

Fall 2025 Targets

Object / Name	Type	Constellation	Notes	Scope	Filter	Exposure
Naked Eye:						
Zodiacal Light	sunlight	Gemini-Cancer-Leo	before dawn	-	-	
Gegenschein	sunlight	Pisces near ecliptic	midnight to 1am	-	-	
SeeStar S30 Widefield:						
T Coronae Borealis	Star	Corona Borealis	recurring nova	S30	IR	10 second subs for 1 minute
NGC7000 (N American neb)	E. Nebula	Cygnus	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
Sadr (Butterfly Nebula)	E. Nebula	Cygnus	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
IC1805 (Heart Nebula)	E. Nebula	Cassiopeia	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
IC1848 (Soul Nebula)	E. Nebula	Cassiopeia	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
NGC281 (Pacman Nebula)	E. Nebula	Cassiopeia	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
IC5146 (Cocoon Nebula)	E. Nebula	Cygnus	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
IC51396 (Elephant Trunk Nebula)	E. Nebula	Cepheus	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
M31	Galaxy	Andromeda	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
M33	Galaxy	Triangulum	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
M74	Galaxy	Pisces	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
NGC253	Galaxy	Sculptor	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
NGC7331	Galaxy	Pegasus	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
NGC457	O. Cluster	Cassiopeia	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
NGC7789	O. Cluster	Cassiopeia	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
NGC7790	O. Cluster	Cassiopeia	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M52	O. Cluster	Cassiopeia	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M103	O. Cluster	Cassiopeia	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
NGC869 & NGC884 - Double Cluster	O. Cluster	Perseus	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
M34	O. Cluster	Perseus	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
Melotte 20 Alpha Persei OB Asso	O. Cluster	Perseus	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M36	O. Cluster	Auriga	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M37	O. Cluster	Auriga	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M38	O. Cluster	Auriga	EQ Mode and frame/mosaic	S30	IR	20 second subs for 30 minutes
M45 "Pleiaides"	O. Cluster	Taurus	EQ Mode and frame/mosaic	S30	IR	60 second subs for 1 hour
IC405 "Flaming Star"	E. Nebula	Auriga	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
IC410 "Tadpole Nebula"	E. Nebula	Auriga	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
M42/M43	E. Nebula	Orion	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
B33 & NGC2024	D. & E. Neb	Orion	EQ Mode and frame/mosaic	S30	NB	60 second subs for 1 hour
Specific Objects:						
T Coronae Borealis	Star	C. Borealis	recurring nova	EVO50mm & 8" SCT	L-Pro	15 sec subs for 5 minutes
V404 Cygni RA: 20h 24m Dec: +33° 52'	Star	Cygnus	Black Hole - see Mar S&T p9	8" SCT	L-Pro	30 second subs for 5 or 15 minutes
Wolf-Rayet Shells		https://www.reinervogel.net/index_e.html				also see PDF
WR102	Nebula	Sagittarius	Wolf-Rayet Shell	8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
WR128	Nebula	Sagitta	Wolf-Rayet Shell	8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
WR134	Nebula	Cygnus	Wolf-Rayet Shell	8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
Kepler's SuperN Remnant (SN1604)	SNR	Ophiuchus ??? Low	Supernova Remnant	8" SCT	L-eNhance	5 min subs for 60 min ROI=1024x786
Cassiopeia-A	SNR	Cassiopeia	see Dec 2014 Sky&Tel p.61	8" SCT	L-eNhance	5 min subs for 60 min ROI=1024x786
IC5146 (Cocoon nebula)	E. Nebula	Cygnus		8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
Andromeda's Parachute	Quasar	Andromeda	RA: 01h 47m 09s, DEC +46 30 37	8" SCT	L-Pro	try 5 sec for 15 min
NGC7714 & 7715 (Arp284) & Quasar	QS02333+019	Pisces	see Oct 2017 Sky&Tel p.62	8" SCT	L-Pro	3 or 5 minute subs for 15 or 30 minutes
IRAS 18059-3211 "Gomez's Hamburger"	P. Nebula	Sagittarius	Edge-on protoplanetary dust disk RA 18h 09m 13.40s DEC -32° 10' 50"	8" SCT	L-Pro	3 minute subs for 15 or 30 minutes
HDW2	P. Nebula	Cassiopeia	see Dec 2015 Sky&Tel p.52	EVO50mm & 8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
NGC7619 & 7626 - Pegasus-l	Gal. Cluster	Pegasus	see Aug 2021 Sky&Tel p.57	8" SCT	L-Pro	3 or 5 min subs for 60 min (ROI=4144)
Hinds Var Nebula - T Tauri	R. Nebula	Taurus	see Nov 1997 Sky&Tel p.98	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
Re-Observe Objects:						
Abell55	P. Nebula	Aquila		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell70	P. Nebula	Aquila		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell72	P. Nebula	Delphinus		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell75	P. Nebula	Cepheus		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell78	P. Nebula	Cygnus		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell79	P. Nebula	Lacerta		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell81	P. Nebula	Cepheus		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell82	P. Nebula	Cassiopeia		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
Abell84	P. Nebula	Cassiopeia		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
NGC6820	E. Nebula	Vulpecula		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min

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NGC7822 (SH2-171) (Ced214)	E. Nebula	Cepheus	Astrophoto Atlas map3 p.22	EVO50mm	L-eNhance	3 or 5 min subs for 30 or 60 min
SH2-82 "Little Trifid Nebula"	R. & E. Neb	Sagitta		EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1579 "Northern Trifid Nebula"	R. & E. Neb	Perseus	see Oct 2019 Sky&Tel p.60-61	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
vdB24	R. Nebula	Perseus	see Oct 2019 Sky&Tel p.62	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC6956	Galaxy	Delphinus	see Sept 2025 Sky&Tel p.24	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7318+ "Stephans Quintet"	Galaxy	Pegasus	see Sept 2000 Sky&Tel p.117	8" SCT	L-Pro	5 min subs for 60 min
NGC7640	Galaxy	Andromeda		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC68+	Gal. Cluster	Andromeda	see Nov 2010 Sky&Tel p.67	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC80+	Gal. Cluster	Andromeda	see Nov 2009 Sky&Tel p.66	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC383+	Gal. Cluster	Pisces	see Jan 2020 Sky&Tel p.58	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC55	Galaxy	Sculptor	see Dec 2011 Sky&Tel p.63	8" SCT	L-Pro	5 min subs for 60 min
NGC300	Galaxy	Sculptor	see Dec 2011 Sky&Tel p.64	8" SCT	L-Pro	5 min subs for 60 min
NGC253 "Silver Coin Galaxy"	Galaxy	Sculptor	see Dec 2011 Sky&Tel p.62	EVO50mm & 8" SCT	L-Pro	5 min subs for 60 min
Sculptor Dwarf - MCG-6315	Galaxy	Sculptor	see Dec 2011 Sky&Tel p.64	8" SCT	L-Pro	5 min subs for 60 min
NGC288	Glob Cluster	Sculptor	see Dec 2011 Sky&Tel p.63	8" SCT	L-Pro	30 second subs for 5 or 15 minutes
Bianco1 "Zeta Sculptoris Cluster"	Open Cluster	Sculptor	see Dec 2011 Sky&Tel p.62	EVO50mm & 8" SCT	L-Pro	15 second subs for 5 or 10 minutes
NGC7793	Galaxy	Sculptor		8" SCT	L-Pro	5 min subs for 60 min
NGC1360	P. Nebula	Fornax	see Jan 2015 Sky&Tel p.56	8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
NGC1097	Galaxy	Fornax	see Jan 2015 Sky&Tel p.57	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1288	Galaxy	Fornax		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1292	Galaxy	Fornax		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1350	Galaxy	Fornax		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1360	P. Nebula	Fornax		8" SCT	L-eNhance	3 or 5 min subs for 15 or 30 min
NGC1365	Galaxy	Fornax	see Jan 2015 Sky&Tel p.57	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1380+ "Fornax Galaxy Cluster"	Gal. Cluster	Fornax	see Jan 2015 Sky&Tel p.58	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC6907	Galaxy	Capricornus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC6923	Galaxy	Microscopium		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC6925	Galaxy	Microscopium		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7165	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7183	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7188	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7230	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7284 & NGC7285	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7393	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7606 ***	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7721	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7723	Galaxy	Aquarius		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7172, 7173, 7174 & 7176	Galaxy	Piscis Austrinus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7229	Galaxy	Piscis Austrinus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7313 & NGC7314	Galaxy	Piscis Austrinus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7361	Galaxy	Piscis Austrinus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC234	Galaxy	Pisces		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC470 & NGC474 ***	Galaxy	Pisces		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7537 & NGC7541	Galaxy	Pisces		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7727	Galaxy	Pisces		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC7757	Galaxy	Pisces		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC45	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC145	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC151	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC157	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC247	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC274 & NGC275	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC493	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC908	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1042	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1055	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1143 & NGC1144	Galaxy	Cetus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
WLM - MCG-3115	Galaxy	Cetus	(Wolf-Lundmark-Melotte)	8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC673	Galaxy	Aries		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC697	Galaxy	Aries		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC770 & NGC772 ***	Galaxy	Aries		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1024, NGC1028 & NGC1029	Galaxy	Aries		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1134	Galaxy	Aries		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2403	Galaxy	Camelpardalis		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2715	Galaxy	Camelpardalis		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2543	Galaxy	Lynx		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2649	Galaxy	Lynx		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2683	Galaxy	Lynx		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
IC2118 "Witch-Head Nebula"	R. Nebula	Eridanus		EVO50mm	L-Pro	5 min subs for 60 min
NGC1084	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1114	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1232	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1300	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1353	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1421	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1507	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1531 & NGC1532	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC1637	Galaxy	Eridanus		8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min

Object / Name	Type	Constellation	Notes	Scope	Filter	Exposure
Usual Suspects: (old friends)						
M33	Galaxy	Triangulum	"Pinwheel Galaxy"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
M2	Glob Cluster	Aquarius		8" SCT	L-Pro	30 second subs for 5 or 15 minutes
M15	Glob Cluster	Pegasus		8" SCT	L-Pro	30 second subs for 5 or 15 minutes
NGC891	Galaxy	Andromeda	"Silver Sliver Galaxy"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC6946	Galaxy	Cepheus	"Fireworks Galaxy"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
IC342	Galaxy	Camelpardalis	"Hidden Galaxy"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
M42/M43	E. Nebula	Orion	"Orion nebula"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
B33 & NGC2024	D. & E. Neb	Orion	"HorseHead & Flame"	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
NGC2359	E. Nebula	Canis Major	"Thors Helmet"	8" SCT	L-eNhance	3 or 5 min subs for 30 or 60 min
Solar System Objects:						
Comet Atlas K1	Comet	Virgo	check "TheSkyLive"	8" SCT	L-Pro	see the TheSkyLive for charts
Comet Atlas 3I Atlas	Comet	Libra	check "TheSkyLive"	8" SCT	L-Pro	see the TheSkyLive for charts
Project Objects:						
SH2 Nebula - Book	E. Nebula			EVO50mm & 8" SCT	L-eNhance	3 minute subs for 15 or 30 min ROI=4144
Barnard Dark Nebula - Book	D. Nebula			EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
Barnard 10	D. Nebula	Perseus		EVO50mm or S30	L-Pro / IR	3 or 5 min subs for 30 or 60 min
Barnard 1,2,3,4,5	D. Nebula	Perseus	see Oct 2019 Sky&Tel p.62-63	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
Barnard 202, 204, 205, 206	D. Nebula	Perseus	see Oct 2019 Sky&Tel p.62-63	EVO50mm & 8" SCT	L-Pro	3 or 5 min subs for 30 or 60 min
Abell Galaxy Clusters - Book	Galaxy	Serp, Herc, Umi, Peg	p324,328, 360, 372-376, 416	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Abell2247	Gal. Cluster	Ursa Minor	p.372	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Abell2256	Gal. Cluster	Ursa Minor	(re-do) p.376	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Abell2657	Gal. Cluster	Pegasus	p.412	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Abell2666	Gal. Cluster	Pegasus	p.416 Sept 2013 Sky&Tel p.60	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Palomar Galaxy Clusters - Book	Galaxy			8" SCT	L-Pro	3 minute subs for 15 min ROI=2072x1410
Arp Peculiar Galaxies - Book	Galaxy		chart B, M, N	8" SCT	L-Pro	3 minute subs for 30 min ROI=2072x1410
Experimental:						
IFN (Integrated Flux Nebula):						
December 2022 Sky&Tel	IFN	Andromeda	IFN2,3,4	EVO50	L-Pro	near M31 and M33. Use EVO50mm or S30
IFN32 - Alpha Hercules	IFN	Lyra		EVO50	L-Pro	around A Herc. Use EVO50mm or S30
IFN33 - Vega	IFN	Lyra		EVO50	L-Pro	around Vega. Use EVO50mm or S30
IFN34 - Epsilon Lyra	IFN	Lyra		EVO50	L-Pro	around Epsilon Lyra. Use EVO50mm or S30
IFN42 - Iris Nebula	IFN	Cepheus		EVO50	L-Pro	extends south of the reflection nebula
Late Adds:						

Notes: