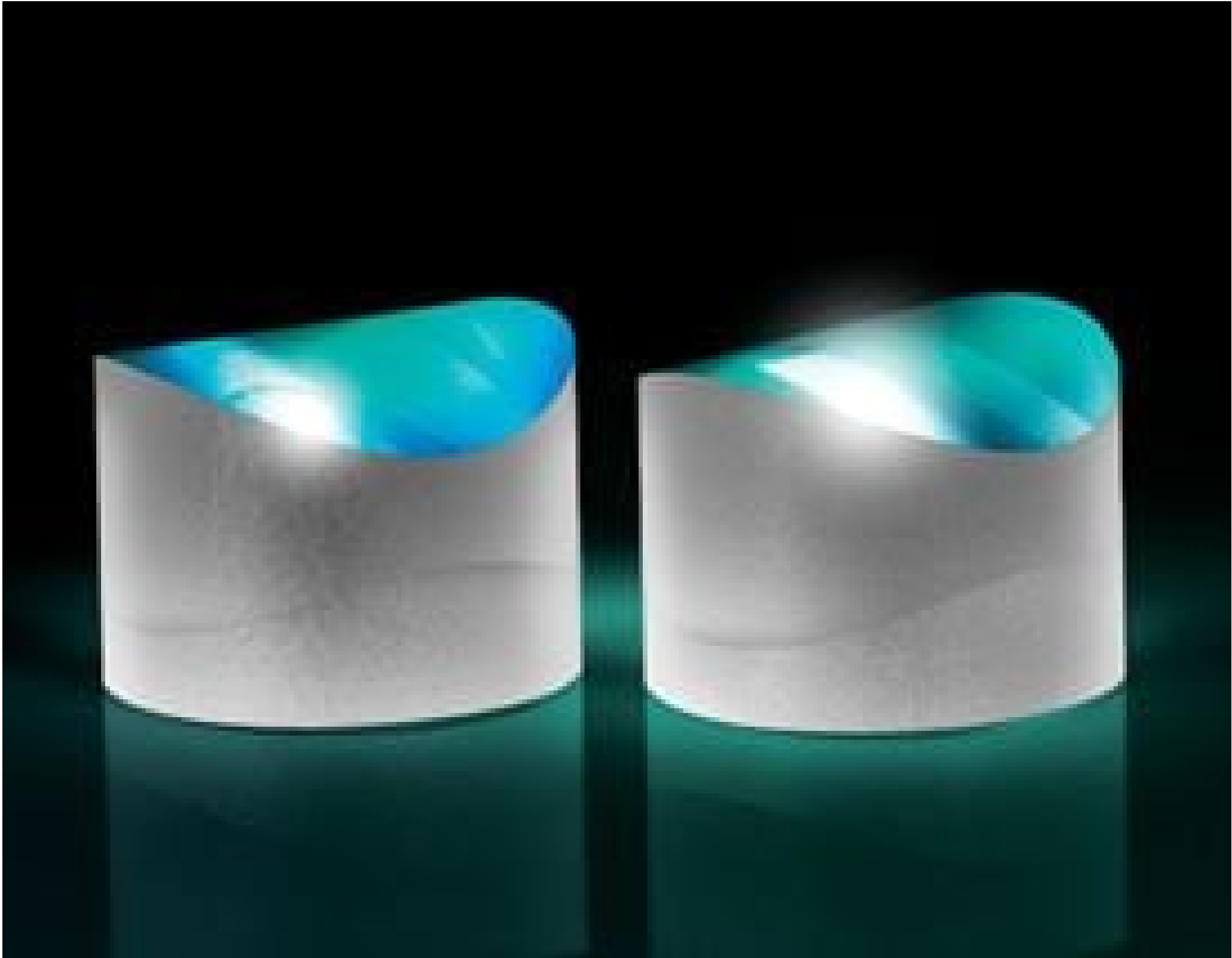


TECHSPEC[®] 12.5mm Dia. x 25mm FL, Achromatic Cylinder Lens



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1

+

£293^{.60}

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Product Downloads

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

2.0	Center Thickness CT 2 (mm):
Optical Properties	
25.00	Effective Focal Length EFL (mm):
N-BK7 / N-SF5	Substrate:
2.00	f/#:
0.25	Numerical Aperture NA:
MgF ₂ (400-700nm)	Coating:
400 - 700	Wavelength Range (nm):
18.23	Back Focal Length BFL (mm):
R _{avg} ≤1.75% @400 - 700nm	Coating Specification:
±3	Focal Length Tolerance (%):
10.55	Radius R ₁ (mm):
-10.55	Radius R ₂ (mm):
-200.14	Radius R ₃ (mm):
40-20	Surface Quality:
Regulatory Compliance	
Compliant	RoHS 2015:
Compliant	Reach 219:
View	Certificate of Conformance:

Product Details

- Focus Light in Only One Dimension
- Design Mnimizes 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