

TECHSPEC<sup>®</sup> 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens



4.5mm Focal Length



Stock **#15-614** 16 In Stock

-

1

+

C\$987<sup>00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1+         | C\$987.00 each                |
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Product Downloads

| General                                     |         |
|---------------------------------------------|---------|
| Cw Series                                   | Series: |
| C-Mount compatible with O-ring 25mm ID x2mm | Note:   |
| Fixed Focal Length Lens                     | Type:   |
| Physical & Mechanical Properties            |         |

|       |                               |
|-------|-------------------------------|
| Fixed | Iris Option:                  |
|       |                               |
| 40.82 | Length (mm):                  |
|       |                               |
| 54.00 | Maximum Diameter (mm):        |
|       |                               |
| 54    | Outer Diameter (mm):          |
|       |                               |
| 3.3   | Maximum Rear Protrusion (mm): |
|       |                               |

Optical Properties

|                  |                                          |
|------------------|------------------------------------------|
|                  | Field of View at Max Sensor Format:      |
|                  | Horizontal: 84.7°                        |
|                  | Vertical: 66.1°                          |
|                  | Diagonal: 100.0°                         |
| 84.7°            | Horizontal Field of View, 1/1.8" Sensor: |
|                  |                                          |
| 76.8°            | Horizontal Field of View, 1/2" Sensor:   |
|                  |                                          |
| 70.1°            | Horizontal Field of View, 1/2.5" Sensor: |
|                  |                                          |
| 59.34°           | Horizontal Field of View, 1/3" Sensor:   |
|                  |                                          |
| 9.00             | Maximum Image Circle (mm):               |
|                  |                                          |
| 0.0270           | Numerical Aperture NA, Object Side:      |
|                  |                                          |
| 9 (8)            | Number of Elements (Groups):             |
|                  |                                          |
| 4.50             | Focal Length FL (mm):                    |
|                  |                                          |
| 75 - ∞           | Working Distance (mm):                   |
|                  |                                          |
| f/2.8            | Aperture (f/#):                          |
|                  |                                          |
| 425 - 675nm BBAR | Coating Specification:                   |
|                  |                                          |
| 27.308           | Entrance Pupil Position (mm):            |
|                  |                                          |
| -31.12           | Object Space Principal Plane (mm):       |
|                  |                                          |
| 35.70            | Image Space Principal Plane (mm):        |
|                  |                                          |
| 15.959           | Maximum Distortion (%):                  |
|                  |                                          |
| -9.272           | Exit Pupil Position (mm):                |
|                  |                                          |
| VIS              | Lens Wavelength Range:                   |
|                  |                                          |

Sensor

|        |                        |
|--------|------------------------|
| 1/1.8" | Maximum Sensor Format: |
|        |                        |
| 2.74   | Pixel Size (µm):       |
|        |                        |

Threading & Mounting

|                    |                |
|--------------------|----------------|
| M49 x0.75 (Female) | Filter Thread: |
|                    |                |
| C-Mount            | Mount:         |
|                    |                |

Environmental & Durability Factors

|                   |                        |
|-------------------|------------------------|
| IPX7              | Environmental Rating:  |
|                   |                        |
| Waterproof (IPX7) | Type of Ruggedization: |
|                   |                        |

Regulatory Compliance

|                      |                             |
|----------------------|-----------------------------|
| <a href="#">View</a> | Certificate of Conformance: |
|                      |                             |

# Product Details

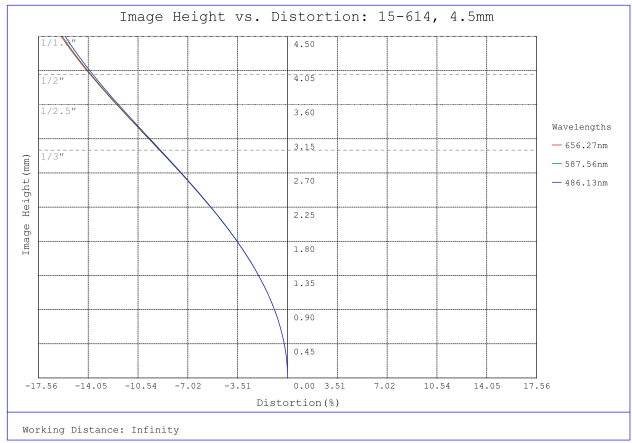
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

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.

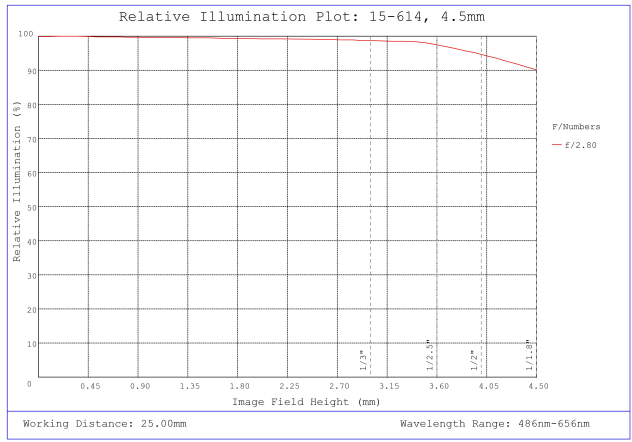
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety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

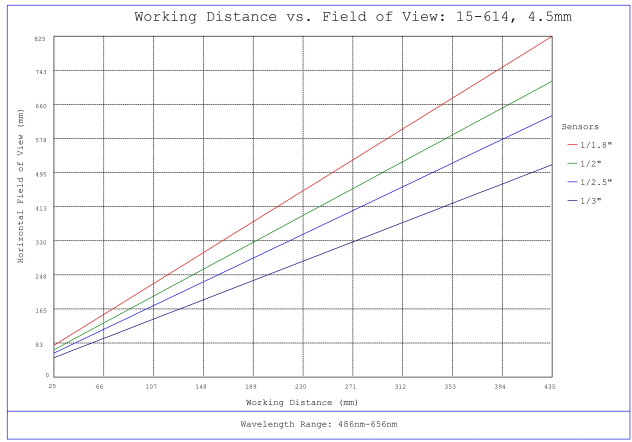
# Technical Information



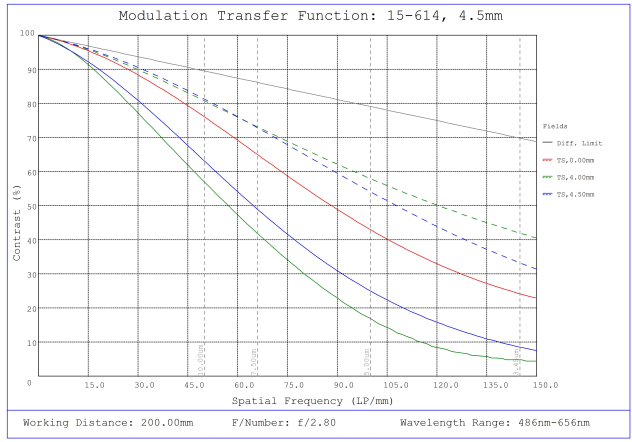
#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Distortion Plot



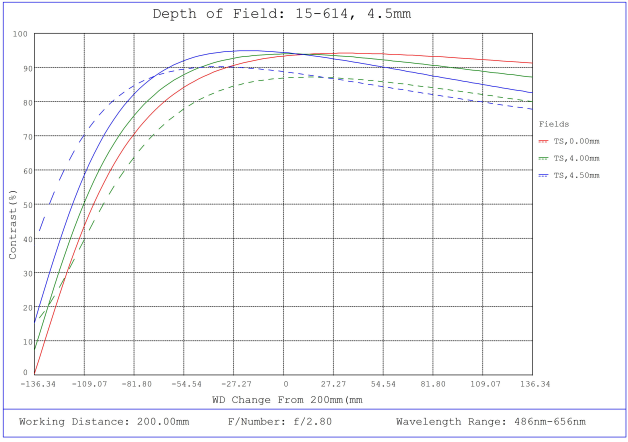
#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Relative Illumination Plot



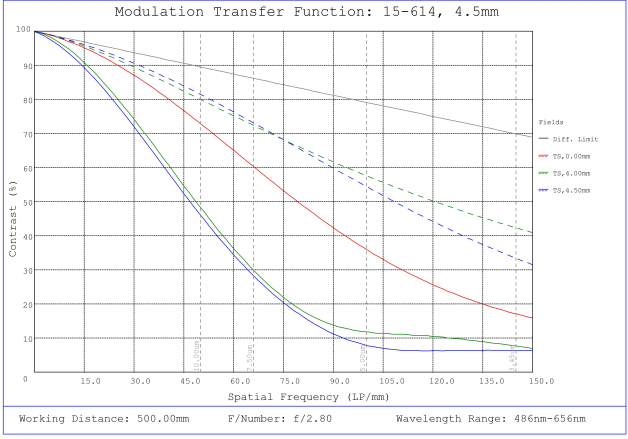
#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



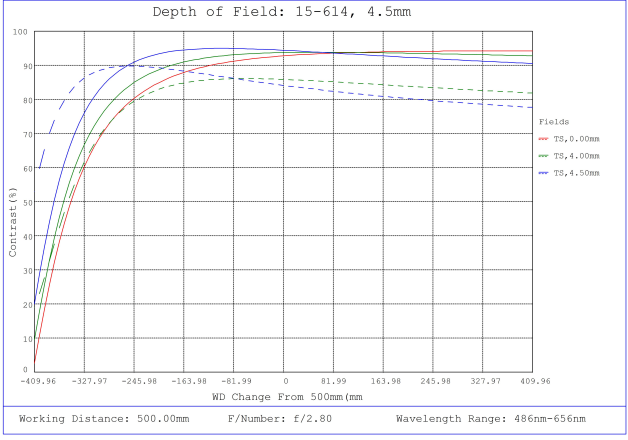
#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f2.8



#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f2.8



#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f2.8



#15-614, 4.5mm f/2.8 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f2.8