

**Company Seven**  
Astro-Optics Division

**The MCCM Astronomical Observatory Telescope**

OGS Model RC-24-140F, Purchased August 2007 by Martin Cohen

**At Prime Focus**

Objective Diameter (Inch/mm) = 24.00 609.60 mm    Approx. Highest Useable Mag. 1440 *with Mirror Diagonal*    Light Grasp = 7584 6917 (*Theortl/Act'l*)  
 Effective Focal Ratio = 8.0    Dawes Theoret. Limit 0.19 arc. secs.    Airy Disk Diameter = .00057 mm  
 Nominal Objective Focal Length = 192.0 4877 mm    Smallest Visible Lunar Feature 0.7 km    Magnitude Limit Visual = 16.2 *Approximate*  
 Photographic Resolving Power = 0.14 arc. secs.    35mm Format Area (H x V x D) = 0.41 0.28 0.50    SBIG ST-4 Format Area = 0.03 0.03 Degrees  
 Nominal Back Focus (from rear wall) = 292.1 mm    4" Format Field of View = 1.20 Degrees    STX-16803 ABG Format Area = 0.11 0.16 0.19  
 STX-16803 ABG Format Area = 0.43 0.43 0.61

	3.7	5	6	6	8	10	12	12.5	13	17	22	24	26	31	35	41	55
Eyepiece Focal Length (mm.)	3.7	5	6	6	8	10	12	12.5	13	17	22	24	26	31	35	41	55
Eyepiece Type (Design)	Eth-SX	Ra	Delos	Eth	Eth	Delos	Na4	Ill.Ret	Eth	Na4*	Na4*	PO	Na5*	Na5*	PO*	PO*	PI*
Eyepiece Field Stop (mm)	7.04	5.30	7.60	10.29	13.93	12.70	17.10	9.37	22.30	24.30	31.10	27.14	30.50	41.63	38.70	46.00	46.00
Apparent Field of View (Publ.)	110	60	72	60	100	72	82	45	100	82	82	68	68	82	68	68	50
Magnification (Power)	1318	975	813	813	610	488	406	390	375	287	222	203	188	157	139	119	89
Actual Field of View (Deg)	0.08	0.06	0.09	0.12	0.16	0.15	0.20	0.11	0.26	0.29	0.37	0.32	0.36	0.49	0.45	0.54	0.54
Exit Pupil (mm)	0.46	0.63	0.75	0.75	1.00	1.25	1.50	1.56	1.63	2.13	2.75	3.00	3.25	3.88	4.38	5.13	6.88
Projection Magnification Factor	19	14	12	12	8	7	5	5	5	3	2	2	2	1	1	1	0
Effective focal ratio	462	336	276	276	201	156	126	120	114	82	58	51	45	34	27	20	9
Effective focal length (mm)	11562	8400	6900	6900	5025	3900	3150	3000	2862	2047	1445	1275	1131	852	686	498	218

(*Eyepc. Projection Data Assumes 75mm Throw*)

**With Photo-Visual .75X Telecompressor**

Objective Diameter (Inch/mm) = 24.00 610 mm    Approx. Highest Useable Mag. 1440 *With Mirror Diagonal*    Light Grasp = 7584 6710 (*Theortl/Act'l*)  
 Effective Focal Ratio = 6.0    35mm Format Area (H x V x D) = 0.55 0.38 0.67 Degrees    Airy Disk Diameter = .00014 mm  
 Visual Effective Focal Length = 144.0 3658 mm    4" Format Field of View = 1.60 Degrees    SBIG ST-4 Format Area = 0.04 0.04 Degrees  
 Photographic Resolving Power = 0.18 arc. secs.    STX-16803 ABG Format Area = 0.14 0.22 0.26  
 STX-16803 ABG Format Area = 0.58 0.58 0.82

	3.7	5	6	6	8	10	12	12.5	13	17	22	24	26	31	35	41	55
Eyepiece Focal Length (mm.)	3.7	5	6	6	8	10	12	12.5	13	17	22	24	26	31	35	41	55
Eyepiece Type (Design)	Eth-SX	Ra	Delos	Eth	Eth	Delos	Na4	Ill.Ret	Eth	Na4*	Na4*	PO	Na5*	Na5*	PO*	PO*	PI*
Magnification (Power)	989	732	610	610	457	366	305	293	281	215	166	152	141	118	105	89	67
Actual Field of View (Deg)	0.11	0.08	0.12	0.16	0.22	0.20	0.27	0.15	0.35	0.38	0.49	0.43	0.48	0.65	0.61	0.72	0.72
Exit Pupil (mm)	0.62	0.83	1.00	1.00	1.33	1.67	2.00	2.08	2.17	2.83	3.67	4.00	4.33	5.17	5.83	6.83	9.17
Projection Magnification	19	14	12	12	8	7	5	5	5	3	2	2	2	1	1	1	0
Effective focal ratio	116	84	69	69	50	39	32	30	29	20	14	13	11	9	7	5	2
Effective focal length (mm)	3524147	100800	82800	82800	60300	46800	37800	36000	34338	24565	17345	15300	13569	10219	8229	5971	2618

(*Eyepc. Projection Data Assumes 50mm Throw*)

Eyepiece Design Notes: BR = Brandon, Er = Erfle, Eth=TeleVue Ethos, Na = TeleVue Nagler, Or = Ortho, Pl = Plossl, PO = TeleVue Panoptic, RA- TeleVue Radian, \* = 2" Ocular  
 ©1989 Information and formulas compiled by Martin Cohen, Company Seven Astro-Optics, Montpelier, Maryland 20709-2587. Telephone 301-953-2000