TECHSPEC® BLUE SERIES
M12 IMAGING LENSES
#38-013 • 6mm • f/5.6

TECHSPEC® Blue Series M12 Imaging Lenses feature high resolution performance, along with the same great versatility of our TECHSPEC® Green Series M12 Imaging Lenses. Each lens consists of several precision glass elements mounted in a compact, aluminum housing. TECHSPEC® Blue Series M12 Imaging Lenses are ideal for automotive, industrial, and medical imaging application.

Focal Length:	6mm
Working Distance[1]:	150mm - ∞
Max. Sensor Format:	1/3"
Camera Mount:	M12
Aperture (f/#):	f/5.6
Distortion %[2]:	<12.5%
Object Space NA[3]:	0.003383

Magnification Range:	0X - 0.038X
Type:	M12 Lens
Length:	14.5mm
Weight:	4g
RoHS:	Compliant
Number of Elements (Groups):	6 (5)
AR Coating:	MgF_2 (400-700nm)

1. From front housing 2. At 750mm W.D. 3. At Minimum W.D.

At Minimum W.D. (150mm)							
Sensor Size	1/4"	1/3"	1/2.5"	1/2"	1/1.8"	2/3"	1"
Field Of View[4]	97.7mm - 35.7°	134.8mm - 47.9°	N/A	N/A	N/A	N/A	N/A

4. Horizontal FOV on Standard 4:3 sensor format. Min W.D.

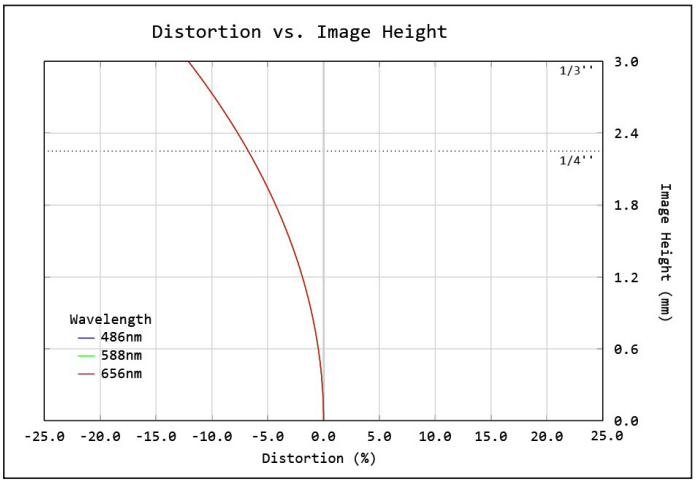

Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

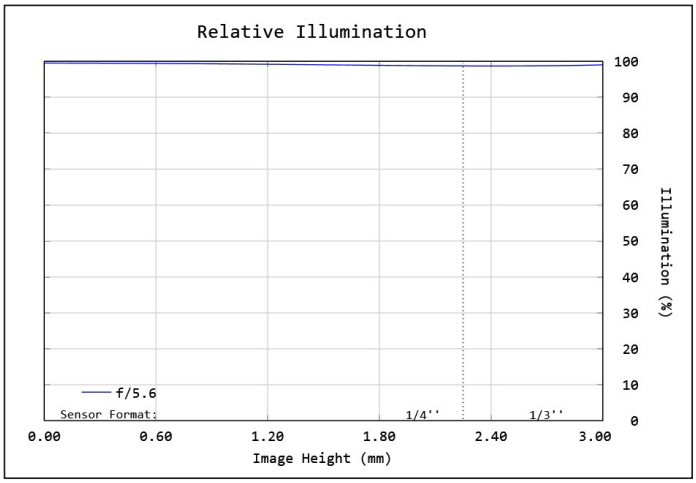

Figure 2: Relative illumination (center to corner)

In both plots, field points corresponding to the image circle of common sensor formats are included. Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.

MTF & DOF: f/5.6
WD: 150mm
HORIZONTAL FOV: 135mm

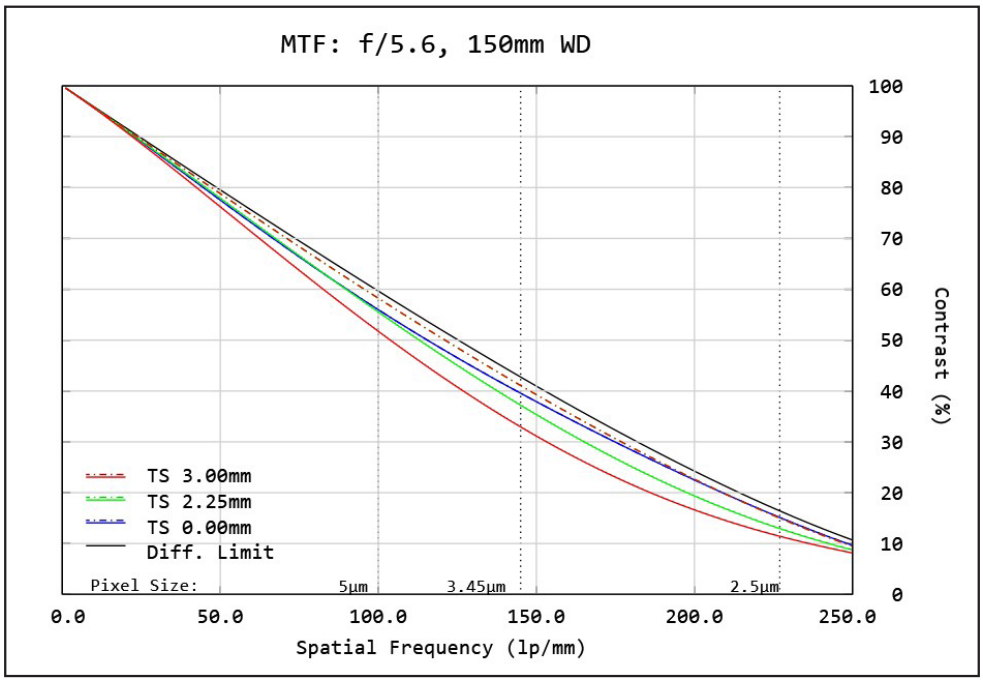

Figure 3: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined aperture. Frequencies corresponding to the Nyquist resolution limit of pixel sizes are indicated.

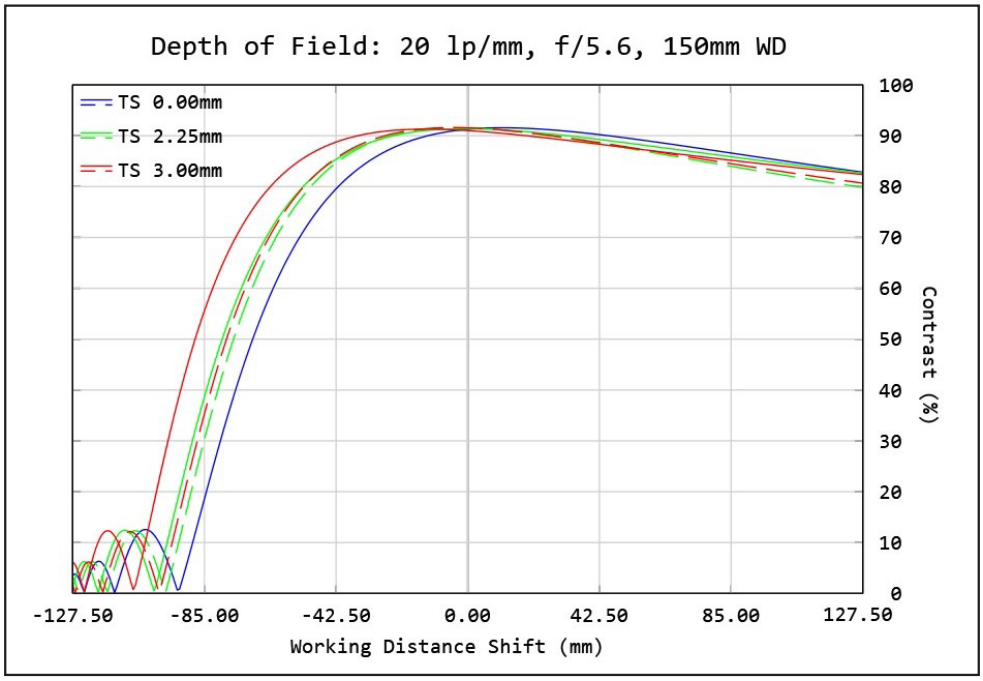

Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.

MTF & DOF: f/5.6
WD: 223mm
HORIZONTAL FOV: 200mm

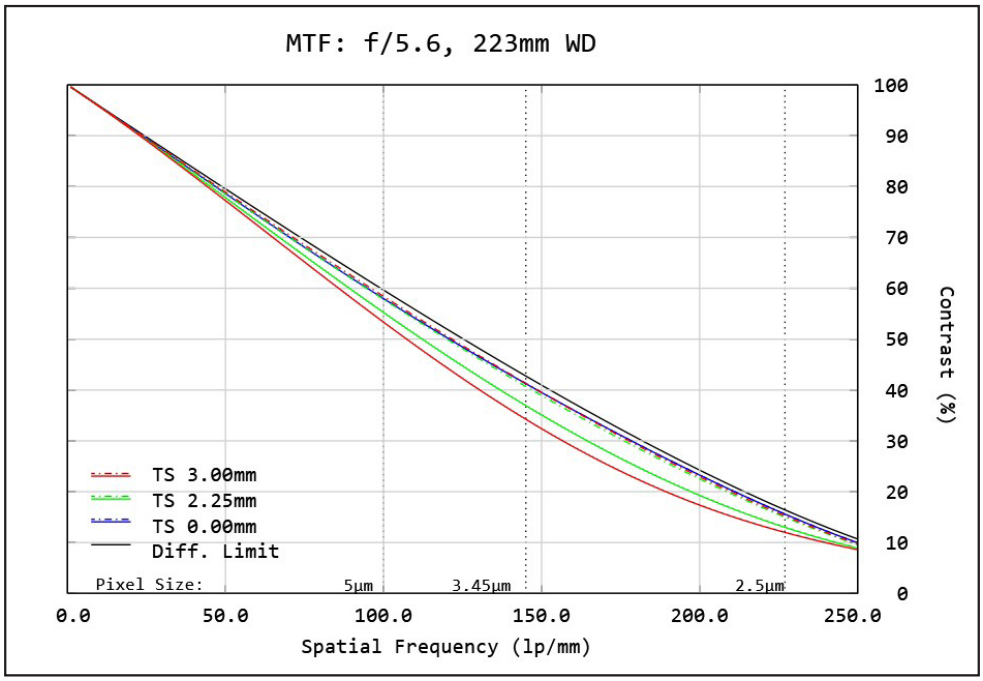

Figure 5: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined aperture. Frequencies corresponding to the Nyquist resolution limit of pixel sizes are indicated.

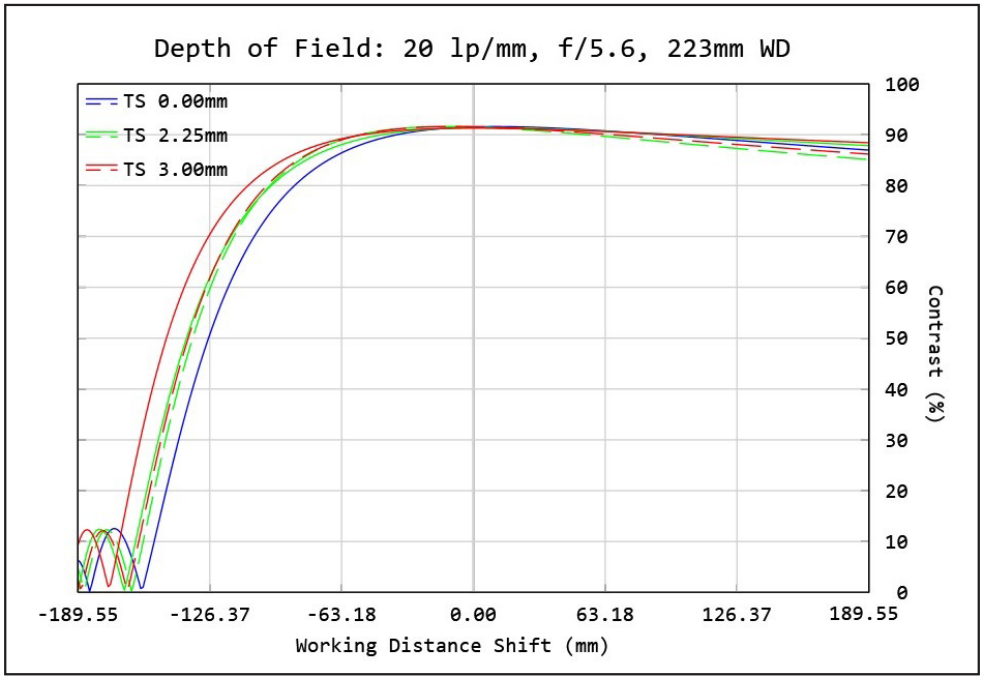

Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.

MTF & DOF: f/5.6
WD: 250mm
HORIZONTAL FOV: 224mm

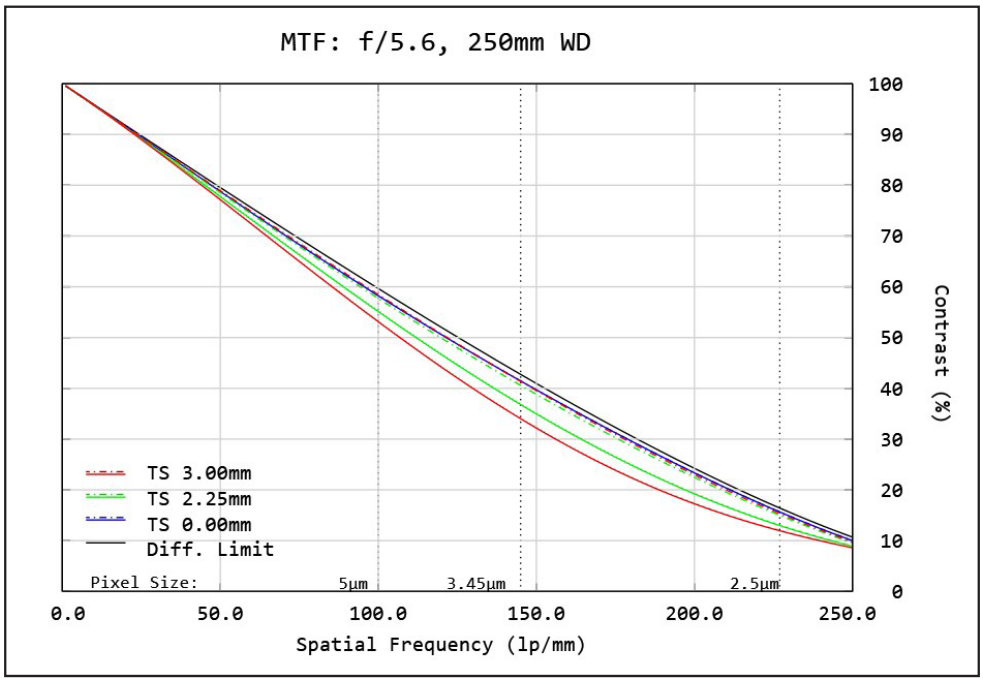

Figure 7: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined aperture. Frequencies corresponding to the Nyquist resolution limit of pixel sizes are indicated.

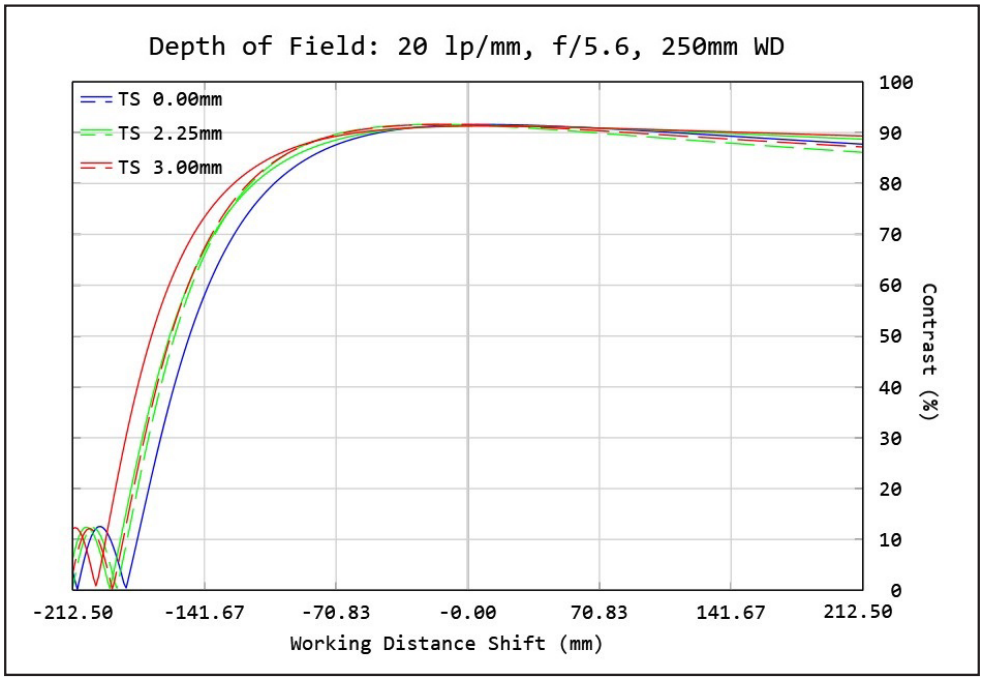

Figure 8: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

Plots represent theoretical values from lens design software. Actual lens performance varies due to manufacturing tolerances.