TECHSPEC® PlatinumTL™ TELECENTRIC LENSES #88-602 • f/6.0 - f/16.0

TECHSPEC® PlatinumTL™ Telecentric Lenses are designed for semiconductor and electronics inspection, measurement, and gauging applications. These telecentric lenses feature the lowest f/# in the industry for high light throughput, less than 0.1° telecentricity, and less than 0.1% distortion. Our 28.7mm diagonal sensor format lenses are compatible with the Kodak 4MP 1.3" sensor and other larger format sensors (7µm pixel, 4k Line Scan Cameras).

Primary Magnification:	0.367X
Working Distance[1]:	169mm
Depth of Field[2]:	±4mm at f/10 (20% @ 20 lp/mm)
Max. Sensor Format:	1"
Camera Mount:	C-Mount
Aperture (f/#):	f/6.0 - f/16.0
Distortion %:	<0.008%
Object Space NA:	0.031

Telecentricity:	<0.06°
Type:	Telecentric Lens
Length:	163.5mm
Front Diameter:	70mm
Weight:	627g
RoHS:	Compliant
Number of Elements (Groups):	10 (7)
AR Coating:	425 - 675nm BBAR

1. From front housing 2. Image space MTF contrast

At 169mm W.D.							
Sensor Size	1/4"	1/3"	1/2.5"	1/2"	1/1.8"	2/3"	1"
Field Of View[3]	9.8mm	13.1mm	15.8mm	17.5mm	19.6mm	24.0mm	34.9mm

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

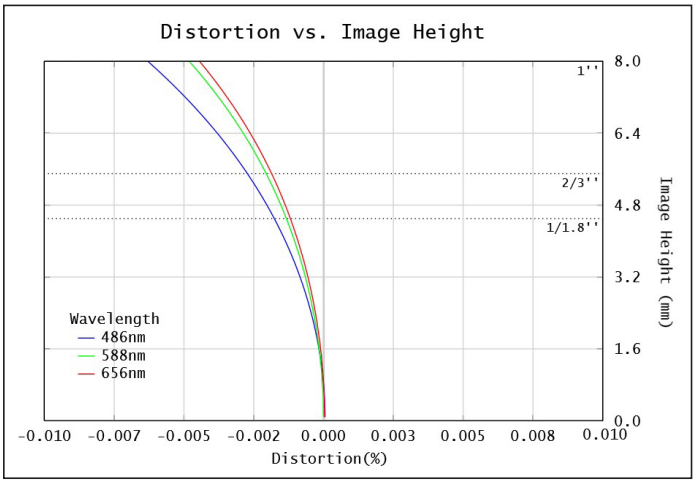

Figure 1: Distortion at the maximum sensor format. Positive values correspond to pincushion distortion, negative values correspond to barrel distortion.

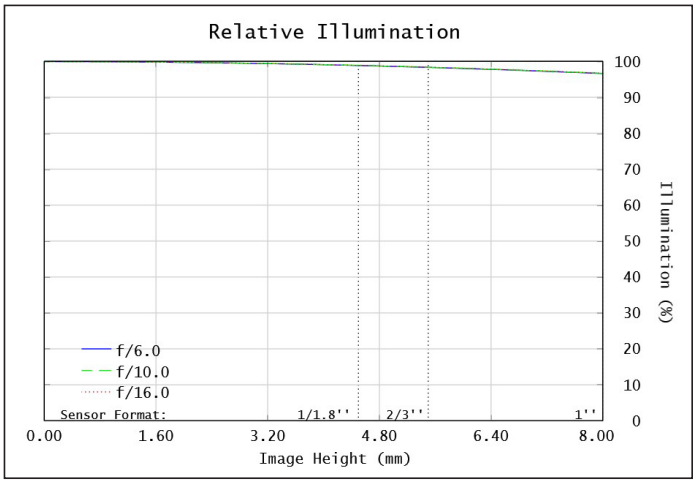

Figure 2: Relative illumination (center to corner)

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
WD: 169mm
HORIZONTAL FOV: 34.9mm

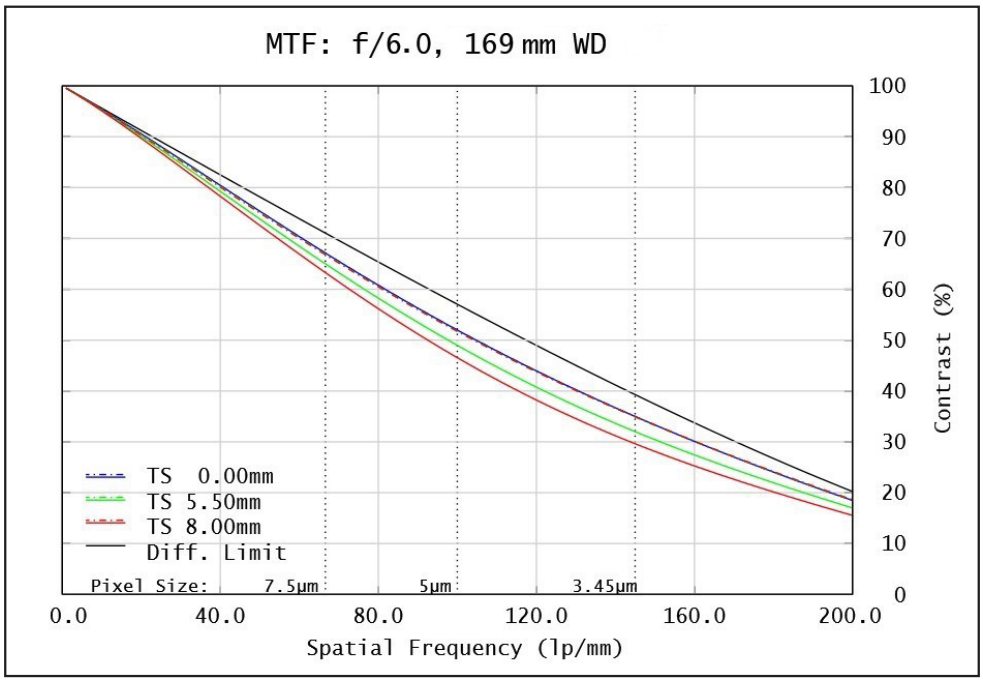

Figure 3: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

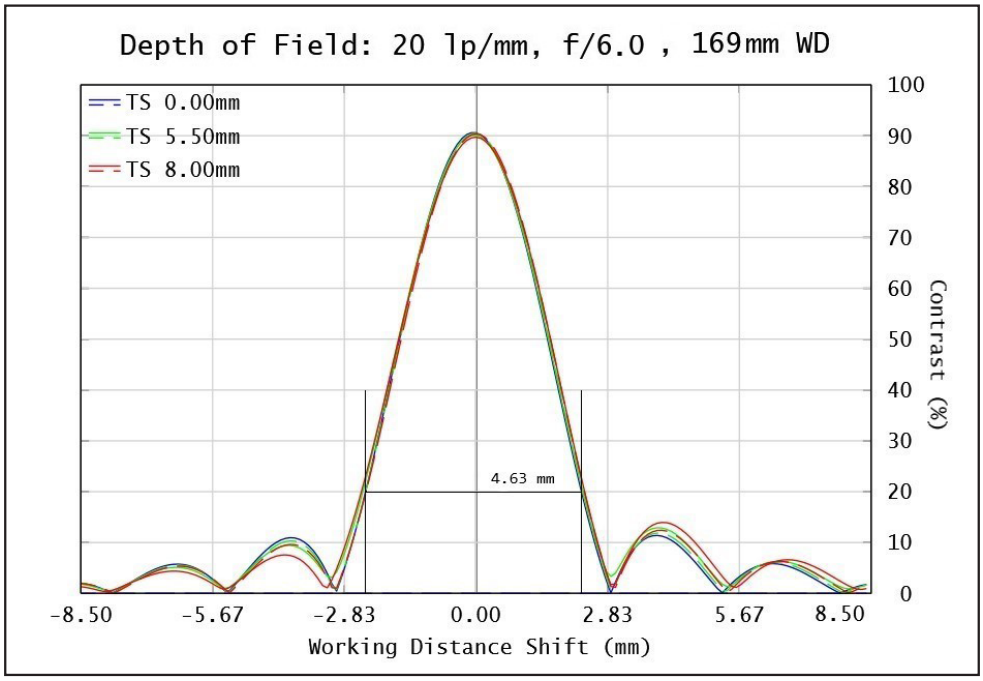

Figure 4: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

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

MTF & DOF: f/10.0
WD: 169mm
HORIZONTAL FOV: 34.9mm

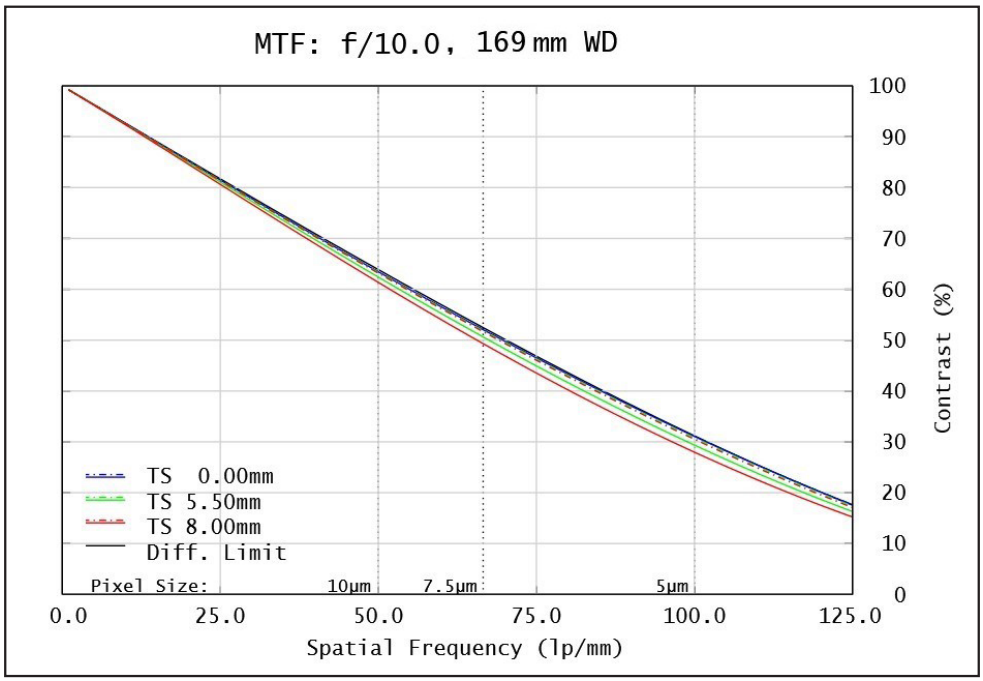

Figure 5: Image space polychromatic diffraction FFT Modulation Transfer Function (MTF) for λ = 486nm to 656nm. Included are the Tangential and Sagittal values for field points on center, at 70% of full field and the maximum sensor format. Solid black line indicates diffraction limit determined by f/#-defined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

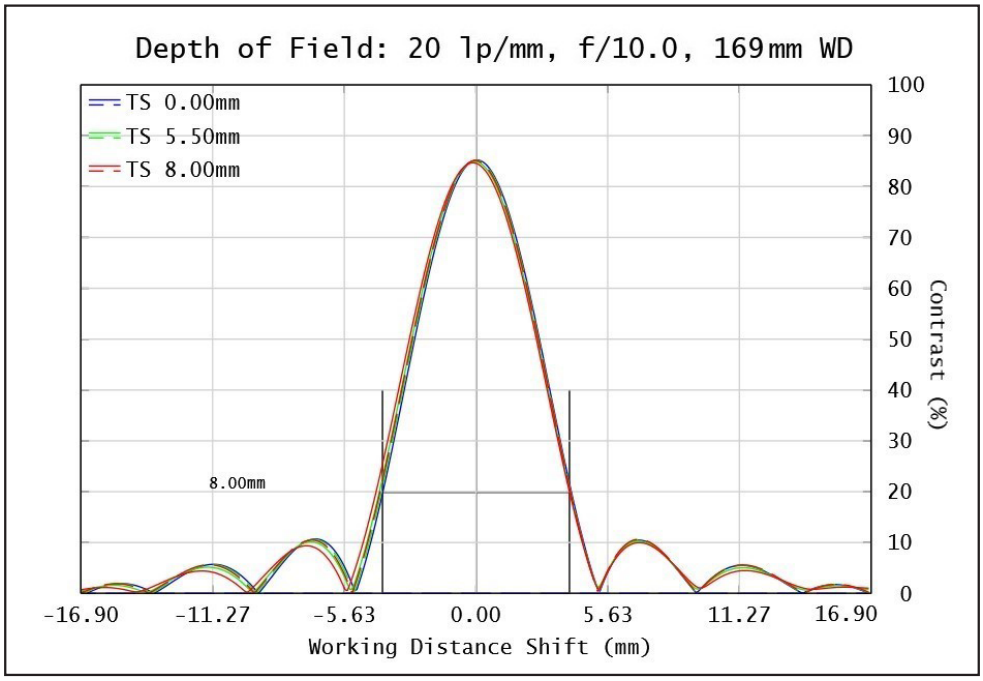

Figure 6: Polychromatic diffraction through-focus MTF at 20 linepairs/mm (image space). Contrast is plotted to two times the focus distance. Note object spatial frequency changes with working distance.

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