

**TECHSPEC® 20.0mm Diameter x -50 FL, MgF<sub>2</sub> Coated, Plano-Concave Lens**



Stock #45-025 **14 In Stock**

[Other Coating Options](#)

⊖ 1 ⊕ €39<sup>00</sup>

**ADD TO CART**

Volume Pricing	
Qty 1-9	€39,66 each
Qty 10-25	€35,54 each
Qty 26-49	€31,67 each
Need More?	<a href="#">Request Quote</a>

ⓘ Prices shown are exclusive of VAT/local taxes

Product Downloads

**SPECIFICATIONS**

**General**

Plano-Concave Lens

Type:

## 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:**

MgF<sub>2</sub> (400-700nm) **Coating:**

400 - 700 **Wavelength Range (nm):**

-52.31 **Back Focal Length BFL (mm):**

R<sub>avg</sub> ≤ 1.75% @ 400 - 700nm **Coating Specification:**

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

±1 **Focal Length Tolerance (%):**

-25.84 **Radius R<sub>1</sub> (mm):**

40-20 **Surface Quality:**

10 J/cm<sup>2</sup> @ 532nm, 10ns **Damage Threshold, By Design:**

1.5λ **Power (P-V) @ 632.8nm:**

λ/4 **Irregularity (P-V) @ 632.8nm:**

## Regulatory Compliance

[Compliant](#) **RoHS 2015:**

[View](#) **Certificate of Conformance:**

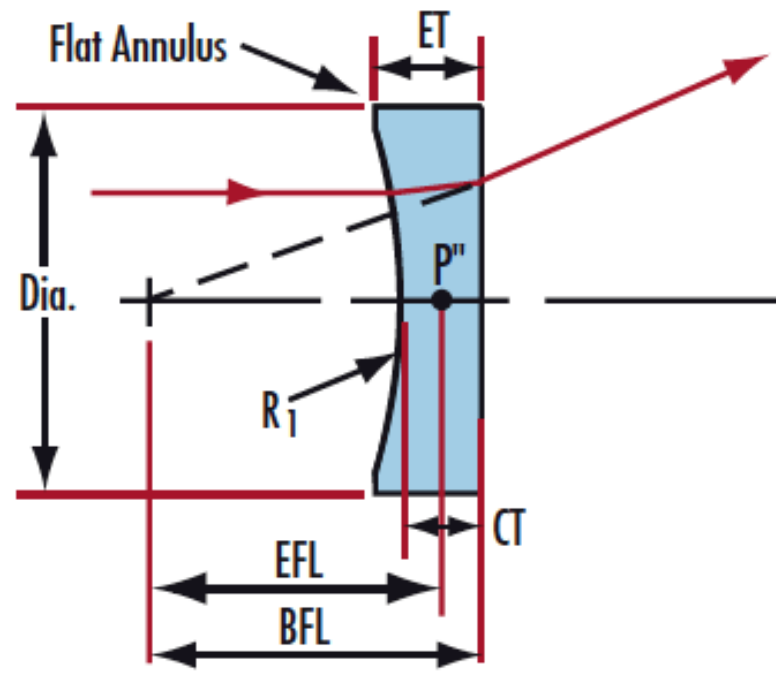
[Compliant](#) **Reach 235:**

## PRODUCT DETAILS

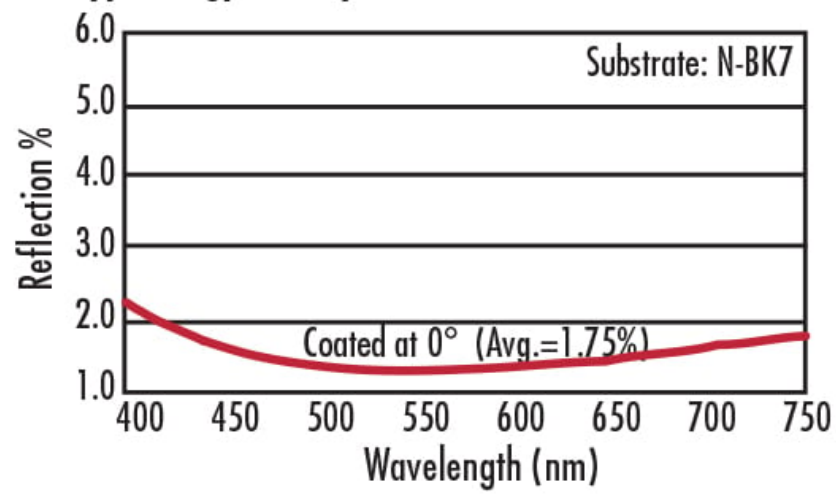
- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

TECHSPEC® MgF<sub>2</sub> 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 MgF<sub>2</sub> Coated Plano-Concave (PCV) Lenses are ideal for broadband applications. These lenses are also available [Uncoated](#), [VIS-EXT](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), or with [NIR II](#) AR coating options.

## TECHNICAL INFORMATION

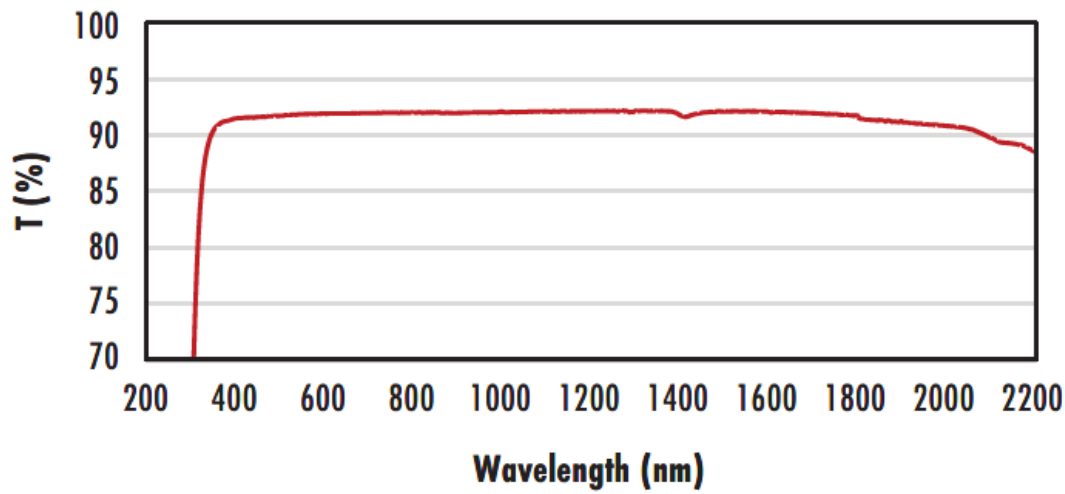


**MgF<sub>2</sub> Coating**  
 $R_{avg} \leq 1.75\% @ 400 - 700nm$   
 Typ. Energy Density Limit: 10 J/cm<sup>2</sup> @ 532nm, 10ns



N-BK7

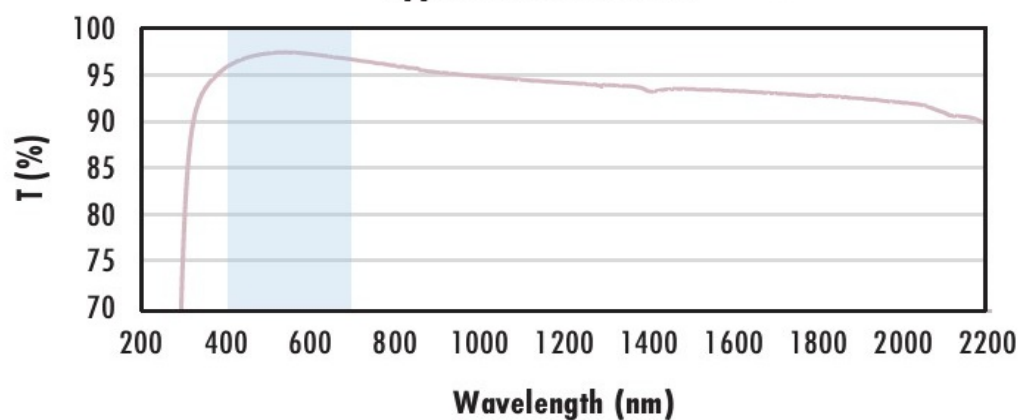
### Uncoated N-BK7 Typical Transmission



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:

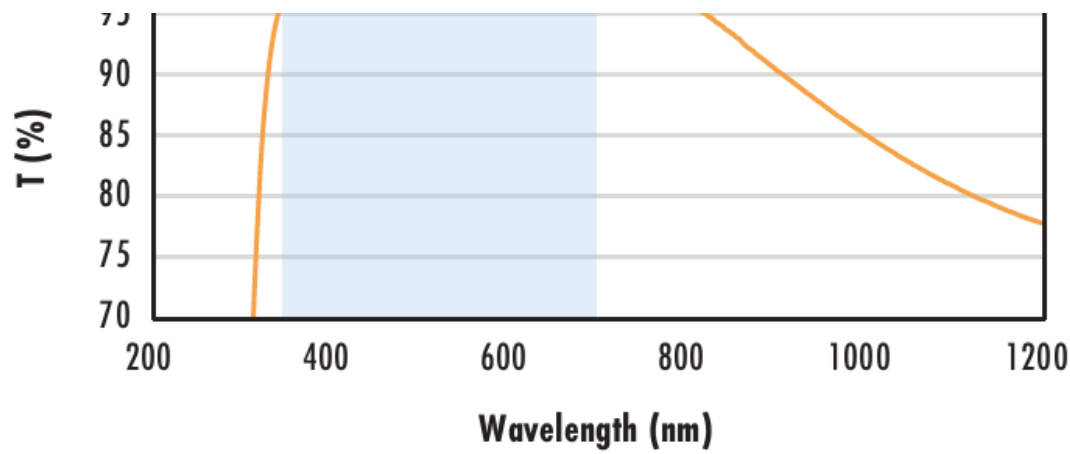
$R_{avg} \leq 1.75\% @ 400 - 700nm$  (N-BK7)

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-EXI (350-700nm) coating at 0° AOI.

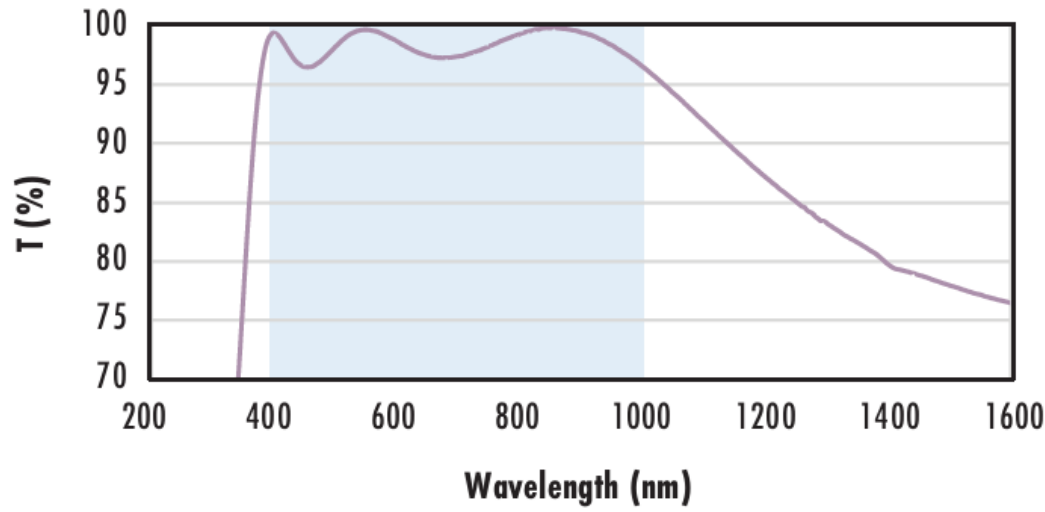
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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.

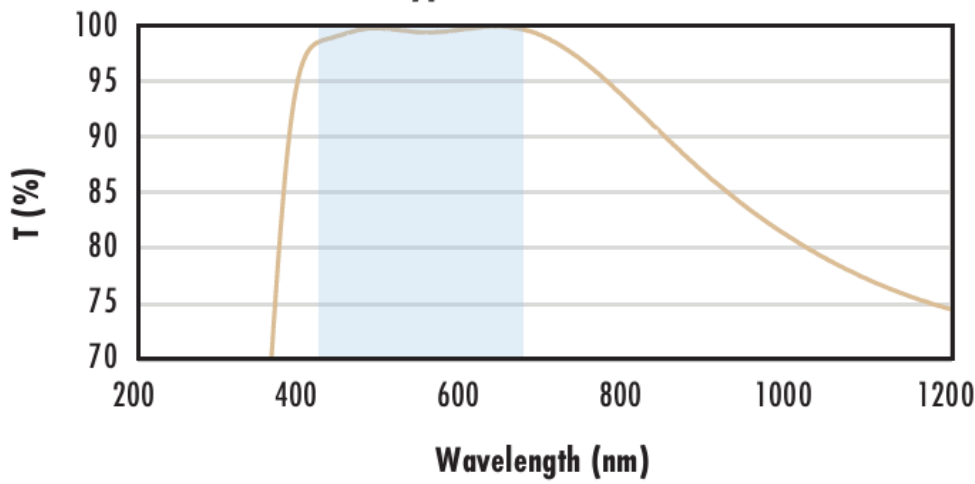
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

**N-BK7 with VIS 0° Coating  
Typical Transmission**



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

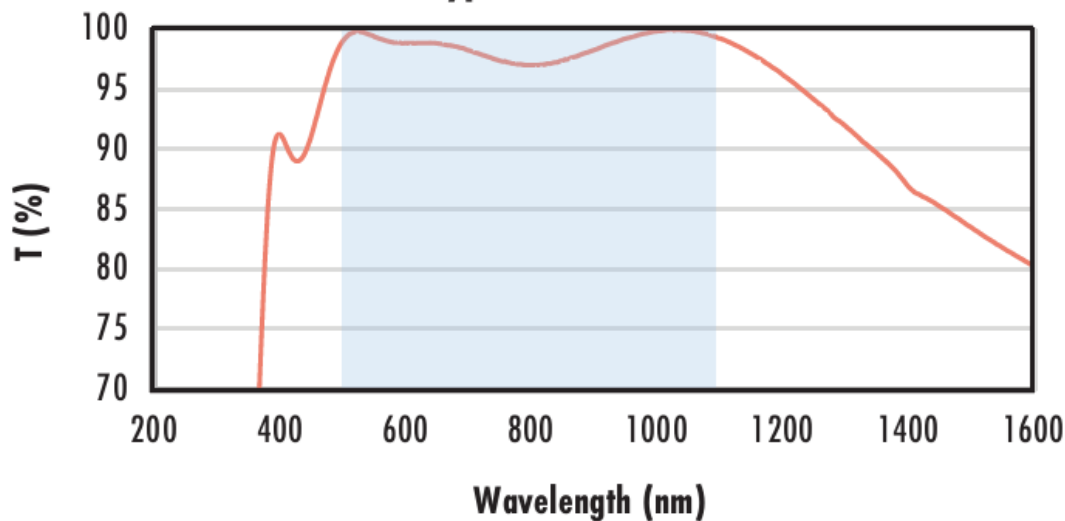
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

**N-BK7 with YAG-BBAR Coating  
Typical Transmission**



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

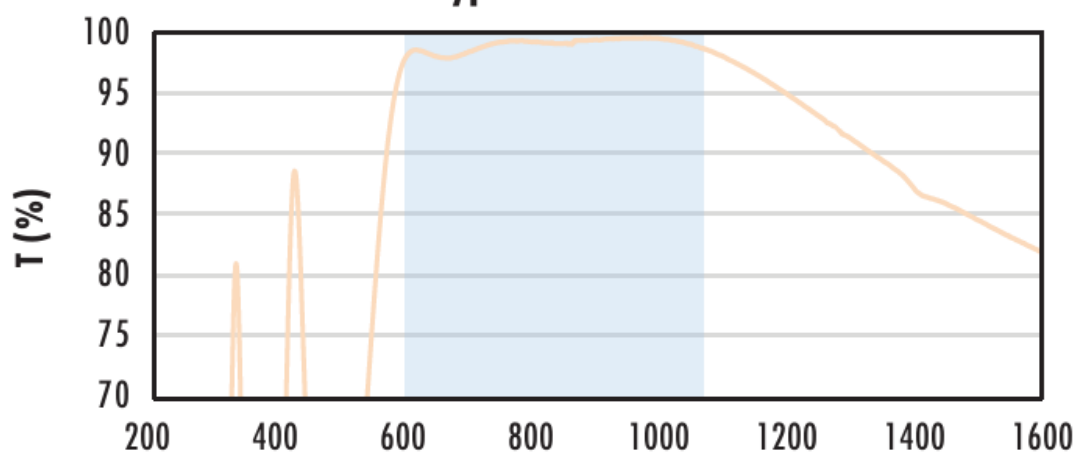
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

[Click Here to Download Data](#)

**N-BK7 with NIR I Coating  
Typical Transmission**



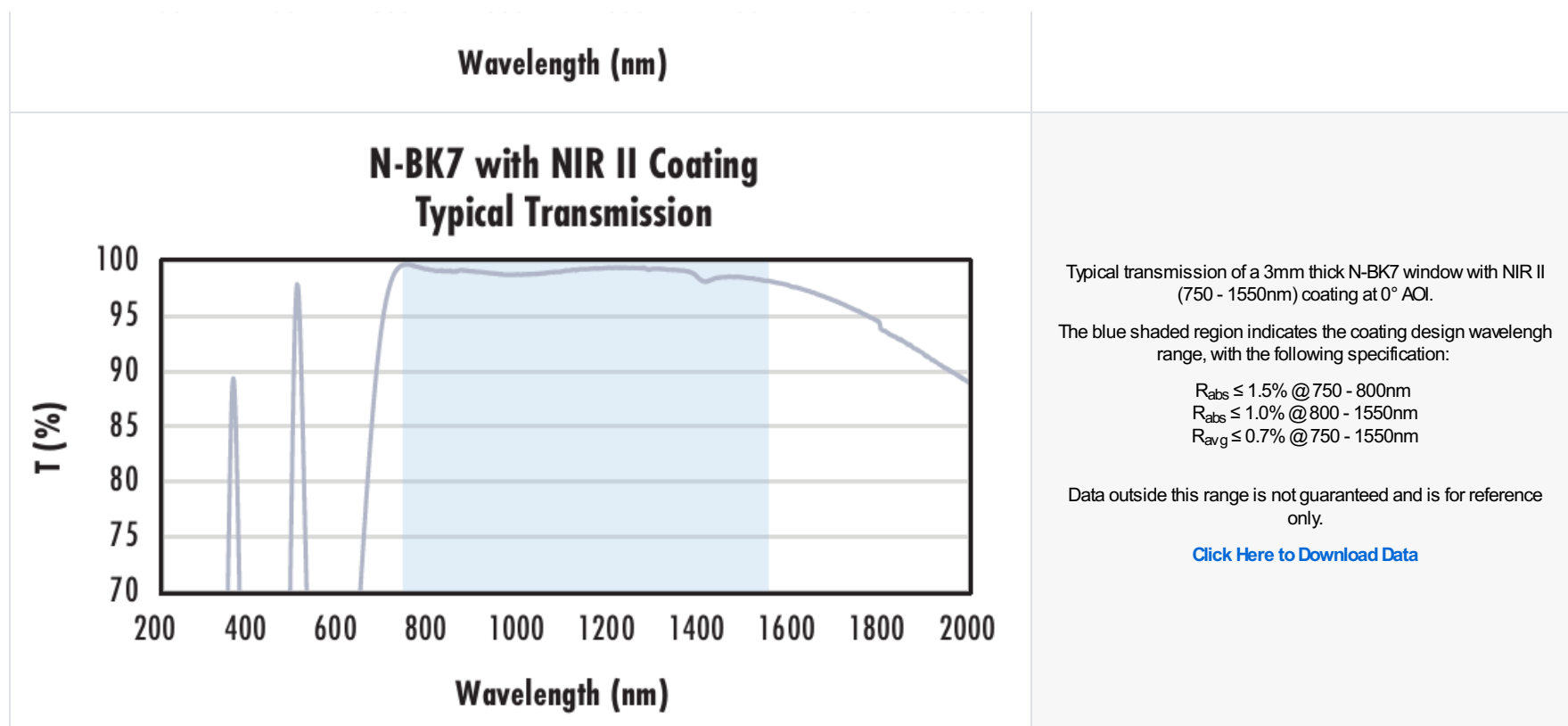
Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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

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

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

[Click Here to Download Data](#)



## COATING CURVES

### 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