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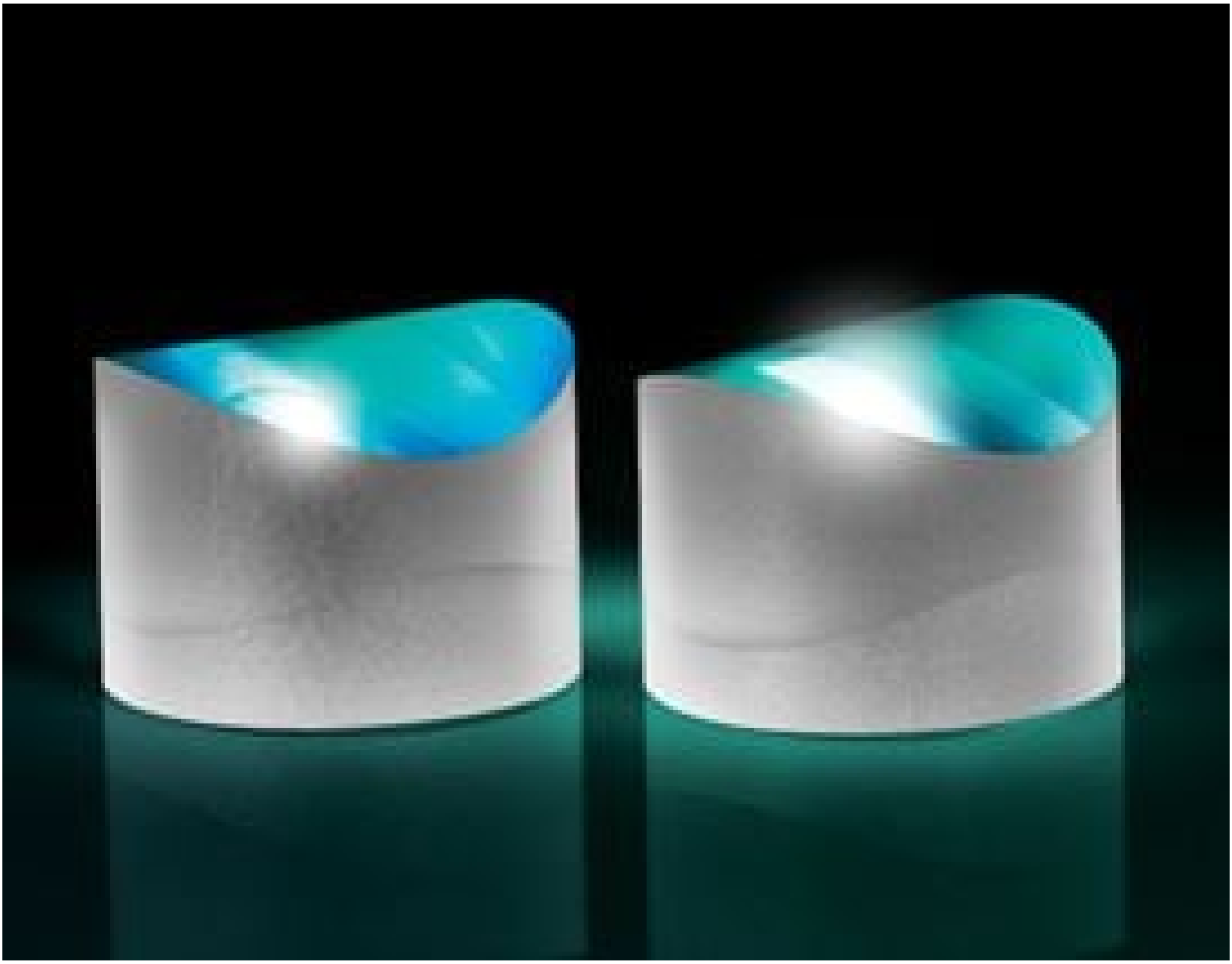
# TECHSPEC® 12.5mm Dia. x 25mm FL, Achromatic Cylinder Lens



Stock **#68-160** **20+ In Stock**

- 1 + **€367**.00

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## General

**Type:**
Cylinder Lens, Achromatic

## Physical & Mechanical Properties

**Diameter (mm):**
12.50 +0.0/-0.1

**Center Thickness Tolerance (mm):**
±0.2

**Center Thickness CT 1 (mm):**
7.0

**Center Thickness CT 2 (mm):**
2.0

## Optical Properties

**Effective Focal Length EFL (mm):**
25.00

**Substrate:**
N-BK7 / N-SF5

**f/#:**
2.00

**Numerical Aperture NA:**
0.25

**Coating:**
$MgF_2$ (400-700nm)

**Wavelength Range (nm):**
400 - 700

**Back Focal Length BFL (mm):**
18.23

**Coating Specification:**
$R_{avg}$ ≤1.75% @ 400 - 700nm

**Focal Length Tolerance (%):**
±3

**Radius $R_1$ (mm):**
10.55

**Radius $R_2$ (mm):**
-10.55

**Radius $R_3$ (mm):**
-200.14

**Surface Quality:**
40-20

## Regulatory Compliance

**RoHS 2015:**
Compliant

**Reach 219:**
Compliant

**Certificate of Conformance:**
View

# Product Details

- Focus Light in Only One Dimension
- Design Minimizes Spherical and Chromatic Aberration
- Ideal for Creating Line Profiles of Broadband Light Sources

Our TECHSPEC® Achromatic Cylinder Lenses are similar in design and function to a standard cylinder lens, but have the added benefit of reducing the spherical and chromatic aberration at the image plane. When used with a monochromatic light source (such as a laser diode), the achromatic cylinder lens will create a 50 – 90% smaller spot, depending on the numerical aperture of the lens. When used with a broadband light source, the lens will minimize chromatic aberration, yielding focused lines with less color separation, or will produce brilliant anamorphic images.

Positive cylindrical lenses are ideal for applications requiring magnification in only one dimension. While spherical lenses focus an incident ray symmetrically, cylindrical lenses act in the same manner but in only one dimension. Typical applications include line generation with laser diodes, focusing a diverging beam onto a linear detector array or using a pair of cylindrical lenses to collimate and circularize the output of a laser diode.

An achromatic cylinder lens is a type of doublet lens consisting of a positive low-index (crown) element and a negative high-index (flint) element cemented together. The two materials are designed to work together to reduce spherical and chromatic aberrations. The additional design freedom provided by using a doublet design allows for further optimization of performance. Therefore, an achromatic lens will have noticeable advantages over a comparable diameter and focal length singlet lens.

# Coating Curves

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