

TECHSPEC<sup>®</sup> 12mm Diameter x -48 FL, VIS-NIR, Inked, Plano-Concave Lens



TECHSPEC VIS-NIR Coated Plano-Concave (PCV) Lenses



Stock **#45-918-INK** [CONTACT US](#)

☐ [Other Coating Options](#)

-1+

C\$86<sup>10</sup>

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| Volume Pricing |                               |
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| Qty 1-9        | C\$86.10 each                 |
| Qty 10-25      | C\$77.70 each                 |
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General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):

|                                                                                                                    |                                                       |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 12.00 ±0.025                                                                                                       |                                                       |
| Protective as needed                                                                                               | Bevel:                                                |
| 3.50                                                                                                               | Center Thickness CT (mm):                             |
| ±0.05                                                                                                              | Center Thickness Tolerance (mm):                      |
| <1                                                                                                                 | Centering (arcmin):                                   |
| 11.00                                                                                                              | Clear Aperture CA (mm):                               |
| 4.12                                                                                                               | Edge Thickness ET (mm):                               |
| Optical Properties                                                                                                 |                                                       |
| -48.00                                                                                                             | Effective Focal Length EFL (mm):                      |
| N-BK7                                                                                                              | Substrate: <input type="checkbox"/>                   |
| 4.00                                                                                                               | f/#:                                                  |
| 0.13                                                                                                               | Numerical Aperture NA:                                |
| VIS-NIR (400-1000nm)                                                                                               | Coating:                                              |
| 400 - 1000                                                                                                         | Wavelength Range (nm):                                |
| -50.31                                                                                                             | Back Focal Length BFL (mm):                           |
| 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:                                |
| 587.6                                                                                                              | Focal Length Specification Wavelength (nm):           |
| ±1                                                                                                                 | Focal Length Tolerance (%):                           |
| -24.81                                                                                                             | Radius R <sub>1</sub> (mm):                           |
| 40-20                                                                                                              | Surface Quality:                                      |
| 5 J/cm² @ 532nm, 10ns                                                                                              | Damage Threshold, By Design: <input type="checkbox"/> |
| 1.5λ                                                                                                               | Power (P-V) @ 632.8nm:                                |
| λ/4                                                                                                                | Irregularity (P-V) @ 632.8nm:                         |
| Regulatory Compliance                                                                                              |                                                       |
| View                                                                                                               | Certificate of Conformance:                           |

## 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

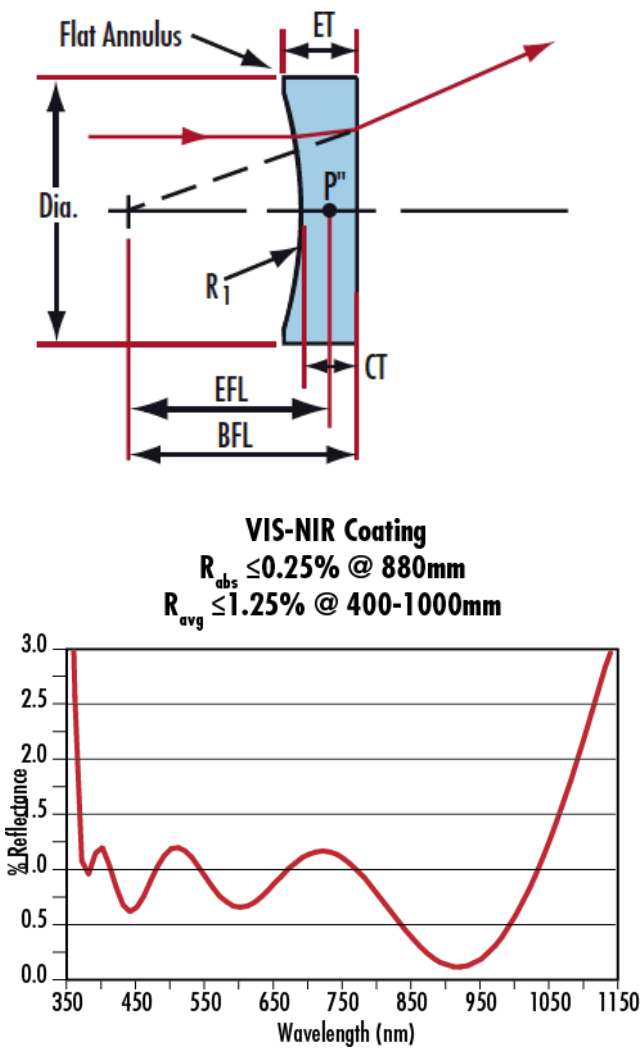
Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

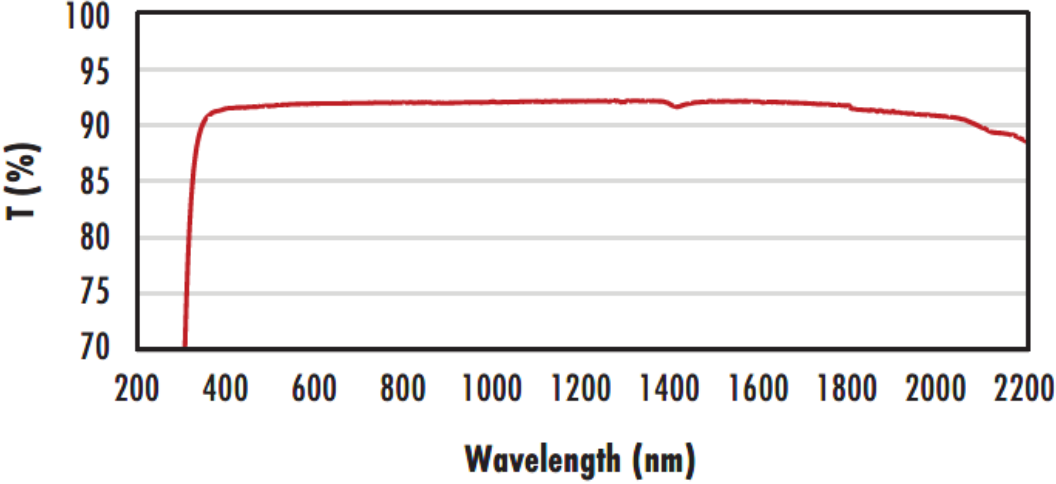
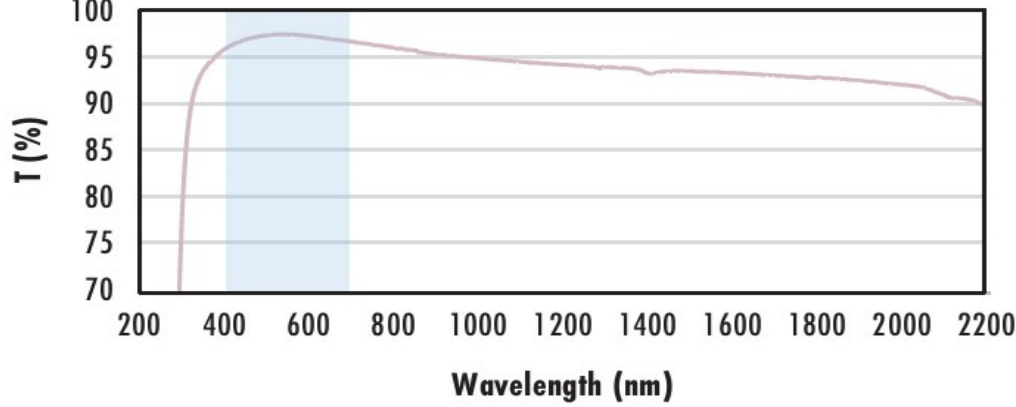
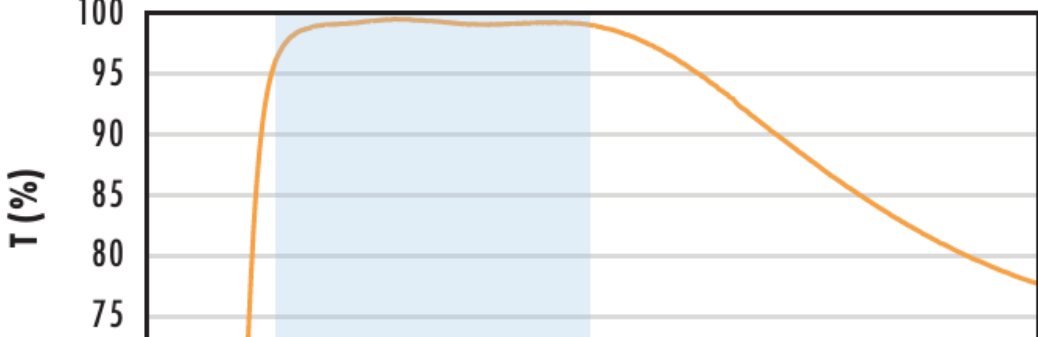
## Product Details

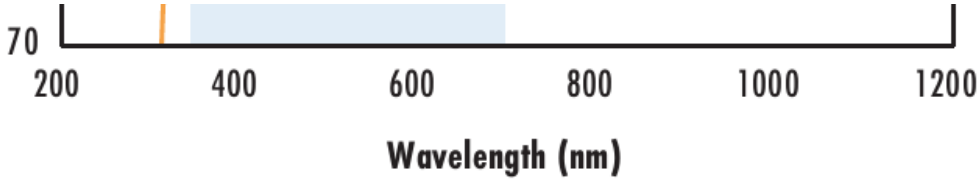
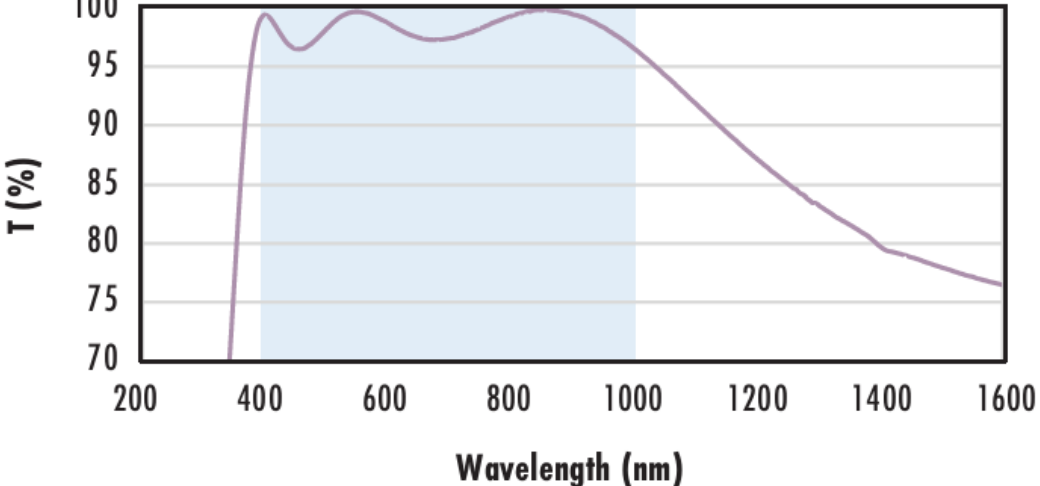
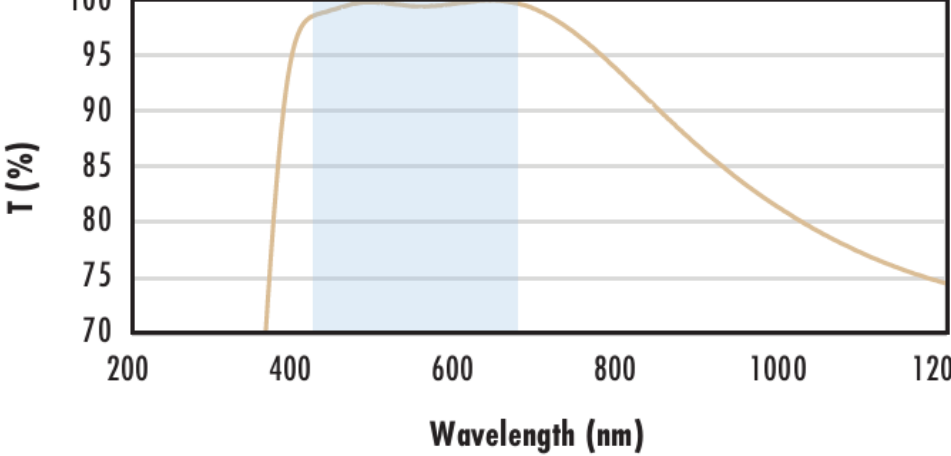
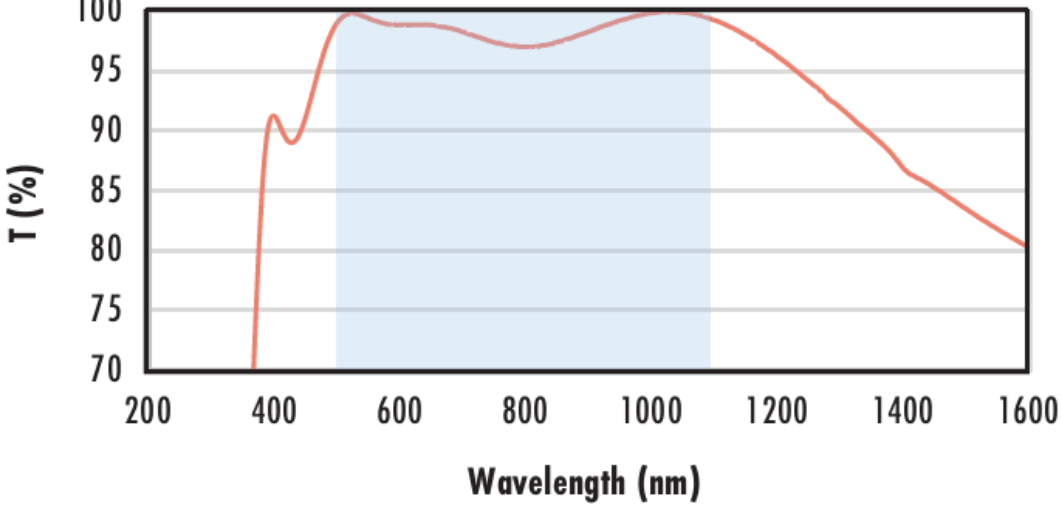
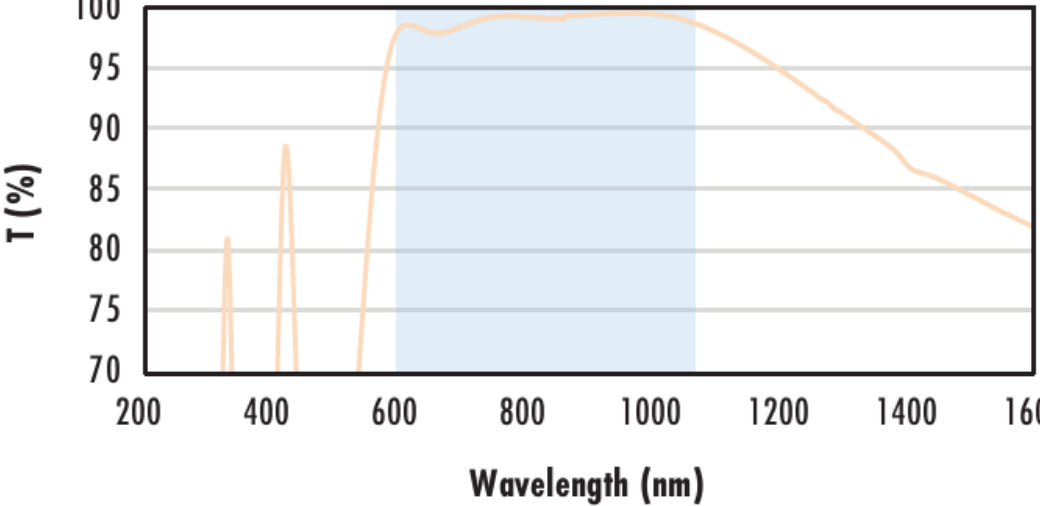
- AR Coated to Provide <1.25% Reflectance per Surface for 400 - 1000nm
- <0.25% Reflectance @ 880nm
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

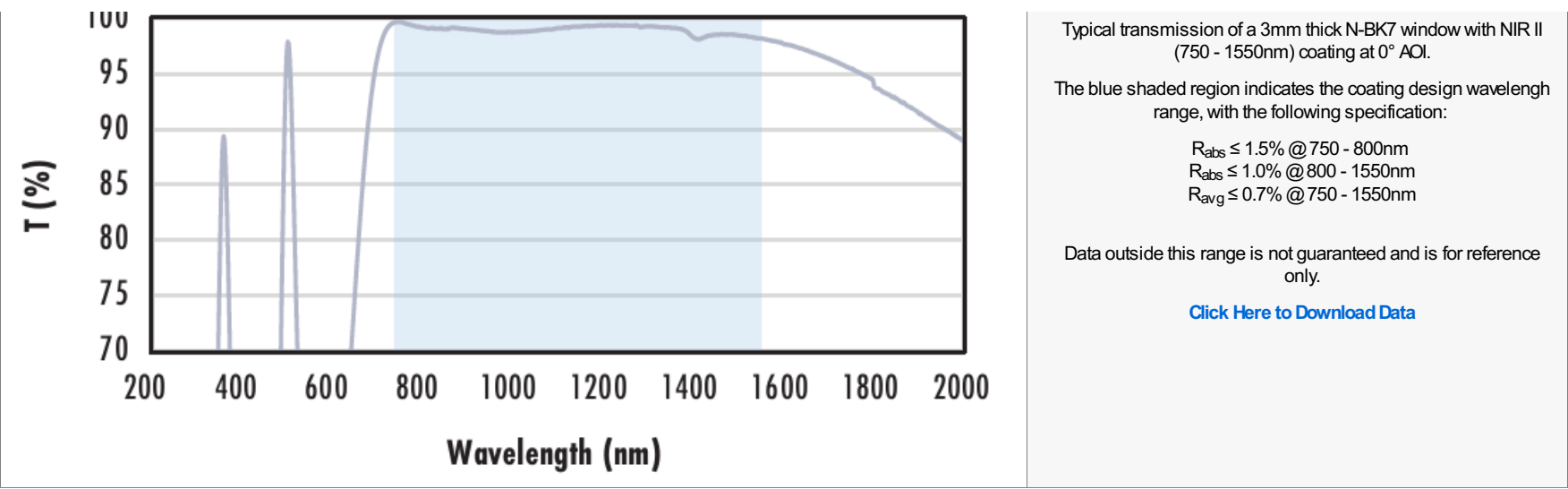
TECHSPEC® VIS-NIR Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® VIS-NIR Coated Plano-Concave (PCV) Lenses are optimized for transmission (>99%) in the near-infrared. These lenses are also available [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [YAG-BBAR](#), [NIR I](#), or with [NIR II](#) AR coating options.

Technical Information



| N-BK7                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><p><b>Uncoated N-BK7 Typical Transmission</b></p></div>                     | <p>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                                                                                       |
| <div><p><b>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</b></p></div> | <p>Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) 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 1.75\% @ 400 - 700nm</math> (N-BK7)</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><p><b>N-BK7 with VIS-EXT Coating Typical Transmission</b></p></div>         | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) 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\% @ 350 - 700nm</math></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>                  |

|                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p data-bbox="583 290 1008 379"><b>N-BK7 with VIS-NIR Coating</b><br/><b>Typical Transmission</b></p>       | <p data-bbox="1331 409 1850 457">Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p data-bbox="1331 471 1850 519">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1467 534 1713 605"><p><math>R_{abs} \leq 0.25\% \text{ @ } 880\text{nm}</math></p><p><math>R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}</math></p><p><math>R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}</math></p></div> <p data-bbox="1341 644 1839 691">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 706 1709 724"><a href="#">Click Here to Download Data</a></p>      |
| <p data-bbox="594 914 976 1003"><b>N-BK7 with VIS 0° Coating</b><br/><b>Typical Transmission</b></p>      | <p data-bbox="1337 1047 1845 1095">Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p data-bbox="1331 1110 1850 1157">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1476 1172 1705 1190"><p><math>R_{avg} \leq 0.4\% \text{ @ } 425 - 675\text{nm}</math></p></div> <p data-bbox="1341 1207 1839 1255">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 1270 1709 1288"><a href="#">Click Here to Download Data</a></p>                                                                                                                                    |
| <p data-bbox="567 1507 1039 1596"><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>  | <p data-bbox="1341 1641 1845 1688">Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p data-bbox="1331 1703 1850 1751">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1467 1765 1713 1837"><p><math>R_{abs} \leq 0.25\% \text{ @ } 532\text{nm}</math></p><p><math>R_{abs} \leq 0.25\% \text{ @ } 1064\text{nm}</math></p><p><math>R_{avg} \leq 1.0\% \text{ @ } 500 - 1100\text{nm}</math></p></div> <p data-bbox="1341 1846 1839 1893">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 1908 1709 1926"><a href="#">Click Here to Download Data</a></p> |
| <p data-bbox="615 2136 1008 2226"><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>     | <p data-bbox="1341 2300 1845 2347">Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p data-bbox="1331 2362 1850 2410">The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <div data-bbox="1472 2424 1709 2442"><p><math>R_{avg} \leq 0.5\% \text{ @ } 600 - 1050\text{nm}</math></p></div> <p data-bbox="1341 2460 1839 2507">Data outside this range is not guaranteed and is for reference only.</p> <p data-bbox="1472 2522 1709 2540"><a href="#">Click Here to Download Data</a></p>                                                                                                                                 |
| <p data-bbox="604 2781 1018 2870"><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p>                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



Coating Curves

Compatible Mounts