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TECHSPEC®

18.0mm Dia. x 50.0mm FL, NIR I Coated, Plano-Convex Lens


 Stock #38-375 **1 In Stock** [Other Coating Options](#)

 - 1 + **£37^{.60}**
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Qty 1-9	each £37.60
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Product Downloads	
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eDrawing:eprt	Code V:seq
EO Spec Sheet	Download All

General			
Type:	Plano-Convex Lens		
Physical & Mechanical Properties			
Diameter (mm):	18.00 +0.0/-0.025	Centering (arcmin):	<1
Center Thickness CT (mm):	2.90 ±0.10	Edge Thickness ET (mm):	1.28
Clear Aperture CA (mm):	17	Bevel:	Protective as needed
Optical Properties			
Effective Focal Length EFL (mm):	50.00 @ 587.6nm	Back Focal Length BFL (mm):	48.09
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 R₁ (mm):	25.84
f/#:	2.78	Numerical Aperture NA:	0.18

Wavelength Range (nm): 600 - 1050

Damage Threshold, By Design: 7 J/cm² @ 1064nm, 10ns

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](#).

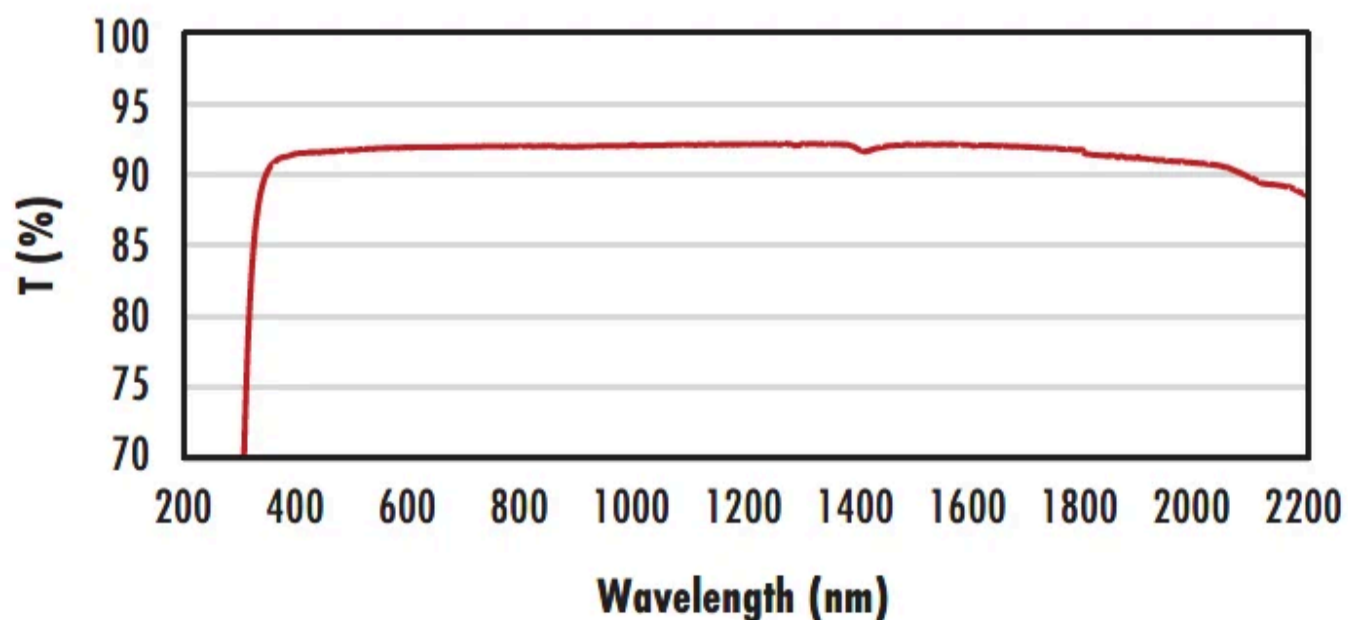
Product Details

- AR Coated to Provide <0.5% Reflectance per Surface for 600 - 1050nm
- Designed for 0° Angle of Incidence
- Various PCX Coating Options: **Uncoated**, **MgF₂**, **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

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 MgF₂ Coating Typical Transmission



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

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

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

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

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N-BK7 with VIS-EXT Coating Typical Transmission



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

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

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

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

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N-BK7 with VIS-NIR Coating Typical Transmission



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

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

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

$$R_{avg} \leq 1.25\% \text{ @ } 400 - 870\text{nm}$$

$$R_{avg} \leq 1.25\% \text{ @ } 890 - 1000\text{nm}$$

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

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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:

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

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

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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:

$$R_{abs} \leq 0.25\% \text{ @ } 532\text{nm}$$

$$R_{abs} \leq 0.25\% \text{ @ } 1064\text{nm}$$

$$R_{avg} \leq 1.0\% \text{ @ } 500 - 1100\text{nm}$$

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

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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.

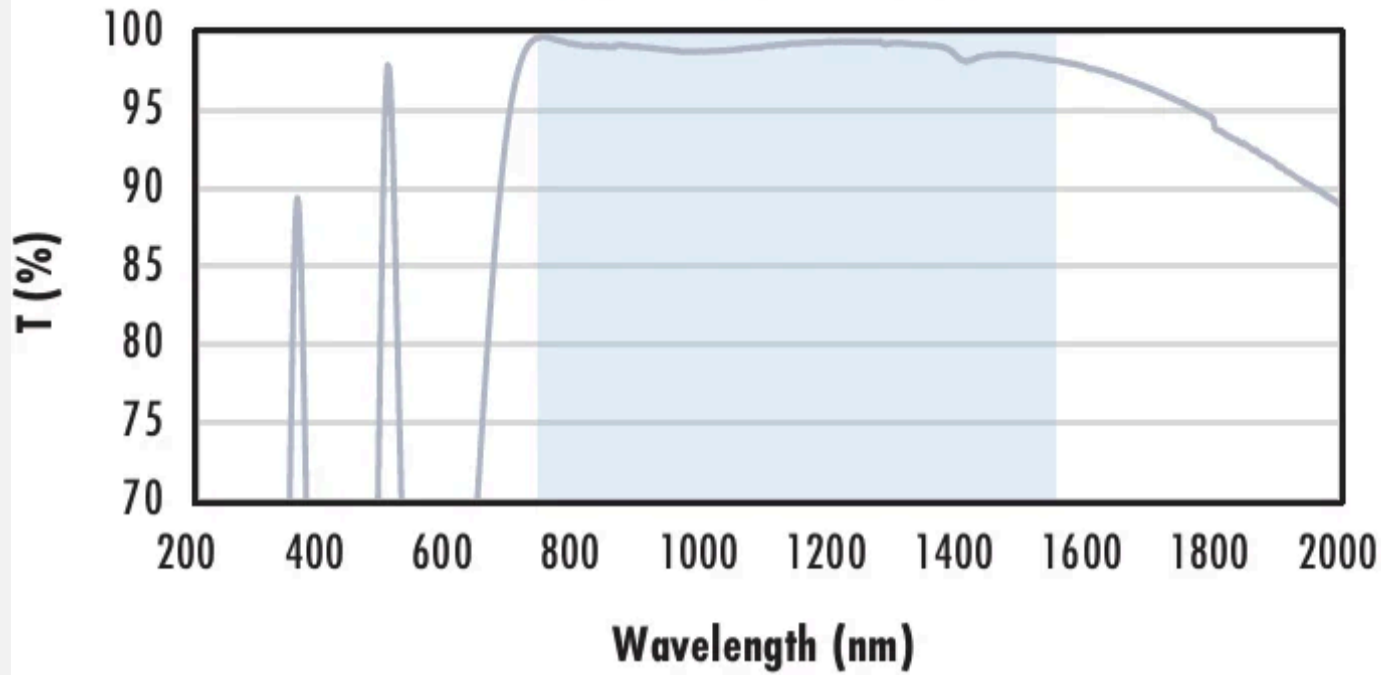
The blue shaded region indicates the coating design wavelength range, with the following specification:

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

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

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N-BK7 with NIR II Coating Typical Transmission



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

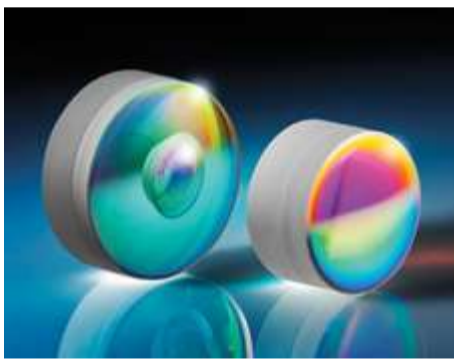
The blue shaded region indicates the coating design wavelength range, with the following specification:

$R_{abs} \leq 1.5\%$ @ 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.

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Near-IR (NIR) Achromatic Lenses



Optical Cleaning



Plano-Convex (PCX) Lenses



Optical Lens and Filter Mounts

Frequently Purchased Together



#48-735 - 12.0mm Dia. x 24.0mm FL, NIR I Coated, Plano-Convex Lens
£38.00

Qty



#48-739 - 12.0mm Dia. x 48.0mm FL, NIR I Coated, Plano-Convex Lens
£38.00

Qty



#48-754 - 18.0mm Dia. x 36.0mm FL, NIR I Coated, Plano-Convex Lens
£37.60

Qty






#48-755 - 18.0mm Dia. x 54.0mm FL, NIR I Coated, Plano-Convex Lens
£37.60

Qty



Compatible Mounts

	Title	Type	Compare	Stock Number	Price	Buy
 	18.0mm Optic Dia., Optic Mount	Fixed		#64-558	£26.20 Request Quote	CONTACT US <input type="text" value="1"/> 

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APPLICATION NOTE

An
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Coatings

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Understanding
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Specifications

APPLICATION NOTE

Lens Geometry
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Comparison

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NIR (Near
Infrared)

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