# TECHSPEC® 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens


4.5mm Focal Length


Stock **#15-615** **1 In Stock**

- 1 + **C$987**.00

**ADD TO CART**

| Volume Pricing | |
|---|---|
| Qty 1+ | **C$987.00** each |
| Need More? | Request Quote |

Product Downloads

## General

**Series:**
Cw Series

**Note:**
C-Mount compatible with O-ring 25mm ID x 2mm

**Type:**
Fixed Focal Length Lens

## Physical & Mechanical Properties

**Iris Option:**
Fixed

**Length (mm):**
40.82

**Maximum Diameter (mm):**
54.00

**Outer Diameter (mm):**
54

**Maximum Rear Protrusion (mm):**
3.3

## Optical Properties

**Field of View at Max Sensor Format:**
Horizontal: 84.7°
Vertical: 66.1°
Diagonal: 100.0°

**Horizontal Field of View, 1/1.8" Sensor:**
84.7°

**Horizontal Field of View, 1/2" Sensor:**
76.8°

**Horizontal Field of View, 1/2.5" Sensor:**
70.1°

**Horizontal Field of View, 1/3" Sensor:**
59.34°

**Maximum Image Circle (mm):**
9.00

**Numerical Aperture NA, Object Side:**
0.0130

**Number of Elements (Groups):**
9 (8)

**Focal Length FL (mm):**
4.50

**Working Distance (mm):**
75 - ∞

**Aperture (f/#):**
f/4

**Coating Specification:**
425 - 675nm BBAR

**Entrance Pupil Position (mm):**
27.308

**Object Space Principal Plane (mm):**
-31.12

**Image Space Principal Plane (mm):**
35.70

**Maximum Distortion (%):**
15.959

**Exit Pupil Position (mm):**
-9.272

**Lens Wavelength Range:**
VIS

## Sensor

**Maximum Sensor Format:**
1/1.8"

**Pixel Size (µm):**
2.74

## Threading & Mounting

**Filter Thread:**
M49 x 0.75 (Female)

**Mount:**
C-Mount

## Environmental & Durability Factors

**Environmental Rating:**
IPX7

**Type of Ruggedization:**
Waterproof (IPX7)

## Regulatory Compliance

**Certificate of Conformance:**
View

# Product Details

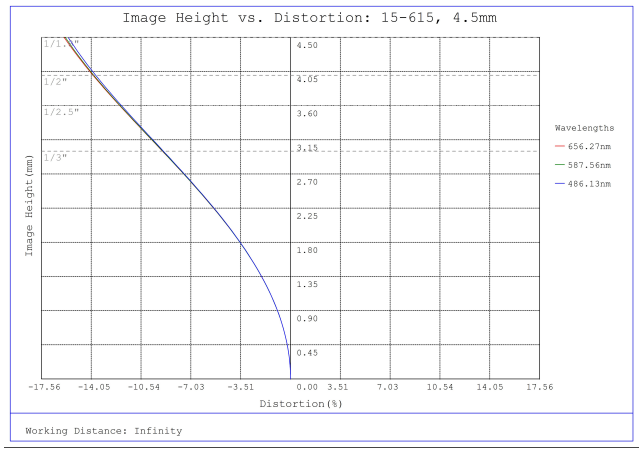
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

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.

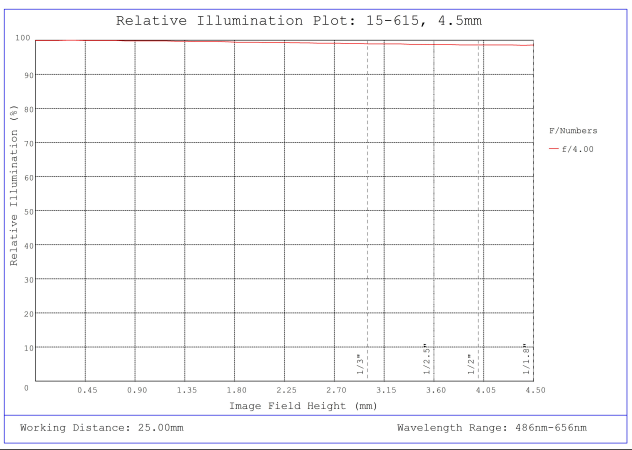
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety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

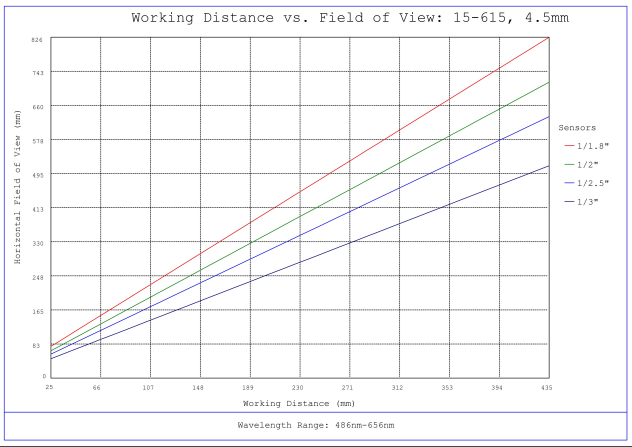
# Technical Information



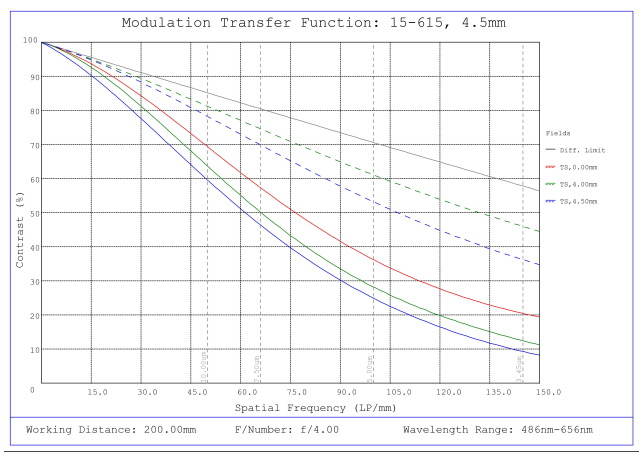

*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Distortion Plot*



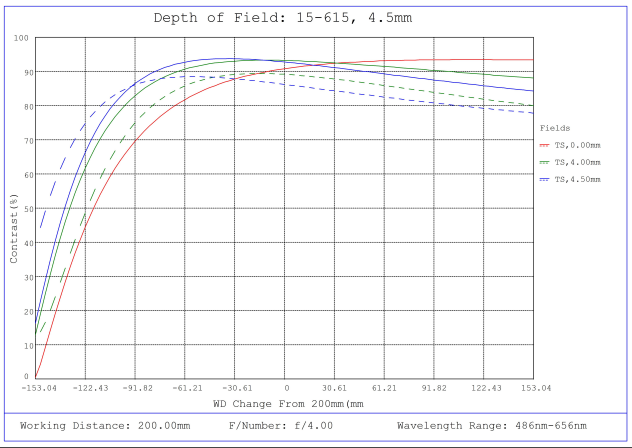

*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Relative Illumination Plot*



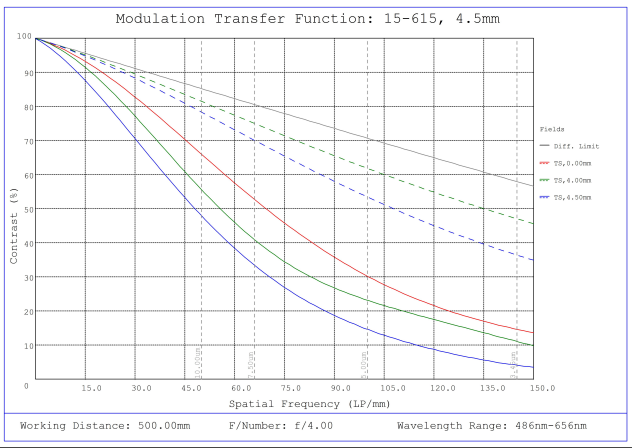

*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot*



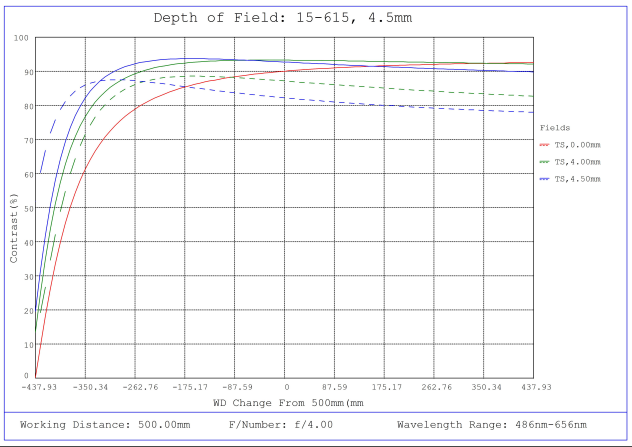

*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f4*




*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f4*




*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f4*




*#15-615, 4.5mm f/4.0 Sealed Cw Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f4*

;