

TL410 Specification

SL/TL410 lens family specifications

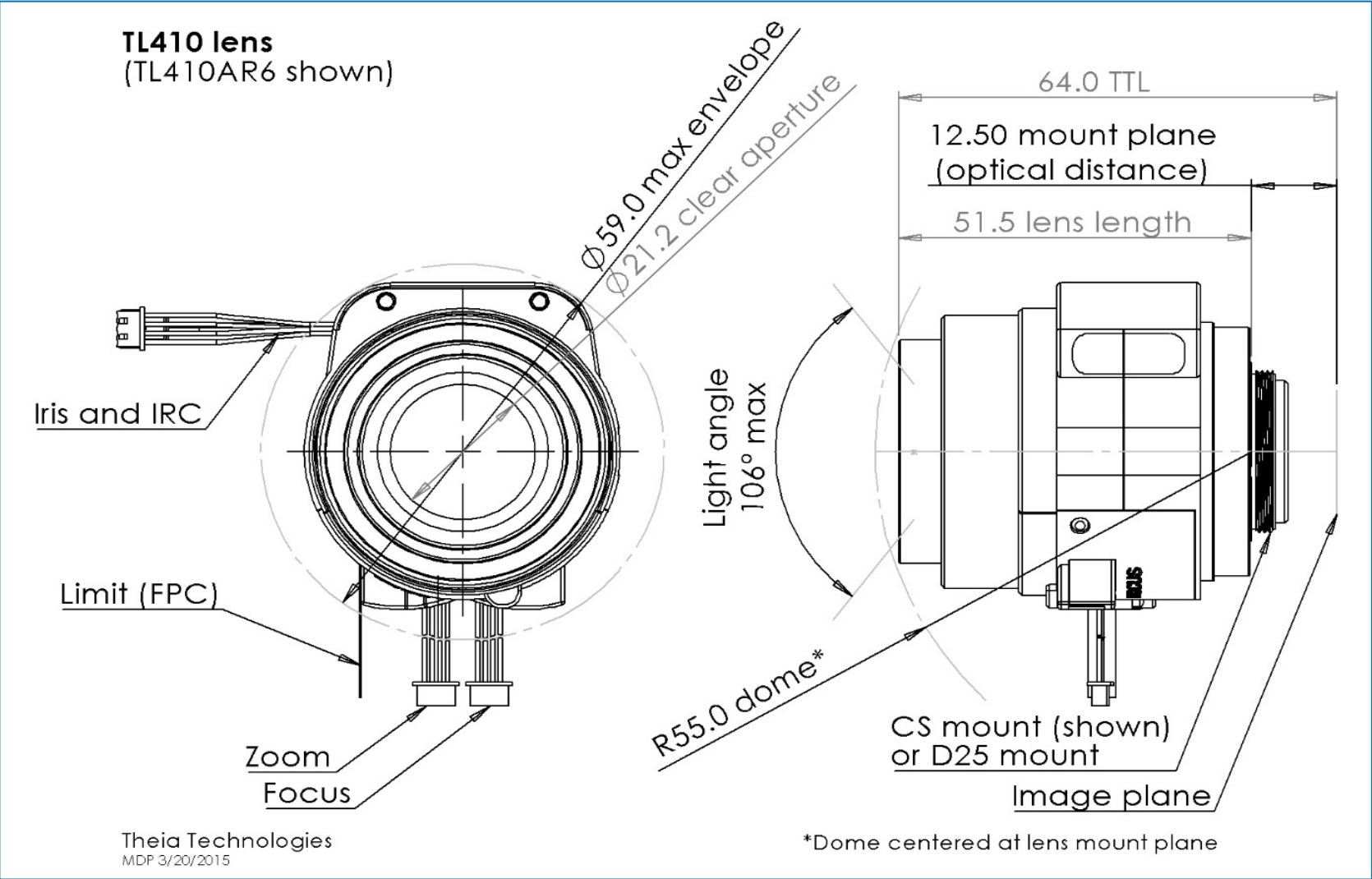
Focal length	4-10mm
Image circle	Ø9.4mm
Resolution	12.4 megapixel
F/#	F/1.4 @ 4mm – F/2.4 @ 10mm to close
Focus Range	0.5m to infinity
IR Correction	Day/Night
Lens length	< 64mm TTL
Back focal length	BFL 8.4mm (in air)
CRA	< 7°
Distortion	< 69% at 4mm, < 8% at 10mm
Relative illumination	>37% at Ø9.0mm
Lens transmission	>80%
Weight	TBD
Temperature range	-20°C to 50°C

Field of view for sensor sizes

Sensor size	1/1.7"	1/1.8"	1/1.8" 4K* 1/2"	1/2.3"	1/2.5"	
Horizontal	112° - 44°	110° - 43°	110° - 43°	93° - 37°	90° - 36°	83° - 33°
Vertical	81° - 33°	71° - 29°	52° - 21°	68° - 28°	67° - 27°	60° - 25°
Diagonal	149° - 55°	139° - 52°	126° - 48°	120° - 46°	117° - 45°	106° - 42°

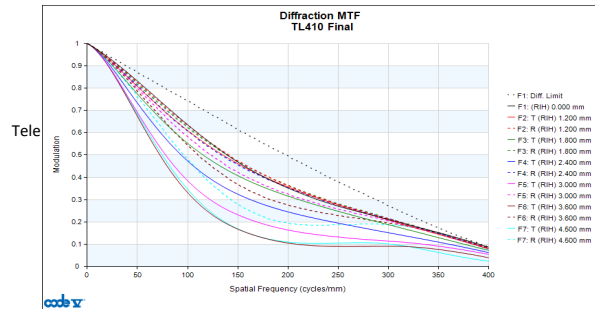
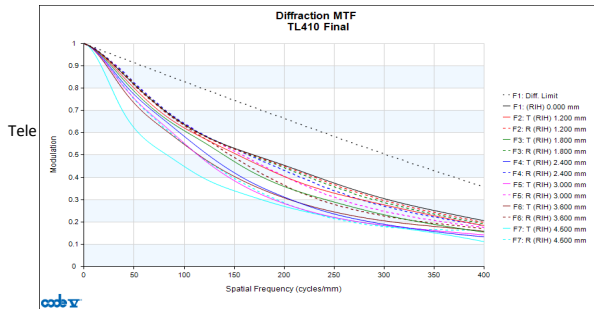
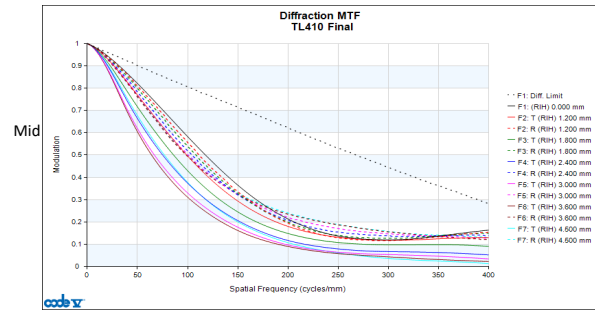
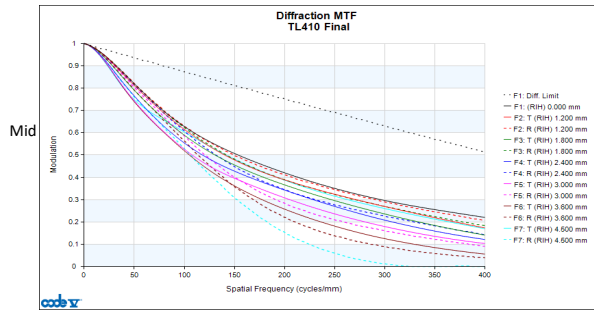
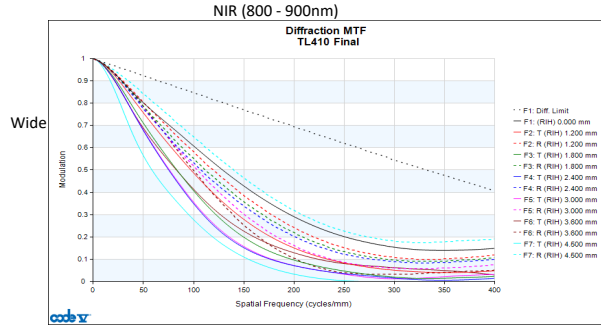
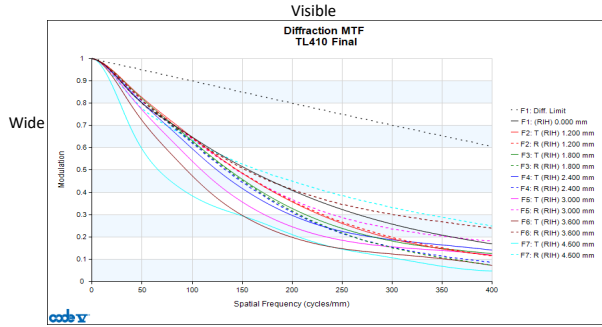
*4K format = 4000 x 2000 pixels

TL410 Mechanical



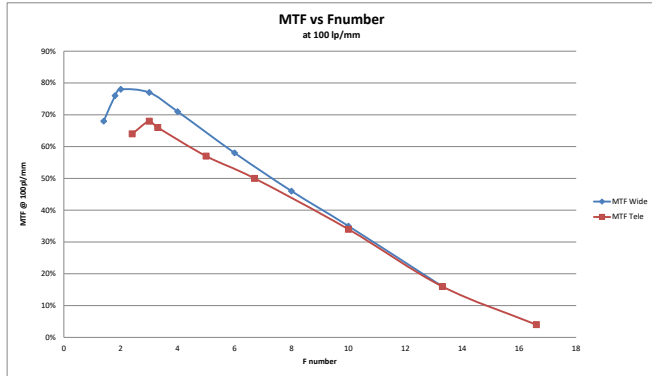
TL410 Resolution (MTF)

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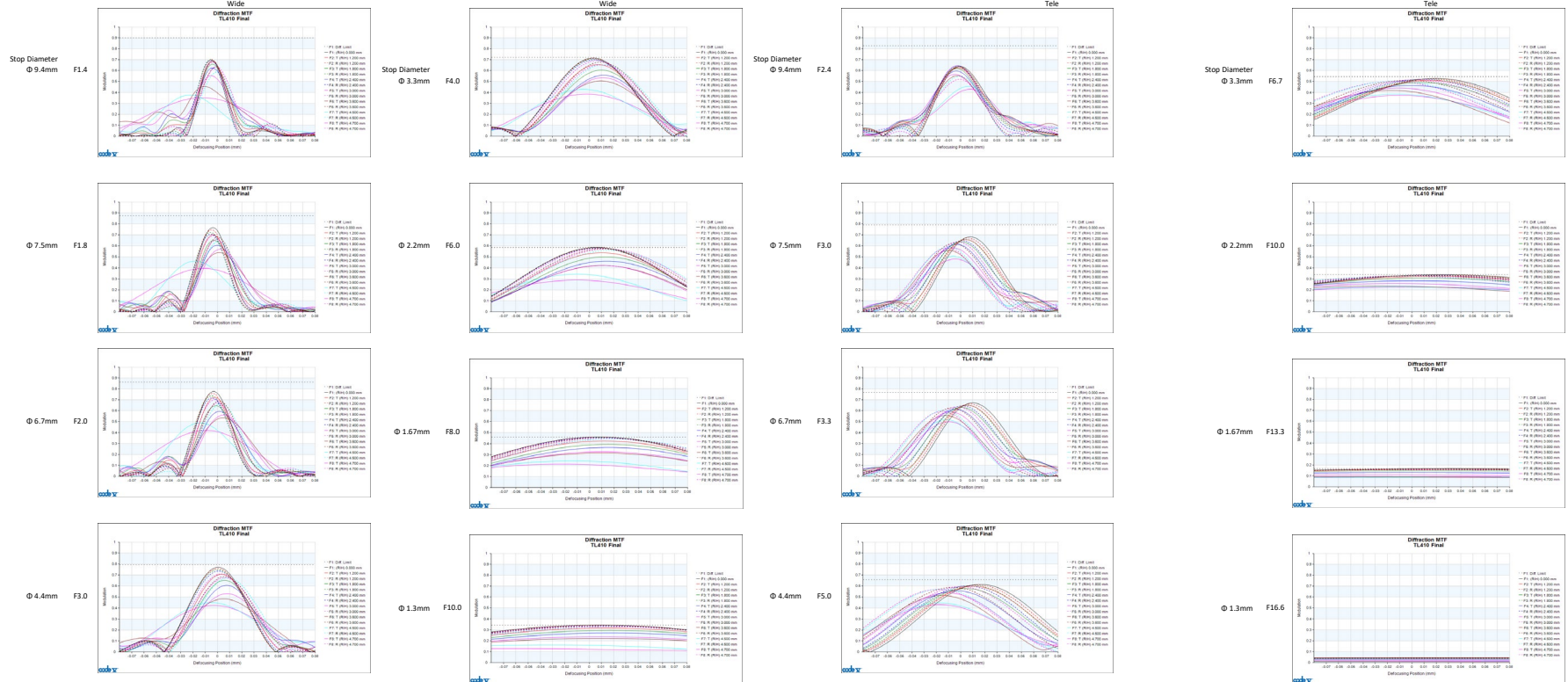


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TL410 MTF vs Fnumber



MTF vs F#	100 lp/mm	F#	MTF Tele
1.4	68%	2.4	64%
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	46%	13.3	16%
10	35%	16.6	4%
13.3	16%		

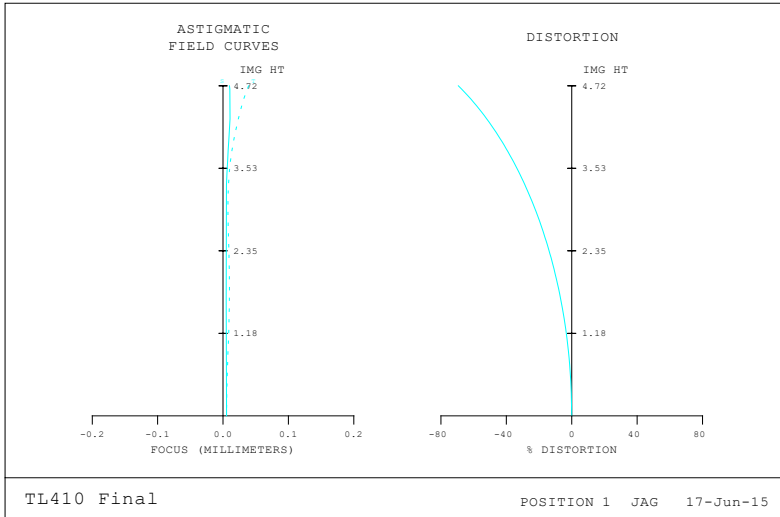


TL410 Distortion

Max Distortion

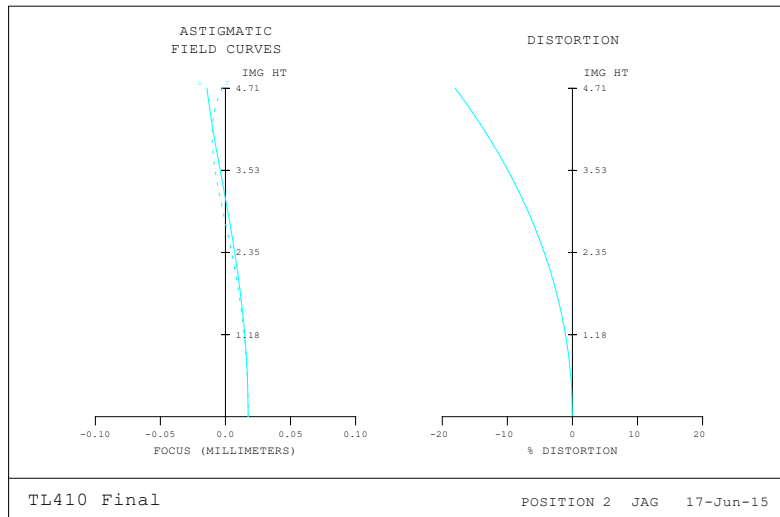
Wide

69%



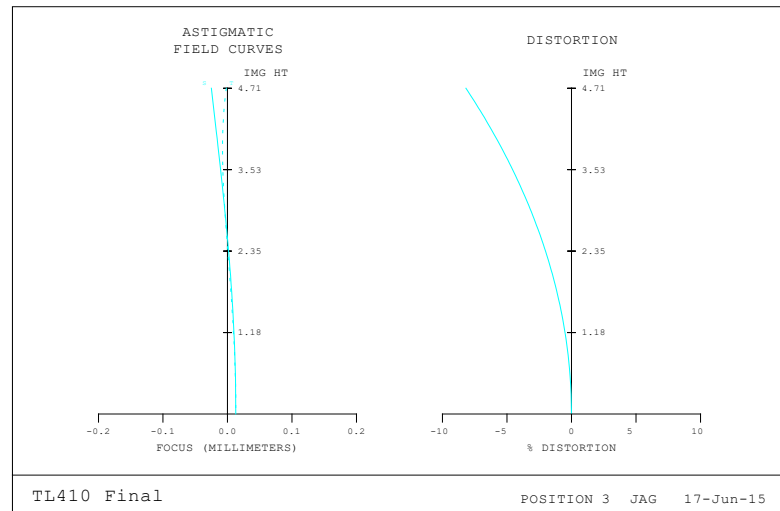
Mid

18%

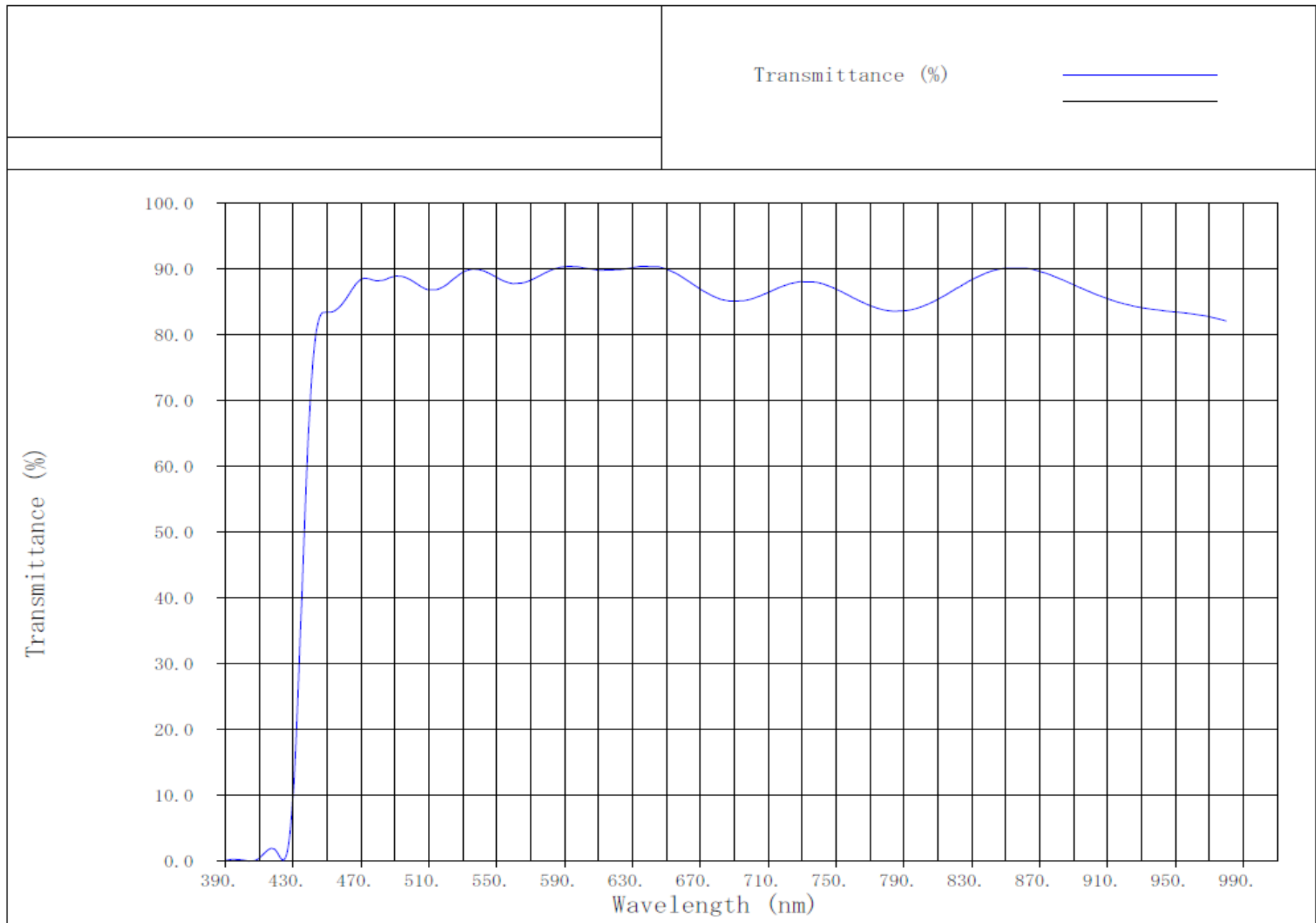


Tele

8%



TL410 Transmittance



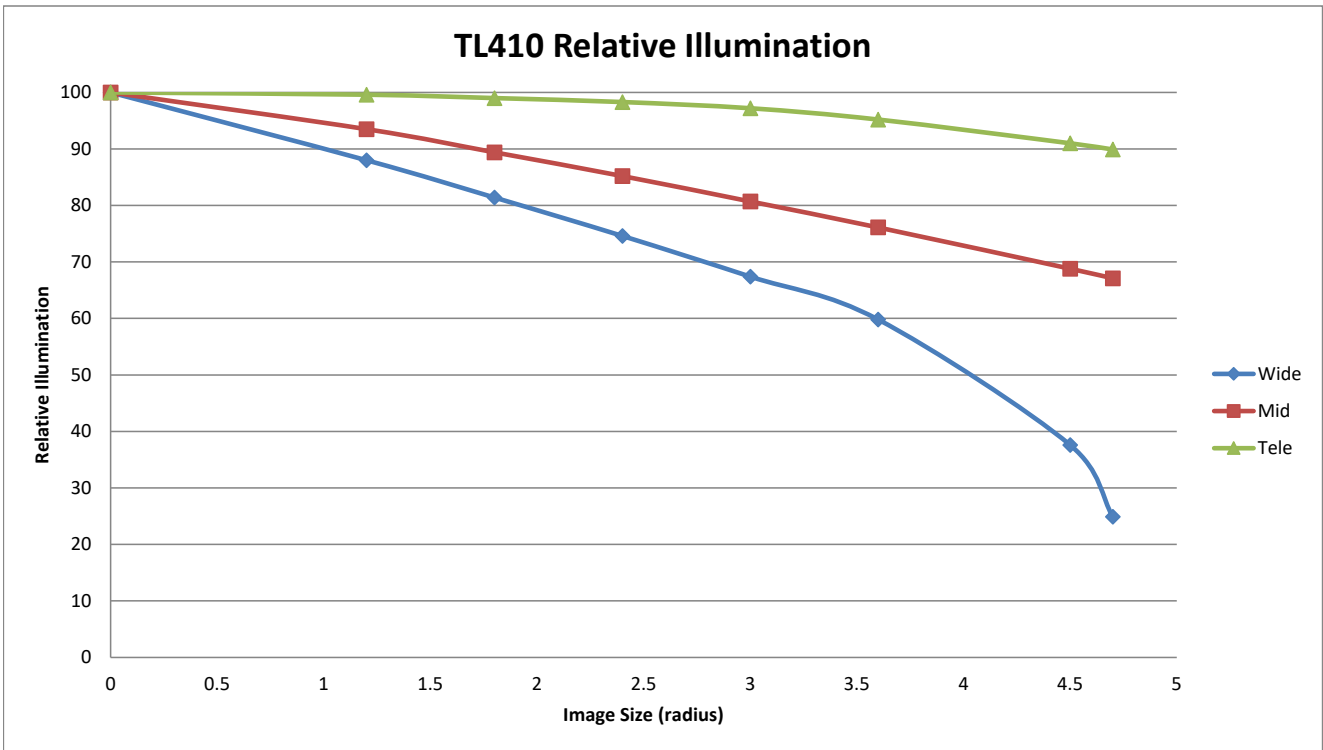
TL410 Relative Illumination

F number 1.4 1.8 2.4

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TL410 Relative Illumination

Image Size	Wide	Mid	Tele
0	100	100	100
1.2	88	93.5	99.6
1.8	81.4	89.4	99
2.4	74.6	85.2	98.3
3	67.4	80.7	97.2
3.6	59.8	76.1	95.2
4.5	37.6	68.8	91
4.7	24.9	67.1	89.9



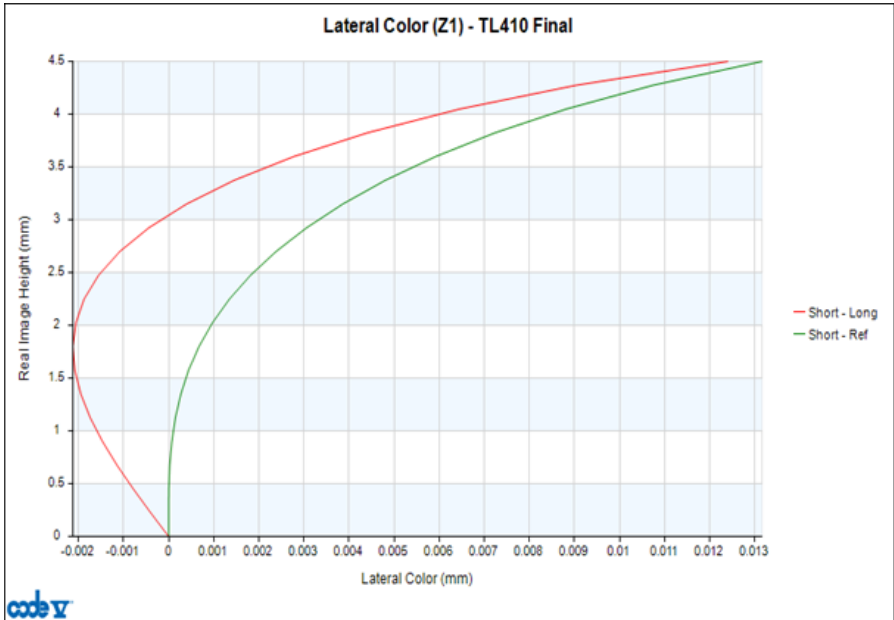
TL410 Cheif Ray Angle

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TL410 Chief Ray Angle (CRA)

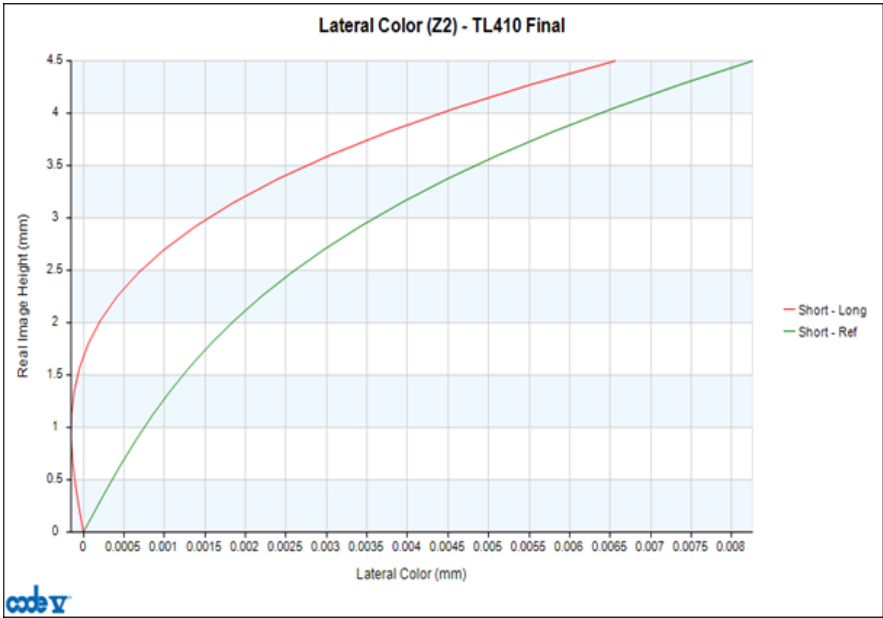
Image Size	Wide	Mid	Tele	
0	0	0	0	0
1.2	0.19	1.09	1.72	
1.8	0.28	1.64	2.58	
2.4	0.35	2.19	3.44	
3	0.4	2.76	4.3	
3.6	0.42	3.34	5.16	
4.5	0.37	4.23	6.46	
4.7	0.33	4.44	6.75	



EFL 4mm



EFL 7mm



EFL 10mm

