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## TECHSPEC® f/2.0, NIR, 2.2mm HEO Series M12 Lens



Stock #58-844 [CONTACT US](#)

- 1 + £128.<sup>00</sup>

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### Volume Pricing

Qty 1-49	£128.00 each
Qty 50+	£100.00 each
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**i** Prices shown are exclusive of VAT/local taxes

### Product Downloads

#### General

HEO Series **Product Family:**

M12 Imaging Lens **Type:**

No **IR Cut Filter:**

Meets IEC IPX7 and IPX9K **Imaging Lens Type:**

## Physical & Mechanical Properties

Fixed	<b>Iris Option:</b>
16.40	<b>Length (mm):</b>
21	<b>Maximum Diameter (mm):</b>
21	<b>Outer Diameter (mm):</b>
4	<b>Weight (g):</b>

## Optical Properties

**Horizontal Field of View @ Max Sensor Format:**  
1685.1mm - 128.9°

**Field of View at Max Sensor Format:**  
Horizontal: 1660.9mm - 128.3°  
Vertical: 989.2mm - 98.1°  
Diagonal: 5138.4mm - 162.3°

**Horizontal Field of View, 1/3" Sensor:**  
1,685.1mm - 128.9°

**Horizontal Field of View, 1/4" Sensor:**  
905.3mm - 96.6°

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

**Numerical Aperture NA, Object Side:**  
0.0013

**Resolution, On-Axis:**  
100 lp/mm @20% Contrast

**Number of Elements (Groups):**  
7(6)

**Wavelength Range (nm):**  
600 - 1050

**Focal Length FL (mm):**  
2.20

**Working Distance (mm):**  
400 - ∞

**Aperture (f/#):**  
f/2

**Distortion (%):**  
-78.87 @ Full Field

**Back Focal Length BFL (mm):**  
2.24 - 2.23

**Coating Specification:**  
600 - 1050nm BBAR

**Entrance Pupil Position (mm):**  
4.59

**Object Space Principal Plane (mm):**  
6.32

**Image Space Principal Plane (mm):**  
1.16

**Maximum Distortion (%):**  
-78.87

**Exit Pupil Position (mm):**  
-7.61

**Lens Wavelength Range:**  
NIR

## Sensor

1/3"	<b>Maximum Sensor Format:</b>
5.00	<b>Pixel Size (µm):</b>

## Threading & Mounting

N/A	<b>Filter Thread:</b>
S-Mount (M12 x0.5)	<b>Mount:</b>

## Environmental & Durability Factors

**Environmental Rating:**  
IPX7 and IPX9K

**Type of Ruggedization:**  
Waterproof (IPX7 and IPX9K)

## Regulatory Compliance

Certificate of Conformance:

[View](#)

## Product Details

- Up to 1/2", S-Mount Lens
- Up to 1.2 MegaPixels, 5µm Pixel Size Sensors
- Meets IEC Ingress Protection Ratings of IPX7 and IPX9K
- 2.2mm to 8mm Focal Length

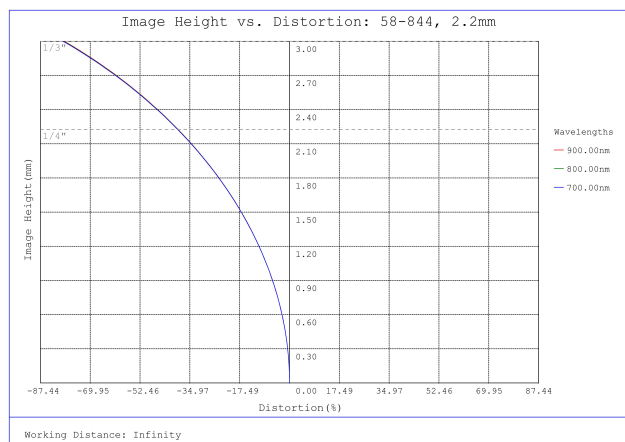
TECHSPEC® HEO Series M12 Lenses integrate high performance optics into a sealed, ruggedized enclosure. Designed to meet IEC Ingress Protection Codes IPX7 and IPX9K, these lenses withstand exposure to water up to 1 meter depth for 30 minutes and operate in close-range high-pressure, high-temperature water spray downs. Threaded for M12 x 0.5, these lenses are optimized for 1/3" and 1/2" sensor formats. Each HEO Series Lens is waterproof, dustproof, and fog proof with the ability to be hermetically sealed to a camera. TECHSPEC® HEO Series M12 Lenses are ideal for harsh environment applications, such as automotive. Prescription data is available by submitting a [Request for Prescription Form](#)

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

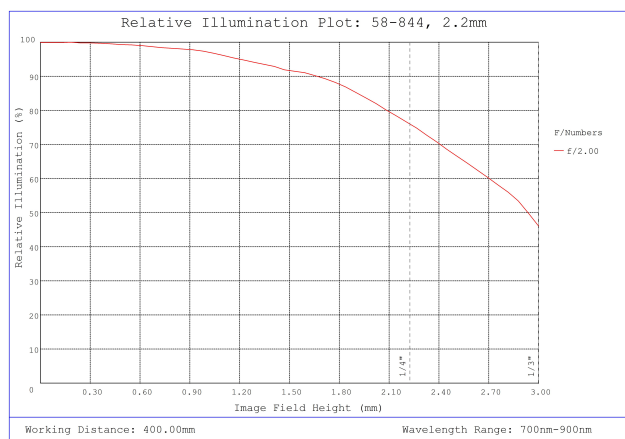
Edmund Optics has created multiple product families of our TECHSPEC® M12 S-Mount Lenses, which are designed to provide high resolution. These high performance lenses feature precision glass designs in a metal housing and have optimized specifications between each product family to meet your application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

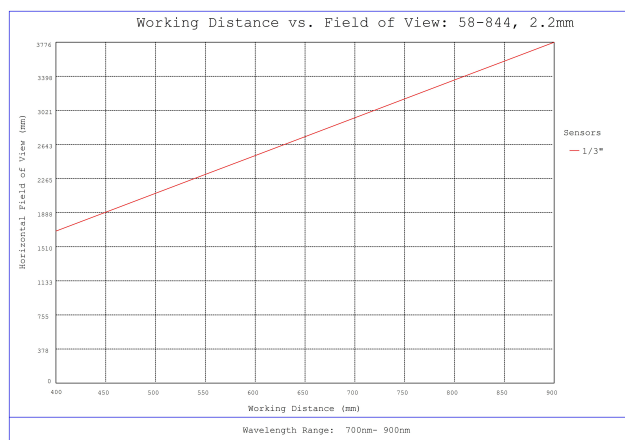
## Technical Information



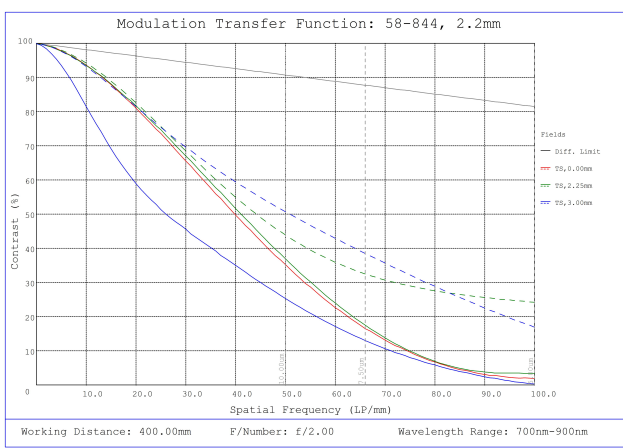
#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Distortion Plot



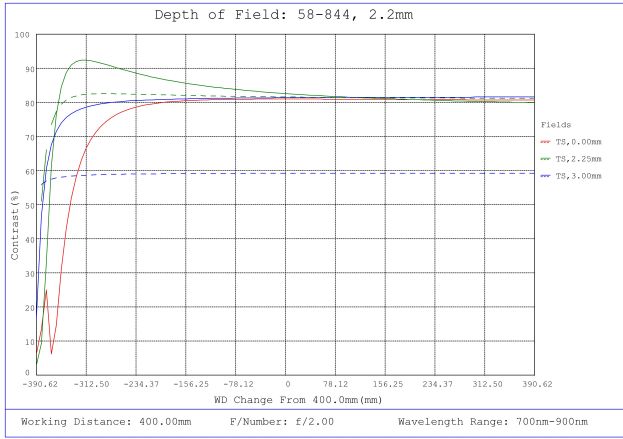
#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Relative Illumination Plot



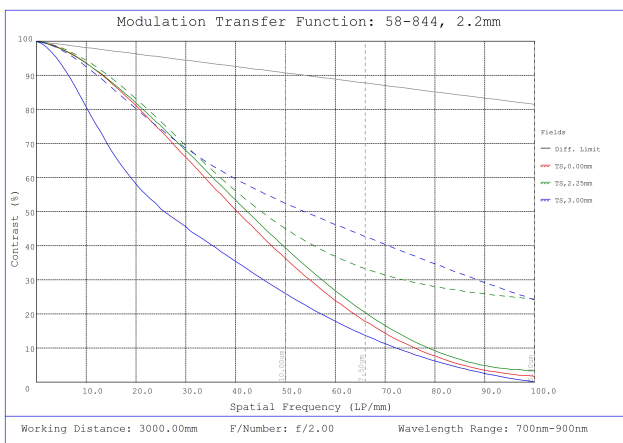
#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Working Distance versus Field of View Plot



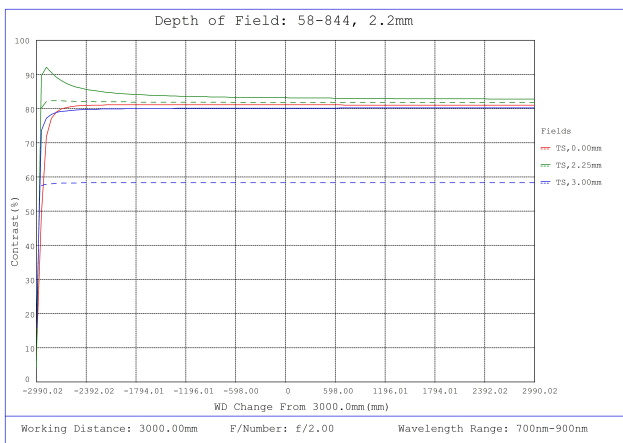
#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Modulated Transfer Function (MTF) Plot, 400mm Working Distance, f2



#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Depth of Field Plot, 400mm Working Distance, f2



#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Modulated Transfer Function (MTF) Plot, 3000mm Working Distance, f2



#58-844, f/2.0, NIR, 2.2mm HEO Series M12 Lens, Depth of Field Plot, 3000mm Working Distance, f2

Focal Length	A	B	C	D
2.2mm	21.0mm	16.4mm	2.2mm	5.4mm
3.6mm	14.0mm	14.1mm	4.5mm	4.5mm
8.0mm	14.0mm	15.0mm	8.7mm	4.0mm



