# 10mm Dia. x 18mm FL, 650-1000nm AR Coated, Gradium Lens

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Stock #47-600 CLEARANCE 9 In Stock

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## SPECIFICATIONS

### General

**Type:**

Gradient Index Lens

### Physical & Mechanical Properties

**Diameter (mm):**

10.00 ±0.25

| | |
|---|---|
| **Centering (arcmin):** | 1.00 |
| **Clear Aperture CA (mm):** | 9.00 |
| **Center Thickness CT (mm):** | 2.50 |

## Optical Properties

| | |
|---|---|
| **Effective Focal Length EFL (mm):** | 18.00 @ 546nm |
| **Numerical Aperture NA:** | 0.25 |
| **Back Focal Length BFL (mm):** | 16.52 |
| **Focal Length Tolerance (%):** | ±1 |
| **Coating:** | BBAR (650-1000nm) |
| **Coating Specification:** | $R_{avg}$ <0.5% @ 650 - 1000nm |
| **Surface Quality:** | 40-20 |
| **f/#:** | 2.00 |
| **Wavelength Range (nm):** | 650 - 1000 |

## Regulatory Compliance

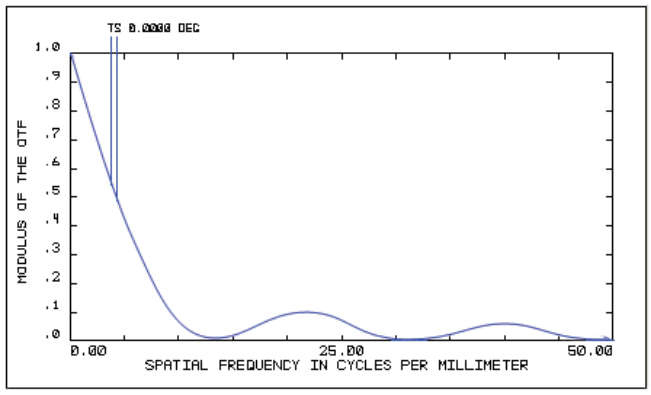
| | |
|---|---|
| **RoHS 2015:** | Compliant |
| **Reach 209:** | Compliant |
| **Certificate of Conformance:** | View |

# PRODUCT DETAILS

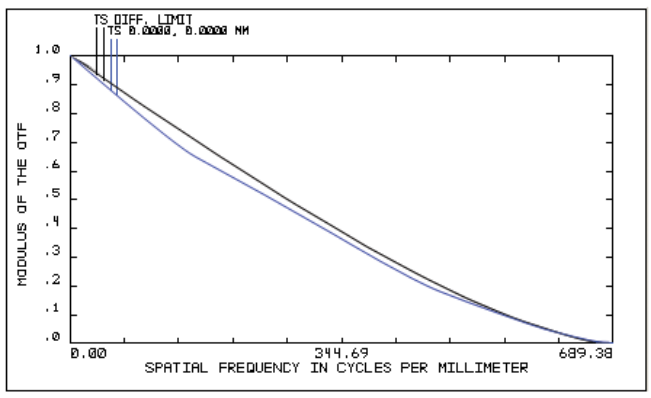
- Aspheric Performance
- Smaller Focused Spot Size
- Reduced Spherical Aberration

GRADIUM® lenses utilize advances in the manufacturing of axial gradient glass to improve lens performance. The process turns a glass of several SF layers into a single glass with a gradually changing index. The index may change by as much as 0.15 from the front surface to the back surface. This change in index allows for correction of system aberrations, especially spherical, yielding better images in infinite/finite imaging applications. GRADIUM® lenses are ideal for laser focusing applications, providing smaller spot sizes compared to the standard PCX counterpart. Two broadband antireflection coating options are available that cover a large range of visible and near-infrared laser wavelengths. For OEM and high volume coating options, please contact our **Applications Engineering Department** to discuss your requirements.

# TECHNICAL INFORMATION




**Typical Performance 25mm diameter, 60mm focal length PCX Lens**
**(Monochromatic Illumination)**
**RMS Radius: 126.6µm**
**Geo. Radius: 223.2µm**
**Airy Dia.: 3.37µm**




**Typical Performance, #47-443 GRADIUM® Lens**
**(Monochromatic Illumination)**
**RMS Radius: 2.13µm**
**Geo. Radius: 3.74µm**
**Airy Dia.: 3.54µm**