



Instrumentation

Telescopes:

Celestron Edge 9.25 F10 with and without 0.7 focal reducer

Celestron CGX Mount

Astrotech ED 60 F6 Lanthanum Doublet Refractor with 0.8 focal reducer/ field flattener

Astrotech ED 70 Refractor, F6

William Optics Zenithstar 73mm Apochromatic Refractor, F6

Cameras:

ZWO ASI294MC PRO

Controller: ZWO ASIAIR Plus, ZWO ASIAIR Mini

Filters:

IDAS LP2 Filter

Software:

Celestron CPWI

Sky Safari Pro

Deep Sky Stacker,

GIMP

ASIAIR



	Name	RA	DEC	Mag.	Per	Con	Type	Cat	HIP Desig	HD Desig
1	WZ Cas	00 01 15	+60 21 19	6.9-11.0	186	Cas	C9(N1)	SAO 21002	HIP 99	HD 224855
2	SU And	00 04 36	+43 33 04	8.0-8.5	Irr.	And	C6(Nb)	GSC 2793:243	HIP 363	HD 225217
3	SAO 109003	00 05 22	+08 47 16	8.2-8.3	?	Psc	C(G4V)	GSC 594: 778	HIP 447	HD 26
4	VX And	00 19 54	+44 42 33	7.8-9.3	369	And	C4(N7)	GSC 2794:14	HIP 1593	HD 1546
5	AQ And	00 27 31	+35 35 14	6.9 – 8.6	346	And	C5 (Nb)	GSC 2270:318	HIP 2180	HD 2342
6	NSV 15196	00 54 13	+24 04 01	8.3 – 8.7	755	And	C1 (Rp)	SAO 74353	HIP 4252	HD 5523
7	W Cas	00 54 53	+58 33 49	7.8 – 12.5	406	Cas	C7	GSC 368:1824	HIP 4284	HD 5235
8	Z Psc	01 16 05	+25 46 09	6.5 – 7.9	144	Psc	C7 (N0)	SAO 74593	HIP 5914	HD 7561
9	V Ari SAU	02 15 00	+12 14 23	8.3 – 10.8	77	Ari	C4 (R8)	SAO 92853	HIP 10472	HD 13826
10	129989	02 35 06	-09 26 34	8.2 – 8.5	?	Cet	C2 (R3)	GSC 5285:3	HIP 12028	HD 16115
11	UY And	02 38 23	+39 10 09	7.4-12.3	?	And	C5(N3)	GSC 2832:2	HIP 12298	HD 16326
12	V623 Cas	03 11 25	+57 54 11	7.3-8.1	?	Cas	C4(R5)	SAO 23858	HIP 14827	HD 19557
13	Y Per	03 27 42	+44 10 36	8.1-11.3	249	Per	C4(R4)	GSC 2873:1287	HIP 16126	HD 21280
14	V466 Per	03 41 29	+51 30 11	8.4-8.9	?	Per	C5(N5) C3-	NSV 1223		HD 232820
15	U Cam	03 41 48	+62 38 54	6.9-7.6	?	Cam	C6(N5)	SAO 12870	HIP 17257	HD 22611
16	UV Cam	04 05 53	+61 47 39	7.5-8.1	294	Cam	C5(R8) C0-	SAO 13009	HIP 19115	HD 25408
17	XX Cam	04 08 38	+53 21 39	7.1-10.0	?	Cam	C2(G1)	SAO 24431	HIP 19340	HD 25878
18	ST Cam	04 51 13	+68 10 07	6.7-8.4	300	Cam	C5(N5) C4-	SAO 13285	HIP 22552	HD 30243
19	TT Tau	04 51 31	+28 31 36	7.7-10.0	167	Tau	C7(N3)	SAO 76788	HIP 22578	HD 30755
20	R Lep	04 59 36	-14 48 22	5.5-11.7	427	Lep	C7(N6)	SAO 150058	HIP 23203	HD 31996
21	EL Aur	05 03 23	+50 37 58	8.5-8.7	Irr.	Aur	C5(N3)	SAO 24981	HIP 23520	HD 32088
22	W Ori	05 05 23	+01 10 39	5.8-10.0	212	Ori	C5(N5)	SAO 112406	HIP 23680	HD 32736
23	TX Aur	050905	390008	8.5-9.2	Irr.	Aur	C5(N3)	GSC 2895: 203	HIP 23965	HD 33016
24	SY Eri	050948	-053055	8.3-10.0	96	Eri	C6(N0) C0-	SAO 131832	HIP 24025	HD 33404
25	UV Aur	052148	323043	7.4-10.6	394	Aur	C8(Nc)	SAO 57941	HIP 25050	HD 34842
26	S Aur	052707	340859	8.2-13.3	590	Aur	C4/5(N3)	GSC 2411:222		HD 35556
27	RT Ori	053313	070912	8.0-8.9	321	Ori	C6(Nb)	GSC 126: 161	HIP 26032	HD 36602
28	S Cam	054102	684755	7.7-11.6	327	Cam	C7(R8)	SAO 13563	HIP 26753	HD 36972
29	TU Tau	054513	242512	5.9-9.2	190	Tau	c5(N3)	SAO 77502	HIP 27135	HD 38218
30	Y Tau	054539	204142	6.5-9.2	242	Tau	C6.5(N3)	SAO 77516	HIP 27181	HD 38307
31	FU Aur	054808	303751	8.3-8.5	?	Aur	C7(N0)	SAO 58449	HIP 27398	HD 38572
32	TU Gem	061053	260053	7.4-8.4	230	Gem	C6(N3)	SAO 78066		HD 42272
33	FU Mon	06 22 23	+03 25 27	8.5 – 9.8	310	Mon	C8 (CSe)	GSC 136: 183	HIP 30301	HD 44544

	Name	RA	DEC	Mag.	Per	Con	Type	Cat	HIP Desig	HD Desig
68	HK Lyr	184250	365730	7.8-9.6	Irr.	Lyr	C6(N4)	GSC 2649: 507	HIP 91774	HD 173291
69	S Sct	185820	-075427	6.3-9.0	148	Sct	C6(N3)	SAO 142674	HIP 92442	HD 174325
70	UV Aql	18 58 32	+14 21 49	8.0 - 9.6	386	Aql	C5(N4) C5-	GSC 1051:51	HIP 93158	HD 176200
71	V Aql	190424	-054105	6.6-8.4	353	Aql	C6(N6)	SAO 142985	HIP 93666	HD 177336
72	V1942 Sgr	191909	-155430	6.7-7.0	Irr.	Sgr	C6(N2/R8)	SAO 162465	HIP 94940	HD 180953
73	U Lyr	19 20 09	+37 52 36	8.3 - 13.5	452	Lyr	C4 (N0e)	GSC 3134:1708		TYC 3134-1708-1
74	UX Dra	192135	763334	5.9-7.1	168	Dra	C7(N0)	SAO 9404	HIP 95154	HD 183556
75	NSV 11960	19 23 10	-10 42 11	7.0 - 7.1	?	Aql	C2 (R0)	SAO 162551 GSC 3543:	HIP 95289	HD 182040 TYC 3543-
76	AW Cyg	19 28 47	+46 02 38	7.1 - 8.5	340	Cyg	C4 (N3)	2275	HIP 95777	2275-1
77	AQ Sgr	19 34 18	-16 22 27	6.6 - 8.5	200	Sgr	C7 (N3)	SAO 162777	HIP 96255	HD 184283
78	TT Cyg	19 40 57	+32 37 05	7.0 - 9.1	118	Cyg	C5 (N3e)	SAO 68688	HIP 96836	HD 186047
79	AX Cyg	19 57 12	+44 15 40	7.9 - 8.8	Irr.	Cyg	C4 (N6)	GSC 3149: 942	HIP 98190	HD 189256
80	V1469 Aql	20 01 03	+09 30 51	8.4 - 8.7	98	Aql	C4 (N0v)	SAO 125356	HIP 98538	HD 189711
81	BF Sge	20 02 23	+21 05 24	8.5 - 10.0	177	Sge	C4 (N3)	GSC 1629: 945	HIP 98662	HD 190048
82	X Sge	20 05 05	+20 38 51	7.0 - 9.7	196	Sge	C6 (N3)	HD 190606	HIP 98909	HD 190606
83	SV Cyg	20 09 30	+47 52 17	8.5 - 8.7	?	Cyg	C5 - C7 (N	GSC 3563: 462	HIP 99310	HD 191738
84	RY Cyg	20 10 23	+35 56 50	8.5 - 10.3	Irr.	Cyg	C4 - C6 (N	GSC 2683: 3082		HD 191783
85	RS Cyg	20 13 23	+38 43 44	6.5 - 9.5	417	Cyg	C8 (N0pe)	SAO 69636 GSC 6340:	HIP 99653	HD 192443
86	RT Cap	20 17 06	-21 19 04	7.0 - 8.1	393	Cap	C6 (N3) C7 - C9	1015	HIP 99990	HD 192737
87	U Cyg	20 19 36	+47 53 39	5.9 - 12.1	463	Cyg	(Npe)	SAO 49477	HIP 100219	HD 193680
88	V Cyg	20 41 18	+48 08 28	7.7 - 13.9	421	Cyg	C5 - C7 (Npe)	SAO 49940	HIP 102082	TYC 3578-3282-1
89	CY Cyg SAO	20 46 50	+46 03 06	7.9 - 8.4	?	Cyg	C5 (M2p)	SAO 50053 GSC 1051:		HD 198164
90	106516	20 48 36	+17 50 23	7.9 - 8.1	?	Del	C1 (R0)	1359	HIP 102706	HD 198269
91	NSV 13571	21 09 59	+26 36 54	8.1 - 8.2	?	Vul	C1 (Kp)	SAO 89499	HIP 104486	HD 201626
92	S Cep	21 35 12	+78 37 28	7.4 - 12.9	487	Cep	C7 (N8e)	SAO 10100	HIP 106583	HD 206362
93	V460 Cyg	21 42 01	+35 30 36	5.6 - 7.0	180	Cyg	C6 (N1)	SAO 71613	HIP 107129	HD 206570
94	RV Cyg	21 43 16	+38 01 02	7.1 - 9.3	263	Cyg	C6 (N5)	SAO 71642	HIP 107242	HD 206750
95	RX Peg	21 56 22	+22 51 39	7.7 - 9.5	629	Per	C4 (N3)			HD208526
96	RZ Peg	22 05 52	+33 30 24	7.6 - 13.6	439	Per	C9 (Ne)	GSC 2724: 1872	HIP 109189	HD 209890
97	RU Aqu	23 24 24	-17 19 08	8.5 - 10.1	69	Aqu	C6 (M5e) C4 - C6	SAO 165676	HIP 115553	HD 220515
98	ST And	23 38 45	+35 46 21	7.7 - 11.8	328	And	(R3e)	GSC 2778: 765	HIP 116681	HD 222241
99	TX Psc	23 46 23	+03 29 12	4.8 - 5.2	Irr.	Psc	C7 (N0)	SAO 128374	HIP 117245	HD 223075
100	SAO 128396	23 49 05	+06 22 56	8.5 - 8.8	?	Psc	C3 (R3)	GSC 592: 649	HIP 117467	HD 223393

Object: RT Orionis Constellation: Orion Date: 12/10/22 Time: 21:32 MST

Seeing: 4/5 Transparency: 4/5 Darkness: Bortle 3

Instrument: William Optics Zenithstar 73 APO Refractor (Imaging) Focal Length: F6
Astrotech ED 70 Refractor F6, 15mm ocular ; Mag 28x (Visual)

Notes:

Color from Visual Observation: Yellowish Orange



William Optics Zenithstar 73 APO Refractor

ZWO ASI294 MC PRO

IDAS LP2 Filter

300 sec Exposure, Gain 300

1 300sec Frames, 6 Dark Frames, 20 Flat Frames, 100 Bias Frames

Stacked in Deep Sky Stacker

Processed in GIMP

Object: NSV 11960 Constellation: Aql Date: 02/17/23 Time: 05:42 MST
Seeing: 5/5 Transparency: 5/5 Darkness: Bortle 3
Instrument: William Optics Zenithstar 73 APO Refractor (Imaging) Focal Length F6
Astrotech ED 70 Refractor F6, 15mm ocular ; Mag 28x (Visual)

Notes:
Color from Visual Observation: Yellow Orange Position confirmed form AAVSO Chart



William Optics Zenithstar 73 APO Refractor
ZWO ASI294 MC PRO
IDAS LP2 Filter
30 sec Exposure, Gain 300
1 30sec Frames,
Debayered in Deep Sky Stacker
Processed in GIMP

Object: SAO 106516 Constellation: Delphinus Date: 2/20/23 Time: 05:44 MST

Seeing: 3/5 Transparency: 3/5 Darkness: Bortle 3

Instrument: William Optics Zenithstar 73 APO Refractor (Imaging) Focal Length F6
Astrotech ED 70 Refractor F6, 15mm ocular ; Mag 28x (Visual)

Notes:

Color from Visual Observation: Orange Red



William Optics Zenithstar 73 APO Refractor

ZWO ASI294 MC PRO

IDAS LP2 Filter

30 sec Exposure, Gain 300

1 30sec Frames,

Debayered in Deep Sky Stacker

Processed in GIMP

Object: ST And Constellation: Andromeda Date: 02/05/23 Time: 20:01 MST
Seeing: 5/5 Transparency: 5/5 Darkness: Bortle 3
Instrument: William Optics Zenithstar 73 APO Refractor (Imaging) Focal Length F6
Astrotech ED 70 Refractor F6, 15mm ocular ; Mag 28x (Visual)

Notes:
Color from Visual Observation: Yellow Orange



William Optics Zenithstar 73 APO Refractor
ZWO ASI294 MC PRO
IDAS LP2 Filter
30 sec Exposure, Gain 300
1 30sec Frames,
Processed in ASI AIR

