

# Lightpath 7100305 | 7.7mm FL, f/1.3, Thermal Imaging Lens Assembly

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## Product Downloads

### General

Thickness: 0.76mm  
Material: Si

**Compatible Window:**

7100305

**Lightpath Lens Code:**

### Physical & Mechanical Properties

5.99

**Clear Aperture CA (mm):**

**Construction:**  
Matte Black Anodized Aluminum Housing

Length (mm):  
11.50

Front Diameter (mm):  
18.00

## Optical Properties

Effective Focal Length EFL (mm):  
7.70

Substrate:   
Black Diamond™ BD-6

f#:  
1.3

Coating:  
BBAR (8000-12000nm)

Wavelength Range (nm):  
8000 - 12000

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

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

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

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

Working Distance (mm):  
10.06

## Sensor

Recommended Detector Format (H x V/Pixel Size):  
320 x 240 / 17μm

## Threading & Mounting

Mounting Threads:  
M19 x 0.5

Thread Length (mm):  
6.25

## Material Properties

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

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

## Regulatory Compliance

RoHS 2015:  
[Compliant](#)

Certificate of Conformance:  
[View](#)

Reach 247:  
[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 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.