

HVO -103.2975, 44.108, Time Zone = MST/MDT

Table with 18 columns: Date, DoW, Twilight (Astronomical, Begin 15-deg., Begin Nautical, Begin Civil), Sunrise, Sun East, Local Noon, Sun West, Sunset, End Civil, End Nautical, End 15-deg., End Astronomical, Length of Day, Noon Eqn (min.), Noon declination (deg.), 9 PM Lunar Illum. (pct.).

HVO -103.2975, 44.108, Time Zone = MST/MDT

		Begin Astro- nomical	Begin 15- deg.	Begin Nautical	Begin Civil	Sunrise	Sun East	Local Noon	Sun West	Sunset	End Civil	End Nautical	End 15- deg.	End Astro- nomical	Length of	Noon Eqn	Noon sun decli- nation	9 PM Lunar
Date	DoW	Twilight	Twilight	Twilight	Twilight										Time (min.)	(deg.)	(Illum. pct.)	
10/27/2019	Sun*	5:45:52	6:02:36	6:19:23	6:53:17	7:23:00		12:37:02		17:50:28	18:20:10	18:54:01	19:10:47	19:27:30	10:27:28	16.152	-12.864	0
10/28/2019	M*	5:47:03	6:03:47	6:20:35	6:54:32	7:24:19		12:36:57		17:49:00	18:18:45	18:52:40	19:09:26	19:26:09	10:24:41	16.234	-13.200	1
10/29/2019	Tu*	5:48:14	6:04:58	6:21:47	6:55:47	7:25:38		12:36:53		17:47:33	18:17:22	18:51:20	19:08:07	19:24:51	10:21:55	16.303	-13.532	5
10/30/2019	W*	5:49:24	6:06:10	6:22:59	6:57:02	7:26:57		12:36:50		17:46:07	18:16:01	18:50:01	19:06:50	19:23:34	10:19:10	16.360	-13.861	11
10/31/2019	Th*	5:50:35	6:07:21	6:24:11	6:58:17	7:28:16		12:36:47		17:44:43	18:14:41	18:48:45	19:05:34	19:22:18	10:16:27	16.404	-14.186	19
11/01/2019	F*	5:51:46	6:08:32	6:25:24	6:59:32	7:29:36		12:36:45		17:43:20	18:13:23	18:47:29	19:04:20	19:21:05	10:13:44	16.434	-14.508	28
11/02/2019	Sat*	5:52:56	6:09:43	6:26:36	7:00:48	7:30:56		12:36:44		17:41:59	18:12:06	18:46:16	19:03:07	19:19:53	10:11:03	16.452	-14.825	37
11/03/2019	Sun	4:54:06	5:10:54	5:27:47	6:02:03	6:32:15		11:36:44		16:40:39	17:10:50	17:45:04	18:01:56	18:18:43	10:08:24	16.457	-15.138	48
11/04/2019	M	4:55:16	5:12:05	5:28:59	6:03:18	6:33:35		11:36:45		16:39:21	17:09:37	17:43:54	18:00:47	18:17:35	10:05:46	16.448	-15.447	57
11/05/2019	Tu	4:56:26	5:13:15	5:30:11	6:04:33	6:34:55		11:36:46		16:38:04	17:08:24	17:42:45	17:59:40	18:16:28	10:03:09	16.426	-15.752	66
11/06/2019	W	4:57:36	5:14:26	5:31:23	6:05:49	6:36:15		11:36:48		16:36:49	17:07:14	17:41:38	17:58:34	18:15:23	10:00:34	16.390	-16.053	75
11/07/2019	Th	4:58:45	5:15:36	5:32:34	6:07:04	6:37:35		11:36:51		16:35:35	17:06:05	17:40:33	17:57:31	18:14:20	9:58:00	16.340	-16.349	83
11/08/2019	F	4:59:54	5:16:46	5:33:46	6:08:19	6:38:55		11:36:55		16:34:23	17:04:58	17:39:30	17:56:29	18:13:20	9:55:29	16.277	-16.640	89
11/09/2019	Sat	5:01:03	5:17:56	5:34:57	6:09:34	6:40:15		11:36:59		16:33:13	17:03:53	17:38:29	17:55:29	18:12:20	9:52:59	16.200	-16.927	94
11/10/2019	Sun	5:02:12	5:19:06	5:36:08	6:10:49	6:41:34		11:37:05		16:32:05	17:02:49	17:37:29	17:54:30	18:11:23	9:50:31	16.109	-17.209	98
11/11/2019	M	5:03:21	5:20:15	5:37:19	6:12:04	6:42:54		11:37:11		16:30:59	17:01:48	17:36:32	17:53:34	18:10:28	9:48:04	16.004	-17.486	100
11/12/2019	Tu	5:04:29	5:21:25	5:38:30	6:13:18	6:44:14		11:37:18		16:29:54	17:00:48	17:35:36	17:52:40	18:09:35	9:45:40	15.885	-17.758	100
11/13/2019	W	5:05:37	5:22:34	5:39:40	6:14:33	6:45:33		11:37:26		16:28:51	16:59:50	17:34:42	17:51:48	18:08:44	9:43:18	15.751	-18.025	97
11/14/2019	Th	5:06:44	5:23:42	5:40:50	6:15:47	6:46:52		11:37:35		16:27:50	16:58:55	17:33:50	17:50:57	18:07:55	9:40:58	15.603	-18.287	93
11/15/2019	F	5:07:52	5:24:51	5:42:00	6:17:01	6:48:11		11:37:45		16:26:52	16:58:01	17:33:01	17:50:09	18:07:07	9:38:41	15.442	-18.543	87
11/16/2019	Sat	5:08:59	5:25:59	5:43:10	6:18:14	6:49:29		11:37:55		16:25:55	16:57:09	17:32:13	17:49:23	18:06:22	9:36:25	15.265	-18.794	78
11/17/2019	Sun	5:10:05	5:27:07	5:44:19	6:19:28	6:50:48		11:38:07		16:25:00	16:56:19	17:31:27	17:48:39	18:05:39	9:34:12	15.075	-19.040	69
11/18/2019	M	5:11:12	5:28:14	5:45:28	6:20:41	6:52:05		11:38:19		16:24:07	16:55:31	17:30:44	17:47:57	18:04:58	9:32:02	14.870	-19.280	58
11/19/2019	Tu	5:12:17	5:29:21	5:46:36	6:21:53	6:53:23		11:38:32		16:23:17	16:54:46	17:30:02	17:47:17	18:04:20	9:29:54	14.651	-19.514	47
11/20/2019	W	5:13:23	5:30:28	5:47:44	6:23:05	6:54:40		11:38:46		16:22:28	16:54:02	17:29:23	17:46:39	18:03:43	9:27:49	14.419	-19.742	36
11/21/2019	Th	5:14:28	5:31:34	5:48:52	6:24:17	6:55:56		11:39:01		16:21:42	16:53:21	17:28:45	17:46:03	18:03:08	9:25:46	14.172	-19.964	25
11/22/2019	F	5:15:32	5:32:39	5:49:59	6:25:28	6:57:12		11:39:17		16:20:58	16:54:42	17:28:10	17:45:29	18:02:36	9:23:47	13.911	-20.180	16
11/23/2019	Sat	5:16:36	5:33:44	5:51:05	6:26:38	6:58:27		11:39:33		16:20:17	16:55:05	17:27:38	17:44:58	18:02:06	9:21:50	13.638	-20.390	8
11/24/2019	Sun	5:17:39	5:34:49	5:52:11	6:27:48	6:59:41		11:39:50		16:19:37	16:51:31	17:27:07	17:44:29	18:01:38	9:19:56	13.350	-20.594	3
11/25/2019	M	5:18:42	5:35:52	5:53:16	6:28:57	7:00:55		11:40:08		16:19:00	16:50:58	17:26:38	17:44:02	18:01:12	9:18:05	13.050	-20.792	0
11/26/2019	Tu	5:19:44	5:36:56	5:54:21	6:30:05	7:02:08		11:40:27		16:18:26	16:50:28	17:26:12	17:43:37	18:00:48	9:16:18	12.738	-20.983	0
11/27/2019	W	5:20:45	5:37:58	5:55:24	6:31:13	7:03:20		11:40:47		16:17:54	16:50:01	17:25:48	17:43:14	18:00:27	9:14:34	12.413	-21.167	3
11/28/2019	Th	5:21:46	5:39:00	5:56:27	6:32:19	7:04:31		11:41:07		16:17:24	16:49:35	17:25:26	17:42:54	18:00:07	9:12:53	12.076	-21.345	8
11/29/2019	F	5:22:45	5:40:00	5:57:30	6:33:25	7:05:41		11:41:28		16:16:56	16:49:12	17:25:07	17:42:36	17:59:50	9:11:15	11.727	-21.516	14
11/30/2019	Sat	5:23:44	5:41:00	5:58:31	6:34:30	7:06:50		11:41:49		16:16:31	16:48:51	17:24:49	17:42:20	17:59:35	9:09:42	11.368	-21.680	22
12/01/2019	Sun	5:24:42	5:41:59	5:59:31	6:35:33	7:07:57		11:42:12		16:16:09	16:48:33	17:24:34	17:42:06	17:59:23	9:08:11	10.997	-21.837	30
12/02/2019	M	5:25:39	5:42:58	6:00:31	6:36:36	7:09:04		11:42:34		16:15:49	16:48:17	17:24:22	17:41:54	17:59:12	9:06:45	10.617	-21.988	40
12/03/2019	Tu	5:26:36	5:43:55	6:01:29	6:37:37	7:10:09		11:42:58		16:15:31	16:48:03	17:24:11	17:41:45	17:59:04	9:05:22	10.226	-22.131	49
12/04/2019	W	5:27:31	5:44:51	6:02:26	6:38:37	7:11:13		11:43:22		16:15:16	16:47:52	17:24:03	17:41:38	17:58:57	9:04:04	9.825	-22.267	58
12/05/2019	Th	5:28:25	5:45:46	6:03:22	6:39:36	7:12:15		11:43:46		16:15:04	16:47:43	17:23:57	17:41:33	17:58:53	9:02:49	9.416	-22.396	67
12/06/2019	F	5:29:18	5:46:40	6:04:17	6:40:34	7:13:16		11:44:12		16:14:54	16:47:36	17:23:53	17:41:30	17:58:51	9:01:38	8.997	-22.518	76
12/07/2019	Sat	5:30:10	5:47:32	6:05:11	6:41:30	7:14:16		11:44:37		16:14:47	16:47:32	17:23:51	17:41:29	17:58:52	9:00:31	8.570	-22.632	84
12/08/2019	Sun	5:31:00	5:48:24	6:06:03	6:42:25	7:15:13		11:45:03		16:14:42	16:47:30	17:23:52	17:41:31	17:58:54	8:59:29	8.135	-22.739	90
12/09/2019	M	5:31:50	5:49:14	6:06:54	6:43:18	7:16:09		11:45:30		16:14:40	16:47:31	17:23:55	17:41:35	17:58:59	8:58:30	7.693	-22.838	95
12/10/2019	Tu	5:32:38	5:50:03	6:07:44	6:44:10	7:17:04		11:45:57		16:14:40	16:47:34	17:24:00	17:41:41	17:59:05	8:57:36	7.243	-22.930	99
12/11/2019	W	5:33:25	5:50:50	6:08:32	6:45:00	7:17:57		11:46:24		16:14:43	16:47:39	17:24:07	17:41:49	17:59:14	8:56:47	6.787	-23.015	100
12/12/2019	Th	5:34:11	5:51:36	6:09:19	6:45:49	7:18:47		11:46:52		16:14:49	16:47:47	17:24:17	17:41:59	17:59:25	8:56:01	6.324	-23.091	99
12/13/2019	F	5:34:55	5:52:21	6:10:04	6:46:36	7:19:36		11:47:20		16:14:57	16:47:57	17:24:29	17:42:11	17:59:38	8:55:20	5.855	-23.161	96
12/14/2019	Sat	5:35:38	5:53:04	6:10:48	6:47:21	7:20:23		11:47:49		16:15:07	16:48:09	17:24:42	17:42:26	17:59:53	8:54:44	5.382	-23.222	90
12/15/2019	Sun	5:36:19	5:53:46	6:11:30	6:48:05	7:21:08		11:48:17		16:15:21	16:48:24	17:24:59	17:42:43	18:00:10	8:54:12	4.903	-23.276	82
12/16/2019	M	5:36:59	5:54:26	6:12:11	6:48:47	7:21:52		11:48:46		16:15:36	16:48:41	17:25:17	17:43:01	18:00:29	8:53:45	4.419	-23.322	73
12/17/2019	Tu	5:37:37	5:55:05	6:12:50	6:49:27	7:22:33		11:49:16		16:15:55	16:49:01	17:25:37	17:43:22	18:00:50	8:53:22	3.932	-23.360	62
12/18/2019	W	5:38:14	5:55:42	6:13:27	6:50:05	7:23:12		11:49:45		16:16:15	16:49:22	17:26:00	17:43:45	18:01:13	8:53:04	3.441	-23.391	51
12/19/2019	Th	5:38:49	5:56:18	6:14:03	6:50:41	7:23:48		11:50:15		16:16:39	16:49:46	17:26:24	17:44:09	18:01:38	8:52:50	2.948	-23.413	39
12/20/2019	F	5:39:23	5:56:51	6:14:37	6:51:15	7:24:23		11:50:44		16:17:05	16:50:13	17:26:51	17:44:36	18:02:05	8:52:42	2.452	-23.428	28
12/21/2019	Sat	5:39:55	5:57:23	6:15:09	6:51:47	7:24:55		11:51:14		16:17:33	16:50:41	17:27:19	17:45:05	18:02:33	8:52:38	1.954	-23.435	19
12/22/2019	Sun	5:40:25	5:57:53	6:15:39	6:52:17													

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Astro-nomical Twilight	Begin 15-deg. Twilight	Begin Nautical Twilight	Begin Civil Twilight	Sunrise	Sun East	Local Noon	Sun West	Sunset	End Civil Twilight	End Nautical Twilight	End 15-deg. Twilight	End Astro-nomical Twilight	Length of Day	Noon Eqn Time (min.)	Noon sun declination (deg.)	9 PM Lunar Illum.
01/18/2020	Sat	5:41:29	5:58:38	6:15:59	6:51:34	7:23:26		12:03:31		16:43:59	17:15:51	17:51:26	18:08:48	18:25:57	9:20:33	-10.326	-20.531	32
01/19/2020	Sun	5:41:02	5:58:10	6:15:30	6:51:00	7:22:47		12:03:50		16:45:15	17:17:03	17:52:34	18:09:55	18:27:03	9:22:28	-10.640	-20.324	23
01/20/2020	M	5:40:33	5:57:39	6:14:57	6:50:24	7:22:06		12:04:08		16:46:33	17:18:16	17:53:43	18:11:02	18:28:09	9:24:27	-10.941	-20.110	14
01/21/2020	Tu	5:40:01	5:57:06	6:14:23	6:49:46	7:21:23		12:04:25		16:47:52	17:19:29	17:54:53	18:12:10	18:29:16	9:26:29	-11.230	-19.890	8
01/22/2020	W	5:39:28	5:56:31	6:13:47	6:49:06	7:20:38		12:04:42		16:49:11	17:20:43	17:56:03	18:13:19	18:30:24	9:28:33	-11.506	-19.664	3
01/23/2020	Th	5:38:52	5:55:55	6:13:09	6:48:23	7:19:50		12:04:58		16:50:31	17:21:58	17:57:14	18:14:29	18:31:32	9:30:40	-11.770	-19.432	1
01/24/2020	F	5:38:14	5:55:16	6:12:28	6:47:39	7:19:01		12:05:13		16:51:51	17:23:14	17:58:25	18:15:38	18:32:40	9:32:50	-12.021	-19.194	0
01/25/2020	Sat	5:37:34	5:54:34	6:11:45	6:46:52	7:18:09		12:05:27		16:53:12	17:24:30	17:59:37	18:16:49	18:33:50	9:35:03	-12.259	-18.950	2
01/26/2020	Sun	5:36:52	5:53:51	6:11:01	6:46:03	7:17:15		12:05:41		16:54:33	17:25:46	18:00:49	18:18:00	18:34:59	9:37:18	-12.483	-18.700	5
01/27/2020	M	5:36:08	5:53:06	6:10:14	6:45:12	7:16:19		12:05:53		16:55:55	17:27:03	18:02:02	18:19:11	18:36:09	9:39:36	-12.694	-18.444	10
01/28/2020	Tu	5:35:22	5:52:19	6:09:25	6:44:20	7:15:21		12:06:05		16:57:17	17:28:20	18:03:15	18:20:22	18:37:20	9:41:56	-12.891	-18.183	16
01/29/2020	W	5:34:34	5:51:30	6:08:35	6:43:25	7:14:21		12:06:16		16:58:40	17:29:37	18:04:29	18:21:34	18:38:31	9:44:18	-13.075	-17.917	24
01/30/2020	Th	5:33:44	5:50:38	6:07:42	6:42:28	7:13:20		12:06:26		17:00:02	17:30:55	18:05:42	18:22:47	18:39:42	9:46:43	-13.245	-17.645	32
01/31/2020	F	5:32:52	5:49:45	6:06:47	6:41:29	7:12:16		12:06:36		17:01:25	17:32:13	18:06:56	18:23:59	18:40:54	9:49:09	-13.400	-17.368	41
02/01/2020	Sat	5:31:58	5:48:50	6:05:51	6:40:29	7:11:11		12:06:44		17:02:48	17:33:31	18:08:10	18:25:12	18:42:05	9:51:38	-13.542	-17.085	51
02/02/2020	Sun	5:31:01	5:47:53	6:04:52	6:39:26	7:10:03		12:06:52		17:04:12	17:34:49	18:09:25	18:26:25	18:43:18	9:54:08	-13.670	-16.798	61
02/03/2020	M	5:30:03	5:46:54	6:03:52	6:38:22	7:08:54		12:06:59		17:05:35	17:36:08	18:10:40	18:27:39	18:44:30	9:56:41	-13.784	-16.506	70
02/04/2020	Tu	5:29:03	5:45:53	6:02:50	6:37:16	7:07:43		12:07:05		17:06:58	17:37:27	18:11:54	18:28:52	18:45:43	9:59:15	-13.884	-16.209	79
02/05/2020	W	5:28:02	5:44:50	6:01:46	6:36:08	7:06:31		12:07:10		17:08:22	17:38:45	18:13:09	18:30:06	18:46:56	10:01:51	-13.971	-15.908	87
02/06/2020	Th	5:26:58	5:43:46	6:00:40	6:34:59	7:05:16		12:07:14		17:09:45	17:40:04	18:14:25	18:31:20	18:48:09	10:04:29	-14.044	-15.601	94
02/07/2020	F	5:25:52	5:42:39	5:59:32	6:33:48	7:04:01		12:07:18		17:11:08	17:41:23	18:15:40	18:32:34	18:49:22	10:07:08	-14.103	-15.291	98
02/08/2020	Sat	5:24:45	5:41:31	5:58:23	6:32:35	7:02:43		12:07:20		17:12:32	17:42:42	18:16:55	18:33:48	18:50:36	10:09:49	-14.148	-14.976	100
02/09/2020	Sun	5:23:36	5:40:21	5:57:12	6:31:20	7:01:24		12:07:22		17:13:55	17:44:00	18:18:11	18:35:03	18:51:49	10:12:31	-14.181	-14.657	99
02/10/2020	M	5:22:25	5:39:10	5:55:59	6:30:04	7:00:04		12:07:24		17:15:18	17:45:19	18:19:26	18:36:17	18:53:03	10:15:14	-14.201	-14.334	95
02/11/2020	Tu	5:21:12	5:37:56	5:54:45	6:28:47	6:58:42		12:07:24		17:16:41	17:46:38	18:20:42	18:37:32	18:54:18	10:17:59	-14.207	-14.007	88
02/12/2020	W	5:19:58	5:36:42	5:53:29	6:27:28	6:57:19		12:07:24		17:18:04	17:47:57	18:21:57	18:38:47	18:55:32	10:20:45	-14.202	-13.676	80
02/13/2020	Th	5:18:42	5:35:25	5:52:12	6:26:08	6:55:54		12:07:23		17:19:27	17:49:15	18:23:13	18:40:02	18:56:46	10:23:33	-14.184	-13.341	69
02/14/2020	F	5:17:24	5:34:07	5:50:53	6:24:46	6:54:29		12:07:21		17:20:50	17:50:34	18:24:29	18:41:17	18:58:01	10:26:21	-14.153	-13.003	59
02/15/2020	Sat	5:16:05	5:32:47	5:49:33	6:23:23	6:53:01		12:07:18		17:22:12	17:51:53	18:25:45	18:42:32	18:59:16	10:29:11	-14.111	-12.661	48
02/16/2020	Sun	5:14:44	5:31:26	5:48:11	6:21:58	6:51:33		12:07:15		17:23:34	17:53:11	18:27:01	18:43:47	19:00:31	10:32:01	-14.058	-12.316	37
02/17/2020	M	5:13:21	5:30:03	5:46:48	6:20:32	6:50:04		12:07:11		17:24:57	17:54:30	18:28:17	18:45:03	19:01:46	10:34:53	-13.992	-11.967	27
02/18/2020	Tu	5:11:57	5:28:39	5:45:23	6:19:05	6:48:33		12:07:06		17:26:18	17:55:48	18:29:33	18:46:18	19:03:02	10:37:46	-13.916	-11.616	18
02/19/2020	W	5:10:32	5:27:14	5:43:57	6:17:37	6:47:01		12:07:01		17:27:40	17:57:06	18:30:49	18:47:34	19:04:18	10:40:39	-13.828	-11.261	11
02/20/2020	Th	5:09:05	5:25:47	5:42:29	6:16:07	6:45:28		12:06:55		17:29:02	17:58:24	18:32:05	18:48:50	19:05:33	10:43:33	-13.729	-10.903	6
02/21/2020	F	5:07:36	5:24:18	5:41:01	6:14:36	6:43:54		12:06:49		17:30:23	17:59:42	18:33:21	18:50:05	19:06:49	10:46:29	-13.620	-10.542	2
02/22/2020	Sat	5:06:06	5:22:49	5:39:31	6:13:05	6:42:19		12:06:42		17:31:44	18:01:00	18:34:37	18:51:21	19:08:06	10:49:24	-13.499	-10.179	0
02/23/2020	Sun	5:04:35	5:21:17	5:37:59	6:11:32	6:40:43		12:06:34		17:33:04	18:02:18	18:35:53	18:52:37	19:09:22	10:52:21	-13.369	-9.813	0
02/24/2020	M	5:03:02	5:19:45	5:36:27	6:09:57	6:39:06		12:06:25		17:34:25	18:03:36	18:37:10	18:53:53	19:10:38	10:55:18	-13.228	-9.444	2
02/25/2020	Tu	5:01:28	5:18:11	5:34:53	6:08:22	6:37:28		12:06:16		17:35:45	18:04:53	18:38:26	18:55:09	19:11:55	10:58:16	-13.077	-9.074	6
02/26/2020	W	4:59:53	5:16:36	5:33:18	6:06:46	6:35:50		12:06:07		17:37:04	18:06:10	18:39:42	18:56:26	19:13:12	11:01:15	-12.917	-8.700	11
02/27/2020	Th	4:58:16	5:15:00	5:31:42	6:05:09	6:34:10		12:05:56		17:38:24	18:07:27	18:40:58	18:57:42	19:14:29	11:04:14	-12.747	-8.325	18
02/28/2020	F	4:56:38	5:13:23	5:30:05	6:03:31	6:32:30		12:05:46		17:39:43	18:08:44	18:42:14	18:58:59	19:15:46	11:07:13	-12.568	-7.948	25
02/29/2020	Sat	4:54:58	5:11:44	5:28:27	6:01:52	6:30:49		12:05:34		17:41:02	18:10:01	18:43:30	19:00:15	19:17:04	11:10:13	-12.379	-7.569	34
03/01/2020	Sun	4:53:17	5:10:04	5:26:47	6:00:12	6:29:07		12:05:23		17:42:21	18:11:18	18:44:46	19:01:32	19:18:21	11:13:14	-12.183	-7.188	44
03/02/2020	M	4:51:36	5:08:24	5:25:07	5:58:31	6:27:24		12:05:10		17:43:39	18:12:34	18:46:03	19:02:49	19:19:39	11:16:15	-11.977	-6.805	54
03/03/2020	Tu	4:49:52	5:06:42	5:23:26	5:56:50	6:25:41		12:04:57		17:44:57	18:13:51	18:47:19	19:04:05	19:20:57	11:19:16	-11.764	-6.421	64
03/04/2020	W	4:48:08	5:04:59	5:21:43	5:55:07	6:23:57		12:04:44		17:46:14	18:15:07	18:48:35	19:05:22	19:22:16	11:22:17	-11.542	-6.035	74
03/05/2020	Th	4:46:23	5:03:15	5:20:00	5:53:24	6:22:12		12:04:30		17:47:32	18:16:23	18:49:51	19:06:40	19:23:34	11:25:19	-11.314	-5.648	83
03/06/2020	F	4:44:36	5:01:29	5:18:16	5:51:40	6:20:27		12:04:16		17:48:49	18:17:39	18:51:08	19:07:57	19:24:53	11:28:21	-11.078	-5.260	90
03/07/2020	Sat	4:42:49	4:59:43	5:16:31	5:49:56	6:18:42		12:04:02		17:50:05	18:18:54	18:52:24	19:09:14	19:26:12	11:31:24	-10.835	-4.871	96
03/08/2020	Sun*	5:41:00	5:57:56	6:14:45	6:48:11	7:16:56		13:03:47		18:51:22	19:20:10	19:53:40	20:10:32	20:27:32	11:34:26	-10.586	-4.480	99
03/09/2020	M*	5:39:10	5:56:09	6:12:58	6:46:25	7:15:09		13:03:31		18:52:38	19:21:26	19:54:57	20:11:50	20:28:51	11:37:29	-10.331	-4.089	100
03/10/2020	Tu*	5:37:20	5:54:20	6:11:11	6:44:39	7:13:22		13:03:16		18:53:54	19:22:41	19:56:13	20:13:08	20:30:12	11:40:32	-10.071	-3.697	97
03/11/2020	W*	5:35:28	5:52:30	6:09:23	6:42:52	7:11:35		13:03:00		18:55:10	19:23:56	19:57:30	20:14:26	20:31:32	11:43:35	-9.805	-3.304	91
03/12/2020	Th*	5:33:35	5:50:40	6:07:34	6:41:04	7:09:47		13:02:44		18:56:26	19:25:12	19:58:47	20:15:45	20:32:53	11:46:39	-9.535	-2.910	84
03/13/2020	F*	5:31:42	5:48:48	6:05:44	6:39:16	7:07:59		13:02:27		18:57:41	19:26:27	20:00:04	20:17:03	20:34:14	11:49:42	-9.260	-2.516	74
03/14/2020	Sat*	5:29:47	5:46:56	6:03:54	6:37:28	7:06:10		13:02:10		18:58:56	19:27:42	20:01:21	20:18:22	20:35:36	11:52:46	-8.981	-2.121	64
03/15/2020	Sun*	5:27:52	5:45:0															

HVO -103.2975, 44.108, Time Zone = MST/MDT

Table with columns: Date, DoW, Twilight, Begin Astro-nomical, Begin 15-deg., Begin Nautical, Begin Civil, Sunrise, Sun East, Local Noon, Sun West, Sunset, End Civil, End Nautical, End 15-deg., End Astro-nomical, Length of Day, Noon Eqn Time (min.), Noon sun declination (deg.), 9 PM Lunar Illum. (pct.).

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Twilight	Twilight	Twilight	Twilight	Sunrise	Sun East	Local Noon	Sun West	Sunset	Twilight	Twilight	Twilight	Twilight	Day	Length of	Noon Eqn	Noon sun decli-	9 PM Lunar
		Begin Astro-		Begin 15-	Begin						End Civil	End	End 15-	End Astro-			Time	nation	Illum.
		nomical	deg.	Nautical	Begin Civil							Nautical	deg.	nomical			(min.)	(deg.)	(pct.)
07/02/2020	Th*	2:51:26	3:23:48	3:51:16	4:38:35	5:14:43	8:40:49	12:57:25	17:14:32	20:39:51	21:15:54	22:03:06	22:30:27	23:02:38	15:25:08		-4.217	22.953	95
07/03/2020	F*	2:52:31	3:24:42	3:52:04	4:39:15	5:15:19	8:40:30	12:57:36	17:15:13	20:39:35	21:15:35	22:02:38	22:29:52	23:01:51	15:24:16		-4.397	22.869	99
07/04/2020	Sat*	2:53:41	3:25:39	3:52:53	4:39:57	5:15:56	8:40:09	12:57:46	17:15:55	20:39:17	21:15:12	22:02:07	22:29:14	23:00:59	15:23:21		-4.572	22.778	100
07/05/2020	Sun*	2:54:53	3:26:39	3:53:45	4:40:41	5:16:36	8:39:46	12:57:56	17:16:38	20:38:57	21:14:47	22:01:34	22:28:32	23:00:04	15:22:21		-4.740	22.680	99
07/06/2020	M*	2:56:09	3:27:41	3:54:40	4:41:26	5:17:17	8:39:21	12:58:06	17:17:23	20:38:34	21:14:20	22:00:57	22:27:47	22:59:04	15:21:17		-4.903	22.576	96
07/07/2020	Tu*	2:57:29	3:28:46	3:55:36	4:42:13	5:17:59	8:38:52	12:58:15	17:18:10	20:38:09	21:13:50	22:00:17	22:26:59	22:58:01	15:20:10		-5.059	22.466	91
07/08/2020	W*	2:58:51	3:29:53	3:56:35	4:43:02	5:18:43	8:38:22	12:58:24	17:18:58	20:37:42	21:13:18	21:59:34	22:26:08	22:56:55	15:18:59		-5.210	22.349	84
07/09/2020	Th*	3:00:16	3:31:03	3:57:36	4:43:53	5:19:29	8:37:49	12:58:33	17:19:48	20:37:13	21:12:43	21:58:49	22:25:13	22:55:45	15:17:44		-5.353	22.225	76
07/10/2020	F*	3:01:43	3:32:15	3:58:39	4:44:45	5:20:15	8:37:15	12:58:41	17:20:39	20:36:41	21:12:06	21:58:01	22:24:16	22:54:31	15:16:26		-5.489	22.095	67
07/11/2020	Sat*	3:03:13	3:33:29	3:59:44	4:45:39	5:21:04	8:36:37	12:58:49	17:21:32	20:36:08	21:11:26	21:57:10	22:23:15	22:53:14	15:15:04		-5.619	21.959	58
07/12/2020	Sun*	3:04:46	3:34:45	4:00:51	4:46:35	5:21:53	8:35:58	12:58:56	17:22:26	20:35:32	21:10:44	21:56:16	22:22:11	22:51:54	15:13:39		-5.741	21.817	49
07/13/2020	M*	3:06:21	3:36:04	4:01:59	4:47:31	5:22:44	8:35:16	12:59:03	17:23:21	20:34:54	21:10:00	21:55:20	22:21:05	22:50:32	15:12:10		-5.855	21.668	39
07/14/2020	Tu*	3:07:57	3:37:24	4:03:09	4:48:30	5:23:36	8:34:32	12:59:09	17:24:17	20:34:14	21:09:13	21:54:21	22:19:56	22:49:06	15:10:38		-5.961	21.513	30
07/15/2020	W*	3:09:36	3:38:46	4:04:21	4:49:29	5:24:29	8:33:46	12:59:15	17:25:15	20:33:31	21:08:24	21:53:20	22:18:45	22:47:38	15:09:02		-6.060	21.352	22
07/16/2020	Th*	3:11:16	3:40:09	4:05:34	4:50:30	5:25:23	8:32:58	12:59:21	17:26:14	20:32:47	21:07:33	21:52:16	22:17:30	22:46:07	15:07:24		-6.150	21.186	14
07/17/2020	F*	3:12:58	3:41:34	4:06:49	4:51:32	5:26:18	8:32:07	12:59:26	17:27:14	20:32:00	21:06:40	21:51:10	22:16:14	22:44:33	15:05:42		-6.231	21.013	8
07/18/2020	Sat*	3:14:41	3:43:01	4:08:05	4:52:35	5:27:15	8:31:15	12:59:30	17:28:15	20:31:12	21:05:44	21:50:01	22:14:55	22:42:57	15:03:57		-6.304	20.834	3
07/19/2020	Sun*	3:16:26	3:44:29	4:09:22	4:53:39	5:28:12	8:30:20	12:59:34	17:29:16	20:30:21	21:04:47	21:48:50	22:13:33	22:41:19	15:02:09		-6.367	20.649	0
07/20/2020	M*	3:18:12	3:45:58	4:10:41	4:54:44	5:29:10	8:29:23	12:59:37	17:30:19	20:29:29	21:03:47	21:47:38	22:12:09	22:39:38	15:00:19		-6.422	20.458	0
07/21/2020	Tu*	3:19:59	3:47:28	4:12:00	4:55:51	5:30:09	8:28:24	12:59:40	17:31:23	20:28:34	21:02:46	21:46:22	22:10:44	22:37:56	14:58:25		-6.467	20.262	3
07/22/2020	W*	3:21:47	3:48:59	4:13:21	4:56:58	5:31:09	8:27:24	12:59:42	17:32:27	20:27:38	21:01:42	21:45:05	22:09:16	22:36:12	14:56:29		-6.502	20.060	7
07/23/2020	Th*	3:23:35	3:50:31	4:14:42	4:58:06	5:32:10	8:26:21	12:59:43	17:33:32	20:26:40	21:00:36	21:43:46	22:07:46	22:34:25	14:54:30		-6.527	19.853	15
07/24/2020	F*	3:25:25	3:52:04	4:16:04	4:59:14	5:33:11	8:25:16	12:59:44	17:34:38	20:25:39	20:59:28	21:42:25	22:06:14	22:32:37	14:52:28		-6.542	19.640	24
07/25/2020	Sat*	3:27:14	3:53:38	4:17:27	5:00:24	5:34:13	8:24:10	12:59:45	17:35:43	20:24:37	20:58:19	21:41:01	22:04:40	22:30:47	14:50:24		-6.547	19.421	34
07/26/2020	Sun*	3:29:05	3:55:12	4:18:51	5:01:34	5:35:16	8:23:01	12:59:44	17:36:52	20:23:33	20:57:07	21:39:36	22:03:04	22:28:56	14:48:17		-6.542	19.198	46
07/27/2020	M*	3:30:55	3:56:47	4:20:15	5:02:45	5:36:19	8:21:51	12:59:43	17:38:00	20:22:28	20:55:54	21:38:09	22:01:27	22:27:03	14:46:09		-6.527	18.968	57
07/28/2020	Tu*	3:32:46	3:58:23	4:21:40	5:03:56	5:37:23	8:20:39	12:59:42	17:39:08	20:21:20	20:54:39	21:36:41	21:59:47	22:25:08	14:43:57		-6.501	18.734	68
07/29/2020	W*	3:34:37	3:59:59	4:23:06	5:05:08	5:38:27	8:19:25	12:59:40	17:40:17	20:20:11	20:53:22	21:35:10	21:58:07	22:23:13	14:41:44		-6.464	18.495	78
07/30/2020	Th*	3:36:29	4:01:35	4:24:31	5:06:20	5:39:32	8:18:09	12:59:37	17:41:26	20:19:00	20:52:04	21:33:39	21:56:25	22:21:16	14:39:28		-6.417	18.250	86
07/31/2020	F*	3:38:20	4:03:11	4:25:58	5:07:33	5:40:37	8:16:52	12:59:33	17:42:36	20:17:47	20:50:44	21:32:05	21:54:41	22:19:17	14:37:10		-6.360	18.001	93
08/01/2020	Sat*	3:40:11	4:04:48	4:27:24	5:08:46	5:41:43	8:15:33	12:59:29	17:43:46	20:16:33	20:49:22	21:30:30	21:52:56	22:17:18	14:34:51		-6.292	17.747	97
08/02/2020	Sun*	3:42:02	4:06:25	4:28:51	5:09:59	5:42:49	8:14:12	12:59:25	17:44:57	20:15:18	20:47:59	21:28:53	21:51:09	22:15:17	14:32:29		-6.214	17.488	100
08/03/2020	M*	3:43:53	4:08:02	4:30:18	5:11:13	5:43:55	8:12:50	12:59:19	17:46:08	20:14:00	20:46:34	21:27:16	21:49:22	22:13:16	14:30:05		-6.127	17.224	100
08/04/2020	Tu*	3:45:44	4:09:39	4:31:45	5:12:27	5:45:02	8:11:26	12:59:14	17:47:19	20:12:41	20:45:08	21:25:36	21:47:33	22:11:13	14:27:40		-6.029	16.956	98
08/05/2020	W*	3:47:35	4:11:16	4:33:12	5:13:41	5:46:08	8:10:10	12:59:07	17:48:31	20:11:21	20:43:41	21:23:56	21:45:43	22:09:10	14:25:13		-5.921	16.683	94
08/06/2020	Th*	3:49:25	4:12:53	4:34:40	5:14:56	5:47:16	8:08:34	12:59:00	17:49:43	20:09:59	20:42:12	21:22:14	21:43:51	22:07:06	14:22:44		-5.803	16.406	88
08/07/2020	F*	3:51:15	4:14:29	4:36:07	5:16:10	5:48:23	8:07:06	12:58:52	17:50:55	20:08:36	20:40:41	21:20:31	21:41:59	22:05:01	14:20:13		-5.676	16.124	81
08/08/2020	Sat*	3:53:04	4:16:26	4:37:34	5:17:25	5:49:31	8:05:37	12:58:44	17:52:07	20:07:12	20:39:10	21:18:47	21:40:06	22:02:55	14:17:41		-5.539	15.838	74
08/09/2020	Sun*	3:54:53	4:17:43	4:39:02	5:18:40	5:50:39	8:04:06	12:58:35	17:53:20	20:05:46	20:37:37	21:17:02	21:38:12	22:00:49	14:15:08		-5.392	15.547	65
08/10/2020	M*	3:56:42	4:19:19	4:40:29	5:19:55	5:51:47	8:02:34	12:58:26	17:54:32	20:04:19	20:36:03	21:15:16	21:36:17	21:58:42	14:12:33		-5.237	15.253	56
08/11/2020	Tu*	3:58:30	4:20:55	4:41:57	5:21:10	5:52:55	8:01:00	12:58:16	17:55:45	20:02:51	20:34:28	21:13:29	21:34:21	21:56:34	14:09:56		-5.072	14.954	46
08/12/2020	W*	4:00:18	4:22:31	4:43:24	5:22:25	5:54:03	7:59:26	12:58:06	17:56:59	20:01:22	20:32:52	21:11:41	21:32:24	21:54:26	14:07:18		-4.898	14.652	36
08/13/2020	Th*	4:02:05	4:24:07	4:44:51	5:23:41	5:55:12	7:57:50	12:57:55	17:58:12	19:59:51	20:31:14	21:09:52	21:30:27	21:52:17	14:04:39		-4.716	14.345	27
08/14/2020	F*	4:03:51	4:25:42	4:46:18	5:24:56	5:56:20	7:56:13	12:57:43	17:59:25	19:58:19	20:29:36	21:08:02	21:28:29	21:50:08	14:01:59		-4.525	14.035	19
08/15/2020	Sat*	4:05:37	4:27:17	4:47:44	5:26:11	5:57:29	7:54:35	12:57:31	18:00:39	19:56:46	20:27:56	21:06:11	21:26:30	21:47:59	13:59:17		-4.325	13.721	11
08/16/2020	Sun*	4:07:22	4:28:51	4:49:11	5:27:27	5:58:38	7:52:56	12:57:19	18:01:52	19:55:12	20:26:16	21:04:20	21:24:31	21:45:49	13:56:34		-4.116	13.403	5
08/17/2020	M*	4:09:06	4:30:25	4:50:37	5:28:42	5:59:47	7:51:16	12:57:06	18:03:06	19:53:37	20:24:35	21:02:27	21:22:31	21:43:39	13:53:50		-3.899	13.082	1
08/18/2020	Tu*	4:10:50	4:31:59	4:52:03	5:29:57	6:00:56	7:49:34	12:56:52	18:04:20	19:52:01	20:22:53	21:00:35	21:20:31	21:41:29	13:51:05		-3.674	12.757	0
08/19/2020	W*	4:12:33	4:33:32	4:53:29	5:31:12	6:02:05	7:47:52	12:56:38	18:05:34	19:50:24	20:21:10	20:58:41	21:18:30	21:39:19	13:48:19		-3.441	12.429	2
08/20/2020	Th*	4:14:16	4:35:05	4:54:54	5:32:27	6:03:14	7:46:09	12:56:24	18:06:47	19:48:46	20:19:26	20:56:47	21:16:28	21:37:08	13:45:33		-3.200	12.098	6
08/21/20																			

HVO -103.2975, 44.108, Time Zone = MST/MDT

		Begin												Noon		9 PM		
Date	DoW	Astro- nomical	Begin 15- deg.	Begin Nautical	Begin Civil	Sunrise	Sun East	Local Noon	Sun West	Sunset	End Civil	End Nautical	End 15- deg.	End Astro- nomical	Length of Day	Eqn Time (min.)	noon sun decli- nation (deg.)	Lunar illum. (pct.)
		Twilight	Twilight	Twilight	Twilight						Twilight	Twilight	Twilight	Twilight		Twilight		
09/23/2020	W*	5:04:57	5:22:22	5:39:32	6:13:22	6:42:11		12:45:18		18:47:39	19:16:24	19:50:07	20:07:14	20:24:34	12:05:28	7.905	-0.475	51
09/24/2020	Th*	5:06:16	5:23:38	5:40:45	6:14:32	6:43:20		12:44:57		18:45:48	19:14:32	19:48:13	20:05:17	20:22:35	12:02:27	8.253	-0.864	61
09/25/2020	F*	5:07:34	5:24:53	5:41:59	6:15:43	6:44:30		12:44:36		18:43:57	19:12:40	19:46:19	20:03:21	20:20:36	11:59:26	8.598	-1.253	71
09/26/2020	Sat*	5:08:52	5:26:08	5:43:11	6:16:53	6:45:40		12:44:15		18:42:06	19:10:49	19:44:25	20:01:25	20:18:38	11:56:25	8.940	-1.642	80
09/27/2020	Sun*	5:10:09	5:27:23	5:44:24	6:18:04	6:46:50		12:43:55		18:40:15	19:08:58	19:42:32	19:59:30	20:16:40	11:53:25	9.279	-2.031	87
09/28/2020	M*	5:11:26	5:28:37	5:45:37	6:19:14	6:48:01		12:43:35		18:38:25	19:07:08	19:40:40	19:57:36	20:14:44	11:50:24	9.614	-2.420	93
09/29/2020	Tu*	5:12:42	5:29:51	5:46:49	6:20:25	6:49:11		12:43:15		18:36:34	19:05:18	19:38:48	19:55:43	20:12:48	11:47:23	9.946	-2.808	97
09/30/2020	W*	5:13:58	5:31:05	5:48:01	6:21:35	6:50:22		12:42:56		18:34:45	19:03:28	19:36:57	19:53:50	20:10:53	11:44:22	10.273	-3.196	99
10/01/2020	Th*	5:15:14	5:32:19	5:49:13	6:22:46	6:51:33		12:42:36		18:32:55	19:01:39	19:35:07	19:51:59	20:08:59	11:41:22	10.595	-3.583	100
10/02/2020	F*	5:16:30	5:33:32	5:50:25	6:23:57	6:52:44		12:42:17		18:31:06	18:59:51	19:33:17	19:50:08	20:07:07	11:38:22	10.913	-3.970	98
10/03/2020	Sat*	5:17:45	5:34:45	5:51:37	6:25:07	6:53:56		12:41:58		18:29:17	18:58:03	19:31:29	19:48:18	20:05:15	11:35:22	11.224	-4.356	95
10/04/2020	Sun*	5:19:00	5:35:58	5:52:49	6:26:18	6:55:08		12:41:40		18:27:29	18:56:15	19:29:40	19:46:28	20:03:24	11:32:22	11.530	-4.740	91
10/05/2020	M*	5:20:14	5:37:11	5:54:01	6:27:29	6:56:20		12:41:22		18:25:42	18:54:29	19:27:53	19:44:40	20:01:34	11:29:22	11.829	-5.124	85
10/06/2020	Tu*	5:21:28	5:38:24	5:55:12	6:28:41	6:57:32		12:41:05		18:23:54	18:52:43	19:26:07	19:42:53	19:59:45	11:26:22	12.122	-5.507	77
10/07/2020	W*	5:22:42	5:39:36	5:56:24	6:29:52	6:58:45		12:40:47		18:22:08	18:50:57	19:24:21	19:41:06	19:57:57	11:23:23	12.408	-5.889	69
10/08/2020	Th*	5:23:56	5:40:49	5:57:36	6:31:04	6:59:57		12:40:31		18:20:22	18:49:13	19:22:37	19:39:21	19:56:11	11:20:24	12.686	-6.270	59
10/09/2020	F*	5:25:10	5:42:01	5:58:47	6:32:15	7:01:11		12:40:14		18:18:36	18:47:29	19:20:53	19:37:37	19:54:25	11:17:26	12.957	-6.649	49
10/10/2020	Sat*	5:26:23	5:43:13	5:59:59	6:33:27	7:02:24		12:39:59		18:16:51	18:45:46	19:19:10	19:35:54	19:52:41	11:14:27	13.220	-7.026	39
10/11/2020	Sun*	5:27:36	5:44:25	6:01:10	6:34:39	7:03:38		12:39:43		18:15:07	18:44:04	19:17:29	19:34:11	19:50:58	11:11:29	13.474	-7.403	29
10/12/2020	M*	5:28:49	5:45:38	6:02:22	6:35:51	7:04:52		12:39:29		18:13:24	18:42:22	19:15:48	19:32:30	19:49:16	11:08:32	13.720	-7.777	19
10/13/2020	Tu*	5:30:02	5:46:50	6:03:34	6:37:04	7:06:07		12:39:15		18:11:41	18:40:42	19:14:08	19:30:50	19:47:35	11:05:34	13.956	-8.150	11
10/14/2020	W*	5:31:15	5:48:02	6:04:45	6:38:16	7:07:22		12:39:01		18:09:59	18:39:02	19:12:30	19:29:12	19:45:56	11:02:38	14.184	-8.521	5
10/15/2020	Th*	5:32:28	5:49:13	6:05:57	6:39:29	7:08:37		12:38:48		18:08:18	18:37:24	19:10:52	19:27:34	19:44:18	10:59:42	14.402	-8.890	1
10/16/2020	F*	5:33:40	5:50:25	6:07:09	6:40:42	7:09:52		12:38:35		18:06:38	18:35:46	19:09:16	19:25:58	19:42:41	10:56:46	14.610	-9.257	0
10/17/2020	Sat*	5:34:52	5:51:37	6:08:21	6:41:55	7:11:08		12:38:23		18:04:59	18:34:10	19:07:41	19:24:23	19:41:05	10:53:51	14.808	-9.621	3
10/18/2020	Sun*	5:36:04	5:52:49	6:09:33	6:43:09	7:12:24		12:38:12		18:03:21	18:32:34	19:06:07	19:22:49	19:39:31	10:50:56	14.996	-9.984	8
10/19/2020	M*	5:37:16	5:54:01	6:10:45	6:44:22	7:13:41		12:38:01		18:01:43	18:30:50	19:04:34	19:21:16	19:37:59	10:48:02	15.174	-10.343	16
10/20/2020	Tu*	5:38:28	5:55:12	6:11:56	6:45:36	7:14:58		12:37:51		18:00:07	18:29:26	19:03:03	19:19:45	19:36:27	10:45:09	15.342	-10.701	25
10/21/2020	W*	5:39:40	5:56:24	6:13:08	6:46:50	7:16:15		12:37:42		17:58:31	18:27:54	19:01:33	19:18:15	19:34:57	10:42:17	15.498	-11.055	35
10/22/2020	Th*	5:40:52	5:57:35	6:14:20	6:48:04	7:17:32		12:37:33		17:56:57	18:26:23	19:00:04	19:16:47	19:33:29	10:39:25	15.644	-11.407	46
10/23/2020	F*	5:42:03	5:58:47	6:15:32	6:49:18	7:18:49		12:37:25		17:55:23	18:24:53	18:58:36	19:15:20	19:32:02	10:36:34	15.779	-11.756	56
10/24/2020	Sat*	5:43:14	5:59:58	6:16:44	6:50:32	7:20:07		12:37:18		17:53:51	18:23:24	18:57:10	19:13:54	19:30:36	10:33:44	15.902	-12.102	66
10/25/2020	Sun*	5:44:25	6:01:09	6:17:56	6:51:46	7:21:25		12:37:11		17:52:20	18:21:57	18:55:45	19:12:30	19:29:13	10:30:55	16.014	-12.445	75
10/26/2020	M*	5:45:36	6:02:21	6:19:08	6:53:01	7:22:43		12:37:05		17:50:50	18:20:31	18:54:22	19:11:08	19:27:50	10:28:07	16.113	-12.785	83
10/27/2020	Tu*	5:46:47	6:03:32	6:20:20	6:54:16	7:24:02		12:37:00		17:49:22	18:19:06	18:53:00	19:09:47	19:26:29	10:25:20	16.201	-13.121	89
10/28/2020	W*	5:47:58	6:04:43	6:21:32	6:55:30	7:25:21		12:36:55		17:47:54	18:17:43	18:51:40	19:08:27	19:25:10	10:22:34	16.276	-13.454	94
10/29/2020	Th*	5:49:09	6:05:54	6:22:43	6:56:45	7:26:39		12:36:52		17:46:28	18:16:21	18:50:21	19:07:09	19:23:53	10:19:49	16.338	-13.783	98
10/30/2020	F*	5:50:19	6:07:05	6:23:55	6:58:00	7:27:59		12:36:49		17:45:04	18:15:01	18:49:04	19:05:53	19:22:37	10:17:05	16.388	-14.109	100
10/31/2020	Sat*	5:51:30	6:08:16	6:25:07	6:59:15	7:29:18		12:36:46		17:43:41	18:13:42	18:47:48	19:04:38	19:21:23	10:14:23	16.424	-14.431	100
11/01/2020	Sun	4:52:40	5:09:27	5:26:19	6:00:30	6:30:37		11:36:45		16:42:19	17:12:25	17:46:34	18:03:25	18:20:11	10:11:42	16.447	-14.749	98
11/02/2020	M	4:53:50	5:10:37	5:27:31	6:01:45	6:31:57		11:36:45		16:40:59	17:11:09	17:45:22	18:02:14	18:19:00	10:09:02	16.457	-15.063	94
11/03/2020	Tu	4:55:00	5:11:48	5:28:43	6:03:01	6:33:16		11:36:45		16:39:40	17:09:55	17:44:11	18:01:04	18:17:51	10:06:24	16.452	-15.373	89
11/04/2020	W	4:56:10	5:12:59	5:29:54	6:04:16	6:34:36		11:36:46		16:38:23	17:08:42	17:43:02	17:59:56	18:16:44	10:03:47	16.435	-15.679	82
11/05/2020	Th	4:57:19	5:14:09	5:31:06	6:05:31	6:35:56		11:36:48		16:37:07	17:07:31	17:41:55	17:58:50	18:15:39	10:01:11	16.402	-15.981	74
11/06/2020	F	4:58:29	5:15:19	5:32:17	6:06:46	6:37:16		11:36:51		16:35:53	17:06:22	17:40:49	17:57:46	18:14:36	9:58:37	16.356	-16.278	65
11/07/2020	Sat	4:59:38	5:16:30	5:33:29	6:08:01	6:38:36		11:36:54		16:34:41	17:05:15	17:39:46	17:56:44	18:13:35	9:56:05	16.296	-16.570	54
11/08/2020	Sun	5:00:47	5:17:40	5:34:40	6:09:17	6:39:56		11:36:59		16:33:31	17:04:09	17:38:44	17:55:43	18:12:35	9:53:35	16.221	-16.858	44
11/09/2020	M	5:01:56	5:18:50	5:35:52	6:10:32	6:41:16		11:37:04		16:32:22	17:03:05	17:37:44	17:54:45	18:11:38	9:51:06	16.132	-17.142	33
11/10/2020	Tu	5:03:05	5:19:59	5:37:03	6:11:47	6:42:36		11:37:10		16:31:15	17:02:03	17:36:46	17:53:48	18:10:42	9:48:39	16.028	-17.420	23
11/11/2020	W	5:04:13	5:21:09	5:38:13	6:13:01	6:43:55		11:37:17		16:30:10	17:01:03	17:35:50	17:52:54	18:09:48	9:46:15	15.910	-17.694	14
11/12/2020	Th	5:05:22	5:22:18	5:39:24	6:14:16	6:45:15		11:37:25		16:29:07	17:00:05	17:34:56	17:52:01	18:08:57	9:43:52	15.777	-17.9	

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Twilight	Begin				Sunrise	Sun East	Local Noon	Sun West	Sunset	Twilight	Twilight	Twilight	Twilight	Day	Length of	Eqn Time (min.)	Noon decli- (deg.)	9 PM Lunar (pct.)
			Astro- nomical	Begin 15- deg.	Begin Nautical	Begin Civil														
12/15/2020	Tu	5:36:51	5:54:18	6:12:03	6:48:38	7:21:43		11:48:41		16:15:33	16:48:38	17:25:13	17:42:58	18:00:25	8:53:50	4.524	-23.313	3		
12/16/2020	W	5:37:30	5:54:58	6:12:42	6:49:19	7:22:25		11:49:10		16:15:51	16:48:57	17:25:33	17:43:18	18:00:46	8:53:27	4.036	-23.353	8		
12/17/2020	Th	5:38:07	5:55:35	6:13:20	6:49:57	7:23:04		11:49:39		16:16:11	16:49:18	17:25:55	17:43:40	18:01:08	8:53:07	3.544	-23.385	15		
12/18/2020	F	5:38:43	5:56:11	6:13:56	6:50:34	7:23:42		11:50:09		16:16:34	16:49:42	17:26:19	17:44:05	18:01:33	8:52:53	3.050	-23.410	23		
12/19/2020	Sat	5:39:17	5:56:45	6:14:31	6:51:09	7:24:17		11:50:39		16:16:59	16:50:07	17:26:45	17:44:31	18:01:59	8:52:43	2.554	-23.427	33		
12/20/2020	Sun	5:39:49	5:57:17	6:15:03	6:51:41	7:24:50		11:51:09		16:17:27	16:50:35	17:27:14	17:44:59	18:02:28	8:52:37	2.057	-23.436	42		
12/21/2020	M	5:40:20	5:57:48	6:15:34	6:52:12	7:25:20		11:51:38		16:17:57	16:51:05	17:27:44	17:45:29	18:02:58	8:52:37	1.559	-23.437	52		
12/22/2020	Tu	5:40:48	5:58:17	6:16:02	6:52:41	7:25:48		11:52:08		16:18:29	16:51:37	17:28:16	17:46:01	18:03:30	8:52:41	1.061	-23.430	61		
12/23/2020	W	5:41:15	5:58:44	6:16:29	6:53:07	7:26:14		11:52:38		16:19:04	16:52:12	17:28:49	17:46:35	18:04:03	8:52:50	0.564	-23.415	70		
12/24/2020	Th	5:41:40	5:59:09	6:16:54	6:53:31	7:26:38		11:53:08		16:19:41	16:52:48	17:29:25	17:47:10	18:04:39	8:53:03	0.068	-23.393	78		
12/25/2020	F	5:42:04	5:59:32	6:17:16	6:53:53	7:26:59		11:53:38		16:20:20	16:53:26	17:30:03	17:47:48	18:05:16	8:53:21	-0.427	-23.362	86		
12/26/2020	Sat	5:42:25	5:59:53	6:17:37	6:54:13	7:27:18		11:54:07		16:21:01	16:54:06	17:30:42	17:48:27	18:05:54	8:53:44	-0.919	-23.324	92		
12/27/2020	Sun	5:42:44	6:00:12	6:17:56	6:54:30	7:27:34		11:54:37		16:21:45	16:54:48	17:31:23	17:49:07	18:06:35	8:54:11	-1.409	-23.278	96		
12/28/2020	M	5:43:02	6:00:29	6:18:12	6:54:45	7:27:47		11:55:06		16:22:31	16:55:33	17:32:06	17:49:50	18:07:16	8:54:43	-1.896	-23.224	99		
12/29/2020	Tu	5:43:17	6:00:44	6:18:27	6:54:58	7:27:59		11:55:35		16:23:18	16:56:18	17:32:50	17:50:33	18:08:00	8:55:20	-2.379	-23.163	100		
12/30/2020	W	5:43:31	6:00:57	6:18:39	6:55:09	7:28:07		11:56:03		16:24:08	16:57:06	17:33:36	17:51:19	18:08:45	8:56:01	-2.858	-23.093	99		
12/31/2020	Th	5:43:42	6:01:08	6:18:49	6:55:17	7:28:13		11:56:32		16:24:59	16:57:55	17:34:24	17:52:06	18:09:31	8:56:46	-3.332	-23.016	96		
01/01/2021	F	5:43:52	6:01:16	6:18:57	6:55:24	7:28:17		11:57:00		16:25:53	16:58:47	17:35:13	17:52:54	18:10:19	8:57:36	-3.801	-22.932	90		
01/02/2021	Sat	5:43:59	6:01:23	6:19:03	6:55:27	7:28:18		11:57:28		16:26:48	16:59:39	17:36:04	17:53:44	18:11:08	8:58:30	-4.265	-22.840	83		
01/03/2021	Sun	5:44:05	6:01:28	6:19:07	6:55:29	7:28:17		11:57:55		16:27:46	17:00:34	17:36:56	17:54:35	18:11:58	8:59:29	-4.723	-22.740	74		
01/04/2021	M	5:44:08	6:01:30	6:19:08	6:55:28	7:28:13		11:58:22		16:28:44	17:01:30	17:37:49	17:55:28	18:12:50	9:00:32	-5.174	-22.633	64		
01/05/2021	Tu	5:44:09	6:01:31	6:19:08	6:55:24	7:28:06		11:58:49		16:29:45	17:02:27	17:38:44	17:56:21	18:13:43	9:01:39	-5.619	-22.518	53		
01/06/2021	W	5:44:08	6:01:29	6:19:05	6:55:19	7:27:57		11:59:15		16:30:47	17:03:26	17:39:40	17:57:17	18:14:37	9:02:50	-6.056	-22.396	41		
01/07/2021	Th	5:44:05	6:01:25	6:19:00	6:55:11	7:27:46		11:59:41		16:31:51	17:04:26	17:40:38	17:58:13	18:15:33	9:04:05	-6.486	-22.266	30		
01/08/2021	F	5:44:00	6:01:19	6:18:53	6:55:01	7:27:32		12:00:06		16:32:56	17:05:28	17:41:36	17:59:10	18:16:30	9:05:24	-6.907	-22.129	20		
01/09/2021	Sat	5:43:53	6:01:11	6:18:43	6:54:48	7:27:16		12:00:31		16:34:03	17:06:31	17:42:36	18:00:09	18:17:27	9:06:48	-7.320	-21.985	12		
01/10/2021	Sun	5:43:43	6:01:00	6:18:32	6:54:33	7:26:57		12:00:55		16:35:11	17:07:35	17:43:37	18:01:09	18:18:26	9:08:15	-7.724	-21.834	5		
01/11/2021	M	5:43:32	6:00:47	6:18:18	6:54:16	7:26:35		12:01:19		16:36:21	17:08:41	17:44:39	18:02:10	18:19:26	9:09:46	-8.119	-21.675	1		
01/12/2021	Tu	5:43:18	6:00:33	6:18:02	6:53:56	7:26:11		12:01:42		16:37:31	17:09:47	17:45:42	18:03:11	18:20:26	9:11:20	-8.503	-21.510	0		
01/13/2021	W	5:43:02	6:00:16	6:17:43	6:53:34	7:25:45		12:02:05		16:38:43	17:10:55	17:46:46	18:04:14	18:21:28	9:12:58	-8.877	-21.338	1		
01/14/2021	Th	5:42:44	5:59:57	6:17:23	6:53:10	7:25:17		12:02:26		16:39:56	17:12:03	17:47:51	18:05:18	18:22:30	9:14:40	-9.240	-21.159	5		
01/15/2021	F	5:42:24	5:59:35	6:17:00	6:52:43	7:24:45		12:02:48		16:41:10	17:13:13	17:48:57	18:06:22	18:23:34	9:16:25	-9.592	-20.973	10		
01/16/2021	Sat	5:42:02	5:59:12	6:16:35	6:52:15	7:24:12		12:03:08		16:42:25	17:14:23	17:50:03	18:07:27	18:24:38	9:18:13	-9.932	-20.780	17		
01/17/2021	Sun	5:41:37	5:58:46	6:16:08	6:51:44	7:23:36		12:03:28		16:43:41	17:15:34	17:51:11	18:08:33	18:25:42	9:20:05	-10.260	-20.581	25		
01/18/2021	M	5:41:10	5:58:18	6:15:38	6:51:10	7:22:58		12:03:47		16:44:58	17:16:46	17:52:19	18:09:40	18:26:48	9:22:00	-10.576	-20.375	34		
01/19/2021	Tu	5:40:41	5:57:48	6:15:07	6:50:35	7:22:18		12:04:05		16:46:15	17:17:59	17:53:28	18:10:47	18:27:54	9:23:58	-10.880	-20.163	43		
01/20/2021	W	5:40:10	5:57:16	6:14:33	6:49:57	7:21:35		12:04:22		16:47:34	17:19:12	17:54:37	18:11:55	18:29:01	9:25:59	-11.171	-19.945	53		
01/21/2021	Th	5:39:37	5:56:41	6:13:57	6:49:17	7:20:50		12:04:39		16:48:53	17:20:26	17:55:47	18:13:03	18:30:08	9:28:02	-11.449	-19.720	62		
01/22/2021	F	5:39:02	5:56:05	6:13:19	6:48:35	7:20:03		12:04:55		16:50:12	17:21:41	17:56:58	18:14:12	18:31:16	9:30:09	-11.713	-19.489	71		
01/23/2021	Sat	5:38:24	5:55:26	6:12:39	6:47:51	7:19:14		12:05:10		16:51:32	17:22:56	17:58:09	18:15:22	18:32:24	9:32:18	-11.965	-19.252	79		
01/24/2021	Sun	5:37:45	5:54:45	6:11:57	6:47:04	7:18:22		12:05:24		16:52:53	17:24:12	17:59:20	18:16:32	18:33:33	9:34:30	-12.203	-19.010	87		
01/25/2021	M	5:37:03	5:54:03	6:11:12	6:46:16	7:17:29		12:05:38		16:54:14	17:25:28	18:00:32	18:17:43	18:34:43	9:36:45	-12.428	-18.761	93		
01/26/2021	Tu	5:36:20	5:53:18	6:10:26	6:45:25	7:16:33		12:05:50		16:55:35	17:26:44	18:01:44	18:18:54	18:35:52	9:39:02	-12.639	-18.507	97		
01/27/2021	W	5:35:34	5:52:31	6:09:38	6:44:33	7:15:36		12:06:02		16:56:57	17:28:01	18:02:57	18:20:05	18:37:03	9:41:21	-12.837	-18.248	99		
01/28/2021	Th	5:34:46	5:51:42	6:08:47	6:43:38	7:14:36		12:06:13		16:58:19	17:29:18	18:04:10	18:21:17	18:38:13	9:43:43	-13.021	-17.983	100		
01/29/2021	F	5:33:56	5:50:51	6:07:55	6:42:42	7:13:35		12:06:24		16:59:42	17:30:36	18:05:24	18:22:29	18:39:24	9:46:07	-13.191	-17.712	98		
01/30/2021	Sat	5:33:04	5:49:58	6:07:01	6:41:44	7:12:32		12:06:33		17:01:04	17:31:53	18:06:38	18:23:41	18:40:36	9:48:33	-13.348	-17.436	93		
01/31/2021	Sun	5:32:11	5:49:03	6:06:04	6:40:43	7:11:26		12:06:42		17:02:27	17:33:11	18:07:52	18:24:54	18:41:47	9:51:01	-13.492	-17.156	86		
02/01/2021	M	5:31:15	5:48:07	6:05:06	6:39:41	7:10:20		12:06:49		17:03:50	17:34:29	18:09:06	18:26:07	18:42:59	9:53:31	-13.622	-16.870	78		
02/02/2021	Tu	5:30:17	5:47:08	6:04:07	6:38:38	7:09:11		12:06:56		17:05:14	17:35:48	18:10:21	18:27:20	18:44:12	9:56:03	-13.739	-16.579	68		
02/03/2021	W	5:29:18	5:46:08	6:03:05	6:37:32	7:08:00		12:07:03		17:06:37	17:37:06	18:11:35	18:28:33	18:45:24	9:58:37	-13.843	-16.283	57		
02/04/2021	Th	5:28:17	5:45:05	6:02:01	6:36:25	7:06:48														

HVO -103.2975, 44.108, Time Zone = MST/MDT

Begin																		9 PM	
Astro- nomaical		Begin 15- deg.	Begin Nautical	Begin Civil						End Civil		End Nautical	End 15- deg.	End Astro- nomaical	Length of Day	Equinox Time	Noon declination	sun declination	Lunar Illum.
Date	DoW	Twilight	Twilight	Twilight	Twilight	Sunrise	Sun East	Local Noon	Sun West	Sunset	Twilight	Twilight	Twilight	Twilight	Day	(min.)	(deg.)	(deg.)	(pct.)
03/08/2021	M	4:41:26	4:58:23	5:15:11	5:48:36	6:17:21		12:03:50		17:51:03	18:19:51	18:53:21	19:10:12	19:27:12	11:33:41	-10.631	-4.577		19
03/09/2021	Tu	4:39:37	4:56:35	5:13:25	5:46:51	6:15:35		12:03:35		17:52:19	18:21:07	18:54:38	19:11:30	19:28:31	11:36:44	-10.380	-4.185		11
03/10/2021	W	4:37:47	4:54:46	5:11:37	5:45:05	6:13:48		12:03:20		17:53:35	18:22:22	18:55:55	19:12:48	19:29:52	11:39:47	-10.123	-3.793		5
03/11/2021	Th	4:35:55	4:52:57	5:09:49	5:43:18	6:12:01		12:03:04		17:54:51	18:23:38	18:57:11	19:14:07	19:31:12	11:42:50	-9.862	-3.400		2
03/12/2021	F	4:34:03	4:51:07	5:08:01	5:41:31	6:10:13		12:02:48		17:56:07	18:24:54	18:58:29	19:15:26	19:32:33	11:45:54	-9.595	-3.006		0
03/13/2021	Sat	4:32:10	4:49:16	5:06:11	5:39:43	6:08:25		12:02:32		17:57:23	18:26:09	18:59:46	19:16:44	19:33:55	11:48:57	-9.324	-2.612		1
03/14/2021	Sun*	5:30:16	5:47:24	6:04:21	6:37:55	7:06:37		13:02:15		18:58:38	19:27:24	20:01:03	20:18:04	20:35:16	11:52:01	-9.048	-2.217		3
03/15/2021	M*	5:28:21	5:45:32	6:02:31	6:36:06	7:04:49		13:01:58		18:59:53	19:28:40	20:02:21	20:19:23	20:36:38	11:55:05	-8.768	-1.822		7
03/16/2021	Tu*	5:26:25	5:43:38	6:00:39	6:34:17	7:03:00		13:01:41		19:01:08	19:29:55	20:03:38	20:20:43	20:38:01	11:58:09	-8.485	-1.427		13
03/17/2021	W*	5:24:28	5:41:45	5:58:48	6:32:27	7:01:11		13:01:24		19:02:23	19:31:11	20:04:56	20:22:03	20:39:24	12:01:12	-8.198	-1.031		19
03/18/2021	Th*	5:22:30	5:39:50	5:56:55	6:30:38	6:59:22		13:01:07		19:03:38	19:32:26	20:06:14	20:23:23	20:40:47	12:04:16	-7.908	-0.636		27
03/19/2021	F*	5:20:32	5:37:55	5:55:02	6:28:47	6:57:32		13:00:49		19:04:52	19:33:41	20:07:33	20:24:44	20:42:11	12:07:20	-7.615	-0.241		36
03/20/2021	Sat*	5:18:33	5:35:59	5:53:09	6:26:57	6:55:43	7:02:10	13:00:31	18:57:29	19:06:07	19:34:56	20:08:51	20:26:05	20:43:35	12:10:24	-7.319	0.155		45
03/21/2021	Sun*	5:16:33	5:34:02	5:51:15	6:25:06	6:53:53	7:03:30	13:00:13	18:55:33	19:07:21	19:36:12	20:10:10	20:27:26	20:45:00	12:13:28	-7.022	0.550		55
03/22/2021	M*	5:14:32	5:32:05	5:49:20	6:23:15	6:52:03	7:04:49	12:59:55	18:53:38	19:08:35	19:37:27	20:11:29	20:28:48	20:46:25	12:16:31	-6.722	0.944		65
03/23/2021	Tu*	5:12:31	5:30:07	5:47:26	6:21:24	6:50:14	7:06:09	12:59:37	18:51:42	19:09:48	19:38:42	20:12:48	20:30:10	20:47:51	12:19:35	-6.421	1.338		74
03/24/2021	W*	5:10:29	5:28:09	5:45:30	6:19:33	6:48:24	7:07:28	12:59:19	18:49:47	19:11:02	19:39:58	20:14:07	20:31:32	20:49:18	12:22:38	-6.119	1.732		83
03/25/2021	Th*	5:08:27	5:26:11	5:43:35	6:17:41	6:46:34	7:08:47	12:59:01	18:47:51	19:12:15	19:41:13	20:15:27	20:32:55	20:50:44	12:25:41	-5.816	2.124		90
03/26/2021	F*	5:06:23	5:24:12	5:41:39	6:15:50	6:44:45	7:10:06	12:58:43	18:45:56	19:13:29	19:42:28	20:16:46	20:34:18	20:52:12	12:28:44	-5.513	2.516		96
03/27/2021	Sat*	5:04:20	5:22:12	5:39:43	6:13:58	6:42:55	7:11:25	12:58:25	18:44:01	19:14:42	19:43:44	20:18:07	20:35:42	20:53:40	12:31:47	-5.210	2.907		99
03/28/2021	Sun*	5:02:15	5:20:12	5:37:46	6:12:07	6:41:06	7:12:44	12:58:07	18:42:06	19:15:55	19:44:59	20:19:27	20:37:06	20:55:08	12:34:50	-4.907	3.297		100
03/29/2021	M*	5:00:10	5:18:12	5:35:50	6:10:15	6:39:16	7:14:03	12:57:48	18:40:12	19:17:09	19:46:15	20:20:48	20:38:30	20:56:38	12:37:52	-4.604	3.686		97
03/30/2021	Tu*	4:58:05	5:16:11	5:33:53	6:08:23	6:37:27	7:15:22	12:57:30	18:38:17	19:18:22	19:47:31	20:22:09	20:39:55	20:58:08	12:40:55	-4.303	4.074		92
03/31/2021	W*	4:55:59	5:14:10	5:31:56	6:06:32	6:35:38	7:16:40	12:57:12	18:36:23	19:19:35	19:48:47	20:23:30	20:41:21	20:59:38	12:43:56	-4.004	4.461		84
04/01/2021	Th*	4:53:53	5:12:09	5:29:59	6:04:40	6:33:50	7:17:59	12:56:55	18:34:30	19:20:48	19:50:03	20:24:52	20:42:47	21:01:09	12:46:58	-3.706	4.846		75
04/02/2021	F*	4:51:46	5:10:08	5:28:02	6:02:49	6:32:01	7:19:17	12:56:37	18:32:36	19:22:01	19:51:19	20:26:14	20:44:13	21:02:41	12:49:59	-3.411	5.230		64
04/03/2021	Sat*	4:49:39	5:08:06	5:26:04	6:00:58	6:30:13	7:20:36	12:56:19	18:30:43	19:23:14	19:52:35	20:27:37	20:45:40	21:04:14	12:53:01	-3.119	5.613		53
04/04/2021	Easter*	4:47:32	5:06:04	5:24:07	5:59:07	6:28:26	7:21:54	12:56:02	18:28:51	19:24:27	19:53:52	20:29:00	20:47:08	21:05:47	12:56:01	-2.829	5.994		42
04/05/2021	M*	4:45:24	5:04:02	5:22:10	5:57:16	6:26:38	7:23:13	12:55:45	18:26:59	19:25:40	19:55:08	20:30:23	20:48:36	21:07:21	12:59:02	-2.543	6.373		32
04/06/2021	Tu*	4:43:16	5:02:00	5:20:12	5:55:25	6:24:51	7:24:31	12:55:28	18:25:07	19:26:53	19:56:25	20:31:47	20:50:05	21:08:56	13:02:01	-2.260	6.750		23
04/07/2021	W*	4:41:07	4:59:58	5:18:15	5:53:35	6:23:05	7:25:50	12:55:11	18:23:16	19:28:06	19:57:42	20:33:11	20:51:34	21:10:32	13:05:01	-1.981	7.125		15
04/08/2021	Th*	4:38:59	4:57:56	5:16:18	5:51:45	6:21:19	7:27:08	12:54:55	18:21:26	19:29:19	19:58:59	20:34:36	20:53:04	21:12:08	13:08:00	-1.707	7.499		9
04/09/2021	F*	4:36:50	4:55:54	5:14:21	5:49:55	6:19:34	7:28:27	12:54:38	18:19:36	19:30:32	20:00:17	20:36:01	20:54:34	21:13:45	13:10:59	-1.436	7.870		4
04/10/2021	Sat*	4:34:41	4:53:51	5:12:24	5:48:06	6:17:49	7:29:45	12:54:22	18:17:46	19:31:45	20:01:34	20:37:26	20:56:05	21:15:23	13:13:57	-1.170	8.239		1
04/11/2021	Sun*	4:32:31	4:51:49	5:10:27	5:46:17	6:16:04	7:31:03	12:54:07	18:15:58	19:32:58	20:02:52	20:38:52	20:57:36	21:17:02	13:16:54	-0.909	8.606		0
04/12/2021	M*	4:30:22	4:49:47	5:08:30	5:44:29	6:14:20	7:32:22	12:53:51	18:14:10	19:34:11	20:04:09	20:40:18	20:59:08	21:18:41	13:19:51	-0.653	8.971		1
04/13/2021	Tu*	4:28:12	4:47:45	5:06:34	5:42:41	6:12:37	7:33:40	12:53:36	18:12:22	19:35:24	20:05:27	20:41:44	21:00:41	21:20:21	13:22:47	-0.403	9.333		4
04/14/2021	W*	4:26:02	4:45:43	5:04:38	5:40:54	6:10:55	7:34:58	12:53:22	18:10:36	19:36:38	20:06:45	20:43:11	21:02:14	21:22:02	13:25:43	-0.157	9.692		8
04/15/2021	Th*	4:23:53	4:43:41	5:02:42	5:39:07	6:09:13	7:36:16	12:53:07	18:08:50	19:37:51	20:08:04	20:44:39	21:03:47	21:23:44	13:28:38	0.082	10.049		14
04/16/2021	F*	4:21:43	4:41:39	5:00:47	5:37:20	6:07:32	7:37:34	12:52:53	18:07:05	19:39:04	20:09:22	20:46:06	21:05:21	21:25:26	13:31:32	0.316	10.403		21
04/17/2021	Sat*	4:19:33	4:39:37	4:58:52	5:35:35	6:05:51	7:38:52	12:52:40	18:05:21	19:40:17	20:10:40	20:47:34	21:06:56	21:27:09	13:34:25	0.543	10.754		29
04/18/2021	Sun*	4:17:23	4:37:36	4:56:57	5:33:50	6:04:12	7:40:10	12:52:26	18:03:37	19:41:30	20:11:59	20:49:02	21:08:31	21:28:53	13:37:18	0.765	11.102		39
04/19/2021	M*	4:15:13	4:35:35	4:55:03	5:32:05	6:02:33	7:41:28	12:52:13	18:01:55	19:42:43	20:13:18	20:50:31	21:10:06	21:30:38	13:40:10	0.979	11.447		48
04/20/2021	Tu*	4:13:04	4:33:35	4:53:10	5:30:21	6:00:55	7:42:46	12:52:01	18:00:13	19:43:55	20:14:36	20:52:00	21:11:42	21:32:23	13:43:00	1.187	11.789		59
04/21/2021	W*	4:10:54	4:31:34	4:51:16	5:28:39	5:59:18	7:44:04	12:51:49	17:58:33	19:45:08	20:15:55	20:53:29	21:13:19	21:34:09	13:45:50	1.388	12.128		69
04/22/2021	Th*	4:08:45	4:29:34	4:49:24	5:26:56	5:57:42	7:45:21	12:51:37	17:56:53	19:46:21	20:17:14	20:54:58	21:14:56	21:35:56	13:48:39	1.582	12.463		78
04/23/2021	F*	4:06:35	4:27:35	4:47:32	5:25:15	5:56:07	7:46:39	12:51:26	17:55:15	19:47:34	20:18:33	20:56:28	21:16:33	21:37:43	13:51:27	1.769	12.795		87
04/24/2021	Sat*	4:04:26	4:25:36	4:45:41	5:23:35	5:54:32	7:47:56	12:51:15	17:53:37	19:48:46	20:19:52	20:57:58	21:18:11	21:39:31	13:54:14	1.948	13.123		94
04/25/2021	Sun*	4:02:18	4:23:38	4:43:50	5:21:55	5:52:59	7:49:13	12:51:05	17:52:01	19:49:59	20:21:12	20:59:28	21:19:49	21:41:20	13:56:59	2.119	13.447		98
04/26/2021	M*	4:00:09	4:21:40	4:42:00	5:20:16	5:51:27	7:50:30	12:50:55	17:50:26	19:51:11	20:22:30	21:00:58	21:21:27	21:43:09	13:59:44	2.282	13.768		100
04/27/2021	Tu*	3:58:01	4:19:43	4:40:11	5:18:39	5:49:56	7:51:47	12:50:46	17:48:52	19:52:23	20:23:48	21:02:29	21:23:06	21:44:49	14:02:27	2.437	14.085		99
04/28/2021	W*	3:55:54	4:17:46	4:38:23	5:17:02	5:48:26	7:53:04	12:50:37	17:47:19	19:53:36	20:25:07	21:03:59	21:24:45	21:46:59	14:05:09	2.583	14.399		94
04/29/2021	Th*	3:53:46	4:15:50	4:36:36	5:15:27	5:46:57	7:54:20	12:50:29	17:45:4										

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Begin				Sunrise	Sun East	Local Noon	Sun West	Sunset	End				Length of Day	9 PM		
		Astro-nomical	Begin 15-deg.	Begin Nautical	Begin Civil						End Civil	End Nautical	End 15-deg.	End Astro-nomical		Eqn Time (min.)	Noon sun decli-nation (deg.)	Lunar Illum. (pct.)
05/30/2021	Sun*	2:57:10	3:27:00	3:53:00	4:38:38	5:13:53	8:29:28	12:50:49	17:12:12	20:28:13	21:03:34	21:49:23	22:15:33	22:45:40	15:14:20	2.387	21.884	72
05/31/2021	M*	2:55:52	3:25:59	3:52:09	4:37:58	5:13:19	8:30:20	12:50:58	17:11:39	20:29:03	21:04:30	21:50:30	22:16:50	22:47:13	15:15:44	2.241	22.024	62
06/01/2021	Tu*	2:54:38	3:25:01	3:51:20	4:37:20	5:12:47	8:31:10	12:51:07	17:11:09	20:29:52	21:05:25	21:51:36	22:18:05	22:48:44	15:17:05	2.087	22.158	52
06/02/2021	W*	2:53:26	3:24:05	3:50:34	4:36:45	5:12:18	8:31:59	12:51:17	17:10:40	20:30:40	21:06:18	21:52:39	22:19:17	22:50:12	15:18:22	1.927	22.285	42
06/03/2021	Th*	2:52:19	3:23:13	3:49:51	4:36:13	5:11:50	8:32:47	12:51:27	17:10:15	20:31:26	21:07:09	21:53:41	22:20:27	22:51:37	15:19:35	1.760	22.406	32
06/04/2021	F*	2:51:15	3:22:24	3:49:11	4:35:42	5:11:25	8:33:32	12:51:37	17:09:51	20:32:10	21:07:58	21:54:40	22:21:35	22:52:59	15:20:45	1.587	22.521	24
06/05/2021	Sat*	2:50:14	3:21:38	3:48:33	4:35:15	5:11:03	8:34:16	12:51:48	17:09:30	20:32:53	21:08:46	21:55:37	22:22:40	22:54:18	15:21:51	1.408	22.629	16
06/06/2021	Sun*	2:49:17	3:20:56	3:47:59	4:34:49	5:10:42	8:34:59	12:51:59	17:09:11	20:33:35	21:09:32	21:56:31	22:23:42	22:55:34	15:22:52	1.224	22.730	10
06/07/2021	M*	2:48:25	3:20:17	3:47:27	4:34:27	5:10:24	8:35:39	12:52:10	17:08:55	20:34:14	21:10:16	21:57:24	22:24:41	22:56:46	15:23:50	1.035	22.825	5
06/08/2021	Tu*	2:47:36	3:19:41	3:46:59	4:34:07	5:10:08	8:36:18	12:52:22	17:08:41	20:34:52	21:10:58	21:58:13	22:25:38	22:57:55	15:24:44	0.841	22.913	2
06/09/2021	W*	2:46:52	3:19:09	3:46:33	4:33:49	5:09:54	8:36:54	12:52:34	17:08:29	20:35:29	21:11:38	21:59:00	22:26:31	22:59:00	15:25:34	0.643	22.994	0
06/10/2021	Th*	2:46:12	3:18:40	3:46:11	4:33:34	5:09:43	8:37:29	12:52:46	17:08:20	20:36:03	21:12:15	21:59:45	22:27:22	23:00:01	15:26:20	0.441	23.068	0
06/11/2021	F*	2:45:36	3:18:15	3:45:52	4:33:21	5:09:33	8:38:02	12:52:58	17:08:13	20:36:36	21:12:51	22:00:26	22:28:09	23:00:58	15:27:02	0.236	23.136	3
06/12/2021	Sat*	2:45:04	3:17:54	3:45:36	4:33:11	5:09:26	8:38:33	12:53:11	17:08:08	20:37:06	21:13:24	22:01:05	22:28:52	23:01:50	15:27:40	0.027	23.197	7
06/13/2021	Sun*	2:44:38	3:17:36	3:45:23	4:33:04	5:09:22	8:39:01	12:53:23	17:08:06	20:37:35	21:13:55	22:01:41	22:29:33	23:02:39	15:28:13	-0.184	23.251	13
06/14/2021	M*	2:44:16	3:17:22	3:45:13	4:32:59	5:09:19	8:39:28	12:53:36	17:08:06	20:38:02	21:14:24	22:02:14	22:30:09	23:03:23	15:28:42	-0.397	23.298	20
06/15/2021	Tu*	2:43:58	3:17:11	3:45:06	4:32:56	5:09:19	8:39:52	12:53:49	17:08:08	20:38:26	21:14:51	22:02:44	22:30:43	23:04:02	15:29:08	-0.612	23.339	29
06/16/2021	W*	2:43:46	3:17:05	3:45:03	4:32:56	5:09:21	8:40:14	12:54:02	17:08:13	20:38:49	21:15:15	22:03:11	22:31:12	23:04:36	15:29:28	-0.828	23.372	39
06/17/2021	Th*	2:43:38	3:17:02	3:45:03	4:32:59	5:09:25	8:40:34	12:54:15	17:08:20	20:39:10	21:15:37	22:03:35	22:31:38	23:05:06	15:29:45	-1.045	23.399	50
06/18/2021	F*	2:43:35	3:17:03	3:45:06	4:33:04	5:09:31	8:40:52	12:54:28	17:08:29	20:39:28	21:15:56	22:03:56	22:32:01	23:05:31	15:29:57	-1.262	23.418	61
06/19/2021	Sat*	2:43:37	3:17:07	3:45:12	4:33:12	5:09:40	8:41:07	12:54:41	17:08:41	20:39:44	21:16:13	22:04:14	22:32:19	23:05:51	15:30:05	-1.480	23.431	72
06/20/2021	Sun*	2:43:43	3:17:15	3:45:21	4:33:22	5:09:50	8:41:20	12:54:54	17:08:54	20:39:59	21:16:27	22:04:28	22:32:34	23:06:06	15:30:09	-1.697	23.437	82
06/21/2021	M*	2:43:55	3:17:27	3:45:33	4:33:34	5:10:03	8:41:31	12:55:07	17:09:10	20:40:11	21:16:39	22:04:40	22:32:45	23:06:16	15:30:08	-1.913	23.436	90
06/22/2021	Tu*	2:44:12	3:17:43	3:45:48	4:33:49	5:10:17	8:41:39	12:55:20	17:09:28	20:40:20	21:16:48	22:04:48	22:32:52	23:06:22	15:30:03	-2.128	23.428	96
06/23/2021	W*	2:44:33	3:18:03	3:46:07	4:34:07	5:10:34	8:41:45	12:55:33	17:09:49	20:40:28	21:16:55	22:04:52	22:32:55	23:06:22	15:29:54	-2.342	23.413	99
06/24/2021	Th*	2:44:59	3:18:26	3:46:28	4:34:26	5:10:53	8:41:49	12:55:46	17:10:11	20:40:33	21:16:59	22:04:54	22:32:54	23:06:17	15:29:40	-2.555	23.392	100
06/25/2021	F*	2:45:30	3:18:52	3:46:53	4:34:48	5:11:14	8:41:50	12:55:58	17:10:35	20:40:36	21:17:00	22:04:53	22:32:50	23:06:08	15:29:22	-2.765	23.363	97
06/26/2021	Sat*	2:46:05	3:19:23	3:47:20	4:35:13	5:11:37	8:41:49	12:56:11	17:11:02	20:40:37	21:16:59	22:04:48	22:32:42	23:05:53	15:29:00	-2.973	23.328	92
06/27/2021	Sun*	2:46:45	3:19:56	3:47:50	4:35:39	5:12:01	8:41:46	12:56:23	17:11:30	20:40:36	21:16:55	22:04:40	22:32:30	23:05:34	15:28:34	-3.178	23.286	85
06/28/2021	M*	2:47:29	3:20:33	3:48:24	4:36:08	5:12:28	8:41:40	12:56:35	17:12:01	20:40:32	21:16:49	22:04:29	22:32:14	23:05:10	15:28:04	-3.381	23.237	77
06/29/2021	Tu*	2:48:18	3:21:14	3:49:00	4:36:39	5:12:57	8:41:32	12:56:47	17:12:33	20:40:26	21:16:40	22:04:14	22:31:55	23:04:42	15:27:29	-3.580	23.181	67
06/30/2021	W*	2:49:11	3:21:58	3:49:39	4:37:12	5:13:27	8:41:20	12:56:59	17:13:07	20:40:17	21:16:28	22:03:56	22:31:31	23:04:08	15:26:51	-3.776	23.118	58
07/01/2021	Th*	2:50:07	3:22:44	3:50:19	4:37:47	5:13:58	8:41:07	12:57:09	17:13:43	20:40:06	21:16:14	22:03:35	22:31:04	23:03:30	15:26:08	-3.968	23.049	48
07/02/2021	F*	2:51:08	3:23:34	3:51:03	4:38:24	5:14:32	8:40:52	12:57:21	17:14:21	20:39:53	21:15:58	22:03:11	22:30:34	23:02:48	15:25:21	-4.156	22.973	38
07/03/2021	Sat*	2:52:13	3:24:27	3:51:50	4:39:04	5:15:08	8:40:34	12:57:32	17:15:01	20:39:38	21:15:39	22:02:44	22:30:00	23:02:02	15:24:30	-4.339	22.891	29
07/04/2021	Sun*	2:53:22	3:25:23	3:52:39	4:39:45	5:15:46	8:40:14	12:57:42	17:15:43	20:39:21	21:15:17	22:02:14	22:29:23	23:01:12	15:23:35	-4.517	22.801	21
07/05/2021	M*	2:54:34	3:26:22	3:53:31	4:40:28	5:16:25	8:39:51	12:57:53	17:16:26	20:39:01	21:14:53	22:01:41	22:28:42	23:00:17	15:22:36	-4.690	22.705	14
07/06/2021	Tu*	2:55:49	3:27:24	3:54:25	4:41:14	5:17:06	8:39:27	12:58:03	17:17:11	20:38:39	21:14:26	22:01:06	22:27:58	22:59:19	15:21:34	-4.857	22.603	8
07/07/2021	W*	2:57:08	3:28:28	3:55:21	4:42:01	5:17:48	8:38:59	12:58:12	17:17:58	20:38:15	21:13:57	22:00:27	22:27:11	22:58:17	15:20:27	-5.018	22.494	4
07/08/2021	Th*	2:58:29	3:29:35	3:56:20	4:42:49	5:18:32	8:38:30	12:58:22	17:18:46	20:37:49	21:13:26	21:59:45	22:26:20	22:57:11	15:19:17	-5.173	22.379	1
07/09/2021	F*	2:59:54	3:30:45	3:57:20	4:43:40	5:19:17	8:37:58	12:58:31	17:19:35	20:37:20	21:12:52	21:59:00	22:25:27	22:56:02	15:18:03	-5.320	22.257	0
07/10/2021	Sat*	3:01:21	3:31:56	3:58:23	4:44:32	5:20:04	8:37:23	12:58:39	17:20:26	20:36:49	21:12:15	21:58:13	22:24:30	22:54:50	15:16:46	-5.461	22.128	1
07/11/2021	Sun*	3:02:51	3:33:10	3:59:28	4:45:26	5:20:52	8:36:47	12:58:47	17:21:19	20:36:16	21:11:36	21:57:23	22:23:30	22:53:34	15:15:25	-5.595	21.994	5
07/12/2021	M*	3:04:23	3:34:26	4:00:34	4:46:21	5:21:41	8:36:08	12:58:55	17:22:13	20:35:41	21:10:55	21:56:30	22:22:28	22:52:15	15:14:00	-5.720	21.853	10
07/13/2021	Tu*	3:05:57	3:35:44	4:01:42	4:47:17	5:22:31	8:35:27	12:59:02	17:23:08	20:35:03	21:10:11	21:55:34	22:21:22	22:50:52	15:12:32	-5.838	21.705	17
07/14/2021	W*	3:07:33	3:37:04	4:02:52	4:48:15	5:23:23	8:34:43	12:59:08	17:24:04	20:34:24	21:09:25	21:54:36	22:20:14	22:49:27	15:11:01	-5.947	21.552	26
07/15/2021	Th*	3:09:12	3:38:26	4:04:03	4:49:15	5:24:16	8:33:58	12:59:14	17:25:01	20:33:42	21:08:37	21:53:35	22:19:03	22:48:00	15:09:26	-6.047	21.393	36
07/16/2021	F*	3:10:52	3:39:49	4:05:16	4:50:15	5:25:10	8:33:10	12:59:20	17:25:59	20:32:58	21:07:46	21:52:32	22:17:49	22:46:29	15:07:48	-6.139	21.227	47
07																		

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Begin													Length of Day	Noon Eqn Time (min.)	Noon sun declination (deg.)	9 PM Lunar Illum. (pct.)
		Astro-nomical Twilight	Begin 15-deg. Twilight	Begin Nautical Twilight	Begin Civil Twilight	Sunrise	Sun East	Local Noon	Sun West	Sunset	End Civil Twilight	Nautical Twilight	End 15-deg. Twilight	End Astro-nomical Twilight				
08/21/2021	Sat*	4:15:32	4:36:14	4:55:58	5:33:23	6:04:05	7:44:49	12:56:12	18:07:42	19:47:31	20:18:06	20:55:19	21:14:56	21:35:28	13:43:26	-3.010	11.845	100
08/22/2021	Sun*	4:17:13	4:37:46	4:57:23	5:34:37	6:05:14	7:43:04	12:55:57	18:08:56	19:45:51	20:16:21	20:53:24	21:12:54	21:33:17	13:40:37	-2.753	11.508	99
08/23/2021	M*	4:18:53	4:39:17	4:58:47	5:35:52	6:06:23	7:41:18	12:55:41	18:10:10	19:44:11	20:14:34	20:51:29	21:10:51	21:31:06	13:37:48	-2.488	11.169	97
08/24/2021	Tu*	4:20:32	4:40:47	5:00:10	5:37:06	6:07:31	7:39:32	12:55:24	18:11:23	19:42:29	20:12:48	20:49:32	21:08:48	21:28:55	13:34:58	-2.216	10.826	92
08/25/2021	W*	4:22:11	4:42:17	5:01:34	5:38:20	6:08:40	7:37:44	12:55:08	18:12:37	19:40:47	20:11:00	20:47:36	21:06:45	21:26:43	13:32:07	-1.938	10.481	86
08/26/2021	Th*	4:23:48	4:43:47	5:02:57	5:39:34	6:09:49	7:35:56	12:54:51	18:13:51	19:39:04	20:09:12	20:45:39	21:04:42	21:24:32	13:29:16	-1.653	10.132	79
08/27/2021	F*	4:25:25	4:45:16	5:04:20	5:40:48	6:10:57	7:34:07	12:54:33	18:15:04	19:37:21	20:07:24	20:43:41	21:02:38	21:22:21	13:26:23	-1.362	9.782	70
08/28/2021	Sat*	4:27:01	4:46:44	5:05:42	5:42:01	6:12:06	7:32:17	12:54:15	18:16:18	19:35:36	20:05:35	20:41:44	21:00:35	21:20:09	13:23:31	-1.065	9.428	61
08/29/2021	Sun*	4:28:37	4:48:12	5:07:04	5:43:15	6:13:14	7:30:27	12:53:57	18:17:32	19:33:52	20:03:45	20:39:46	20:58:31	21:17:58	13:20:37	-0.763	9.072	52
08/30/2021	M*	4:30:12	4:49:39	5:08:25	5:44:28	6:14:23	7:28:36	12:53:39	18:18:46	19:32:06	20:01:55	20:37:48	20:56:27	21:15:47	13:17:43	-0.455	8.713	42
08/31/2021	Tu*	4:31:46	4:51:06	5:09:47	5:45:41	6:15:32	7:26:44	12:53:20	18:20:00	19:30:20	20:00:04	20:35:49	20:54:23	21:13:36	13:14:48	-0.142	8.353	33
09/01/2021	W*	4:33:19	4:52:32	5:11:07	5:46:54	6:16:40	7:24:52	12:53:01	18:21:13	19:28:33	19:58:13	20:33:51	20:52:19	21:11:25	13:11:53	0.175	7.990	24
09/02/2021	Th*	4:34:51	4:53:58	5:12:28	5:48:07	6:17:49	7:23:00	12:52:42	18:22:27	19:26:46	19:56:22	20:31:52	20:50:15	21:09:15	13:08:57	0.497	7.624	16
09/03/2021	F*	4:36:23	4:55:23	5:13:48	5:49:19	6:18:57	7:21:06	12:52:22	18:23:41	19:24:58	19:54:30	20:29:53	20:48:12	21:07:05	13:06:01	0.824	7.257	10
09/04/2021	Sat*	4:37:54	4:56:48	5:15:07	5:50:32	6:20:06	7:19:13	12:52:02	18:24:55	19:23:10	19:52:38	20:27:54	20:46:08	21:04:55	13:03:04	1.154	6.888	4
09/05/2021	Sun*	4:39:25	4:58:12	5:16:27	5:51:44	6:21:15	7:17:19	12:51:42	18:26:09	19:21:22	19:50:46	20:25:55	20:44:04	21:02:45	13:00:07	1.488	6.516	1
09/06/2021	M*	4:40:54	4:59:36	5:17:46	5:52:56	6:22:23	7:15:24	12:51:22	18:27:23	19:19:33	19:48:54	20:23:56	20:42:00	21:00:35	12:57:09	1.825	6.143	0
09/07/2021	Tu*	4:42:23	5:00:59	5:19:04	5:54:09	6:23:32	7:13:29	12:51:01	18:28:37	19:17:43	19:47:01	20:21:57	20:39:57	20:58:26	12:54:11	2.166	5.769	2
09/08/2021	W*	4:43:51	5:02:22	5:20:22	5:55:20	6:24:40	7:11:34	12:50:41	18:29:51	19:15:54	19:45:08	20:19:58	20:37:53	20:56:17	12:51:13	2.510	5.392	6
09/09/2021	Th*	4:45:19	5:03:44	5:21:40	5:56:32	6:25:49	7:09:38	12:50:20	18:31:05	19:14:03	19:43:15	20:17:59	20:35:50	20:54:09	12:48:15	2.856	5.015	12
09/10/2021	F*	4:46:46	5:05:05	5:22:58	5:57:44	6:26:58	7:07:42	12:49:59	18:32:19	19:12:13	19:41:22	20:16:00	20:33:47	20:52:01	12:45:16	3.205	4.635	21
09/11/2021	Sat*	4:48:12	5:06:26	5:24:15	5:58:55	6:28:06	7:05:46	12:49:38	18:33:33	19:10:22	19:39:28	20:14:01	20:31:44	20:49:53	12:42:16	3.557	4.255	31
09/12/2021	Sun*	4:49:37	5:07:47	5:25:31	6:00:06	6:29:15	7:03:49	12:49:17	18:34:48	19:08:32	19:37:35	20:12:02	20:29:42	20:47:46	12:39:17	3.910	3.873	42
09/13/2021	M*	4:51:02	5:09:07	5:26:48	6:01:18	6:30:23	7:01:53	12:48:56	18:36:02	19:06:40	19:35:41	20:10:04	20:27:40	20:45:39	12:36:17	4.265	3.490	53
09/14/2021	Tu*	4:52:26	5:10:26	5:28:03	6:02:29	6:31:32	6:59:56	12:48:34	18:37:16	19:04:49	19:33:48	20:08:06	20:25:38	20:43:33	12:33:17	4.621	3.106	64
09/15/2021	W*	4:53:50	5:11:45	5:29:19	6:03:39	6:32:41	6:57:59	12:48:13	18:38:31	19:02:58	19:31:54	20:06:07	20:23:37	20:41:27	12:30:17	4.979	2.721	75
09/16/2021	Th*	4:55:13	5:13:04	5:30:34	6:04:50	6:33:49	6:56:01	12:47:51	18:39:45	19:01:06	19:30:01	20:04:10	20:21:35	20:39:22	12:27:17	5.337	2.336	84
09/17/2021	F*	4:56:35	5:14:22	5:31:49	6:06:01	6:34:58	6:54:04	12:47:30	18:41:00	18:59:15	19:28:07	20:02:12	20:19:35	20:37:17	12:24:17	5.695	1.949	91
09/18/2021	Sat*	4:57:57	5:15:40	5:33:04	6:07:12	6:36:07	6:52:07	12:47:08	18:42:14	18:57:23	19:26:14	20:00:15	20:17:35	20:35:13	12:21:16	6.053	1.562	96
09/19/2021	Sun*	4:59:18	5:16:57	5:34:18	6:08:22	6:37:16	6:50:09	12:46:47	18:43:29	18:55:31	19:24:21	19:58:18	20:15:35	20:33:10	12:18:16	6.411	1.175	99
09/20/2021	M*	5:00:38	5:18:14	5:35:32	6:09:32	6:38:25	6:48:12	12:46:25	18:44:44	18:53:40	19:22:28	19:56:21	20:13:36	20:31:07	12:15:15	6.767	0.787	100
09/21/2021	Tu*	5:01:58	5:19:31	5:36:46	6:10:43	6:39:34	6:46:14	12:46:04	18:45:59	18:51:48	19:20:35	19:54:25	20:11:37	20:29:05	12:12:14	7.123	0.398	99
09/22/2021	W*	5:03:18	5:20:47	5:38:00	6:11:53	6:40:43	6:44:17	12:45:43	18:47:15	18:49:57	19:18:42	19:52:30	20:09:39	20:27:03	12:09:13	7.477	0.009	95
09/23/2021	Th*	5:04:37	5:22:03	5:39:13	6:13:04	6:41:53		12:45:22		18:48:05	19:16:50	19:50:34	20:07:41	20:25:03	12:06:12	7.828	-0.380	90
09/24/2021	F*	5:05:56	5:23:18	5:40:27	6:14:14	6:43:02		12:45:01		18:46:14	19:14:58	19:48:40	20:05:44	20:23:03	12:03:11	8.177	-0.769	84
09/25/2021	Sat*	5:07:14	5:24:34	5:41:40	6:15:24	6:44:12		12:44:40		18:44:23	19:13:06	19:46:46	20:03:48	20:21:04	12:00:11	8.524	-1.158	77
09/26/2021	Sun*	5:08:32	5:25:49	5:42:53	6:16:35	6:45:22		12:44:19		18:42:32	19:11:15	19:44:52	20:01:52	20:19:05	11:57:10	8.867	-1.547	68
09/27/2021	M*	5:09:49	5:27:03	5:44:05	6:17:45	6:46:32		12:43:59		18:40:41	19:09:24	19:42:59	19:59:57	20:17:08	11:54:09	9.206	-1.936	59
09/28/2021	Tu*	5:11:06	5:28:18	5:45:18	6:18:56	6:47:43		12:43:39		18:38:51	19:07:34	19:41:06	19:58:03	20:15:11	11:51:08	9.542	-2.325	50
09/29/2021	W*	5:12:23	5:29:32	5:46:30	6:20:06	6:48:53		12:43:19		18:37:00	19:05:44	19:39:15	19:56:10	20:13:15	11:48:07	9.873	-2.714	40
09/30/2021	Th*	5:13:39	5:30:46	5:47:43	6:21:17	6:50:04		12:42:59		18:35:11	19:03:54	19:37:24	19:54:17	20:11:20	11:45:07	10.199	-3.102	31
10/01/2021	F*	5:14:55	5:32:00	5:48:55	6:22:28	6:51:15		12:42:40		18:33:21	19:02:05	19:35:33	19:52:25	20:09:26	11:42:06	10.521	-3.489	22
10/02/2021	Sat*	5:16:11	5:33:14	5:50:07	6:23:39	6:52:27		12:42:21		18:31:32	19:00:16	19:33:43	19:50:34	20:07:33	11:39:05	10.837	-3.876	14
10/03/2021	Sun*	5:17:26	5:34:27	5:51:19	6:24:50	6:53:38		12:42:03		18:29:43	18:58:28	19:31:54	19:48:44	20:05:41	11:36:05	11.148	-4.262	7
10/04/2021	M*	5:18:41	5:35:40	5:52:31	6:26:01	6:54:50		12:41:44		18:27:55	18:56:41	19:30:06	19:46:54	20:03:50	11:33:05	11.453	-4.648	3
10/05/2021	Tu*	5:19:56	5:36:53	5:53:43	6:27:12	6:56:02		12:41:26		18:26:07	18:54:54	19:28:19	19:45:06	20:02:00	11:30:05	11.751	-5.032	0
10/06/2021	W*	5:21:11	5:38:06	5:54:55	6:28:24	6:57:15		12:41:09		18:24:20	18:53:08	19:26:32	19:43:19	20:00:11	11:27:05	12.044	-5.416	1
10/07/2021	Th*	5:22:25	5:39:19	5:56:07	6:29:35	6:58:27		12:40:52		18:22:33	18:51:23	19:24:47	19:41:32	19:58:23	11:24:06	12.329	-5.798	4
10/08/2021	F*	5:23:39	5:40:32	5:57:19	6:30:47	6:59:40		12:40:35		18:20:47	18:49:38	19:23:02	19:39:46	19:56:36	11:21:07	12.608	-6.179	10
10/09/2021	Sat*	5:24:53	5:41:44	5:58:31	6:31:59	7:00:54		12:40:19		18:19:02	18:47:54	19:21:18	19:38:02	19:54:51	11:18:08	12.879	-6.559	18
10/10/2021	Sun*	5:26:06	5:42:57	5:59:42	6:33:10	7:02:07		12:40:03		18:17:17	18:46:11	19:19:35	19:36:18	19:53:06	11:15:09	13.143	-6.937	28
10/11/2021	M*	5:27:20	5:44:09	6:00:54	6:34:23	7:03:21		12:39:48		18:15:32	18:44:28	19:17:53	19:34:36	19:51:23	11:12:11	13.399	-7.314	39
10/12/2021	Tu*	5:28:33	5:45:21	6:02:06	6:35:35	7:04:35		12:39:33		18:13:49	18:42:47	19:16:12	19:32:55	19:49:40	11:09:14	13.647	-7.689	50
10/13/2021	W*	5:29:45	5:46:33	6:03:17	6:36:47	7:05:50		12:39:18		18:12:06	18:41:06	19:14:32	19:31:14	19:47:59	11:06:16	13.887	-8.062	61
10/14/2021	Th*	5:30:58																

HVO -103.2975, 44.108, Time Zone = MST/MDT

Date	DoW	Begin				Sunrise	Sun East	Local Noon	Sun West	Sunset	End				Length of Day	Noon Eqn Time (min.)	Noon sun declination (deg.)	9 PM Lunar Illum. (pct.)
		Astro-nomical Twilight	Begin 15-deg.	Begin Nautical	Begin Civil						End Civil Twilight	Nautical Twilight	End 15-deg.	End Astro-nomical				
11/12/2021	F	5:05:05	5:22:02	5:39:07	6:13:58	6:44:56		11:37:23		16:29:22	17:00:19	17:35:08	17:52:13	18:09:09	9:44:26	15.803	-17.899	67
11/13/2021	Sat	5:06:13	5:23:11	5:40:18	6:15:13	6:46:15		11:37:32		16:28:20	16:59:22	17:34:16	17:51:22	18:08:19	9:42:05	15.662	-18.163	76
11/14/2021	Sun	5:07:21	5:24:19	5:41:28	6:16:27	6:47:34		11:37:41		16:27:20	16:58:27	17:33:25	17:50:33	18:07:30	9:39:46	15.506	-18.422	84
11/15/2021	M	5:08:28	5:25:28	5:42:38	6:17:41	6:48:53		11:37:51		16:26:22	16:57:34	17:32:36	17:49:45	18:06:44	9:37:29	15.337	-18.676	91
11/16/2021	Tu	5:09:35	5:26:35	5:43:47	6:18:54	6:50:11		11:38:02		16:25:27	16:56:43	17:31:49	17:49:00	18:06:00	9:35:15	15.154	-18.924	96
11/17/2021	W	5:10:41	5:27:43	5:44:56	6:20:07	6:51:29		11:38:14		16:24:33	16:55:55	17:31:05	17:48:17	18:05:18	9:33:03	14.958	-19.166	99
11/18/2021	Th	5:11:47	5:28:50	5:46:04	6:21:19	6:52:47		11:38:27		16:23:41	16:55:08	17:30:22	17:47:36	18:04:38	9:30:54	14.747	-19.403	100
11/19/2021	F	5:12:52	5:29:57	5:47:12	6:22:32	6:54:04		11:38:40		16:22:52	16:54:23	17:29:42	17:46:57	18:04:01	9:28:48	14.523	-19.634	99
11/20/2021	Sat	5:13:57	5:31:03	5:48:20	6:23:43	6:55:20		11:38:54		16:22:04	16:53:41	17:29:03	17:46:20	18:03:25	9:26:44	14.285	-19.859	97
11/21/2021	Sun	5:15:02	5:32:08	5:49:27	6:24:54	6:56:36		11:39:10		16:21:19	16:53:01	17:28:27	17:45:45	18:02:51	9:24:43	14.034	-20.078	93
11/22/2021	M	5:16:06	5:33:13	5:50:34	6:26:05	6:57:51		11:39:25		16:20:36	16:52:23	17:27:53	17:45:13	18:02:20	9:22:45	13.769	-20.291	88
11/23/2021	Tu	5:17:09	5:34:18	5:51:40	6:27:15	6:59:06		11:39:42		16:19:56	16:51:47	17:27:21	17:44:42	18:01:51	9:20:50	13.491	-20.498	81
11/24/2021	W	5:18:12	5:35:22	5:52:45	6:28:24	7:00:20		11:40:00		16:19:18	16:51:13	17:26:52	17:44:14	18:01:24	9:18:58	13.200	-20.698	73
11/25/2021	Th	5:19:14	5:36:25	5:53:50	6:29:32	7:01:33		11:40:18		16:18:42	16:50:42	17:26:24	17:43:48	18:00:59	9:17:09	12.896	-20.892	64
11/26/2021	F	5:20:15	5:37:28	5:54:54	6:30:40	7:02:45		11:40:37		16:18:08	16:50:13	17:25:59	17:43:24	18:00:36	9:15:23	12.580	-21.080	54
11/27/2021	Sat	5:21:16	5:38:30	5:55:57	6:31:47	7:03:56		11:40:57		16:17:37	16:49:46	17:25:36	17:43:03	18:00:16	9:13:41	12.250	-21.260	43
11/28/2021	Sun	5:22:16	5:39:31	5:56:59	6:32:53	7:05:07		11:41:17		16:17:08	16:49:22	17:25:15	17:42:43	17:59:58	9:12:02	11.909	-21.435	33
11/29/2021	M	5:23:15	5:40:31	5:58:01	6:33:58	7:06:16		11:41:38		16:16:42	16:49:00	17:24:57	17:42:26	17:59:41	9:10:26	11.556	-21.602	23
11/30/2021	Tu	5:24:14	5:41:30	5:59:02	6:35:02	7:07:24		11:42:00		16:16:19	16:48:41	17:24:40	17:42:11	17:59:28	9:08:54	11.192	-21.763	14
12/01/2021	W	5:25:11	5:42:29	6:00:01	6:36:05	7:08:31		11:42:23		16:15:57	16:48:23	17:24:27	17:41:59	17:59:16	9:07:26	10.816	-21.917	7
12/02/2021	Th	5:26:08	5:43:27	6:01:00	6:37:07	7:09:37		11:42:46		16:15:39	16:48:09	17:24:15	17:41:48	17:59:07	9:06:01	10.429	-22.063	2
12/03/2021	F	5:27:04	5:44:23	6:01:58	6:38:08	7:10:42		11:43:10		16:15:23	16:47:56	17:24:06	17:41:40	17:58:59	9:04:41	10.032	-22.203	0
12/04/2021	Sat	5:27:58	5:45:19	6:02:55	6:39:08	7:11:45		11:43:34		16:15:09	16:47:46	17:23:58	17:41:34	17:58:54	9:03:24	9.626	-22.336	1
12/05/2021	Sun	5:28:52	5:46:13	6:03:50	6:40:06	7:12:47		11:43:59		16:14:58	16:47:38	17:23:54	17:41:30	17:58:51	9:02:11	9.210	-22.461	5
12/06/2021	M	5:29:45	5:47:07	6:04:45	6:41:03	7:13:47		11:44:24		16:14:49	16:47:33	17:23:51	17:41:29	17:58:51	9:01:02	8.785	-22.579	12
12/07/2021	Tu	5:30:36	5:47:59	6:05:38	6:41:59	7:14:46		11:44:50		16:14:43	16:47:30	17:23:51	17:41:29	17:58:52	8:59:58	8.352	-22.689	20
12/08/2021	W	5:31:26	5:48:50	6:06:30	6:42:53	7:15:43		11:45:17		16:14:40	16:47:30	17:23:53	17:41:32	17:58:56	8:58:57	7.911	-22.793	30
12/09/2021	Th	5:32:15	5:49:40	6:07:20	6:43:46	7:16:38		11:45:44		16:14:39	16:47:32	17:23:57	17:41:37	17:59:02	8:58:01	7.463	-22.888	41
12/10/2021	F	5:33:03	5:50:28	6:08:09	6:44:37	7:17:32		11:46:11		16:14:41	16:47:36	17:24:03	17:41:44	17:59:09	8:57:09	7.008	-22.976	51
12/11/2021	Sat	5:33:49	5:51:15	6:08:57	6:45:26	7:18:24		11:46:39		16:14:45	16:47:42	17:24:12	17:41:54	17:59:19	8:56:22	6.548	-23.057	61
12/12/2021	Sun	5:34:34	5:52:00	6:09:43	6:46:14	7:19:14		11:47:07		16:14:52	16:47:51	17:24:22	17:42:05	17:59:31	8:55:39	6.081	-23.130	71
12/13/2021	M	5:35:18	5:52:44	6:10:28	6:47:00	7:20:02		11:47:35		16:15:02	16:48:03	17:24:35	17:42:19	17:59:45	8:55:00	5.609	-23.195	79
12/14/2021	Tu	5:36:00	5:53:27	6:11:11	6:47:45	7:20:48		11:48:04		16:15:14	16:48:16	17:24:50	17:42:34	18:00:01	8:54:26	5.133	-23.253	86
12/15/2021	W	5:36:40	5:54:08	6:11:52	6:48:27	7:21:32		11:48:32		16:15:28	16:48:32	17:25:07	17:42:52	18:00:19	8:53:56	4.652	-23.302	92
12/16/2021	Th	5:37:19	5:54:47	6:12:32	6:49:08	7:22:14		11:49:01		16:15:45	16:48:51	17:25:27	17:43:11	18:00:39	8:53:31	4.168	-23.344	96
12/17/2021	F	5:37:57	5:55:25	6:13:10	6:49:47	7:22:54		11:49:31		16:16:05	16:49:11	17:25:48	17:43:33	18:01:01	8:53:11	3.680	-23.379	99
12/18/2021	Sat	5:38:33	5:56:01	6:13:46	6:50:24	7:23:31		11:50:00		16:16:27	16:49:34	17:26:12	17:43:57	18:01:25	8:52:55	3.190	-23.405	100
12/19/2021	Sun	5:39:07	5:56:35	6:14:21	6:50:59	7:24:07		11:50:30		16:16:51	16:49:59	17:26:37	17:44:22	18:01:51	8:52:44	2.697	-23.424	99
12/20/2021	M	5:39:39	5:57:08	6:14:54	6:51:32	7:24:40		11:50:59		16:17:18	16:50:26	17:27:04	17:44:50	18:02:19	8:52:38	2.203	-23.434	96
12/21/2021	Tu	5:40:10	5:57:39	6:15:24	6:52:03	7:25:11		11:51:29		16:17:47	16:50:56	17:27:34	17:45:20	18:02:48	8:52:36	1.707	-23.437	92
12/22/2021	W	5:40:39	5:58:08	6:15:53	6:52:32	7:25:40		11:51:59		16:18:19	16:51:27	17:28:05	17:45:51	18:03:19	8:52:39	1.211	-23.433	86
12/23/2021	Th	5:41:07	5:58:35	6:16:21	6:52:59	7:26:06		11:52:29		16:18:53	16:52:01	17:28:39	17:46:24	18:03:53	8:52:47	0.715	-23.420	79
12/24/2021	F	5:41:32	5:59:01	6:16:46	6:53:23	7:26:30		11:52:58		16:19:29	16:52:36	17:29:14	17:46:59	18:04:27	8:52:59	0.219	-23.399	70
12/25/2021	Sat	5:41:56	5:59:24	6:17:09	6:53:46	7:26:52		11:53:28		16:20:08	16:53:14	17:29:51	17:47:36	18:05:04	8:53:16	-0.276	-23.371	60
12/26/2021	Sun	5:42:18	5:59:46	6:17:30	6:54:06	7:27:11		11:53:58		16:20:49	16:53:54	17:30:30	17:48:15	18:05:42	8:53:38	-0.770	-23.335	49
12/27/2021	M	5:42:38	6:00:05	6:17:49	6:54:24	7:27:28		11:54:27		16:21:32	16:54:36	17:31:11	17:48:55	18:06:22	8:54:04	-1.262	-23.291	39
12/28/2021	Tu	5:42:56	6:00:23	6:18:07	6:54:40	7:27:42		11:54:57		16:22:17	16:55:19	17:31:53	17:49:37	18:07:04	8:54:34	-1.751	-23.239	28
12/29/2021	W	5:43:12	6:00:39	6:18:22	6:54:54	7:27:54		11:55:26		16:23:04	16:56:05	17:32:37	17:50:20	18:07:47	8:55:10	-2.237	-23.179	18
12/30/2021	Th	5:43:26	6:00:52	6:18:35	6:55:05	7:28:04		11:55:55		16:23:54	16:56:52	17:33:23	17:51:06	18:08:32	8:55:50	-2.719	-23.112	10
12/31/2021	F	5:43:38	6:01:04	6:18:46	6:55:14	7:28:11		11:56:23		16:24:45	16:57:41	17:34:10	17:51:52	18:09:18	8:56:34	-3.198	-23.037	4

* Days when daylight time is in effect are marked with an asterisk.

eqn_time3.py ver 161025a gglib version 180120a