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# Lightpath 7100410 | 4mm FL, f/1.2, Thermal Imaging Lens Assembly

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⊖ 1 ⊕ €59<sup>95</sup>

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## Product Downloads

### General

Thickness: 0.70mm  
Material: Si

**Compatible Window:**

7100410

**Lightpath Lens Code:**

### Physical & Mechanical Properties

3.50

**Clear Aperture CA (mm):**

**Construction:**  
Matte Black Anodized Aluminum Housing

**Length (mm):**  
6.50

**Front Diameter (mm):**  
9.93

## Optical Properties

**Effective Focal Length EFL (mm):**  
4.00

**Substrate:**   
Black Diamond™ BD-6

**f#:**  
1.2

**Coating:**  
BBAR (8000-12000nm)

**Wavelength Range (nm):**  
8000 - 12000

**Coating Specification:**  
 $R_{avg} < 0.75\%$  @ 8000 - 12,000nm

**Index of Refraction ( $n_d$ ) @ 10 $\mu$ m:**  
2.7816

**Index of Refraction ( $n_d$ ) @ 14 $\mu$ m:**  
2.7683

**Index of Refraction ( $n_d$ ) @ 4 $\mu$ m:**  
2.7978

**Working Distance (mm):**  
5.33

## Sensor

**Recommended Detector Format (H x V/Pixel Size):**  
320 x 240 / 12 $\mu$ m

## Threading & Mounting

**Mounting Threads:**  
M10 x 0.5

**Thread Length (mm):**  
6.50

## Material Properties

**Coefficient of Thermal Expansion CTE ( $10^{-6}/^{\circ}\text{C}$ ):**  
22.5

**Thermo-optic coefficient  $dn/dT$ :**  
 $30.5 \times 10^{-6}$  @ 10 $\mu$ m

## Regulatory Compliance

**RoHS 2015:**  
[Compliant](#)

**Certificate of Conformance:**  
[View](#)

**Reach 233:**  
[Compliant](#)

## Product Details

- Precision Molded Chalcogenide Lenses
- Compact Designs for Thermal Imaging Cameras
- Focal Lengths from 2.7 to 24mm

Lightpath® Thermal Imaging Assemblies are a cost-effective alternative to diamond turned infrared lenses for applications in the mid-wave infrared (MMR) or long-wave infrared (LWIR). These lenses are molded from BD6™, a chalcogenide glass that offers high transmission from 1 to 15 $\mu$ m and is also optically athermalized from -40 to +85°C. These lenses feature a broadband antireflection coating from 8 to 12 $\mu$ m and are mounted in compact black anodized aluminum housings that are threaded to allow for adjustable focus. Lightpath Thermal Imaging Assemblies are ideal for medical diagnostics, gas sensing, thermography, thermal imaging, security, and manufacturing process control applications. Lenses with focal lengths from 2.7 to 24mm are available, covering detector sizes from 80 x 80 to 640 x 480 pixels.