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**TECHSPEC® 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens**



4.5mm Focal Length



Stock #15-613 [CONTACT US](#)

− 1 + C\$987.<sup>00</sup>

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**General**

Cw Series **Product Family:**

C-Mount compatible with O-ring 25mm ID x2mm **Note:**

Fixed Focal Length Lens **Type:**

**Physical & Mechanical Properties**

Fixed	<b>Iris Option:</b>
40.82	<b>Length (mm):</b>
54.00	<b>Maximum Diameter (mm):</b>
54	<b>Outer Diameter (mm):</b>
3.3	<b>Maximum Rear Protrusion (mm):</b>

## Optical Properties

<b>Field of View at Max Sensor Format:</b>	
Horizontal: 84.7°	
Vertical: 66.1°	
Diagonal: 100.0°	
84.7°	<b>Horizontal Field of View, 1/1.8" Sensor:</b>
76.8°	<b>Horizontal Field of View, 1/2" Sensor:</b>
70.1°	<b>Horizontal Field of View, 1/2.5" Sensor:</b>
59.34°	<b>Horizontal Field of View, 1/3" Sensor:</b>
9.00	<b>Maximum Image Circle (mm):</b>
0.0270	<b>Numerical Aperture NA, Object Side:</b>
9 (8)	<b>Number of Elements (Groups):</b>
4.50	<b>Focal Length FL (mm):</b>
75 - ∞	<b>Working Distance (mm):</b>
f/2	<b>Aperture (f#):</b>
425 - 675nm BBAR	<b>Coating Specification:</b>
27.308	<b>Entrance Pupil Position (mm):</b>
-31.12	<b>Object Space Principal Plane (mm):</b>
35.70	<b>Image Space Principal Plane (mm):</b>
15.959	<b>Maximum Distortion (%):</b>
-9.272	<b>Exit Pupil Position (mm):</b>
VS	<b>Lens Wavelength Range:</b>

## Sensor

1/1.8"	<b>Maximum Sensor Format:</b>
2.74	<b>Pixel Size (μm):</b>

## Threading & Mounting

M49 x 0.75 (Female)	<b>Filter Thread:</b>
C-Mount	<b>Mount:</b>

## Environmental & Durability Factors

IPX7	<b>Environmental Rating:</b>
Waterproof (IPX7)	<b>Type of Ruggedization:</b>

## Regulatory Compliance

<a href="#">View</a>	<b>Certificate of Conformance:</b>
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## Product Details

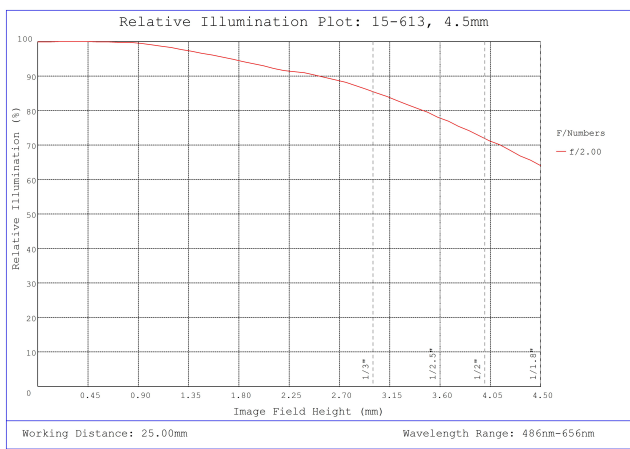
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

TECHSPEC® Cw Series Fixed Focal Length Lenses are waterproof versions of our [TECHSPEC® C Series Fixed Focal Length Lenses](#). Designed to meet IEC Ingress Protection Codes IPX7 and IPX9K, these lenses withstand exposure to water up to 1 meter depth for 30 minutes and operate in close-range high pressure, high temperature water spray downs with the exception of all 3.5 and 4.5mm options which are IPX7. These lenses include a hydrophobic coated window to prevent water droplets from settling on the lens' surface. To prevent moisture from entering the housing, the lenses are sealed with multiple O-rings. TECHSPEC® Cw Series Fixed Focal Length Lenses are designed for up to 7.5 MegaPixel, 2/3" sensors and are ideal for applications including food, pharma, automotive, and security. These lenses won the Bronze-Level 2021 Vision Systems Design Innovators Award.

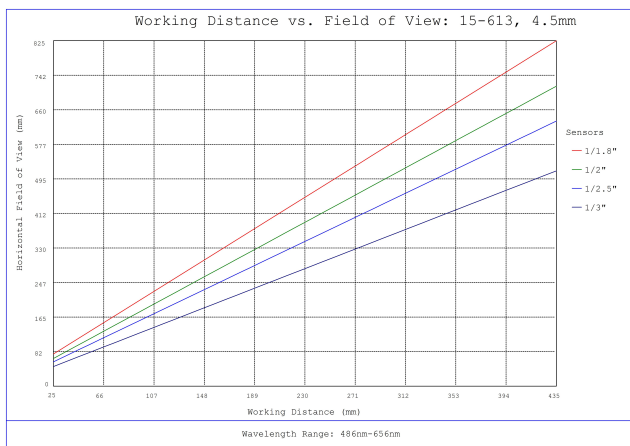
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety of optomechanical solutions to meet your application requirements:

- **C Series:** Features locking cam focus and iris adjustment and is the most adjustable version of these optical designs; they are the typical high quality machine vision lenses. Also available with a [VIS-NIR Broadband Anti-Reflection \(BBAR\) Coating](#).
- **Ci Series:** Simplified mechanics featuring fixed apertures with compact housing. [Industrial Ruggedization](#) for reduced size, cost, and locked focus.
- **Cr Series:** All optics glued in place and a locking C-clamp focus ring. [Stabilized Ruggedization](#) for reduced pixel shift and improved focus stability.
- **Cx Series:** Modular, flexible mechanics allows lenses to be taken apart for easy integration of accessories such as liquid lenses, apertures, and more.
- **Liquid Lens Cx Series:** Designed with an integrated liquid lens for quick autofocus.
- **Cw Series:** Waterproof, designed to meet IEC [Ingress Protection](#) Code IPX7 and IPX9K.

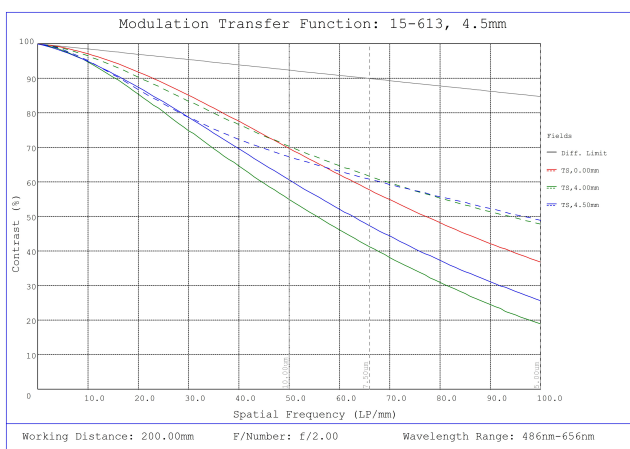
## Technical Information



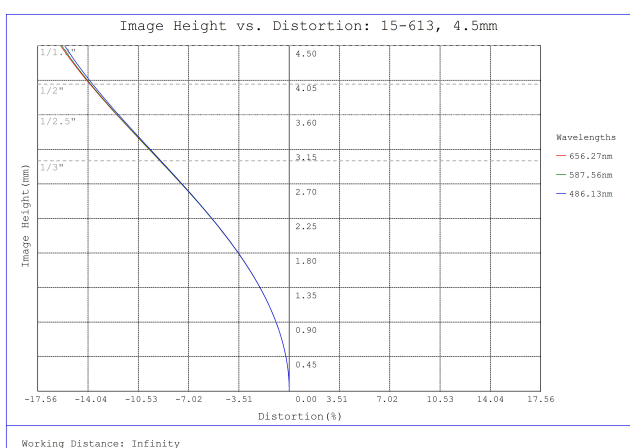
#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Relative Illumination Plot



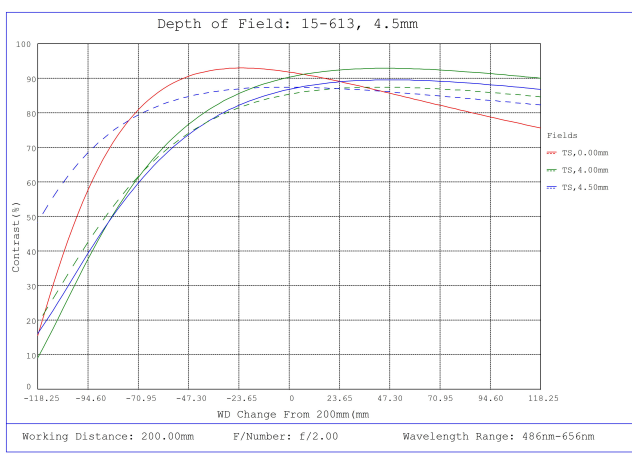
#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



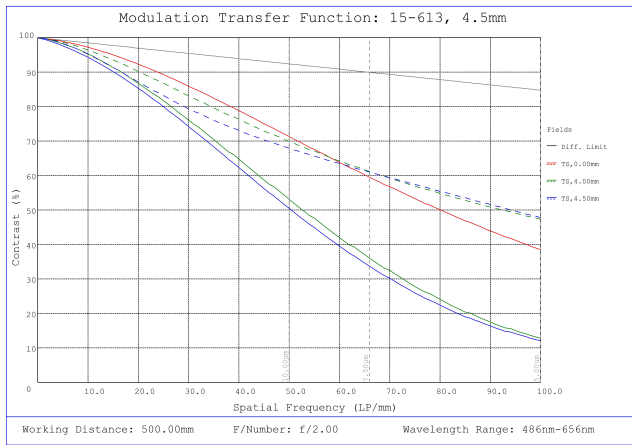
#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f2



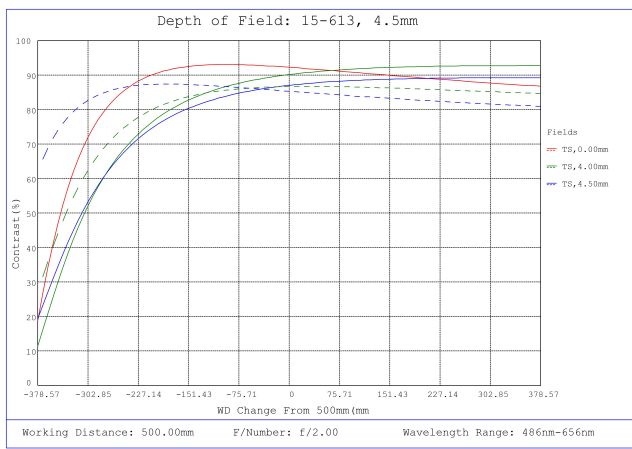
#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Distortion Plot



#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f2



#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f2



#15-613, 4.5mm f/2.0 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f2