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TECHSPEC<sup>®</sup> 12.0mm Dia. x 84.0mm FL, VIS-NIR, Inked, Plano-Convex Lens



Stock **#45-489-INK** **3 In Stock**

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-

1

+

€61<sup>.00</sup>

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| Qty 1-9        | €61,00 each                   |
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Product Downloads

General

Plano-Convex Lens

Type:

Physical & Mechanical Properties

|                      |                           |
|----------------------|---------------------------|
| 12.00 ±0.025         | Diameter (mm):            |
| <1                   | Centering (arcmin):       |
| 2.50 ±0.05           | Center Thickness CT (mm): |
| 2.08                 | Edge Thickness ET (mm):   |
| 11                   | Clear Aperture CA (mm):   |
| Protective as needed | Bevel:                    |

|                                                                                                                    |                                                       |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| Optical Properties                                                                                                 |                                                       |
| 84.00 @ 587.6nm                                                                                                    | Effective Focal Length EFL (mm):                      |
| 82.39                                                                                                              | Back Focal Length BFL (mm):                           |
| VIS-NIR (400-1000nm)                                                                                               | Coating:                                              |
| R <sub>abs</sub> ≤0.25% @ 880nm<br>R <sub>avg</sub> ≤1.25% @ 400 - 870nm<br>R <sub>avg</sub> ≤1.25% @ 890 - 1000nm | Coating Specification:                                |
| N-BK7                                                                                                              | Substrate: <input type="checkbox"/>                   |
| 40-20                                                                                                              | Surface Quality:                                      |
| 1.5λ                                                                                                               | Power (P-V) @ 632.8nm:                                |
| λ/4                                                                                                                | Irregularity (P-V) @ 632.8nm:                         |
| ±1                                                                                                                 | Focal Length Tolerance (%):                           |
| 43.43                                                                                                              | Radius R <sub>1</sub> (mm):                           |
| 7.00                                                                                                               | f/#:                                                  |
| 0.07                                                                                                               | Numerical Aperture NA:                                |
| 400 - 1000                                                                                                         | Wavelength Range (nm):                                |
| 5 J/cm² @ 532nm, 10ns                                                                                              | Damage Threshold, By Design: <input type="checkbox"/> |

|                       |                             |
|-----------------------|-----------------------------|
| Regulatory Compliance |                             |
| View                  | Certificate of Conformance: |

## Product Details

- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- <0.25% Reflectance @ 880nm
- Designed for 0° Angle of Incidence
- Various PCX Coating Options: [Uncoated](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), and [YAG-BBAR](#)

TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses have a positive focal length, making them ideal for collecting and focusing light in imaging applications. They are also useful in a variety of applications involving emitters, detectors, lasers, and fiber optics. Plano-Convex lenses are ideal for a multitude of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms. TECHSPEC® VIS-NIR Coated Plano-Convex (PCX) Lenses are available in a wide variety of diameters and focal lengths. Identical designs of these PCX lenses are also offered [uncoated](#) or with broadband anti-reflective (BBAR) coatings, which include [MgF<sub>2</sub>](#), [VIS 0°](#), [NIR I](#), [NIR II](#), [VIS-EXT](#), and [YAG-BBAR](#).

These coated lenses are optimized for a wide range of optics and photonics applications, including biotech instruments such as DNA sequencers and polymerase chain reaction (PCR) testing platforms.

## Technical Information





N-BK7

### Uncoated N-BK7 Typical Transmission



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

[Click Here to Download Data](#)

### 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:

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

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

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:

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

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

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

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

[Click Here to Download Data](#)

|                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>2004006008001000120014001600</div> <div>Wavelength (nm)</div>                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <div>N-BK7 with VIS 0° Coating</div> <div>Typical Transmission</div> <div></div> <div>Wavelength (nm)</div>    | <p>Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.4\%</math> @ 425 - 675nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                          |
| <div>N-BK7 with YAG-BBAR Coating</div> <div>Typical Transmission</div> <div></div> <div>Wavelength (nm)</div> | <p>Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\%</math> @ 532nm<br/><math>R_{abs} \leq 0.25\%</math> @ 1064nm<br/><math>R_{avg} \leq 1.0\%</math> @ 500 - 1100nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>           |
| <div>N-BK7 with NIR I Coating</div> <div>Typical Transmission</div> <div></div> <div>Wavelength (nm)</div>   | <p>Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\%</math> @ 600 - 1050nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                       |
| <div>N-BK7 with NIR II Coating</div> <div>Typical Transmission</div> <div></div> <div>Wavelength (nm)</div>  | <p>Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 1.5\%</math> @ 750 - 800nm<br/><math>R_{abs} \leq 1.0\%</math> @ 800 - 1550nm<br/><math>R_{avg} \leq 0.7\%</math> @ 750 - 1550nm</p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |

Coating Curves

# Custom

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](#).

# Compatible Mounts