

Moon (21 st Jun)					Lunar Distance (objects with largest hourly LD delta)								
h	GHA	ν	Dec	d	HP	-Altair	-Antares	-Rigel Kent.	-Spica	+Regulus	+Jupiter	+Pollux	+Sun
0	100°10.6	14.3'	N03°07.0	-15.4'	57.2'		81°21.2	75°12.1	35°30.3	18°36.0	50°40.7	55°36.7	79°02.1
1	114°43.9	14.4'	02°51.6	-15.4'	57.1'		80°48.3	74°46.5	34°57.5	19°08.9	51°13.1	56°09.5	79°32.5
2	129°17.3	14.4'	02°36.2	-15.4'	57.1'		80°15.4	74°21.0	34°24.6	19°41.8	51°45.4	56°42.3	80°02.9
3	143°50.7	14.5'	02°20.8	-15.4'	57.0'		79°42.6	73°55.6	33°51.8	20°14.7	52°17.7	57°15.1	80°33.3
4	158°24.2	14.5'	02°05.4	-15.4'	57.0'		79°09.8	73°30.2	33°19.1	20°47.5	52°49.9	57°47.8	81°03.6
5	172°57.7	14.6'	01°50.1	-15.3'	57.0'		78°37.0	73°04.9	32°46.4	21°20.2	53°22.1	58°20.5	81°33.9
6	187°31.2	14.6'	N01°34.7	-15.3'	56.9'		78°04.3	72°39.7	32°13.8	21°52.9	53°54.3	58°53.1	82°04.1
7	202°04.8	14.6'	01°19.4	-15.3'	56.9'		77°31.6	72°14.6	31°41.1	22°25.6	54°26.4	59°25.7	82°34.3
8	216°38.5	14.7'	01°04.1	-15.3'	56.9'		76°59.0	71°49.5	31°08.6	22°58.2	54°58.5	59°58.2	83°04.5
9	231°12.2	14.7'	00°48.8	-15.3'	56.8'		76°26.4	71°24.5	30°36.1	23°30.8	55°30.5	60°30.8	83°34.6
10	245°45.9	14.8'	00°33.5	-15.3'	56.8'		75°53.8	70°59.6	30°03.6	24°03.4	56°02.5	61°03.2	84°04.6
11	260°19.7	14.8'	00°18.2	-15.3'	56.8'		75°21.3	70°34.8	29°31.2	24°35.9	56°34.4	61°35.6	84°34.7
12	274°53.5	14.8'	N00°02.9	-15.2'	56.7'		74°48.9	70°10.0	28°58.8	25°08.3	57°06.3	62°08.0	85°04.6
13	289°27.3	14.9'	S00°12.3	-15.2'	56.7'		74°16.4	69°45.3	28°26.4	25°40.8	57°38.2	62°40.4	85°34.6
14	304°01.2	14.9'	00°27.5	-15.2'	56.6'		73°44.1	69°20.7	27°54.1	26°13.1	58°10.0	63°12.7	86°04.5
15	318°35.1	14.9'	00°42.7	-15.2'	56.6'		73°11.7	68°56.2	27°21.9	26°45.5	58°41.8	63°45.0	86°34.3
16	333°09.0	15.0'	00°57.9	-15.1'	56.6'		72°39.4	68°31.7	26°49.7	27°17.8	59°13.6	64°17.2	87°04.2
17	347°43.0	15.0'	01°13.0	-15.1'	56.5'		72°07.2	68°07.4	26°17.5	27°50.0	59°45.3	64°49.4	87°33.9
18	2°17.0	15.0'	S01°28.1	-15.1'	56.5'		71°34.9	67°43.1	25°45.4	28°22.3	60°16.9	65°21.5	88°03.7
19	16°51.0	15.1'	01°43.2	-15.1'	56.5'	119°46.8	71°02.7	67°18.9	25°13.3	28°54.5	60°48.6	65°53.6	88°33.4
20	31°25.1	15.1'	01°58.3	-15.0'	56.4'	119°21.2	70°30.6	66°54.8	24°41.3	29°26.6	61°20.1	66°25.7	89°03.0
21	45°59.2	15.1'	02°13.4	-15.0'	56.4'	118°55.6	69°58.5	66°30.7	24°09.3	29°58.7	61°51.7	66°57.7	89°32.7
22	60°33.3	15.1'	02°28.4	-15.0'	56.4'	118°29.9	69°26.4	66°06.8	23°37.3	30°30.8	62°23.2	67°29.7	90°02.3
23	75°07.4	15.2'	02°43.4	-15.0'	56.3'	118°04.3	68°54.4	65°42.9	23°05.4	31°02.8	62°54.7	68°01.7	90°31.8
21 st	SD = 15.6' Mer. pass. 17:51					Sun SD = 15.7'							

Moon (22 nd Jun)					Lunar Distance (objects with largest hourly LD delta)								
Mon	GHA	ν	Dec	d	HP	-Altair	-Antares	-Rigel Kent.	-Spica	+Regulus	+Jupiter	+Procyon	+Pollux
0	89°41.6	15.2'	S02°58.4	-14.9'	56.3'	117°38.5	68°22.4	65°19.1	22°33.5	31°34.8	63°26.1	65°46.1	68°33.6
1	104°15.7	15.2'	03°13.3	-14.9'	56.3'	117°12.8	67°50.5	64°55.5	22°01.7	32°06.7	63°57.5	66°15.9	69°05.5
2	118°49.9	15.2'	03°28.2	-14.9'	56.2'	116°47.0	67°18.5	64°31.9	21°29.9	32°38.7	64°28.9	66°45.8	69°37.4
3	133°24.1	15.2'	03°43.1	-14.8'	56.2'	116°21.2	66°46.7	64°08.4	20°58.2	33°10.5	65°00.2	67°15.6	70°09.2
4	147°58.4	15.2'	03°57.9	-14.8'	56.2'	115°55.4	66°14.8	63°45.0	20°26.5	33°42.4	65°31.5	67°45.4	70°41.0
5	162°32.6	15.3'	04°12.7	-14.8'	56.1'	115°29.6	65°43.0	63°21.7	19°54.8	34°14.2	66°02.7	68°15.2	71°12.7
6	177°06.9	15.3'	S04°27.5	-14.7'	56.1'	115°03.8	65°11.2	62°58.4	19°23.2	34°46.0	66°34.0	68°45.0	71°44.4
7	191°41.1	15.3'	04°42.2	-14.7'	56.1'	114°37.9	64°39.5	62°35.3	18°51.7	35°17.7	67°05.1	69°14.7	72°16.1
8	206°15.4	15.3'	04°56.9	-14.7'	56.0'	114°12.0	64°07.8	62°12.3	18°20.2	35°49.4	67°36.3	69°44.5	72°47.7
9	220°49.7	15.3'	05°11.6	-14.6'	56.0'	113°46.1	63°36.2	61°49.4	17°48.7	36°21.0	68°07.4	70°14.2	73°19.3
10	235°24.0	15.3'	05°26.2	-14.6'	56.0'	113°20.2	63°04.5	61°26.5	17°17.3	36°52.7	68°38.5	70°43.9	73°50.9
11	249°58.3	15.3'	05°40.8	-14.6'	56.0'	112°54.3	62°32.9	61°03.8	16°45.9	37°24.3	69°09.5	71°13.5	74°22.4
12	264°32.6	15.3'	S05°55.4	-14.5'	55.9'	112°28.4	62°01.4	60°41.2	16°14.6	37°55.8	69°40.5	71°43.2	74°53.9
13	279°07.0	15.3'	06°09.9	-14.5'	55.9'	112°02.4	61°29.8	60°18.7	15°43.3	38°27.4	70°11.5	72°12.8	75°25.3
14	293°41.3	15.3'	06°24.4	-14.4'	55.9'	111°36.5	60°58.4	59°56.2	15°12.1	38°58.8	70°42.4	72°42.4	75°56.8
15	308°15.6	15.3'	06°38.8	-14.4'	55.8'	111°10.5	60°26.9	59°33.9	14°40.9	39°30.3	71°13.3	73°12.0	76°28.2
16	322°50.0	15.3'	06°53.2	-14.4'	55.8'	110°44.5	59°55.5	59°11.7	14°09.8	40°01.7	71°44.2	73°41.6	76°59.5
17	337°24.3	15.3'	07°07.6	-14.3'	55.8'	110°18.6	59°24.1	58°49.6	13°38.7	40°33.1	72°15.1	74°11.1	77°30.9
18	351°58.6	15.3'	S07°21.9	-14.3'	55.7'	109°52.6	58°52.7	58°27.7	13°07.7	41°04.5	72°45.9	74°40.7	78°02.2
19	6°33.0	15.3'	07°36.1	-14.2'	55.7'	109°26.6	58°21.4	58°05.8	12°36.7	41°35.8	73°16.6	75°10.2	78°33.4
20	21°07.3	15.3'	07°50.3	-14.2'	55.7'	109°00.6	57°50.1	57°44.0	12°05.8	42°07.1	73°47.4	75°39.6	79°04.7
21	35°41.6	15.3'	08°04.5	-14.1'	55.7'	108°34.6	57°18.8	57°22.4	11°35.0	42°38.4	74°18.1	76°09.1	79°35.9
22	50°15.9	15.3'	08°18.6	-14.1'	55.6'	108°08.6	56°47.6	57°00.9	11°04.3	43°09.6	74°48.8	76°38.5	80°07.0
23	64°50.2	15.3'	08°32.7	-14.0'	55.6'	107°42.6	56°16.4	56°39.5	10°33.6	43°40.8	75°19.4	77°08.0	80°38.2
22 nd	SD = 15.4' Mer. pass. 18:33												

Moon (23 rd Jun)					Lunar Distance (objects with largest hourly LD delta)								
Tue	GHA	ν	Dec	d	HP	-Altair	-Rigel Kent.	-Antares	-Spica	+Regulus	+Jupiter	+Procyon	+Pollux
0	79°24.6	15.3'	S08°46.8	-14.0'	55.6'	107°16.6	56°18.2	55°45.2	10°03.0	44°12.0	75°50.1	77°37.4	81°09.3
1	93°58.9	15.3'	09°00.7	-13.9'	55.5'	106°50.6	55°57.0	55°14.1	9°32.5	44°43.1	76°20.7	78°06.7	81°40.4
2	108°33.1	15.3'	09°14.7	-13.9'	55.5'	106°24.6	55°36.0	54°43.0	9°02.1	45°14.2	76°51.2	78°36.1	82°11.4
3	123°07.4	15.3'	09°28.6	-13.8'	55.5'	105°58.6	55°15.1	54°11.9	8°31.8	45°45.3	77°21.7	79°05.4	82°42.5
4	137°41.7	15.3'	09°42.4	-13.8'	55.5'	105°32.6	54°54.3	53°40.9	8°01.7	46°16.4	77°52.3	79°34.7	83°13.4
5	152°15.9	15.2'	09°56.2	-13.7'	55.4'	105°06.6	54°33.6	53°09.8	7°31.7	46°47.4	78°22.7	80°04.0	83°44.4
6	166°50.2	15.2'	S10°09.9	-13.7'	55.4'	104°40.5	54°13.1	52°38.8	7°01.8	47°18.4	78°53.2	80°33.3	84°15.3
7	181°24.4	15.2'	10°23.6	-13.6'	55.4'	104°14.5	53°52.7	52°07.9	6°32.2	47°49.3	79°23.6	81°02.5	84°46.3
8	195°58.6	15.2'	10°37.2	-13.6'	55.4'	103°48.5	53°32.4	51°36.9	6°02.8	48°20.3	79°54.0	81°31.7	85°17.1
9	210°32.8	15.2'	10°50.8	-13.5'	55.3'	103°22.5	53°12.3	51°06.0	5°33.8	48°51.2	80°24.3	82°00.9	85°48.0
10	225°07.0	15.2'	11°04.3	-13.5'	55.3'	102°56.6	52°52.3	50°35.1	5°05.1	49°22.1	80°54.7	82°30.1	86°18.8
11	239°41.2	15.1'	11°17.7	-13.4'	55.3'	102°30.6	52°32.5	50°04.3	4°36.9	49°52.9	81°25.0	82°59.3	86°49.6
12	254°15.3	15.1'	S11°31.1	-13.3'	55.3'	102°04.6	52°12.8	49°33.5	4°09.4	50°23.8	81°55.3	83°28.4	87°20.4
13	268°49.4	15.1'	11°44.5	-13.3'	55.2'	101°38.6	51°53.2	49°02.7	3°42.7	50°54.6	82°25.5	83°57.5	87°51.1
14	283°23.5	15.1'	11°57.8	-13.2'	55.2'	101°12.6	51°33.8	48°31.9	3°15.3	51°25.3	82°55.7	84°26.6	88°21.8
15	297°57.6	15.1'	12°11.0	-13.2'	55.2'	100°46.7	51°14.5	48°01.1	2°48.1	51°56.1	83°25.9	84°55.7	88°52.5
16	312°31.6	15.0'	12°24.2	-13.1'	55.2'	100°20.7	50°55.4	47°30.4	2°21.0	52°26.8	83°56.1	85°24.7	89°23.2
17	327°05.7	15.0'	12°37.3	-13.0'	55.1'	99°54.7	50°36.4	46°59.7	1°54.0	52°57.5	84°26.3	85°53.7	89°53.9
18	341°39.7	15.0'	S12°50.3	-13.0'	55.1'	99°28.8	50°17.6	46°29.0	1°27.0	53°28.2	84°56.4	86°22.8	90°24.5
19	356°13.6	14.9'	13°03.3	-12.9'	55.1'	99°02.9	49°59.0	45°58.4	1°00.0	53°58.8	85°26.5	86°51.7	90°55.1
20	10°47.6	14.9'	13°16.2	-12.9'	55.1'	98°36.9	49°40.5	45°27.8	0°33.0	54°29.5	85°56.6	87°20.7	91°25.6
21	25°21.5	14.9'	13°29.1	-12.8'	55.0'	98°11.0	49°22.4	44°57.2	0°06.0	55°00.1	86°26.6	87°49.6	91°56.2
22	39°55.4	14.9'	13°41.9	-12.7'	55.0'	97°45.1	49°04.0	44°26.6	0°00.0	55°30.6	86°56.7	88°18.6	92°26.7
23	54°29.3	14.8'	13°54.6	-12.7'	55.0'	97°19.2	48°46.0	43°56.0	0°00.0	56°01.2	87°26.7	88°47.5	92°57.2
23 rd	SD = 15.2' Mer. pass. 19:16												

Moon (24 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Fomalhaut	-Altair	-Rigel Kent.	-Antares	+Spica	+Regulus	+Jupiter	+Pollux
0	69°03.1	14.8'	S14°07.3	-12.6'	55.0'		96°53.3	48°28.2	43°25.5		56°31.7	87°56.7	93°27.7
1	83°36.9	14.8'	14°19.9	-12.5'	54.9'		96°27.4	48°10.5	42°55.0		57°02.2	88°26.6	93°58.1
2	98°10.7	14.7'	14°32.4	-12.5'	54.9'		96°01.5	47°53.0	42°24.5		57°32.7	88°56.6	94°28.6
3	112°44.4	14.7'	14°44.9	-12.4'	54.9'		95°35.7	47°35.7	41°54.0	4°27.3	58°03.2	89°26.5	94°59.0
4	127°18.1	14.7'	14°57.3	-12.3'	54.9'		95°09.8	47°18.6	41°23.6	4°54.9	58°33.6	89°56.4	95°29.4
5	141°51.8	14.6'	15°09.6	-12.3'	54.9'		94°44.0	47°01.7	40°53.2	5°23.0	59°04.1	90°26.2	95°59.7
6	156°25.4	14.6'	S15°21.9	-12.2'	54.8'		94°18.1	46°44.9	40°22.8	5°51.5	59°34.5	90°56.1	96°30.1
7	170°59.0	14.6'	15°34.1	-12.1'	54.8'	119°37.0	93°52.3	46°28.4	39°52.4	6°20.2	60°04.8	91°25.9	97°00.4
8	185°32.5	14.5'	15°46.2	-12.0'	54.8'	119°09.3	93°26.5	46°12.0	39°22.0	6°49.2	60°35.2	91°55.7	97°30.7
9	200°06.0	14.5'	15°58.2	-12.0'	54.8'	118°41.7	93°00.7	45°55.8	38°51.7	7°18.3	61°05.5	92°25.5	98°01.0
10	214°39.5	14.4'	16°10.2	-11.9'	54.8'	118°14.1	92°34.9	45°39.8	38°21.4	7°47.6	61°35.9	92°55.3	98°31.2
11	229°12.9	14.4'	16°22.1	-11.8'	54.7'	117°46.5	92°09.2	45°24.0	37°51.1	8°16.9	62°06.2	93°25.1	99°01.5
12	243°46.3	14.4'	S16°33.9	-11.8'	54.7'	117°18.9	91°43.4	45°08.4	37°20.8	8°46.4	62°36.4	93°54.8	99°31.7
13	258°19.7	14.3'	16°45.7	-11.7'	54.7'	116°51.2	91°17.7	44°53.1	36°50.5	9°15.9	63°06.7	94°24.5	100°01.9
14	272°53.0	14.3'	16°57.4	-11.6'	54.7'	116°23.6	90°52.0	44°37.9	36°20.3	9°45.5	63°36.9	94°54.2	100°32.1
15	287°26.3	14.2'	17°09.0	-11.5'	54.7'	115°55.9	90°26.2		35°50.1	10°15.1	64°07.2	95°23.9	101°02.2
16	301°59.5	14.2'	17°20.5	-11.4'	54.6'	115°28.3	90°00.5		35°19.9	10°44.8	64°37.4	95°53.5	101°32.4
17	316°32.7	14.1'	17°31.9	-11.4'	54.6'	115°00.6	89°34.9		34°49.7	11°14.5	65°07.6	96°23.2	102°02.5
18	331°05.8	14.1'	S17°43.3	-11.3'	54.6'	114°33.0	89°09.2		34°19.5	11°44.2	65°37.7	96°52.8	102°32.6
19	345°38.9	14.0'	17°54.6	-11.2'	54.6'	114°05.3	88°43.6		33°49.4	12°13.9	66°07.9	97°22.4	103°02.7
20	0°12.0	14.0'	18°05.8	-11.1'	54.6'	113°37.8	88°17.9		33°19.2	12°43.7	66°38.0	97°52.0	103°32.8
21	14°45.0	14.0'	18°16.9	-11.0'	54.6'	113°10.0	87°52.3		32°49.1	13°13.5	67°08.1	98°21.5	104°02.9
22	29°17.9	13.9'	18°27.9	-11.0'	54.5'	112°42.3	87°26.7		32°19.0	13°43.2	67°38.2	98°51.1	104°32.9
23	43°50.8	13.9'	18°38.9	-10.9'	54.5'	112°14.6	87°01.1		31°48.9	14°13.0	68°08.3	99°20.6	105°02.9
24 th	SD = 15.0' Mer. pass. 19:59												

Moon (25 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
Thu	GHA	ν	Dec	d	HP	-Fomalhaut	-Altair	-Antares	+Spica	+Regulus	+Jupiter	+Procyon	+Pollux
0	58°23.7	13.8'	S18°49.8	-10.8'	54.5'	111°47.0	86°35.6	31°18.9	14°42.8	68°38.4	99°50.2	100°43.2	105°32.9
1	72°56.5	13.8'	19°00.6	-10.7'	54.5'	111°19.3	86°10.0	30°48.8	15°12.6	69°08.5	100°19.7	101°11.6	106°02.9
2	87°29.3	13.7'	19°11.3	-10.6'	54.5'	110°51.6	85°44.5	30°18.8	15°42.4	69°38.5	100°49.1	101°39.9	106°32.9
3	102°02.0	13.7'	19°21.9	-10.5'	54.5'	110°23.9	85°19.0	29°48.8	16°12.2	70°08.5	101°18.6	102°08.3	107°02.9
4	116°34.6	13.6'	19°32.4	-10.5'	54.4'	109°56.2	84°53.5	29°18.8	16°42.0	70°38.5	101°48.1	102°36.6	107°32.8
5	131°07.3	13.6'	19°42.9	-10.4'	54.4'	109°28.6	84°28.0	28°48.8	17°11.7	71°08.5	102°17.5	103°04.9	108°02.8
6	145°39.8	13.5'	S19°53.3	-10.3'	54.4'	109°00.9	84°02.5	28°18.8	17°41.5	71°38.5	102°47.0	103°33.1	108°32.7
7	160°12.3	13.5'	20°03.5	-10.2'	54.4'	108°33.2	83°37.1	27°48.8	18°11.3	72°08.5	103°16.4	104°01.4	109°02.6
8	174°44.8	13.4'	20°13.7	-10.1'	54.4'	108°05.5	83°11.7	27°18.9	18°41.1	72°38.4	103°45.8	104°29.6	109°32.5
9	189°17.2	13.4'	20°23.8	-10.0'	54.4'	107°37.8	82°46.3	26°48.9	19°10.9	73°08.4	104°15.2	104°57.8	110°02.3
10	203°49.6	13.3'	20°33.8	-9.9'	54.4'	107°10.2	82°20.9	26°19.0	19°40.6	73°38.3	104°44.5	105°26.0	110°32.2
11	218°21.9	13.2'	20°43.7	-9.8'	54.3'	106°42.5	81°55.5	25°49.1	20°10.4	74°08.2	105°13.9	105°54.1	111°02.1
12	232°54.1	13.2'	S20°53.6	-9.7'	54.3'	106°14.8	81°30.2	25°19.2	20°40.1	74°38.1	105°43.3	106°22.3	111°31.9
13	247°26.3	13.1'	21°03.3	-9.6'	54.3'	105°47.1	81°04.9	24°49.3	21°09.9	75°08.0	106°12.6	106°50.4	112°01.7
14	261°58.4	13.1'	21°12.9	-9.5'	54.3'	105°19.5	80°39.6	24°19.5	21°39.6	75°37.9	106°41.9	107°18.5	112°31.5
15	276°30.5	13.0'	21°22.5	-9.4'	54.3'	104°51.8	80°14.3	23°49.6	22°09.4	76°07.7	107°11.2	107°46.6	113°01.3
16	291°02.6	13.0'	21°31.9	-9.3'	54.3'	104°24.1	79°49.1	23°19.7	22°39.1	76°37.6	107°40.5	108°14.7	113°31.1
17	305°34.6	12.9'	21°41.3	-9.3'	54.3'	103°56.4	79°23.9	22°49.9	23°08.8	77°07.4	108°09.8	108°42.7	114°00.9
18	320°06.5	12.9'	S21°50.5	-9.2'	54.3'	103°28.8	78°58.7	22°20.1	23°38.6	77°37.3	108°39.1	109°10.7	114°30.7
19	334°38.4	12.8'	21°59.7	-9.1'	54.2'	103°01.1	78°33.5	21°50.3	24°08.3	78°07.1	109°08.4	109°38.7	115°00.4
20	349°10.2	12.8'	22°08.7	-9.0'	54.2'	102°33.4	78°08.3	21°20.5	24°38.0	78°36.9	109°37.6	110°06.7	115°30.1
21	3°41.9	12.7'	22°17.7	-8.9'	54.2'	102°05.7	77°43.2	20°50.7	25°07.7	79°06.7	110°06.9	110°34.7	115°59.9
22	18°13.6	12.7'	22°26.5	-8.8'	54.2'	101°38.1	77°18.1	20°20.9	25°37.4	79°36.5	110°36.1	111°02.6	116°29.6
23	32°45.3	12.6'	22°35.3	-8.7'	54.2'	101°10.4	76°53.0	19°51.1	26°07.1	80°06.3	111°05.3	111°30.5	116°59.3
25 th	SD = 14.9' Mer. pass. 20:45												

Moon (26 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
Fri	GHA	ν	Dec	d	HP	-Fomalhaut	-Altair	-Antares	+Spica	+Regulus	+Jupiter	+Procyon	+Pollux
0	47°16.9	12.5'	S22°44.0	-8.6'	54.2'	100°42.8	76°27.9	19°21.4	26°36.7	80°36.0	111°34.6	111°58.4	117°29.0
1	61°48.4	12.5'	22°52.5	-8.5'	54.2'	100°15.1	76°02.9	18°51.6	27°06.4	81°05.8	112°03.8	112°26.3	117°58.7
2	76°19.9	12.4'	23°01.0	-8.3'	54.2'	99°47.4	75°37.9	18°21.9	27°36.1	81°35.6	112°33.0	112°54.2	118°28.4
3	90°51.3	12.4'	23°09.3	-8.2'	54.2'	99°19.8	75°12.9	17°52.1	28°05.7	82°05.3	113°02.2	113°22.0	118°58.0
4	105°22.7	12.3'	23°17.6	-8.1'	54.1'	98°52.1	74°48.0	17°22.4	28°35.4	82°35.0	113°31.3	113°49.8	119°27.7
5	119°54.0	12.3'	23°25.7	-8.0'	54.1'	98°24.5	74°23.1	16°52.7	29°05.0	83°04.8	114°00.5	114°17.6	119°57.3
6	134°25.3	12.2'	S23°33.7	-7.9'	54.1'	97°56.8	73°58.2	16°23.0	29°34.7	83°34.5	114°29.7	114°45.3	
7	148°56.5	12.2'	23°41.7	-7.8'	54.1'	97°29.2	73°33.3	15°53.3	30°04.3	84°04.2	114°58.8	115°13.1	
8	163°27.7	12.1'	23°49.5	-7.7'	54.1'	97°01.5	73°08.5	15°23.6	30°34.0	84°33.9	115°28.0	115°40.8	
9	177°58.8	12.0'	23°57.2	-7.6'	54.1'	96°33.9	72°43.7	14°53.9	31°03.6	85°03.6	115°57.1	116°08.5	
10	192°29.8	12.0'	24°04.8	-7.5'	54.1'	96°06.3	72°18.9	14°24.2	31°33.2	85°33.3	116°26.2	116°36.2	
11	207°00.8	11.9'	24°12.3	-7.4'	54.1'	95°38.6	71°54.1	13°54.6	32°02.8	86°03.0	116°55.4	117°03.8	
12	221°31.8	11.9'	S24°19.7	-7.3'	54.1'	95°11.0	71°29.4	13°24.9	32°32.4	86°32.6	117°24.5	117°31.5	
13	236°02.6	11.8'	24°27.0	-7.2'	54.1'	94°43.4	71°04.7	12°55.3	33°02.0	87°02.3	117°53.6	117°59.1	
14	250°33.5	11.8'	24°34.1	-7.1'	54.1'	94°15.8	70°40.1	12°25.6	33°31.7	87°32.0	118°22.7	118°26.6	
15	265°04.3	11.7'	24°41.2	-6.9'	54.1'	93°48.1	70°15.5	11°56.0	34°01.2	88°01.6	118°51.8	118°54.2	
16	279°35.0	11.7'	24°48.1	-6.8'	54.0'	93°20.5	69°50.9	11°26.4	34°30.8	88°31.3	119°20.9	119°21.7	
17	294°05.7	11.6'	24°54.9	-6.7'	54.0'	92°52.9	69°26.3	10°56.7	35°00.4	89°00.9	119°50.0	119°49.2	
18	308°36.3	11.6'	S25°01.7	-6.6'	54.0'	92°25.3	69°01.8	10°27.1	35°30.0	89°30.5			
19	323°06.8	11.5'	25°08.3	-6.5'	54.0'	91°57.7	68°37.3	9°57.5	35°59.6	90°00.2			
20	337°37.4	11.5'	25°14.7	-6.4'	54.0'	91°30.1	68°12.9	9°27.9	36°29.2	90°29.8			
21	352°07.8	11.4'	25°21.1	-6.2'	54.0'	91°02.5	67°48.5	8°58.3	36°58.7	90°59.4			
22	6°38.2	11.4'	25°27.4	-6.1'	54.0'	90°34.9	67°24.1	8°28.8	37°28.3	91°29.0			
23	21°08.6	11.3'	25°33.5	-6.0'	54.0'	90°07.3	66°59.8	7°59.2	37°57.9	91°58.6			
26 th	SD = 14.8' Mer. pass. 21:33												

Moon (27 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Deneb	-Fomalhaut	-Altair	+Antares	+Spica	+Arcturus	+Regulus	+Venus
0	35°38.9	11.3'	S25°39.5	-5.9'	54.0'		89°39.7	66°35.5	7°29.6	38°27.4	50°59.9	92°28.3	107°05.5
1	50°09.2	11.2'	25°45.4	-5.8'	54.0'		89°12.1	66°11.2	7°00.1	38°57.0	51°20.1	92°57.9	107°32.2
2	64°39.4	11.2'	25°51.2	-5.7'	54.0'		88°44.5	65°47.0	6°30.5	39°26.6	51°40.4	93°27.5	107°59.0
3	79°09.6	11.1'	25°56.8	-5.5'	54.0'		88°17.0	65°22.8	6°01.0	39°56.1	52°00.8	93°57.1	108°25.7
4	93°39.7	11.1'	26°02.4	-5.4'	54.0'	94°55.6	87°49.4	64°58.7	5°31.5	40°25.7	52°21.3	94°26.7	108°52.5
5	108°09.8	11.0'	26°07.8	-5.3'	54.0'	94°40.5	87°21.8	64°34.6	5°02.0	40°55.2	52°41.9	94°56.2	109°19.2
6	122°39.8	11.0'	S26°13.1	-5.2'	54.0'	94°25.5	86°54.3	64°10.5	4°32.6	41°24.8	53°02.6	95°25.8	109°45.9
7	137°09.8	10.9'	26°18.2	-5.0'	54.0'	94°10.4	86°26.7	63°46.5	4°03.1	41°54.3	53°23.4	95°55.4	110°12.7
8	151°39.7	10.9'	26°23.3	-4.9'	54.0'	93°55.4	85°59.2	63°22.6	3°33.8	42°23.9	53°44.3	96°25.0	110°39.4
9	166°09.6	10.8'	26°28.2	-4.8'	53.9'	93°40.3	85°31.6	62°58.7	3°04.4	42°53.4	54°05.3	96°54.6	111°06.1
10	180°39.4	10.8'	26°33.0	-4.7'	53.9'	93°25.2	85°04.1	62°34.8	2°35.2	43°22.9	54°26.4	97°24.2	111°32.9
11	195°09.2	10.8'	26°37.7	-4.6'	53.9'	93°10.1	84°36.5	62°11.0	2°06.2	43°52.5	54°47.5	97°53.7	111°59.6
12	209°39.0	10.7'	S26°42.2	-4.4'	53.9'	92°55.0	84°09.0	61°47.2	1°37.5	44°22.0	55°08.7	98°23.3	112°26.3
13	224°08.7	10.7'	26°46.7	-4.3'	53.9'	92°39.9	83°41.5	61°23.5	1°09.5	44°51.5	55°30.1	98°52.9	112°53.1
14	238°38.4	10.6'	26°51.0	-4.2'	53.9'	92°24.8	83°13.9	60°59.8		45°21.1	55°51.5	99°22.4	113°19.8
15	253°08.1	10.6'	26°55.1	-4.0'	53.9'	92°09.6	82°46.4	60°36.2		45°50.6	56°13.0	99°52.0	113°46.5
16	267°37.7	10.6'	26°59.2	-3.9'	53.9'	91°54.5	82°18.9	60°12.6		46°20.1	56°34.5	100°21.6	114°13.2
17	282°07.2	10.5'	27°03.1	-3.8'	53.9'	91°39.4	81°51.4	59°49.1		46°49.7	56°56.2	100°51.1	114°39.9
18	296°36.8	10.5'	S27°06.9	-3.7'	53.9'	91°24.2	81°23.9	59°25.6		47°19.2	57°17.9	101°20.7	115°06.7
19	311°06.3	10.5'	27°10.5	-3.5'	53.9'	91°09.1	80°56.4	59°02.2		47°48.7	57°39.7	101°50.3	115°33.4
20	325°35.7	10.4'	27°14.1	-3.4'	53.9'	90°53.9	80°28.9	58°38.9	2°25.2	48°18.3	58°01.6	102°19.8	116°00.1
21	340°05.1	10.4'	27°17.5	-3.3'	53.9'	90°38.7	80°01.4	58°15.6	2°54.3	48°47.8	58°23.5	102°49.4	116°26.8
22	354°34.5	10.4'	27°20.8	-3.1'	53.9'	90°23.6	79°34.0	57°52.4	3°23.6	49°17.3	58°45.5	103°19.0	116°53.5
23	9°03.9	10.3'	27°23.9	-3.0'	53.9'	90°08.4	79°06.5	57°29.2	3°53.0	49°46.9	59°07.6	103°48.5	117°20.2
27 th	SD = 14.7' Mer. pass. 22:22												

Moon (28 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
Sun	GHA	ν	Dec	d	HP	-Saturn	-Deneb	-Fomalhaut	-Altair	+Antares	+Spica	+Regulus	+Venus
0	23°33.2	10.3'	S27°26.9	-2.9'	53.9'	119°09.4	89°53.2	78°39.0	57°06.1	4°22.4	50°16.4	104°18.1	117°47.0
1	38°02.5	10.3'	27°29.8	-2.7'	53.9'	118°40.2	89°38.1	78°11.6	56°43.1	4°51.8	50°46.0	104°47.7	118°13.7
2	52°31.8	10.2'	27°32.5	-2.6'	53.9'	118°10.9	89°22.9	77°44.1	56°20.1	5°21.2	51°15.5	105°17.2	118°40.4
3	67°01.0	10.2'	27°35.2	-2.5'	53.9'	117°41.7	89°07.7	77°16.7	55°57.2	5°50.7	51°45.0	105°46.8	119°07.1
4	81°30.3	10.2'	27°37.6	-2.4'	53.9'	117°12.4	88°52.6	76°49.3	55°34.4	6°20.2	52°14.6	106°16.4	119°33.8
5	95°59.5	10.2'	27°40.0	-2.2'	53.9'	116°43.1	88°37.4	76°21.8	55°11.6	6°49.7	52°44.1	106°45.9	
6	110°28.6	10.1'	S27°42.2	-2.1'	53.9'	116°13.9	88°22.3	75°54.4	54°48.9	7°19.2	53°13.6	107°15.5	
7	124°57.8	10.1'	27°44.3	-2.0'	53.9'	115°44.6	88°07.1	75°27.0	54°26.3	7°48.7	53°43.2	107°45.1	
8	139°26.9	10.1'	27°46.2	-1.8'	53.9'	115°15.3	87°52.0	74°59.6	54°03.7	8°18.3	54°12.7	108°14.6	
9	153°56.0	10.1'	27°48.1	-1.7'	53.9'	114°46.1	87°36.8	74°32.2	53°41.3	8°47.8	54°42.3	108°44.2	
10	168°25.1	10.1'	27°49.8	-1.6'	53.9'	114°16.8	87°21.7	74°04.8	53°18.9	9°17.3	55°11.8	109°13.8	
11	182°54.1	10.0'	27°51.3	-1.4'	53.9'	113°47.5	87°06.6	73°37.4	52°56.6	9°46.9	55°41.4	109°43.4	
12	197°23.2	10.0'	S27°52.7	-1.3'	53.9'	113°18.2	86°51.4	73°10.1	52°34.3	10°16.4	56°10.9	110°12.9	
13	211°52.2	10.0'	27°54.0	-1.1'	53.9'	112°48.9	86°36.3	72°42.7	52°12.2	10°46.0	56°40.5	110°42.5	
14	226°21.2	10.0'	27°55.2	-1.0'	53.9'	112°19.7	86°21.2	72°15.4	51°50.1	11°15.5	57°10.0	111°12.1	
15	240°50.2	10.0'	27°56.2	-0.9'	53.9'	111°50.4	86°06.1	71°48.0	51°28.1	11°45.1	57°39.6	111°41.7	
16	255°19.2	10.0'	27°57.0	-0.7'	53.9'	111°21.1	85°51.1	71°20.7	51°06.2	12°14.7	58°09.2	112°11.3	
17	269°48.2	10.0'	27°57.8	-0.6'	53.9'	110°51.8	85°36.0	70°53.4	50°44.4	12°44.2	58°38.7	112°40.9	
18	284°17.1	10.0'	S27°58.4	-0.5'	53.9'	110°22.4	85°20.9	70°26.1	50°22.7	13°13.8	59°08.3	113°10.5	
19	298°46.1	9.9'	27°58.9	-0.3'	53.9'	109°53.1	85°05.9	69°58.8	50°01.1	13°43.4	59°37.9	113°40.1	
20	313°15.0	9.9'	27°59.2	-0.2'	53.9'	109°23.8	84°50.9	69°31.5	49°39.6	14°13.0	60°07.5	114°09.7	
21	327°44.0	9.9'	27°59.4	-0.1'	53.9'	108°54.5	84°35.9	69°04.2	49°18.2	14°42.6	60°37.0	114°39.3	
22	342°12.9	9.9'	27°59.5	0.1'	53.9'	108°25.2		68°36.9	48°56.9	15°12.2	61°06.6	115°08.9	
23	356°41.8	9.9'	27°59.4	0.2'	53.9'	107°55.8		68°09.7	48°35.7	15°41.8	61°36.2	115°38.5	
28 th	SD = 14.7' Mer. pass. 23:14												

Moon (29 th Jun)						Lunar Distance (objects with largest hourly LD delta)							
Mon	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	-Altair	+Antares	+Hadar	+Spica	+Arcturus	+Regulus
0	11°10.7	9.9'	S27°59.2	0.3'	53.9'	107°26.5	67°42.4	48°14.6	16°11.4	48°37.3	62°05.8	68°38.1	116°08.1
1	25°39.7	9.9'	27°58.8	0.5'	53.9'	106°57.2	67°15.2	47°53.6	16°41.0	48°53.4	62°35.4	69°01.6	116°37.7
2	40°08.6	9.9'	27°58.4	0.6'	53.9'	106°27.8	66°48.0	47°32.7	17°10.6	49°09.7	63°05.0	69°25.0	117°07.4
3	54°37.5	9.9'	27°57.7	0.8'	53.9'	105°58.5	66°20.8	47°12.0	17°40.2	49°26.1	63°34.6	69°48.6	117°37.0
4	69°06.4	9.9'	27°57.0	0.9'	53.9'	105°29.1	65°53.6	46°51.3	18°09.8	49°42.7	64°04.2	70°12.1	118°06.6
5	83°35.4	9.9'	27°56.1	1.0'	53.9'	104°59.8	65°26.4	46°30.8	18°39.5	49°59.5	64°33.8	70°35.7	118°36.2
6	98°04.3	9.9'	S27°55.1	1.2'	53.9'	104°30.4	64°59.3	46°10.4	19°09.1	50°16.4	65°03.5	70°59.3	119°05.9
7	112°33.2	9.9'	27°53.9	1.3'	54.0'	104°01.0	64°32.1	45°50.1	19°38.7	50°33.4	65°33.1	71°23.0	119°35.5
8	127°02.2	10.0'	27°52.6	1.4'	54.0'	103°31.7	64°05.0	45°30.0	20°08.4	50°50.6	66°02.7	71°46.7	
9	141°31.1	10.0'	27°51.2	1.6'	54.0'	103°02.3	63°37.9	45°10.0	20°38.0	51°07.9	66°32.4	72°10.5	
10	156°00.1	10.0'	27°49.6	1.7'	54.0'	102°32.9	63°10.8	44°50.1	21°07.7	51°25.4	67°02.0	72°34.2	
11	170°29.1	10.0'	27°47.9	1.8'	54.0'	102°03.5	62°43.7	44°30.3	21°37.4	51°43.0	67°31.6	72°58.0	
12	184°58.1	10.0'	S27°46.1	2.0'	54.0'	101°34.1	62°16.6	44°10.8	22°07.0	52°00.7	68°01.3	73°21.9	
13	199°27.1	10.0'	27°44.1	2.1'	54.0'	101°04.7	61°49.6	43°51.3	22°36.7	52°18.6	68°31.0	73°45.7	
14	213°56.1	10.0'	27°42.0	2.2'	54.0'	100°35.3	61°22.6	43°32.0	23°06.4	52°36.6	69°00.6	74°09.6	
15	228°25.1	10.0'	27°39.8	2.4'	54.0'	100°05.8	60°55.5	43°12.9	23°36.1	52°54.5	69°30.3	74°33.5	
16	242°54.2	10.1'	27°37.4	2.5'	54.0'	99°36.4	60°28.6	42°53.9	24°05.8	53°13.0	70°00.0	74°57.5	
17	257°23.2	10.1'	27°34.9	2.6'	54.0'	99°07.0	60°01.6	42°35.0	24°35.4	53°31.4	70°29.6	75°21.5	
18	271°52.3	10.1'	S27°32.2	2.8'	54.0'	98°37.5	59°34.6	42°16.4	25°05.2	53°49.9	70°59.3	75°45.5	
19	286°21.4	10.1'	27°29.5	2.9'	54.0'	98°08.1	59°07.7	41°57.9	25°34.9	54°08.5	71°29.0	76°09.5	
20	300°50.6	10.2'	27°26.6	3.0'	54.0'	97°38.6	58°40.8	41°39.5	26°04.6	54°27.2	71°58.7	76°33.6	
21	315°19.7	10.2'	27°23.5	3.2'	54.0'	97°09.2	58°13.9	41°21.4	26°34.3	54°46.0	72°28.4	76°57.7	
22	329°48.9	10.2'	27°20.3	3.3'	54.0'	96°39.7	57°47.1	41°03.4	27°04.0	55°05.0	72°58.1	77°21.8	
23	344°18.1	10.2'	27°17.0	3.4'	54.0'	96°10.2	57°20.2	40°45.6	27°33.8	55°24.1	73°27.9	77°46.0	
29 th	SD = 14.7' Mer. pass. --												

h		Moon (30 th Jun)				Lunar Distance (objects with largest hourly LD delta)							
Tue	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	-Altair	+Antares	+Rigel Kent.	+Hadar	+Spica	+Arcturus
0	358°47.3	10.3'	S27°13.6	3.6'	54.0'	95°40.8	56°53.4	40°28.0	28°03.5	51°28.8	55°43.2	73°57.6	78°10.1
1	13°16.6	10.3'	27°10.0	3.7'	54.0'	95°11.3	56°26.6	40°10.6	28°33.3	51°47.5	56°02.5	74°27.3	78°34.3
2	27°45.8	10.3'	27°06.3	3.8'	54.1'	94°41.8	55°59.9	39°53.4	29°03.0	52°06.4	56°21.9	74°57.1	78°58.6
3	42°15.2	10.3'	27°02.5	4.0'	54.1'	94°12.3	55°33.1	39°36.4	29°32.8	52°25.4	56°41.4	75°26.8	79°22.8
4	56°44.5	10.4'	26°58.5	4.1'	54.1'	93°42.8	55°06.4	39°19.6	30°02.6	52°44.5	57°01.0	75°56.6	79°47.1
5	71°13.9	10.4'	26°54.4	4.2'	54.1'	93°13.2	54°39.8	39°03.0	30°32.4	53°03.7	57°20.7	76°26.4	80°11.3
6	85°43.3	10.4'	S26°50.2	4.4'	54.1'	92°43.7	54°13.1	38°46.6	31°02.1	53°23.1	57°40.5	76°56.1	80°35.6
7	100°12.7	10.5'	26°45.8	4.5'	54.1'	92°14.2	53°46.5	38°30.5	31°31.9	53°42.5	58°00.4	77°25.9	81°00.0
8	114°42.2	10.5'	26°41.3	4.6'	54.1'	91°44.6	53°19.9	38°14.6	32°01.7	54°02.1	58°20.4	77°55.7	81°24.3
9	129°11.7	10.5'	26°36.7	4.7'	54.1'	91°15.1	52°53.4	37°58.9	32°31.6	54°21.8	58°40.4	78°25.5	81°48.7
10	143°41.2	10.6'	26°32.0	4.9'	54.1'	90°45.5	52°26.8	37°43.4	33°01.4	54°41.6	59°00.6	78°55.3	82°13.1
11	158°10.8	10.6'	26°27.1	5.0'	54.1'	90°15.9	52°00.4	37°28.2	33°31.2	55°01.5	59°20.9	79°25.1	82°37.5
12	172°40.4	10.7'	S26°22.1	5.1'	54.1'	89°46.4	51°33.9		34°01.1	55°21.5	59°41.2	79°54.9	83°01.9
13	187°10.1	10.7'	26°17.0	5.2'	54.1'	89°16.8	51°07.5		34°30.9	55°41.7	60°01.6	80°24.8	83°26.3
14	201°39.7	10.7'	26°11.7	5.4'	54.1'	88°47.2	50°41.1		35°00.8	56°01.9	60°22.2	80°54.6	83°50.8
15	216°09.5	10.8'	26°06.4	5.5'	54.2'	88°17.6	50°14.8		35°30.6	56°22.2	60°42.8	81°24.5	84°15.2
16	230°39.3	10.8'	26°00.9	5.6'	54.2'	87°48.0	49°48.5		36°00.5	56°42.6	61°03.5	81°54.3	84°39.7
17	245°09.1	10.9'	25°55.2	5.7'	54.2'	87°18.4	49°22.3		36°30.4	57°03.2	61°24.2	82°24.2	85°04.2
18	259°38.9	10.9'	S25°49.5	5.9'	54.2'	86°48.7	48°56.0		37°00.3	57°23.8	61°45.1	82°54.1	85°28.7
19	274°08.8	10.9'	25°43.6	6.0'	54.2'	86°19.1	48°29.9		37°30.2	57°44.5	62°06.0	83°24.0	85°53.3
20	288°38.8	11.0'	25°37.6	6.1'	54.2'	85°49.4	48°03.8		38°00.1	58°05.3	62°27.0	83°53.8	86°17.8
21	303°08.8	11.0'	25°31.5	6.2'	54.2'	85°19.8	47°37.7		38°30.0	58°26.2	62°48.1	84°23.8	86°42.4
22	317°38.8	11.1'	25°25.3	6.4'	54.2'	84°50.1	47°11.7		38°59.9	58°47.2	63°09.2	84°53.7	87°06.9
23	332°08.9	11.1'	25°18.9	6.5'	54.2'	84°20.4	46°45.7		39°29.9	59°08.2	63°30.4	85°23.6	87°31.5
30 th	SD = 14.7'		Mer. pass. 00:05										

h		Moon (1 st Jul)				Lunar Distance (objects with largest hourly LD delta)							
Wed	GHA	ν	Dec	d	HP	-Saturn	-Fomalhaut	+Antares	+Rigel Kent.	+Hadar	+Acrux	+Spica	+Arcturus
0	346°39.0	11.2'	S25°12.4	6.6'	54.2'	83°50.7	46°19.8	39°59.8	59°29.4	63°51.7	74°12.2	85°53.5	87°56.1
1	1°09.2	11.2'	25°05.8	6.7'	54.2'	83°21.0	45°53.9	40°29.8	59°50.6	64°13.1	74°31.3	86°23.5	88°20.7
2	15°39.4	11.3'	24°59.1	6.8'	54.3'	82°51.3	45°28.1	40°59.8	60°11.9	64°34.6	74°50.3	86°53.4	88°45.3
3	30°09.7	11.3'	24°52.3	7.0'	54.3'	82°21.6	45°02.4	41°29.7	60°33.3	64°56.1	75°09.5	87°23.4	89°10.0
4	44°40.0	11.4'	24°45.3	7.1'	54.3'	81°51.9	44°36.7	41°59.7	60°54.8	65°17.6	75°28.7	87°53.4	89°34.6
5	59°10.4	11.4'	24°38.3	7.2'	54.3'	81°22.1	44°11.1	42°29.7	61°16.4	65°39.3	75°47.9	88°23.4	89°59.2
6	73°40.8	11.5'	S24°31.1	7.3'	54.3'	80°52.4	43°45.5	42°59.8	61°38.0	66°01.0	76°07.2	88°53.4	90°23.9
7	88°11.2	11.5'	24°23.8	7.4'	54.3'	80°22.6	43°20.0	43°29.8	61°59.7	66°22.7	76°26.5	89°23.4	90°48.5
8	102°41.8	11.6'	24°16.4	7.5'	54.3'	79°52.9	42°54.6	43°59.8	62°21.5	66°44.6	76°45.9	89°53.4	91°13.2
9	117°12.3	11.6'	24°08.8	7.6'	54.3'	79°23.1	42°29.3	44°29.9	62°43.4	67°06.4	77°05.3	90°23.4	91°37.9
10	131°43.0	11.7'	24°01.2	7.8'	54.3'	78°53.3	42°04.0	44°59.9	63°05.3	67°28.4	77°24.8	90°53.4	92°02.6
11	146°13.6	11.7'	23°53.4	7.9'	54.4'	78°23.5	41°38.8	45°30.0	63°27.3	67°50.4	77°44.3	91°23.5	92°27.2
12	160°44.4	11.8'	S23°45.6	8.0'	54.4'	77°53.7	41°13.7	46°00.1	63°49.4	68°12.5	78°03.8	91°53.6	92°51.9
13	175°15.1	11.8'	23°37.6	8.1'	54.4'	77°23.9	40°48.6	46°30.2	64°11.5	68°34.6	78°23.4	92°23.6	93°16.6
14	189°46.0	11.9'	23°29.5	8.2'	54.4'	76°54.0	40°23.7	47°00.3	64°33.7	68°56.8	78°43.0	92°53.7	93°41.3
15	204°16.8	11.9'	23°21.3	8.3'	54.4'	76°24.2	39°58.8	47°30.4	64°56.0	69°19.0	79°02.7	93°23.8	94°06.0
16	218°47.8	12.0'	23°13.0	8.4'	54.4'	75°54.3	39°34.1	48°00.5	65°18.3	69°41.3	79°22.4	93°53.9	94°30.8
17	233°18.8	12.0'	23°04.6	8.5'	54.4'	75°24.5	39°09.4	48°30.6	65°40.7	70°03.6	79°42.1	94°24.0	94°55.5
18	247°49.8	12.1'	S22°56.0	8.6'	54.4'	74°54.6	38°44.8	49°00.8	66°03.2	70°26.0	80°01.9	94°54.2	95°20.2
19	262°20.9	12.1'	22°47.4	8.7'	54.5'	74°24.7	38°20.3	49°31.0	66°25.7	70°48.5	80°21.7	95°24.3	95°44.9
20	276°52.1	12.2'	22°38.7	8.8'	54.5'	73°54.8	37°55.9	50°01.1	66°48.3	71°11.0	80°41.5	95°54.5	96°09.6
21	291°23.3	12.3'	22°29.8	8.9'	54.5'	73°24.9	37°31.7	50°31.3	67°11.0	71°33.5	81°01.4	96°24.7	96°34.3
22	305°54.5	12.3'	22°20.9	9.1'	54.5'	72°55.0	37°07.5	51°01.5	67°33.7	71°56.1	81°21.3	96°54.8	96°59.0
23	320°25.8	12.4'	22°11.8	9.2'	54.5'	72°25.0	36°43.5	51°31.7	67°56.4	72°18.8	81°41.2	97°25.0	97°23.8
1 st	SD = 14.8'		Mer. pass. 00:55										

h		Moon (2 nd Jul)				Lunar Distance (objects with largest hourly LD delta)							
Thu	GHA	ν	Dec	d	HP	-Mars	-Aldebaran	-Saturn	-Fomalhaut	+Antares	+Rigel Kent.	+Arcturus	+Spica
0	334°57.2	12.4'	S22°02.7	9.3'	54.5'	119°59.2		71°55.1	36°19.6	52°02.0	68°19.3	97°48.5	97°55.3
1	349°28.6	12.5'	21°53.4	9.4'	54.5'	119°30.9		71°25.1	35°55.8	52°32.2	68°42.1	98°13.2	98°25.5
2	4°00.1	12.5'	21°44.1	9.5'	54.5'	119°02.6		70°55.1	35°32.2	53°02.5	69°05.1	98°37.9	98°55.7
3	18°31.6	12.6'	21°34.6	9.6'	54.6'	118°34.3		70°25.1	35°08.7	53°32.7	69°28.0	99°02.6	99°26.0
4	33°03.2	12.6'	21°25.0	9.7'	54.6'	118°06.0		69°55.2	34°45.3	54°03.0	69°51.1	99°27.3	99°56.2
5	47°34.8	12.7'	21°15.4	9.8'	54.6'	117°37.6		69°25.1	34°22.1	54°33.3	70°14.2	99°52.0	100°26.5
6	62°06.5	12.7'	S21°05.6	9.9'	54.6'	117°09.3		68°55.1	33°59.0	55°03.6	70°37.3	100°16.7	100°56.8
7	76°38.3	12.8'	20°55.8	9.9'	54.6'	116°40.9		68°25.1	33°36.1	55°33.9	71°00.5	100°41.4	101°27.1
8	91°10.1	12.8'	20°45.8	10.0'	54.6'	116°12.5		67°55.0	33°13.3	56°04.3	71°23.7	101°06.1	101°57.4
9	105°41.9	12.9'	20°35.8	10.1'	54.6'	115°44.1		67°25.0	32°50.7	56°34.6	71°47.0	101°30.8	102°27.7
10	120°13.8	13.0'	20°25.7	10.2'	54.7'	115°15.7		66°54.9	32°28.3	57°05.0	72°10.3	101°55.5	102°58.1
11	134°45.8	13.0'	20°15.4	10.3'	54.7'	114°47.2		66°24.8	32°06.1	57°35.4	72°33.7	102°20.1	103°28.4
12	149°17.8	13.1'	S20°05.1	10.4'	54.7'	114°18.8		65°54.7	31°44.1	58°05.8	72°57.1	102°44.8	103°58.8
13	163°49.8	13.1'	19°54.7	10.5'	54.7'	113°50.3		65°24.6	31°22.2	58°36.2	73°20.6	103°09.4	104°29.2
14	178°21.9	13.2'	19°44.2	10.6'	54.7'	113°21.8		64°54.5	31°00.6	59°06.6	73°44.1	103°34.1	104°59.6
15	192°54.1	13.2'	19°33.6	10.7'	54.7'	112°53.3	119°59.0	64°24.3	30°39.2	59°37.0	74°07.7	103°58.7	105°30.0
16	207°26.3	13.3'	19°22.9	10.8'	54.8'	112°24.8	119°29.2	63°54.2	30°18.0	60°07.5	74°31.3	104°23.3	106°00.5
17	221°58.6	13.3'	19°12.1	10.9'	54.8'	111°56.2	118°59.4	63°24.0	29°57.0	60°38.0	74°54.9	104°47.9	106°30.9
18	236°30.9	13.4'	S19°01.3	11.0'	54.8'	111°27.7	118°29.6	62°53.8	29°36.3	61°08.4	75°18.6	105°12.5	107°01.4
19	251°03.3	13.4'	18°50.3	11.0'	54.8'	110°59.1	117°59.8	62°23.6	29°15.8	61°38.9	75°42.3	105°37.1	107°31.9
20	265°35.7	13.5'	18°39.3	11.1'	54.8'	110°30.5	117°29.9	61°53.4	28°55.6	62°09.5	76°06.1	106°01.7	108°02.4
21	280°08.2	13.5'	18°28.1	11.2'	54.8'	110°01.9	117°00.0	61°23.2	28°35.7	62°40.0	76°29.9	106°26.2	108°32.9
22	294°40.7	13.6'	18°16.9	11.3'	54.8'	109°33.3	116°30.1	60°52.9	28°16.0	63°10.5	76°53.7	106°50.8	109°03.4
23	309°13.2	13.6'	18°05.6	11.4'	54.9'	109°04.6	116°00.2	60°22.7	27°56.6	63°41.1	77°17.6	107°15.3	109°33.9
2 nd	SD = 14.9'		Mer. pass. 01:43										

Moon (3 rd Jul)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Capella	-Aldebaran	-Mars	-Saturn	+Antares	+Rigel Kent.	+Arcturus	+Spica
0	323°45.9	13.7'	S17°54.3	11.5'	54.9'		115°30.3	108°36.0	59°52.4	64°11.7	77°41.5	107°39.8	110°04.5
1	338°18.5	13.7'	17°42.8	11.5'	54.9'		115°00.3	108°07.3	59°22.1	64°42.3	78°05.5	108°04.3	110°35.1
2	352°51.2	13.8'	17°31.3	11.6'	54.9'		114°30.3	107°38.6	58°51.9	65°12.9	78°29.5	108°28.7	111°05.7
3	7°24.0	13.8'	17°19.6	11.7'	54.9'		114°00.3	107°09.9	58°21.5	65°43.5	78°53.5	108°53.2	111°36.3
4	21°56.8	13.8'	17°08.0	11.8'	55.0'		113°30.3	106°41.2	57°51.2	66°14.2	79°17.5	109°17.6	112°06.9
5	36°29.6	13.9'	16°56.2	11.9'	55.0'		113°00.2	106°12.4	57°20.9	66°44.8	79°41.6	109°42.0	112°37.6
6	51°02.5	13.9'	S16°44.3	11.9'	55.0'		112°30.1	105°43.6	56°50.5	67°15.5	80°05.8	110°06.4	113°08.2
7	65°35.5	14.0'	16°32.4	12.0'	55.0'		112°00.0	105°14.9	56°20.2	67°46.2	80°29.9	110°30.7	113°38.9
8	80°08.5	14.0'	16°20.4	12.1'	55.0'		111°29.9	104°46.1	55°49.8	68°16.9	80°54.1	110°55.1	114°09.6
9	94°41.5	14.1'	16°08.3	12.2'	55.0'		110°59.8	104°17.2	55°19.4	68°47.7	81°18.3	111°19.4	114°40.3
10	109°14.5	14.1'	15°56.1	12.2'	55.1'		110°29.6	103°48.4	54°49.0	69°18.4	81°42.6	111°43.7	115°11.0
11	123°47.7	14.2'	15°43.9	12.3'	55.1'	119°52.7	109°59.4	103°19.5	54°18.5	69°49.2	82°06.8	112°07.9	115°41.8
12	138°20.8	14.2'	S15°31.6	12.4'	55.1'	119°24.0	109°29.2	102°50.7	53°48.1	70°20.0	82°31.1	112°32.1	116°12.6
13	152°54.0	14.2'	15°19.2	12.4'	55.1'	118°55.2	108°59.0	102°21.8	53°17.6	70°50.8	82°55.5	112°56.3	116°43.3
14	167°27.2	14.3'	15°06.8	12.5'	55.1'	118°26.3	108°28.7	101°52.9	52°47.2	71°21.6	83°19.8	113°20.5	117°14.1
15	182°00.5	14.3'	14°54.2	12.6'	55.2'	117°57.5	107°58.5	101°23.9	52°16.7	71°52.5	83°44.2	113°44.6	117°45.0
16	196°33.8	14.4'	14°41.7	12.7'	55.2'	117°28.6	107°28.2	100°55.0	51°46.2	72°23.4	84°08.6	114°08.8	118°15.8
17	211°07.2	14.4'	14°29.0	12.7'	55.2'	116°59.6	106°57.8	100°26.0	51°15.6	72°54.2	84°33.1	114°32.8	118°46.7
18	225°40.6	14.4'	S14°16.3	12.8'	55.2'	116°30.6	106°27.5	99°57.0	50°45.1	73°25.1	84°57.6	114°56.9	119°17.6
19	240°14.0	14.5'	14°03.5	12.9'	55.2'	116°01.6	105°57.1	99°28.0	50°14.6	73°56.1	85°22.0	115°20.9	119°48.5
20	254°47.5	14.5'	13°50.6	12.9'	55.3'	115°32.6	105°26.8	98°58.8	49°44.0	74°27.0	85°46.6	115°44.8	
21	269°20.9	14.5'	13°37.7	13.0'	55.3'	115°03.5	104°56.4	98°29.9	49°13.4	74°58.0	86°11.1	116°08.7	
22	283°54.5	14.6'	13°24.7	13.1'	55.3'	114°34.4	104°25.9	98°00.8	48°42.8	75°29.0	86°35.7	116°32.6	
23	298°28.0	14.6'	13°11.7	13.1'	55.3'	114°05.2	103°55.5	97°31.7	48°12.2	76°00.0	87°00.3	116°56.5	
3 rd	SD = 15.0' Mer. pass. 02:29												

Moon (4 th Jul)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Capella	-Aldebaran	-Mars	-Saturn	+Antares	+Rigel Kent.	+Hadar	+Arcturus
0	313°01.6	14.6'	S12°58.5	13.2'	55.3'	113°36.0	103°25.0	97°02.6	47°41.6	76°31.0	87°24.9	91°31.3	117°20.3
1	327°35.3	14.7'	12°45.4	13.2'	55.4'	113°06.8	102°54.5	96°33.5	47°10.9	77°02.0	87°49.5	91°55.4	117°44.0
2	342°08.9	14.7'	12°32.1	13.3'	55.4'	112°37.5	102°24.0	96°04.3	46°40.3	77°33.1	88°14.1	92°19.5	118°07.7
3	356°42.6	14.7'	12°18.8	13.4'	55.4'	112°08.3	101°53.5	95°35.1	46°09.6	78°04.2	88°38.8	92°43.6	118°31.4
4	11°16.3	14.7'	12°05.5	13.4'	55.4'	111°38.9	101°22.9	95°05.9	45°38.9	78°35.3	89°03.5	93°07.8	118°55.0
5	25°50.1	14.8'	11°52.1	13.5'	55.4'	111°09.6	100°52.3	94°36.7	45°08.2	79°06.4	89°28.2	93°31.9	119°18.5
6	40°23.8	14.8'	S11°38.6	13.5'	55.5'	110°40.2	100°21.7	94°07.5	44°37.5	79°37.6	89°52.9	93°56.1	119°42.1
7	54°57.6	14.8'	11°25.1	13.6'	55.5'	110°10.8	99°51.1	93°38.2	44°06.7	80°08.8	90°17.7	94°20.3	
8	69°31.5	14.8'	11°11.5	13.6'	55.5'	109°41.3	99°20.4	93°08.9	43°36.0	80°40.0	90°42.4	94°44.5	
9	84°05.3	14.9'	10°57.8	13.7'	55.5'	109°11.8	98°49.7	92°39.6	43°05.2	81°11.2	91°07.2	95°08.6	
10	98°39.2	14.9'	10°44.1	13.8'	55.5'	108°42.3	98°19.0	92°10.2	42°34.4	81°42.4	91°32.0	95°32.8	
11	113°13.1	14.9'	10°30.4	13.8'	55.6'	108°12.8	97°48.3	91°40.9	42°03.6	82°13.7	91°56.8	95°57.1	
12	127°47.0	14.9'	S10°16.6	13.9'	55.6'	107°43.2	97°17.5	91°11.5	41°32.8	82°45.0	92°21.6	96°21.3	
13	142°20.9	15.0'	10°02.7	13.9'	55.6'	107°13.6	96°46.8	90°42.1	41°02.0	83°16.3	92°46.5	96°45.5	
14	156°54.9	15.0'	09°48.8	14.0'	55.6'	106°44.0	96°16.0	90°12.7	40°31.1	83°47.6	93°11.3	97°09.7	
15	171°28.9	15.0'	09°34.9	14.0'	55.7'	106°14.3	95°45.2	89°43.2	40°00.3	84°19.0	93°36.2	97°33.9	
16	186°02.9	15.0'	09°20.9	14.1'	55.7'	105°44.6	95°14.3	89°13.8	39°29.4	84°50.3	94°01.1	97°58.1	
17	200°36.9	15.0'	09°06.8	14.1'	55.7'	105°14.8	94°43.4	88°44.3	38°58.5	85°21.7	94°26.0	98°22.4	
18	215°10.9	15.0'	S08°52.7	14.1'	55.7'	104°45.1	94°12.5	88°14.7	38°27.6	85°53.2	94°50.9	98°46.6	
19	229°45.0	15.1'	08°38.6	14.2'	55.8'	104°15.3	93°41.6	87°45.2	37°56.7	86°24.6	95°15.8	99°10.8	
20	244°19.0	15.1'	08°24.4	14.2'	55.8'	103°45.5	93°10.7	87°15.6	37°25.8	86°56.1	95°40.7	99°35.1	
21	258°53.1	15.1'	08°10.1	14.3'	55.8'	103°15.6	92°39.7	86°46.0	36°54.8	87°27.6	96°05.6	99°59.3	
22	273°27.2	15.1'	07°55.8	14.3'	55.8'	102°45.7	92°08.7	86°16.4	36°23.9	87°59.1	96°30.5	100°23.5	
23	288°01.3	15.1'	07°41.5	14.4'	55.9'	102°15.8	91°37.7	85°46.8	35°52.9	88°30.7	96°55.5	100°47.8	
4 th	SD = 15.1' Mer. pass. 03:14												

Moon (5 th Jul)						Lunar Distance (objects with largest hourly LD delta)							
Sun	GHA	ν	Dec	d	HP	-Capella	-Aldebaran	-Mars	-Saturn	+Altair	+Antares	+Rigel Kent.	+Hadar
0	302°35.4	15.1'	S07°27.1	14.4'	55.9'	101°45.9	91°06.7	85°17.1	35°21.9	45°18.6	89°02.2	97°20.4	101°12.0
1	317°09.5	15.1'	07°12.7	14.5'	55.9'	101°15.9	90°35.6	84°47.4	34°50.9	45°40.0	89°33.8	97°45.4	101°36.2
2	331°43.6	15.1'	06°58.3	14.5'	55.9'	100°45.9	90°04.5	84°17.7	34°19.9	46°01.6	90°05.5	98°10.3	102°00.4
3	346°17.7	15.1'	06°43.8	14.5'	56.0'	100°15.8	89°33.4	83°47.9	33°48.9	46°23.3	90°37.1	98°35.3	102°24.6
4	0°51.8	15.1'	06°29.3	14.6'	56.0'	99°45.8	89°02.2	83°18.2	33°17.9	46°45.2	91°08.8	99°00.3	102°48.8
5	15°26.0	15.1'	06°14.7	14.6'	56.0'	99°15.7	88°31.1	82°48.4	32°46.9	47°07.3	91°40.5	99°25.2	103°13.0
6	30°00.1	15.1'	S06°00.1	14.6'	56.0'	98°45.6	87°59.9	82°18.6	32°15.8	47°29.5	92°12.2	99°50.2	103°37.2
7	44°34.2	15.1'	05°45.4	14.7'	56.1'	98°15.4	87°28.7	81°48.7	31°44.8	47°51.9	92°44.0	100°15.2	104°01.4
8	59°08.4	15.1'	05°30.7	14.7'	56.1'	97°45.2	86°57.4	81°18.8	31°13.7	48°14.4	93°15.8	100°40.2	104°25.5
9	73°42.5	15.1'	05°16.0	14.7'	56.1'	97°15.0	86°26.1	80°48.9	30°42.6	48°37.1	93°47.6	101°05.1	104°49.7
10	88°16.6	15.1'	05°01.3	14.8'	56.1'	96°44.7	85°54.8	80°19.0	30°11.6	48°59.9	94°19.4	101°30.1	105°13.8
11	102°50.8	15.1'	04°46.5	14.8'	56.2'	96°14.5	85°23.5	79°49.0	29°40.5	49°22.8	94°51.3	101°55.1	105°38.0
12	117°24.9	15.1'	S04°31.7	14.8'	56.2'	95°44.2	84°52.2	79°19.1	29°09.4	49°45.9	95°23.2	102°20.1	106°02.1
13	131°59.0	15.1'	04°16.8	14.9'	56.2'	95°13.8	84°20.8	78°49.1	28°38.3	50°09.2	95°55.1	102°45.0	106°26.2
14	146°33.1	15.1'	04°02.0	14.9'	56.2'	94°43.5	83°49.4	78°19.0	28°07.2	50°32.5	96°27.0	103°10.0	106°50.3
15	161°07.3	15.1'	03°47.1	14.9'	56.3'	94°13.1	83°18.0	77°49.0	27°36.1	50°56.1	96°59.0	103°35.0	107°14.3
16	175°41.4	15.1'	03°32.1	15.0'	56.3'	93°42.7	82°46.5	77°18.9	27°05.0	51°19.7	97°31.0	103°59.9	107°38.4
17	190°15.4	15.1'	03°17.2	15.0'	56.3'	93°12.2	82°15.0	76°48.7	26°34.0	51°43.5	98°03.1	104°24.9	108°02.4
18	204°49.5	15.1'	S03°02.2	15.0'	56.3'	92°41.7	81°43.5	76°18.6	26°02.9	52°07.4	98°35.1	104°49.8	108°26.4
19	219°23.6	15.1'	02°47.1	15.0'	56.4'	92°11.2	81°12.0	75°48.4	25°31.8	52°31.4	99°07.2	105°14.7	108°50.4
20	233°57.6	15.0'	02°32.1	15.1'	56.4'	91°40.7	80°40.4	75°18.2	25°00.7	52°55.5	99°39.3	105°39.6	109°14.3
21	248°31.7	15.0'	02°17.0	15.1'	56.4'	91°10.1	80°08.8	74°48.0	24°29.7	53°19.8	100°11.5	106°04.6	109°38.3
22	263°05.7	15.0'	02°01.9	15.1'	56.5'	90°39.5	79°37.2	74°17.7	23°58.6	53°44.2	100°43.7	106°29.5	110°02.2
23	277°39.7	15.0'	01°46.8	15.1'	56.5'	90°08.9	79°05.6	73°47.4	23°27.6	54°08.7	101°15.9	106°54.3	110°26.1
5 th	SD = 15.2' Mer. pass. 03:56												

h		Moon (6 th Jul)				Lunar Distance (objects with largest hourly LD delta)							
Mon	GHA	ν	Dec	d	HP	-Capella	-Aldebaran	-Mars	-Saturn	+Fomalhaut	+Altair	+Antares	+Rigel Kent.
0	292°13.7	15.0'	S01°31.7	15.2'	56.5'	89°38.2	78°33.9	73°17.1	22°56.6	28°43.7	54°33.3	101°48.1	107°19.2
1	306°47.6	14.9'	01°16.5	15.2'	56.5'	89°07.6	78°02.2	72°46.7	22°25.6	29°04.9	54°58.0	102°20.4	107°44.1
2	321°21.6	14.9'	01°01.4	15.2'	56.6'	88°36.9	77°30.4	72°16.3	21°54.6	29°26.5	55°22.8	102°52.7	108°08.9
3	335°55.5	14.9'	00°46.2	15.2'	56.6'	88°06.1	76°58.7	71°45.9	21°23.7	29°48.3	55°47.8	103°25.0	108°33.7
4	350°29.4	14.9'	00°31.0	15.2'	56.6'	87°35.3	76°26.9	71°15.5	20°52.8	30°10.5	56°12.8	103°57.4	108°58.5
5	5°03.3	14.8'	00°15.7	15.2'	56.7'	87°04.6	75°55.1	70°45.0	20°21.9	30°32.9	56°38.0	104°29.8	109°23.3
6	19°37.1	14.8'	S00°00.5	15.3'	56.7'	86°33.7	75°23.2	70°14.5	19°51.1	30°55.7	57°03.2	105°02.2	109°48.1
7	34°10.9	14.8'	N00°14.8	15.3'	56.7'	86°02.9	74°51.4	69°44.0	19°20.3	31°18.7	57°28.6	105°34.6	110°12.8
8	48°44.7	14.8'	00°30.0	15.3'	56.7'	85°32.0	74°19.5	69°13.4	18°49.6	31°42.0	57°54.1	106°07.1	110°37.6
9	63°18.5	14.7'	00°45.3	15.3'	56.8'	85°01.1	73°47.6	68°42.8	18°18.9	32°05.5	58°19.6	106°39.7	111°02.3
10	77°52.2	14.7'	01°00.6	15.3'	56.8'	84°30.2	73°15.6	68°12.2	17°48.3	32°29.3	58°45.3	107°12.2	111°26.9
11	92°25.9	14.7'	01°15.9	15.3'	56.8'	83°59.2	72°43.6	67°41.5	17°17.8	32°53.4	59°11.1	107°44.8	111°51.6
12	106°59.6	14.6'	N01°31.2	15.3'	56.9'	83°28.2	72°11.6	67°10.8	16°47.4	33°17.7	59°36.9	108°17.4	112°16.2
13	121°33.2	14.6'	01°46.6	15.3'	56.9'	82°57.2	71°39.6	66°40.1	16°17.1	33°42.2	60°02.9	108°50.1	112°40.8
14	136°06.8	14.5'	02°01.9	15.3'	56.9'	82°26.1	71°07.5	66°09.4	15°46.9	34°07.0	60°28.9	109°22.7	113°05.3
15	150°40.3	14.5'	02°17.3	15.3'	56.9'	81°55.0	70°35.4	65°38.6	15°16.8	34°32.0	60°55.0	109°55.5	113°29.8
16	165°13.8	14.5'	02°32.6	15.4'	57.0'	81°23.9	70°03.3	65°07.8	14°46.9	34°57.1	61°21.2	110°28.2	113°54.3
17	179°47.3	14.4'	02°48.0	15.4'	57.0'	80°52.8	69°31.1	64°36.9	14°17.1	35°22.5	61°47.5	111°01.0	114°18.8
18	194°20.7	14.4'	N03°03.3	15.4'	57.0'	80°21.7	68°58.9	64°06.0	13°47.6	35°48.1	62°13.9	111°33.8	114°43.2
19	208°54.1	14.3'	03°18.7	15.4'	57.1'	79°50.5	68°26.7	63°35.1	13°18.2	36°13.9	62°40.4	112°06.7	115°07.6
20	223°27.4	14.3'	03°34.0	15.4'	57.1'	79°19.3	67°54.5	63°04.2	12°49.1	36°39.9	63°07.0	112°39.5	115°31.9
21	238°00.7	14.2'	03°49.4	15.4'	57.1'	78°48.0	67°22.2	62°33.2	12°20.2	37°06.1	63°33.6	113°12.5	115°56.2
22	252°33.9	14.2'	04°04.8	15.4'	57.2'	78°16.8	66°49.9	62°02.2	11°51.7	37°32.4	64°00.3	113°45.4	116°20.4
23	267°07.1	14.1'	04°20.1	15.4'	57.2'	77°45.5	66°17.6	61°31.1	11°23.5	37°58.9	64°27.1	114°18.4	116°44.6
6 th	SD = 15.4' Mer. pass. 04:39												

h		Moon (7 th Jul)				Lunar Distance (objects with largest hourly LD delta)							
Tue	GHA	ν	Dec	d	HP	-Betelgeuse	-Capella	-Aldebaran	-Mars	+Fomalhaut	+Altair	+Antares	+Rigel Kent.
0	281°40.3	14.1'	N04°35.5	15.4'	57.2'	85°17.7	77°14.1	65°45.2	61°00.0	38°25.6	64°54.0	114°51.4	117°08.8
1	296°13.3	14.0'	04°50.8	15.4'	57.3'	84°46.8	76°42.8	65°12.8	60°28.9	38°52.5	65°21.0	115°24.5	117°32.9
2	310°46.4	14.0'	05°06.2	15.3'	57.3'	84°15.8	76°11.4	64°40.4	59°57.8	39°19.5	65°48.0	115°57.6	117°56.9
3	325°19.4	13.9'	05°21.5	15.3'	57.3'	83°44.8	75°40.0	64°08.0	59°26.6	39°46.7	66°15.2	116°30.7	118°20.9
4	339°52.3	13.9'	05°36.9	15.3'	57.3'	83°13.8	75°08.6	63°35.5	58°55.4	40°14.0	66°42.3	117°03.9	118°44.8
5	354°25.1	13.8'	05°52.2	15.3'	57.4'	82°42.7	74°37.2	63°03.0	58°24.1	40°41.5	67°09.6	117°37.1	119°08.7
6	8°57.9	13.7'	N06°07.5	15.3'	57.4'	82°11.6	74°05.7	62°30.5	57°52.8	41°09.1	67°37.0	118°10.3	119°32.5
7	23°30.7	13.7'	06°22.8	15.3'	57.4'	81°40.5	73°34.2	61°57.9	57°21.5	41°36.9	68°04.4	118°43.6	119°56.3
8	38°03.4	13.6'	06°38.1	15.3'	57.5'	81°09.4	73°02.7	61°25.4	56°50.2	42°04.8	68°31.9	119°16.9	
9	52°36.0	13.6'	06°53.4	15.3'	57.5'	80°38.2	72°31.1	60°52.7	56°18.8	42°32.8	68°59.4	119°50.3	
10	67°08.5	13.5'	07°08.7	15.3'	57.5'	80°07.0	71°59.6	60°20.1	55°47.4	43°01.0	69°27.0		
11	81°41.0	13.4'	07°24.0	15.2'	57.6'	79°35.8	71°28.0	59°47.4	55°15.9	43°29.3	69°54.7		
12	96°13.4	13.3'	N07°39.2	15.2'	57.6'	79°04.5	70°56.4	59°14.7	54°44.4	43°57.7	70°22.5		
13	110°45.8	13.3'	07°54.4	15.2'	57.6'	78°33.2	70°24.7	58°42.0	54°12.9	44°26.3	70°50.3		
14	125°18.1	13.2'	08°09.6	15.2'	57.7'	78°01.9	69°53.1	58°09.3	53°41.3	44°55.0	71°18.2		
15	139°50.3	13.1'	08°24.8	15.2'	57.7'	77°30.6	69°21.4	57°36.5	53°09.8	45°23.8	71°46.2		
16	154°22.4	13.1'	08°40.0	15.1'	57.7'	76°59.2	68°49.7	57°03.7	52°38.1	45°52.7	72°14.2		
17	168°54.5	13.0'	08°55.1	15.1'	57.8'	76°27.9	68°17.9	56°30.9	52°06.5	46°21.7	72°42.3		
18	183°26.4	12.9'	N09°10.2	15.1'	57.8'	75°56.5	67°46.2	55°58.0	51°34.8	46°50.9	73°10.5		
19	197°58.3	12.8'	09°25.3	15.1'	57.8'	75°25.0	67°14.4	55°25.1	51°03.0	47°20.1	73°38.7		
20	212°30.2	12.7'	09°40.4	15.0'	57.9'	74°53.6	66°42.6	54°52.2	50°31.3	47°49.5	74°07.0		
21	227°01.9	12.7'	09°55.4	15.0'	57.9'	74°22.1	66°10.8	54°19.3	49°59.5	48°19.0	74°35.3		
22	241°33.6	12.6'	10°10.4	15.0'	57.9'	73°50.6	65°39.0	53°46.3	49°27.6	48°48.6	75°03.7		
23	256°05.1	12.5'	10°25.4	14.9'	58.0'	73°19.0	65°07.1	53°13.3	48°55.8	49°18.2	75°32.1		
7 th	SD = 15.6' Mer. pass. 05:23												

h		Moon (8 th Jul)				Lunar Distance (objects with largest hourly LD delta)							
Wed	GHA	ν	Dec	d	HP	-Sun	-Betelgeuse	-Capella	-Aldebaran	-Mars	+Saturn	+Fomalhaut	+Altair
0	270°36.6	12.4'	N10°40.3	14.9'	58.0'	87°38.2	72°47.5	64°35.3	52°40.3	48°23.9		49°48.0	76°00.7
1	285°08.0	12.3'	10°55.2	14.9'	58.0'	87°06.7	72°15.9	64°03.4	52°07.3	47°51.9		50°17.9	76°29.2
2	299°39.4	12.2'	11°10.1	14.8'	58.1'	86°35.1	71°44.3	63°31.5	51°34.2	47°19.9		50°47.9	76°57.9
3	314°10.6	12.1'	11°24.9	14.8'	58.1'	86°03.5	71°12.7	62°59.6	51°01.1	46°47.9		51°17.9	77°26.5
4	328°41.7	12.0'	11°39.7	14.8'	58.1'	85°31.9	70°41.1	62°27.6	50°28.0	46°15.9		51°48.1	77°55.3
5	343°12.8	12.0'	11°54.5	14.7'	58.2'	85°00.2	70°09.4	61°55.7	50°28.0	45°43.8		52°18.4	78°24.1
6	357°43.7	11.9'	N12°09.2	14.7'	58.2'	84°28.5	69°37.7	61°23.7	49°21.7	45°11.7	9°38.5	52°48.7	78°52.9
7	12°14.6	11.8'	12°23.9	14.6'	58.2'	83°56.8	69°06.0	60°51.7	48°48.6	44°39.5	10°05.7	53°19.1	79°21.8
8	26°45.3	11.7'	12°38.5	14.6'	58.3'	83°25.0	68°34.3	60°19.7	48°15.4	44°07.4	10°33.5	53°49.7	79°50.8
9	41°16.0	11.6'	12°53.1	14.5'	58.3'	82°53.2	68°02.6	59°47.7	47°42.2	43°35.1	11°01.9	54°20.3	80°19.8
10	55°46.6	11.5'	13°07.6	14.5'	58.3'	82°21.3	67°30.8	59°15.7	47°08.9	43°02.9	11°30.9	54°51.0	80°48.8
11	70°17.0	11.4'	13°22.1	14.4'	58.4'	81°49.4	66°59.1	58°43.7	46°35.7	42°30.6	12°00.4	55°21.7	81°17.9
12	84°47.4	11.3'	N13°36.6	14.4'	58.4'	81°17.4	66°27.3	58°11.6	46°02.4	41°58.3	12°30.3	55°52.6	81°47.1
13	99°17.7	11.2'	13°50.9	14.3'	58.4'	80°45.5	65°55.5	57°39.6	45°29.1	41°25.9	13°00.6	56°23.5	82°16.3
14	113°47.8	11.1'	14°05.3	14.3'	58.5'	80°13.4	65°23.7	57°07.5	44°55.8	40°53.6	13°31.2	56°54.6	82°45.5
15	128°17.9	10.9'	14°19.5	14.2'	58.5'	79°41.4	64°51.8	56°35.5	44°22.5	40°21.1	14°02.2	57°25.7	83°14.8
16	142°47.8	10.8'	14°33.8	14.2'	58.5'	79°09.3	64°20.0	56°03.4	43°49.1	39°48.7	14°33.5	57°56.8	83°44.1
17	157°17.6	10.7'	14°47.9	14.1'	58.6'	78°37.1	63°48.1	55°31.3	43°15.8	39°16.2	15°05.0	58°28.1	84°13.5
18	171°47.4	10.6'	N15°02.0	14.0'	58.6'	78°04.9	63°16.3	54°59.3	42°42.4	38°43.7	15°36.8	58°59.4	84°42.9
19	186°17.0	10.5'	15°16.1	14.0'	58.6'	77°32.7	62°44.4	54°27.2	42°09.1	38°11.2	16°08.8	59°30.8	85°12.4
20	200°46.5	10.4'	15°30.0	13.9'	58.7'	77°00.4	62°12.5	53°55.1	41°35.7	37°38.6	16°41.0	60°02.3	85°41.9
21	215°15.9	10.3'	15°44.0	13.8'	58.7'	76°28.1	61°40.6	53°23.0	41°02.3	37°06.0	17°13.4	60°33.9	86°11.5
22	229°45.2	10.2'	15°57.8	13.8'	58.7'	75°55.8	61°08.7	52°50.9	40°28.9	36°33.3	17°46.0	61°05.5	86°41.1
23	244°14.3	10.0'	16°11.6	13.7'	58.8'	75°23.4	60°36.8	52°18.9	39°55.5	36°00.7	18°18.7	61°37.2	87°10.7
8 th	SD = 15.8' Mer. pass. 06:09					Sun SD = 15.7'							

Moon (9 th Jul)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Sun	-Capella	-Aldebaran	-Mars	+Saturn	+Fomalhaut	+Achernar	+Altair
0	258°43.4	9.9'	N16°25.3	13.6'	58.8'	74°51.0	51°46.8	39°22.1	35°28.0	18°51.6	62°09.0		87°40.4
1	273°12.3	9.8'	16°38.9	13.6'	58.8'	74°18.5	51°14.7	38°48.7	34°55.2	19°24.7	62°40.8		88°10.1
2	287°41.1	9.7'	16°52.5	13.5'	58.9'	73°46.0	50°42.7	38°15.2	34°22.5	19°57.9	63°12.7		88°39.8
3	302°09.8	9.6'	17°05.9	13.4'	58.9'	73°13.4	50°10.6	37°41.8	33°49.7	20°31.2	63°44.7	74°19.4	89°09.6
4	316°38.4	9.4'	17°19.3	13.3'	58.9'	72°40.8	49°38.6	37°08.4	33°16.9	21°04.6	64°16.7	74°34.6	89°39.4
5	331°06.8	9.3'	17°32.7	13.2'	59.0'	72°08.2	49°06.6	36°35.0	32°44.0	21°38.1	64°48.8	74°49.8	90°09.3
6	345°35.2	9.2'	N17°45.9	13.2'	59.0'	71°35.5	48°34.6	36°01.6	32°11.2	22°11.8	65°20.9	75°05.1	90°39.2
7	0°03.4	9.1'	17°59.1	13.1'	59.0'	71°02.8	48°02.6	35°28.2	31°38.3	22°45.6	65°53.2	75°20.6	91°09.1
8	14°31.4	9.0'	18°12.1	13.0'	59.1'	70°30.1	47°30.6	34°54.9	31°05.4	23°19.4	66°25.5	75°36.1	91°39.1
9	28°59.4	8.8'	18°25.1	12.9'	59.1'	69°57.3	46°58.7	34°21.5	30°32.4	23°53.4	66°57.8	75°51.7	92°09.1
10	43°27.2	8.7'	18°38.0	12.8'	59.1'	69°24.5	46°26.7	33°48.1	29°59.5	24°27.5	67°30.2	76°07.4	92°39.1
11	57°54.9	8.6'	18°50.8	12.7'	59.2'	68°51.6	45°54.8	33°14.8	29°26.5	25°01.6	68°02.7	76°23.2	93°09.2
12	72°22.5	8.4'	N19°03.5	12.6'	59.2'	68°18.7	45°23.0	32°41.5	28°53.5	25°35.8	68°35.2	76°39.1	93°39.2
13	86°49.9	8.3'	19°16.1	12.5'	59.2'	67°45.7	44°51.1	32°08.2	28°20.5	26°10.1	69°07.8	76°55.0	94°09.3
14	101°17.2	8.2'	19°28.6	12.4'	59.3'	67°12.7	44°19.3	31°35.0	27°47.5	26°44.5	69°40.5	77°11.1	94°39.5
15	115°44.4	8.1'	19°41.1	12.3'	59.3'	66°39.7	43°47.6	31°01.8	27°14.4	27°19.0	70°13.2	77°27.2	95°09.6
16	130°11.5	7.9'	19°53.4	12.2'	59.3'	66°06.6	43°15.8	30°28.6	26°41.4	27°53.6	70°45.9	77°43.4	95°39.8
17	144°38.4	7.8'	20°05.6	12.1'	59.4'	65°33.5	42°44.2	29°55.5	26°08.3	28°28.2	71°18.8	77°59.7	96°10.0
18	159°05.2	7.7'	N20°17.7	12.0'	59.4'	65°00.4	42°12.5	29°22.4	25°35.2	29°02.9	71°51.6	78°16.1	96°40.3
19	173°31.8	7.5'	20°29.7	11.9'	59.4'	64°27.2	41°40.9	28°49.4	25°02.1	29°37.6	72°24.6	78°32.6	97°10.5
20	187°58.4	7.4'	20°41.6	11.8'	59.4'	63°54.0	41°09.4	28°16.4	24°29.0	30°12.5	72°57.5	78°49.1	97°40.8
21	202°24.7	7.3'	20°53.4	11.7'	59.5'	63°20.7	40°37.9	27°43.5	23°55.9	30°47.3	73°30.6	79°05.7	98°11.1
22	216°51.0	7.1'	21°05.0	11.5'	59.5'	62°47.4	40°06.5	27°10.7	23°22.8	31°22.3	74°03.7	79°22.4	98°41.4
23	231°17.1	7.0'	21°16.6	11.4'	59.5'	62°14.0	39°35.2	26°38.0	22°49.7	31°57.3	74°36.8	79°39.2	99°11.7
9 th	SD = 16.0' Mer. pass. 07:00					Sun SD = 15.7'							

Moon (10 th Jul)						Lunar Distance (objects with largest hourly LD delta)							
h	GHA	ν	Dec	d	HP	-Sun	-Betelgeuse	-Aldebaran	-Mars	+Saturn	+Fomalhaut	+Deneb	+Altair
0	245°43.1	6.9'	N21°28.0	11.3'	59.6'	61°40.7	47°21.5	26°05.3	22°16.7	32°32.4	75°10.0	76°00.1	99°42.1
1	260°09.0	6.7'	21°39.3	11.2'	59.6'	61°07.2	46°50.0	25°32.8	21°43.6	33°07.6	75°43.2	76°16.9	100°12.4
2	274°34.7	6.6'	21°50.5	11.1'	59.6'	60°33.8	46°18.6	25°00.3	21°10.5	33°42.8	76°16.5	76°33.8	100°42.8
3	289°00.3	6.4'	22°01.6	10.9'	59.7'	60°00.3	45°47.2	24°28.0	20°37.5	34°18.0	76°49.9	76°50.8	101°13.2
4	303°25.7	6.3'	22°12.5	10.8'	59.7'	59°26.8	45°15.8	23°55.8	20°04.5	34°53.3	77°23.3	77°07.8	101°43.6
5	317°51.0	6.2'	22°23.3	10.7'	59.7'	58°53.2	44°44.6	23°23.7	19°31.5	35°28.7	77°56.7	77°25.0	102°14.0
6	332°16.2	6.0'	N22°34.0	10.5'	59.7'	58°19.6	44°13.3	22°51.8	18°58.5	36°04.1	78°30.2	77°42.2	102°44.4
7	346°41.2	5.9'	22°44.5	10.4'	59.8'	57°45.9	43°42.2	22°20.1	18°25.6	36°39.6	79°03.7	77°59.6	103°14.8
8	1°06.1	5.8'	22°54.9	10.3'	59.8'	57°12.3	43°11.1	21°48.5	17°52.8	37°15.1	79°37.3	78°17.0	103°45.3
9	15°30.9	5.6'	23°05.2	10.1'	59.8'	56°38.5	42°40.0	21°17.1	17°20.0	37°50.7	80°10.9	78°34.5	104°15.7
10	29°55.5	5.5'	23°15.3	10.0'	59.9'	56°04.8	42°09.1	20°46.0	16°47.2	38°26.4	80°44.5	78°52.0	104°46.1
11	44°20.1	5.4'	23°25.3	9.8'	59.9'	55°31.0	41°38.3	20°15.1	16°14.6	39°02.0	81°18.2	79°09.7	105°16.6
12	58°44.4	5.2'	N23°35.2	9.7'	59.9'	54°57.2	41°07.5	19°44.4	15°42.0	39°37.8	81°52.0	79°27.4	105°47.0
13	73°08.7	5.1'	23°44.9	9.6'	59.9'	54°23.3	40°36.9	19°14.0	15°09.6	40°13.6	82°25.8	79°45.2	106°17.5
14	87°32.8	5.0'	23°54.4	9.4'	60.0'	53°49.4	40°06.3	18°44.0	14°37.3	40°49.4	82°59.6	80°03.0	106°47.9
15	101°56.7	4.8'	24°03.8	9.3'	60.0'	53°15.5	39°35.8	18°14.3	14°05.1	41°25.3	83°33.4	80°20.9	107°18.3
16	116°20.6	4.7'	24°13.1	9.1'	60.0'	52°41.5	39°05.5	17°44.9	13°33.1	42°01.2	84°07.3	80°38.9	107°48.7
17	130°44.3	4.6'	24°22.2	8.9'	60.1'	52°07.5	38°35.2	17°16.0	13°01.3	42°37.1	84°41.3	80°57.0	108°19.2
18	145°07.9	4.5'	N24°31.1	8.8'	60.1'	51°33.5	38°05.1	16°47.5	12°29.7	43°13.2	85°15.3	81°15.1	108°49.6
19	159°31.3	4.3'	24°39.9	8.6'	60.1'	50°59.4	37°35.2	16°19.5	11°58.3	43°49.2	85°49.3	81°33.3	109°20.0
20	173°54.7	4.2'	24°48.5	8.5'	60.1'	50°25.3	37°05.3	15°52.0	11°27.3	44°25.3	86°23.3	81°51.5	109°50.3
21	188°17.9	4.1'	24°57.0	8.3'	60.2'	49°51.2	36°35.6	15°25.1	10°56.6	45°01.5	86°57.4	82°09.8	110°20.7
22	202°40.9	3.9'	25°05.3	8.1'	60.2'	49°17.0	36°06.1	14°58.9	10°26.3	45°37.6	87°31.5	82°28.2	110°51.0
23	217°03.9	3.8'	25°13.4	8.0'	60.2'	48°42.8	35°36.7	14°33.4	9°56.4	46°13.9	88°05.7	82°46.6	111°21.4
10 th	SD = 16.2' Mer. pass. 07:55					Sun SD = 15.7'							

Moon (11 th Jul)						Lunar Distance (objects with largest hourly LD delta)							
Sat	GHA	ν	Dec	d	HP	-Sun	-Betelgeuse	-Capella	-Mars	+Saturn	+Deneb	+Fomalhaut	+Altair
0	231°26.7	3.7'	N25°21.4	7.8'	60.2'	48°08.6	35°07.5	27°13.6	9°27.2	46°50.1	83°05.1	88°39.9	111°51.7
1	245°49.4	3.6'	25°29.2	7.6'	60.3'	47°34.4	34°38.5	26°46.7	8°58.5	47°26.4	83°23.6	89°14.1	112°21.9
2	260°12.0	3.5'	25°36.8	7.4'	60.3'	47°00.1	34°09.7	26°20.2	8°30.6	48°02.8	83°42.2	89°48.3	112°52.2
3	274°34.5	3.3'	25°44.2	7.3'	60.3'	46°25.8	33°41.0	25°54.1	8°03.6	48°39.2	84°00.8	90°22.6	113°22.4
4	288°56.8	3.2'	25°51.5	7.1'	60.3'	45°51.4	33°12.6	25°28.3		49°15.6	84°19.5	90°56.9	113°52.6
5	303°19.0	3.1'	25°58.6	6.9'	60.4'	45°17.0	32°44.4	25°03.0		49°52.0	84°38.2	91°31.2	114°22.8
6	317°41.2	3.0'	N26°05.5	6.7'	60.4'	44°42.6	32°16.5	24°38.1		50°28.5	84°56.9	92°05.6	114°52.9
7	332°03.2	2.9'	26°12.2	6.5'	60.4'	44°08.2	31°48.8	24°13.7		51°05.1	85°15.7	92°40.0	115°23.0
8	346°25.1	2.8'	26°18.7	6.4'	60.4'	43°33.7	31°21.3	23°49.7		51°41.6	85°34.6	93°14.4	115°53.1
9	0°46.9	2.7'	26°25.1	6.2'	60.4'	42°59.2	30°54.1	23°26.2		52°18.2	85°53.4	93°48.8	116°23.1
10	15°08.5	2.6'	26°31.3	6.0'	60.5'	42°24.7	30°27.3	23°03.3		52°54.9	86°12.3	94°23.3	116°53.1
11	29°30.1	2.5'	26°37.2	5.8'	60.5'	41°50.2	30°00.7	22°41.0		53°31.5	86°31.3	94°57.8	117°23.0
12	43°51.6	2.4'	N26°43.0	5.6'	60.5'	41°15.6	29°34.4	22°19.3		54°08.2	86°50.3	95°32.3	117°52.9
13	58°13.0	2.3'	26°48.6	5.4'	60.5'	40°41.0	29°08.5	21°58.2		54°45.0	87°09.3	96°06.8	118°22.7
14	72°34.3	2.2'	26°54.0	5.2'	60.5'	40°06.4	28°42.9	21°37.7		55°21.7	87°28.3	96°41.4	118°52.5
15	86°55.5	2.1'	26°59.2	5.0'	60.6'		28°17.7	21°18.0		55°58.5	87°47.4	97°15.9	119°22.2
16	101°16.6	2.0'	27°04.2	4.8'	60.6'		27°52.9	20°59.0		56°35.4	88°06.5	97°50.5	119°51.8
17	115°37.6	1.9'	27°09.1	4.6'	60.6'		27°28.5	20°40.8		57°12.2	88°25.6	98°25.1	
18	129°58.5	1.8'	N27°13.7	4.4'	60.6'		27°04.6	20°23.4		57°49.1	88°44.7	98°59.7	
19	144°19.3	1.8'	27°18.1	4.2'	60.6'		26°41.1	20°06.8		58°26.0	89°03.9	99°34.3	
20	158°40.1	1.7'	27°22.3	4.0'	60.7'		26°18.0	19°51.1		59°03.0	89°23.0	100°09.0	
21	173°00.8	1.6'	27°26.3	3.8'	60.7'		25°55.5			59°40.0	89°42.2	100°43.6	
22	187°21.4	1.5'	27°30.1	3.6'	60.7'		25°33.5			60°16.9	90°01.4	101°18.3	
23	201°41.9	1.5'	27°33.6	3.4'	60.7'		25°12.0			60°54.0	90°20.6	101°53.0	
11 th	SD = 16.4' Mer. pass. 08:57					Sun SD = 15.7'							

h		Moon (12 th Jul)				Lunar Distance (objects with largest hourly LD delta)							
Sun	GHA	ν	Dec	d	HP	-Adhara	-Sirius	-Betelgeuse	+Mars	+Aldebaran	+Saturn	+Deneb	+Fomalhaut
0	216°02.4	1.4'	N27°37.0	3.2'	60.7'	63°57.1	51°51.7	24°51.1			61°31.0	90°39.9	102°27.6
1	230°22.8	1.3'	27°40.2	3.0'	60.7'	63°41.3	51°33.4	24°30.8			62°08.1	90°59.1	103°02.3
2	244°43.1	1.3'	27°43.1	2.7'	60.8'	63°25.7	51°15.4	24°11.1	9°07.5		62°45.2	91°18.3	103°37.0
3	259°03.4	1.2'	27°45.9	2.5'	60.8'	63°10.2	50°57.6	23°52.1	9°37.0		63°22.3	91°37.6	104°11.7
4	273°23.6	1.2'	27°48.4	2.3'	60.8'	62°54.9	50°40.1	23°33.8	10°07.1		63°59.5	91°56.8	104°46.4
5	287°43.8	1.1'	27°50.7	2.1'	60.8'	62°39.7	50°22.8	23°16.2	10°37.8		64°36.6	92°16.1	105°21.1
6	302°03.9	1.1'	N27°52.8	1.9'	60.8'		50°05.7	22°59.3	11°09.1		65°13.8	92°35.3	105°55.8
7	316°23.9	1.0'	27°54.7	1.7'	60.8'		49°49.0	22°43.2	11°40.7		65°51.0	92°54.5	106°30.5
8	330°44.0	1.0'	27°56.4	1.5'	60.8'		49°32.5	22°27.9	12°12.8	14°44.1	66°28.3	93°13.8	107°05.3
9	345°03.9	0.9'	27°57.9	1.2'	60.8'		49°16.2		12°45.2	15°10.6	67°05.5	93°33.0	107°40.0
10	359°23.9	0.9'	27°59.1	1.0'	60.9'		49°00.3		13°17.9	15°37.8	67°42.8	93°52.2	108°14.7
11	13°43.8	0.9'	28°00.1	0.8'	60.9'		48°44.7		13°50.9	16°05.7	68°20.1	94°11.4	108°49.3
12	28°03.7	0.9'	N28°00.9	0.6'	60.9'		48°29.3		14°24.1	16°34.3	68°57.4	94°30.6	109°24.0
13	42°23.5	0.8'	28°01.5	0.4'	60.9'		48°14.2		14°57.5	17°03.4	69°34.7	94°49.8	109°58.7
14	56°43.4	0.8'	28°01.9	0.1'	60.9'				15°31.1	17°33.0	70°12.0	95°08.9	110°33.4
15	71°03.2	0.8'	28°02.0	-0.1'	60.9'				16°04.9	18°03.2	70°49.4	95°28.0	111°08.0
16	85°23.0	0.8'	28°02.0	-0.3'	60.9'				16°38.8	18°33.8	71°26.7	95°47.1	111°42.7
17	99°42.8	0.8'	28°01.7	-0.5'	60.9'				17°12.9	19°04.8	72°04.1	96°06.2	112°17.3
18	114°02.6	0.8'	N28°01.2	-0.7'	60.9'				17°47.1	19°36.2	72°41.5	96°25.3	112°51.9
19	128°22.4	0.8'	28°00.4	-1.0'	60.9'				18°21.5	20°07.9	73°18.9	96°44.3	113°26.5
20	142°42.1	0.8'	27°59.5	-1.2'	60.9'				18°55.9	20°40.0	73°56.3	97°03.3	114°01.1
21	157°01.9	0.8'	27°58.3	-1.4'	61.0'				19°30.4	21°12.4	74°33.7	97°22.3	114°35.7
22	171°21.7	0.8'	27°56.9	-1.6'	61.0'				20°05.0	21°45.1	75°11.2	97°41.2	115°10.2
23	185°41.5	0.8'	27°55.3	-1.8'	61.0'				20°39.7	22°18.0	75°48.6	98°00.1	115°44.7
12 th	SD = 16.6' Mer. pass. 10:03												

h		Moon (13 th Jul)				Lunar Distance (objects with largest hourly LD delta)							
Mon	GHA	ν	Dec	d	HP	+Capella	+Mars	+Betelgeuse	+Aldebaran	+Rigel	+Saturn	+Deneb	+Fomalhaut
0	200°01.3	0.8'	N27°53.4	-2.1'	61.0'	20°10.6	21°14.5		22°51.1		76°26.1	98°18.9	116°19.2
1	214°21.2	0.9'	27°51.4	-2.3'	61.0'	20°27.6	21°49.3		23°24.5		77°03.5	98°37.7	116°53.7
2	228°41.0	0.9'	27°49.1	-2.5'	61.0'	20°45.5	22°24.3		23°58.1		77°41.0	98°56.5	117°28.1
3	243°00.9	0.9'	27°46.6	-2.7'	61.0'	21°04.2	22°59.2		24°31.9		78°18.5	99°15.2	118°02.5
4	257°20.8	0.9'	27°43.9	-2.9'	61.0'	21°23.7	23°34.2		25°05.9		78°56.0	99°33.9	118°36.8
5	271°40.8	1.0'	27°41.0	-3.1'	61.0'	21°44.0	24°09.3		25°40.0		79°33.5	99°52.5	119°11.2
6	286°00.7	1.0'	N27°37.9	-3.4'	61.0'	22°05.0	24°44.4		26°14.3		80°11.0	100°11.1	119°45.5
7	300°20.7	1.1'	27°34.5	-3.6'	61.0'	22°26.7	25°19.6		26°48.8		80°48.4	100°29.6	
8	314°40.8	1.1'	27°30.9	-3.8'	61.0'	22°49.1	25°54.8		27°23.4		81°25.9	100°48.0	
9	329°00.9	1.2'	27°27.1	-4.0'	61.0'	23°12.1	26°30.0		27°58.1		82°03.4	101°06.4	
10	343°21.1	1.2'	27°23.1	-4.2'	61.0'	23°35.7	27°05.3		28°32.9	40°02.0	82°40.9	101°24.8	
11	357°41.3	1.3'	27°18.9	-4.4'	61.0'	23°59.8	27°40.6		29°07.9	40°17.5	83°18.5	101°43.0	
12	12°01.5	1.3'	N27°14.5	-4.6'	61.0'	24°24.5	28°15.9		29°42.9	40°33.4	83°56.0	102°01.2	
13	26°21.9	1.4'	27°09.9	-4.8'	61.0'	24°49.8	28°51.2		30°18.0	40°49.6	84°33.5	102°19.4	
14	40°42.2	1.4'	27°05.0	-5.1'	61.0'	25°15.5	29°26.6		30°53.3	41°06.3	85°11.0	102°37.4	
15	55°02.7	1.5'	27°00.0	-5.3'	61.0'	25°41.7	30°02.0	22°48.5	31°28.6	41°23.3	85°48.5	102°55.4	
16	69°23.2	1.6'	26°54.7	-5.5'	61.0'	26°08.3	30°37.4	23°05.0	32°04.0	41°40.7	86°25.9	103°13.3	
17	83°43.8	1.7'	26°49.2	-5.7'	61.0'	26°35.3	31°12.8	23°22.3	32°39.5	41°58.5	87°03.4	103°31.2	
18	98°04.4	1.7'	N26°43.5	-5.9'	61.0'	27°02.7	31°48.3	23°40.3	33°15.0	42°16.6	87°40.9	103°48.9	
19	112°25.2	1.8'	26°37.7	-6.1'	61.0'								
20	126°46.0	1.9'	26°31.6	-6.3'	60.9'								
21	141°06.9	2.0'	26°25.3	-6.5'	60.9'								
22	155°27.9	2.1'	26°18.8	-6.7'	60.9'								
23	169°49.0	2.2'	26°12.2	-6.9'	60.9'								
13 th	SD = 16.6' Mer. pass. 11:10												

h		Moon (14 th Jul)				
Tue	GHA	ν	Dec	d	HP	
0	184°10.1	2.3'	N26°05.3	-7.1'	60.9'	New Moon
1	198°31.4	2.4'	25°58.2	-7.3'	60.9'	New Moon
2	212°52.7	2.5'	25°51.0	-7.4'	60.9'	New Moon
3	227°14.2	2.6'	25°43.5	-7.6'	60.9'	New Moon
4	241°35.7	2.7'	25°35.9	-7.8'	60.9'	New Moon
5	255°57.4	2.8'	25°28.1	-8.0'	60.9'	New Moon
6	270°19.2	2.9'	N25°20.1	-8.2'	60.9'	New Moon
7	284°41.0	3.0'	25°11.9	-8.4'	60.8'	New Moon
8	299°03.0	3.1'	25°03.5	-8.6'	60.8'	New Moon
9	313°25.1	3.2'	24°55.0	-8.7'	60.8'	New Moon
10	327°47.3	3.3'	24°46.2	-8.9'	60.8'	New Moon
11	342°09.6	3.4'	24°37.3	-9.1'	60.8'	New Moon
12	356°32.0	3.5'	N24°28.3	-9.2'	60.8'	New Moon
13	10°54.5	3.7'	24°19.0	-9.4'	60.8'	New Moon
14	25°17.2	3.8'	24°09.6	-9.6'	60.7'	New Moon
15	39°40.0	3.9'	24°00.0	-9.7'	60.7'	New Moon
16	54°02.9	4.0'	23°50.3	-9.9'	60.7'	New Moon
17	68°25.9	4.1'	23°40.3	-10.1'	60.7'	New Moon
18	82°49.0	4.3'	N23°30.3	-10.2'	60.7'	New Moon
19	97°12.3	4.4'	23°20.0	-10.4'	60.7'	New Moon
20	111°35.7	4.5'	23°09.7	-10.5'	60.6'	New Moon
21	125°59.2	4.6'	22°59.1	-10.7'	60.6'	New Moon
22	140°22.8	4.8'	22°48.4	-10.8'	60.6'	New Moon
23	154°46.6	4.9'	22°37.6	-11.0'	60.6'	New Moon
14 th	SD = 16.6' Mer. pass. 12:14					