

**TECHSPEC® 12.5mm FL f/5.6, Blue Series M12 Lens**



12.5mm FL Blue Series M12 Lens



Stock #83-942 **12 In Stock**

⊖ 1 ⊕ £63<sup>00</sup>

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Volume Pricing	
Qty 1-49	£63.00 each
Qty 50+	£50.00 each
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! Prices shown are exclusive of VAT/local taxes

Product Downloads

**General**

Blue Series **Product Family:**

M12 Imaging Lens **Type:**

**IR Cut Filter:**

No

**Imaging Lens Type:**

High Performance M12 Lens

### Physical & Mechanical Properties

**Iris Option:**

Fixed

**Length (mm):**

22.90

**Maximum Diameter (mm):**

15

**Outer Diameter (mm):**

15

**Weight (g):**

6

### Optical Properties

**Horizontal Field of View @ Max Sensor Format:**  
28.9°

**Field of View at Max Sensor Format:**  
Horizontal: 78.1mm - 28.9°  
Vertical: 58.5mm - 21.8°  
Diagonal: 97.7mm - 35.7°

**Horizontal Field of View, 1/2" Sensor:**  
78.0mm - 28.8°

**Horizontal Field of View, 1/2.5" Sensor:**  
70.6mm - 26.2°

**Horizontal Field of View, 1/3" Sensor:**  
58.4mm - 21.8°

**Horizontal Field of View, 1/4" Sensor:**  
43.8mm - 16.4°

**Maximum Image Circle (mm):**

8.00

**Numerical Aperture NA, Object Side:**

0.0068

**Number of Elements (Groups):**

5(5)

**Wavelength Range (nm):**

400 - 700

**Focal Length FL (mm):**

12.50

**Working Distance (mm):**

150 - ∞

**Aperture (f/#):**

f/5.6

**Distortion (%):**

-0.36 @Full Field

**Back Focal Length BFL (mm):**

10.1 - 9.7

**Coating Specification:**

M4 MgF<sub>2</sub> @ 550nm

**Entrance Pupil Position (mm):**

10.87

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

10.14

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

-3.01

**Maximum Distortion (%):**

-0.36

**Exit Pupil Position (mm):**

-2.33

**Lens Wavelength Range:**

VIS

### Sensor

**Maximum Sensor Format:**

1/2"

**Pixel Size (µm):**

1.40

### Threading & Mounting

**Filter Thread:**

N/A

**Mount:**

S-Mount (M12 x0.5)

## Regulatory Compliance

Compliant

RoHS 2015:

[View](#)

Certificate of Conformance:

Compliant

Reach 247:

## Product Details

- Up to 1/2", S-Mount Lens
- Up to 5 MegaPixels, 1.4µm Pixel Size Sensors
- High Resolution Board Camera Lens Optimized for Close WD
- 2mm to 35mm Focal Length
- [Ruggedized Designs](#) Also Available

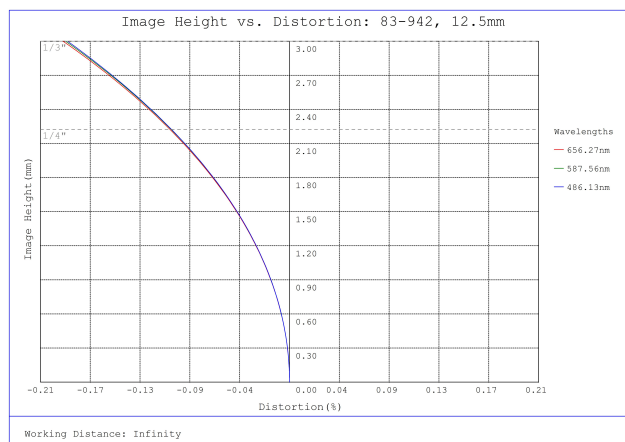
TECHSPEC® Blue Series M12 Lenses feature high resolution performance, along with the same great versatility of our [TECHSPEC® Green Series M12 Lenses](#). Each lens consists of several precision glass elements mounted in a compact, aluminum housing. These lenses can connect to C-Mount cameras using the M12 x 0.5 Adapter for C-Mount Cameras ([#53-675](#)) or the M12 x 0.5 C-Mount Adapter with Rubber O-Ring ([#59-241](#)) for vibration-sensitive environments. TECHSPEC® Blue Series M12 Lenses are ideal for automotive, industrial, and medical imaging application. Prescription data is available by submitting a [Request for Prescription Form](#).

**Note:** Compatible [TECHSPEC® M12 Imaging Lens Accessories](#) available.

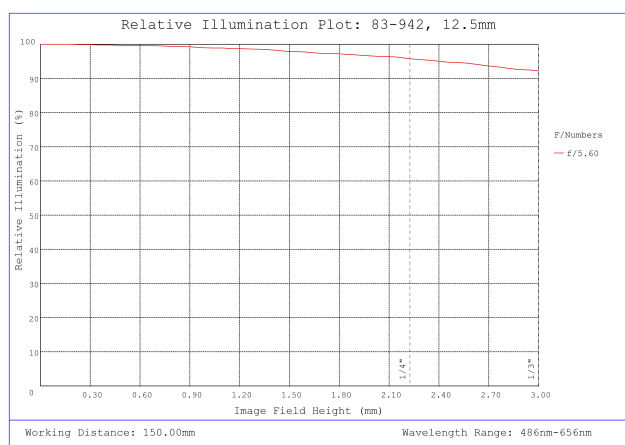
Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application needs.

- Blue Series M12 Lenses: High resolution finite conjugate designs optimized for machine vision working distances.
- [Rugged Blue Series M12 Lenses](#): [Stabilized ruggedization](#) versions of our Blue Series M12 Lenses, utilizing the same optics.
- [Green Series M12 Lenses](#): Finite conjugate designs optimized for machine vision working distances.
- [Red Series M12 Lenses](#): Infinite conjugate designs optimized for high resolution performance out to infinity.
- [HEO Series M12 Lenses](#): Harsh Environment Optics (HEO) sealed versions of our Red Series M12 Lenses.
- [Liquid Lens M12 Lenses](#): Integrated liquid lens for fast electronic focus.

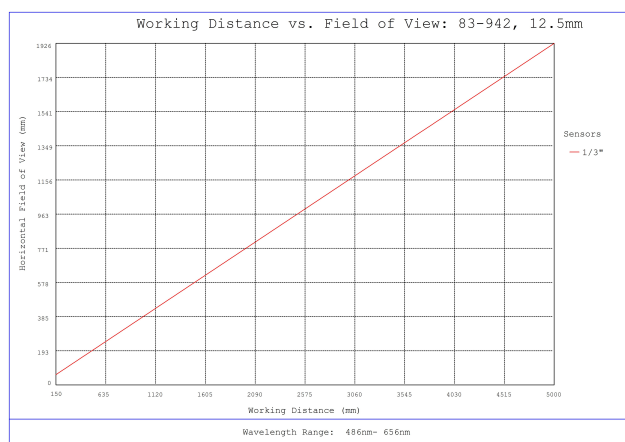
## Technical Information



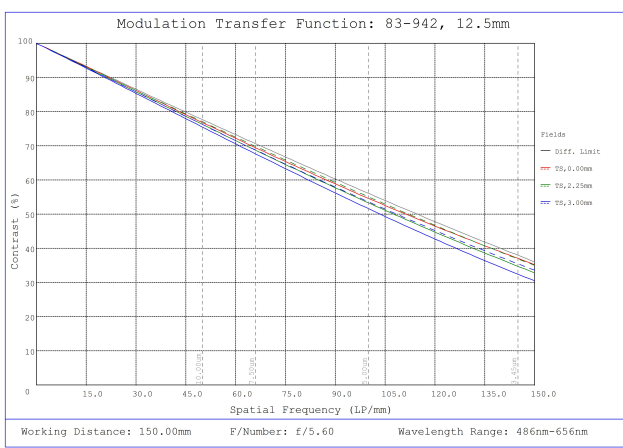
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Distortion Plot



#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Relative Illumination Plot



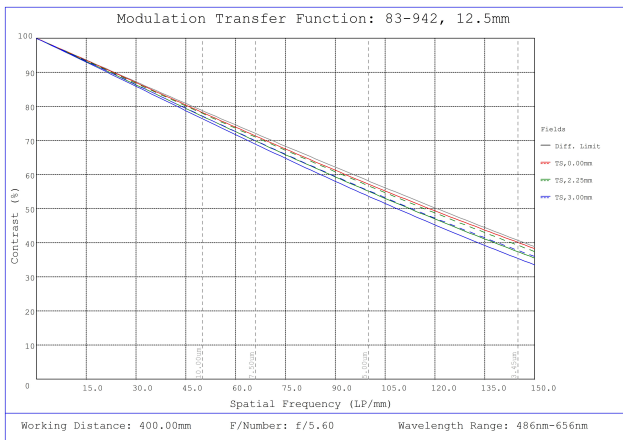
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Working Distance versus Field of View Plot



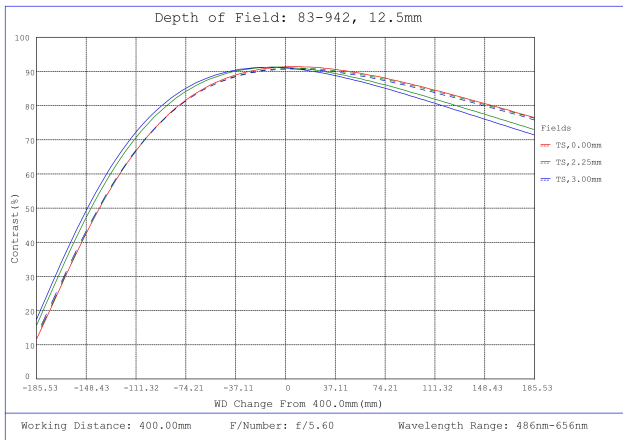
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 150mm Working Distance, f5.6



#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Depth of Field Plot, 150mm Working Distance, f5.6



#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 400mm Working Distance, f5.6



#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Depth of Field Plot, 400mm Working Distance, f5.6

Focal Length	A	B	C*	D
2.0mm	18.0mm	21.7mm	2.26mm	4.75mm
3.0mm	14.0mm	17.1mm	4.8 - 4.7mm	5.8mm
4.0mm	14.0mm	19.7mm	6.1 - 6.0mm	4.4mm
5.0mm	14.0mm	14.6mm	4.0 - 3.9mm	3.7mm
6.0mm	14.0mm	14.1mm	6.9 - 6.8mm	4.5mm
8.0mm	14.0mm	12.3mm	8.8 - 8.6mm	3.7mm
10.0mm	14.0mm	17.0mm	6.6 - 6.3mm	3.7mm

12.5mm	15.0mm	22.9mm	10.1 - 9.7mm	4.8mm
17.5mm	14.0mm	20.7mm	5.8 - 4.9mm	7.6mm
25.0mm	18.0mm	30.0mm	8.5 - 6.5mm	11.5mm
35.0mm	18.0mm	29.5mm	18.72 - 14.0mm	14.5mm



\*Specified for Optimized Working Distance of 150 - 250mm.

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