

Grange Observatory

LUNAR OCCULTATIONS FOR YEAR 2023

TABLES LEGEND

Date/Day/Time	the time scale herein used is the Central Europe Time (CET)
A	estimated calculation error in time of event (seconds)
P	phenomenon
D	star disappearance
R	star reappearance
C	close, no occultation
SAO	(when present) Smithsonian Astronomical Observatory catalogue star number
Mag	star magnitude in SAO catalogue
Al	star height above horizon (degrees)
Az	azimuth (degrees)
Sn	Sun height above horizon (negative = below horizon, degrees)
K	Moon's illumination (phase in percent)
Name	(when present) classic star designation

Occultations 2023 for Grange Observatory WGS 84 coordinates

Day	Date	Time	A	Mag	P	K	AI	Az	Sn	SAO	Name
	d m y	h m s	s			%	°	°	°		
Mon	02-01-2023	01:44:51	1	6.3	D	78%+	21	272	-64	93164	
Tue	03-01-2023	02:37:02	1	6.1	D	86%+	23	277	-57	76121	
Sat	07-01-2023	21:39:52	2	5.9	R	99%+	41	94	-47	79861	omega Cancr
Sat	07-01-2023	22:28:30	1	6.3	R	99%+	49	104	-55	79869	4 Cancr
Thu	12-01-2023	23:54:24	1	6.7	R	70%+	12	97	-65	119139	
Wed	18-01-2023	05:26:09	1	6.7	R	18%+	5	133	-28	184278	
Thu	26-01-2023	19:02:17	1	7.6	D	30%+	40	221	-16	109506	
Fri	27-01-2023	19:14:28	1	6.3	D	41%+	49	215	-18	110046	
Fri	27-01-2023	19:58:32	1	7.3	D	41%+	44	228	-26	110063	
Sat	28-01-2023	21:53:41	1	6.0	D	52%+	39	251	-45	92998	29 Arietis
Sun	29-01-2023	22:58:57	2	6.8	D	62%+	39	259	-55	93412	
Wed	01-02-2023	21:27:45	2	6.6	D	87%+	72	167	-40	77819	
Fri	03-02-2023	19:14:25	1	5.3	D	96%+	37	90	-17	79650	
Tue	14-02-2023	07:08:10	1	6.8	R	44%+	21	183	-5	183973	V0928 Scorpii
Sat	25-02-2023	18:48:38	1	6.7	D	34%+	56	225	-7	93229	50 Arietis
Sat	25-02-2023	23:40:44	7	6.2	D	36%+	10	287	-51	93293	54 Arietis
Sun	26-02-2023	21:25:30	1	5.6	D	45%+	43	258	-34	76339	32 Tauri
Mon	27-02-2023	23:21:42	1	7.2	D	55%+	34	273	-49	76811	
Wed	01-03-2023	20:00:26	2	7.0	D	73%+	71	158	-19	78540	
Fri	03-03-2023	04:06:33	1	5.3	D	83%+	13	294	-32	79650	
Wed	15-03-2023	05:07:07	2	6.8	R	49%+	14	159	-18	185573	
Wed	29-03-2023	20:02:42	2	7.2	D	57%+	70	210	-12	79170	
Wed	29-03-2023	20:02:43	2	6.6	D	57%+	70	210	-12	79241	
Wed	29-03-2023	22:51:01	1	6.5	D	57%+	45	264	-36	79286	
Thu	30-03-2023	00:01:13	1	7.0	D	58%+	33	276	-41	79286	
Mon	10-04-2023	04:50:36	2	2.9	R	83%+	18	196	-12	184336	sigma Scorpii
Tue	11-04-2023	05:45:25	1	5.3	R	74%+	15	195	-2	185350	43 Ophiuchi
Fri	21-04-2023	20:48:03	1	6.5	D	3%+	4	294	-14	93345	
Sat	22-04-2023	21:18:57	1	7.6	D	8%+	10	293	-18	76476	
Mon	24-04-2023	19:54:37	1	7.2	D	22%+	44	266	-5	77753	
Mon	24-04-2023	21:05:45	2	7.3	D	22%+	32	278	-16	77804	
Mon	24-04-2023	21:24:00	1	6.6	D	22%+	29	281	-18	77819	
Mon	24-04-2023	22:14:31		6.0	C	22%+	21	291	-25	77837	
Tue	25-04-2023	21:33:10	1	7.8	D	31%+	36	274	-19	78873	
Tue	25-04-2023	21:36:50	1	7.2	D	31%+	36	274	-20	78876	
Tue	25-04-2023	23:45:25	1	7.5	D	31%+	14	294	-31	78957	
Wed	26-04-2023	00:00:28	1	7.1	D	32%+	12	296	-31	78968	
Thu	27-04-2023	19:58:40	2	6.9	D	49%+	64	219	-5	80310	
Wed	10-05-2023	01:58:12	2	6.1	R	78%+	9	147	-24	187701	
Sun	21-05-2023	21:06:50	2	6.4	D	5%+	10	298	-10	77350	
Mon	22-05-2023	21:33:00	1	7.0	D	10%+	15	294	-13	78540	
Tue	23-05-2023	20:30:33	2	7.3	D	16%+	33	275	-5	79405	
Wed	24-05-2023	22:20:27	1	7.5	D	25%+	22	283	-18	80165	
Sat	27-05-2023	00:47:31	1	6.4	D	44%+	7	286	-24	98944	
Wed	21-06-2023	21:22:48	1	7.0	D	12%+	17	284	-9	80529	
Sat	24-06-2023	21:10:20	1	5.8	D	36%+	31	248	-7	118735	
Thu	06-07-2023	02:24:08	9	5.7	D	90%+	24	168	-18	190461	37 Capricorni
Thu	06-07-2023	02:32:58	9	5.7	R	90%+	24	170	-17	190461	37 Capricorni
Mon	10-07-2023	02:17:60	1	6.3	R	50%+	23	107	-19	109666	77 Piscium
Mon	10-07-2023	02:19:15	1	7.3	R	50%+	23	107	-19	109667	
Tue	11-07-2023	01:36:59	1	6.8	R	39%+	12	87	-21	92688	
Thu	13-07-2023	03:28:50	1	6.5	R	20%+	22	81	-12	76045	
Thu	13-07-2023	04:22:04	1	7.2	R	19%+	31	90	-6	76070	
Fri	14-07-2023	03:53:52	2	7.8	R	12%+	19	75	-10	76651	
Fri	21-07-2023	21:54:57	1	7.2	D	14%+	4	279	-15	118628	
Thu	27-07-2023	21:52:49	4	5.8	D	70%+	16	209	-16	183637	
Thu	27-07-2023	22:21:59	1	6.3	D	70%+	14	215	-19	183665	
Sat	05-08-2023	02:42:15	1	4.9	R	84%+	40	162	-22	147008	27 Piscium
Sat	05-08-2023	04:49:22	1	5.1	R	84%+	40	202	-6	147041	29 Piscium
Sun	06-08-2023	03:22:50	1	6.4	R	75%+	46	157	-18	109507	
Wed	09-08-2023	00:57:33	1	6.9	R	44%+	16	78	-29	93394	
Wed	09-08-2023	04:35:46	2	7.1	R	42%+	53	120	-8	75940	
Thu	10-08-2023	01:25:04	1	6.8	R	34%+	15	71	-28	76512	
Thu	10-08-2023	03:36:11	1	7.9	R	33%+	37	92	-17	76545	
Fri	11-08-2023	02:56:24	1	6.8	R	24%+	23	75	-22	77028	
Sat	12-08-2023	03:34:41	2	7.8	R	16%+	21	72	-18	78041	
Sun	13-08-2023	02:23:39	2	7.1	R	10%+	3	53	-25	78968	
Thu	24-08-2023	21:22:27	1	6.1	D	54%+	10	217	-19	184258	
Sun	27-08-2023	21:46:57	2	6.0	D	85%+	17	183	-23	188079	
Mon	28-08-2023	23:02:10	1	6.3	D	93%+	20	186	-32	189416	
Tue	29-08-2023	22:57:25	1	5.7	D	98%+	24	170	-32	190461	37 Capricorni
Wed	30-08-2023	03:39:42	4	4.7	D	98%+	7	235	-21	164593	kappa Capricorni
Sat	02-09-2023	01:04:38	2	6.4	R	94%+	42	156	-36	128760	10 Ceti
Mon	04-09-2023	21:40:10	1	5.6	R	71%+	4	68	-25	93195	rho Arietis
Tue	05-09-2023	04:35:17	1	6.9	R	68%+	64	174	-15	93304	
Tue	05-09-2023	06:07:57	1	4.3	R	68%+	60	220	+1	93328	delta Arietis
Wed	06-09-2023	02:40:47	1	6.9	R	59%+	49	107	-31	76388	
Thu	07-09-2023	05:32:16	1	7.5	R	47%+	68	143	-6	76895	
Thu	07-09-2023	05:43:06	2	6.9	R	47%+	69	149	-4	76903	
Fri	08-09-2023	01:16:17	2	7.0	R	39%+	19	70	-38	77604	
Fri	08-09-2023	01:49:30	1	7.1	R	39%+	25	75	-36	77619	
Fri	08-09-2023	03:06:25	1	4.6	R	38%+	38	87	-28	77675	136 Tauri
Fri	08-09-2023	04:21:23	1	7.0	R	38%+	51	101	-17	77724	
Sat	09-09-2023	01:14:44		6.7	C	30%+	11	63	-38	78710	
Sun	10-09-2023	04:32:29	1	7.6	R	20%+	34	86	-16	79672	
Tue	12-09-2023	04:10:12	1	6.5	R	7%+	10	72	-20	80809	
Tue	26-09-2023	19:15:51	1	6.3	D	90%+	15	136	-10	164827	
Thu	28-09-2023	22:45:26	1	4.9	D	100%+	39	155	-42	147008	27 Piscium
Fri	29-09-2023	00:49:33	1	5.1	D	100%+	41	195	-47	147041	29 Piscium
Thu	05-10-2023	04:07:28	1	6.3	R	64%+	68	137	-26	77295	
Fri	06-10-2023	03:57:46	1	7.5	R	54%+	59	113	-28	78480	
Fri	06-10-2023	04:26:49	1	7.5	R	54%+	64	122	-23	78496	
Fri	06-10-2023	05:22:05	1	5.3	R	54%+	70	147	-14	78524	49 Aurigae

Day	Date	Time	A	Mag	P	K	Al	Az	Sn	SAO	Name
	d m y	h m s	s			%	°	°	°		
Fri	06-10-2023	23:43:14	1	7.0	R	46%-	8	60	-49	79286	
Sun	08-10-2023	01:49:31	2	7.5	R	36%-	18	73	-46	80070	
Wed	18-10-2023	14:00:29	1	1.1	D	15%+	16	163	+30	184415	alpha Scorpii
Wed	18-10-2023	15:20:35	1	1.1	R	15%+	18	181	+21	184415	alpha Scorpii
Mon	23-10-2023	19:04:59	1	7.0	D	68%+	24	164	-17	190556	
Mon	23-10-2023	19:59:38	1	6.2	D	68%+	25	178	-26	164601	
Mon	30-10-2023	01:23:59	1	4.3	R	98%-	65	187	-55	93328	delta Arietis
Wed	01-11-2023	00:10:30	2	6.6	R	88%-	52	105	-59	76955	
Wed	01-11-2023	22:44:17	1	6.0	R	81%-	28	78	-54	77837	
Fri	03-11-2023	06:59:58	1	6.6	R	70%-	60	244	-3	79170	
Sat	04-11-2023	02:35:37	2	5.9	R	62%-	48	102	-48	79861	omega Cancri
Tue	07-11-2023	02:57:18	2	7.3	R	33%-	20	91	-45	99123	
Wed	08-11-2023	05:25:22	1	5.8	R	24%-	34	117	-20	118735	
Thu	09-11-2023	07:01:29		6.8	C	16%-	37	139	-3	119150	
Thu	09-11-2023	11:05:49	2	-3.9	D	15%-	40	214	+26		Venus
Thu	09-11-2023	12:10:54	2	-3.9	R	15%-	32	232	+28		Venus
Fri	17-11-2023	18:10:13	2	6.0	D	21%+	12	207	-12	188079	
Sun	19-11-2023	18:44:30	1	7.2	D	42%+	23	190	-18	190337	
Mon	20-11-2023	20:21:11	1	7.0	D	54%+	27	203	-36	165032	
Tue	21-11-2023	17:46:04	1	7.0	D	64%+	29	146	-9	146563	
Tue	21-11-2023	19:46:43	1	4.2	D	65%+	36	180	-30	146598	psi 1 Aquarii
Fri	24-11-2023	00:56:53	2	6.0	D	86%+	30	246	-64	109656	73 Piscium
Fri	24-11-2023	21:29:02		5.9	C	92%+	55	171	-49	92659	54 Ceti
Sun	26-11-2023	04:15:30	1	5.8	D	98%+	22	274	-36	93189	45 Arietis
Wed	29-11-2023	07:28:42	1	4.6	R	96%-	24	286	-4	77675	136 Tauri
Thu	30-11-2023	04:23:11	1	6.7	R	92%-	64	237	-35	78710	
Fri	01-12-2023	23:32:09	2	6.1	R	79%-	29	84	-65	80204	28 Cancri
Sun	03-12-2023	03:48:32	2	6.5	R	69%-	59	139	-42	80809	
Mon	04-12-2023	00:00:16	1	6.4	R	61%-	13	81	-67	98944	
Tue	05-12-2023	05:41:22	2	7.6	R	50%-	53	158	-23	118593	
Tue	05-12-2023	05:47:57	3	7.2	R	50%-	53	160	-21	99391	
Thu	07-12-2023	02:45:21	1	3.9	R	32%-	9	100	-53	138721	eta Virginis
Fri	08-12-2023	07:34:03	1	7.3	R	22%-	35	161	-4	139187	
Fri	15-12-2023	18:24:09	3	7.2	D	10%+	6	223	-16	188955	
Sun	17-12-2023	19:13:22	1	7.3	D	27%+	21	215	-24	164880	
Mon	18-12-2023	21:57:42	1	7.1	D	39%+	12	243	-53	146509	
Sat	23-12-2023	22:23:05	2	5.2	D	89%+	65	200	-56	75899	63 Arietis
Sat	23-12-2023	23:50:31		6.1	C	90%+	55	240	-67	75915	65 Arietis
Wed	27-12-2023	21:35:26	5	5.8	D	99%-	42	93	-48	79141	47 Geminorum
Wed	27-12-2023	21:54:26	5	5.8	R	99%-	45	96	-51	79141	47 Geminorum
Fri	29-12-2023	06:57:41	1	5.9	R	95%-	32	273	-12	80113	lambda Cancri