TECHSPEC® HIGH PERFORMANCE TELECENTRIC LENS

#63-232 • 123mm WD • 1.7X

Our TECHSPEC® High Performance Telecentric Lenses have been designed with the small pixels associated with 5 Megapixel sensors in mind. These highly telecentric lenses produce unparalleled levels of contrast yielding maximum image quality with the highest degree of measurement accuracy. Designed with the lowest f#'s in the industry, these lenses achieve the superior light collection required to solve many of today's applications. A locking iris prevents unintentional lens adjustments in high vibration environments.

Primary Magnification:	1.7X
Working Distance[1]:	123mm
Depth of Field[2]:	±0.18mm at f10 (20% @ 20 lp/mm)
Length:	189.5mm
Filter Thread:	M58 x 0.75
Max. Sensor Format:	⅔"
Camera Mount:	C-Mount

Telecentricity:	<0.1°
Distortion:	<0.1%
Aperture (f/#):	f/6 - f/22, lockable
Object Space NA:	0.083
Number of Elements (Groups):	10 (7)
AR Coating:	425 - 675nm BBAR
Weight:	<700g

Sensor Size	¼"	⅓"	½.5"	½"	⅓.8"	⅔"	1"	4⁄3"
Field of View[3]	2.1mm	2.8mm	3.4mm	3.8mm	4.2mm	5.2mm	N/A	N/A

1. From front of housing 2. Image space MTF contrast 3. Horizontal FOV on standard 4:3 sensor format

Specifications subject to change

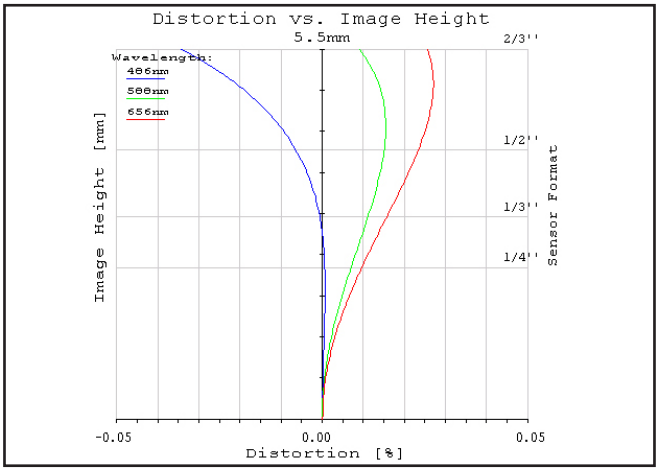

Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

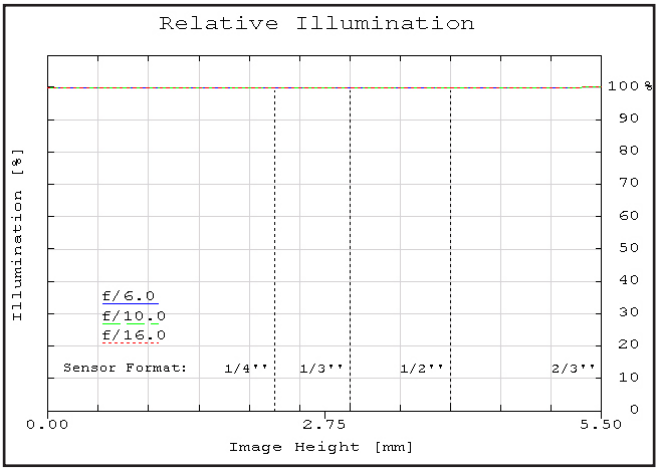

Figure 2: Relative illumination (center to corner)

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/6.0

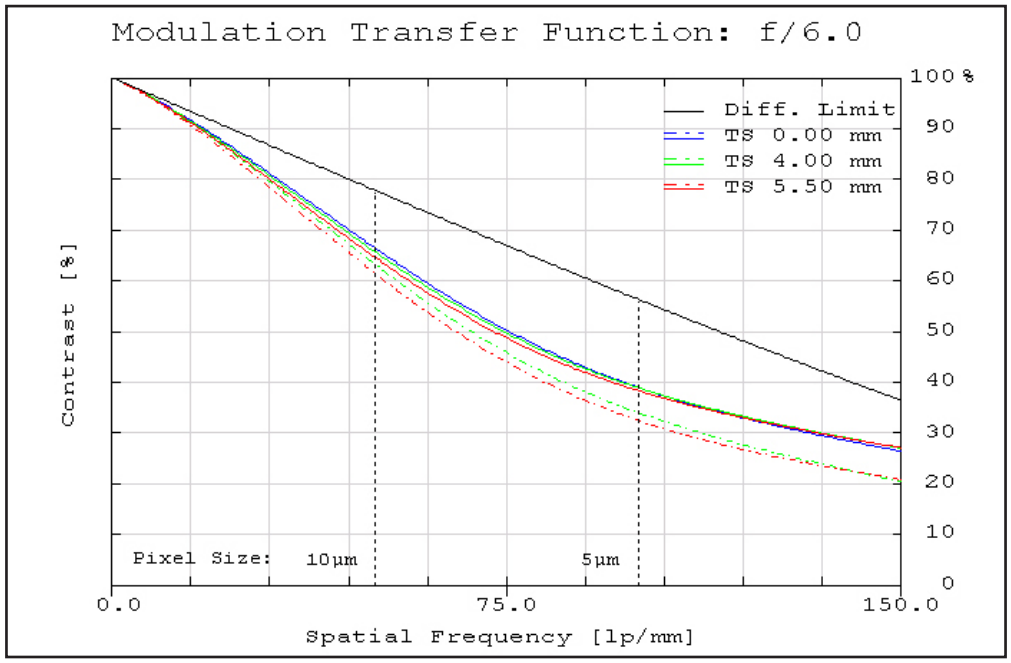

Figure 3: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are Tangential and Sagittal values for field points on center, at 70% of full field and at the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

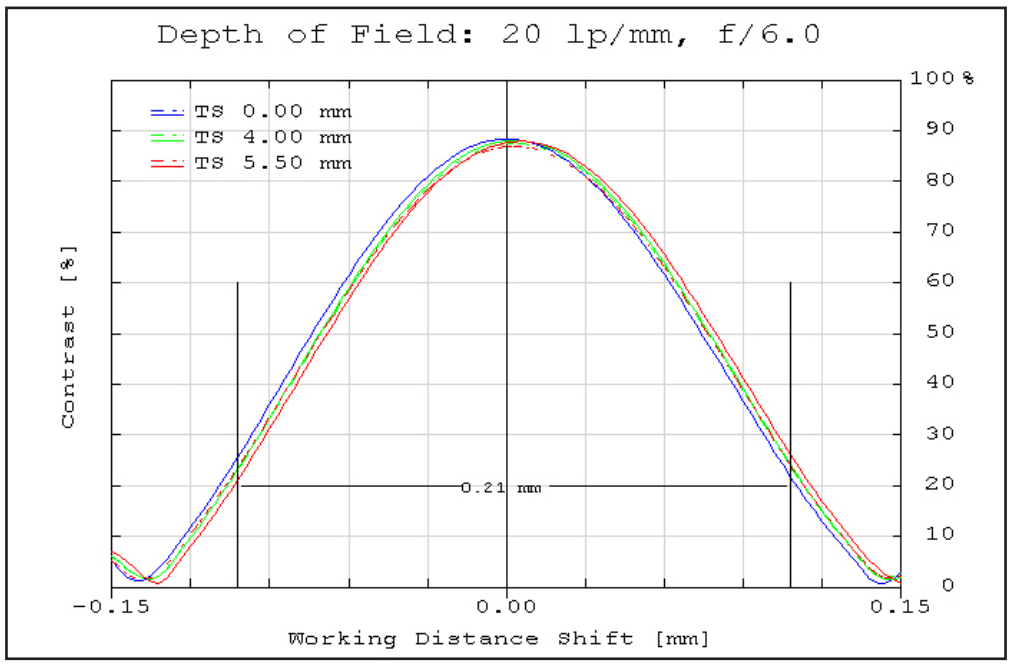

Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). The depth of field at the maximum sensor format for the plotted frequency and f/# at 20% contrast is indicated by the measurement bars.

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MTF & DOF: f/10.0

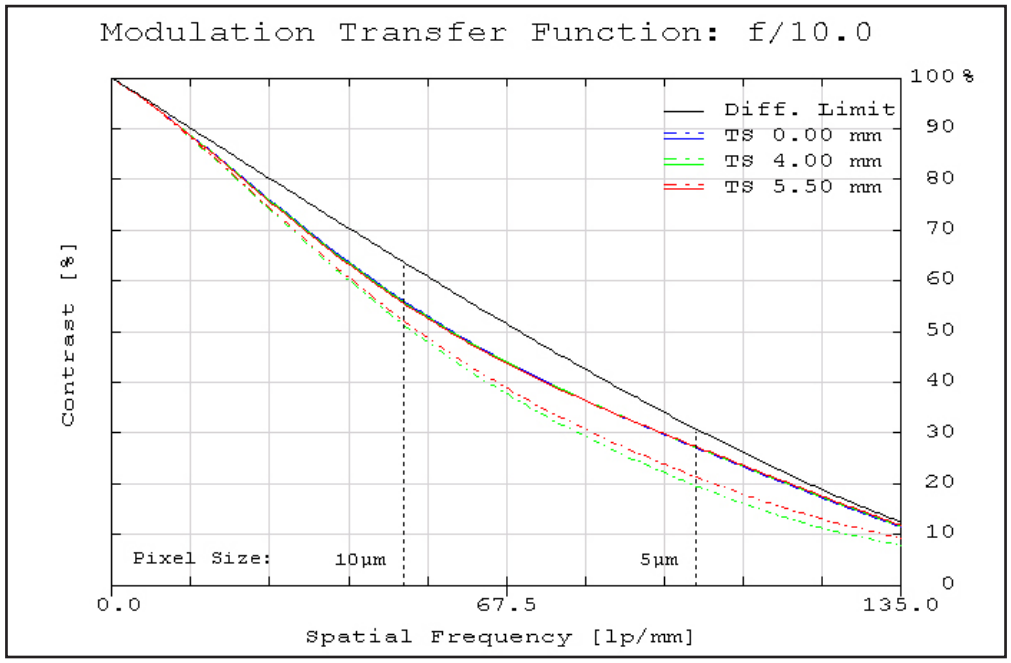

Figure 5: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are Tangential and Sagittal values for field points on center, at 70% of full field and at the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

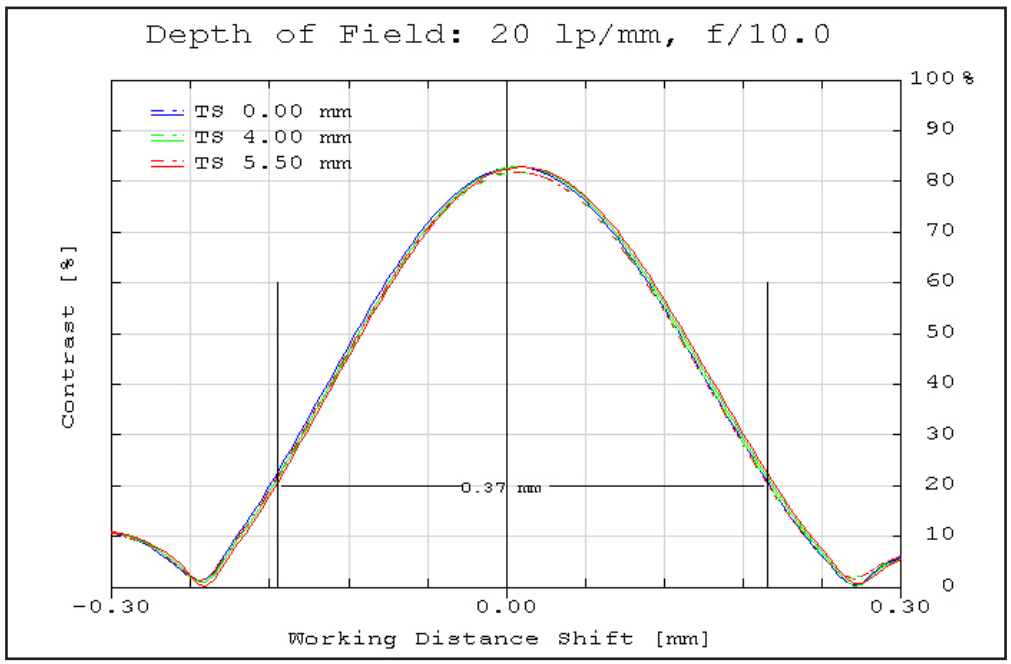

Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). The depth of field at the maximum sensor format for the plotted frequency and f/# at 20% contrast is indicated by the measurement bars.

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