

TECHNOLOGY REPORT

Marshall Electronics, Inc.

1910 East Maple Av, El Segundo, CA 90245 USA

TEL : 310-333-0606

FAX : 310-333-0688

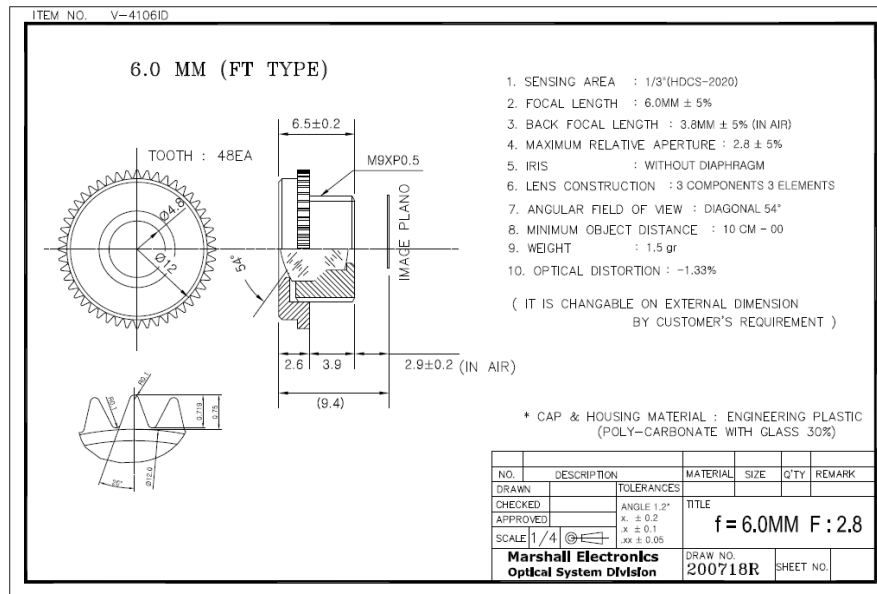
Website: www.mars-cam.com

Email: sales@mars-cam.com

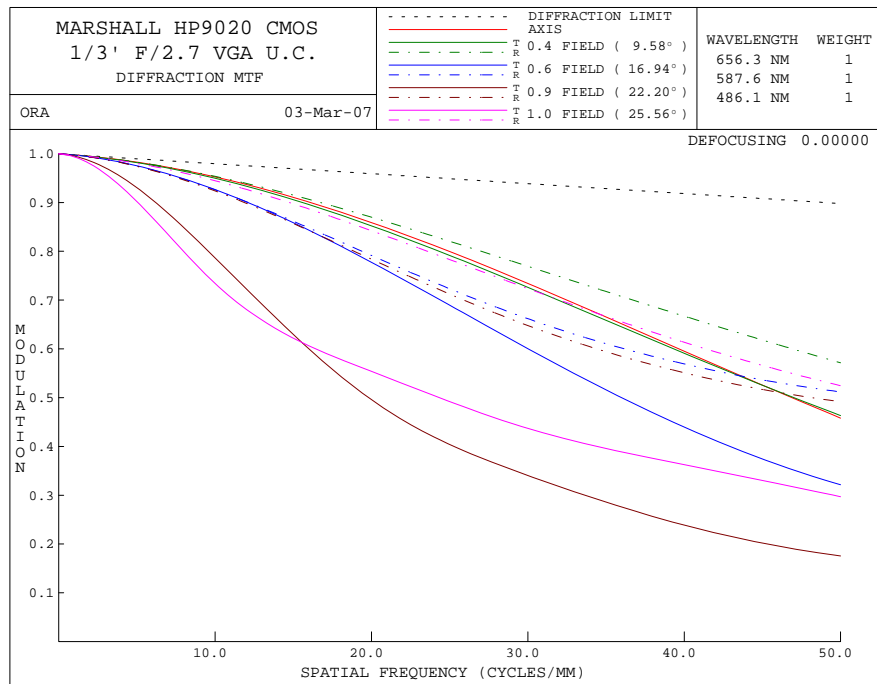
V-4106ID lens

6.0mm F2.8 HP9020 1/3" CMOS Lens

Specification Sheet Data



MTF (modulation transfer function)



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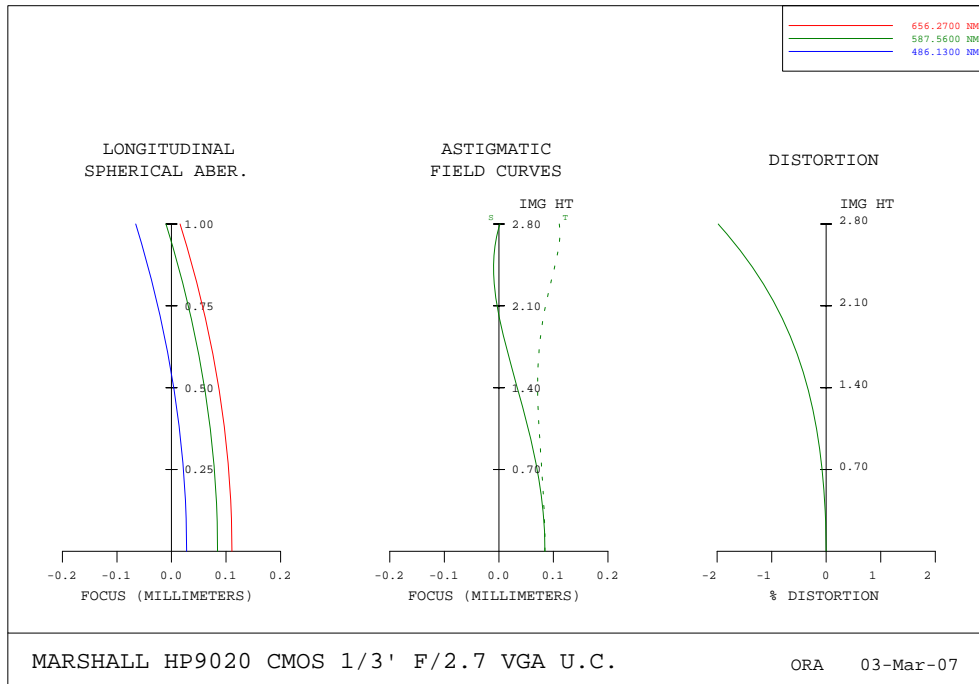
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Optical Distortion



ROTATIONALLY SYMMETRIC FIELD ABERRATIONS						
MARSHALL HP9020 CMOS 1/3' F/2.8 VGA U.C.Chung					WAVELENGTH	587.6 NM
RELATIVE FIELD HEIGHT	IMG HT AT THE IMAGE SURFACE	X-FOCUS (DISPLACED BY 0.000000)	Y-FOCUS (DISPLACED BY 0.000000)	X-FOCUS	Y-FOCUS	DISTORTION (PER CENT)
0.00	0.00	0.084478	0.084478	0.084478	0.084478	0.00000
0.10	0.28	0.082095	0.083416	0.082095	0.083416	-0.01162
0.20	0.56	0.075125	0.080500	0.075125	0.080500	-0.04750
0.30	0.84	0.064093	0.076557	0.064093	0.076557	-0.11063
0.40	1.12	0.049880	0.072889	0.049880	0.072889	-0.20615
0.50	1.40	0.033731	0.071140	0.033731	0.071140	-0.34137
0.60	1.68	0.017281	0.073052	0.017281	0.073052	-0.52584
0.70	1.96	0.002634	0.080030	0.002634	0.080030	-0.77123
0.80	2.24	-0.007482	0.092228	-0.007482	0.092228	-1.09041
0.90	2.52	-0.009409	0.106467	-0.009409	0.106467	-1.49425
1.00	2.80	0.002066	0.110648	0.002066	0.110648	-1.98057

Units of focus are MILLIMETERS

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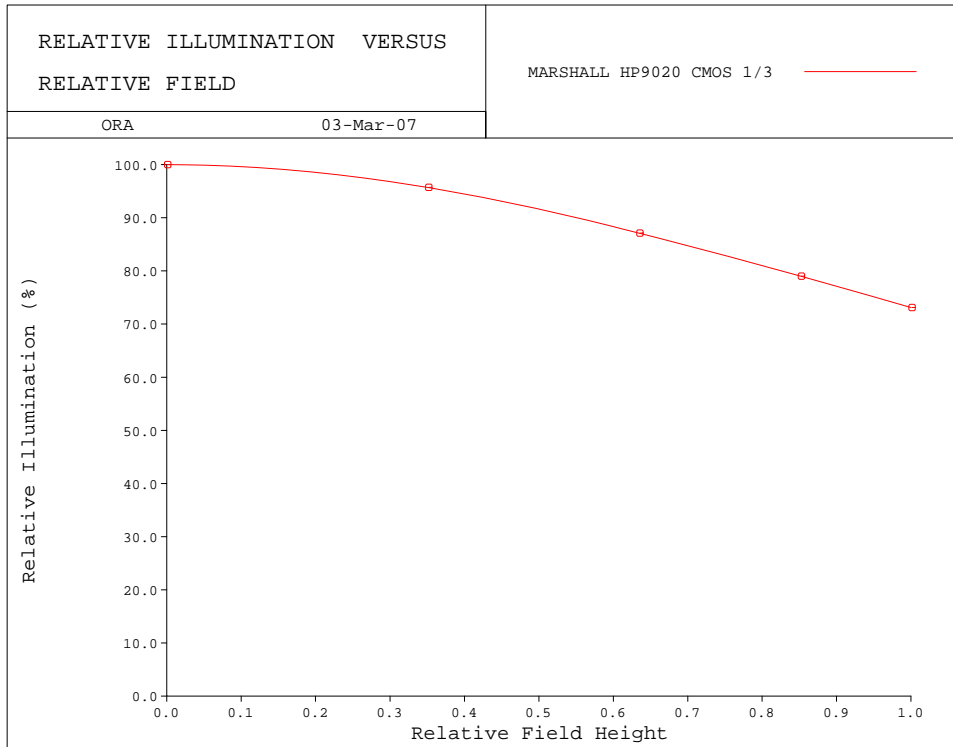
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Relative illumination



RELATIVE ILLUMINATION VERSUS FIELD	

Lens Title = MARSHALL HP9020 CMOS 1/3' F/2.8 VGA U.C.Chung	
Relative Field of View	Relative Illumination (%)

0.000	100.00
0.351	95.70
0.634	87.10
0.851	79.00
1.000	73.10