

TECHSPEC® 12mm, f/1.8 Cw Series Fixed Focal Length Lens

12mm Focal Length



Stock #15-631 20+ In Stock

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SPECIFICATIONS**General**

Series:

Cw Series

Note:

C-Mount compatible with O-ring 25mm ID x2mm

Type:
Fixed Focal Length Lens

Imaging Lens Type:
Meets IEC IPX7 and IPX9K

Physical & Mechanical Properties

Iris Option:
Fixed

Length (mm):
38.10

Outer Diameter (mm):
36

Maximum Rear Protrusion (mm):
0.6

Optical Properties

Field of View at Max Sensor Format:
Horizontal: 41.0°
Vertical: 31.3°
Diagonal: 50.5°

Horizontal Field of View, 2/3" Sensor:
41.0°

Horizontal Field of View, 1/1.8" Sensor:
33.8°

Horizontal Field of View, 1/2" Sensor:
30.2°

Horizontal Field of View, 1/2.5" Sensor:
27.4°

Horizontal Field of View, 1/3" Sensor:
22.8°

Horizontal Field of View, 1/4" Sensor:
17.1°

Maximum Image Circle (mm):
11.00

Numerical Aperture NA, Object Side:
0.0262

Number of Elements (Groups):
7 (7)

Focal Length FL (mm):
12.00

Working Distance (mm):
100 - ∞

Aperture (f#):
f/1.8

Coating Specification:
425 - 675nm BBAR

Entrance Pupil Position (mm):
17.6208

Object Space Principal Plane (mm):
23.93

Image Space Principal Plane (mm):
1.98

Maximum Distortion (%):
2.11

Exit Pupil Position (mm):
-11.3801

Lens Wavelength Range:
VIS

Sensor

Maximum Sensor Format:
2/3"

Pixel Size (μm):
2.74

Threading & Mounting

Filter Thread:
M80.5 x 0.50 (Female)

Mount:
C-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

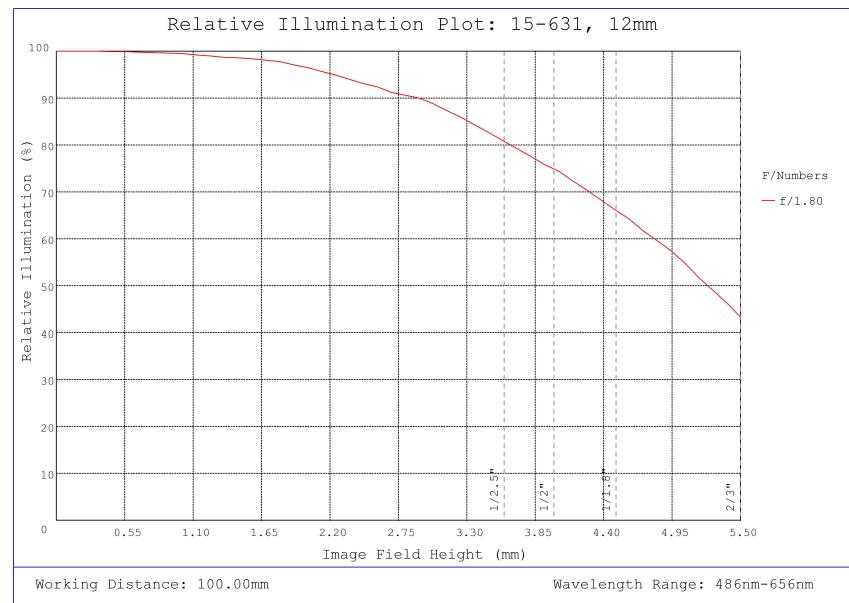
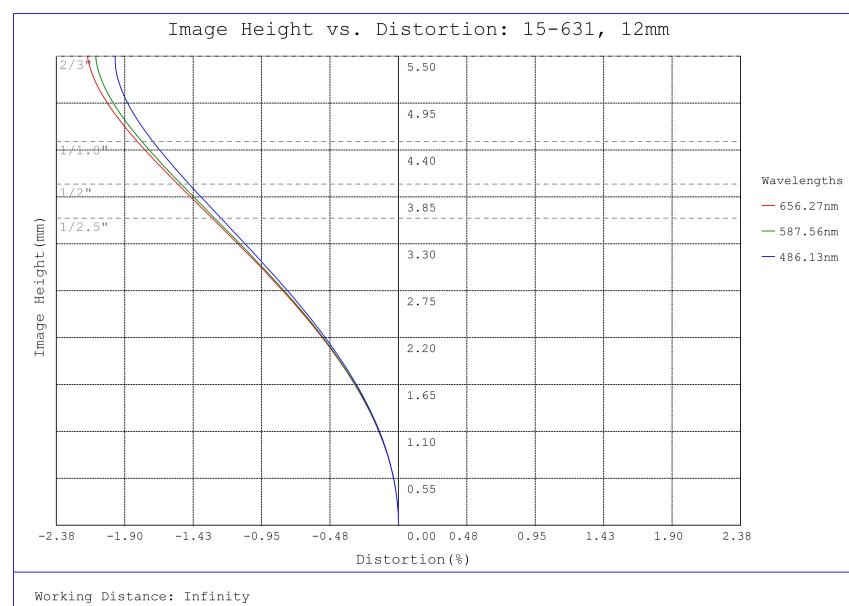
- Up to 2/3", C-Mount Lens
- Waterproof (Cw) Versions of C Series Fixed Focal Length Lenses
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- Designed to Eliminate the Need for a Protective Lens Cover

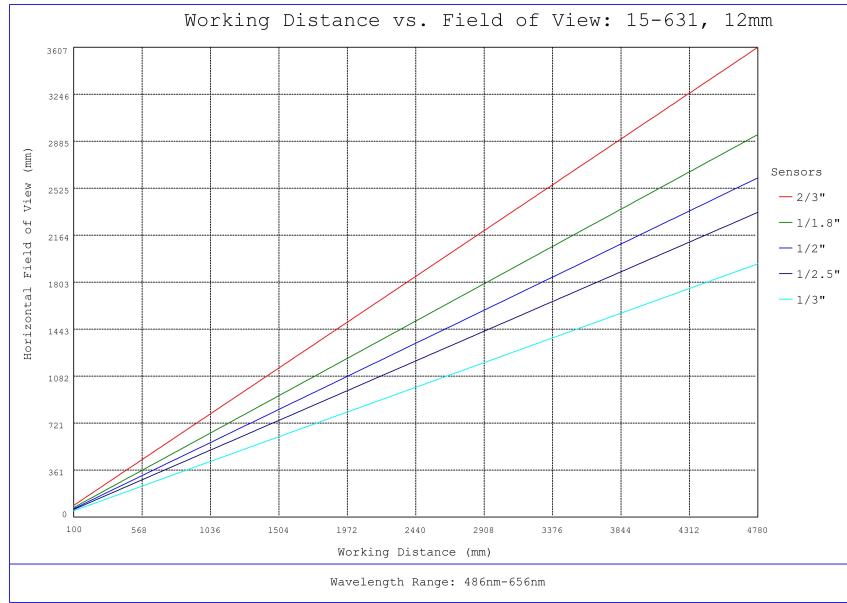
TECHSPEC® Cw Series Fixed Focal Length Lenses are waterproof versions of our TECHSPEC® C Series Fixed Focal Length Lenses. Designed to meet IEC Ingress Protection Codes IPX7 and IPX9K, these lenses withstand exposure to water up to 1 meter depth for 30 minutes and operate in close-range high pressure, 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:

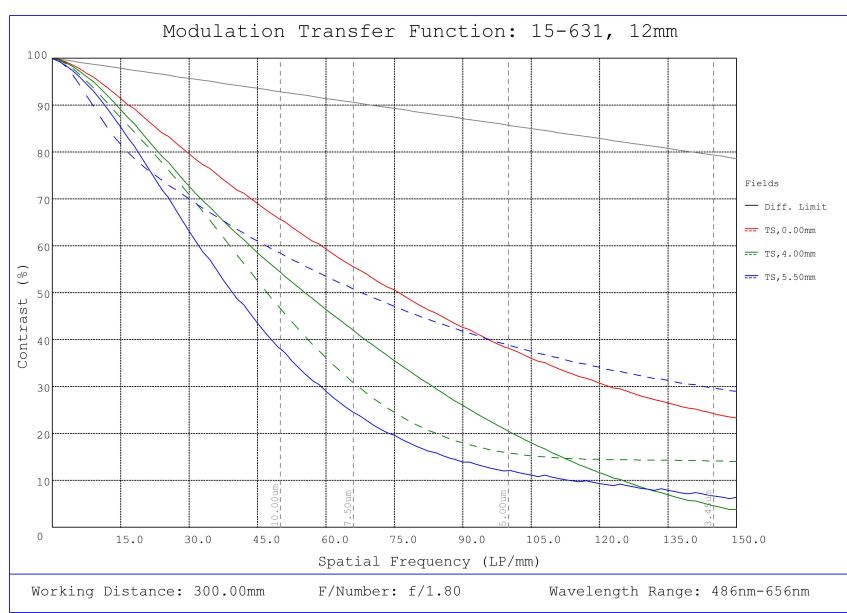
- C Series:** Features locking cam focus and iris adjustment and is the most adjustable version of these optical designs; they are the typical high quality machine vision lenses. Also available with a [VIS-NIR Broadband Anti-Reflection \(BBAR\) Coating](#).
- CI Series:** Simplified mechanics featuring 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

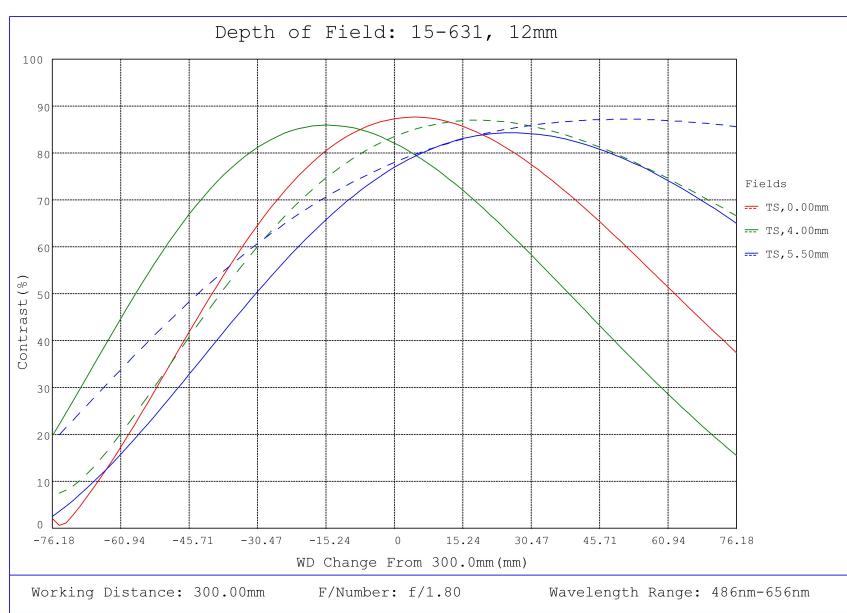




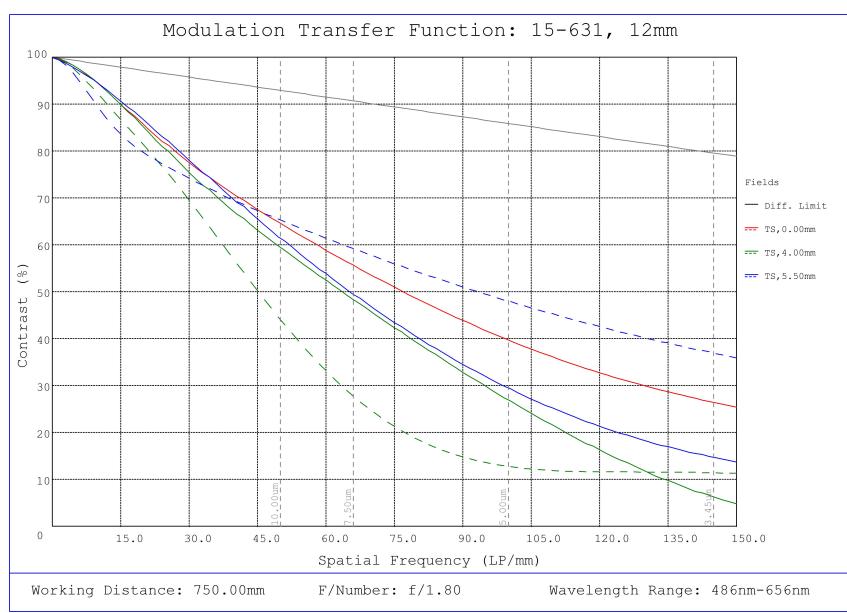
#15-631, 12mm, f/1.8 Cw Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



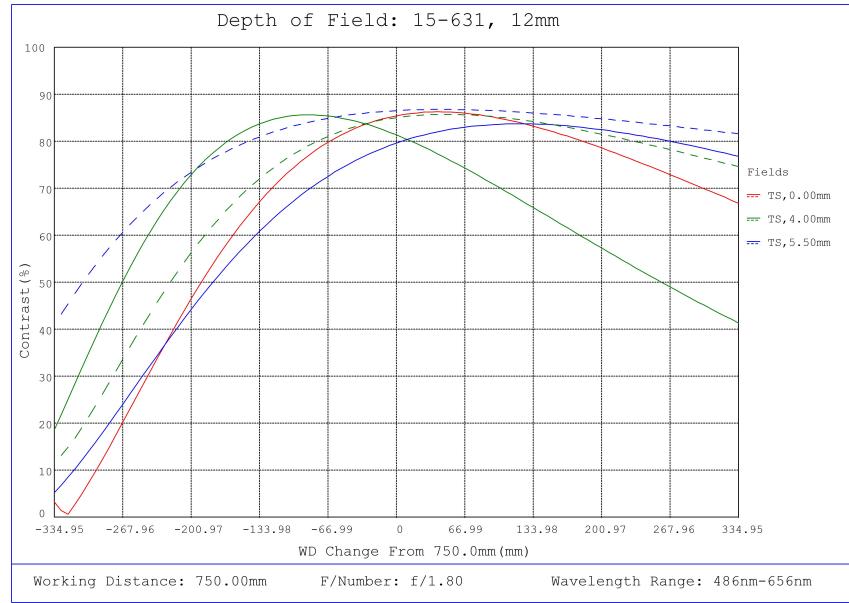
#15-631, 12mm, f/1.8 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 300mm Working Distance, f1.8



#15-631, 12mm, f/1.8 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 300mm Working Distance, f1.8



#15-631, 12mm, f/1.8 Cw Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 750mm Working Distance, f1.8



#15-631, 12mm, f/1.8 Cw Series Fixed Focal Length Lens, Depth of Field Plot, 750mm Working Distance, f1.8