

Messier Marathon 2010

Messier Catalogue										Marathon Planning					Marathon on			09.10.2010		λ,φ,T		-9,0°		50,0°		2.455.478,5	
Mess. No.	Type	Con-stell.	Rekt. [°]	Dekl. [°]	Size [']	Mag-nitude	Dist. [LYrs]	Description accord. to Karkoschka "Atlas für Himmelsbeobachter"	Pa.	Rise UT+1	Set UT+1	Culmin. UT+1	Classification of visibility	best time	Observ. index	Time UT+1	T after Start	Height ab. Hor	Azimuth 180:South	Star-time	seen?						
			[°]	[°]	[']		[LYrs]			UT+1	UT+1	UT+1		time		UT+1	Start	ab. Hor	180:South	time	y/n	at time	Remarks				
Sun	-		194,4	-6,1			0	-	-	6:36	17:42	12:09	Sunset	17:42	(P0)	17:42	0:00	-0,5°	261,0°	277,8°	-						
Sun	-		194,4	-6,1			0	-	-	5:25	18:53	12:09	twilight ends	18:53	(P0)	18:53	1:11	-12,0°	274,8°	295,7°	-						
Sun	-		194,4	-6,1			0	-	-	4:57	19:22	12:09	end of astron. twilight	19:22	(P0)	19:22	1:39	-16,5°	280,3°	302,8°	-						
62	G	Oph	255,3	-30,1	14,1	6,6	2,0E+4	very asymmetrical, nebulous arms, interesting object	E18	13:07	19:17	16:12	at dusk	18:53	1	18:53	1:11	2,2°	214,2°	295,7°							
19	G	Oph	255,6	-26,3	13,5	7,2	3,0E+4	rather oval, egde resolvable	E18	12:38	19:48	16:13	in evening sky	19:22	2	18:55	1:13	5,6°	215,9°	296,2°							
80	G	Sco	244,2	-23,0	8,9	7,2	3,0E+4	very bright center, can take high magnification	E18	11:30	19:26	15:28	in evening sky	19:22	3	18:59	1:17	3,2°	227,4°	297,2°							
4	G	Sco	245,9	-26,5	26,3	5,9	7,0E+3	easy to find, wonderfully resolvable with telescope	E18	12:01	19:08	15:35	at dusk	18:53	4	19:01	1:19	0,8°	224,7°	297,7°							
6	O	Sco	265,0	-32,2	15	4,2	2,0E+3	Butterfly cluster: wonderful with any kind of instrument	E18	14:06	19:36	16:51	in evening sky	19:22	5	19:05	1:23	2,5°	208,1°	298,7°							
7	O	Sco	268,4	-34,8	80	3,3	9,0E+2	well resolved with binoculars, southernmost Messier Object	E18	14:49	19:20	17:04	at dusk	18:53	6	19:07	1:25	0,9°	204,9°	299,2°							
64	X	Com	194,2	21,7	9,3	8,5	2,2E+4	Black Eyed galaxy: elongated absorption near core dimly visible with bigger telescope	E13	4:13	20:00	12:08	in morning sky	4:54	7	19:11	1:29	6,8°	295,9°	300,2°							
53	G	Com	198,2	18,2	12,6	7,7	6,0E+4	prominent core, edge partly resolved with telescope	E13	4:49	19:55	12:24	in evening sky	19:22	8	19:13	1:31	6,1°	291,2°	300,7°							
3	G	CVn	205,5	28,4	16,2	6,4	3,0E+4	resolvable with bigger telescopes only	E15	4:10	21:33	12:54	in evening sky	19:22	9	19:17	1:35	17,6°	293,4°	301,8°							
101	X	UMa	210,8	54,3	26,9	7,7	2,5E+7	Spiralrad-Galaxie: bright core area, enormous size seen in darkest sky	N10	1:13	1:13	13:15	in evening sky	19:22	10	19:21	1:39	37,5°	312,7°	302,8°							
102	X	Dra	226,6	55,7	5,2	10	4,0E+7	elliptical nebular	N16	2:16	2:16	14:18	in evening sky	19:22	11	19:23	1:41	45,8°	308,2°	303,3°							
5	G	Ser	229,6	2,1	17,4	5,8	2,5E+4	wonderful, especially with bigger telescopes, elliptical shape, rather easy to resolve	E15	8:17	20:39	14:30	in evening sky	19:22	12	19:27	1:45	11,4°	259,5°	304,3°							
13	G	Her	250,4	36,4	16,6	5,9	2,5E+4	Herkules cluster: bright with binoculars, outer cluster resolvable	N14	5:44	1:57	15:53	in evening sky	19:22	13	19:31	1:49	48,8°	272,3°	305,3°							
92	G	Her	259,3	43,1	11,2	6,5	3,0E+4	similar to M13, but dimmer	N14	4:27	4:27	16:28	in evening sky	19:22	14	19:33	1:51	57,9°	275,8°	305,8°							
57	P	Lyr	283,4	33,0	2,5	9	1,8E+3	Ring nebular in Lyra: almost star-shaped with binoculars, a bigger telescope shows oval ring and central	N18	8:43	3:26	18:04	in evening sky	19:22	15	19:37	1:55	65,8°	234,2°	306,8°							
56	G	Lyr	289,1	30,1	7,1	8,3	3,0E+4	quite weak, difficult to resolve into stars	N18	9:34	3:20	18:27	in evening sky	19:22	16	19:39	1:57	65,9°	221,3°	307,3°							
71	G	Sge	298,4	18,7	7,2	8,3	1,3E+4	interesting structure, triangular shape, is maybe a rich open cluster	E21	11:30	2:38	19:04	in evening sky	19:22	17	19:43	2:01	57,7°	197,7°	308,3°							
27	P	Vul	299,9	22,7	15,2	8,1	1,0E+3	Big Dumbbell nebular: maybe the most beautiful planetary nebular, more structures seen with telescope	E21	11:12	3:08	19:10	in evening sky	19:22	18	19:45	2:03	61,8°	197,5°	308,8°							
12	G	Oph	251,8	-1,9	14,5	6,6	1,8E+4	schwach elliptisch with binoculars, gut resolved with telescope, looks like open cluster	E17	10:08	21:48	15:58	in evening sky	19:22	19	19:49	2:07	18,4°	243,2°	309,8°							

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Mess. No.	Type	Con-stell.	Rekt. [°]	Dekl. [°]	Size [']	Mag-nitude	Dist. [LYrs]	Description accord. to Karkoschka "Atlas für Himmelsbeobachter"	Pa.	Rise UT+1	Set UT+1	Culmin. UT+1	Classification of visibility	best time	Observ. index	Time UT+1	T after Start	Height ab. Hor	Azimuth 180:South	Star-time	seen?		
																					y/n	at time	Remarks
10	G	Oph	254,2	-4,1	15,1	6,6	1,5E+4	only edge well resolved with bigger telescope	E17	10:28	21:47	16:08	in evening sky	19:22	20	19:51	2:09	17,6°	240,3°	310,3°			
14	G	Oph	264,4	-3,2	11,7	7,6	3,0E+4	oval, nebular with amateur size telescopes	E17	11:05	22:32	16:48	in evening sky	19:22	21	19:53	2:11	23,6°	232,1°	310,8°			
107	G	Oph	248,1	-13,1	10	8,1	2,0E+4	hardly resolvable even with bigger telescope	E17	10:49	20:38	15:43	in evening sky	19:22	22	19:57	2:15	6,0°	241,4°	311,8°			
9	G	Oph	259,8	-18,5	9,3	7,9	2,5E+4	hardly resolvable	E17	12:05	20:55	16:30	in evening sky	19:22	23	19:59	2:17	7,4°	229,3°	312,3°			
26	O	Sct	281,3	-9,4	15	8	5,0E+3	still nebular with smaller telescopes	E19	12:42	23:10	17:56	in evening sky	19:22	24	20:03	2:21	24,4°	215,0°	313,3°			
11	O	Sct	282,8	-6,3	14	5,8	6,0E+3	Wild Duck cluster: a little triangular, a bigger telescope shows high number of stars	E19	12:33	23:31	18:02	in evening sky	19:22	25	20:05	2:23	27,6°	215,3°	313,8°			
23	O	Sgr	269,2	-19,0	27	5,5	2,0E+3	impressive at low magnification	E20	12:45	21:30	17:08	in evening sky	19:22	26	20:09	2:27	10,1°	223,3°	314,8°			
24	O	Sgr	274,2	-18,5	100	4	8,0E+3	bright star cloud of milky way	E20	13:02	21:53	17:28	in evening sky	19:22	27	20:11	2:29	12,5°	219,7°	315,3°			
20	C	Sgr	270,5	-23,0	29	6,3	6,0E+3	Trifidnebular: division into three by radial dark dust lanes, use filter and low magnification	E20	13:15	21:11	17:13	in evening sky	19:22	28	20:15	2:33	6,5°	221,6°	316,3°			
8	N	Sgr	270,9	-24,4	90	5,8	6,0E+3	Hourglass nebular: phantastic gaseous nebular when viewed with filter, open cluster to the east	E20	13:26	21:03	17:14	in evening sky	19:22	29	20:17	2:35	5,2°	221,0°	316,8°			
21	O	Sgr	271,1	-22,5	13	5,9	4,0E+3	few stars, bright but inconspicuous	E20	13:14	21:16	17:15	in evening sky	19:22	30	20:19	2:37	6,8°	222,2°	317,3°			
16	C	Ser	274,7	-13,8	35	6	7,0E+3	eagle nebular: without filter is the cluster more conspicuous	E20	12:38	22:21	17:30	in evening sky	19:22	31	20:21	2:39	15,8°	223,6°	317,8°			
18	O	Sgr	274,9	-17,1	9	6,9	4,0E+3	low in stars, not much conspicuous, situated before light background	E20	12:57	22:04	17:30	in evening sky	19:22	32	20:23	2:41	12,8°	222,3°	318,3°			
17	C	Sgr	275,2	-16,2	46	6	6,0E+3	Omega nebular: phantastically structured, bright arms and dark dust layers	E20	12:53	22:10	17:32	in evening sky	19:22	33	20:25	2:43	13,5°	222,9°	318,8°			
25	O	Sgr	277,9	-19,2	32	4,6	3,0E+3	very beautifully resolved with binoculars, irregular structure	E20	13:21	22:04	17:42	in evening sky	19:22	34	20:27	2:45	11,7°	219,6°	319,3°			
28	G	Sgr	276,1	-24,9	11,2	6,9	2,0E+4	asymmetrical shape, bright center, hardly resolvable	E20	13:50	21:20	17:35	in evening sky	19:22	35	20:31	2:49	5,5°	219,4°	320,3°			
22	G	Sgr	279,1	-23,9	24	5,1	1,0E+4	very bright, oval, impressively resolved with bigger telescope	E20	13:55	21:39	17:47	in evening sky	19:22	36	20:33	2:51	7,4°	217,8°	320,8°			
69	G	Sgr	277,8	-32,3	7,1	7,7	3,0E+4	partly resolved with bigger telescope	E20	14:58	20:26	17:42	in evening sky	19:22	37	20:37	2:55	-1,1°	216,0°	321,8°			
70	G	Sgr	280,8	-32,3	7,8	8,1	3,0E+4	dim, prominent center, outer edge just resolvable	E20	15:10	20:38	17:54	in evening sky	19:22	38	20:37	2:55	0,0°	213,7°	321,8°			
54	G	Sgr	283,7	-30,5	9,1	7,7	8,0E+4	hardly resolvable, can take high magnification	E20	15:04	21:07	18:05	in evening sky	19:22	39	20:39	2:57	2,5°	212,6°	322,3°			
75	G	Sgr	301,5	-21,9	6	8,6	6,0E+4	distant globular cluster, small, not resolvable, extraordinary bright center	E22	15:12	23:21	19:16	in evening sky	19:22	40	20:45	3:03	15,4°	201,4°	323,8°			

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																					y/n	at time	Remarks
55	G	Sgr	295,0	-30,9	19	7	1,8E+4	rather big nebular with binoculars, with bigger telescope resolved down into the center	E22	15:53	21:48	18:51	in evening sky	19:22	41	20:49	3:07	4,9°	205,4°	324,8°			
29	O	Cyg	306,0	38,5	7	6,6	4,0E+3	only a few stars, use only low magnification	N20	8:50	6:18	19:34	at transit	19:34	42	20:53	3:11	71,8°	238,3°	325,8°			
39	O	Cyg	323,0	48,4	32	4,6	1,0E+3	few, but bright stars, interesting sight only with binoculars	N24	8:45	8:45	20:42	at transit	20:42	43	20:55	3:13	87,3°	234,8°	326,3°			
72	G	Aqr	313,3	-12,5	5,9	9,4	6,0E+4	weakest globular cluster of Messier catalogue, not resolvable	E24	15:06	1:01	20:04	at transit	20:04	44	20:59	3:17	26,3°	195,3°	327,3°			
73	O	Aqr	314,7	-12,6	3	9	2,0E+3	3-4 stars	E24	15:12	1:06	20:09	at transit	20:09	45	21:01	3:19	26,3°	194,3°	327,8°			
2	G	Aqr	323,3	-0,8	12,9	6,5	4,0E+4	bright big nebular with binoculars, very difficult to resolve into stars	E24	14:48	2:39	20:43	at transit	20:43	46	21:03	3:21	39,0°	186,5°	328,3°			
15	G	Peg	322,5	12,2	12,3	6,4	3,5E+4	relatively easy to find, a little oval, outer edge resolvable with bigger telescopes	E23	13:42	3:39	20:40	at transit	20:40	47	21:07	3:25	51,8°	190,8°	329,3°			
30	G	Cap	325,1	-23,2	11	7,5	2,5E+4	prominent center, elongated shell, a bigger telescope resolves outer parts of the cluster	E22	16:54	0:43	20:51	at transit	20:51	48	21:11	3:29	16,7°	185,0°	330,3°			
110	X	And	10,1	41,7	17,4	8	2,8E+6	accompanying galaxy of Andromeda, asymmetrical shape	N0	11:54	11:54	23:50	at transit	23:50	49	23:53	6:10	81,7°	183,1°	10,7°			
31	X	And	10,7	41,3	178	3,5	2,8E+6	Andromeda galaxy: core rather bright, dust-lanes w' of core, spiral arms weakly	N0	11:56	11:56	23:53	at transit	23:53	50	23:55	6:12	81,3°	182,5°	11,2°			
32	X	And	10,7	40,9	7,6	8,2	2,8E+6	accompanying galaxie of Andromeda, star-spaped with binoculars	N0	11:56	11:56	23:53	at transit	23:53	51	23:57	6:14	80,9°	184,8°	11,7°			
33	X	Tri	23,5	30,7	62	5,7	3,0E+6	Triangulum nebula: lowest magnification and very dark sky	N0	15:45	9:46	0:40	at transit	0:44	52	0:44	7:01	70,7°	180,0°	23,5°			
103	O	Cas	23,3	60,7	6	7,4	7,0E+3	already resolved with binoculars, only slightly better with telescope	N2	12:47	12:47	0:39	at transit	0:43	53	0:52	7:10	79,2°	354,0°	25,6°			
76	P	Per	25,6	51,6	4,8	12	4,0E+3	Little Dumbbell nebular: weakest object in Messier catalogue	N0	12:56	12:56	0:48	at transit	0:52	54	0:54	7:12	88,4°	349,0°	26,1°			
52	O	Cas	351,0	61,6	13	6,9	5,0E+3	nebulous figure with binoculars, many small stars in telescope	N22	10:37	10:37	22:34	at transit	22:34	55	0:56	7:14	67,3°	314,2°	26,6°			
34	O	Per	40,5	42,8	35	5,2	1,5E+3	beautiful with binoculars, lowest magnification with telescope	N4	13:55	13:55	1:51	at transit	1:51	56	1:51	8:09	82,8°	179,9°	40,5°			
74	X	Psc	24,2	15,8	10,2	9,2	5,0E+7	very difficult in lightpolluted sky, smallest magnification	E1	17:29	8:04	0:42	at transit	0:46	57	1:55	8:13	53,0°	208,4°	41,5°			
77	X	Cet	40,7	0,0	6,9	8,8	7,0E+7	Seyfert Galaxy, active bright core using high magnification, star-shaped in binoculars	E0	19:53	7:51	1:52	at transit	1:52	58	1:57	8:15	40,0°	181,7°	42,0°			
45	C	Tau	56,7	24,1	100	1,5	4,0E+2	Plejades, Seven Sisters: weak reflection nebular in very dark sky	E3	18:49	11:07	2:56	at transit	2:56	59	2:56	9:14	64,1°	180,0°	56,7°			
79	G	Lep	81,1	-24,5	8,7	8	4,0E+4	very difficult to resolve (far our of milky way plane)	E4	0:42	8:25	4:33	at transit	4:33	60	3:24	9:42	13,9°	163,8°	63,8°			
1	N	Tau	83,6	22,0	6	8,4	4,0E+3	Crab nebula: difficult with binoculars, irregular shape with bigger telescope (Supernova 1054)	E3	20:49	12:41	4:43	at transit	4:43	61	3:28	9:46	58,3°	145,3°	64,8°			

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																					y/n	at time	Remarks
35	O	Gem	92,2	24,3	28	5,1	3,0E+3	bright, beautiful resolved with telescope using low magnification	E7	21:09	13:30	5:18	in morning sky	4:54	62	3:30	9:48	56,9°	131,0°	65,3°			
42	N	Ori	83,8	-5,4	66	4	1,4E+3	Orion nebula: prime example of gasous nebulars, imbedded stars	E4	23:11	10:21	4:44	at transit	4:44	63	3:34	9:52	32,6°	159,2°	66,3°			
43	N	Ori	83,9	-5,3	20	9	1,4E+3	northern part of Orion nebula, separated by a dark dust cloud	E4	23:11	10:22	4:44	at transit	4:44	64	3:36	9:54	32,7°	159,6°	66,8°			
78	N	Ori	86,7	0,1	8	8	1,2E+3	brightest reflection nebular, a bigger telescope shows dark dusty structures	E5	22:56	10:59	4:56	in morning sky	4:54	65	3:38	9:56	37,4°	155,3°	67,3°			
89	X	Vir	188,9	12,5	4,2	9,8	6,0E+7	bright, almost star-shaped core, perfect round	E14	4:43	18:47	11:43	in morning sky	4:54	66	3:42	10:00	-8,8°	58,3°	68,3°			
90	X	Vir	189,2	13,1	9,5	9,5	6,0E+7	brighter elongated central arae, most extended galaxy of Virgo cluster	E14	4:41	18:52	11:45	in morning sky	4:54	67	3:42	10:00	-8,5°	57,7°	68,3°			
58	X	Vir	189,4	11,8	5,4	9,8	6,0E+7	bulk of bulk galaxy detectable with bigger telescope	E14	4:49	18:46	11:45	in morning sky	4:54	68	3:42	10:00	-9,7°	58,2°	68,3°			
59	X	Vir	190,5	11,6	5,1	9,8	6,0E+7	dim star-shaped core, use medium magnification	E14	4:54	18:49	11:50	at dawn	5:22	69	3:42	10:00	-10,5°	57,4°	68,3°			
60	X	Vir	190,9	11,5	7,2	8,8	6,0E+7	bright star-shaped core	E14	4:56	18:50	11:51	at dawn	5:22	70	3:42	10:00	-10,8°	57,2°	68,3°			
94	X	CVn	192,7	41,1	11	8,2	3,0E+7	bright core, with bigger telescope beginning of spiral arms visible	N12	0:00	0:00	12:02	in morning sky	4:54	71	3:54	10:12	14,6°	41,7°	71,3°			
63	X	CVn	198,9	42,0	12,3	8,6	3,0E+7	Sunflower galaxy: prominent core, otherwise invisible	N12	0:25	0:25	12:27	in evening sky	19:22	72	3:56	10:14	13,0°	37,5°	71,8°			
51	X	CVn	202,5	47,2	11	8,4	3,0E+7	Whirlpool-Galaxie: wonderful spiral arms with bigger telescope and NGC5195, most beautiful galaxy	N12	0:39	0:39	12:42	in evening sky	19:22	73	3:58	10:16	16,3°	32,7°	72,3°			
41	O	CMa	101,7	-20,7	38	4,5	2,5E+3	very well resolved with binoculars, only little impressive with telescope	E6	1:43	10:12	5:55	in morning sky	4:54	74	4:02	10:20	15,0°	152,6°	73,3°			
93	O	Pup	116,1	-23,9	22	6,2	4,0E+3	brighte Sterne with binoculars resolved, nebliger Hintergrund with telescope beautiful resolved	E6	3:01	10:49	6:53	in morning sky	4:54	75	4:04	10:22	7,1°	141,7°	73,8°			
50	O	Mon	105,8	-8,3	16	5,9	3,5E+3	beautiful with telescope and low magnification , little asymmetrical shape	E8	0:49	11:35	6:12	in morning sky	4:54	76	4:08	10:26	25,8°	145,6°	74,8°			
47	O	Pup	114,1	-13,9	30	4,4	1,8E+3	impressive with small instruments	E8	1:54	11:40	6:45	in morning sky	4:54	77	4:10	10:28	17,6°	140,4°	75,3°			
46	O	Pup	115,4	-14,8	27	6,1	6,0E+3	big with binoculars, many stars with biger telescope, rich of small stars	E8	2:04	11:40	6:50	in morning sky	4:54	78	4:12	10:30	16,5°	140,0°	75,8°			
48	O	Hya	123,5	-5,8	54	5,8	2,5E+3	beautiful and bright with binoculars	E10	1:51	12:58	7:22	in morning sky	4:54	79	4:14	10:32	20,9°	128,6°	76,3°			
38	O	Aur	82,1	35,8	21	6,4	4,0E+3	partly resolved, interesting arrangement of small stars	N6	18:42	14:37	4:37	at transit	4:37	80	4:18	10:36	75,4°	164,5°	77,3°			
36	O	Aur	84,0	34,1	12	6	4,0E+3	already resolved with binoculars, stary concentrations along arms	N6	19:11	14:22	4:45	at transit	4:45	81	4:20	10:38	73,5°	161,8°	77,8°			
37	O	Aur	88,1	32,5	24	5,6	4,0E+3	seen as a big bright nebular with binoculars, with bigger telescope impressive number of stars	N6	19:45	14:21	5:01	in morning sky	4:54	82	4:22	10:40	71,1°	153,8°	78,3°			

Messier Marathon 2010

Messier Catalogue									Marathon Planning					Marathon on			09.10.2010		λ, ϕ, T	-9,0°	50,0°	2.455.478,5	
Mess. No.	Type	Con-stell.	Rekt. [°]	Dekl. [°]	Size [']	Mag-nitude	Dist. [LYrs]	Description accord. to Karkoschka "Atlas für Himmelsbeobachter"	Pa.	Rise UT+1	Set UT+1	Culmin. UT+1	Classification of visibility	best time	Observ. index	Time UT+1	T after Start	Height ab. Hor	Azimuth 180:South	Star-time	seen?		
																					y/n	at time	Remarks
44	O	Cnc	130,0	20,0	95	3,1	6,0E+2	Praesepe: impressive with binoculars	E9	0:03	15:34	7:48	in morning sky	4:54	83	4:26	10:44	40,2°	108,0°	79,3°			
67	O	Cnc	132,6	11,8	30	6,9	2,5E+3	big nebular with binoculars, very well resolved with telescope	E9	1:02	14:59	7:59	in morning sky	4:54	84	4:28	10:46	32,5°	112,5°	79,8°			
95	X	Leo	161,0	11,7	7,4	9,7	4,0E+7	star-shaped core	E11	2:56	16:52	9:52	in morning sky	4:54	85	4:32	10:50	15,2°	89,9°	80,8°			
96	X	Leo	161,7	11,8	7,1	9,2	4,0E+7	rather elongated central area, star-shaped core	E11	2:58	16:55	9:55	in morning sky	4:54	86	4:34	10:52	15,2°	89,6°	81,3°			
105	X	Leo	162,0	12,6	4,5	9,3	4,0E+7	easier visible than M95 or M96, star-shaped core	E11	2:55	17:01	9:56	in morning sky	4:54	87	4:36	10:54	15,9°	89,3°	81,8°			
65	X	Leo	169,7	13,1	10	9,3	4,0E+7	round central area in front of elongated background nebular	E11	3:23	17:34	10:27	in morning sky	4:54	88	4:38	10:56	11,7°	83,5°	82,3°			
66	X	Leo	170,0	13,0	8,7	9	4,0E+7	visible with binoculars, interesting sight only with bigger telescopes, dust structures dimly visible	E11	3:25	17:35	10:28	in morning sky	4:54	89	4:40	10:58	11,7°	83,7°	82,8°			
81	X	UMa	148,9	69,1	25,7	6,9	1,3E+7	Bode's nebulae: easily seen with binoculars, bright center and star-shaped core	N8	21:09	21:09	9:04	in morning sky	4:54	90	4:44	11:02	54,3°	33,7°	83,8°			
82	X	UMa	148,9	69,6	11,2	8,4	1,3E+7	brightest accompanying galaxy of M81, almost seen edge-on, structures with bigger telescope	N8	21:09	21:09	9:04	in morning sky	4:54	91	4:46	11:04	54,5°	32,8°	84,3°			
108	X	UMa	167,8	55,6	8,3	10,1	4,5E+7	edge-on, dust structures with bigger telescope hardly seen	N10	22:25	22:25	10:19	in morning sky	4:54	92	4:50	11:08	42,8°	49,8°	85,3°			
97	P	UMa	168,7	55,0	3,2	11,2	2,5E+3	Owl nebular: dark eyes invisible with amateur class telescope	N10	22:28	22:28	10:23	in morning sky	4:54	93	4:52	11:10	42,3°	50,3°	85,8°			
109	X	UMa	179,4	53,3	7,6	9,8	6,0E+7	bright core, otherwise weak	N10	23:11	23:11	11:05	in morning sky	4:54	94	4:54	11:12	36,4°	47,9°	86,3°			
40	2	UMa	185,6	58,1	0,8	8,5	5,0E+2	double star 50" separated	N10	23:36	23:36	11:30	in morning sky	4:54	95	4:56	11:14	36,8°	40,7°	86,9°			
106	X	CVn	184,7	47,3	18,2	8,3	3,0E+7	with bigger telescope weak dust structures, beginning of spiral arms visible	N12	23:32	23:32	11:27	in morning sky	4:54	96	5:00	11:18	30,7°	51,6°	87,9°			
98	X	Com	183,4	14,9	9,5	10,1	6,0E+7	outer bounds weak, hardly structured	E14	4:09	18:38	11:21	in morning sky	4:54	97	5:04	11:22	8,5°	76,9°	88,9°			
99	X	Com	184,7	14,4	5,4	9,8	6,0E+7	Pin-wheel galaxy: bright central area, with bigger telescopes light knots and beginning of spiral arms	E14	4:16	18:41	11:27	in morning sky	4:54	98	5:06	11:24	7,6°	76,6°	89,4°			
100	X	Com	185,7	15,8	6,9	9,4	6,0E+7	elongated central area with star-shaped core	E14	4:13	18:52	11:31	in morning sky	4:54	99	5:08	11:26	8,4°	75,4°	89,9°			
85	X	Com	186,3	18,1	7,1	9,2	6,0E+7	oval not structures galaxy with bright central area	E14	4:02	19:07	11:33	in morning sky	4:54	100	5:10	11:28	10,1°	73,8°	90,4°			
84	X	Vir	186,2	12,8	5	9,3	6,0E+7	no structures, in area with many 12m bright galaxies	E14	4:31	18:38	11:33	in morning sky	4:54	101	5:14	11:32	6,7°	78,1°	91,4°			
86	X	Vir	186,5	12,9	7,4	9,2	6,0E+7	no structures visible	E14	4:32	18:40	11:34	in morning sky	4:54	102	5:16	11:34	6,9°	78,2°	91,9°			
87	X	Vir	187,7	12,4	7,2	8,6	6,0E+7	Virgo A: central galaxy of Virgo cluster, brighter core	E14	4:39	18:42	11:39	in morning sky	4:54	103	5:18	11:36	6,1°	78,0°	92,4°			

Messier Marathon 2010

Messier Catalogue										Marathon Planning					Marathon on			09.10.2010		λ,φ,T		-9,0°		50,0°		2.455.478,5	
Mess. No.	Type	Con-stell.	Rekt. [°]	Dekl. [°]	Size [']	Mag-nitude	Dist. [LYrs]	Description accord. to Karkoschka "Atlas für Himmelsbeobachter"	Pa.	Rise UT+1	Set UT+1	Culmin. UT+1	Classification of visibility	best time	Observ. index	Time UT+1	T after Start	Height ab. Hor	Azimuth 180:South	Star-time	seen?						
																					y/n	at time	Remarks				
88	X	Com	188,0	14,4	6,9	9,5	6,0E+7	few structures seen with telescope	E14	4:30	18:54	11:40	in morning sky	4:54	104	5:20	11:38	7,7°	76,8°	92,9°							
91	X	Com	188,8	14,5	5,4	10,2	6,0E+7	no structures visible	E14	4:32	18:58	11:43	in morning sky	4:54	105	5:22	11:40	7,6°	76,5°	93,4°							
61	X	Vir	185,4	4,4	6	9,7	6,0E+7	spiral arms with bigger telescope hardly visible	E14	5:09	17:53	11:29	at dawn	5:22	106	5:26	11:44	2,7°	86,4°	94,4°							
49	X	Vir	187,4	8,0	8,9	8,4	6,0E+7	brightest galaxy of Virgo cluster, big	E14	5:00	18:19	11:37	at dawn	5:22	107	5:28	11:46	4,5°	82,9°	94,9°							
68	G	Hya	189,9	-26,7	12	8,2	3,0E+4	with bigger telescopes resolvable into center	E12	8:15	15:23	11:47	not visible	5:22	108	5:30	11:48	-22,9°	104,8°	95,4°							
104	X	Vir	190,0	-11,6	8,9	8,3	5,0E+7	Sombrero nebula: almost central dust lane visible only with bigger telescopes	E12	6:45	16:54	11:48	not visible	5:22	109	5:26	11:44	-12,5°	93,3°	94,4°							
83	X	Hya	204,2	-29,9	11,2	7,6	2,0E+7	visible with binoculars, wonderful with bigger telescope, bright core, elongated bulk	E16	9:42	15:55	12:48	not visible	5:22	110	5:26	11:44	-34,8°	96,7°	94,4°							
Sun	-		195,3	-6,5			0	-	-	4:58	19:20	12:09	start of astron. twilight	4:58	(P0)	4:58	11:16	-16,5°	80,3°	87,3°	-						
Sun	-		195,3	-6,5			0	-	-	5:26	18:51	12:09	twilight starts	5:26	(P0)	5:26	11:44	-12,0°	85,8°	94,4°	-						
Sun	-		195,3	-6,5			0	-	-	6:38	17:40	12:09	Sunrise	6:38	(P0)	6:38	12:56	-0,5°	99,6°	112,3°	-						
Venus	-		218,4	-22,6			0	Venus	-	9:45	17:45	13:45	at dusk	17:42	(P2)	17:42	0:00	0,4°	232,6°	277,8°							
Mars	-		223,8	-17,1			0	Mars	-	9:33	18:40	14:07	at dusk	17:42	(P3)	17:42	0:00	7,8°	231,3°	277,8°							
Neptun	-		328,6	-13,3			0	Neptun	-	16:10	1:58	21:04	at transit	21:04	(P7)	21:04	3:22	26,7°	180,0°	328,6°							
Jupiter	-		357,1	-3,0			0	Jupiter	-	17:13	4:42	22:58	at transit	22:58	(P4)	22:58	5:16	37,0°	180,0°	357,1°							
Uranus	-		358,4	-1,5			0	Uranus	-	17:12	4:55	23:04	at transit	23:04	(P6)	23:04	5:21	38,5°	180,0°	358,4°							
Saturn	-		188,9	-1,5			0	Saturn	-	5:52	17:39	11:47	at dawn	6:38	(P5)	6:38	12:56	7,5°	101,3°	112,3°							
Mercury	-		189,4	-2,3			0	Mercury	-	6:08	17:37	11:49	at dawn	6:38	(P1)	6:38	12:56	6,4°	101,4°	112,3°							