

Solar - Lunar Data 2013

Date	Week	Day #	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day		hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
1/1/13	Tue	1	18:40	18:49	-22:56	0.9833	-3.4	6:57	7:27	120	12:09	28	16:51	240	17:22	9:24	21:20	83	3:03	59	9:39	279	83%	243,826	2,456,294	
1/2/13	Wed	2	18:44	18:54	-22:51	0.9833	-3.9	6:57	7:27	120	12:10	28	16:52	240	17:22	9:25	22:22	90	3:49	54	10:09	273	75%	241,383	2,456,295	
1/3/13	Thu	3	18:48	18:58	-22:45	0.9833	-4.3	6:58	7:27	120	12:10	28	16:53	240	17:23	9:26	23:26	96	4:34	49	10:38	267	66%	238,675	2,456,296	
1/4/13	Fri	4	18:52	19:03	-22:38	0.9833	-4.8	6:58	7:27	119	12:11	28	16:54	241	17:24	9:27			5:21	44	11:09	261	55%	235,765	2,456,297	
1/5/13	Sat	5	18:56	19:07	-22:31	0.9833	-5.2	6:58	7:27	119	12:11	28	16:54	241	17:25	9:27	0:31	102	6:11	40	11:43	255	44%	232,771	2,456,298	
1/6/13	Sun	6	19:00	19:11	-22:24	0.9833	-5.7	6:58	7:27	119	12:12	28	16:55	241	17:26	9:28	1:39	108	7:03	35	12:21	250	33%	229,864	2,456,299	
1/7/13	Mon	7	19:04	19:16	-22:16	0.9834	-6.1	6:58	7:27	119	12:12	28	16:56	241	17:27	9:29	2:48	113	7:59	32	13:05	246	23%	227,268	2,456,300	
1/8/13	Tue	8	19:07	19:20	-22:08	0.9834	-6.5	6:57	7:27	119	12:13	28	16:57	241	17:28	9:30	3:57	116	8:58	30	13:57	243	14%	225,234	2,456,301	
1/9/13	Wed	9	19:11	19:24	-22:00	0.9834	-6.9	6:57	7:27	119	12:13	29	16:58	242	17:29	9:31	5:04	118	10:01	29	14:57	242	7%	224,003	2,456,302	
1/10/13	Thu	10	19:15	19:29	-21:51	0.9835	-7.3	6:57	7:27	118	12:13	29	16:59	242	17:30	9:32	6:05	117	11:03	30	16:05	244	2%	223,764	2,456,303	
1/11/13	Fri	11	19:19	19:33	-21:41	0.9835	-7.8	6:57	7:27	118	12:14	29	17:00	242	17:31	9:33	6:58	114	12:05	32	17:16	247	0%	224,605	2,456,304	
1/12/13	Sat	12	19:23	19:37	-21:31	0.9836	-8.2	6:57	7:26	118	12:14	29	17:01	242	17:32	9:35	7:44	110	13:03	36	18:28	252	1%	226,494	2,456,305	
1/13/13	Sun	13	19:27	19:42	-21:21	0.9836	-8.5	6:57	7:26	118	12:14	29	17:03	242	17:33	9:37	8:24	104	13:58	40	19:39	258	5%	229,273	2,456,306	
1/14/13	Mon	14	19:31	19:46	-21:10	0.9837	-8.9	6:56	7:26	117	12:15	29	17:04	243	17:34	9:38	8:58	98	14:49	45	20:47	265	11%	232,689	2,456,307	
1/15/13	Tue	15	19:35	19:50	-20:59	0.9837	-9.3	6:56	7:25	117	12:15	30	17:05	243	17:35	9:40	9:30	92	15:37	50	21:53	271	19%	236,439	2,456,308	
1/16/13	Wed	16	19:39	19:55	-20:48	0.9838	-9.6	6:56	7:25	117	12:16	30	17:06	243	17:36	9:41	10:01	85	16:24	55	22:56	278	28%	240,210	2,456,309	
1/17/13	Thu	17	19:43	19:59	-20:36	0.9838	-9.9	6:55	7:24	117	12:16	30	17:07	243	17:37	9:43	10:31	80	17:10	59	23:56	283	38%	243,721	2,456,310	
1/18/13	Fri	18	19:47	20:03	-20:24	0.9839	-10.3	6:55	7:24	116	12:16	30	17:08	244	17:38	9:44	11:02	74	17:55	63			47%	246,744	2,456,311	
1/19/13	Sat	19	19:51	20:07	-20:11	0.9840	-10.6	6:54	7:23	116	12:17	30	17:09	244	17:39	9:46	11:35	70	18:41	66	0:56	288	57%	249,122	2,456,312	
1/20/13	Sun	20	19:55	20:12	-19:58	0.9841	-10.9	6:54	7:23	116	12:17	31	17:10	244	17:40	9:47	12:10	66	19:27	69	1:53	292	66%	250,768	2,456,313	
1/21/13	Mon	21	19:59	20:16	-19:44	0.9842	-11.2	6:53	7:22	115	12:17	31	17:12	245	17:41	9:50	12:50	64	20:14	71	2:49	295	75%	251,658	2,456,314	
1/22/13	Tue	22	20:03	20:20	-19:31	0.9842	-11.5	6:53	7:22	115	12:17	31	17:13	245	17:42	9:51	13:34	63	21:02	71	3:42	297	82%	251,827	2,456,315	
1/23/13	Wed	23	20:07	20:24	-19:17	0.9843	-11.8	6:52	7:21	115	12:18	31	17:14	245	17:43	9:53	14:23	63	21:51	71	4:31	298	89%	251,353	2,456,316	
1/24/13	Thu	24	20:11	20:28	-19:02	0.9844	-12	6:52	7:20	115	12:18	31	17:15	246	17:45	9:55	15:16	64	22:39	69	5:17	297	94%	250,345	2,456,317	
1/25/13	Fri	25	20:15	20:33	-18:47	0.9845	-12.3	6:51	7:19	114	12:18	32	17:16	246	17:46	9:57	16:12	67	23:27	67	5:58	294	98%	248,924	2,456,318	
1/26/13	Sat	26	20:18	20:37	-18:32	0.9847	-12.5	6:50	7:19	114	12:18	32	17:17	246	17:47	9:58	17:11	71			6:36	291	100%	247,211	2,456,319	
1/27/13	Sun	27	20:22	20:41	-18:17	0.9848	-12.7	6:49	7:18	114	12:18	32	17:19	247	17:48	10:01	18:11	76	0:14	64	7:10	287	100%	245,312	2,456,320	
1/28/13	Mon	28	20:26	20:45	-18:01	0.9849	-12.9	6:49	7:17	113	12:19	32	17:20	247	17:49	10:03	19:13	81	1:01	60	7:42	281	97%	243,309	2,456,321	
1/29/13	Tue	29	20:30	20:49	-17:44	0.9850	-13.1	6:48	7:16	113	12:19	33	17:21	247	17:50	10:05	20:15	87	1:47	56	8:13	276	93%	241,258	2,456,322	
1/30/13	Wed	30	20:34	20:53	-17:28	0.9852	-13.3	6:47	7:15	112	12:19	33	17:22	248	17:51	10:07	21:19	94	2:33	51	8:43	269	87%	239,190	2,456,323	
1/31/13	Thu	31	20:38	20:57	-17:11	0.9853	-13.4	6:46	7:14	112	12:19	33	17:23	248	17:52	10:09	22:23	100	3:20	46	9:13	263	80%	237,121	2,456,324	
2/1/13	Fri	32	20:42	21:01	-16:54	0.9855	-13.6	6:45	7:14	112	12:19	34	17:25	249	17:54	10:11	23:30	106	4:08	41	9:46	257	70%	235,066	2,456,325	
2/2/13	Sat	33	20:46	21:05	-16:37	0.9856	-13.7	6:45	7:13	111	12:19	34	17:26	249	17:55	10:13			4:59	37	10:22	252	60%	233,055	2,456,326	
2/3/13	Sun	34	20:50	21:09	-16:19	0.9858	-13.8	6:44	7:12	111	12:19	34	17:27	249	17:56	10:15	0:37	111	5:52	33	11:03	247	49%	231,151	2,456,327	
2/4/13	Mon	35	20:54	21:14	-16:01	0.9859	-13.9	6:43	7:11	110	12:20	34	17:28	250	17:57	10:17	1:44	115	6:49	31	11:50	244	37%	229,451	2,456,328	
2/5/13	Tue	36	20:58	21:18	-15:43	0.9861	-14	6:42	7:10	110	12:20	35	17:29	250	17:58	10:19	2:49	117	7:47	29	12:44	242	27%	228,092	2,456,329	
2/6/13	Wed	37	21:02	21:22	-15:24	0.9863	-14.1	6:41	7:08	110	12:20	35	17:31	251	17:59	10:23	3:50	118	8:48	29	13:46	243	17%	227,229	2,456,330	
2/7/13	Thu	38	21:06	21:26	-15:05	0.9864	-14.2	6:40	7:07	109	12:20	35	17:32	251	18:00	10:25	4:45	116	9:48	31	14:54	245	9%	227,013	2,456,331	
2/8/13	Fri	39	21:10	21:30	-14:46	0.9866	-14.2	6:39	7:06	109	12:20	36	17:33	251	18:02	10:27	5:34	112	10:46	34	16:04	250	4%	227,558	2,456,332	
2/9/13	Sat	40	21:14	21:33	-14:27	0.9868	-14.3	6:37	7:05	108	12:20	36	17:34	252	18:03	10:29	6:16	107	11:42	38	17:15	255	1%	228,909	2,456,333	
2/10/13	Sun	41	21:18	21:37	-14:07	0.9870	-14.3	6:36	7:04	108	12:20	36	17:35	252	18:04	10:31	6:53	101	12:35	42	18:24	261	0%	231,022	2,456,334	
2/11/13	Mon	42	21:22	21:41	-13:48	0.9871	-14.3	6:35	7:03	108	12:20	37	17:37	253	18:05	10:34	7:27	95	13:25	47	19:32	268	3%	233,763	2,456,335	
2/12/13	Tue	43	21:25	21:45	-13:28	0.9873	-14.3	6:34	7:02	107	12:20	37	17:38	253	18:06	10:36	7:59	89	14:14	52	20:37	275	7%	236,924	2,456,336	
2/13/13	Wed	44	21:29	21:49	-13:07	0.9875	-14.3	6:33	7:00	107	12:20	37	17:39	254	18:07	10:39	8:30	83	15:01	57	21:40	281	14%	240,253	2,456,337	

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.			R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon						Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #		
2/14/13	Thu	45	21:33	21:53	-12:47	0.9877	-14.3	6:32	6:59	106	12:20	38	17:40	254	18:08	10:41	9:01	77	15:47	61	22:42	286	21%	243,484	2,456,338		
2/15/13	Fri	46	21:37	21:57	-12:26	0.9879	-14.2	6:31	6:58	106	12:20	38	17:41	254	18:09	10:43	9:34	72	16:34	65	23:41	290	30%	246,371	2,456,339		
2/16/13	Sat	47	21:41	22:01	-12:06	0.9881	-14.2	6:29	6:57	105	12:20	38	17:43	255	18:11	10:46	10:09	68	17:21	68			39%	248,708	2,456,340		
2/17/13	Sun	48	21:45	22:05	-11:45	0.9883	-14.1	6:28	6:55	105	12:20	39	17:44	255	18:12	10:49	10:47	65	18:08	70	0:38	294	49%	250,346	2,456,341		
2/18/13	Mon	49	21:49	22:09	-11:23	0.9885	-14	6:27	6:54	104	12:20	39	17:45	256	18:13	10:51	11:30	63	18:56	71	1:32	296	58%	251,201	2,456,342		
2/19/13	Tue	50	21:53	22:12	-11:02	0.9887	-13.9	6:25	6:53	104	12:19	39	17:46	256	18:14	10:53	12:16	63	19:44	71	2:23	297	67%	251,252	2,456,343		
2/20/13	Wed	51	21:57	22:16	-10:40	0.9889	-13.8	6:24	6:51	103	12:19	40	17:47	257	18:15	10:56	13:07	64	20:32	70	3:10	297	76%	250,541	2,456,344		
2/21/13	Thu	52	22:01	22:20	-10:19	0.9891	-13.7	6:23	6:50	103	12:19	40	17:48	257	18:16	10:58	14:02	66	21:20	68	3:54	295	83%	249,165	2,456,345		
2/22/13	Fri	53	22:05	22:24	-9:57	0.9893	-13.6	6:21	6:48	102	12:19	40	17:50	258	18:17	11:02	15:00	69	22:08	65	4:33	292	90%	247,261	2,456,346		
2/23/13	Sat	54	22:09	22:28	-9:35	0.9896	-13.5	6:20	6:47	102	12:19	41	17:51	258	18:18	11:04	16:00	74	22:55	62	5:09	288	95%	244,999	2,456,347		
2/24/13	Sun	55	22:13	22:32	-9:13	0.9898	-13.4	6:19	6:46	101	12:19	41	17:52	259	18:19	11:06	17:01	79	23:42	57	5:42	283	98%	242,557	2,456,348		
2/25/13	Mon	56	22:17	22:35	-8:50	0.9900	-13.2	6:17	6:44	101	12:19	42	17:53	259	18:21	11:09	18:04	85			6:14	278	100%	240,107	2,456,349		
2/26/13	Tue	57	22:21	22:39	-8:28	0.9903	-13.1	6:16	6:43	100	12:18	42	17:54	260	18:22	11:11	19:08	91	0:29	53	6:45	272	99%	237,794	2,456,350		
2/27/13	Wed	58	22:25	22:43	-8:05	0.9905	-12.9	6:14	6:41	100	12:18	42	17:55	260	18:23	11:14	20:14	98	1:16	48	7:16	265	96%	235,729	2,456,351		
2/28/13	Thu	59	22:29	22:47	-7:42	0.9907	-12.7	6:13	6:40	100	12:18	43	17:56	261	18:24	11:16	21:21	104	2:05	43	7:49	259	91%	233,973	2,456,352		
3/1/13	Fri	60	22:33	22:50	-7:20	0.9910	-12.5	6:11	6:38	99	12:18	43	17:57	261	18:25	11:19	22:29	109	2:56	38	8:24	254	83%	232,548	2,456,353		
3/2/13	Sat	61	22:36	22:54	-6:57	0.9912	-12.3	6:10	6:37	99	12:18	43	17:58	262	18:26	11:21	23:36	114	3:49	35	9:04	249	74%	231,446	2,456,354		
3/3/13	Sun	62	22:40	22:58	-6:34	0.9915	-12.1	6:09	6:35	98	12:17	44	18:00	262	18:27	11:25			4:44	32	9:49	245	64%	230,644	2,456,355		
3/4/13	Mon	63	22:44	23:02	-6:11	0.9918	-11.9	6:07	6:34	98	12:17	44	18:01	263	18:28	11:27	0:41	116	5:42	30	10:41	243	52%	230,125	2,456,356		
3/5/13	Tue	64	22:48	23:05	-5:47	0.9920	-11.7	6:06	6:32	97	12:17	45	18:02	263	18:29	11:30	1:43	117	6:41	29	11:39	243	41%	229,892	2,456,357		
3/6/13	Wed	65	22:52	23:09	-5:24	0.9923	-11.5	6:04	6:31	96	12:17	45	18:03	264	18:30	11:32	2:39	116	7:39	30	12:42	245	30%	229,971	2,456,358		
3/7/13	Thu	66	22:56	23:13	-5:01	0.9925	-11.2	6:02	6:29	96	12:17	45	18:04	264	18:31	11:35	3:28	114	8:36	33	13:49	248	20%	230,413	2,456,359		
3/8/13	Fri	67	23:00	23:16	-4:37	0.9928	-11	6:01	6:28	95	12:16	46	18:05	265	18:32	11:37	4:11	109	9:31	36	14:58	253	12%	231,271	2,456,360		
3/9/13	Sat	68	23:04	23:20	-4:14	0.9931	-10.7	5:59	6:26	95	12:16	46	18:06	265	18:33	11:40	4:49	104	10:24	40	16:06	259	6%	232,588	2,456,361		
3/10/13	Sun	69	23:08	23:24	-3:50	0.9933	-10.5	6:58	7:24	94	13:16	47	19:07	266	19:35	11:43	5:24	98	11:15	45	17:13	265	2%	234,369	2,456,362		
3/11/13	Mon	70	23:12	23:27	-3:27	0.9936	-10.2	6:56	7:23	94	13:16	47	19:08	266	19:36	11:45	5:56	92	12:03	50	18:19	271	0%	236,571	2,456,363		
3/12/13	Tue	71	23:16	23:31	-3:03	0.9939	-10	6:55	7:21	93	13:15	47	19:09	267	19:37	11:48	6:28	85	12:51	55	19:23	278	1%	239,094	2,456,364		
3/13/13	Wed	72	23:20	23:35	-2:40	0.9941	-9.7	6:53	7:20	93	13:15	48	19:10	267	19:38	11:50	6:59	80	13:38	59	20:25	283	4%	241,785	2,456,365		
3/14/13	Thu	73	23:24	23:38	-2:16	0.9944	-9.4	6:51	7:18	92	13:15	48	19:11	268	19:39	11:53	7:32	74	14:25	63	21:26	288	9%	244,459	2,456,366		
3/15/13	Fri	74	23:28	23:42	-1:52	0.9947	-9.1	6:50	7:16	92	13:14	48	19:12	268	19:40	11:56	8:06	70	15:13	66	22:25	292	15%	246,911	2,456,367		
3/16/13	Sat	75	23:32	23:46	-1:28	0.9949	-8.9	6:48	7:15	91	13:14	49	19:13	269	19:41	11:58	8:44	66	16:00	69	23:21	295	23%	248,946	2,456,368		
3/17/13	Sun	76	23:36	23:49	-1:05	0.9952	-8.6	6:47	7:13	91	13:14	49	19:14	269	19:42	12:01	9:25	64	16:48	70			31%	250,393	2,456,369		
3/18/13	Mon	77	23:40	23:53	0:41	0.9955	-8.3	6:45	7:12	90	13:14	50	19:15	270	19:43	12:03	10:10	63	17:36	71	0:14	297	41%	251,123	2,456,370		
3/19/13	Tue	78	23:43	23:57	0:17	0.9958	-8	6:43	7:10	90	13:13	50	19:17	270	19:44	12:07	10:59	63	18:24	70	1:03	297	50%	251,062	2,456,371		
3/20/13	Wed	79	23:47	0:00	0:05	0.9960	-7.7	6:42	7:08	89	13:13	50	19:18	271	19:45	12:10	11:52	65	19:12	69	1:47	296	59%	250,195	2,456,372		
3/21/13	Thu	80	23:51	0:04	0:29	0.9963	-7.4	6:40	7:07	89	13:13	51	19:19	271	19:46	12:12	12:47	68	19:59	66	2:28	293	69%	248,571	2,456,373		
3/22/13	Fri	81	23:55	0:08	0:53	0.9966	-7.1	6:38	7:05	88	13:12	51	19:20	272	19:47	12:15	13:46	72	20:46	63	3:05	290	77%	246,301	2,456,374		
3/23/13	Sat	82	23:59	0:11	1:16	0.9969	-6.8	6:37	7:03	88	13:12	52	19:21	273	19:48	12:18	14:46	77	21:33	59	3:39	286	85%	243,551	2,456,375		
3/24/13	Sun	83	0:03	0:15	1:40	0.9971	-6.5	6:35	7:02	87	13:12	52	19:22	273	19:49	12:20	15:48	82	22:20	55	4:11	280	92%	240,529	2,456,376		
3/25/13	Mon	84	0:07	0:19	2:04	0.9974	-6.2	6:33	7:00	87	13:11	52	19:23	274	19:50	12:23	16:52	89	23:07	50	4:43	274	96%	237,469	2,456,377		
3/26/13	Tue	85	0:11	0:22	2:27	0.9977	-5.9	6:32	6:59	86	13:11	53	19:24	274	19:51	12:25	17:58	95	23:56	45	5:14	268	99%	234,606	2,456,378		
3/27/13	Wed	86	0:15	0:26	2:51	0.9980	-5.6	6:30	6:57	86	13:11	53	19:25	275	19:52	12:28	19:06	101			5:47	262	100%	232,148	2,456,379		
3/28/13	Thu	87	0:19	0:30	3:14	0.9983	-5.3	6:29	6:55	85	13:11	54	19:26	275	19:53	12:31	20:15	107	0:48	40	6:22	256	98%	230,251	2,456,380		
3/29/13	Fri	88	0:23	0:33	3:37	0.9986	-5	6:27	6:54	85	13:10	54	19:27	276	19:54	12:33	21:25	112	1:41	36	7:02	251	93%	229,003	2,456,381		

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
3/30/13	Sat	89	0:27	0:37	4:01	0.9989	-4.7	6:25	6:52	84	13:10	54	19:28	276	19:55	12:36	22:32	115	2:38	33	7:46	246	86%	228,416	2,456,382	
3/31/13	Sun	90	0:31	0:40	4:24	0.9991	-4.4	6:24	6:50	84	13:10	55	19:29	277	19:57	12:39	23:36	117	3:36	30	8:37	244	77%	228,440	2,456,383	
4/1/13	Mon	91	0:35	0:44	4:47	0.9994	-4.1	6:22	6:49	83	13:09	55	19:30	277	19:58	12:41			4:35	30	9:34	243	67%	228,978	2,456,384	
4/2/13	Tue	92	0:39	0:48	5:10	0.9997	-3.8	6:20	6:47	83	13:09	56	19:31	278	19:59	12:44	0:34	117	5:34	30	10:36	244	56%	229,920	2,456,385	
4/3/13	Wed	93	0:43	0:51	5:33	1.0000	-3.5	6:19	6:46	82	13:09	56	19:32	278	20:00	12:46	1:26	114	6:32	32	11:42	247	44%	231,163	2,456,386	
4/4/13	Thu	94	0:47	0:55	5:56	1.0003	-3.2	6:17	6:44	82	13:08	56	19:33	279	20:01	12:49	2:10	111	7:27	35	12:49	251	33%	232,630	2,456,387	
4/5/13	Fri	95	0:50	0:59	6:19	1.0006	-2.9	6:15	6:42	81	13:08	57	19:34	279	20:02	12:52	2:49	106	8:19	39	13:56	257	23%	234,272	2,456,388	
4/6/13	Sat	96	0:54	1:02	6:41	1.0009	-2.6	6:14	6:41	81	13:08	57	19:35	280	20:03	12:54	3:24	100	9:09	43	15:02	263	15%	236,065	2,456,389	
4/7/13	Sun	97	0:58	1:06	7:04	1.0012	-2.3	6:12	6:39	80	13:08	57	19:36	280	20:04	12:57	3:56	94	9:57	48	16:06	269	8%	237,997	2,456,390	
4/8/13	Mon	98	1:02	1:10	7:26	1.0015	-2.1	6:10	6:38	80	13:07	58	19:37	281	20:05	12:59	4:28	88	10:45	53	17:10	275	3%	240,053	2,456,391	
4/9/13	Tue	99	1:06	1:13	7:49	1.0018	-1.8	6:09	6:36	79	13:07	58	19:38	281	20:06	13:02	4:58	82	11:31	58	18:12	281	1%	242,198	2,456,392	
4/10/13	Wed	100	1:10	1:17	8:11	1.0021	-1.5	6:07	6:35	79	13:07	59	19:39	282	20:07	13:04	5:30	76	12:18	62	19:13	286	0%	244,369	2,456,393	
4/11/13	Thu	101	1:14	1:21	8:33	1.0023	-1.2	6:06	6:33	78	13:07	59	19:40	282	20:08	13:07	6:04	72	13:05	65	20:13	291	2%	246,469	2,456,394	
4/12/13	Fri	102	1:18	1:24	8:55	1.0026	-0.9	6:04	6:32	78	13:06	59	19:41	283	20:09	13:09	6:41	68	13:53	68	21:10	294	5%	248,377	2,456,395	
4/13/13	Sat	103	1:22	1:28	9:16	1.0029	-0.7	6:02	6:30	77	13:06	60	19:42	283	20:10	13:12	7:20	65	14:41	70	22:05	296	10%	249,952	2,456,396	
4/14/13	Sun	104	1:26	1:32	9:38	1.0032	-0.4	6:01	6:29	77	13:06	60	19:43	283	20:11	13:14	8:04	64	15:29	70	22:55	297	17%	251,054	2,456,397	
4/15/13	Mon	105	1:30	1:35	9:59	1.0035	-0.2	5:59	6:27	76	13:06	60	19:44	284	20:13	13:17	8:52	63	16:17	70	23:41	296	25%	251,552	2,456,398	
4/16/13	Tue	106	1:34	1:39	10:21	1.0037	0.1	5:58	6:26	76	13:05	61	19:45	284	20:14	13:19	9:43	64	17:05	69			33%	251,346	2,456,399	
4/17/13	Wed	107	1:38	1:43	10:42	1.0040	0.2	5:56	6:24	75	13:05	61	19:46	285	20:15	13:22	10:37	67	17:52	67	0:23	294	42%	250,377	2,456,400	
4/18/13	Thu	108	1:42	1:47	11:03	1.0043	0.5	5:55	6:23	75	13:05	61	19:47	285	20:16	13:24	11:33	70	18:38	64	1:01	291	52%	248,641	2,456,401	
4/19/13	Fri	109	1:46	1:50	11:23	1.0045	0.7	5:53	6:21	74	13:05	62	19:48	286	20:17	13:27	12:31	75	19:24	61	1:36	287	62%	246,196	2,456,402	
4/20/13	Sat	110	1:50	1:54	11:44	1.0048	0.9	5:52	6:20	74	13:04	62	19:49	286	20:18	13:29	13:31	80	20:10	57	2:09	283	71%	243,163	2,456,403	
4/21/13	Sun	111	1:54	1:58	12:04	1.0051	1.2	5:50	6:18	74	13:04	62	19:50	287	20:19	13:32	14:34	86	20:56	52	2:40	277	80%	239,733	2,456,404	
4/22/13	Mon	112	1:58	2:02	12:24	1.0053	1.4	5:49	6:17	73	13:04	63	19:51	287	20:20	13:34	15:38	92	21:44	47	3:11	271	88%	236,146	2,456,405	
4/23/13	Tue	113	2:01	2:05	12:44	1.0056	1.6	5:47	6:15	73	13:04	63	19:52	288	20:21	13:37	16:44	98	22:34	43	3:43	265	94%	232,681	2,456,406	
4/24/13	Wed	114	2:05	2:09	13:04	1.0059	1.8	5:46	6:14	72	13:04	63	19:53	288	20:22	13:39	17:54	105	23:27	38	4:17	259	98%	229,626	2,456,407	
4/25/13	Thu	115	2:09	2:13	13:24	1.0061	1.9	5:44	6:13	72	13:04	64	19:54	288	20:24	13:41	19:05	110			4:55	253	100%	227,235	2,456,408	
4/26/13	Fri	116	2:13	2:17	13:43	1.0064	2.1	5:43	6:11	71	13:03	64	19:55	289	20:25	13:44	20:15	114	0:24	34	5:38	248	99%	225,699	2,456,409	
4/27/13	Sat	117	2:17	2:20	14:02	1.0067	2.3	5:41	6:10	71	13:03	64	19:56	289	20:26	13:46	21:23	116	1:23	31	6:27	245	95%	225,110	2,456,410	
4/28/13	Sun	118	2:21	2:24	14:21	1.0069	2.4	5:40	6:09	70	13:03	65	19:57	290	20:27	13:48	22:26	117	2:24	30	7:24	243	89%	225,453	2,456,411	
4/29/13	Mon	119	2:25	2:28	14:39	1.0072	2.6	5:39	6:07	70	13:03	65	19:58	290	20:28	13:51	23:21	115	3:26	30	8:26	244	80%	226,617	2,456,412	
4/30/13	Tue	120	2:29	2:32	14:58	1.0075	2.7	5:37	6:06	70	13:03	65	19:59	291	20:29	13:53			4:25	31	9:33	246	70%	228,427	2,456,413	
5/1/13	Wed	121	2:33	2:36	15:16	1.0077	2.8	5:36	6:05	69	13:03	66	20:00	291	20:30	13:55	0:09	112	5:22	34	10:41	250	59%	230,678	2,456,414	
5/2/13	Thu	122	2:37	2:39	15:34	1.0080	3	5:35	6:04	69	13:03	66	20:01	291	20:31	13:57	0:50	107	6:16	38	11:49	255	47%	233,174	2,456,415	
5/3/13	Fri	123	2:41	2:43	15:51	1.0082	3.1	5:33	6:02	68	13:02	66	20:02	292	20:32	14:00	1:26	102	7:07	42	12:55	261	37%	235,753	2,456,416	
5/4/13	Sat	124	2:45	2:47	16:09	1.0085	3.2	5:32	6:01	68	13:02	67	20:03	292	20:33	14:02	1:59	96	7:55	47	13:59	267	27%	238,297	2,456,417	
5/5/13	Sun	125	2:49	2:51	16:26	1.0087	3.3	5:31	6:00	68	13:02	67	20:04	293	20:35	14:04	2:30	90	8:42	52	15:02	273	18%	240,730	2,456,418	
5/6/13	Mon	126	2:53	2:55	16:42	1.0090	3.4	5:29	5:59	67	13:02	67	20:05	293	20:36	14:06	3:01	84	9:28	56	16:04	279	11%	243,011	2,456,419	
5/7/13	Tue	127	2:57	2:59	16:59	1.0092	3.4	5:28	5:58	67	13:02	67	20:06	293	20:37	14:08	3:31	78	10:14	60	17:04	285	5%	245,119	2,456,420	
5/8/13	Wed	128	3:01	3:03	17:15	1.0095	3.5	5:27	5:57	67	13:02	68	20:07	294	20:38	14:10	4:04	73	11:00	64	18:04	289	2%	247,035	2,456,421	
5/9/13	Thu	129	3:05	3:07	17:31	1.0097	3.6	5:26	5:56	66	13:02	68	20:08	294	20:39	14:12	4:39	69	11:48	67	19:02	293	0%	248,732	2,456,422	
5/10/13	Fri	130	3:08	3:10	17:47	1.0099	3.6	5:25	5:55	66	13:02	68	20:09	294	20:40	14:14	5:18	66	12:35	69	19:57	295	0%	250,166	2,456,423	
5/11/13	Sat	131	3:12	3:14	18:02	1.0101	3.7	5:24	5:54	65	13:02	68	20:10	295	20:41	14:16	6:00	64	13:24	70	20:49	297	3%	251,271	2,456,424	
5/12/13	Sun	132	3:16	3:18	18:17	1.0104	3.7	5:22	5:53	65	13:02	69	20:11	295	20:42	14:18	6:46	63	14:12	70	21:37	296	7%	251,967	2,456,425	

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
5/13/13	Mon	133	3:20	3:22	18:32	1.0106	3.7	5:21	5:52	65	13:02	69	20:12	295	20:43	14:20	7:36	64	15:00	70	22:21	295	12%	252,162	2,456,426	
5/14/13	Tue	134	3:24	3:26	18:46	1.0108	3.7	5:20	5:51	64	13:02	69	20:13	296	20:44	14:22	8:29	66	15:47	68	23:00	293	19%	251,771	2,456,427	
5/15/13	Wed	135	3:28	3:30	19:01	1.0110	3.7	5:19	5:50	64	13:02	69	20:14	296	20:45	14:24	9:24	69	16:33	66	23:35	289	27%	250,723	2,456,428	
5/16/13	Thu	136	3:32	3:34	19:14	1.0112	3.7	5:18	5:49	64	13:02	70	20:15	296	20:46	14:26	10:21	73	17:18	62			36%	248,981	2,456,429	
5/17/13	Fri	137	3:36	3:38	19:28	1.0114	3.7	5:17	5:48	63	13:02	70	20:16	297	20:47	14:28	11:19	78	18:03	59	0:08	285	45%	246,553	2,456,430	
5/18/13	Sat	138	3:40	3:42	19:41	1.0116	3.7	5:16	5:47	63	13:02	70	20:17	297	20:48	14:30	12:19	83	18:48	54	0:39	279	55%	243,506	2,456,431	
5/19/13	Sun	139	3:44	3:46	19:54	1.0118	3.6	5:15	5:46	63	13:02	70	20:18	297	20:49	14:32	13:20	89	19:34	50	1:09	274	65%	239,973	2,456,432	
5/20/13	Mon	140	3:48	3:50	20:06	1.0120	3.6	5:15	5:45	63	13:02	71	20:19	298	20:50	14:34	14:24	95	20:22	45	1:39	268	75%	236,157	2,456,433	
5/21/13	Tue	141	3:52	3:54	20:18	1.0122	3.5	5:14	5:45	62	13:02	71	20:19	298	20:51	14:34	15:31	101	21:12	40	2:11	262	84%	232,321	2,456,434	
5/22/13	Wed	142	3:56	3:58	20:30	1.0124	3.5	5:13	5:44	62	13:02	71	20:20	298	20:52	14:36	16:40	107	22:06	36	2:47	256	91%	228,772	2,456,435	
5/23/13	Thu	143	4:00	4:02	20:42	1.0126	3.4	5:12	5:43	62	13:02	71	20:21	298	20:53	14:38	17:51	112	23:04	33	3:27	251	97%	225,824	2,456,436	
5/24/13	Fri	144	4:04	4:06	20:53	1.0127	3.3	5:11	5:43	62	13:02	71	20:22	299	20:54	14:39	19:02	116			4:13	246	100%	223,756	2,456,437	
5/25/13	Sat	145	4:08	4:10	21:03	1.0129	3.2	5:11	5:42	61	13:03	72	20:23	299	20:55	14:41	20:09	117	0:05	30	5:07	244	100%	222,762	2,456,438	
5/26/13	Sun	146	4:12	4:14	21:14	1.0131	3.1	5:10	5:41	61	13:03	72	20:24	299	20:56	14:43	21:10	116	1:09	30	6:08	243	96%	222,916	2,456,439	
5/27/13	Mon	147	4:16	4:18	21:24	1.0133	3	5:09	5:41	61	13:03	72	20:24	299	20:57	14:43	22:02	113	2:11	30	7:16	245	91%	224,163	2,456,440	
5/28/13	Tue	148	4:19	4:22	21:33	1.0135	2.9	5:09	5:40	61	13:03	72	20:25	300	20:58	14:45	22:48	109	3:12	33	8:26	248	82%	226,327	2,456,441	
5/29/13	Wed	149	4:23	4:26	21:42	1.0136	2.8	5:08	5:40	60	13:03	72	20:26	300	20:59	14:46	23:27	104	4:09	36	9:37	253	73%	229,161	2,456,442	
5/30/13	Thu	150	4:27	4:31	21:51	1.0138	2.6	5:07	5:39	60	13:03	72	20:27	300	20:59	14:48			5:03	41	10:45	259	62%	232,389	2,456,443	
5/31/13	Fri	151	4:31	4:35	22:00	1.0140	2.5	5:07	5:39	60	13:03	73	20:28	300	21:00	14:49	0:02	98	5:53	45	11:52	265	51%	235,750	2,456,444	
6/1/13	Sat	152	4:35	4:39	22:08	1.0141	2.3	5:06	5:38	60	13:03	73	20:28	300	21:01	14:50	0:33	92	6:41	50	12:56	271	40%	239,029	2,456,445	
6/2/13	Sun	153	4:39	4:43	22:15	1.0143	2.2	5:06	5:38	60	13:04	73	20:29	301	21:02	14:51	1:04	86	7:27	55	13:58	277	30%	242,067	2,456,446	
6/3/13	Mon	154	4:43	4:47	22:23	1.0144	2	5:06	5:38	59	13:04	73	20:30	301	21:02	14:52	1:35	80	8:13	59	14:58	283	21%	244,765	2,456,447	
6/4/13	Tue	155	4:47	4:51	22:30	1.0146	1.9	5:05	5:37	59	13:04	73	20:30	301	21:03	14:53	2:06	75	8:59	63	15:58	288	14%	247,072	2,456,448	
6/5/13	Wed	156	4:51	4:55	22:36	1.0147	1.7	5:05	5:37	59	13:04	73	20:31	301	21:04	14:54	2:40	70	9:45	66	16:56	292	8%	248,971	2,456,449	
6/6/13	Thu	157	4:55	4:59	22:42	1.0148	1.5	5:04	5:37	59	13:04	73	20:32	301	21:05	14:55	3:17	67	10:32	68	17:52	295	3%	250,467	2,456,450	
6/7/13	Fri	158	4:59	5:03	22:48	1.0150	1.3	5:04	5:36	59	13:05	73	20:32	301	21:05	14:56	3:58	65	11:20	70	18:45	296	1%	251,567	2,456,451	
6/8/13	Sat	159	5:03	5:08	22:53	1.0151	1.2	5:04	5:36	59	13:05	73	20:33	301	21:06	14:57	4:42	63	12:08	71	19:34	297	0%	252,273	2,456,452	
6/9/13	Sun	160	5:07	5:12	22:58	1.0152	1	5:04	5:36	59	13:05	74	20:33	302	21:06	14:57	5:31	64	12:56	70	20:19	296	1%	252,571	2,456,453	
6/10/13	Mon	161	5:11	5:16	23:03	1.0153	0.8	5:04	5:36	58	13:05	74	20:34	302	21:07	14:58	6:23	65	13:43	69	21:00	294	4%	252,431	2,456,454	
6/11/13	Tue	162	5:15	5:20	23:07	1.0154	0.6	5:03	5:36	58	13:05	74	20:34	302	21:08	14:58	7:17	68	14:30	67	21:37	290	8%	251,814	2,456,455	
6/12/13	Wed	163	5:19	5:24	23:11	1.0155	0.4	5:03	5:36	58	13:06	74	20:35	302	21:08	14:59	8:13	71	15:15	64	22:10	286	14%	250,672	2,456,456	
6/13/13	Thu	164	5:23	5:28	23:14	1.0156	0.2	5:03	5:36	58	13:06	74	20:35	302	21:08	14:59	9:11	76	16:00	60	22:41	281	22%	248,969	2,456,457	
6/14/13	Fri	165	5:26	5:32	23:17	1.0157	-0	5:03	5:36	58	13:06	74	20:36	302	21:09	15:00	10:09	81	16:44	56	23:11	276	30%	246,688	2,456,458	
6/15/13	Sat	166	5:30	5:37	23:19	1.0158	-0.2	5:03	5:36	58	13:06	74	20:36	302	21:09	15:00	11:09	87	17:28	52	23:40	270	40%	243,853	2,456,459	
6/16/13	Sun	167	5:34	5:41	23:21	1.0159	-0.4	5:03	5:36	58	13:06	74	20:36	302	21:10	15:00	12:10	93	18:14	47			50%	240,536	2,456,460	
6/17/13	Mon	168	5:38	5:45	23:23	1.0160	-0.7	5:03	5:36	58	13:07	74	20:37	302	21:10	15:01	13:13	99	19:02	42	0:10	264	60%	236,876	2,456,461	
6/18/13	Tue	169	5:42	5:49	23:24	1.0160	-0.9	5:03	5:36	58	13:07	74	20:37	302	21:10	15:01	14:19	105	19:52	38	0:43	259	71%	233,076	2,456,462	
6/19/13	Wed	170	5:46	5:53	23:25	1.0161	-1.1	5:03	5:36	58	13:07	74	20:37	302	21:11	15:01	15:27	110	20:47	34	1:19	253	81%	229,404	2,456,463	
6/20/13	Thu	171	5:50	5:57	23:26	1.0162	-1.3	5:04	5:36	58	13:07	74	20:37	302	21:11	15:01	16:37	114	21:45	31	2:01	248	89%	226,163	2,456,464	
6/21/13	Fri	172	5:54	6:02	23:26	1.0162	-1.5	5:04	5:37	58	13:07	74	20:38	302	21:11	15:01	17:46	116	22:47	30	2:50	245	95%	223,666	2,456,465	
6/22/13	Sat	173	5:58	6:06	23:25	1.0163	-1.7	5:04	5:37	58	13:08	74	20:38	302	21:11	15:01	18:51	117	23:51	30	3:47	243	99%	222,175	2,456,466	
6/23/13	Sun	174	6:02	6:10	23:24	1.0164	-2	5:04	5:37	58	13:08	74	20:38	302	21:11	15:01	19:49	115			4:52	244	100%	221,860	2,456,467	
6/24/13	Mon	175	6:06	6:14	23:23	1.0164	-2.2	5:05	5:37	58	13:08	74	20:38	302	21:11	15:01	20:39	111	0:54	31	6:02	246	98%	222,757	2,456,468	
6/25/13	Tue	176	6:10	6:18	23:21	1.0165	-2.4	5:05	5:38	58	13:08	74	20:38	302	21:12	15:00	21:22	106	1:54	34	7:15	251	92%	224,763	2,456,469	

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
6/26/13	Wed	177	6:14	6:22	23:19	1.0165	-2.6	5:05	5:38	58	13:09	74	20:38	302	21:12	15:00	22:00	100	2:51	38	8:27	256	85%	227,657	2,456,470	
6/27/13	Thu	178	6:18	6:26	23:17	1.0165	-2.8	5:06	5:38	58	13:09	74	20:38	302	21:12	15:00	22:35	94	3:45	43	9:37	263	76%	231,145	2,456,471	
6/28/13	Fri	179	6:22	6:31	23:14	1.0166	-3	5:06	5:39	58	13:09	74	20:38	302	21:12	14:59	23:07	88	4:35	48	10:44	269	66%	234,914	2,456,472	
6/29/13	Sat	180	6:26	6:35	23:11	1.0166	-3.2	5:07	5:39	58	13:09	74	20:38	302	21:11	14:59	23:38	82	5:24	53	11:49	275	55%	238,676	2,456,473	
6/30/13	Sun	181	6:30	6:39	23:07	1.0166	-3.4	5:07	5:40	58	13:09	74	20:38	302	21:11	14:58			6:10	57	12:51	281	45%	242,191	2,456,474	
7/1/13	Mon	182	6:34	6:43	23:03	1.0167	-3.6	5:08	5:40	58	13:10	74	20:38	302	21:11	14:58	0:09	77	6:57	62	13:51	286	35%	245,289	2,456,475	
7/2/13	Tue	183	6:37	6:47	22:58	1.0167	-3.8	5:08	5:41	58	13:10	74	20:38	301	21:11	14:57	0:43	72	7:43	65	14:50	290	26%	247,864	2,456,476	
7/3/13	Wed	184	6:41	6:51	22:54	1.0167	-4	5:09	5:41	59	13:10	74	20:38	301	21:11	14:57	1:18	68	8:30	68	15:47	294	18%	249,867	2,456,477	
7/4/13	Thu	185	6:45	6:55	22:48	1.0167	-4.2	5:09	5:42	59	13:10	74	20:37	301	21:10	14:55	1:57	65	9:17	70	16:41	296	11%	251,296	2,456,478	
7/5/13	Fri	186	6:49	7:00	22:43	1.0167	-4.4	5:10	5:42	59	13:10	73	20:37	301	21:10	14:55	2:40	64	10:05	70	17:31	297	6%	252,179	2,456,479	
7/6/13	Sat	187	6:53	7:04	22:36	1.0167	-4.6	5:11	5:43	59	13:10	73	20:37	301	21:10	14:54	3:27	63	10:53	70	18:18	296	2%	252,559	2,456,480	
7/7/13	Sun	188	6:57	7:08	22:30	1.0167	-4.7	5:11	5:44	59	13:11	73	20:37	301	21:09	14:53	4:18	64	11:41	69	19:00	295	0%	252,479	2,456,481	
7/8/13	Mon	189	7:01	7:12	22:23	1.0167	-4.9	5:12	5:44	59	13:11	73	20:36	301	21:09	14:52	5:12	67	12:28	67	19:38	292	0%	251,976	2,456,482	
7/9/13	Tue	190	7:05	7:16	22:16	1.0167	-5	5:13	5:45	59	13:11	73	20:36	300	21:09	14:51	6:08	70	13:14	65	20:13	288	2%	251,071	2,456,483	
7/10/13	Wed	191	7:09	7:20	22:08	1.0166	-5.2	5:14	5:46	60	13:11	73	20:36	300	21:08	14:50	7:05	74	13:58	61	20:45	283	5%	249,771	2,456,484	
7/11/13	Thu	192	7:13	7:24	22:00	1.0166	-5.3	5:14	5:46	60	13:11	73	20:35	300	21:08	14:49	8:03	79	14:43	57	21:15	278	11%	248,070	2,456,485	
7/12/13	Fri	193	7:17	7:28	21:52	1.0166	-5.4	5:15	5:47	60	13:11	73	20:35	300	21:07	14:48	9:02	85	15:27	53	21:44	273	17%	245,962	2,456,486	
7/13/13	Sat	194	7:21	7:32	21:43	1.0165	-5.6	5:16	5:48	60	13:11	72	20:34	300	21:06	14:46	10:02	90	16:11	49	22:14	267	26%	243,453	2,456,487	
7/14/13	Sun	195	7:25	7:36	21:34	1.0165	-5.7	5:17	5:48	60	13:12	72	20:34	299	21:06	14:46	11:03	96	16:57	44	22:45	261	35%	240,575	2,456,488	
7/15/13	Mon	196	7:29	7:40	21:24	1.0164	-5.8	5:18	5:49	61	13:12	72	20:33	299	21:05	14:44	12:06	102	17:45	40	23:18	255	46%	237,402	2,456,489	
7/16/13	Tue	197	7:33	7:44	21:14	1.0163	-5.9	5:18	5:50	61	13:12	72	20:32	299	21:05	14:42	13:11	107	18:36	36	23:56	250	56%	234,063	2,456,490	
7/17/13	Wed	198	7:37	7:48	21:04	1.0163	-6	5:19	5:51	61	13:12	72	20:32	299	21:04	14:41	14:18	112	19:31	33			67%	230,744	2,456,491	
7/18/13	Thu	199	7:41	7:52	20:54	1.0162	-6.1	5:20	5:52	61	13:12	72	20:31	298	21:03	14:39	15:25	115	20:29	30	0:40	246	77%	227,685	2,456,492	
7/19/13	Fri	200	7:44	7:56	20:43	1.0161	-6.2	5:21	5:52	62	13:12	72	20:30	298	21:02	14:38	16:31	117	21:31	30	1:31	244	87%	225,158	2,456,493	
7/20/13	Sat	201	7:48	8:00	20:31	1.0161	-6.2	5:22	5:53	62	13:12	71	20:30	298	21:01	14:37	17:31	116	22:33	30	2:30	243	94%	223,428	2,456,494	
7/21/13	Sun	202	7:52	8:04	20:20	1.0160	-6.3	5:23	5:54	62	13:12	71	20:29	298	21:01	14:35	18:26	114	23:35	33	3:37	245	98%	222,711	2,456,495	
7/22/13	Mon	203	7:56	8:08	20:08	1.0159	-6.3	5:24	5:55	62	13:12	71	20:28	297	21:00	14:33	19:13	109			4:49	248	100%	223,125	2,456,496	
7/23/13	Tue	204	8:00	8:12	19:55	1.0158	-6.4	5:25	5:56	63	13:12	71	20:27	297	20:59	14:31	19:54	104	0:34	36	6:02	253	98%	224,664	2,456,497	
7/24/13	Wed	205	8:04	8:16	19:43	1.0157	-6.4	5:26	5:57	63	13:12	71	20:26	297	20:58	14:29	20:31	97	1:31	41	7:15	259	94%	227,190	2,456,498	
7/25/13	Thu	206	8:08	8:20	19:30	1.0156	-6.4	5:27	5:57	63	13:12	70	20:26	297	20:57	14:29	21:05	91	2:24	46	8:25	266	88%	230,463	2,456,499	
7/26/13	Fri	207	8:12	8:24	19:17	1.0155	-6.4	5:28	5:58	64	13:12	70	20:25	296	20:56	14:27	21:38	85	3:15	51	9:33	272	80%	234,184	2,456,500	
7/27/13	Sat	208	8:16	8:28	19:03	1.0154	-6.4	5:29	5:59	64	13:12	70	20:24	296	20:55	14:25	22:10	79	4:04	55	10:38	278	70%	238,038	2,456,501	
7/28/13	Sun	209	8:20	8:32	18:49	1.0153	-6.4	5:30	6:00	64	13:12	70	20:23	296	20:54	14:23	22:44	74	4:52	60	11:41	284	60%	241,739	2,456,502	
7/29/13	Mon	210	8:24	8:36	18:35	1.0152	-6.4	5:31	6:01	65	13:12	69	20:22	295	20:53	14:21	23:19	70	5:39	64	12:41	289	50%	245,053	2,456,503	
7/30/13	Tue	211	8:28	8:40	18:20	1.0151	-6.4	5:32	6:02	65	13:12	69	20:21	295	20:52	14:19	23:57	66	6:26	67	13:39	292	41%	247,810	2,456,504	
7/31/13	Wed	212	8:32	8:44	18:05	1.0150	-6.3	5:33	6:03	65	13:12	69	20:20	295	20:51	14:17			7:14	69	14:35	295	31%	249,911	2,456,505	
8/1/13	Thu	213	8:36	8:48	17:50	1.0149	-6.3	5:34	6:04	66	13:12	69	20:19	294	20:49	14:15	0:39	64	8:02	70	15:26	296	23%	251,317	2,456,506	
8/2/13	Fri	214	8:40	8:52	17:35	1.0148	-6.2	5:35	6:05	66	13:12	68	20:18	294	20:48	14:13	1:24	64	8:50	70	16:14	296	16%	252,042	2,456,507	
8/3/13	Sat	215	8:44	8:55	17:19	1.0146	-6.2	5:36	6:06	66	13:12	68	20:17	294	20:47	14:11	2:14	64	9:37	70	16:58	295	9%	252,140	2,456,508	
8/4/13	Sun	216	8:48	8:59	17:03	1.0145	-6.1	5:37	6:07	67	13:12	68	20:15	293	20:46	14:08	3:06	66	10:25	68	17:38	293	5%	251,689	2,456,509	
8/5/13	Mon	217	8:51	9:03	16:47	1.0144	-6	5:38	6:07	67	13:12	68	20:14	293	20:45	14:07	4:02	69	11:11	66	18:14	289	2%	250,778	2,456,510	
8/6/13	Tue	218	8:55	9:07	16:30	1.0142	-5.9	5:39	6:08	67	13:11	67	20:13	292	20:43	14:05	4:58	73	11:57	63	18:48	285	0%	249,493	2,456,511	
8/7/13	Wed	219	8:59	9:11	16:13	1.0141	-5.8	5:40	6:09	68	13:11	67	20:12	292	20:42	14:03	5:57	77	12:41	59	19:19	280	1%	247,908	2,456,512	
8/8/13	Thu	220	9:03	9:15	15:56	1.0139	-5.7	5:41	6:10	68	13:11	67	20:11	292	20:41	14:01	6:56	83	13:26	55	19:49	274	3%	246,079	2,456,513	

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Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun								End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #		
8/9/13	Fri	221	9:07	9:18	15:39	1.0137	-5.5	5:42	6:11	68	13:11	67	20:09	291	20:39	13:58	7:56	88	14:11	50	20:18	269	8%	244,043	2,456,514		
8/10/13	Sat	222	9:11	9:22	15:21	1.0136	-5.4	5:43	6:12	69	13:11	66	20:08	291	20:38	13:56	8:57	94	14:56	46	20:49	263	14%	241,824	2,456,515		
8/11/13	Sun	223	9:15	9:26	15:04	1.0134	-5.2	5:44	6:13	69	13:11	66	20:07	290	20:37	13:54	9:59	100	15:43	41	21:21	257	22%	239,444	2,456,516		
8/12/13	Mon	224	9:19	9:30	14:46	1.0132	-5.1	5:45	6:14	70	13:11	66	20:06	290	20:35	13:52	11:02	106	16:33	37	21:57	252	31%	236,935	2,456,517		
8/13/13	Tue	225	9:23	9:33	14:27	1.0130	-4.9	5:46	6:15	70	13:10	65	20:04	290	20:34	13:49	12:07	110	17:25	34	22:37	248	42%	234,356	2,456,518		
8/14/13	Wed	226	9:27	9:37	14:09	1.0129	-4.7	5:47	6:16	71	13:10	65	20:03	289	20:32	13:47	13:13	114	18:20	31	23:24	245	53%	231,804	2,456,519		
8/15/13	Thu	227	9:31	9:41	13:50	1.0127	-4.5	5:48	6:17	71	13:10	65	20:02	289	20:31	13:45	14:17	116	19:18	30			64%	229,420	2,456,520		
8/16/13	Fri	228	9:35	9:45	13:31	1.0125	-4.3	5:49	6:18	71	13:10	64	20:00	288	20:30	13:42	15:17	116	20:18	30	0:18	244	75%	227,385	2,456,521		
8/17/13	Sat	229	9:39	9:48	13:12	1.0123	-4.1	5:50	6:19	72	13:10	64	19:59	288	20:28	13:40	16:13	115	21:18	32	1:20	244	84%	225,901	2,456,522		
8/18/13	Sun	230	9:43	9:52	12:52	1.0121	-3.9	5:51	6:20	72	13:09	64	19:57	288	20:27	13:37	17:02	111	22:17	34	2:27	246	92%	225,157	2,456,523		
8/19/13	Mon	231	9:47	9:56	12:33	1.0119	-3.7	5:52	6:21	73	13:09	63	19:56	287	20:25	13:35	17:46	107	23:15	38	3:38	251	97%	225,298	2,456,524		
8/20/13	Tue	232	9:51	10:00	12:13	1.0117	-3.5	5:54	6:22	73	13:09	63	19:55	287	20:24	13:33	18:25	101			4:50	256	100%	226,386	2,456,525		
8/21/13	Wed	233	9:55	10:03	11:53	1.0115	-3.2	5:55	6:23	74	13:09	63	19:53	286	20:22	13:30	19:01	94	0:10	43	6:02	262	99%	228,380	2,456,526		
8/22/13	Thu	234	9:59	10:07	11:33	1.0113	-3	5:56	6:24	74	13:08	62	19:52	286	20:20	13:28	19:35	88	1:02	48	7:11	269	96%	231,136	2,456,527		
8/23/13	Fri	235	10:02	10:11	11:12	1.0111	-2.8	5:57	6:25	74	13:08	62	19:50	285	20:19	13:25	20:08	82	1:53	53	8:19	275	91%	234,428	2,456,528		
8/24/13	Sat	236	10:06	10:14	10:52	1.0109	-2.5	5:58	6:26	75	13:08	62	19:49	285	20:17	13:23	20:42	76	2:42	58	9:24	281	84%	237,982	2,456,529		
8/25/13	Sun	237	10:10	10:18	10:31	1.0107	-2.2	5:59	6:27	75	13:08	61	19:47	284	20:16	13:20	21:18	72	3:31	62	10:27	286	76%	241,514	2,456,530		
8/26/13	Mon	238	10:14	10:22	10:10	1.0104	-1.9	6:00	6:27	76	13:07	61	19:46	284	20:14	13:19	21:55	68	4:19	65	11:28	291	66%	244,763	2,456,531		
8/27/13	Tue	239	10:18	10:25	9:49	1.0102	-1.7	6:01	6:28	76	13:07	61	19:44	283	20:13	13:16	22:36	65	5:08	68	12:25	294	57%	247,515	2,456,532		
8/28/13	Wed	240	10:22	10:29	9:28	1.0100	-1.4	6:02	6:29	77	13:07	60	19:43	283	20:11	13:14	23:20	64	5:56	69	13:19	296	47%	249,612	2,456,533		
8/29/13	Thu	241	10:26	10:33	9:07	1.0098	-1.1	6:03	6:30	77	13:06	60	19:41	283	20:09	13:11			6:44	70	14:09	296	38%	250,967	2,456,534		
8/30/13	Fri	242	10:30	10:36	8:45	1.0096	-0.8	6:04	6:31	78	13:06	60	19:40	282	20:08	13:09	0:08	64	7:32	70	14:54	295	29%	251,552	2,456,535		
8/31/13	Sat	243	10:34	10:40	8:24	1.0093	-0.5	6:05	6:32	78	13:06	59	19:38	282	20:06	13:06	1:00	65	8:20	69	15:36	293	21%	251,400	2,456,536		
9/1/13	Sun	244	10:38	10:43	8:02	1.0091	-0.2	6:06	6:33	79	13:05	59	19:36	281	20:04	13:03	1:54	68	9:06	67	16:13	290	14%	250,588	2,456,537		
9/2/13	Mon	245	10:42	10:47	7:40	1.0089	0.1	6:07	6:34	79	13:05	59	19:35	281	20:03	13:01	2:50	71	9:52	64	16:48	286	8%	249,232	2,456,538		
9/3/13	Tue	246	10:46	10:51	7:18	1.0086	0.5	6:08	6:35	80	13:05	58	19:33	280	20:01	12:58	3:48	76	10:38	60	17:20	282	3%	247,468	2,456,539		
9/4/13	Wed	247	10:50	10:54	6:56	1.0084	0.7	6:09	6:36	80	13:05	58	19:32	280	20:00	12:56	4:47	81	11:23	56	17:51	276	1%	245,437	2,456,540		
9/5/13	Thu	248	10:54	10:58	6:33	1.0081	1.1	6:10	6:37	81	13:04	57	19:30	279	19:58	12:53	5:47	86	12:08	52	18:21	271	0%	243,271	2,456,541		
9/6/13	Fri	249	10:58	11:02	6:11	1.0079	1.5	6:11	6:38	81	13:04	57	19:28	279	19:56	12:50	6:49	92	12:54	47	18:52	265	2%	241,081	2,456,542		
9/7/13	Sat	250	11:02	11:05	5:49	1.0076	1.8	6:12	6:39	82	13:04	57	19:27	278	19:55	12:48	7:51	98	13:41	43	19:24	259	5%	238,948	2,456,543		
9/8/13	Sun	251	11:06	11:09	5:26	1.0074	2.1	6:13	6:40	82	13:03	56	19:25	278	19:53	12:45	8:55	104	14:30	39	19:59	254	11%	236,924	2,456,544		
9/9/13	Mon	252	11:09	11:12	5:03	1.0071	2.5	6:14	6:41	83	13:03	56	19:23	277	19:51	12:42	10:00	109	15:22	35	20:38	249	19%	235,034	2,456,545		
9/10/13	Tue	253	11:13	11:16	4:41	1.0068	2.8	6:15	6:42	83	13:02	56	19:22	277	19:50	12:40	11:05	113	16:16	32	21:23	246	28%	233,295	2,456,546		
9/11/13	Wed	254	11:17	11:19	4:18	1.0066	3.2	6:16	6:43	84	13:02	55	19:20	276	19:48	12:37	12:09	115	17:12	31	22:14	244	39%	231,726	2,456,547		
9/12/13	Thu	255	11:21	11:23	3:55	1.0063	3.5	6:17	6:44	84	13:02	55	19:19	276	19:46	12:35	13:09	116	18:10	30	23:11	244	50%	230,364	2,456,548		
9/13/13	Fri	256	11:25	11:27	3:32	1.0060	3.9	6:18	6:45	85	13:01	54	19:17	275	19:44	12:32	14:05	115	19:09	31			61%	229,274	2,456,549		
9/14/13	Sat	257	11:29	11:30	3:09	1.0057	4.2	6:19	6:45	85	13:01	54	19:15	275	19:43	12:30	14:55	113	20:06	33	0:15	246	72%	228,545	2,456,550		
9/15/13	Sun	258	11:33	11:34	2:46	1.0055	4.6	6:20	6:46	86	13:01	54	19:14	274	19:41	12:28	15:40	109	21:03	37	1:22	249	82%	228,286	2,456,551		
9/16/13	Mon	259	11:37	11:37	2:23	1.0052	5	6:21	6:47	86	13:00	53	19:12	274	19:39	12:25	16:20	103	21:57	41	2:32	254	90%	228,599	2,456,552		
9/17/13	Tue	260	11:41	11:41	2:00	1.0049	5.3	6:21	6:48	87	13:00	53	19:10	273	19:38	12:22	16:57	97	22:50	46	3:42	259	96%	229,556	2,456,553		
9/18/13	Wed	261	11:45	11:45	1:36	1.0046	5.5	6:22	6:49	87	13:00	53	19:09	273	19:36	12:20	17:31	91	23:41	51	4:51	266	99%	231,173	2,456,554		
9/19/13	Thu	262	11:49	11:48	1:13	1.0044	-6	6:23	6:50	88	12:59	52	19:07	272	19:34	12:17	18:05	85			5:59	272	100%	233,397	2,456,555		
9/20/13	Fri	263	11:53	11:52	0:50	1.0041	6.4	6:24	6:51	88	12:59	52	19:05	272	19:33	12:14	18:39	79	0:31	55	7:05	278	98%	236,102	2,456,556		
9/21/13	Sat	264	11:57	11:55	0:26	1.0038	6.7	6:25	6:52	89	12:59	51	19:04	271	19:31	12:12	19:14	74	1:20	60	8:10	284	94%	239,102	2,456,557		

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.			Sun	Eq/time	Sun										Moon						Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #
9/22/13	Sun	265	12:01	11:59	0:03	1.0035	7.1	6:26	6:53	89	12:58	51	19:02	271	19:29	12:09	19:51	70	2:09	64	9:12	289	88%	242,172	2,456,558
9/23/13	Mon	266	12:05	12:03	0:19	1.0033	7.4	6:27	6:54	90	12:58	51	19:00	270	19:28	12:06	20:31	66	2:59	67	10:12	292	81%	245,077	2,456,559
9/24/13	Tue	267	12:09	12:06	0:43	1.0030	7.8	6:28	6:55	90	12:58	50	18:59	270	19:26	12:04	21:15	65	3:48	69	11:08	295	73%	247,596	2,456,560
9/25/13	Wed	268	12:13	12:10	-1:06	1.0027	8.1	6:29	6:56	91	12:57	50	18:57	269	19:24	12:01	22:02	64	4:37	70	12:00	296	64%	249,541	2,456,561
9/26/13	Thu	269	12:17	12:13	-1:29	1.0024	8.4	6:30	6:57	91	12:57	49	18:55	269	19:23	11:58	22:52	65	5:25	70	12:48	296	54%	250,777	2,456,562
9/27/13	Fri	270	12:20	12:17	-1:53	1.0022	8.8	6:31	6:58	92	12:56	49	18:54	268	19:21	11:56	23:45	67	6:13	69	13:31	294	45%	251,224	2,456,563
9/28/13	Sat	271	12:24	12:21	-2:16	1.0019	9.1	6:32	6:59	92	12:56	49	18:52	268	19:19	11:53			7:00	67	14:10	292	36%	250,868	2,456,564
9/29/13	Sun	272	12:28	12:24	-2:39	1.0016	9.5	6:33	7:00	93	12:56	48	18:50	267	19:18	11:50	0:40	70	7:46	65	14:46	288	27%	249,754	2,456,565
9/30/13	Mon	273	12:32	12:28	-3:03	1.0013	9.8	6:34	7:01	93	12:55	48	18:49	267	19:16	11:48	1:37	74	8:31	62	15:19	284	19%	247,985	2,456,566
10/1/13	Tue	274	12:36	12:31	-3:26	1.0010	10.1	6:35	7:02	94	12:55	47	18:47	266	19:15	11:45	2:35	79	9:16	58	15:50	279	12%	245,713	2,456,567
10/2/13	Wed	275	12:40	12:35	-3:49	1.0008	10.4	6:36	7:03	94	12:55	47	18:46	266	19:13	11:43	3:34	84	10:01	54	16:21	273	6%	243,121	2,456,568
10/3/13	Thu	276	12:44	12:39	-4:12	1.0005	10.8	6:37	7:04	95	12:55	47	18:44	265	19:11	11:40	4:36	90	10:47	49	16:51	267	2%	240,411	2,456,569
10/4/13	Fri	277	12:48	12:42	-4:35	1.0002	11.1	6:38	7:05	95	12:54	46	18:42	265	19:10	11:37	5:39	96	11:35	45	17:24	261	0%	237,779	2,456,570
10/5/13	Sat	278	12:52	12:46	-4:59	0.9999	11.4	6:39	7:06	96	12:54	46	18:41	264	19:08	11:35	6:43	102	12:24	40	17:59	256	1%	235,396	2,456,571
10/6/13	Sun	279	12:56	12:50	-5:22	0.9996	11.7	6:40	7:07	96	12:54	46	18:39	264	19:07	11:32	7:49	107	13:16	36	18:37	251	3%	233,386	2,456,572
10/7/13	Mon	280	13:00	12:53	-5:44	0.9993	12	6:41	7:08	97	12:53	45	18:38	263	19:05	11:30	8:56	111	14:11	33	19:21	247	9%	231,823	2,456,573
10/8/13	Tue	281	13:04	12:57	-6:07	0.9990	12.3	6:42	7:09	97	12:53	45	18:36	263	19:03	11:27	10:01	114	15:07	31	20:11	245	16%	230,725	2,456,574
10/9/13	Wed	282	13:08	13:01	-6:30	0.9987	12.6	6:43	7:10	98	12:53	44	18:34	262	19:02	11:24	11:04	116	16:05	30	21:07	244	25%	230,068	2,456,575
10/10/13	Thu	283	13:12	13:04	-6:53	0.9984	12.8	6:44	7:11	98	12:53	44	18:33	262	19:00	11:22	12:01	116	17:04	31	22:08	245	36%	229,803	2,456,576
10/11/13	Fri	284	13:16	13:08	-7:15	0.9982	13.1	6:45	7:12	99	12:52	44	18:31	261	18:59	11:19	12:53	113	18:01	33	23:14	248	47%	229,879	2,456,577
10/12/13	Sat	285	13:20	13:12	-7:38	0.9979	13.4	6:46	7:13	99	12:52	43	18:30	261	18:57	11:17	13:38	110	18:57	36			59%	230,259	2,456,578
10/13/13	Sun	286	13:24	13:15	-8:00	0.9976	13.6	6:47	7:14	100	12:52	43	18:28	260	18:56	11:14	14:19	105	19:51	39	0:21	252	70%	230,930	2,456,579
10/14/13	Mon	287	13:27	13:19	-8:23	0.9973	13.8	6:48	7:15	100	12:52	43	18:27	260	18:54	11:12	14:55	99	20:42	44	1:29	257	79%	231,901	2,456,580
10/15/13	Tue	288	13:31	13:23	-8:45	0.9970	14.1	6:49	7:16	101	12:51	42	18:25	259	18:53	11:09	15:30	93	21:32	49	2:37	263	88%	233,193	2,456,581
10/16/13	Wed	289	13:35	13:26	-9:07	0.9967	14.3	6:50	7:17	101	12:51	42	18:24	259	18:52	11:07	16:03	87	22:22	53	3:43	270	94%	234,820	2,456,582
10/17/13	Thu	290	13:39	13:30	-9:29	0.9964	14.5	6:51	7:18	102	12:51	41	18:22	258	18:50	11:04	16:36	81	23:11	58	4:49	276	98%	236,774	2,456,583
10/18/13	Fri	291	13:43	13:34	-9:51	0.9961	14.7	6:52	7:19	102	12:51	41	18:21	258	18:49	11:02	17:10	76	24:00:00	62	5:54	282	100%	239,009	2,456,584
10/19/13	Sat	292	13:47	13:38	-10:12	0.9959	14.9	6:53	7:20	103	12:51	41	18:19	257	18:47	10:59	17:46	71			6:57	287	99%	241,436	2,456,585
10/20/13	Sun	293	13:51	13:41	-10:34	0.9956	15.1	6:54	7:21	103	12:50	40	18:18	257	18:46	10:57	18:26	68	0:49	65	7:58	291	97%	243,921	2,456,586
10/21/13	Mon	294	13:55	13:45	-10:55	0.9953	15.2	6:55	7:22	104	12:50	40	18:17	256	18:45	10:55	19:08	65	1:38	68	8:56	294	92%	246,302	2,456,587
10/22/13	Tue	295	13:59	13:49	-11:16	0.9950	15.4	6:56	7:23	104	12:50	40	18:15	256	18:43	10:52	19:54	64	2:28	69	9:50	295	86%	248,400	2,456,588
10/23/13	Wed	296	14:03	13:53	-11:37	0.9948	15.6	6:57	7:25	104	12:50	39	18:14	255	18:42	10:49	20:43	64	3:17	70	10:40	296	79%	250,041	2,456,589
10/24/13	Thu	297	14:07	13:57	-11:58	0.9945	15.7	6:58	7:26	105	12:50	39	18:13	255	18:41	10:47	21:35	66	4:05	69	11:25	295	71%	251,071	2,456,590
10/25/13	Fri	298	14:11	14:01	-12:19	0.9942	15.8	6:59	7:27	105	12:50	39	18:11	254	18:39	10:44	22:29	69	4:53	68	12:06	293	62%	251,375	2,456,591
10/26/13	Sat	299	14:15	14:04	-12:39	0.9940	15.9	7:01	7:28	106	12:50	38	18:10	254	18:38	10:42	23:25	72	5:39	66	12:43	289	53%	250,886	2,456,592
10/27/13	Sun	300	14:19	14:08	-12:59	0.9937	16	7:02	7:29	106	12:49	38	18:09	254	18:37	10:40			6:24	63	13:16	285	43%	249,596	2,456,593
10/28/13	Mon	301	14:23	14:12	-13:19	0.9934	16.1	7:03	7:30	107	12:49	38	18:07	253	18:36	10:37	0:22	77	7:08	59	13:48	281	34%	247,562	2,456,594
10/29/13	Tue	302	14:27	14:16	-13:39	0.9932	16.2	7:04	7:31	107	12:49	37	18:06	253	18:34	10:35	1:20	82	7:53	55	14:19	276	25%	244,905	2,456,595
10/30/13	Wed	303	14:31	14:20	-13:59	0.9929	16.3	7:05	7:32	108	12:49	37	18:05	252	18:33	10:33	2:20	87	8:38	51	14:49	270	17%	241,804	2,456,596
10/31/13	Thu	304	14:34	14:24	-14:18	0.9927	16.3	7:06	7:34	108	12:49	37	18:04	252	18:32	10:30	3:21	93	9:25	47	15:20	264	10%	238,492	2,456,597
11/1/13	Fri	305	14:38	14:28	-14:38	0.9924	16.3	7:07	7:35	108	12:49	36	18:02	251	18:31	10:27	4:25	99	10:13	42	15:54	258	4%	235,225	2,456,598
11/2/13	Sat	306	14:42	14:32	-14:56	0.9922	16.4	7:08	7:36	109	12:49	36	18:01	251	18:30	10:25	5:31	105	11:04	38	16:31	253	1%	232,265	2,456,599
11/3/13	Sun	307	14:46	14:36	-15:15	0.9919	16.4	6:09	6:37	109	11:49	36	17:00	251	17:29	10:23	6:39	110	11:59	34	17:14	249	0%	229,843	2,456,600
11/4/13	Mon	308	14:50	14:39	-15:34	0.9917	16.4	6:10	6:38	110	11:49	35	16:59	250	17:28	10:21	7:47	113	12:56	32	18:03	246	2%	228,127	2,456,601

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
11/5/13	Tue	309	14:54	14:43	-15:52	0.9914	16.4	6:11	6:39	110	11:49	35	16:58	250	17:27	10:19	8:53	116	13:56	30	18:58	244	6%	227,201	2,456,602	
11/6/13	Wed	310	14:58	14:47	-16:10	0.9912	16.3	6:12	6:40	111	11:49	35	16:57	249	17:26	10:17	9:54	116	14:56	30	20:00	245	13%	227,061	2,456,603	
11/7/13	Thu	311	15:02	14:51	-16:27	0.9909	16.3	6:13	6:42	111	11:49	34	16:56	249	17:25	10:14	10:49	114	15:56	32	21:06	247	22%	227,623	2,456,604	
11/8/13	Fri	312	15:06	14:55	-16:45	0.9907	16.3	6:15	6:43	111	11:49	34	16:55	249	17:24	10:12	11:37	111	16:53	35	22:14	251	33%	228,750	2,456,605	
11/9/13	Sat	313	15:10	14:59	-17:02	0.9904	16.2	6:16	6:44	112	11:50	34	16:54	248	17:23	10:10	12:20	107	17:47	38	23:22	256	44%	230,288	2,456,606	
11/10/13	Sun	314	15:14	15:04	-17:19	0.9902	16.1	6:17	6:45	112	11:50	34	16:53	248	17:22	10:08	12:57	101	18:39	43			55%	232,093	2,456,607	
11/11/13	Mon	315	15:18	15:08	-17:35	0.9899	16	6:18	6:46	112	11:50	33	16:52	247	17:21	10:06	13:32	95	19:29	47	0:29	262	66%	234,052	2,456,608	
11/12/13	Tue	316	15:22	15:12	-17:51	0.9897	15.9	6:19	6:47	113	11:50	33	16:51	247	17:20	10:04	14:04	89	20:18	52	1:35	268	76%	236,089	2,456,609	
11/13/13	Wed	317	15:26	15:16	-18:07	0.9895	15.8	6:20	6:48	113	11:50	33	16:50	247	17:20	10:02	14:37	83	21:06	56	2:39	274	85%	238,161	2,456,610	
11/14/13	Thu	318	15:30	15:20	-18:23	0.9892	15.6	6:21	6:50	114	11:50	32	16:49	246	17:19	9:59	15:10	78	21:54	61	3:43	280	91%	240,247	2,456,611	
11/15/13	Fri	319	15:34	15:24	-18:38	0.9890	15.5	6:22	6:51	114	11:50	32	16:49	246	17:18	9:58	15:44	73	22:42	64	4:45	285	96%	242,333	2,456,612	
11/16/13	Sat	320	15:38	15:28	-18:53	0.9888	15.3	6:23	6:52	114	11:50	32	16:48	246	17:17	9:56	16:22	69	23:31	67	5:46	289	99%	244,392	2,456,613	
11/17/13	Sun	321	15:42	15:32	-19:08	0.9886	15.1	6:24	6:53	115	11:51	32	16:47	245	17:17	9:54	17:03	66			6:45	293	100%	246,378	2,456,614	
11/18/13	Mon	322	15:45	15:36	-19:22	0.9884	14.9	6:25	6:54	115	11:51	31	16:46	245	17:16	9:52	17:47	65	0:20	69	7:41	295	99%	248,217	2,456,615	
11/19/13	Tue	323	15:49	15:41	-19:36	0.9882	14.7	6:26	6:55	115	11:51	31	16:46	245	17:15	9:51	18:35	64	1:10	70	8:33	296	96%	249,808	2,456,616	
11/20/13	Wed	324	15:53	15:45	-19:49	0.9880	14.5	6:27	6:56	115	11:51	31	16:45	244	17:15	9:49	19:26	65	1:58	70	9:20	295	91%	251,033	2,456,617	
11/21/13	Thu	325	15:57	15:49	-20:03	0.9878	14.3	6:29	6:58	116	11:52	31	16:45	244	17:14	9:47	20:20	67	2:46	69	10:03	294	85%	251,770	2,456,618	
11/22/13	Fri	326	16:01	15:53	-20:15	0.9876	14	6:30	6:59	116	11:52	31	16:44	244	17:14	9:45	21:15	71	3:33	67	10:41	291	78%	251,900	2,456,619	
11/23/13	Sat	327	16:05	15:57	-20:28	0.9874	13.7	6:31	7:00	116	11:52	30	16:43	244	17:13	9:43	22:10	75	4:18	64	11:16	287	70%	251,332	2,456,620	
11/24/13	Sun	328	16:09	16:02	-20:40	0.9872	13.4	6:32	7:01	117	11:52	30	16:43	243	17:13	9:42	23:07	79	5:03	61	11:48	283	61%	250,011	2,456,621	
11/25/13	Mon	329	16:13	16:06	-20:52	0.9870	13.1	6:33	7:02	117	11:53	30	16:42	243	17:12	9:40			5:46	57	12:18	278	51%	247,936	2,456,622	
11/26/13	Tue	330	16:17	16:10	-21:03	0.9868	12.9	6:34	7:03	117	11:53	30	16:42	243	17:12	9:39	0:05	85	6:30	53	12:48	273	41%	245,167	2,456,623	
11/27/13	Wed	331	16:21	16:14	-21:14	0.9867	12.5	6:35	7:04	117	11:53	30	16:42	242	17:12	9:38	1:04	90	7:15	49	13:18	267	32%	241,832	2,456,624	
11/28/13	Thu	332	16:25	16:19	-21:24	0.9865	12.2	6:36	7:05	118	11:54	29	16:41	242	17:11	9:36	2:06	96	8:01	44	13:49	261	22%	238,133	2,456,625	
11/29/13	Fri	333	16:29	16:23	-21:34	0.9863	11.9	6:37	7:06	118	11:54	29	16:41	242	17:11	9:35	3:09	102	8:50	40	14:24	256	14%	234,328	2,456,626	
11/30/13	Sat	334	16:33	16:27	-21:44	0.9862	11.5	6:38	7:07	118	11:54	29	16:41	242	17:11	9:34	4:16	107	9:42	36	15:03	251	7%	230,723	2,456,627	
12/1/13	Sun	335	16:37	16:32	-21:53	0.9860	11.2	6:39	7:08	118	11:55	29	16:40	242	17:11	9:32	5:24	112	10:39	33	15:49	247	2%	227,628	2,456,628	
12/2/13	Mon	336	16:41	16:36	-22:02	0.9859	10.8	6:40	7:09	119	11:55	29	16:40	241	17:11	9:31	6:32	115	11:38	31	16:42	245	0%	225,325	2,456,629	
12/3/13	Tue	337	16:45	16:40	-22:11	0.9857	10.4	6:40	7:10	119	11:56	29	16:40	241	17:10	9:30	7:38	116	12:40	30	17:42	244	1%	224,012	2,456,630	
12/4/13	Wed	338	16:49	16:45	-22:19	0.9856	10	6:41	7:11	119	11:56	28	16:40	241	17:10	9:29	8:38	115	13:42	31	18:49	246	4%	223,779	2,456,631	
12/5/13	Thu	339	16:52	16:49	-22:26	0.9854	9.6	6:42	7:12	119	11:56	28	16:40	241	17:10	9:28	9:31	113	14:43	33	19:59	249	11%	224,585	2,456,632	
12/6/13	Fri	340	16:56	16:53	-22:33	0.9853	9.2	6:43	7:13	119	11:57	28	16:40	241	17:10	9:27	10:17	108	15:40	37	21:10	254	19%	226,282	2,456,633	
12/7/13	Sat	341	17:00	16:58	-22:40	0.9851	8.8	6:44	7:14	119	11:57	28	16:40	241	17:10	9:26	10:58	103	16:35	41	22:19	259	29%	228,646	2,456,634	
12/8/13	Sun	342	17:04	17:02	-22:46	0.9850	8.3	6:45	7:15	120	11:58	28	16:40	240	17:10	9:25	11:34	97	17:27	46	23:27	266	40%	231,429	2,456,635	
12/9/13	Mon	343	17:08	17:06	-22:52	0.9849	7.9	6:46	7:16	120	11:58	28	16:40	240	17:10	9:24	12:08	91	18:16	50			51%	234,393	2,456,636	
12/10/13	Tue	344	17:12	17:11	-22:57	0.9847	7.5	6:46	7:16	120	11:59	28	16:40	240	17:11	9:24	12:40	85	19:04	55	0:33	272	62%	237,346	2,456,637	
12/11/13	Wed	345	17:16	17:15	-23:02	0.9846	7	6:47	7:17	120	11:59	28	16:40	240	17:11	9:23	13:12	80	19:52	59	1:36	278	72%	240,149	2,456,638	
12/12/13	Thu	346	17:20	17:20	-23:07	0.9845	6.5	6:48	7:18	120	12:00	28	16:40	240	17:11	9:22	13:46	75	20:39	63	2:39	283	80%	242,718	2,456,639	
12/13/13	Fri	347	17:24	17:24	-23:11	0.9844	6.1	6:49	7:19	120	12:00	28	16:40	240	17:11	9:21	14:22	70	21:27	66	3:39	288	88%	245,013	2,456,640	
12/14/13	Sat	348	17:28	17:28	-23:14	0.9843	5.6	6:49	7:19	120	12:00	27	16:41	240	17:11	9:22	15:01	67	22:16	68	4:38	292	93%	247,020	2,456,641	
12/15/13	Sun	349	17:32	17:33	-23:17	0.9842	5.1	6:50	7:20	120	12:01	27	16:41	240	17:12	9:21	15:43	65	23:05	70	5:35	294	97%	248,741	2,456,642	
12/16/13	Mon	350	17:36	17:37	-23:20	0.9841	4.6	6:51	7:21	120	12:01	27	16:41	240	17:12	9:20	16:30	64	23:53	70	6:28	296	99%	250,170	2,456,643	
12/17/13	Tue	351	17:40	17:42	-23:22	0.9840	4.1	6:51	7:21	120	12:02	27	16:42	240	17:12	9:21	17:20	65			7:16	296	100%	251,288	2,456,644	
12/18/13	Wed	352	17:44	17:46	-23:23	0.9839	3.6	6:52	7:22	120	12:02	27	16:42	240	17:13	9:20	18:12	66	0:42	69	8:01	295	98%	252,059	2,456,645	

Solar - Lunar Data 2013

Date	Week	Day	L.S.T.	R.A. Sun	Dec Sun	Sun	Eq/time	Begin	Sun							End	Day	Moon							Lunar	Julian
	Day	#	hh:mm	hh:mm	dd:mm	A.U.	Minutes	C Twi	Rise	Az	Transit	Alt	Set	Az	C Twi	Light	Rise	Az	Transit	Alt	Set	Az	Phase	Dist Mi	Day #	
12/19/13	Thu	353	17:48	17:51	-23:25	0.9838	3.2	6:53	7:23	120	12:03	27	16:42	240	17:13	9:19	19:07	69	1:29	68	8:41	292	95%	252,424	2,456,646	
12/20/13	Fri	354	17:52	17:55	-23:25	0.9838	2.7	6:53	7:23	120	12:03	27	16:43	240	17:14	9:20	20:02	73	2:15	65	9:17	289	90%	252,311	2,456,647	
12/21/13	Sat	355	17:56	17:59	-23:26	0.9837	2.2	6:54	7:24	120	12:04	27	16:43	240	17:14	9:19	20:58	77	2:59	62	9:50	285	84%	251,645	2,456,648	
12/22/13	Sun	356	18:00	18:04	-23:25	0.9837	1.7	6:54	7:24	120	12:04	27	16:44	240	17:15	9:20	21:55	82	3:43	59	10:20	280	77%	250,362	2,456,649	
12/23/13	Mon	357	18:03	18:08	-23:25	0.9836	1.2	6:55	7:25	120	12:05	27	16:44	240	17:15	9:19	22:53	88	4:26	55	10:49	275	68%	248,423	2,456,650	
12/24/13	Tue	358	18:07	18:13	-23:24	0.9836	0.7	6:55	7:25	120	12:05	27	16:45	240	17:16	9:20	23:52	93	5:09	51	11:18	269	59%	245,830	2,456,651	
12/25/13	Wed	359	18:11	18:17	-23:22	0.9835	0.2	6:55	7:26	120	12:06	27	16:46	240	17:16	9:20			5:54	46	11:48	264	49%	242,644	2,456,652	
12/26/13	Thu	360	18:15	18:22	-23:20	0.9835	-0.3	6:56	7:26	120	12:06	27	16:46	240	17:17	9:20	0:52	99	6:40	42	12:20	258	39%	238,991	2,456,653	
12/27/13	Fri	361	18:19	18:26	-23:17	0.9834	-0.8	6:56	7:26	120	12:07	27	16:47	240	17:18	9:21	1:55	104	7:29	38	12:56	253	29%	235,072	2,456,654	
12/28/13	Sat	362	18:23	18:31	-23:14	0.9834	-1.3	6:56	7:26	120	12:07	27	16:48	240	17:18	9:22	3:01	109	8:21	35	13:37	249	19%	231,155	2,456,655	
12/29/13	Sun	363	18:27	18:35	-23:11	0.9834	-1.8	6:57	7:27	120	12:08	27	16:48	240	17:19	9:21	4:08	113	9:18	32	14:24	246	11%	227,558	2,456,656	
12/30/13	Mon	364	18:31	18:39	-23:07	0.9834	-2.3	6:57	7:27	120	12:08	27	16:49	240	17:20	9:22	5:14	115	10:18	30	15:20	244	5%	224,616	2,456,657	
12/31/13	Tue	365	18:35	18:44	-23:02	0.9834	-2.8	6:57	7:27	120	12:09	28	16:50	240	17:21	9:23	6:18	116	11:20	30	16:24	244	1%	222,626	2,456,658	