

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

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**Diameter (mm):**  
4.50 ±0.015

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

**Numerical Aperture NA:**  
0.83

|                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Substrate: </div> <div>Black Diamond™ BD-2 (Ge<sub>28</sub>Sb<sub>12</sub>Se<sub>60</sub>)</div> |
| <div>Aspheric Design Wavelength (nm):</div> <div>9200</div>                                                                                                                           |
| <div>Coating:</div> <div>BBAR (8000-12000nm)</div>                                                                                                                                    |
| <div>Coating Specification:</div> <div>R<sub>avg</sub> &lt;1.0% @ 8 - 12μm</div>                                                                                                      |
| <div>Surface Quality:</div> <div>80-50</div>                                                                                                                                          |
| <div>Clear Aperture CA (mm):</div> <div>3.00</div>                                                                                                                                    |
| <div>Edge Thickness ET (mm):</div> <div>1.63</div>                                                                                                                                    |
| <div>Center Thickness CT (mm):</div> <div>2.17</div>                                                                                                                                  |
| <div>f/#:</div> <div>0.6</div>                                                                                                                                                        |
| <div>Bevel:</div> <div>Protective bevel as needed</div>                                                                                                                               |
| <div>Density (g/cm³):</div> <div>4.68</div>                                                                                                                                           |
| <div>Index of Refraction n<sub>d</sub> @ 10μm:</div> <div>2.6023</div>                                                                                                                |
| <div>Index of Refraction n<sub>d</sub> @ 14μm:</div> <div>2.5843</div>                                                                                                                |
| <div>Index of Refraction n<sub>d</sub> @ 4μm:</div> <div>2.6210</div>                                                                                                                 |
| <div>Index of Refraction n<sub>d</sub> @ 5μm:</div> <div>2.6173</div>                                                                                                                 |
| <div>Lightpath Lens Code:</div> <div>390010</div>                                                                                                                                     |
| <div>Thermo-optic coefficient dn/dT:</div> <div>70 x 10<sup>-6</sup>/°C from -40° to +80°C (5 - 14 μm)</div>                                                                          |
| <div>Transformation Temperature (°C):</div> <div>285.00</div>                                                                                                                         |
| <div>Type:</div> <div>Aspheric Lens</div>                                                                                                                                             |
| <div>Wavelength Range (nm):</div> <div>8000 - 12000</div>                                                                                                                             |
| <div>Working Distance (mm):</div> <div>0.63</div>                                                                                                                                     |
| <div>Conjugate Distance:</div> <div>Infinite</div>                                                                                                                                    |

## Regulatory Compliance

|                                                                        |
|------------------------------------------------------------------------|
| <div>RoHS 2015:</div> <div>Compliant</div>                             |
| <div>Certificate of Conformance:</div> <div><a href="#">View</a></div> |
| <div>Reach 233:</div> <div>Compliant</div>                             |