

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

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⊖ 1 ⊕ **S\$109<sup>20</sup>**

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#### General

Thickness: 0.70mm  
Material: Si

**Compatible Window:**

**Lightpath Lens Code:**

7100410

#### Physical & Mechanical Properties

3.50

**Clear Aperture CA (mm):**

**Construction:**  
Matte Black Anodized Aluminum Housing

6.50 Length (mm):

9.93 Front Diameter (mm):

## Optical Properties

4.00 Effective Focal Length EFL (mm):

Black Diamond™ BD-6 Substrate: □

1.2 f/#:

BBAR (8000-12000nm) Coating:

8000 - 12000 Wavelength Range (nm):

R<sub>avg</sub> <0.75% @ 8000 - 12,000nm Coating Specification:

2.7816 Index of Refraction (n<sub>d</sub>) @ 10μm:

2.7683 Index of Refraction (n<sub>d</sub>) @ 14μm:

2.7978 Index of Refraction (n<sub>d</sub>) @ 4μm:

5.33 Working Distance (mm):

## Sensor

Recommended Detector Format (H x V/Pixel Size):  
320 x 240 / 12μm

## Threading & Mounting

M10 x 0.5 Mounting Threads:

6.50 Thread Length (mm):

## Material Properties

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

30.5 x 10<sup>-6</sup> @ 10μm Thermo-optic coefficient dn/dT:

## Regulatory Compliance

[Compliant](#) RoHS 2015:

[View](#) Certificate of Conformance:

[Compliant](#) Reach 233:

## 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 15μm and is also optically athermalized from -40 to +85°C. These lenses feature a broadband antireflection coating from 8 to 12μm 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.