

TECHSPEC<sup>®</sup> 12.0mm Diameter x -48 FL, NIR I Coated, Plano-Concave Lens



Stock **#49-530** 20+ In Stock

[Other Coating Options](#)

-

1

+

C\$67<sup>.55</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | C\$67.55 each                 |
| Qty 10-25      | C\$60.55 each                 |
| Qty 26-49      | C\$53.90 each                 |
| Need More?     | <a href="#">Request Quote</a> |

Product Downloads

General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):

12.00 +0.0/-0.025

|                                                       |                                       |
|-------------------------------------------------------|---------------------------------------|
| Protective as needed                                  | Bevel:                                |
| Center Thickness CT (mm):                             | 3.50                                  |
| Center Thickness Tolerance (mm):                      | ±0.05                                 |
| Centering (arcmin):                                   | <1                                    |
| Clear Aperture CA (mm):                               | 11.00                                 |
| Edge Thickness ET (mm):                               | 4.12                                  |
| Optical Properties                                    |                                       |
| Effective Focal Length EFL (mm):                      | -48.00                                |
| Substrate: <input type="checkbox"/>                   | N-BK7                                 |
| f/#:                                                  | 4                                     |
| Numerical Aperture NA:                                | 0.13                                  |
| Coating:                                              | NIR I (600-1050nm)                    |
| Wavelength Range (nm):                                | 600 - 1050                            |
| Back Focal Length BFL (mm):                           | -50.31                                |
| Coating Specification:                                | R <sub>avg</sub> ≤0.5% @ 600 - 1050nm |
| Focal Length Specification Wavelength (nm):           | 587.6                                 |
| Focal Length Tolerance (%):                           | ±1                                    |
| Radius R <sub>1</sub> (mm):                           | -24.81                                |
| Surface Quality:                                      | 40-20                                 |
| Damage Threshold, By Design: <input type="checkbox"/> | 7 J/cm <sup>2</sup> @ 1064nm, 10ns    |
| Power (P-V) @ 632.8nm:                                | 1.5λ                                  |
| Irregularity (P-V) @ 632.8nm:                         | λ/4                                   |
| Regulatory Compliance                                 |                                       |
| RoHS 2015:                                            | Compliant                             |
| Certificate of Conformance:                           | View                                  |
| Reach 235:                                            | Compliant                             |

## 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

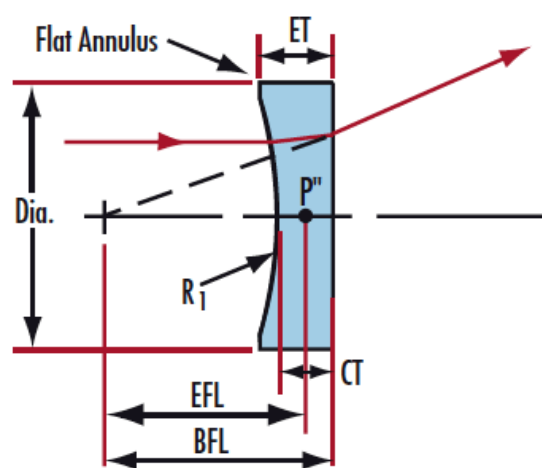
Learn more about our [custom manufacturing capabilities](#) or submit an inquiry [here](#).

## Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), and [NIR II](#)

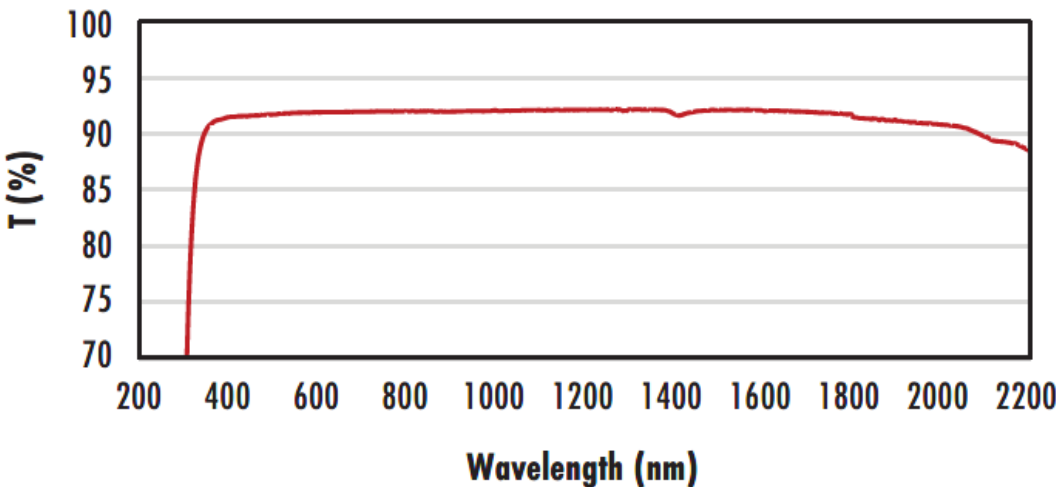
TECHSPEC® NIR I Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC® NIR I Coated Plano-Concave (PCV) Lenses offer optimal performance in the 600nm to 1050nm range. These lenses are also available [Uncoated](#), [VIS-EXT](#), [MgF<sub>2</sub>](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), or with [NIR II](#) AR coating options.

Technical Information



N-BK7

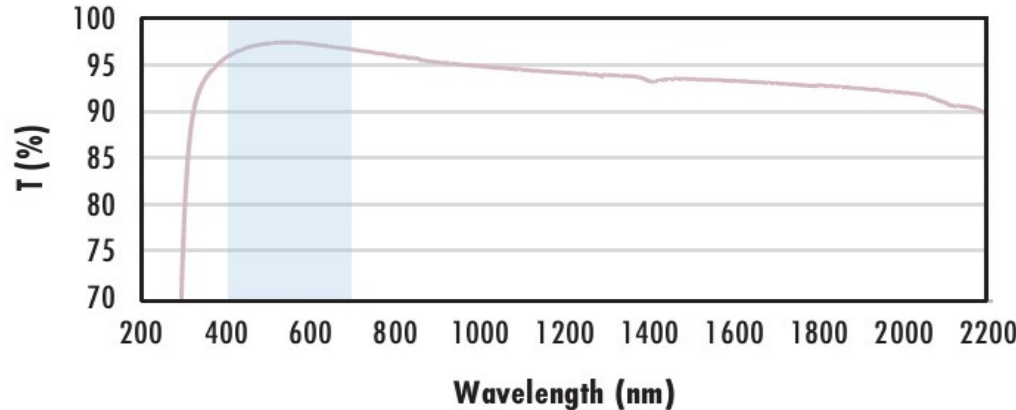
Uncoated N-BK7 Typical Transmission



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

[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.

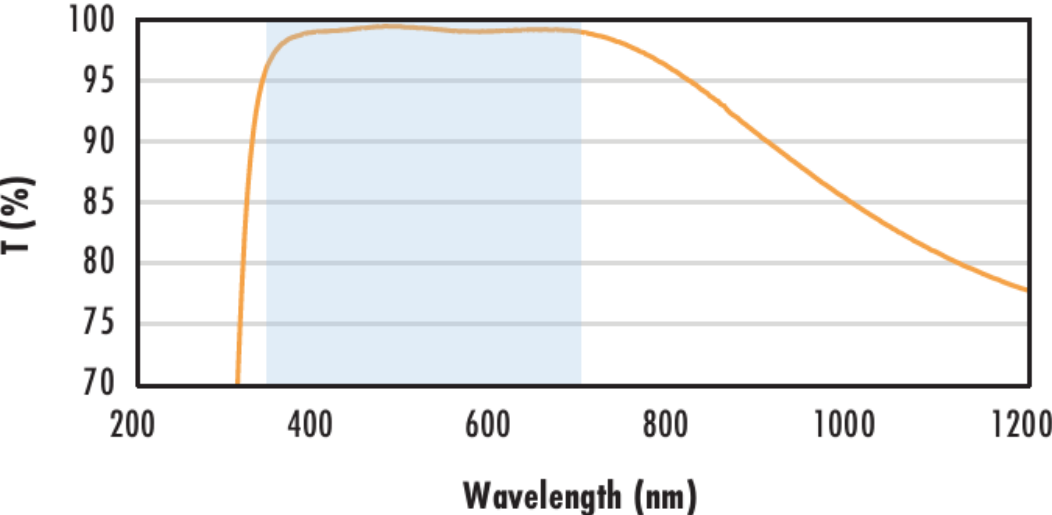
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

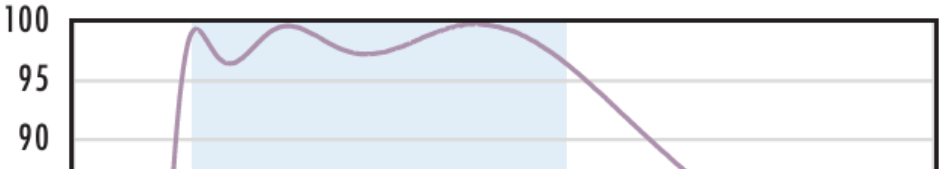
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

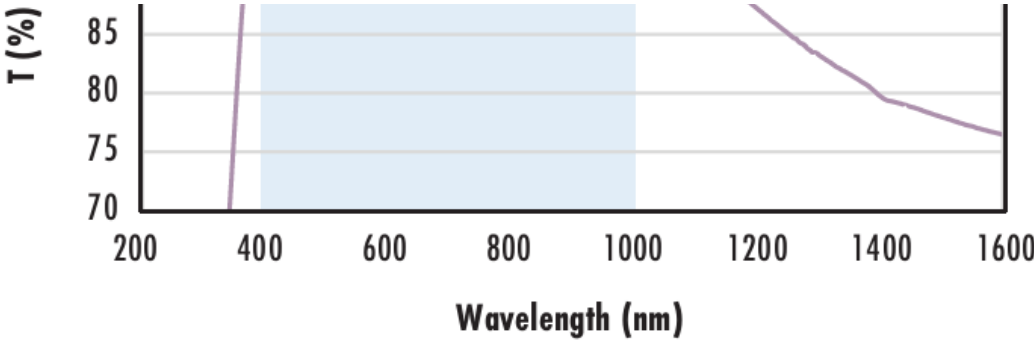
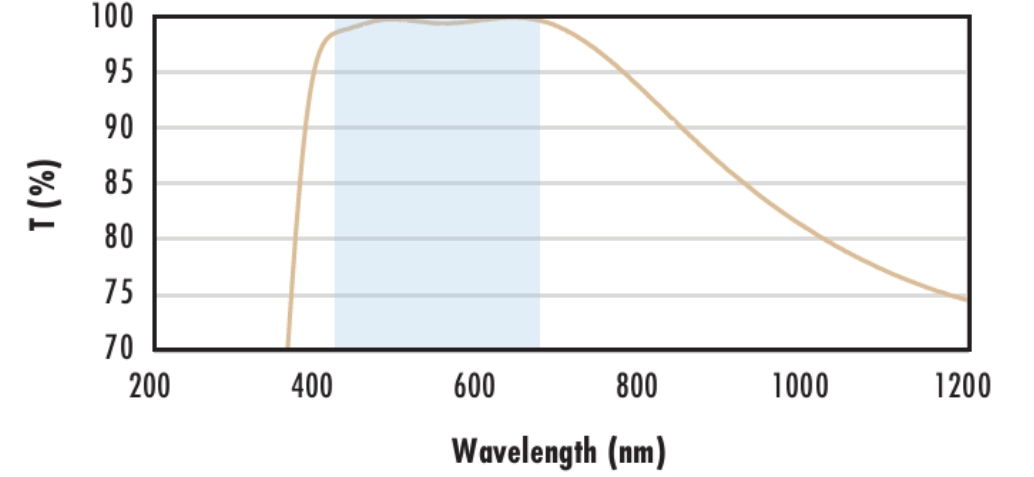
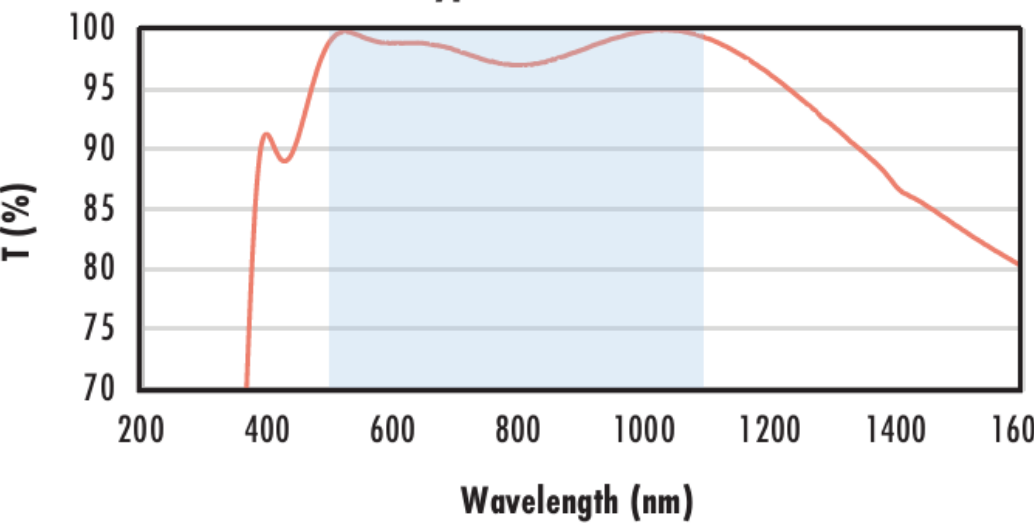
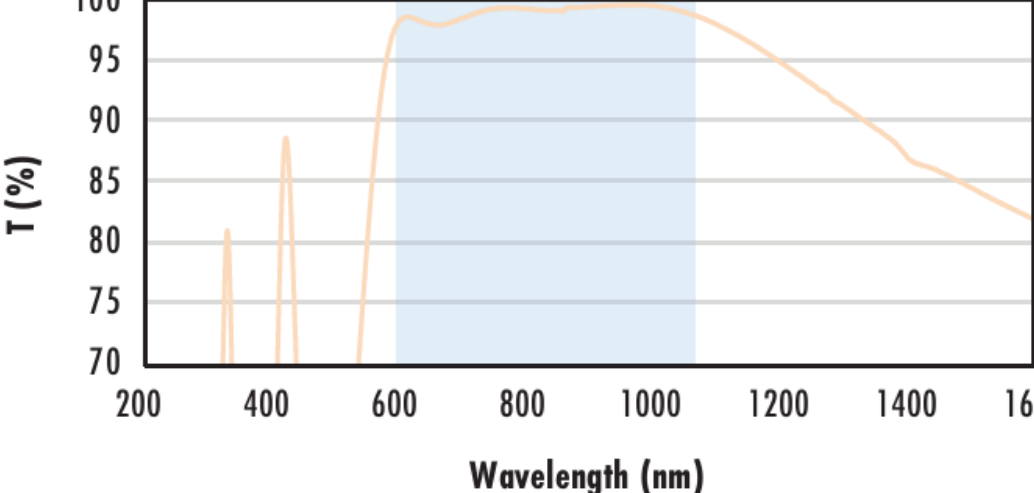
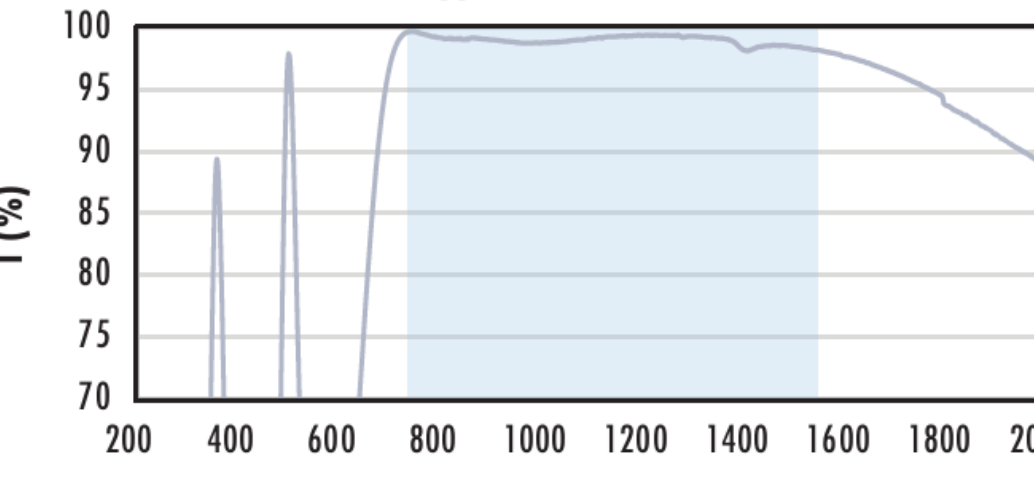
N-BK7 with VIS-NIR Coating  
Typical Transmission



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:

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

|                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>N-BK7 with VIS 0° Coating</b><br/><b>Typical Transmission</b></p>    | <p><math>R_{\text{abs}} \leq 0.25\% @ 400\text{nm}</math><br/><math>R_{\text{avg}} \leq 1.25\% @ 400 - 870\text{nm}</math><br/><math>R_{\text{avg}} \leq 1.25\% @ 890 - 1000\text{nm}</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><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p> | <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_{\text{avg}} \leq 0.4\% @ 425 - 675\text{nm}</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><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>  | <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_{\text{abs}} \leq 0.25\% @ 532\text{nm}</math><br/><math>R_{\text{abs}} \leq 0.25\% @ 1064\text{nm}</math><br/><math>R_{\text{avg}} \leq 1.0\% @ 500 - 1100\text{nm}</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><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p> | <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_{\text{avg}} \leq 0.5\% @ 600 - 1050\text{nm}</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><b>N-BK7 with NIR II Coating</b><br/><b>Typical Transmission</b></p> | <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_{\text{abs}} \leq 1.5\% @ 750 - 800\text{nm}</math><br/><math>R_{\text{abs}} \leq 1.0\% @ 800 - 1550\text{nm}</math><br/><math>R_{\text{avg}} \leq 0.7\% @ 750 - 1550\text{nm}</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> |

## Compatible Mounts

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