

Stargazing Targets, September, 2025

Ashton Observatory



Targets – west to east	Angular size	Distance	Dia (Sep)	Mag
M3 globular cluster	2.2 min	33 kly	21.2 ly	6.2
Izar (Epsilon Bootis) double star	-	203 ly	(180 AU)	2.6 & 2.5
M5 globular cluster	4.2 min	24 kly	29.2 ly	5.7
Alcor & Mizar double stars	-	86 ly	(20 AU)	4.0 & 2.2/3.8
M51 spiral galaxy (Whirlpool)	11 min	28 Mly	91 kly	8.4
M101 spiral galaxy	29 min	23 Mly	189 kly	7.9
M13 globular cluster (Hercules)	3.0 min	23 kly	19.8 ly	5.8
M92 globular cluster	2.2 min	26 kly	16.8 ly	6.4
M12 globular cluster	4.3 min	15 kly	19.2 ly	6.7
M10 globular cluster	3.6 min	14 kly	14.8 ly	6.6
M8 Lagoon Nebula	90 min	4.3 kly	114 ly	6.0
M20 Trifid Nebula	29 min	5.2 kly	44 ly	6.3
M22 globular cluster	6.5 min	10 kly	19.8 ly	5.1
M17 Omega Nebula (Swan/Check)	46 min	4.2 kly	57 ly	6.0
M16 Eagle Nebula	35 min	5.7 kly	58 ly	6.4
M11 open cluster (Wild Duck)	32 min	6.1 kly	57 ly	5.8
Epsilon Lyrae (Double Double stars)	-	162 ly	(162/156 AU)	5/6 & 5/5
M57 planetary nebula (Ring)	1.4 min	1400 ly	0.6 ly	8.8
Albireo double star	-	430 ly	(4210 AU)	3.1 & 5.1
M27 planetary nebula (Dumbbell)	8 min	1700 ly	4.0 ly	7.1
M15 globular cluster	2.1 min	33 kly	20.5 ly	6.2
M2 globular cluster	1.9 min	37 kly	20.2 ly	6.5
M30, globular cluster	2.3 min	26 kly	17.2 ly	7.2
NGC 7293, planetary nebula (Helix)	15 min	900 ly	3.8 ly	7.6
M31 spiral galaxy (Andromeda)	189 min	2.6 kly	142 ly	3.4
NGC 7789, open cl (Caroline's Rose)	25 min	5.9 kly	43 ly	6.7
NGC 457 open cl (Owl/Dragonfly)	20 min	7.9 kly	46 ly	6.4
NGC 869/884 open cl (Double Cl)	18/18 min	6.8/9.1 kly	36/51 ly	5.3/6.1
M81/82 spiral galaxies (Bode's/Cigar)	25/11 min	12 Mly	87/40 kly	6.9/8.4
M33, spiral galaxy (Pinwheel)	69 min	2.9 kly	57 ly	5.7
Saturn, planet 6	19.4 sec	8.6 AU	9.4xEarth	0.6
Neptune, planet 8	2.4 sec	28.9 AU	3.9xEarth	7.8
Moon: new = Sep 21; full = Sep 07	32.0 min	240,000 mi	2,160 mi	-12.4max

Notes: Most data from SkySafari Pro7 smartphone application, 2025.

Angular size=as viewed from Earth; Distance=distance from Earth; Dia=overall true size; (Sep)=distance between double stars;

Mag=apparent visual magnitude from Earth.

min=arcminute; sec=arcsecond; ly=light year (~5.9 trillion miles); kly=ly x1000; Mly=ly x1,000,000.

AU=astronomical unit, 1AU=the average distance from Earth to Sun (=93,000,000 mi). Oort Cloud ≈3.75 ly dia.

Constellations/stars rise approx. 4 minutes earlier/day. The planets move differently per orbit. Moon about 45 minutes later/night.

Milky Way =120x2 kly; total stars =100-400 billion. MW rotates Solar System =483,000 mph. The MW thru space =1,300,000 mph.