

## **TECHSPEC® 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens**

#63-777



12mm Focal Length

TECHSPEC® HR Series Fixed Focal Length Lenses have multiple options available for each focal length to accommodate a variety of optimized working distance ranges. These lenses are ideal for machine vision (MV) and [factory automation \(FA\)](#) applications. TECHSPEC HR Series Fixed Focal Length Lenses are perfect for use on high-end 5 MegaPixel and 9 MegaPixel sensors that require resolution and high contrast. All lenses are C-Mount and feature locking focus, iris rings, and a front filter thread to allow the use of standard optical filters for increased versatility. Call for OEM Quantity Pricing.

## General

Type:	Fixed Focal Length Lens
Imaging Lens Type:	High Performance Lens

## Physical & Mechanical Properties

Iris Option:	Variable
Length (mm):	46.18
Maximum Diameter (mm):	36
Weight (g):	103
Maximum Rear Protrusion (mm):	0

## Optical Properties

Horizontal Field of View, 1/2" Sensor:	65.5mm - 30.2°
Horizontal Field of View, 2/3" Sensor:	91mm - 41.1°
Horizontal Field of View, 1/3" Sensor:	48.8mm - 22.8°
Maximum Image Circle (mm):	11.00
Numerical Aperture NA, Object Side:	0.0268
Horizontal Field of View @ Max Sensor Format:	91mm - 41.1°
Number of Elements (Groups):	10 (6)
Horizontal Field of View, 1/1.8" Sensor:	73.9mm - 33.9°
Horizontal Field of View, 1/2.5" Sensor:	59.2mm - 27.5°
Focal Length FL (mm):	12.00
Primary Magnification PMAG:	0.099
Working Distance (mm):	100 - ∞
Aperture (f/#):	f/1.8 - f/16
Coating:	425 - 675nm BBAR
Coating Specification:	425 - 675nm BBAR
Entrance Pupil Position (mm):	17.53
Horizontal Field of View, 1/4" Sensor:	36.5mm - 17.1°
Object Space Principal Plane (mm):	26.28
Image Space Principal Plane (mm):	2.98
Field of View at Max Sensor Format:	Horizontal: 91mm - 41.1° Vertical: 67.6mm - 31.2° Diagonal: 115.2mm - 50.7°
Maximum Distortion (%):	-3.15
Exit Pupil Position (mm):	-29.39
Optimized Working Distance (mm):	150 - 500
Lens Wavelength Range:	VIS

## Sensor

Maximum Sensor Format:	2/3"
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## Threading & Mounting

Filter Thread:	M30.5 x 0.50 (Female)
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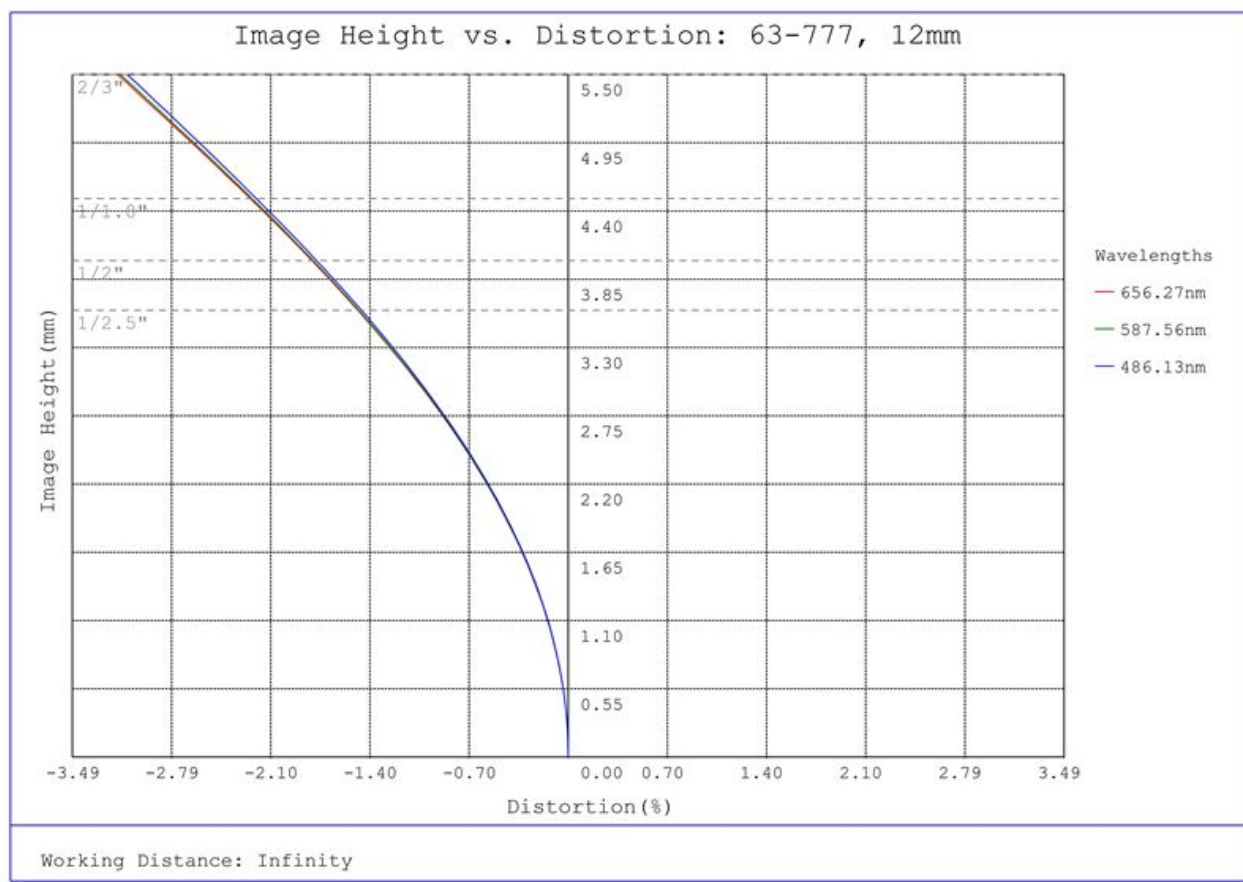
Mount:

C-Mount

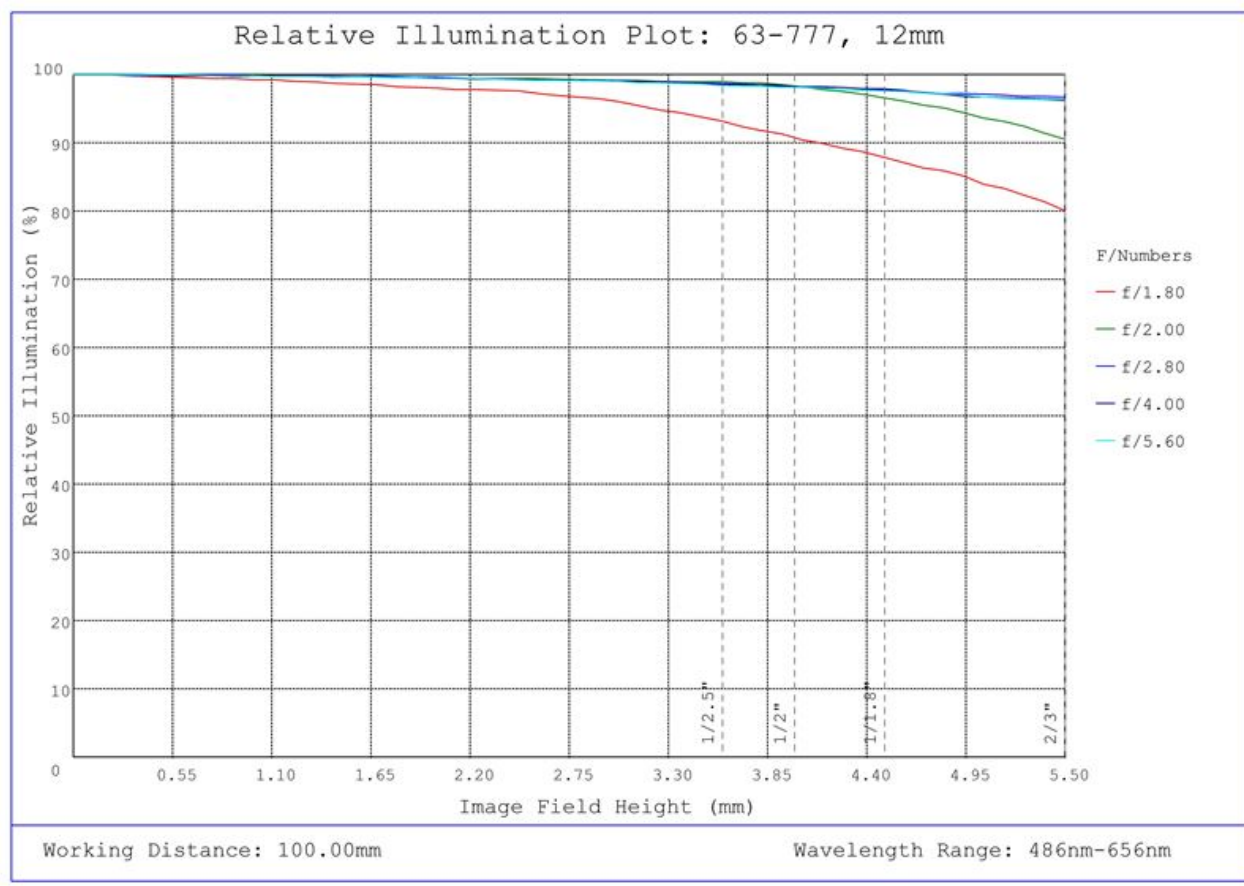
## Environmental & Durability Factors

Storage Temperature (°C):

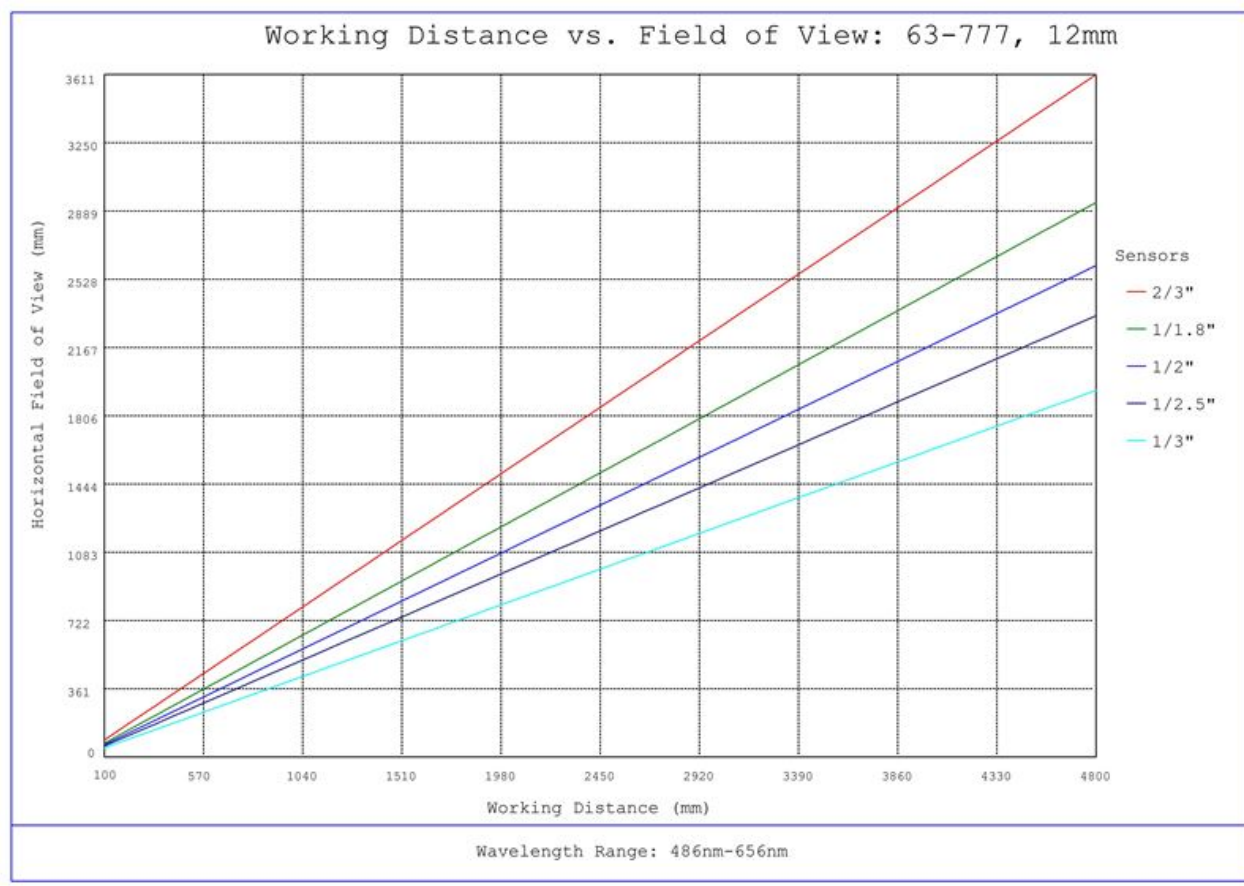
-20 to +60 For questions regarding operating temperature please  
contact our support team



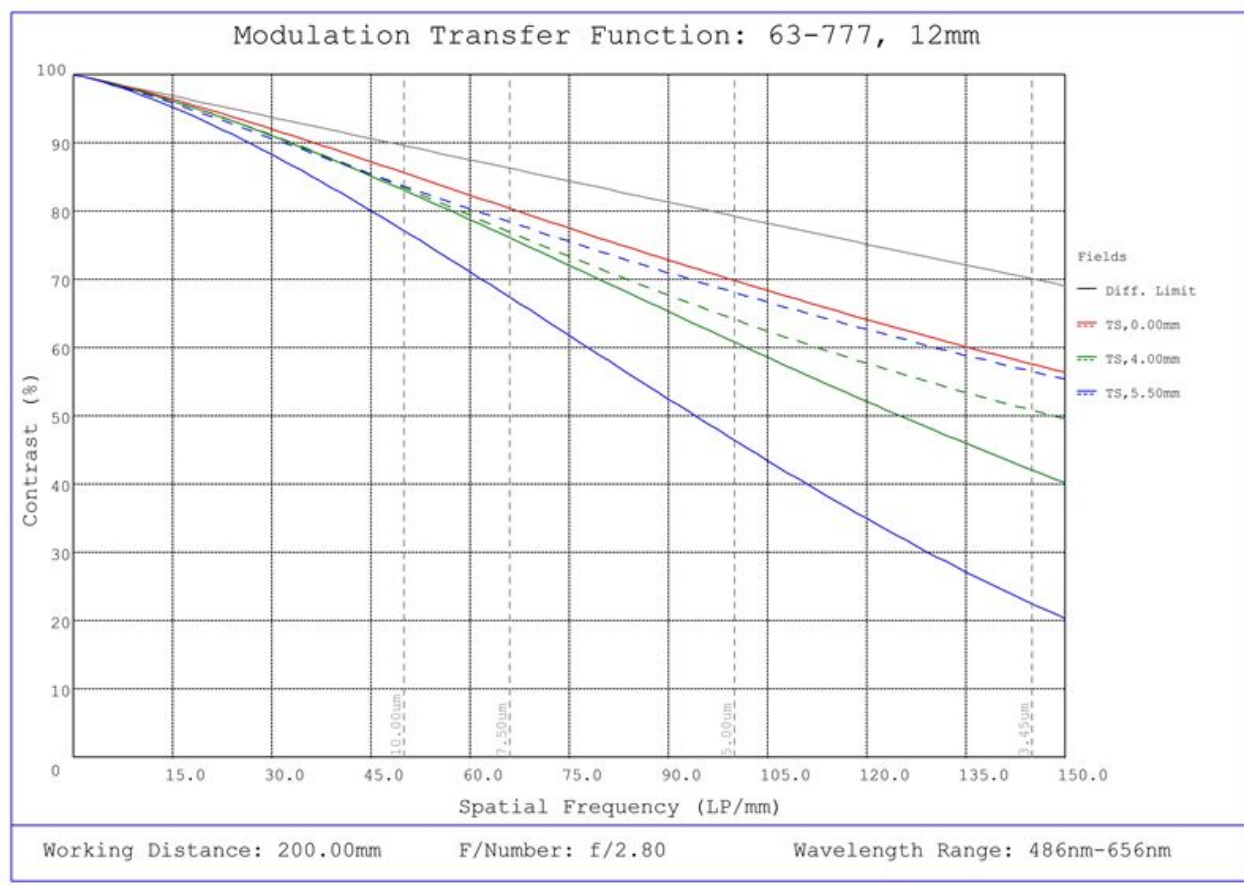
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Distortion Plot



#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Relative Illumination Plot



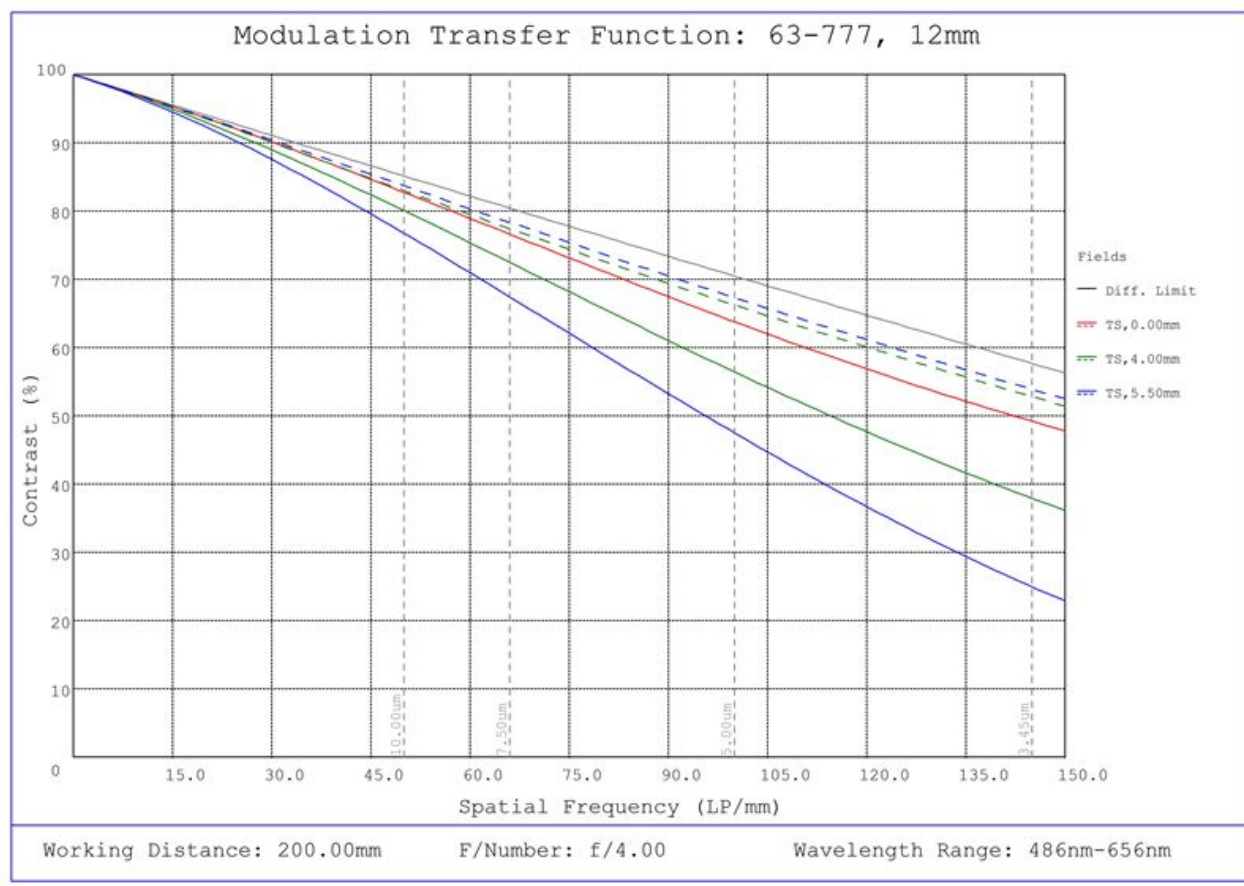
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Working Distance versus Field of View Plot



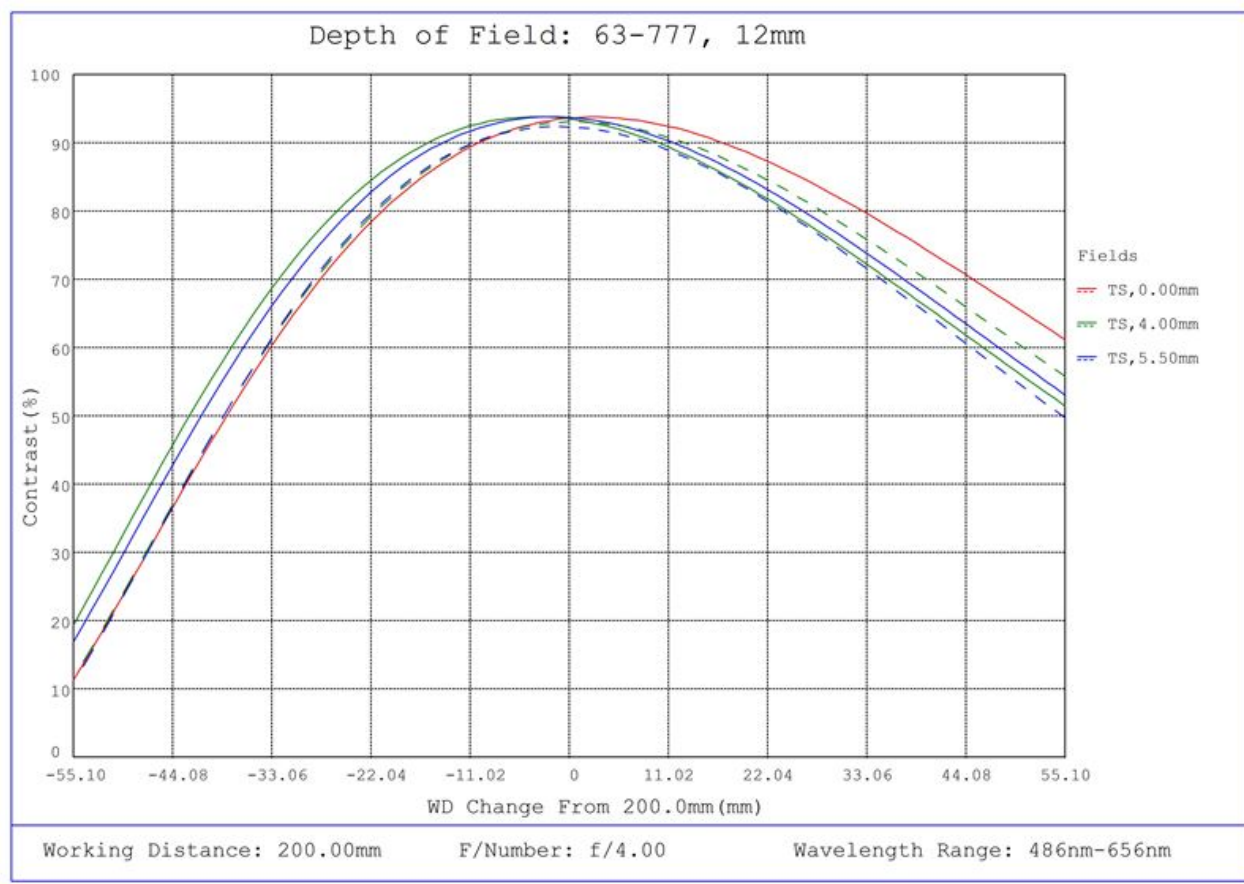
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f2.8



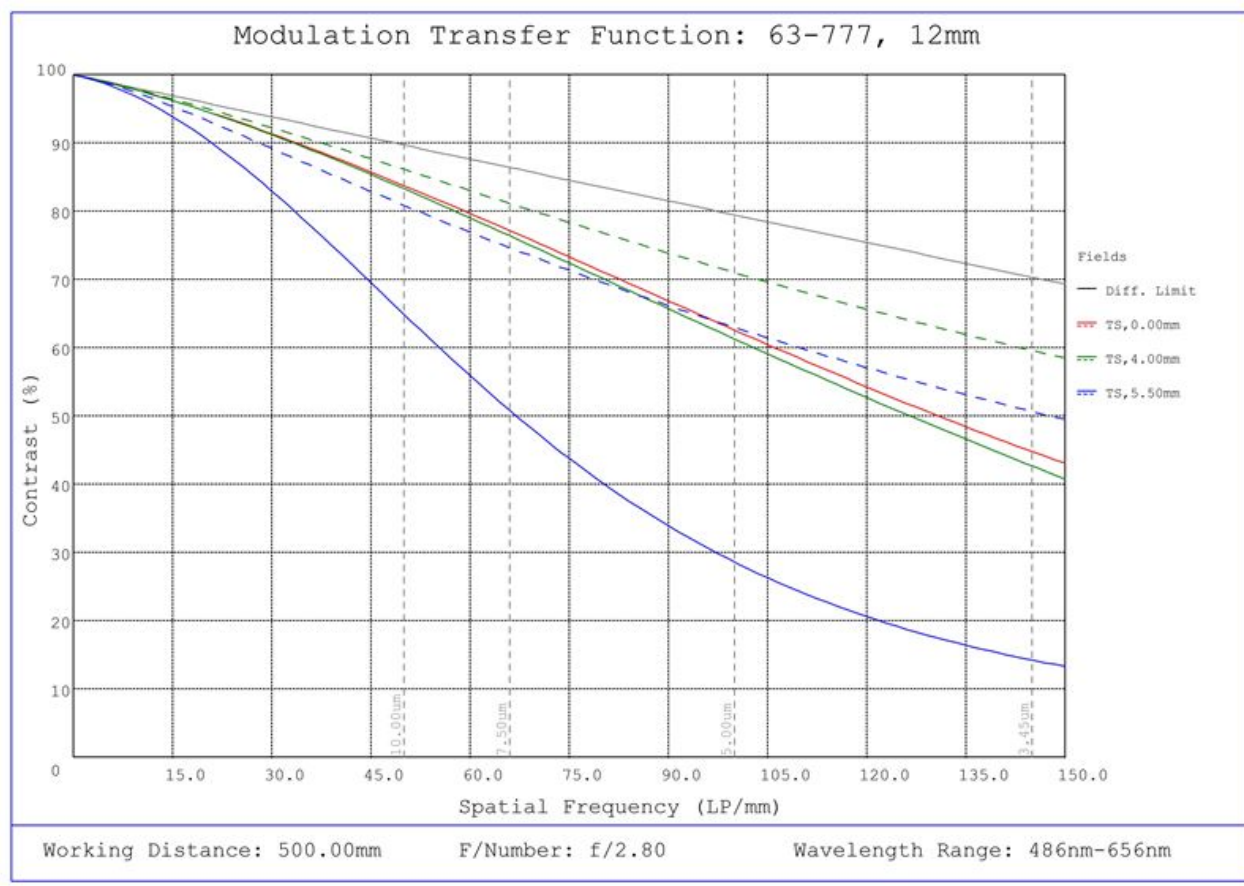
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f2.8



#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 200mm Working Distance, f4



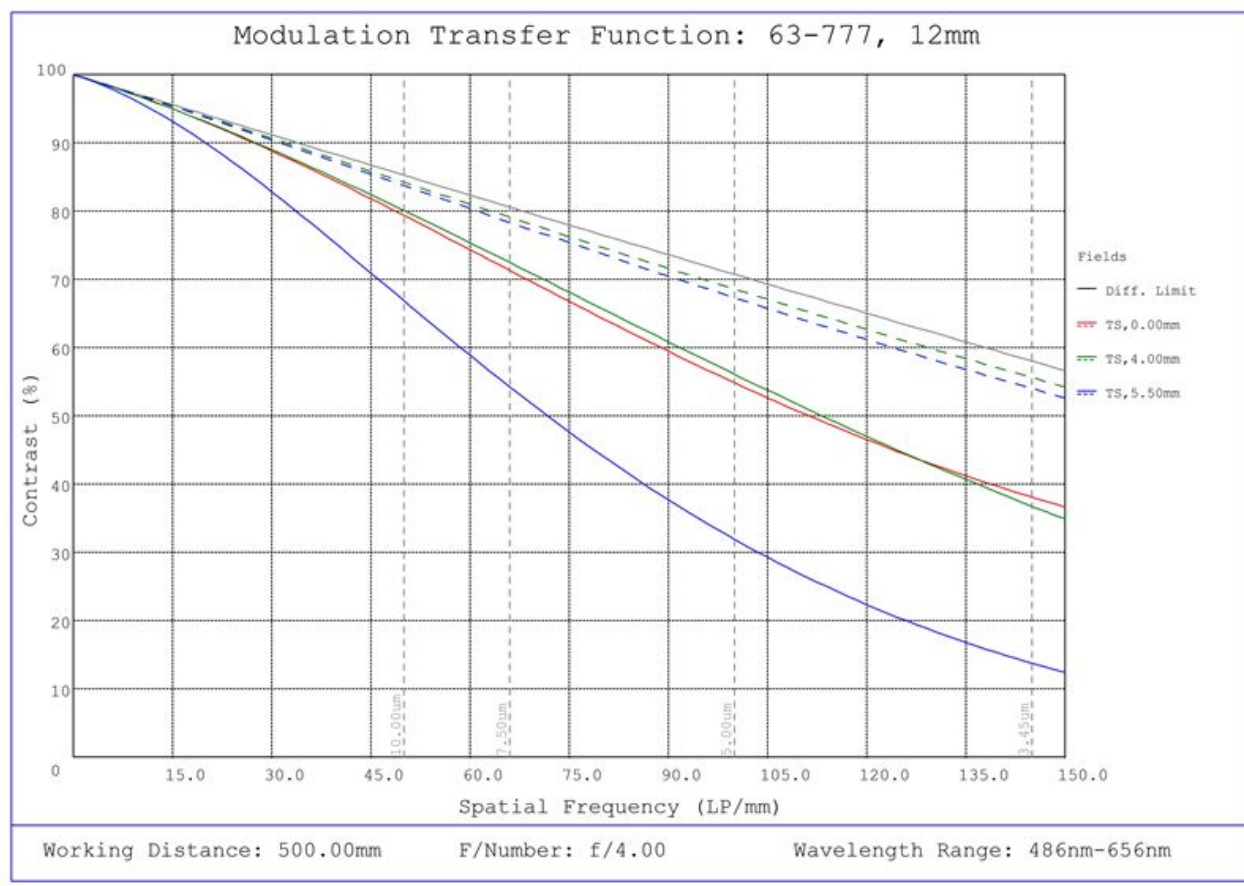
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Depth of Field Plot, 200mm Working Distance, f4



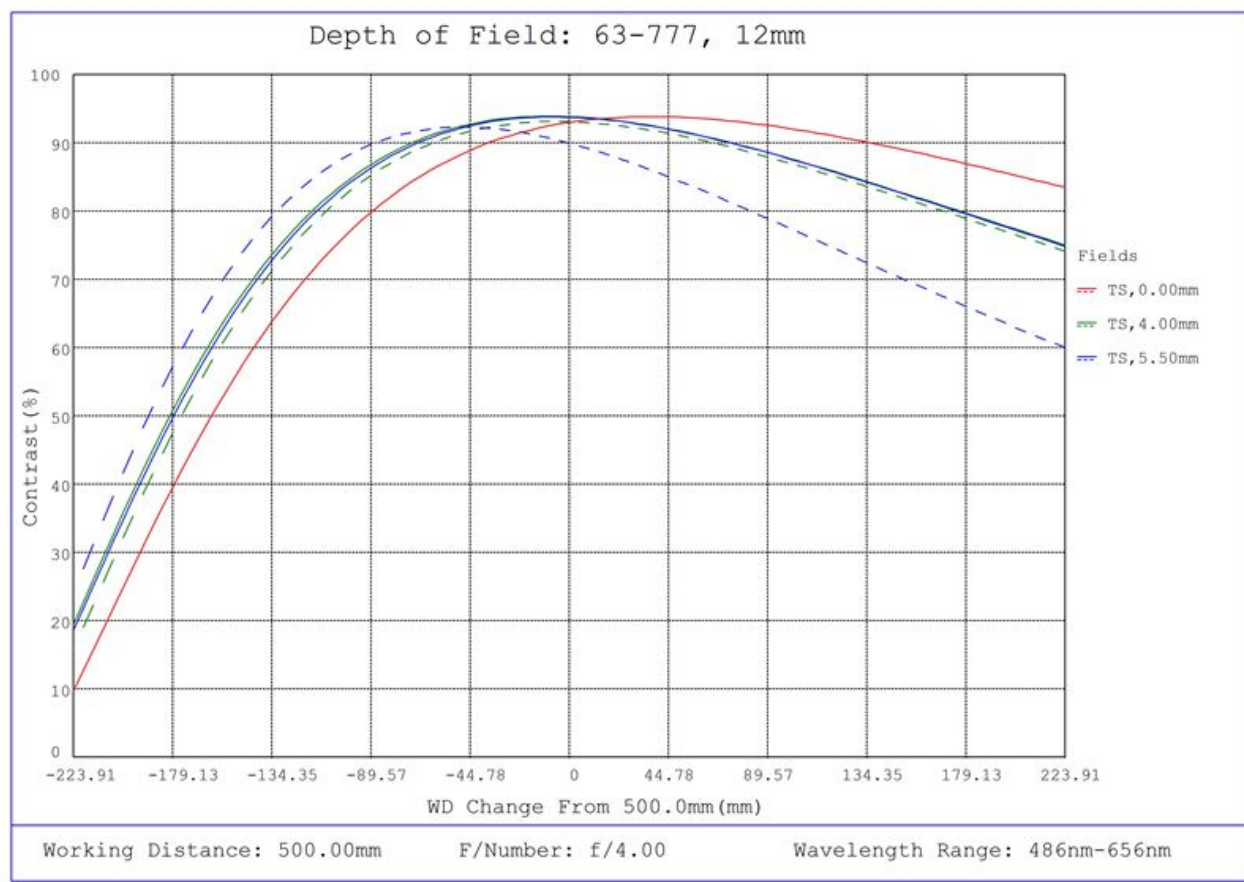
#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f2.8



#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f2.8



#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Modulated Transfer Function (MTF) Plot, 500mm Working Distance, f4



#63-777, 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens, Depth of Field Plot, 500mm Working Distance, f4



May 07, 2025

To Whom It May Concern,

This document certifies that the product stated below has been reviewed as requested by Edmund Optics:

Stock No.	Description
63-777	12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens

This item is EU RoHS (2015/863/EU) compliant without the use of exemptions.

This certification means that:

- EO's suppliers have confirmed the material composition of this product.
- EO has implemented rigorous procedures to document this compliance.
- The information provided may, or may not, be based upon actual test data, or on information from our Vendors, Raw Material Suppliers or Subcontractors.



Jay Budd, Director of Corporate Compliance  
May 07, 2025

Edmund Optics Inc. - 101 E Gloucester Pike, Barrington, NJ 08007 | 1-800-363-1992 | [Compliance@edmundoptics.com](mailto:Compliance@edmundoptics.com)



May 07, 2025

Stock No.	Description
63-777	12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens

Edmund Optics certifies that all articles included in this shipment are in compliance with the terms and conditions of this order. The company also certifies that the articles included in this shipment are in accordance to all agreed upon specifications and quality assurance provisions. Please call 1-800-363-1992 should any questions arise from this shipment.



Jeff Harvey- EVP of Operations



May 07, 2025

To Whom It May Concern,

This document certifies that the product stated below has been reviewed as requested by Edmund Optics:

Stock No.	Description
63-777	12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens

This item does not contain any of the substances listed on the Reach SVHC list as of 27 June 2024 in quantities exceeding 0.1% weight by weight.

Please note the following:

- Entry 11 of Annex V of the REACH regulation EC 1907/2006 as amended by regulation 987/2008, exempts "non-hazardous" glass components from registration.
- Items considered to be packing materials and which do not form part of, or are not required for the operation of, the product, are not considered to be within scope of this declaration.
- EO does not routinely analyze products for substances not purposely added or specified within the design specifications, drawings and assembly procedures.

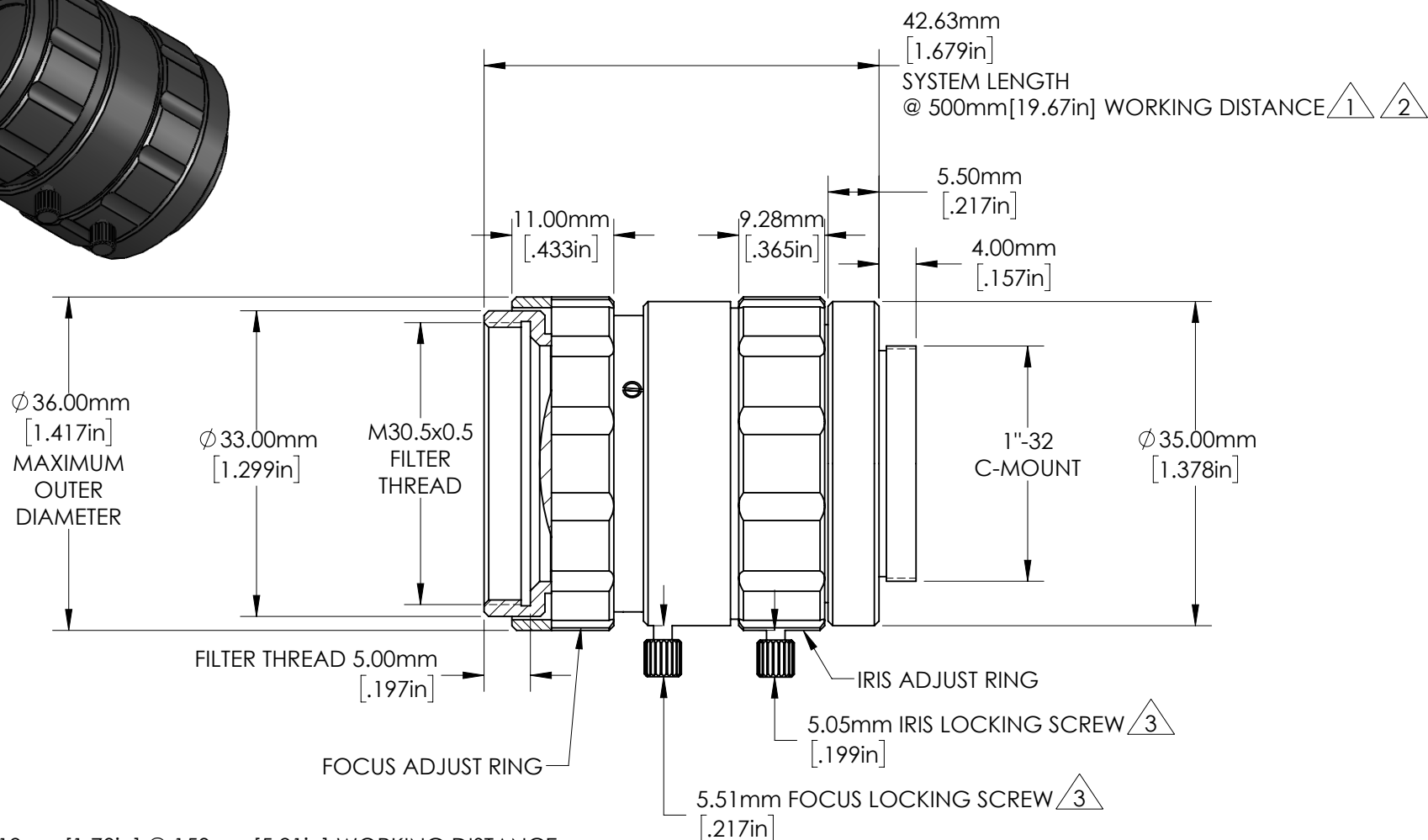
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NOTES:

- <sup>1.</sup> 43.19mm [1.70in] @ 150mm [5.91in] WORKING DISTANCE.
- <sup>2.</sup> LENS MAY MOVE MORE THAN INDICATED UNTIL IT REACHES BUILT-IN STOPS.
- <sup>3.</sup> ALSO INCLUDES RECESSED SET SCREW OPTION

***FOR INFORMATION ONLY:***  
**DO NOT MANUFACTURE**  
**PARTS TO THIS DRAWING**

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 WITHOUT NOTICE.  
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 FOR DETAILED SPECIFICATIONS,  
 PLEASE REFER TO THE SPEC SHEET.

**EO<sup>®</sup> Edmund Optics<sup>®</sup>**

TITLE 12mm, 150-500mm Primary WD, HR Series Fixed Focal Length Lens

DWG NO 63777

SHEET 1 OF 1

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