TECHSPEC® IR-CUT RUGGED BLUE SERIES M12 IMAGING LENSES
#35-469 • 2mm • f/2.5

TECHSPEC® Rugged Blue Series M12 Lenses are Stability Ruggedized, protecting the lens from damage, while reducing pixel shift and maintaining optical pointing stability after shock and vibration. Each lens consists of several precision glass optics that are glued in place inside a compact, aluminum housing. Gluing the glass optics prevents even the smallest movements that often cause pixel shift.

Focal Length:	2mm
Working Distance[1]:	100mm - ∞
Max. Sensor Format:	1/3"
Camera Mount:	M12
Aperture (f/#):	f/2.5
Distortion %[2]:	<81.2%
Object Space NA[3]:	0.003916

Magnification Range:	0X - 0.020X
Type:	M12 Lens
Length:	21.7mm
Weight:	9g
RoHS:	Compliant
Number of Elements (Groups):	6 (5)
AR Coating:	400-700nm MgF_2

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

At Minimum W.D. (100mm)							
Sensor Size	1/4"	1/3"	1/2.5"	1/2"	1/1.8"	2/3"	1"
Field Of View[4]	248.5mm - 100.4°	475.6mm - 133.3°	N/A	N/A	N/A	N/A	N/A

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

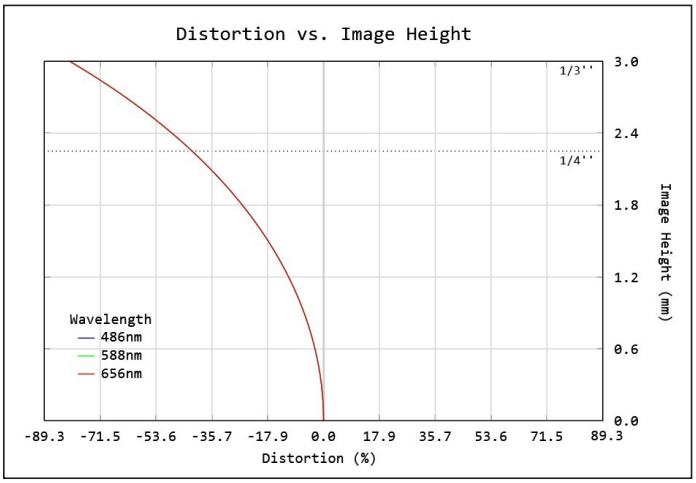

Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

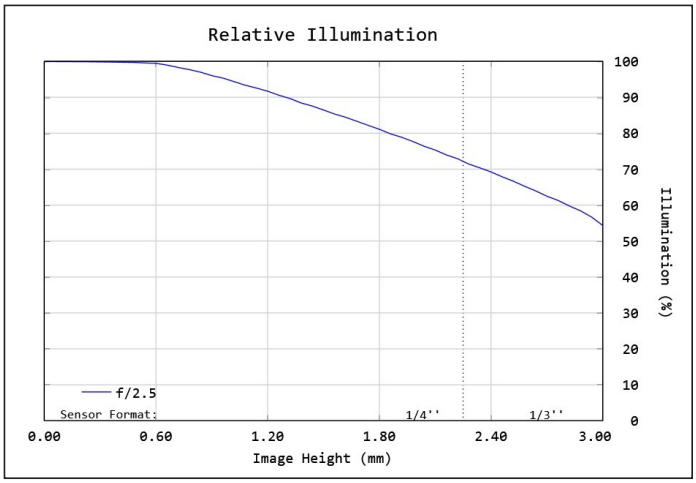

Figure 2: Relative illumination (center to corner)

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.

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MTF & DOF: f/2.5
WD: 100mm
HORIZONTAL FOV: 478mm

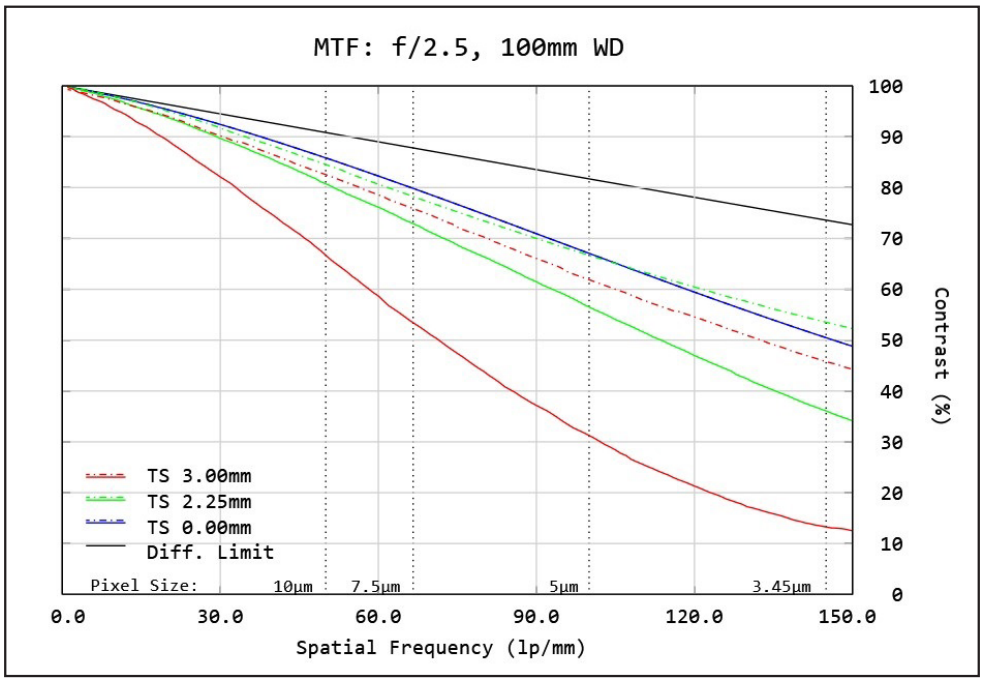

Figure 3: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

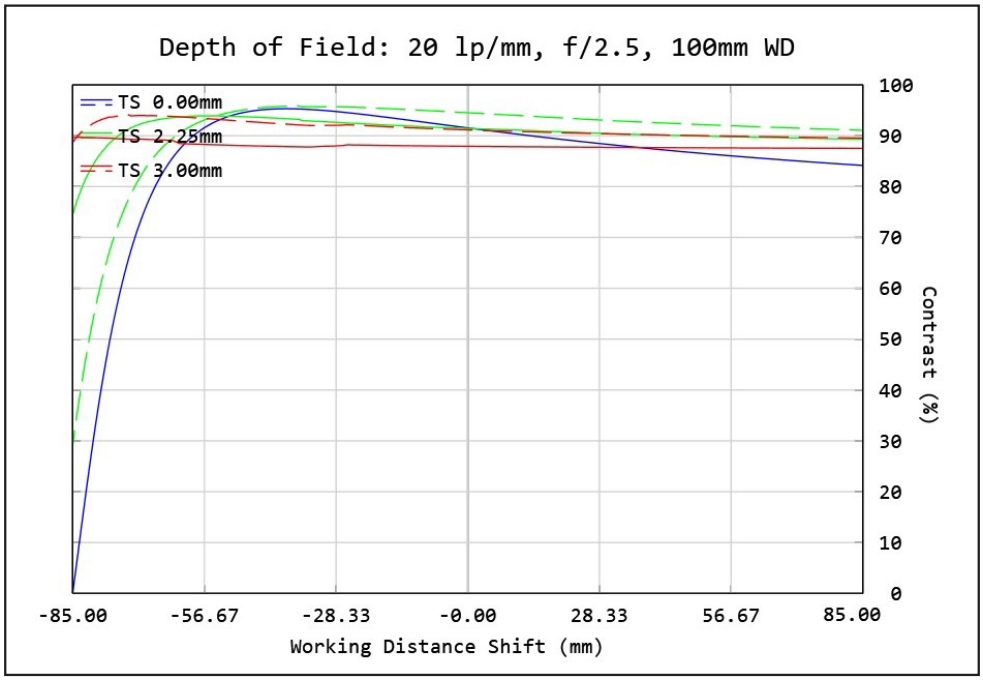

Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

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

MTF & DOF: f/2.5
WD: 250mm
HORIZONTAL FOV: 1173mm

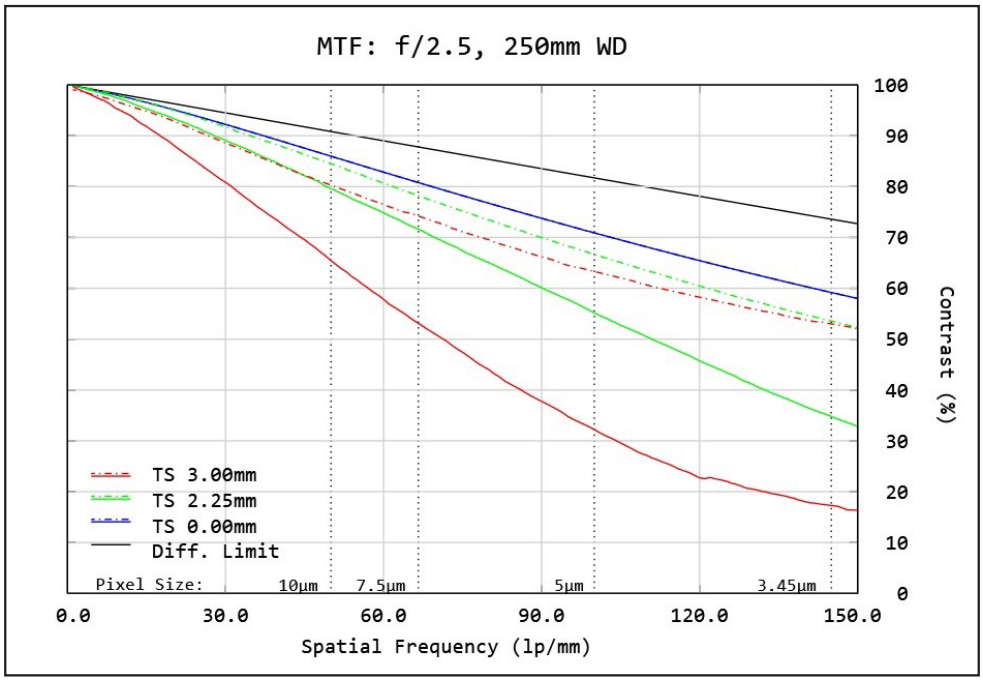

Figure 5: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

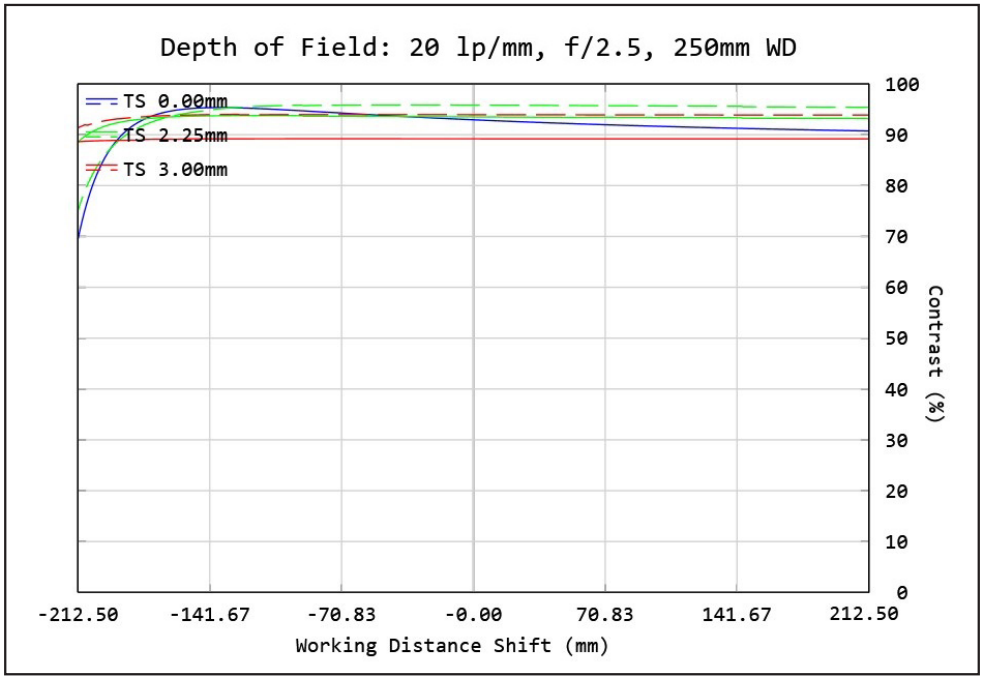

Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

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

MTF & DOF: f/2.5
WD: 500mm
HORIZONTAL FOV: 2331mm

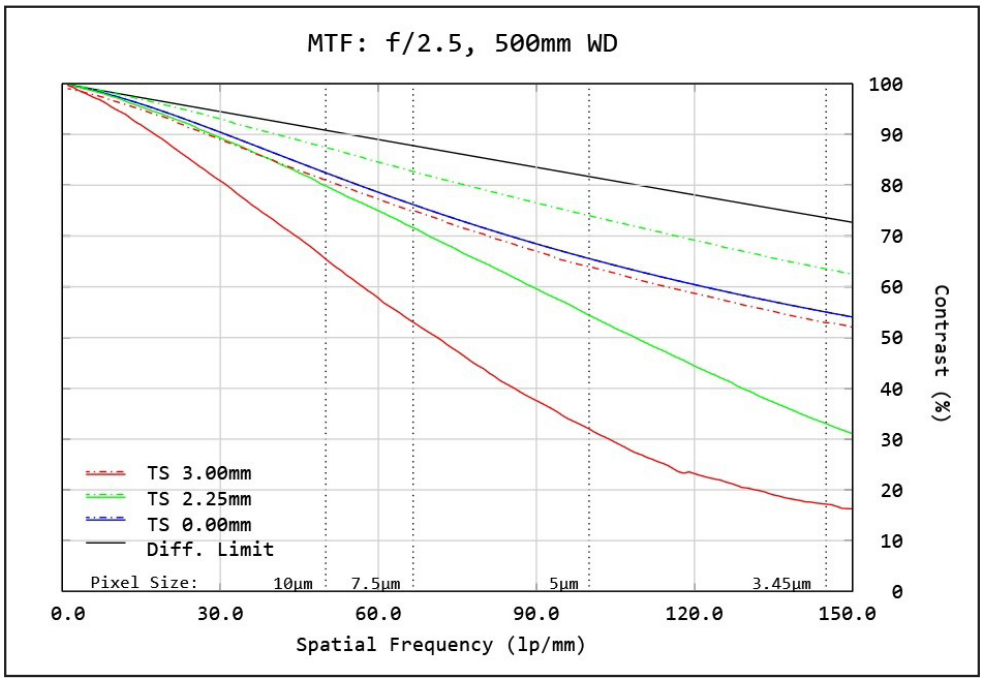

Figure 7: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

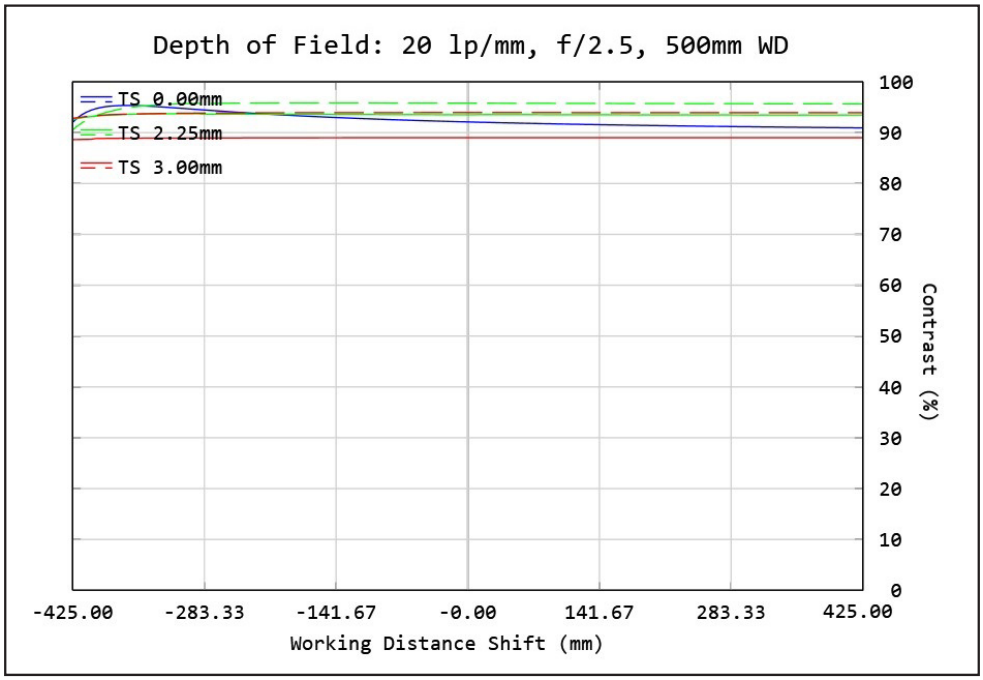

Figure 8: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

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