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TECHSPEC® 50.0mm Diameter x -100 FL, MgF_2 Coated, Plano-Concave Lens

Stock **#45-037** **6 In Stock**

Other Coating Options

- 1 + €66.00

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Volume Pricing	
Qty 1-9	**€66,00** each
Qty 10-25	**€59,50** each
Qty 26-49	**€52,50** each
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Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Type:

Plano-Concave Lens

Physical & Mechanical Properties

Diameter (mm):	50.00 +0.0/-0.025
Bevel:	Protective as needed
Center Thickness CT (mm):	5.00
Center Thickness Tolerance (mm):	±0.10
Centering (arcmin):	<1
Clear Aperture CA (mm):	49.00
Edge Thickness ET (mm):	11.23

Optical Properties

Effective Focal Length EFL (mm):	-100.00
Substrate:	N-BK7
f/#:	2.00
Numerical Aperture NA:	0.25
Coating:	MgF_2 (400-700nm)
Wavelength Range (nm):	400 - 700
Back Focal Length BFL (mm):	-103.30
Coating Specification:	$R_{avg} \leq 1.75\%$ @ 400 - 700nm
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:	10 J/cm^2 @ 532nm, 10ns
Power (P-V) @ 632.8nm:	1.5λ
Irregularity (P-V) @ 632.8nm:	λ/4

Regulatory Compliance

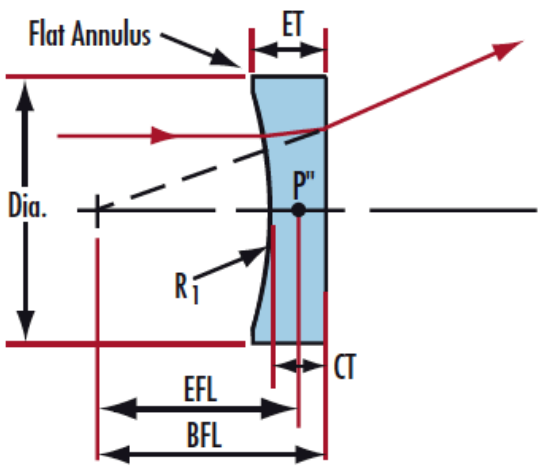
RoHS 2015:	Compliant
Certificate of Conformance:	View
Reach 235:	Compliant

Product Details

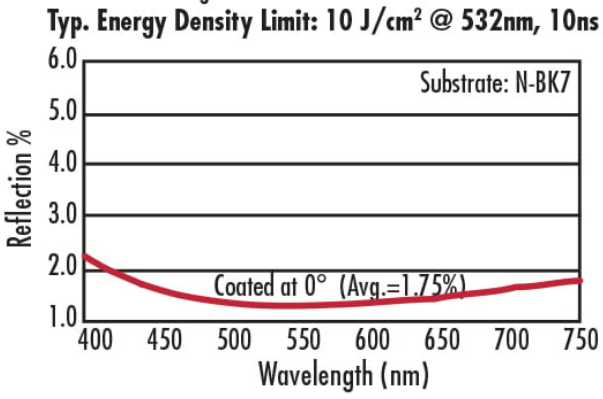
- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various Coating Options: **Uncoated**, **VIS-EXT**, **VIS 0°**, **VIS-NIR**, **YAG-BBAR**, **NIR I**, and **NIR II**

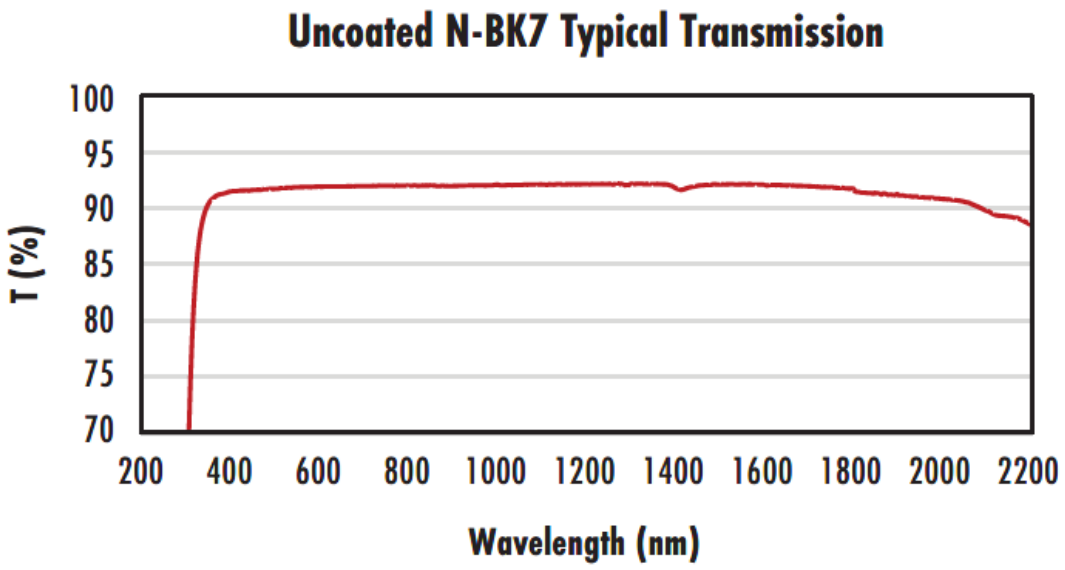
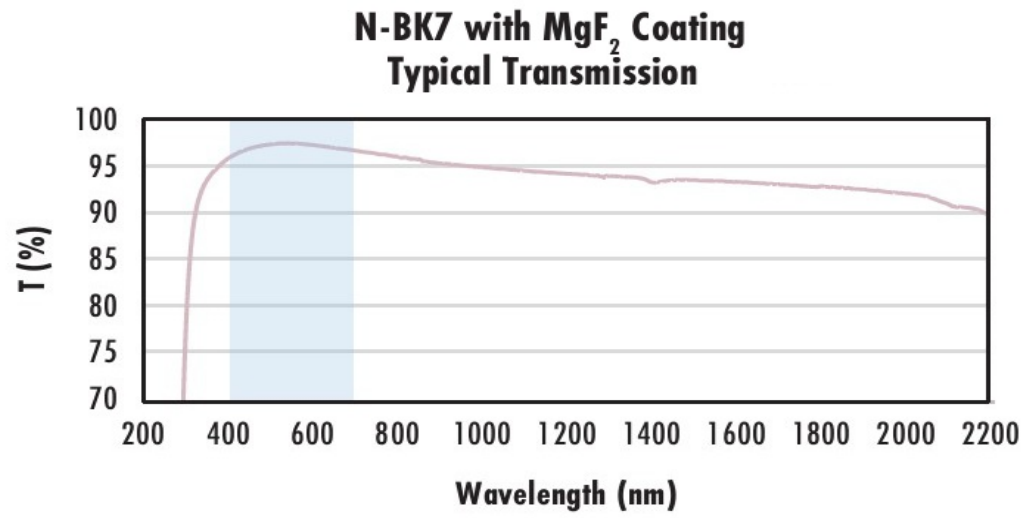
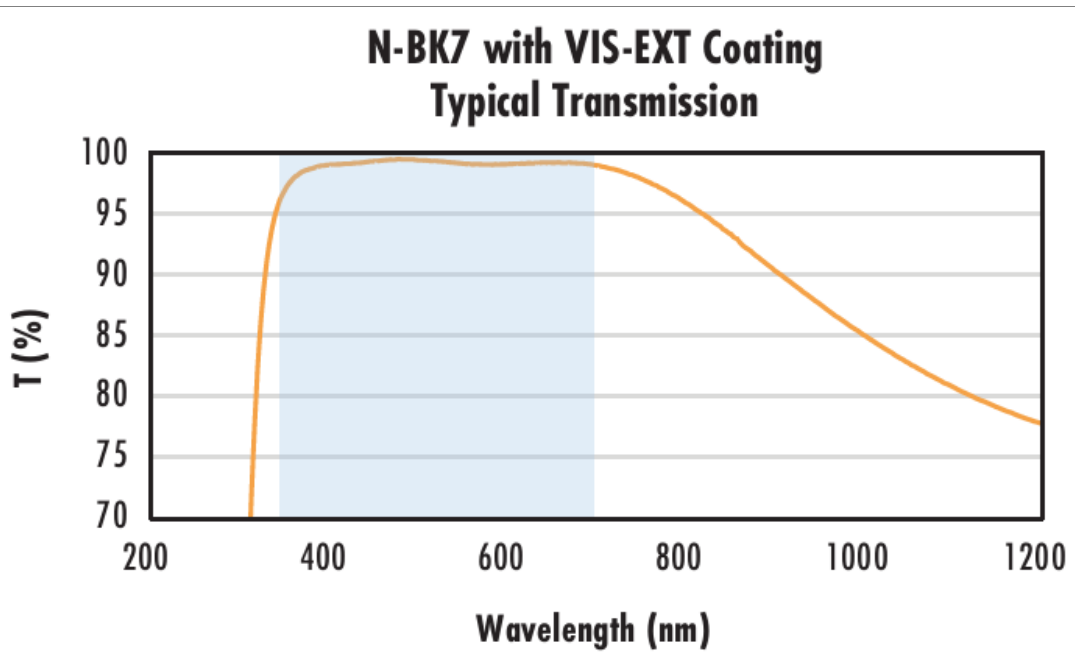
TECHSPEC® MgF_2 Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system due to their negative spherical aberration. Plano-Concave (PCV) lenses are commonly used in a variety of applications including image reduction, beam expansion and telescopes. TECHSPEC MgF_2 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.

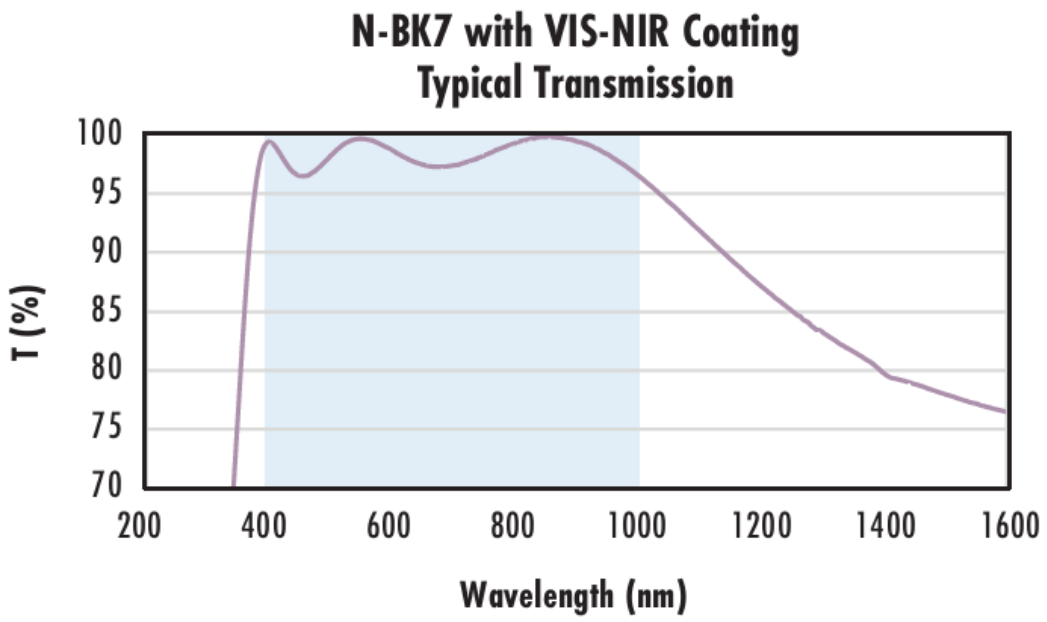
Technical Information



MgF_2 Coating
R_{avg} ≤1.75% @ 400 - 700nm
Typ. Energy Density Limit: 10 J/cm² @ 532nm, 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} ≤ 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.

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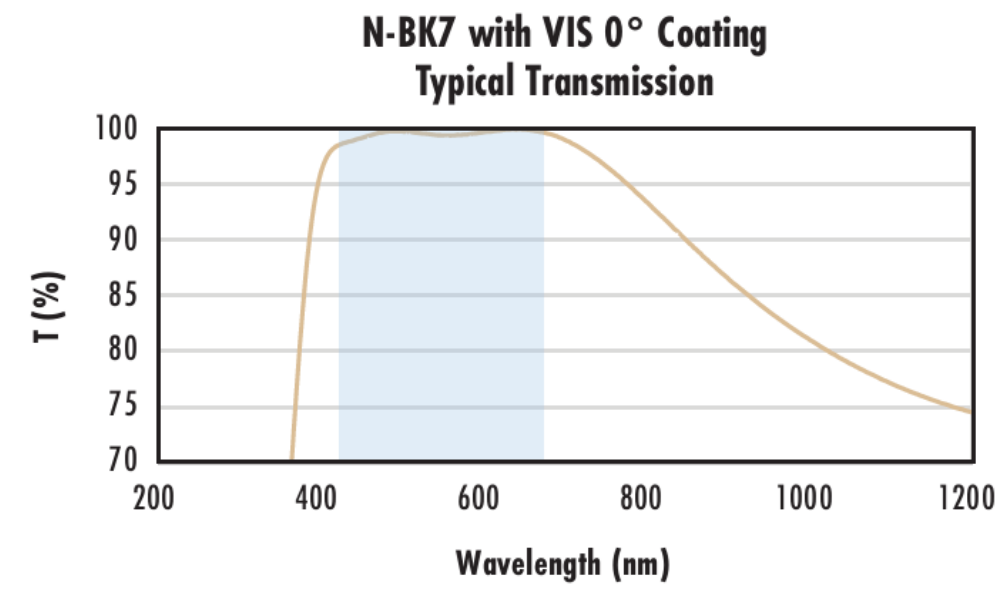

Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.

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.

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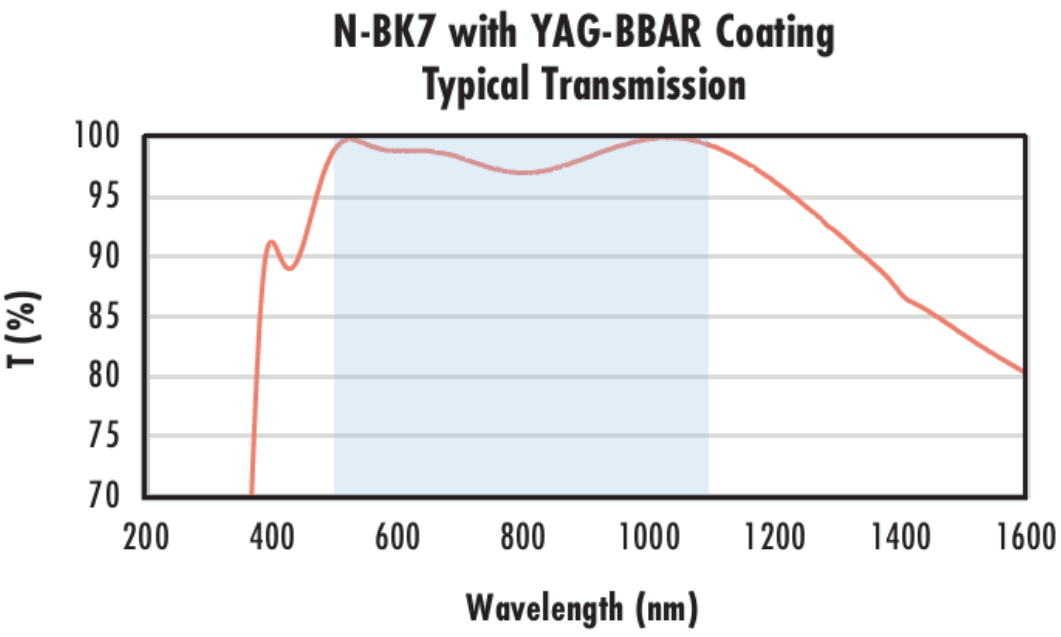

Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.

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.

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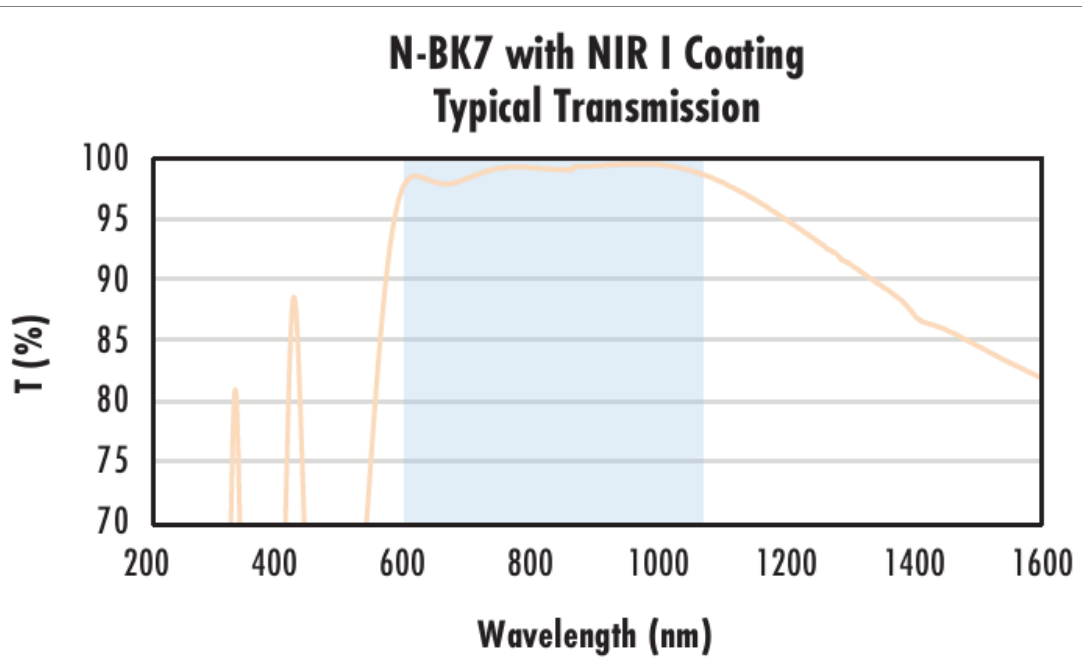

Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.

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.

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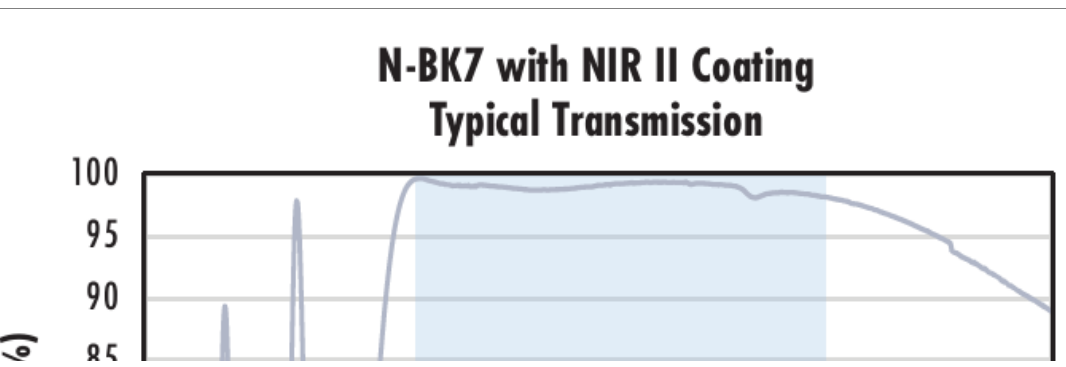
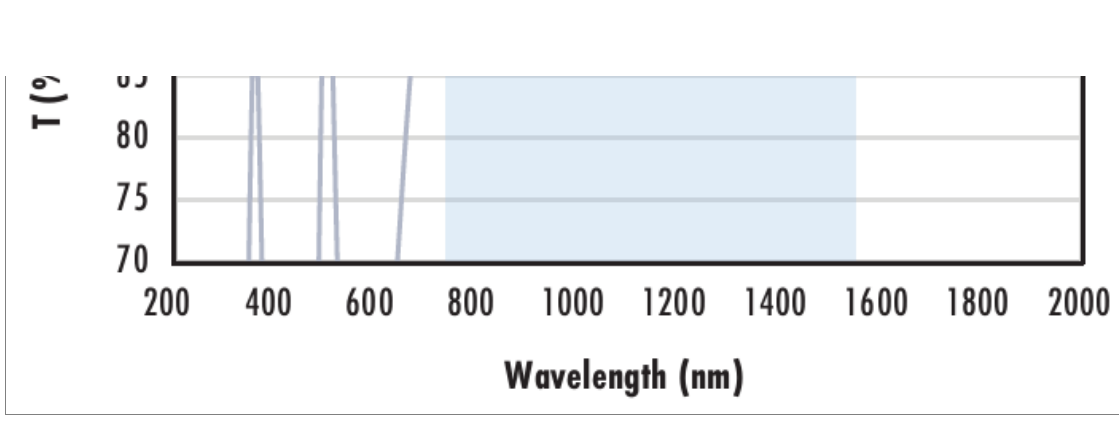


Typical transmission of a 3mm thick N-BK7 window with NIR II (750 - 1550nm) coating at 0° AOI.

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

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