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LightPath 390010 | 4.5mm Dia., 0.83 NA, BBAR (8000-12000nm), Molded IR Aspheric Lens

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Stock **#88-073** **2 In Stock**

- 1 + **A$656**.00

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Qty 1-10	**A$656.00** each
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General

Lightpath Lens Code:
390010

Type:
Aspheric Lens

Physical & Mechanical Properties

Diameter (mm):
4.50 ±0.015

Clear Aperture CA (mm):

3.00

Edge Thickness ET (mm):
1.63

Center Thickness CT (mm):
2.17

Bevel:
Protective as needed

Optical Properties

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

Numerical Aperture NA:
0.83

Substrate:
Black Diamond™ BD-2 ($Ge_{28}Sb_{12}Se_{60}$)

Aspheric Design Wavelength (nm):
9200

Coating:
BBAR (8000-12000nm)

Coating Specification:
R_{avg} <1.0% @ 8 - 12µm

Surface Quality:
80-50

f/#:
0.6

Index of Refraction (n_d) @ 10µm:
2.6023

Index of Refraction (n_d) @ 14µm:
2.5843

Index of Refraction (n_d) @ 4µm:
2.6210

Index of Refraction (n_d) @ 5µm:
2.6173

Wavelength Range (nm):
8000 - 12000

Working Distance (mm):
0.63

Conjugate Distance:
Infinite

Focal Length Specification Wavelength (nm):
9200

Material Properties

Coefficient of Thermal Expansion CTE (10^{-6}/°C):
14.00

Density (g/cm^3):
4.68

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

Transformation Temperature (°C):
285.00

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

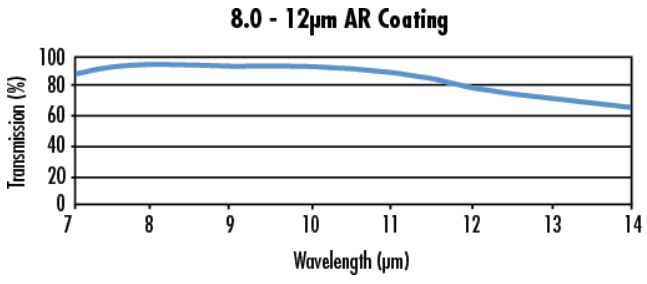
Reach 247:
Compliant

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


8.0 - 12µm AR Coating
Transmission (%)
100
80
60
40
20
0
7
8
9
10
11
12
13
14
Wavelength (µm)

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