

TECHSPEC® 50mm, f/2.0 Ci Series Fixed Focal Length Lens



50mm Focal Length

Stock **#86-614** **6 In Stock**

⊖ 1 ⊕ **\$\$270⁰⁰**

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Volume Pricing

Qty 1-24	\$\$270.00 each
Qty 25+	\$\$243.00 each
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Product Downloads

General

Ci Series **Product Family:**

Fixed Focal Length Lens **Type:**

Compact Lens with Fixed Aperture **Imaging Lens Type:**

Physical & Mechanical Properties

Iris Option:

Fixed	
49.50	Length (mm):
30.5	Maximum Diameter (mm):
30.5	Outer Diameter (mm):
63	Weight (g):
2.06	Maximum Rear Protrusion (mm):
26.50	Diameter (mm):

Optical Properties

42.8mm - 10.0°	Horizontal Field of View @ Max Sensor Format:
Horizontal: 42.8mm - 10° Vertical: 32mm - 7.5° Diagonal: 53.5mm - 12.5°	Field of View at Max Sensor Format:
42.8mm - 10.0°	Horizontal Field of View, 2/3" Sensor:
35.0mm - 8.2°	Horizontal Field of View, 1/1.8" Sensor:
31.1mm - 7.3°	Horizontal Field of View, 1/2" Sensor:
28.2mm - 6.6°	Horizontal Field of View, 1/2.5" Sensor:
23.3mm - 5.5°	Horizontal Field of View, 1/3" Sensor:
17.5mm - 4.1°	Horizontal Field of View, 1/4" Sensor:
11.00	Maximum Image Circle (mm):
0.0434	Numerical Aperture NA, Object Side:
6 (4)	Number of Elements (Groups):
50.00	Focal Length FL (mm):
250 - ∞	Working Distance (mm):
f/2	Aperture (f/#):
425 - 675nm BBAR	Coating:
425 - 675nm BBAR	Coating Specification:
35.62	Entrance Pupil Position (mm):
39.89	Object Space Principal Plane (mm):
-36.26	Image Space Principal Plane (mm):
0.26	Maximum Distortion (%):
-40.93	Exit Pupil Position (mm):
VIS	Lens Wavelength Range:

Sensor

2/3"	Maximum Sensor Format:
2.74	Pixel Size (µm):

Threading & Mounting

M30.5 x 0.50 (Female)	Filter Thread:
#89-943 (Required)	Filter Thread Adapter:
M30.5 x 0.5 (Male)	Front Thread:

C-Mount **Mount:**

Environmental & Durability Factors

Storage Temperature (°C):
-20 to +60

Type of Ruggedization:
Industrial (Fixed Aperture with Simplified Mechanics)

Regulatory Compliance

RoHS 2015:
Compliant

REACH 201:
Compliant

Certificate of Conformance:
[View](#)

Product Details

These compact lenses are designed specifically for volume integration into applications such as analytical medical devices, including benchtop-based blood analyzers. For customized *f*# versions to best suit your instrumentation application needs and to discuss volume requirements, please [contact us](#).

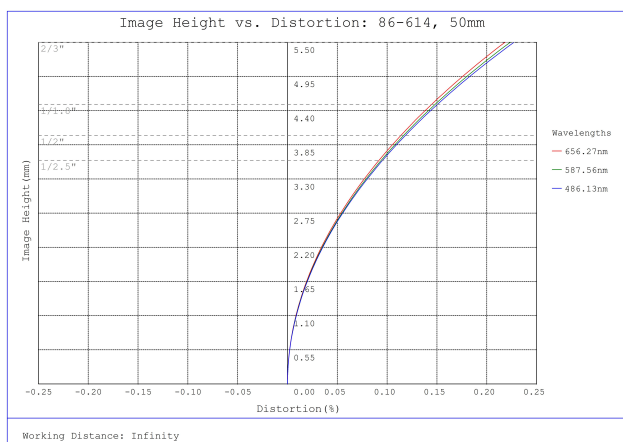
- Up to 2/3", C-Mount Lens
- Up to 7.5 MegaPixels, 2.8µm Pixel Size Sensors
- Instrumentation (Ci) Versions of our C Series Lenses with Streamlined Mechanical Designs and Fixed Apertures
- 3.5mm to 50mm Focal Length
- [Ruggedized \(Cr\) Designs](#) Also Available

TECHSPEC® Ci Series Fixed Focal Length Lenses are a streamlined version of our C Series Fixed Focal Length Lenses. They feature the same low lens-to-lens variation and broadband anti-reflection (BBAR) coating for maximum light transmission, while offering reduced weight and size. An adjustable, lockable focus allows for setting and locking the best focus position for instrumentation integration. TECHSPEC® Ci Series Fixed Focal Length Lenses are designed specifically for volume integration into applications such as factory inspection and automation to benchtop biomedical devices. The Ci Series offers a wide range of aperture options, ensuring maximum flexibility of resolution, throughput, and depth of field.

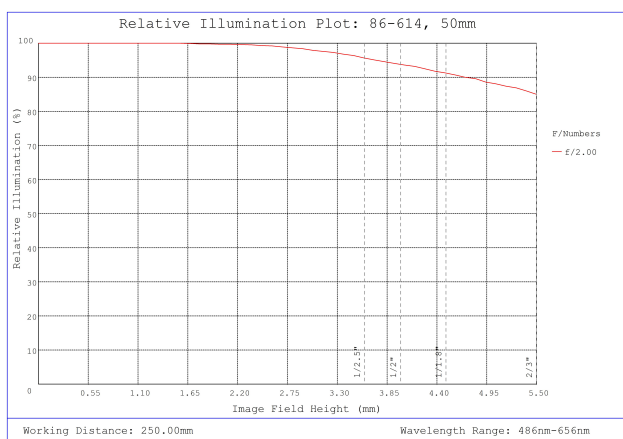
Edmund Optics has created a family of high performance optical designs (the C Series family) and developed 6 customized optomechanical solutions targeted for specific applications. These lens sub-families utilize the same optics as the C Series lenses providing the same optical performance in a variety 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.

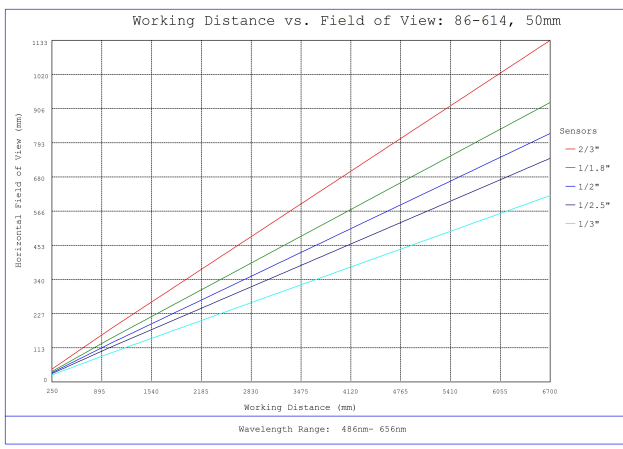
Technical Information



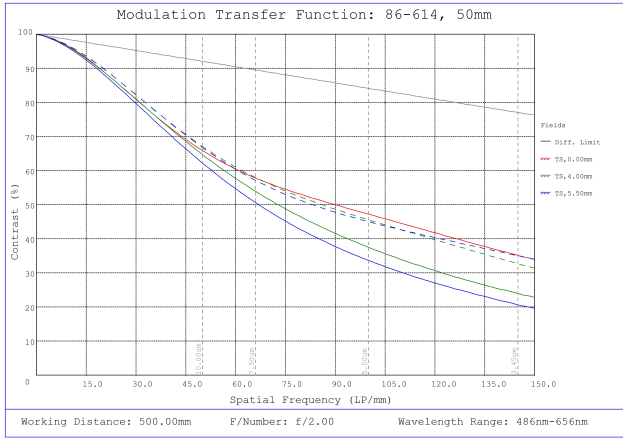
#86-614, 50mm, *f*/2.0 Ci Series Fixed Focal Length Lens, Distortion Plot



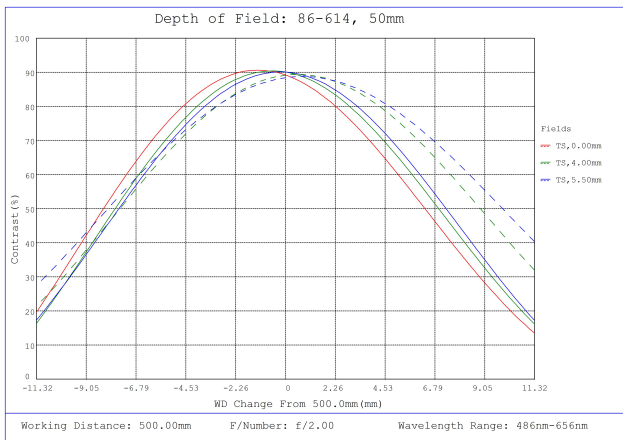
#86-614, 50mm, *f*/2.0 Ci Series Fixed Focal Length Lens, Relative Illumination Plot



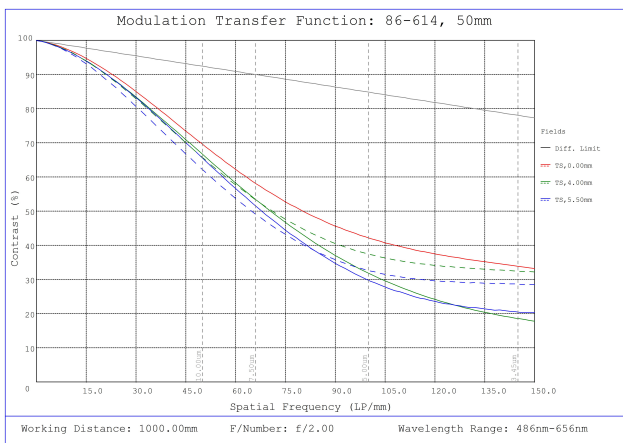
#86-614, 50mm, f/2.0 Ci Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



#86-614, 50mm, f/2.0 Ci Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f2



#86-614, 50mm, f/2.0 Ci Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f2



#86-614, 50mm, f/2.0 Ci Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 1000mm Working Distance, f2



#86-614, 50mm, f/2.0 Ci Series Fixed Focal Length Lens, Depth of Field Plot, 1000mm 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