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TECHSPEC® 12mm Dia. x -45mm FL, UV-AR Coated, UV DCV Lens



UV Fused Silica Plano-Concave (PCV) Lenses



Stock **#48-061** **4 In Stock**

[Other Coating Options](#)

⊖ 1 ⊕ **S\$224⁰⁰**

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| Volume Pricing | |
|----------------|-------------------------------|
| Qty 1-5 | S\$224.00 each |
| Qty 6-25 | S\$179.20 each |
| Qty 26-49 | S\$169.40 each |
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Product Downloads

General

Double-Concave Lens **Type:**

Max. Flat Annulus is 0.3mm **Note:**

Physical & Mechanical Properties

Diameter (mm):

12.00 +0.0/-0.025

Center Thickness CT (mm):

2.00

Center Thickness Tolerance (mm):

±0.05

Centering (arcmin):

<1

Clear Aperture CA (mm):

11.0

Edge Thickness ET (mm):

2.79

Optical Properties

Effective Focal Length EFL (mm):

-45.00

Substrate:

Fused Silica (Corning 7980)

f#:

3.75

Numerical Aperture NA:

0.13

Coating:

UV-AR (250-425nm)

Wavelength Range (nm):

250 - 425

Back Focal Length BFL (mm):

-45.68

Coating Specification:

R_{abs} ≤1.0% @ 250 - 425nm
R_{avg} ≤0.75% @ 250 - 425nm
R_{avg} ≤0.5% @ 370 - 420nm

Focal Length Specification Wavelength (nm):

587.6

Focal Length Tolerance (%):

±2

Radius R₁=R₂ (mm):

-41.57

Surface Quality:

40-20

Damage Threshold, Reference:

3 J/cm² @ 355nm, 10ns

Power (P-V) @ 632.8nm:

1.5λ

Irregularity (P-V) @ 632.8nm:

λ/4

Regulatory Compliance

RoHS 2015:

Compliant

Certificate of Conformance:

[View](#)

Reach 235:

Compliant

Need different specs or modifications?

Edmund Optics offers comprehensive custom manufacturing services for optical and imaging components tailored to your specific application requirements. Whether in the prototyping phase or preparing for full-scale production, we provide flexible solutions to meet your needs. Our experienced engineers are here to assist—from concept to completion.

Our capabilities include:

- Custom dimensions, materials, coatings, and more
- High-precision surface quality and flatness
- Tight tolerances and complex geometries
- Scalable production—from prototype to volume

Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

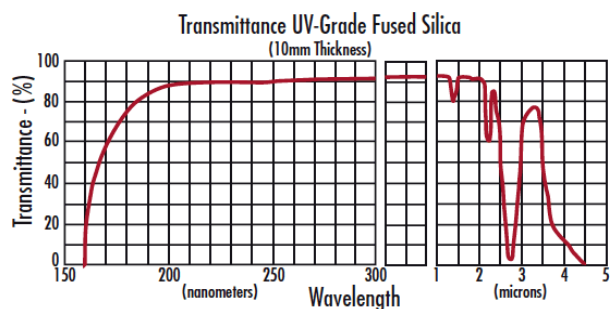
Product Details

- Negative Focal Lengths for Beam Expansion or Light Projection Applications
- Wavelength Range of 200 - 2200nm
- Popular UV-AR Coating Option Available

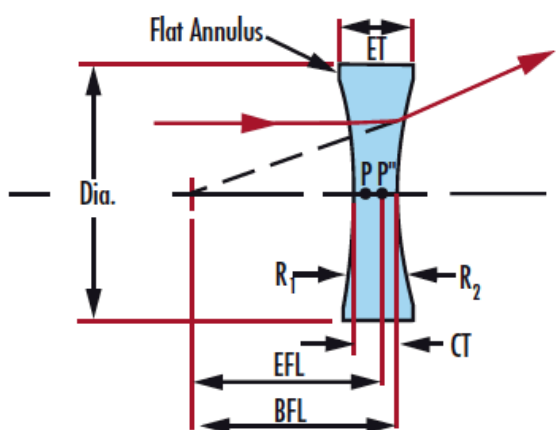
TECHSPEC® UV Fused Silica Double-Concave (DCV) Lenses are manufactured utilizing state-of-the-art CNC equipment. Zygo's GPI-XP Interferometer is used to ensure the surface accuracy and performance of these optics. UV

Grade lenses are precision manufactured using research-grade synthetic fused silica. TECHSPEC® UV Fused Silica Double-Concave (DCV) Lenses, in addition to providing excellent transmission characteristics and higher operating temperatures, synthetic fused silica lenses also exhibit exceptional inclusion specification and chemical purity. These lenses make a superior choice for many laser and imaging applications, particularly those involving ultraviolet wavelengths. A broadband anti-reflection coating is available for optimized throughput in the ultraviolet spectrum.

Technical Information

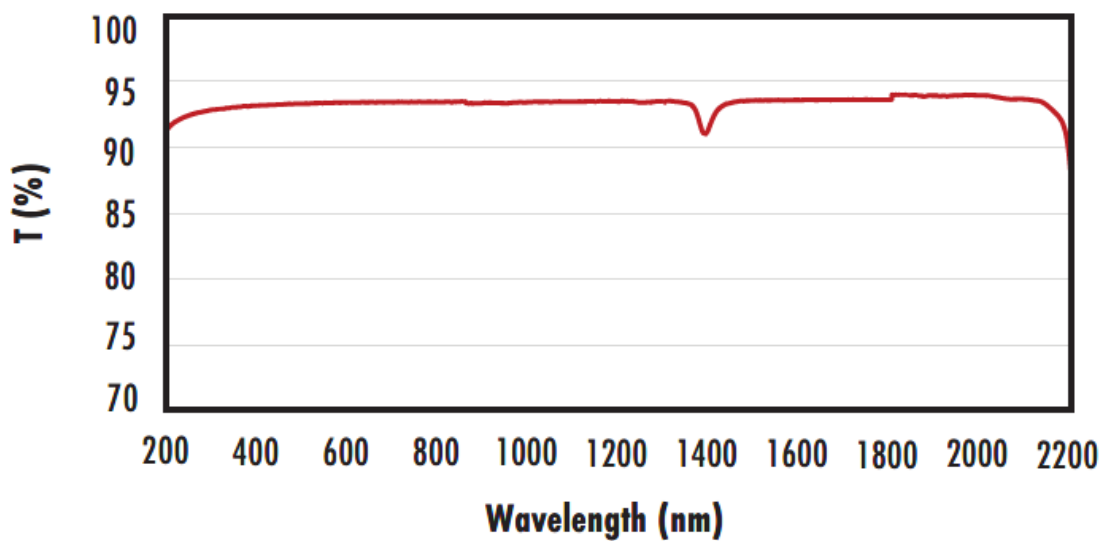


UV FS Transmission Curve



FUSED SILICA

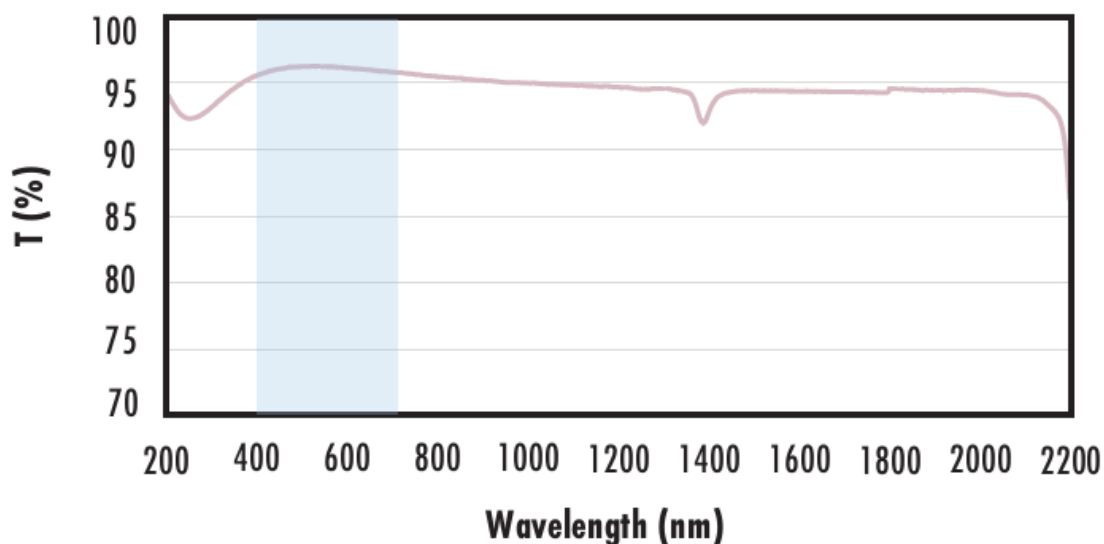
Uncoated Fused Silica Typical Transmission



Typical transmission of a 3mm thick, uncoated fused silica window across the UV - NIR spectra.

[Click Here to Download Data](#)

Fused Silica with MgF₂ Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with MgF₂ (400-700nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 1.75\%$ @ 400 - 700nm (N-BK7)

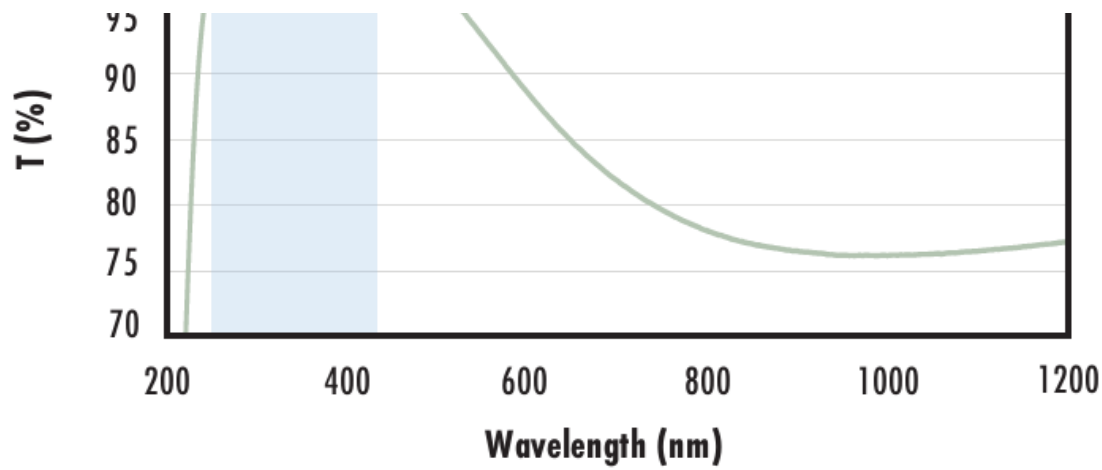
Data outside this range is not guaranteed and is for reference only.

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Fused Silica with UV-AR Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with UV-AR (250-425nm) coating at 0° AOI



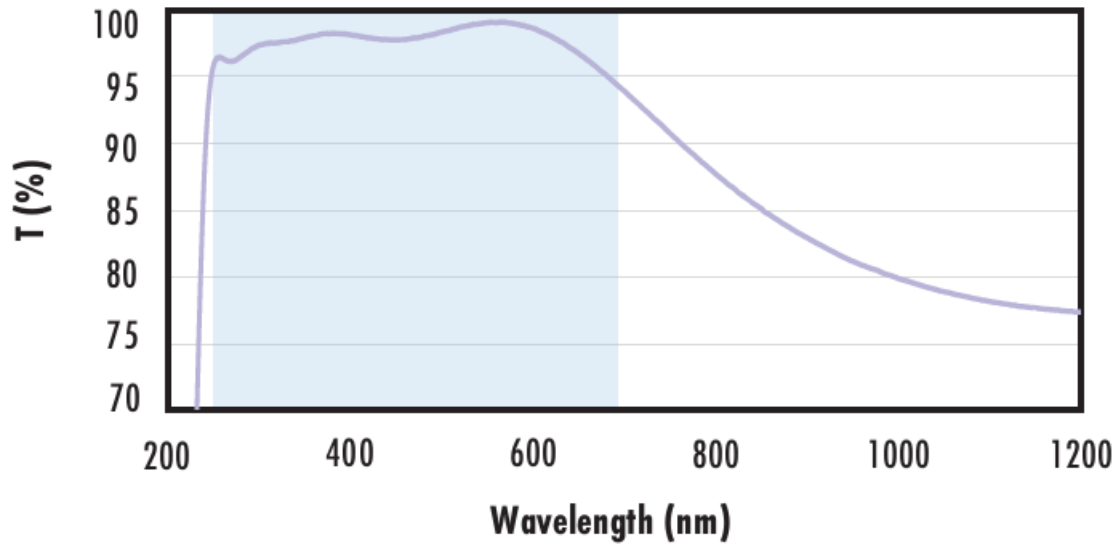
The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{abs} \leq 1.0\%$ @ 250 - 425nm
- $R_{avg} \leq 0.75\%$ @ 250 - 425nm
- $R_{avg} \leq 0.5\%$ @ 370 - 420nm

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

Fused Silica with UV-VIS Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with UV-VIS (250-700nm) coating at 0° AOI.

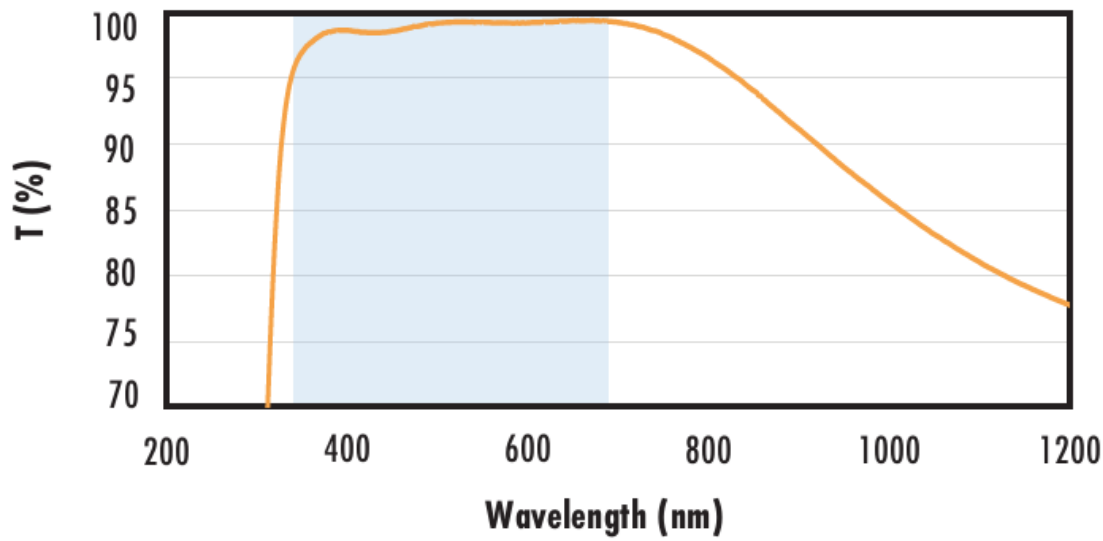
The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{abs} \leq 1.0\%$ @ 350 - 450nm
- $R_{avg} \leq 1.5\%$ @ 250 - 700nm

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

Fused Silica with VIS-EXT Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with VIS-EXT (350-700nm) coating at 0° AOI.

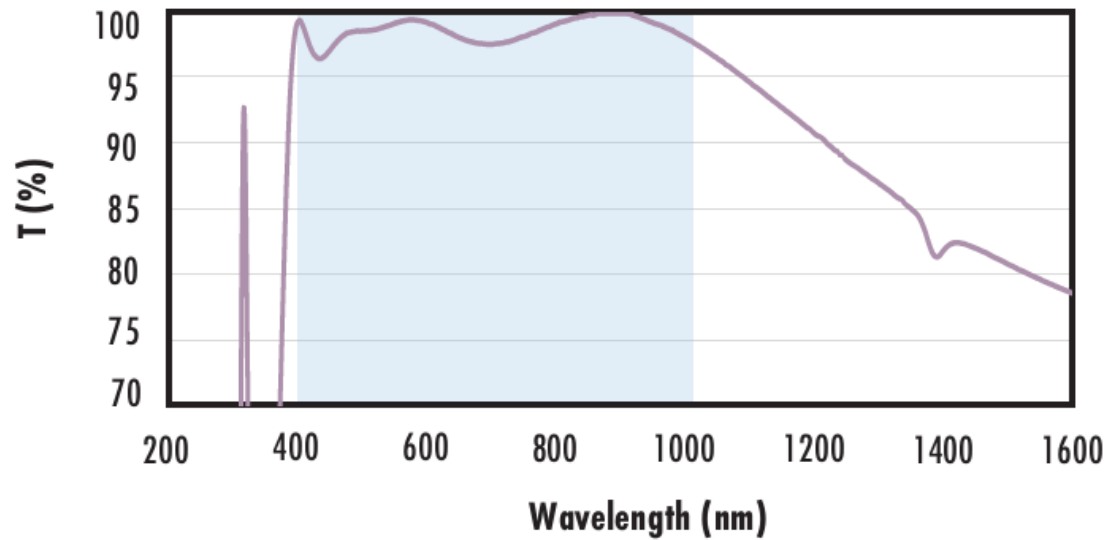
The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{avg} \leq 0.5\%$ @ 350 - 700nm

Data outside this range is not guaranteed and is for reference only.

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Fused Silica with VIS-NIR Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with VIS-NIR (400-1000nm) coating at 0° AOI.

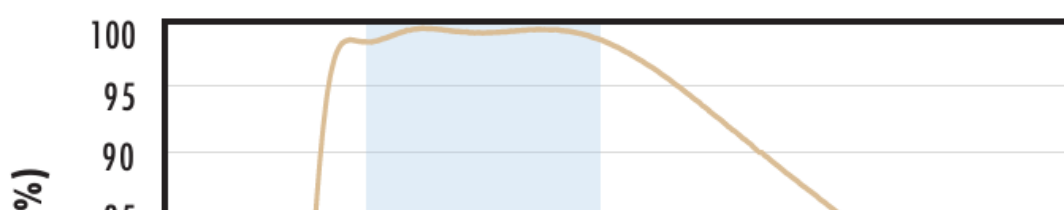
The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{abs} \leq 0.25\%$ @ 880nm
- $R_{avg} \leq 1.25\%$ @ 400 - 870nm
- $R_{avg} \leq 1.25\%$ @ 890 - 1000nm

Data outside this range is not guaranteed and is for reference only.

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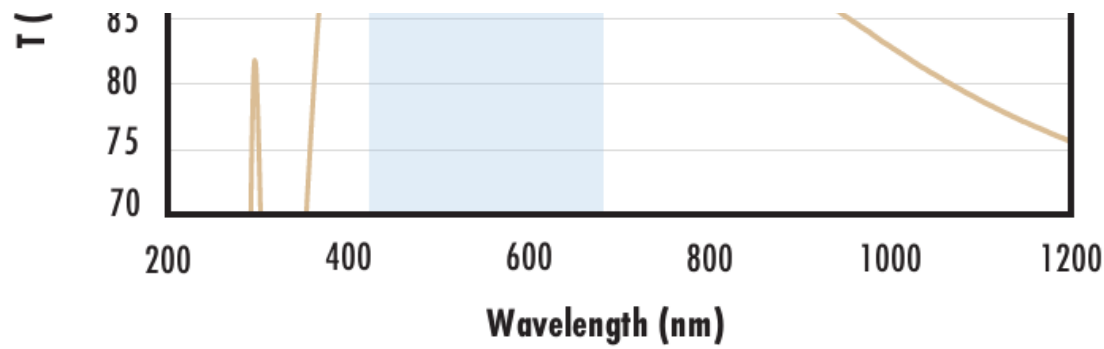
Fused Silica with VIS 0° Coating Typical Transmission



Typical transmission of a 3mm thick fused silica window with VIS 0° (425-675nm) coating at 0° AOI.

The blue shaded region indicates the coating design wavelength range, with the following specification:

- $R_{abs} \leq 0.4\%$ @ 425 - 675nm



$R_{avg} = 0.7\% @ 750 - 1100nm$
 Data outside this range is not guaranteed and is for reference only.
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**Fused Silica with YAG-BBAR Coating
 Typical Transmission**



Typical transmission of a 3mm thick fused silica window with YAG-BBAR (500-1100nm) coating at 0° AOI.
 The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 0.25\% @ 532nm$
 $R_{abs} \leq 0.25\% @ 1064nm$
 $R_{avg} \leq 1.0\% @ 500 - 1100nm$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**Fused Silica with NIR I Coating
 Typical Transmission**



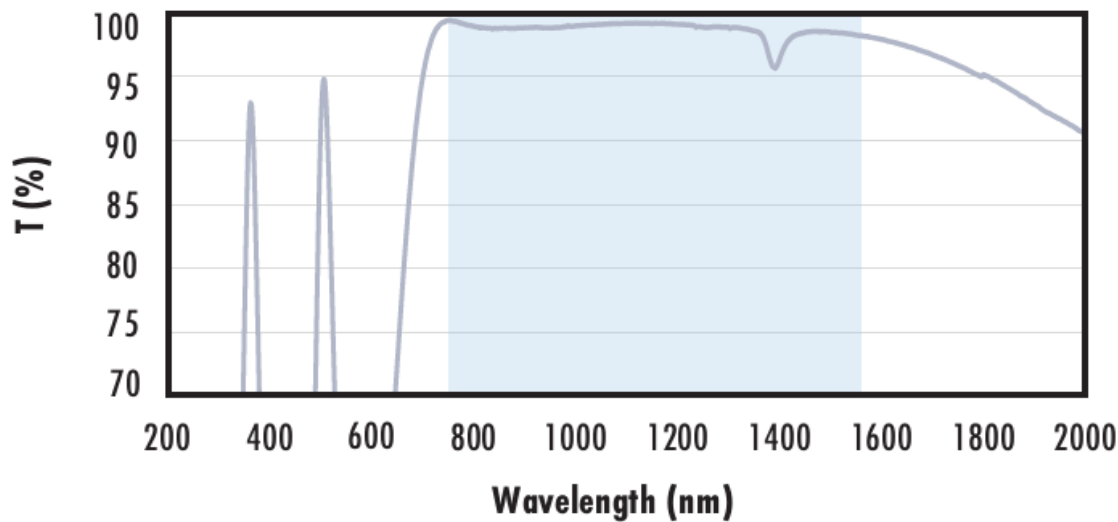
Typical transmission of a 3mm thick fused silica window with NIR I (600 - 1050nm) coating at 0° AOI.
 The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{avg} \leq 0.5\% @ 600 - 1050nm$

Data outside this range is not guaranteed and is for reference only.

[Click Here to Download Data](#)

**Fused Silica with NIR II Coating
 Typical Transmission**



Typical transmission of a 3mm thick fused silica window with NIR II (750 - 1550nm) coating at 0° AOI.
 The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 1.5\% @ 750 - 800nm$
 $R_{abs} \leq 1.0\% @ 800 - 1550nm$
 $R_{avg} \leq 0.7\% @ 750 - 1550nm$

Data outside this range is not guaranteed and is for reference only.

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Compatible Mounts