TECHSPEC 50.0mm Dia. x 175.0mm FL, NIR I Coated, Plano-Convex Lens

Stock **#48-800** 3-4 DAYS

Other Coating Options

- 1 + €62.50

ADD TO CART

Qty 1-9
€62,50

Qty 10+
€56,50

Volume Pricing
Request Quote

Prices shown are exclusive of VAT/local taxes

Product Downloads

SPECIFICATIONS

General

Type:
Plano-Convex Lens

Physical & Mechanical Properties

Diameter (mm):
50.00 +0.0/-0.025

Centering (arcmin):
<1

Center Thickness CT (mm):
9.00 ±0.10

Edge Thickness ET (mm):
5.48

Clear Aperture CA (mm):
49

Bevel:
Protective bevel as needed

Optical Properties

Effective Focal Length EFL (mm):
175.00 @ 587.6nm

Back Focal Length BFL (mm):
169.05

Coating:
NIR I (600-1050nm)

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

Substrate:
N-BK7

Surface Quality:
40-20

Power (P-V) @ 632.8nm:
1.5λ

Irregularity (P-V) @ 632.8nm:
λ/4

Focal Length Tolerance (%):
±1

Radius R_1 (mm):
90.44

f/#:
3.5

Numerical Aperture NA:
0.14

Wavelength Range (nm):
600 - 1050

Damage Threshold, By Design:
7 J/cm^2 @ 1064nm, 10ns

Regulatory Compliance

RoHS 2015:
Compliant

Certificate of Conformance:
View

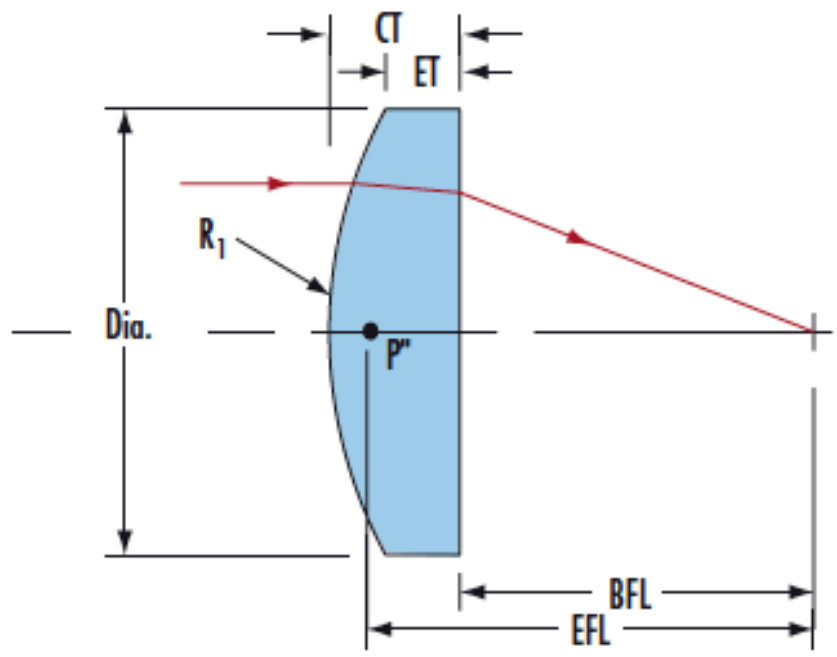
Reach 235:
Compliant

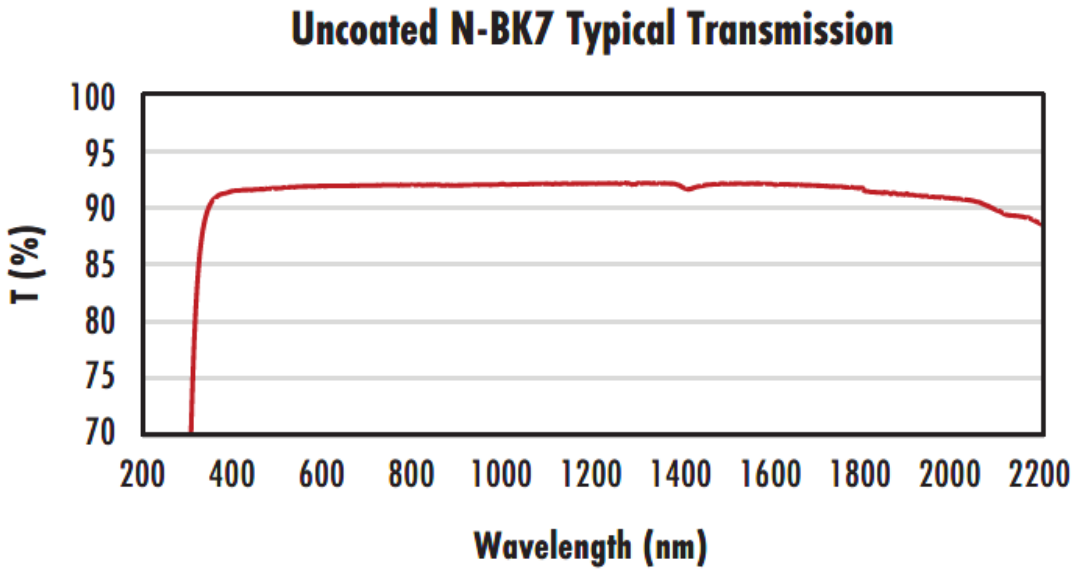
PRODUCT DETAILS

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

TECHSPEC® NIR I 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. TECHSPEC® NIR I 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 MgF2, VIS 0°, VIS-NIR, NIR II, VIS-EXT, and YAG-BBAR.

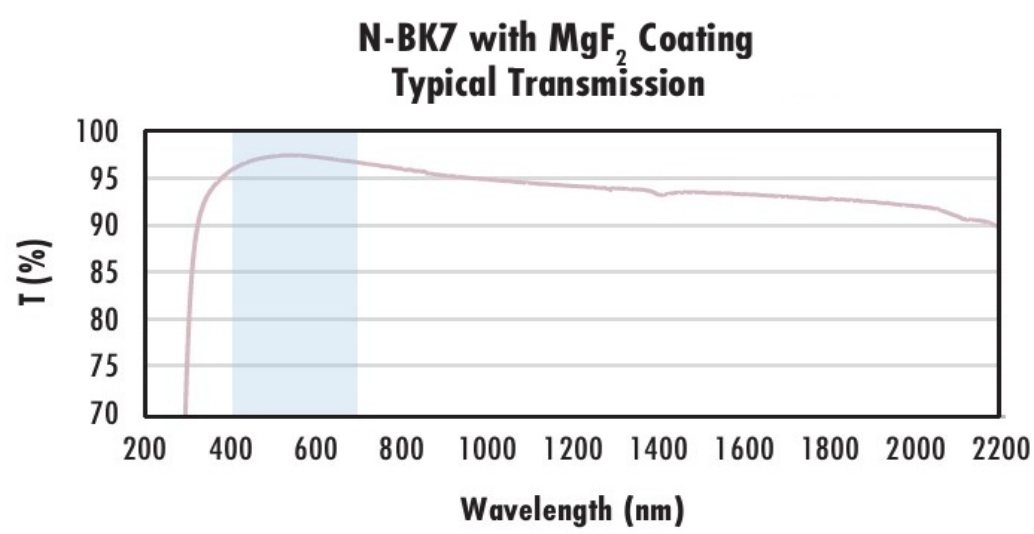
TECHNICAL INFORMATION





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

Click Here to Download Data



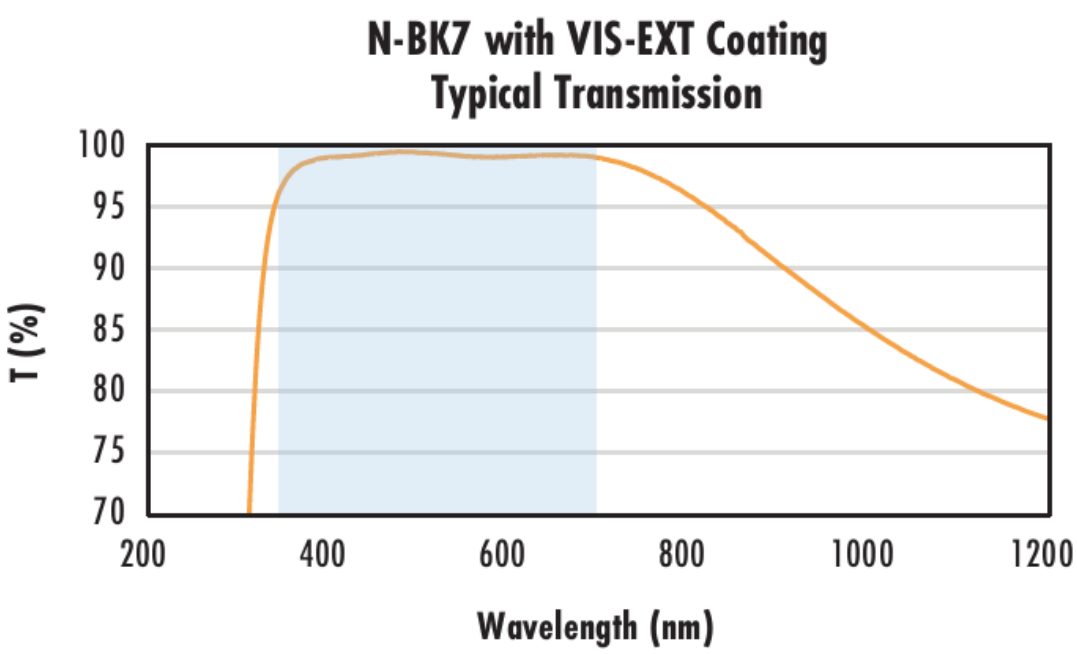
Typical transmission of a 3mm thick N-BK7 window with MgF2 (400-700nm) coating at 0° AOI.

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

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

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

Click Here to Download Data



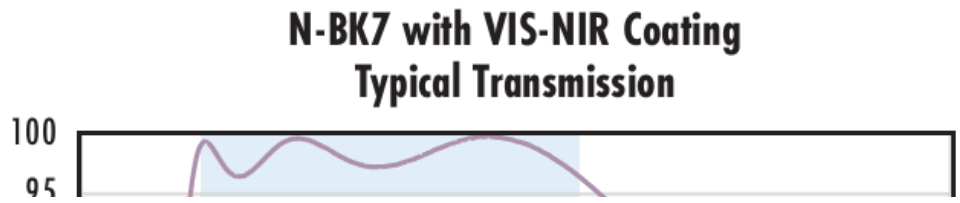
Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.

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

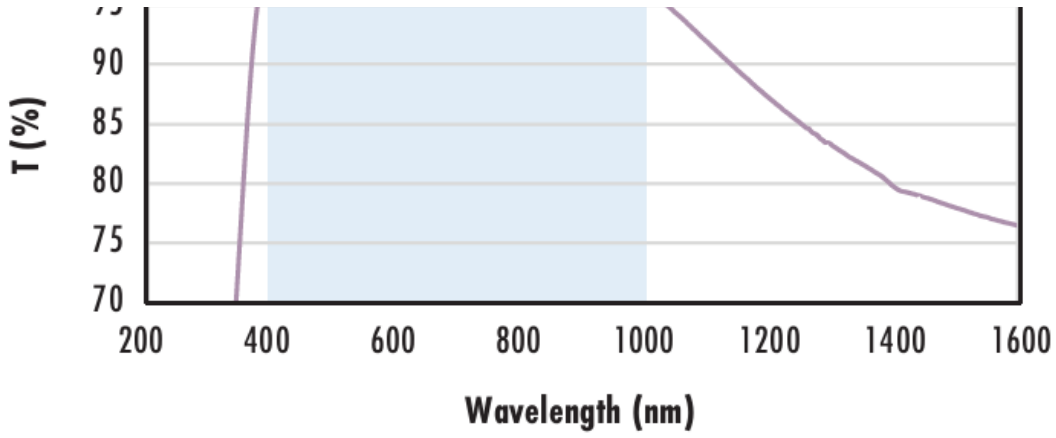
$R_{avg} \leq 0.5\%$ @ 350 - 700nm

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.

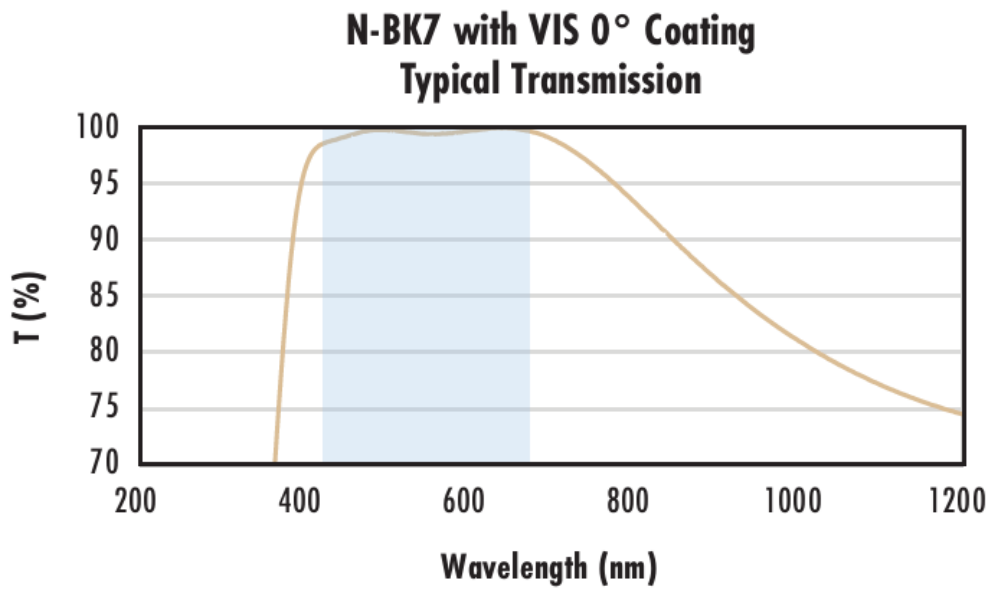


The blue shaded region indicates the coating design wavelengh range, with the following specification:

$R_{abs} \leq 0.25\%$ @ 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



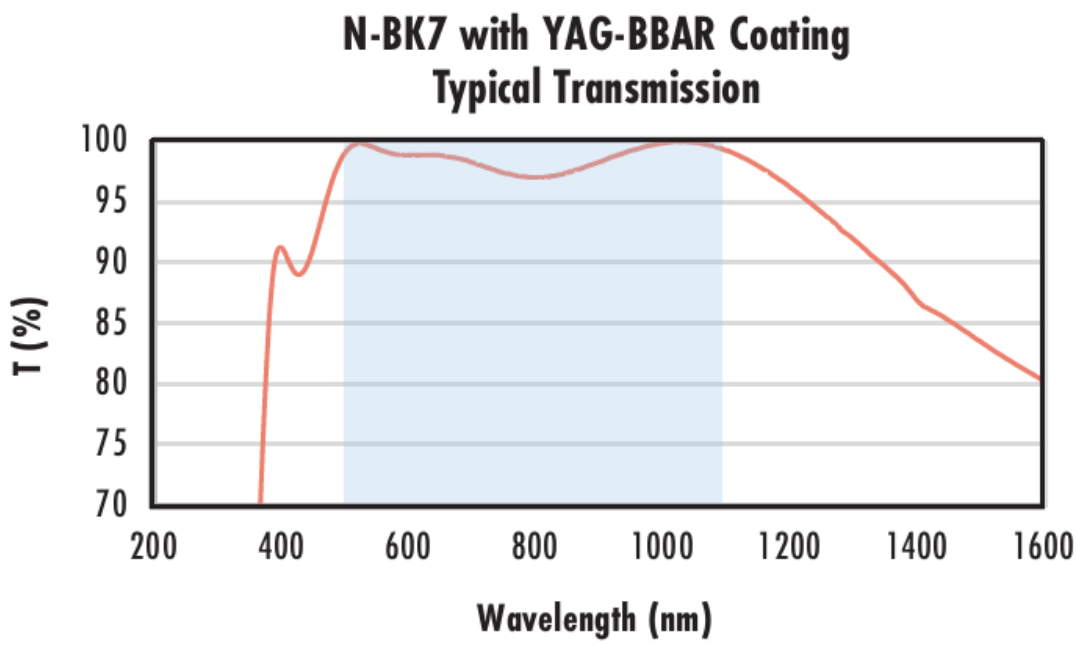
Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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



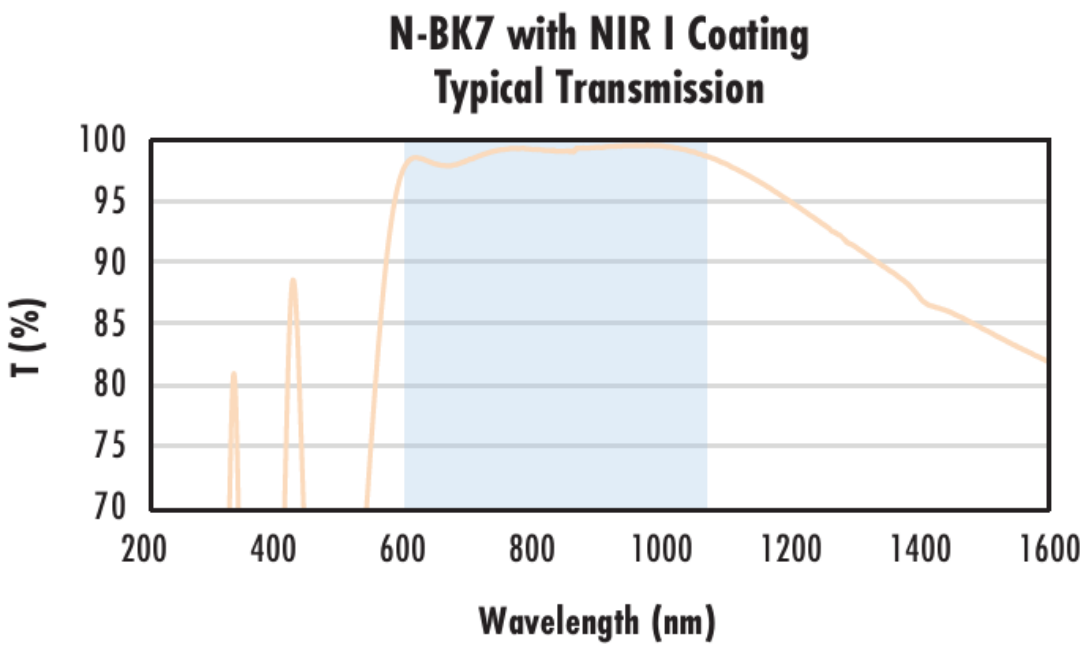
Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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



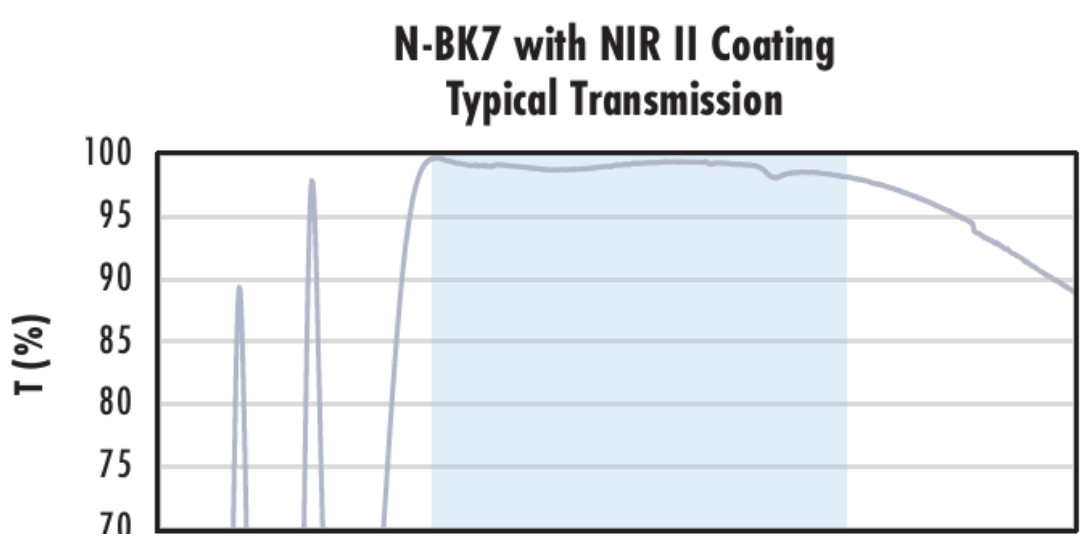
Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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



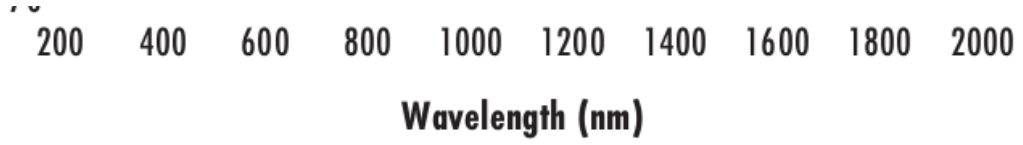
Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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



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