

TECHSPEC<sup>®</sup> 4.5mm, f/2 Ci Series Fixed Focal Length Lens



4.5mm Focal Length

Stock **#87-551** 20+ In Stock

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+

A\$366<sup>00</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-24       | A\$366.00 each                |
| Qty 25+        | A\$330.00 each                |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

| General                          |                    |
|----------------------------------|--------------------|
| Ci Series                        | Series:            |
| Fixed Focal Length Lens          | Type:              |
| Compact Lens with Fixed Aperture | Imaging Lens Type: |
| Physical & Mechanical Properties |                    |
|                                  | Iris Option:       |

|       |                               |
|-------|-------------------------------|
| Fixed |                               |
| 32.14 | Length (mm):                  |
| 40    | Maximum Diameter (mm):        |
| 40    | Outer Diameter (mm):          |
| 66    | Weight (g):                   |
| 3.4   | Maximum Rear Protrusion (mm): |
| 26.50 | Diameter (mm):                |

|                                                                                                                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Optical Properties                                                                                                       |                                     |
| Horizontal Field of View @ Max Sensor Format:<br>72.0mm - 84.7°                                                          |                                     |
| Field of View at Max Sensor Format:<br>Horizontal: 72mm - 84.8°<br>Vertical: 50.5mm - 66.1°<br>Diagonal: 98.2mm - 100.1° |                                     |
| Horizontal Field of View, 1/1.8" Sensor:<br>72.0mm - 84.7°                                                               |                                     |
| Horizontal Field of View, 1/2" Sensor:<br>53.9mm - 69.4°                                                                 |                                     |
| Horizontal Field of View, 1/3" Sensor:<br>44.0mm - 59.2°                                                                 |                                     |
| Horizontal Field of View, 1/4" Sensor:<br>32.0mm - 45.2°                                                                 |                                     |
| 9.00                                                                                                                     | Maximum Image Circle (mm):          |
| 0.0285                                                                                                                   | Numerical Aperture NA, Object Side: |
| 7 (6)                                                                                                                    | Number of Elements (Groups):        |
| 4.50                                                                                                                     | Focal Length FL (mm):               |
| 25 - ∞                                                                                                                   | Working Distance (mm):              |
| f/2                                                                                                                      | Aperture (f/#):                     |
| 425 - 675nm BBAR                                                                                                         | Coating:                            |
| 425 - 675nm BBAR                                                                                                         | Coating Specification:              |
| 14.4                                                                                                                     | Entrance Pupil Position (mm):       |
| 17.89                                                                                                                    | Object Space Principal Plane (mm):  |
| 6.51                                                                                                                     | Image Space Principal Plane (mm):   |
| -15.83                                                                                                                   | Maximum Distortion (%):             |
| -9                                                                                                                       | Exit Pupil Position (mm):           |
| VIS                                                                                                                      | Lens Wavelength Range:              |

|        |                        |
|--------|------------------------|
| Sensor |                        |
| 1/1.8" | Maximum Sensor Format: |
| 2.74   | Pixel Size (μm):       |

|                      |                        |
|----------------------|------------------------|
| Threading & Mounting |                        |
| M58 x0.75 (Male)     | Filter Thread:         |
| #87-425 (Required)   | Filter Thread Adapter: |
| M40.0 x0.5 (Male)    | Front Thread:          |
| C-Mount              | Mount:                 |

|                                    |  |
|------------------------------------|--|
| Environmental & Durability Factors |  |
|------------------------------------|--|

-20 to +60

### Industrial (Fixed Aperture with Simplified Mechanics)

**Certificate of Conformance:**

View

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

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.

Image Height vs. Distortion: 87-551, 4.5

Wavelengths

- 656.27nm
- 587.56nm
- 486.13nm

Image Height (mm)

Distortion(%)

Working Distance: Infinity

Relative Illumination Plot: 87-551, 4.5

Relative Illumination (%)

Image Field Height (mm)

f/Numbers  
— f/2.00

1/3"

1/2"

1/250"

1/1000"

Working Distance: 25.00mm

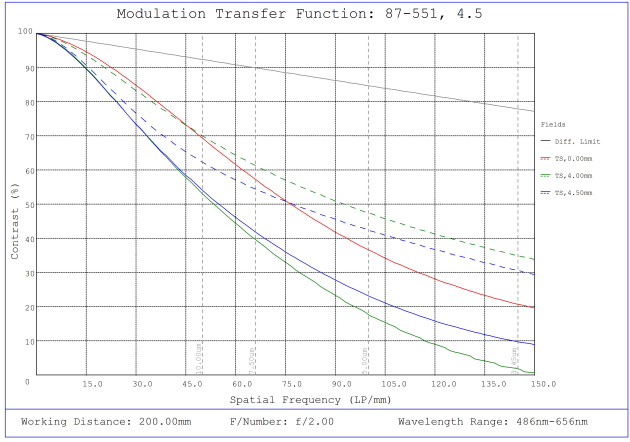
Wavelength Range: 486nm-656nm

Working Distance vs. Field of View: 87-551, 4.5000000mm

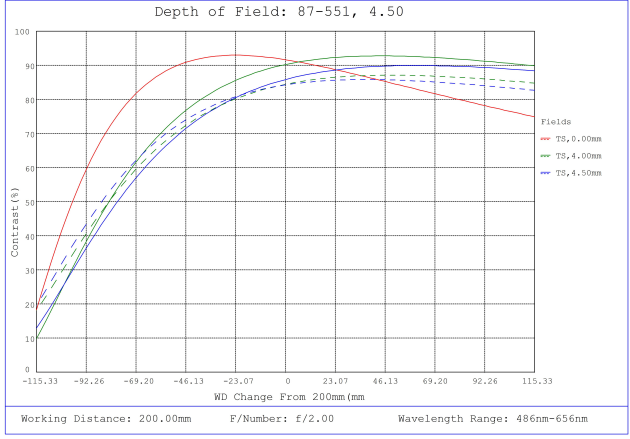
| Working Distance (mm) | 1/1.8" | 1/2.5" | 1/2.5" | 1/3" |
|-----------------------|--------|--------|--------|------|
| 25                    | 87     | 80     | 73     | 66   |
| 67                    | 120    | 110    | 100    | 90   |
| 109                   | 153    | 140    | 130    | 120  |
| 151                   | 186    | 170    | 160    | 150  |
| 193                   | 219    | 200    | 190    | 180  |
| 235                   | 252    | 230    | 220    | 210  |
| 277                   | 285    | 260    | 250    | 240  |
| 319                   | 318    | 290    | 280    | 270  |
| 361                   | 351    | 320    | 310    | 300  |
| 403                   | 384    | 350    | 340    | 330  |
| 445                   | 417    | 380    | 370    | 360  |

Wavelength Range: 486nm-656nm

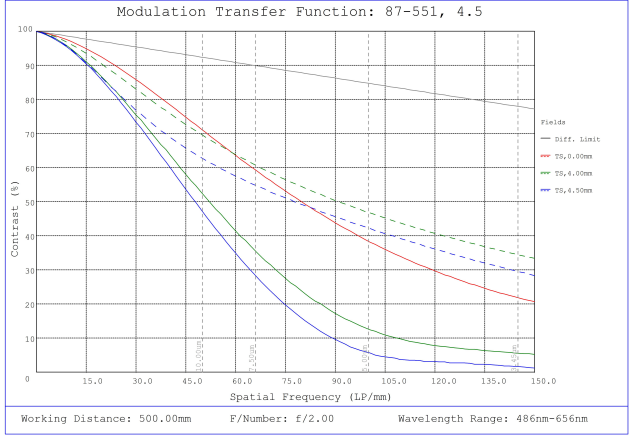
*#87-551, 4.5mm, f/2 Ci Series Fixed Focal Length Lens, Working Distance versus Field of View Plot*



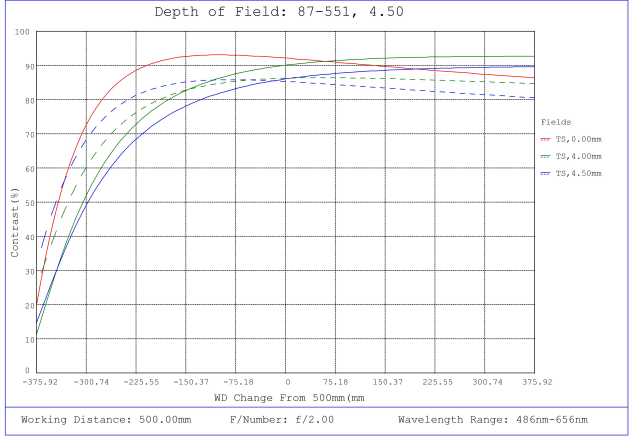
#87-551, 4.5mm, f/2 Ci Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f2



#87-551, 4.5mm, f/2 Ci Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f2



#87-551, 4.5mm, f/2 Ci Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f2



#87-551, 4.5mm, f/2 Ci Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f2

| Focal Length | A            | B      | C      | D      |
|--------------|--------------|--------|--------|--------|
| 6mm          | M34.0 x 0.5  | 47.8mm | 34mm   | 1.17mm |
| 12mm         | M22.0 x 0.75 | 29.0mm | 22mm   | 0.96mm |
| 16mm         | M22.0 x 0.75 | 40.8mm | 22mm   | 1.09mm |
| 25mm         | M22.0 x 0.75 | 29.9mm | 22mm   | 1.33mm |
| 35mm         | M25.5 x 0.5  | 41mm   | 22.5mm | 3.82mm |
| 50mm         | M30.5 x 0.5  | 49.5mm | 30.5mm | 2.06mm |



Compatible Cameras

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