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**TECHSPEC® 0.274X In-Line Illumination CobaltTL Telecentric Lens**



#21-069: 0.274X In-Line Illumination CobaltTL Telecentric Lens



Stock **#21-069** **10 In Stock**

⊖ 1 ⊕ €3.040<sup>00</sup>

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Qty 1+	€3.040,00 each
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**General**

CobaltTL Series **Product Family:**

#63-233 Sold Separately **Stock No. of Mounting Clamp:**

Telecentric Lens **Type:**

In-Line Illumination **Type of Illumination:**

## Physical & Mechanical Properties

Variable **Iris Option:**

226.50 **Length (mm):**

222.50 **Length excluding Threads (mm):**

81.80 **Maximum Diameter (mm):**

1230 **Weight (g):**

17.5 **Flange Distance (mm):**

## Optical Properties

51.39mm **Horizontal Field of View, 1.1" Sensor:**

46.72mm **Horizontal Field of View, 1" Sensor:**

32.12mm **Horizontal Field of View, 2/3" Sensor:**

26.28mm **Horizontal Field of View, 1/1.8" Sensor:**

23.36mm **Horizontal Field of View, 1/2" Sensor:**

17.60 **Maximum Image Circle (mm):**

0.027 **Numerical Aperture NA, Object Side:**

10 (7) **Number of Elements (Groups):**

<0.146 **Typical Telecentricity @ 588nm (°):**

<0.037 **Typical Distortion @ 588nm (%):**

0.274X **Primary Magnification PMAG:**

0.27 **Telecentric Lens Magnification:**

110 **Working Distance (mm):**

51.39 x 38.54 **FOV @ Max Sensor Format, H x V (mm):**

f/4.5 - f/22 **Aperture (f/#):**

425 - 675nm BBAR **Coating:**

±7.795mm at f/10 (20% @ 20 lp/mm) **Depth of Field (mm):**

0.274X **Magnification:**

VIS **Lens Wavelength Range:**

## Sensor

1.1" **Maximum Sensor Format:**

2.20 **Pixel Size (µm):**

## Threading & Mounting

M77 x 0.75 (Female) **Filter Thread:**

C-Mount **Mount:**

## Regulatory Compliance

[Compliant](#) **RoHS 2015:**

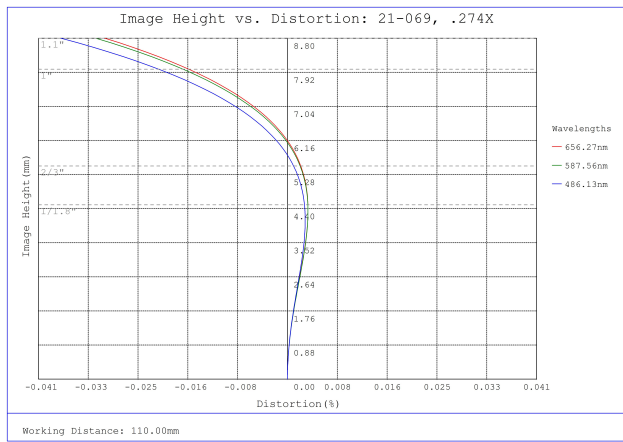
[View](#) **Certificate of Conformance:**

## Product Details

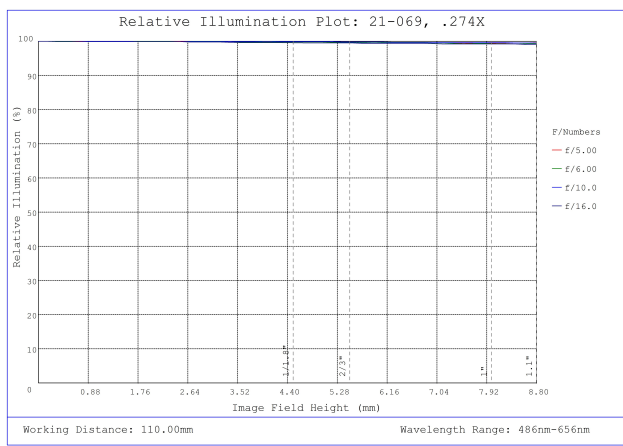
- High Resolution Bi-Telecentric Lens with In-Line Illumination Options
- Up to 20 MegaPixels, 2.2 $\mu$ m Pixel Size
- 1.1", C-Mount Telecentric Lens with  $f$ /#s as Low as  $f/4$

TECHSPEC® CobaltTL Telecentric Lenses are designed for semiconductor and electronics inspection, measurement, and gauging applications. These telecentric lenses achieve high light throughput with industry leading low  $f$ /#s. Featuring less than 0.015° telecentricity and low 0.013% distortion, these lenses are ideal for image stitching applications. These 17.6mm diagonal sensor format lenses are compatible with the Sony IMX304 1.1" sensors and other similar format sensors such as the Sony IMX183. TECHSPEC® CobaltTL Telecentric Lenses produce unparalleled levels of contrast yielding maximum image quality with the highest degree of measurement accuracy. In-line versions provide the ability to rotate/reposition the inline illumination port to allow for maximum flexibility when machine building. TECHSPEC® CobaltTL Telecentric Lenses are compatible with high vibration environments and feature a removable recessed set screw for securely locking the iris in place.

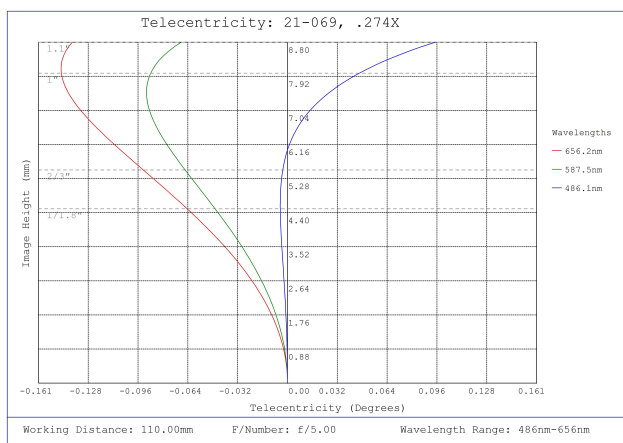
## Technical Information



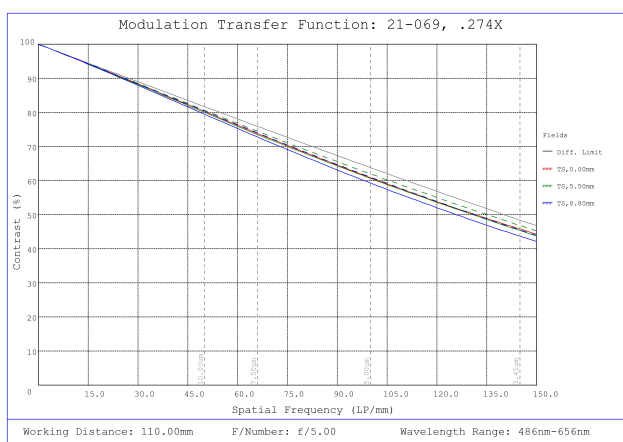
#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Distortion Plot



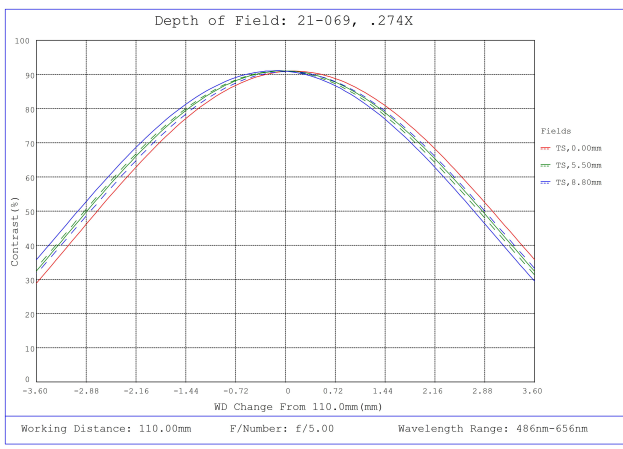
#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Relative Illumination Plot



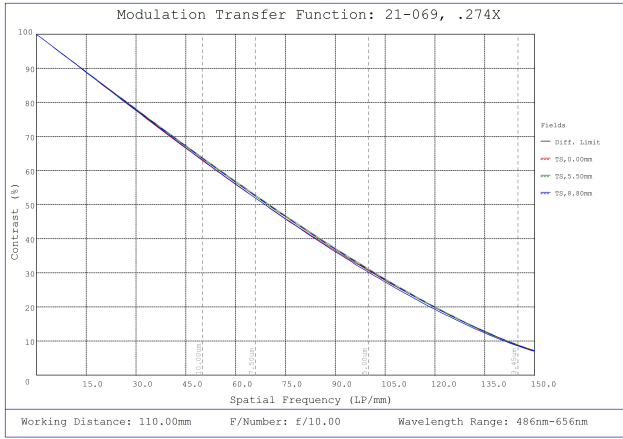
#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Telecentricity Plot



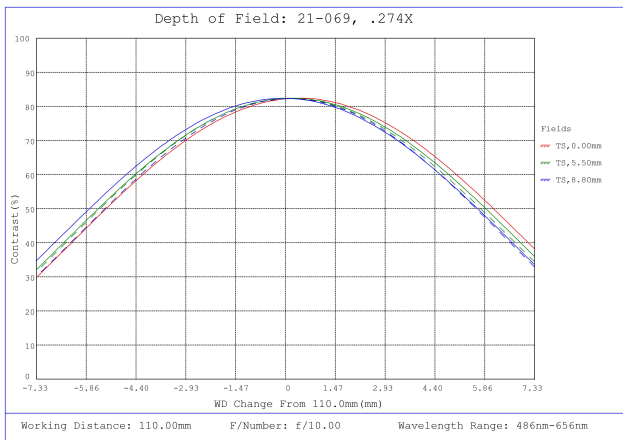
#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Modulated Transfer Function (MTF) Plot, 110mm Working Distance,  $f/5$



#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Depth of Field Plot, 110mm Working Distance, f5



#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Modulated Transfer Function (MTF) Plot, 110mm Working Distance, f10



#21-069, 0.274X In-Line CobaltTL Telecentric Lens, Depth of Field Plot, 110mm Working Distance, f10

Description		Stock No.	Length (A)	Front Diameter (B)	Back Diameter (C)
0.28X	C-Mount	#62-921	197.59mm	138.6mm	50mm
0.36X	C-Mount	#88-602	163.5mm	70mm	43.5mm
0.5X	C-Mount	#62-911	172.9mm	90mm	50mm
0.55X	C-Mount	#88-603	182.5mm	62mm	43.5mm
0.69X	C-Mount	#15-872 / #15-873 (In-Line)	174.96mm	55mm	46mm
0.9X	C-Mount	#62-901	199.8mm	65mm	53mm