

ML610 Specification

ML610 lens family specifications

Focal length	6-10mm
Image circle	Ø11.0mm
Resolution	12.4 megapixel
F/#	F/1.6 @ 6mm – F/2.4 @ 10mm to close
Focus Range	0.5m to infinity
IR Correction	Day/Night
Lens length	< 64mm TTL
C-mount	17.5mm
Back focal length	BFL 7.1mm (in air)
CRA	< 7°
Distortion	< 37% at 4mm, < 11% at 10mm
Relative illumination	>57% at Ø6.0mm
Lens transmission	>80%
Weight	70g
Temperature range	-20°C to 60°C

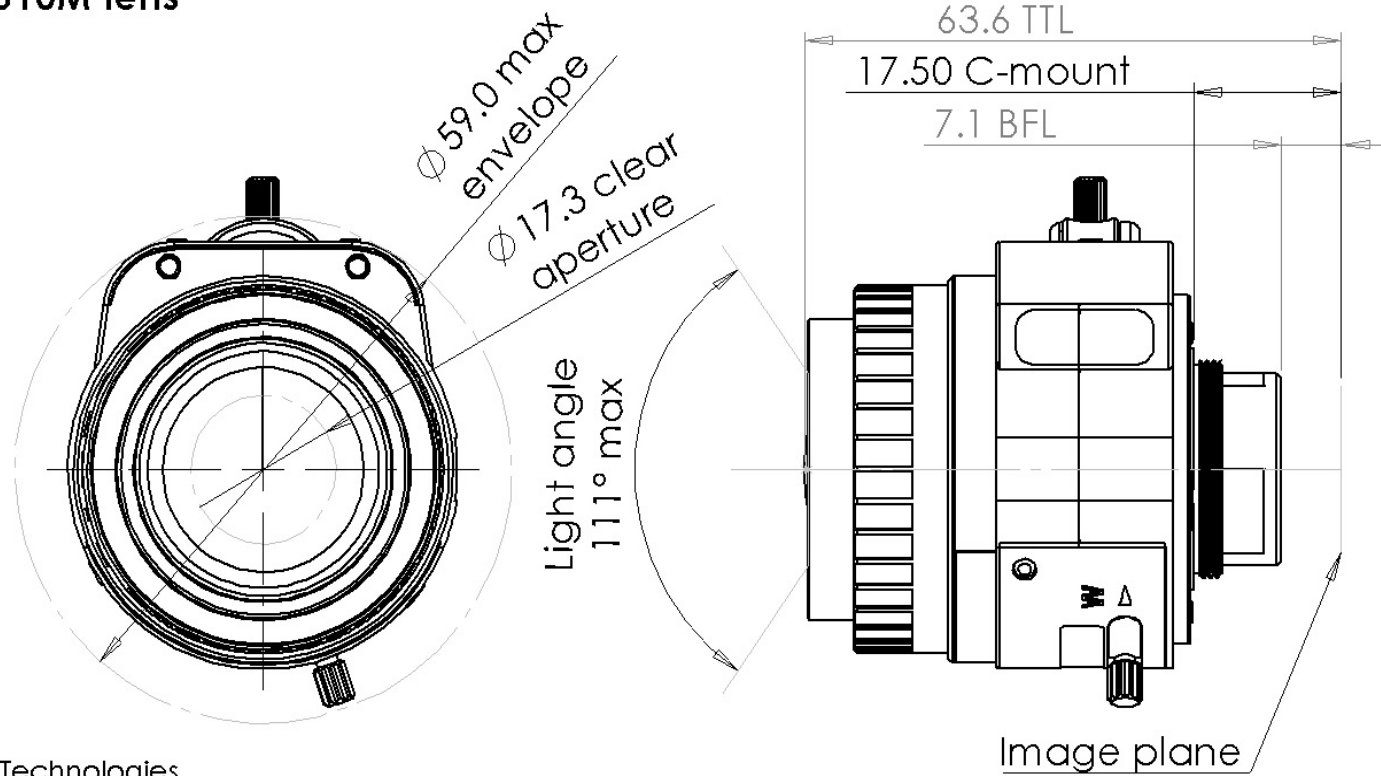
Field of view for sensor sizes

Sensor size	2/3"	1/1.7"	1/2.5"
Horizontal	87° - 51°	74° - 44°	55° - 33°
Vertical	64° - 38°	55° - 33°	41° - 25°
Diagonal	111° - 64°	93° - 55°	70° - 42°

*4K format = 4000 x 2000 pixels

ML610 Mechanical

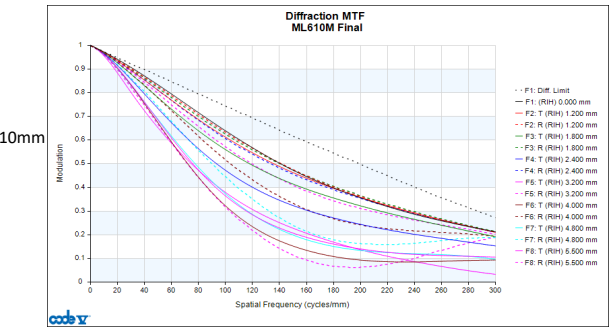
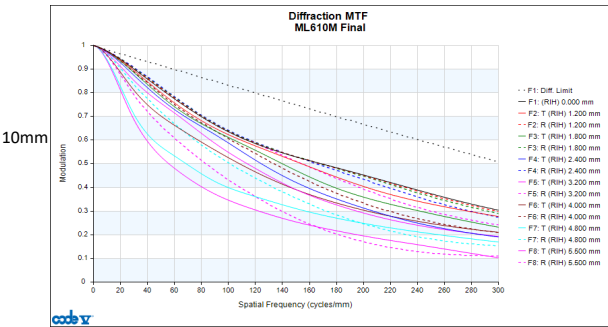
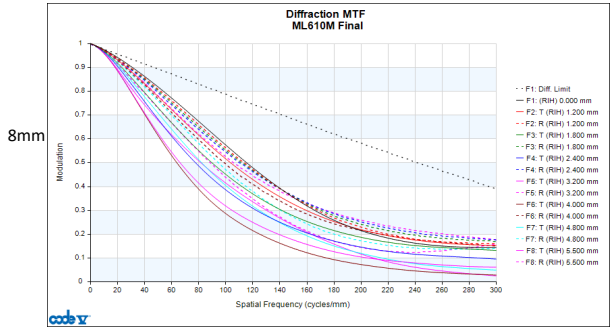
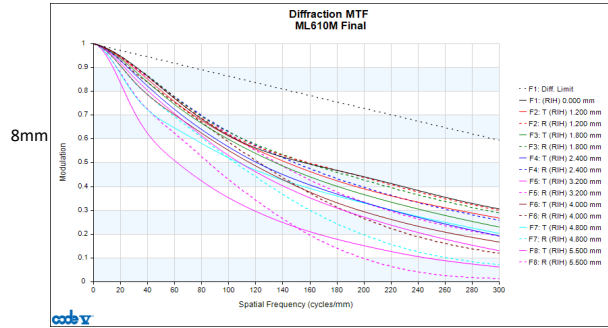
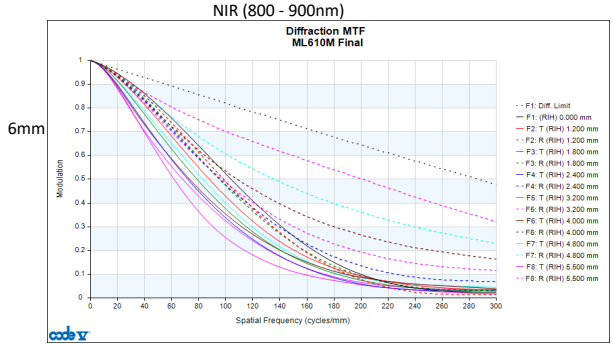
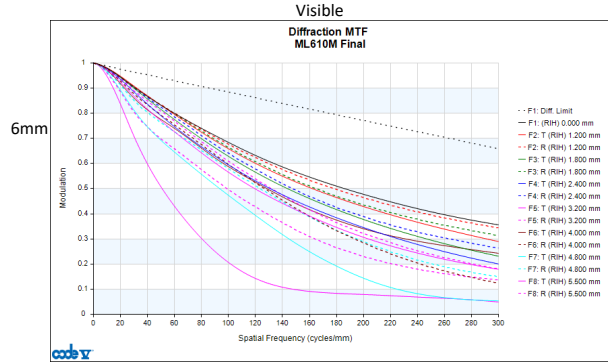
ML610M lens



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MDP 8/21/2018

ML610 Resolution (MTF)

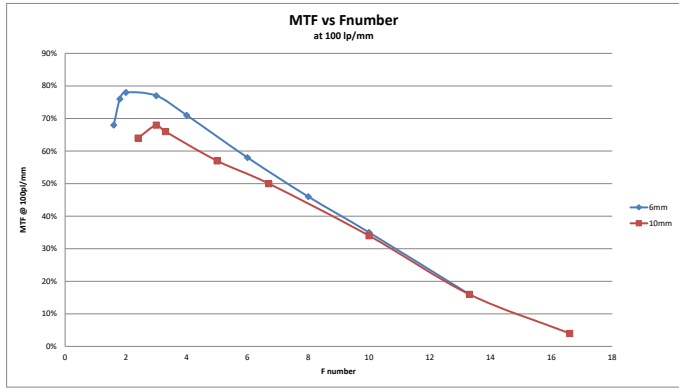
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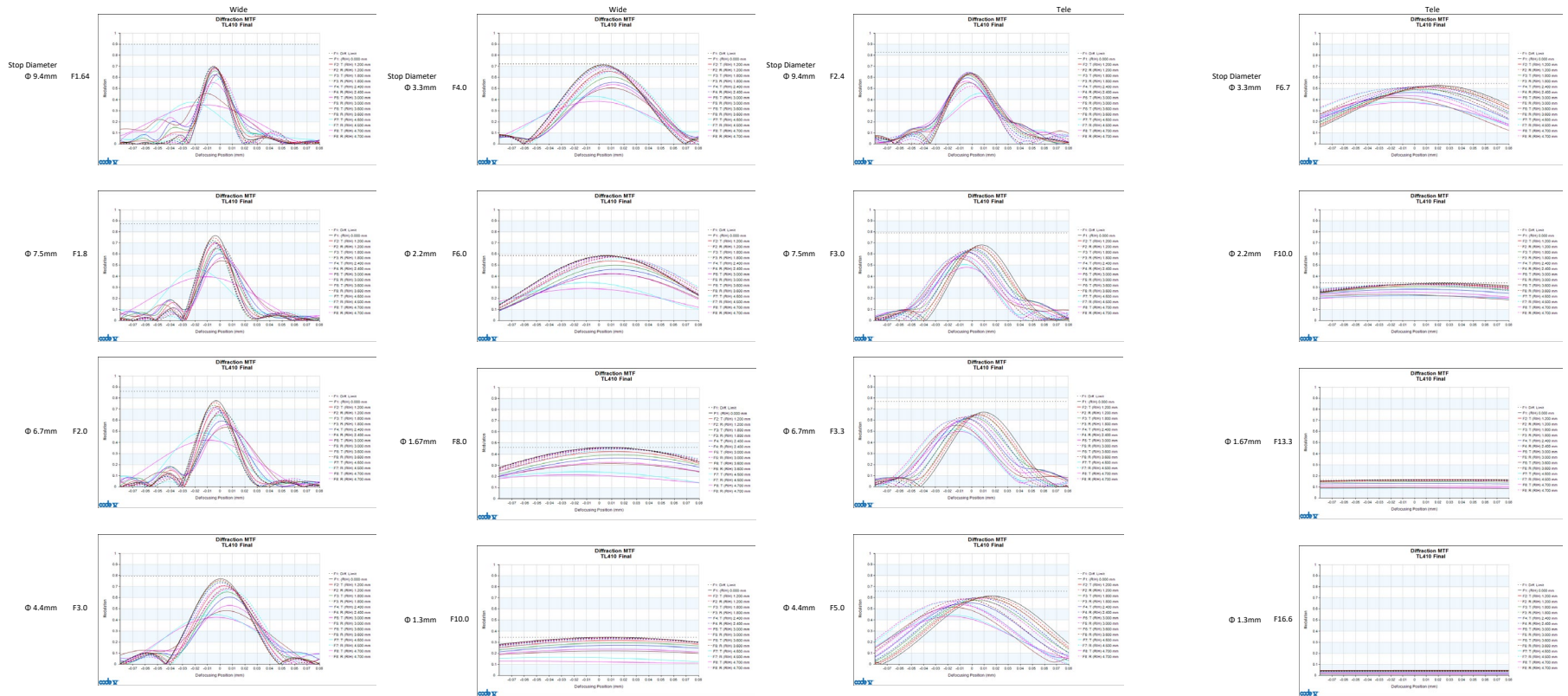
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ML610 MTF vs Fnumber

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MTF vs F#	6mm	F#	10mm
F#	6mm	F#	10mm
1.6	68%	2.4	65%
1.8	76%	3.0	68%
2	78%	3.3	66%
3	77%	5.0	57%
4	71%	6.7	50%
6	58%	10.0	34%
8	48%	13.3	16%
10	35%	16.6	4%
13.3			



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ML610 Distortion

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Max Distortion

6mm

37%

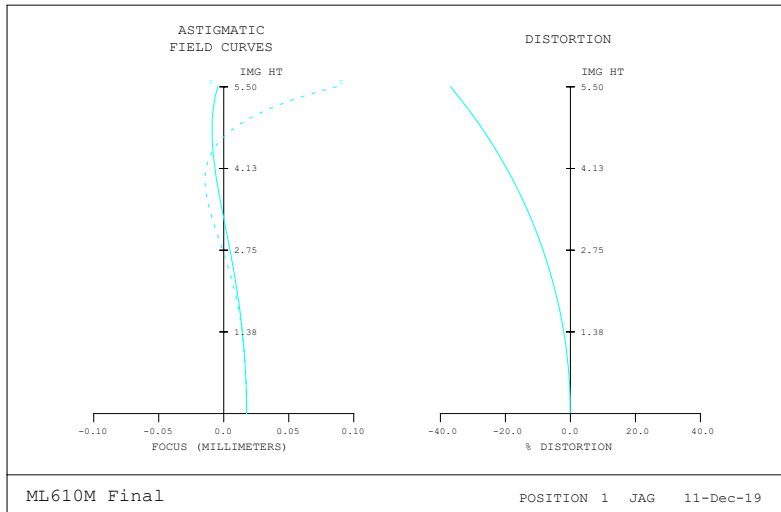


Image Height	(mm)	Distortion
0	0	0.0
0.1	0.55	-0.3
0.2	1.1	-1.3
0.3	1.65	-3.0
0.4	2.2	-5.3
0.5	2.75	-8.4
0.6	3.3	-12.3
0.7	3.85	-16.9
0.8	4.4	-22.5
0.9	4.95	-29.1
1	5.5	-36.9

8mm

19%

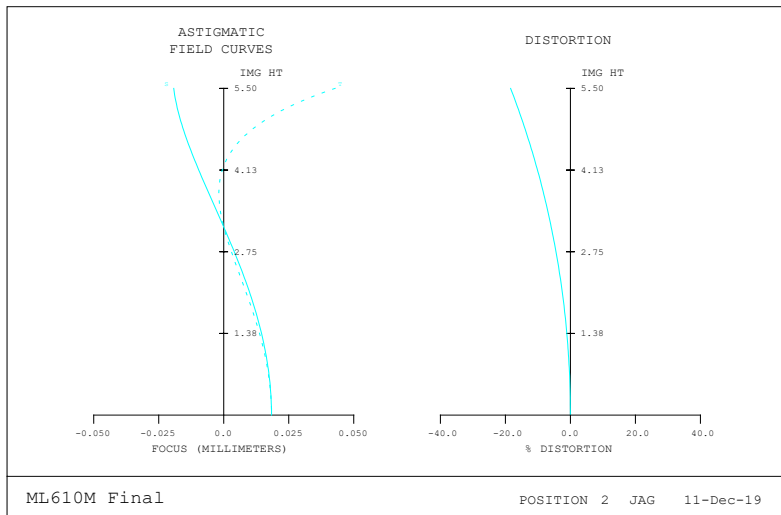


Image Height	(mm)	Distortion
0	0	0.0
0.1	0.55	-0.2
0.2	1.1	-0.7
0.3	1.65	-1.6
0.4	2.2	-2.8
0.5	2.75	-4.4
0.6	3.3	-6.4
0.7	3.85	-8.8
0.8	4.4	-11.6
0.9	4.95	-14.8
1	5.5	-18.4

10mm

11%

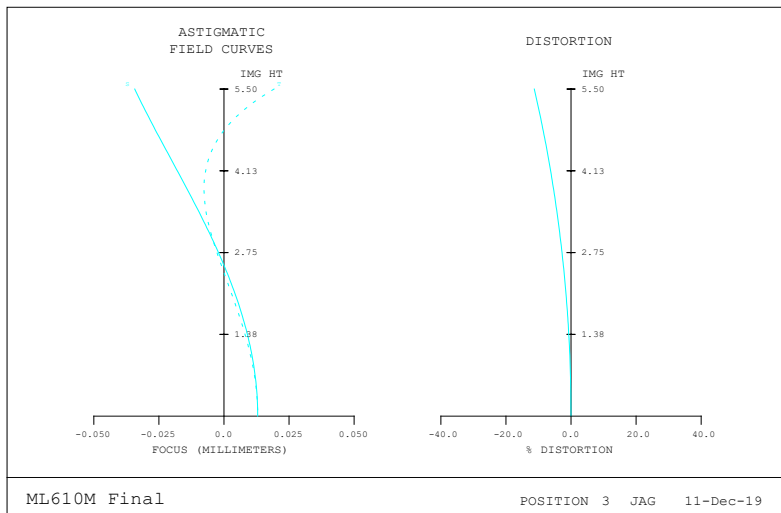
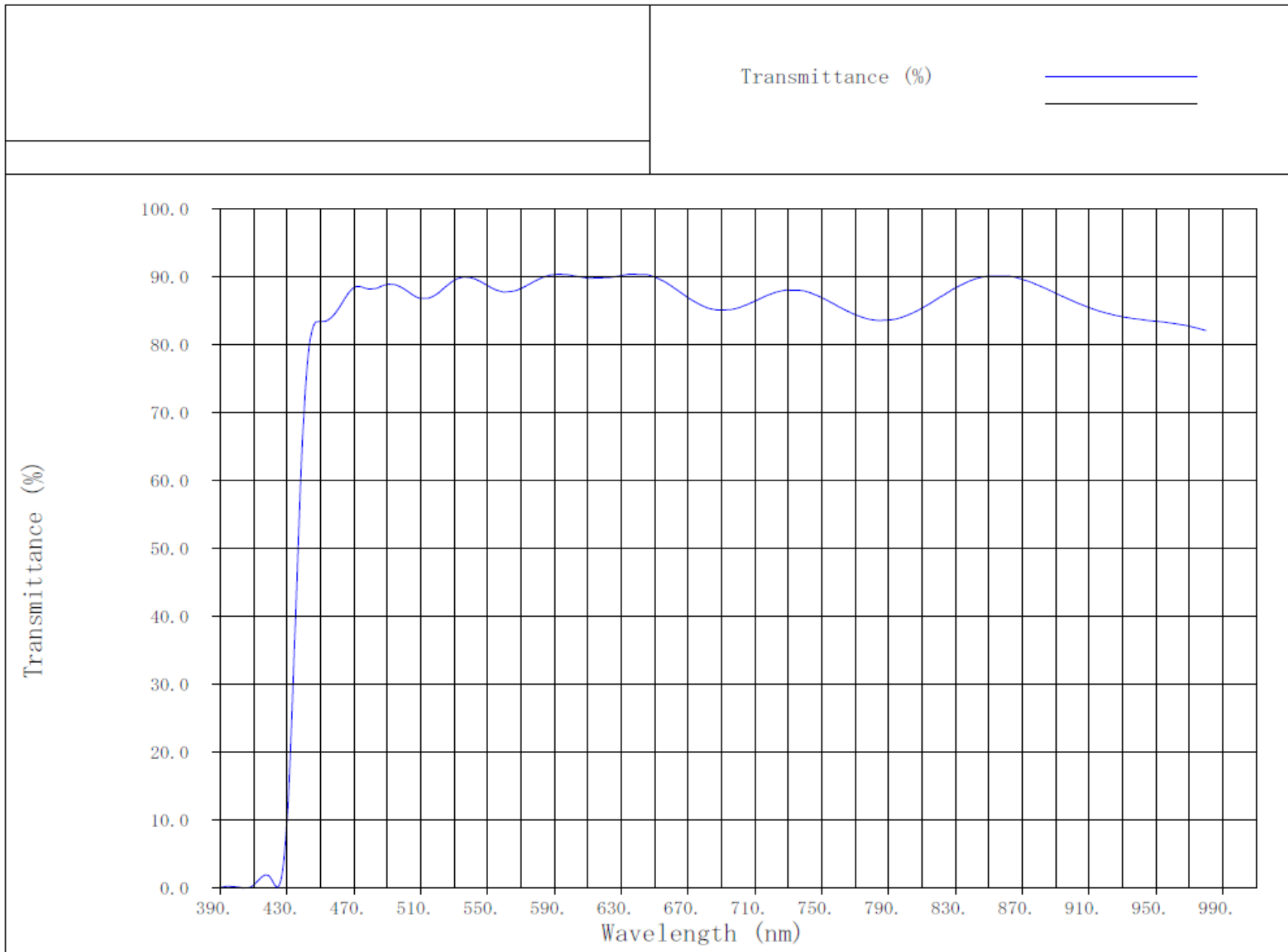


Image Height	(mm)	Distortion
0	0	0.0
0.1	0.55	-0.1
0.2	1.1	-0.4
0.3	1.65	-1.0
0.4	2.2	-1.8
0.5	2.75	-2.8
0.6	3.3	-4.0
0.7	3.85	-5.5
0.8	4.4	-7.2
0.9	4.95	-9.1
1	5.5	-11.3

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ML610 Transmittance



ML610 Relative Illumination

F number

1.64

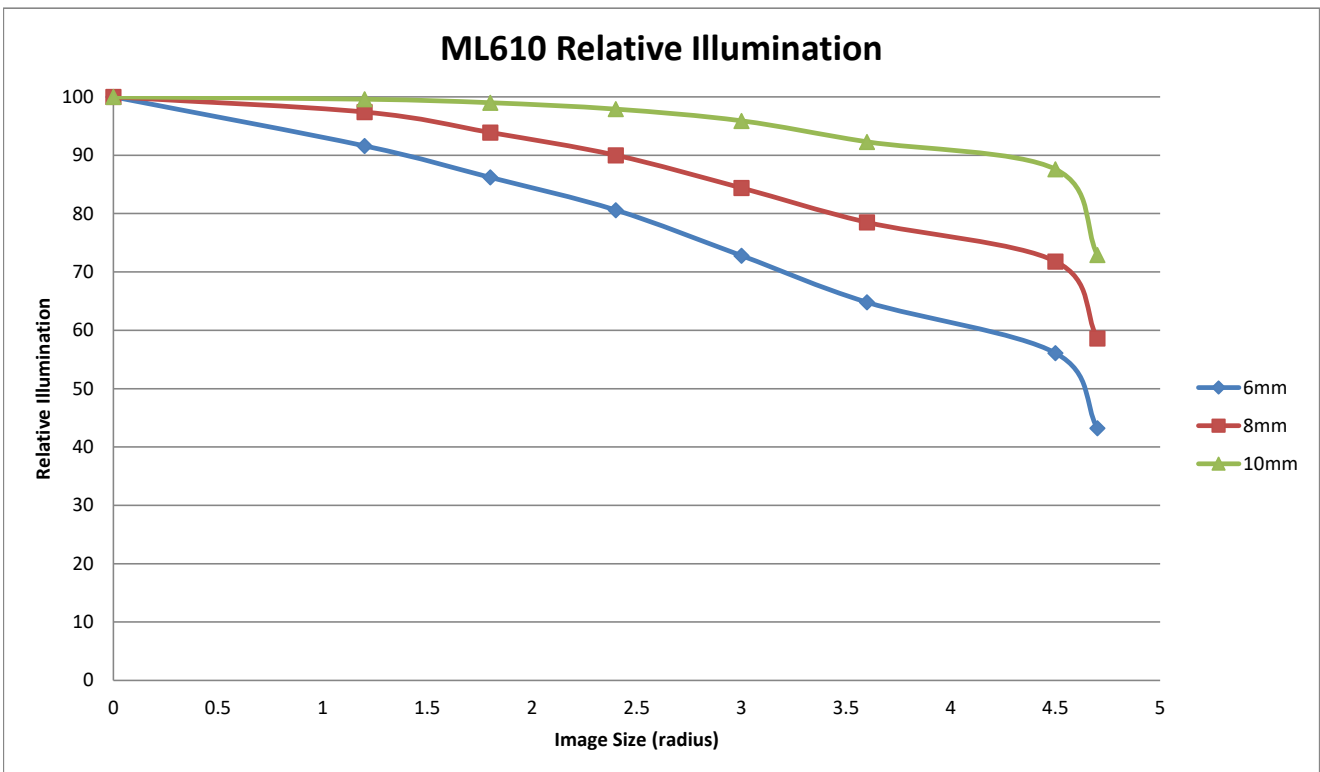
2.0

2.4

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ML610 Relative Illumination

Image Size	6mm	8mm	10mm
0	100	100	100
1.2	91.6	97.4	99.6
1.8	86.2	93.9	99
2.4	80.6	90	97.9
3	72.8	84.4	95.9
3.6	64.8	78.5	92.3
4.5	56.1	71.8	87.6
4.7	43.2	58.6	72.9



ML610 Cheif Ray Angle

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ML610 Chief Ray Angle (CRA)

Image Size	Degrees		
	6mm	8mm	10mm
0	0	0	0
1.2	0.72	1.38	1.72
1.8	1.08	2.07	2.58
2.4	1.45	2.76	3.44
3.2	1.98	3.7	4.59
4	2.53	4.64	5.74
4.8	3.15	5.61	6.89
5.5	3.75	6.48	7.9

