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**TECHSPEC® 16mm, f/1.6 Cw Series Fixed Focal Length Lens**



16mm Focal Length



Stock **#15-638** **6 In Stock**

⊖ 1 ⊕ **C\$641<sup>20</sup>**

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**General**

Cw Series **Product Family:**

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

Fixed Focal Length Lens **Type:**

Meets IEC IPX7 and IPX9K **Imaging Lens Type:**

## Physical & Mechanical Properties

Fixed	Iris Option:
48.60	Length (mm):
37.77	Maximum Diameter (mm):
34.1	Outer Diameter (mm):
1.9	Maximum Rear Protrusion (mm):
38.00	Diameter (mm):

## Optical Properties

Horizontal Field of View @ Max Sensor Format:  
65.5mm - 27.8°

Field of View at Max Sensor Format:  
Horizontal: 31°  
Vertical: 23.4°  
Diagonal: 38.3°

27.8° Horizontal Field of View, 2/3" Sensor:

22.9° Horizontal Field of View, 1/1.8" Sensor:

20.4° Horizontal Field of View, 1/2" Sensor:

18.5° Horizontal Field of View, 1/2.5" Sensor:

15.3° Horizontal Field of View, 1/3" Sensor:

11.5° Horizontal Field of View, 1/4" Sensor:

11.00 Maximum Image Circle (mm):

0.0407 Numerical Aperture NA, Object Side:

7 (6) Number of Elements (Groups):

16.00 Focal Length FL (mm):

100 - ∞ Working Distance (mm):

f/1.6 Aperture (f/#):

425 - 675nm BBAR Coating:

425 - 675nm BBAR Coating Specification:

12.97 Entrance Pupil Position (mm):

25.15 Object Space Principal Plane (mm):

-3.00 Image Space Principal Plane (mm):

-1.26 Maximum Distortion (%):

-53.79 Exit Pupil Position (mm):

VIS Lens Wavelength Range:

## Sensor

2/3" Maximum Sensor Format:

2.74 Pixel Size (µm):

## Threading & Mounting

M30.5 x 0.50 (Female) Filter Thread:

C-Mount Mount:

## Environmental & Durability Factors

**Environmental Rating:**  
IPX7 and IPX9K

**Storage Temperature (°C):**  
-20 to +60

**Type of Ruggedization:**  
Waterproof (IPX7 and IPX9K)

## Regulatory Compliance

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

## Product Details

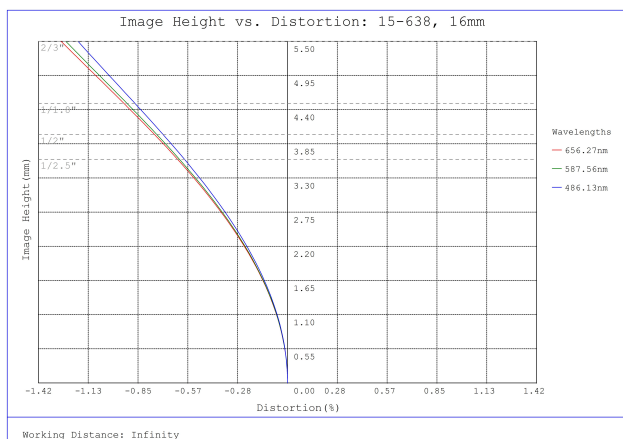
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

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.

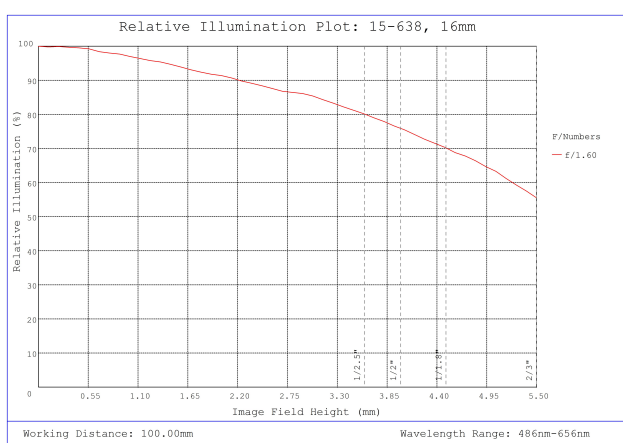
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety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

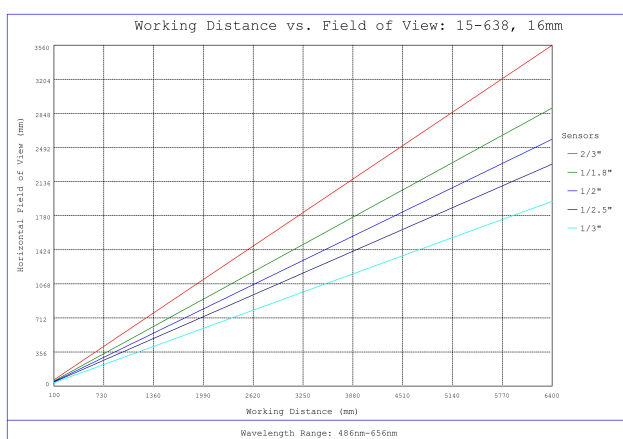
## Technical Information



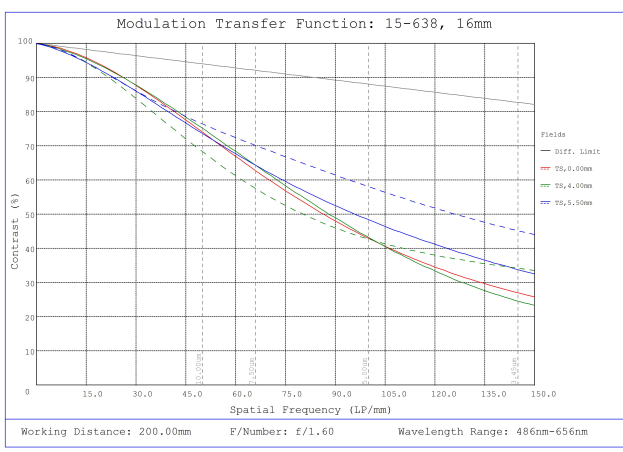
#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Distortion Plot



#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Relative Illumination Plot



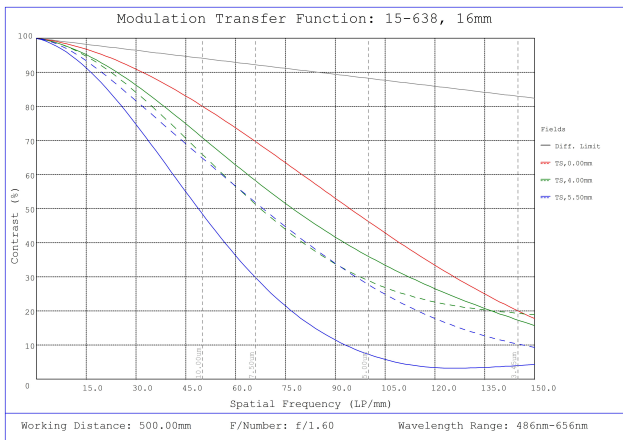
#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



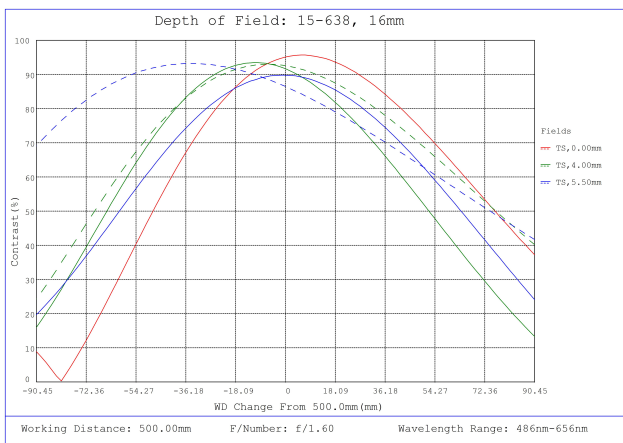
#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f1.6



#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f1.6



#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f1.6



#15-638, 16mm, f/1.6 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f1.6