See all 49 Products in Family

# TECHSPEC® 20.0mm Diameter x -100 FL, NIR I Coated, Plano-Concave Lens

Stock **#22-247** **3 In Stock**

Other Coating Options

- 1 + **€49**,75

**ADD TO CART**

| Volume Pricing | |
|---|---|
| Qty 1-9 | **€49,75** each |
| Qty 10-25 | **€44,75** each |
| Qty 26-49 | **€39,75** each |
| Need More? | Request Quote |

Prices shown are exclusive of VAT/local taxes

Product Downloads

## General

**Type:**

Plano-Concave Lens

## Physical & Mechanical Properties

**Diameter (mm):**
20.00 +0.0/-0.025

**Bevel:**
Protective as needed

**Center Thickness CT (mm):**
3.50

**Center Thickness Tolerance (mm):**
±0.10

**Centering (arcmin):**
<1

**Clear Aperture CA (mm):**
19.00

**Edge Thickness ET (mm):**
4.42

## Optical Properties

**Effective Focal Length EFL (mm):**
-100.00

**Substrate:**
N-BK7

**f/#:**
4.00

**Numerical Aperture NA:**
0.13

**Coating:**
NIR I (600-1050nm)

**Wavelength Range (nm):**
600 - 1050

**Back Focal Length BFL (mm):**
-102.88

**Coating Specification:**
$R_{avg}$ ≤0.5% @ 600 - 1050nm

**Focal Length Specification Wavelength (nm):**
587.6

**Focal Length Tolerance (%):**
±1

**Radius $R_1$ (mm):**
-51.68

**Surface Quality:**
40-20

**Damage Threshold, By Design:**
7 J/cm$^2$ @ 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.

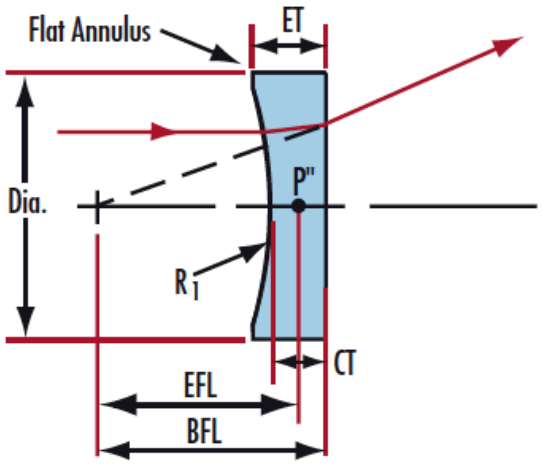
# Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Designed for 0° Angle of Incidence
- Various Coating Options: Uncoated, VIS-EXT, $MgF_2$, VIS 0°, VIS-NIR, YAG-BBAR, and NIR II

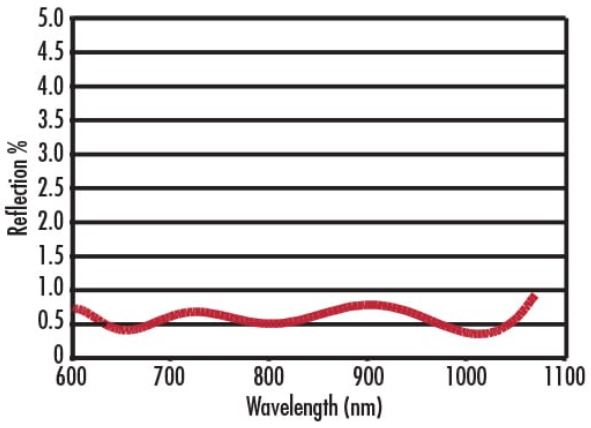
TECHSPEC® NIR I Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their 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**, **$MgF_2$**, **VIS 0°**, **VIS-NIR**, **YAG-BBAR**, or with **NIR II** AR coating options.

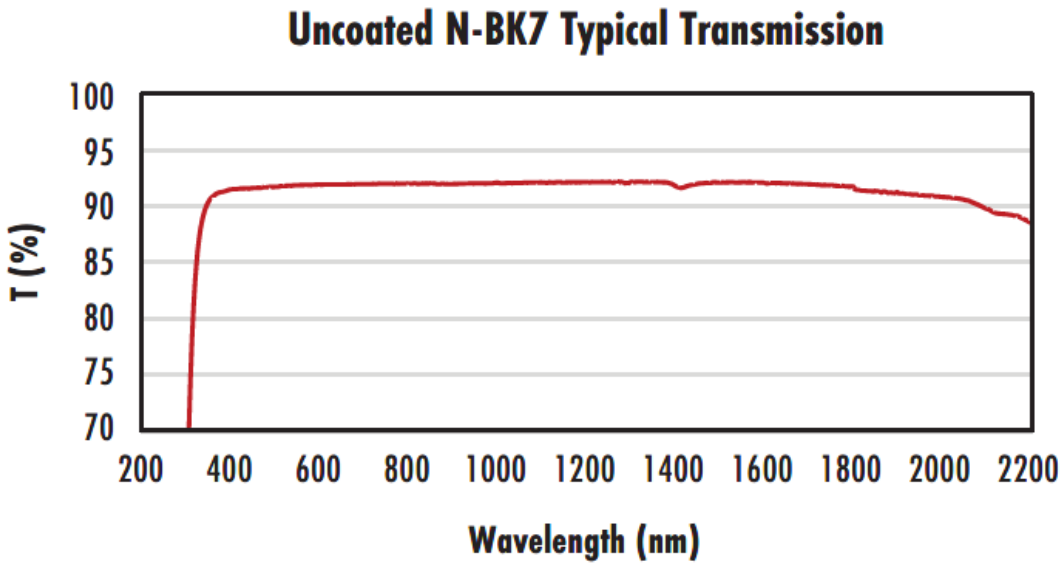
## Technical Information




**NIR I Coating**
**$R_{avg}$ ≤0.5% @ 600 - 1050nm**
**Typ. Energy Density Limit: 7 J/cm² @ 1064nm, 10ns**

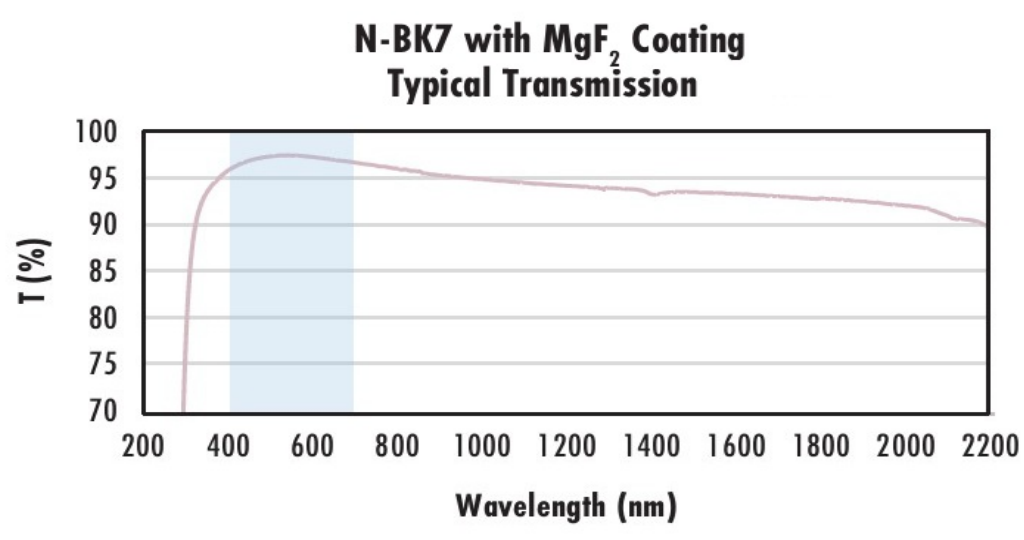



**N-BK7**




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

**Click Here to Download Data**



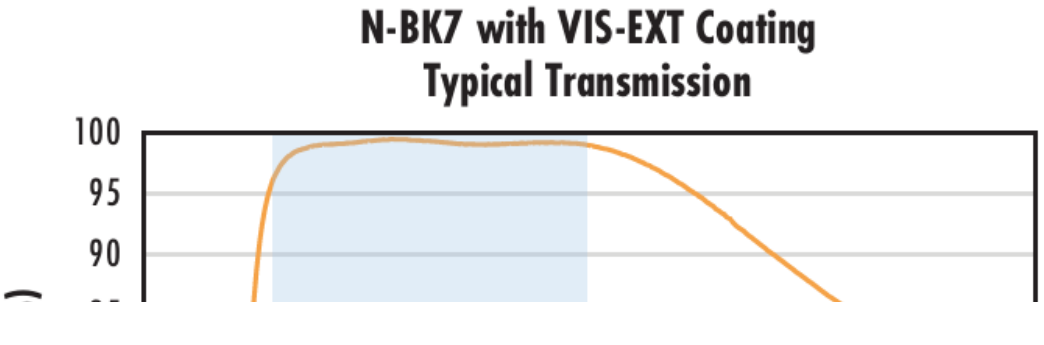

Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.

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

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

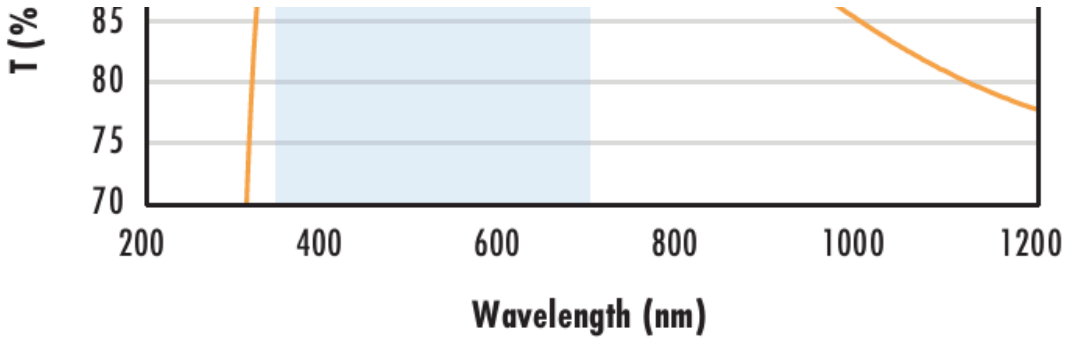
Data outside this range is not guaranteed and is for reference only.

**Click Here to Download Data**




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

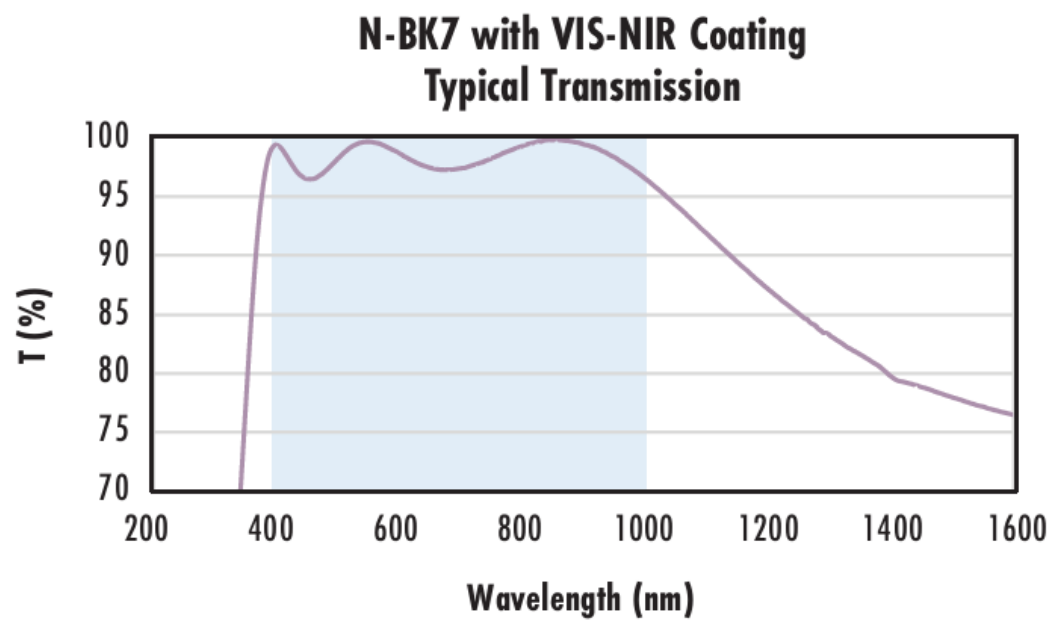
The blue shaded region indicates the coating design wavelengh range, with the following specification:




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

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

**Click Here to Download Data**



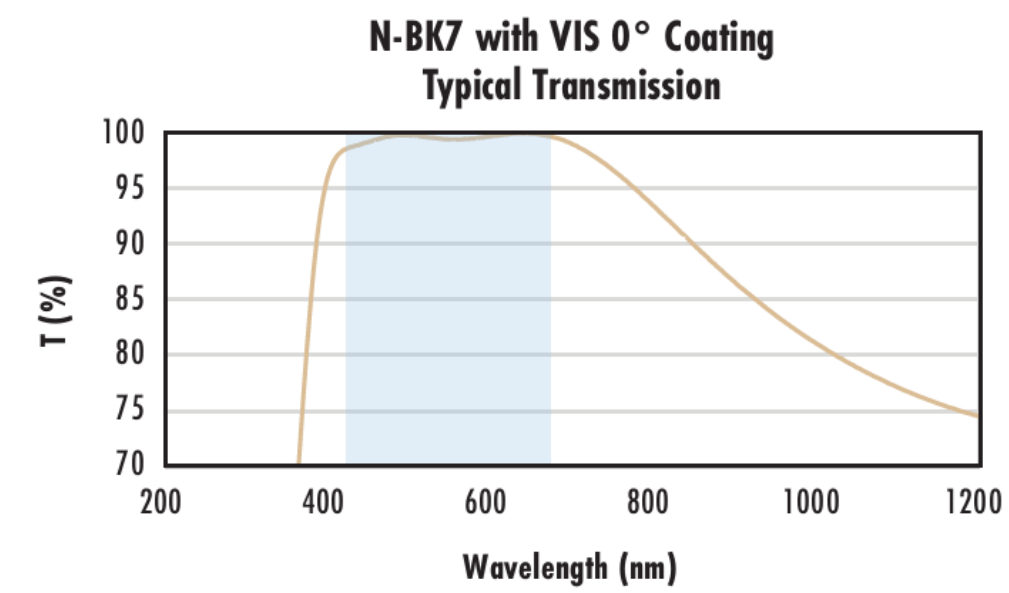

Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.

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

$R_{abs} \leq 0.25\%$ @ 880nm
$R_{avg} \leq 1.25\%$ @ 400 - 870nm
$R_{avg} \leq 1.25\%$ @ 890 - 1000nm

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

**Click Here to Download Data**



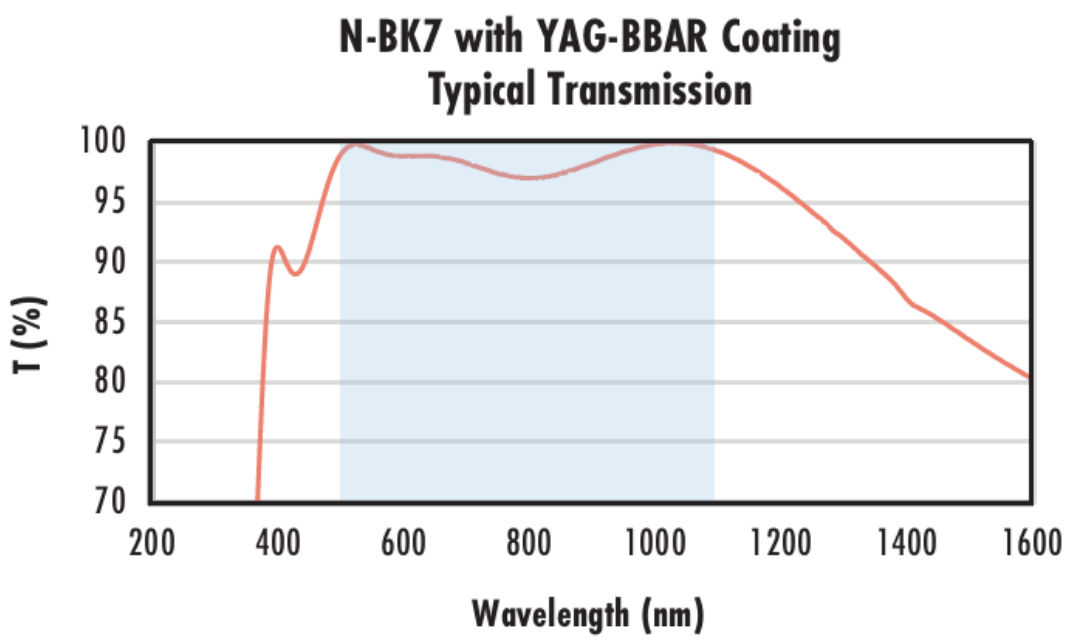

Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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

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

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

**Click Here to Download Data**



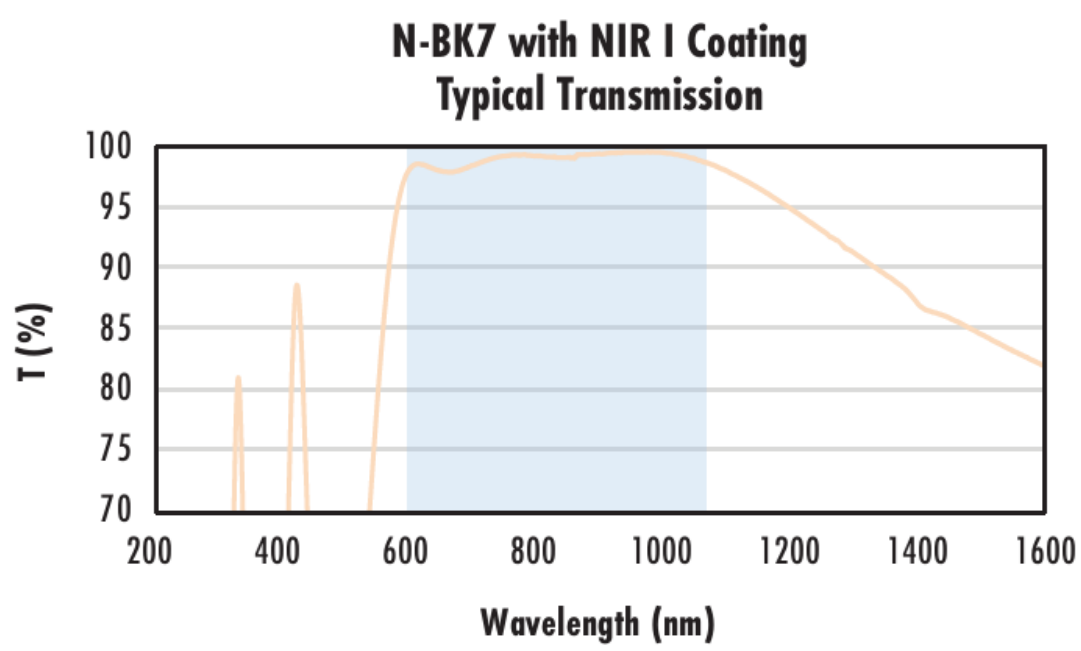

Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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

$R_{abs} \leq 0.25\%$ @ 532nm
$R_{abs} \leq 0.25\%$ @ 1064nm
$R_{avg} \leq 1.0\%$ @ 500 - 1100nm

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

**Click Here to Download Data**



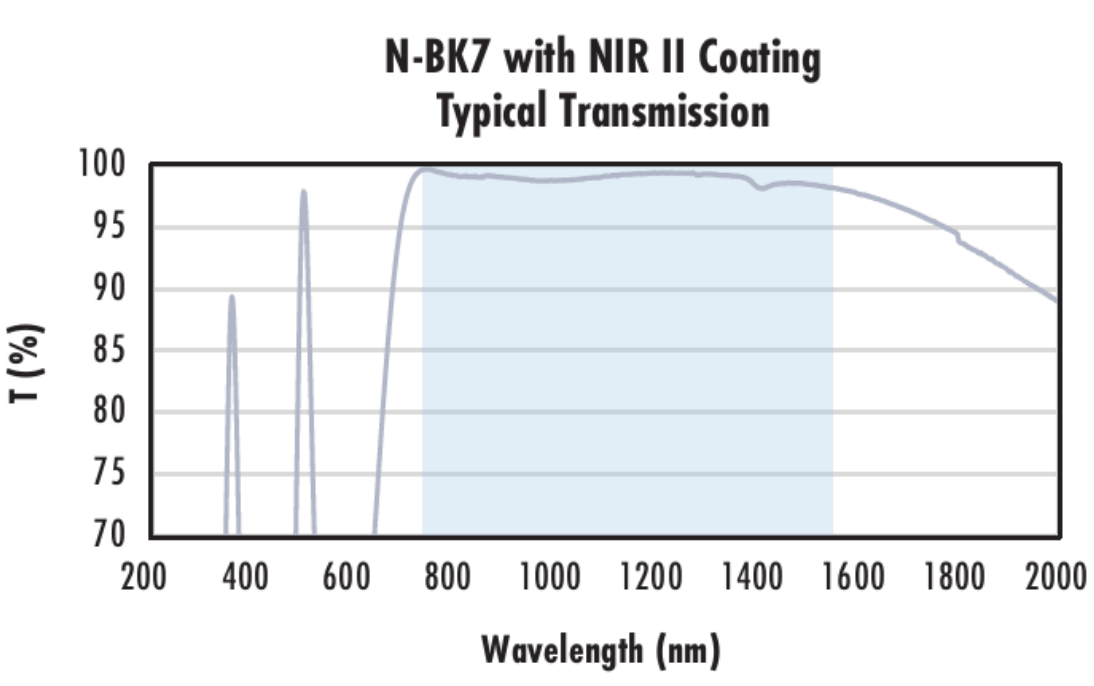

Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

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

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

**Click Here to Download Data**




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 wavelengh range, with the following specification:

$R_{abs} \leq 1.5\%$ @ 750 - 800nm
$R_{abs} \leq 1.0\%$ @ 800 - 1550nm
$R_{avg} \leq 0.7\%$ @ 750 - 1550nm

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

**Click Here to Download Data**

;