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TECHSPEC®

20.0mm Dia. x -50 FL, Uncoated, Plano-Concave Lens



TECHSPEC Uncoated Plano-Concave (PCV) Lenses



Stock **#45-024** 20+ In Stock

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-

1

+

£28<sup>20</sup>

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| Volume Pricing |                               |
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| Qty 1-9        | £28.20 each                   |
| Qty 10-25      | £25.60 each                   |
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Product Downloads

General

Type:Plano-Concave Lens

Physical & Mechanical Properties

|                       |                                             |
|-----------------------|---------------------------------------------|
| 20.00 +0.0/-0.025     | Diameter (mm):                              |
| Protective as needed  | Bevel:                                      |
| 3.50                  | Center Thickness CT (mm):                   |
| ±0.10                 | Center Thickness Tolerance (mm):            |
| <1                    | Centering (arcmin):                         |
| 19.00                 | Clear Aperture CA (mm):                     |
| 5.21                  | Edge Thickness ET (mm):                     |
| Optical Properties    |                                             |
| -50.00                | Effective Focal Length EFL (mm):            |
| N-BK7                 | Substrate: □                                |
| 2.5                   | f/#:                                        |
| 0.20                  | Numerical Aperture NA:                      |
| Uncoated              | Coating:                                    |
| 350 - 2200            | Wavelength Range (nm):                      |
| -52.31                | Back Focal Length BFL (mm):                 |
| 587.6                 | Focal Length Specification Wavelength (nm): |
| ±1                    | Focal Length Tolerance (%):                 |
| -25.84                | Radius R <sub>1</sub> (mm):                 |
| 40-20                 | Surface Quality:                            |
| 1.5λ                  | Power (P-V) @ 632.8nm:                      |
| λ/4                   | Irregularity (P-V) @ 632.8nm:               |
| Regulatory Compliance |                                             |
| Compliant             | RoHS 2015:                                  |
| View                  | Certificate of Conformance:                 |
| Compliant             | Reach 240:                                  |

## Product Details

- Wavelength Range of 400-2200nm
- Precision Diameter and Centration Tolerances Allow for Easy OEM Integration
- Wide Variety of Diameters, Focal Lengths, and Coatings
- Anti-Reflection Coating Options: [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

TECHSPEC® Uncoated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® Uncoated Plano-Concave (PCV) Lenses offer optimal performance in the 350nm to 2200nm range. These lenses are also available [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), or with [NIR II](#) AR coating options.

## 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:

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

[Click Here to Download Data](#)

N-BK7 with VIS-NIR Coating Typical Transmission



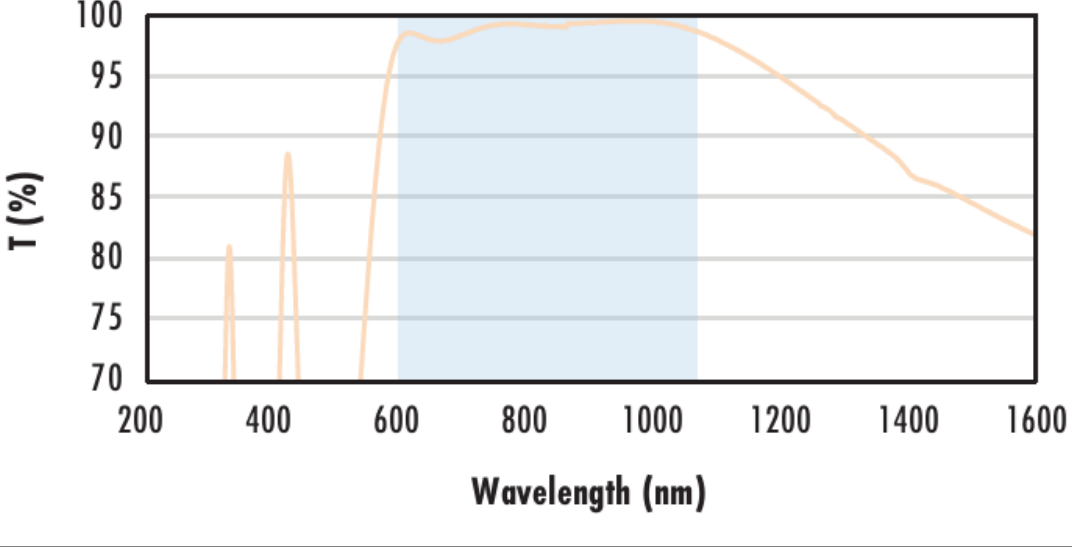
Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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.

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|                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p data-bbox="596 261 974 350"><b>N-BK7 with VIS 0° Coating</b><br/><b>Typical Transmission</b></p>       | <p data-bbox="1339 394 1843 445">Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p data-bbox="1339 457 1850 507">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1478 519 1711 543"><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></p> <p data-bbox="1339 555 1839 605">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1474 617 1711 641"><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                        |
| <p data-bbox="569 857 1037 946"><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>   | <p data-bbox="1339 985 1843 1035">Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p data-bbox="1339 1047 1850 1098">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1493 1110 1688 1133"><math>R_{abs} \leq 0.25\% @ 532\text{nm}</math></p> <p data-bbox="1493 1136 1694 1160"><math>R_{abs} \leq 0.25\% @ 1064\text{nm}</math></p> <p data-bbox="1472 1163 1715 1187"><math>R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}</math></p> <p data-bbox="1339 1199 1839 1249">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1474 1261 1711 1285"><a href="#">Click Here to Download Data</a></p>            |
| <p data-bbox="617 1484 1008 1573"><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>   | <p data-bbox="1339 1647 1843 1697">Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p data-bbox="1339 1709 1850 1760">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1472 1771 1715 1795"><math>R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}</math></p> <p data-bbox="1339 1807 1839 1857">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1474 1869 1711 1893"><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                           |
| <p data-bbox="606 2133 1016 2223"><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1339 2255 1843 2306">Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.</p> <p data-bbox="1339 2318 1850 2368">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p data-bbox="1474 2380 1703 2404"><math>R_{abs} \leq 1.5\% @ 750 - 800\text{nm}</math></p> <p data-bbox="1474 2407 1711 2430"><math>R_{abs} \leq 1.0\% @ 800 - 1550\text{nm}</math></p> <p data-bbox="1472 2433 1713 2457"><math>R_{avg} \leq 0.7\% @ 750 - 1550\text{nm}</math></p> <p data-bbox="1339 2490 1839 2540">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1474 2552 1711 2576"><a href="#">Click Here to Download Data</a></p> |

# 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

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