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# LightPath 390010 | 8.24mm Dia., 0.83 NA, BBAR (8000-12000nm), Mounted IR Aspheric Lens

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## Product Downloads

### General

390010 **Lightpath Lens Code:**  
Aspheric Lens **Type:**

### Physical & Mechanical Properties

8.24 ±0.10 **Diameter (mm):**

3.00 Clear Aperture CA (mm):

2.17 Center Thickness CT (mm):

Protective as needed Bevel:

## Optical Properties

1.47 @ 9200nm Effective Focal Length EFL (mm):

0.83 Numerical Aperture NA:

Black Diamond™ BD-2 (Ge<sub>28</sub>Sb<sub>12</sub>Se<sub>60</sub>) Substrate: □

9200 Aspheric Design Wavelength (nm):

BBAR (8000-12000nm) Coating:

R<sub>avg</sub> < 1.0% @ 8 - 12μm Coating Specification:

80-50 Surface Quality:

0.6 f#:

2.6023 Index of Refraction (n<sub>d</sub>) @ 10μm:

2.5843 Index of Refraction (n<sub>d</sub>) @ 14μm:

2.6210 Index of Refraction (n<sub>d</sub>) @ 4μm:

2.6173 Index of Refraction (n<sub>d</sub>) @ 5μm:

8000 - 12000 Wavelength Range (nm):

0.63 Working Distance (mm):

Infinite Conjugate Distance:

9200 Focal Length Specification Wavelength (nm):

## Threading & Mounting

Stainless Steel, M8 x 0.5 Thread Mount:

## Material Properties

14.00 Coefficient of Thermal Expansion CTE (10<sup>-6</sup>/°C):

4.68 Density (g/cm<sup>3</sup>):

70 x 10<sup>-6</sup>/°C from -40° to +80°C (5 - 14 μm) Thermo-optic coefficient dn/dT:

285.00 Transformation Temperature (°C):

## Regulatory Compliance

[Compliant](#) RoHS 2015:

[View](#) Certificate of Conformance:

[Compliant](#) Reach 233:

## Product Details

- Wavelength Range of 1.8 - 12μm
- Variety of Coating Options
- Mounted and Unmounted Versions

LightPath® Mid-Wave and Long-Wave Infrared (IR) Aspheric Lenses feature a low-cost, molded design and offer several key benefits over Germanium substrate aspheres. With a dn/dT and CTE significantly less than that of Germanium, the lenses feature a smaller change in focal length as a function of temperature change. Featuring a higher operating temperature than Germanium (which suffers 20 – 30% transmission loss at 100°C), the lenses can be used in applications including collimators for QCL lasers and as components within thermal imaging assemblies. LightPath Mid-Wave and Long-Wave Infrared (IR) Aspheric Lenses have a wavelength range of 1.8 - 12μm. These lenses are available mounted or unmounted, in a variety of coating options.

## Technical Information

