

**FIXED MAGNIFICATION OPTICAL SYSTEM  
SPECIFICATION CHART  
(Including Standard and Mini Fixed Tubes)**

Bottom Module	Standard Mini	FT #60 N/A	FT #100 N/A	N/A FTM #120	FT #140 FTM #140	FT #160 FTM #160	FT #180 FTM #180	FT #200 FTM #200	N/A FTM #250	N/A FTM #300	N/A FTM #350	N/A FTM #400	N/A FTM #450	N/A FTM #500
<b>B30 / F 30</b> <b>C30 / FC30</b> <b>W.D. = 32mm</b>	NA	0.050	0.081	0.099	0.115	0.131	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16
	MAG	1.5X	2.5X	3.0X	3.5X	4.0X	4.5X	5.0X	6.3X	7.5X	8.8X	10.0X	11.3X	12.5X
	DOF	0.21	0.08	0.05	0.04	0.03	0.024	0.020	0.020	0.020	0.020	0.020	0.020	0.020
	F. 1/4"	1.7 x 2.3	1.0 x 1.4	0.91 x 1.2	0.78 x 1.0	0.68 x 0.91	0.60 x 0.81	0.54 x 0.73	0.43 x 0.58	0.36 x 0.48	0.31 x 0.41	0.27 x 0.36	0.24 x 0.32	.21 x .29
	O. 1/3"	2.3 x 3.1	1.4 x 1.9	1.2 x 1.6	1.0 x 1.3	0.90 x 1.2	0.80 x 1.0	0.71 x 0.95	0.57 x 0.76	0.48 x 0.64	0.41 x 0.54	0.36 x 0.48	0.32 x 0.42	.28 x .38
V. 1/2"	3.1 x 4.1	1.9 x 2.5	1.6 x 2.1	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	0.95 x 1.2	0.76 x 1.0	0.64 x 0.85	0.54 x 0.73	0.48 x 0.64	0.42 x 0.56	.38 x .51	
mm 2/3"	4.3 x 5.7	2.6 x 3.5	2.2 x 2.9	1.8 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7	1.0 x 1.4	0.88 x 1.1	0.75 x 1.0	0.66 x 0.88	0.58 x 0.78	.52 x .70	
<b>B50 / F50</b> <b>C50 / FC50</b> <b>W.D. = 54mm</b>	NA	0.032	0.053	0.065	0.075	0.08	0.098	0.11	0.11	0.11	0.11	0.11	0.11	0.11
	MAG	1.0X	1.6X	2.0X	2.3X	2.6X	3.0X	3.3X	4.1X	4.9X	5.7X	6.6X	7.4X	8.2X
	DOF	0.51	0.19	0.127	0.09	0.07	0.056	0.048	0.048	0.048	0.048	0.048	0.048	0.048
	F. 1/4"	2.7 x 3.6	1.6 x 2.2	1.3 x 1.8	1.1 x 1.5	1.0 x 1.3	0.92 x 1.2	0.83 x 1.1	0.66 x 0.89	0.55 x 0.74	0.47 x 0.63	0.41 x 0.55	0.37 x 0.49	0.33 x 0.44
	O. 1/3"	3.6 x 4.8	2.2 x 2.9	1.8 x 2.4	1.5 x 2.0	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	0.87 x 1.1	0.73 x 0.97	0.62 x 0.83	0.54 x 0.73	0.48 x 0.65	0.43 x 0.58
V. 1/2"	4.8 x 6.4	2.9 x 3.9	2.4 x 3.2	2.0 x 2.7	1.8 x 2.4	1.6 x 2.1	1.4 x 1.9	1.1 x 1.5	0.97 x 1.3	0.83 x 1.1	0.73 x 0.97	0.65 x 0.86	0.58 x 0.78	
mm 2/3"	6.6 x 8.8	4.0 x 5.4	3.3 x 4.4	2.8 x 3.8	2.5 x 3.3	2.2 x 3.0	1.9 x 2.6	1.6 x 2.1	1.3 x 1.7	1.1 x 1.5	1.0 x 1.3	0.89 x 1.1	0.80 x 1.0	
<b>B90 / F90</b> <b>C90 / FC90</b> <b>W.D. = 89mm</b>	NA	0.020	0.033	0.040	0.046	0.053	0.062	0.067	0.067	0.067	0.067	0.067	0.067	0.067
	MAG	0.63X	1.0X	1.2X	1.5X	1.7X	1.9X	2.1X	2.6X	3.1X	3.6X	4.1X	4.7X	5.2X
	DOF	1.3	0.50	0.33	0.25	0.19	0.14	0.12	0.12	0.12	0.12	0.12	0.12	0.12
	F. 1/4"	4.3 x 5.7	2.6 x 3.5	2.1 x 2.9	1.8 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7	1.0 x 1.4	0.87 x 1.1	0.75 x 1.0	0.65 x 0.88	0.58 x 0.78	0.52 x 0.70
	O. 1/3"	5.8 x 7.7	3.6 x 4.8	2.9 x 3.9	2.4 x 3.3	2.1 x 2.8	1.9 x 2.5	1.7 x 2.3	1.3 x 1.8	1.1 x 1.5	0.99 x 1.3	0.86 x 1.1	0.77 x 1.0	0.69 x 0.92
V. 1/2"	7.7 x 10.1	4.8 x 6.4	3.9 x 5.2	3.3 x 4.4	2.8 x 3.8	2.5 x 3.4	2.3 x 3.0	1.8 x 2.4	1.5 x 2.0	1.3 x 1.7	1.1 x 1.5	1.0 x 1.3	0.92 x 1.2	
mm 2/3"	10.4 x 13.9	6.6 x 8.8	5.4 x 7.2	4.5 x 6.0	3.9 x 5.3	3.5 x 4.7	3.1 x 4.2	2.5 x 3.3	2.1 x 2.8	1.8 x 2.4	1.5 x 2.1	1.4 x 1.8	1.2 x 1.6	
<b>B130 / F130</b> <b>C130 / FC130</b> <b>W.D. = 132mm</b>	NA	0.014	0.023	0.028	0.032	0.037	0.043	0.046	0.046	0.046	0.046	0.046	0.046	0.046
	MAG	0.44X	0.71X	0.86X	1.0X	1.1X	1.3X	1.4X	1.8X	2.1X	2.5X	2.9X	3.2X	3.6X
	DOF	2.6	1.0	0.67	0.50	0.39	0.29	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	F. 1/4"	6.2 x 8.3	3.8 x 5.1	3.1 x 4.2	2.7 x 3.6	2.3 x 3.1	2.1 x 2.8	1.9 x 2.5	1.5 x 2.0	1.2 x 1.7	1.0 x 1.4	0.95 x 1.2	0.84 x 1.1	0.76 x 1.0
	O. 1/3"	8.2 x 11.0	5.0 x 6.7	4.8 x 5.6	3.6 x 4.8	3.1 x 4.2	2.8 x 3.7	2.5 x 3.3	2.0 x 2.6	1.6 x 2.2	1.4 x 1.9	1.2 x 1.6	1.1 x 1.4	1.0 x 1.3
V. 1/2"	11.0 x 14.6	6.7 x 9.0	5.6 x 7.4	4.8 x 6.4	4.2 x 5.6	3.7 x 5.0	3.3 x 4.4	2.6 x 3.5	2.2 x 2.9	1.9 x 2.5	1.6 x 2.2	1.4 x 1.9	1.3 x 1.7	
mm 2/3"	15.1 x 20.1	9.3 x 12.3	7.7 x 10.2	6.6 x 8.8	5.7 x 7.6	5.1 x 6.9	4.5 x 6.1	3.6 x 4.9	3.0 x 4.1	2.6 x 3.5	2.3 x 3.0	2.0 x 2.7	1.8 x 2.4	
<b>B150 / F150</b> <b>C150 / FC150</b> <b>W.D. = 152mm</b>	NA	0.012	0.020	0.024	0.028	0.032	0.038	0.041	0.041	0.041	0.041	0.041	0.041	0.041
	MAG	0.38X	0.63X	0.75X	0.88X	1.0X	1.1X	1.3X	1.6X	1.9X	2.2X	2.5X	2.8X	3.1X
	DOF	3.5	1.3	0.88	0.66	0.51	0.38	0.32	0.32	0.32	0.32	0.32	0.32	0.32
	F. 1/4"	7.1 x 9.5	4.3 x 5.8	3.2 x 4.8	3.1 x 4.1	2.7 x 3.6	2.4 x 3.2	2.1 x 2.9	1.7 x 2.3	1.4 x 1.9	1.2 x 1.6	1.0 x 1.4	1.0 x 1.2	0.86 x 1.1
	O. 1/3"	9.4 x 12.5	5.8 x 7.7	4.8 x 6.4	4.1 x 5.4	3.6 x 4.8	3.2 x 4.3	2.8 x 3.8	2.3 x 3.0	1.9 x 2.5	1.6 x 2.1	1.4 x 1.9	1.2 x 1.7	1.1 x 1.5
V. 1/2"	12.5 x 16.6	7.7 x 10.1	6.4 x 8.5	5.4 x 7.3	4.8 x 6.4	4.3 x 5.7	3.8 x 5.0	3.0 x 4.0	2.5 x 3.4	2.1 x 2.9	1.9 x 2.5	1.7 x 2.2	1.5 x 2.0	
mm 2/3"	17.2 x 22.9	10.4 x 13.9	8.8 x 11.6	7.5 x 9.9	6.6 x 8.8	5.9 x 7.9	5.2 x 6.9	4.2 x 5.6	3.5 x 4.6	3.0 x 4.0	2.6 x 3.5	2.3 x 3.1	2.1 x 2.8	
<b>B170 / F170</b> <b>C170 / FC170</b> <b>W.D. = 170mm</b>	NA	0.011	0.018	0.022	0.025	0.029	0.034	0.036	0.036	0.036	0.036	0.036	0.036	0.036
	MAG	0.34X	0.56X	0.67X	0.79X	0.90X	1.0X	1.1X	1.4X	1.7X	2.0X	2.2X	2.5X	2.8X
	DOF	4.3	1.6	1.09	0.82	0.63	0.48	0.41	0.41	0.41	0.41	0.41	0.41	0.41
	F. 1/4"	7.9 x 10.6	4.8 x 6.5	4.0 x 5.4	3.4 x 4.6	3.0 x 4.0	2.7 x 3.6	2.4 x 3.2	1.9 x 2.6	1.6 x 2.1	1.3 x 1.8	1.2 x 1.6	1.0 x 1.4	1.0 x 1.3
	O. 1/3"	10x 14.0	6.4 x 8.6	5.3 x 7.1	4.5 x 6.1	4.0 x 5.3	3.6 x 4.8	3.1 x 4.2	2.5 x 3.4	2.1 x 2.8	1.8 x 2.4	1.6 x 2.1	1.4 x 1.8	1.2 x 1.7
V. 1/2"	14.0 x 18.6	8.6 x 11.4	7.1 x 9.4	6.1 x 8.1	5.3 x 7.1	4.8 x 6.4	4.2 x 5.6	3.4 x 4.5	2.8 x 3.7	2.4 x 3.2	2.1 x 2.8	1.8 x 2.5	1.7 x 2.2	
mm 2/3"	19.2 x 25.7	11.7 x 15.6	9.7 x 13.0	8.3 x 11.2	7.3 x 9.7	6.6 x 8.8	5.8 x 7.7	4.6 x 6.2	3.9 x 5.2	3.3 x 4.4	2.9 x 3.9	2.6 x 3.4	2.3 x 3.1	
<b>B190 / F190</b> <b>C190 / FC190</b> <b>W.D. = 190mm</b>	NA	0.009	0.016	0.019	0.022	0.026	0.030	0.032	0.032	0.032	0.032	0.032	0.032	0.032
	MAG	0.30X	0.50X	0.59X	0.69X	0.79X	0.89X	0.99X	1.2X	1.5X	1.7X	2.0X	2.2X	2.5X
	DOF	5.5	2.1	1.4	1.1	0.81	0.62	0.53	0.53	0.53	0.53	0.53	0.53	0.53
	F. 1/4"	9.0 x 12.0	5.5 x 7.3	4.6 x 6.1	3.9 x 5.2	3.4 x 4.6	3.0 x 4.0	2.7 x 3.6	2.2 x 2.9	1.8 x 2.4	1.5 x 2.1	1.3 x 1.8	1.2 x 1.6	1.1 x 1.4
	O. 1/3"	11.9 x 15.8	7.3 x 9.7	6.0 x 8.0	5.1 x 6.9	4.5 x 6.0	4.0 x 5.4	3.6 x 4.8	2.9 x 3.8	2.4 x 3.2	2.0 x 2.7	1.8 x 2.4	1.6 x 2.1	1.4 x 1.9
V. 1/2"	15.8 x 21.1	9.7 x 12.9	8.0 x 10.7	6.9 x 9.2	6.0 x 8.0	5.4 x 7.2	4.8 x 6.4	3.8 x 5.1	3.2 x 4.3	2.7 x 3.6	2.4 x 3.2	2.1 x 2.8	1.9 x 2.5	
mm 2/3"	21.8 x 29.1	13.3 x 17.7	11.1 x 14.8	9.5 x 12.6	8.3 x 11.1	7.4 x 9.9	6.6 x 8.8	5.3 x 7.1	4.4 x 5.9	3.8 x 5.0	3.3 x 4.4	2.9 x 3.9	2.6 x 3.5	

12/13/2001

= Coaxial Illumination will not be completely uniform across the field

= F.O.V. exceeds capability of Coaxial Illumination