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**TECHSPEC® 40mm Dia. x 400mm FL, MgF<sub>2</sub> Coated, Double-Convex Lens**



Stock #45-299 CLEARANCE 20+ In Stock

[Other Coating Options](#)

1  C\$32<sup>.55</sup>

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Qty 1+	C\$32.55 each
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**General**

Double-Convex Lens Type:

**Physical & Mechanical Properties**

40.00 +0.0/-0.025 Diameter (mm):

<1 Centering (arcmin):

Protective as needed	<b>Bevel:</b>
8.00	<b>Center Thickness CT (mm):</b>
±0.10	<b>Center Thickness Tolerance (mm):</b>
7.03	<b>Edge Thickness ET (mm):</b>
39.00	<b>Clear Aperture CA (mm):</b>
<b>Optical Properties</b>	
397.35	<b>Back Focal Length BFL (mm):</b>
400.00	<b>Effective Focal Length EFL (mm):</b>
MgF <sub>2</sub> (400-700nm)	<b>Coating:</b>
R <sub>avg</sub> ≤ 1.75% @ 400 - 700nm	<b>Coating Specification:</b>
<b>N-BK7</b>	<b>Substrate:</b> <input type="checkbox"/>
40-20	<b>Surface Quality:</b>
1.5λ	<b>Power (P-V) @ 632.8nm:</b>
λ/4	<b>Irregularity (P-V) @ 632.8nm:</b>
412.09	<b>Radius R<sub>1</sub>=R<sub>2</sub> (mm):</b>
10	<b>f/#:</b>
587.6	<b>Focal Length Specification Wavelength (nm):</b>
±1	<b>Focal Length Tolerance (%):</b>
0.05	<b>Numerical Aperture NA:</b>
400 - 700	<b>Wavelength Range (nm):</b>
10 J/cm <sup>2</sup> @ 532nm, 10ns	<b>Damage Threshold, By Design:</b> <input type="checkbox"/>

<b>Regulatory Compliance</b>	
<b>Compliant</b>	<b>Reach 224:</b>
<b>View</b>	<b>Certificate of Conformance:</b>

## 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

- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Minimize Aberrations Including Spherical and Coma
- **UV Fused Silica DCX Lenses** Available
- Other Coating Options Available: **Uncoated**, **VIS 0°**, **NIR I**, **NIR II**, **VIS-EXT**, **VIS-NIR**, and **YAG-BBAR**

TECHSPEC® MgF<sub>2</sub> Coated Double-Convex (DCX) Lenses, also referred to as bi-convex lenses, have two positive, symmetrical faces with equal radii on both sides. These lenses are generally recommended for finite imaging applications with a conjugate ratio (ratio between object distance and image distance) between 0.2 and 5. At a conjugate ratio of 1, aberrations such as spherical aberration, chromatic aberration, coma, and distortion are minimized or cancelled due to the symmetric lens design. TECHSPEC® MgF<sub>2</sub> Coated Double-Convex Lenses are available in a variety of substrates and coating options for the visible and NIR spectra.

## Technical Information



N-BK7

### Uncoated N-BK7 Typical Transmission



Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.

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### N-BK7 with MgF<sub>2</sub> Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.

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

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

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

[Click Here to Download Data](#)

### N-BK7 with VIS-EXT Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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

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

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

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### N-BK7 with VIS-NIR Coating Typical Transmission



Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

$$R_{abs} \leq 0.25\% \text{ @ } 880\text{nm}$$

$$R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}$$

$$R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}$$

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

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Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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

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

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

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Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

$$R_{abs} \leq 0.25\% @ 532\text{nm}$$

$$R_{abs} \leq 0.25\% @ 1064\text{nm}$$

$$R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}$$

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

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Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

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

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

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Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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

$$R_{abs} \leq 1.5\% @ 750 - 800\text{nm}$$

$$R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}$$

$$R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}$$

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

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## Compatible Mounts

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