

TECHSPEC® 3mm FL f/4.0, IR-Cut Blue Series M12 Lens



3mm FL Blue Series M12 Lens



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General

Blue Series **Series:**

M12 Imaging Lens **Type:**

Yes **IR Cut Filter:**

High Performance M12 Lens with IR Cut Filter **Imaging Lens Type:**

IR-Cut Filter **Special Type of Lens:**

Physical & Mechanical Properties

Fixed **Iris Option:**

16.10 **Length (mm):**

14 **Maximum Diameter (mm):**

14 **Outer Diameter (mm):**

Optical Properties

Horizontal Field of View @ Max Sensor Format:
91.3°

Field of View at Max Sensor Format:
Horizontal: 91.2°
Vertical: 68.5°
Diagonal: 113°

91.2° **Horizontal Field of View, 1/3" Sensor:**

6.00 **Maximum Image Circle (mm):**

0.004 **Numerical Aperture NA, Object Side:**

6(5) **Number of Elements (Groups):**

400 - 700 **Wavelength Range (nm):**

3.00 **Focal Length FL (mm):**

100 - ∞ **Working Distance (mm):**

f/4 **Aperture (f#):**

-34.8 @ Full Field **Distortion (%):**

4.8 - 4.7 **Back Focal Length BFL (mm):**

M4 MgF₂ @ 550nm **Coating Specification:**

4.90 **Entrance Pupil Position (mm):**

-6.55 **Object Space Principal Plane (mm):**

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

-34.8 **Maximum Distortion (%):**

-3.23 **Exit Pupil Position (mm):**

VIS (IR-Cut Filter) **Lens Wavelength Range:**

Sensor

1/3" **Maximum Sensor Format:**

1.40 **Pixel Size (µm):**

Threading & Mounting

N/A **Filter Thread:**

S-Mount (M12 x 0.5) **Mount:**

Regulatory Compliance

RoHS 2015:
[Compliant](#)

Certificate of Conformance:
[View](#)

Reach 247:
[Compliant](#)

Country of Origin:
China

Imported By:
Edmund Optics India Private Limited

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

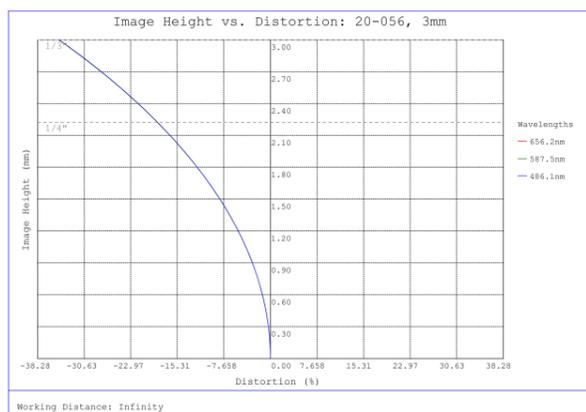
TECHSPEC® Blue Series M12 Lenses feature high resolution performance, along with the same great versatility of our **TECHSPEC® Green Series M12 Lenses**. Each lens consists of several precision glass elements mounted in a compact, aluminum housing. These lenses can connect to C-Mount cameras using the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

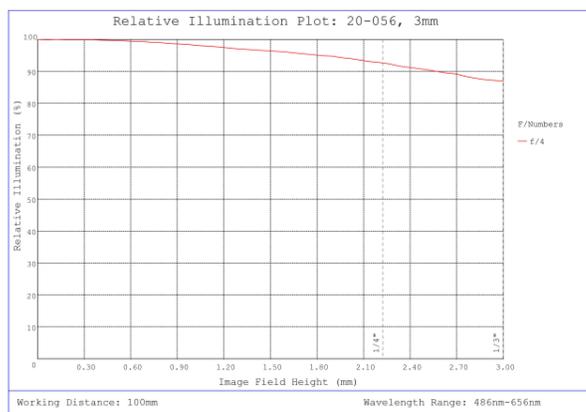
Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application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

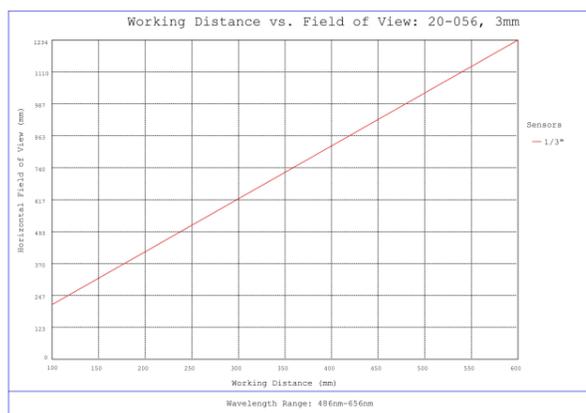
Technical Information



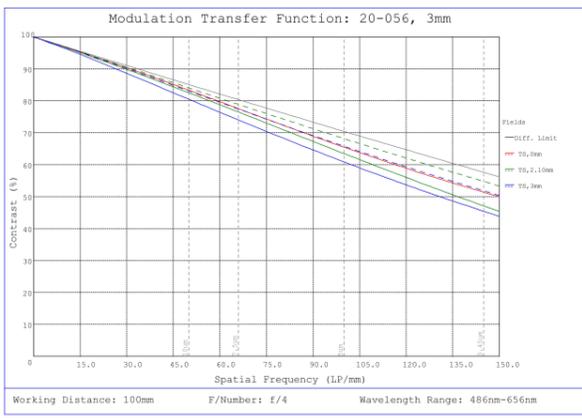
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Distortion Plot



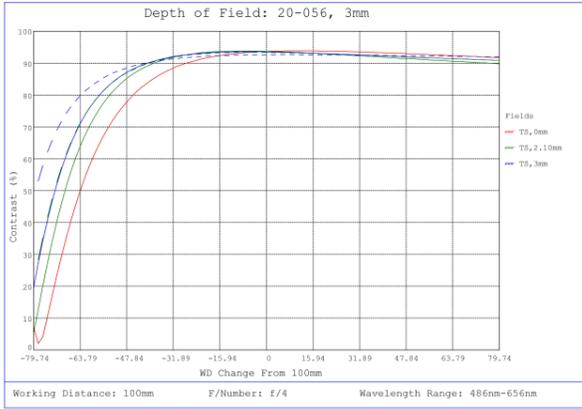
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Relative Illumination Plot



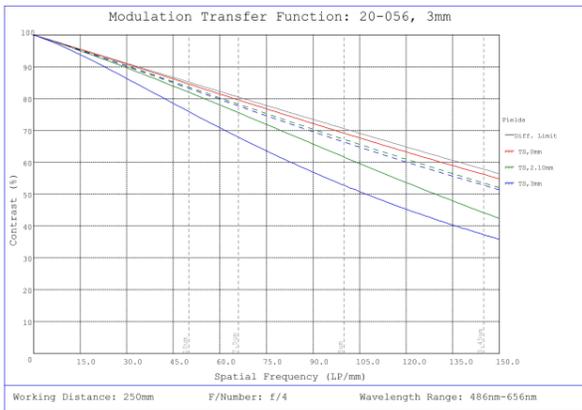
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Working Distance versus Field of View Plot



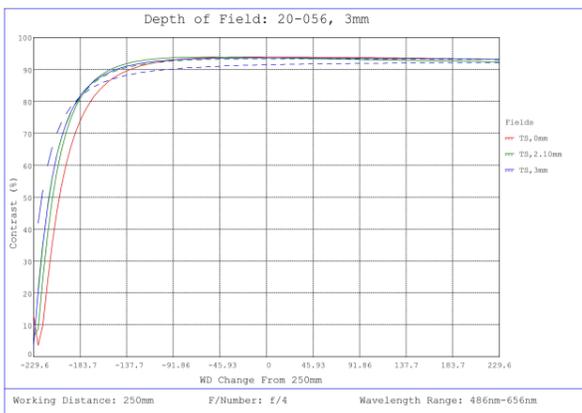
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 100mm Working Distance, f4



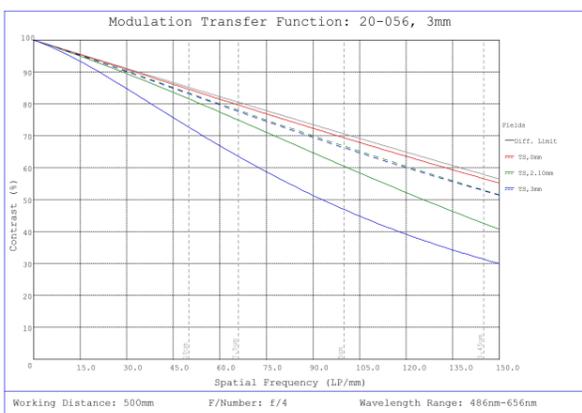
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Depth of Field Plot, 100mm Working Distance, f4



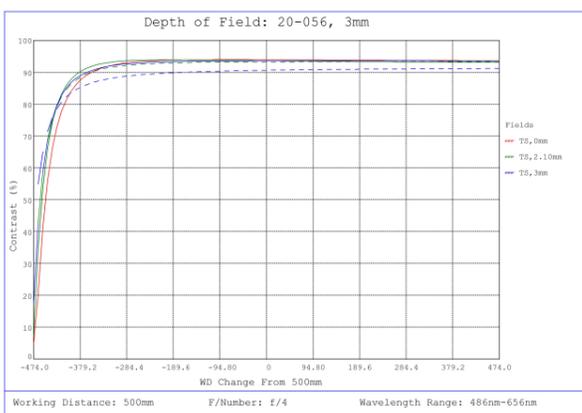
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 250mm Working Distance, f4



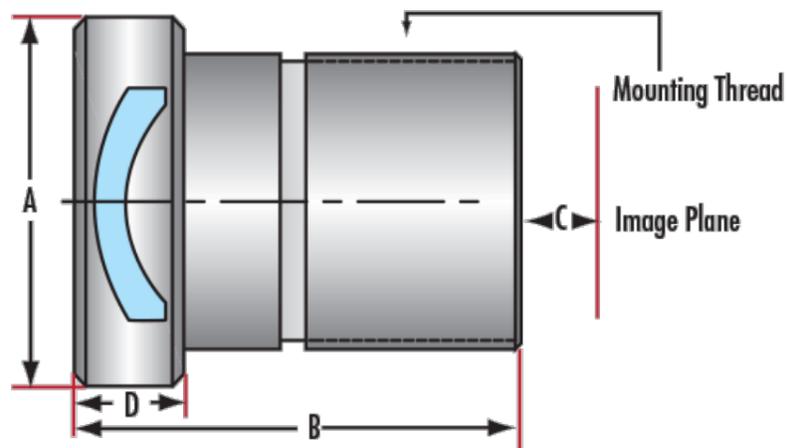
#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Depth of Field Plot, 250mm Working Distance, f4



#20-056, 3mm FL f/4.0, IR-Cut Blue Series M12 Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f4



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.