.1	-21	31.3
13	266	06.9	59	55.1		30.0	22	15.6		31.6
14	281	09.4	74	54.8		31.0	37	16.2		32.0
15	296	11.8	89	54.4		32.0	52	16.8		32.3
16	311	14.3	104	54.1		33.0	67	17.3		32.6
17	326	16.8	119	53.8	-8	34.0	82	17.9	-21	33.0
18	341	19.2	134	53.5	-8	35.0	97	18.5	-21	33.3
19	356	21.7	149	53.2		36.0	112	19.0		33.7
20	11	24.2	164	52.9		37.0	127	19.6		34.0
21	26	26.6	179	52.6		38.1	142	20.2		34.3
22	41	29.1	194	52.2		39.1	157	20.7		34.7
23	56	31.6	209	51.9		40.1	172	21.3		35.0
24	71	34.0	224	51.6	-8	41.1	187	21.9	-21	35.3
Dif	—		-3		-10		+6		-3	

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UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna				
	SD: 16 ^h 2 PMG: 11 ^h 49.7 ^m				Edad: 19.6 ^d SD: 14 ^h 8 PMG: 4 ^h 43 ^m																	
	PHE { 4 ^h : 54.5 12 ^h : 54.4 20 ^h : 54.3 R°: 43 ^m				hG ☾		Dif		Dec			Dif			Hora			R°				
	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	182	37.9	-22	01.6	291	25.5	+20	31.1	102	60 N	6 48	7 43	8 38	21 08	86		13 16	0				
1	197	37.6		01.9	305	57.9		20.9	102	58	42	33	23	19 81		13 04	4					
2	212	37.4		02.3	320	30.4		10.7	102	56	36	24	8 09	28 78		12 54	8					
3	227	37.2		02.7	335	03.1	+20	00.3	104	54	30	16	7 58	37 75		45 10						
4	242	36.9		03.0	349	35.7	+19	49.9	104	52	25	08	48	44 73		36 14						
5	257	36.7	-22	03.4	4	08.5	+19	39.4	105	50	6 20	7 01	7 39	21 51	70	12 29	16					
6	272	36.4	-22	03.7	18	41.4	+19	28.9	105	45	6 10	6 47	7 20	22 05	65	12 13	21					
7	287	36.2		04.1	33	14.3		18.2	107	40	6 00	34	7 04	17 61		12 00	24					
8	302	35.9		04.5	47	47.3	+19	07.5	107	35	5 52	23	6 51	27 58		11 49	27					
9	317	35.7		04.8	62	20.4	+18	56.7	108	30	44	6 13	39	36 55		39 30						
10	332	35.5		05.2	76	53.5		45.8	109	20	29	5 56	20	22 51	50	22 35						
11	347	35.2	-22	05.5	91	26.8	+18	34.9	109	10 N	5 14	5 40	6 02	23 04	45	11 08	38					
12	2	35.0	-22	05.9	106	00.1	+18	23.9	110	0	4 58	5 24	5 46	23 16	42	10 54	42					
13	17	34.7		06.2	120	33.5		12.8	111	10 S	40	5 07	30	28 38		40 46						
14	32	34.5		06.6	135	06.9	+18	01.7	111	20	4 19	4 47	5 12	41 33		24 51						
15	47	34.2		06.9	149	40.5	+17	50.5	112	30	3 51	24	4 51	23 56	28	10 07	56					
16	62	34.0		07.3	164	14.1		39.2	113	35	34	4 10	39	** ** *	**	9 57	58					
17	77	33.7	-22	07.6	178	47.7	+17	27.9	113	40	3 13	3 53	4 25	** ** *	**	9 45	62					
18	92	33.5	-22	08.0	193	21.5	+17	16.4	115	45	2 45	3 32	4 08	0 03	22	9 31	66					
19	107	33.2		08.3	207	55.3	+17	05.0	114	50	2 05	3 05	3 48	21 18		14 71						
20	122	33.0		08.7	222	29.1	+16	53.4	116	52	1 42	2 51	38	30 15		9 06	73					
21	137	32.7		09.0	237	03.1		41.8	116	54	1 10	35	27	40 12		8 57	76					
22	152	32.5		09.4	251	37.1		30.2	116	56	** ** *	2 16	3 14	0 50	9	47 79						
23	167	32.3		09.7	266	11.2		18.5	117	58	** ** *	1 52	2 59	1 03	5	35 83						
24	182	32.0	-22	10.1	280	45.3	+16	06.7	118	60 S	** ** *	1 18	2 41	1 17	1	8 21	88					
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO									
	PMG: 19 ^h 10.6 ^m			Mag: -4.2 PMG: 9 ^h 01 ^m			Mag: +1.4 PMG: 11 ^h 30 ^m			Mag: -2.8 PMG: 21 ^h 30 ^m			Mag: +0.9 PMG: 17 ^h 26 ^m									
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	71	34.0	224	51.6	-8	41.1	187	21.9	-21	35.3	36	32.7	+12	34.2	97	42.0	-12	36.5				
1	86	36.5	239	51.3		42.1	202	22.4		35.7	51	35.4		34.1	112	44.4		36.5				
2	101	39.0	254	51.0		43.1	217	23.0		36.0	66	38.1		34.1	127	46.7		36.4				
3	116	41.4	269	50.7		44.1	232	23.6		36.3	81	40.7		34.0	142	49.1		36.4				
4	131	43.9	284	50.3		45.1	247	24.1		36.7	96	43.4		33.9	157	51.4		36.3				
5	146	46.3	299	50.0	-8	46.1	262	24.7	-21	37.0	111	46.1	+12	33.9	172	53.8	-12	36.3				
6	161	48.8	314	49.7	-8	47.1	277	25.3	-21	37.3	126	48.8	+12	33.8	187	56.1	-12	36.2				
7	176	51.3	329	49.4		48.1	292	25.8		37.7	141	51.5		33.7	202	58.5		36.2				
8	191	53.7	344	49.1		49.1	307	26.4		38.0	156	54.2		33.7	218	00.8		36.1				
9	206	56.2	359	48.7		50.1	322	27.0		38.3	171	56.9		33.6	233	03.2		36.1				
10	221	58.7	14	48.4		51.1	337	27.5		38.7	186	59.6		33.6	248	05.5		36.0				
11	237	01.1	29	48.1	-8	52.1	352	28.1	-21	39.0	202	02.2	+12	33.5	263	07.8	-12	36.0				
12	252	03.6	44	47.8	-8	53.1	7	28.6	-21	39.3	217	04.9	+12	33.4	278	10.2	-12	35.9				
13	267	06.1	59	47.4		54.1	22	29.2		39.7	232	07.6		33.4	293	12.5		35.9				
14	282	08.5	74	47.1		55.1	37	29.8		40.0	247	10.3		33.3	308	14.9		35.8				
15	297	11.0	89	46.8		56.1	52	30.3		40.3	262	13.0		33.2	323	17.2		35.8				
16	312	13.4	104	46.5		57.1	67	30.9		40.7	277	15.7		33.2	338	19.6		35.7				
17	327	15.9	119	46.2	-8	58.1	82	31.5	-21	41.0	292	18.4	+12	33.1	353	21.9	-12	35.7				
18	342	18.4	134	45.8	-8	59.1	97	32.0	-21	41.3	307	21.0	+12	33.0	8	24.3	-12	35.6				
19	357	20.8	149	45.5	-9	00.1	112	32.6		41.7	322	23.7		33.0	23	26.6		35.6				
20	12	23.3	164	45.2		01.0	127	33.1		42.0	337	26.4		32.9	38	29.0		35.5				
21	27	25.8	179	44.9		02.0	142	33.7		42.3	352	29.1		32.9	53	31.3		35.5				
22	42	28.2	194	44.5		03.0	157	34.3		42.6	7	31.8		32.8	68	33.7		35.5				
23	57	30.7	209	44.2		04.0	172	34.8		43.0	22	34.5		32.7	83	36.0		35.4				
24	72	33.2	224	43.9	-9	05.0	187	35.4	-21	43.3	37	37.1	+12	32.7	98	38.4	-12	35.4				
Dif	—			-3			+6			-3			+27			-1			+23			0

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna									
	SD: 16'2 PMG: 11 ^h 50.1 ^m				Edad: 20.6 ^d SD: 14'8 PMG: 5 ^h 26 ^m PHE { 4 ^h : 54'3 12 ^h : 54'2 20 ^h : 54'2 R°: 41 ^m																					
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°								
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m									
0	182	32.0	-22	10.1	280	45.3	+16	06.7	119	58	60 N	15 00	15 55	16 50	22 34	82	13 16 0									
1	197	31.8		10.4	295	19.5	+15	54.8	119	58		15	16 05	16 57	40 80		08 3									
2	212	31.5		10.7	309	53.8		42.9	119	56		29	15	17 03	46 76		13 02 5									
3	227	31.3		11.1	324	28.1		31.0	119	54		40	23	08	52 73		12 55 9									
4	242	31.0		11.4	339	02.5		19.0	120	52		15 51	31	14	22 57	70	50 11									
5	257	30.8	-22	11.8	353	36.9	+15	06.9	121	50		16 00	16 37	17 18	23 01	68	12 45 13									
6	272	30.5	-22	12.1	8	11.4	+14	54.8	121	45		16 19	16 52	17 29	23 10	64	12 34 17									
7	287	30.3		12.5	22	46.0		42.6	122	40		35	17 05	39	18 60		24 22									
8	302	30.0		12.8	37	20.6		30.4	122	35		16 48	16	47	25 56		16 25									
9	317	29.8		13.1	51	55.3		18.1	123	30		17 00	26	17 55	31 53		12 09 28									
10	332	29.5		13.5	66	30.0	+14	05.7	124	20		20	17 44	18 11	41 48		11 57 32									
11	347	29.3	-22	13.8	81	04.8	+13	53.3	124	10 N		17 37	18 00	18 26	23 49	44	11 46 37									
12	2	29.0	-22	14.1	95	39.6	+13	40.9	124	0		17 54	18 16	18 42	23 58	39	11 36 41									
13	17	28.8		14.5	110	14.5		28.4	125	10 S		18 10	33	19 00	** ** *		26 45									
14	32	28.5		14.8	124	49.5		15.9	125	20		28	18 53	22	** ** *		15 49									
15	47	28.2		15.1	139	24.4	+13	03.3	126	30		18 49	19 16	19 49	** ** *		11 03 53									
16	62	28.0		15.5	153	59.5	+12	50.7	126	35		19 01	31	20 07	0 04	26	10 55 57									
17	77	27.7	-22	15.8	168	34.6	+12	38.0	127	40		19 16	19 48	20 29	0 14	22	10 47 60									
18	92	27.5	-22	16.1	183	09.7	+12	25.3	127	45		19 33	20 09	20 57	0 25	19	10 37 64									
19	107	27.2		16.5	197	44.9	+12	12.5	128	50		19 54	37	21 38	39 14		25 69									
20	122	27.0		16.8	212	20.1	+11	59.7	128	52		20 04	20 51	22 02	45 12		19 72									
21	137	26.7		17.1	226	55.3		46.8	129	54		15	21 07	22 35	52 9		13 74									
22	152	26.5		17.5	241	30.6		33.9	129	56		28	26	** ** *	0 59	7	10 06 77									
23	167	26.2		17.8	256	06.0		21.0	129	58		20 43	21 52	** ** *	1 08	4	9 58 81									
24	182	26.0	-22	18.1	270	41.4	+11	08.0	130	60 S		21 02	22 28	** ** *	1 18	0	9 49 85									
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 19 ^h 06.6 ^m				Mag: -4.2 PMG: 9 ^h 01 ^m				Mag: +1.4 PMG: 11 ^h 29 ^m				Mag: -2.8 PMG: 21 ^h 26 ^m				Mag: +0.9 PMG: 17 ^h 23 ^m									
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	72	33.2	224	43.9	-9	05.0	187	35.4	-21	43.3	37	37.1	+12	32.7	98	38.4	-12	35.4								
1	87	35.6	239	43.5		06.0	202	35.9		43.6	52	39.8		32.6	113	40.7		35.3								
2	102	38.1	254	43.2		07.0	217	36.5		44.0	67	42.5		32.5	128	43.0		35.3								
3	117	40.6	269	42.9		08.0	232	37.1		44.3	82	45.2		32.5	143	45.4		35.2								
4	132	43.0	284	42.6		09.0	247	37.6		44.6	97	47.9		32.4	158	47.7		35.2								
5	147	45.5	299	42.2	-9	10.0	262	38.2	-21	44.9	112	50.5	+12	32.4	173	50.1	-12	35.1								
6	162	47.9	314	41.9	-9	11.0	277	38.7	-21	45.3	127	53.2	+12	32.3	188	52.4	-12	35.1								
7	177	50.4	329	41.6		12.0	292	39.3		45.6	142	55.9		32.2	203	54.8		35.0								
8	192	52.9	344	41.2		13.0	307	39.9		45.9	157	58.6		32.2	218	57.1		35.0								
9	207	55.3	359	40.9		14.0	322	40.4		46.2	173	01.3		32.1	233	59.5		34.9								
10	222	57.8	14	40.6		15.0	337	41.0		46.6	188	04.0		32.1	249	01.8		34.9								
11	238	00.3	29	40.2	-9	16.0	352	41.5	-21	46.9	203	06.6	+12	32.0	264	04.2	-12	34.8								
12	253	02.7	44	39.9	-9	17.0	7	42.1	-21	47.2	218	09.3	+12	31.9	279	06.5	-12	34.8								
13	268	05.2	59	39.6		18.0	22	42.6		47.5	233	12.0		31.9	294	08.8		34.7								
14	283	07.7	74	39.2		19.0	37	43.2		47.8	248	14.7		31.8	309	11.2		34.7								
15	298	10.1	89	38.9		20.0	52	43.8		48.2	263	17.3		31.7	324	13.5		34.6								
16	313	12.6	104	38.6		21.0	67	44.3		48.5	278	20.0		31.7	339	15.9		34.6								
17	328	15.1	119	38.2	-9	22.0	82	44.9	-21	48.8	293	22.7	+12	31.6	354	18.2	-12	34.5								
18	343	17.5	134	37.9	-9	23.0	97	45.4	-21	49.1	308	25.4	+12	31.6	9	20.6	-12	34.5								
19	358	20.0	149	37.6		24.0	112	46.0		49.5	323	28.1		31.5	24	22.9		34.4								
20	13	22.4	164	37.2		25.0	127	46.5		49.8	338	30.7		31.4	39	25.2		34.4								
21	28	24.9	179	36.9		25.9	142	47.1		50.1	353	33.4		31.4	54	27.6		34.3								
22	43	27.4	194	36.6		26.9	157	47.6		50.4	8	36.1		31.3	69	29.9		34.3								
23	58	29.8	209	36.2		27.9	172	48.2		50.7	23	38.8		31.3	84	32.3		34.2								
24	73	32.3	224	35.9	-9	28.9	187	48.8	-21	51.1	38	41.4	+12	31.2	99	34.6	-12	34.2								
Dif	—				-3				+6				+27				-1				+23				0	

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 50.5 ^m				Edad: 21.6 ^d SD: 14/8 PMG: 6 ^h 07 ^m													
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	182	26.0	-22	18.1	270	41.4	+11	08.0	131	60 N	6 51	7 47	8 42	23 56	82	13 16	**	
1	197	25.7		18.4	285	16.8	+10	54.9	130	58	44	36	26	**	**	**	11	3
2	212	25.5		18.8	299	52.3		41.9	130	56	38	27	13	**	**	**	07	5
3	227	25.2		19.1	314	27.8		28.8	131	54	33	18	8 01	**	**	**	04	7
4	242	24.9		19.4	329	03.3		15.6	132	52	27	10	7 51	**	**	**	13 01	9
5	257	24.7	-22	19.7	343	38.9	+10	02.4	132	50	6 23	7 04	7 41	**	**	**	12 58	11
6	272	24.4	-22	20.1	358	14.5	+9	49.2	132	45	6 12	6 49	7 22	**	**	**	12 51	16
7	287	24.2		20.4	12	50.1		36.0	132	40	6 02	36	7 06	**	**	**	46	20
8	302	23.9		20.7	27	25.8		22.7	133	35	5 53	25	6 53	**	**	**	41	23
9	317	23.7		21.0	42	01.4	+9	09.3	134	30	45	6 15	41	**	**	**	37	26
10	332	23.4		21.3	56	37.2	+8	56.0	133	20	30	5 57	21	**	**	**	29	31
11	347	23.2	-22	21.7	71	12.9	+8	42.6	134	10 N	5 15	5 41	6 03	**	**	**	12 23	35
12	2	22.9	-22	22.0	85	48.7	+8	29.1	135	0	4 58	5 24	5 47	**	**	**	12 17	39
13	17	22.6		22.3	100	24.5		15.7	134	10 S	40	5 07	30	0 06	35	11	43	
14	32	22.4		22.6	115	00.3	+8	02.2	135	20	4 19	4 48	5 12	14	32	12	04	
15	47	22.1		22.9	129	36.2	+7	48.6	136	30	3 51	24	4 51	24	27	11	56	
16	62	21.9		23.3	144	12.1		35.1	135	35	34	4 10	39	30	24	52	56	
17	77	21.6	-22	23.6	158	48.0	+7	21.5	136	40	3 12	3 52	4 25	0 36	21	11	47	
18	92	21.3	-22	23.9	173	23.9	+7	07.8	137	45	2 43	3 31	4 08	0 44	16	11	41	
19	107	21.1		24.2	187	59.8	+6	54.2	136	50	2 02	3 04	3 47	53	12	34	68	
20	122	20.8		24.5	202	35.8		40.5	137	52	1 39	2 50	37	0 57	10	31	70	
21	137	20.6		24.8	217	11.7		26.8	137	54	1 05	33	25	1 01	8	27	73	
22	152	20.3		25.1	231	47.7	+6	13.1	137	56	**	**	2 14	3 12	06	5	23	
23	167	20.1		25.4	246	23.7	+5	59.3	138	58	**	**	1 48	2 57	12	2	19	
24	182	19.8	-22	25.7	260	59.7	+5	45.5	138	60 S	**	**	1 12	2 39	1 18	**	11 14	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 19 ^h 02.7 ^m		Mag: -4.2 PMG: 9 ^h 02 ^m		Mag: +1.4 PMG: 11 ^h 28 ^m		Mag: -2.8 PMG: 21 ^h 21 ^m		Mag: +0.9 PMG: 17 ^h 19 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	73	32.3	224	35.9	-9	28.9	187	48.8	-21	51.1
1	88	34.8	239	35.5		29.9	202	49.3		51.4
2	103	37.2	254	35.2		30.9	217	49.9		51.7
3	118	39.7	269	34.9		31.9	232	50.4		52.0
4	133	42.2	284	34.5		32.9	247	51.0		52.3
5	148	44.6	299	34.2	-9	33.9	262	51.5	-21	52.7
6	163	47.1	314	33.8	-9	34.9	277	52.1	-21	53.0
7	178	49.5	329	33.5		35.9	292	52.6		53.3
8	193	52.0	344	33.2		36.9	307	53.2		53.6
9	208	54.5	359	32.8		37.9	322	53.7		53.9
10	223	56.9	14	32.5		38.8	337	54.3		54.2
11	238	59.4	29	32.1	-9	39.8	352	54.8	-21	54.5
12	254	01.9	44	31.8	-9	40.8	7	55.4	-21	54.9
13	269	04.3	59	31.4		41.8	22	55.9		55.2
14	284	06.8	74	31.1		42.8	37	56.5		55.5
15	299	09.3	89	30.7		43.8	52	57.0		55.8
16	314	11.7	104	30.4		44.8	67	57.6		56.1
17	329	14.2	119	30.1	-9	45.8	82	58.1	-21	56.4
18	344	16.7	134	29.7	-9	46.8	97	58.7	-21	56.7
19	359	19.1	149	29.4		47.8	112	59.2		57.1
20	14	21.6	164	29.0		48.7	127	59.8		57.4
21	29	24.0	179	28.7		49.7	143	00.3		57.7
22	44	26.5	194	28.3		50.7	158	00.9		58.0
23	59	29.0	209	28.0		51.7	173	01.4		58.3
24	74	31.4	224	27.6	-9	52.7	188	02.0	-21	58.6
Dif	—		-3		-10		+6		-3	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16'2 PMG:11 ^h 50.9 ^m				Edad: 22.6 ^d SD: 14'8 PMG: 6 ^h 47 ^m																			
					PHE { 4 ^h : 54'4 12 ^h : 54'5 20 ^h : 54'6 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	182	19.8	-22	25.7	260	59.7	+5	45.5	138	60 N	14	58	15	53	16	49	**	**	**					
1	197	19.5		26.1	275	35.7		31.7	138	58	15	14	16	04	16	56	0	00	78					
2	212	19.3		26.4	290	11.8		17.9	138	56		27	14	17	02	02	76		12					
3	227	19.0		26.7	304	47.8	+5	04.0	139	54		39	22		08	05	73		11					
4	242	18.7		27.0	319	23.9	+4	50.1	139	52		50		30		13	07	71	10					
5	257	18.5	-22	27.3	333	59.9	+4	36.2	139	50	15	59	16	37	17	18	0	09	69					
6	272	18.2	-22	27.6	348	36.0	+4	22.3	139	45	16	19	16	52	17	29	0	14	64					
7	287	18.0		27.9	3	12.1	+4	08.3	140	40		35	17	05		39	18	59	06					
8	302	17.7		28.2	17	48.2	+3	54.4	139	35	16	48		16		47	21	56	04					
9	317	17.4		28.5	32	24.2		40.4	140	30	17	00	26	17	56	24	53	03	26					
10	332	17.2		28.8	47	00.3		26.4	140	20		20	17	44	18	11	29	48	13					
11	347	16.9	-22	29.1	61	36.4	+3	12.3	141	10 N	17	38	18	01	18	27	0	33	44					
12	2	16.6	-22	29.4	76	12.5	+2	58.3	140	0	17	55	18	17	18	43	0	37	40					
13	17	16.4		29.7	90	48.5		44.2	141	10 S	18	11		34	19	01	41	36	54					
14	32	16.1		30.0	105	24.6		30.2	140	20		30	18	54		23	46	31	52					
15	47	15.9		30.3	120	00.7		16.1	141	30	18	51	19	18	19	51	51	25	50					
16	62	15.6		30.6	134	36.7	+2	01.9	142	35	19	03		33	20	09	54	22	48					
17	77	15.3	-22	30.9	149	12.8	+1	47.8	141	40	19	18	19	50	20	31	0	57	19					
18	92	15.1	-22	31.2	163	48.8	+1	33.7	141	45	19	35	20	11	21	00	1	00	16					
19	107	14.8		31.5	178	24.9		19.5	142	50	19	56		39	21	42	05	11	42					
20	122	14.5		31.8	193	00.9	+1	05.3	142	52	20	06	20	54	22	06	07	9	41					
21	137	14.3		32.1	207	36.9	+0	51.2	141	54		18	21	10	22	42	09	7	40					
22	152	14.0		32.4	222	12.9		37.0	142	56		31		30	**	**	11	5	39					
23	167	13.7		32.6	236	48.9		22.8	142	58	20	47	21	57	**	**	14	2	37					
24	182	13.5	-22	32.9	251	24.9	+0	08.6	142	60 S	21	05	22	35	**	**	1	17	**					
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO							
	PMG: 18 ^h 58.8 ^m				Mag: -4.2 PMG: 9 ^h 02 ^m				Mag: +1.4 PMG: 11 ^h 27 ^m				Mag: -2.8 PMG: 21 ^h 17 ^m				Mag: +0.9 PMG: 17 ^h 15 ^m							
	hG ♈				hG ♀				hG ♂				hG ♃				hG ♄							
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	74	31.4	224	27.6	-9	52.7	188	02.0	-21	58.6	39	45.6	+12	29.8	100	30.8	-12	32.9						
1	89	33.9	239	27.3		53.7	203	02.5		58.9	54	48.3		29.7	115	33.1		32.9						
2	104	36.4	254	26.9		54.7	218	03.1		59.2	69	50.9		29.7	130	35.5		32.8						
3	119	38.8	269	26.6		55.7	233	03.6		59.5	84	53.6		29.6	145	37.8		32.8						
4	134	41.3	284	26.2		56.6	248	04.2	-21	59.9	99	56.3		29.6	160	40.1		32.7						
5	149	43.8	299	25.9	-9	57.6	263	04.7	-22	00.2	114	58.9	+12	29.5	175	42.5	-12	32.7						
6	164	46.2	314	25.5	-9	58.6	278	05.3	-22	00.5	130	01.6	+12	29.5	190	44.8	-12	32.6						
7	179	48.7	329	25.2	-9	59.6	293	05.8		00.8	145	04.3		29.4	205	47.1		32.6						
8	194	51.2	344	24.8	-10	00.6	308	06.4		01.1	160	06.9		29.3	220	49.5		32.5						
9	209	53.6	359	24.5		01.6	323	06.9		01.4	175	09.6		29.3	235	51.8		32.5						
10	224	56.1		24.1		02.6	338	07.5		01.7	190	12.3		29.2	250	54.2		32.4						
11	239	58.5	29	23.7	-10	03.5	353	08.0	-22	02.0	205	14.9	+12	29.2	265	56.5	-12	32.4						
12	255	01.0	44	23.4	-10	04.5	8	08.6	-22	02.3	220	17.6	+12	29.1	280	58.8	-12	32.3						
13	270	03.5	59	23.0		05.5	23	09.1		02.6	235	20.3		29.1	296	01.2		32.3						
14	285	05.9	74	22.7		06.5	38	09.7		02.9	250	22.9		29.0	311	03.5		32.2						
15	300	08.4	89	22.3		07.5	53	10.2		03.2	265	25.6		28.9	326	05.8		32.1						
16	315	10.9	104	22.0		08.5	68	10.7		03.5	280	28.2		28.9	341	08.2		32.1						
17	330	13.3	119	21.6	-10	09.5	83	11.3	-22	03.9	295	30.9	+12	28.8	356	10.5	-12	32.0						
18	345	15.8	134	21.3	-10	10.4	98	11.8	-22	04.2	310	33.6	+12	28.8	11	12.8	-12	32.0						
19	0	18.3	149	20.9		11.4	113	12.4		04.5	325	36.2		28.7	26	15.2		31.9						
20	15	20.7	164	20.5		12.4	128	12.9		04.8	340	38.9		28.7	41	17.5		31.9						
21	30	23.2	179	20.2		13.4	143	13.5		05.1	355	41.6		28.6	56	19.8		31.8						
22	45	25.6	194	19.8		14.4	158	14.0		05.4	10	44.2		28.6	71	22.2		31.8						
23	60	28.1	209	19.5		15.4	173	14.6		05.7	25	46.9		28.5	86	24.5		31.7						
24	75	30.6	224	19.1	-10	16.3	188	15.1	-22	06.0	40	49.6	+12	28.4	101	26.9	-12	31.7						
Dif	—				-4				-10				+27				-1				+23			
									+5				-3								+			

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna				
	SD: 16/2 PMG: 11 ^h 51.3 ^m				Edad: 23.6 ^d SD: 14/9 PMG: 7 ^h 26 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	182	13.5	-22	32.9	251	24.9	+0	08.6	60 N	6	54	7	50	8	46	1	18	84	13 14 **
1	197	13.2		33.2	266	00.9	-0	05.7	58	47	39	29	18	80		16	2		
2	212	12.9		33.5	280	36.8		19.9	56	41	29	15	18	77		17	5		
3	227	12.7		33.8	295	12.7		34.1	54	35	21	8	04	18	74	18	8		
4	242	12.4		34.1	309	48.6	-0	48.4	52	30	13	7	53	18	72	20	10		
5	257	12.1	-22	34.4	324	24.5	-1	02.6	50	6	25	7	06	7	44	1	18	70	13 21 12
6	272	11.9	-22	34.7	339	00.4	-1	16.9	45	6	14	6	51	7	24	1	18	64	13 23 17
7	287	11.6		34.9	353	36.2		31.2	40	6	04	38	7	08	17	61	25	21	
8	302	11.3		35.2	8	12.0		45.4	35	5	55	26	6	54	17	58	27	24	
9	317	11.1		35.5	22	47.8	-1	59.7	30	47	6	16	43	17	55	29	27		
10	332	10.8		35.8	37	23.5	-2	14.0	20	31	5	58	22	17	49	31	32		
11	347	10.5	-22	36.1	51	59.3	-2	28.3	10 N	5	15	5	42	6	04	1	17	44	13 34 36
12	2	10.3	-22	36.4	66	35.0	-2	42.5	0	4	59	5	25	5	48	1	17	40	13 36 41
13	17	10.0		36.6	81	10.6	-2	56.8	10 S	41	5	08	31	17	36	38	45		
14	32	09.7		36.9	95	46.3	-3	11.1	20	4	19	4	48	5	12	17	31	40	50
15	47	09.5		37.2	110	21.9		25.4	30	3	51	24	4	51	16	27	43	55	
16	62	09.2		37.5	124	57.4		39.7	35	33	4	10	39	16	24	45	58		
17	77	08.9	-22	37.8	139	32.9	-3	53.9	40	3	11	3	52	4	24	1	16	20	13 47 61
18	92	08.6	-22	38.0	154	08.4	-4	08.2	45	2	42	3	31	4	07	1	16	17	13 49 65
19	107	08.4		38.3	168	43.9		22.5	50	2	00	3	02	3	46	16	12	51	71
20	122	08.1		38.6	183	19.3		36.8	52	1	36	2	48	36	16	10	52	73	
21	137	07.8		38.9	197	54.7	-4	51.0	54	1	00	32	24	16	8	53	76		
22	152	07.6		39.1	212	30.0	-5	05.3	56	**	**	2	11	3	11	16	5	55	78
23	167	07.3		39.4	227	05.3		19.5	58	**	**	1	45	2	55	16	2	56	82
24	182	07.0	-22	39.7	241	40.5	-5	33.8	60 S	**	**	1	07	2	36	1	16	**	13 58 85

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 54.9 ^m		Mag: -4.2 PMG: 9 ^h 03 ^m		Mag: +1.4 PMG: 11 ^h 27 ^m		Mag: -2.8 PMG: 21 ^h 13 ^m		Mag: +0.9 PMG: 17 ^h 12 ^m									
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄									
h	°	'	°	'	°	'	°	'	°	'								
0	75	30.6	224	19.1	-10	16.3	188	15.1	-22	06.0	40	49.6	+12	28.4	101	26.9	-12	31.7
1	90	33.0	239	18.7		17.3	203	15.6		06.3	55	52.2		28.4	116	29.2		31.6
2	105	35.5	254	18.4		18.3	218	16.2		06.6	70	54.9		28.3	131	31.5		31.6
3	120	38.0	269	18.0		19.3	233	16.7		06.9	85	57.5		28.3	146	33.9		31.5
4	135	40.4	284	17.7		20.3	248	17.3		07.2	101	00.2		28.2	161	36.2		31.5
5	150	42.9	299	17.3	-10	21.2	263	17.8	-22	07.5	116	02.9	+12	28.2	176	38.5	-12	31.4
6	165	45.4	314	16.9	-10	22.2	278	18.4	-22	07.8	131	05.5	+12	28.1	191	40.9	-12	31.4
7	180	47.8	329	16.6		23.2	293	18.9		08.1	146	08.2		28.1	206	43.2		31.3
8	195	50.3	344	16.2		24.2	308	19.4		08.4	161	10.8		28.0	221	45.5		31.2
9	210	52.8	359	15.8		25.2	323	20.0		08.7	176	13.5		27.9	236	47.9		31.2
10	225	55.2	14	15.5		26.1	338	20.5		09.0	191	16.2		27.9	251	50.2		31.1
11	240	57.7	29	15.1	-10	27.1	353	21.1	-22	09.3	206	18.8	+12	27.8	266	52.5	-12	31.1
12	256	00.1	44	14.7	-10	28.1	8	21.6	-22	09.6	221	21.5	+12	27.8	281	54.9	-12	31.0
13	271	02.6	59	14.4		29.1	23	22.1		09.9	236	24.1		27.7	296	57.2		31.0
14	286	05.1	74	14.0		30.1	38	22.7		10.2	251	26.8		27.7	311	59.5		30.9
15	301	07.5	89	13.6		31.0	53	23.2		10.5	266	29.5		27.6	327	01.9		30.9
16	316	10.0	104	13.3		32.0	68	23.8		10.8	281	32.1		27.6	342	04.2		30.8
17	331	12.5	119	12.9	-10	33.0	83	24.3	-22	11.1	296	34.8	+12	27.5	357	06.5	-12	30.8
18	346	14.9	134	12.5	-10	34.0	98	24.8	-22	11.4	311	37.4	+12	27.5	12	08.8	-12	30.7
19	1	17.4	149	12.2		35.0	113	25.4		11.7	326	40.1		27.4	27	11.2		30.7
20	16	19.9	164	11.8		35.9	128	25.9		12.0	341	42.7		27.4	42	13.5		30.6
21	31	22.3	179	11.4		36.9	143	26.5		12.2	356	45.4		27.3	57	15.8		30.5
22	46	24.8	194	11.1		37.9	158	27.0		12.5	11	48.0		27.3	72	18.2		30.5
23	61	27.3	209	10.7		38.9	173	27.5		12.8	26	50.7		27.2	87	20.5		30.4
24	76	29.7	224	10.3	-10	39.8	188	28.1	-22	13.1	41	53.4	+12	27.1	102	22.8	-12	30.4
Dif	—		-4		-10		+5		-3		+27		-1		+23		+	

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna			
	SD: 16/2 PMG: 11 ^h 51.7 ^m			Edad: 24.6 ^d SD: 15/0 PMG: 8 ^h 07 ^m PHE { 4 ^h : 55/2 12 ^h : 55/4 20 ^h : 55/6 R°: 43 ^m														
	hG ☉	Dec		hG ☾	Dif	Dec	Dif					Civil	Náutico	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m			
0	182	07.0	-22	39.7	241	40.5	-5	33.8	60 N	14 56	15 52	16 48	2 42	88	13 13	0		
1	197	06.7		40.0	256	15.7	-5	48.0	58	15 12	16 03	16 55	38	84	18	3		
2	212	06.5		40.2	270	50.9	-6	02.2	56	26	13	17 01	35	81	22	7		
3	227	06.2		40.5	285	26.0		16.4	54	38	22	07	32	78	26	10		
4	242	05.9		40.8	300	01.0		30.6	52	49	29	13	30	75	30	12		
5	257	05.7	-22	41.0	314	36.0	-6	44.8	50	15 58	16 36	17 18	2 28	72	13 33	14		
6	272	05.4	-22	41.3	329	11.0	-6	59.0	45	16 18	16 52	17 29	2 22	68	13 40	19		
7	287	05.1		41.6	343	45.9	-7	13.2	40	35	17 05	39	18	63	46	23		
8	302	04.8		41.8	358	20.7		27.3	35	16 48	16	48	15	59	51	27		
9	317	04.6		42.1	12	55.5		41.5	30	17 00	26	17 56	12	56	13 56	29		
10	332	04.3		42.4	27	30.2	-7	55.6	20	21	17 45	18 12	06	51	14 03	35		
11	347	04.0	-22	42.6	42	04.9	-8	09.7	10 N	17 39	18 01	18 28	2 01	47	14 10	40		
12	2	03.7	-22	42.9	56	39.5	-8	23.8	0	17 55	18 18	18 44	1 57	42	14 17	43		
13	17	03.5		43.2	71	14.0		37.8	10 S	18 13	35	19 02	53	37	23	48		
14	32	03.2		43.4	85	48.5	-8	51.9	20	31	18 55	24	48	33	30	53		
15	47	02.9		43.7	100	22.9	-9	05.9	30	18 52	19 19	19 53	43	28	38	58		
16	62	02.6		43.9	114	57.3		19.9	35	19 05	34	20 11	40	25	43	61		
17	77	02.4	-22	44.2	129	31.6	-9	33.9	40	19 19	19 52	20 33	1 36	22	14 48	65		
18	92	02.1	-22	44.5	144	05.8	-9	47.8	45	19 37	20 14	21 02	1 33	17	14 54	69		
19	107	01.8		44.7	158	40.0	-10	01.7	50	19 58	42	21 45	28	13	15 02	74		
20	122	01.5		45.0	173	14.0		15.6	52	20 09	20 56	22 10	26	11	05	77		
21	137	01.3		45.2	187	48.1		29.5	54	21	21 13	22 48	24	8	09	80		
22	152	01.0		45.5	202	22.0		43.4	56	34	21 34	** **	21	6	13	83		
23	167	00.7		45.7	216	55.9	-10	57.2	58	20 50	22 01	** **	18	3	18	86		
24	182	00.4	-22	46.0	231	29.7	-11	11.0	60 S	21 09	22 42	** **	1 15	0	15 23	91		
UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 18 ^h 50.9 ^m		Mag: -4.2 PMG: 9 ^h 04 ^m			Mag: +1.4 PMG: 11 ^h 26 ^m			Mag: -2.8 PMG: 21 ^h 09 ^m			Mag: +0.9 PMG: 17 ^h 08 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	76	29.7	224	10.3	-10	39.8	188	28.1	-22	13.1	41	53.4	+12	27.1	102	22.8	-12	30.4
1	91	32.2	239	09.9		40.8	203	28.6		13.4	56	56.0		27.1	117	25.2		30.3
2	106	34.6	254	09.6		41.8	218	29.2		13.7	71	58.7		27.0	132	27.5		30.3
3	121	37.1	269	09.2		42.8	233	29.7		14.0	87	01.3		27.0	147	29.8		30.2
4	136	39.6	284	08.8		43.7	248	30.2		14.3	102	04.0		26.9	162	32.2		30.2
5	151	42.0	299	08.4	-10	44.7	263	30.8	-22	14.6	117	06.6	+12	26.9	177	34.5	-12	30.1
6	166	44.5	314	08.1	-10	45.7	278	31.3	-22	14.9	132	09.3	+12	26.8	192	36.8	-12	30.1
7	181	47.0	329	07.7		46.7	293	31.8		15.2	147	11.9		26.8	207	39.2		30.0
8	196	49.4	344	07.3		47.6	308	32.4		15.5	162	14.6		26.7	222	41.5		29.9
9	211	51.9	359	06.9		48.6	323	32.9		15.8	177	17.2		26.7	237	43.8		29.9
10	226	54.4	14	06.6		49.6	338	33.4		16.0	192	19.9		26.6	252	46.1		29.8
11	241	56.8	29	06.2	-10	50.6	353	34.0	-22	16.3	207	22.5	+12	26.6	267	48.5	-12	29.8
12	256	59.3	44	05.8	-10	51.5	8	34.5	-22	16.6	222	25.2	+12	26.5	282	50.8	-12	29.7
13	272	01.7	59	05.4		52.5	23	35.1		16.9	237	27.8		26.5	297	53.1		29.7
14	287	04.2	74	05.1		53.5	38	35.6		17.2	252	30.5		26.4	312	55.5		29.6
15	302	06.7	89	04.7		54.5	53	36.1		17.5	267	33.1		26.4	327	57.8		29.6
16	317	09.1	104	04.3		55.4	68	36.7		17.8	282	35.8		26.3	343	00.1		29.5
17	332	11.6	119	03.9	-10	56.4	83	37.2	-22	18.1	297	38.4	+12	26.3	358	02.4	-12	29.4
18	347	14.1	134	03.5	-10	57.4	98	37.7	-22	18.4	312	41.1	+12	26.2	13	04.8	-12	29.4
19	2	16.5	149	03.2		58.3	113	38.3		18.6	327	43.7		26.2	28	07.1		29.3
20	17	19.0	164	02.8	-10	59.3	128	38.8		18.9	342	46.4		26.1	43	09.4		29.3
21	32	21.5	179	02.4	-11	00.3	143	39.3		19.2	357	49.0		26.1	58	11.8		29.2
22	47	23.9	194	02.0		01.3	158	39.9		19.5	12	51.7		26.0	73	14.1		29.2
23	62	26.4	209	01.6		02.2	173	40.4		19.8	27	54.3		26.0	88	16.4		29.1
24	77	28.9	224	01.2	-11	03.2	188	40.9	-22	20.1	42	57.0	+12	25.9	103	18.7	-12	29.1
Dif	—		-4		-10		+5		-3		+27		-1		+23		+	

UT	SOL			LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'2 PMG: 11 ^h 52.2 ^m			Edad: 25.6 ^d SD: 15'2 PMG: 8 ^h 50 ^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif		Náutico	Civil		Hora	Rº	Hora	Rº	
h	°	'	°	°	'	°	'	°	h	m	h	m	h	m	h	m
0	182	00.4	-22	231	29.7	-11	11.0	60 N	6 56	7 52	8 49	4 10	94	13 13	1	
1	197	00.2		246	03.4		24.7	58	49	41	32	4 02	90	21	6	
2	211	59.9		260	37.0		38.4	56	43	32	18	3 56	85	29	9	
3	226	59.6		275	10.6	-11	52.1	54	37	23	8 06	50	82	36	12	
4	241	59.3		289	44.1	-12	05.8	52	32	15	7 55	45	79	42	15	
5	256	59.1	-22	304	17.5	-12	19.4	50	6 27	7 08	7 46	3 40	76	13 47	18	
6	271	58.8	-22	318	50.8	-12	33.0	45	6 15	6 52	7 26	3 30	71	13 59	23	
7	286	58.5		333	24.0	-12	46.5	40	6 05	39	7 10	21	67	14 09	27	
8	301	58.2		347	57.2	-13	00.0	35	5 56	28	6 56	14	63	18	30	
9	316	57.9		362	30.3	-13	13.5	30	48	6 18	44	3 08	60	25	34	
10	331	57.7		377	03.3		26.9	20	32	5 59	23	2 57	55	38	39	
11	346	57.4	-22	391	36.1	-13	40.3	10 N	5 16	5 43	6 05	2 48	50	14 50	43	
12	1	57.1	-22	406	09.0	-13	53.6	0	5 00	5 26	5 48	2 39	46	15 00	48	
13	16	56.8		421	41.7	-14	06.9	10 S	4 41	5 08	31	30	42	11	52	
14	31	56.5		436	14.3		20.1	20	4 20	4 49	5 13	21	37	23	56	
15	46	56.3		451	46.8		33.3	30	3 51	24	4 52	11	32	36	62	
16	61	56.0		466	19.3		46.5	35	33	4 10	39	2 05	29	44	64	
17	76	55.7	-22	481	51.6	-14	59.6	40	3 11	3 52	4 24	1 58	25	15 53	68	
18	91	55.4	-22	496	23.9	-15	12.6	45	2 42	3 30	4 07	1 50	22	16 03	73	
19	106	55.2		511	56.0		25.6	50	1 59	3 02	3 45	41	16	16	78	
20	121	54.9		526	28.1		38.5	52	1 33	2 47	35	37	14	22	81	
21	136	54.6		541	00.1	-15	51.4	54	0 56	30	23	32	11	29	83	
22	151	54.3		556	31.9	-16	04.2	56	** **	2 10	3 10	27	8	36	87	
23	166	54.0		571	03.7		17.0	58	** **	1 43	2 54	21	5	44	92	
24	181	53.7	-22	586	35.3	-16	29.7	60 S	** **	1 02	2 35	1 15	0	16 54	97	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 47.0 ^m		Mag: -4.2 PMG: 9 ^h 04 ^m		Mag: +1.4 PMG: 11 ^h 25 ^m		Mag: -2.8 PMG: 21 ^h 04 ^m		Mag: +0.9 PMG: 17 ^h 04 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	77	28.9	224	01.2	188	40.9	42	57.0	103	18.7
1	92	31.3	239	00.9	203	41.5	57	59.6	118	21.1
2	107	33.8	254	00.5	218	42.0	73	02.3	133	23.4
3	122	36.2	269	00.1	233	42.5	88	04.9	148	25.7
4	137	38.7	283	59.7	248	43.0	103	07.6	163	28.0
5	152	41.2	298	59.3	263	43.6	118	10.2	178	30.4
6	167	43.6	313	58.9	278	44.1	133	12.9	193	32.7
7	182	46.1	328	58.6	293	44.6	148	15.5	208	35.0
8	197	48.6	343	58.2	308	45.2	163	18.2	223	37.4
9	212	51.0	358	57.8	323	45.7	178	20.8	238	39.7
10	227	53.5	373	57.4	338	46.2	193	23.4	253	42.0
11	242	56.0	388	57.0	353	46.8	208	26.1	268	44.3
12	257	58.4	403	56.6	8	47.3	223	28.7	283	46.7
13	273	00.9	418	56.2	23	47.8	238	31.4	298	49.0
14	288	03.4	433	55.8	38	48.4	253	34.0	313	51.3
15	303	05.8	448	55.4	53	48.9	268	36.7	328	53.6
16	318	08.3	463	55.1	68	49.4	283	39.3	343	56.0
17	333	10.7	478	54.7	83	49.9	298	42.0	358	58.3
18	348	13.2	493	54.3	98	50.5	313	44.6	14	00.6
19	3	15.7	508	53.9	113	51.0	328	47.2	29	02.9
20	18	18.1	523	53.5	128	51.5	343	49.9	44	05.3
21	33	20.6	538	53.1	143	52.1	358	52.5	59	07.6
22	48	23.1	553	52.7	158	52.6	13	55.2	74	09.9
23	63	25.5	568	52.3	173	53.1	28	57.8	89	12.2
24	78	28.0	583	51.9	188	53.6	44	00.4	104	14.6
Dif	—		-4	-10	+5	-3	+26	0	+23	+

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 52.6 ^m				Edad: 26.6 ^d SD: 15/4 PMG: 9 ^h 36 ^m													
	hG ☉		Dec		hG ☾		Dif											
	h	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	181	53.7	-22	51.8	220	35.3	-16	29.7	126	60 N	14 55	15 51	16 47	5 44	102	13 14	3	
1	196	53.5		52.1	235	06.9		42.3	126	58	15 11	16 02	16 55	32 95		27	9	
2	211	53.2		52.3	249	38.4	-16	54.9	126	56	26	12	17 01	21 90		38	14	
3	226	52.9		52.6	264	09.7	-17	07.4	125	54	38	21	07	12 86		48	18	
4	241	52.6		52.8	278	41.0		19.9	125	52	49	29	12	5 04	83	13 57	22	
5	256	52.3	-22	53.0	293	12.1	-17	32.3	124	50	15 58	16 36	17 18	4 56	80	14 05	24	
6	271	52.1	-22	53.2	307	43.1	-17	44.6	123	45	16 18	16 52	17 29	4 41	74	14 22	30	
7	286	51.8		53.5	322	14.0	-17	56.8	122	40	35	17 05	39	28 70		36	34	
8	301	51.5		53.7	336	44.9	-18	09.0	122	35	16 48	16	48	17 66		48	38	
9	316	51.2		53.9	351	15.6		21.1	121	30	17 00	27	17 57	4 08	63	14 59	40	
10	331	50.9		54.2	5	46.2		33.1	120	20	21	17 45	18 13	3 52	58	15 17	45	
11	346	50.6	-22	54.4	20	16.6	-18	45.1	120	10 N	17 39	18 02	18 28	3 38	54	15 33	49	
12	1	50.4	-22	54.6	34	47.0	-18	56.9	118	0	17 56	18 19	18 45	3 25	50	15 48	52	
13	16	50.1		54.8	49	17.3	-19	08.7	118	10 S	18 14	37	19 04	3 12	46	16 03	56	
14	31	49.8		55.1	63	47.4		20.4	117	20	32	18 57	26	2 58	42	19	60	
15	46	49.5		55.3	78	17.5		32.1	117	30	18 54	19 21	19 54	43 36		38	64	
16	61	49.2		55.5	92	47.4		43.6	115	35	19 06	36	20 12	34 33		16 48	68	
17	76	48.9	-22	55.7	107	17.2	-19	55.1	115	40	19 21	19 54	20 35	2 23	31	17 01	71	
18	91	48.6	-22	55.9	121	46.9	-20	06.4	113	45	19 39	20 16	21 05	2 12	26	17 16	75	
19	106	48.4		56.2	136	16.4		17.7	113	50	20 01	45	21 48	1 57	21	34	81	
20	121	48.1		56.4	150	45.9		28.9	112	52	11	20 59	22 14	51 18		43	83	
21	136	47.8		56.6	165	15.2		40.0	111	54	23	21 16	22 54	43 16		17 52	87	
22	151	47.5		56.8	179	44.4	-20	51.0	110	56	37	21 37	** **	35 12		18 03	92	
23	166	47.2		57.0	194	13.5	-21	01.9	109	58	20 53	22 05	** **	26 7		16 97		
24	181	46.9	-22	57.3	208	42.5	-21	12.8	109	60 S	21 12	22 48	** **	1 15	3	18 31	104	
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 43.1 ^m		Mag: -4.2 PMG: 9 ^h 05 ^m		Mag: +1.4 PMG: 11 ^h 24 ^m		Mag: -2.8 PMG: 21 ^h 00 ^m		Mag: +0.9 PMG: 17 ^h 00 ^m									
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄				hG ♅					
	h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°
0	78	28.0	223	51.9	-11	26.4	188	53.6	-22	26.8	44	00.4	+12	24.7	104	14.6	-12	27.7
1	93	30.5	238	51.5		27.3	203	54.2		27.1	59	03.1		24.7	119	16.9		27.6
2	108	32.9	253	51.1		28.3	218	54.7		27.4	74	05.7		24.6	134	19.2		27.6
3	123	35.4	268	50.7		29.3	233	55.2		27.6	89	08.4		24.6	149	21.5		27.5
4	138	37.8	283	50.3		30.2	248	55.7		27.9	104	11.0		24.6	164	23.8		27.5
5	153	40.3	298	49.9	-11	31.2	263	56.3	-22	28.2	119	13.6	+12	24.5	179	26.2	-12	27.4
6	168	42.8	313	49.5	-11	32.1	278	56.8	-22	28.5	134	16.3	+12	24.5	194	28.5	-12	27.4
7	183	45.2	328	49.1		33.1	293	57.3		28.7	149	18.9		24.4	209	30.8		27.3
8	198	47.7	343	48.7		34.1	308	57.8		29.0	164	21.6		24.4	224	33.1		27.2
9	213	50.2	358	48.3		35.0	323	58.4		29.3	179	24.2		24.3	239	35.5		27.2
10	228	52.6	13	47.9		36.0	338	58.9		29.5	194	26.8		24.3	254	37.8		27.1
11	243	55.1	28	47.5	-11	36.9	353	59.4	-22	29.8	209	29.5	+12	24.2	269	40.1	-12	27.1
12	258	57.6	43	47.1	-11	37.9	8	59.9	-22	30.1	224	32.1	+12	24.2	284	42.4	-12	27.0
13	274	00.0	58	46.7		38.9	24	00.5		30.4	239	34.7		24.1	299	44.7		26.9
14	289	02.5	73	46.3		39.8	39	01.0		30.6	254	37.4		24.1	314	47.1		26.9
15	304	05.0	88	45.9		40.8	54	01.5		30.9	269	40.0		24.0	329	49.4		26.8
16	319	07.4	103	45.5		41.7	69	02.0		31.2	284	42.6		24.0	344	51.7		26.8
17	334	09.9	118	45.1	-11	42.7	84	02.6	-22	31.4	299	45.3	+12	23.9	359	54.0	-12	26.7
18	349	12.3	133	44.7	-11	43.6	99	03.1	-22	31.7	314	47.9	+12	23.9	14	56.4	-12	26.7
19	4	14.8	148	44.3		44.6	114	03.6		32.0	329	50.5		23.9	29	58.7		26.6
20	19	17.3	163	43.9		45.6	129	04.1		32.3	344	53.2		23.8	45	01.0		26.5
21	34	19.7	178	43.5		46.5	144	04.7		32.5	359	55.8		23.8	60	03.3		26.5
22	49	22.2	193	43.1		47.5	159	05.2		32.8	14	58.4		23.7	75	05.6		26.4
23	64	24.7	208	42.7		48.4	174	05.7		33.1	30	01.1		23.7	90	08.0		26.4
24	79	27.1	223	42.3	-11	49.4	189	06.2	-22	33.3	45	03.7	+12	23.6	105	10.3	-12	26.3
Dif	—		-4		-10		+5		-3		+26		0		+23		+	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 53.1 ^m			Edad: 27.6 ^d SD: 15/6 PMG: 10 ^h 27 ^m													
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°		
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	181	46.9	-22	57.3	208	42.5	99	-21	12.8	60 N	6 59	7 55	8 52	7 26	107	13 17	9
1	196	46.7		57.5	223	11.4	97		23.5	58	51	44	35	7 07	98	36	19
2	211	46.4		57.7	237	40.1	96		34.1	56	45	34	21	6 51	92	13 52	25
3	226	46.1		57.9	252	08.7	95		44.6	54	39	25	8 08	38 88	14 06	29	29
4	241	45.8		58.1	266	37.2	94	-21	55.0	52	34	17	7 58	27 83	19 31		
5	256	45.5	-22	58.3	281	05.6	92	-22	05.3	50	6 28	7 10	7 48	6 16	81	14 29	35
6	271	45.2	-22	58.5	295	33.8	92	-22	15.5	45	6 17	6 54	7 28	5 55	76	14 52	39
7	286	44.9		58.8	310	02.0	90		25.6	40	6 07	41	7 11	38 72	15 10	43	
8	301	44.6		59.0	324	30.0	89		35.6	35	5 58	29	6 57	23 69	26 45		
9	316	44.4		59.2	338	57.9	88		45.4	30	49	19	45	5 11	66	15 39	48
10	331	44.1		59.4	353	25.7	86	-22	55.2	20	33	6 01	25	4 50	62	16 02	51
11	346	43.8	-22	59.6	7	53.3	86	-23	04.8	10 N	5 17	5 44	6 06	4 32	58	16 22	54
12	1	43.5	-22	59.8	22	20.9	86	-23	14.3	0	5 01	5 27	5 49	4 15	55	16 40	58
13	16	43.2	-23	00.0	36	48.3	84		23.7	10 S	4 42	5 09	32	3 58	51	16 59	60
14	31	42.9	-23	00.2	51	15.6	83		33.0	20	4 20	4 49	5 14	40 48	17 19	63	
15	46	42.6		00.4	65	42.7	81		42.2	30	3 52	25	4 52	19 44	42 67		
16	61	42.3		00.6	80	09.8	81	-23	51.2	35	33	4 10	39	3 07	42	17 56	69
17	76	42.1	-23	00.8	94	36.7	79	-24	00.1	40	3 11	3 52	4 25	2 54	38	18 12	71
18	91	41.8	-23	01.0	109	03.5	78	-24	08.9	45	2 41	3 30	4 07	2 38	34	18 31	74
19	106	41.5		01.2	123	30.2	77		17.5	50	1 57	3 01	3 45	18 29	18 55	79	
20	121	41.2		01.4	137	56.8	76		26.0	52	1 31	2 46	34	2 09	26	19 06	82
21	136	40.9		01.6	152	23.2	74		34.4	54	0 52	29	23	1 59	23	19 85	
22	151	40.6		01.8	166	49.6	74		42.7	56	** **	2 08	3 09	47 19	35 88		
23	166	40.3		02.0	181	15.8	72		50.8	58	** **	1 40	2 53	33 14	19 53	94	
24	181	40.0	-23	02.2	195	41.9	71	-24	58.8	60 S	** **	0 57	2 33	1 18	7	20 15	104

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO						
	PMG: 18 ^h 39.1 ^m		Mag: -4.1 PMG: 9 ^h 05 ^m			Mag: +1.4 PMG: 11 ^h 23 ^m			Mag: -2.8 PMG: 20 ^h 56 ^m			Mag: +0.9 PMG: 16 ^h 57 ^m						
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	79	27.1	223	42.3	-11	49.4	189	06.2	-22	33.3	45	03.7	+12	23.6	105	10.3	-12	26.3
1	94	29.6	238	41.9		50.3	204	06.7		33.6	60	06.3		23.6	120	12.6		26.2
2	109	32.1	253	41.5		51.3	219	07.3		33.9	75	09.0		23.5	135	14.9		26.2
3	124	34.5	268	41.1		52.2	234	07.8		34.1	90	11.6		23.5	150	17.2		26.1
4	139	37.0	283	40.7		53.2	249	08.3		34.4	105	14.2		23.5	165	19.6		26.1
5	154	39.5	298	40.3	-11	54.1	264	08.8	-22	34.7	120	16.9	+12	23.4	180	21.9	-12	26.0
6	169	41.9	313	39.8	-11	55.1	279	09.3	-22	34.9	135	19.5	+12	23.4	195	24.2	-12	26.0
7	184	44.4	328	39.4		56.0	294	09.9		35.2	150	22.1		23.3	210	26.5		25.9
8	199	46.8	343	39.0		57.0	309	10.4		35.5	165	24.8		23.3	225	28.8		25.8
9	214	49.3	358	38.6		57.9	324	10.9		35.7	180	27.4		23.2	240	31.2		25.8
10	229	51.8	13	38.2		58.9	339	11.4		36.0	195	30.0		23.2	255	33.5		25.7
11	244	54.2	28	37.8	-11	59.8	354	11.9	-22	36.2	210	32.7	+12	23.1	270	35.8	-12	25.7
12	259	56.7	43	37.4	-12	00.8	9	12.5	-22	36.5	225	35.3	+12	23.1	285	38.1	-12	25.6
13	274	59.2	58	37.0		01.7	24	13.0		36.8	240	37.9		23.1	300	40.4		25.5
14	290	01.6	73	36.6		02.7	39	13.5		37.0	255	40.5		23.0	315	42.7		25.5
15	305	04.1	88	36.1		03.6	54	14.0		37.3	270	43.2		23.0	330	45.1		25.4
16	320	06.6	103	35.7		04.6	69	14.5		37.6	285	45.8		22.9	345	47.4		25.4
17	335	09.0	118	35.3	-12	05.5	84	15.1	-22	37.8	300	48.4	+12	22.9	0	49.7	-12	25.3
18	350	11.5	133	34.9	-12	06.5	99	15.6	-22	38.1	315	51.1	+12	22.8	15	52.0	-12	25.2
19	5	14.0	148	34.5		07.4	114	16.1		38.3	330	53.7		22.8	30	54.3		25.2
20	20	16.4	163	34.1		08.4	129	16.6		38.6	345	56.3		22.8	45	56.7		25.1
21	35	18.9	178	33.6		09.3	144	17.1		38.9	0	58.9		22.7	60	59.0		25.1
22	50	21.3	193	33.2		10.3	159	17.7		39.1	16	01.6		22.7	76	01.3		25.0
23	65	23.8	208	32.8		11.2	174	18.2		39.4	31	04.2		22.6	91	03.6		24.9
24	80	26.3	223	32.4	-12	12.2	189	18.7	-22	39.6	46	06.8	+12	22.6	106	05.9	-12	24.9
Dif	—		-4		-10		+5		-3		+26		0		+23		+	

UT	SOL				● LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16/2 PMG: 11 ^h 53.6 ^m				Edad: 28.6 ^d SD: 15/7 PMG: 11 ^h 23 ^m PHE { 4 ^h : 57/9 12 ^h : 58/2 20 ^h : 58/4 R°: 61 ^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	40.0	-23	02.2	195	41.9	-24	58.8	60 N	14 54	15 51	16 47	9 13	98	13 26	29
1	196	39.7		02.4	210	07.9	-25	06.6	58	15 11	16 02	16 54	8 45	88	13 55	37
2	211	39.4		02.6	224	33.8		14.3	56	25	12	17 01	23	84	14 17	42
3	226	39.2		02.8	238	59.5		21.8	54	37	21	07	8 06	80	35	45
4	241	38.9		03.0	253	25.2		29.2	52	48	29	13	7 50	78	14 50	48
5	256	38.6	-23	03.2	267	50.7	-25	36.5	50	15 58	16 36	17 18	7 37	76	15 04	49
6	271	38.3	-23	03.4	282	16.2	-25	43.6	45	16 18	16 52	17 29	7 11	72	15 31	53
7	286	38.0		03.6	296	41.5		50.6	40	35	17 05	39	6 50	69	15 53	54
8	301	37.7		03.8	311	06.7	-25	57.4	35	16 49	17	48	32	68	16 11	56
9	316	37.4		04.0	325	31.8	-26	04.0	30	17 01	27	17 57	6 17	66	27	57
10	331	37.1		04.1	339	56.8		10.5	20	22	17 46	18 13	5 52	63	16 53	59
11	346	36.8	-23	04.3	354	21.7	-26	16.8	10 N	17 40	18 03	18 29	5 30	61	17 16	60
12	1	36.5	-23	04.5	8	46.5	-26	23.0	0	17 57	18 20	18 46	5 10	59	17 38	61
13	16	36.2		04.7	23	11.1		29.1	10 S	18 15	38	19 05	4 49	58	17 59	62
14	31	36.0		04.9	37	35.7		34.9	20	33	18 58	27	28	55	18 22	64
15	46	35.7		05.1	52	00.2		40.6	30	18 55	19 22	19 56	4 03	53	18 49	65
16	61	35.4		05.3	66	24.6		46.2	35	19 08	37	20 14	3 49	51	19 05	66
17	76	35.1	-23	05.4	80	48.9	-26	51.5	40	19 23	19 55	20 37	3 32	49	19 23	67
18	91	34.8	-23	05.6	95	13.1	-26	56.7	45	19 40	20 18	21 07	3 12	46	19 45	68
19	106	34.5		05.8	109	37.2	-27	01.8	50	20 03	20 47	21 51	2 47	42	20 14	70
20	121	34.2		06.0	124	01.2		06.6	52	13	21 01	22 18	35	40	28	71
21	136	33.9		06.2	138	25.2		11.3	54	25	19	22 59	22	36	20 44	72
22	151	33.6		06.4	152	49.0		15.8	56	39	21 41	** **	2 06	33	21 03	74
23	166	33.3		06.5	167	12.8		20.2	58	20 56	22 09	** **	1 47	28	27	76
24	181	33.0	-23	06.7	181	36.4	-27	24.4	60 S	21 15	22 54	** **	1 25	18	21 59	81

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 18 ^h 35.2 ^m		Mag: -4.1 PMG: 9 ^h 06 ^m		Mag: +1.4 PMG: 11 ^h 22 ^m		Mag: -2.8 PMG: 20 ^h 52 ^m		Mag: +0.9 PMG: 16 ^h 53 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	80	26.3	223	32.4	-12	12.2	189	18.7	-22	39.6	46	06.8	+12	22.6	106	05.9	-12	24.9
1	95	28.7	238	32.0		13.1	204	19.2		39.9	61	09.4		22.5	121	08.2		24.8
2	110	31.2	253	31.6		14.1	219	19.7		40.2	76	12.1		22.5	136	10.6		24.8
3	125	33.7	268	31.1		15.0	234	20.2		40.4	91	14.7		22.5	151	12.9		24.7
4	140	36.1	283	30.7		16.0	249	20.8		40.7	106	17.3		22.4	166	15.2		24.6
5	155	38.6	298	30.3	-12	16.9	264	21.3	-22	40.9	121	19.9	+12	22.4	181	17.5	-12	24.6
6	170	41.1	313	29.9	-12	17.8	279	21.8	-22	41.2	136	22.6	+12	22.3	196	19.8	-12	24.5
7	185	43.5	328	29.5		18.8	294	22.3		41.4	151	25.2		22.3	211	22.1		24.5
8	200	46.0	343	29.0		19.7	309	22.8		41.7	166	27.8		22.2	226	24.5		24.4
9	215	48.4	358	28.6		20.7	324	23.3		41.9	181	30.4		22.2	241	26.8		24.3
10	230	50.9	13	28.2		21.6	339	23.8		42.2	196	33.0		22.2	256	29.1		24.3
11	245	53.4	28	27.8	-12	22.6	354	24.4	-22	42.5	211	35.7	+12	22.1	271	31.4	-12	24.2
12	260	55.8	43	27.3	-12	23.5	9	24.9	-22	42.7	226	38.3	+12	22.1	286	33.7	-12	24.2
13	275	58.3	58	26.9		24.4	24	25.4		43.0	241	40.9		22.0	301	36.0		24.1
14	291	00.8	73	26.5		25.4	39	25.9		43.2	256	43.5		22.0	316	38.3		24.0
15	306	03.2	88	26.1		26.3	54	26.4		43.5	271	46.1		22.0	331	40.7		24.0
16	321	05.7	103	25.6		27.3	69	26.9		43.7	286	48.8		21.9	346	43.0		23.9
17	336	08.2	118	25.2	-12	28.2	84	27.4	-22	44.0	301	51.4	+12	21.9	1	45.3	-12	23.9
18	351	10.6	133	24.8	-12	29.1	99	28.0	-22	44.2	316	54.0	+12	21.8	16	47.6	-12	23.8
19	6	13.1	148	24.4		30.1	114	28.5		44.5	331	56.6		21.8	31	49.9		23.7
20	21	15.6	163	23.9		31.0	129	29.0		44.7	346	59.2		21.8	46	52.2		23.7
21	36	18.0	178	23.5		32.0	144	29.5		45.0	2	01.9		21.7	61	54.5		23.6
22	51	20.5	193	23.1		32.9	159	30.0		45.2	17	04.5		21.7	76	56.9		23.6
23	66	22.9	208	22.6		33.8	174	30.5		45.5	32	07.1		21.6	91	59.2		23.5
24	81	25.4	223	22.2	-12	34.8	189	31.0	-22	45.7	47	09.7	+12	21.6	107	01.5	-12	23.4
Dif	—		-4		-9		+5		-3		+26		0		+23		+	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16/2 PMG: 11 ^h 54.0 ^m			Edad: 0.0 ^d PHE { 4 ^h : 58/6 12 ^h : 58/7 20 ^h : 58/9 PMG: 12 ^h 24 ^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	33.0	-23	06.7	181	36.4	-27	24.4	60 N	7 01	7 57	8 54	10 51	60	13 55	71		
1	196	32.7		06.9	196	00.0		28.4	58	6 54	46	37	10 13	62	14 32	70		
2	211	32.4		07.1	210	23.6		32.2	56	47	36	23	9 47	62	14 59	69		
3	226	32.1		07.2	224	47.0		35.8	54	41	27	11	26	62	15 20	68		
4	241	31.8		07.4	239	10.4		39.3	52	35	19	8 00	9 08	63		38	68	
5	256	31.6	-23	07.6	253	33.7	-27	42.6	50	6 30	7 12	7 50	8 53	63	15 53	67		
6	271	31.3	-23	07.8	267	56.9	-27	45.7	45	6 19	6 56	7 29	8 23	63	16 24	66		
7	286	31.0		07.9	282	20.0		48.6	40	6 08	42	7 13	7 59	63	16 47	66		
8	301	30.7		08.1	296	43.1		51.3	35	5 59	31	6 59	40	63	17 07	65		
9	316	30.4		08.3	311	06.2		53.9	30	51	20	47	7 23	63		24	65	
10	331	30.1		08.4	325	29.1		56.2	20	34	6 02	26	6 55	63	17 52	64		
11	346	29.8	-23	08.6	339	52.1	-27	58.4	10 N	5 18	5 45	6 08	6 31	63	18 16	64		
12	1	29.5	-23	08.8	354	14.9	-28	00.4	0	5 02	5 28	5 50	6 09	63	18 39	63		
13	16	29.2		09.0	8	37.7		02.2	10 S	4 43	5 10	33	5 47	62	19 01	62		
14	31	28.9		09.1	23	00.5		03.8	20	4 21	4 50	5 14	5 23	62		26	61	
15	46	28.6		09.3	37	23.2		05.2	16	3 52	25	4 52	4 56	61	19 54	60		
16	61	28.3		09.5	51	45.9		06.4	12	33	4 10	40	40	60	20 11	59		
17	76	28.0	-23	09.6	66	08.5	-28	07.5	11	40	3 11	3 52	4 25	4 21	60	20 30	58	
18	91	27.7	-23	09.8	80	31.1	-28	08.3	8	45	2 41	3 30	4 07	3 58	60	20 53	57	
19	106	27.4		09.9	94	53.7		09.0	7	50	1 56	3 01	3 45	29	58	21 24	54	
20	121	27.1		10.1	109	16.2		09.4	4	52	1 30	2 46	34	3 15	58	39	53	
21	136	26.8		10.3	123	38.7		09.7	3	54	0 48	28	22	2 58	57	21 56	52	
22	151	26.5		10.4	138	01.1		09.8	1	56	** **	2 07	3 08	39	55	22 17	50	
23	166	26.2		10.6	152	23.6		09.7	1	58	** **	1 38	2 52	2 15	53	22 43	46	
24	181	25.9	-23	10.7	166	46.0	-28	09.3	4	60 S	** **	0 53	2 32	1 43	49	23 20	39	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG		Mag: -4.1		Mag: +1.4		Mag: -2.8		Mag: +0.9	
	18 ^h 31.3 ^m		PMG: 9 ^h 07 ^m		PMG: 11 ^h 22 ^m		PMG: 20 ^h 48 ^m		PMG: 16 ^h 49 ^m	
	hG ♈		hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	81	25.4	223	22.2	-12	34.8	189	31.0	-22	45.7
1	96	27.9	238	21.8		35.7	204	31.5		46.0
2	111	30.3	253	21.4		36.6	219	32.0		46.2
3	126	32.8	268	20.9		37.6	234	32.6		46.5
4	141	35.3	283	20.5		38.5	249	33.1		46.7
5	156	37.7	298	20.1	-12	39.4	264	33.6	-22	47.0
6	171	40.2	313	19.6	-12	40.4	279	34.1	-22	47.2
7	186	42.7	328	19.2		41.3	294	34.6		47.5
8	201	45.1	343	18.8		42.2	309	35.1		47.7
9	216	47.6	358	18.3		43.2	324	35.6		48.0
10	231	50.1	13	17.9		44.1	339	36.1		48.2
11	246	52.5	28	17.5	-12	45.0	354	36.6	-22	48.4
12	261	55.0	43	17.0	-12	46.0	9	37.2	-22	48.7
13	276	57.4	58	16.6		46.9	24	37.7		48.9
14	291	59.9	73	16.1		47.8	39	38.2		49.2
15	307	02.4	88	15.7		48.8	54	38.7		49.4
16	322	04.8	103	15.3		49.7	69	39.2		49.7
17	337	07.3	118	14.8	-12	50.6	84	39.7	-22	49.9
18	352	09.8	133	14.4	-12	51.6	99	40.2	-22	50.2
19	7	12.2	148	14.0		52.5	114	40.7		50.4
20	22	14.7	163	13.5		53.4	129	41.2		50.6
21	37	17.2	178	13.1		54.3	144	41.7		50.9
22	52	19.6	193	12.6		55.3	159	42.2		51.1
23	67	22.1	208	12.2		56.2	174	42.7		51.4
24	82	24.6	223	11.7	-12	57.1	189	43.2	-22	51.6
Dif	—		-4		-9		+5		-2	
								+26		0
									+23	
										+

UT	SOL				● LUNA						Latitud	Puesta de Sol	Fin del crepúsculo			Salida de Luna			Puesta de Luna							
	SD: 16/2 PMG: 11 ^h 54.5 ^m				Edad: 1.0 ^d PHE { 4 ^h : 59/1 12 ^h : 59/2 20 ^h : 59/3 Rº: 62 ^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	h m	h m					
0	181	25.9	-23	10.7	166	46.0		-28	09.3	5	60 N	14 53	15 50	16 47	11 51	22	15 06	108								
1	196	25.6		10.9	181	08.4			08.8	7	58	15 10	16 02	16 54	11 15	32	15 42	97								
2	211	25.3		11.1	195	30.8			08.1	9	56	25	12	17 01	10 49	38	16 08	91								
3	226	25.0		11.2	209	53.1			07.2	11	54	37	21	07	28 42		28 87									
4	241	24.7		11.4	224	15.5			06.1	13	52	48	29	13	10 11	44	16 46	83								
5	256	24.4	-23	11.5	238	37.9		-28	04.8	13	50	15 58	16 36	17 18	9 56	47	17 00	82								
6	271	24.1	-23	11.7	253	00.2		-28	03.4	14	45	16 19	16 52	17 30	9 26	50	17 30	77								
7	286	23.8		11.8	267	22.6		-28	01.7	17	40	35	17 06	40	9 02	53	17 53	74								
8	301	23.6		12.0	281	44.9		-27	59.8	19	35	16 49	17	49	8 43	55	18 12	72								
9	316	23.3		12.1	296	07.3			57.7	21	30	17 02	28	17 58	8 26	57	29 69									
10	331	23.0		12.3	310	29.6			55.4	23	20	23	17 47	18 14	7 58	59	18 56	67								
11	346	22.7	-23	12.4	324	52.0		-27	53.0	24	10 N	17 41	18 04	18 30	7 34	61	19 20	63								
12	1	22.4	-23	12.6	339	14.4		-27	50.3	27	0	17 58	18 21	18 47	7 12	62	19 42	61								
13	16	22.1		12.7	353	36.8			47.5	28	10 S	18 16	39	19 06	6 49	64	20 03	59								
14	31	21.8		12.9	7	59.2			44.4	31	20	34	18 59	28	6 25	66	27 56									
15	46	21.5		13.0	22	21.6			41.2	32	30	18 56	19 24	19 57	5 57	68	20 54	52								
16	61	21.2		13.2	36	44.1			37.7	35	35	19 09	39	20 16	40 69		21 10	50								
17	76	20.9	-23	13.3	51	06.5		-27	34.1	36	40	19 24	19 57	20 39	5 21	70	21 28	48								
18	91	20.6	-23	13.5	65	29.1		-27	30.3	38	45	19 42	20 19	21 09	4 58	72	21 50	45								
19	106	20.3		13.6	79	51.6			26.3	40	50	20 04	20 49	21 54	27 75		22 18	40								
20	121	20.0		13.8	94	14.2			22.1	42	52	15	21 04	22 21	4 13	76	32 37									
21	136	19.7		13.9	108	36.8			17.7	44	54	27	21	23 04	3 55	79	22 48	34								
22	151	19.4		14.0	122	59.4			13.1	46	56	41	21 43	** **	34 81		23 07	29								
23	166	19.1		14.2	137	22.1			08.3	48	58	20 58	22 12	** **	3 08	85	29 24									
24	181	18.8	-23	14.3	151	44.9		-27	03.4	49	60 S	21 18	23 00	** **	2 32	92	23 59	14								
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 18 ^h 27.3 ^m				Mag: -4.1 PMG: 9 ^h 07 ^m				Mag: +1.4 PMG: 11 ^h 21 ^m				Mag: -2.8 PMG: 20 ^h 44 ^m				Mag: +0.9 PMG: 16 ^h 46 ^m									
	hG ♈	Dec			hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	82	24.6	223	11.7	-12	57.1	189	43.2	-22	51.6	48	12.4	+12	20.7	107	57.0	-12	21.9								
1	97	27.0	238	11.3		58.1	204	43.8		51.8	63	15.0		20.7	122	59.3		21.9								
2	112	29.5	253	10.9		59.0	219	44.3		52.1	78	17.7		20.6	138	01.6		21.8								
3	127	31.9	268	10.4	-12	59.9	234	44.8		52.3	93	20.3		20.6	153	03.9		21.8								
4	142	34.4	283	10.0	-13	00.8	249	45.3		52.6	108	22.9		20.5	168	06.2		21.7								
5	157	36.9	298	09.5	-13	01.8	264	45.8	-22	52.8	123	25.5	+12	20.5	183	08.5	-12	21.6								
6	172	39.3	313	09.1	-13	02.7	279	46.3	-22	53.0	138	28.1	+12	20.5	198	10.8	-12	21.6								
7	187	41.8	328	08.6		03.6	294	46.8		53.3	153	30.7		20.4	213	13.1		21.5								
8	202	44.3	343	08.2		04.5	309	47.3		53.5	168	33.3		20.4	228	15.4		21.4								
9	217	46.7	358	07.7		05.5	324	47.8		53.7	183	35.9		20.4	243	17.7		21.4								
10	232	49.2	13	07.3		06.4	339	48.3		54.0	198	38.5		20.3	258	20.0		21.3								
11	247	51.7	28	06.9	-13	07.3	354	48.8	-22	54.2	213	41.1	+12	20.3	273	22.4	-12	21.3								
12	262	54.1	43	06.4	-13	08.2	9	49.3	-22	54.5	228	43.7	+12	20.3	288	24.7	-12	21.2								
13	277	56.6	58	06.0		09.1	24	49.8		54.7	243	46.3		20.2	303	27.0		21.1								
14	292	59.1	73	05.5		10.1	39	50.3		54.9	258	48.9		20.2	318	29.3		21.1								
15	308	01.5	88	05.1		11.0	54	50.8		55.2	273	51.5		20.1	333	31.6		21.0								
16	323	04.0	103	04.6		11.9	69	51.3		55.4	288	54.1		20.1	348	33.9		20.9								
17	338	06.4	118	04.2	-13	12.8	84	51.8	-22	55.6	303	56.7	+12	20.1	3	36.2	-12	20.9								
18	353	08.9	133	03.7	-13	13.8	99	52.3	-22	55.9	318	59.4	+12	20.0	18	38.5	-12	20.8								
19	8	11.4	148	03.3		14.7	114	52.8		56.1	334	02.0		20.0	33	40.8		20.8								
20	23	13.8	163	02.8		15.6	129	53.3		56.3	349	04.6		20.0	48	43.1		20.7								
21	38	16.3	178	02.3		16.5	144	53.8		56.6	4	07.2		19.9	63	45.4		20.6								
22	53	18.8	193	01.9		17.4	159	54.3		56.8	19	09.8		19.9	78	47.7		20.6								
23	68	21.2	208	01.4		18.3	174	54.8		57.0	34	12.4		19.9	93	50.0		20.5								
24	83	23.7	223	01.0	-13	19.3	189	55.4	-22	57.3	49	15.0	+12	19.8	108	52.3	-12	20.4								
Dif	—				-4				+5				+26				0				+23				+	

UT	SOL				LUNA				Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna			
	SD: 16'2 PMG: 11 ^h 55.0 ^m				Edad: 2.0 ^d SD: 16'2 PMG: 14 ^h 29 ^m													
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	R°
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m
0	181	18.8	-23	14.3	151	44.9	-27	03.4	52	60 N	7 03	7 59	8 57	12 13	8	16 54	114	
1	196	18.5		14.5	166	07.7	-26	58.2	53	58	6 55	48	40	11 47	17	17 19	105	
2	211	18.2		14.6	180	30.5		52.9	56	56	49	38	25	27 22		39 99		
3	226	17.9		14.7	194	53.4		47.3	57	54	43	29	12	11 10	27	17 55	95	
4	241	17.6		14.9	209	16.3		41.6	57	52	37	21	8 01	10 55	31	18 09	91	
5	256	17.3	-23	15.0	223	39.3	-26	35.7	59	50	6 32	7 13	7 52	10 43	33	18 22	87	
6	271	17.0	-23	15.1	238	02.3	-26	29.7	60	45	6 20	6 57	7 31	10 16	39	18 47	82	
7	286	16.7		15.3	252	25.5		23.4	63	40	10	44	14	9 55	43	19 07	77	
8	301	16.4		15.4	266	48.6		17.0	64	35	6 01	32	7 00	38 46		24 73		
9	316	16.1		15.5	281	11.9		10.3	67	30	5 52	22	6 48	9 23	48	19 38	71	
10	331	15.8		15.7	295	35.2	-26	03.5	68	20	35	6 03	27	8 57	53	20 03	65	
11	346	15.5	-23	15.8	309	58.5	-25	56.6	69	10 N	5 19	5 46	6 09	8 35	56	20 23	62	
12	1	15.2	-23	15.9	324	22.0	-25	49.4	72	0	5 03	5 29	5 51	8 14	60	20 43	58	
13	16	14.9		16.1	338	45.5		42.1	73	10 S	4 44	5 11	34	7 53	63	21 02	54	
14	31	14.6		16.2	353	09.1		34.6	75	20	4 21	4 50	5 15	31 66		23 49		
15	46	14.3		16.3	7	32.7		26.9	77	30	3 52	26	4 53	7 05	70	21 46	45	
16	61	14.0		16.5	21	56.4		19.1	78	35	34	4 10	40	6 49	73	22 00	42	
17	76	13.6	-23	16.6	36	20.3	-25	11.0	81	40	3 11	3 52	4 25	6 31	77	22 16	38	
18	91	13.3	-23	16.7	50	44.1	-25	02.9	81	45	2 41	3 30	4 07	6 10	80	22 35	34	
19	106	13.0		16.8	65	08.1	-24	54.5	84	50	1 56	3 01	3 45	5 42	86	22 58	28	
20	121	12.7		17.0	79	32.2		46.0	85	52	1 29	2 46	34	29 88		23 09	26	
21	136	12.4		17.1	93	56.3		37.3	87	54	0 45	28	22	5 14	91	22 22		
22	151	12.1		17.2	108	20.5		28.5	88	56	** **	2 06	3 08	4 55	96	36 18		
23	166	11.8		17.3	122	44.8		19.4	91	58	** **	1 37	2 51	33 102		23 53	13	
24	181	11.5	-23	17.4	137	09.2	-24	10.3	91	60 S	** **	0 50	2 31	4 04 111		** ** *		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 18 ^h 23.4 ^m		Mag: -4.1 PMG: 9 ^h 08 ^m		Mag: +1.4 PMG: 11 ^h 20 ^m		Mag: -2.8 PMG: 20 ^h 39 ^m		Mag: +0.9 PMG: 16 ^h 42 ^m	
h	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	83	23.7	223	01.0	-13	19.3	189	55.4	-22	57.3
1	98	26.2	238	00.5		20.2	204	55.9		57.5
2	113	28.6	253	00.1		21.1	219	56.4		57.7
3	128	31.1	267	59.6		22.0	234	56.9		57.9
4	143	33.6	282	59.2		22.9	249	57.4		58.2
5	158	36.0	297	58.7	-13	23.8	264	57.9	-22	58.4
6	173	38.5	312	58.3	-13	24.8	279	58.4	-22	58.6
7	188	40.9	327	57.8		25.7	294	58.9		58.9
8	203	43.4	342	57.3		26.6	309	59.4		59.1
9	218	45.9	357	56.9		27.5	324	59.9		59.3
10	233	48.3	12	56.4		28.4	340	00.4		59.5
11	248	50.8	27	56.0	-13	29.3	355	00.9	-22	59.8
12	263	53.3	42	55.5	-13	30.2	10	01.4	-23	00.0
13	278	55.7	57	55.0		31.1	25	01.9	-23	00.2
14	293	58.2	72	54.6		32.1	40	02.4		00.4
15	309	00.7	87	54.1		33.0	55	02.9		00.7
16	324	03.1	102	53.7		33.9	70	03.4		00.9
17	339	05.6	117	53.2	-13	34.8	85	03.9	-23	01.1
18	354	08.1	132	52.7	-13	35.7	100	04.4	-23	01.3
19	9	10.5	147	52.3		36.6	115	04.9		01.6
20	24	13.0	162	51.8		37.5	130	05.4		01.8
21	39	15.4	177	51.3		38.4	145	05.8		02.0
22	54	17.9	192	50.9		39.3	160	06.3		02.2
23	69	20.4	207	50.4		40.2	175	06.8		02.5
24	84	22.8	222	49.9	-13	41.1	190	07.3	-23	02.7
Dif	—		-5		-9		+5		-2	
							+26		0	
									+23	
									+	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna							
	SD: 16/2 PMG:11 ^h 55.5 ^m				Edad: 3.0 ^d SD: 16/2 PMG: 15 ^h 27 ^m PHE { 4 ^h : 59/6 12 ^h : 59/6 20 ^h : 59/6 R°: 55 ^m																			
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°						
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m	h m	h m	h m	h m					
0	181	11.5	-23	17.4	137	09.2	55	-24	10.3	93	60 N	14 53	15 50	16 47	12 21	2	18 48	110						
1	196	11.2		17.6	151	33.7	55	-24	01.0	93	58	15 10	16 02	16 55	12 04	8	19 04	104						
2	211	10.9		17.7	165	58.3	56	-23	51.5	95	56	25	12	17 01	11 49	14	18 99							
3	226	10.6		17.8	180	23.0	57		41.8	97	54	38	21	08	37 17		30 94							
4	241	10.3		17.9	194	47.7	57		32.0	98	52	49	29	13	26 21		40 91							
5	256	10.0	-23	18.0	209	12.6	59	-23	22.1	99	50	15 58	16 37	17 18	11 16	24	19 49	88						
6	271	09.7	-23	18.1	223	37.5	59	-23	12.0	101	45	16 19	16 53	17 30	10 55	30	20 09	81						
7	286	09.4		18.3	238	02.5	60	-23	01.8	102	40	36	17 06	40	38 34		24 77							
8	301	09.1		18.4	252	27.7	62	-22	51.4	104	35	16 50	18	50	24 38		37 73							
9	316	08.8		18.5	266	52.9	62		40.8	106	30	17 02	29	17 58	10 11	42	20 49	69						
10	331	08.5		18.6	281	18.2	63		30.2	106	20	23	17 47	18 15	9 50	47	21 08	64						
11	346	08.2	-23	18.7	295	43.6	64	-22	19.3	109	10 N	17 42	18 05	18 31	9 31	52	21 25	58						
12	1	07.9	-23	18.8	310	09.1	65	-22	08.4	109	0	17 59	18 22	18 48	9 14	55	21 41	53						
13	16	07.6		18.9	324	34.7	66	-21	57.3	111	10 S	18 17	18 40	19 07	8 56	60	21 56	49						
14	31	07.3		19.0	339	00.4	67		46.1	112	20	36	19 00	29	37 65		22 12	45						
15	46	07.0		19.2	353	26.2	68		34.7	114	30	18 58	25	19 58	15 70		31 39							
16	61	06.7		19.3	7	52.1	69		23.2	115	35	19 11	40	20 17	8 02	74	42 35							
17	76	06.4	-23	19.4	22	18.1	70	-21	11.5	117	40	19 26	19 58	20 40	7 48	77	22 54	32						
18	91	06.1	-23	19.5	36	44.2	71	-20	59.8	117	45	19 44	20 21	21 11	7 30	82	23 09	26						
19	106	05.8		19.6	51	10.4	72		47.9	119	50	20 06	20 51	21 56	7 08	88	26 21							
20	121	05.5		19.7	65	36.7	73		35.9	120	52	17	21 06	22 23	6 57	91	35 18							
21	136	05.2		19.8	80	03.1	74		23.7	122	54	29	23	23 09	45 95		44 15							
22	151	04.9		19.9	94	29.6	75	-20	11.5	122	56	20 43	21 46	** **	31 100		23 54	11						
23	166	04.5		20.0	108	56.2	76	-19	59.1	124	58	21 00	22 15	** **	6 15 105		** **	**						
24	181	04.2	-23	20.1	123	22.9	77	-19	46.6	125	60 S	21 20	23 04	** **	5 55 112		0 13	6						
UT	ARIES		VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 18 ^h 19.5 ^m		Mag: -4.1 PMG: 9 ^h 09 ^m				Mag: +1.4 PMG: 11 ^h 19 ^m				Mag: -2.8 PMG: 20 ^h 35 ^m				Mag: +0.9 PMG: 16 ^h 38 ^m									
	hG ♈		hG ♀	Dec			hG ♂	Dec			hG ♃	Dec			hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'						
0	84	22.8	222	49.9	-13	41.1	190	07.3	-23	02.7	50	17.3	+12	19.1	109	47.7	-12	18.9						
1	99	25.3	237	49.5		42.0	205	07.8		02.9	65	19.9		19.0	124	50.0		18.8						
2	114	27.8	252	49.0		43.0	220	08.3		03.1	80	22.5		19.0	139	52.3		18.8						
3	129	30.2	267	48.5		43.9	235	08.8		03.3	95	25.1		19.0	154	54.6		18.7						
4	144	32.7	282	48.1		44.8	250	09.3		03.6	110	27.7		18.9	169	56.9		18.6						
5	159	35.2	297	47.6	-13	45.7	265	09.8	-23	03.8	125	30.3	+12	18.9	184	59.2	-12	18.6						
6	174	37.6	312	47.1	-13	46.6	280	10.3	-23	04.0	140	32.9	+12	18.9	200	01.5	-12	18.5						
7	189	40.1	327	46.7		47.5	295	10.8		04.2	155	35.5		18.8	215	03.8		18.4						
8	204	42.6	342	46.2		48.4	310	11.3		04.4	170	38.0		18.8	230	06.1		18.4						
9	219	45.0	357	45.7		49.3	325	11.8		04.7	185	40.6		18.8	245	08.4		18.3						
10	234	47.5	12	45.3		50.2	340	12.3		04.9	200	43.2		18.7	260	10.7		18.2						
11	249	49.9	27	44.8	-13	51.1	355	12.8	-23	05.1	215	45.8	+12	18.7	275	13.0	-12	18.2						
12	264	52.4	42	44.3	-13	52.0	10	13.3	-23	05.3	230	48.4	+12	18.7	290	15.3	-12	18.1						
13	279	54.9	57	43.8		52.9	25	13.8		05.5	245	51.0		18.7	305	17.6		18.0						
14	294	57.3	72	43.4		53.8	40	14.3		05.7	260	53.6		18.6	320	19.9		18.0						
15	309	59.8	87	42.9		54.7	55	14.8		06.0	275	56.2		18.6	335	22.2		17.9						
16	325	02.3	102	42.4		55.6	70	15.3		06.2	290	58.8		18.6	350	24.5		17.8						
17	340	04.7	117	41.9	-13	56.5	85	15.8	-23	06.4	306	01.4	+12	18.5	5	26.8	-12	17.8						
18	355	07.2	132	41.5	-13	57.4	100	16.3	-23	06.6	321	03.9	+12	18.5	20	29.1	-12	17.7						
19	10	09.7	147	41.0		58.3	115	16.8		06.8	336	06.5		18.5	35	31.4		17.6						
20	25	12.1	162	40.5	-13	59.2	130	17.2		07.0	351	09.1		18.5	50	33.7		17.6						
21	40	14.6	177	40.0	-14	00.1	145	17.7		07.2	6	11.7		18.4	65	36.0		17.5						
22	55	17.1	192	39.6		01.0	160	18.2		07.5	21	14.3		18.4	80	38.3		17.4						
23	70	19.5	207	39.1		01.9	175	18.7		07.7	36	16.9		18.4	95	40.6		17.4						
24	85	22.0	222	38.6	-14	02.8	190	19.2	-23	07.9	51	19.5	+12	18.3	110	42.9	-12	17.3						
Dif	—		-5				+5				+26				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 56.0 ^m				Edad: 4.0 ^d SD: 16/2 PMG: 16 ^h 22 ^m														
	hG ☉		Dec		hG ☾		Dif			Dec			Dif		Náutico	Civil	Hora	Rº	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	
0	181	04.2	-23	20.1	123	22.9	-19	46.6	60 N	7	04	8	01	8	59	12	23	1	20
1	196	03.9		20.2	137	49.7		34.0	58	6	57	7	50		41	12	6		48
2	211	03.6		20.3	152	16.6		21.2	56		50		39	27	12	03	9	20	57
3	226	03.3		20.4	166	43.6	-19	08.4	54		44		30	14	11	54	13	21	04
4	241	03.0		20.5	181	10.6	-18	55.4	52		38		22	8	03		47	15	11
5	256	02.7	-23	20.6	195	37.8	-18	42.3	50	6	33	7	15	7	53	11	40	18	21
6	271	02.4	-23	20.7	210	05.1	-18	29.2	45	6	21	6	59	7	32	11	25	24	21
7	286	02.1		20.8	224	32.5		15.9	40		11		45	16	12	29		41	74
8	301	01.8		20.9	238	59.9	-18	02.5	35	6	02		33	7	02	11	02	32	50
9	316	01.5		21.0	253	27.5	-17	49.0	30	5	53		23	6	49	10	53	36	21
10	331	01.2		21.1	267	55.2		35.4	20		37	6	04		28	37	41		22
11	346	00.9	-23	21.1	282	22.9	-17	21.7	10 N	5	20	5	47	6	10	10	23	46	22
12	1	00.6	-23	21.2	296	50.7	-17	07.9	0	5	03	5	30	5	52	10	09	52	22
13	16	00.3		21.3	311	18.7	-16	54.1	10 S	4	45	5	12		35	9	56	56	45
14	31	00.0		21.4	325	46.7		40.1	20	4	22	4	51	5	16	42	61		22
15	45	59.7		21.5	340	14.8		26.0	30	3	53		26	4	54	25	68		23
16	60	59.4		21.6	354	43.0	-16	11.8	35		34	4	11		41	16	71		17
17	75	59.1	-23	21.7	9	11.3	-15	57.6	40	3	11	3	53	4	26	9	05	75	23
18	90	58.7	-23	21.8	23	39.7	-15	43.3	45	2	41	3	30	4	08	8	52	80	23
19	105	58.4		21.9	38	08.2		28.9	50	1	56	3	01	3	45	36	86		47
20	120	58.1		21.9	52	36.8	-15	14.4	52	1	28	2	46	35	28	90		53	14
21	135	57.8		22.0	67	05.4	-14	59.8	54	0	43		28	22	20	93		23	59
22	150	57.5		22.1	81	34.2		45.1	56	**	**	2	06	3	08	11	96	**	**
23	165	57.2		22.2	96	03.0		30.4	58	**	**	1	36	2	51	8	00	101	0
24	180	56.9	-23	22.3	110	31.9	-14	15.6	60 S	**	**	0	47	2	31	7	47	107	0

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 18 ^h 15.5 ^m		Mag: -4.1 PMG: 9 ^h 10 ^m		Mag: +1.4 PMG: 11 ^h 18 ^m		Mag: -2.7 PMG: 20 ^h 31 ^m		Mag: +0.9 PMG: 16 ^h 35 ^m	
	hG ♂		hG ♀		hG ♂		hG ♀		hG ♀	
h	°	'	°	'	°	'	°	'	°	'
0	85	22.0	222	38.6	-14	02.8	190	19.2	-23	07.9
1	100	24.4	237	38.1		03.6	205	19.7		08.1
2	115	26.9	252	37.6		04.5	220	20.2		08.3
3	130	29.4	267	37.2		05.4	235	20.7		08.5
4	145	31.8	282	36.7		06.3	250	21.2		08.7
5	160	34.3	297	36.2	-14	07.2	265	21.7	-23	08.9
6	175	36.8	312	35.7	-14	08.1	280	22.2	-23	09.2
7	190	39.2	327	35.2		09.0	295	22.7		09.4
8	205	41.7	342	34.8		09.9	310	23.2		09.6
9	220	44.2	357	34.3		10.8	325	23.6		09.8
10	235	46.6	12	33.8		11.7	340	24.1		10.0
11	250	49.1	27	33.3	-14	12.6	355	24.6	-23	10.2
12	265	51.5	42	32.8	-14	13.5	10	25.1	-23	10.4
13	280	54.0	57	32.3		14.3	25	25.6		10.6
14	295	56.5	72	31.8		15.2	40	26.1		10.8
15	310	58.9	87	31.4		16.1	55	26.6		11.0
16	326	01.4	102	30.9		17.0	70	27.1		11.2
17	341	03.9	117	30.4	-14	17.9	85	27.6	-23	11.4
18	356	06.3	132	29.9	-14	18.8	100	28.1	-23	11.6
19	11	08.8	147	29.4		19.7	115	28.5		11.8
20	26	11.3	162	28.9		20.5	130	29.0		12.0
21	41	13.7	177	28.4		21.4	145	29.5		12.3
22	56	16.2	192	27.9		22.3	160	30.0		12.5
23	71	18.7	207	27.5		23.2	175	30.5		12.7
24	86	21.1	222	27.0	-14	24.1	190	31.0	-23	12.9
Dif	—		-5		-9		+5		-2	

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UT	SOL		LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna					
	SD: 16/3 PMG: 11 ^h 56.5 ^m		Edad: 5.0 ^d SD: 16/2 PMG: 17 ^h 13 ^m PHE { 4 ^h : 59/5 12 ^h : 59/4 20 ^h : 59/3 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	56.9	-23	22.3	110	31.9	100	-14	15.6	14 53	15 51	16 48	12 24	0	22 22	99		
1	195	56.6		22.3	125	00.9	100	-14	00.7	15 11	16 02	16 55	18 3		27 95			
2	210	56.3		22.4	139	29.9	100	-13	45.7	25	13	17 02	12 7		31 92			
3	225	56.0		22.5	153	59.1	102		30.7	38	22	08	07 10		35 89			
4	240	55.7		22.6	168	28.3	102		15.6	49	30	14	12 02	13	39 85			
5	255	55.4	-23	22.7	182	57.6	103	-13	00.4	15 59	16 37	17 19	11 58	15	22 42	83		
6	270	55.1	-23	22.7	197	27.0	104	-12	45.2	16 20	16 54	17 31	11 49	21	22 49	77		
7	285	54.8		22.8	211	56.5	105		29.9	36	17 07	41	41 25		22 55	72		
8	300	54.5		22.9	226	26.0	105	-12	14.5	16 51	19	51	34 30		23 00	68		
9	315	54.1		23.0	240	55.6	106	-11	59.1	17 03	29	17 59	29 32		04 65			
10	330	53.8		23.0	255	25.3	107		43.6	24	17 48	18 16	18 39		12 58			
11	345	53.5	-23	23.1	269	55.1	108	-11	28.1	17 43	18 06	18 32	11 09	44	23 18	53		
12	0	53.2	-23	23.2	284	24.9	108	-11	12.5	18 00	18 23	18 49	11 01	49	23 24	48		
13	15	52.9		23.3	298	54.8	109	-10	56.8	18	18 41	19 08	10 52	54	30 43			
14	30	52.6		23.3	313	24.8	110		41.1	37	19 01	19 31	43 59		37 37			
15	45	52.3		23.4	327	54.8	110		25.4	18 59	26	20 00	33 65		44 31			
16	60	52.0		23.5	342	24.9	111	-10	09.6	19 12	19 42	18	27 69		48 28			
17	75	51.7	-23	23.5	356	55.1	112	-9	53.8	19 27	20 00	20 41	10 20	73	23 52	25		
18	90	51.4	-23	23.6	11	25.3	112	-9	37.9	19 45	20 22	21 12	10 12	78	23 58	20		
19	105	51.1		23.7	25	55.6	113		21.9	20 07	20 52	21 58	10 02	84	** ** *	**		
20	120	50.8		23.7	40	25.9	113	-9	05.9	20 18	21 07	22 25	9 58	86	** ** *	**		
21	135	50.5		23.8	54	56.3	114	-8	49.9	31	25	23 12	53 89		** ** *	**		
22	150	50.1		23.9	69	26.8	115		33.9	20 45	21 47	** ** *	47 93		0 05	8		
23	165	49.8		23.9	83	57.3	115		17.8	21 02	22 17	** ** *	41 96		13 4			
24	180	49.5	-23	24.0	98	27.9	116	-8	01.6	21 22	23 08	** ** *	9 34	101	0 21	0		
UT	ARIES PMG 18 ^h 11.6 ^m		VENUS Mag: -4.1 PMG: 9 ^h 11 ^m		MARTE Mag: +1.4 PMG: 11 ^h 18 ^m		JÚPITER Mag: -2.7 PMG: 20 ^h 27 ^m		SATURNO Mag: +0.9 PMG: 16 ^h 31 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /		° /		° /		° /									
0	86	21.1	222	27.0	-14	24.1	190	31.0	-23	12.9	52	21.4	+12	17.7	111	38.0	-12	15.7
1	101	23.6	237	26.5		25.0	205	31.5		13.1	67	24.0		17.7	126	40.3		15.6
2	116	26.0	252	26.0		25.9	220	32.0		13.3	82	26.6		17.6	141	42.6		15.6
3	131	28.5	267	25.5		26.7	235	32.5		13.5	97	29.1		17.6	156	44.9		15.5
4	146	31.0	282	25.0		27.6	250	32.9		13.7	112	31.7		17.6	171	47.2		15.4
5	161	33.4	297	24.5	-14	28.5	265	33.4	-23	13.9	127	34.3	+12	17.6	186	49.5	-12	15.4
6	176	35.9	312	24.0	-14	29.4	280	33.9	-23	14.1	142	36.9	+12	17.5	201	51.8	-12	15.3
7	191	38.4	327	23.5		30.3	295	34.4		14.3	157	39.4		17.5	216	54.1		15.2
8	206	40.8	342	23.0		31.1	310	34.9		14.5	172	42.0		17.5	231	56.4		15.2
9	221	43.3	357	22.5		32.0	325	35.4		14.7	187	44.6		17.5	246	58.7		15.1
10	236	45.8	12	22.0		32.9	340	35.9		14.9	202	47.2		17.4	262	01.0		15.0
11	251	48.2	27	21.5	-14	33.8	355	36.4	-23	15.1	217	49.7	+12	17.4	277	03.3	-12	15.0
12	266	50.7	42	21.0	-14	34.6	10	36.8	-23	15.3	232	52.3	+12	17.4	292	05.6	-12	14.9
13	281	53.2	57	20.5		35.5	25	37.3		15.5	247	54.9		17.4	307	07.9		14.8
14	296	55.6	72	20.0		36.4	40	37.8		15.7	262	57.5		17.3	322	10.2		14.8
15	311	58.1	87	19.5		37.3	55	38.3		15.9	278	00.0		17.3	337	12.5		14.7
16	327	00.5	102	19.0		38.1	70	38.8		16.1	293	02.6		17.3	352	14.8		14.6
17	342	03.0	117	18.5	-14	39.0	85	39.3	-23	16.2	308	05.2	+12	17.3	7	17.1	-12	14.6
18	357	05.5	132	18.0	-14	39.9	100	39.8	-23	16.4	323	07.8	+12	17.2	22	19.3	-12	14.5
19	12	07.9	147	17.5		40.8	115	40.2		16.6	338	10.3		17.2	37	21.6		14.4
20	27	10.4	162	17.0		41.6	130	40.7		16.8	353	12.9		17.2	52	23.9		14.4
21	42	12.9	177	16.5		42.5	145	41.2		17.0	8	15.5		17.2	67	26.2		14.3
22	57	15.3	192	16.0		43.4	160	41.7		17.2	23	18.0		17.2	82	28.5		14.2
23	72	17.8	207	15.5		44.3	175	42.2		17.4	38	20.6		17.1	97	30.8		14.1
24	87	20.3	222	15.0	-14	45.1	190	42.7	-23	17.6	53	23.2	+12	17.1	112	33.1	-12	14.1
Dif	—		-5		-9		+5		-2		+26		0		+23		+	

UT	SOL			LUNA					Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna			Puesta de Luna			
	SD: 16'3 PMG: 11 ^h 56.9 ^m			Edad: 6.0 ^d SD: 16'2 PMG: 18 ^h 01 ^m PHE { 4 ^h : 59'3 12 ^h : 59'2 20 ^h : 59'1 R°: 47 ^m															
	hG ☉	Dec		hG ☾	Dif	Dec	Dif			Náutico	Civil		Hora	R°	Hora	R°	Hora	R°	
h	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	m	h	m	m
0	180	49.5	-23	24.0	98	27.9	-8	01.6	60 N	7	06	8	03	9	00	12	24	**	**
1	195	49.2		24.0	112	58.5	-7	45.5	58	6	58	7	51	8	43	21	3	**	**
2	210	48.9		24.1	127	29.2		29.3	56		52		41	28	19	6	**	**	**
3	225	48.6		24.2	142	00.0	-7	13.0	54		45		32	16	17	9	**	**	**
4	240	48.3		24.2	156	30.7	-6	56.8	52		40		23	8	04	15	12	**	**
5	255	48.0	-23	24.3	171	01.6	-6	40.5	50	6	34	7	16	7	55	12	13	14	**
6	270	47.7	-23	24.3	185	32.5	-6	24.2	45	6	23	7	00	7	34	12	10	19	**
7	285	47.4		24.4	200	03.4	-6	07.8	40		12	6	46	17	06	24	**	**	**
8	300	47.1		24.4	214	34.4	-5	51.4	35	6	03		35	7	03	04	27	**	**
9	315	46.8		24.5	229	05.4		35.1	30	5	54		24	6	50	12	01	31	**
10	330	46.4		24.6	243	36.4		18.6	20		38	6	05	29	11	57	37	**	**
11	345	46.1	-23	24.6	258	07.5	-5	02.2	10 N	5	21	5	48	6	11	11	53	42	**
12	0	45.8	-23	24.7	272	38.7	-4	45.8	0	5	04	5	31	5	53	11	50	47	**
13	15	45.5		24.7	287	09.8		29.3	10 S	4	45	5	13		36	46	52	**	**
14	30	45.2		24.8	301	41.1	-4	12.8	20	4	23	4	52	5	17	42	58	**	**
15	45	44.9		24.8	316	12.3	-3	56.3	30	3	54		27	4	55	38	64	**	**
16	60	44.6		24.9	330	43.6		39.8	35		35	4	12		42	36	67	**	**
17	75	44.3	-23	24.9	345	14.9	-3	23.3	40	3	12	3	54	4	26	11	33	71	**
18	90	44.0	-23	25.0	359	46.2	-3	06.7	45	2	41	3	31	4	08	11	30	76	**
19	105	43.7		25.0	14	17.6	-2	50.2	50	1	56	3	01	3	46	26	81	0	04
20	120	43.4		25.0	28	49.0		33.6	52	1	28	2	46		35	24	84	07	15
21	135	43.1		25.1	43	20.4		17.1	54	0	41		28	23	22	87	10	9	
22	150	42.7		25.1	57	51.9	-2	00.5	56	**	**	2	06	3	08	20	90	13	7
23	165	42.4		25.2	72	23.4	-1	44.0	58	**	**	1	36	2	52	17	94	17	4
24	180	42.1	-23	25.2	86	54.9	-1	27.4	60 S	**	**	0	46	2	31	11	15	97	0

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO		
	PMG 18 ^h 07.7 ^m		Mag: -4.1 PMG: 9 ^h 11 ^m			Mag: +1.4 PMG: 11 ^h 17 ^m			Mag: -2.7 PMG: 20 ^h 23 ^m			Mag: +0.9 PMG: 16 ^h 27 ^m		
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec	
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'
0	87	20.3	222	15.0	-14	45.1	190	42.7	-23	17.6	53	23.2	+12	17.1
1	102	22.7	237	14.5		46.0	205	43.1		17.8	68	25.7		17.1
2	117	25.2	252	14.0		46.9	220	43.6		18.0	83	28.3		17.1
3	132	27.6	267	13.5		47.7	235	44.1		18.2	98	30.9		17.0
4	147	30.1	282	13.0		48.6	250	44.6		18.4	113	33.4		17.0
5	162	32.6	297	12.5	-14	49.5	265	45.1	-23	18.6	128	36.0	+12	17.0
6	177	35.0	312	12.0	-14	50.3	280	45.6	-23	18.8	143	38.6	+12	17.0
7	192	37.5	327	11.5		51.2	295	46.0		18.9	158	41.1		17.0
8	207	40.0	342	11.0		52.1	310	46.5		19.1	173	43.7		16.9
9	222	42.4	357	10.5		52.9	325	47.0		19.3	188	46.3		16.9
10	237	44.9	12	10.0		53.8	340	47.5		19.5	203	48.8		16.9
11	252	47.4	27	09.5	-14	54.7	355	48.0	-23	19.7	218	51.4	+12	16.9
12	267	49.8	42	08.9	-14	55.5	10	48.5	-23	19.9	233	54.0	+12	16.8
13	282	52.3	57	08.4		56.4	25	48.9		20.1	248	56.5		16.8
14	297	54.8	72	07.9		57.3	40	49.4		20.3	263	59.1		16.8
15	312	57.2	87	07.4		58.1	55	49.9		20.5	279	01.7		16.8
16	327	59.7	102	06.9		59.0	70	50.4		20.6	294	04.2		16.8
17	343	02.1	117	06.4	-14	59.8	85	50.9	-23	20.8	309	06.8	+12	16.7
18	358	04.6	132	05.9	-15	00.7	100	51.3	-23	21.0	324	09.4	+12	16.7
19	13	07.1	147	05.4		01.6	115	51.8		21.2	339	11.9		16.7
20	28	09.5	162	04.8		02.4	130	52.3		21.4	354	14.5		16.7
21	43	12.0	177	04.3		03.3	145	52.8		21.6	9	17.1		16.7
22	58	14.5	192	03.8		04.1	160	53.3		21.8	24	19.6		16.6
23	73	16.9	207	03.3		05.0	175	53.7		21.9	39	22.2		16.6
24	88	19.4	222	02.8	-15	05.9	190	54.2	-23	22.1	54	24.7	+12	16.6
Dif	—		-5		-9		+5		-2		+26		0	
													+23	
													+	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG: 11 ^h 57.4 ^m				Edad: 7.0 ^d SD: 16'1 PMG: 18 ^h 48 ^m PHE { 4 ^h : 59'0 12 ^h : 58'9 20 ^h : 58'7 Rº: 47 ^m													
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº
h	°	'	°	'	°	'	°	'	°	'	°	h m	h m	h m	h m m	h m m	h m m	
0	180	42.1	-23	25.2	86	54.9		-1	27.4	60 N	14 54	15 51	16 48	12 23	0	0 01	97	
1	195	41.8		25.3	101	26.4		-1	10.9	58	15 11	16 03	16 56	24	4	02	93	
2	210	41.5		25.3	115	57.9		-0	54.3	56	26	13	17 03	25	7	03	90	
3	225	41.2		25.3	130	29.5			37.7	54	39	23	09	26	9	04	86	
4	240	40.9		25.4	145	01.1			21.2	52	15 50	31	15	27	12	04	84	
5	255	40.6	-23	25.4	159	32.6		-0	04.6	50	16 00	16 38	17 20	12 27	15	0 05	81	
6	270	40.3	-23	25.5	174	04.3		+0	11.9	45	16 20	16 54	17 32	12 29	19	0 06	76	
7	285	40.0		25.5	188	35.9			28.4	40	37	17 08	42	30	24	07	71	
8	300	39.7		25.5	203	07.5		+0	44.9	35	16 52	20	17 51	31	28	08	67	
9	315	39.3		25.6	217	39.1		+1	01.5	30	17 04	30	18 00	32	31	09	63	
10	330	39.0		25.6	232	10.8			18.0	20	25	17 49	17	34	37	10	57	
11	345	38.7	-23	25.6	246	42.4		+1	34.4	10 N	17 44	18 07	18 33	12 35	42	0 11	52	
12	0	38.4	-23	25.7	261	14.1		+1	50.9	0	18 01	18 24	18 50	12 37	47	0 12	47	
13	15	38.1		25.7	275	45.7		+2	07.4	10 S	19	18 42	19 09	38	52	13	42	
14	30	37.8		25.7	290	17.4			23.8	20	18 38	19 02	19 32	40	57	14	37	
15	45	37.5		25.8	304	49.1			40.2	30	19 00	27	20 01	42	63	15	31	
16	60	37.2		25.8	319	20.7		+2	56.6	35	13	19 43	19	43	67	16	27	
17	75	36.9	-23	25.8	333	52.4		+3	13.0	40	19 28	20 01	20 43	12 44	71	0 17	23	
18	90	36.6	-23	25.8	348	24.1		+3	29.3	45	19 46	20 24	21 13	12 46	75	0 18	19	
19	105	36.2		25.9	2	55.7		+3	45.7	50	20 09	20 53	21 59	47	81	19	14	
20	120	35.9		25.9	17	27.4		+4	02.0	52	20	21 08	22 27	48	84	19	12	
21	135	35.6		25.9	31	59.0			18.2	54	32	27	23 14	49	87	19	10	
22	150	35.3		25.9	46	30.7			34.5	56	20 46	21 49	** **	50	90	20	6	
23	165	35.0		26.0	61	02.3		+4	50.7	58	21 03	22 19	** **	51	94	21	3	
24	180	34.7	-23	26.0	75	33.9		+5	06.9	60 S	21 24	23 10	** **	12 52	98	0 21	0	
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 18 ^h 03.7 ^m			Mag: -4.1 PMG: 9 ^h 12 ^m			Mag: +1.4 PMG: 11 ^h 16 ^m			Mag: -2.7 PMG: 20 ^h 19 ^m			Mag: +0.9 PMG: 16 ^h 24 ^m					
	hG ♈	Dec		hG ♀	Dec		hG ♂	Dec		hG ♎	Dec		hG ♏	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°			
0	88	19.4	222	02.8	-15	05.9	190	54.2	-23	22.1	54	24.7	+12	16.6	113	28.1		
1	103	21.9	237	02.3		06.7	205	54.7		22.3	69	27.3		16.6	128	30.4		
2	118	24.3	252	01.8		07.6	220	55.2		22.5	84	29.9		16.6	143	32.7		
3	133	26.8	267	01.2		08.4	235	55.7		22.7	99	32.4		16.5	158	35.0		
4	148	29.3	282	00.7		09.3	250	56.1		22.9	114	35.0		16.5	173	37.3		
5	163	31.7	297	00.2	-15	10.1	265	56.6	-23	23.0	129	37.5	+12	16.5	188	39.5		
6	178	34.2	311	59.7	-15	11.0	280	57.1	-23	23.2	144	40.1	+12	16.5	203	41.8		
7	193	36.6	326	59.2		11.8	295	57.6		23.4	159	42.7		16.5	218	44.1		
8	208	39.1	341	58.6		12.7	310	58.1		23.6	174	45.2		16.4	233	46.4		
9	223	41.6	356	58.1		13.6	325	58.5		23.8	189	47.8		16.4	248	48.7		
10	238	44.0	11	57.6		14.4	340	59.0		23.9	204	50.3		16.4	263	51.0		
11	253	46.5	26	57.1	-15	15.3	355	59.5	-23	24.1	219	52.9	+12	16.4	278	53.3		
12	268	49.0	41	56.6	-15	16.1	11	00.0	-23	24.3	234	55.4	+12	16.4	293	55.6		
13	283	51.4	56	56.0		17.0	26	00.4		24.5	249	58.0		16.3	308	57.9		
14	298	53.9	71	55.5		17.8	41	00.9		24.6	265	00.6		16.3	324	00.1		
15	313	56.4	86	55.0		18.7	56	01.4		24.8	280	03.1		16.3	339	02.4		
16	328	58.8	101	54.5		19.5	71	01.9		25.0	295	05.7		16.3	354	04.7		
17	344	01.3	116	53.9	-15	20.4	86	02.3	-23	25.2	310	08.2	+12	16.3	9	07.0		
18	359	03.7	131	53.4	-15	21.2	101	02.8	-23	25.4	325	10.8	+12	16.3	24	09.3		
19	14	06.2	146	52.9		22.0	116	03.3		25.5	340	13.3		16.2	39	11.6		
20	29	08.7	161	52.4		22.9	131	03.8		25.7	355	15.9		16.2	54	13.9		
21	44	11.1	176	51.8		23.7	146	04.3		25.9	10	18.4		16.2	69	16.2		
22	59	13.6	191	51.3		24.6	161	04.7		26.1	25	21.0		16.2	84	18.4		
23	74	16.1	206	50.8		25.4	176	05.2		26.2	40	23.5		16.2	99	20.7		
24	89	18.5	221	50.2	-15	26.3	191	05.7	-23	26.4	55	26.1	+12	16.2	114	23.0		
Dif	—			-5			+5			-2			+26			0		

UT	SOL				LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna		
	SD: 16'3 PMG: 11 ^h 57.9 ^m				Edad: 8.0 ^d SD: 16'0 PMG: 19 ^h 35 ^m														
	hG ☉		Dec		hG ☾		Dif		Dec			Dif			Náutico	Civil	Hora	R°	Hora
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m
0	180	34.7	-23	26.0	75	33.9	+5	06.9	161	58	60 N	7 07	8 04	9 02	12 23	0	1 38	99	
1	195	34.4		26.0	90	05.5		23.0	162	56		7 00	7 52	8 44	28	4	35	94	
2	210	34.1		26.0	104	37.1		39.2	160	54		6 53	42	29	32	8	33	90	
3	225	33.8		26.1	119	08.7	+5	55.2	161	52		47	33	17	35	11	30	87	
4	240	33.5		26.1	133	40.3	+6	11.3	161	50		41	25	8 06	39	13	28	84	
5	255	33.2	-23	26.1	148	11.8	+6	27.3	160	45		6 36	7 17	7 56	12 42	16	1 26	81	
6	270	32.8	-23	26.1	162	43.4	+6	43.3	160	40		6 24	7 01	7 35	12 48	22	1 22	75	
7	285	32.5		26.1	177	14.9	+6	59.2	159	35		13	6 47	18	54	26	18	71	
8	300	32.2		26.1	191	46.4	+7	15.1	159	30		6 04	36	7 04	12 59	29	15	67	
9	315	31.9		26.2	206	17.9		30.9	158	20		5 55	25	6 51	13 03	33	12	63	
10	330	31.6		26.2	220	49.3	+7	46.8	159	10 N		39	6 06	30	11	38	07	58	
11	345	31.3	-23	26.2	235	20.7	+8	02.5	157	0		5 22	5 49	6 12	13 17	44	1 03	52	
12	0	31.0	-23	26.2	249	52.1	+8	18.2	157	10 S		5 05	5 32	5 54	13 24	48	0 59	47	
13	15	30.7		26.2	264	23.5		33.9	157	20		4 46	5 13	5 37	30	53	55	43	
14	30	30.4		26.2	278	54.8	+8	49.5	156	30		4 24	4 53	5 18	37	58	51	37	
15	45	30.1		26.2	293	26.2	+9	05.1	156	35		3 55	28	4 55	45	64	46	32	
16	60	29.7		26.2	307	57.4		20.6	155	40		36	4 13	42	50	67	43	29	
17	75	29.4	-23	26.3	322	28.7	+9	36.0	154	45		3 13	3 54	4 27	13 55	71	0 40	25	
18	90	29.1	-23	26.3	336	59.9	+9	51.4	154	50		2 42	3 32	4 09	14 01	76	0 37	20	
19	105	28.8		26.3	351	31.1	+10	06.8	154	52		1 56	3 02	3 47	08	82	33	15	
20	120	28.5		26.3	6	02.3		22.1	153	54		1 28	2 47	36	12	84	31	12	
21	135	28.2		26.3	20	33.4		37.3	152	56		0 41	29	23	16	87	29	10	
22	150	27.9		26.3	35	04.5	+10	52.5	152	58	** **	2 06	3 09	20	91	26	7		
23	165	27.6		26.3	49	35.5	+11	07.6	151	60 S	** **	1 36	2 52	25	94	24	3		
24	180	27.3	-23	26.3	64	06.5	+11	22.7	151		** **	0 45	2 32	14	30	99	0 21	0	

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 ^h 59.8 ^m		Mag: -4.1 PMG: 9 ^h 13 ^m		Mag: +1.4 PMG: 11 ^h 15 ^m		Mag: -2.7 PMG: 20 ^h 15 ^m		Mag: +0.9 PMG: 16 ^h 20 ^m	
	hG ♈		hG ♀		hG ♂		hG ♃		hG ♄	
h	°	'	°	'	°	'	°	'	°	'
0	89	18.5	221	50.2	-15	26.3	191	05.7	-23	26.4
1	104	21.0	236	49.7		27.1	206	06.2		26.6
2	119	23.5	251	49.2		28.0	221	06.6		26.8
3	134	25.9	266	48.7		28.8	236	07.1		26.9
4	149	28.4	281	48.1		29.6	251	07.6		27.1
5	164	30.9	296	47.6	-15	30.5	266	08.1	-23	27.3
6	179	33.3	311	47.1	-15	31.3	281	08.5	-23	27.4
7	194	35.8	326	46.5		32.2	296	09.0		27.6
8	209	38.2	341	46.0		33.0	311	09.5		27.8
9	224	40.7	356	45.5		33.8	326	10.0		27.9
10	239	43.2	11	44.9		34.7	341	10.4		28.1
11	254	45.6	26	44.4	-15	35.5	356	10.9	-23	28.3
12	269	48.1	41	43.9	-15	36.4	11	11.4	-23	28.5
13	284	50.6	56	43.3		37.2	26	11.8		28.6
14	299	53.0	71	42.8		38.0	41	12.3		28.8
15	314	55.5	86	42.3		38.9	56	12.8		29.0
16	329	58.0	101	41.7		39.7	71	13.3		29.1
17	345	00.4	116	41.2	-15	40.5	86	13.7	-23	29.3
18	0	02.9	131	40.6	-15	41.4	101	14.2	-23	29.5
19	15	05.4	146	40.1		42.2	116	14.7		29.6
20	30	07.8	161	39.6		43.0	131	15.2		29.8
21	45	10.3	176	39.0		43.9	146	15.6		30.0
22	60	12.7	191	38.5		44.7	161	16.1		30.1
23	75	15.2	206	37.9		45.5	176	16.6		30.3
24	90	17.7	221	37.4	-15	46.4	191	17.0	-23	30.5
Dif	—		-5		-8		+5		-2	
							+25		0	
									+23	
									+	

UT	SOL				LUNA								Latitud	Puesta de Sol	Fin del crepúsculo				Salida de Luna			Puesta de Luna				
	SD: 16 ^h 3 PMG: 11 ^h 58.4 ^m				Edad: 9.0 ^d PHE { 4 ^h : 58'2 12 ^h : 58'1 20 ^h : 58'0 PMG: 20 ^h 24 ^m R°: 51 ^m																					
	hG ☉		Dec		hG ☾		Dif		Dec		Dif				Civil		Náutico		Hora R°		Hora R°					
h	°	'	°	'	°	'	°	'	°	'	°	'	h	m	h	m	h	m	m	h	m	m				
0	180	27.3	-23	26.3	64	06.5	+11	22.7	150			60 N	14	55	15	52	16	49	12	23	2	3	17	100		
1	195	26.9		26.3	78	37.5		37.7	149			58	15	12	16	04	16	57		32	6		09	96		
2	210	26.6		26.3	93	08.4	+11	52.6	148			56		27	14	17	04		40	10		3	03	91		
3	225	26.3		26.3	107	39.3	+12	07.4	148			54		40	23		10		46	14		2	57	88		
4	240	26.0		26.3	122	10.1		22.2	148			52	15	51	32		15		52	17			52	85		
5	255	25.7	-23	26.3	136	40.9	+12	36.9	147			50	16	01	16	39	17	21	12	58	19		2	47	82	
6	270	25.4	-23	26.3	151	11.7	+12	51.6	147			45	16	21	16	55	17	33	13	10	25		2	37	76	
7	285	25.1		26.3	165	42.4	+13	06.2	146			40		38	17	09	43		20	29			29	71		
8	300	24.8		26.3	180	13.1		20.7	145			35	16	52	21	17	52		28	33			22	67		
9	315	24.5		26.3	194	43.7		35.1	144			30	17	05	31	18	01		36	36			15	65		
10	330	24.2		26.3	209	14.2	+13	49.5	144			20		26	17	50	18		13	49	42		2	05	58	
11	345	23.8	-23	26.3	223	44.7	+14	03.8	143			10 N	17	45	18	08	18	34	14	01	46		1	55	54	
12	0	23.5	-23	26.3	238	15.2	+14	18.0	142			0	18	02	18	25	18	51	14	12	50		1	46	50	
13	15	23.2		26.3	252	45.6		32.1	141			10 S		20	18	43	19	10		23	55			38	44	
14	30	22.9		26.3	267	16.0	+14	46.1	140			20	18	39	19	03	19	33		35	59			28	40	
15	45	22.6		26.2	281	46.3	+15	00.1	140			30	19	01	28	20	02		49	64				18	34	
16	60	22.3		26.2	296	16.6		14.0	139			35		14	19	44		20	14	57	68			12	31	
17	75	22.0	-23	26.2	310	46.8	+15	27.8	138			40	19	29	20	02	20	44	15	06	72		1	05	27	
18	90	21.7	-23	26.2	325	16.9	+15	41.5	137			45	19	47	20	25	21	14	15	17	76		0	57	23	
19	105	21.4		26.2	339	47.0	+15	55.1	136			50	20	10	20	54	22	00		30	82			48	17	
20	120	21.1		26.2	354	17.0	+16	08.7	136			52		21	21	10	22	28		36	85			43	15	
21	135	20.7		26.2	8	47.0		22.1	134			54		33	28		23	15		43	88			39	12	
22	150	20.4		26.2	23	16.9		35.5	134			56	20	47	21	50	** **			51	92			33	9	
23	165	20.1		26.1	37	46.8	+16	48.7	132			58	21	04	22	20	** **			15	59	97			27	5
24	180	19.8	-23	26.1	52	16.6	+17	01.9	132			60 S	21	25	23	11	** **			16	09	103		0	21	0
UT	ARIES				VENUS				MARTE				JÚPITER				SATURNO									
	PMG: 17 ^h 55.9 ^m				Mag: -4.1 PMG: 9 ^h 14 ^m				Mag: +1.4 PMG: 11 ^h 15 ^m				Mag: -2.7 PMG: 20 ^h 11 ^m				Mag: +0.9 PMG: 16 ^h 16 ^m									
	hG ♈		hG ♀		Dec		hG ♂		Dec		hG ♃		Dec		hG ♄		Dec									
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	90	17.7	221	37.4	-15	46.4	191	17.0	-23	30.5	56	27.3	+12	15.8	115	17.9	-12	09.0								
1	105	20.1	236	36.9		47.2	206	17.5		30.6	71	29.8		15.8	130	20.1		08.9								
2	120	22.6	251	36.3		48.0	221	18.0		30.8	86	32.4		15.8	145	22.4		08.9								
3	135	25.1	266	35.8		48.8	236	18.5		30.9	101	34.9		15.7	160	24.7		08.8								
4	150	27.5	281	35.2		49.7	251	18.9		31.1	116	37.4		15.7	175	27.0		08.7								
5	165	30.0	296	34.7	-15	50.5	266	19.4	-23	31.3	131	40.0	+12	15.7	190	29.3	-12	08.6								
6	180	32.5	311	34.1	-15	51.3	281	19.9	-23	31.4	146	42.5	+12	15.7	205	31.6	-12	08.6								
7	195	34.9	326	33.6		52.2	296	20.3		31.6	161	45.1		15.7	220	33.8		08.5								
8	210	37.4	341	33.1		53.0	311	20.8		31.7	176	47.6		15.7	235	36.1		08.4								
9	225	39.8	356	32.5		53.8	326	21.3		31.9	191	50.2		15.7	250	38.4		08.4								
10	240	42.3	11	32.0		54.6	341	21.8		32.1	206	52.7		15.6	265	40.7		08.3								
11	255	44.8	26	31.4	-15	55.5	356	22.2	-23	32.2	221	55.2	+12	15.6	280	43.0	-12	08.2								
12	270	47.2	41	30.9	-15	56.3	11	22.7	-23	32.4	236	57.8	+12	15.6	295	45.3	-12	08.1								
13	285	49.7	56	30.3		57.1	26	23.2		32.5	252	00.3		15.6	310	47.5		08.1								
14	300	52.2	71	29.8		57.9	41	23.6		32.7	267	02.9		15.6	325	49.8		08.0								
15	315	54.6	86	29.2		58.7	56	24.1		32.9	282	05.4		15.6	340	52.1		07.9								
16	330	57.1	101	28.7	-15	59.6	71	24.6		33.0	297	07.9		15.6	355	54.4		07.8								
17	345	59.6	116	28.1	-16	00.4	86	25.0	-23	33.2	312	10.5	+12	15.6	10	56.7	-12	07.8								
18	1	02.0	131	27.6	-16	01.2	101	25.5	-23	33.3	327	13.0	+12	15.5	25	58.9	-12	07.7								
19	16	04.5	146	27.0		02.0	116	26.0		33.5	342	15.6		15.5	41	01.2		07.6								
20	31	07.0	161	26.5		02.8	131	26.4		33.6	357	18.1		15.5	56	03.5		07.6								
21	46	09.4	176	25.9		03.7	146	26.9		33.8	12	20.6		15.5	71	05.8		07.5								
22	61	11.9	191	25.4		04.5	161	27.4		34.0	27	23.2		15.5	86	08.1		07.4								
23	76	14.3	206	24.8		05.3	176	27.8		34.1	42	25.7		15.5	101	10.4		07.3								
24	91	16.8	221	24.3	-16	06.1	191	28.3	-23	34.3	57	28.2	+12	15.5	116	12.6	-12	07.3								
Dif	—		-5		-8		+5		-2		+25		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 58.9 ^m			Edad: 10.0 ^d SD: 15/8 PMG: 21 ^h 15 ^m PHE 4^h: 57/8 12^h: 57/7 20^h: 57/5 R°: 53^m												
	hG ☉	Dec		hG ☾	Dif	Dec	Dif	Náutico		Civil	Hora		R°	Hora	R°	
h	°	'	°	'	°	'	°	'	h	m	h	m	h	m	h	m
0	180	19.8	-23	26.1	52	16.6	+17	01.9	60 N	7 08	8 05	9 03	12 25	5	4 57	104
1	195	19.5		26.1	66	46.4		15.0	58	7 01	7 53	8 45	38	11	45	97
2	210	19.2		26.1	81	16.0		28.0	56	6 54	43	30	12 50	16	34	92
3	225	18.9		26.1	95	45.7		40.9	54	48	34	18	13 00	20	25	88
4	240	18.6		26.0	110	15.2	+17	53.7	52	42	26	8 07	09	23	17	84
5	255	18.3	-23	26.0	124	44.7	+18	06.3	50	6 37	7 18	7 57	13 17	26	4 09	82
6	270	18.0	-23	26.0	139	14.2	+18	18.9	45	6 25	7 02	7 36	13 35	31	3 53	76
7	285	17.6		26.0	153	43.6		31.4	40	14	6 48	19	13 49	35	40	72
8	300	17.3		26.0	168	12.9		43.8	35	6 05	37	7 05	14 01	39	29	68
9	315	17.0		25.9	182	42.2	+18	56.1	30	5 56	26	6 52	12 41		20	65
10	330	16.7		25.9	197	11.4	+19	08.3	20	40	6 07	31	31 45		3 03	60
11	345	16.4	-23	25.9	211	40.5	+19	20.3	10 N	5 23	5 50	6 13	14 47	49	2 49	56
12	0	16.1	-23	25.9	226	09.6	+19	32.3	0	5 06	5 33	5 55	15 02	53	2 36	51
13	15	15.8		25.8	240	38.6		44.1	10 S	4 47	5 14	38	18 56		22	48
14	30	15.5		25.8	255	07.5	+19	55.9	20	4 25	4 54	5 19	34 61		2 08	44
15	45	15.2		25.8	269	36.4	+20	07.5	30	3 56	29	4 56	15 53	65	1 52	39
16	60	14.9		25.7	284	05.2		19.0	35	37	4 14	43	16 05	68	43	35
17	75	14.5	-23	25.7	298	33.9	+20	30.4	40	3 14	3 55	4 28	16 18	71	1 32	32
18	90	14.2	-23	25.7	313	02.6	+20	41.7	45	2 43	3 33	4 10	16 33	75	1 20	28
19	105	13.9		25.7	327	31.2	+20	52.9	50	1 57	3 03	3 48	16 52	81	1 05	22
20	120	13.6		25.6	341	59.8	+21	03.9	52	1 29	2 48	37	17 01	84	0 58	20
21	135	13.3		25.6	356	28.3		14.8	54	0 42	30	24	11 88		51	16
22	150	13.0		25.6	10	56.7		25.6	56	** **	2 07	3 10	23 92		42	12
23	165	12.7		25.5	25	25.1		36.3	58	** **	1 37	2 53	36 98		32	8
24	180	12.4	-23	25.5	39	53.4	+21	46.9	60 S	** **	0 46	2 33	17 52	105	0 21	3

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 51.9 ^m		Mag: -4.1 PMG: 9 ^h 15 ^m		Mag: +1.4 PMG: 11 ^h 14 ^m		Mag: -2.7 PMG: 20 ^h 07 ^m		Mag: +0.9 PMG: 16 ^h 13 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	91	16.8	221	24.3	-16	06.1	191	28.3	-23	34.3
1	106	19.3	236	23.7		06.9	206	28.8		34.4
2	121	21.7	251	23.1		07.7	221	29.2		34.6
3	136	24.2	266	22.6		08.5	236	29.7		34.7
4	151	26.7	281	22.0		09.4	251	30.2		34.9
5	166	29.1	296	21.5	-16	10.2	266	30.6	-23	35.0
6	181	31.6	311	20.9	-16	11.0	281	31.1	-23	35.2
7	196	34.1	326	20.4		11.8	296	31.6		35.3
8	211	36.5	341	19.8		12.6	311	32.0		35.5
9	226	39.0	356	19.2		13.4	326	32.5		35.6
10	241	41.5	11	18.7		14.2	341	33.0		35.8
11	256	43.9	26	18.1	-16	15.0	356	33.4	-23	35.9
12	271	46.4	41	17.6	-16	15.8	11	33.9	-23	36.1
13	286	48.8	56	17.0		16.6	26	34.4		36.2
14	301	51.3	71	16.4		17.5	41	34.8		36.4
15	316	53.8	86	15.9		18.3	56	35.3		36.5
16	331	56.2	101	15.3		19.1	71	35.8		36.7
17	346	58.7	116	14.8	-16	19.9	86	36.2	-23	36.8
18	2	01.2	131	14.2	-16	20.7	101	36.7	-23	37.0
19	17	03.6	146	13.6		21.5	116	37.2		37.1
20	32	06.1	161	13.1		22.3	131	37.6		37.3
21	47	08.6	176	12.5		23.1	146	38.1		37.4
22	62	11.0	191	11.9		23.9	161	38.6		37.5
23	77	13.5	206	11.4		24.7	176	39.0		37.7
24	92	16.0	221	10.8	-16	25.5	191	39.5	-23	37.8
Dif	—		-6		-8		+5		-1	
									+25	
									0	
									+23	
									+	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna				
	SD: 16 ^h 3 PMG: 11 ^h 59.4 ^m				Edad: 11.0 ^d SD: 15 ^h 6 PMG: 22 ^h 08 ^m PHE { 4 ^h : 57.4 12 ^h : 57.2 20 ^h : 57.1 R°: 56 ^m																
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	R°	Hora	R°			
h	°	/	°	/	°	/		°	/		°	h	m	h	m	h	m	m	h	m	m
0	180	12.4	-23	25.5	39	53.4	92	+21	46.9	104	60 N	14 56	15 54	16 50	12 30	11		6 41	103		
1	195	12.1		25.4	54	21.6	92	+21	57.3	104	58	15 13	16 05	16 58	12 49	20		22	94		
2	210	11.8		25.4	68	49.8	91	+22	07.7	101	56	28	16	17 05	13 06	24		6 06	89		
3	225	11.4		25.4	83	17.9	91		17.8	101	54	41	25	11	20 28	5	53	88			
4	240	11.1		25.3	97	46.0	91		27.9	101	52	15 52	33	17	32 32		41	81			
5	255	10.8	-23	25.3	112	13.9	89	+22	37.8	99	50	16 02	16 40	17 22	13 43	34		5 31	78		
6	270	10.5	-23	25.2	126	41.9	90	+22	47.7	99	45	16 23	16 56	17 34	14 06	38		5 09	74		
7	285	10.2		25.2	141	09.7	88	+22	57.3	96	40	39	17 10	44	24 42		4	52	70		
8	300	09.9		25.2	155	37.5	88	+23	06.9	96	35	16 54	22	17 53	40 44		37	67			
9	315	09.6		25.1	170	05.3	88		16.3	94	30	17 06	32	18 02	14 53	47		25	64		
10	330	09.3		25.1	184	33.0	87		25.6	93	20	27	17 51	19	15 16	50		4 03	61		
11	345	09.0	-23	25.0	199	00.6	86	+23	34.7	91	10 N	17 46	18 09	18 35	15 36	53		3 45	57		
12	0	08.7	-23	25.0	213	28.1	85	+23	43.7	90	0	18 03	18 26	18 52	15 55	55		3 27	54		
13	15	08.3		24.9	227	55.6	85	+23	52.6	89	10 S	21	18 44	19 11	16 14	58		3 10	51		
14	30	08.0		24.9	242	23.1	84	+24	01.3	86	20	18 40	19 04	19 34	35 60		2 52	47			
15	45	07.7		24.8	256	50.5	84		09.9	86	30	19 02	29	20 03	16 58	64		31	43		
16	60	07.4		24.8	271	17.8	83		18.4	85	35	15	19 45	21	17 13	65		18	42		
17	75	07.1	-23	24.7	285	45.1	83	+24	26.7	83	40	19 30	20 03	20 45	17 29	68		2 04	38		
18	90	06.8	-23	24.7	300	12.3	82	+24	34.9	82	45	19 48	20 25	21 15	17 48	71		1 48	34		
19	105	06.5		24.6	314	39.5	82		42.9	80	50	20 10	20 55	22 01	18 13	75		27	29		
20	120	06.2		24.6	329	06.6	81		50.8	79	52	21	21 10	22 29	25 77		18	26			
21	135	05.9		24.5	343	33.7	81	+24	58.5	77	54	34	28	23 15	39 80		1 07	23			
22	150	05.6		24.5	358	00.7	80	+25	06.1	76	56	20 48	21 51	** **	18 55	84		0 54	20		
23	165	05.2		24.4	12	27.6	79		13.6	75	58	21 05	22 20	** **	19 14	89		40	16		
24	180	04.9	-23	24.4	26	54.5	79	+25	20.9	73	60 S	21 25	23 11	** **	19 37	100		0 24	6		

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG 17 ^h 48.0 ^m		Mag: -4.1 PMG: 9 ^h 16 ^m		Mag: +1.4 PMG: 11 ^h 13 ^m		Mag: -2.7 PMG: 20 ^h 03 ^m		Mag: +0.9 PMG: 16 ^h 09 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	/	°	/	°	/	°	/	°	/
0	92	16.0	221	10.8	-16	25.5	191	39.5	-23	37.8
1	107	18.4	236	10.2		26.3	206	39.9		38.0
2	122	20.9	251	09.7		27.1	221	40.4		38.1
3	137	23.3	266	09.1		27.9	236	40.9		38.3
4	152	25.8	281	08.5		28.7	251	41.3		38.4
5	167	28.3	296	08.0	-16	29.5	266	41.8	-23	38.5
6	182	30.7	311	07.4	-16	30.3	281	42.3	-23	38.7
7	197	33.2	326	06.8		31.1	296	42.7		38.8
8	212	35.7	341	06.2		31.9	311	43.2		39.0
9	227	38.1	356	05.7		32.7	326	43.7		39.1
10	242	40.6	11	05.1		33.5	341	44.1		39.3
11	257	43.1	26	04.5	-16	34.2	356	44.6	-23	39.4
12	272	45.5	41	04.0	-16	35.0	11	45.0	-23	39.5
13	287	48.0	56	03.4		35.8	26	45.5		39.7
14	302	50.4	71	02.8		36.6	41	46.0		39.8
15	317	52.9	86	02.2		37.4	56	46.4		39.9
16	332	55.4	101	01.7		38.2	71	46.9		40.1
17	347	57.8	116	01.1	-16	39.0	86	47.3	-23	40.2
18	3	00.3	131	00.5	-16	39.8	101	47.8	-23	40.4
19	18	02.8	145	59.9		40.6	116	48.3		40.5
20	33	05.2	160	59.3		41.4	131	48.7		40.6
21	48	07.7	175	58.8		42.1	146	49.2		40.8
22	63	10.2	190	58.2		42.9	161	49.6		40.9
23	78	12.6	205	57.6		43.7	176	50.1		41.0
24	93	15.1	220	57.0	-16	44.5	191	50.6	-23	41.2
Dif	—		-6		-8		+5		-1	
							+25		0	
									+23	
										+

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna											
	SD: 16'3 PMG: 11 ^h 59.9 ^m			Edad: 12.0 ^d SD: 15'5 PMG: 23 ^h 04 ^m PHE { 4 ^h : 56'9 12 ^h : 56'7 20 ^h : 56'6 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	04.9	-23	24.4	26	54.5	79	+25	20.9	71	60 N	7 09	8 06	9 03	12 41	28	8 24	89									
1	195	04.6		24.3	41	21.4	78		28.0	70	58	7 01	7 54	8 46	13 09	36	7 56	81									
2	210	04.3		24.3	55	48.2	78		35.0	69	56	6 55	44	31	30	41	35	77									
3	225	04.0		24.2	70	15.0	78		41.9	69	54	48	35	18	13 48	43	17	74									
4	240	03.7		24.1	84	41.7	77		48.6	67	52	43	26	8 07	14 04	44	7 02	72									
5	255	03.4	-23	24.1	99	08.4	77	+25	55.2	66	50	6 37	7 19	7 57	14 17	46	6 49	70									
6	270	03.1	-23	24.0	113	35.0	76	+26	01.6	64	45	6 26	7 03	7 37	14 44	49	6 23	67									
7	285	02.8		24.0	128	01.6	76		07.8	62	40	15	6 49	20	15 06	50	6 02	65									
8	300	02.5		23.9	142	28.2	76		14.0	62	35	6 06	38	7 06	24	52	5 44	64									
9	315	02.2		23.8	156	54.7	75		19.9	59	30	5 57	27	6 53	15 40	52	29	62									
10	330	01.8		23.8	171	21.2	75		25.7	58	20	41	6 08	32	16 06	54	5 04	59									
11	345	01.5	-23	23.7	185	47.7	75	+26	31.3	56	10 N	5 24	5 51	6 14	16 29	55	4 42	58									
12	0	01.2	-23	23.6	200	14.1	74	+26	36.8	55	0	5 07	5 34	5 56	16 50	57	4 21	56									
13	15	00.9		23.6	214	40.5	74		42.2	54	10 S	4 48	5 16	39	17 12	57	4 01	54									
14	30	00.6		23.5	229	06.8	73		47.3	51	20	4 26	4 55	5 20	17 35	58	3 39	53									
15	45	00.3		23.4	243	33.1	73		52.4	51	30	3 57	30	4 58	18 02	60	14	50									
16	60	00.0		23.4	257	59.4	73	+26	57.2	48	35	38	4 15	45	18 60		3 00	48									
17	74	59.7	-23	23.3	272	25.7	73	+27	01.9	47	40	3 15	3 57	4 29	18 37	61	2 42	47									
18	89	59.4	-23	23.2	286	52.0	73	+27	06.5	46	45	2 44	3 34	4 11	18 59	63	2 22	44									
19	104	59.1		23.2	301	18.2	72		10.9	44	50	1 59	3 04	3 49	19 28	64	1 56	40									
20	119	58.8		23.1	315	44.4	72		15.1	42	52	1 31	2 49	38	42 65		44	38									
21	134	58.4		23.0	330	10.6	72		19.2	41	54	0 44	31	26	19 59	66	30	35									
22	149	58.1		22.9	344	36.7	71		23.1	39	56	** **	2 09	3 11	20 19	67	1 14	31									
23	164	57.8		22.9	359	02.9	72		26.8	37	58	** **	1 39	2 55	20 43	70	0 54	26									
24	179	57.5	-23	22.8	13	29.0	71	+27	30.4	36	60 S	** **	0 48	2 34	21 17	74	0 30	17									
UT	ARIES			VENUS			MARTE			JÚPITER			SATURNO														
	PMG: 17 ^h 44.1 ^m			Mag: -4.1 PMG: 9 ^h 17 ^m			Mag: +1.4 PMG: 11 ^h 12 ^m			Mag: -2.7 PMG: 19 ^h 59 ^m			Mag: +0.9 PMG: 16 ^h 05 ^m														
	hG ♈		Dec	hG ♀		Dec	hG ♂		Dec	hG ♃		Dec	hG ♄		Dec												
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'											
0	93	15.1	220	57.0	-16	44.5	191	50.6	-23	41.2	59	29.6	+12	15.1	118	02.0	-12	03.7									
1	108	17.6	235	56.4		45.3	206	51.0		41.3	74	32.1		15.1	133	04.2		03.6									
2	123	20.0	250	55.9		46.1	221	51.5		41.4	89	34.6		15.1	148	06.5		03.5									
3	138	22.5	265	55.3		46.8	236	51.9		41.6	104	37.1		15.1	163	08.8		03.5									
4	153	24.9	280	54.7		47.6	251	52.4		41.7	119	39.6		15.0	178	11.0		03.4									
5	168	27.4	295	54.1	-16	48.4	266	52.9	-23	41.8	134	42.2	+12	15.0	193	13.3	-12	03.3									
6	183	29.9	310	53.5	-16	49.2	281	53.3	-23	42.0	149	44.7	+12	15.0	208	15.6	-12	03.2									
7	198	32.3	325	53.0		50.0	296	53.8		42.1	164	47.2		15.0	223	17.9		03.2									
8	213	34.8	340	52.4		50.7	311	54.2		42.2	179	49.7		15.0	238	20.1		03.1									
9	228	37.3	355	51.8		51.5	326	54.7		42.4	194	52.2		15.0	253	22.4		03.0									
10	243	39.7	10	51.2		52.3	341	55.2		42.5	209	54.8		15.0	268	24.7		02.9									
11	258	42.2	25	50.6	-16	53.1	356	55.6	-23	42.6	224	57.3	+12	15.0	283	27.0	-12	02.8									
12	273	44.7	40	50.0	-16	53.9	11	56.1	-23	42.7	239	59.8	+12	15.0	298	29.2	-12	02.8									
13	288	47.1	55	49.4		54.6	26	56.5		42.9	255	02.3		15.0	313	31.5		02.7									
14	303	49.6	70	48.9		55.4	41	57.0		43.0	270	04.8		15.0	328	33.8		02.6									
15	318	52.1	85	48.3		56.2	56	57.4		43.1	285	07.3		15.0	343	36.1		02.5									
16	333	54.5	100	47.7		57.0	71	57.9		43.3	300	09.8		15.0	358	38.3		02.5									
17	348	57.0	115	47.1	-16	57.7	86	58.4	-23	43.4	315	12.4	+12	15.0	13	40.6	-12	02.4									
18	3	59.4	130	46.5	-16	58.5	101	58.8	-23	43.5	330	14.9	+12	15.0	28	42.9	-12	02.3									
19	19	01.9	145	45.9	-16	59.3	116	59.3		43.6	345	17.4		15.0	43	45.1		02.2									
20	34	04.4	160	45.3	-17	00.0	131	59.7		43.8	0	19.9		15.0	58	47.4		02.2									
21	49	06.8	175	44.7	-17	00.8	147	00.2		43.9	15	22.4		15.0	73	49.7		02.1									
22	64	09.3	190	44.1		01.6	162	00.6		44.0	30	24.9		15.0	88	52.0		02.0									
23	79	11.8	205	43.5		02.4	177	01.1		44.1	45	27.4		15.0	103	54.2		01.9									
24	94	14.2	220	43.0	-17	03.1	192	01.6	-23	44.3	60	29.9	+12	15.0	118	56.5	-12	01.9									
Dif	—			-6			-8			+5			-1			+25			0			+23			+		

UT	SOL			LUNA					Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna		
	SD: 16/3 PMG:12 ^h 00.4 ^m			Edad: 13.0 ^d SD: 15/4 PMG: **h **m													
	PHE { 4 ^h : 56/4 12 ^h : 56/2 20 ^h : 56/1 R°: **m																
	hG ☉	Dec		hG ☾	Dif	Dec	Dif				Civil	Náutico	Hora	R°	Hora	R°	
h	° /	° /	° /	° /		° /		°		h m	h m	h m	h m	m	h m	m	
0	179	57.5	-23	22.8	13	29.0	71	+27	30.4	34	60 N	14 57	15 55	16 52	13 09	61	9 53 55
1	194	57.2		22.7	27	55.1	71		33.8	33	58	15 15	16 07	16 59	13 45	60	9 17 57
2	209	56.9		22.6	42	21.2	71		37.1	31	56	30	17	17 06	14 11	59	8 52 56
3	224	56.6		22.6	56	47.3	71		40.2	30	54	42	26	12	31	59	31 57
4	239	56.3		22.5	71	13.4	71		43.2	28	52	15 53	34	18	14 48	59	8 14 57
5	254	56.0	-23	22.4	85	39.5	71	+27	46.0	26	50	16 03	16 42	17 23	15 03	59	7 59 57
6	269	55.7	-23	22.3	100	05.6	71	+27	48.6	25	45	16 24	16 58	17 35	15 33	58	7 30 57
7	284	55.4		22.2	114	31.6	70		51.1	23	40	41	17 11	45	15 56	58	7 07 57
8	299	55.1		22.2	128	57.7	71		53.4	21	35	16 55	23	17 55	16 16	57	6 48 56
9	314	54.7		22.1	143	23.8	71		55.5	20	30	17 07	33	18 03	16 32	57	31 57
10	329	54.4		22.0	157	49.9	71		57.5	18	20	28	17 52	20	17 00	57	6 03 57
11	344	54.1	-23	21.9	172	16.0	71	+27	59.3	17	10 N	17 47	18 10	18 36	17 24	56	5 40 56
12	359	53.8	-23	21.8	186	42.1	71	+28	01.0	15	0	18 04	18 27	18 53	17 47	55	5 17 57
13	14	53.5		21.7	201	08.2	71		02.5	13	10 S	22	18 45	19 12	18 09	55	4 55 56
14	29	53.2		21.7	215	34.3	71		03.8	12	20	18 41	19 05	19 34	18 33	55	32 55
15	44	52.9		21.6	230	00.4	71		05.0	10	30	19 03	30	20 03	19 02	53	4 04 55
16	59	52.6		21.5	244	26.5	71		06.0	9	35	16	19 45	22	18 53	3	48 54
17	74	52.3	-23	21.4	258	52.7	72	+28	06.9	6	40	19 31	20 03	20 45	19 38	52	3 29 54
18	89	52.0	-23	21.3	273	18.9	72	+28	07.5	6	45	19 49	20 26	21 16	20 02	51	3 06 53
19	104	51.7		21.2	287	45.0	71		08.1	4	50	20 11	20 56	22 01	32	49	2 36 53
20	119	51.4		21.1	302	11.3	73		08.5	2	52	22	21 11	22 29	20 47	48	22 52
21	134	51.1		21.0	316	37.5	72		08.7	0	54	34	29	23 14	21 05	47	2 05 51
22	149	50.7		20.9	331	03.8	72		08.7	1	56	20 48	21 51	** **	26	45	1 45 50
23	164	50.4		20.8	345	30.0	72		08.6	2	58	21 05	22 20	** **	21	53	42 1 20 48
24	179	50.1	-23	20.7	359	56.4	74	+28	08.4	2	60 S	21 25	23 10	** **	22	31	37 0 47 43

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 17 ^h 40.1 ^m		Mag: -4.1 PMG: 9 ^h 18 ^m		Mag: +1.4 PMG: 11 ^h 12 ^m		Mag: -2.7 PMG: 19 ^h 55 ^m		Mag: +0.9 PMG: 16 ^h 02 ^m									
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	° /	° /	° /	° /	° /	° /	° /	° /	° /	° /								
0	94	14.2	220	43.0	-17	03.1	192	01.6	-23	44.3	60	29.9	+12	15.0	118	56.5	-12	01.9
1	109	16.7	235	42.4		03.9	207	02.0		44.4	75	32.5		15.0	133	58.8		01.8
2	124	19.2	250	41.8		04.7	222	02.5		44.5	90	35.0		15.0	149	01.0		01.7
3	139	21.6	265	41.2		05.4	237	02.9		44.6	105	37.5		15.0	164	03.3		01.6
4	154	24.1	280	40.6		06.2	252	03.4		44.8	120	40.0		15.0	179	05.6		01.5
5	169	26.6	295	40.0	-17	07.0	267	03.8	-23	44.9	135	42.5	+12	15.0	194	07.9	-12	01.5
6	184	29.0	310	39.4	-17	07.7	282	04.3	-23	45.0	150	45.0	+12	15.0	209	10.1	-12	01.4
7	199	31.5	325	38.8		08.5	297	04.8		45.1	165	47.5		15.0	224	12.4		01.3
8	214	33.9	340	38.2		09.2	312	05.2		45.2	180	50.0		15.0	239	14.7		01.2
9	229	36.4	355	37.6		10.0	327	05.7		45.4	195	52.5		15.0	254	16.9		01.2
10	244	38.9	10	37.0		10.8	342	06.1		45.5	210	55.0		15.0	269	19.2		01.1
11	259	41.3	25	36.4	-17	11.5	357	06.6	-23	45.6	225	57.5	+12	14.9	284	21.5	-12	01.0
12	274	43.8	40	35.8	-17	12.3	12	07.0	-23	45.7	241	00.1	+12	14.9	299	23.8	-12	00.9
13	289	46.3	55	35.2		13.1	27	07.5		45.8	256	02.6		14.9	314	26.0		00.9
14	304	48.7	70	34.6		13.8	42	07.9		46.0	271	05.1		14.9	329	28.3		00.8
15	319	51.2	85	34.0		14.6	57	08.4		46.1	286	07.6		14.9	344	30.6		00.7
16	334	53.7	100	33.4		15.3	72	08.8		46.2	301	10.1		14.9	359	32.8		00.6
17	349	56.1	115	32.8	-17	16.1	87	09.3	-23	46.3	316	12.6	+12	14.9	14	35.1	-12	00.5
18	4	58.6	130	32.2	-17	16.8	102	09.7	-23	46.4	331	15.1	+12	14.9	29	37.4	-12	00.5
19	20	01.1	145	31.6		17.6	117	10.2		46.5	346	17.6		14.9	44	39.6		00.4
20	35	03.5	160	31.0		18.3	132	10.7		46.7	1	20.1		14.9	59	41.9		00.3
21	50	06.0	175	30.4		19.1	147	11.1		46.8	16	22.6		14.9	74	44.2		00.2
22	65	08.4	190	29.8		19.9	162	11.6		46.9	31	25.1		14.9	89	46.4		00.2
23	80	10.9	205	29.2		20.6	177	12.0		47.0	46	27.6		14.9	104	48.7	-12	00.1
24	95	13.4	220	28.6	-17	21.4	192	12.5	-23	47.1	61	30.1	+12	14.9	119	51.0	-12	00.0
Dif	—		-6		-8		+5		-1		+25		0		+23		+	

UT	SOL			LUNA						Latitud	Principio del crepúsculo		Salida de Sol	Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 00.9 ^m			Edad: 14.0 ^d SD: 15'2 PMG: 0 ^h 00 ^m PHE { 4 ^h : 55'9 12 ^h : 55'7 20 ^h : 55'6 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	179	50.1	-23	20.7	359	56.4	+28	08.4	5	60 N	7 09	8 06	9 04	14 10	88	10 48	24
1	194	49.8		20.6	14	22.7		07.9	5	58	7 02	7 54	8 46	14 45	80	10 14	32
2	209	49.5		20.6	28	49.1		07.4	8	56	6 55	44	32	15 10	75	9 48	36
3	224	49.2		20.5	43	15.5		06.6	9	54	49	35	19	30	73	28	39
4	239	48.9		20.4	57	42.0		05.7	10	52	43	27	8 08	15 47	70	9 11	41
5	254	48.6	-23	20.3	72	08.5	+28	04.7	12	50	6 38	7 20	7 58	16 02	68	8 56	43
6	269	48.3	-23	20.2	86	35.0	+28	03.5	14	45	6 26	7 04	7 37	16 31	65	8 27	45
7	284	48.0		20.1	101	01.6		02.1	15	40	16	6 50	21	16 54	63	8 04	47
8	299	47.7		20.0	115	28.2	+28	00.6	17	35	6 07	38	7 06	17 13	61	7 44	49
9	314	47.4		19.9	129	54.8	+27	58.9	18	30	5 58	28	6 54	29	60	28	50
10	329	47.1		19.8	144	21.5		57.1	19	20	42	6 09	33	17 57	57	7 00	52
11	344	46.8	-23	19.6	158	48.3	+27	55.2	22	10 N	5 25	5 52	6 15	18 20	55	6 36	53
12	359	46.4	-23	19.5	173	15.1	+27	53.0	23	0	5 08	5 35	5 57	18 42	53	6 14	54
13	14	46.1		19.4	187	41.9		50.7	24	10 S	4 49	5 17	40	19 04	51	5 51	56
14	29	45.8		19.3	202	08.8		48.3	26	20	4 27	4 56	5 21	28	49	5 27	57
15	44	45.5		19.2	216	35.8		45.7	27	30	3 58	31	4 59	19 55	46	4 59	59
16	59	45.2		19.1	231	02.8		43.0	29	35	39	4 16	46	20 11	45	42	60
17	74	44.9	-23	19.0	245	29.9	+27	40.1	30	40	3 16	3 58	4 31	20 30	42	4 23	61
18	89	44.6	-23	18.9	259	57.0	+27	37.1	32	45	2 46	3 35	4 13	20 53	39	3 59	62
19	104	44.3		18.8	274	24.2		33.9	33	50	2 00	3 06	3 50	21 21	36	29	64
20	119	44.0		18.7	288	51.5		30.6	34	52	1 33	2 51	39	35	34	3 14	65
21	134	43.7		18.6	303	18.8		27.2	35	54	0 47	33	27	21 52	31	2 56	67
22	149	43.4		18.5	317	46.2		23.6	36	56	** **	2 11	3 13	22 11	28	35	69
23	164	43.1		18.3	332	13.6		19.8	38	58	** **	1 41	2 56	22 35	23	2 08	72
24	179	42.8	-23	18.2	346	41.1	+27	15.9	39	60 S	** **	0 52	2 36	23 08	13	1 30	78

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 17 ^h 36.2 ^m		Mag: -4.1 PMG: 9 ^h 18 ^m		Mag: +1.4 PMG: 11 ^h 11 ^m		Mag: -2.7 PMG: 19 ^h 51 ^m		Mag: +0.9 PMG: 15 ^h 58 ^m									
	hG ♂	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec								
h	°	'	°	'	°	'	°	'	°	'								
0	95	13.4	220	28.6	-17	21.4	192	12.5	-23	47.1	61	30.1	+12	14.9	119	51.0	-12	00.0
1	110	15.8	235	28.0		22.1	207	12.9		47.2	76	32.6		14.9	134	53.3	-11	59.9
2	125	18.3	250	27.4		22.9	222	13.4		47.3	91	35.1		14.9	149	55.5		59.8
3	140	20.8	265	26.7		23.6	237	13.8		47.4	106	37.6		14.9	164	57.8		59.8
4	155	23.2	280	26.1		24.4	252	14.3		47.6	121	40.1		14.9	180	00.1		59.7
5	170	25.7	295	25.5	-17	25.1	267	14.7	-23	47.7	136	42.6	+12	14.9	195	02.3	-11	59.6
6	185	28.2	310	24.9	-17	25.9	282	15.2	-23	47.8	151	45.1	+12	14.9	210	04.6	-11	59.5
7	200	30.6	325	24.3		26.6	297	15.6		47.9	166	47.6		14.9	225	06.9		59.5
8	215	33.1	340	23.7		27.3	312	16.1		48.0	181	50.1		14.9	240	09.1		59.4
9	230	35.6	355	23.1		28.1	327	16.5		48.1	196	52.6		15.0	255	11.4		59.3
10	245	38.0	10	22.5		28.8	342	17.0		48.2	211	55.1		15.0	270	13.7		59.2
11	260	40.5	25	21.9	-17	29.6	357	17.4	-23	48.3	226	57.6	+12	15.0	285	15.9	-11	59.1
12	275	42.9	40	21.3	-17	30.3	12	17.9	-23	48.4	242	00.1	+12	15.0	300	18.2	-11	59.1
13	290	45.4	55	20.6		31.1	27	18.3		48.6	257	02.6		15.0	315	20.5		59.0
14	305	47.9	70	20.0		31.8	42	18.8		48.7	272	05.1		15.0	330	22.7		58.9
15	320	50.3	85	19.4		32.6	57	19.2		48.8	287	07.6		15.0	345	25.0		58.8
16	335	52.8	100	18.8		33.3	72	19.7		48.9	302	10.1		15.0	0	27.3		58.7
17	350	55.3	115	18.2	-17	34.0	87	20.1	-23	49.0	317	12.6	+12	15.0	15	29.5	-11	58.7
18	5	57.7	130	17.6	-17	34.8	102	20.6	-23	49.1	332	15.1	+12	15.0	30	31.8	-11	58.6
19	21	00.2	145	17.0		35.5	117	21.0		49.2	347	17.6		15.0	45	34.1		58.5
20	36	02.7	160	16.3		36.2	132	21.5		49.3	2	20.1		15.0	60	36.3		58.4
21	51	05.1	175	15.7		37.0	147	21.9		49.4	17	22.6		15.0	75	38.6		58.4
22	66	07.6	190	15.1		37.7	162	22.4		49.5	32	25.1		15.0	90	40.9		58.3
23	81	10.1	205	14.5		38.5	177	22.8		49.6	47	27.6		15.0	105	43.1		58.2
24	96	12.5	220	13.9	-17	39.2	192	23.3	-23	49.7	62	30.1	+12	15.0	120	45.4	-11	58.1
Dif	—		-6		-7		+5		-1		+25		0		+23		+	

UT	SOL				LUNA						Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16 ^h 3 PMG: 12 ^h 01.4 ^m				Edad: 15.0 ^d SD: 15 ^h 1 PMG: 0 ^h 55 ^m PHE { 4 ^h : 55/4 12 ^h : 55/3 20 ^h : 55/1 R°: 52 ^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	h m m
0	179	42.8	-23	18.2	346	41.1	86	+27	15.9	40	60 N	14 59	15 57	16 54	15 38 95	11 12 10		
1	194	42.5		18.1	1	08.7	86		11.9	42	58	15 17	16 08	17 01	16 05 87	10 46 16		
2	209	42.2		18.0	15	36.3	88		07.7	43	56	31	19	08	25 82	24 22		
3	224	41.9		17.9	30	04.1	88	+27	03.4	45	54	44	28	14	43 77	10 07 26		
4	239	41.6		17.8	44	31.9	88	+26	58.9	46	52	15 55	36	19	16 57 75	9 52 28		
5	254	41.2	-23	17.6	58	59.7	88	+26	54.3	45	50	16 05	16 43	17 25	17 10 72	9 39 31		
6	269	40.9	-23	17.5	73	27.7	90	+26	49.6	47	45	16 25	16 59	17 36	17 36 68	9 12 35		
7	284	40.6		17.4	87	55.7	90		44.7	49	40	42	17 12	47	17 57 64	8 51 38		
8	299	40.3		17.3	102	23.8	91		39.7	50	35	16 56	24	17 56	18 14 61	33 41		
9	314	40.0		17.2	116	51.9	91		34.6	51	30	17 08	35	18 05	29 59	8 18 43		
10	329	39.7		17.0	131	20.2	93		29.3	53	20	29	17 53	21	18 54 55	7 52 46		
11	344	39.4	-23	16.9	145	48.5	93	+26	23.9	54	10 N	17 48	18 11	18 37	19 15 52	7 29 49		
12	359	39.1	-23	16.8	160	16.9	94	+26	18.4	55	0	18 05	18 28	18 54	19 35 49	7 08 51		
13	14	38.8		16.7	174	45.3	94		12.7	57	10 S	23	18 46	19 13	19 55 47	6 47 54		
14	29	38.5		16.5	189	13.9	96		06.9	58	20	18 41	19 06	19 35	20 17 43	6 24 57		
15	44	38.2		16.4	203	42.5	96	+26	01.0	59	30	19 03	31	20 04	41 40	5 58 59		
16	59	37.9		16.3	218	11.3	98	+25	55.0	60	35	16	19 46	23	20 56 37	42 61		
17	74	37.6	-23	16.2	232	40.1	98	+25	48.8	62	40	19 31	20 04	20 46	21 12 35	5 24 63		
18	89	37.3	-23	16.0	247	09.0	99	+25	42.5	63	45	19 49	20 26	21 16	21 32 31	5 01 67		
19	104	37.0		15.9	261	37.9	99		36.1	64	50	20 11	20 56	22 01	21 57 26	4 33 71		
20	119	36.7		15.8	276	07.0	101		29.5	66	52	22	21 11	22 28	22 09 24	19 73		
21	134	36.4		15.6	290	36.1	101		22.9	66	54	34	29	23 12	23 21	4 03 76		
22	149	36.1		15.5	305	05.4	103		16.1	68	56	20 48	21 50	** **	39 17	3 44 80		
23	164	35.8		15.4	319	34.7	103		09.2	69	58	21 05	22 20	** **	22 58 12	3 20 85		
24	179	35.5	-23	15.2	334	04.1	104	+25	02.1	71	60 S	21 25	23 07	** **	23 21 5	2 48 95		
UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO									
	PMG: 17 ^h 32.3 ^m		Mag: -4.1 PMG: 9 ^h 19 ^m		Mag: +1.4 PMG: 11 ^h 10 ^m		Mag: -2.7 PMG: 19 ^h 47 ^m		Mag: +0.9 PMG: 15 ^h 55 ^m									
	hG ♈	hG ♀		Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec					
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'				
0	96	12.5	220	13.9	-17	39.2	192	23.3	-23	49.7	62	30.1	+12	15.0	120	45.4	-11	58.1
1	111	15.0	235	13.3		39.9	207	23.7		49.8	77	32.6		15.0	135	47.7		58.0
2	126	17.4	250	12.6		40.7	222	24.2		49.9	92	35.1		15.0	150	49.9		58.0
3	141	19.9	265	12.0		41.4	237	24.6		50.0	107	37.6		15.0	165	52.2		57.9
4	156	22.4	280	11.4		42.1	252	25.1		50.1	122	40.1		15.0	180	54.5		57.8
5	171	24.8	295	10.8	-17	42.8	267	25.5	-23	50.2	137	42.5	+12	15.0	195	56.7	-11	57.7
6	186	27.3	310	10.2	-17	43.6	282	26.0	-23	50.3	152	45.0	+12	15.0	210	59.0	-11	57.6
7	201	29.8	325	09.5		44.3	297	26.4		50.4	167	47.5		15.0	226	01.3		57.6
8	216	32.2	340	08.9		45.0	312	26.9		50.5	182	50.0		15.0	241	03.5		57.5
9	231	34.7	355	08.3		45.8	327	27.3		50.6	197	52.5		15.0	256	05.8		57.4
10	246	37.2	10	07.7		46.5	342	27.8		50.7	212	55.0		15.0	271	08.1		57.3
11	261	39.6	25	07.0	-17	47.2	357	28.2	-23	50.8	227	57.5	+12	15.0	286	10.3	-11	57.2
12	276	42.1	40	06.4	-17	47.9	12	28.7	-23	50.9	243	00.0	+12	15.0	301	12.6	-11	57.2
13	291	44.6	55	05.8		48.7	27	29.1		51.0	258	02.5		15.0	316	14.8		57.1
14	306	47.0	70	05.2		49.4	42	29.6		51.1	273	05.0		15.0	331	17.1		57.0
15	321	49.5	85	04.5		50.1	57	30.0		51.2	288	07.5		15.0	346	19.4		56.9
16	336	51.9	100	03.9		50.8	72	30.5		51.3	303	09.9		15.0	1	21.6		56.9
17	351	54.4	115	03.3	-17	51.6	87	30.9	-23	51.4	318	12.4	+12	15.1	16	23.9	-11	56.8
18	6	56.9	130	02.6	-17	52.3	102	31.4	-23	51.5	333	14.9	+12	15.1	31	26.2	-11	56.7
19	21	59.3	145	02.0		53.0	117	31.8		51.6	348	17.4		15.1	46	28.4		56.6
20	37	01.8	160	01.4		53.7	132	32.2		51.7	3	19.9		15.1	61	30.7		56.5
21	52	04.3	175	00.8		54.4	147	32.7		51.8	18	22.4		15.1	76	33.0		56.5
22	67	06.7	190	00.1		55.2	162	33.1		51.9	33	24.9		15.1	91	35.2		56.4
23	82	09.2	204	59.5		55.9	177	33.6		52.0	48	27.4		15.1	106	37.5		56.3
24	97	11.7	219	58.9	-17	56.6	192	34.0	-23	52.1	63	29.8	+12	15.1	121	39.7	-11	56.2
Dif	—		-6		-7		+4		-1		+25		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 01.9 ^m			Edad: 16.0 ^d SD: 15'0 PMG: 1 ^h 47 ^m PHE { 4 ^h : 55'0 12 ^h : 54'8 20 ^h : 54'7 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	179	35.5	-23	15.2	334	04.1	+25	02.1	60 N	7	09	8	06	9	03	17	13
1	194	35.2		15.1	348	33.6	+24	55.0	58	7	02	7	55	8	46	32	86
2	209	34.8		15.0	3	03.1		47.7	56	6	55		44	32	17	47	82
3	224	34.5		14.8	17	32.8		40.4	54		49		35	19	18	00	79
4	239	34.2		14.7	32	02.5		32.9	52		44		27	8	08	12	75
5	254	33.9	-23	14.6	46	32.4	+24	25.3	50	6	39	7	20	7	58	18	22
6	269	33.6	-23	14.4	61	02.3	+24	17.6	45	6	27	7	04	7	38	18	44
7	284	33.3		14.3	75	32.3		09.8	40		17	6	51	21	19	01	63
8	299	33.0		14.1	90	02.4	+24	01.8	35	6	07		39	7	07	15	60
9	314	32.7		14.0	104	32.6	+23	53.8	30	5	59		29	6	55	28	57
10	329	32.4		13.9	119	02.9		45.6	20		42	6	10	34	19	49	53
11	344	32.1	-23	13.7	133	33.3	+23	37.4	10 N	5	26	5	53	6	15	20	07
12	359	31.8	-23	13.6	148	03.7	+23	29.0	0	5	09	5	36	5	58	20	24
13	14	31.5		13.4	162	34.3		20.6	10 S	4	51	5	18	41	20	42	42
14	29	31.2		13.3	177	04.9		12.0	20	4	28	4	57	22	21	00	38
15	44	30.9		13.1	191	35.7	+23	03.4	30	3	59		33	5	00	21	33
16	59	30.6		13.0	206	06.5	+22	54.6	35		41	4	17	4	47	33	31
17	74	30.3	-23	12.8	220	37.4	+22	45.8	40	3	18	3	59	4	32	21	47
18	89	30.0	-23	12.7	235	08.4	+22	36.8	45	2	47	3	37	4	14	22	03
19	104	29.7		12.6	249	39.5		27.7	50	2	03	3	08	3	52	23	20
20	119	29.4		12.4	264	10.7		18.6	52	1	35	2	53	41	33	17	32
21	134	29.1		12.3	278	41.9	+22	09.4	54	0	52		35	29	44	14	19
22	149	28.8		12.1	293	13.3	+22	00.0	56	**	**	2	13	3	15	22	56
23	164	28.5		11.9	307	44.7	+21	50.6	58	**	**	1	44	2	58	23	10
24	179	28.2	-23	11.8	322	16.2	+21	41.1	60 S	**	**	0	56	2	38	23	26

UT	ARIES		VENUS			MARTE			JÚPITER			SATURNO					
	PMG: 17 ^h 28.4 ^m		Mag: -4.1 PMG: 9 ^h 20 ^m			Mag: +1.4 PMG: 11 ^h 09 ^m			Mag: -2.7 PMG: 19 ^h 43 ^m			Mag: +0.9 PMG: 15 ^h 51 ^m					
	hG ♈		hG ♀	Dec		hG ♂	Dec		hG ♃	Dec		hG ♄	Dec				
h	°	'	°	'	°	'	°	'	°	'	°	'	°	'			
0	97	11.7	219	58.9	-17	56.6	192	34.0	-23	52.1	63	29.8	+12	15.1			
1	112	14.1	234	58.2		57.3	207	34.5		52.2	78	32.3		15.1			
2	127	16.6	249	57.6		58.0	222	34.9		52.3	93	34.8		15.1			
3	142	19.0	264	57.0		58.7	237	35.4		52.4	108	37.3		15.1			
4	157	21.5	279	56.3	-17	59.5	252	35.8		52.4	123	39.8		15.1			
5	172	24.0	294	55.7	-18	00.2	267	36.3	-23	52.5	138	42.3	+12	15.1			
6	187	26.4	309	55.1	-18	00.9	282	36.7	-23	52.6	153	44.8	+12	15.1			
7	202	28.9	324	54.4		01.6	297	37.2		52.7	168	47.2		15.1			
8	217	31.4	339	53.8		02.3	312	37.6		52.8	183	49.7		15.1			
9	232	33.8	354	53.2		03.0	327	38.0		52.9	198	52.2		15.2			
10	247	36.3	9	52.5		03.7	342	38.5		53.0	213	54.7		15.2			
11	262	38.8	24	51.9	-18	04.4	357	38.9	-23	53.1	228	57.2	+12	15.2			
12	277	41.2	39	51.3	-18	05.1	12	39.4	-23	53.2	243	59.7	+12	15.2			
13	292	43.7	54	50.6		05.8	27	39.8		53.3	259	02.1		15.2			
14	307	46.2	69	50.0		06.5	42	40.3		53.3	274	04.6		15.2			
15	322	48.6	84	49.3		07.3	57	40.7		53.4	289	07.1		15.2			
16	337	51.1	99	48.7		08.0	72	41.2		53.5	304	09.6		15.2			
17	352	53.5	114	48.1	-18	08.7	87	41.6	-23	53.6	319	12.1	+12	15.2			
18	7	56.0	129	47.4	-18	09.4	102	42.0	-23	53.7	334	14.5	+12	15.2			
19	22	58.5	144	46.8		10.1	117	42.5		53.8	349	17.0		15.2			
20	38	00.9	159	46.1		10.8	132	42.9		53.9	4	19.5		15.2			
21	53	03.4	174	45.5		11.5	147	43.4		53.9	19	22.0		15.2			
22	68	05.9	189	44.9		12.2	162	43.8		54.0	34	24.5		15.3			
23	83	08.3	204	44.2		12.9	177	44.3		54.1	49	26.9		15.3			
24	98	10.8	219	43.6	-18	13.6	192	44.7	-23	54.2	64	29.4	+12	15.3			
Dif	—		-6		-7		+4		-1		+25		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 02.4 ^m				Edad: 17.0 ^d SD: 14 ^h 9 PMG: 2 ^h 36 ^m PHE { 4 ^h : 54 ^h 6 12 ^h : 54 ^h 5 20 ^h : 54 ^h 4 Rº: 45 ^m														
	hG ☉	Dec			hG ☾	Dif			Dec	Dif			Civil	Náutico	Hora	Rº	Hora	Rº	
h	°	'	°	'	°	'	°	'	°	'	°	h	m	h	m	h	m	h	m
0	179	28.2	-23	11.8	322	16.2	+21	41.1	96	60 N	15	02	15	59	16	55	18	45	88
1	194	27.9		11.6	336	47.9		31.5	96	58	19	16	10	17	03	18	58	83	12
2	209	27.6		11.5	351	19.6		21.8	97	56	33	20		09	19	09	79	11	00
3	224	27.3		11.3	5	51.4		12.0	98	54	46	29		15	19	76	10	50	12
4	239	27.0		11.2	20	23.2	+21	02.1	99	52	15	57	37	21	27	73	41	14	
5	254	26.7	-23	11.0	34	55.2	+20	52.2	99	50	16	06	16	45	17	26	19	35	71
6	269	26.4	-23	10.9	49	27.2	+20	42.1	101	45	16	27	17	01	17	38	19	51	66
7	284	26.1		10.7	63	59.4		32.0	101	40	43		14	48	20	04	62	10	00
8	299	25.8		10.5	78	31.6		21.8	102	35	16	57	26	17	57	15	59	9	48
9	314	25.5		10.4	93	03.9		11.5	103	30	17	10	36	18	06	25	56	37	32
10	329	25.2		10.2	107	36.3	+20	01.1	104	20	31		17	55	22	42	51	19	36
11	344	24.9	-23	10.1	122	08.7	+19	50.7	104	10 N	17	49	18	12	18	38	20	57	46
12	359	24.6	-23	09.9	136	41.3	+19	40.2	105	0	18	06	18	29	18	55	21	10	43
13	14	24.3		09.7	151	13.9		29.6	106	10 S	23	18	46	19	14	24	38	32	47
14	29	24.0		09.6	165	46.6		18.9	107	20	18	42	19	07	19	36	38	35	8
15	44	23.7		09.4	180	19.4	+19	08.1	108	30	19	04	31	20	05	21	54	30	7
16	59	23.4		09.2	194	52.3	+18	57.3	108	35	17	19	46	23	22	04	27	45	59
17	74	23.1	-23	09.1	209	25.2	+18	46.4	109	40	19	32	20	04	20	46	22	15	23
18	89	22.8	-23	08.9	223	58.3	+18	35.4	110	45	19	49	20	27	21	16	22	27	20
19	104	22.5		08.7	238	31.4		24.4	110	50	20	12	20	56	22	00	43	15	6
20	119	22.2		08.6	253	04.6		13.3	111	52	22	21	11	22	27	50	13	48	75
21	134	21.9		08.4	267	37.8	+18	02.1	112	54	34		28	23	09	22	58	10	38
22	149	21.6		08.2	282	11.2	+17	50.8	113	56	20	48	21	50	** **	23	07	7	26
23	164	21.3		08.1	296	44.6		39.5	113	58	21	05	22	18	** **	16	5	6	13
24	179	21.0	-23	07.9	311	18.1	+17	28.1	114	60 S	21	25	23	04	** **	23	28	0	5

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 24.4 ^m		Mag: -4.0 PMG: 9 ^h 21 ^m		Mag: +1.4 PMG: 11 ^h 09 ^m		Mag: -2.7 PMG: 19 ^h 39 ^m		Mag: +0.9 PMG: 15 ^h 47 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	98	10.8	219	43.6	-18	13.6	192	44.7	-23	54.2
1	113	13.3	234	42.9		14.3	207	45.1		54.3
2	128	15.7	249	42.3		15.0	222	45.6		54.4
3	143	18.2	264	41.6		15.7	237	46.0		54.4
4	158	20.7	279	41.0		16.4	252	46.5		54.5
5	173	23.1	294	40.3	-18	17.0	267	46.9	-23	54.6
6	188	25.6	309	39.7	-18	17.7	282	47.4	-23	54.7
7	203	28.0	324	39.0		18.4	297	47.8		54.8
8	218	30.5	339	38.4		19.1	312	48.2		54.8
9	233	33.0	354	37.7		19.8	327	48.7		54.9
10	248	35.4	9	37.1		20.5	342	49.1		55.0
11	263	37.9	24	36.4	-18	21.2	357	49.6	-23	55.1
12	278	40.4	39	35.8	-18	21.9	12	50.0	-23	55.2
13	293	42.8	54	35.1		22.6	27	50.4		55.2
14	308	45.3	69	34.5		23.3	42	50.9		55.3
15	323	47.8	84	33.8		23.9	57	51.3		55.4
16	338	50.2	99	33.2		24.6	72	51.8		55.5
17	353	52.7	114	32.5	-18	25.3	87	52.2	-23	55.5
18	8	55.2	129	31.9	-18	26.0	102	52.6	-23	55.6
19	23	57.6	144	31.2		26.7	117	53.1		55.7
20	39	00.1	159	30.6		27.4	132	53.5		55.8
21	54	02.5	174	29.9		28.0	147	54.0		55.8
22	69	05.0	189	29.3		28.7	162	54.4		55.9
23	84	07.5	204	28.6		29.4	177	54.9		56.0
24	99	09.9	219	28.0	-18	30.1	192	55.3	-23	56.1
Dif	—		-7		-7		+4		-1	
							+25		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 02.8 ^m			Edad: 18.0 ^d SD: 14'8 PMG: 3 ^h 21 ^m PHE { 4 ^h : 54'3 12 ^h : 54'3 20 ^h : 54'2 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	179	21.0	-23	07.9	311	18.1	+17	28.1	60 N	7	09	8	06	9	03	20	13
1	194	20.7		07.7	325	51.6		16.7	58	7	02	7	54	8	46	21	80
2	209	20.4		07.5	340	25.3	+17	05.2	56	6	56		44	31	28	77	09
3	224	20.1		07.4	354	59.0	+16	53.6	54		50		36	19	35	73	11
4	239	19.8		07.2	9	32.8		42.0	52		44		28	8	08	40	71
5	254	19.5	-23	07.0	24	06.6	+16	30.3	50	6	39	7	20	7	59	20	46
6	269	19.2	-23	06.8	38	40.5	+16	18.5	45	6	27	7	04	7	38	20	57
7	284	18.9		06.7	53	14.5	+16	06.7	40		17	6	51	22	21	06	60
8	299	18.6		06.5	67	48.6	+15	54.8	35	6	08		40	7	08	14	57
9	314	18.3		06.3	82	22.7		42.9	30	5	59		29	6	55	21	54
10	329	18.0		06.1	96	56.9		30.9	20		43	6	11	35	33	48	9
11	344	17.7	-23	05.9	111	31.1	+15	18.9	10 N	5	27	5	54	6	16	21	43
12	359	17.4	-23	05.8	126	05.4	+15	06.8	0	5	10	5	37	5	59	21	53
13	14	17.1		05.6	140	39.8	+14	54.6	10 S	4	52	5	19	42	22	02	37
14	29	16.8		05.4	155	14.3		42.4	20		29	4	59	23	13	32	9
15	44	16.5		05.2	169	48.8		30.2	30	4	01		34	5	01	24	27
16	59	16.2		05.0	184	23.4		17.9	35	3	42		19	4	48	31	24
17	74	15.9	-23	04.8	198	58.0	+14	05.5	40	3	19	4	01	4	34	22	38
18	89	15.6	-23	04.6	213	32.7	+13	53.1	45	2	49	3	39	4	16	22	47
19	104	15.3		04.5	228	07.4		40.6	50	2	05	3	10	3	54	22	58
20	119	15.0		04.3	242	42.2		28.1	52	1	38	2	55	43	23	03	10
21	134	14.7		04.1	257	17.1		15.6	54	0	56		37	31	08	8	7
22	149	14.4		03.9	271	52.0	+13	03.0	56	**	**	2	16	17	14	6	47
23	164	14.1		03.7	286	26.9	+12	50.3	58	**	**	1	47	3	01	21	2
24	179	13.8	-23	03.5	301	02.0	+12	37.6	60 S	**	**	1	02	2	41	23	28

UT	ARIES		VENUS		MARTE		JÚPITER		SATURNO	
	PMG: 17 ^h 20.5 ^m		Mag: -4.0 PMG: 9 ^h 23 ^m		Mag: +1.4 PMG: 11 ^h 08 ^m		Mag: -2.7 PMG: 19 ^h 35 ^m		Mag: +0.9 PMG: 15 ^h 44 ^m	
	hG ♈	Dec	hG ♀	Dec	hG ♂	Dec	hG ♃	Dec	hG ♄	Dec
h	°	'	°	'	°	'	°	'	°	'
0	99	09.9	219	28.0	-18	30.1	192	55.3	-23	56.1
1	114	12.4	234	27.3		30.8	207	55.7		56.1
2	129	14.9	249	26.6		31.4	222	56.2		56.2
3	144	17.3	264	26.0		32.1	237	56.6		56.3
4	159	19.8	279	25.3		32.8	252	57.0		56.4
5	174	22.3	294	24.7	-18	33.5	267	57.5	-23	56.4
6	189	24.7	309	24.0	-18	34.2	282	57.9	-23	56.5
7	204	27.2	324	23.3		34.8	297	58.4		56.6
8	219	29.6	339	22.7		35.5	312	58.8		56.6
9	234	32.1	354	22.0		36.2	327	59.2		56.7
10	249	34.6	9	21.4		36.8	342	59.7		56.8
11	264	37.0	24	20.7	-18	37.5	358	00.1	-23	56.8
12	279	39.5	39	20.0	-18	38.2	13	00.6	-23	56.9
13	294	42.0	54	19.4		38.9	28	01.0		57.0
14	309	44.4	69	18.7		39.5	43	01.4		57.0
15	324	46.9	84	18.0		40.2	58	01.9		57.1
16	339	49.4	99	17.4		40.9	73	02.3		57.2
17	354	51.8	114	16.7	-18	41.5	88	02.7	-23	57.2
18	9	54.3	129	16.0	-18	42.2	103	03.2	-23	57.3
19	24	56.8	144	15.4		42.8	118	03.6		57.4
20	39	59.2	159	14.7		43.5	133	04.1		57.4
21	55	01.7	174	14.0		44.2	148	04.5		57.5
22	70	04.1	189	13.4		44.8	163	04.9		57.6
23	85	06.6	204	12.7		45.5	178	05.4		57.6
24	100	09.1	219	12.0	-18	46.2	193	05.8	-23	57.7
Dif	—		-7	-7			+4	-1		
								+25	0	
									+23	+

UT	SOL				LUNA				Latitud	Puesta de Sol	Fin del crepúsculo		Salida de Luna		Puesta de Luna	
	SD: 16'3 PMG:12 ^h 03.3 ^m				Edad: 19.0 ^d SD: 14'8 PMG: 4 ^h 03 ^m PHE { 4 ^h : 54'2 12 ^h : 54'2 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
0	179 13.8	-23 03.5	301 02.0		+12 37.6		60 N	15 04	16 01	16 58	21 36	82	11 26	0		
1	194 13.5		315 37.0	160		24.9	58	21	13	17 05	41 78		21 2			
2	209 13.2		330 12.2	162	+12 12.1	128	56	36	22	11	45 75		16 5			
3	224 12.9		344 47.3	161	+11 59.3	128	54	48	31	17	48 73		11 8			
4	239 12.6		359 22.6	163		46.5	52	15 59	39	23	51 70		07 10			
5	254 12.3	-23 02.5	13 57.8	162	+11 33.6	129	50	16 08	16 47	17 28	21 54	68	11 03	12		
6	269 12.0	-23 02.3	28 33.1	163	+11 20.6	130	45	16 29	17 02	17 39	22 01	63	10 55	17		
7	284 11.7		43 08.5	164	+11 07.6	130	40	45	15	49	06 59		48 20			
8	299 11.4		57 43.9	164	+10 54.6	130	35	16 59	27	17 59	11 55		42 24			
9	314 11.2		72 19.4	165		41.6	30	17 11	37	18 07	15 52		37 26			
10	329 10.9		86 54.9	165		28.5	20	32	17 56	23	21 48		28 31			
11	344 10.6	-23 01.3	101 30.4	165	+10 15.4	131	10 N	17 50	18 13	18 39	22 27	44	10 20	35		
12	359 10.3	-23 01.1	116 06.0	166	+10 02.2	132	0	18 07	18 30	18 56	22 33	39	10 12	40		
13	14 10.0		130 41.6	166	+9 49.0	132	10 S	24	18 47	19 14	39 35		10 05	43		
14	29 09.7		145 17.2	166		35.8	20	18 43	19 07	19 36	45 30		9 56	48		
15	44 09.4		159 52.9	167		22.5	30	19 05	32	20 05	51 26		47 53			
16	59 09.1		174 28.7	168	+9 09.2	133	35	17	19 47	23	55 23		41 57			
17	74 08.8	-23 00.1	189 04.4	167	+8 55.9	133	40	19 32	20 05	20 46	22 59	20	9 35	60		
18	89 08.5	-22 59.9	203 40.2	168	+8 42.5	134	45	19 50	20 27	21 16	23 05	15	9 28	63		
19	104 08.2		218 16.1	169		29.1	50	20 12	20 56	21 59	11 11		19 68			
20	119 07.9		232 51.9	168		15.7	52	22	21 10	22 25	13 10		15 70			
21	134 07.6		247 27.8	169	+8 02.2	135	54	34	27	23 05	16 8		10 73			
22	149 07.3		262 03.7	169	+7 48.8	134	56	20 48	21 49	** **	20 5		05 76			
23	164 07.0		58.9 276 39.7	170		35.3	58	21 04	22 17	** **	23 2		9 00	78		
24	179 06.7	-22 58.7	291 15.7	170	+7 21.7	136	60 S	21 24	23 00	** **	23 27	0	8 53	83		
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	hG ♅	Dec				
h	° /	° /	° /		° /		° /		° /		° /					
0	100 09.1	219 12.0	-18 46.2		193 05.8	-23 57.7	66 27.9	+12 15.8	124 22.4	-11 50.3						
1	115 11.5	234 11.4	46.8		208 06.2	57.7	81 30.4	15.9	139 24.6	50.3						
2	130 14.0	249 10.7	47.5		223 06.7	57.8	96 32.9	15.9	154 26.9	50.2						
3	145 16.5	264 10.0	48.1		238 07.1	57.9	111 35.3	15.9	169 29.1	50.1						
4	160 18.9	279 09.4	48.8		253 07.6	57.9	126 37.8	15.9	184 31.4	50.0						
5	175 21.4	294 08.7	-18 49.4		268 08.0	-23 58.0	141 40.2	+12 15.9	199 33.6	-11 49.9						
6	190 23.9	309 08.0	-18 50.1		283 08.4	-23 58.0	156 42.7	+12 15.9	214 35.9	-11 49.8						
7	205 26.3	324 07.3	50.8		298 08.9	58.1	171 45.2	15.9	229 38.2	49.8						
8	220 28.8	339 06.7	51.4		313 09.3	58.2	186 47.6	16.0	244 40.4	49.7						
9	235 31.3	354 06.0	52.1		328 09.7	58.2	201 50.1	16.0	259 42.7	49.6						
10	250 33.7	9 05.3	52.7		343 10.2	58.3	216 52.5	16.0	274 44.9	49.5						
11	265 36.2	24 04.6	-18 53.4		358 10.6	-23 58.3	231 55.0	+12 16.0	289 47.2	-11 49.4						
12	280 38.6	39 04.0	-18 54.0		13 11.0	-23 58.4	246 57.5	+12 16.0	304 49.4	-11 49.3						
13	295 41.1	54 03.3	54.7		28 11.5	58.5	261 59.9	16.0	319 51.7	49.3						
14	310 43.6	69 02.6	55.3		43 11.9	58.5	277 02.4	16.1	334 53.9	49.2						
15	325 46.0	84 01.9	56.0		58 12.3	58.6	292 04.8	16.1	349 56.2	49.1						
16	340 48.5	99 01.3	56.6		73 12.8	58.6	307 07.3	16.1	4 58.4	49.0						
17	355 51.0	114 00.6	-18 57.3		88 13.2	-23 58.7	322 09.7	+12 16.1	20 00.7	-11 48.9						
18	10 53.4	128 59.9	-18 57.9		103 13.7	-23 58.7	337 12.2	+12 16.1	35 02.9	-11 48.8						
19	25 55.9	143 59.2	58.5		118 14.1	58.8	352 14.6	16.1	50 05.2	48.8						
20	40 58.4	158 58.6	59.2		133 14.5	58.8	7 17.1	16.2	65 07.4	48.7						
21	56 00.8	173 57.9	-18 59.8		148 15.0	58.9	22 19.5	16.2	80 09.7	48.6						
22	71 03.3	188 57.2	-19 00.5		163 15.4	58.9	37 22.0	16.2	95 12.0	48.5						
23	86 05.7	203 56.5	01.1		178 15.8	59.0	52 24.5	16.2	110 14.2	48.4						
24	101 08.2	218 55.8	-19 01.8		193 16.3	-23 59.1	67 26.9	+12 16.2	125 16.5	-11 48.3						
Dif	—	-7	-6		+4	-1	+25	0	+23	+						

Nº	NOMBRE	Mag		Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'	'
1 - α	And <i>Alpheratz</i>	2.1	357	36.6	36.7	36.7	36.6	36.4	36.2	35.9	35.7	35.6	35.5	35.6	35.6
2 - β	Cas <i>Caph</i>	2.3	357	24.3	24.5	24.5	24.4	24.2	23.8	23.4	23.1	22.9	22.9	23.0	23.1
3 - γ	Peg <i>Algenib</i>	2.8	356	23.9	24.0	24.0	23.9	23.8	23.5	23.3	23.1	22.9	22.9	22.9	23.0
4 - α	Phe <i>Ankaa</i>	2.4	353	8.9	9.0	9.0	9.0	8.8	8.5	8.2	8.0	7.8	7.8	7.8	7.9
5 - α	Cas <i>Schedar</i>	2.2	349	33.0	33.2	33.3	33.3	33.1	32.7	32.3	32.0	31.8	31.7	31.8	31.9
6 - β	Cet <i>Diphda</i>	2.0	348	49.0	49.1	49.1	49.1	48.9	48.7	48.5	48.2	48.1	48.0	48.0	48.1
7 - γ	Cas <i>Navi</i>	2.4	345	28.7	28.9	29.1	29.1	28.8	28.5	28.1	27.7	27.4	27.3	27.3	27.5
8 - β	And <i>Mirach</i>	2.1	342	14.8	15.0	15.0	15.0	14.9	14.6	14.3	14.1	13.9	13.8	13.8	13.8
9 - α	Eri <i>Achernar</i>	0.5	335	21.4	21.6	21.8	21.8	21.7	21.5	21.1	20.8	20.5	20.4	20.4	20.5
10 - γ	And <i>Almak</i>	2.1	328	40.3	40.5	40.6	40.6	40.5	40.3	40.0	39.7	39.4	39.3	39.2	39.2
12 - α	Ari <i>Hamal</i>	2.0	327	53.0	53.1	53.2	53.2	53.1	52.9	52.7	52.4	52.2	52.1	52.0	52.0
11 - α	UMi <i>Polaris</i>	2.0	314	36.9	51.3	63.6	71.5	71.5	63.3	49.8	33.6	18.3	7.0	1.2	3.4
13 - θ	Eri <i>Acamar</i>	3.3	315	12.9	13.0	13.2	13.3	13.3	13.1	12.9	12.6	12.3	12.2	12.1	12.1
14 - α	Cet <i>Menkar</i>	2.5	314	7.7	7.8	7.9	8.0	7.9	7.8	7.6	7.3	7.1	7.0	6.9	6.8
15 - β	Per <i>Algol</i>	2.1	312	34.9	35.1	35.2	35.3	35.2	35.0	34.8	34.5	34.2	34.0	33.8	33.8
16 - α	Per <i>Mirfak</i>	1.8	308	30.3	30.5	30.7	30.8	30.8	30.6	30.3	29.9	29.6	29.3	29.2	29.1
17 - η	Tau <i>Alcyone</i>	2.9	302	47.1	47.2	47.3	47.4	47.4	47.3	47.1	46.8	46.5	46.3	46.2	46.1
18 - γ	Eri <i>Zaurak</i>	2.9	300	13.3	13.4	13.5	13.6	13.6	13.6	13.4	13.1	12.9	12.7	12.6	12.5
19 - α	Tau <i>Aldebaran</i>	0.9	290	41.2	41.3	41.4	41.5	41.6	41.5	41.3	41.1	40.8	40.6	40.4	40.3
20 - β	Ori <i>Rigel</i>	0.1	281	5.2	5.2	5.3	5.5	5.5	5.5	5.3	5.1	4.9	4.7	4.5	4.4
21 - α	Aur <i>Capella</i>	0.1	280	23.9	24.0	24.2	24.3	24.4	24.3	24.1	23.8	23.5	23.2	22.9	22.7
22 - γ	Ori <i>Bellatrix</i>	1.6	278	24.3	24.4	24.5	24.6	24.7	24.6	24.5	24.3	24.1	23.8	23.6	23.5
23 - β	Tau <i>Elnath</i>	1.7	278	3.6	3.7	3.8	3.9	4.0	3.9	3.8	3.5	3.3	3.0	2.8	2.6
24 - δ	Ori <i>Mintaka</i>	2.4	276	42.1	42.1	42.2	42.4	42.4	42.4	42.3	42.1	41.8	41.6	41.4	41.3
25 - ϵ	Ori <i>Alnilam</i>	1.7	275	39.1	39.2	39.3	39.4	39.4	39.4	39.3	39.1	38.9	38.6	38.4	38.3
26 - ζ	Ori <i>Alnitak</i>	1.8	274	31.0	31.1	31.2	31.3	31.4	31.3	31.2	31.0	30.8	30.6	30.4	30.2
27 - κ	Ori <i>Saiph</i>	2.1	272	47.1	47.1	47.2	47.4	47.4	47.3	47.1	46.9	46.7	46.5	46.3	
28 - α	Ori <i>Betelgeuse</i>	0.4	270	53.5	53.6	53.7	53.8	53.9	53.9	53.7	53.5	53.3	53.1	52.9	52.7
29 - β	Aur <i>Menkalinan</i>	1.9	269	41.5	41.5	41.7	41.9	42.0	41.9	41.8	41.5	41.2	40.9	40.6	40.4
30 - β	CMa <i>Mirzam</i>	2.0	264	4.1	4.1	4.2	4.4	4.5	4.5	4.4	4.2	4.0	3.8	3.6	3.4
31 - α	Car <i>Canopus</i>	-0.7	263	52.6	52.7	53.0	53.2	53.4	53.5	53.5	53.3	53.0	52.7	52.4	52.2
32 - γ	Gem <i>Alhena</i>	1.9	260	14.2	14.2	14.3	14.4	14.5	14.5	14.4	14.2	14.0	13.8	13.5	13.3
33 - α	CMa <i>Sirius</i>	-1.5	258	27.3	27.4	27.5	27.6	27.7	27.7	27.7	27.5	27.3	27.1	26.9	26.7
34 - ϵ	CMa <i>Adhara</i>	1.5	255	6.8	6.8	6.9	7.1	7.2	7.3	7.2	7.1	6.9	6.6	6.4	6.2
35 - δ	CMa <i>Wezen</i>	1.8	252	39.8	39.9	40.0	40.1	40.2	40.3	40.2	40.1	39.9	39.7	39.5	39.3
36 - η	CMa <i>Aludra</i>	2.5	248	44.6	44.7	44.8	44.9	45.1	45.1	45.1	45.0	44.8	44.6	44.3	44.1
37 - α	Gem <i>Castor</i>	1.6	245	58.8	58.8	58.8	59.0	59.1	59.1	59.1	58.9	58.7	58.4	58.2	57.9
38 - α	CMi <i>Procyon</i>	0.4	244	52.2	52.2	52.3	52.4	52.5	52.5	52.5	52.3	52.2	51.9	51.7	51.5
39 - β	Gem <i>Pollux</i>	1.1	243	18.9	18.9	19.0	19.1	19.2	19.2	19.2	19.1	18.9	18.6	18.3	18.1
40 - ζ	Pup <i>Naos</i>	2.3	238	53.8	53.8	53.9	54.1	54.3	54.4	54.4	54.3	54.1	53.9	53.6	53.4
41 - γ	Vel <i>Regor</i>	1.8	237	26.0	26.0	26.1	26.4	26.6	26.7	26.8	26.7	26.5	26.2	25.9	25.7
42 - ϵ	Car <i>Avior</i>	1.9	234	14.7	14.8	14.9	15.2	15.5	15.8	15.9	15.8	15.6	15.3	14.9	14.6
43 - δ	Velorum	2.0	228	39.5	39.5	39.6	39.9	40.1	40.3	40.4	40.4	40.2	40.0	39.6	39.3
44 - ζ	Hydrae	3.1	225	50.7	50.6	50.6	50.7	50.8	50.9	50.9	50.8	50.7	50.5	50.2	50.0
45 - λ	Vel <i>Suhail</i>	2.2	222	47.1	47.0	47.1	47.2	47.4	47.6	47.6	47.5	47.3	47.0	46.7	
46 - β	Car <i>Miaplacidus</i>	1.7	221	37.7	37.7	37.9	38.3	38.7	39.1	39.4	39.5	39.3	38.9	38.4	37.9
47 - ι	Car <i>Aspidiske</i>	2.3	220	34.0	34.0	34.1	34.3	34.6	34.8	35.0	35.0	34.9	34.6	34.2	33.9
48 - α	Lyn <i>Elvashak</i>	3.1	219	23.0	22.8	22.9	22.9	23.1	23.2	23.2	23.1	23.0	22.8	22.5	22.2
49 - α	Hyd <i>Alphard</i>	2.0	217	49.1	49.0	49.0	49.1	49.2	49.2	49.3	49.2	49.1	49.0	48.7	48.5
50 - α	Leo <i>Regulus</i>	1.4	207	35.9	35.8	35.8	35.8	35.9	36.0	36.0	36.0	35.9	35.8	35.5	35.3

ESTRELLAS, 2023
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	13.1	13.0	13.0	12.9	12.9	13.0	13.1	13.2	13.3	13.4	13.5	13.5
2 - β Cas	<i>Caph</i>	2.3	+59	16.8	16.7	16.6	16.5	16.4	16.4	16.5	16.6	16.8	17.0	17.1	17.2
3 - γ Peg	<i>Algenib</i>	2.8	+15	18.7	18.6	18.6	18.6	18.6	18.7	18.8	18.9	19.0	19.0	19.1	19.1
4 - α Phe	<i>Ankaa</i>	2.4	-42	11.2	11.1	11.0	10.8	10.7	10.6	10.5	10.5	10.5	10.6	10.7	10.8
5 - α Cas	<i>Schedar</i>	2.2	+56	40.0	39.9	39.8	39.7	39.6	39.6	39.7	39.8	40.0	40.1	40.3	40.4
6 - β Cet	<i>Diphda</i>	2.0	-17	51.8	51.8	51.8	51.7	51.6	51.4	51.3	51.3	51.3	51.3	51.4	51.4
7 - γ Cas	<i>Navi</i>	2.4	+60	50.7	50.6	50.5	50.4	50.3	50.3	50.3	50.5	50.6	50.8	50.9	51.0
8 - β And	<i>Mirach</i>	2.1	+35	44.6	44.6	44.5	44.5	44.4	44.4	44.5	44.6	44.8	44.9	45.0	45.0
9 - α Eri	<i>Achernar</i>	0.5	-57	7.6	7.5	7.4	7.2	7.0	6.9	6.8	6.7	6.8	6.9	7.1	7.2
10 - γ And	<i>Almak</i>	2.1	+42	26.5	26.5	26.4	26.4	26.3	26.3	26.3	26.4	26.5	26.7	26.8	26.8
12 - α Ari	<i>Hamal</i>	2.0	+23	34.3	34.3	34.2	34.2	34.2	34.2	34.3	34.4	34.5	34.6	34.6	34.6
11 - α UMi	<i>Polaris</i>	2.0	+89	21.9	22.0	21.9	21.8	21.7	21.5	21.5	21.5	21.6	21.7	21.9	22.1
13 - θ Eri	<i>Acamar</i>	3.3	-40	13.0	13.0	13.0	12.9	12.7	12.5	12.4	12.3	12.3	12.4	12.5	12.7
14 - α Cet	<i>Menkar</i>	2.5	+4	10.7	10.7	10.7	10.7	10.8	10.8	10.9	11.0	11.1	11.1	11.1	11.0
15 - β Per	<i>Algol</i>	2.1	+41	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.7	2.8	2.9	3.0
16 - α Per	<i>Mirfak</i>	1.8	+49	56.7	56.7	56.7	56.6	56.5	56.5	56.5	56.5	56.6	56.7	56.8	56.9
17 - η Tau	<i>Alcyone</i>	2.9	+24	10.6	10.6	10.6	10.6	10.5	10.5	10.6	10.6	10.7	10.7	10.8	10.8
18 - γ Eri	<i>Zaurak</i>	2.9	-13	26.7	26.8	26.8	26.7	26.6	26.5	26.4	26.3	26.3	26.3	26.4	26.4
19 - α Tau	<i>Aldebaran</i>	0.9	+16	33.3	33.3	33.3	33.3	33.3	33.3	33.4	33.4	33.5	33.5	33.5	33.5
20 - β Ori	<i>Rigel</i>	0.1	-8	10.6	10.6	10.7	10.6	10.6	10.5	10.4	10.3	10.2	10.3	10.3	10.4
21 - α Aur	<i>Capella</i>	0.1	+46	1.3	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.3	1.3
22 - γ Ori	<i>Bellatrix</i>	1.6	+6	22.2	22.2	22.2	22.2	22.2	22.2	22.3	22.4	22.4	22.4	22.4	22.3
23 - β Tau	<i>Elnath</i>	1.7	+28	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.7
24 - δ Ori	<i>Mintaka</i>	2.4	-0	17.0	17.0	17.0	17.0	17.0	16.9	16.8	16.8	16.7	16.7	16.8	16.9
25 - ϵ Ori	<i>Alnilam</i>	1.7	-1	11.3	11.3	11.4	11.3	11.3	11.2	11.1	11.1	11.0	11.0	11.1	11.2
26 - ζ Ori	<i>Alnitak</i>	1.8	-1	55.9	55.9	55.9	55.9	55.9	55.8	55.7	55.7	55.6	55.6	55.7	55.8
27 - κ Ori	<i>Saiph</i>	2.1	-9	39.8	39.8	39.8	39.8	39.8	39.7	39.6	39.5	39.4	39.5	39.5	39.6
28 - α Ori	<i>Betelgeuse</i>	0.4	+7	24.6	24.6	24.6	24.6	24.6	24.7	24.7	24.8	24.8	24.8	24.8	24.7
29 - β Aur	<i>Menkalinan</i>	1.9	+44	57.0	57.1	57.1	57.1	57.0	57.0	56.9	56.9	56.9	56.9	56.9	56.9
30 - β CMa	<i>Mirzam</i>	2.0	-17	58.1	58.2	58.2	58.2	58.2	58.1	57.9	57.8	57.8	57.8	57.9	58.0
31 - α Car	<i>Canopus</i>	-0.7	-52	42.5	42.7	42.7	42.7	42.6	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	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.7
33 - α CMa	<i>Sirius</i>	-1.5	-16	44.9	45.0	45.0	45.0	45.0	44.9	44.8	44.7	44.6	44.7	44.7	44.9
34 - ϵ CMa	<i>Adhara</i>	1.5	-28	60.2	60.4	60.4	60.4	60.4	60.3	60.1	60.0	59.9	59.9	60.0	60.2
35 - δ CMa	<i>Wezen</i>	1.8	-26	25.8	25.9	26.0	26.0	25.9	25.8	25.7	25.6	25.5	25.5	25.6	25.7
36 - η CMa	<i>Aludra</i>	2.5	-29	20.9	21.0	21.1	21.1	21.1	21.0	20.8	20.7	20.6	20.6	20.7	20.8
37 - α Gem	<i>Castor</i>	1.6	+31	50.2	50.2	50.3	50.3	50.3	50.3	50.3	50.2	50.2	50.1	50.1	50.1
38 - α CMi	<i>Procyon</i>	0.4	+5	9.9	9.9	9.9	9.9	9.9	9.9	10.0	10.0	10.0	10.0	9.9	9.8
39 - β Gem	<i>Pollux</i>	1.1	+27	58.2	58.2	58.2	58.3	58.3	58.3	58.2	58.2	58.2	58.1	58.1	58.0
40 - ζ Pup	<i>Naos</i>	2.3	-40	4.0	4.2	4.3	4.3	4.3	4.2	4.1	4.0	3.9	3.8	3.9	4.0
41 - γ Vel	<i>Regor</i>	1.8	-47	24.2	24.4	24.5	24.5	24.5	24.4	24.3	24.1	24.0	24.0	24.0	24.2
42 - ϵ Car	<i>Avior</i>	1.9	-59	34.9	35.1	35.2	35.3	35.3	35.2	35.1	34.9	34.8	34.7	34.8	34.9
43 - δ Velorum		2.0	-54	47.5	47.6	47.8	47.9	47.9	47.8	47.7	47.5	47.4	47.3	47.4	47.5
44 - ζ Hydrae		3.1	+5	51.5	51.4	51.4	51.4	51.4	51.4	51.5	51.5	51.5	51.5	51.4	51.3
45 - λ Vel	<i>Suhail</i>	2.2	-43	31.4	31.6	31.7	31.8	31.8	31.8	31.7	31.5	31.4	31.3	31.4	31.5
46 - β Car	<i>Miaplacidus</i>	1.7	-69	48.5	48.7	48.9	49.0	49.0	49.0	48.9	48.7	48.6	48.5	48.5	48.6
47 - ι Car	<i>Aspidiske</i>	2.3	-59	22.1	22.3	22.5	22.6	22.6	22.6	22.5	22.3	22.2	22.1	22.1	22.2
48 - α Lyn	<i>Elvashak</i>	3.1	+34	17.6	17.6	17.7	17.8	17.8	17.8	17.8	17.7	17.6	17.5	17.4	17.4
49 - α Hyd	<i>Alphard</i>	2.0	-8	45.5	45.6	45.6	45.7	45.7	45.6	45.6	45.5	45.5	45.5	45.5	45.6
50 - α Leo	<i>Regulus</i>	1.4	+11	51.2	51.2	51.2	51.2	51.2	51.3	51.3	51.3	51.2	51.2	51.1	51.0

Nº	NOMBRE	Mag	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'
51 - μ Velorum		2.7	198	3.4	3.2	3.2	3.3	3.4	3.6	3.8	3.8	3.7	3.4	3.0
52 - ν Hydrae		3.1	197	18.5	18.3	18.3	18.3	18.4	18.5	18.6	18.5	18.4	18.2	17.9
53 - β UMa <i>Merak</i>		2.4	194	11.4	11.1	11.0	11.1	11.2	11.5	11.6	11.7	11.6	11.5	11.2
54 - α UMa <i>Dubhe</i>		1.8	193	42.6	42.3	42.2	42.3	42.5	42.7	42.9	43.0	43.0	42.8	42.5
55 - β Leo <i>Denebola</i>		2.1	182	26.5	26.3	26.2	26.1	26.2	26.3	26.3	26.4	26.3	26.1	25.9
56 - γ Crv <i>Gienah</i>		2.6	175	45.2	44.9	44.8	44.8	44.8	44.9	45.0	45.0	45.1	45.0	44.8
57 - α Cru <i>Acrux</i>		1.3	173	1.7	1.3	1.1	1.1	1.2	1.4	1.7	1.9	2.1	2.0	1.7
58 - γ Cru <i>Gacrux</i>		1.6	171	53.3	53.0	52.8	52.7	52.8	53.0	53.2	53.4	53.5	53.4	53.2
59 - γ Cen <i>Muhlifain</i>		2.2	169	18.2	17.9	17.7	17.7	17.7	17.8	18.0	18.1	18.2	18.2	18.0
60 - β Cru <i>Mimosa</i>		1.3	167	44.0	43.6	43.4	43.3	43.4	43.5	43.7	44.0	44.1	44.1	43.9
61 - ϵ UMa <i>Alioth</i>		1.8	166	14.3	14.0	13.8	13.7	13.8	13.9	14.1	14.3	14.4	14.4	14.0
62 - α^2 CVn <i>Cor Caroli</i>		2.9	165	43.5	43.2	43.0	42.9	43.0	43.1	43.2	43.3	43.4	43.4	43.0
63 - ϵ Vir <i>Vindemiatrix</i>		2.8	164	10.2	10.0	9.9	9.8	9.8	9.8	9.9	10.0	10.0	10.0	9.9
64 - ζ UMa <i>Mizar</i>		2.3	158	47.2	46.9	46.6	46.5	46.5	46.7	46.9	47.1	47.2	47.3	47.2
65 - α Vir <i>Spica</i>		1.0	158	24.0	23.8	23.6	23.5	23.5	23.5	23.6	23.7	23.7	23.7	23.6
66 - η UMa <i>Alkaid</i>		1.9	152	53.3	53.0	52.8	52.7	52.7	52.8	52.9	53.1	53.2	53.3	53.0
67 - β Cen <i>Hadad</i>		0.6	148	38.4	38.0	37.7	37.5	37.4	37.5	37.6	37.9	38.1	38.2	38.1
68 - θ Cen <i>Menkent</i>		2.1	147	59.6	59.3	59.1	59.0	58.9	58.9	59.0	59.1	59.2	59.3	59.0
69 - α Boo <i>Arcturus</i>		-0.1	145	49.5	49.2	49.0	48.9	48.9	48.9	49.0	49.1	49.2	49.2	49.0
70 - α^1 Cen <i>Rigel Kentaurus</i>		0.0	139	42.7	42.3	42.0	41.7	41.6	41.6	41.8	42.0	42.3	42.4	42.1
71 - α^2 Lib <i>Zubenelgenubi</i>		2.8	136	58.0	57.7	57.5	57.3	57.2	57.2	57.3	57.3	57.4	57.5	57.3
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	26.6	26.3	26.1	25.9	25.8	25.8	25.8	25.9	26.0	26.1	25.9
74 - α CrB <i>Alphecca</i>		2.2	126	5.3	5.1	4.9	4.7	4.6	4.5	4.6	4.7	4.8	4.9	4.8
75 - α Ser <i>Unukalhai</i>		2.6	123	39.3	39.0	38.8	38.6	38.5	38.5	38.5	38.6	38.7	38.8	38.7
76 - α Sco <i>Antares</i>		0.9	112	18.1	17.8	17.6	17.4	17.2	17.1	17.1	17.1	17.3	17.4	17.3
77 - α TrA <i>Atria</i>		1.9	107	14.3	13.7	13.1	12.6	12.2	11.9	11.9	12.2	12.6	12.9	13.1
78 - ϵ Sco <i>Larawag</i>		2.3	107	5.6	5.4	5.1	4.8	4.6	4.5	4.5	4.5	4.7	4.8	4.9
79 - η Oph <i>Sabik</i>		2.4	102	5.0	4.7	4.5	4.2	4.1	3.9	3.9	3.9	4.1	4.2	4.2
80 - α Her <i>Rasalgethi</i>		3.1	101	4.9	4.7	4.5	4.3	4.1	4.0	4.0	4.0	4.2	4.3	4.3
81 - λ Sco <i>Shaula</i>		1.6	96	13.0	12.7	12.4	12.1	11.9	11.7	11.7	11.7	11.8	12.0	12.1
82 - α Oph <i>Rasalhague</i>		2.1	95	60.4	60.2	60.0	59.7	59.5	59.4	59.4	59.4	59.6	59.7	59.8
83 - θ Sco <i>Sargas</i>		1.9	95	16.0	15.7	15.4	15.1	14.8	14.7	14.6	14.6	14.8	15.0	15.1
84 - γ Dra <i>Eltanin</i>		2.2	90	43.4	43.2	42.9	42.6	42.4	42.3	42.3	42.4	42.6	42.9	43.1
85 - ϵ Sgr <i>Kaus Australis</i>		1.8	83	35.1	34.9	34.6	34.3	34.1	33.9	33.8	33.8	33.9	34.0	34.1
86 - α Lyr <i>Vega</i>		0.0	80	34.8	34.6	34.4	34.1	33.9	33.7	33.6	33.7	33.8	34.0	34.2
87 - σ Sgr <i>Nunki</i>		2.1	75	50.2	50.0	49.8	49.5	49.2	49.0	48.9	48.9	49.0	49.1	49.2
88 - α Aql <i>Altair</i>		0.8	62	1.9	1.8	1.6	1.4	1.2	1.0	0.8	0.8	0.8	1.0	1.1
89 - γ Cyg <i>Sadr</i>		2.2	54	14.8	14.7	14.5	14.3	14.0	13.8	13.6	13.6	13.7	13.8	14.0
90 - α Pav <i>Peacock</i>		1.9	53	8.9	8.7	8.5	8.1	7.7	7.3	7.1	7.0	7.0	7.2	7.5
91 - α Cyg <i>Deneb</i>		1.3	49	27.4	27.3	27.2	26.9	26.6	26.4	26.2	26.1	26.2	26.4	26.6
92 - α Cep <i>Alderamin</i>		2.5	40	14.0	14.0	13.9	13.5	13.2	12.8	12.5	12.4	12.5	12.8	13.1
93 - ϵ Peg <i>Enif</i>		2.4	33	40.7	40.7	40.6	40.4	40.2	39.9	39.7	39.6	39.6	39.7	39.8
94 - δ Cap <i>Deneb Algedi</i>		2.8	32	55.8	55.8	55.7	55.5	55.2	55.0	54.8	54.6	54.6	54.7	54.8
95 - α Gru <i>Al Na'ir</i>		1.7	27	35.4	35.3	35.2	35.0	34.7	34.4	34.1	33.9	33.8	33.9	34.1
96 - β Gru <i>Tiaki</i>		2.1	18	59.9	59.9	59.9	59.7	59.4	59.1	58.8	58.5	58.5	58.5	58.6
97 - α PsA <i>Fomalhaut</i>		1.2	15	16.6	16.6	16.5	16.4	16.2	15.9	15.6	15.4	15.4	15.4	15.5
98 - β Peg <i>Scheat</i>		2.4	13	47.0	47.1	47.0	46.9	46.7	46.4	46.2	46.0	45.9	46.0	46.1
99 - α Peg <i>Markab</i>		2.5	13	31.7	31.8	31.7	31.6	31.4	31.2	30.9	30.8	30.7	30.7	30.8

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Posiciones aparentes379
DECLINACIÓN

Nº	NOMBRE	Mag		Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic
			°	'	'	'	'	'	'	'	'	'	'	'	'
51 - μ	Velorum	2.7	-49	32.3	32.5	32.6	32.8	32.8	32.8	32.8	32.7	32.5	32.4	32.4	32.5
52 - ν	Hydrae	3.1	-16	18.8	18.9	19.0	19.0	19.0	19.0	19.0	18.9	18.9	18.8	18.9	19.0
53 - β	UMa <i>Merak</i>	2.4	+56	15.3	15.4	15.5	15.6	15.7	15.7	15.7	15.6	15.4	15.3	15.1	15.0
54 - α	UMa <i>Dubhe</i>	1.8	+61	37.4	37.5	37.6	37.7	37.8	37.8	37.8	37.6	37.5	37.3	37.2	37.1
55 - β	Leo <i>Denebola</i>	2.1	+14	26.5	26.5	26.5	26.5	26.5	26.6	26.6	26.6	26.6	26.5	26.4	26.3
56 - γ	Crv <i>Gienah</i>	2.6	-17	40.1	40.2	40.3	40.4	40.4	40.4	40.4	40.3	40.3	40.2	40.3	40.3
57 - α	Cru <i>Acrux</i>	1.3	-63	13.3	13.4	13.6	13.8	13.9	14.0	14.0	13.9	13.8	13.7	13.6	13.6
58 - γ	Cru <i>Gacrux</i>	1.6	-57	14.2	14.4	14.5	14.7	14.8	14.9	14.9	14.8	14.7	14.6	14.5	14.5
59 - γ	Cen <i>Muhlifain</i>	2.2	-49	4.9	5.0	5.2	5.3	5.4	5.5	5.5	5.4	5.3	5.2	5.2	5.2
60 - β	Cru <i>Mimosa</i>	1.3	-59	48.6	48.7	48.9	49.0	49.2	49.2	49.3	49.2	49.1	49.0	48.9	48.8
61 - ε	UMa <i>Alioth</i>	1.8	+55	49.8	49.8	49.9	50.0	50.2	50.3	50.3	50.2	50.1	49.9	49.7	49.6
62 - α^2	CVn <i>Cor Caroli</i>	2.9	+38	11.4	11.4	11.5	11.6	11.7	11.7	11.8	11.7	11.6	11.5	11.3	11.2
63 - ε	Vir <i>Vindemiatrix</i>	2.8	+10	50.1	50.0	50.0	50.0	50.0	50.1	50.1	50.1	50.1	50.0	49.9	49.8
64 - ζ	UMa <i>Mizar</i>	2.3	+54	48.0	48.0	48.1	48.2	48.4	48.5	48.5	48.4	48.3	48.2	48.0	47.8
65 - α	Vir <i>Spica</i>	1.0	-11	16.8	16.9	17.0	17.0	17.1	17.0	17.0	17.0	17.0	17.0	17.0	17.1
66 - η	UMa <i>Alkaid</i>	1.9	+49	11.6	11.6	11.7	11.8	11.9	12.0	12.1	12.0	11.9	11.8	11.6	11.4
67 - β	Cen <i>Hadar</i>	0.6	-60	28.7	28.8	28.9	29.1	29.2	29.3	29.4	29.4	29.3	29.2	29.1	29.0
68 - θ	Cen <i>Menkent</i>	2.1	-36	28.8	28.9	29.0	29.1	29.2	29.2	29.3	29.2	29.2	29.1	29.1	29.1
69 - α	Boo <i>Arcturus</i>	-0.1	+19	3.6	3.5	3.5	3.6	3.6	3.7	3.8	3.8	3.7	3.7	3.5	3.4
70 - α^1	Cen <i>Rigil Kentaurus</i>	0.0	-60	55.5	55.6	55.7	55.8	56.0	56.1	56.2	56.2	56.1	56.0	55.9	55.8
71 - α^2	Lib <i>Zubenelgenubi</i>	2.8	-16	8.2	8.3	8.3	8.4	8.4	8.4	8.4	8.4	8.3	8.3	8.3	8.4
72 - β	UMi <i>Kochab</i>	2.1	+74	3.3	3.3	3.3	3.5	3.6	3.7	3.8	3.8	3.7	3.6	3.4	3.2
73 - β	Lib <i>Zubeneschamali</i>	2.6	-9	28.0	28.1	28.2	28.2	28.2	28.2	28.2	28.1	28.1	28.1	28.1	28.2
74 - α	CrB <i>Alphecca</i>	2.2	+26	38.1	38.0	38.0	38.0	38.1	38.2	38.3	38.3	38.3	38.3	38.1	38.0
75 - α	Ser <i>Unukalhai</i>	2.6	+6	21.1	21.0	21.0	21.0	21.1	21.1	21.2	21.2	21.2	21.2	21.1	21.0
76 - α	Sco <i>Antares</i>	0.9	-26	28.9	28.9	29.0	29.0	29.0	29.1	29.1	29.1	29.1	29.1	29.0	29.0
77 - α	TrA <i>Atria</i>	1.9	-69	3.9	3.9	3.9	3.9	4.1	4.2	4.3	4.4	4.4	4.4	4.3	4.1
78 - ε	Sco <i>Larawag</i>	2.3	-34	20.0	20.0	20.0	20.1	20.1	20.2	20.2	20.2	20.2	20.2	20.2	20.1
79 - η	Oph <i>Sabik</i>	2.4	-15	45.2	45.2	45.3	45.3	45.3	45.2	45.2	45.2	45.2	45.2	45.2	45.2
80 - α	Her <i>Rasalgethi</i>	3.1	+14	21.7	21.6	21.6	21.6	21.7	21.8	21.9	21.9	22.0	21.9	21.9	21.8
81 - λ	Sco <i>Shaula</i>	1.6	-37	7.2	7.1	7.1	7.2	7.2	7.2	7.3	7.3	7.3	7.3	7.3	7.2
82 - α	Oph <i>Rasalhague</i>	2.1	+12	32.5	32.4	32.4	32.4	32.5	32.6	32.6	32.7	32.7	32.7	32.6	32.6
83 - θ	Sco <i>Sargas</i>	1.9	-43	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.9	0.9	0.8	0.7
84 - γ	Dra <i>Eltanin</i>	2.2	+51	29.0	28.8	28.8	28.8	28.9	29.1	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	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.5	22.4
86 - α	Lyr <i>Vega</i>	0.0	+38	48.2	48.0	48.0	48.0	48.1	48.2	48.4	48.5	48.6	48.6	48.5	48.4
87 - σ	Sgr <i>Nunki</i>	2.1	-26	16.1	16.1	16.1	16.1	16.0	16.0	16.0	16.0	16.1	16.1	16.1	16.1
88 - α	Aql <i>Altair</i>	0.8	+8	55.7	55.6	55.5	55.6	55.6	55.7	55.8	55.9	56.0	56.0	56.0	55.9
89 - γ	Cyg <i>Sadr</i>	2.2	+40	19.8	19.6	19.5	19.5	19.5	19.7	19.8	20.0	20.1	20.2	20.2	20.1
90 - α	Pav <i>Peacock</i>	1.9	-56	39.8	39.7	39.5	39.5	39.4	39.4	39.5	39.6	39.7	39.7	39.7	39.7
91 - α	Cyg <i>Deneb</i>	1.3	+45	21.7	21.6	21.5	21.4	21.5	21.6	21.8	21.9	22.1	22.1	22.1	22.1
92 - α	Cep <i>Alderamin</i>	2.5	+62	41.0	40.8	40.7	40.6	40.6	40.8	40.9	41.1	41.3	41.4	41.4	41.4
93 - ε	Peg <i>Enif</i>	2.4	+9	58.8	58.7	58.7	58.7	58.7	58.8	58.9	59.0	59.1	59.1	59.1	59.1
94 - δ	Cap <i>Deneb Algedi</i>	2.8	-16	1.5	1.5	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.2	1.2	1.2
95 - α	Gru <i>Al Na'ir</i>	1.7	-46	51.2	51.1	51.0	50.9	50.7	50.7	50.7	50.7	50.8	50.9	51.0	51.0
96 - β	Gru <i>Tiaki</i>	2.1	-46	46.1	46.0	45.9	45.8	45.6	45.5	45.5	45.6	45.6	45.7	45.8	45.8
97 - α	PsA <i>Fomalhaut</i>	1.2	-29	30.3	30.2	30.1	30.0	29.9	29.8	29.7	29.7	29.8	29.8	29.9	29.9
98 - β	Peg <i>Scheat</i>	2.4	+28	12.5	12.4	12.3	12.3	12.3	12.4	12.5	12.6	12.8	12.8	12.9	12.9
99 - α	Peg <i>Markab</i>	2.5	+15	19.7	19.6	19.6	19.6	19.6	19.7	19.8	20.0	20.0	20.1	20.1	20.1

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

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 32	1 30	23 28	21 26	19 28	Día	Corr.
2 - β Cassiopeae	<i>Caph</i>	2.3	3 32	1 31	23 29	21 27	19 29	h m	
6 - β Ceti	<i>Diphda</i>	2.0	4 07	2 05	0 07	22 01	20 03	1	0 00
9 - α Eridani	<i>Achernar</i>	0.5	5 00	2 59	1 01	22 55	20 57	2	0 04
12 - α Arietis	<i>Hamal</i>	2.0	5 30	3 28	1 30	23 25	21 27	3	0 08
13 - θ Eridani	<i>Acamar</i>	3.3	6 21	4 19	2 21	0 19	22 17	4	0 12
16 - α Persei	<i>Mirfak</i>	1.8	6 47	4 46	2 48	0 46	22 44	5	0 16
19 - α Tauri	<i>Aldebaran</i>	0.9	7 59	5 57	3 59	1 57	23 55	6	0 20
20 - β Orionis	<i>Rigel</i>	0.1	8 37	6 35	4 37	2 35	0 37	7	0 24
21 - α Aurigae	<i>Capella</i>	0.1	8 40	6 38	4 40	2 38	0 40	8	0 28
22 - γ Orionis	<i>Bellatrix</i>	1.6	8 48	6 46	4 48	2 46	0 48	9	0 31
28 - α Orionis	<i>Betelgeuse</i>	0.4	9 18	7 16	5 18	3 16	1 18	10	0 35
31 - α Carinae	<i>Canopus</i>	-0.7	9 45	7 44	5 46	3 44	1 46	11	0 39
33 - α Canis Majoris	<i>Sirius</i>	-1.5	10 07	8 05	6 07	4 05	2 07	12	0 43
34 - ϵ Canis Majoris	<i>Adhara</i>	1.5	10 20	8 19	6 21	4 19	2 21	13	0 47
38 - α Canis Minoris	<i>Procyon</i>	0.4	11 01	8 59	7 01	5 00	3 02	14	0 51
39 - β Geminorum	<i>Pollux</i>	1.1	11 08	9 06	7 08	5 06	3 08	15	0 55
42 - ϵ Carinae	<i>Avior</i>	1.9	11 44	9 42	7 44	5 42	3 44	16	0 59
45 - λ Velorum	<i>Suhail</i>	2.2	12 29	10 28	8 30	6 28	4 30	17	1 03
46 - β Carinae	<i>Miaplacidus</i>	1.7	12 34	10 32	8 34	6 32	4 34	18	1 07
49 - α Hydrae	<i>Alphard</i>	2.0	12 49	10 47	8 49	6 48	4 50	19	1 11
50 - α Leonis	<i>Regulus</i>	1.4	13 30	11 28	9 30	7 28	5 30	20	1 15
54 - α Ursae Majoris	<i>Dubhe</i>	1.8	14 25	12 23	10 26	8 24	6 26	21	1 19
55 - β Leonis	<i>Denebola</i>	2.1	15 10	13 08	11 11	9 09	7 11	22	1 23
57 - α Crucis	<i>Acrux</i>	1.3	15 48	13 46	11 48	9 46	7 48	23	1 27
58 - γ Crucis	<i>Gacrux</i>	1.6	15 52	13 51	11 53	9 51	7 53	24	1 30
60 - β Crucis	<i>Mimosa</i>	1.3	16 09	14 07	12 09	10 07	8 09	25	1 34
61 - ϵ Ursae Majoris	<i>Alioth</i>	1.8	16 15	14 13	12 15	10 13	8 15	26	1 38
64 - ζ Ursae Majoris	<i>Mizar</i>	2.3	16 45	14 43	12 45	10 43	8 45	27	1 42
65 - α Virginis	<i>Spica</i>	1.0	16 46	14 44	12 46	10 45	8 47	28	1 46
68 - θ Centauri	<i>Menkent</i>	2.1	17 28	15 26	13 28	11 26	9 28	29	1 50
69 - α Bootis	<i>Arcturus</i>	-0.1	17 36	15 35	13 37	11 35	9 37	30	1 54
70 - α^1 Centauri	<i>Rigil Kentaurus</i>	0.0	18 01	15 59	14 01	11 59	10 01	31	1 58
72 - β Ursae Minoris	<i>Kochab</i>	2.1	18 10	16 08	14 10	12 09	10 11	Si el resultado es negativo sumar a este 23 ^h 56 ^m	
74 - α Coronae Borealis	<i>Alphecca</i>	2.2	18 55	16 53	14 55	12 53	10 55	2ª CORRECCIÓN	
76 - α Scorpii	<i>Antares</i>	0.9	19 50	17 48	15 50	13 48	11 51	Se aplicará para tener la hora civil del paso por otro meridiano.	
77 - α Trianguli Aust.	<i>Atria</i>	1.9	20 10	18 09	16 11	14 09	12 11	Long	Corr.
81 - λ Scorpii	<i>Shaula</i>	1.6	20 54	18 53	16 55	14 53	12 55	o	m
82 - α Ophiuchi	<i>Rasalhague</i>	2.1	20 55	18 53	16 55	14 53	12 56	180 W	-2
84 - γ Draconis	<i>Eltanin</i>	2.2	21 16	19 14	17 16	15 15	13 17	138 W	-1
85 - ϵ Sagittarii	<i>Kaus Australis</i>	1.8	21 45	19 43	17 45	15 43	13 45	46 W	0
86 - α Lyrae	<i>Vega</i>	0.0	21 57	19 55	17 57	15 55	13 57	46 E	+1
87 - σ Sagittarii	<i>Nunki</i>	2.1	22 16	20 14	18 16	16 14	14 16	136 E	+2
88 - α Aquilae	<i>Altair</i>	0.8	23 11	21 09	19 11	17 09	15 11	180 E	
90 - α Pavonis	<i>Peacock</i>	1.9	23 46	21 44	19 46	17 44	15 47		
91 - α Cygni	<i>Deneb</i>	1.3	0 05	21 59	20 01	17 59	16 01		
93 - ϵ Pegasi	<i>Enif</i>	2.4	1 08	23 02	21 04	19 02	17 04		
95 - α Gruis	<i>Al Na'ir</i>	1.7	1 32	23 26	21 28	19 26	17 28		
97 - α Piscis Austrini	<i>Fomalhaut</i>	1.2	2 21	0 19	22 17	20 16	18 18		
99 - α Pegasi	<i>Markab</i>	2.5	2 28	0 26	22 24	20 23	18 25		

DETERMINACIÓN DE LA LATITUD
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2023

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 -26.8	26 00 -36.1	52 00 -38.0	78 00 -32.2	104 00 -19.9	130 00 - 3.6	156 00 +13.5
0 30 -27.1	26 30 -36.2	52 30 -37.9	78 30 -32.0	104 30 -19.6	130 30 - 3.2	156 30 +13.8
1 00 -27.3	27 00 -36.3	53 00 -37.9	79 00 -31.8	105 00 -19.3	131 00 - 2.9	157 00 +14.1
1 30 -27.6	27 30 -36.4	53 30 -37.8	79 30 -31.6	105 30 -19.0	131 30 - 2.6	157 30 +14.4
2 00 -27.8	28 00 -36.5	54 00 -37.8	80 00 -31.4	106 00 -18.7	132 00 - 2.2	158 00 +14.7
2 30 -28.0	28 30 -36.6	54 30 -37.7	80 30 -31.3	106 30 -18.5	132 30 - 1.9	158 30 +15.0
3 00 -28.2	29 00 -36.7	55 00 -37.7	81 00 -31.1	107 00 -18.2	133 00 - 1.6	159 00 +15.3
3 30 -28.5	29 30 -36.8	55 30 -37.6	81 30 -30.9	107 30 -17.9	133 30 - 1.2	159 30 +15.6
4 00 -28.7	30 00 -36.8	56 00 -37.6	82 00 -30.7	108 00 -17.6	134 00 - 0.9	160 00 +15.9
4 30 -28.9	30 30 -36.9	56 30 -37.5	82 30 -30.5	108 30 -17.3	134 30 - 0.6	160 30 +16.2
5 00 -29.1	31 00 -37.0	57 00 -37.4	83 00 -30.3	109 00 -17.0	135 00 - 0.2	161 00 +16.5
5 30 -29.3	31 30 -37.1	57 30 -37.4	83 30 -30.1	109 30 -16.7	135 30 + 0.1	161 30 +16.8
6 00 -29.5	32 00 -37.2	58 00 -37.3	84 00 -29.9	110 00 -16.4	136 00 + 0.4	162 00 +17.1
6 30 -29.8	32 30 -37.3	58 30 -37.2	84 30 -29.6	110 30 -16.1	136 30 + 0.8	162 30 +17.4
7 00 -30.0	33 00 -37.3	59 00 -37.1	85 00 -29.4	111 00 -15.8	137 00 + 1.1	163 00 +17.7
7 30 -30.2	33 30 -37.4	59 30 -37.1	85 30 -29.2	111 30 -15.5	137 30 + 1.4	163 30 +18.0
8 00 -30.4	34 00 -37.5	60 00 -37.0	86 00 -29.0	112 00 -15.2	138 00 + 1.8	164 00 +18.3
8 30 -30.6	34 30 -37.5	60 30 -36.9	86 30 -28.8	112 30 -14.9	138 30 + 2.1	164 30 +18.6
9 00 -30.8	35 00 -37.6	61 00 -36.8	87 00 -28.6	113 00 -14.5	139 00 + 2.4	165 00 +18.9
9 30 -31.0	35 30 -37.7	61 30 -36.7	87 30 -28.3	113 30 -14.2	139 30 + 2.8	165 30 +19.2
10 00 -31.2	36 00 -37.7	62 00 -36.6	88 00 -28.1	114 00 -13.9	140 00 + 3.1	166 00 +19.5
10 30 -31.4	36 30 -37.8	62 30 -36.5	88 30 -27.9	114 30 -13.6	140 30 + 3.4	166 30 +19.8
11 00 -31.5	37 00 -37.8	63 00 -36.4	89 00 -27.7	115 00 -13.3	141 00 + 3.7	167 00 +20.0
11 30 -31.7	37 30 -37.9	63 30 -36.3	89 30 -27.4	115 30 -13.0	141 30 + 4.1	167 30 +20.3
12 00 -31.9	38 00 -37.9	64 00 -36.2	90 00 -27.2	116 00 -12.7	142 00 + 4.4	168 00 +20.6
12 30 -32.1	38 30 -37.9	64 30 -36.1	90 30 -27.0	116 30 -12.4	142 30 + 4.7	168 30 +20.9
13 00 -32.3	39 00 -38.0	65 00 -36.0	91 00 -26.7	117 00 -12.0	143 00 + 5.1	169 00 +21.2
13 30 -32.5	39 30 -38.0	65 30 -35.9	91 30 -26.5	117 30 -11.7	143 30 + 5.4	169 30 +21.4
14 00 -32.6	40 00 -38.0	66 00 -35.8	92 00 -26.2	118 00 -11.4	144 00 + 5.7	170 00 +21.7
14 30 -32.8	40 30 -38.1	66 30 -35.6	92 30 -26.0	118 30 -11.1	144 30 + 6.1	170 30 +22.0
15 00 -33.0	41 00 -38.1	67 00 -35.5	93 00 -25.8	119 00 -10.8	145 00 + 6.4	171 00 +22.3
15 30 -33.1	41 30 -38.1	67 30 -35.4	93 30 -25.5	119 30 -10.5	145 30 + 6.7	171 30 +22.5
16 00 -33.3	42 00 -38.2	68 00 -35.3	94 00 -25.3	120 00 -10.1	146 00 + 7.0	172 00 +22.8
16 30 -33.5	42 30 -38.2	68 30 -35.1	94 30 -25.0	120 30 - 9.8	146 30 + 7.4	172 30 +23.1
17 00 -33.6	43 00 -38.2	69 00 -35.0	95 00 -24.8	121 00 - 9.5	147 00 + 7.7	173 00 +23.3
17 30 -33.8	43 30 -38.2	69 30 -34.9	95 30 -24.5	121 30 - 9.2	147 30 + 8.0	173 30 +23.6
18 00 -33.9	44 00 -38.2	70 00 -34.7	96 00 -24.2	122 00 - 8.8	148 00 + 8.4	174 00 +23.9
18 30 -34.1	44 30 -38.2	70 30 -34.6	96 30 -24.0	122 30 - 8.5	148 30 + 8.7	174 30 +24.1
19 00 -34.2	45 00 -38.2	71 00 -34.5	97 00 -23.7	123 00 - 8.2	149 00 + 9.0	175 00 +24.4
19 30 -34.4	45 30 -38.2	71 30 -34.3	97 30 -23.5	123 30 - 7.9	149 30 + 9.3	175 30 +24.6
20 00 -34.5	46 00 -38.2	72 00 -34.2	98 00 -23.2	124 00 - 7.5	150 00 + 9.7	176 00 +24.9
20 30 -34.7	46 30 -38.2	72 30 -34.0	98 30 -22.9	124 30 - 7.2	150 30 +10.0	176 30 +25.1
21 00 -34.8	47 00 -38.2	73 00 -33.9	99 00 -22.7	125 00 - 6.9	151 00 +10.3	177 00 +25.4
21 30 -34.9	47 30 -38.2	73 30 -33.7	99 30 -22.4	125 30 - 6.6	151 30 +10.6	177 30 +25.6
22 00 -35.1	48 00 -38.2	74 00 -33.5	100 00 -22.1	126 00 - 6.2	152 00 +10.9	178 00 +25.9
22 30 -35.2	48 30 -38.2	74 30 -33.4	100 30 -21.9	126 30 - 5.9	152 30 +11.3	178 30 +26.1
23 00 -35.3	49 00 -38.1	75 00 -33.2	101 00 -21.6	127 00 - 5.6	153 00 +11.6	179 00 +26.4
23 30 -35.5	49 30 -38.1	75 30 -33.1	101 30 -21.3	127 30 - 5.2	153 30 +11.9	179 30 +26.6
24 00 -35.6	50 00 -38.1	76 00 -32.9	102 00 -21.0	128 00 - 4.9	154 00 +12.2	180 00 +26.8
24 30 -35.7	50 30 -38.1	76 30 -32.7	102 30 -20.7	128 30 - 4.6	154 30 +12.5	180 30 +27.1
25 00 -35.8	51 00 -38.0	77 00 -32.5	103 00 -20.5	129 00 - 4.2	155 00 +12.8	181 00 +27.3
25 30 -35.9	51 30 -38.0	77 30 -32.4	103 30 -20.2	129 30 - 3.9	155 30 +13.2	181 30 +27.6
26 00 -36.1	52 00 -38.0	78 00 -32.2	104 00 -19.9	130 00 - 3.6	156 00 +13.5	182 00 +27.8

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 +27.8	208 00 +36.5	234 00 +37.8	260 00 +31.4	286 00 +18.7	312 00 + 2.2	338 00 -14.7	
182 30 +28.0	208 30 +36.6	234 30 +37.7	260 30 +31.3	286 30 +18.5	312 30 + 1.9	338 30 -15.0	
183 00 +28.2	209 00 +36.7	235 00 +37.7	261 00 +31.1	287 00 +18.2	313 00 + 1.6	339 00 -15.3	
183 30 +28.5	209 30 +36.8	235 30 +37.6	261 30 +30.9	287 30 +17.9	313 30 + 1.2	339 30 -15.6	
184 00 +28.7	210 00 +36.8	236 00 +37.6	262 00 +30.7	288 00 +17.6	314 00 + 0.9	340 00 -15.9	
184 30 +28.9	210 30 +36.9	236 30 +37.5	262 30 +30.5	288 30 +17.3	314 30 + 0.6	340 30 -16.2	
185 00 +29.1	211 00 +37.0	237 00 +37.4	263 00 +30.3	289 00 +17.0	315 00 + 0.2	341 00 -16.5	
185 30 +29.3	211 30 +37.1	237 30 +37.4	263 30 +30.1	289 30 +16.7	315 30 - 0.1	341 30 -16.8	
186 00 +29.5	212 00 +37.2	238 00 +37.3	264 00 +29.9	290 00 +16.4	316 00 - 0.4	342 00 -17.1	
186 30 +29.8	212 30 +37.3	238 30 +37.2	264 30 +29.6	290 30 +16.1	316 30 - 0.8	342 30 -17.4	
187 00 +30.0	213 00 +37.3	239 00 +37.1	265 00 +29.4	291 00 +15.8	317 00 - 1.1	343 00 -17.7	
187 30 +30.2	213 30 +37.4	239 30 +37.1	265 30 +29.2	291 30 +15.5	317 30 - 1.4	343 30 -18.0	
188 00 +30.4	214 00 +37.5	240 00 +37.0	266 00 +29.0	292 00 +15.2	318 00 - 1.8	344 00 -18.3	
188 30 +30.6	214 30 +37.5	240 30 +36.9	266 30 +28.8	292 30 +14.9	318 30 - 2.1	344 30 -18.6	
189 00 +30.8	215 00 +37.6	241 00 +36.8	267 00 +28.6	293 00 +14.5	319 00 - 2.4	345 00 -18.9	
189 30 +31.0	215 30 +37.7	241 30 +36.7	267 30 +28.3	293 30 +14.2	319 30 - 2.8	345 30 -19.2	
190 00 +31.2	216 00 +37.7	242 00 +36.6	268 00 +28.1	294 00 +13.9	320 00 - 3.1	346 00 -19.5	
190 30 +31.4	216 30 +37.8	242 30 +36.5	268 30 +27.9	294 30 +13.6	320 30 - 3.4	346 30 -19.8	
191 00 +31.5	217 00 +37.8	243 00 +36.4	269 00 +27.7	295 00 +13.3	321 00 - 3.7	347 00 -20.0	
191 30 +31.7	217 30 +37.9	243 30 +36.3	269 30 +27.4	295 30 +13.0	321 30 - 4.1	347 30 -20.3	
192 00 +31.9	218 00 +37.9	244 00 +36.2	270 00 +27.2	296 00 +12.7	322 00 - 4.4	348 00 -20.6	
192 30 +32.1	218 30 +37.9	244 30 +36.1	270 30 +27.0	296 30 +12.4	322 30 - 4.7	348 30 -20.9	
193 00 +32.3	219 00 +38.0	245 00 +36.0	271 00 +26.7	297 00 +12.0	323 00 - 5.1	349 00 -21.2	
193 30 +32.5	219 30 +38.0	245 30 +35.9	271 30 +26.5	297 30 +11.7	323 30 - 5.4	349 30 -21.4	
194 00 +32.6	220 00 +38.0	246 00 +35.8	272 00 +26.2	298 00 +11.4	324 00 - 5.7	350 00 -21.7	
194 30 +32.8	220 30 +38.1	246 30 +35.6	272 30 +26.0	298 30 +11.1	324 30 - 6.1	350 30 -22.0	
195 00 +33.0	221 00 +38.1	247 00 +35.5	273 00 +25.8	299 00 +10.8	325 00 - 6.4	351 00 -22.3	
195 30 +33.1	221 30 +38.1	247 30 +35.4	273 30 +25.5	299 30 +10.5	325 30 - 6.7	351 30 -22.5	
196 00 +33.3	222 00 +38.2	248 00 +35.3	274 00 +25.3	300 00 +10.1	326 00 - 7.0	352 00 -22.8	
196 30 +33.5	222 30 +38.2	248 30 +35.1	274 30 +25.0	300 30 + 9.8	326 30 - 7.4	352 30 -23.1	
197 00 +33.6	223 00 +38.2	249 00 +35.0	275 00 +24.8	301 00 + 9.5	327 00 - 7.7	353 00 -23.3	
197 30 +33.8	223 30 +38.2	249 30 +34.9	275 30 +24.5	301 30 + 9.2	327 30 - 8.0	353 30 -23.6	
198 00 +33.9	224 00 +38.2	250 00 +34.7	276 00 +24.2	302 00 + 8.8	328 00 - 8.4	354 00 -23.9	
198 30 +34.1	224 30 +38.2	250 30 +34.6	276 30 +24.0	302 30 + 8.5	328 30 - 8.7	354 30 -24.1	
199 00 +34.2	225 00 +38.2	251 00 +34.5	277 00 +23.7	303 00 + 8.2	329 00 - 9.0	355 00 -24.4	
199 30 +34.4	225 30 +38.2	251 30 +34.3	277 30 +23.5	303 30 + 7.9	329 30 - 9.3	355 30 -24.6	
200 00 +34.5	226 00 +38.2	252 00 +34.2	278 00 +23.2	304 00 + 7.5	330 00 - 9.7	356 00 -24.9	
200 30 +34.7	226 30 +38.2	252 30 +34.0	278 30 +22.9	304 30 + 7.2	330 30 -10.0	356 30 -25.1	
201 00 +34.8	227 00 +38.2	253 00 +33.9	279 00 +22.7	305 00 + 6.9	331 00 -10.3	357 00 -25.4	
201 30 +34.9	227 30 +38.2	253 30 +33.7	279 30 +22.4	305 30 + 6.6	331 30 -10.6	357 30 -25.6	
202 00 +35.1	228 00 +38.2	254 00 +33.5	280 00 +22.1	306 00 + 6.2	332 00 -10.9	358 00 -25.9	
202 30 +35.2	228 30 +38.2	254 30 +33.4	280 30 +21.9	306 30 + 5.9	332 30 -11.3	358 30 -26.1	
203 00 +35.3	229 00 +38.1	255 00 +33.2	281 00 +21.6	307 00 + 5.6	333 00 -11.6	359 00 -26.4	
203 30 +35.5	229 30 +38.1	255 30 +33.1	281 30 +21.3	307 30 + 5.2	333 30 -11.9	359 30 -26.6	
204 00 +35.6	230 00 +38.1	256 00 +32.9	282 00 +21.0	308 00 + 4.9	334 00 -12.2	360 00 -26.8	
204 30 +35.7	230 30 +38.1	256 30 +32.7	282 30 +20.7	308 30 + 4.6	334 30 -12.5		
205 00 +35.8	231 00 +38.0	257 00 +32.5	283 00 +20.5	309 00 + 4.2	335 00 -12.8		
205 30 +35.9	231 30 +38.0	257 30 +32.4	283 30 +20.2	309 30 + 3.9	335 30 -13.2		
206 00 +36.1	232 00 +38.0	258 00 +32.2	284 00 +19.9	310 00 + 3.6	336 00 -13.5		
206 30 +36.2	232 30 +37.9	258 30 +32.0	284 30 +19.6	310 30 + 3.2	336 30 -13.8		
207 00 +36.3	233 00 +37.9	259 00 +31.8	285 00 +19.3	311 00 + 2.9	337 00 -14.1		
207 30 +36.4	233 30 +37.8	259 30 +31.6	285 30 +19.0	311 30 + 2.6	337 30 -14.4		
208 00 +36.5	234 00 +37.8	260 00 +31.4	286 00 +18.7	312 00 + 2.2	338 00 -14.7		

DETERMINACIÓN DE LA LATITUD
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2023

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	0.3	0.3	0.4	0.5
160	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	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	0.3	0.3	0.4	0.5
340	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	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	0.0	-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	0.0	+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	+0.7	+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	+0.3	+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	+0.1	40
50	-0.1	-0.1	-0.1	-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	-0.3	-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	-0.5	-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	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.9	-1.1	-1.2	100
110	-0.6	-0.6	-0.6	-0.6	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.2	-1.4	110
120	-0.6	-0.6	-0.7	-0.7	-0.7	-0.8	-0.8	-0.9	-1.0	-1.1	-1.2	-1.5	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	-0.8	-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	-0.8	-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	+0.1	+0.1	+0.1	+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	+0.5	+0.5	+0.6	250
260	+0.4	+0.4	+0.4	+0.4	+0.4	+0.4	+0.5	+0.5	+0.6	+0.6	+0.7	+0.8	260
270	+0.5	+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	+0.6	+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	+0.7	+0.7	+0.7	+0.7	+0.8	+0.9	+1.0	+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	+0.8	+0.8	+0.9	+1.0	+1.1	+1.2	+1.5	330
340	+0.6	+0.6	+0.6	+0.6	+0.7	+0.7	+0.8	+0.8	+0.9	+1.0	+1.2	+1.4	340
350	+0.5	+0.5	+0.6	+0.6	+0.6	+0.6	+0.7	+0.7	+0.8	+0.9	+1.1	+1.3	350
360	+0.5	+0.5	+0.5	+0.5	+0.5	+0.6	+0.6	+0.6	+0.7	+0.8	+0.9	+1.1	360

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

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

**CORRECCIONES PARA OBTENER LA ALTURA VERDADERA
DEL SOL (LIMBO INFERIOR), PLANETA O ESTRELLA, 2023**

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TABLA A				TABLA B = SOL (LIMBO INFERIOR)									
DEPRESIÓN DEL HORIZONTE				SEMIDIÁMETRO, REFRACCIÓN Y PARALAJE								Correc. adicional 2023	
Elevación observador	Corrección	Elevación observador	Corrección	Altura apte.	Corrección	Altura apte.	Corrección	Altura apte.	Corrección	Altura apte.	Corrección		
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 22	+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 23	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 14	-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 8	-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 28	-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 2	-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 26	0'0
3.3	-3.3	17.1	-7.4	7 21	+9.2	10 38	+11.2	17 47	+13.2	45 30	+15.2	Oct 18	+0'1
3.5	-3.4	17.6	-7.5	7 28	+9.3	10 52	+11.3	18 23	+13.3	48 53	+15.3	Nov 10	+0'2
3.7	-3.5	18.0	-7.6	7 36	+9.4	11 06	+11.4	19 01	+13.4	52 43	+15.4	Dic 16	+0'3
3.9	-3.6	18.5	-7.7	7 44	+9.5	11 21	+11.5	19 41	+13.5	57 01	+15.5	Dic 31	
4.2	-3.7	19.0	-7.8	7 52	+9.6	11 36	+11.6	20 24	+13.6	61 51	+15.6		
4.4	-3.8	19.5	-7.9	8 00	+9.7	11 52	+11.7	21 10	+13.7	67 16	+15.7		
4.7	-3.9	20.0	-8.0	8 08	+9.8	12 09	+11.8	21 59	+13.8	73 14	+15.8		
4.9	-4.0	20.5	-8.1	8 17	+9.9	12 26	+11.9	22 53	+13.9	79 42	+15.9		
5.2	-4.1	21.0	-8.2	8 26	+10.0	12 44	+12.0	23 50	+14.0	86 30	+16.0		
5.4	-4.2	21.5	-8.3	8 35	+10.1	13 03	+12.1	24 52	+14.1	90 00			
5.7	-4.3	22.1	-8.4	8 45	+10.2	13 23	+12.2	25 59	+14.2				
6.0	-4.4	22.6	-8.5										
6.2	-4.5	23.1	-8.6										
6.5	-4.6	23.7	-8.7										
6.8	-4.7	24.2	-8.8										
7.1	-4.8	24.8	-8.9										
7.4	-4.9	25.4	-9.0										
7.7	-5.0	25.9	-9.1										
8.0	-5.1	26.5	-9.2										
8.4	-5.2	27.1	-9.3										
8.7	-5.3	27.7	-9.4										
9.0	-5.4	28.3	-9.5										
9.4	-5.5	28.9	-9.6										
9.7	-5.6	29.5	-9.7										
10.1	-5.7	30.1	-9.8										
10.4	-5.8	30.7	-9.9										
10.8	-5.9	31.3	-10.0										
11.2	-6.0	32.0	-10.1										
11.6	-6.1	32.6	-10.2										
11.9	-6.2	33.3	-10.3										
12.3	-6.3	33.9	-10.4										
12.7		34.6											

TABLA C = PLANETAS Y ESTRELLAS									
REFRACCIÓN					PARALAJE (2023)				
Altura apte.	Corrección	Altura apte.	Corrección		Fechas	Venus para cualquier altura	Marte Altura aparente		
°	'	°	'				< 30°	> 30° < 60°	> 60°
6 30	-7.8	14 00	-3.8	Ene 1	+0'1	+0'2	+0'2	+0'1	
6 40	-7.6	15 00	-3.6	Ene 9	+0'1	+0'2	+0'1	+0'1	
6 50	-7.5	16 00	-3.3	Feb 5	+0'1	+0'1	+0'1	+0'1	
7 00	-7.3	17 00	-3.1	Feb 14	+0'1	+0'1	+0'1	0'0	
7 15	-7.1	18 00	-3.0	May 13	+0'2	+0'1	+0'1	0'0	
7 30	-6.9	19 00	-2.8	Jun 10	+0'2	+0'1	0'0	0'0	
7 45	-6.7	20 00	-2.6	Jun 26	+0'3	+0'1	0'0	0'0	
8 00	-6.5	21 00	-2.5	Jul 18	+0'4	+0'1	0'0	0'0	
8 15	-6.3	22 00	-2.4	Ago 6	+0'5	+0'1	0'0	0'0	
8 30	-6.2	24 00	-2.2	Ago 20	+0'4	+0'1	0'0	0'0	
8 45	-6.0	26 00	-2.0	Sep 9	+0'3	+0'1	0'0	0'0	
9 00	-5.9	28 00	-1.8	Oct 2	+0'2	+0'1	0'0	0'0	
9 20	-5.7	32 00	-1.6	Nov 18	+0'1	+0'1	0'0	0'0	
9 40	-5.5	36 00	-1.3	Dic 31					
10 00	-5.3	40 00	-1.2						
10 30	-5.1	45 00	-1.0						
11 00	-4.8	50 00	-0.8						
11 30	-4.6	60 00	-0.6						
12 00	-4.5	70 00	-0.4						
12 30	-4.3	80 00	-0.2						
13 00	-4.1	90 00	0.0						

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

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

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

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

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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)																	