

TECHSPEC<sup>®</sup> 12.5mm FL f/5.6, Blue Series M12 Lens



12.5mm FL Blue Series M12 Lens



Stock **#83-942** 20+ In Stock

-

1

+

€81<sup>,00</sup>

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| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-49       | €81,00 each                   |
| Qty 50+        | €64,00 each                   |
| Need More?     | <a href="#">Request Quote</a> |

ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

| General          |         |
|------------------|---------|
| Blue Series      | Series: |
| M12 Imaging Lens | Type:   |
| IR Cut Filter:   |         |

|                                                                                    |                                               |
|------------------------------------------------------------------------------------|-----------------------------------------------|
| No                                                                                 |                                               |
| High Performance M12 Lens                                                          | Imaging Lens Type:                            |
| Physical & Mechanical Properties                                                   |                                               |
| Fixed                                                                              | Iris Option:                                  |
| 22.90                                                                              | Length (mm):                                  |
| 15                                                                                 | Maximum Diameter (mm):                        |
| 15                                                                                 | Outer Diameter (mm):                          |
| 6                                                                                  | Weight (g):                                   |
| Optical Properties                                                                 |                                               |
| 28.9°                                                                              | Horizontal Field of View @ Max Sensor Format: |
| Horizontal: 78.1mm - 28.9°<br>Vertical: 58.5mm - 21.8°<br>Diagonal: 97.7mm - 35.7° | Field of View at Max Sensor Format:           |
| 78.0mm - 28.8°                                                                     | Horizontal Field of View, 1/2" Sensor:        |
| 70.6mm - 26.2°                                                                     | Horizontal Field of View, 1/2.5" Sensor:      |
| 58.4mm - 21.8°                                                                     | Horizontal Field of View, 1/3" Sensor:        |
| 43.8mm - 16.4°                                                                     | Horizontal Field of View, 1/4" Sensor:        |
| 8.00                                                                               | Maximum Image Circle (mm):                    |
| 0.0068                                                                             | Numerical Aperture NA, Object Side:           |
| 5(5)                                                                               | Number of Elements (Groups):                  |
| 400 - 700                                                                          | Wavelength Range (nm):                        |
| 12.50                                                                              | Focal Length FL (mm):                         |
| 150 - ∞                                                                            | Working Distance (mm):                        |
| f/5.6                                                                              | Aperture (f/#):                               |
| -0.36 @Full Field                                                                  | Distortion (%):                               |
| 10.1 - 9.7                                                                         | Back Focal Length BFL (mm):                   |
| N/A MgF <sub>2</sub> @ 550nm                                                       | Coating Specification:                        |
| 10.87                                                                              | Entrance Pupil Position (mm):                 |
| 10.14                                                                              | Object Space Principal Plane (mm):            |
| -3.01                                                                              | Image Space Principal Plane (mm):             |
| -0.36                                                                              | Maximum Distortion (%):                       |
| -2.33                                                                              | Exit Pupil Position (mm):                     |
| VIS                                                                                | Lens Wavelength Range:                        |
| Sensor                                                                             |                                               |
| 1/2"                                                                               | Maximum Sensor Format:                        |
| 1.40                                                                               | Pixel Size (µm):                              |
| Threading & Mounting                                                               |                                               |
| N/A                                                                                | Filter Thread:                                |
| S-Mount (M12 x0.5)                                                                 | Mount:                                        |

| Regulatory Compliance |                             |
|-----------------------|-----------------------------|
| Compliant             | RoHS 2015:                  |
| View                  | Certificate of Conformance: |
| Compliant             | Reach 247:                  |

## Product Details

- Up to ½", 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

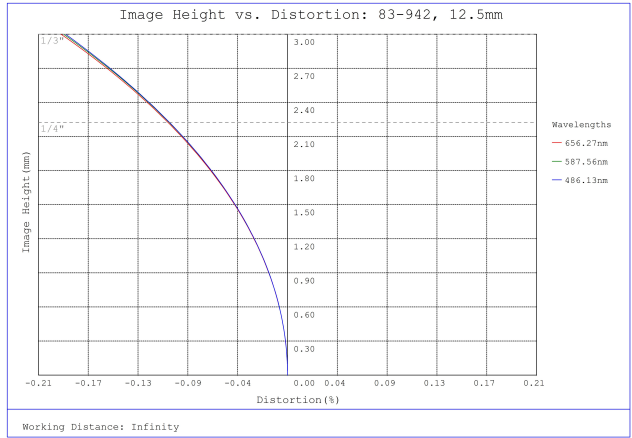
TECHSPEC® Blue Series M12 Lenses feature high resolution performance, along with the same great versatility of our **TECHSPEC® Green Series M12 Lenses**. Each lens consists of several precision glass elements mounted in a compact, aluminum housing. These lenses can connect to C-Mount cameras using the M12 x0.5 Adapter for C-Mount Cameras (**#53-675**) or the M12 x0.5 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.

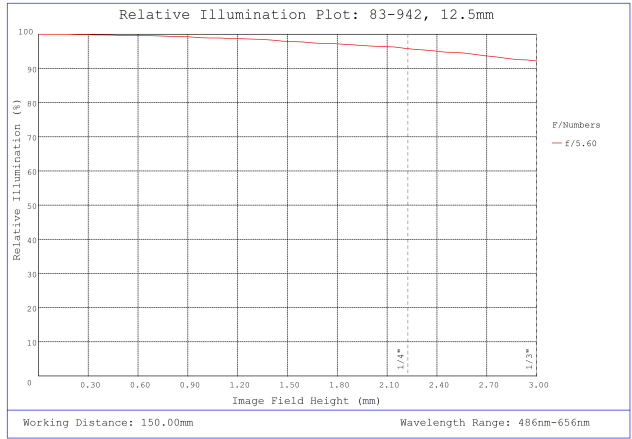
Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application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

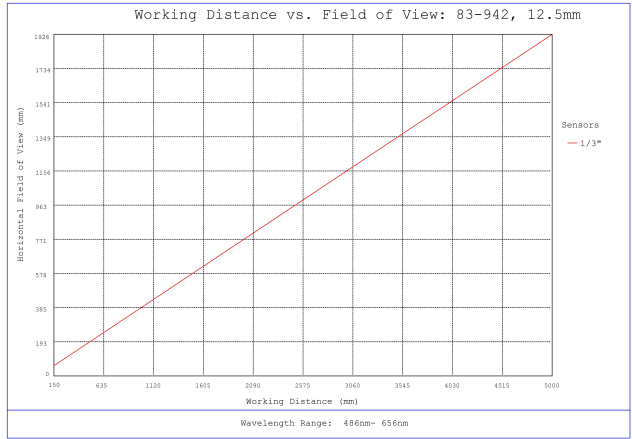
## Technical Information



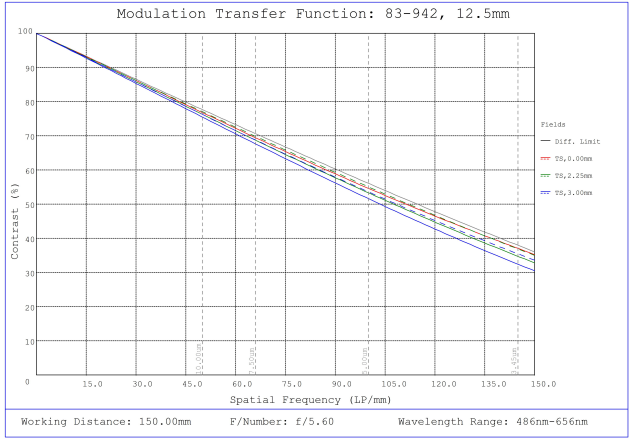
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Distortion Plot



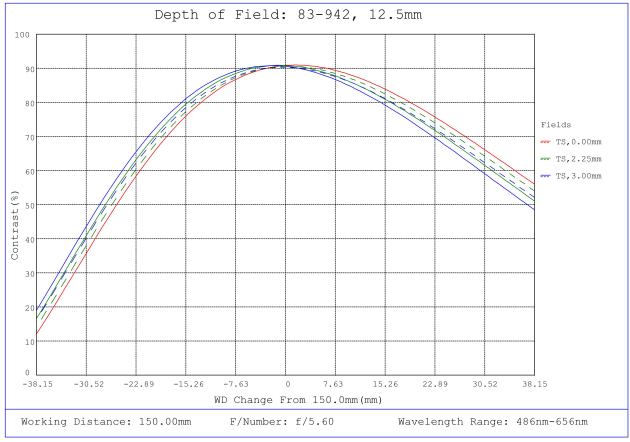
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Relative Illumination Plot



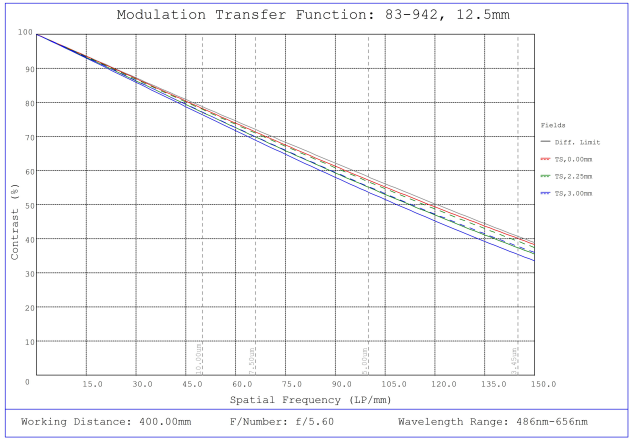
#83-942, 12.5mm FL f/5.6, Blue Series M12 Lens, Working Distance versus Field of View Plot



#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.