Friday 01 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	100°51.9′	179°08.5′	S 22°60.0′	201°14.8′	S 22°26.0′	155°40.7′	S 20°00.7′	156°54.3′	S 20°10.5′	75°47.3′	N 11°20.7′
1	115°54.3′	194°08.2′	S 22°59.7′	216°13.9′	S 22°26.4′	170°42.6′	S 20°00.6′	171°56.4′	S 20°10.4′	90°48.8′	N 11°21.1′
2	130°56.8′	209°07.9′	S 22°59.5′	231°13.0′	S 22°26.7′	185°44.5′	S 20°00.5′	186°58.6′	S 20°10.4′	105°50.3′	N 11°21.6′
3	145°59.3′	224°07.6′	S 22°59.3′	246°12.0′	S 22°27.0′	200°46.3′	S 20°00.4′	202°00.8′	S 20°10.3′	120°51.7′	N 11°22.0′
4	161°01.7′	239°07.3′	S 22°59.1′	261°11.1′	S 22°27.3′	215°48.2′	S 20°00.2′	217°02.9′	S 20°10.2′	135°53.2′	N 11°22.4′
5	176°04.2′	254°07.0′	S 22°58.9′	276°10.2′	S 22°27.6′	230°50.1′	S 20°00.1′	232°05.1′	S 20°10.2′	150°54.6′	N 11°22.9′
6	191°06.7′	269°06.7′	S 22°58.7′	291°09.3′	S 22°28.0′	245°52.0′	S 19°60.0′	247°07.3′	S 20°10.1′	165°56.1′	N 11°23.3′
7	206°09.1′	284°06.4′	S 22°58.5′	306°08.4′	S 22°28.3′	260°53.8′	S 19°59.8′	262°09.4′	S 20°10.1′	180°57.5′	N 11°23.7′
8	221°11.6′	299°06.1′	S 22°58.3′	321°07.5′	S 22°28.6′	275°55.7′	S 19°59.7′	277°11.6′	S 20°10.0′	195°59.0′	N 11°24.2′
9	236°14.1′	314°05.8′	S 22°58.1′	336°06.6′	S 22°28.9′	290°57.6′	S 19°59.6′	292°13.8′	S 20°09.9′	211°00.4′	N 11°24.6′
10	251°16.5′	329°05.5′	S 22°57.9′	351°05.7′	S 22°29.2′	305°59.4′	S 19°59.5′	307°16.0′	S 20°09.9′	226°01.9′	N 11°25.0′
11	266°19.0′	344°05.3′	S 22°57.6′	6°04.8′	S 22°29.6′	321°01.3′	S 19°59.3′	322°18.1′	S 20°09.8′	241°03.3′	N 11°25.5′
12	281°21.4′	359°05.0′	S 22°57.4′	21°03.9′	S 22°29.9′	336°03.2′	S 19°59.2′	337°20.3′	S 20°09.7′	256°04.8′	N 11°25.9′
13	296°23.9′	14°04.7′	S 22°57.2′	36°03.0′	S 22°30.2′	351°05.1′	S 19°59.1′	352°22.5′	S 20°09.7′	271°06.2′	N 11°26.3′
14	311°26.4′	29°04.4′	S 22°57.0′	51°02.1′	S 22°30.5′	6°06.9′	S 19°58.9′	7°24.6′	S 20°09.6′	286°07.7′	N 11°26.8′
15	326°28.8′	44°04.1′	S 22°56.8′	66°01.1′	S 22°30.8′	21°08.8′	S 19°58.8′	22°26.8′	S 20°09.6′	301°09.1′	N 11°27.2′
16	341°31.3′	59°03.8′	S 22°56.6′	81°00.2′	S 22°31.1′	36°10.7′	S 19°58.7′	37°29.0′	S 20°09.5′	316°10.6′	N 11°27.7′
17	356°33.8′	74°03.5′	S 22°56.3′	95°59.3′	S 22°31.4′	51°12.5′	S 19°58.6′	52°31.1′	S 20°09.4′	331°12.0′	N 11°28.1′
18	11°36.2′	89°03.2′	S 22°56.1′	110°58.4′	S 22°31.7′	66°14.4′	S 19°58.4′	67°33.3′	S 20°09.4′	346°13.5′	N 11°28.5′
19	26°38.7′	104°02.9′	S 22°55.9′	125°57.5′	S 22°32.0′	81°16.3′	S 19°58.3′	82°35.5′	S 20°09.3′	1°14.9′	N 11°29.0′
20	41°41.2′	119°02.6′	S 22°55.7′	140°56.6′	S 22°32.3′	96°18.2′	S 19°58.2′	97°37.6′	S 20°09.3′	16°16.3′	N 11°29.4′
21	56°43.6′	134°02.3′	S 22°55.5′	155°55.7′	S 22°32.6′	111°20.0′	S 19°58.0′	112°39.8′	S 20°09.2′	31°17.8′	N 11°29.8′
22	71°46.1′	149°02.0′	S 22°55.2′	170°54.8′	S 22°32.9′	126°21.9′	S 19°57.9′	127°42.0′	S 20°09.1′	46°19.2′	N 11°30.3′
23	86°48.6′	164°01.7′	S 22°55.0′	185°53.9′	S 22°33.2′	141°23.8′	S 19°57.8′	142°44.1′	S 20°09.1′	61°20.7′	N 11°30.7′
		SD 16.3′ *d* 0.2′		*v* -0.9′ *d* -0.3′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 3 m 41 s		10 h 36 m		13 h 36 m		13 h 30 m		18 h 55 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Spica	−Arcturus	−Regulus	+Pollux	+Procyon	+Betelgeuse	+Capella
0	334°57.7′	N 23°01.4′	8.5′	-5.6′	56.7′	98°31.5′	81°32.7′	81°07.0′	27°32.4′	9°42.2′		38°38.8′	43°43.6′
1	349°25.2′	N 22°55.8′	8.5′	-5.7′	56.7′	98°13.6′	81°00.2′	80°37.8′	27°00.2′	10°12.4′		39°07.9′	44°10.8′
2	3°52.7′	N 22°50.1′	8.5′	-5.8′	56.7′	97°55.6′	80°27.7′	80°08.6′	26°28.0′	10°42.9′		39°37.0′	44°38.2′
3	18°20.2′	N 22°44.3′	8.5′	-6.0′	56.7′	97°37.6′	79°55.2′	79°39.4′	25°55.8′	11°13.7′		40°06.2′	45°05.7′
4	32°47.7′	N 22°38.3′	8.6′	-6.1′	56.8′	97°19.6′	79°22.6′	79°10.1′	25°23.5′	11°44.6′	21°35.4′	40°35.5′	45°33.3′
5	47°15.3′	N 22°32.3′	8.6′	-6.2′	56.8′	97°01.5′	78°50.1′	78°40.9′	24°51.3′	12°15.7′	21°50.8′	41°04.9′	46°00.9′
6	61°42.9′	N 22°26.0′	8.6′	-6.3′	56.8′	96°43.4′	78°17.5′	78°11.7′	24°19.1′	12°46.9′	22°06.7′	41°34.4′	46°28.7′
7	76°10.6′	N 22°19.7′	8.7′	-6.5′	56.8′	96°25.3′	77°44.9′	77°42.4′	23°46.9′	13°18.3′	22°23.3′	42°04.0′	46°56.6′
8	90°38.2′	N 22°13.2′	8.7′	-6.6′	56.8′	96°07.1′	77°12.3′	77°13.2′	23°14.7′	13°49.9′	22°40.5′	42°33.7′	47°24.6′
9	105°05.9′	N 22°06.6′	8.7′	-6.7′	56.9′	95°48.9′	76°39.6′	76°43.9′	22°42.5′	14°21.5′	22°58.2′	43°03.4′	47°52.7′
10	119°33.7′	N 21°59.9′	8.8′	-6.8′	56.9′	95°30.6′	76°06.9′	76°14.7′	22°10.3′	14°53.3′	23°16.4′	43°33.3′	48°20.9′
11	134°01.4′	N 21°53.1′	8.8′	-7.0′	56.9′	95°12.3′	75°34.3′	75°45.4′	21°38.1′	15°25.1′	23°35.2′	44°03.2′	48°49.2′
12	148°29.2′	N 21°46.1′	8.8′	-7.1′	56.9′	94°54.0′	75°01.5′	75°16.2′	21°05.9′	15°57.1′	23°54.4′	44°33.1′	49°17.5′
13	162°57.1′	N 21°39.0′	8.9′	-7.2′	56.9′	94°35.7′	74°28.8′	74°46.9′	20°33.8′	16°29.1′	24°14.1′	45°03.2′	49°46.0′
14	177°24.9′	N 21°31.8′	8.9′	-7.3′	57.0′	94°17.3′	73°56.1′	74°17.6′	20°01.7′	17°01.2′	24°34.3′	45°33.3′	50°14.5′
15	191°52.8′	N 21°24.4′	8.9′	-7.5′	57.0′	93°58.9′	73°23.3′	73°48.4′	19°29.6′	17°33.4′	24°54.9′	46°03.5′	50°43.2′
16	206°20.8′	N 21°17.0′	9.0′	-7.6′	57.0′	93°40.4′	72°50.5′	73°19.1′	18°57.5′	18°05.6′	25°15.9′	46°33.8′	51°11.9′
17	220°48.8′	N 21°09.4′	9.0′	-7.7′	57.0′	93°22.0′	72°17.7′	72°49.9′	18°25.4′	18°37.9′	25°37.4′	47°04.1′	51°40.6′
18	235°16.8′	N 21°01.7′	9.1′	-7.8′	57.0′	93°03.5′	71°44.9′	72°20.6′	17°53.4′	19°10.3′	25°59.2′	47°34.5′	52°09.5′
19	249°44.8′	N 20°53.8′	9.1′	-8.0′	57.1′	92°45.0′	71°12.1′	71°51.4′	17°21.5′	19°42.7′	26°21.4′	48°04.9′	52°38.4′
20	264°12.9′	N 20°45.9′	9.1′	-8.1′	57.1′	92°26.5′	70°39.2′	71°22.1′	16°49.6′	20°15.2′	26°44.0′	48°35.4′	53°07.5′
21	278°41.1′	N 20°37.8′	9.2′	-8.2′	57.1′	92°07.9′	70°06.3′	70°52.9′	16°17.7′	20°47.7′	27°06.9′	49°06.0′	53°36.5′
22	293°09.2′	N 20°29.6′	9.2′	-8.3′	57.1′	91°49.4′	69°33.4′	70°23.7′	15°46.0′	21°20.3′	27°30.2′	49°36.7′	54°05.7′
23	307°37.5′	N 20°21.3′	9.3′	-8.4′	57.1′	91°30.8′	69°00.5′	69°54.4′	15°14.2′	21°52.9′	27°53.7′	50°07.3′	54°34.9′
Mer. pass. 1 h 44 m SD 15.5′ phase 96%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.9′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.9′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.0′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°12.6′	N 89°21.3′
Rigil Kent	−0.0	139°45.0′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.1′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.8′	S 60°28.0′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Saturday 02 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	101°51.0′	179°01.5′	S 22°54.8′	200°52.9′	S 22°33.5′	156°25.6′	S 19°57.6′	157°46.3′	S 20°09.0′	76°22.1′	N 11°31.1′
1	116°53.5′	194°01.2′	S 22°54.6′	215°52.0′	S 22°33.8′	171°27.5′	S 19°57.5′	172°48.5′	S 20°09.0′	91°23.6′	N 11°31.6′
2	131°55.9′	209°00.9′	S 22°54.3′	230°51.1′	S 22°34.1′	186°29.4′	S 19°57.4′	187°50.6′	S 20°08.9′	106°25.0′	N 11°32.0′
3	146°58.4′	224°00.6′	S 22°54.1′	245°50.2′	S 22°34.4′	201°31.3′	S 19°57.3′	202°52.8′	S 20°08.8′	121°26.4′	N 11°32.5′
4	162°00.9′	239°00.3′	S 22°53.9′	260°49.3′	S 22°34.7′	216°33.1′	S 19°57.1′	217°55.0′	S 20°08.8′	136°27.9′	N 11°32.9′
5	177°03.3′	254°00.0′	S 22°53.6′	275°48.4′	S 22°35.0′	231°35.0′	S 19°57.0′	232°57.1′	S 20°08.7′	151°29.3′	N 11°33.3′
6	192°05.8′	268°59.7′	S 22°53.4′	290°47.5′	S 22°35.3′	246°36.9′	S 19°56.9′	247°59.3′	S 20°08.6′	166°30.8′	N 11°33.8′
7	207°08.3′	283°59.4′	S 22°53.2′	305°46.6′	S 22°35.6′	261°38.7′	S 19°56.7′	263°01.5′	S 20°08.6′	181°32.2′	N 11°34.2′
8	222°10.7′	298°59.1′	S 22°53.0′	320°45.6′	S 22°35.9′	276°40.6′	S 19°56.6′	278°03.6′	S 20°08.5′	196°33.6′	N 11°34.6′
9	237°13.2′	313°58.8′	S 22°52.7′	335°44.7′	S 22°36.2′	291°42.5′	S 19°56.5′	293°05.8′	S 20°08.5′	211°35.1′	N 11°35.1′
10	252°15.7′	328°58.6′	S 22°52.5′	350°43.8′	S 22°36.5′	306°44.4′	S 19°56.4′	308°08.0′	S 20°08.4′	226°36.5′	N 11°35.5′
11	267°18.1′	343°58.3′	S 22°52.3′	5°42.9′	S 22°36.8′	321°46.2′	S 19°56.2′	323°10.1′	S 20°08.3′	241°38.0′	N 11°35.9′
12	282°20.6′	358°58.0′	S 22°52.0′	20°42.0′	S 22°37.1′	336°48.1′	S 19°56.1′	338°12.3′	S 20°08.3′	256°39.4′	N 11°36.4′
13	297°23.1′	13°57.7′	S 22°51.8′	35°41.1′	S 22°37.3′	351°50.0′	S 19°56.0′	353°14.5′	S 20°08.2′	271°40.8′	N 11°36.8′
14	312°25.5′	28°57.4′	S 22°51.6′	50°40.1′	S 22°37.6′	6°51.8′	S 19°55.8′	8°16.6′	S 20°08.2′	286°42.3′	N 11°37.3′
15	327°28.0′	43°57.1′	S 22°51.3′	65°39.2′	S 22°37.9′	21°53.7′	S 19°55.7′	23°18.8′	S 20°08.1′	301°43.7′	N 11°37.7′
16	342°30.4′	58°56.8′	S 22°51.1′	80°38.3′	S 22°38.2′	36°55.6′	S 19°55.6′	38°21.0′	S 20°08.0′	316°45.1′	N 11°38.1′
17	357°32.9′	73°56.5′	S 22°50.8′	95°37.4′	S 22°38.5′	51°57.5′	S 19°55.4′	53°23.1′	S 20°08.0′	331°46.6′	N 11°38.6′
18	12°35.4′	88°56.2′	S 22°50.6′	110°36.5′	S 22°38.7′	66°59.3′	S 19°55.3′	68°25.3′	S 20°07.9′	346°48.0′	N 11°39.0′
19	27°37.8′	103°56.0′	S 22°50.4′	125°35.6′	S 22°39.0′	82°01.2′	S 19°55.2′	83°27.5′	S 20°07.8′	1°49.4′	N 11°39.4′
20	42°40.3′	118°55.7′	S 22°50.1′	140°34.6′	S 22°39.3′	97°03.1′	S 19°55.1′	98°29.6′	S 20°07.8′	16°50.9′	N 11°39.9′
21	57°42.8′	133°55.4′	S 22°49.9′	155°33.7′	S 22°39.6′	112°04.9′	S 19°54.9′	113°31.8′	S 20°07.7′	31°52.3′	N 11°40.3′
22	72°45.2′	148°55.1′	S 22°49.6′	170°32.8′	S 22°39.8′	127°06.8′	S 19°54.8′	128°34.0′	S 20°07.7′	46°53.7′	N 11°40.8′
23	87°47.7′	163°54.8′	S 22°49.4′	185°31.9′	S 22°40.1′	142°08.7′	S 19°54.7′	143°36.1′	S 20°07.6′	61°55.2′	N 11°41.2′
		SD 16.3′ *d* 0.2′		*v* -0.9′ *d* -0.3′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 4 m 9 s		10 h 37 m		13 h 33 m		13 h 27 m		18 h 53 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Arcturus	−Spica	−Regulus	+Pollux	+Procyon	+Betelgeuse	+Sirius
0	322°05.7′	N 20°12.9′	9.3′	-8.5′	57.2′	91°12.2′	69°25.2′	68°27.6′	14°42.6′	22°25.6′	28°17.6′	50°38.1′	52°40.7′
1	336°34.0′	N 20°04.4′	9.3′	-8.7′	57.2′	90°53.5′	68°56.0′	67°54.6′	14°11.1′	22°58.3′	28°41.8′	51°08.9′	52°59.1′
2	351°02.3′	N 19°55.7′	9.4′	-8.8′	57.2′	90°34.9′	68°26.8′	67°21.6′	13°39.7′	23°31.0′	29°06.3′	51°39.8′	53°17.6′
3	5°30.7′	N 19°47.0′	9.4′	-8.9′	57.2′	90°16.3′	67°57.6′	66°48.7′	13°08.4′	24°03.8′	29°31.0′	52°10.7′	53°36.3′
4	19°59.2′	N 19°38.1′	9.5′	-9.0′	57.2′	89°57.6′	67°28.5′	66°15.6′	12°37.2′	24°36.6′	29°56.0′	52°41.6′	53°55.2′
5	34°27.6′	N 19°29.1′	9.5′	-9.1′	57.2′	89°38.9′	66°59.3′	65°42.6′	12°06.2′	25°09.5′	30°21.3′	53°12.6′	54°14.2′
6	48°56.1′	N 19°20.0′	9.6′	-9.2′	57.3′	89°20.2′	66°30.2′	65°09.6′	11°35.4′	25°42.4′	30°46.8′	53°43.7′	54°33.4′
7	63°24.7′	N 19°10.8′	9.6′	-9.3′	57.3′	89°01.6′	66°01.0′	64°36.5′	11°04.8′	26°15.3′	31°12.5′	54°14.8′	54°52.8′
8	77°53.3′	N 19°01.5′	9.6′	-9.4′	57.3′	88°42.9′	65°31.9′	64°03.4′	10°34.5′	26°48.3′	31°38.5′	54°46.0′	55°12.3′
9	92°21.9′	N 18°52.0′	9.7′	-9.5′	57.3′	88°24.2′	65°02.8′	63°30.3′	10°04.5′	27°21.3′	32°04.7′	55°17.2′	55°32.0′
10	106°50.6′	N 18°42.5′	9.7′	-9.6′	57.3′	88°05.5′	64°33.8′	62°57.2′	9°34.8′	27°54.3′	32°31.1′	55°48.4′	55°51.8′
11	121°19.3′	N 18°32.8′	9.8′	-9.7′	57.4′	87°46.7′	64°04.7′	62°24.1′	9°05.5′	28°27.4′	32°57.7′	56°19.7′	56°11.8′
12	135°48.1′	N 18°23.1′	9.8′	-9.9′	57.4′	87°28.0′	63°35.7′	61°51.0′	8°36.7′	29°00.5′	33°24.5′	56°51.1′	56°32.0′
13	150°16.9′	N 18°13.2′	9.9′	-10.0′	57.4′	87°09.3′	63°06.7′	61°17.8′	8°08.4′	29°33.6′	33°51.5′	57°22.5′	56°52.3′
14	164°45.8′	N 18°03.3′	9.9′	-10.1′	57.4′	86°50.6′	62°37.7′	60°44.6′		30°06.8′	34°18.6′	57°53.9′	57°12.7′
15	179°14.7′	N 17°53.2′	10.0′	-10.2′	57.4′	86°31.9′	62°08.7′	60°11.4′		30°40.0′	34°46.0′	58°25.4′	57°33.3′
16	193°43.7′	N 17°43.1′	10.0′	-10.3′	57.5′	86°13.2′	61°39.8′	59°38.2′		31°13.2′	35°13.5′	58°56.9′	57°54.0′
17	208°12.7′	N 17°32.8′	10.0′	-10.4′	57.5′	85°54.5′	61°10.9′	59°05.0′		31°46.4′	35°41.2′	59°28.4′	58°14.9′
18	222°41.7′	N 17°22.4′	10.1′	-10.5′	57.5′	85°35.8′	60°42.0′	58°31.8′		32°19.7′	36°09.0′	60°00.0′	58°35.9′
19	237°10.8′	N 17°12.0′	10.1′	-10.6′	57.5′	85°17.1′	60°13.2′	57°58.5′		32°53.0′	36°37.0′	60°31.7′	58°57.0′
20	251°39.9′	N 17°01.4′	10.2′	-10.7′	57.5′	84°58.4′	59°44.4′	57°25.2′		33°26.3′	37°05.2′	61°03.3′	59°18.3′
21	266°09.1′	N 16°50.8′	10.2′	-10.7′	57.6′	84°39.7′	59°15.6′	56°51.9′		33°59.7′	37°33.5′	61°35.0′	59°39.7′
22	280°38.3′	N 16°40.0′	10.3′	-10.8′	57.6′	84°21.0′	58°46.8′	56°18.6′		34°33.0′	38°01.9′	62°06.8′	60°01.2′
23	295°07.5′	N 16°29.2′	10.3′	-10.9′	57.6′	84°02.4′	58°18.1′	55°45.3′		35°06.4′	38°30.4′	62°38.6′	60°22.8′
Mer. pass. 2 h 37 m SD 15.6′ phase 91%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.9′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.0′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°13.0′	N 89°21.3′
Rigil Kent	−0.0	139°45.0′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.1′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.8′	S 60°28.0′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Sunday 03 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	102°50.2′	178°54.5′	S 22°49.2′	200°31.0′	S 22°40.4′	157°10.5′	S 19°54.5′	158°38.3′	S 20°07.5′	76°56.6′	N 11°41.6′
1	117°52.6′	193°54.2′	S 22°48.9′	215°30.1′	S 22°40.7′	172°12.4′	S 19°54.4′	173°40.4′	S 20°07.5′	91°58.0′	N 11°42.1′
2	132°55.1′	208°53.9′	S 22°48.7′	230°29.1′	S 22°40.9′	187°14.3′	S 19°54.3′	188°42.6′	S 20°07.4′	106°59.4′	N 11°42.5′
3	147°57.5′	223°53.7′	S 22°48.4′	245°28.2′	S 22°41.2′	202°16.2′	S 19°54.1′	203°44.8′	S 20°07.4′	122°00.9′	N 11°43.0′
4	163°00.0′	238°53.4′	S 22°48.2′	260°27.3′	S 22°41.5′	217°18.0′	S 19°54.0′	218°46.9′	S 20°07.3′	137°02.3′	N 11°43.4′
5	178°02.5′	253°53.1′	S 22°47.9′	275°26.4′	S 22°41.7′	232°19.9′	S 19°53.9′	233°49.1′	S 20°07.2′	152°03.7′	N 11°43.8′
6	193°04.9′	268°52.8′	S 22°47.7′	290°25.5′	S 22°42.0′	247°21.8′	S 19°53.7′	248°51.3′	S 20°07.2′	167°05.2′	N 11°44.3′
7	208°07.4′	283°52.5′	S 22°47.4′	305°24.5′	S 22°42.3′	262°23.6′	S 19°53.6′	263°53.4′	S 20°07.1′	182°06.6′	N 11°44.7′
8	223°09.9′	298°52.2′	S 22°47.2′	320°23.6′	S 22°42.5′	277°25.5′	S 19°53.5′	278°55.6′	S 20°07.0′	197°08.0′	N 11°45.1′
9	238°12.3′	313°51.9′	S 22°46.9′	335°22.7′	S 22°42.8′	292°27.4′	S 19°53.4′	293°57.8′	S 20°07.0′	212°09.4′	N 11°45.6′
10	253°14.8′	328°51.7′	S 22°46.7′	350°21.8′	S 22°43.0′	307°29.2′	S 19°53.2′	308°59.9′	S 20°06.9′	227°10.9′	N 11°46.0′
11	268°17.3′	343°51.4′	S 22°46.4′	5°20.9′	S 22°43.3′	322°31.1′	S 19°53.1′	324°02.1′	S 20°06.9′	242°12.3′	N 11°46.5′
12	283°19.7′	358°51.1′	S 22°46.2′	20°19.9′	S 22°43.6′	337°33.0′	S 19°53.0′	339°04.3′	S 20°06.8′	257°13.7′	N 11°46.9′
13	298°22.2′	13°50.8′	S 22°45.9′	35°19.0′	S 22°43.8′	352°34.9′	S 19°52.8′	354°06.4′	S 20°06.7′	272°15.1′	N 11°47.3′
14	313°24.7′	28°50.5′	S 22°45.7′	50°18.1′	S 22°44.1′	7°36.7′	S 19°52.7′	9°08.6′	S 20°06.7′	287°16.6′	N 11°47.8′
15	328°27.1′	43°50.2′	S 22°45.4′	65°17.2′	S 22°44.3′	22°38.6′	S 19°52.6′	24°10.8′	S 20°06.6′	302°18.0′	N 11°48.2′
16	343°29.6′	58°49.9′	S 22°45.2′	80°16.2′	S 22°44.6′	37°40.5′	S 19°52.4′	39°12.9′	S 20°06.5′	317°19.4′	N 11°48.7′
17	358°32.0′	73°49.7′	S 22°44.9′	95°15.3′	S 22°44.8′	52°42.3′	S 19°52.3′	54°15.1′	S 20°06.5′	332°20.8′	N 11°49.1′
18	13°34.5′	88°49.4′	S 22°44.6′	110°14.4′	S 22°45.1′	67°44.2′	S 19°52.2′	69°17.3′	S 20°06.4′	347°22.2′	N 11°49.5′
19	28°37.0′	103°49.1′	S 22°44.4′	125°13.5′	S 22°45.3′	82°46.1′	S 19°52.0′	84°19.4′	S 20°06.4′	2°23.7′	N 11°50.0′
20	43°39.4′	118°48.8′	S 22°44.1′	140°12.6′	S 22°45.6′	97°47.9′	S 19°51.9′	99°21.6′	S 20°06.3′	17°25.1′	N 11°50.4′
21	58°41.9′	133°48.5′	S 22°43.9′	155°11.6′	S 22°45.8′	112°49.8′	S 19°51.8′	114°23.8′	S 20°06.2′	32°26.5′	N 11°50.9′
22	73°44.4′	148°48.2′	S 22°43.6′	170°10.7′	S 22°46.1′	127°51.7′	S 19°51.6′	129°25.9′	S 20°06.2′	47°27.9′	N 11°51.3′
23	88°46.8′	163°48.0′	S 22°43.3′	185°09.8′	S 22°46.3′	142°53.5′	S 19°51.5′	144°28.1′	S 20°06.1′	62°29.3′	N 11°51.7′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.3′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 4 m 36 s		10 h 39 m		13 h 30 m		13 h 24 m		18 h 50 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Arcturus	−Spica	−Regulus	+Pollux	+Procyon	+Sirius	+Betelgeuse
0	309°36.9′	N 16°18.2′	10.3′	-11.0′	57.6′	83°43.7′	57°49.5′	55°12.0′		35°39.9′	38°59.1′	60°44.6′	63°10.4′
1	324°06.2′	N 16°07.2′	10.4′	-11.1′	57.6′	83°25.1′	57°20.9′	54°38.6′		36°13.3′	39°27.9′	61°06.5′	63°42.2′
2	338°35.6′	N 15°56.1′	10.4′	-11.2′	57.6′	83°06.5′	56°52.3′	54°05.3′		36°46.8′	39°56.9′	61°28.5′	64°14.1′
3	353°05.0′	N 15°44.9′	10.5′	-11.3′	57.7′	82°47.9′	56°23.7′	53°31.9′		37°20.3′	40°25.9′	61°50.6′	64°46.1′
4	7°34.5′	N 15°33.6′	10.5′	-11.4′	57.7′	82°29.3′	55°55.3′	52°58.5′		37°53.8′	40°55.1′	62°12.8′	65°18.0′
5	22°04.0′	N 15°22.2′	10.6′	-11.5′	57.7′	82°10.8′	55°26.8′	52°25.1′		38°27.3′	41°24.4′	62°35.1′	65°50.0′
6	36°33.6′	N 15°10.7′	10.6′	-11.6′	57.7′	81°52.2′	54°58.4′	51°51.7′		39°00.9′	41°53.8′	62°57.6′	66°22.0′
7	51°03.2′	N 14°59.2′	10.6′	-11.6′	57.7′	81°33.7′	54°30.1′	51°18.2′		39°34.5′	42°23.3′	63°20.1′	66°54.1′
8	65°32.8′	N 14°47.5′	10.7′	-11.7′	57.8′	81°15.2′	54°01.8′	50°44.8′		40°08.1′	42°52.9′	63°42.8′	67°26.2′
9	80°02.5′	N 14°35.8′	10.7′	-11.8′	57.8′	80°56.7′	53°33.6′	50°11.3′		40°41.8′	43°22.6′	64°05.5′	67°58.3′
10	94°32.2′	N 14°24.0′	10.8′	-11.9′	57.8′	80°38.3′	53°05.4′	49°37.9′		41°15.4′	43°52.4′	64°28.4′	68°30.4′
11	109°02.0′	N 14°12.1′	10.8′	-12.0′	57.8′	80°19.9′	52°37.3′	49°04.4′		41°49.1′	44°22.2′	64°51.3′	69°02.6′
12	123°31.8′	N 14°00.1′	10.8′	-12.1′	57.8′	80°01.5′	52°09.3′	48°30.9′		42°22.8′	44°52.2′	65°14.4′	69°34.8′
13	138°01.6′	N 13°48.0′	10.9′	-12.1′	57.9′	79°43.2′	51°41.3′	47°57.4′	8°00.5′	42°56.5′	45°22.3′	65°37.5′	70°07.1′
14	152°31.5′	N 13°35.9′	10.9′	-12.2′	57.9′	79°24.9′	51°13.4′	47°23.9′	8°29.0′	43°30.3′	45°52.4′	66°00.8′	70°39.3′
15	167°01.4′	N 13°23.7′	11.0′	-12.3′	57.9′	79°06.6′	50°45.6′	46°50.3′	8°58.1′	44°04.0′	46°22.7′	66°24.1′	71°11.6′
16	181°31.4′	N 13°11.4′	11.0′	-12.4′	57.9′	78°48.3′	50°17.8′	46°16.8′	9°27.8′	44°37.8′	46°53.0′	66°47.5′	71°44.0′
17	196°01.3′	N 12°59.0′	11.0′	-12.4′	57.9′	78°30.1′	49°50.1′	45°43.2′	9°57.9′	45°11.7′	47°23.4′	67°11.0′	72°16.3′
18	210°31.4′	N 12°46.6′	11.1′	-12.5′	57.9′	78°12.0′	49°22.5′	45°09.7′	10°28.4′	45°45.5′	47°53.9′	67°34.6′	72°48.7′
19	225°01.4′	N 12°34.1′	11.1′	-12.6′	58.0′	77°53.8′	48°55.0′	44°36.1′	10°59.3′	46°19.3′	48°24.4′	67°58.3′	73°21.1′
20	239°31.5′	N 12°21.5′	11.1′	-12.7′	58.0′	77°35.7′	48°27.6′	44°02.5′	11°30.5′	46°53.2′	48°55.0′	68°22.1′	73°53.5′
21	254°01.7′	N 12°08.9′	11.2′	-12.7′	58.0′	77°17.7′	48°00.2′	43°28.9′	12°01.9′	47°27.1′	49°25.7′	68°45.9′	74°26.0′
22	268°31.8′	N 11°56.1′	11.2′	-12.8′	58.0′	76°59.7′	47°33.0′	42°55.3′	12°33.6′	48°01.0′	49°56.5′	69°09.8′	74°58.5′
23	283°02.0′	N 11°43.4′	11.2′	-12.9′	58.0′	76°41.7′	47°05.9′	42°21.7′	13°05.5′	48°35.0′	50°27.3′	69°33.8′	75°31.0′
Mer. pass. 3 h 29 m SD 15.7′ phase 84%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.0′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°13.4′	N 89°21.4′
Rigil Kent	−0.0	139°45.0′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.1′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.0′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Monday 04 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	103°49.3′	178°47.7′	S 22°43.1′	200°08.9′	S 22°46.6′	157°55.4′	S 19°51.4′	159°30.2′	S 20°06.1′	77°30.8′	N 11°52.2′
1	118°51.8′	193°47.4′	S 22°42.8′	215°07.9′	S 22°46.8′	172°57.3′	S 19°51.3′	174°32.4′	S 20°06.0′	92°32.2′	N 11°52.6′
2	133°54.2′	208°47.1′	S 22°42.6′	230°07.0′	S 22°47.0′	187°59.2′	S 19°51.1′	189°34.6′	S 20°05.9′	107°33.6′	N 11°53.1′
3	148°56.7′	223°46.8′	S 22°42.3′	245°06.1′	S 22°47.3′	203°01.0′	S 19°51.0′	204°36.7′	S 20°05.9′	122°35.0′	N 11°53.5′
4	163°59.2′	238°46.5′	S 22°42.0′	260°05.2′	S 22°47.5′	218°02.9′	S 19°50.9′	219°38.9′	S 20°05.8′	137°36.4′	N 11°53.9′
5	179°01.6′	253°46.3′	S 22°41.8′	275°04.2′	S 22°47.7′	233°04.8′	S 19°50.7′	234°41.1′	S 20°05.7′	152°37.8′	N 11°54.4′
6	194°04.1′	268°46.0′	S 22°41.5′	290°03.3′	S 22°48.0′	248°06.6′	S 19°50.6′	249°43.2′	S 20°05.7′	167°39.3′	N 11°54.8′
7	209°06.5′	283°45.7′	S 22°41.2′	305°02.4′	S 22°48.2′	263°08.5′	S 19°50.5′	264°45.4′	S 20°05.6′	182°40.7′	N 11°55.2′
8	224°09.0′	298°45.4′	S 22°41.0′	320°01.5′	S 22°48.5′	278°10.4′	S 19°50.3′	279°47.6′	S 20°05.6′	197°42.1′	N 11°55.7′
9	239°11.5′	313°45.1′	S 22°40.7′	335°00.5′	S 22°48.7′	293°12.2′	S 19°50.2′	294°49.7′	S 20°05.5′	212°43.5′	N 11°56.1′
10	254°13.9′	328°44.9′	S 22°40.4′	349°59.6′	S 22°48.9′	308°14.1′	S 19°50.1′	309°51.9′	S 20°05.4′	227°44.9′	N 11°56.6′
11	269°16.4′	343°44.6′	S 22°40.1′	4°58.7′	S 22°49.1′	323°16.0′	S 19°49.9′	324°54.1′	S 20°05.4′	242°46.3′	N 11°57.0′
12	284°18.9′	358°44.3′	S 22°39.9′	19°57.8′	S 22°49.4′	338°17.8′	S 19°49.8′	339°56.2′	S 20°05.3′	257°47.7′	N 11°57.5′
13	299°21.3′	13°44.0′	S 22°39.6′	34°56.8′	S 22°49.6′	353°19.7′	S 19°49.7′	354°58.4′	S 20°05.2′	272°49.1′	N 11°57.9′
14	314°23.8′	28°43.7′	S 22°39.3′	49°55.9′	S 22°49.8′	8°21.6′	S 19°49.5′	10°00.6′	S 20°05.2′	287°50.6′	N 11°58.3′
15	329°26.3′	43°43.4′	S 22°39.0′	64°55.0′	S 22°50.1′	23°23.4′	S 19°49.4′	25°02.7′	S 20°05.1′	302°52.0′	N 11°58.8′
16	344°28.7′	58°43.2′	S 22°38.8′	79°54.0′	S 22°50.3′	38°25.3′	S 19°49.3′	40°04.9′	S 20°05.1′	317°53.4′	N 11°59.2′
17	359°31.2′	73°42.9′	S 22°38.5′	94°53.1′	S 22°50.5′	53°27.2′	S 19°49.1′	55°07.0′	S 20°05.0′	332°54.8′	N 11°59.7′
18	14°33.6′	88°42.6′	S 22°38.2′	109°52.2′	S 22°50.7′	68°29.1′	S 19°49.0′	70°09.2′	S 20°04.9′	347°56.2′	N 12°00.1′
19	29°36.1′	103°42.3′	S 22°37.9′	124°51.3′	S 22°50.9′	83°30.9′	S 19°48.9′	85°11.4′	S 20°04.9′	2°57.6′	N 12°00.5′
20	44°38.6′	118°42.0′	S 22°37.7′	139°50.3′	S 22°51.2′	98°32.8′	S 19°48.7′	100°13.5′	S 20°04.8′	17°59.0′	N 12°01.0′
21	59°41.0′	133°41.8′	S 22°37.4′	154°49.4′	S 22°51.4′	113°34.7′	S 19°48.6′	115°15.7′	S 20°04.7′	33°00.4′	N 12°01.4′
22	74°43.5′	148°41.5′	S 22°37.1′	169°48.5′	S 22°51.6′	128°36.5′	S 19°48.5′	130°17.9′	S 20°04.7′	48°01.8′	N 12°01.9′
23	89°46.0′	163°41.2′	S 22°36.8′	184°47.5′	S 22°51.8′	143°38.4′	S 19°48.3′	145°20.0′	S 20°04.6′	63°03.2′	N 12°02.3′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 5 m 4 s		10 h 40 m		13 h 27 m		13 h 20 m		18 h 48 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Acrux	−Arcturus	−Spica	+Regulus	+Pollux	+Procyon	+Sirius
0	297°32.3′	N 11°30.5′	11.3′	-12.9′	58.0′		76°23.8′	46°38.8′	41°48.1′	13°37.6′	49°08.9′	50°58.2′	69°57.9′
1	312°02.5′	N 11°17.6′	11.3′	-13.0′	58.1′		76°06.0′	46°11.9′	41°14.5′	14°09.9′	49°42.9′	51°29.2′	70°22.1′
2	326°32.8′	N 11°04.6′	11.3′	-13.1′	58.1′	119°43.6′	75°48.2′	45°45.0′	40°40.8′	14°42.3′	50°16.9′	52°00.2′	70°46.3′
3	341°03.2′	N 10°51.5′	11.4′	-13.1′	58.1′	119°12.0′	75°30.4′	45°18.3′	40°07.2′	15°14.8′	50°50.9′	52°31.3′	71°10.6′
4	355°33.5′	N 10°38.4′	11.4′	-13.2′	58.1′	118°40.4′	75°12.7′	44°51.7′	39°33.6′	15°47.5′	51°25.0′	53°02.5′	71°34.9′
5	10°03.9′	N 10°25.2′	11.4′	-13.2′	58.1′	118°08.8′	74°55.1′	44°25.2′	38°59.9′	16°20.3′	51°59.0′	53°33.7′	71°59.4′
6	24°34.3′	N 10°12.0′	11.4′	-13.3′	58.2′	117°37.1′	74°37.5′	43°58.9′	38°26.2′	16°53.2′	52°33.1′	54°04.9′	72°23.9′
7	39°04.7′	N 9°58.7′	11.5′	-13.4′	58.2′	117°05.5′	74°20.0′	43°32.7′	37°52.6′	17°26.2′	53°07.2′	54°36.3′	72°48.4′
8	53°35.2′	N 9°45.4′	11.5′	-13.4′	58.2′	116°33.8′	74°02.5′	43°06.6′	37°18.9′	17°59.3′	53°41.3′	55°07.6′	73°13.1′
9	68°05.7′	N 9°32.0′	11.5′	-13.5′	58.2′	116°02.1′	73°45.1′	42°40.6′	36°45.3′	18°32.5′	54°15.5′	55°39.1′	73°37.8′
10	82°36.2′	N 9°18.5′	11.5′	-13.5′	58.2′	115°30.4′	73°27.8′	42°14.8′	36°11.6′	19°05.8′	54°49.6′	56°10.6′	74°02.5′
11	97°06.8′	N 9°05.0′	11.6′	-13.6′	58.2′	114°58.7′	73°10.5′	41°49.2′	35°37.9′	19°39.1′	55°23.8′	56°42.1′	74°27.3′
12	111°37.3′	N 8°51.4′	11.6′	-13.6′	58.3′	114°27.0′	72°53.3′	41°23.7′	35°04.2′	20°12.5′	55°58.0′	57°13.7′	74°52.2′
13	126°07.9′	N 8°37.8′	11.6′	-13.7′	58.3′	113°55.2′	72°36.2′	40°58.3′	34°30.6′	20°46.0′	56°32.2′	57°45.3′	75°17.1′
14	140°38.5′	N 8°24.1′	11.6′	-13.7′	58.3′	113°23.4′	72°19.1′	40°33.2′	33°56.9′	21°19.5′	57°06.5′	58°17.0′	75°42.1′
15	155°09.2′	N 8°10.4′	11.7′	-13.8′	58.3′	112°51.6′	72°02.1′	40°08.2′	33°23.2′	21°53.1′	57°40.7′	58°48.8′	76°07.2′
16	169°39.8′	N 7°56.6′	11.7′	-13.8′	58.3′	112°19.8′	71°45.2′	39°43.4′	32°49.6′	22°26.7′	58°15.0′	59°20.5′	76°32.2′
17	184°10.5′	N 7°42.8′	11.7′	-13.9′	58.3′	111°48.0′	71°28.4′	39°18.7′	32°15.9′	23°00.4′	58°49.3′	59°52.4′	76°57.4′
18	198°41.2′	N 7°28.9′	11.7′	-13.9′	58.4′	111°16.1′	71°11.7′	38°54.3′	31°42.3′	23°34.1′	59°23.6′	60°24.3′	77°22.6′
19	213°11.9′	N 7°15.0′	11.7′	-14.0′	58.4′	110°44.3′	70°55.0′	38°30.1′	31°08.6′	24°07.9′	59°58.0′	60°56.2′	77°47.8′
20	227°42.6′	N 7°01.0′	11.7′	-14.0′	58.4′	110°12.4′	70°38.4′	38°06.1′	30°35.0′	24°41.8′	60°32.3′	61°28.1′	78°13.1′
21	242°13.3′	N 6°47.0′	11.8′	-14.0′	58.4′	109°40.5′	70°21.9′	37°42.3′	30°01.4′	25°15.6′	61°06.7′	62°00.1′	78°38.5′
22	256°44.1′	N 6°33.0′	11.8′	-14.1′	58.4′	109°08.5′	70°05.5′	37°18.7′	29°27.7′	25°49.5′	61°41.1′	62°32.2′	79°03.8′
23	271°14.9′	N 6°18.9′	11.8′	-14.1′	58.4′	108°36.6′	69°49.1′	36°55.3′	28°54.1′	26°23.5′	62°15.5′	63°04.3′	79°29.3′
Mer. pass. 4 h 18 m SD 15.8′ phase 76%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.0′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°13.8′	N 89°21.4′
Rigil Kent	−0.0	139°45.0′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.0′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Tuesday 05 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	104°48.4′	178°40.9′	S 22°36.5′	199°46.6′	S 22°52.0′	158°40.3′	S 19°48.2′	160°22.2′	S 20°04.6′	78°04.6′	N 12°02.7′
1	119°50.9′	193°40.6′	S 22°36.3′	214°45.7′	S 22°52.2′	173°42.1′	S 19°48.1′	175°24.4′	S 20°04.5′	93°06.0′	N 12°03.2′
2	134°53.4′	208°40.4′	S 22°36.0′	229°44.8′	S 22°52.5′	188°44.0′	S 19°48.0′	190°26.5′	S 20°04.4′	108°07.4′	N 12°03.6′
3	149°55.8′	223°40.1′	S 22°35.7′	244°43.8′	S 22°52.7′	203°45.9′	S 19°47.8′	205°28.7′	S 20°04.4′	123°08.8′	N 12°04.1′
4	164°58.3′	238°39.8′	S 22°35.4′	259°42.9′	S 22°52.9′	218°47.7′	S 19°47.7′	220°30.9′	S 20°04.3′	138°10.3′	N 12°04.5′
5	180°00.8′	253°39.5′	S 22°35.1′	274°42.0′	S 22°53.1′	233°49.6′	S 19°47.6′	235°33.0′	S 20°04.2′	153°11.7′	N 12°04.9′
6	195°03.2′	268°39.3′	S 22°34.8′	289°41.0′	S 22°53.3′	248°51.5′	S 19°47.4′	250°35.2′	S 20°04.2′	168°13.1′	N 12°05.4′
7	210°05.7′	283°39.0′	S 22°34.6′	304°40.1′	S 22°53.5′	263°53.3′	S 19°47.3′	265°37.3′	S 20°04.1′	183°14.5′	N 12°05.8′
8	225°08.1′	298°38.7′	S 22°34.3′	319°39.2′	S 22°53.7′	278°55.2′	S 19°47.2′	280°39.5′	S 20°04.1′	198°15.9′	N 12°06.3′
9	240°10.6′	313°38.4′	S 22°34.0′	334°38.2′	S 22°53.9′	293°57.1′	S 19°47.0′	295°41.7′	S 20°04.0′	213°17.3′	N 12°06.7′
10	255°13.1′	328°38.1′	S 22°33.7′	349°37.3′	S 22°54.1′	308°58.9′	S 19°46.9′	310°43.8′	S 20°03.9′	228°18.7′	N 12°07.1′
11	270°15.5′	343°37.9′	S 22°33.4′	4°36.4′	S 22°54.3′	324°00.8′	S 19°46.8′	325°46.0′	S 20°03.9′	243°20.1′	N 12°07.6′
12	285°18.0′	358°37.6′	S 22°33.1′	19°35.4′	S 22°54.5′	339°02.7′	S 19°46.6′	340°48.2′	S 20°03.8′	258°21.5′	N 12°08.0′
13	300°20.5′	13°37.3′	S 22°32.8′	34°34.5′	S 22°54.7′	354°04.5′	S 19°46.5′	355°50.3′	S 20°03.7′	273°22.9′	N 12°08.5′
14	315°22.9′	28°37.0′	S 22°32.5′	49°33.6′	S 22°54.9′	9°06.4′	S 19°46.4′	10°52.5′	S 20°03.7′	288°24.3′	N 12°08.9′
15	330°25.4′	43°36.8′	S 22°32.2′	64°32.7′	S 22°55.1′	24°08.3′	S 19°46.2′	25°54.7′	S 20°03.6′	303°25.7′	N 12°09.4′
16	345°27.9′	58°36.5′	S 22°31.9′	79°31.7′	S 22°55.3′	39°10.1′	S 19°46.1′	40°56.8′	S 20°03.6′	318°27.1′	N 12°09.8′
17	0°30.3′	73°36.2′	S 22°31.7′	94°30.8′	S 22°55.5′	54°12.0′	S 19°46.0′	55°59.0′	S 20°03.5′	333°28.5′	N 12°10.2′
18	15°32.8′	88°35.9′	S 22°31.4′	109°29.9′	S 22°55.7′	69°13.9′	S 19°45.8′	71°01.1′	S 20°03.4′	348°29.9′	N 12°10.7′
19	30°35.3′	103°35.7′	S 22°31.1′	124°28.9′	S 22°55.9′	84°15.7′	S 19°45.7′	86°03.3′	S 20°03.4′	3°31.2′	N 12°11.1′
20	45°37.7′	118°35.4′	S 22°30.8′	139°28.0′	S 22°56.1′	99°17.6′	S 19°45.6′	101°05.5′	S 20°03.3′	18°32.6′	N 12°11.6′
21	60°40.2′	133°35.1′	S 22°30.5′	154°27.1′	S 22°56.2′	114°19.5′	S 19°45.4′	116°07.6′	S 20°03.2′	33°34.0′	N 12°12.0′
22	75°42.6′	148°34.8′	S 22°30.2′	169°26.1′	S 22°56.4′	129°21.3′	S 19°45.3′	131°09.8′	S 20°03.2′	48°35.4′	N 12°12.4′
23	90°45.1′	163°34.6′	S 22°29.9′	184°25.2′	S 22°56.6′	144°23.2′	S 19°45.2′	146°12.0′	S 20°03.1′	63°36.8′	N 12°12.9′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 5 m 30 s		10 h 42 m		13 h 24 m		13 h 17 m		18 h 46 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Acrux	−Arcturus	−Spica	+Regulus	+Pollux	+Procyon	+Adhara
0	285°45.6′	N 6°04.8′	11.8′	-14.2′	58.5′	108°04.6′	69°32.9′	36°32.2′	28°20.6′	26°57.5′	62°49.9′	63°36.4′	79°17.8′
1	300°16.4′	N 5°50.6′	11.8′	-14.2′	58.5′	107°32.7′	69°16.8′	36°09.4′	27°47.0′	27°31.5′	63°24.4′	64°08.6′	79°37.5′
2	314°47.2′	N 5°36.4′	11.8′	-14.2′	58.5′	107°00.7′	69°00.7′	35°46.8′	27°13.4′	28°05.6′	63°58.8′	64°40.8′	79°57.2′
3	329°18.0′	N 5°22.2′	11.8′	-14.3′	58.5′	106°28.7′	68°44.7′	35°24.4′	26°39.9′	28°39.7′	64°33.3′	65°13.0′	80°17.0′
4	343°48.8′	N 5°07.9′	11.8′	-14.3′	58.5′	105°56.6′	68°28.9′	35°02.4′	26°06.4′	29°13.9′	65°07.8′	65°45.3′	80°36.9′
5	358°19.7′	N 4°53.6′	11.8′	-14.3′	58.5′	105°24.6′	68°13.1′	34°40.6′	25°33.0′	29°48.0′	65°42.3′	66°17.6′	80°56.8′
6	12°50.5′	N 4°39.3′	11.8′	-14.4′	58.6′	104°52.5′	67°57.5′	34°19.1′	24°59.5′	30°22.3′	66°16.9′	66°50.0′	81°16.7′
7	27°21.3′	N 4°24.9′	11.8′	-14.4′	58.6′	104°20.4′	67°41.9′	33°58.0′	24°26.1′	30°56.5′	66°51.4′	67°22.4′	81°36.7′
8	41°52.2′	N 4°10.5′	11.8′	-14.4′	58.6′	103°48.3′	67°26.5′	33°37.1′	23°52.7′	31°30.8′	67°26.0′	67°54.8′	81°56.8′
9	56°23.0′	N 3°56.1′	11.8′	-14.5′	58.6′	103°16.2′	67°11.2′	33°16.6′	23°19.4′	32°05.1′	68°00.6′	68°27.3′	82°16.9′
10	70°53.9′	N 3°41.6′	11.8′	-14.5′	58.6′	102°44.1′	66°55.9′	32°56.4′	22°46.1′	32°39.4′	68°35.2′	68°59.8′	82°37.0′
11	85°24.7′	N 3°27.2′	11.8′	-14.5′	58.6′	102°11.9′		32°36.6′	22°12.9′	33°13.8′	69°09.9′	69°32.3′	82°57.2′
12	99°55.5′	N 3°12.7′	11.8′	-14.5′	58.7′	101°39.8′		32°17.1′	21°39.7′	33°48.2′	69°44.5′	70°04.9′	83°17.4′
13	114°26.4′	N 2°58.1′	11.8′	-14.5′	58.7′	101°07.6′		31°58.0′	21°06.6′	34°22.6′	70°19.2′	70°37.5′	83°37.6′
14	128°57.2′	N 2°43.6′	11.8′	-14.6′	58.7′	100°35.4′		31°39.3′	20°33.6′	34°57.0′	70°53.9′	71°10.1′	83°57.9′
15	143°28.1′	N 2°29.0′	11.8′	-14.6′	58.7′	100°03.1′		31°21.0′	20°00.6′	35°31.5′	71°28.6′	71°42.7′	84°18.2′
16	157°58.9′	N 2°14.4′	11.8′	-14.6′	58.7′	99°30.9′		31°03.1′	19°27.8′	36°06.0′	72°03.3′	72°15.4′	84°38.6′
17	172°29.7′	N 1°59.8′	11.8′	-14.6′	58.7′	98°58.6′		30°45.6′	18°55.0′	36°40.5′	72°38.0′	72°48.1′	84°59.0′
18	187°00.6′	N 1°45.2′	11.8′	-14.6′	58.7′	98°26.4′		30°28.6′	18°22.3′	37°15.0′	73°12.8′	73°20.9′	85°19.4′
19	201°31.4′	N 1°30.6′	11.8′	-14.7′	58.8′	97°54.1′		30°12.0′	17°49.7′	37°49.6′	73°47.6′	73°53.7′	85°39.8′
20	216°02.2′	N 1°15.9′	11.8′	-14.7′	58.8′	97°21.8′		29°55.9′	17°17.3′	38°24.2′	74°22.4′	74°26.5′	86°00.3′
21	230°33.0′	N 1°01.2′	11.8′	-14.7′	58.8′	96°49.4′		29°40.3′	16°45.0′	38°58.8′	74°57.2′	74°59.3′	86°20.8′
22	245°03.8′	N 0°46.6′	11.8′	-14.7′	58.8′	96°17.1′			16°12.9′	39°33.5′	75°32.0′	75°32.1′	86°41.3′
23	259°34.5′	N 0°31.9′	11.8′	-14.7′	58.8′	95°44.7′			15°40.9′	40°08.2′	76°06.9′	76°05.0′	87°01.9′
Mer. pass. 5 h 7 m SD 15.9′ phase 66%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.0′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°14.3′	N 89°21.4′
Rigil Kent	−0.0	139°45.0′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Wednesday 06 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	105°47.6′	178°34.3′	S 22°29.6′	199°24.3′	S 22°56.8′	159°25.1′	S 19°45.0′	161°14.1′	S 20°03.1′	78°38.2′	N 12°13.3′
1	120°50.0′	193°34.0′	S 22°29.3′	214°23.3′	S 22°57.0′	174°26.9′	S 19°44.9′	176°16.3′	S 20°03.0′	93°39.6′	N 12°13.8′
2	135°52.5′	208°33.7′	S 22°29.0′	229°22.4′	S 22°57.2′	189°28.8′	S 19°44.8′	191°18.4′	S 20°02.9′	108°41.0′	N 12°14.2′
3	150°55.0′	223°33.5′	S 22°28.7′	244°21.5′	S 22°57.4′	204°30.7′	S 19°44.6′	206°20.6′	S 20°02.9′	123°42.4′	N 12°14.7′
4	165°57.4′	238°33.2′	S 22°28.4′	259°20.5′	S 22°57.5′	219°32.5′	S 19°44.5′	221°22.8′	S 20°02.8′	138°43.8′	N 12°15.1′
5	180°59.9′	253°32.9′	S 22°28.1′	274°19.6′	S 22°57.7′	234°34.4′	S 19°44.4′	236°24.9′	S 20°02.7′	153°45.2′	N 12°15.5′
6	196°02.4′	268°32.6′	S 22°27.8′	289°18.7′	S 22°57.9′	249°36.3′	S 19°44.2′	251°27.1′	S 20°02.7′	168°46.6′	N 12°16.0′
7	211°04.8′	283°32.4′	S 22°27.5′	304°17.7′	S 22°58.1′	264°38.1′	S 19°44.1′	266°29.3′	S 20°02.6′	183°48.0′	N 12°16.4′
8	226°07.3′	298°32.1′	S 22°27.1′	319°16.8′	S 22°58.2′	279°40.0′	S 19°43.9′	281°31.4′	S 20°02.6′	198°49.4′	N 12°16.9′
9	241°09.7′	313°31.8′	S 22°26.8′	334°15.8′	S 22°58.4′	294°41.9′	S 19°43.8′	296°33.6′	S 20°02.5′	213°50.7′	N 12°17.3′
10	256°12.2′	328°31.5′	S 22°26.5′	349°14.9′	S 22°58.6′	309°43.7′	S 19°43.7′	311°35.7′	S 20°02.4′	228°52.1′	N 12°17.8′
11	271°14.7′	343°31.3′	S 22°26.2′	4°14.0′	S 22°58.8′	324°45.6′	S 19°43.5′	326°37.9′	S 20°02.4′	243°53.5′	N 12°18.2′
12	286°17.1′	358°31.0′	S 22°25.9′	19°13.0′	S 22°58.9′	339°47.5′	S 19°43.4′	341°40.1′	S 20°02.3′	258°54.9′	N 12°18.6′
13	301°19.6′	13°30.7′	S 22°25.6′	34°12.1′	S 22°59.1′	354°49.3′	S 19°43.3′	356°42.2′	S 20°02.2′	273°56.3′	N 12°19.1′
14	316°22.1′	28°30.5′	S 22°25.3′	49°11.2′	S 22°59.3′	9°51.2′	S 19°43.1′	11°44.4′	S 20°02.2′	288°57.7′	N 12°19.5′
15	331°24.5′	43°30.2′	S 22°25.0′	64°10.2′	S 22°59.4′	24°53.1′	S 19°43.0′	26°46.6′	S 20°02.1′	303°59.1′	N 12°20.0′
16	346°27.0′	58°29.9′	S 22°24.7′	79°09.3′	S 22°59.6′	39°54.9′	S 19°42.9′	41°48.7′	S 20°02.0′	319°00.5′	N 12°20.4′
17	1°29.5′	73°29.6′	S 22°24.4′	94°08.4′	S 22°59.8′	54°56.8′	S 19°42.7′	56°50.9′	S 20°02.0′	334°01.8′	N 12°20.9′
18	16°31.9′	88°29.4′	S 22°24.0′	109°07.4′	S 22°59.9′	69°58.7′	S 19°42.6′	71°53.0′	S 20°01.9′	349°03.2′	N 12°21.3′
19	31°34.4′	103°29.1′	S 22°23.7′	124°06.5′	S 23°00.1′	85°00.5′	S 19°42.5′	86°55.2′	S 20°01.9′	4°04.6′	N 12°21.7′
20	46°36.9′	118°28.8′	S 22°23.4′	139°05.6′	S 23°00.3′	100°02.4′	S 19°42.3′	101°57.4′	S 20°01.8′	19°06.0′	N 12°22.2′
21	61°39.3′	133°28.6′	S 22°23.1′	154°04.6′	S 23°00.4′	115°04.3′	S 19°42.2′	116°59.5′	S 20°01.7′	34°07.4′	N 12°22.6′
22	76°41.8′	148°28.3′	S 22°22.8′	169°03.7′	S 23°00.6′	130°06.1′	S 19°42.1′	132°01.7′	S 20°01.7′	49°08.8′	N 12°23.1′
23	91°44.2′	163°28.0′	S 22°22.5′	184°02.7′	S 23°00.7′	145°08.0′	S 19°41.9′	147°03.9′	S 20°01.6′	64°10.1′	N 12°23.5′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 5 m 57 s		10 h 43 m		13 h 21 m		13 h 13 m		18 h 44 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Hadar	−Antares	−Spica	+Regulus	+Procyon	+Pollux	+Adhara
0	274°05.3′	N 0°17.2′	11.7′	-14.7′	58.8′	95°12.4′	62°36.9′	60°04.6′	15°09.2′	40°42.8′	76°37.9′	76°41.7′	87°22.4′
1	288°36.0′	N 0°02.4′	11.7′	-14.7′	58.9′	94°40.0′	62°16.6′	59°29.9′	14°37.6′	41°17.6′	77°10.9′	77°16.6′	87°43.0′
2	303°06.8′	S 0°12.3′	11.7′	-14.7′	58.9′	94°07.5′	61°56.4′	58°55.1′	14°06.4′	41°52.3′	77°43.8′	77°51.5′	88°03.6′
3	317°37.5′	S 0°27.0′	11.7′	-14.7′	58.9′	93°35.1′	61°36.4′	58°20.3′	13°35.3′	42°27.1′	78°16.8′	78°26.4′	88°24.2′
4	332°08.2′	S 0°41.7′	11.7′	-14.7′	58.9′	93°02.7′	61°16.4′	57°45.5′	13°04.6′	43°01.8′	78°49.8′	79°01.4′	88°44.9′
5	346°38.9′	S 0°56.5′	11.7′	-14.7′	58.9′	92°30.2′	60°56.6′	57°10.7′	12°34.3′	43°36.6′	79°22.8′	79°36.3′	89°05.5′
6	1°09.5′	S 1°11.2′	11.6′	-14.7′	58.9′	91°57.7′	60°36.9′	56°35.9′	12°04.4′	44°11.5′	79°55.9′	80°11.3′	89°26.2′
7	15°40.2′	S 1°25.9′	11.6′	-14.7′	58.9′	91°25.2′	60°17.3′	56°01.1′	11°34.9′	44°46.3′	80°29.0′	80°46.3′	89°46.9′
8	30°10.8′	S 1°40.7′	11.6′	-14.7′	59.0′	90°52.7′	59°57.9′	55°26.2′	11°05.9′	45°21.2′	81°02.1′	81°21.3′	90°07.6′
9	44°41.4′	S 1°55.4′	11.6′	-14.7′	59.0′	90°20.2′	59°38.5′	54°51.3′	10°37.6′	45°56.1′	81°35.2′	81°56.3′	90°28.3′
10	59°11.9′	S 2°10.2′	11.5′	-14.7′	59.0′	89°47.6′	59°19.4′	54°16.5′	10°09.9′	46°31.0′	82°08.4′	82°31.4′	90°49.0′
11	73°42.5′	S 2°24.9′	11.5′	-14.7′	59.0′	89°15.1′	59°00.3′	53°41.6′		47°05.9′	82°41.5′	83°06.4′	91°09.7′
12	88°13.0′	S 2°39.6′	11.5′	-14.7′	59.0′	88°42.5′	58°41.5′	53°06.7′		47°40.9′	83°14.7′	83°41.5′	91°30.5′
13	102°43.5′	S 2°54.3′	11.5′	-14.7′	59.0′	88°09.9′	58°22.7′	52°31.8′		48°15.8′	83°47.9′	84°16.6′	91°51.2′
14	117°13.9′	S 3°09.0′	11.4′	-14.7′	59.0′	87°37.3′	58°04.1′	51°56.8′		48°50.8′	84°21.1′	84°51.7′	92°11.9′
15	131°44.4′	S 3°23.7′	11.4′	-14.7′	59.1′	87°04.6′	57°45.7′	51°21.9′		49°25.9′	84°54.4′	85°26.8′	92°32.6′
16	146°14.8′	S 3°38.4′	11.4′	-14.7′	59.1′	86°32.0′	57°27.4′	50°46.9′		50°00.9′	85°27.7′	86°02.0′	92°53.4′
17	160°45.1′	S 3°53.1′	11.3′	-14.7′	59.1′	85°59.3′	57°09.3′	50°12.0′		50°35.9′	86°00.9′	86°37.1′	93°14.1′
18	175°15.5′	S 4°07.8′	11.3′	-14.6′	59.1′	85°26.7′	56°51.3′	49°37.0′		51°11.0′	86°34.2′	87°12.3′	93°34.8′
19	189°45.8′	S 4°22.4′	11.3′	-14.6′	59.1′	84°54.0′	56°33.6′	49°02.0′		51°46.1′	87°07.6′	87°47.5′	93°55.5′
20	204°16.0′	S 4°37.0′	11.2′	-14.6′	59.1′	84°21.3′	56°15.9′	48°27.0′		52°21.2′	87°40.9′	88°22.7′	94°16.2′
21	218°46.2′	S 4°51.6′	11.2′	-14.6′	59.1′	83°48.5′	55°58.5′	47°52.0′		52°56.3′	88°14.3′	88°57.9′	94°36.9′
22	233°16.4′	S 5°06.2′	11.1′	-14.6′	59.1′	83°15.8′	55°41.2′	47°17.0′		53°31.5′	88°47.6′	89°33.1′	94°57.6′
23	247°46.6′	S 5°20.8′	11.1′	-14.6′	59.2′	82°43.0′	55°24.2′	46°41.9′		54°06.6′	89°21.0′	90°08.4′	95°18.3′
Mer. pass. 5 h 55 m SD 16.0′ phase 55%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°14.7′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Thursday 07 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	106°46.7′	178°27.7′	S 22°22.1′	199°01.8′	S 23°00.9′	160°09.9′	S 19°41.8′	162°06.0′	S 20°01.5′	79°11.5′	N 12°24.0′
1	121°49.2′	193°27.5′	S 22°21.8′	214°00.9′	S 23°01.0′	175°11.7′	S 19°41.7′	177°08.2′	S 20°01.5′	94°12.9′	N 12°24.4′
2	136°51.6′	208°27.2′	S 22°21.5′	228°59.9′	S 23°01.2′	190°13.6′	S 19°41.5′	192°10.3′	S 20°01.4′	109°14.3′	N 12°24.8′
3	151°54.1′	223°26.9′	S 22°21.2′	243°59.0′	S 23°01.3′	205°15.5′	S 19°41.4′	207°12.5′	S 20°01.4′	124°15.7′	N 12°25.3′
4	166°56.6′	238°26.7′	S 22°20.9′	258°58.1′	S 23°01.5′	220°17.3′	S 19°41.3′	222°14.7′	S 20°01.3′	139°17.0′	N 12°25.7′
5	181°59.0′	253°26.4′	S 22°20.5′	273°57.1′	S 23°01.6′	235°19.2′	S 19°41.1′	237°16.8′	S 20°01.2′	154°18.4′	N 12°26.2′
6	197°01.5′	268°26.1′	S 22°20.2′	288°56.2′	S 23°01.8′	250°21.1′	S 19°41.0′	252°19.0′	S 20°01.2′	169°19.8′	N 12°26.6′
7	212°04.0′	283°25.9′	S 22°19.9′	303°55.2′	S 23°01.9′	265°22.9′	S 19°40.9′	267°21.2′	S 20°01.1′	184°21.2′	N 12°27.1′
8	227°06.4′	298°25.6′	S 22°19.6′	318°54.3′	S 23°02.1′	280°24.8′	S 19°40.7′	282°23.3′	S 20°01.0′	199°22.6′	N 12°27.5′
9	242°08.9′	313°25.3′	S 22°19.3′	333°53.4′	S 23°02.2′	295°26.7′	S 19°40.6′	297°25.5′	S 20°01.0′	214°23.9′	N 12°27.9′
10	257°11.4′	328°25.1′	S 22°18.9′	348°52.4′	S 23°02.4′	310°28.5′	S 19°40.4′	312°27.6′	S 20°00.9′	229°25.3′	N 12°28.4′
11	272°13.8′	343°24.8′	S 22°18.6′	3°51.5′	S 23°02.5′	325°30.4′	S 19°40.3′	327°29.8′	S 20°00.8′	244°26.7′	N 12°28.8′
12	287°16.3′	358°24.5′	S 22°18.3′	18°50.5′	S 23°02.7′	340°32.2′	S 19°40.2′	342°32.0′	S 20°00.8′	259°28.1′	N 12°29.3′
13	302°18.7′	13°24.3′	S 22°17.9′	33°49.6′	S 23°02.8′	355°34.1′	S 19°40.0′	357°34.1′	S 20°00.7′	274°29.4′	N 12°29.7′
14	317°21.2′	28°24.0′	S 22°17.6′	48°48.7′	S 23°02.9′	10°36.0′	S 19°39.9′	12°36.3′	S 20°00.7′	289°30.8′	N 12°30.2′
15	332°23.7′	43°23.7′	S 22°17.3′	63°47.7′	S 23°03.1′	25°37.8′	S 19°39.8′	27°38.5′	S 20°00.6′	304°32.2′	N 12°30.6′
16	347°26.1′	58°23.5′	S 22°17.0′	78°46.8′	S 23°03.2′	40°39.7′	S 19°39.6′	42°40.6′	S 20°00.5′	319°33.6′	N 12°31.1′
17	2°28.6′	73°23.2′	S 22°16.6′	93°45.8′	S 23°03.4′	55°41.6′	S 19°39.5′	57°42.8′	S 20°00.5′	334°34.9′	N 12°31.5′
18	17°31.1′	88°22.9′	S 22°16.3′	108°44.9′	S 23°03.5′	70°43.4′	S 19°39.4′	72°44.9′	S 20°00.4′	349°36.3′	N 12°31.9′
19	32°33.5′	103°22.7′	S 22°16.0′	123°44.0′	S 23°03.6′	85°45.3′	S 19°39.2′	87°47.1′	S 20°00.3′	4°37.7′	N 12°32.4′
20	47°36.0′	118°22.4′	S 22°15.6′	138°43.0′	S 23°03.8′	100°47.2′	S 19°39.1′	102°49.3′	S 20°00.3′	19°39.1′	N 12°32.8′
21	62°38.5′	133°22.1′	S 22°15.3′	153°42.1′	S 23°03.9′	115°49.0′	S 19°39.0′	117°51.4′	S 20°00.2′	34°40.4′	N 12°33.3′
22	77°40.9′	148°21.9′	S 22°15.0′	168°41.1′	S 23°04.0′	130°50.9′	S 19°38.8′	132°53.6′	S 20°00.1′	49°41.8′	N 12°33.7′
23	92°43.4′	163°21.6′	S 22°14.6′	183°40.2′	S 23°04.1′	145°52.8′	S 19°38.7′	147°55.7′	S 20°00.1′	64°43.2′	N 12°34.2′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 6 m 23 s		10 h 45 m		13 h 18 m		13 h 10 m		18 h 42 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Rigil Kent	−Hadar	−Antares	+Spica	+Arcturus	+Regulus	+Procyon
0	262°16.7′	S 5°35.4′	11.1′	-14.5′	59.2′	82°10.3′	56°34.9′	55°07.3′	46°06.9′			54°41.8′	89°54.4′
1	276°46.8′	S 5°49.9′	11.0′	-14.5′	59.2′	81°37.5′	56°15.5′	54°50.5′	45°31.8′			55°17.0′	90°27.8′
2	291°16.8′	S 6°04.4′	11.0′	-14.5′	59.2′	81°04.7′	55°56.3′	54°34.0′	44°56.8′			55°52.2′	91°01.3′
3	305°46.8′	S 6°18.9′	10.9′	-14.5′	59.2′	80°31.9′	55°37.3′	54°17.7′	44°21.7′			56°27.5′	91°34.7′
4	320°16.7′	S 6°33.3′	10.9′	-14.4′	59.2′	79°59.0′	55°18.4′	54°01.6′	43°46.6′			57°02.7′	92°08.2′
5	334°46.6′	S 6°47.8′	10.8′	-14.4′	59.2′	79°26.2′	54°59.7′	53°45.7′	43°11.5′			57°38.0′	92°41.6′
6	349°16.4′	S 7°02.2′	10.8′	-14.4′	59.2′	78°53.3′	54°41.2′	53°30.0′	42°36.4′			58°13.3′	93°15.1′
7	3°46.2′	S 7°16.5′	10.7′	-14.3′	59.3′	78°20.4′	54°22.8′	53°14.5′	42°01.3′			58°48.6′	93°48.6′
8	18°16.0′	S 7°30.8′	10.7′	-14.3′	59.3′	77°47.5′	54°04.7′	52°59.2′	41°26.2′			59°23.9′	94°22.1′
9	32°45.7′	S 7°45.1′	10.6′	-14.3′	59.3′	77°14.6′	53°46.7′		40°51.1′			59°59.2′	94°55.6′
10	47°15.3′	S 7°59.4′	10.6′	-14.2′	59.3′	76°41.7′	53°28.9′		40°16.0′			60°34.6′	95°29.2′
11	61°44.9′	S 8°13.6′	10.5′	-14.2′	59.3′	76°08.8′	53°11.4′		39°40.9′			61°10.0′	96°02.7′
12	76°14.5′	S 8°27.8′	10.5′	-14.1′	59.3′	75°35.8′	52°54.0′		39°05.8′			61°45.4′	96°36.3′
13	90°43.9′	S 8°41.9′	10.4′	-14.1′	59.3′	75°02.9′	52°36.8′		38°30.6′			62°20.8′	97°09.8′
14	105°13.4′	S 8°56.0′	10.4′	-14.1′	59.3′	74°29.9′	52°19.8′		37°55.5′	10°39.2′		62°56.2′	97°43.4′
15	119°42.8′	S 9°10.1′	10.3′	-14.0′	59.3′	73°56.9′	52°03.1′		37°20.3′	11°08.0′		63°31.6′	98°17.0′
16	134°12.1′	S 9°24.1′	10.3′	-14.0′	59.4′	73°23.9′	51°46.6′		36°45.2′	11°37.4′		64°07.1′	98°50.5′
17	148°41.3′	S 9°38.1′	10.2′	-13.9′	59.4′	72°50.9′	51°30.2′		36°10.1′	12°07.4′		64°42.5′	99°24.1′
18	163°10.5′	S 9°52.0′	10.1′	-13.9′	59.4′	72°17.8′	51°14.2′		35°34.9′	12°37.9′		65°18.0′	99°57.7′
19	177°39.7′	S 10°05.9′	10.1′	-13.8′	59.4′	71°44.8′	50°58.3′		34°59.8′	13°08.8′		65°53.5′	100°31.3′
20	192°08.8′	S 10°19.7′	10.0′	-13.8′	59.4′	71°11.7′	50°42.7′		34°24.6′	13°40.1′	29°25.7′	66°29.0′	101°04.9′
21	206°37.8′	S 10°33.4′	10.0′	-13.7′	59.4′	70°38.7′	50°27.3′		33°49.5′	14°11.7′	29°41.2′	67°04.5′	101°38.5′
22	221°06.8′	S 10°47.2′	9.9′	-13.7′	59.4′	70°05.6′			33°14.3′	14°43.7′	29°57.2′	67°40.1′	102°12.2′
23	235°35.7′	S 11°00.8′	9.8′	-13.6′	59.4′	69°32.5′			32°39.2′	15°15.9′	30°13.7′	68°15.6′	102°45.8′
Mer. pass. 6 h 44 m SD 16.1′ phase 43%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.8′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.5′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°15.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Friday 08 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	107°45.8′	178°21.3′	S 22°14.3′	198°39.3′	S 23°04.3′	160°54.6′	S 19°38.6′	162°57.9′	S 20°00.0′	79°44.5′	N 12°34.6′
1	122°48.3′	193°21.1′	S 22°13.9′	213°38.3′	S 23°04.4′	175°56.5′	S 19°38.4′	178°00.1′	S 19°60.0′	94°45.9′	N 12°35.0′
2	137°50.8′	208°20.8′	S 22°13.6′	228°37.4′	S 23°04.5′	190°58.4′	S 19°38.3′	193°02.2′	S 19°59.9′	109°47.3′	N 12°35.5′
3	152°53.2′	223°20.5′	S 22°13.3′	243°36.4′	S 23°04.6′	206°00.2′	S 19°38.1′	208°04.4′	S 19°59.8′	124°48.7′	N 12°35.9′
4	167°55.7′	238°20.3′	S 22°12.9′	258°35.5′	S 23°04.8′	221°02.1′	S 19°38.0′	223°06.6′	S 19°59.8′	139°50.0′	N 12°36.4′
5	182°58.2′	253°20.0′	S 22°12.6′	273°34.6′	S 23°04.9′	236°04.0′	S 19°37.9′	238°08.7′	S 19°59.7′	154°51.4′	N 12°36.8′
6	198°00.6′	268°19.7′	S 22°12.3′	288°33.6′	S 23°05.0′	251°05.8′	S 19°37.7′	253°10.9′	S 19°59.6′	169°52.8′	N 12°37.3′
7	213°03.1′	283°19.5′	S 22°11.9′	303°32.7′	S 23°05.1′	266°07.7′	S 19°37.6′	268°13.0′	S 19°59.6′	184°54.1′	N 12°37.7′
8	228°05.6′	298°19.2′	S 22°11.6′	318°31.7′	S 23°05.2′	281°09.5′	S 19°37.5′	283°15.2′	S 19°59.5′	199°55.5′	N 12°38.2′
9	243°08.0′	313°19.0′	S 22°11.2′	333°30.8′	S 23°05.4′	296°11.4′	S 19°37.3′	298°17.4′	S 19°59.4′	214°56.9′	N 12°38.6′
10	258°10.5′	328°18.7′	S 22°10.9′	348°29.9′	S 23°05.5′	311°13.3′	S 19°37.2′	313°19.5′	S 19°59.4′	229°58.2′	N 12°39.0′
11	273°13.0′	343°18.4′	S 22°10.5′	3°28.9′	S 23°05.6′	326°15.1′	S 19°37.1′	328°21.7′	S 19°59.3′	244°59.6′	N 12°39.5′
12	288°15.4′	358°18.2′	S 22°10.2′	18°28.0′	S 23°05.7′	341°17.0′	S 19°36.9′	343°23.8′	S 19°59.3′	260°01.0′	N 12°39.9′
13	303°17.9′	13°17.9′	S 22°09.8′	33°27.0′	S 23°05.8′	356°18.9′	S 19°36.8′	358°26.0′	S 19°59.2′	275°02.3′	N 12°40.4′
14	318°20.3′	28°17.6′	S 22°09.5′	48°26.1′	S 23°05.9′	11°20.7′	S 19°36.6′	13°28.2′	S 19°59.1′	290°03.7′	N 12°40.8′
15	333°22.8′	43°17.4′	S 22°09.1′	63°25.1′	S 23°06.0′	26°22.6′	S 19°36.5′	28°30.3′	S 19°59.1′	305°05.0′	N 12°41.3′
16	348°25.3′	58°17.1′	S 22°08.8′	78°24.2′	S 23°06.1′	41°24.5′	S 19°36.4′	43°32.5′	S 19°59.0′	320°06.4′	N 12°41.7′
17	3°27.7′	73°16.9′	S 22°08.5′	93°23.3′	S 23°06.2′	56°26.3′	S 19°36.2′	58°34.6′	S 19°58.9′	335°07.8′	N 12°42.2′
18	18°30.2′	88°16.6′	S 22°08.1′	108°22.3′	S 23°06.3′	71°28.2′	S 19°36.1′	73°36.8′	S 19°58.9′	350°09.1′	N 12°42.6′
19	33°32.7′	103°16.3′	S 22°07.8′	123°21.4′	S 23°06.4′	86°30.1′	S 19°36.0′	88°39.0′	S 19°58.8′	5°10.5′	N 12°43.0′
20	48°35.1′	118°16.1′	S 22°07.4′	138°20.4′	S 23°06.5′	101°31.9′	S 19°35.8′	103°41.1′	S 19°58.7′	20°11.9′	N 12°43.5′
21	63°37.6′	133°15.8′	S 22°07.0′	153°19.5′	S 23°06.6′	116°33.8′	S 19°35.7′	118°43.3′	S 19°58.7′	35°13.2′	N 12°43.9′
22	78°40.1′	148°15.6′	S 22°06.7′	168°18.5′	S 23°06.7′	131°35.6′	S 19°35.6′	133°45.5′	S 19°58.6′	50°14.6′	N 12°44.4′
23	93°42.5′	163°15.3′	S 22°06.3′	183°17.6′	S 23°06.8′	146°37.5′	S 19°35.4′	148°47.6′	S 19°58.6′	65°15.9′	N 12°44.8′
		SD 16.3′ *d* 0.3′		*v* -0.9′ *d* -0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 6 m 48 s		10 h 46 m		13 h 15 m		13 h 6 m		18 h 39 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Venus	−Antares	+Spica	+Arcturus	+Regulus	+Procyon	+Adhara
0	250°04.5′	S 11°14.4′	9.8′	-13.5′	59.4′	68°59.4′	50°16.5′	32°04.1′	15°48.4′	30°30.8′	68°51.2′	103°19.4′	103°46.9′
1	264°33.3′	S 11°28.0′	9.7′	-13.5′	59.4′	68°26.2′	49°43.9′	31°29.0′	16°21.1′	30°48.3′	69°26.8′	103°53.0′	104°06.7′
2	279°02.0′	S 11°41.4′	9.6′	-13.4′	59.4′	67°53.1′	49°11.4′	30°53.9′	16°54.0′	31°06.3′	70°02.3′	104°26.6′	104°26.5′
3	293°30.6′	S 11°54.9′	9.6′	-13.4′	59.5′	67°20.0′	48°38.8′	30°18.7′	17°27.1′	31°24.7′	70°38.0′	105°00.3′	104°46.2′
4	307°59.2′	S 12°08.2′	9.5′	-13.3′	59.5′	66°46.8′	48°06.2′	29°43.7′	18°00.4′	31°43.6′	71°13.6′	105°33.9′	105°05.8′
5	322°27.7′	S 12°21.5′	9.4′	-13.2′	59.5′	66°13.6′	47°33.6′	29°08.6′	18°33.9′	32°03.0′	71°49.2′	106°07.5′	105°25.4′
6	336°56.1′	S 12°34.7′	9.4′	-13.2′	59.5′	65°40.5′	47°01.0′	28°33.5′	19°07.4′	32°22.7′	72°24.8′	106°41.1′	105°44.9′
7	351°24.5′	S 12°47.9′	9.3′	-13.1′	59.5′	65°07.3′	46°28.4′	27°58.4′	19°41.2′	32°42.9′	73°00.5′	107°14.8′	106°04.3′
8	5°52.8′	S 13°01.0′	9.2′	-13.0′	59.5′	64°34.1′	45°55.7′	27°23.4′	20°15.0′	33°03.5′	73°36.2′	107°48.4′	106°23.7′
9	20°21.0′	S 13°14.0′	9.2′	-12.9′	59.5′	64°00.9′	45°23.1′	26°48.4′	20°49.0′	33°24.4′	74°11.8′	108°22.0′	106°42.9′
10	34°49.2′	S 13°27.0′	9.1′	-12.9′	59.5′	63°27.6′	44°50.4′	26°13.4′	21°23.0′	33°45.8′	74°47.5′	108°55.6′	107°02.2′
11	49°17.2′	S 13°39.8′	9.0′	-12.8′	59.5′	62°54.4′	44°17.7′	25°38.4′	21°57.2′	34°07.5′	75°23.2′	109°29.2′	107°21.3′
12	63°45.2′	S 13°52.6′	8.9′	-12.7′	59.5′	62°21.2′	43°45.1′	25°03.5′	22°31.5′	34°29.5′	75°59.0′	110°02.8′	107°40.4′
13	78°13.2′	S 14°05.4′	8.9′	-12.6′	59.5′	61°47.9′	43°12.4′	24°28.6′	23°05.8′	34°51.9′	76°34.7′	110°36.4′	107°59.4′
14	92°41.0′	S 14°18.0′	8.8′	-12.6′	59.5′	61°14.7′	42°39.7′	23°53.7′	23°40.2′	35°14.6′	77°10.4′	111°10.0′	108°18.3′
15	107°08.8′	S 14°30.6′	8.7′	-12.5′	59.5′	60°41.4′	42°07.0′	23°18.9′	24°14.7′	35°37.6′	77°46.2′	111°43.6′	108°37.1′
16	121°36.5′	S 14°43.0′	8.6′	-12.4′	59.5′	60°08.1′	41°34.3′	22°44.0′	24°49.3′	36°01.0′	78°21.9′	112°17.1′	108°55.8′
17	136°04.2′	S 14°55.4′	8.6′	-12.3′	59.6′	59°34.8′	41°01.5′	22°09.3′	25°23.9′	36°24.6′	78°57.7′	112°50.7′	109°14.4′
18	150°31.7′	S 15°07.7′	8.5′	-12.2′	59.6′	59°01.5′	40°28.8′	21°34.6′	25°58.6′	36°48.6′	79°33.5′	113°24.2′	109°33.0′
19	164°59.2′	S 15°20.0′	8.4′	-12.1′	59.6′	58°28.2′	39°56.1′	20°59.9′	26°33.4′	37°12.8′	80°09.2′	113°57.7′	109°51.5′
20	179°26.6′	S 15°32.1′	8.3′	-12.0′	59.6′	57°54.9′	39°23.3′	20°25.3′	27°08.2′	37°37.3′	80°45.0′	114°31.3′	110°09.8′
21	193°54.0′	S 15°44.2′	8.3′	-12.0′	59.6′	57°21.6′	38°50.6′	19°50.8′	27°43.0′	38°02.0′	81°20.8′	115°04.8′	110°28.1′
22	208°21.2′	S 15°56.1′	8.2′	-11.9′	59.6′	56°48.3′	38°17.8′	19°16.3′	28°17.9′	38°27.0′	81°56.6′	115°38.3′	110°46.2′
23	222°48.4′	S 16°08.0′	8.1′	-11.8′	59.6′	56°14.9′	37°45.0′	18°42.0′	28°52.9′	38°52.3′	82°32.5′	116°11.7′	111°04.3′
Mer. pass. 7 h 36 m SD 16.2′ phase 32%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.4′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.5′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°15.5′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.6′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.4′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Saturday 09 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	108°45.0′	178°15.0′	S 22°06.0′	198°16.7′	S 23°06.9′	161°39.4′	S 19°35.3′	163°49.8′	S 19°58.5′	80°17.3′	N 12°45.3′
1	123°47.5′	193°14.8′	S 22°05.6′	213°15.7′	S 23°07.0′	176°41.2′	S 19°35.1′	178°51.9′	S 19°58.4′	95°18.6′	N 12°45.7′
2	138°49.9′	208°14.5′	S 22°05.3′	228°14.8′	S 23°07.1′	191°43.1′	S 19°35.0′	193°54.1′	S 19°58.4′	110°20.0′	N 12°46.2′
3	153°52.4′	223°14.3′	S 22°04.9′	243°13.8′	S 23°07.2′	206°45.0′	S 19°34.9′	208°56.3′	S 19°58.3′	125°21.4′	N 12°46.6′
4	168°54.8′	238°14.0′	S 22°04.6′	258°12.9′	S 23°07.3′	221°46.8′	S 19°34.7′	223°58.4′	S 19°58.2′	140°22.7′	N 12°47.1′
5	183°57.3′	253°13.7′	S 22°04.2′	273°11.9′	S 23°07.4′	236°48.7′	S 19°34.6′	239°00.6′	S 19°58.2′	155°24.1′	N 12°47.5′
6	198°59.8′	268°13.5′	S 22°03.8′	288°11.0′	S 23°07.5′	251°50.6′	S 19°34.5′	254°02.7′	S 19°58.1′	170°25.4′	N 12°47.9′
7	214°02.2′	283°13.2′	S 22°03.5′	303°10.0′	S 23°07.6′	266°52.4′	S 19°34.3′	269°04.9′	S 19°58.0′	185°26.8′	N 12°48.4′
8	229°04.7′	298°13.0′	S 22°03.1′	318°09.1′	S 23°07.7′	281°54.3′	S 19°34.2′	284°07.1′	S 19°58.0′	200°28.1′	N 12°48.8′
9	244°07.2′	313°12.7′	S 22°02.8′	333°08.2′	S 23°07.8′	296°56.1′	S 19°34.0′	299°09.2′	S 19°57.9′	215°29.5′	N 12°49.3′
10	259°09.6′	328°12.5′	S 22°02.4′	348°07.2′	S 23°07.8′	311°58.0′	S 19°33.9′	314°11.4′	S 19°57.8′	230°30.9′	N 12°49.7′
11	274°12.1′	343°12.2′	S 22°02.0′	3°06.3′	S 23°07.9′	326°59.9′	S 19°33.8′	329°13.5′	S 19°57.8′	245°32.2′	N 12°50.2′
12	289°14.6′	358°11.9′	S 22°01.7′	18°05.3′	S 23°08.0′	342°01.7′	S 19°33.6′	344°15.7′	S 19°57.7′	260°33.6′	N 12°50.6′
13	304°17.0′	13°11.7′	S 22°01.3′	33°04.4′	S 23°08.1′	357°03.6′	S 19°33.5′	359°17.9′	S 19°57.7′	275°34.9′	N 12°51.1′
14	319°19.5′	28°11.4′	S 22°00.9′	48°03.4′	S 23°08.2′	12°05.5′	S 19°33.4′	14°20.0′	S 19°57.6′	290°36.3′	N 12°51.5′
15	334°22.0′	43°11.2′	S 22°00.6′	63°02.5′	S 23°08.3′	27°07.3′	S 19°33.2′	29°22.2′	S 19°57.5′	305°37.6′	N 12°51.9′
16	349°24.4′	58°10.9′	S 22°00.2′	78°01.5′	S 23°08.3′	42°09.2′	S 19°33.1′	44°24.3′	S 19°57.5′	320°39.0′	N 12°52.4′
17	4°26.9′	73°10.7′	S 21°59.8′	93°00.6′	S 23°08.4′	57°11.1′	S 19°32.9′	59°26.5′	S 19°57.4′	335°40.3′	N 12°52.8′
18	19°29.3′	88°10.4′	S 21°59.5′	107°59.7′	S 23°08.5′	72°12.9′	S 19°32.8′	74°28.7′	S 19°57.3′	350°41.7′	N 12°53.3′
19	34°31.8′	103°10.1′	S 21°59.1′	122°58.7′	S 23°08.6′	87°14.8′	S 19°32.7′	89°30.8′	S 19°57.3′	5°43.0′	N 12°53.7′
20	49°34.3′	118°09.9′	S 21°58.7′	137°57.8′	S 23°08.6′	102°16.6′	S 19°32.5′	104°33.0′	S 19°57.2′	20°44.4′	N 12°54.2′
21	64°36.7′	133°09.6′	S 21°58.4′	152°56.8′	S 23°08.7′	117°18.5′	S 19°32.4′	119°35.1′	S 19°57.1′	35°45.7′	N 12°54.6′
22	79°39.2′	148°09.4′	S 21°58.0′	167°55.9′	S 23°08.8′	132°20.4′	S 19°32.3′	134°37.3′	S 19°57.1′	50°47.1′	N 12°55.1′
23	94°41.7′	163°09.1′	S 21°57.6′	182°54.9′	S 23°08.8′	147°22.2′	S 19°32.1′	149°39.5′	S 19°57.0′	65°48.4′	N 12°55.5′
		SD 16.3′ *d* 0.4′		*v* -0.9′ *d* -0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.4′ *d* 0.4′	
Mer. pass.		12 h 7 m 13 s		10 h 48 m		13 h 12 m		13 h 3 m		18 h 37 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sun	−Venus	−Antares	+Spica	+Arcturus	+Regulus	+Adhara	+Procyon
0	237°15.5′	S 16°19.8′	8.0′	-11.7′	59.6′	55°41.6′	37°12.2′	18°07.7′	29°27.9′	39°17.8′	83°08.3′	111°22.3′	116°45.2′
1	251°42.5′	S 16°31.4′	7.9′	-11.6′	59.6′	55°08.2′	36°39.5′	17°33.5′	30°02.9′	39°43.5′	83°44.1′	111°40.1′	117°18.6′
2	266°09.5′	S 16°43.0′	7.9′	-11.5′	59.6′	54°34.9′	36°06.7′	16°59.4′	30°38.0′	40°09.4′	84°20.0′	111°57.9′	117°52.0′
3	280°36.3′	S 16°54.5′	7.8′	-11.4′	59.6′	54°01.5′	35°33.9′	16°25.5′	31°13.1′	40°35.6′	84°55.8′	112°15.5′	118°25.4′
4	295°03.1′	S 17°05.9′	7.7′	-11.3′	59.6′	53°28.2′	35°01.1′	15°51.6′	31°48.2′	41°02.0′	85°31.7′	112°33.0′	118°58.8′
5	309°29.8′	S 17°17.1′	7.6′	-11.2′	59.6′	52°54.8′	34°28.3′	15°18.0′	32°23.4′	41°28.6′	86°07.5′	112°50.4′	119°32.2′
6	323°56.4′	S 17°28.3′	7.5′	-11.1′	59.6′	52°21.4′	33°55.4′	14°44.5′	32°58.6′	41°55.3′	86°43.4′	113°07.7′	
7	338°23.0′	S 17°39.4′	7.5′	-11.0′	59.6′	51°48.0′	33°22.6′	14°11.2′	33°33.9′	42°22.3′	87°19.3′	113°24.9′	
8	352°49.5′	S 17°50.3′	7.4′	-10.8′	59.6′	51°14.7′	32°49.8′	13°38.1′	34°09.1′	42°49.4′	87°55.1′	113°41.9′	
9	7°15.8′	S 18°01.2′	7.3′	-10.7′	59.6′	50°41.3′	32°17.0′	13°05.3′	34°44.4′	43°16.8′	88°31.0′	113°58.8′	
10	21°42.2′	S 18°11.9′	7.2′	-10.6′	59.6′	50°07.9′	31°44.1′	12°32.7′	35°19.7′	43°44.3′	89°06.9′	114°15.6′	
11	36°08.4′	S 18°22.5′	7.2′	-10.5′	59.6′	49°34.5′	31°11.3′	12°00.5′	35°55.1′	44°11.9′	89°42.8′	114°32.3′	
12	50°34.6′	S 18°33.0′	7.1′	-10.4′	59.6′	49°01.1′	30°38.5′	11°28.6′	36°30.5′	44°39.7′	90°18.7′	114°48.8′	
13	65°00.6′	S 18°43.4′	7.0′	-10.3′	59.6′	48°27.7′	30°05.6′	10°57.2′	37°05.8′	45°07.7′	90°54.6′	115°05.2′	
14	79°26.6′	S 18°53.7′	6.9′	-10.2′	59.6′	47°54.3′	29°32.8′	10°26.2′	37°41.3′	45°35.9′	91°30.5′	115°21.4′	
15	93°52.6′	S 19°03.9′	6.8′	-10.0′	59.6′	47°20.9′	28°60.0′	9°55.8′	38°16.7′	46°04.1′	92°06.4′	115°37.5′	
16	108°18.4′	S 19°13.9′	6.8′	-9.9′	59.6′	46°47.5′	28°27.1′	9°26.0′	38°52.1′	46°32.5′	92°42.3′	115°53.5′	
17	122°44.2′	S 19°23.8′	6.7′	-9.8′	59.6′	46°14.1′	27°54.3′		39°27.6′	47°01.1′	93°18.3′	116°09.3′	
18	137°09.9′	S 19°33.6′	6.6′	-9.7′	59.6′	45°40.7′	27°21.4′		40°03.1′	47°29.8′	93°54.2′	116°24.9′	
19	151°35.5′	S 19°43.3′	6.5′	-9.6′	59.6′	45°07.3′	26°48.6′		40°38.6′	47°58.6′	94°30.1′	116°40.5′	
20	166°01.0′	S 19°52.9′	6.5′	-9.4′	59.6′	44°33.8′	26°15.7′		41°14.1′	48°27.5′	95°06.0′	116°55.8′	
21	180°26.5′	S 20°02.3′	6.4′	-9.3′	59.6′	44°00.4′	25°42.9′		41°49.6′	48°56.6′	95°41.9′	117°11.0′	
22	194°51.9′	S 20°11.6′	6.3′	-9.2′	59.6′	43°27.0′	25°10.0′		42°25.1′	49°25.7′	96°17.9′		
23	209°17.2′	S 20°20.7′	6.2′	-9.0′	59.6′	42°53.6′	24°37.2′		43°00.7′	49°55.0′	96°53.8′		
Mer. pass. 8 h 30 m SD 16.3′ phase 22%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.3′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.6′
Deneb	+1.2	49°28.4′	N 45°21.4′	Acrux	+0.8	173°03.4′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.2′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°15.8′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.7′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Sunday 10 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	109°44.1′	178°08.9′	S 21°57.3′	197°54.0′	S 23°08.9′	162°24.1′	S 19°32.0′	164°41.6′	S 19°56.9′	80°49.8′	N 12°56.0′
1	124°46.6′	193°08.6′	S 21°56.9′	212°53.0′	S 23°09.0′	177°26.0′	S 19°31.8′	179°43.8′	S 19°56.9′	95°51.1′	N 12°56.4′
2	139°49.1′	208°08.4′	S 21°56.5′	227°52.1′	S 23°09.0′	192°27.8′	S 19°31.7′	194°45.9′	S 19°56.8′	110°52.5′	N 12°56.9′
3	154°51.5′	223°08.1′	S 21°56.1′	242°51.2′	S 23°09.1′	207°29.7′	S 19°31.6′	209°48.1′	S 19°56.8′	125°53.8′	N 12°57.3′
4	169°54.0′	238°07.9′	S 21°55.8′	257°50.2′	S 23°09.2′	222°31.5′	S 19°31.4′	224°50.3′	S 19°56.7′	140°55.1′	N 12°57.7′
5	184°56.4′	253°07.6′	S 21°55.4′	272°49.3′	S 23°09.2′	237°33.4′	S 19°31.3′	239°52.4′	S 19°56.6′	155°56.5′	N 12°58.2′
6	199°58.9′	268°07.4′	S 21°55.0′	287°48.3′	S 23°09.3′	252°35.3′	S 19°31.2′	254°54.6′	S 19°56.6′	170°57.8′	N 12°58.6′
7	215°01.4′	283°07.1′	S 21°54.6′	302°47.4′	S 23°09.4′	267°37.1′	S 19°31.0′	269°56.7′	S 19°56.5′	185°59.2′	N 12°59.1′
8	230°03.8′	298°06.8′	S 21°54.2′	317°46.4′	S 23°09.4′	282°39.0′	S 19°30.9′	284°58.9′	S 19°56.4′	201°00.5′	N 12°59.5′
9	245°06.3′	313°06.6′	S 21°53.9′	332°45.5′	S 23°09.5′	297°40.9′	S 19°30.7′	300°01.1′	S 19°56.4′	216°01.9′	N 12°60.0′
10	260°08.8′	328°06.3′	S 21°53.5′	347°44.5′	S 23°09.5′	312°42.7′	S 19°30.6′	315°03.2′	S 19°56.3′	231°03.2′	N 13°00.4′
11	275°11.2′	343°06.1′	S 21°53.1′	2°43.6′	S 23°09.6′	327°44.6′	S 19°30.5′	330°05.4′	S 19°56.2′	246°04.6′	N 13°00.9′
12	290°13.7′	358°05.8′	S 21°52.7′	17°42.6′	S 23°09.6′	342°46.4′	S 19°30.3′	345°07.5′	S 19°56.2′	261°05.9′	N 13°01.3′
13	305°16.2′	13°05.6′	S 21°52.3′	32°41.7′	S 23°09.7′	357°48.3′	S 19°30.2′	0°09.7′	S 19°56.1′	276°07.2′	N 13°01.8′
14	320°18.6′	28°05.3′	S 21°52.0′	47°40.7′	S 23°09.7′	12°50.2′	S 19°30.0′	15°11.9′	S 19°56.0′	291°08.6′	N 13°02.2′
15	335°21.1′	43°05.1′	S 21°51.6′	62°39.8′	S 23°09.8′	27°52.0′	S 19°29.9′	30°14.0′	S 19°56.0′	306°09.9′	N 13°02.6′
16	350°23.6′	58°04.8′	S 21°51.2′	77°38.9′	S 23°09.8′	42°53.9′	S 19°29.8′	45°16.2′	S 19°55.9′	321°11.3′	N 13°03.1′
17	5°26.0′	73°04.6′	S 21°50.8′	92°37.9′	S 23°09.9′	57°55.8′	S 19°29.6′	60°18.3′	S 19°55.9′	336°12.6′	N 13°03.5′
18	20°28.5′	88°04.3′	S 21°50.4′	107°37.0′	S 23°09.9′	72°57.6′	S 19°29.5′	75°20.5′	S 19°55.8′	351°13.9′	N 13°04.0′
19	35°30.9′	103°04.1′	S 21°50.0′	122°36.0′	S 23°10.0′	87°59.5′	S 19°29.4′	90°22.7′	S 19°55.7′	6°15.3′	N 13°04.4′
20	50°33.4′	118°03.8′	S 21°49.6′	137°35.1′	S 23°10.0′	103°01.3′	S 19°29.2′	105°24.8′	S 19°55.7′	21°16.6′	N 13°04.9′
21	65°35.9′	133°03.6′	S 21°49.3′	152°34.1′	S 23°10.0′	118°03.2′	S 19°29.1′	120°27.0′	S 19°55.6′	36°17.9′	N 13°05.3′
22	80°38.3′	148°03.3′	S 21°48.9′	167°33.2′	S 23°10.1′	133°05.1′	S 19°28.9′	135°29.1′	S 19°55.5′	51°19.3′	N 13°05.8′
23	95°40.8′	163°03.1′	S 21°48.5′	182°32.2′	S 23°10.1′	148°06.9′	S 19°28.8′	150°31.3′	S 19°55.5′	66°20.6′	N 13°06.2′
		SD 16.3′ *d* 0.4′		*v* -0.9′ *d* -0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 7 m 37 s		10 h 49 m		13 h 9 m		12 h 59 m		18 h 35 m	

h	Moon					Lunar distance					
	GHA	dec	*v*	*d*	HP	−Sun	−Venus	−Antares	+Spica	+Arcturus	+Regulus
0	223°42.4′	S 20°29.8′	6.2′	-8.9′	59.6′	42°20.2′	24°04.4′		43°36.3′	50°24.4′	97°29.7′
1	238°07.6′	S 20°38.7′	6.1′	-8.8′	59.6′	41°46.8′	23°31.5′		44°11.8′	50°53.9′	98°05.6′
2	252°32.7′	S 20°47.4′	6.0′	-8.6′	59.6′	41°13.4′	22°58.7′		44°47.4′	51°23.5′	98°41.5′
3	266°57.7′	S 20°56.1′	6.0′	-8.5′	59.6′	40°40.0′	22°25.9′		45°23.0′	51°53.2′	99°17.5′
4	281°22.7′	S 21°04.6′	5.9′	-8.4′	59.6′	40°06.6′	21°53.0′		45°58.6′	52°22.9′	99°53.4′
5	295°47.6′	S 21°12.9′	5.8′	-8.2′	59.6′		21°20.2′		46°34.2′	52°52.8′	100°29.3′
6	310°12.4′	S 21°21.1′	5.8′	-8.1′	59.6′		20°47.4′		47°09.8′	53°22.8′	101°05.2′
7	324°37.1′	S 21°29.2′	5.7′	-7.9′	59.6′		20°14.6′		47°45.4′	53°52.8′	101°41.1′
8	339°01.8′	S 21°37.2′	5.6′	-7.8′	59.6′		19°41.8′		48°21.0′	54°22.9′	102°17.0′
9	353°26.4′	S 21°45.0′	5.6′	-7.6′	59.6′		19°09.0′		48°56.7′	54°53.1′	102°52.9′
10	7°51.0′	S 21°52.6′	5.5′	-7.5′	59.6′		18°36.2′		49°32.3′	55°23.4′	103°28.8′
11	22°15.5′	S 22°00.1′	5.4′	-7.4′	59.6′		18°03.5′		50°07.9′	55°53.8′	104°04.7′
12	36°39.9′	S 22°07.5′	5.4′	-7.2′	59.6′		17°30.7′		50°43.6′	56°24.2′	104°40.6′
13	51°04.3′	S 22°14.7′	5.3′	-7.1′	59.6′		16°58.0′		51°19.2′	56°54.7′	105°16.5′
14	65°28.6′	S 22°21.7′	5.3′	-6.9′	59.5′		16°25.2′		51°54.8′	57°25.2′	105°52.4′
15	79°52.8′	S 22°28.6′	5.2′	-6.8′	59.5′		15°52.5′		52°30.5′	57°55.8′	106°28.3′
16	94°17.0′	S 22°35.4′	5.1′	-6.6′	59.5′		15°19.8′		53°06.1′	58°26.5′	107°04.1′
17	108°41.2′	S 22°42.0′	5.1′	-6.4′	59.5′		14°47.1′		53°41.7′	58°57.2′	107°40.0′
18	123°05.2′	S 22°48.4′	5.0′	-6.3′	59.5′		14°14.4′	9°33.8′	54°17.4′	59°28.0′	108°15.9′
19	137°29.3′	S 22°54.7′	5.0′	-6.1′	59.5′		13°41.8′	10°03.7′	54°53.0′	59°58.8′	108°51.7′
20	151°53.3′	S 23°00.9′	4.9′	-6.0′	59.5′		13°09.2′	10°34.3′	55°28.6′	60°29.7′	109°27.6′
21	166°17.2′	S 23°06.8′	4.9′	-5.8′	59.5′		12°36.6′	11°05.3′	56°04.3′	61°00.7′	110°03.4′
22	180°41.1′	S 23°12.7′	4.8′	-5.7′	59.5′		12°04.0′	11°36.8′	56°39.9′	61°31.7′	110°39.2′
23	195°04.9′	S 23°18.3′	4.8′	-5.5′	59.5′		11°31.5′	12°08.7′	57°15.5′	62°02.7′	111°15.0′
Mer. pass. 9 h 27 m SD 16.3′ phase 13%											

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.4′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.7′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°16.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Monday 11 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	110°43.3′	178°02.8′	S 21°48.1′	197°31.3′	S 23°10.2′	163°08.8′	S 19°28.7′	165°33.5′	S 19°55.4′	81°22.0′	N 13°06.7′
1	125°45.7′	193°02.6′	S 21°47.7′	212°30.3′	S 23°10.2′	178°10.7′	S 19°28.5′	180°35.6′	S 19°55.3′	96°23.3′	N 13°07.1′
2	140°48.2′	208°02.3′	S 21°47.3′	227°29.4′	S 23°10.2′	193°12.5′	S 19°28.4′	195°37.8′	S 19°55.3′	111°24.6′	N 13°07.6′
3	155°50.7′	223°02.1′	S 21°46.9′	242°28.4′	S 23°10.3′	208°14.4′	S 19°28.2′	210°39.9′	S 19°55.2′	126°26.0′	N 13°08.0′
4	170°53.1′	238°01.9′	S 21°46.5′	257°27.5′	S 23°10.3′	223°16.2′	S 19°28.1′	225°42.1′	S 19°55.1′	141°27.3′	N 13°08.5′
5	185°55.6′	253°01.6′	S 21°46.1′	272°26.6′	S 23°10.3′	238°18.1′	S 19°28.0′	240°44.3′	S 19°55.1′	156°28.6′	N 13°08.9′
6	200°58.1′	268°01.4′	S 21°45.7′	287°25.6′	S 23°10.4′	253°20.0′	S 19°27.8′	255°46.4′	S 19°55.0′	171°30.0′	N 13°09.3′
7	216°00.5′	283°01.1′	S 21°45.3′	302°24.7′	S 23°10.4′	268°21.8′	S 19°27.7′	270°48.6′	S 19°54.9′	186°31.3′	N 13°09.8′
8	231°03.0′	298°00.9′	S 21°44.9′	317°23.7′	S 23°10.4′	283°23.7′	S 19°27.5′	285°50.7′	S 19°54.9′	201°32.6′	N 13°10.2′
9	246°05.4′	313°00.6′	S 21°44.5′	332°22.8′	S 23°10.5′	298°25.6′	S 19°27.4′	300°52.9′	S 19°54.8′	216°34.0′	N 13°10.7′
10	261°07.9′	328°00.4′	S 21°44.1′	347°21.8′	S 23°10.5′	313°27.4′	S 19°27.3′	315°55.1′	S 19°54.8′	231°35.3′	N 13°11.1′
11	276°10.4′	343°00.1′	S 21°43.7′	2°20.9′	S 23°10.5′	328°29.3′	S 19°27.1′	330°57.2′	S 19°54.7′	246°36.6′	N 13°11.6′
12	291°12.8′	357°59.9′	S 21°43.3′	17°19.9′	S 23°10.5′	343°31.1′	S 19°27.0′	345°59.4′	S 19°54.6′	261°38.0′	N 13°12.0′
13	306°15.3′	12°59.6′	S 21°42.9′	32°19.0′	S 23°10.6′	358°33.0′	S 19°26.8′	1°01.5′	S 19°54.6′	276°39.3′	N 13°12.5′
14	321°17.8′	27°59.4′	S 21°42.5′	47°18.0′	S 23°10.6′	13°34.9′	S 19°26.7′	16°03.7′	S 19°54.5′	291°40.6′	N 13°12.9′
15	336°20.2′	42°59.1′	S 21°42.1′	62°17.1′	S 23°10.6′	28°36.7′	S 19°26.6′	31°05.8′	S 19°54.4′	306°42.0′	N 13°13.4′
16	351°22.7′	57°58.9′	S 21°41.7′	77°16.1′	S 23°10.6′	43°38.6′	S 19°26.4′	46°08.0′	S 19°54.4′	321°43.3′	N 13°13.8′
17	6°25.2′	72°58.7′	S 21°41.3′	92°15.2′	S 23°10.6′	58°40.5′	S 19°26.3′	61°10.2′	S 19°54.3′	336°44.6′	N 13°14.3′
18	21°27.6′	87°58.4′	S 21°40.9′	107°14.2′	S 23°10.6′	73°42.3′	S 19°26.2′	76°12.3′	S 19°54.2′	351°45.9′	N 13°14.7′
19	36°30.1′	102°58.2′	S 21°40.5′	122°13.3′	S 23°10.7′	88°44.2′	S 19°26.0′	91°14.5′	S 19°54.2′	6°47.3′	N 13°15.1′
20	51°32.6′	117°57.9′	S 21°40.1′	137°12.3′	S 23°10.7′	103°46.0′	S 19°25.9′	106°16.6′	S 19°54.1′	21°48.6′	N 13°15.6′
21	66°35.0′	132°57.7′	S 21°39.7′	152°11.4′	S 23°10.7′	118°47.9′	S 19°25.7′	121°18.8′	S 19°54.0′	36°49.9′	N 13°16.0′
22	81°37.5′	147°57.4′	S 21°39.3′	167°10.5′	S 23°10.7′	133°49.8′	S 19°25.6′	136°21.0′	S 19°54.0′	51°51.2′	N 13°16.5′
23	96°39.9′	162°57.2′	S 21°38.9′	182°09.5′	S 23°10.7′	148°51.6′	S 19°25.5′	151°23.1′	S 19°53.9′	66°52.6′	N 13°16.9′
		SD 16.3′ *d* 0.4′		*v* -0.9′ *d* -0.0′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 8 m 1 s		10 h 51 m		13 h 6 m		12 h 56 m		18 h 33 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Venus	+Antares	+Rigil Kent	+Hadar	+Spica	+Acrux	+Arcturus	+Regulus
0	209°28.7′	S 23°23.8′	4.7′	-5.3′	59.5′	10°58.9′	12°41.0′			57°51.1′		62°33.8′	111°50.8′
1	223°52.4′	S 23°29.2′	4.7′	-5.2′	59.5′	10°26.5′	13°13.6′			58°26.8′		63°04.9′	112°26.6′
2	238°16.2′	S 23°34.4′	4.7′	-5.0′	59.4′	9°54.0′	13°46.4′			59°02.4′		63°36.0′	113°02.4′
3	252°39.8′	S 23°39.4′	4.6′	-4.9′	59.4′	9°21.7′	14°19.4′			59°38.0′		64°07.2′	113°38.2′
4	267°03.5′	S 23°44.2′	4.6′	-4.7′	59.4′	8°49.4′	14°52.7′			60°13.6′		64°38.5′	114°13.9′
5	281°27.0′	S 23°48.9′	4.6′	-4.5′	59.4′	8°17.1′	15°26.2′			60°49.2′		65°09.7′	114°49.7′
6	295°50.6′	S 23°53.5′	4.5′	-4.4′	59.4′	7°44.9′	15°59.8′			61°24.7′		65°41.0′	115°25.4′
7	310°14.1′	S 23°57.8′	4.5′	-4.2′	59.4′	7°12.9′	16°33.5′			62°00.3′		66°12.3′	116°01.1′
8	324°37.6′	S 24°02.0′	4.5′	-4.0′	59.4′	6°40.9′	17°07.4′			62°35.9′		66°43.7′	116°36.9′
9	339°01.1′	S 24°06.1′	4.4′	-3.9′	59.4′	6°09.1′	17°41.4′		52°31.0′	63°11.4′		67°15.0′	117°12.6′
10	353°24.5′	S 24°09.9′	4.4′	-3.7′	59.4′	5°37.5′	18°15.5′		52°46.0′	63°47.0′		67°46.4′	117°48.2′
11	7°48.0′	S 24°13.6′	4.4′	-3.5′	59.3′	5°06.1′	18°49.7′		53°01.2′	64°22.5′		68°17.9′	118°23.9′
12	22°11.4′	S 24°17.2′	4.4′	-3.4′	59.3′	4°35.0′	19°23.9′		53°16.7′	64°58.0′		68°49.3′	118°59.6′
13	36°34.7′	S 24°20.5′	4.4′	-3.2′	59.3′	4°04.3′	19°58.3′		53°32.4′	65°33.5′		69°20.8′	119°35.2′
14	50°58.1′	S 24°23.7′	4.3′	-3.0′	59.3′		20°32.7′		53°48.3′	66°09.0′		69°52.3′	
15	65°21.4′	S 24°26.8′	4.3′	-2.9′	59.3′		21°07.1′	50°04.6′	54°04.4′	66°44.5′	65°40.0′	70°23.8′	
16	79°44.8′	S 24°29.6′	4.3′	-2.7′	59.3′		21°41.6′	50°19.6′	54°20.7′	67°20.0′	65°55.0′	70°55.3′	
17	94°08.1′	S 24°32.3′	4.3′	-2.5′	59.3′		22°16.2′	50°34.9′	54°37.2′	67°55.5′	66°10.2′	71°26.8′	
18	108°31.4′	S 24°34.8′	4.3′	-2.3′	59.2′		22°50.8′	50°50.4′	54°53.9′	68°30.9′	66°25.5′	71°58.4′	
19	122°54.7′	S 24°37.2′	4.3′	-2.2′	59.2′		23°25.4′	51°06.2′	55°10.8′	69°06.3′	66°40.9′	72°29.9′	
20	137°18.0′	S 24°39.4′	4.3′	-2.0′	59.2′		24°00.1′	51°22.2′	55°27.9′	69°41.8′	66°56.4′	73°01.5′	
21	151°41.3′	S 24°41.4′	4.3′	-1.8′	59.2′		24°34.8′	51°38.4′	55°45.2′	70°17.2′	67°12.1′	73°33.1′	
22	166°04.6′	S 24°43.2′	4.3′	-1.7′	59.2′		25°09.5′	51°54.8′	56°02.7′	70°52.6′	67°27.8′	74°04.7′	
23	180°27.9′	S 24°44.9′	4.3′	-1.5′	59.2′		25°44.3′	52°11.5′	56°20.3′	71°27.9′	67°43.7′	74°36.2′	
Mer. pass. 10 h 28 m SD 16.2′ phase 6%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.4′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°16.5′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Tuesday 12 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	111°42.4′	177°57.0′	S 21°38.5′	197°08.6′	S 23°10.7′	163°53.5′	S 19°25.3′	166°25.3′	S 19°53.8′	81°53.9′	N 13°17.4′
1	126°44.9′	192°56.7′	S 21°38.1′	212°07.6′	S 23°10.7′	178°55.3′	S 19°25.2′	181°27.4′	S 19°53.8′	96°55.2′	N 13°17.8′
2	141°47.3′	207°56.5′	S 21°37.7′	227°06.7′	S 23°10.7′	193°57.2′	S 19°25.0′	196°29.6′	S 19°53.7′	111°56.5′	N 13°18.3′
3	156°49.8′	222°56.2′	S 21°37.3′	242°05.7′	S 23°10.7′	208°59.1′	S 19°24.9′	211°31.8′	S 19°53.6′	126°57.9′	N 13°18.7′
4	171°52.3′	237°56.0′	S 21°36.9′	257°04.8′	S 23°10.7′	224°00.9′	S 19°24.8′	226°33.9′	S 19°53.6′	141°59.2′	N 13°19.2′
5	186°54.7′	252°55.8′	S 21°36.5′	272°03.8′	S 23°10.7′	239°02.8′	S 19°24.6′	241°36.1′	S 19°53.5′	157°00.5′	N 13°19.6′
6	201°57.2′	267°55.5′	S 21°36.0′	287°02.9′	S 23°10.7′	254°04.7′	S 19°24.5′	256°38.2′	S 19°53.5′	172°01.8′	N 13°20.1′
7	216°59.7′	282°55.3′	S 21°35.6′	302°01.9′	S 23°10.7′	269°06.5′	S 19°24.3′	271°40.4′	S 19°53.4′	187°03.2′	N 13°20.5′
8	232°02.1′	297°55.0′	S 21°35.2′	317°01.0′	S 23°10.7′	284°08.4′	S 19°24.2′	286°42.5′	S 19°53.3′	202°04.5′	N 13°21.0′
9	247°04.6′	312°54.8′	S 21°34.8′	332°00.0′	S 23°10.7′	299°10.2′	S 19°24.1′	301°44.7′	S 19°53.3′	217°05.8′	N 13°21.4′
10	262°07.1′	327°54.6′	S 21°34.4′	346°59.1′	S 23°10.7′	314°12.1′	S 19°23.9′	316°46.9′	S 19°53.2′	232°07.1′	N 13°21.9′
11	277°09.5′	342°54.3′	S 21°34.0′	1°58.1′	S 23°10.7′	329°14.0′	S 19°23.8′	331°49.0′	S 19°53.1′	247°08.4′	N 13°22.3′
12	292°12.0′	357°54.1′	S 21°33.6′	16°57.2′	S 23°10.7′	344°15.8′	S 19°23.6′	346°51.2′	S 19°53.1′	262°09.8′	N 13°22.7′
13	307°14.4′	12°53.8′	S 21°33.1′	31°56.2′	S 23°10.7′	359°17.7′	S 19°23.5′	1°53.3′	S 19°53.0′	277°11.1′	N 13°23.2′
14	322°16.9′	27°53.6′	S 21°32.7′	46°55.3′	S 23°10.7′	14°19.5′	S 19°23.3′	16°55.5′	S 19°52.9′	292°12.4′	N 13°23.6′
15	337°19.4′	42°53.4′	S 21°32.3′	61°54.4′	S 23°10.7′	29°21.4′	S 19°23.2′	31°57.7′	S 19°52.9′	307°13.7′	N 13°24.1′
16	352°21.8′	57°53.1′	S 21°31.9′	76°53.4′	S 23°10.7′	44°23.3′	S 19°23.1′	46°59.8′	S 19°52.8′	322°15.0′	N 13°24.5′
17	7°24.3′	72°52.9′	S 21°31.5′	91°52.5′	S 23°10.7′	59°25.1′	S 19°22.9′	62°02.0′	S 19°52.7′	337°16.4′	N 13°25.0′
18	22°26.8′	87°52.6′	S 21°31.0′	106°51.5′	S 23°10.7′	74°27.0′	S 19°22.8′	77°04.1′	S 19°52.7′	352°17.7′	N 13°25.4′
19	37°29.2′	102°52.4′	S 21°30.6′	121°50.6′	S 23°10.6′	89°28.8′	S 19°22.6′	92°06.3′	S 19°52.6′	7°19.0′	N 13°25.9′
20	52°31.7′	117°52.2′	S 21°30.2′	136°49.6′	S 23°10.6′	104°30.7′	S 19°22.5′	107°08.5′	S 19°52.5′	22°20.3′	N 13°26.3′
21	67°34.2′	132°51.9′	S 21°29.8′	151°48.7′	S 23°10.6′	119°32.6′	S 19°22.4′	122°10.6′	S 19°52.5′	37°21.6′	N 13°26.8′
22	82°36.6′	147°51.7′	S 21°29.3′	166°47.7′	S 23°10.6′	134°34.4′	S 19°22.2′	137°12.8′	S 19°52.4′	52°22.9′	N 13°27.2′
23	97°39.1′	162°51.5′	S 21°28.9′	181°46.8′	S 23°10.6′	149°36.3′	S 19°22.1′	152°14.9′	S 19°52.3′	67°24.3′	N 13°27.7′
		SD 16.3′ *d* 0.4′		*v* -0.9′ *d* 0.0′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 8 m 25 s		10 h 52 m		13 h 3 m		12 h 52 m		18 h 31 m	

h	Moon					Lunar distance						
	GHA	dec	*v*	*d*	HP	+Venus	+Antares	+Rigil Kent	+Hadar	+Acrux	+Spica	+Arcturus
0	194°51.2′	S 24°46.4′	4.3′	-1.3′	59.1′		26°19.0′	52°28.4′	56°38.2′	67°59.7′	72°03.3′	75°07.8′
1	209°14.5′	S 24°47.7′	4.3′	-1.2′	59.1′		26°53.8′	52°45.5′	56°56.2′	68°15.8′	72°38.6′	75°39.4′
2	223°37.8′	S 24°48.8′	4.3′	-1.0′	59.1′		27°28.6′	53°02.8′	57°14.3′	68°32.1′	73°13.9′	76°11.0′
3	238°01.1′	S 24°49.8′	4.3′	-0.8′	59.1′	4°04.4′	28°03.4′	53°20.3′	57°32.6′	68°48.4′	73°49.2′	76°42.7′
4	252°24.4′	S 24°50.6′	4.3′	-0.6′	59.1′	4°34.8′	28°38.2′	53°37.9′	57°51.1′	69°04.8′	74°24.5′	77°14.3′
5	266°47.8′	S 24°51.3′	4.4′	-0.5′	59.1′	5°05.7′	29°13.0′	53°55.8′	58°09.8′	69°21.3′	74°59.8′	77°45.9′
6	281°11.2′	S 24°51.8′	4.4′	-0.3′	59.0′	5°36.7′	29°47.8′	54°13.9′	58°28.6′	69°38.0′	75°35.0′	78°17.5′
7	295°34.5′	S 24°52.1′	4.4′	-0.1′	59.0′	6°08.0′	30°22.6′	54°32.2′	58°47.5′	69°54.7′	76°10.3′	78°49.1′
8	309°57.9′	S 24°52.2′	4.4′	0.0′	59.0′	6°39.4′	30°57.5′	54°50.6′	59°06.6′	70°11.5′	76°45.5′	79°20.7′
9	324°21.4′	S 24°52.2′	4.5′	0.2′	59.0′	7°11.0′	31°32.3′	55°09.2′	59°25.9′	70°28.4′	77°20.7′	79°52.2′
10	338°44.8′	S 24°51.9′	4.5′	0.4′	59.0′	7°42.6′	32°07.1′	55°28.0′	59°45.3′	70°45.4′	77°55.8′	80°23.8′
11	353°08.3′	S 24°51.6′	4.5′	0.5′	58.9′							
12	7°31.8′	S 24°51.0′	4.5′	0.7′	58.9′							
13	21°55.4′	S 24°50.3′	4.6′	0.9′	58.9′							
14	36°19.0′	S 24°49.4′	4.6′	1.0′	58.9′							
15	50°42.6′	S 24°48.4′	4.7′	1.2′	58.9′							
16	65°06.2′	S 24°47.2′	4.7′	1.4′	58.8′							
17	79°29.9′	S 24°45.8′	4.7′	1.5′	58.8′							
18	93°53.7′	S 24°44.3′	4.8′	1.7′	58.8′							
19	108°17.5′	S 24°42.6′	4.8′	1.9′	58.8′							
20	122°41.3′	S 24°40.7′	4.9′	2.0′	58.8′							
21	137°05.2′	S 24°38.6′	4.9′	2.2′	58.7′							
22	151°29.1′	S 24°36.4′	5.0′	2.4′	58.7′							
23	165°53.1′	S 24°34.1′	5.0′	2.5′	58.7′							
Mer. pass. 11 h 29 m SD 16.1′ phase 2%												

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.4′	S 63°12.5′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°16.8′	N 89°21.4′
Rigil Kent	−0.0	139°44.9′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Wednesday 13 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	112°41.6′	177°51.2′	S 21°28.5′	196°45.8′	S 23°10.5′	164°38.2′	S 19°21.9′	167°17.1′	S 19°52.3′	82°25.6′	N 13°28.1′
1	127°44.0′	192°51.0′	S 21°28.1′	211°44.9′	S 23°10.5′	179°40.0′	S 19°21.8′	182°19.2′	S 19°52.2′	97°26.9′	N 13°28.6′
2	142°46.5′	207°50.8′	S 21°27.6′	226°43.9′	S 23°10.5′	194°41.9′	S 19°21.7′	197°21.4′	S 19°52.1′	112°28.2′	N 13°29.0′
3	157°48.9′	222°50.5′	S 21°27.2′	241°43.0′	S 23°10.5′	209°43.7′	S 19°21.5′	212°23.6′	S 19°52.1′	127°29.5′	N 13°29.5′
4	172°51.4′	237°50.3′	S 21°26.8′	256°42.0′	S 23°10.5′	224°45.6′	S 19°21.4′	227°25.7′	S 19°52.0′	142°30.8′	N 13°29.9′
5	187°53.9′	252°50.1′	S 21°26.4′	271°41.1′	S 23°10.4′	239°47.5′	S 19°21.2′	242°27.9′	S 19°52.0′	157°32.1′	N 13°30.3′
6	202°56.3′	267°49.8′	S 21°25.9′	286°40.1′	S 23°10.4′	254°49.3′	S 19°21.1′	257°30.0′	S 19°51.9′	172°33.4′	N 13°30.8′
7	217°58.8′	282°49.6′	S 21°25.5′	301°39.2′	S 23°10.4′	269°51.2′	S 19°21.0′	272°32.2′	S 19°51.8′	187°34.8′	N 13°31.2′
8	233°01.3′	297°49.4′	S 21°25.1′	316°38.2′	S 23°10.3′	284°53.0′	S 19°20.8′	287°34.4′	S 19°51.8′	202°36.1′	N 13°31.7′
9	248°03.7′	312°49.1′	S 21°24.6′	331°37.3′	S 23°10.3′	299°54.9′	S 19°20.7′	302°36.5′	S 19°51.7′	217°37.4′	N 13°32.1′
10	263°06.2′	327°48.9′	S 21°24.2′	346°36.4′	S 23°10.3′	314°56.8′	S 19°20.5′	317°38.7′	S 19°51.6′	232°38.7′	N 13°32.6′
11	278°08.7′	342°48.7′	S 21°23.8′	1°35.4′	S 23°10.2′	329°58.6′	S 19°20.4′	332°40.8′	S 19°51.6′	247°40.0′	N 13°33.0′
12	293°11.1′	357°48.4′	S 21°23.3′	16°34.5′	S 23°10.2′	345°00.5′	S 19°20.2′	347°43.0′	S 19°51.5′	262°41.3′	N 13°33.5′
13	308°13.6′	12°48.2′	S 21°22.9′	31°33.5′	S 23°10.2′	0°02.3′	S 19°20.1′	2°45.1′	S 19°51.4′	277°42.6′	N 13°33.9′
14	323°16.1′	27°48.0′	S 21°22.5′	46°32.6′	S 23°10.1′	15°04.2′	S 19°20.0′	17°47.3′	S 19°51.4′	292°43.9′	N 13°34.4′
15	338°18.5′	42°47.7′	S 21°22.0′	61°31.6′	S 23°10.1′	30°06.1′	S 19°19.8′	32°49.5′	S 19°51.3′	307°45.2′	N 13°34.8′
16	353°21.0′	57°47.5′	S 21°21.6′	76°30.7′	S 23°10.0′	45°07.9′	S 19°19.7′	47°51.6′	S 19°51.2′	322°46.5′	N 13°35.3′
17	8°23.4′	72°47.3′	S 21°21.2′	91°29.7′	S 23°10.0′	60°09.8′	S 19°19.5′	62°53.8′	S 19°51.2′	337°47.8′	N 13°35.7′
18	23°25.9′	87°47.0′	S 21°20.7′	106°28.8′	S 23°10.0′	75°11.6′	S 19°19.4′	77°55.9′	S 19°51.1′	352°49.2′	N 13°36.2′
19	38°28.4′	102°46.8′	S 21°20.3′	121°27.8′	S 23°09.9′	90°13.5′	S 19°19.3′	92°58.1′	S 19°51.0′	7°50.5′	N 13°36.6′
20	53°30.8′	117°46.6′	S 21°19.8′	136°26.9′	S 23°09.9′	105°15.4′	S 19°19.1′	108°00.3′	S 19°51.0′	22°51.8′	N 13°37.1′
21	68°33.3′	132°46.3′	S 21°19.4′	151°25.9′	S 23°09.8′	120°17.2′	S 19°19.0′	123°02.4′	S 19°50.9′	37°53.1′	N 13°37.5′
22	83°35.8′	147°46.1′	S 21°19.0′	166°25.0′	S 23°09.8′	135°19.1′	S 19°18.8′	138°04.6′	S 19°50.8′	52°54.4′	N 13°38.0′
23	98°38.2′	162°45.9′	S 21°18.5′	181°24.0′	S 23°09.7′	150°20.9′	S 19°18.7′	153°06.7′	S 19°50.8′	67°55.7′	N 13°38.4′
		SD 16.3′ *d* 0.4′		*v* -0.9′ *d* 0.0′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 8 m 47 s		10 h 54 m		13 h 0 m		12 h 49 m		18 h 29 m	

h	Moon					Lunar distance	
	GHA	dec	*v*	*d*	HP	−Mars	−Fomalhaut
0	180°17.1′	S 24°31.6′	5.1′	2.7′	58.7′		
1	194°41.2′	S 24°28.9′	5.2′	2.8′	58.6′		
2	209°05.4′	S 24°26.0′	5.2′	3.0′	58.6′		
3	223°29.6′	S 24°23.0′	5.3′	3.2′	58.6′		
4	237°53.9′	S 24°19.9′	5.3′	3.3′	58.6′		
5	252°18.2′	S 24°16.6′	5.4′	3.5′	58.5′		
6	266°42.6′	S 24°13.1′	5.5′	3.6′	58.5′		
7	281°07.1′	S 24°09.5′	5.5′	3.8′	58.5′		
8	295°31.7′	S 24°05.7′	5.6′	3.9′	58.5′		
9	309°56.3′	S 24°01.8′	5.7′	4.1′	58.4′		
10	324°21.0′	S 23°57.7′	5.8′	4.2′	58.4′		
11	338°45.7′	S 23°53.5′	5.8′	4.4′	58.4′		
12	353°10.6′	S 23°49.1′	5.9′	4.5′	58.4′		
13	7°35.5′	S 23°44.6′	6.0′	4.7′	58.3′		
14	22°00.5′	S 23°39.9′	6.1′	4.8′	58.3′		
15	36°25.6′	S 23°35.1′	6.2′	5.0′	58.3′		
16	50°50.7′	S 23°30.1′	6.2′	5.1′	58.3′		
17	65°16.0′	S 23°25.0′	6.3′	5.3′	58.2′		
18	79°41.3′	S 23°19.7′	6.4′	5.4′	58.2′		
19	94°06.7′	S 23°14.4′	6.5′	5.5′	58.2′		
20	108°32.2′	S 23°08.8′	6.6′	5.7′	58.1′		
21	122°57.8′	S 23°03.2′	6.7′	5.8′	58.1′		
22	137°23.4′	S 22°57.3′	6.8′	5.9′	58.1′		
23	151°49.2′	S 22°51.4′	6.8′	6.1′	58.1′	89°47.3′	34°28.8′
Mer. pass. 12 h 28 m SD 16.0′ phase 0%							

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.4′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.1′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°17.2′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Thursday 14 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	113°40.7′	177°45.7′	S 21°18.1′	196°23.1′	S 23°09.7′	165°22.8′	S 19°18.6′	168°08.9′	S 19°50.7′	82°57.0′	N 13°38.8′
1	128°43.2′	192°45.4′	S 21°17.6′	211°22.2′	S 23°09.6′	180°24.7′	S 19°18.4′	183°11.0′	S 19°50.6′	97°58.3′	N 13°39.3′
2	143°45.6′	207°45.2′	S 21°17.2′	226°21.2′	S 23°09.6′	195°26.5′	S 19°18.3′	198°13.2′	S 19°50.6′	112°59.6′	N 13°39.7′
3	158°48.1′	222°45.0′	S 21°16.7′	241°20.3′	S 23°09.5′	210°28.4′	S 19°18.1′	213°15.4′	S 19°50.5′	128°00.9′	N 13°40.2′
4	173°50.6′	237°44.7′	S 21°16.3′	256°19.3′	S 23°09.5′	225°30.2′	S 19°18.0′	228°17.5′	S 19°50.4′	143°02.2′	N 13°40.6′
5	188°53.0′	252°44.5′	S 21°15.8′	271°18.4′	S 23°09.4′	240°32.1′	S 19°17.8′	243°19.7′	S 19°50.4′	158°03.5′	N 13°41.1′
6	203°55.5′	267°44.3′	S 21°15.4′	286°17.4′	S 23°09.3′	255°34.0′	S 19°17.7′	258°21.8′	S 19°50.3′	173°04.8′	N 13°41.5′
7	218°57.9′	282°44.1′	S 21°15.0′	301°16.5′	S 23°09.3′	270°35.8′	S 19°17.6′	273°24.0′	S 19°50.2′	188°06.1′	N 13°42.0′
8	234°00.4′	297°43.8′	S 21°14.5′	316°15.5′	S 23°09.2′	285°37.7′	S 19°17.4′	288°26.1′	S 19°50.2′	203°07.4′	N 13°42.4′
9	249°02.9′	312°43.6′	S 21°14.1′	331°14.6′	S 23°09.2′	300°39.5′	S 19°17.3′	303°28.3′	S 19°50.1′	218°08.7′	N 13°42.9′
10	264°05.3′	327°43.4′	S 21°13.6′	346°13.6′	S 23°09.1′	315°41.4′	S 19°17.1′	318°30.5′	S 19°50.1′	233°10.0′	N 13°43.3′
11	279°07.8′	342°43.2′	S 21°13.2′	1°12.7′	S 23°09.0′	330°43.3′	S 19°17.0′	333°32.6′	S 19°50.0′	248°11.3′	N 13°43.8′
12	294°10.3′	357°42.9′	S 21°12.7′	16°11.7′	S 23°09.0′	345°45.1′	S 19°16.8′	348°34.8′	S 19°49.9′	263°12.6′	N 13°44.2′
13	309°12.7′	12°42.7′	S 21°12.3′	31°10.8′	S 23°08.9′	0°47.0′	S 19°16.7′	3°36.9′	S 19°49.9′	278°13.9′	N 13°44.7′
14	324°15.2′	27°42.5′	S 21°11.8′	46°09.9′	S 23°08.8′	15°48.9′	S 19°16.6′	18°39.1′	S 19°49.8′	293°15.2′	N 13°45.1′
15	339°17.7′	42°42.3′	S 21°11.4′	61°08.9′	S 23°08.8′	30°50.7′	S 19°16.4′	33°41.2′	S 19°49.7′	308°16.5′	N 13°45.6′
16	354°20.1′	57°42.0′	S 21°10.9′	76°08.0′	S 23°08.7′	45°52.6′	S 19°16.3′	48°43.4′	S 19°49.7′	323°17.8′	N 13°46.0′
17	9°22.6′	72°41.8′	S 21°10.4′	91°07.0′	S 23°08.6′	60°54.4′	S 19°16.1′	63°45.6′	S 19°49.6′	338°19.1′	N 13°46.5′
18	24°25.0′	87°41.6′	S 21°10.0′	106°06.1′	S 23°08.5′	75°56.3′	S 19°16.0′	78°47.7′	S 19°49.5′	353°20.4′	N 13°46.9′
19	39°27.5′	102°41.4′	S 21°09.5′	121°05.1′	S 23°08.5′	90°58.2′	S 19°15.8′	93°49.9′	S 19°49.5′	8°21.7′	N 13°47.4′
20	54°30.0′	117°41.1′	S 21°09.1′	136°04.2′	S 23°08.4′	106°00.0′	S 19°15.7′	108°52.0′	S 19°49.4′	23°23.0′	N 13°47.8′
21	69°32.4′	132°40.9′	S 21°08.6′	151°03.2′	S 23°08.3′	121°01.9′	S 19°15.6′	123°54.2′	S 19°49.3′	38°24.3′	N 13°48.2′
22	84°34.9′	147°40.7′	S 21°08.2′	166°02.3′	S 23°08.2′	136°03.7′	S 19°15.4′	138°56.4′	S 19°49.3′	53°25.6′	N 13°48.7′
23	99°37.4′	162°40.5′	S 21°07.7′	181°01.3′	S 23°08.2′	151°05.6′	S 19°15.3′	153°58.5′	S 19°49.2′	68°26.9′	N 13°49.1′
		SD 16.3′ *d* 0.5′		*v* -0.9′ *d* 0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 9 m 9 s		10 h 55 m		12 h 57 m		12 h 46 m		18 h 27 m	

h	Moon					Lunar distance				
	GHA	dec	*v*	*d*	HP	−Aldebaran	−Rigel	−Mars	−Fomalhaut	−Jupiter
0	166°15.0′	S 22°45.3′	6.9′	6.2′	58.0′			89°14.4′	33°59.0′	
1	180°41.0′	S 22°39.1′	7.0′	6.3′	58.0′			88°41.4′	33°29.3′	
2	195°07.0′	S 22°32.8′	7.1′	6.5′	58.0′			88°08.5′	32°59.8′	
3	209°33.1′	S 22°26.3′	7.2′	6.6′	58.0′			87°35.7′	32°30.5′	
4	223°59.3′	S 22°19.7′	7.3′	6.7′	57.9′			87°02.9′	32°01.3′	
5	238°25.7′	S 22°13.0′	7.4′	6.9′	57.9′			86°30.1′	31°32.3′	
6	252°52.1′	S 22°06.1′	7.5′	7.0′	57.9′			85°57.3′	31°03.5′	
7	267°18.6′	S 21°59.2′	7.6′	7.1′	57.8′			85°24.6′	30°34.9′	
8	281°45.2′	S 21°52.1′	7.7′	7.2′	57.8′		119°40.8′	84°51.9′	30°06.5′	
9	296°11.9′	S 21°44.8′	7.8′	7.3′	57.8′		119°13.3′	84°19.3′	29°38.3′	
10	310°38.7′	S 21°37.5′	7.9′	7.5′	57.7′	119°33.6′	118°45.7′	83°46.7′	29°10.3′	
11	325°05.6′	S 21°30.0′	8.0′	7.6′	57.7′	118°59.9′	118°18.2′	83°14.1′	28°42.6′	
12	339°32.6′	S 21°22.4′	8.1′	7.7′	57.7′	118°26.2′	117°50.6′	82°41.6′	28°15.0′	6°11.2′
13	353°59.7′	S 21°14.8′	8.2′	7.8′	57.7′	117°52.5′	117°22.9′	82°09.1′	27°47.8′	6°39.9′
14	8°26.9′	S 21°06.9′	8.3′	7.9′	57.6′	117°18.8′	116°55.3′	81°36.6′	27°20.7′	7°09.2′
15	22°54.2′	S 20°59.0′	8.4′	8.0′	57.6′	116°45.2′	116°27.6′	81°04.2′	26°54.0′	7°39.0′
16	37°21.6′	S 20°51.0′	8.5′	8.1′	57.6′	116°11.6′	115°59.9′	80°31.8′	26°27.5′	8°09.2′
17	51°49.1′	S 20°42.8′	8.6′	8.3′	57.5′	115°38.0′	115°32.2′	79°59.5′	26°01.3′	8°39.7′
18	66°16.7′	S 20°34.6′	8.7′	8.4′	57.5′	115°04.5′	115°04.4′	79°27.1′	25°35.4′	9°10.5′
19	80°44.4′	S 20°26.2′	8.8′	8.5′	57.5′	114°31.0′	114°36.7′	78°54.9′	25°09.8′	9°41.5′
20	95°12.2′	S 20°17.8′	8.9′	8.6′	57.4′	113°57.6′	114°08.9′	78°22.6′	24°44.5′	10°12.7′
21	109°40.1′	S 20°09.2′	9.0′	8.7′	57.4′	113°24.2′	113°41.1′	77°50.4′	24°19.6′	10°44.0′
22	124°08.1′	S 20°00.5′	9.1′	8.8′	57.4′	112°50.8′	113°13.3′	77°18.3′	23°55.0′	11°15.4′
23	138°36.2′	S 19°51.8′	9.2′	8.9′	57.4′	112°17.5′	112°45.4′	76°46.2′	23°30.8′	11°46.9′
Mer. pass. 13 h 25 m SD 15.8′ phase 1%										

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.4′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°17.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Friday 15 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	114°39.8′	177°40.2′	S 21°07.2′	196°00.4′	S 23°08.1′	166°07.5′	S 19°15.1′	169°00.7′	S 19°49.1′	83°28.1′	N 13°49.6′
1	129°42.3′	192°40.0′	S 21°06.8′	210°59.5′	S 23°08.0′	181°09.3′	S 19°15.0′	184°02.8′	S 19°49.1′	98°29.4′	N 13°50.0′
2	144°44.8′	207°39.8′	S 21°06.3′	225°58.5′	S 23°07.9′	196°11.2′	S 19°14.9′	199°05.0′	S 19°49.0′	113°30.7′	N 13°50.5′
3	159°47.2′	222°39.6′	S 21°05.9′	240°57.6′	S 23°07.8′	211°13.0′	S 19°14.7′	214°07.1′	S 19°48.9′	128°32.0′	N 13°50.9′
4	174°49.7′	237°39.4′	S 21°05.4′	255°56.6′	S 23°07.7′	226°14.9′	S 19°14.6′	229°09.3′	S 19°48.9′	143°33.3′	N 13°51.4′
5	189°52.2′	252°39.1′	S 21°04.9′	270°55.7′	S 23°07.7′	241°16.8′	S 19°14.4′	244°11.5′	S 19°48.8′	158°34.6′	N 13°51.8′
6	204°54.6′	267°38.9′	S 21°04.5′	285°54.7′	S 23°07.6′	256°18.6′	S 19°14.3′	259°13.6′	S 19°48.7′	173°35.9′	N 13°52.3′
7	219°57.1′	282°38.7′	S 21°04.0′	300°53.8′	S 23°07.5′	271°20.5′	S 19°14.1′	274°15.8′	S 19°48.7′	188°37.2′	N 13°52.7′
8	234°59.5′	297°38.5′	S 21°03.5′	315°52.8′	S 23°07.4′	286°22.3′	S 19°14.0′	289°17.9′	S 19°48.6′	203°38.5′	N 13°53.2′
9	250°02.0′	312°38.3′	S 21°03.1′	330°51.9′	S 23°07.3′	301°24.2′	S 19°13.8′	304°20.1′	S 19°48.5′	218°39.8′	N 13°53.6′
10	265°04.5′	327°38.0′	S 21°02.6′	345°51.0′	S 23°07.2′	316°26.0′	S 19°13.7′	319°22.2′	S 19°48.5′	233°41.1′	N 13°54.1′
11	280°06.9′	342°37.8′	S 21°02.1′	0°50.0′	S 23°07.1′	331°27.9′	S 19°13.6′	334°24.4′	S 19°48.4′	248°42.3′	N 13°54.5′
12	295°09.4′	357°37.6′	S 21°01.7′	15°49.1′	S 23°07.0′	346°29.8′	S 19°13.4′	349°26.6′	S 19°48.3′	263°43.6′	N 13°55.0′
13	310°11.9′	12°37.4′	S 21°01.2′	30°48.1′	S 23°06.9′	1°31.6′	S 19°13.3′	4°28.7′	S 19°48.3′	278°44.9′	N 13°55.4′
14	325°14.3′	27°37.2′	S 21°00.7′	45°47.2′	S 23°06.8′	16°33.5′	S 19°13.1′	19°30.9′	S 19°48.2′	293°46.2′	N 13°55.9′
15	340°16.8′	42°36.9′	S 21°00.3′	60°46.2′	S 23°06.7′	31°35.3′	S 19°13.0′	34°33.0′	S 19°48.1′	308°47.5′	N 13°56.3′
16	355°19.3′	57°36.7′	S 20°59.8′	75°45.3′	S 23°06.6′	46°37.2′	S 19°12.8′	49°35.2′	S 19°48.1′	323°48.8′	N 13°56.7′
17	10°21.7′	72°36.5′	S 20°59.3′	90°44.3′	S 23°06.5′	61°39.1′	S 19°12.7′	64°37.3′	S 19°48.0′	338°50.1′	N 13°57.2′
18	25°24.2′	87°36.3′	S 20°58.9′	105°43.4′	S 23°06.4′	76°40.9′	S 19°12.6′	79°39.5′	S 19°47.9′	353°51.4′	N 13°57.6′
19	40°26.7′	102°36.1′	S 20°58.4′	120°42.5′	S 23°06.3′	91°42.8′	S 19°12.4′	94°41.7′	S 19°47.9′	8°52.6′	N 13°58.1′
20	55°29.1′	117°35.9′	S 20°57.9′	135°41.5′	S 23°06.2′	106°44.6′	S 19°12.3′	109°43.8′	S 19°47.8′	23°53.9′	N 13°58.5′
21	70°31.6′	132°35.6′	S 20°57.4′	150°40.6′	S 23°06.1′	121°46.5′	S 19°12.1′	124°46.0′	S 19°47.7′	38°55.2′	N 13°59.0′
22	85°34.0′	147°35.4′	S 20°57.0′	165°39.6′	S 23°06.0′	136°48.4′	S 19°12.0′	139°48.1′	S 19°47.7′	53°56.5′	N 13°59.4′
23	100°36.5′	162°35.2′	S 20°56.5′	180°38.7′	S 23°05.9′	151°50.2′	S 19°11.8′	154°50.3′	S 19°47.6′	68°57.8′	N 13°59.9′
		SD 16.3′ *d* 0.5′		*v* -0.9′ *d* 0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 9 m 30 s		10 h 57 m		12 h 54 m		12 h 42 m		18 h 25 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Betelgeuse	−Sirius	−Rigel	−Aldebaran	−Mars	−Fomalhaut	+Jupiter	+Altair
0	153°04.4′	S 19°42.9′	9.3′	9.0′	57.3′			112°17.6′	111°44.2′	76°14.1′	23°07.0′	12°18.5′	
1	167°32.7′	S 19°33.9′	9.4′	9.1′	57.3′			111°49.8′	111°10.9′	75°42.0′	22°43.7′	12°50.2′	37°09.3′
2	182°01.2′	S 19°24.9′	9.5′	9.2′	57.3′			111°21.9′	110°37.7′	75°10.0′	22°20.7′	13°21.9′	37°24.4′
3	196°29.7′	S 19°15.7′	9.6′	9.3′	57.2′			110°54.1′	110°04.5′	74°38.1′	21°58.2′	13°53.7′	37°39.7′
4	210°58.3′	S 19°06.4′	9.7′	9.3′	57.2′			110°26.2′	109°31.3′	74°06.1′	21°36.1′	14°25.5′	37°55.4′
5	225°27.0′	S 18°57.1′	9.8′	9.4′	57.2′			109°58.3′	108°58.2′	73°34.2′	21°14.6′	14°57.3′	38°11.3′
6	239°55.8′	S 18°47.6′	9.9′	9.5′	57.1′			109°30.5′	108°25.1′	73°02.4′	20°53.5′	15°29.2′	38°27.6′
7	254°24.8′	S 18°38.1′	10.0′	9.6′	57.1′			109°02.6′	107°52.1′	72°30.6′	20°33.0′	16°01.0′	38°44.1′
8	268°53.8′	S 18°28.5′	10.1′	9.7′	57.1′			108°34.7′	107°19.1′	71°58.8′	20°13.0′	16°32.9′	39°00.9′
9	283°22.9′	S 18°18.8′	10.2′	9.8′	57.0′			108°06.9′	106°46.1′	71°27.1′	19°53.6′	17°04.8′	39°18.0′
10	297°52.2′	S 18°09.0′	10.3′	9.9′	57.0′			107°39.0′	106°13.2′	70°55.4′	19°34.9′	17°36.6′	39°35.3′
11	312°21.5′	S 17°59.1′	10.4′	10.0′	57.0′			107°11.1′	105°40.3′	70°23.7′	19°16.7′	18°08.5′	39°53.0′
12	326°50.9′	S 17°49.2′	10.5′	10.0′	57.0′			106°43.3′	105°07.4′	69°52.1′	18°59.3′	18°40.4′	40°10.8′
13	341°20.5′	S 17°39.1′	10.6′	10.1′	56.9′			106°15.4′	104°34.6′	69°20.5′	18°42.5′	19°12.2′	40°28.9′
14	355°50.1′	S 17°29.0′	10.7′	10.2′	56.9′			105°47.6′	104°01.8′	68°49.0′	18°26.4′	19°44.0′	40°47.2′
15	10°19.8′	S 17°18.8′	10.8′	10.3′	56.9′	119°56.9′		105°19.7′	103°29.1′	68°17.5′		20°15.9′	41°05.8′
16	24°49.7′	S 17°08.6′	10.9′	10.3′	56.8′	119°26.0′		104°51.9′	102°56.4′	67°46.0′		20°47.7′	41°24.6′
17	39°19.6′	S 16°58.2′	11.0′	10.4′	56.8′	118°55.1′		104°24.1′	102°23.7′	67°14.6′		21°19.5′	41°43.6′
18	53°49.6′	S 16°47.8′	11.1′	10.5′	56.8′	118°24.2′		103°56.3′	101°51.1′	66°43.2′		21°51.2′	42°02.8′
19	68°19.7′	S 16°37.3′	11.2′	10.6′	56.7′	117°53.3′		103°28.5′	101°18.5′	66°11.9′		22°23.0′	42°22.2′
20	82°50.0′	S 16°26.8′	11.3′	10.6′	56.7′	117°22.4′	119°39.2′	103°00.7′	100°45.9′	65°40.6′		22°54.7′	42°41.8′
21	97°20.3′	S 16°16.1′	11.4′	10.7′	56.7′	116°51.5′	119°18.1′	102°32.9′	100°13.4′	65°09.3′		23°26.4′	43°01.6′
22	111°50.7′	S 16°05.4′	11.5′	10.8′	56.6′	116°20.7′	118°57.0′	102°05.1′	99°40.9′	64°38.1′		23°58.1′	
23	126°21.2′	S 15°54.7′	11.6′	10.8′	56.6′	115°49.9′	118°35.7′	101°37.4′	99°08.5′	64°06.9′		24°29.7′	
Mer. pass. 14 h 17 m SD 15.6′ phase 4%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°18.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°51.0′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.5′				

Saturday 16 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	115°39.0′	177°35.0′	S 20°56.0′	195°37.7′	S 23°05.8′	166°52.1′	S 19°11.7′	169°52.4′	S 19°47.5′	83°59.1′	N 14°00.3′
1	130°41.4′	192°34.8′	S 20°55.5′	210°36.8′	S 23°05.7′	181°53.9′	S 19°11.6′	184°54.6′	S 19°47.5′	99°00.3′	N 14°00.8′
2	145°43.9′	207°34.6′	S 20°55.0′	225°35.9′	S 23°05.6′	196°55.8′	S 19°11.4′	199°56.8′	S 19°47.4′	114°01.6′	N 14°01.2′
3	160°46.4′	222°34.4′	S 20°54.6′	240°34.9′	S 23°05.4′	211°57.7′	S 19°11.3′	214°58.9′	S 19°47.3′	129°02.9′	N 14°01.7′
4	175°48.8′	237°34.1′	S 20°54.1′	255°34.0′	S 23°05.3′	226°59.5′	S 19°11.1′	230°01.1′	S 19°47.3′	144°04.2′	N 14°02.1′
5	190°51.3′	252°33.9′	S 20°53.6′	270°33.0′	S 23°05.2′	242°01.4′	S 19°11.0′	245°03.2′	S 19°47.2′	159°05.5′	N 14°02.6′
6	205°53.8′	267°33.7′	S 20°53.1′	285°32.1′	S 23°05.1′	257°03.2′	S 19°10.8′	260°05.4′	S 19°47.1′	174°06.8′	N 14°03.0′
7	220°56.2′	282°33.5′	S 20°52.7′	300°31.1′	S 23°05.0′	272°05.1′	S 19°10.7′	275°07.5′	S 19°47.1′	189°08.0′	N 14°03.5′
8	235°58.7′	297°33.3′	S 20°52.2′	315°30.2′	S 23°04.9′	287°07.0′	S 19°10.5′	290°09.7′	S 19°47.0′	204°09.3′	N 14°03.9′
9	251°01.1′	312°33.1′	S 20°51.7′	330°29.3′	S 23°04.7′	302°08.8′	S 19°10.4′	305°11.9′	S 19°46.9′	219°10.6′	N 14°04.4′
10	266°03.6′	327°32.9′	S 20°51.2′	345°28.3′	S 23°04.6′	317°10.7′	S 19°10.3′	320°14.0′	S 19°46.9′	234°11.9′	N 14°04.8′
11	281°06.1′	342°32.7′	S 20°50.7′	0°27.4′	S 23°04.5′	332°12.5′	S 19°10.1′	335°16.2′	S 19°46.8′	249°13.1′	N 14°05.3′
12	296°08.5′	357°32.4′	S 20°50.2′	15°26.4′	S 23°04.4′	347°14.4′	S 19°10.0′	350°18.3′	S 19°46.8′	264°14.4′	N 14°05.7′
13	311°11.0′	12°32.2′	S 20°49.8′	30°25.5′	S 23°04.2′	2°16.3′	S 19°09.8′	5°20.5′	S 19°46.7′	279°15.7′	N 14°06.1′
14	326°13.5′	27°32.0′	S 20°49.3′	45°24.5′	S 23°04.1′	17°18.1′	S 19°09.7′	20°22.6′	S 19°46.6′	294°17.0′	N 14°06.6′
15	341°15.9′	42°31.8′	S 20°48.8′	60°23.6′	S 23°04.0′	32°20.0′	S 19°09.5′	35°24.8′	S 19°46.6′	309°18.3′	N 14°07.0′
16	356°18.4′	57°31.6′	S 20°48.3′	75°22.7′	S 23°03.8′	47°21.8′	S 19°09.4′	50°27.0′	S 19°46.5′	324°19.5′	N 14°07.5′
17	11°20.9′	72°31.4′	S 20°47.8′	90°21.7′	S 23°03.7′	62°23.7′	S 19°09.3′	65°29.1′	S 19°46.4′	339°20.8′	N 14°07.9′
18	26°23.3′	87°31.2′	S 20°47.3′	105°20.8′	S 23°03.6′	77°25.6′	S 19°09.1′	80°31.3′	S 19°46.4′	354°22.1′	N 14°08.4′
19	41°25.8′	102°31.0′	S 20°46.8′	120°19.8′	S 23°03.4′	92°27.4′	S 19°09.0′	95°33.4′	S 19°46.3′	9°23.4′	N 14°08.8′
20	56°28.3′	117°30.8′	S 20°46.3′	135°18.9′	S 23°03.3′	107°29.3′	S 19°08.8′	110°35.6′	S 19°46.2′	24°24.6′	N 14°09.3′
21	71°30.7′	132°30.6′	S 20°45.8′	150°18.0′	S 23°03.2′	122°31.1′	S 19°08.7′	125°37.7′	S 19°46.2′	39°25.9′	N 14°09.7′
22	86°33.2′	147°30.4′	S 20°45.4′	165°17.0′	S 23°03.0′	137°33.0′	S 19°08.5′	140°39.9′	S 19°46.1′	54°27.2′	N 14°10.2′
23	101°35.6′	162°30.1′	S 20°44.9′	180°16.1′	S 23°02.9′	152°34.8′	S 19°08.4′	155°42.1′	S 19°46.0′	69°28.5′	N 14°10.6′
		SD 16.3′ *d* 0.5′		*v* -0.9′ *d* 0.1′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 9 m 51 s		10 h 58 m		12 h 51 m		12 h 39 m		18 h 23 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sirius	−Betelgeuse	−Capella	−Rigel	−Aldebaran	−Mars	+Jupiter	+Sun
0	140°51.8′	S 15°43.8′	11.7′	10.9′	56.6′	118°14.4′	115°19.1′	111°26.5′	101°09.7′	98°36.1′	63°35.8′	25°01.4′	
1	155°22.5′	S 15°32.9′	11.8′	11.0′	56.6′	117°53.1′	114°48.3′	110°56.9′	100°42.0′	98°03.7′	63°04.7′	25°33.0′	
2	169°53.3′	S 15°22.0′	11.9′	11.0′	56.5′	117°31.6′	114°17.6′	110°27.3′	100°14.3′	97°31.4′	62°33.6′	26°04.5′	
3	184°24.2′	S 15°10.9′	12.0′	11.1′	56.5′	117°10.1′	113°46.8′	109°57.8′	99°46.6′	96°59.1′	62°02.6′	26°36.1′	
4	198°55.1′	S 14°59.9′	12.1′	11.1′	56.5′	116°48.6′	113°16.1′	109°28.2′	99°18.9′	96°26.8′	61°31.6′	27°07.6′	
5	213°26.2′	S 14°48.7′	12.2′	11.2′	56.4′	116°26.9′	112°45.5′	108°58.6′	98°51.3′	95°54.6′	61°00.6′	27°39.1′	
6	227°57.4′	S 14°37.5′	12.2′	11.3′	56.4′	116°05.2′	112°14.8′	108°29.1′	98°23.6′	95°22.4′	60°29.7′	28°10.6′	
7	242°28.6′	S 14°26.3′	12.3′	11.3′	56.4′	115°43.5′	111°44.2′	107°59.6′	97°56.0′	94°50.3′	59°58.8′		
8	256°59.9′	S 14°15.0′	12.4′	11.4′	56.3′	115°21.7′	111°13.5′	107°30.1′	97°28.4′	94°18.2′	59°28.0′		
9	271°31.4′	S 14°03.6′	12.5′	11.4′	56.3′	114°59.9′	110°43.0′	107°00.6′	97°00.9′	93°46.1′	58°57.2′		
10	286°02.9′	S 13°52.2′	12.6′	11.5′	56.3′	114°38.0′	110°12.4′	106°31.2′	96°33.3′	93°14.1′	58°26.4′		40°06.5′
11	300°34.5′	S 13°40.7′	12.7′	11.5′	56.2′	114°16.0′	109°41.9′	106°01.7′	96°05.8′	92°42.1′	57°55.7′		40°36.0′
12	315°06.1′	S 13°29.2′	12.8′	11.6′	56.2′	113°54.0′	109°11.3′	105°32.3′	95°38.3′	92°10.1′	57°25.0′		41°05.4′
13	329°37.9′	S 13°17.6′	12.8′	11.6′	56.2′	113°32.0′	108°40.8′	105°02.9′	95°10.9′	91°38.2′	56°54.4′		41°34.8′
14	344°09.8′	S 13°06.0′	12.9′	11.7′	56.2′	113°09.9′	108°10.4′	104°33.6′	94°43.4′	91°06.3′	56°23.8′		42°04.2′
15	358°41.7′	S 12°54.3′	13.0′	11.7′	56.1′	112°47.8′	107°39.9′	104°04.2′	94°16.0′	90°34.5′	55°53.2′		42°33.5′
16	13°13.7′	S 12°42.6′	13.1′	11.8′	56.1′	112°25.6′	107°09.5′	103°34.9′	93°48.6′	90°02.6′	55°22.7′		43°02.8′
17	27°45.8′	S 12°30.8′	13.2′	11.8′	56.1′	112°03.4′	106°39.1′	103°05.6′	93°21.2′	89°30.9′	54°52.2′		43°32.1′
18	42°18.0′	S 12°19.0′	13.3′	11.8′	56.0′	111°41.2′	106°08.8′	102°36.3′	92°53.9′	88°59.1′	54°21.8′		44°01.3′
19	56°50.2′	S 12°07.2′	13.3′	11.9′	56.0′	111°18.9′	105°38.5′	102°07.0′	92°26.6′	88°27.4′	53°51.4′		44°30.5′
20	71°22.6′	S 11°55.3′	13.4′	11.9′	56.0′	110°56.6′	105°08.1′	101°37.8′	91°59.3′	87°55.7′	53°21.0′		44°59.6′
21	85°55.0′	S 11°43.4′	13.5′	12.0′	56.0′	110°34.3′	104°37.9′	101°08.5′	91°32.0′	87°24.1′	52°50.7′		45°28.7′
22	100°27.5′	S 11°31.4′	13.6′	12.0′	55.9′	110°11.9′	104°07.6′	100°39.3′	91°04.8′	86°52.5′	52°20.4′		45°57.8′
23	115°00.0′	S 11°19.4′	13.6′	12.0′	55.9′	109°49.5′	103°37.4′	100°10.2′	90°37.6′	86°20.9′	51°50.1′		46°26.9′
Mer. pass. 15 h 5 m SD 15.4′ phase 9%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°18.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.6′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Sunday 17 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	116°38.1′	177°29.9′	S 20°44.4′	195°15.1′	S 23°02.8′	167°36.7′	S 19°08.2′	170°44.2′	S 19°46.0′	84°29.7′	N 14°11.1′
1	131°40.6′	192°29.7′	S 20°43.9′	210°14.2′	S 23°02.6′	182°38.6′	S 19°08.1′	185°46.4′	S 19°45.9′	99°31.0′	N 14°11.5′
2	146°43.0′	207°29.5′	S 20°43.4′	225°13.3′	S 23°02.5′	197°40.4′	S 19°08.0′	200°48.5′	S 19°45.8′	114°32.3′	N 14°12.0′
3	161°45.5′	222°29.3′	S 20°42.9′	240°12.3′	S 23°02.3′	212°42.3′	S 19°07.8′	215°50.7′	S 19°45.8′	129°33.5′	N 14°12.4′
4	176°48.0′	237°29.1′	S 20°42.4′	255°11.4′	S 23°02.2′	227°44.1′	S 19°07.7′	230°52.8′	S 19°45.7′	144°34.8′	N 14°12.9′
5	191°50.4′	252°28.9′	S 20°41.9′	270°10.4′	S 23°02.0′	242°46.0′	S 19°07.5′	245°55.0′	S 19°45.6′	159°36.1′	N 14°13.3′
6	206°52.9′	267°28.7′	S 20°41.4′	285°09.5′	S 23°01.9′	257°47.9′	S 19°07.4′	260°57.2′	S 19°45.6′	174°37.4′	N 14°13.8′
7	221°55.4′	282°28.5′	S 20°40.9′	300°08.6′	S 23°01.7′	272°49.7′	S 19°07.2′	275°59.3′	S 19°45.5′	189°38.6′	N 14°14.2′
8	236°57.8′	297°28.3′	S 20°40.4′	315°07.6′	S 23°01.6′	287°51.6′	S 19°07.1′	291°01.5′	S 19°45.4′	204°39.9′	N 14°14.6′
9	252°00.3′	312°28.1′	S 20°39.9′	330°06.7′	S 23°01.4′	302°53.4′	S 19°06.9′	306°03.6′	S 19°45.4′	219°41.2′	N 14°15.1′
10	267°02.8′	327°27.9′	S 20°39.4′	345°05.7′	S 23°01.3′	317°55.3′	S 19°06.8′	321°05.8′	S 19°45.3′	234°42.4′	N 14°15.5′
11	282°05.2′	342°27.7′	S 20°38.9′	0°04.8′	S 23°01.1′	332°57.2′	S 19°06.6′	336°07.9′	S 19°45.2′	249°43.7′	N 14°16.0′
12	297°07.7′	357°27.5′	S 20°38.4′	15°03.9′	S 23°01.0′	347°59.0′	S 19°06.5′	351°10.1′	S 19°45.2′	264°45.0′	N 14°16.4′
13	312°10.1′	12°27.3′	S 20°37.9′	30°02.9′	S 23°00.8′	3°00.9′	S 19°06.4′	6°12.3′	S 19°45.1′	279°46.2′	N 14°16.9′
14	327°12.6′	27°27.1′	S 20°37.4′	45°02.0′	S 23°00.7′	18°02.7′	S 19°06.2′	21°14.4′	S 19°45.0′	294°47.5′	N 14°17.3′
15	342°15.1′	42°26.9′	S 20°36.9′	60°01.0′	S 23°00.5′	33°04.6′	S 19°06.1′	36°16.6′	S 19°45.0′	309°48.8′	N 14°17.8′
16	357°17.5′	57°26.7′	S 20°36.4′	75°00.1′	S 23°00.4′	48°06.5′	S 19°05.9′	51°18.7′	S 19°44.9′	324°50.0′	N 14°18.2′
17	12°20.0′	72°26.5′	S 20°35.9′	89°59.2′	S 23°00.2′	63°08.3′	S 19°05.8′	66°20.9′	S 19°44.8′	339°51.3′	N 14°18.7′
18	27°22.5′	87°26.3′	S 20°35.4′	104°58.2′	S 23°00.0′	78°10.2′	S 19°05.6′	81°23.0′	S 19°44.8′	354°52.6′	N 14°19.1′
19	42°24.9′	102°26.1′	S 20°34.9′	119°57.3′	S 22°59.9′	93°12.0′	S 19°05.5′	96°25.2′	S 19°44.7′	9°53.8′	N 14°19.6′
20	57°27.4′	117°25.9′	S 20°34.4′	134°56.4′	S 22°59.7′	108°13.9′	S 19°05.3′	111°27.3′	S 19°44.6′	24°55.1′	N 14°20.0′
21	72°29.9′	132°25.7′	S 20°33.9′	149°55.4′	S 22°59.5′	123°15.7′	S 19°05.2′	126°29.5′	S 19°44.6′	39°56.4′	N 14°20.5′
22	87°32.3′	147°25.5′	S 20°33.4′	164°54.5′	S 22°59.4′	138°17.6′	S 19°05.0′	141°31.7′	S 19°44.5′	54°57.6′	N 14°20.9′
23	102°34.8′	162°25.3′	S 20°32.8′	179°53.5′	S 22°59.2′	153°19.5′	S 19°04.9′	156°33.8′	S 19°44.4′	69°58.9′	N 14°21.4′
		SD 16.3′ *d* 0.5′		*v* -0.9′ *d* 0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 10 m 11 s		11 h 0 m		12 h 48 m		12 h 35 m		18 h 20 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Pollux	−Procyon	−Capella	−Rigel	−Aldebaran	−Mars	+Fomalhaut	+Sun
0	129°32.7′	S 11°07.4′	13.7′	12.1′	55.9′			99°41.0′	90°10.4′	85°49.4′	51°19.9′	18°31.6′	46°55.9′
1	144°05.4′	S 10°55.3′	13.8′	12.1′	55.8′			99°11.9′	89°43.2′	85°17.9′	50°49.7′	18°47.3′	47°24.9′
2	158°38.2′	S 10°43.2′	13.9′	12.1′	55.8′			98°42.8′	89°16.1′	84°46.5′	50°19.5′	19°03.5′	47°53.8′
3	173°11.0′	S 10°31.1′	13.9′	12.2′	55.8′			98°13.7′	88°49.0′	84°15.0′	49°49.4′	19°20.4′	48°22.7′
4	187°44.0′	S 10°18.9′	14.0′	12.2′	55.8′			97°44.7′	88°22.0′	83°43.6′	49°19.3′	19°37.8′	48°51.6′
5	202°17.0′	S 10°06.7′	14.1′	12.2′	55.7′			97°15.7′	87°55.0′	83°12.3′	48°49.3′	19°55.7′	49°20.4′
6	216°50.0′	S 9°54.5′	14.1′	12.3′	55.7′			96°46.7′	87°28.0′	82°41.0′	48°19.3′	20°14.2′	49°49.3′
7	231°23.2′	S 9°42.2′	14.2′	12.3′	55.7′			96°17.7′	87°01.0′	82°09.7′	47°49.3′	20°33.1′	50°18.0′
8	245°56.4′	S 9°29.9′	14.3′	12.3′	55.6′			95°48.8′	86°34.1′	81°38.4′	47°19.4′	20°52.5′	50°46.8′
9	260°29.7′	S 9°17.6′	14.3′	12.3′	55.6′			95°19.8′	86°07.2′	81°07.2′	46°49.5′	21°12.3′	51°15.5′
10	275°03.0′	S 9°05.2′	14.4′	12.4′	55.6′			94°51.0′	85°40.4′	80°36.0′	46°19.7′	21°32.6′	51°44.2′
11	289°36.4′	S 8°52.9′	14.5′	12.4′	55.6′			94°22.1′	85°13.5′	80°04.8′	45°49.8′	21°53.2′	52°12.8′
12	304°09.9′	S 8°40.5′	14.5′	12.4′	55.5′			93°53.3′	84°46.7′	79°33.7′	45°20.0′	22°14.2′	52°41.5′
13	318°43.4′	S 8°28.0′	14.6′	12.4′	55.5′			93°24.4′	84°20.0′	79°02.6′	44°50.3′	22°35.6′	53°10.0′
14	333°17.0′	S 8°15.6′	14.6′	12.5′	55.5′			92°55.7′	83°53.3′	78°31.6′	44°20.6′	22°57.3′	53°38.6′
15	347°50.6′	S 8°03.1′	14.7′	12.5′	55.5′			92°26.9′	83°26.6′	78°00.6′	43°50.9′	23°19.3′	54°07.1′
16	2°24.3′	S 7°50.6′	14.8′	12.5′	55.4′			91°58.2′	82°59.9′	77°29.6′	43°21.3′	23°41.6′	54°35.6′
17	16°58.1′	S 7°38.1′	14.8′	12.5′	55.4′			91°29.5′	82°33.3′	76°58.6′	42°51.7′	24°04.2′	55°04.1′
18	31°31.9′	S 7°25.6′	14.9′	12.5′	55.4′		119°37.6′	91°00.8′	82°06.7′	76°27.7′	42°22.1′	24°27.0′	55°32.5′
19	46°05.8′	S 7°13.1′	14.9′	12.6′	55.4′		119°08.8′	90°32.2′	81°40.2′	75°56.8′	41°52.5′	24°50.1′	56°00.9′
20	60°39.7′	S 7°00.5′	15.0′	12.6′	55.3′	119°34.7′	118°40.1′	90°03.5′	81°13.7′	75°25.9′	41°23.0′	25°13.5′	56°29.3′
21	75°13.7′	S 6°47.9′	15.0′	12.6′	55.3′	119°03.9′	118°11.4′	89°35.0′	80°47.2′	74°55.1′	40°53.6′	25°37.1′	56°57.6′
22	89°47.7′	S 6°35.3′	15.1′	12.6′	55.3′	118°33.0′	117°42.7′	89°06.4′	80°20.8′	74°24.3′	40°24.1′	26°00.9′	57°26.0′
23	104°21.8′	S 6°22.7′	15.1′	12.6′	55.3′	118°02.2′	117°13.9′	88°37.9′	79°54.4′	73°53.5′	39°54.7′	26°24.9′	57°54.2′
Mer. pass. 15 h 50 m SD 15.2′ phase 16%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°19.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Monday 18 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	117°37.2′	177°25.1′	S 20°32.3′	194°52.6′	S 22°59.0′	168°21.3′	S 19°04.8′	171°36.0′	S 19°44.4′	85°00.2′	N 14°21.8′
1	132°39.7′	192°24.9′	S 20°31.8′	209°51.7′	S 22°58.9′	183°23.2′	S 19°04.6′	186°38.1′	S 19°44.3′	100°01.4′	N 14°22.2′
2	147°42.2′	207°24.7′	S 20°31.3′	224°50.7′	S 22°58.7′	198°25.0′	S 19°04.5′	201°40.3′	S 19°44.2′	115°02.7′	N 14°22.7′
3	162°44.6′	222°24.5′	S 20°30.8′	239°49.8′	S 22°58.5′	213°26.9′	S 19°04.3′	216°42.4′	S 19°44.2′	130°04.0′	N 14°23.1′
4	177°47.1′	237°24.3′	S 20°30.3′	254°48.9′	S 22°58.3′	228°28.8′	S 19°04.2′	231°44.6′	S 19°44.1′	145°05.2′	N 14°23.6′
5	192°49.6′	252°24.1′	S 20°29.8′	269°47.9′	S 22°58.2′	243°30.6′	S 19°04.0′	246°46.8′	S 19°44.0′	160°06.5′	N 14°24.0′
6	207°52.0′	267°23.9′	S 20°29.3′	284°47.0′	S 22°58.0′	258°32.5′	S 19°03.9′	261°48.9′	S 19°44.0′	175°07.7′	N 14°24.5′
7	222°54.5′	282°23.7′	S 20°28.8′	299°46.0′	S 22°57.8′	273°34.3′	S 19°03.7′	276°51.1′	S 19°43.9′	190°09.0′	N 14°24.9′
8	237°57.0′	297°23.5′	S 20°28.2′	314°45.1′	S 22°57.6′	288°36.2′	S 19°03.6′	291°53.2′	S 19°43.8′	205°10.3′	N 14°25.4′
9	252°59.4′	312°23.3′	S 20°27.7′	329°44.2′	S 22°57.5′	303°38.1′	S 19°03.4′	306°55.4′	S 19°43.8′	220°11.5′	N 14°25.8′
10	268°01.9′	327°23.1′	S 20°27.2′	344°43.2′	S 22°57.3′	318°39.9′	S 19°03.3′	321°57.5′	S 19°43.7′	235°12.8′	N 14°26.3′
11	283°04.4′	342°22.9′	S 20°26.7′	359°42.3′	S 22°57.1′	333°41.8′	S 19°03.2′	336°59.7′	S 19°43.6′	250°14.0′	N 14°26.7′
12	298°06.8′	357°22.7′	S 20°26.2′	14°41.4′	S 22°56.9′	348°43.6′	S 19°03.0′	352°01.9′	S 19°43.6′	265°15.3′	N 14°27.2′
13	313°09.3′	12°22.5′	S 20°25.7′	29°40.4′	S 22°56.7′	3°45.5′	S 19°02.9′	7°04.0′	S 19°43.5′	280°16.5′	N 14°27.6′
14	328°11.7′	27°22.3′	S 20°25.1′	44°39.5′	S 22°56.5′	18°47.4′	S 19°02.7′	22°06.2′	S 19°43.4′	295°17.8′	N 14°28.1′
15	343°14.2′	42°22.1′	S 20°24.6′	59°38.6′	S 22°56.4′	33°49.2′	S 19°02.6′	37°08.3′	S 19°43.4′	310°19.1′	N 14°28.5′
16	358°16.7′	57°21.9′	S 20°24.1′	74°37.6′	S 22°56.2′	48°51.1′	S 19°02.4′	52°10.5′	S 19°43.3′	325°20.3′	N 14°29.0′
17	13°19.1′	72°21.7′	S 20°23.6′	89°36.7′	S 22°56.0′	63°52.9′	S 19°02.3′	67°12.6′	S 19°43.2′	340°21.6′	N 14°29.4′
18	28°21.6′	87°21.5′	S 20°23.1′	104°35.8′	S 22°55.8′	78°54.8′	S 19°02.1′	82°14.8′	S 19°43.2′	355°22.8′	N 14°29.8′
19	43°24.1′	102°21.3′	S 20°22.5′	119°34.8′	S 22°55.6′	93°56.6′	S 19°02.0′	97°17.0′	S 19°43.1′	10°24.1′	N 14°30.3′
20	58°26.5′	117°21.1′	S 20°22.0′	134°33.9′	S 22°55.4′	108°58.5′	S 19°01.8′	112°19.1′	S 19°43.0′	25°25.3′	N 14°30.7′
21	73°29.0′	132°20.9′	S 20°21.5′	149°33.0′	S 22°55.2′	124°00.4′	S 19°01.7′	127°21.3′	S 19°43.0′	40°26.6′	N 14°31.2′
22	88°31.5′	147°20.7′	S 20°21.0′	164°32.0′	S 22°55.0′	139°02.2′	S 19°01.5′	142°23.4′	S 19°42.9′	55°27.9′	N 14°31.6′
23	103°33.9′	162°20.5′	S 20°20.4′	179°31.1′	S 22°54.8′	154°04.1′	S 19°01.4′	157°25.6′	S 19°42.8′	70°29.1′	N 14°32.1′
		SD 16.2′ *d* 0.5′		*v* -0.9′ *d* 0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.3′ *d* 0.4′	
Mer. pass.		12 h 10 m 30 s		11 h 1 m		12 h 45 m		12 h 32 m		18 h 18 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Pollux	−Procyon	−Capella	−Rigel	−Aldebaran	−Mars	+Fomalhaut	+Sun
0	118°56.0′	S 6°10.1′	15.2′	12.6′	55.2′	117°31.5′	116°45.2′	88°09.4′	79°28.1′	73°22.7′	39°25.4′	26°49.1′	58°22.5′
1	133°30.1′	S 5°57.5′	15.2′	12.6′	55.2′	117°00.7′	116°16.5′	87°40.9′	79°01.8′	72°52.0′	38°56.1′	27°13.5′	58°50.7′
2	148°04.4′	S 5°44.8′	15.3′	12.7′	55.2′	116°30.0′	115°47.9′	87°12.4′	78°35.5′	72°21.3′	38°26.8′	27°38.0′	59°18.9′
3	162°38.7′	S 5°32.1′	15.3′	12.7′	55.2′	115°59.3′	115°19.2′	86°44.0′	78°09.3′	71°50.7′	37°57.5′	28°02.8′	59°47.1′
4	177°13.0′	S 5°19.5′	15.4′	12.7′	55.1′	115°28.7′	114°50.5′	86°15.6′	77°43.1′	71°20.0′	37°28.3′	28°27.6′	60°15.2′
5	191°47.4′	S 5°06.8′	15.4′	12.7′	55.1′	114°58.0′	114°21.9′	85°47.3′	77°16.9′	70°49.4′	36°59.1′	28°52.7′	60°43.3′
6	206°21.8′	S 4°54.1′	15.5′	12.7′	55.1′	114°27.4′	113°53.2′	85°18.9′	76°50.8′	70°18.9′	36°29.9′	29°17.9′	61°11.4′
7	220°56.3′	S 4°41.4′	15.5′	12.7′	55.1′	113°56.9′	113°24.6′	84°50.6′	76°24.7′	69°48.3′	36°00.8′	29°43.2′	61°39.5′
8	235°30.8′	S 4°28.7′	15.5′	12.7′	55.1′	113°26.3′	112°56.0′	84°22.3′	75°58.7′	69°17.8′	35°31.7′	30°08.6′	62°07.5′
9	250°05.3′	S 4°16.0′	15.6′	12.7′	55.0′	112°55.8′	112°27.3′	83°54.1′	75°32.7′	68°47.3′	35°02.6′	30°34.2′	62°35.5′
10	264°39.9′	S 4°03.3′	15.6′	12.7′	55.0′	112°25.3′	111°58.7′	83°25.9′	75°06.8′	68°16.9′	34°33.6′	30°59.8′	63°03.5′
11	279°14.5′	S 3°50.6′	15.7′	12.7′	55.0′	111°54.8′	111°30.1′	82°57.7′	74°40.9′	67°46.4′	34°04.6′	31°25.6′	63°31.5′
12	293°49.2′	S 3°37.8′	15.7′	12.7′	55.0′	111°24.4′	111°01.6′	82°29.5′	74°15.0′	67°16.0′	33°35.7′	31°51.5′	63°59.4′
13	308°23.9′	S 3°25.1′	15.7′	12.7′	54.9′	110°53.9′	110°33.0′	82°01.4′	73°49.2′	66°45.6′	33°06.8′	32°17.5′	64°27.3′
14	322°58.6′	S 3°12.4′	15.8′	12.7′	54.9′	110°23.5′	110°04.4′	81°33.3′	73°23.5′	66°15.3′	32°37.9′	32°43.6′	64°55.2′
15	337°33.4′	S 2°59.6′	15.8′	12.7′	54.9′	109°53.2′	109°35.9′	81°05.2′	72°57.7′	65°45.0′	32°09.0′	33°09.8′	65°23.0′
16	352°08.2′	S 2°46.9′	15.8′	12.7′	54.9′	109°22.8′	109°07.3′	80°37.2′	72°32.0′	65°14.6′	31°40.2′	33°36.0′	65°50.8′
17	6°43.0′	S 2°34.2′	15.9′	12.7′	54.9′	108°52.5′	108°38.8′	80°09.2′	72°06.4′	64°44.4′	31°11.4′	34°02.4′	66°18.6′
18	21°17.9′	S 2°21.4′	15.9′	12.7′	54.8′	108°22.2′	108°10.3′	79°41.2′	71°40.8′	64°14.1′	30°42.7′	34°28.8′	66°46.4′
19	35°52.8′	S 2°08.7′	15.9′	12.7′	54.8′	107°51.9′	107°41.8′	79°13.2′	71°15.3′	63°43.9′	30°13.9′	34°55.3′	67°14.2′
20	50°27.7′	S 1°56.0′	16.0′	12.7′	54.8′	107°21.7′	107°13.3′	78°45.3′	70°49.8′	63°13.7′	29°45.3′	35°21.8′	67°41.9′
21	65°02.6′	S 1°43.2′	16.0′	12.7′	54.8′	106°51.4′	106°44.8′	78°17.4′	70°24.3′	62°43.5′	29°16.6′	35°48.4′	68°09.6′
22	79°37.6′	S 1°30.5′	16.0′	12.7′	54.8′	106°21.2′	106°16.4′	77°49.5′	69°58.9′	62°13.4′	28°48.0′	36°15.1′	68°37.3′
23	94°12.6′	S 1°17.8′	16.0′	12.7′	54.7′	105°51.0′	105°47.9′	77°21.7′	69°33.6′	61°43.2′	28°19.4′	36°41.9′	69°05.0′
Mer. pass. 16 h 32 m SD 15.1′ phase 24%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.7′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.5′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°19.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.1′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Tuesday 19 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	118°36.4′	177°20.3′	S 20°19.9′	194°30.2′	S 22°54.6′	169°05.9′	S 19°01.3′	172°27.7′	S 19°42.8′	85°30.4′	N 14°32.5′
1	133°38.9′	192°20.2′	S 20°19.4′	209°29.2′	S 22°54.4′	184°07.8′	S 19°01.1′	187°29.9′	S 19°42.7′	100°31.6′	N 14°33.0′
2	148°41.3′	207°20.0′	S 20°18.9′	224°28.3′	S 22°54.2′	199°09.7′	S 19°01.0′	202°32.0′	S 19°42.6′	115°32.9′	N 14°33.4′
3	163°43.8′	222°19.8′	S 20°18.3′	239°27.4′	S 22°54.0′	214°11.5′	S 19°00.8′	217°34.2′	S 19°42.6′	130°34.1′	N 14°33.9′
4	178°46.2′	237°19.6′	S 20°17.8′	254°26.4′	S 22°53.8′	229°13.4′	S 19°00.7′	232°36.4′	S 19°42.5′	145°35.4′	N 14°34.3′
5	193°48.7′	252°19.4′	S 20°17.3′	269°25.5′	S 22°53.6′	244°15.2′	S 19°00.5′	247°38.5′	S 19°42.4′	160°36.6′	N 14°34.8′
6	208°51.2′	267°19.2′	S 20°16.8′	284°24.6′	S 22°53.4′	259°17.1′	S 19°00.4′	262°40.7′	S 19°42.4′	175°37.9′	N 14°35.2′
7	223°53.6′	282°19.0′	S 20°16.2′	299°23.6′	S 22°53.2′	274°18.9′	S 19°00.2′	277°42.8′	S 19°42.3′	190°39.1′	N 14°35.6′
8	238°56.1′	297°18.8′	S 20°15.7′	314°22.7′	S 22°53.0′	289°20.8′	S 19°00.1′	292°45.0′	S 19°42.2′	205°40.4′	N 14°36.1′
9	253°58.6′	312°18.6′	S 20°15.2′	329°21.8′	S 22°52.8′	304°22.7′	S 18°59.9′	307°47.1′	S 19°42.2′	220°41.6′	N 14°36.5′
10	269°01.0′	327°18.4′	S 20°14.6′	344°20.8′	S 22°52.6′	319°24.5′	S 18°59.8′	322°49.3′	S 19°42.1′	235°42.9′	N 14°37.0′
11	284°03.5′	342°18.3′	S 20°14.1′	359°19.9′	S 22°52.3′	334°26.4′	S 18°59.6′	337°51.5′	S 19°42.0′	250°44.1′	N 14°37.4′
12	299°06.0′	357°18.1′	S 20°13.6′	14°19.0′	S 22°52.1′	349°28.2′	S 18°59.5′	352°53.6′	S 19°41.9′	265°45.4′	N 14°37.9′
13	314°08.4′	12°17.9′	S 20°13.0′	29°18.0′	S 22°51.9′	4°30.1′	S 18°59.3′	7°55.8′	S 19°41.9′	280°46.6′	N 14°38.3′
14	329°10.9′	27°17.7′	S 20°12.5′	44°17.1′	S 22°51.7′	19°32.0′	S 18°59.2′	22°57.9′	S 19°41.8′	295°47.9′	N 14°38.8′
15	344°13.3′	42°17.5′	S 20°12.0′	59°16.2′	S 22°51.5′	34°33.8′	S 18°59.1′	38°00.1′	S 19°41.7′	310°49.1′	N 14°39.2′
16	359°15.8′	57°17.3′	S 20°11.4′	74°15.2′	S 22°51.3′	49°35.7′	S 18°58.9′	53°02.2′	S 19°41.7′	325°50.4′	N 14°39.7′
17	14°18.3′	72°17.1′	S 20°10.9′	89°14.3′	S 22°51.0′	64°37.5′	S 18°58.8′	68°04.4′	S 19°41.6′	340°51.6′	N 14°40.1′
18	29°20.7′	87°16.9′	S 20°10.4′	104°13.4′	S 22°50.8′	79°39.4′	S 18°58.6′	83°06.6′	S 19°41.5′	355°52.9′	N 14°40.6′
19	44°23.2′	102°16.8′	S 20°09.8′	119°12.5′	S 22°50.6′	94°41.3′	S 18°58.5′	98°08.7′	S 19°41.5′	10°54.1′	N 14°41.0′
20	59°25.7′	117°16.6′	S 20°09.3′	134°11.5′	S 22°50.4′	109°43.1′	S 18°58.3′	113°10.9′	S 19°41.4′	25°55.4′	N 14°41.4′
21	74°28.1′	132°16.4′	S 20°08.7′	149°10.6′	S 22°50.2′	124°45.0′	S 18°58.2′	128°13.0′	S 19°41.3′	40°56.6′	N 14°41.9′
22	89°30.6′	147°16.2′	S 20°08.2′	164°09.7′	S 22°49.9′	139°46.8′	S 18°58.0′	143°15.2′	S 19°41.3′	55°57.8′	N 14°42.3′
23	104°33.1′	162°16.0′	S 20°07.7′	179°08.7′	S 22°49.7′	154°48.7′	S 18°57.9′	158°17.3′	S 19°41.2′	70°59.1′	N 14°42.8′
		SD 16.2′ *d* 0.5′		*v* -0.9′ *d* 0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 10 m 49 s		11 h 3 m		12 h 42 m		12 h 28 m		18 h 16 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Pollux	−Procyon	−Capella	−Rigel	−Aldebaran	−Mars	+Fomalhaut	+Sun
0	108°47.7′	S 1°05.0′	16.1′	12.7′	54.7′	105°20.9′	105°19.5′	76°53.9′	69°08.3′	61°13.1′	27°50.9′	37°08.7′	69°32.6′
1	123°22.7′	S 0°52.3′	16.1′	12.7′	54.7′	104°50.7′	104°51.1′	76°26.1′	68°43.0′	60°43.0′	27°22.4′	37°35.6′	70°00.2′
2	137°57.8′	S 0°39.6′	16.1′	12.7′	54.7′	104°20.6′	104°22.6′	75°58.3′	68°17.8′	60°13.0′	26°53.9′	38°02.5′	70°27.8′
3	152°32.9′	S 0°26.9′	16.1′	12.7′	54.7′	103°50.5′	103°54.2′	75°30.6′	67°52.6′	59°42.9′	26°25.5′	38°29.4′	70°55.4′
4	167°08.0′	S 0°14.2′	16.1′	12.7′	54.7′	103°20.4′	103°25.9′	75°02.9′	67°27.5′	59°12.9′	25°57.1′	38°56.4′	71°23.0′
5	181°43.1′	S 0°01.5′	16.2′	12.7′	54.6′	102°50.4′	102°57.5′	74°35.3′	67°02.5′	58°42.9′	25°28.7′	39°23.5′	71°50.5′
6	196°18.3′	N 0°11.2′	16.2′	12.7′	54.6′	102°20.3′	102°29.1′	74°07.6′	66°37.5′	58°13.0′	25°00.4′	39°50.6′	72°18.0′
7	210°53.5′	N 0°23.8′	16.2′	12.7′	54.6′	101°50.3′	102°00.8′	73°40.0′	66°12.5′	57°43.0′	24°32.1′	40°17.7′	72°45.5′
8	225°28.7′	N 0°36.5′	16.2′	12.7′	54.6′	101°20.3′	101°32.4′	73°12.5′	65°47.6′	57°13.1′	24°03.8′	40°44.9′	73°13.0′
9	240°03.9′	N 0°49.1′	16.2′	12.6′	54.6′	100°50.3′	101°04.1′	72°44.9′	65°22.8′	56°43.2′	23°35.6′	41°12.1′	73°40.5′
10	254°39.1′	N 1°01.8′	16.2′	12.6′	54.6′	100°20.3′	100°35.8′	72°17.4′	64°58.0′	56°13.3′	23°07.5′	41°39.4′	74°07.9′
11	269°14.3′	N 1°14.4′	16.2′	12.6′	54.5′	99°50.4′	100°07.5′	71°49.9′	64°33.2′	55°43.4′	22°39.4′	42°06.7′	74°35.3′
12	283°49.6′	N 1°27.0′	16.3′	12.6′	54.5′	99°20.5′	99°39.2′	71°22.5′	64°08.6′	55°13.5′	22°11.3′	42°34.0′	75°02.7′
13	298°24.8′	N 1°39.6′	16.3′	12.6′	54.5′	98°50.6′	99°10.9′	70°55.1′	63°43.9′	54°43.7′	21°43.2′	43°01.4′	75°30.1′
14	313°00.1′	N 1°52.2′	16.3′	12.6′	54.5′	98°20.7′	98°42.6′	70°27.7′	63°19.4′	54°13.9′	21°15.3′	43°28.8′	75°57.5′
15	327°35.4′	N 2°04.8′	16.3′	12.6′	54.5′	97°50.8′	98°14.4′	70°00.3′	62°54.8′	53°44.1′	20°47.3′	43°56.2′	76°24.8′
16	342°10.6′	N 2°17.4′	16.3′	12.5′	54.5′	97°20.9′	97°46.1′	69°33.0′	62°30.4′	53°14.3′	20°19.4′	44°23.6′	76°52.2′
17	356°45.9′	N 2°29.9′	16.3′	12.5′	54.5′	96°51.1′	97°17.9′	69°05.7′	62°06.0′	52°44.6′	19°51.6′	44°51.1′	77°19.5′
18	11°21.2′	N 2°42.4′	16.3′	12.5′	54.4′	96°21.3′	96°49.7′	68°38.4′	61°41.6′	52°14.8′	19°23.8′	45°18.6′	77°46.8′
19	25°56.5′	N 2°55.0′	16.3′	12.5′	54.4′	95°51.4′	96°21.4′	68°11.2′	61°17.4′	51°45.1′	18°56.1′	45°46.1′	78°14.1′
20	40°31.8′	N 3°07.5′	16.3′	12.5′	54.4′	95°21.6′	95°53.2′	67°44.0′	60°53.1′	51°15.4′	18°28.4′	46°13.6′	78°41.3′
21	55°07.1′	N 3°19.9′	16.3′	12.5′	54.4′	94°51.9′	95°25.1′	67°16.8′	60°29.0′	50°45.7′	18°00.8′	46°41.2′	79°08.6′
22	69°42.4′	N 3°32.4′	16.3′	12.4′	54.4′	94°22.1′	94°56.9′	66°49.7′	60°04.9′	50°16.1′	17°33.3′	47°08.8′	79°35.8′
23	84°17.8′	N 3°44.8′	16.3′	12.4′	54.4′	93°52.3′	94°28.7′	66°22.6′	59°40.9′	49°46.4′	17°05.8′	47°36.4′	80°03.1′
Mer. pass. 17 h 13 m SD 14.9′ phase 33%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.1′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°20.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.8′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Wednesday 20 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	119°35.5′	177°15.8′	S 20°07.1′	194°07.8′	S 22°49.5′	169°50.5′	S 18°57.7′	173°19.5′	S 19°41.1′	86°00.3′	N 14°43.2′
1	134°38.0′	192°15.7′	S 20°06.6′	209°06.9′	S 22°49.2′	184°52.4′	S 18°57.6′	188°21.6′	S 19°41.1′	101°01.6′	N 14°43.7′
2	149°40.5′	207°15.5′	S 20°06.0′	224°05.9′	S 22°49.0′	199°54.3′	S 18°57.4′	203°23.8′	S 19°41.0′	116°02.8′	N 14°44.1′
3	164°42.9′	222°15.3′	S 20°05.5′	239°05.0′	S 22°48.8′	214°56.1′	S 18°57.3′	218°26.0′	S 19°40.9′	131°04.1′	N 14°44.6′
4	179°45.4′	237°15.1′	S 20°04.9′	254°04.1′	S 22°48.5′	229°58.0′	S 18°57.1′	233°28.1′	S 19°40.9′	146°05.3′	N 14°45.0′
5	194°47.8′	252°14.9′	S 20°04.4′	269°03.2′	S 22°48.3′	244°59.8′	S 18°57.0′	248°30.3′	S 19°40.8′	161°06.5′	N 14°45.5′
6	209°50.3′	267°14.7′	S 20°03.9′	284°02.2′	S 22°48.1′	260°01.7′	S 18°56.8′	263°32.4′	S 19°40.7′	176°07.8′	N 14°45.9′
7	224°52.8′	282°14.6′	S 20°03.3′	299°01.3′	S 22°47.8′	275°03.6′	S 18°56.7′	278°34.6′	S 19°40.7′	191°09.0′	N 14°46.4′
8	239°55.2′	297°14.4′	S 20°02.8′	314°00.4′	S 22°47.6′	290°05.4′	S 18°56.6′	293°36.7′	S 19°40.6′	206°10.3′	N 14°46.8′
9	254°57.7′	312°14.2′	S 20°02.2′	328°59.5′	S 22°47.4′	305°07.3′	S 18°56.4′	308°38.9′	S 19°40.5′	221°11.5′	N 14°47.2′
10	270°00.2′	327°14.0′	S 20°01.7′	343°58.5′	S 22°47.1′	320°09.1′	S 18°56.3′	323°41.1′	S 19°40.5′	236°12.7′	N 14°47.7′
11	285°02.6′	342°13.8′	S 20°01.1′	358°57.6′	S 22°46.9′	335°11.0′	S 18°56.1′	338°43.2′	S 19°40.4′	251°14.0′	N 14°48.1′
12	300°05.1′	357°13.7′	S 20°00.6′	13°56.7′	S 22°46.6′	350°12.8′	S 18°56.0′	353°45.4′	S 19°40.3′	266°15.2′	N 14°48.6′
13	315°07.6′	12°13.5′	S 20°00.0′	28°55.7′	S 22°46.4′	5°14.7′	S 18°55.8′	8°47.5′	S 19°40.3′	281°16.5′	N 14°49.0′
14	330°10.0′	27°13.3′	S 19°59.5′	43°54.8′	S 22°46.1′	20°16.6′	S 18°55.7′	23°49.7′	S 19°40.2′	296°17.7′	N 14°49.5′
15	345°12.5′	42°13.1′	S 19°58.9′	58°53.9′	S 22°45.9′	35°18.4′	S 18°55.5′	38°51.8′	S 19°40.1′	311°18.9′	N 14°49.9′
16	0°14.9′	57°12.9′	S 19°58.4′	73°53.0′	S 22°45.7′	50°20.3′	S 18°55.4′	53°54.0′	S 19°40.1′	326°20.2′	N 14°50.4′
17	15°17.4′	72°12.8′	S 19°57.8′	88°52.0′	S 22°45.4′	65°22.1′	S 18°55.2′	68°56.1′	S 19°40.0′	341°21.4′	N 14°50.8′
18	30°19.9′	87°12.6′	S 19°57.3′	103°51.1′	S 22°45.2′	80°24.0′	S 18°55.1′	83°58.3′	S 19°39.9′	356°22.7′	N 14°51.3′
19	45°22.3′	102°12.4′	S 19°56.7′	118°50.2′	S 22°44.9′	95°25.9′	S 18°54.9′	99°00.5′	S 19°39.9′	11°23.9′	N 14°51.7′
20	60°24.8′	117°12.2′	S 19°56.2′	133°49.3′	S 22°44.7′	110°27.7′	S 18°54.8′	114°02.6′	S 19°39.8′	26°25.1′	N 14°52.1′
21	75°27.3′	132°12.0′	S 19°55.6′	148°48.3′	S 22°44.4′	125°29.6′	S 18°54.6′	129°04.8′	S 19°39.7′	41°26.4′	N 14°52.6′
22	90°29.7′	147°11.9′	S 19°55.0′	163°47.4′	S 22°44.1′	140°31.4′	S 18°54.5′	144°06.9′	S 19°39.7′	56°27.6′	N 14°53.0′
23	105°32.2′	162°11.7′	S 19°54.5′	178°46.5′	S 22°43.9′	155°33.3′	S 18°54.3′	159°09.1′	S 19°39.6′	71°28.8′	N 14°53.5′
		SD 16.2′ *d* 0.5′		*v* -0.9′ *d* 0.2′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 11 m 6 s		11 h 4 m		12 h 39 m		12 h 25 m		18 h 14 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Regulus	−Procyon	−Capella	−Rigel	−Aldebaran	−Mars	+Fomalhaut	+Sun
0	98°53.1′	N 3°57.3′	16.3′	12.4′	54.4′		94°00.6′	65°55.5′	59°16.9′	49°16.8′	16°38.4′	48°04.1′	80°30.3′
1	113°28.4′	N 4°09.7′	16.3′	12.4′	54.4′		93°32.4′	65°28.5′	58°53.0′	48°47.1′	16°11.0′	48°31.7′	80°57.5′
2	128°03.7′	N 4°22.1′	16.3′	12.4′	54.3′		93°04.3′	65°01.5′	58°29.1′	48°17.5′	15°43.8′	48°59.4′	81°24.7′
3	142°39.0′	N 4°34.4′	16.3′	12.3′	54.3′		92°36.1′	64°34.5′	58°05.4′	47°48.0′	15°16.6′	49°27.1′	81°51.9′
4	157°14.3′	N 4°46.7′	16.3′	12.3′	54.3′		92°08.0′	64°07.5′	57°41.7′	47°18.4′	14°49.6′	49°54.8′	82°19.0′
5	171°49.6′	N 4°59.1′	16.3′	12.3′	54.3′		91°39.9′	63°40.6′	57°18.0′	46°48.8′	14°22.6′	50°22.5′	82°46.2′
6	186°24.9′	N 5°11.4′	16.3′	12.3′	54.3′		91°11.8′	63°13.8′	56°54.5′	46°19.3′	13°55.8′	50°50.3′	83°13.3′
7	201°00.1′	N 5°23.6′	16.3′	12.2′	54.3′		90°43.7′	62°46.9′	56°31.0′	45°49.7′	13°29.0′	51°18.0′	83°40.4′
8	215°35.4′	N 5°35.9′	16.3′	12.2′	54.3′		90°15.7′	62°20.1′	56°07.6′	45°20.2′	13°02.4′	51°45.8′	84°07.6′
9	230°10.7′	N 5°48.1′	16.2′	12.2′	54.3′		89°47.6′	61°53.3′	55°44.2′	44°50.7′	12°35.9′	52°13.6′	84°34.7′
10	244°45.9′	N 6°00.3′	16.2′	12.2′	54.3′		89°19.6′	61°26.6′	55°21.0′	44°21.2′	12°09.6′	52°41.4′	85°01.8′
11	259°21.1′	N 6°12.4′	16.2′	12.1′	54.3′		88°51.5′	60°59.9′	54°57.8′	43°51.7′	11°43.5′	53°09.2′	85°28.9′
12	273°56.4′	N 6°24.6′	16.2′	12.1′	54.3′		88°23.5′	60°33.2′	54°34.7′	43°22.3′	11°17.5′	53°37.0′	85°55.9′
13	288°31.6′	N 6°36.7′	16.2′	12.1′	54.2′		87°55.4′	60°06.6′	54°11.6′	42°52.8′	10°51.8′	54°04.9′	86°23.0′
14	303°06.8′	N 6°48.8′	16.2′	12.1′	54.2′		87°27.4′	59°40.0′	53°48.7′	42°23.4′	10°26.3′	54°32.8′	86°50.1′
15	317°42.0′	N 7°00.8′	16.2′	12.0′	54.2′		86°59.4′	59°13.4′	53°25.8′	41°53.9′	10°01.0′	55°00.6′	87°17.1′
16	332°17.1′	N 7°12.9′	16.1′	12.0′	54.2′		86°31.4′	58°46.9′	53°03.0′	41°24.5′	9°36.1′	55°28.5′	87°44.2′
17	346°52.3′	N 7°24.9′	16.1′	12.0′	54.2′		86°03.4′	58°20.4′	52°40.3′	40°55.1′	9°11.4′	55°56.4′	88°11.2′
18	1°27.4′	N 7°36.8′	16.1′	11.9′	54.2′		85°35.4′	57°54.0′	52°17.7′	40°25.7′	8°47.2′	56°24.4′	88°38.2′
19	16°02.5′	N 7°48.8′	16.1′	11.9′	54.2′		85°07.5′	57°27.6′	51°55.1′	39°56.3′	8°23.4′	56°52.3′	89°05.3′
20	30°37.6′	N 8°00.7′	16.1′	11.9′	54.2′	119°33.4′	84°39.5′	57°01.2′	51°32.7′	39°27.0′	8°00.1′	57°20.2′	89°32.3′
21	45°12.7′	N 8°12.5′	16.0′	11.8′	54.2′	119°03.9′	84°11.5′	56°34.9′	51°10.3′	38°57.6′	7°37.3′	57°48.2′	89°59.3′
22	59°47.7′	N 8°24.4′	16.0′	11.8′	54.2′	118°34.4′	83°43.6′	56°08.6′	50°48.1′	38°28.3′	7°15.2′	58°16.2′	90°26.3′
23	74°22.8′	N 8°36.2′	16.0′	11.8′	54.2′	118°04.9′	83°15.6′	55°42.3′	50°25.9′	37°58.9′		58°44.1′	90°53.3′
Mer. pass. 17 h 54 m SD 14.8′ phase 42%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°20.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Thursday 21 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	120°34.7′	177°11.5′	S 19°53.9′	193°45.6′	S 22°43.6′	170°35.1′	S 18°54.2′	174°11.2′	S 19°39.5′	86°30.1′	N 14°53.9′
1	135°37.1′	192°11.3′	S 19°53.4′	208°44.6′	S 22°43.4′	185°37.0′	S 18°54.0′	189°13.4′	S 19°39.5′	101°31.3′	N 14°54.4′
2	150°39.6′	207°11.2′	S 19°52.8′	223°43.7′	S 22°43.1′	200°38.9′	S 18°53.9′	204°15.6′	S 19°39.4′	116°32.5′	N 14°54.8′
3	165°42.1′	222°11.0′	S 19°52.3′	238°42.8′	S 22°42.9′	215°40.7′	S 18°53.7′	219°17.7′	S 19°39.3′	131°33.8′	N 14°55.3′
4	180°44.5′	237°10.8′	S 19°51.7′	253°41.9′	S 22°42.6′	230°42.6′	S 18°53.6′	234°19.9′	S 19°39.3′	146°35.0′	N 14°55.7′
5	195°47.0′	252°10.6′	S 19°51.1′	268°41.0′	S 22°42.3′	245°44.4′	S 18°53.4′	249°22.0′	S 19°39.2′	161°36.2′	N 14°56.2′
6	210°49.4′	267°10.5′	S 19°50.6′	283°40.0′	S 22°42.1′	260°46.3′	S 18°53.3′	264°24.2′	S 19°39.1′	176°37.5′	N 14°56.6′
7	225°51.9′	282°10.3′	S 19°50.0′	298°39.1′	S 22°41.8′	275°48.2′	S 18°53.1′	279°26.3′	S 19°39.1′	191°38.7′	N 14°57.0′
8	240°54.4′	297°10.1′	S 19°49.5′	313°38.2′	S 22°41.5′	290°50.0′	S 18°53.0′	294°28.5′	S 19°39.0′	206°39.9′	N 14°57.5′
9	255°56.8′	312°09.9′	S 19°48.9′	328°37.3′	S 22°41.3′	305°51.9′	S 18°52.9′	309°30.7′	S 19°38.9′	221°41.2′	N 14°57.9′
10	270°59.3′	327°09.8′	S 19°48.3′	343°36.3′	S 22°41.0′	320°53.7′	S 18°52.7′	324°32.8′	S 19°38.9′	236°42.4′	N 14°58.4′
11	286°01.8′	342°09.6′	S 19°47.8′	358°35.4′	S 22°40.7′	335°55.6′	S 18°52.6′	339°35.0′	S 19°38.8′	251°43.6′	N 14°58.8′
12	301°04.2′	357°09.4′	S 19°47.2′	13°34.5′	S 22°40.5′	350°57.5′	S 18°52.4′	354°37.1′	S 19°38.7′	266°44.9′	N 14°59.3′
13	316°06.7′	12°09.3′	S 19°46.6′	28°33.6′	S 22°40.2′	5°59.3′	S 18°52.3′	9°39.3′	S 19°38.7′	281°46.1′	N 14°59.7′
14	331°09.2′	27°09.1′	S 19°46.1′	43°32.7′	S 22°39.9′	21°01.2′	S 18°52.1′	24°41.4′	S 19°38.6′	296°47.3′	N 15°00.2′
15	346°11.6′	42°08.9′	S 19°45.5′	58°31.7′	S 22°39.6′	36°03.0′	S 18°52.0′	39°43.6′	S 19°38.5′	311°48.5′	N 15°00.6′
16	1°14.1′	57°08.7′	S 19°44.9′	73°30.8′	S 22°39.4′	51°04.9′	S 18°51.8′	54°45.7′	S 19°38.4′	326°49.8′	N 15°01.0′
17	16°16.6′	72°08.6′	S 19°44.4′	88°29.9′	S 22°39.1′	66°06.7′	S 18°51.7′	69°47.9′	S 19°38.4′	341°51.0′	N 15°01.5′
18	31°19.0′	87°08.4′	S 19°43.8′	103°29.0′	S 22°38.8′	81°08.6′	S 18°51.5′	84°50.1′	S 19°38.3′	356°52.2′	N 15°01.9′
19	46°21.5′	102°08.2′	S 19°43.2′	118°28.1′	S 22°38.5′	96°10.5′	S 18°51.4′	99°52.2′	S 19°38.2′	11°53.5′	N 15°02.4′
20	61°23.9′	117°08.1′	S 19°42.7′	133°27.1′	S 22°38.2′	111°12.3′	S 18°51.2′	114°54.4′	S 19°38.2′	26°54.7′	N 15°02.8′
21	76°26.4′	132°07.9′	S 19°42.1′	148°26.2′	S 22°38.0′	126°14.2′	S 18°51.1′	129°56.5′	S 19°38.1′	41°55.9′	N 15°03.3′
22	91°28.9′	147°07.7′	S 19°41.5′	163°25.3′	S 22°37.7′	141°16.0′	S 18°50.9′	144°58.7′	S 19°38.0′	56°57.1′	N 15°03.7′
23	106°31.3′	162°07.6′	S 19°41.0′	178°24.4′	S 22°37.4′	156°17.9′	S 18°50.8′	160°00.8′	S 19°38.0′	71°58.4′	N 15°04.2′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.3′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 11 m 23 s		11 h 6 m		12 h 36 m		12 h 21 m		18 h 13 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Regulus	−Capella	−Rigel	−Aldebaran	−Mars	+Fomalhaut	+Achernar	+Sun
0	88°57.8′	N 8°47.9′	16.0′	11.7′	54.2′	117°35.5′	55°16.1′	50°03.8′	37°29.6′		59°12.1′		91°20.3′
1	103°32.7′	N 8°59.7′	15.9′	11.7′	54.2′	117°06.0′	54°50.0′	49°41.9′	37°00.3′		59°40.1′		91°47.3′
2	118°07.7′	N 9°11.4′	15.9′	11.7′	54.2′	116°36.5′	54°23.8′	49°20.0′	36°31.0′		60°08.1′		92°14.3′
3	132°42.6′	N 9°23.0′	15.9′	11.6′	54.2′	116°07.1′	53°57.8′	48°58.2′	36°01.7′		60°36.2′		92°41.3′
4	147°17.5′	N 9°34.7′	15.9′	11.6′	54.2′	115°37.6′	53°31.7′	48°36.6′	35°32.4′		61°04.2′		93°08.2′
5	161°52.4′	N 9°46.2′	15.8′	11.5′	54.2′	115°08.1′	53°05.7′	48°15.0′	35°03.1′		61°32.3′		93°35.2′
6	176°27.2′	N 9°57.8′	15.8′	11.5′	54.2′	114°38.7′	52°39.8′	47°53.6′	34°33.8′		62°00.3′		94°02.2′
7	191°02.0′	N 10°09.3′	15.8′	11.5′	54.2′	114°09.2′	52°13.9′	47°32.2′	34°04.6′		62°28.4′		94°29.2′
8	205°36.8′	N 10°20.8′	15.7′	11.4′	54.2′	113°39.7′	51°48.0′	47°11.0′	33°35.3′		62°56.5′		94°56.1′
9	220°11.5′	N 10°32.2′	15.7′	11.4′	54.2′	113°10.3′	51°22.2′	46°49.9′	33°06.1′		63°24.6′		95°23.1′
10	234°46.2′	N 10°43.6′	15.7′	11.3′	54.2′	112°40.8′	50°56.5′	46°28.9′	32°36.8′		63°52.7′		95°50.1′
11	249°20.9′	N 10°54.9′	15.6′	11.3′	54.2′	112°11.4′	50°30.8′	46°08.0′	32°07.6′		64°20.8′		96°17.0′
12	263°55.5′	N 11°06.3′	15.6′	11.3′	54.2′	111°41.9′	50°05.1′	45°47.3′	31°38.4′		64°48.9′		96°44.0′
13	278°30.1′	N 11°17.5′	15.6′	11.2′	54.2′	111°12.4′	49°39.5′	45°26.7′	31°09.2′		65°17.1′		97°11.0′
14	293°04.7′	N 11°28.7′	15.5′	11.2′	54.2′	110°43.0′	49°14.0′	45°06.2′	30°40.0′		65°45.2′		97°37.9′
15	307°39.2′	N 11°39.9′	15.5′	11.1′	54.2′	110°13.5′	48°48.5′	44°45.8′	30°10.8′		66°13.4′		98°04.9′
16	322°13.7′	N 11°51.1′	15.4′	11.1′	54.2′	109°44.1′	48°23.1′	44°25.6′	29°41.6′		66°41.6′		98°31.9′
17	336°48.2′	N 12°02.1′	15.4′	11.0′	54.2′	109°14.6′	47°57.7′	44°05.5′	29°12.5′		67°09.7′	70°15.4′	98°58.8′
18	351°22.6′	N 12°13.2′	15.4′	11.0′	54.2′	108°45.1′	47°32.4′	43°45.6′	28°43.3′		67°37.9′	70°30.4′	99°25.8′
19	5°56.9′	N 12°24.2′	15.3′	10.9′	54.2′	108°15.6′	47°07.1′	43°25.8′	28°14.2′		68°06.2′	70°45.5′	99°52.8′
20	20°31.2′	N 12°35.1′	15.3′	10.9′	54.2′	107°46.2′	46°41.9′	43°06.1′	27°45.0′		68°34.4′	71°00.7′	100°19.8′
21	35°05.5′	N 12°46.0′	15.2′	10.9′	54.2′	107°16.7′	46°16.8′	42°46.6′	27°15.9′		69°02.6′	71°15.9′	100°46.8′
22	49°39.8′	N 12°56.9′	15.2′	10.8′	54.2′	106°47.2′	45°51.7′	42°27.2′	26°46.8′	7°22.9′	69°30.9′	71°31.2′	101°13.7′
23	64°14.0′	N 13°07.7′	15.1′	10.8′	54.2′	106°17.7′	45°26.7′	42°08.1′	26°17.7′	7°45.2′	69°59.1′	71°46.5′	101°40.7′
Mer. pass. 18 h 36 m SD 14.8′ phase 51%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.2′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°21.0′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.7′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Friday 22 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	121°33.8′	177°07.4′	S 19°40.4′	193°23.5′	S 22°37.1′	171°19.8′	S 18°50.6′	175°03.0′	S 19°37.9′	86°59.6′	N 15°04.6′
1	136°36.3′	192°07.2′	S 19°39.8′	208°22.5′	S 22°36.8′	186°21.6′	S 18°50.5′	190°05.2′	S 19°37.8′	102°00.8′	N 15°05.0′
2	151°38.7′	207°07.1′	S 19°39.2′	223°21.6′	S 22°36.5′	201°23.5′	S 18°50.3′	205°07.3′	S 19°37.8′	117°02.0′	N 15°05.5′
3	166°41.2′	222°06.9′	S 19°38.7′	238°20.7′	S 22°36.2′	216°25.3′	S 18°50.2′	220°09.5′	S 19°37.7′	132°03.3′	N 15°05.9′
4	181°43.7′	237°06.7′	S 19°38.1′	253°19.8′	S 22°35.9′	231°27.2′	S 18°50.0′	235°11.6′	S 19°37.6′	147°04.5′	N 15°06.4′
5	196°46.1′	252°06.6′	S 19°37.5′	268°18.9′	S 22°35.7′	246°29.0′	S 18°49.9′	250°13.8′	S 19°37.6′	162°05.7′	N 15°06.8′
6	211°48.6′	267°06.4′	S 19°36.9′	283°18.0′	S 22°35.4′	261°30.9′	S 18°49.7′	265°15.9′	S 19°37.5′	177°06.9′	N 15°07.3′
7	226°51.0′	282°06.2′	S 19°36.4′	298°17.0′	S 22°35.1′	276°32.8′	S 18°49.6′	280°18.1′	S 19°37.4′	192°08.2′	N 15°07.7′
8	241°53.5′	297°06.1′	S 19°35.8′	313°16.1′	S 22°34.8′	291°34.6′	S 18°49.4′	295°20.2′	S 19°37.4′	207°09.4′	N 15°08.2′
9	256°56.0′	312°05.9′	S 19°35.2′	328°15.2′	S 22°34.5′	306°36.5′	S 18°49.3′	310°22.4′	S 19°37.3′	222°10.6′	N 15°08.6′
10	271°58.4′	327°05.7′	S 19°34.6′	343°14.3′	S 22°34.2′	321°38.3′	S 18°49.1′	325°24.6′	S 19°37.2′	237°11.8′	N 15°09.0′
11	287°00.9′	342°05.6′	S 19°34.1′	358°13.4′	S 22°33.9′	336°40.2′	S 18°49.0′	340°26.7′	S 19°37.2′	252°13.1′	N 15°09.5′
12	302°03.4′	357°05.4′	S 19°33.5′	13°12.5′	S 22°33.6′	351°42.1′	S 18°48.8′	355°28.9′	S 19°37.1′	267°14.3′	N 15°09.9′
13	317°05.8′	12°05.2′	S 19°32.9′	28°11.5′	S 22°33.3′	6°43.9′	S 18°48.7′	10°31.0′	S 19°37.0′	282°15.5′	N 15°10.4′
14	332°08.3′	27°05.1′	S 19°32.3′	43°10.6′	S 22°33.0′	21°45.8′	S 18°48.5′	25°33.2′	S 19°37.0′	297°16.7′	N 15°10.8′
15	347°10.8′	42°04.9′	S 19°31.7′	58°09.7′	S 22°32.7′	36°47.6′	S 18°48.4′	40°35.3′	S 19°36.9′	312°17.9′	N 15°11.3′
16	2°13.2′	57°04.7′	S 19°31.1′	73°08.8′	S 22°32.4′	51°49.5′	S 18°48.2′	55°37.5′	S 19°36.8′	327°19.2′	N 15°11.7′
17	17°15.7′	72°04.6′	S 19°30.6′	88°07.9′	S 22°32.1′	66°51.3′	S 18°48.1′	70°39.7′	S 19°36.8′	342°20.4′	N 15°12.2′
18	32°18.2′	87°04.4′	S 19°30.0′	103°07.0′	S 22°31.7′	81°53.2′	S 18°47.9′	85°41.8′	S 19°36.7′	357°21.6′	N 15°12.6′
19	47°20.6′	102°04.3′	S 19°29.4′	118°06.1′	S 22°31.4′	96°55.1′	S 18°47.8′	100°44.0′	S 19°36.6′	12°22.8′	N 15°13.0′
20	62°23.1′	117°04.1′	S 19°28.8′	133°05.1′	S 22°31.1′	111°56.9′	S 18°47.6′	115°46.1′	S 19°36.6′	27°24.0′	N 15°13.5′
21	77°25.5′	132°03.9′	S 19°28.2′	148°04.2′	S 22°30.8′	126°58.8′	S 18°47.5′	130°48.3′	S 19°36.5′	42°25.2′	N 15°13.9′
22	92°28.0′	147°03.8′	S 19°27.6′	163°03.3′	S 22°30.5′	142°00.6′	S 18°47.3′	145°50.4′	S 19°36.4′	57°26.5′	N 15°14.4′
23	107°30.5′	162°03.6′	S 19°27.1′	178°02.4′	S 22°30.2′	157°02.5′	S 18°47.2′	160°52.6′	S 19°36.4′	72°27.7′	N 15°14.8′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.3′		*v* 1.9′ *d* 0.1′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 11 m 39 s		11 h 7 m		12 h 33 m		12 h 18 m		18 h 11 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Betelgeuse	−Capella	−Rigel	−Aldebaran	+Mars	+Fomalhaut	+Achernar	+Sun
0	78°48.1′	N 13°18.4′	15.1′	10.7′	54.2′	45°52.7′	45°01.8′	41°49.0′	25°48.6′	8°08.1′	70°27.4′	72°02.0′	102°07.7′
1	93°22.2′	N 13°29.1′	15.1′	10.7′	54.2′	45°25.6′	44°37.0′	41°30.2′	25°19.5′	8°31.6′	70°55.7′	72°17.5′	102°34.7′
2	107°56.3′	N 13°39.8′	15.0′	10.6′	54.2′	44°58.6′	44°12.2′	41°11.5′	24°50.5′	8°55.5′	71°24.0′	72°33.0′	103°01.7′
3	122°30.3′	N 13°50.4′	15.0′	10.5′	54.2′	44°31.6′	43°47.5′	40°52.9′	24°21.4′	9°19.9′	71°52.3′	72°48.6′	103°28.7′
4	137°04.2′	N 14°00.9′	14.9′	10.5′	54.2′	44°04.7′	43°22.8′	40°34.6′	23°52.4′	9°44.6′	72°20.6′	73°04.3′	103°55.7′
5	151°38.1′	N 14°11.4′	14.9′	10.4′	54.2′	43°37.8′	42°58.3′	40°16.4′	23°23.4′	10°09.6′	72°48.9′	73°20.0′	104°22.8′
6	166°12.0′	N 14°21.9′	14.8′	10.4′	54.2′	43°10.9′	42°33.8′	39°58.4′	22°54.4′	10°35.0′	73°17.3′	73°35.8′	104°49.8′
7	180°45.8′	N 14°32.2′	14.8′	10.3′	54.2′	42°44.1′	42°09.4′	39°40.6′	22°25.4′	11°00.5′	73°45.6′	73°51.6′	105°16.8′
8	195°19.5′	N 14°42.6′	14.7′	10.3′	54.2′	42°17.3′	41°45.1′	39°23.0′	21°56.5′	11°26.3′	74°14.0′	74°07.5′	105°43.8′
9	209°53.2′	N 14°52.8′	14.6′	10.2′	54.2′	41°50.6′	41°20.9′	39°05.6′	21°27.6′	11°52.3′	74°42.4′	74°23.5′	106°10.9′
10	224°26.9′	N 15°03.1′	14.6′	10.2′	54.2′	41°23.9′	40°56.7′	38°48.4′	20°58.6′	12°18.5′	75°10.8′	74°39.5′	106°37.9′
11	239°00.5′	N 15°13.2′	14.5′	10.1′	54.2′	40°57.3′	40°32.7′	38°31.4′	20°29.8′	12°44.8′	75°39.2′	74°55.6′	107°05.0′
12	253°34.0′	N 15°23.3′	14.5′	10.0′	54.2′	40°30.7′	40°08.8′	38°14.7′	20°00.9′	13°11.3′	76°07.6′	75°11.7′	107°32.1′
13	268°07.5′	N 15°33.4′	14.4′	10.0′	54.2′	40°04.2′	39°44.9′	37°58.1′	19°32.1′	13°37.9′	76°36.1′	75°27.9′	107°59.1′
14	282°40.9′	N 15°43.3′	14.4′	9.9′	54.3′	39°37.7′	39°21.2′	37°41.8′	19°03.3′	14°04.6′	77°04.5′	75°44.1′	108°26.2′
15	297°14.3′	N 15°53.2′	14.3′	9.9′	54.3′	39°11.3′	38°57.6′	37°25.6′	18°34.6′	14°31.4′	77°33.0′	76°00.4′	108°53.3′
16	311°47.6′	N 16°03.1′	14.3′	9.8′	54.3′	38°44.9′	38°34.1′	37°09.8′	18°05.8′	14°58.4′	78°01.5′	76°16.7′	109°20.4′
17	326°20.9′	N 16°12.9′	14.2′	9.7′	54.3′	38°18.6′	38°10.7′	36°54.1′	17°37.2′	15°25.4′	78°30.0′	76°33.1′	109°47.5′
18	340°54.0′	N 16°22.6′	14.1′	9.7′	54.3′	37°52.4′	37°47.4′	36°38.7′	17°08.5′	15°52.6′	78°58.5′	76°49.5′	110°14.7′
19	355°27.2′	N 16°32.3′	14.1′	9.6′	54.3′	37°26.2′	37°24.2′		16°40.0′	16°19.8′	79°27.0′	77°05.9′	110°41.8′
20	10°00.3′	N 16°41.9′	14.0′	9.5′	54.3′	37°00.1′	37°01.2′		16°11.5′	16°47.1′	79°55.6′	77°22.5′	111°08.9′
21	24°33.3′	N 16°51.4′	14.0′	9.5′	54.3′	36°34.0′	36°38.2′		15°43.0′	17°14.5′	80°24.1′	77°39.0′	111°36.1′
22	39°06.2′	N 17°00.9′	13.9′	9.4′	54.3′	36°08.1′	36°15.5′		15°14.6′	17°41.9′	80°52.7′	77°55.6′	112°03.3′
23	53°39.1′	N 17°10.3′	13.8′	9.3′	54.3′	35°42.2′	35°52.8′		14°46.3′	18°09.4′	81°21.3′	78°12.3′	112°30.5′
Mer. pass. 19 h 19 m SD 14.8′ phase 61%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.3′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°21.5′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Saturday 23 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	122°32.9′	177°03.5′	S 19°26.5′	193°01.5′	S 22°29.9′	172°04.4′	S 18°47.0′	175°54.7′	S 19°36.3′	87°28.9′	N 15°15.3′
1	137°35.4′	192°03.3′	S 19°25.9′	208°00.6′	S 22°29.6′	187°06.2′	S 18°46.9′	190°56.9′	S 19°36.2′	102°30.1′	N 15°15.7′
2	152°37.9′	207°03.1′	S 19°25.3′	222°59.7′	S 22°29.2′	202°08.1′	S 18°46.7′	205°59.1′	S 19°36.1′	117°31.3′	N 15°16.1′
3	167°40.3′	222°03.0′	S 19°24.7′	237°58.8′	S 22°28.9′	217°09.9′	S 18°46.6′	221°01.2′	S 19°36.1′	132°32.5′	N 15°16.6′
4	182°42.8′	237°02.8′	S 19°24.1′	252°57.9′	S 22°28.6′	232°11.8′	S 18°46.4′	236°03.4′	S 19°36.0′	147°33.8′	N 15°17.0′
5	197°45.3′	252°02.7′	S 19°23.5′	267°56.9′	S 22°28.3′	247°13.6′	S 18°46.3′	251°05.5′	S 19°35.9′	162°35.0′	N 15°17.5′
6	212°47.7′	267°02.5′	S 19°22.9′	282°56.0′	S 22°28.0′	262°15.5′	S 18°46.1′	266°07.7′	S 19°35.9′	177°36.2′	N 15°17.9′
7	227°50.2′	282°02.3′	S 19°22.3′	297°55.1′	S 22°27.6′	277°17.4′	S 18°46.0′	281°09.8′	S 19°35.8′	192°37.4′	N 15°18.4′
8	242°52.7′	297°02.2′	S 19°21.8′	312°54.2′	S 22°27.3′	292°19.2′	S 18°45.8′	296°12.0′	S 19°35.7′	207°38.6′	N 15°18.8′
9	257°55.1′	312°02.0′	S 19°21.2′	327°53.3′	S 22°27.0′	307°21.1′	S 18°45.7′	311°14.1′	S 19°35.7′	222°39.8′	N 15°19.2′
10	272°57.6′	327°01.9′	S 19°20.6′	342°52.4′	S 22°26.7′	322°22.9′	S 18°45.5′	326°16.3′	S 19°35.6′	237°41.0′	N 15°19.7′
11	288°00.0′	342°01.7′	S 19°20.0′	357°51.5′	S 22°26.3′	337°24.8′	S 18°45.4′	341°18.5′	S 19°35.5′	252°42.3′	N 15°20.1′
12	303°02.5′	357°01.6′	S 19°19.4′	12°50.6′	S 22°26.0′	352°26.7′	S 18°45.2′	356°20.6′	S 19°35.5′	267°43.5′	N 15°20.6′
13	318°05.0′	12°01.4′	S 19°18.8′	27°49.7′	S 22°25.7′	7°28.5′	S 18°45.1′	11°22.8′	S 19°35.4′	282°44.7′	N 15°21.0′
14	333°07.4′	27°01.3′	S 19°18.2′	42°48.8′	S 22°25.3′	22°30.4′	S 18°44.9′	26°24.9′	S 19°35.3′	297°45.9′	N 15°21.5′
15	348°09.9′	42°01.1′	S 19°17.6′	57°47.8′	S 22°25.0′	37°32.2′	S 18°44.8′	41°27.1′	S 19°35.3′	312°47.1′	N 15°21.9′
16	3°12.4′	57°00.9′	S 19°17.0′	72°46.9′	S 22°24.7′	52°34.1′	S 18°44.6′	56°29.2′	S 19°35.2′	327°48.3′	N 15°22.3′
17	18°14.8′	72°00.8′	S 19°16.4′	87°46.0′	S 22°24.3′	67°35.9′	S 18°44.5′	71°31.4′	S 19°35.1′	342°49.5′	N 15°22.8′
18	33°17.3′	87°00.6′	S 19°15.8′	102°45.1′	S 22°24.0′	82°37.8′	S 18°44.3′	86°33.6′	S 19°35.1′	357°50.7′	N 15°23.2′
19	48°19.8′	102°00.5′	S 19°15.2′	117°44.2′	S 22°23.7′	97°39.7′	S 18°44.2′	101°35.7′	S 19°35.0′	12°51.9′	N 15°23.7′
20	63°22.2′	117°00.3′	S 19°14.6′	132°43.3′	S 22°23.3′	112°41.5′	S 18°44.0′	116°37.9′	S 19°34.9′	27°53.2′	N 15°24.1′
21	78°24.7′	132°00.2′	S 19°14.0′	147°42.4′	S 22°23.0′	127°43.4′	S 18°43.9′	131°40.0′	S 19°34.9′	42°54.4′	N 15°24.6′
22	93°27.2′	147°00.0′	S 19°13.4′	162°41.5′	S 22°22.6′	142°45.2′	S 18°43.7′	146°42.2′	S 19°34.8′	57°55.6′	N 15°25.0′
23	108°29.6′	161°59.9′	S 19°12.8′	177°40.6′	S 22°22.3′	157°47.1′	S 18°43.6′	161°44.3′	S 19°34.7′	72°56.8′	N 15°25.4′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.3′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 11 m 55 s		11 h 9 m		12 h 30 m		12 h 15 m		18 h 9 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Sirius	−Capella	−Betelgeuse	−Aldebaran	+Mars	+Achernar	+Fomalhaut	+Sun
0	68°11.9′	N 17°19.6′	13.8′	9.3′	54.3′	57°36.9′	35°30.3′	35°16.3′	14°18.1′	18°37.0′	78°29.0′	81°49.9′	112°57.6′
1	82°44.7′	N 17°28.9′	13.7′	9.2′	54.4′	57°18.5′	35°08.0′	34°50.6′	13°50.0′	19°04.6′	78°45.7′	82°18.5′	113°24.9′
2	97°17.4′	N 17°38.1′	13.6′	9.1′	54.4′	57°00.3′	34°45.8′	34°24.9′	13°22.0′	19°32.3′	79°02.5′	82°47.2′	113°52.1′
3	111°50.0′	N 17°47.2′	13.6′	9.1′	54.4′	56°42.1′	34°23.7′	33°59.4′	12°54.1′	19°60.0′	79°19.3′	83°15.8′	114°19.3′
4	126°22.6′	N 17°56.3′	13.5′	9.0′	54.4′	56°24.1′	34°01.8′	33°33.9′	12°26.3′	20°27.8′	79°36.2′	83°44.5′	114°46.6′
5	140°55.1′	N 18°05.2′	13.4′	8.9′	54.4′	56°06.1′	33°40.1′	33°08.5′	11°58.7′	20°55.6′	79°53.1′	84°13.2′	115°13.8′
6	155°27.6′	N 18°14.2′	13.4′	8.8′	54.4′	55°48.3′	33°18.6′	32°43.2′	11°31.3′	21°23.5′	80°10.1′	84°41.9′	115°41.1′
7	169°59.9′	N 18°23.0′	13.3′	8.8′	54.4′	55°30.5′	32°57.2′	32°18.0′	11°04.0′	21°51.4′	80°27.0′	85°10.6′	116°08.4′
8	184°32.2′	N 18°31.8′	13.2′	8.7′	54.4′	55°12.9′	32°36.1′	31°53.0′	10°37.0′	22°19.3′	80°44.1′	85°39.3′	116°35.7′
9	199°04.5′	N 18°40.4′	13.2′	8.6′	54.4′	54°55.4′	32°15.1′	31°28.0′	10°10.3′	22°47.3′	81°01.1′	86°08.0′	117°03.0′
10	213°36.6′	N 18°49.0′	13.1′	8.5′	54.5′	54°37.9′	31°54.3′	31°03.2′	9°43.8′	23°15.4′	81°18.2′	86°36.8′	117°30.3′
11	228°08.7′	N 18°57.6′	13.0′	8.5′	54.5′	54°20.6′	31°33.8′	30°38.5′	9°17.6′	23°43.5′	81°35.4′	87°05.6′	117°57.7′
12	242°40.8′	N 19°06.0′	13.0′	8.4′	54.5′	54°03.5′	31°13.4′	30°13.9′	8°51.9′	24°11.6′	81°52.5′	87°34.4′	118°25.0′
13	257°12.7′	N 19°14.4′	12.9′	8.3′	54.5′	53°46.4′	30°53.3′	29°49.4′	8°26.6′	24°39.7′	82°09.7′	88°03.2′	118°52.4′
14	271°44.6′	N 19°22.7′	12.8′	8.2′	54.5′	53°29.4′	30°33.4′	29°25.1′	8°01.8′	25°07.9′	82°27.0′	88°32.0′	119°19.8′
15	286°16.5′	N 19°30.9′	12.8′	8.1′	54.5′	53°12.6′	30°13.8′	29°00.9′	7°37.6′	25°36.2′	82°44.3′	89°00.9′	119°47.2′
16	300°48.2′	N 19°39.0′	12.7′	8.1′	54.5′	52°55.9′	29°54.4′	28°36.9′		26°04.4′	83°01.6′	89°29.8′	
17	315°19.9′	N 19°47.1′	12.6′	8.0′	54.6′	52°39.3′	29°35.2′	28°13.1′		26°32.7′	83°18.9′	89°58.7′	
18	329°51.5′	N 19°55.1′	12.5′	7.9′	54.6′	52°22.9′	29°16.3′	27°49.4′		27°01.1′	83°36.3′	90°27.6′	
19	344°23.1′	N 20°02.9′	12.5′	7.8′	54.6′	52°06.6′	28°57.7′	27°25.9′		27°29.4′	83°53.7′	90°56.5′	
20	358°54.5′	N 20°10.7′	12.4′	7.7′	54.6′	51°50.4′	28°39.4′	27°02.6′		27°57.8′	84°11.1′	91°25.4′	
21	13°25.9′	N 20°18.5′	12.3′	7.6′	54.6′	51°34.4′	28°21.4′	26°39.5′		28°26.3′	84°28.5′	91°54.4′	
22	27°57.3′	N 20°26.1′	12.3′	7.5′	54.6′	51°18.5′	28°03.7′	26°16.5′		28°54.7′	84°46.0′	92°23.4′	
23	42°28.5′	N 20°33.6′	12.2′	7.4′	54.6′	51°02.7′	27°46.3′	25°53.8′		29°23.2′	85°03.5′	92°52.4′	
Mer. pass. 20 h 5 m SD 14.8′ phase 70%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°21.9′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.5′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Sunday 24 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	123°32.1′	176°59.7′	S 19°12.2′	192°39.7′	S 22°22.0′	172°49.0′	S 18°43.4′	176°46.5′	S 19°34.7′	87°58.0′	N 15°25.9′
1	138°34.5′	191°59.6′	S 19°11.6′	207°38.8′	S 22°21.6′	187°50.8′	S 18°43.3′	191°48.7′	S 19°34.6′	102°59.2′	N 15°26.3′
2	153°37.0′	206°59.4′	S 19°11.0′	222°37.9′	S 22°21.3′	202°52.7′	S 18°43.1′	206°50.8′	S 19°34.5′	118°00.4′	N 15°26.8′
3	168°39.5′	221°59.3′	S 19°10.4′	237°37.0′	S 22°20.9′	217°54.5′	S 18°43.0′	221°53.0′	S 19°34.5′	133°01.6′	N 15°27.2′
4	183°41.9′	236°59.1′	S 19°09.8′	252°36.1′	S 22°20.6′	232°56.4′	S 18°42.8′	236°55.1′	S 19°34.4′	148°02.8′	N 15°27.7′
5	198°44.4′	251°59.0′	S 19°09.2′	267°35.2′	S 22°20.2′	247°58.3′	S 18°42.7′	251°57.3′	S 19°34.3′	163°04.0′	N 15°28.1′
6	213°46.9′	266°58.8′	S 19°08.6′	282°34.3′	S 22°19.9′	263°00.1′	S 18°42.5′	266°59.4′	S 19°34.3′	178°05.2′	N 15°28.5′
7	228°49.3′	281°58.7′	S 19°08.0′	297°33.4′	S 22°19.5′	278°02.0′	S 18°42.4′	282°01.6′	S 19°34.2′	193°06.4′	N 15°29.0′
8	243°51.8′	296°58.5′	S 19°07.4′	312°32.5′	S 22°19.2′	293°03.8′	S 18°42.2′	297°03.8′	S 19°34.1′	208°07.6′	N 15°29.4′
9	258°54.3′	311°58.4′	S 19°06.8′	327°31.5′	S 22°18.8′	308°05.7′	S 18°42.1′	312°05.9′	S 19°34.1′	223°08.8′	N 15°29.9′
10	273°56.7′	326°58.2′	S 19°06.1′	342°30.6′	S 22°18.5′	323°07.5′	S 18°41.9′	327°08.1′	S 19°34.0′	238°10.1′	N 15°30.3′
11	288°59.2′	341°58.1′	S 19°05.5′	357°29.7′	S 22°18.1′	338°09.4′	S 18°41.8′	342°10.2′	S 19°33.9′	253°11.3′	N 15°30.7′
12	304°01.6′	356°57.9′	S 19°04.9′	12°28.8′	S 22°17.7′	353°11.3′	S 18°41.6′	357°12.4′	S 19°33.8′	268°12.5′	N 15°31.2′
13	319°04.1′	11°57.8′	S 19°04.3′	27°27.9′	S 22°17.4′	8°13.1′	S 18°41.5′	12°14.5′	S 19°33.8′	283°13.7′	N 15°31.6′
14	334°06.6′	26°57.6′	S 19°03.7′	42°27.0′	S 22°17.0′	23°15.0′	S 18°41.3′	27°16.7′	S 19°33.7′	298°14.9′	N 15°32.1′
15	349°09.0′	41°57.5′	S 19°03.1′	57°26.1′	S 22°16.7′	38°16.8′	S 18°41.2′	42°18.9′	S 19°33.6′	313°16.1′	N 15°32.5′
16	4°11.5′	56°57.3′	S 19°02.5′	72°25.2′	S 22°16.3′	53°18.7′	S 18°41.0′	57°21.0′	S 19°33.6′	328°17.3′	N 15°33.0′
17	19°14.0′	71°57.2′	S 19°01.9′	87°24.3′	S 22°15.9′	68°20.6′	S 18°40.9′	72°23.2′	S 19°33.5′	343°18.5′	N 15°33.4′
18	34°16.4′	86°57.1′	S 19°01.3′	102°23.4′	S 22°15.6′	83°22.4′	S 18°40.7′	87°25.3′	S 19°33.4′	358°19.7′	N 15°33.8′
19	49°18.9′	101°56.9′	S 19°00.6′	117°22.5′	S 22°15.2′	98°24.3′	S 18°40.6′	102°27.5′	S 19°33.4′	13°20.9′	N 15°34.3′
20	64°21.4′	116°56.8′	S 19°00.0′	132°21.6′	S 22°14.8′	113°26.1′	S 18°40.4′	117°29.6′	S 19°33.3′	28°22.1′	N 15°34.7′
21	79°23.8′	131°56.6′	S 18°59.4′	147°20.7′	S 22°14.5′	128°28.0′	S 18°40.3′	132°31.8′	S 19°33.2′	43°23.3′	N 15°35.2′
22	94°26.3′	146°56.5′	S 18°58.8′	162°19.8′	S 22°14.1′	143°29.8′	S 18°40.1′	147°34.0′	S 19°33.2′	58°24.5′	N 15°35.6′
23	109°28.8′	161°56.3′	S 18°58.2′	177°18.9′	S 22°13.7′	158°31.7′	S 18°40.0′	162°36.1′	S 19°33.1′	73°25.7′	N 15°36.0′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.4′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 12 m 9 s		11 h 10 m		12 h 27 m		12 h 11 m		18 h 7 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Arcturus	−Pollux	−Capella	−Betelgeuse	−Aldebaran	+Mars	+Achernar	+Fomalhaut
0	56°59.7′	N 20°41.1′	12.1′	7.4′	54.7′		45°55.8′	27°29.2′	25°31.4′		29°51.8′	85°21.1′	93°21.4′
1	71°30.8′	N 20°48.4′	12.0′	7.3′	54.7′		45°25.7′	27°12.5′	25°09.1′		30°20.3′	85°38.7′	93°50.4′
2	86°01.9′	N 20°55.7′	12.0′	7.2′	54.7′		44°55.6′	26°56.1′	24°47.1′		30°48.9′	85°56.2′	94°19.4′
3	100°32.8′	N 21°02.9′	11.9′	7.1′	54.7′		44°25.5′	26°40.1′	24°25.4′		31°17.5′	86°13.9′	94°48.5′
4	115°03.7′	N 21°10.0′	11.8′	7.0′	54.7′		43°55.3′	26°24.5′	24°03.9′		31°46.2′	86°31.5′	95°17.6′
5	129°34.5′	N 21°17.0′	11.7′	6.9′	54.7′		43°25.1′		23°42.8′		32°14.9′	86°49.2′	95°46.7′
6	144°05.3′	N 21°23.9′	11.7′	6.8′	54.8′		42°54.9′		23°21.9′		32°43.6′	87°06.9′	96°15.8′
7	158°36.0′	N 21°30.7′	11.6′	6.7′	54.8′		42°24.7′		23°01.3′		33°12.3′	87°24.6′	96°45.0′
8	173°06.6′	N 21°37.4′	11.5′	6.6′	54.8′		41°54.5′		22°41.1′		33°41.1′	87°42.3′	97°14.2′
9	187°37.1′	N 21°44.0′	11.5′	6.5′	54.8′		41°24.2′		22°21.2′		34°09.9′	88°00.0′	97°43.3′
10	202°07.5′	N 21°50.5′	11.4′	6.4′	54.8′		40°53.9′		22°01.7′		34°38.7′	88°17.8′	98°12.5′
11	216°37.9′	N 21°56.9′	11.3′	6.3′	54.9′		40°23.6′		21°42.6′		35°07.6′	88°35.6′	98°41.8′
12	231°08.2′	N 22°03.2′	11.2′	6.2′	54.9′		39°53.3′		21°23.9′		35°36.5′	88°53.4′	99°11.0′
13	245°38.5′	N 22°09.4′	11.2′	6.1′	54.9′		39°23.0′		21°05.6′		36°05.4′	89°11.2′	99°40.3′
14	260°08.6′	N 22°15.6′	11.1′	6.0′	54.9′		38°52.6′		20°47.7′		36°34.4′	89°29.1′	100°09.5′
15	274°38.7′	N 22°21.6′	11.0′	5.9′	54.9′		38°22.3′		20°30.3′	7°36.9′	37°03.4′	89°46.9′	100°38.8′
16	289°08.8′	N 22°27.5′	10.9′	5.8′	55.0′		37°51.9′		20°13.4′	8°01.5′	37°32.4′	90°04.8′	101°08.2′
17	303°38.7′	N 22°33.3′	10.9′	5.7′	55.0′		37°21.4′		19°57.0′	8°26.7′	38°01.4′	90°22.7′	101°37.5′
18	318°08.6′	N 22°39.0′	10.8′	5.6′	55.0′		36°51.0′		19°41.1′	8°52.6′	38°30.5′	90°40.6′	102°06.9′
19	332°38.4′	N 22°44.6′	10.7′	5.5′	55.0′		36°20.5′			9°18.9′	38°59.6′	90°58.5′	102°36.2′
20	347°08.1′	N 22°50.1′	10.7′	5.4′	55.0′		35°50.1′			9°45.7′	39°28.7′	91°16.4′	103°05.6′
21	1°37.8′	N 22°55.5′	10.6′	5.3′	55.1′		35°19.6′			10°12.8′	39°57.9′	91°34.3′	103°35.0′
22	16°07.4′	N 23°00.7′	10.5′	5.2′	55.1′	119°45.3′	34°49.0′			10°40.3′	40°27.1′	91°52.3′	104°04.5′
23	30°36.9′	N 23°05.9′	10.5′	5.1′	55.1′	119°18.9′	34°18.5′			11°08.1′	40°56.3′	92°10.2′	104°33.9′
Mer. pass. 20 h 53 m SD 14.9′ phase 78%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°22.3′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.8′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Monday 25 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	124°31.2′	176°56.2′	S 18°57.6′	192°18.0′	S 22°13.4′	173°33.6′	S 18°39.8′	177°38.3′	S 19°33.0′	88°26.9′	N 15°36.5′
1	139°33.7′	191°56.1′	S 18°57.0′	207°17.1′	S 22°13.0′	188°35.4′	S 18°39.7′	192°40.4′	S 19°33.0′	103°28.1′	N 15°36.9′
2	154°36.1′	206°55.9′	S 18°56.3′	222°16.2′	S 22°12.6′	203°37.3′	S 18°39.5′	207°42.6′	S 19°32.9′	118°29.3′	N 15°37.4′
3	169°38.6′	221°55.8′	S 18°55.7′	237°15.3′	S 22°12.2′	218°39.1′	S 18°39.3′	222°44.7′	S 19°32.8′	133°30.5′	N 15°37.8′
4	184°41.1′	236°55.6′	S 18°55.1′	252°14.4′	S 22°11.9′	233°41.0′	S 18°39.2′	237°46.9′	S 19°32.7′	148°31.7′	N 15°38.3′
5	199°43.5′	251°55.5′	S 18°54.5′	267°13.5′	S 22°11.5′	248°42.9′	S 18°39.0′	252°49.0′	S 19°32.7′	163°32.9′	N 15°38.7′
6	214°46.0′	266°55.3′	S 18°53.9′	282°12.7′	S 22°11.1′	263°44.7′	S 18°38.9′	267°51.2′	S 19°32.6′	178°34.1′	N 15°39.1′
7	229°48.5′	281°55.2′	S 18°53.2′	297°11.8′	S 22°10.7′	278°46.6′	S 18°38.7′	282°53.4′	S 19°32.5′	193°35.3′	N 15°39.6′
8	244°50.9′	296°55.1′	S 18°52.6′	312°10.9′	S 22°10.3′	293°48.4′	S 18°38.6′	297°55.5′	S 19°32.5′	208°36.5′	N 15°40.0′
9	259°53.4′	311°54.9′	S 18°52.0′	327°10.0′	S 22°10.0′	308°50.3′	S 18°38.4′	312°57.7′	S 19°32.4′	223°37.7′	N 15°40.5′
10	274°55.9′	326°54.8′	S 18°51.4′	342°09.1′	S 22°09.6′	323°52.2′	S 18°38.3′	327°59.8′	S 19°32.3′	238°38.9′	N 15°40.9′
11	289°58.3′	341°54.6′	S 18°50.8′	357°08.2′	S 22°09.2′	338°54.0′	S 18°38.1′	343°02.0′	S 19°32.3′	253°40.0′	N 15°41.3′
12	305°00.8′	356°54.5′	S 18°50.1′	12°07.3′	S 22°08.8′	353°55.9′	S 18°38.0′	358°04.1′	S 19°32.2′	268°41.2′	N 15°41.8′
13	320°03.3′	11°54.4′	S 18°49.5′	27°06.4′	S 22°08.4′	8°57.7′	S 18°37.8′	13°06.3′	S 19°32.1′	283°42.4′	N 15°42.2′
14	335°05.7′	26°54.2′	S 18°48.9′	42°05.5′	S 22°08.0′	23°59.6′	S 18°37.7′	28°08.5′	S 19°32.1′	298°43.6′	N 15°42.7′
15	350°08.2′	41°54.1′	S 18°48.3′	57°04.6′	S 22°07.6′	39°01.4′	S 18°37.5′	43°10.6′	S 19°32.0′	313°44.8′	N 15°43.1′
16	5°10.6′	56°54.0′	S 18°47.6′	72°03.7′	S 22°07.3′	54°03.3′	S 18°37.4′	58°12.8′	S 19°31.9′	328°46.0′	N 15°43.5′
17	20°13.1′	71°53.8′	S 18°47.0′	87°02.8′	S 22°06.9′	69°05.2′	S 18°37.2′	73°14.9′	S 19°31.9′	343°47.2′	N 15°44.0′
18	35°15.6′	86°53.7′	S 18°46.4′	102°01.9′	S 22°06.5′	84°07.0′	S 18°37.1′	88°17.1′	S 19°31.8′	358°48.4′	N 15°44.4′
19	50°18.0′	101°53.5′	S 18°45.7′	117°01.0′	S 22°06.1′	99°08.9′	S 18°36.9′	103°19.2′	S 19°31.7′	13°49.6′	N 15°44.9′
20	65°20.5′	116°53.4′	S 18°45.1′	132°00.1′	S 22°05.7′	114°10.7′	S 18°36.8′	118°21.4′	S 19°31.7′	28°50.8′	N 15°45.3′
21	80°23.0′	131°53.3′	S 18°44.5′	146°59.2′	S 22°05.3′	129°12.6′	S 18°36.6′	133°23.6′	S 19°31.6′	43°52.0′	N 15°45.7′
22	95°25.4′	146°53.1′	S 18°43.9′	161°58.3′	S 22°04.9′	144°14.5′	S 18°36.5′	148°25.7′	S 19°31.5′	58°53.2′	N 15°46.2′
23	110°27.9′	161°53.0′	S 18°43.2′	176°57.5′	S 22°04.5′	159°16.3′	S 18°36.3′	163°27.9′	S 19°31.4′	73°54.4′	N 15°46.6′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.4′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 12 m 23 s		11 h 11 m		12 h 24 m		12 h 8 m		18 h 5 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Arcturus	−Regulus	−Procyon	−Pollux	+Aldebaran	+Mars	+Achernar	+Fomalhaut
0	45°06.3′	N 23°11.0′	10.4′	4.9′	55.1′	118°52.4′	69°50.7′	38°49.5′	33°47.9′	11°36.2′	41°25.6′	92°28.2′	105°03.4′
1	59°35.7′	N 23°15.9′	10.3′	4.8′	55.1′	118°25.9′	69°20.0′	38°23.3′	33°17.3′	12°04.5′	41°54.9′	92°46.2′	105°32.9′
2	74°05.0′	N 23°20.7′	10.2′	4.7′	55.2′	117°59.3′	68°49.3′	37°57.1′	32°46.7′	12°33.0′	42°24.2′	93°04.1′	106°02.4′
3	88°34.3′	N 23°25.5′	10.2′	4.6′	55.2′	117°32.6′	68°18.5′	37°31.0′	32°16.1′	13°01.8′	42°53.5′	93°22.1′	106°31.9′
4	103°03.5′	N 23°30.1′	10.1′	4.5′	55.2′	117°05.9′	67°47.7′	37°05.0′	31°45.5′	13°30.7′	43°22.9′	93°40.1′	107°01.5′
5	117°32.6′	N 23°34.6′	10.0′	4.4′	55.2′	116°39.2′	67°16.9′	36°39.1′	31°14.8′	13°59.8′	43°52.3′	93°58.1′	107°31.1′
6	132°01.6′	N 23°38.9′	10.0′	4.3′	55.2′	116°12.3′	66°46.1′	36°13.3′	30°44.1′	14°29.0′	44°21.8′	94°16.1′	108°00.6′
7	146°30.6′	N 23°43.2′	9.9′	4.1′	55.3′	115°45.4′	66°15.3′	35°47.5′	30°13.4′	14°58.3′	44°51.2′	94°34.1′	108°30.3′
8	160°59.5′	N 23°47.3′	9.8′	4.0′	55.3′	115°18.5′	65°44.4′	35°21.9′	29°42.7′	15°27.8′	45°20.7′	94°52.1′	108°59.9′
9	175°28.3′	N 23°51.4′	9.8′	3.9′	55.3′	114°51.5′	65°13.5′	34°56.4′	29°11.9′	15°57.4′	45°50.3′	95°10.0′	109°29.5′
10	189°57.1′	N 23°55.3′	9.7′	3.8′	55.3′	114°24.4′	64°42.5′	34°30.9′	28°41.2′	16°27.1′	46°19.8′	95°28.0′	109°59.2′
11	204°25.8′	N 23°59.1′	9.6′	3.7′	55.4′	113°57.3′	64°11.6′	34°05.6′	28°10.4′	16°57.0′	46°49.4′	95°46.0′	110°28.9′
12	218°54.5′	N 24°02.7′	9.6′	3.5′	55.4′	113°30.2′	63°40.6′	33°40.4′	27°39.6′	17°26.9′	47°19.0′	96°04.0′	110°58.6′
13	233°23.0′	N 24°06.3′	9.5′	3.4′	55.4′	113°02.9′	63°09.5′	33°15.3′	27°08.8′	17°56.9′	47°48.7′	96°22.0′	111°28.3′
14	247°51.6′	N 24°09.7′	9.5′	3.3′	55.4′	112°35.7′	62°38.5′	32°50.4′	26°38.0′	18°27.0′	48°18.4′	96°40.0′	111°58.0′
15	262°20.0′	N 24°13.0′	9.4′	3.2′	55.5′	112°08.3′	62°07.4′	32°25.6′	26°07.1′	18°57.2′	48°48.1′	96°58.0′	112°27.8′
16	276°48.4′	N 24°16.2′	9.3′	3.1′	55.5′	111°41.0′	61°36.3′	32°00.9′	25°36.2′	19°27.5′	49°17.9′	97°15.9′	112°57.5′
17	291°16.8′	N 24°19.2′	9.3′	2.9′	55.5′	111°13.5′	61°05.2′	31°36.4′	25°05.4′	19°57.8′	49°47.6′	97°33.9′	113°27.3′
18	305°45.0′	N 24°22.2′	9.2′	2.8′	55.5′	110°46.0′	60°34.0′	31°12.0′	24°34.5′	20°28.2′	50°17.5′	97°51.8′	113°57.1′
19	320°13.3′	N 24°25.0′	9.2′	2.7′	55.6′	110°18.5′	60°02.8′	30°47.8′	24°03.5′	20°58.7′	50°47.3′	98°09.8′	114°26.9′
20	334°41.4′	N 24°27.7′	9.1′	2.6′	55.6′	109°50.9′	59°31.6′	30°23.8′	23°32.6′	21°29.2′	51°17.2′	98°27.7′	114°56.8′
21	349°09.5′	N 24°30.2′	9.1′	2.4′	55.6′	109°23.3′	59°00.4′	29°59.9′	23°01.7′	21°59.9′	51°47.1′	98°45.6′	115°26.6′
22	3°37.6′	N 24°32.6′	9.0′	2.3′	55.6′	108°55.6′	58°29.1′	29°36.3′	22°30.7′	22°30.5′	52°17.0′	99°03.5′	115°56.5′
23	18°05.6′	N 24°34.9′	8.9′	2.2′	55.6′	108°27.9′	57°57.8′	29°12.8′	21°59.8′	23°01.3′	52°47.0′	99°21.4′	116°26.4′
Mer. pass. 21 h 45 m SD 15.0′ phase 85%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.1′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°22.7′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Tuesday 26 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	125°30.4′	176°52.9′	S 18°42.6′	191°56.6′	S 22°04.1′	174°18.2′	S 18°36.2′	178°30.0′	S 19°31.4′	88°55.6′	N 15°47.1′
1	140°32.8′	191°52.7′	S 18°42.0′	206°55.7′	S 22°03.7′	189°20.0′	S 18°36.0′	193°32.2′	S 19°31.3′	103°56.7′	N 15°47.5′
2	155°35.3′	206°52.6′	S 18°41.3′	221°54.8′	S 22°03.3′	204°21.9′	S 18°35.9′	208°34.3′	S 19°31.2′	118°57.9′	N 15°47.9′
3	170°37.8′	221°52.5′	S 18°40.7′	236°53.9′	S 22°02.9′	219°23.8′	S 18°35.7′	223°36.5′	S 19°31.2′	133°59.1′	N 15°48.4′
4	185°40.2′	236°52.3′	S 18°40.1′	251°53.0′	S 22°02.5′	234°25.6′	S 18°35.6′	238°38.7′	S 19°31.1′	149°00.3′	N 15°48.8′
5	200°42.7′	251°52.2′	S 18°39.4′	266°52.1′	S 22°02.1′	249°27.5′	S 18°35.4′	253°40.8′	S 19°31.0′	164°01.5′	N 15°49.3′
6	215°45.1′	266°52.1′	S 18°38.8′	281°51.2′	S 22°01.7′	264°29.3′	S 18°35.2′	268°43.0′	S 19°31.0′	179°02.7′	N 15°49.7′
7	230°47.6′	281°51.9′	S 18°38.2′	296°50.3′	S 22°01.3′	279°31.2′	S 18°35.1′	283°45.1′	S 19°30.9′	194°03.9′	N 15°50.1′
8	245°50.1′	296°51.8′	S 18°37.5′	311°49.5′	S 22°00.9′	294°33.0′	S 18°34.9′	298°47.3′	S 19°30.8′	209°05.1′	N 15°50.6′
9	260°52.5′	311°51.7′	S 18°36.9′	326°48.6′	S 22°00.4′	309°34.9′	S 18°34.8′	313°49.4′	S 19°30.8′	224°06.3′	N 15°51.0′
10	275°55.0′	326°51.5′	S 18°36.3′	341°47.7′	S 22°00.0′	324°36.8′	S 18°34.6′	328°51.6′	S 19°30.7′	239°07.4′	N 15°51.4′
11	290°57.5′	341°51.4′	S 18°35.6′	356°46.8′	S 21°59.6′	339°38.6′	S 18°34.5′	343°53.7′	S 19°30.6′	254°08.6′	N 15°51.9′
12	305°59.9′	356°51.3′	S 18°35.0′	11°45.9′	S 21°59.2′	354°40.5′	S 18°34.3′	358°55.9′	S 19°30.6′	269°09.8′	N 15°52.3′
13	321°02.4′	11°51.1′	S 18°34.3′	26°45.0′	S 21°58.8′	9°42.3′	S 18°34.2′	13°58.1′	S 19°30.5′	284°11.0′	N 15°52.8′
14	336°04.9′	26°51.0′	S 18°33.7′	41°44.1′	S 21°58.4′	24°44.2′	S 18°34.0′	29°00.2′	S 19°30.4′	299°12.2′	N 15°53.2′
15	351°07.3′	41°50.9′	S 18°33.1′	56°43.2′	S 21°58.0′	39°46.1′	S 18°33.9′	44°02.4′	S 19°30.4′	314°13.4′	N 15°53.6′
16	6°09.8′	56°50.8′	S 18°32.4′	71°42.4′	S 21°57.5′	54°47.9′	S 18°33.7′	59°04.5′	S 19°30.3′	329°14.6′	N 15°54.1′
17	21°12.3′	71°50.6′	S 18°31.8′	86°41.5′	S 21°57.1′	69°49.8′	S 18°33.6′	74°06.7′	S 19°30.2′	344°15.7′	N 15°54.5′
18	36°14.7′	86°50.5′	S 18°31.1′	101°40.6′	S 21°56.7′	84°51.6′	S 18°33.4′	89°08.8′	S 19°30.1′	359°16.9′	N 15°55.0′
19	51°17.2′	101°50.4′	S 18°30.5′	116°39.7′	S 21°56.3′	99°53.5′	S 18°33.3′	104°11.0′	S 19°30.1′	14°18.1′	N 15°55.4′
20	66°19.6′	116°50.2′	S 18°29.9′	131°38.8′	S 21°55.9′	114°55.4′	S 18°33.1′	119°13.2′	S 19°30.0′	29°19.3′	N 15°55.8′
21	81°22.1′	131°50.1′	S 18°29.2′	146°37.9′	S 21°55.4′	129°57.2′	S 18°33.0′	134°15.3′	S 19°29.9′	44°20.5′	N 15°56.3′
22	96°24.6′	146°50.0′	S 18°28.6′	161°37.1′	S 21°55.0′	144°59.1′	S 18°32.8′	149°17.5′	S 19°29.9′	59°21.7′	N 15°56.7′
23	111°27.0′	161°49.9′	S 18°27.9′	176°36.2′	S 21°54.6′	160°00.9′	S 18°32.7′	164°19.6′	S 19°29.8′	74°22.9′	N 15°57.2′
		SD 16.2′ *d* 0.6′		*v* -0.9′ *d* 0.4′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 12 m 36 s		11 h 13 m		12 h 21 m		12 h 4 m		18 h 3 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Arcturus	−Regulus	−Procyon	−Pollux	+Betelgeuse	+Aldebaran	+Capella	+Rigel
0	32°33.5′	N 24°37.1′	8.9′	2.0′	55.7′	108°00.1′	57°26.5′	28°49.6′	21°28.8′		23°32.1′		35°32.9′
1	47°01.4′	N 24°39.1′	8.8′	1.9′	55.7′	107°32.3′	56°55.1′	28°26.5′	20°57.9′		24°02.9′		35°48.0′
2	61°29.3′	N 24°41.0′	8.8′	1.8′	55.7′	107°04.4′	56°23.7′	28°03.7′	20°26.9′		24°33.8′		36°03.4′
3	75°57.1′	N 24°42.8′	8.7′	1.6′	55.7′	106°36.5′	55°52.3′	27°41.2′	19°55.9′		25°04.8′		36°19.1′
4	90°24.8′	N 24°44.5′	8.7′	1.5′	55.8′	106°08.5′	55°20.9′	27°18.8′	19°24.9′		25°35.8′		36°35.1′
5	104°52.5′	N 24°46.0′	8.6′	1.4′	55.8′	105°40.5′	54°49.4′	26°56.8′	18°54.0′		26°06.9′		36°51.4′
6	119°20.1′	N 24°47.3′	8.6′	1.2′	55.8′	105°12.5′	54°17.9′	26°35.0′	18°23.0′		26°38.0′		37°08.0′
7	133°47.7′	N 24°48.6′	8.6′	1.1′	55.8′	104°44.4′	53°46.4′	26°13.5′	17°52.0′		27°09.2′		37°24.9′
8	148°15.3′	N 24°49.7′	8.5′	1.0′	55.9′	104°16.2′	53°14.8′	25°52.3′	17°21.1′	19°13.3′	27°40.4′	25°38.8′	37°42.1′
9	162°42.8′	N 24°50.7′	8.5′	0.8′	55.9′	103°48.0′	52°43.2′	25°31.5′	16°50.1′	19°28.7′	28°11.6′	25°53.9′	37°59.6′
10	177°10.3′	N 24°51.5′	8.4′	0.7′	55.9′	103°19.8′	52°11.6′	25°10.9′	16°19.2′	19°44.7′	28°42.9′	26°09.4′	38°17.3′
11	191°37.7′	N 24°52.2′	8.4′	0.6′	55.9′	102°51.5′	51°39.9′	24°50.7′	15°48.3′	20°01.4′	29°14.3′	26°25.5′	38°35.4′
12	206°05.1′	N 24°52.8′	8.3′	0.4′	56.0′	102°23.2′	51°08.2′	24°30.9′	15°17.5′	20°18.6′	29°45.7′	26°41.9′	38°53.7′
13	220°32.4′	N 24°53.2′	8.3′	0.3′	56.0′	101°54.9′	50°36.5′	24°11.5′	14°46.7′	20°36.4′	30°17.1′	26°58.9′	39°12.2′
14	234°59.7′	N 24°53.5′	8.3′	0.2′	56.0′	101°26.5′	50°04.8′	23°52.4′	14°15.9′	20°54.8′	30°48.6′	27°16.2′	39°31.0′
15	249°27.0′	N 24°53.7′	8.2′	0.0′	56.1′	100°58.0′	49°33.0′	23°33.8′	13°45.1′	21°13.7′	31°20.2′	27°34.0′	39°50.1′
16	263°54.2′	N 24°53.7′	8.2′	-0.1′	56.1′	100°29.6′	49°01.2′	23°15.6′	13°14.5′	21°33.1′	31°51.7′	27°52.1′	40°09.4′
17	278°21.4′	N 24°53.6′	8.2′	-0.3′	56.1′	100°01.1′	48°29.4′	22°57.9′	12°43.9′	21°52.9′	32°23.4′	28°10.7′	40°28.9′
18	292°48.6′	N 24°53.3′	8.1′	-0.4′	56.1′	99°32.5′	47°57.6′	22°40.6′	12°13.4′	22°13.3′	32°55.0′	28°29.6′	40°48.7′
19	307°15.7′	N 24°52.9′	8.1′	-0.5′	56.2′	99°03.9′	47°25.7′	22°23.9′	11°43.0′	22°34.1′	33°26.7′	28°49.0′	41°08.8′
20	321°42.8′	N 24°52.4′	8.1′	-0.7′	56.2′	98°35.3′	46°53.8′	22°07.6′	11°12.7′	22°55.3′	33°58.5′	29°08.6′	41°29.0′
21	336°09.9′	N 24°51.7′	8.0′	-0.8′	56.2′	98°06.6′	46°21.8′	21°51.9′	10°42.6′	23°17.0′	34°30.2′	29°28.7′	41°49.5′
22	350°36.9′	N 24°50.9′	8.0′	-1.0′	56.2′	97°37.9′	45°49.9′		10°12.6′	23°39.0′	35°02.1′	29°49.1′	42°10.2′
23	5°03.9′	N 24°50.0′	8.0′	-1.1′	56.3′	97°09.2′	45°17.9′		9°42.8′	24°01.4′	35°33.9′	30°09.8′	42°31.1′
Mer. pass. 22 h 39 m SD 15.2′ phase 92%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°20.0′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°23.1′	N 89°21.4′
Rigil Kent	−0.0	139°44.7′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Wednesday 27 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	126°29.5′	176°49.7′	S 18°27.3′	191°35.3′	S 21°54.2′	175°02.8′	S 18°32.5′	179°21.8′	S 19°29.7′	89°24.0′	N 15°57.6′
1	141°32.0′	191°49.6′	S 18°26.6′	206°34.4′	S 21°53.7′	190°04.6′	S 18°32.3′	194°23.9′	S 19°29.7′	104°25.2′	N 15°58.0′
2	156°34.4′	206°49.5′	S 18°26.0′	221°33.5′	S 21°53.3′	205°06.5′	S 18°32.2′	209°26.1′	S 19°29.6′	119°26.4′	N 15°58.5′
3	171°36.9′	221°49.4′	S 18°25.4′	236°32.6′	S 21°52.9′	220°08.4′	S 18°32.0′	224°28.3′	S 19°29.5′	134°27.6′	N 15°58.9′
4	186°39.4′	236°49.2′	S 18°24.7′	251°31.8′	S 21°52.4′	235°10.2′	S 18°31.9′	239°30.4′	S 19°29.5′	149°28.8′	N 15°59.3′
5	201°41.8′	251°49.1′	S 18°24.1′	266°30.9′	S 21°52.0′	250°12.1′	S 18°31.7′	254°32.6′	S 19°29.4′	164°29.9′	N 15°59.8′
6	216°44.3′	266°49.0′	S 18°23.4′	281°30.0′	S 21°51.6′	265°13.9′	S 18°31.6′	269°34.7′	S 19°29.3′	179°31.1′	N 16°00.2′
7	231°46.7′	281°48.9′	S 18°22.8′	296°29.1′	S 21°51.1′	280°15.8′	S 18°31.4′	284°36.9′	S 19°29.3′	194°32.3′	N 16°00.7′
8	246°49.2′	296°48.7′	S 18°22.1′	311°28.2′	S 21°50.7′	295°17.7′	S 18°31.3′	299°39.0′	S 19°29.2′	209°33.5′	N 16°01.1′
9	261°51.7′	311°48.6′	S 18°21.5′	326°27.4′	S 21°50.3′	310°19.5′	S 18°31.1′	314°41.2′	S 19°29.1′	224°34.7′	N 16°01.5′
10	276°54.1′	326°48.5′	S 18°20.8′	341°26.5′	S 21°49.8′	325°21.4′	S 18°31.0′	329°43.4′	S 19°29.1′	239°35.8′	N 16°02.0′
11	291°56.6′	341°48.4′	S 18°20.2′	356°25.6′	S 21°49.4′	340°23.2′	S 18°30.8′	344°45.5′	S 19°29.0′	254°37.0′	N 16°02.4′
12	306°59.1′	356°48.3′	S 18°19.5′	11°24.7′	S 21°48.9′	355°25.1′	S 18°30.7′	359°47.7′	S 19°28.9′	269°38.2′	N 16°02.8′
13	322°01.5′	11°48.1′	S 18°18.9′	26°23.8′	S 21°48.5′	10°27.0′	S 18°30.5′	14°49.8′	S 19°28.8′	284°39.4′	N 16°03.3′
14	337°04.0′	26°48.0′	S 18°18.2′	41°23.0′	S 21°48.0′	25°28.8′	S 18°30.4′	29°52.0′	S 19°28.8′	299°40.6′	N 16°03.7′
15	352°06.5′	41°47.9′	S 18°17.5′	56°22.1′	S 21°47.6′	40°30.7′	S 18°30.2′	44°54.1′	S 19°28.7′	314°41.7′	N 16°04.2′
16	7°08.9′	56°47.8′	S 18°16.9′	71°21.2′	S 21°47.2′	55°32.5′	S 18°30.0′	59°56.3′	S 19°28.6′	329°42.9′	N 16°04.6′
17	22°11.4′	71°47.6′	S 18°16.2′	86°20.3′	S 21°46.7′	70°34.4′	S 18°29.9′	74°58.5′	S 19°28.6′	344°44.1′	N 16°05.0′
18	37°13.9′	86°47.5′	S 18°15.6′	101°19.5′	S 21°46.3′	85°36.3′	S 18°29.7′	90°00.6′	S 19°28.5′	359°45.3′	N 16°05.5′
19	52°16.3′	101°47.4′	S 18°14.9′	116°18.6′	S 21°45.8′	100°38.1′	S 18°29.6′	105°02.8′	S 19°28.4′	14°46.4′	N 16°05.9′
20	67°18.8′	116°47.3′	S 18°14.3′	131°17.7′	S 21°45.4′	115°40.0′	S 18°29.4′	120°04.9′	S 19°28.4′	29°47.6′	N 16°06.3′
21	82°21.2′	131°47.2′	S 18°13.6′	146°16.8′	S 21°44.9′	130°41.8′	S 18°29.3′	135°07.1′	S 19°28.3′	44°48.8′	N 16°06.8′
22	97°23.7′	146°47.1′	S 18°13.0′	161°16.0′	S 21°44.5′	145°43.7′	S 18°29.1′	150°09.2′	S 19°28.2′	59°50.0′	N 16°07.2′
23	112°26.2′	161°46.9′	S 18°12.3′	176°15.1′	S 21°44.0′	160°45.5′	S 18°29.0′	165°11.4′	S 19°28.2′	74°51.1′	N 16°07.7′
		SD 16.2′ *d* 0.7′		*v* -0.9′ *d* 0.4′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 12 m 48 s		11 h 14 m		12 h 18 m		12 h 1 m		18 h 1 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Spica	−Arcturus	−Regulus	−Pollux	+Betelgeuse	+Capella	+Aldebaran	+Rigel
0	19°30.9′	N 24°48.9′	8.0′	-1.2′	56.3′	98°49.3′	96°40.4′	44°45.8′	9°13.3′	24°24.2′	30°30.8′	36°05.8′	42°52.2′
1	33°57.9′	N 24°47.6′	7.9′	-1.4′	56.3′	98°17.3′	96°11.6′	44°13.8′	8°44.1′	24°47.4′	30°52.1′	36°37.8′	43°13.5′
2	48°24.8′	N 24°46.2′	7.9′	-1.5′	56.3′	97°45.2′	95°42.7′	43°41.7′	8°15.2′	25°10.9′	31°13.8′	37°09.8′	43°35.0′
3	62°51.8′	N 24°44.7′	7.9′	-1.7′	56.4′	97°13.1′	95°13.8′	43°09.6′	7°46.7′	25°34.7′	31°35.7′	37°41.8′	43°56.7′
4	77°18.7′	N 24°43.1′	7.9′	-1.8′	56.4′	96°40.9′	94°44.9′	42°37.5′	7°18.7′	25°58.8′	31°57.9′	38°13.8′	44°18.6′
5	91°45.6′	N 24°41.3′	7.9′	-1.9′	56.4′	96°08.8′	94°16.0′	42°05.3′	6°51.3′	26°23.2′	32°20.4′	38°45.9′	44°40.7′
6	106°12.4′	N 24°39.3′	7.9′	-2.1′	56.4′	95°36.6′	93°47.0′	41°33.1′		26°47.9′	32°43.2′	39°18.1′	45°03.0′
7	120°39.3′	N 24°37.2′	7.8′	-2.2′	56.5′	95°04.3′	93°18.0′	41°00.9′		27°12.8′	33°06.3′	39°50.2′	45°25.5′
8	135°06.1′	N 24°35.0′	7.8′	-2.4′	56.5′	94°32.0′	92°48.9′	40°28.7′		27°38.1′	33°29.5′	40°22.5′	45°48.1′
9	149°32.9′	N 24°32.6′	7.8′	-2.5′	56.5′	93°59.7′	92°19.9′	39°56.4′		28°03.5′	33°53.1′	40°54.7′	46°10.9′
10	163°59.8′	N 24°30.1′	7.8′	-2.7′	56.6′	93°27.4′	91°50.8′	39°24.1′		28°29.3′	34°16.8′	41°27.0′	46°33.9′
11	178°26.6′	N 24°27.4′	7.8′	-2.8′	56.6′	92°55.0′	91°21.6′	38°51.8′		28°55.2′	34°40.8′	41°59.3′	46°57.0′
12	192°53.4′	N 24°24.6′	7.8′	-2.9′	56.6′	92°22.6′	90°52.4′	38°19.4′		29°21.4′	35°05.1′	42°31.7′	47°20.4′
13	207°20.1′	N 24°21.7′	7.8′	-3.1′	56.6′	91°50.2′	90°23.2′	37°47.0′		29°47.8′	35°29.5′	43°04.1′	47°43.8′
14	221°46.9′	N 24°18.6′	7.8′	-3.2′	56.7′	91°17.7′	89°54.0′	37°14.6′		30°14.5′	35°54.2′	43°36.5′	48°07.5′
15	236°13.7′	N 24°15.4′	7.8′	-3.4′	56.7′	90°45.2′	89°24.8′	36°42.2′		30°41.3′	36°19.1′	44°09.0′	48°31.3′
16	250°40.5′	N 24°12.0′	7.8′	-3.5′	56.7′	90°12.7′	88°55.5′	36°09.8′		31°08.3′	36°44.1′	44°41.5′	48°55.2′
17	265°07.2′	N 24°08.5′	7.8′	-3.7′	56.7′	89°40.1′	88°26.2′	35°37.3′		31°35.5′	37°09.4′	45°14.0′	49°19.3′
18	279°34.0′	N 24°04.9′	7.8′	-3.8′	56.8′	89°07.5′	87°56.8′	35°04.8′		32°02.9′	37°34.8′	45°46.6′	49°43.5′
19	294°00.8′	N 24°01.1′	7.8′	-3.9′	56.8′	88°34.9′	87°27.5′	34°32.3′		32°30.4′	38°00.5′	46°19.2′	50°07.9′
20	308°27.5′	N 23°57.1′	7.8′	-4.1′	56.8′	88°02.3′	86°58.1′	33°59.7′		32°58.2′	38°26.3′	46°51.8′	50°32.4′
21	322°54.3′	N 23°53.0′	7.8′	-4.2′	56.8′	87°29.6′	86°28.7′	33°27.1′		33°26.1′	38°52.3′	47°24.5′	50°57.1′
22	337°21.1′	N 23°48.8′	7.8′	-4.4′	56.9′	86°56.9′	85°59.2′	32°54.6′		33°54.1′	39°18.5′	47°57.2′	51°21.9′
23	351°47.9′	N 23°44.5′	7.8′	-4.5′	56.9′	86°24.1′	85°29.8′	32°21.9′		34°22.3′	39°44.8′	48°30.0′	51°46.8′
Mer. pass. 23 h 34 m SD 15.3′ phase 96%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.6′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°19.9′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°23.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.6′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.9′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Thursday 28 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	127°28.6′	176°46.8′	S 18°11.6′	191°14.2′	S 21°43.5′	175°47.4′	S 18°28.8′	180°13.6′	S 19°28.1′	89°52.3′	N 16°08.1′
1	142°31.1′	191°46.7′	S 18°11.0′	206°13.3′	S 21°43.1′	190°49.3′	S 18°28.7′	195°15.7′	S 19°28.0′	104°53.5′	N 16°08.5′
2	157°33.6′	206°46.6′	S 18°10.3′	221°12.5′	S 21°42.6′	205°51.1′	S 18°28.5′	210°17.9′	S 19°28.0′	119°54.7′	N 16°09.0′
3	172°36.0′	221°46.5′	S 18°09.7′	236°11.6′	S 21°42.2′	220°53.0′	S 18°28.4′	225°20.0′	S 19°27.9′	134°55.8′	N 16°09.4′
4	187°38.5′	236°46.3′	S 18°09.0′	251°10.7′	S 21°41.7′	235°54.8′	S 18°28.2′	240°22.2′	S 19°27.8′	149°57.0′	N 16°09.8′
5	202°41.0′	251°46.2′	S 18°08.3′	266°09.8′	S 21°41.3′	250°56.7′	S 18°28.1′	255°24.3′	S 19°27.7′	164°58.2′	N 16°10.3′
6	217°43.4′	266°46.1′	S 18°07.7′	281°09.0′	S 21°40.8′	265°58.6′	S 18°27.9′	270°26.5′	S 19°27.7′	179°59.4′	N 16°10.7′
7	232°45.9′	281°46.0′	S 18°07.0′	296°08.1′	S 21°40.3′	281°00.4′	S 18°27.7′	285°28.7′	S 19°27.6′	195°00.5′	N 16°11.1′
8	247°48.4′	296°45.9′	S 18°06.4′	311°07.2′	S 21°39.9′	296°02.3′	S 18°27.6′	300°30.8′	S 19°27.5′	210°01.7′	N 16°11.6′
9	262°50.8′	311°45.8′	S 18°05.7′	326°06.4′	S 21°39.4′	311°04.1′	S 18°27.4′	315°33.0′	S 19°27.5′	225°02.9′	N 16°12.0′
10	277°53.3′	326°45.7′	S 18°05.0′	341°05.5′	S 21°38.9′	326°06.0′	S 18°27.3′	330°35.1′	S 19°27.4′	240°04.0′	N 16°12.4′
11	292°55.7′	341°45.5′	S 18°04.4′	356°04.6′	S 21°38.5′	341°07.9′	S 18°27.1′	345°37.3′	S 19°27.3′	255°05.2′	N 16°12.9′
12	307°58.2′	356°45.4′	S 18°03.7′	11°03.7′	S 21°38.0′	356°09.7′	S 18°27.0′	0°39.4′	S 19°27.3′	270°06.4′	N 16°13.3′
13	323°00.7′	11°45.3′	S 18°03.0′	26°02.9′	S 21°37.5′	11°11.6′	S 18°26.8′	15°41.6′	S 19°27.2′	285°07.6′	N 16°13.8′
14	338°03.1′	26°45.2′	S 18°02.4′	41°02.0′	S 21°37.1′	26°13.4′	S 18°26.7′	30°43.8′	S 19°27.1′	300°08.7′	N 16°14.2′
15	353°05.6′	41°45.1′	S 18°01.7′	56°01.1′	S 21°36.6′	41°15.3′	S 18°26.5′	45°45.9′	S 19°27.1′	315°09.9′	N 16°14.6′
16	8°08.1′	56°45.0′	S 18°01.0′	71°00.3′	S 21°36.1′	56°17.2′	S 18°26.4′	60°48.1′	S 19°27.0′	330°11.1′	N 16°15.1′
17	23°10.5′	71°44.9′	S 18°00.4′	85°59.4′	S 21°35.6′	71°19.0′	S 18°26.2′	75°50.2′	S 19°26.9′	345°12.2′	N 16°15.5′
18	38°13.0′	86°44.8′	S 17°59.7′	100°58.5′	S 21°35.2′	86°20.9′	S 18°26.1′	90°52.4′	S 19°26.9′	0°13.4′	N 16°15.9′
19	53°15.5′	101°44.6′	S 17°59.0′	115°57.7′	S 21°34.7′	101°22.7′	S 18°25.9′	105°54.5′	S 19°26.8′	15°14.6′	N 16°16.4′
20	68°17.9′	116°44.5′	S 17°58.4′	130°56.8′	S 21°34.2′	116°24.6′	S 18°25.8′	120°56.7′	S 19°26.7′	30°15.7′	N 16°16.8′
21	83°20.4′	131°44.4′	S 17°57.7′	145°55.9′	S 21°33.7′	131°26.5′	S 18°25.6′	135°58.9′	S 19°26.6′	45°16.9′	N 16°17.2′
22	98°22.9′	146°44.3′	S 17°57.0′	160°55.1′	S 21°33.3′	146°28.3′	S 18°25.4′	151°01.0′	S 19°26.6′	60°18.1′	N 16°17.7′
23	113°25.3′	161°44.2′	S 17°56.3′	175°54.2′	S 21°32.8′	161°30.2′	S 18°25.3′	166°03.2′	S 19°26.5′	75°19.2′	N 16°18.1′
		SD 16.2′ *d* 0.7′		*v* -0.9′ *d* 0.5′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 12 m 59 s		11 h 16 m		12 h 15 m		11 h 57 m		17 h 59 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Spica	−Arcturus	−Regulus	+Pollux	+Procyon	+Betelgeuse	+Capella
0	6°14.7′	N 23°40.0′	7.8′	-4.6′	56.9′	100°52.0′	85°51.3′	85°00.3′	31°49.3′			34°50.7′	40°11.3′
1	20°41.5′	N 23°35.3′	7.8′	-4.8′	56.9′	100°34.2′	85°18.5′	84°30.8′	31°16.7′			35°19.2′	40°37.9′
2	35°08.3′	N 23°30.5′	7.8′	-4.9′	57.0′	100°16.3′	84°45.7′	84°01.3′	30°44.0′			35°47.8′	41°04.7′
3	49°35.1′	N 23°25.6′	7.8′	-5.1′	57.0′	99°58.3′	84°12.8′	83°31.7′	30°11.3′	7°18.9′		36°16.6′	41°31.7′
4	64°01.9′	N 23°20.5′	7.8′	-5.2′	57.0′	99°40.3′	83°39.9′	83°02.2′	29°38.6′	7°47.6′		36°45.5′	41°58.8′
5	78°28.8′	N 23°15.3′	7.9′	-5.3′	57.0′	99°22.2′	83°07.0′	82°32.6′	29°05.9′	8°16.8′		37°14.5′	42°26.0′
6	92°55.6′	N 23°10.0′	7.9′	-5.5′	57.1′	99°04.1′	82°34.0′	82°03.0′	28°33.1′	8°46.5′		37°43.7′	42°53.4′
7	107°22.5′	N 23°04.5′	7.9′	-5.6′	57.1′	98°45.9′	82°01.1′	81°33.4′	28°00.4′	9°16.7′		38°12.9′	43°20.9′
8	121°49.4′	N 22°58.9′	7.9′	-5.8′	57.1′	98°27.7′	81°28.0′	81°03.7′	27°27.6′	9°47.2′		38°42.3′	43°48.5′
9	136°16.3′	N 22°53.1′	7.9′	-5.9′	57.2′	98°09.4′	80°55.0′	80°34.1′	26°54.8′	10°18.0′		39°11.8′	44°16.3′
10	150°43.2′	N 22°47.2′	7.9′	-6.0′	57.2′	97°51.0′	80°21.9′	80°04.4′	26°22.0′	10°49.0′		39°41.4′	44°44.2′
11	165°10.2′	N 22°41.2′	8.0′	-6.2′	57.2′	97°32.7′	79°48.8′	79°34.7′	25°49.2′	11°20.3′	21°21.8′	40°11.1′	45°12.2′
12	179°37.1′	N 22°35.0′	8.0′	-6.3′	57.2′	97°14.2′	79°15.7′	79°05.0′	25°16.4′	11°51.8′	21°36.8′	40°41.0′	45°40.3′
13	194°04.1′	N 22°28.7′	8.0′	-6.4′	57.3′	96°55.7′	78°42.5′	78°35.3′	24°43.6′	12°23.5′	21°52.6′	41°10.9′	46°08.6′
14	208°31.1′	N 22°22.3′	8.0′	-6.6′	57.3′	96°37.2′	78°09.3′	78°05.6′	24°10.8′	12°55.4′	22°08.9′	41°40.9′	46°36.9′
15	222°58.2′	N 22°15.7′	8.1′	-6.7′	57.3′	96°18.7′	77°36.1′	77°35.8′	23°37.9′	13°27.4′	22°25.9′	42°11.0′	47°05.4′
16	237°25.2′	N 22°09.0′	8.1′	-6.8′	57.3′	96°00.1′	77°02.9′	77°06.1′	23°05.1′	13°59.5′	22°43.5′	42°41.2′	47°34.0′
17	251°52.3′	N 22°02.2′	8.1′	-7.0′	57.4′	95°41.4′	76°29.6′	76°36.3′	22°32.3′	14°31.8′	23°01.6′	43°11.5′	48°02.6′
18	266°19.4′	N 21°55.2′	8.1′	-7.1′	57.4′	95°22.7′	75°56.3′	76°06.6′	21°59.5′	15°04.2′	23°20.3′	43°41.9′	48°31.4′
19	280°46.6′	N 21°48.1′	8.2′	-7.2′	57.4′	95°04.0′	75°22.9′	75°36.8′	21°26.6′	15°36.7′	23°39.6′	44°12.4′	49°00.3′
20	295°13.7′	N 21°40.9′	8.2′	-7.4′	57.4′	94°45.3′	74°49.6′	75°07.0′	20°53.8′	16°09.3′	23°59.3′	44°42.9′	49°29.3′
21	309°40.9′	N 21°33.5′	8.2′	-7.5′	57.4′	94°26.5′	74°16.2′	74°37.2′	20°21.0′	16°42.0′	24°19.5′	45°13.6′	49°58.4′
22	324°08.2′	N 21°26.0′	8.3′	-7.6′	57.5′	94°07.6′	73°42.8′	74°07.4′	19°48.2′	17°14.7′	24°40.2′	45°44.3′	50°27.5′
23	338°35.4′	N 21°18.4′	8.3′	-7.8′	57.5′	93°48.8′	73°09.3′	73°37.6′	19°15.5′	17°47.6′	25°01.4′	46°15.1′	50°56.8′
Mer. pass. 0 h 29 m SD 15.5′ phase 99%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.5′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.8′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°19.9′	S 26°28.6′	Procyon	+0.4	244°53.9′	N 5°10.2′	Polaris	+2.0	315°24.0′	N 89°21.4′
Rigil Kent	−0.0	139°44.6′	S 60°54.9′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.8′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Friday 29 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	128°27.8′	176°44.1′	S 17°55.7′	190°53.3′	S 21°32.3′	176°32.0′	S 18°25.1′	181°05.3′	S 19°26.4′	90°20.4′	N 16°18.5′
1	143°30.2′	191°44.0′	S 17°55.0′	205°52.5′	S 21°31.8′	191°33.9′	S 18°25.0′	196°07.5′	S 19°26.4′	105°21.6′	N 16°19.0′
2	158°32.7′	206°43.9′	S 17°54.3′	220°51.6′	S 21°31.3′	206°35.8′	S 18°24.8′	211°09.6′	S 19°26.3′	120°22.7′	N 16°19.4′
3	173°35.2′	221°43.8′	S 17°53.7′	235°50.7′	S 21°30.8′	221°37.6′	S 18°24.7′	226°11.8′	S 19°26.2′	135°23.9′	N 16°19.8′
4	188°37.6′	236°43.7′	S 17°53.0′	250°49.9′	S 21°30.4′	236°39.5′	S 18°24.5′	241°14.0′	S 19°26.2′	150°25.1′	N 16°20.3′
5	203°40.1′	251°43.6′	S 17°52.3′	265°49.0′	S 21°29.9′	251°41.3′	S 18°24.4′	256°16.1′	S 19°26.1′	165°26.2′	N 16°20.7′
6	218°42.6′	266°43.4′	S 17°51.6′	280°48.1′	S 21°29.4′	266°43.2′	S 18°24.2′	271°18.3′	S 19°26.0′	180°27.4′	N 16°21.2′
7	233°45.0′	281°43.3′	S 17°51.0′	295°47.3′	S 21°28.9′	281°45.1′	S 18°24.1′	286°20.4′	S 19°26.0′	195°28.6′	N 16°21.6′
8	248°47.5′	296°43.2′	S 17°50.3′	310°46.4′	S 21°28.4′	296°46.9′	S 18°23.9′	301°22.6′	S 19°25.9′	210°29.7′	N 16°22.0′
9	263°50.0′	311°43.1′	S 17°49.6′	325°45.6′	S 21°27.9′	311°48.8′	S 18°23.7′	316°24.7′	S 19°25.8′	225°30.9′	N 16°22.5′
10	278°52.4′	326°43.0′	S 17°48.9′	340°44.7′	S 21°27.4′	326°50.6′	S 18°23.6′	331°26.9′	S 19°25.8′	240°32.0′	N 16°22.9′
11	293°54.9′	341°42.9′	S 17°48.2′	355°43.8′	S 21°26.9′	341°52.5′	S 18°23.4′	346°29.1′	S 19°25.7′	255°33.2′	N 16°23.3′
12	308°57.4′	356°42.8′	S 17°47.6′	10°43.0′	S 21°26.4′	356°54.4′	S 18°23.3′	1°31.2′	S 19°25.6′	270°34.4′	N 16°23.8′
13	323°59.8′	11°42.7′	S 17°46.9′	25°42.1′	S 21°25.9′	11°56.2′	S 18°23.1′	16°33.4′	S 19°25.5′	285°35.5′	N 16°24.2′
14	339°02.3′	26°42.6′	S 17°46.2′	40°41.3′	S 21°25.4′	26°58.1′	S 18°23.0′	31°35.5′	S 19°25.5′	300°36.7′	N 16°24.6′
15	354°04.7′	41°42.5′	S 17°45.5′	55°40.4′	S 21°24.9′	41°59.9′	S 18°22.8′	46°37.7′	S 19°25.4′	315°37.9′	N 16°25.1′
16	9°07.2′	56°42.4′	S 17°44.8′	70°39.5′	S 21°24.4′	57°01.8′	S 18°22.7′	61°39.9′	S 19°25.3′	330°39.0′	N 16°25.5′
17	24°09.7′	71°42.3′	S 17°44.2′	85°38.7′	S 21°23.9′	72°03.7′	S 18°22.5′	76°42.0′	S 19°25.3′	345°40.2′	N 16°25.9′
18	39°12.1′	86°42.2′	S 17°43.5′	100°37.8′	S 21°23.4′	87°05.5′	S 18°22.3′	91°44.2′	S 19°25.2′	0°41.3′	N 16°26.4′
19	54°14.6′	101°42.1′	S 17°42.8′	115°37.0′	S 21°22.9′	102°07.4′	S 18°22.2′	106°46.3′	S 19°25.1′	15°42.5′	N 16°26.8′
20	69°17.1′	116°42.0′	S 17°42.1′	130°36.1′	S 21°22.4′	117°09.2′	S 18°22.0′	121°48.5′	S 19°25.1′	30°43.7′	N 16°27.2′
21	84°19.5′	131°41.9′	S 17°41.4′	145°35.2′	S 21°21.9′	132°11.1′	S 18°21.9′	136°50.6′	S 19°25.0′	45°44.8′	N 16°27.7′
22	99°22.0′	146°41.8′	S 17°40.8′	160°34.4′	S 21°21.4′	147°13.0′	S 18°21.7′	151°52.8′	S 19°24.9′	60°46.0′	N 16°28.1′
23	114°24.5′	161°41.7′	S 17°40.1′	175°33.5′	S 21°20.9′	162°14.8′	S 18°21.6′	166°55.0′	S 19°24.9′	75°47.1′	N 16°28.5′
		SD 16.2′ *d* 0.7′		*v* -0.9′ *d* 0.5′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 13 m 10 s		11 h 17 m		12 h 12 m		11 h 54 m		17 h 57 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Arcturus	−Spica	−Regulus	+Pollux	+Procyon	+Betelgeuse	+Sirius
0	353°02.7′	N 21°10.6′	8.3′	-7.9′	57.5′	93°29.9′	73°07.8′	72°35.9′	18°42.7′	18°20.5′	25°23.0′	46°46.0′	50°25.6′
1	7°30.1′	N 21°02.7′	8.4′	-8.0′	57.5′	93°11.0′	72°38.0′	72°02.4′	18°10.0′	18°53.5′	25°45.0′	47°16.9′	50°42.8′
2	21°57.4′	N 20°54.7′	8.4′	-8.1′	57.6′	92°52.0′	72°08.2′	71°28.9′	17°37.3′	19°26.5′	26°07.5′	47°47.9′	51°00.2′
3	36°24.8′	N 20°46.6′	8.4′	-8.3′	57.6′	92°33.1′	71°38.4′	70°55.3′	17°04.7′	19°59.7′	26°30.3′	48°19.0′	51°17.8′
4	50°52.3′	N 20°38.3′	8.5′	-8.4′	57.6′	92°14.1′	71°08.6′	70°21.8′	16°32.1′	20°32.8′	26°53.5′	48°50.2′	51°35.6′
5	65°19.7′	N 20°29.9′	8.5′	-8.5′	57.6′	91°55.0′	70°38.8′	69°48.2′	15°59.5′	21°06.1′	27°17.0′	49°21.4′	51°53.6′
6	79°47.2′	N 20°21.4′	8.5′	-8.6′	57.7′	91°36.0′	70°09.0′	69°14.5′	15°27.1′	21°39.4′	27°40.9′	49°52.7′	52°11.8′
7	94°14.8′	N 20°12.8′	8.6′	-8.8′	57.7′	91°16.9′	69°39.2′	68°40.9′	14°54.6′	22°12.7′	28°05.2′	50°24.1′	52°30.2′
8	108°42.4′	N 20°04.0′	8.6′	-8.9′	57.7′	90°57.8′	69°09.4′	68°07.2′	14°22.3′	22°46.1′	28°29.7′	50°55.5′	52°48.8′
9	123°10.0′	N 19°55.2′	8.7′	-9.0′	57.7′	90°38.7′	68°39.6′	67°33.5′	13°50.1′	23°19.6′	28°54.6′	51°27.0′	53°07.6′
10	137°37.6′	N 19°46.2′	8.7′	-9.1′	57.8′	90°19.6′	68°09.9′	66°59.8′	13°18.0′	23°53.0′	29°19.7′	51°58.5′	53°26.6′
11	152°05.3′	N 19°37.0′	8.7′	-9.2′	57.8′	90°00.5′	67°40.1′	66°26.1′	12°46.0′	24°26.6′	29°45.2′	52°30.1′	53°45.7′
12	166°33.1′	N 19°27.8′	8.8′	-9.4′	57.8′	89°41.3′	67°10.3′	65°52.3′	12°14.2′	25°00.2′	30°10.9′	53°01.8′	54°05.1′
13	181°00.9′	N 19°18.4′	8.8′	-9.5′	57.8′	89°22.1′	66°40.6′	65°18.5′	11°42.5′	25°33.8′	30°36.9′	53°33.5′	54°24.6′
14	195°28.7′	N 19°09.0′	8.9′	-9.6′	57.8′	89°03.0′	66°10.9′	64°44.7′	11°11.1′	26°07.5′	31°03.1′	54°05.3′	54°44.3′
15	209°56.5′	N 18°59.4′	8.9′	-9.7′	57.9′	88°43.8′	65°41.1′	64°10.9′	10°39.9′	26°41.2′	31°29.6′	54°37.1′	55°04.2′
16	224°24.4′	N 18°49.7′	8.9′	-9.8′	57.9′	88°24.6′	65°11.4′	63°37.0′	10°09.0′	27°14.9′	31°56.3′	55°09.0′	55°24.2′
17	238°52.4′	N 18°39.9′	9.0′	-9.9′	57.9′	88°05.4′	64°41.7′	63°03.2′	9°38.4′	27°48.7′	32°23.3′	55°40.9′	55°44.4′
18	253°20.4′	N 18°30.0′	9.0′	-10.0′	57.9′	87°46.1′	64°12.1′	62°29.3′	9°08.2′	28°22.5′	32°50.4′	56°12.9′	56°04.8′
19	267°48.4′	N 18°19.9′	9.1′	-10.1′	58.0′	87°26.9′	63°42.4′	61°55.3′	8°38.5′	28°56.4′	33°17.8′	56°45.0′	56°25.3′
20	282°16.5′	N 18°09.8′	9.1′	-10.3′	58.0′	87°07.7′	63°12.8′	61°21.4′	8°09.3′	29°30.3′	33°45.4′	57°17.1′	56°46.0′
21	296°44.6′	N 17°59.5′	9.2′	-10.4′	58.0′	86°48.5′	62°43.2′	60°47.4′		30°04.2′	34°13.1′	57°49.2′	57°06.9′
22	311°12.8′	N 17°49.2′	9.2′	-10.5′	58.0′	86°29.3′	62°13.6′	60°13.4′		30°38.1′	34°41.1′	58°21.4′	57°27.9′
23	325°41.0′	N 17°38.7′	9.2′	-10.6′	58.0′	86°10.0′	61°44.0′	59°39.4′		31°12.1′	35°09.2′	58°53.6′	57°49.0′
Mer. pass. 0 h 29 m SD 15.7′ phase 100%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.3′	Acrux	+0.8	173°03.2′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.4′	Regulus	+1.4	207°37.5′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.7′	N 38°48.1′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°19.9′	S 26°28.6′	Procyon	+0.4	244°53.8′	N 5°10.2′	Polaris	+2.0	315°24.5′	N 89°21.4′
Rigil Kent	−0.0	139°44.6′	S 60°55.0′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.8′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Saturday 30 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	129°26.9′	176°41.6′	S 17°39.4′	190°32.7′	S 21°20.4′	177°16.7′	S 18°21.4′	181°57.1′	S 19°24.8′	90°48.3′	N 16°29.0′
1	144°29.4′	191°41.5′	S 17°38.7′	205°31.8′	S 21°19.9′	192°18.5′	S 18°21.3′	196°59.3′	S 19°24.7′	105°49.5′	N 16°29.4′
2	159°31.8′	206°41.4′	S 17°38.0′	220°31.0′	S 21°19.4′	207°20.4′	S 18°21.1′	212°01.4′	S 19°24.7′	120°50.6′	N 16°29.8′
3	174°34.3′	221°41.3′	S 17°37.3′	235°30.1′	S 21°18.8′	222°22.3′	S 18°21.0′	227°03.6′	S 19°24.6′	135°51.8′	N 16°30.3′
4	189°36.8′	236°41.2′	S 17°36.6′	250°29.3′	S 21°18.3′	237°24.1′	S 18°20.8′	242°05.7′	S 19°24.5′	150°52.9′	N 16°30.7′
5	204°39.2′	251°41.1′	S 17°35.9′	265°28.4′	S 21°17.8′	252°26.0′	S 18°20.6′	257°07.9′	S 19°24.4′	165°54.1′	N 16°31.1′
6	219°41.7′	266°41.0′	S 17°35.3′	280°27.5′	S 21°17.3′	267°27.9′	S 18°20.5′	272°10.1′	S 19°24.4′	180°55.2′	N 16°31.6′
7	234°44.2′	281°40.9′	S 17°34.6′	295°26.7′	S 21°16.8′	282°29.7′	S 18°20.3′	287°12.2′	S 19°24.3′	195°56.4′	N 16°32.0′
8	249°46.6′	296°40.8′	S 17°33.9′	310°25.8′	S 21°16.3′	297°31.6′	S 18°20.2′	302°14.4′	S 19°24.2′	210°57.6′	N 16°32.4′
9	264°49.1′	311°40.7′	S 17°33.2′	325°25.0′	S 21°15.8′	312°33.4′	S 18°20.0′	317°16.5′	S 19°24.2′	225°58.7′	N 16°32.8′
10	279°51.6′	326°40.6′	S 17°32.5′	340°24.1′	S 21°15.2′	327°35.3′	S 18°19.9′	332°18.7′	S 19°24.1′	240°59.9′	N 16°33.3′
11	294°54.0′	341°40.5′	S 17°31.8′	355°23.3′	S 21°14.7′	342°37.2′	S 18°19.7′	347°20.9′	S 19°24.0′	256°01.0′	N 16°33.7′
12	309°56.5′	356°40.4′	S 17°31.1′	10°22.4′	S 21°14.2′	357°39.0′	S 18°19.6′	2°23.0′	S 19°24.0′	271°02.2′	N 16°34.1′
13	324°59.0′	11°40.3′	S 17°30.4′	25°21.6′	S 21°13.7′	12°40.9′	S 18°19.4′	17°25.2′	S 19°23.9′	286°03.3′	N 16°34.6′
14	340°01.4′	26°40.2′	S 17°29.7′	40°20.7′	S 21°13.1′	27°42.7′	S 18°19.2′	32°27.3′	S 19°23.8′	301°04.5′	N 16°35.0′
15	355°03.9′	41°40.1′	S 17°29.0′	55°19.9′	S 21°12.6′	42°44.6′	S 18°19.1′	47°29.5′	S 19°23.8′	316°05.6′	N 16°35.4′
16	10°06.3′	56°40.0′	S 17°28.3′	70°19.0′	S 21°12.1′	57°46.5′	S 18°18.9′	62°31.6′	S 19°23.7′	331°06.8′	N 16°35.9′
17	25°08.8′	71°39.9′	S 17°27.7′	85°18.2′	S 21°11.6′	72°48.3′	S 18°18.8′	77°33.8′	S 19°23.6′	346°07.9′	N 16°36.3′
18	40°11.3′	86°39.8′	S 17°27.0′	100°17.3′	S 21°11.0′	87°50.2′	S 18°18.6′	92°36.0′	S 19°23.5′	1°09.1′	N 16°36.7′
19	55°13.7′	101°39.7′	S 17°26.3′	115°16.5′	S 21°10.5′	102°52.0′	S 18°18.5′	107°38.1′	S 19°23.5′	16°10.2′	N 16°37.2′
20	70°16.2′	116°39.6′	S 17°25.6′	130°15.6′	S 21°10.0′	117°53.9′	S 18°18.3′	122°40.3′	S 19°23.4′	31°11.4′	N 16°37.6′
21	85°18.7′	131°39.5′	S 17°24.9′	145°14.8′	S 21°09.4′	132°55.8′	S 18°18.2′	137°42.4′	S 19°23.3′	46°12.5′	N 16°38.0′
22	100°21.1′	146°39.5′	S 17°24.2′	160°13.9′	S 21°08.9′	147°57.6′	S 18°18.0′	152°44.6′	S 19°23.3′	61°13.7′	N 16°38.5′
23	115°23.6′	161°39.4′	S 17°23.5′	175°13.1′	S 21°08.4′	162°59.5′	S 18°17.8′	167°46.7′	S 19°23.2′	76°14.9′	N 16°38.9′
		SD 16.2′ *d* 0.7′		*v* -0.9′ *d* 0.5′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.2′ *d* 0.4′	
Mer. pass.		12 h 13 m 19 s		11 h 18 m		12 h 9 m		11 h 51 m		17 h 55 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Acrux	−Arcturus	−Spica	−Regulus	+Pollux	+Procyon	+Sirius	+Betelgeuse
0	340°09.2′	N 17°28.1′	9.3′	-10.7′	58.1′	85°50.8′	61°14.5′	59°05.4′		31°46.2′	35°37.5′	58°10.3′	59°25.9′
1	354°37.5′	N 17°17.4′	9.3′	-10.8′	58.1′	85°31.6′	60°45.0′	58°31.4′		32°20.2′	36°06.0′	58°31.8′	59°58.2′
2	9°05.8′	N 17°06.6′	9.4′	-10.9′	58.1′	85°12.4′	60°15.5′	57°57.3′		32°54.3′	36°34.6′	58°53.3′	60°30.6′
3	23°34.2′	N 16°55.8′	9.4′	-11.0′	58.1′	84°53.2′	59°46.1′	57°23.2′		33°28.4′	37°03.4′	59°15.1′	61°03.0′
4	38°02.6′	N 16°44.8′	9.5′	-11.1′	58.1′	84°34.0′	59°16.7′	56°49.1′		34°02.5′	37°32.4′	59°36.9′	61°35.4′
5	52°31.1′	N 16°33.7′	9.5′	-11.2′	58.2′	84°14.8′	58°47.3′	56°15.0′		34°36.7′	38°01.5′	59°58.9′	62°07.9′
6	66°59.6′	N 16°22.5′	9.6′	-11.3′	58.2′	83°55.6′	58°18.0′	55°40.9′		35°10.9′	38°30.7′	60°21.0′	62°40.4′
7	81°28.2′	N 16°11.2′	9.6′	-11.4′	58.2′	83°36.5′	57°48.7′	55°06.8′		35°45.1′	39°00.1′	60°43.3′	63°13.0′
8	95°56.8′	N 15°59.8′	9.6′	-11.5′	58.2′	83°17.3′	57°19.5′	54°32.6′		36°19.4′	39°29.6′	61°05.6′	63°45.6′
9	110°25.4′	N 15°48.3′	9.7′	-11.6′	58.2′	82°58.2′	56°50.3′	53°58.4′		36°53.7′	39°59.3′	61°28.1′	64°18.2′
10	124°54.1′	N 15°36.8′	9.7′	-11.7′	58.3′	82°39.1′	56°21.2′	53°24.2′		37°28.0′	40°29.0′	61°50.7′	64°50.9′
11	139°22.9′	N 15°25.1′	9.8′	-11.8′	58.3′	82°20.0′	55°52.1′	52°50.0′		38°02.3′	40°58.9′	62°13.5′	65°23.6′
12	153°51.6′	N 15°13.4′	9.8′	-11.8′	58.3′	82°00.9′	55°23.0′	52°15.8′		38°36.7′	41°28.9′	62°36.3′	65°56.4′
13	168°20.5′	N 15°01.5′	9.9′	-11.9′	58.3′	81°41.9′	54°54.0′	51°41.5′		39°11.1′	41°59.0′	62°59.3′	66°29.2′
14	182°49.3′	N 14°49.6′	9.9′	-12.0′	58.3′	81°22.8′	54°25.1′	51°07.3′		39°45.5′	42°29.3′	63°22.4′	67°02.0′
15	197°18.2′	N 14°37.5′	10.0′	-12.1′	58.3′	81°03.8′	53°56.2′	50°33.0′		40°19.9′	42°59.6′	63°45.6′	67°34.8′
16	211°47.2′	N 14°25.4′	10.0′	-12.2′	58.4′	80°44.9′	53°27.4′	49°58.7′		40°54.3′	43°30.0′	64°08.8′	68°07.7′
17	226°16.2′	N 14°13.2′	10.0′	-12.3′	58.4′	80°25.9′	52°58.6′	49°24.4′		41°28.8′	44°00.6′	64°32.2′	68°40.6′
18	240°45.2′	N 14°01.0′	10.1′	-12.4′	58.4′	80°07.0′	52°30.0′	48°50.1′		42°03.3′	44°31.2′	64°55.7′	69°13.6′
19	255°14.3′	N 13°48.6′	10.1′	-12.4′	58.4′	79°48.1′	52°01.3′	48°15.8′		42°37.8′	45°01.9′	65°19.3′	69°46.5′
20	269°43.4′	N 13°36.1′	10.2′	-12.5′	58.4′	79°29.3′	51°32.8′	47°41.5′	8°09.5′	43°12.4′	45°32.7′	65°43.0′	70°19.5′
21	284°12.6′	N 13°23.6′	10.2′	-12.6′	58.4′	79°10.5′	51°04.3′	47°07.1′	8°39.1′	43°46.9′	46°03.6′	66°06.8′	70°52.6′
22	298°41.8′	N 13°11.0′	10.2′	-12.7′	58.5′	78°51.7′	50°36.0′	46°32.8′	9°09.3′	44°21.5′	46°34.6′	66°30.7′	71°25.6′
23	313°11.0′	N 12°58.3′	10.3′	-12.8′	58.5′	78°33.0′	50°07.7′	45°58.4′	9°40.1′	44°56.1′	47°05.7′	66°54.7′	71°58.7′
Mer. pass. 1 h 22 m SD 15.8′ phase 98%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.6′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.2′	Acrux	+0.8	173°03.1′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.3′	Regulus	+1.4	207°37.5′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.7′	N 38°48.0′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°19.9′	S 26°28.6′	Procyon	+0.4	244°53.8′	N 5°10.2′	Polaris	+2.0	315°25.0′	N 89°21.4′
Rigil Kent	−0.0	139°44.6′	S 60°55.0′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.8′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.4′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				

Sunday 31 January 2021 UT1

h	Aries	Sun		Venus		Jupiter		Saturn		Mars	
	GHA	GHA	dec	GHA	dec	GHA	dec	GHA	dec	GHA	dec
0	130°26.1′	176°39.3′	S 17°22.8′	190°12.2′	S 21°07.8′	178°01.3′	S 18°17.7′	182°48.9′	S 19°23.1′	91°16.0′	N 16°39.3′
1	145°28.5′	191°39.2′	S 17°22.1′	205°11.4′	S 21°07.3′	193°03.2′	S 18°17.5′	197°51.1′	S 19°23.1′	106°17.2′	N 16°39.8′
2	160°31.0′	206°39.1′	S 17°21.4′	220°10.6′	S 21°06.8′	208°05.1′	S 18°17.4′	212°53.2′	S 19°23.0′	121°18.3′	N 16°40.2′
3	175°33.5′	221°39.0′	S 17°20.7′	235°09.7′	S 21°06.2′	223°06.9′	S 18°17.2′	227°55.4′	S 19°22.9′	136°19.5′	N 16°40.6′
4	190°35.9′	236°38.9′	S 17°20.0′	250°08.9′	S 21°05.7′	238°08.8′	S 18°17.1′	242°57.5′	S 19°22.9′	151°20.6′	N 16°41.0′
5	205°38.4′	251°38.8′	S 17°19.3′	265°08.0′	S 21°05.1′	253°10.6′	S 18°16.9′	257°59.7′	S 19°22.8′	166°21.7′	N 16°41.5′
6	220°40.8′	266°38.7′	S 17°18.6′	280°07.2′	S 21°04.6′	268°12.5′	S 18°16.8′	273°01.9′	S 19°22.7′	181°22.9′	N 16°41.9′
7	235°43.3′	281°38.6′	S 17°17.9′	295°06.3′	S 21°04.1′	283°14.4′	S 18°16.6′	288°04.0′	S 19°22.7′	196°24.0′	N 16°42.3′
8	250°45.8′	296°38.5′	S 17°17.2′	310°05.5′	S 21°03.5′	298°16.2′	S 18°16.4′	303°06.2′	S 19°22.6′	211°25.2′	N 16°42.8′
9	265°48.2′	311°38.4′	S 17°16.5′	325°04.6′	S 21°03.0′	313°18.1′	S 18°16.3′	318°08.3′	S 19°22.5′	226°26.3′	N 16°43.2′
10	280°50.7′	326°38.4′	S 17°15.8′	340°03.8′	S 21°02.4′	328°19.9′	S 18°16.1′	333°10.5′	S 19°22.4′	241°27.5′	N 16°43.6′
11	295°53.2′	341°38.3′	S 17°15.1′	355°03.0′	S 21°01.9′	343°21.8′	S 18°16.0′	348°12.6′	S 19°22.4′	256°28.6′	N 16°44.1′
12	310°55.6′	356°38.2′	S 17°14.4′	10°02.1′	S 21°01.3′	358°23.7′	S 18°15.8′	3°14.8′	S 19°22.3′	271°29.8′	N 16°44.5′
13	325°58.1′	11°38.1′	S 17°13.7′	25°01.3′	S 21°00.8′	13°25.5′	S 18°15.7′	18°17.0′	S 19°22.2′	286°30.9′	N 16°44.9′
14	341°00.6′	26°38.0′	S 17°13.0′	40°00.4′	S 21°00.2′	28°27.4′	S 18°15.5′	33°19.1′	S 19°22.2′	301°32.1′	N 16°45.3′
15	356°03.0′	41°37.9′	S 17°12.2′	54°59.6′	S 20°59.7′	43°29.2′	S 18°15.3′	48°21.3′	S 19°22.1′	316°33.2′	N 16°45.8′
16	11°05.5′	56°37.8′	S 17°11.5′	69°58.8′	S 20°59.1′	58°31.1′	S 18°15.2′	63°23.4′	S 19°22.0′	331°34.4′	N 16°46.2′
17	26°07.9′	71°37.7′	S 17°10.8′	84°57.9′	S 20°58.6′	73°33.0′	S 18°15.0′	78°25.6′	S 19°22.0′	346°35.5′	N 16°46.6′
18	41°10.4′	86°37.7′	S 17°10.1′	99°57.1′	S 20°58.0′	88°34.8′	S 18°14.9′	93°27.8′	S 19°21.9′	1°36.7′	N 16°47.1′
19	56°12.9′	101°37.6′	S 17°09.4′	114°56.2′	S 20°57.5′	103°36.7′	S 18°14.7′	108°29.9′	S 19°21.8′	16°37.8′	N 16°47.5′
20	71°15.3′	116°37.5′	S 17°08.7′	129°55.4′	S 20°56.9′	118°38.6′	S 18°14.6′	123°32.1′	S 19°21.8′	31°38.9′	N 16°47.9′
21	86°17.8′	131°37.4′	S 17°08.0′	144°54.6′	S 20°56.3′	133°40.4′	S 18°14.4′	138°34.2′	S 19°21.7′	46°40.1′	N 16°48.4′
22	101°20.3′	146°37.3′	S 17°07.3′	159°53.7′	S 20°55.8′	148°42.3′	S 18°14.3′	153°36.4′	S 19°21.6′	61°41.2′	N 16°48.8′
23	116°22.7′	161°37.2′	S 17°06.6′	174°52.9′	S 20°55.2′	163°44.1′	S 18°14.1′	168°38.6′	S 19°21.5′	76°42.4′	N 16°49.2′
		SD 16.2′ *d* 0.7′		*v* -0.8′ *d* 0.5′		*v* 1.9′ *d* 0.2′		*v* 2.2′ *d* 0.1′		*v* 1.1′ *d* 0.4′	
Mer. pass.		12 h 13 m 28 s		11 h 20 m		12 h 6 m		11 h 47 m		17 h 54 m	

h	Moon					Lunar distance							
	GHA	dec	*v*	*d*	HP	−Hadar	−Acrux	−Arcturus	−Spica	+Regulus	+Pollux	+Procyon	+Sirius
0	327°40.3′	N 12°45.6′	10.3′	-12.8′	58.5′	82°45.8′	78°14.3′	49°39.5′	45°24.0′	10°11.3′	45°30.7′	47°36.8′	67°18.8′
1	342°09.7′	N 12°32.7′	10.4′	-12.9′	58.5′	82°21.9′	77°55.6′	49°11.3′	44°49.6′	10°42.8′	46°05.4′	48°08.0′	67°42.9′
2	356°39.0′	N 12°19.8′	10.4′	-13.0′	58.5′	81°58.0′	77°37.0′	48°43.3′	44°15.3′	11°14.7′	46°40.0′	48°39.3′	68°07.2′
3	11°08.4′	N 12°06.8′	10.4′	-13.1′	58.5′	81°34.1′	77°18.5′	48°15.4′	43°40.9′	11°46.9′	47°14.7′	49°10.7′	68°31.5′
4	25°37.9′	N 11°53.8′	10.5′	-13.1′	58.6′	81°10.2′	76°60.0′	47°47.5′	43°06.5′	12°19.3′	47°49.4′	49°42.1′	68°55.9′
5	40°07.4′	N 11°40.7′	10.5′	-13.2′	58.6′	80°46.4′	76°41.5′	47°19.8′	42°32.0′	12°52.0′	48°24.1′	50°13.7′	69°20.4′
6	54°36.9′	N 11°27.5′	10.6′	-13.3′	58.6′	80°22.5′	76°23.1′	46°52.2′	41°57.6′	13°24.8′	48°58.9′	50°45.2′	69°45.0′
7	69°06.4′	N 11°14.2′	10.6′	-13.3′	58.6′	79°58.7′	76°04.8′	46°24.7′	41°23.2′	13°57.9′	49°33.6′	51°16.9′	70°09.6′
8	83°36.0′	N 11°00.9′	10.6′	-13.4′	58.6′	79°34.9′	75°46.5′	45°57.3′	40°48.8′	14°31.0′	50°08.4′	51°48.6′	70°34.3′
9	98°05.7′	N 10°47.5′	10.7′	-13.5′	58.6′	79°11.2′	75°28.2′	45°30.0′	40°14.4′	15°04.4′	50°43.2′	52°20.4′	70°59.1′
10	112°35.3′	N 10°34.0′	10.7′	-13.5′	58.6′	78°47.4′	75°10.0′	45°02.9′	39°39.9′	15°37.8′	51°18.0′	52°52.2′	71°24.0′
11	127°05.0′	N 10°20.5′	10.7′	-13.6′	58.7′	78°23.7′	74°51.9′	44°35.8′	39°05.5′	16°11.4′	51°52.8′	53°24.1′	71°48.9′
12	141°34.8′	N 10°06.9′	10.8′	-13.6′	58.7′	78°00.0′	74°33.9′	44°09.0′	38°31.1′	16°45.0′	52°27.6′	53°56.0′	72°13.9′
13	156°04.5′	N 9°53.3′	10.8′	-13.7′	58.7′	77°36.4′	74°15.9′	43°42.2′	37°56.6′	17°18.8′	53°02.5′	54°28.0′	72°38.9′
14	170°34.3′	N 9°39.6′	10.8′	-13.8′	58.7′	77°12.8′	73°57.9′	43°15.6′	37°22.2′	17°52.7′	53°37.4′	55°00.1′	73°04.1′
15	185°04.2′	N 9°25.8′	10.9′	-13.8′	58.7′	76°49.2′	73°40.1′	42°49.2′	36°47.8′	18°26.6′	54°12.2′	55°32.2′	73°29.3′
16	199°34.0′	N 9°12.0′	10.9′	-13.9′	58.7′	76°25.6′	73°22.3′	42°22.9′	36°13.3′	19°00.6′	54°47.1′	56°04.3′	73°54.5′
17	214°03.9′	N 8°58.2′	10.9′	-13.9′	58.7′	76°02.1′	73°04.6′	41°56.8′	35°38.9′	19°34.7′	55°22.0′	56°36.5′	74°19.8′
18	228°33.8′	N 8°44.3′	11.0′	-14.0′	58.8′	75°38.7′	72°46.9′	41°30.8′	35°04.5′	20°08.8′	55°57.0′	57°08.8′	74°45.2′
19	243°03.8′	N 8°30.3′	11.0′	-14.0′	58.8′	75°15.2′	72°29.4′	41°05.0′	34°30.1′	20°43.0′	56°31.9′	57°41.1′	75°10.6′
20	257°33.8′	N 8°16.3′	11.0′	-14.1′	58.8′	74°51.9′	72°11.9′	40°39.4′	33°55.7′	21°17.3′	57°06.9′	58°13.4′	75°36.0′
21	272°03.8′	N 8°02.2′	11.0′	-14.1′	58.8′	74°28.5′	71°54.5′	40°14.0′	33°21.3′	21°51.6′	57°41.8′	58°45.8′	76°01.6′
22	286°33.8′	N 7°48.1′	11.1′	-14.2′	58.8′	74°05.2′	71°37.2′	39°48.8′	32°46.9′	22°25.9′	58°16.8′	59°18.3′	76°27.1′
23	301°03.9′	N 7°33.9′	11.1′	-14.2′	58.8′	73°42.0′	71°19.9′	39°23.8′	32°12.5′	23°00.3′	58°51.8′	59°50.7′	76°52.8′
Mer. pass. 2 h 14 m SD 16.0′ phase 94%													

Star	mag	SHA	dec	Star	mag	SHA	dec	Star	mag	SHA	dec
Fomalhaut	+1.2	15°18.4′	S 29°30.9′	Spica	+1.0	158°25.5′	S 11°16.2′	Betelgeuse	+0.5	270°55.3′	N 7°24.5′
Deneb	+1.2	49°28.4′	N 45°21.2′	Acrux	+0.8	173°03.1′	S 63°12.6′	Capella	+0.1	280°26.3′	N 46°01.2′
Altair	+0.8	62°03.4′	N 8°55.3′	Regulus	+1.4	207°37.5′	N 11°51.8′	Rigel	+0.2	281°06.7′	S 8°10.8′
Vega	+0.0	80°35.7′	N 38°48.0′	Pollux	+1.2	243°20.9′	N 27°58.4′	Aldebaran	+0.9	290°43.1′	N 16°33.0′
Antares	+1.1	112°19.9′	S 26°28.6′	Procyon	+0.4	244°53.8′	N 5°10.2′	Polaris	+2.0	315°25.6′	N 89°21.4′
Rigil Kent	−0.0	139°44.6′	S 60°55.0′	Adhara	+1.5	255°08.0′	S 29°00.2′	Achernar	+0.5	335°22.8′	S 57°08.2′
Arcturus	−0.1	145°50.8′	N 19°04.3′	Sirius	−1.4	258°28.7′	S 16°44.9′				
Hadar	+0.6	148°40.3′	S 60°28.1′	Canopus	−0.6	263°53.3′	S 52°42.6′				