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TECHSPEC® 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens

8.5mm Cr Series Fixed Focal Length Lens

Stock **#36-838** **20+ In Stock**

- 1 + S$308.00

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General

Product Family:
Cr Series

Type:
Fixed Focal Length Lens

Imaging Lens Type:
Ruggedized to Withstand 50g of Shock

Physical & Mechanical Properties

Iris Option:
Fixed

Length (mm):
35.40

Maximum Diameter (mm):
33.8

Outer Diameter (mm):
33.8

Weight (g):
60

Maximum Rear Protrusion (mm):
0.6

Diameter (mm):
33.80

Optical Properties

Horizontal Field of View @ Max Sensor Format:
128.6mm - 60.6°

Field of View at Max Sensor Format:
Horizontal: 124.9mm - 60.7°
Vertical: 88.9mm - 45°
Diagonal: 169.4mm - 77°

Horizontal Field of View, 2/3" Sensor:
128.6mm - 60.6°

Horizontal Field of View, 1/1.8" Sensor:
101.0mm - 49.2°

Horizontal Field of View, 1/2" Sensor:
88.3mm - 43.6°

Horizontal Field of View, 1/2.5" Sensor:
79.2mm - 39.5°

Horizontal Field of View, 1/3" Sensor:
64.6mm - 32.6°

Horizontal Field of View, 1/4" Sensor:
47.8mm - 24.4°

Maximum Image Circle (mm):
11.00

Numerical Aperture NA, Object Side:
0.0295

Number of Elements (Groups):
7 (5)

Focal Length FL (mm):
8.50

Working Distance (mm):
100 - ∞

Aperture (f/#):
f/1.3

Coating:
425 - 675nm BBAR

Coating Specification:
425 - 675nm BBAR

Entrance Pupil Position (mm):
8.22

Object Space Principal Plane (mm):
14.08

Image Space Principal Plane (mm):
6.67

Maximum Distortion (%):
-18.51

Exit Pupil Position (mm):
-12.23

Lens Wavelength Range:
VIS

Sensor

Maximum Sensor Format:
2/3"

Pixel Size (µm):
2.74

Threading & Mounting

Filter Thread:
M30.5 x 0.50 (Male)

Filter Thread Adapter:
#89-942 (Required)

Front Thread:
M25.5 x 0.5 (Male)

Mount:
C-Mount

Environmental & Durability Factors

Storage Temperature (°C):
-20 to +60

Type of Ruggedization:
Stabilized (Robust Mechanics for Shock and Vibration)

Regulatory Compliance

Certificate of Conformance:
View

Product Details

- Up to 2/3", C-Mount Lens
- Up to 7.5 MegaPixels, 2.8µm Pixel Size Sensors
- Ruggedized (Cr) Designs (50g Shock) of our C Series Lens
- 3.5mm to 50mm Focal Length
- **Instrumentation (Ci) Versions** Also Available

TECHSPEC® Compact Ruggedized (Cr) Series Fixed Focal Length Lenses provide Stabilized Ruggedization, protecting the lens from damage while maintaining optical pointing and positioning after shock and vibration. All individual lens elements are glued in place to reduce object shift on the image. In addition, these lenses feature robust mechanics with a simplified focus and stainless steel locking C-Mount clamp. TECHSPEC® Cr Series Fixed Focal Length Lenses are ideal for calibrated imaging systems such as measurement and gauging, 3D stereo vision, robotics and sensing, autonomous vehicles, and object tracking. The object to image mapping is maintained even after heavy shock and vibration; if the center of the object maps onto the center pixel, it will always map to that same center pixel.

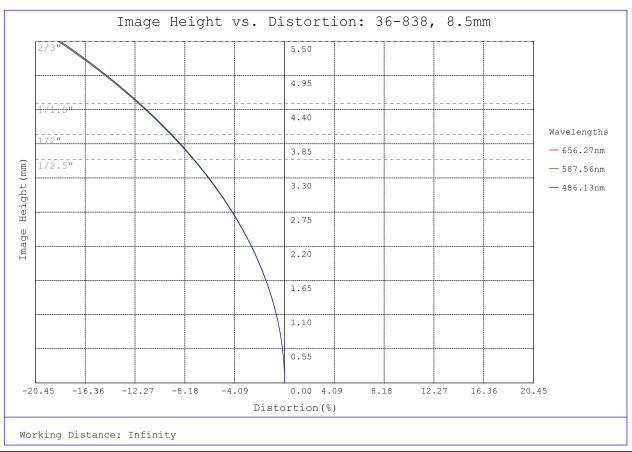
These lenses won the **1st place 2018 Inspect Award** and the **Silver Level 2018 Innovators Award**.

Note: To learn more about ruggedization, visit our **Ruggedization Resource Webpage**.

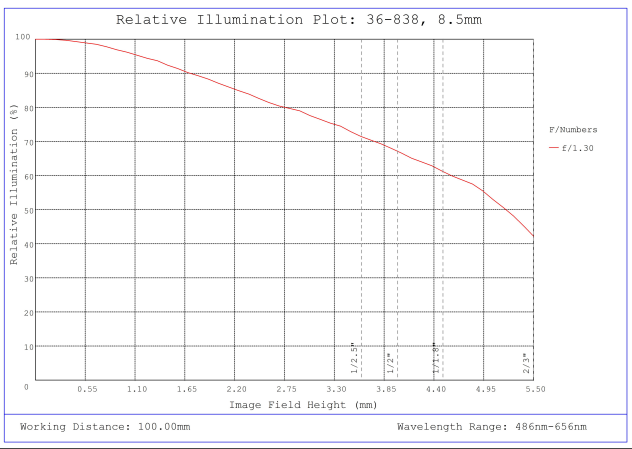
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety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

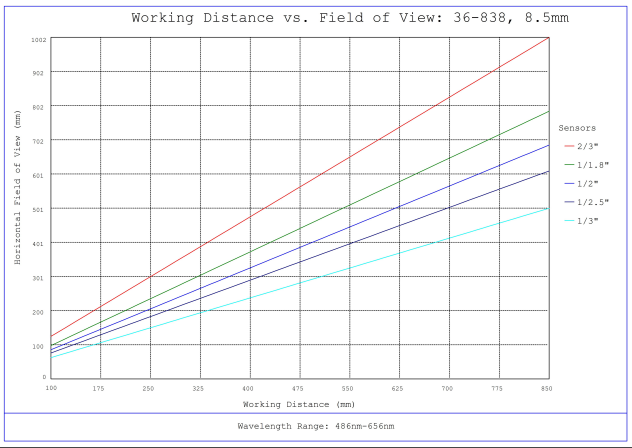
Technical Information



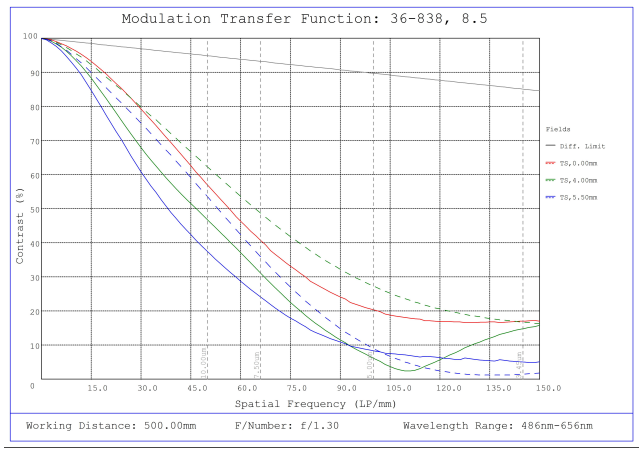
#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Distortion Plot



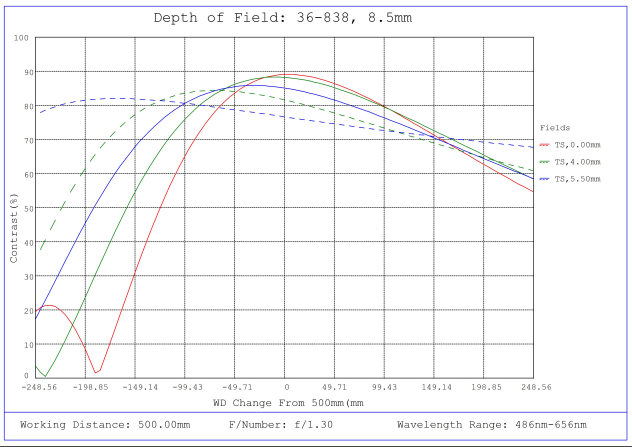
#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Relative Illumination Plot



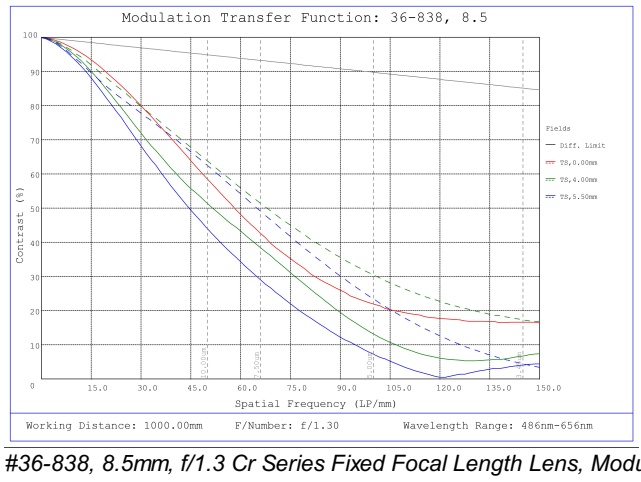
#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



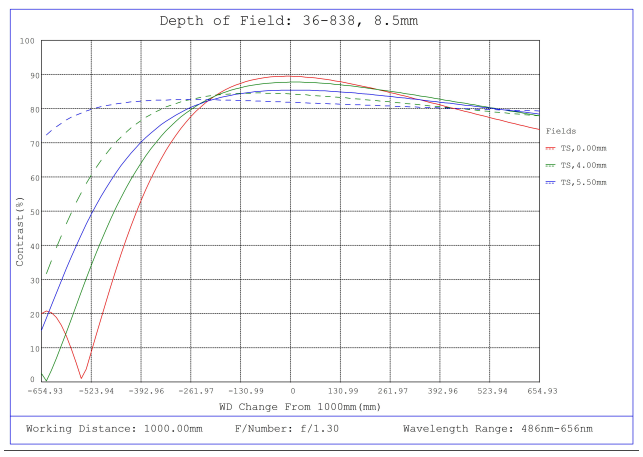
#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f1.3



#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f1.3



#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 1000mm Working Distance, f1.3



#36-838, 8.5mm, f/1.3 Cr Series Fixed Focal Length Lens, Depth of Field Plot, 1000mm Working Distance, f1.3

Compatible Cameras

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