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TECHSPEC®

12.0mm Diameter x -48 FL, MgF<sub>2</sub> Coated, Plano-Concave Lens



Stock **#45-019** **20+ In Stock**

☐ [Other Coating Options](#)

-

1

+

£33<sup>.00</sup>

ADD TO CART

| Volume Pricing |                               |
|----------------|-------------------------------|
| Qty 1-9        | £33.00 each                   |
| Qty 10-25      | £29.60 each                   |
| Qty 26-49      | £26.60 each                   |
| Need More?     | <a href="#">Request Quote</a> |

Prices shown are exclusive of VAT/local taxes

Product Downloads

General

Plano-Concave Lens

Type:

Physical & Mechanical Properties

|                      |                                  |
|----------------------|----------------------------------|
| 12.00 +0.0/-0.025    | Diameter (mm):                   |
| Protective as needed | Bevel:                           |
| 3.50                 | Center Thickness CT (mm):        |
| ±0.05                | Center Thickness Tolerance (mm): |
| <1                   | Centering (arcmin):              |
| 11.00                | Clear Aperture CA (mm):          |
| 4.12                 | Edge Thickness ET (mm):          |

Optical Properties

|                                      |                                                       |
|--------------------------------------|-------------------------------------------------------|
| -48.00                               | Effective Focal Length EFL (mm):                      |
| N-BK7                                | Substrate: <input type="checkbox"/>                   |
| 4.00                                 | f/#:                                                  |
| 0.13                                 | Numerical Aperture NA:                                |
| MgF <sub>2</sub> (400-700nm)         | Coating:                                              |
| 400 - 700                            | Wavelength Range (nm):                                |
| -50.31                               | 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 (%):                           |
| -24.81                               | Radius R <sub>1</sub> (mm):                           |
| 40-20                                | Surface Quality:                                      |
| 10 J/cm <sup>2</sup> @ 532nm, 10ns   | Damage Threshold, By Design: <input type="checkbox"/> |
| 1.5λ                                 | Power (P-V) @ 632.8nm:                                |
| λ/4                                  | Irregularity (P-V) @ 632.8nm:                         |

Regulatory Compliance

|           |                             |
|-----------|-----------------------------|
| Compliant | RoHS 2015:                  |
| Compliant | Reach 219:                  |
| View      | Certificate of Conformance: |

## 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](#).

## Product Details

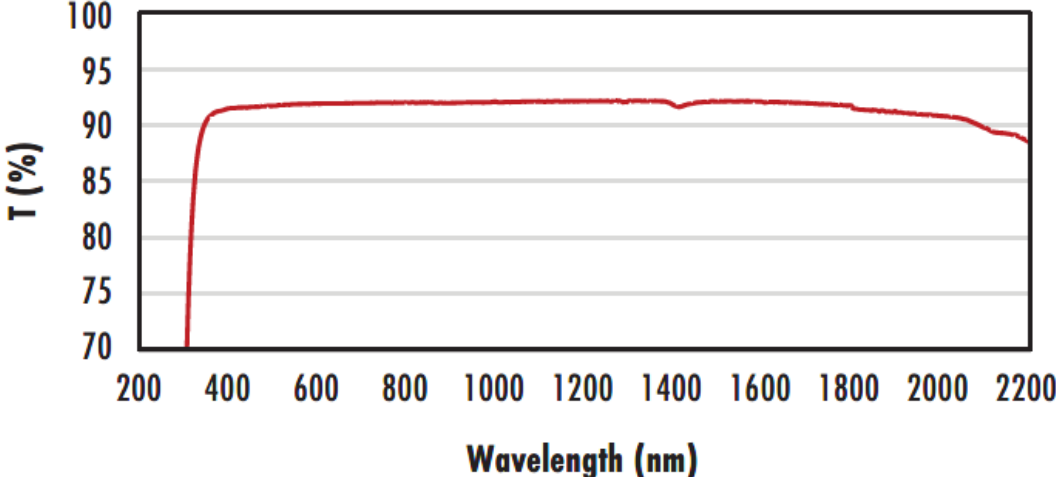
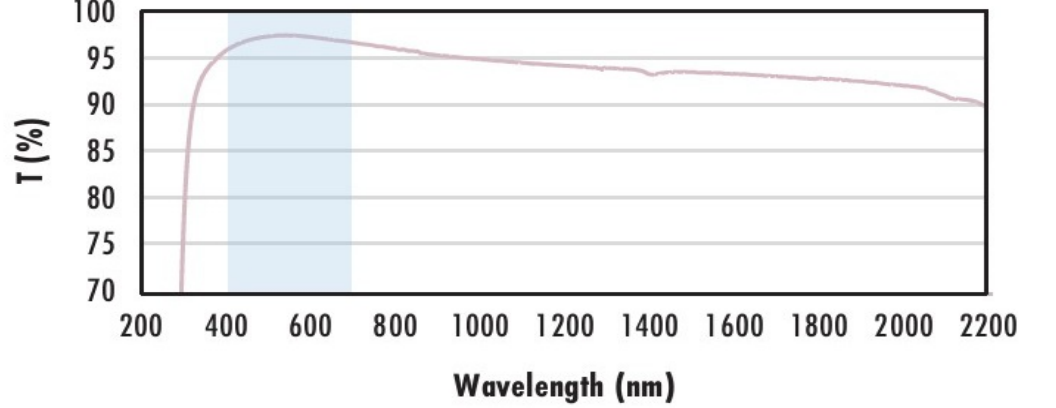
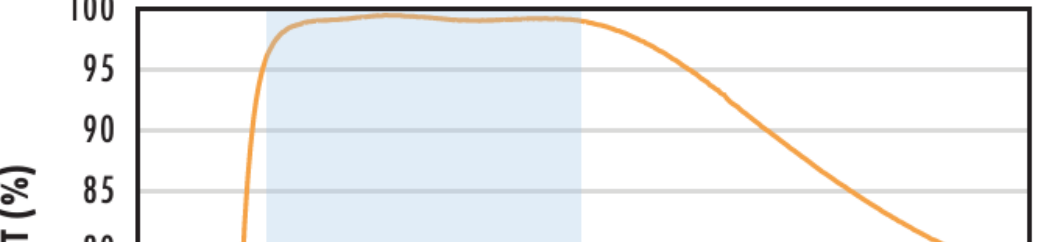
- AR Coated to Provide <1.75% Reflectance per Surface for 400 - 700nm
- Designed for 0° Angle of Incidence
- Various Coating Options: [Uncoated](#), [VIS-EXT](#), [VIS 0°](#), [VIS-NIR](#), [YAG-BBAR](#), [NIR I](#), and [NIR II](#)

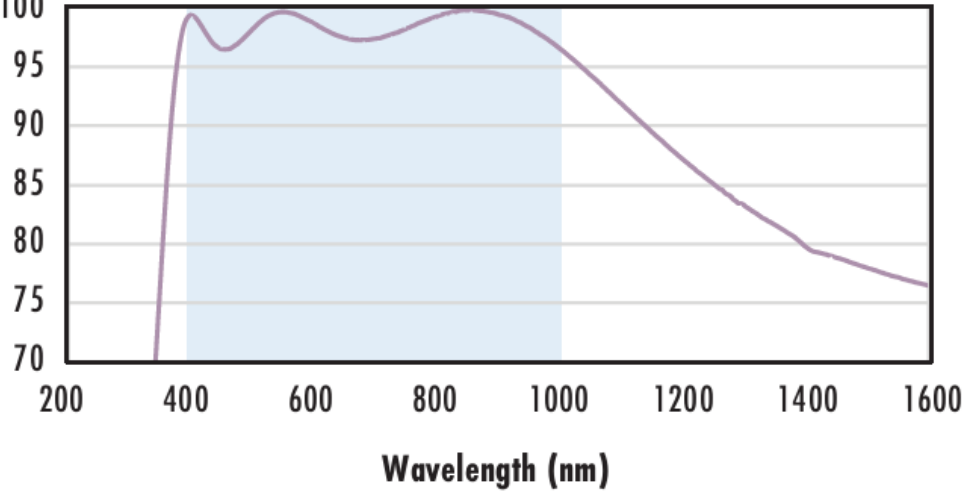
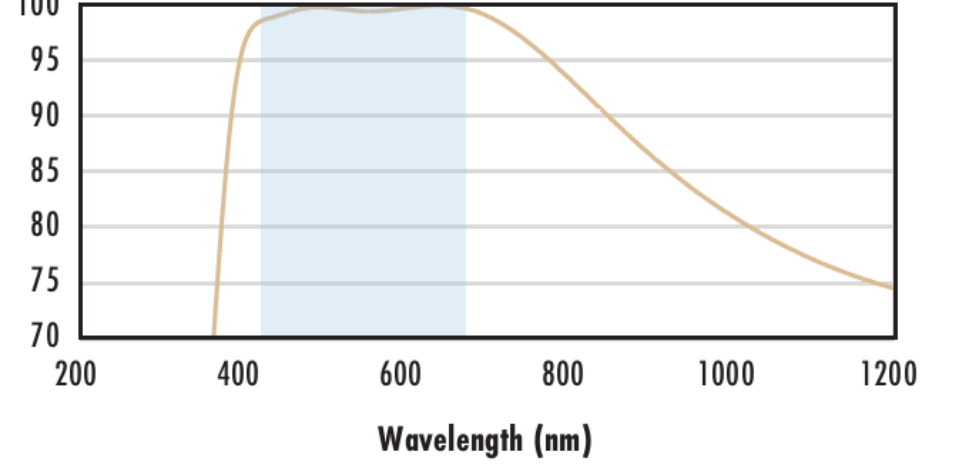
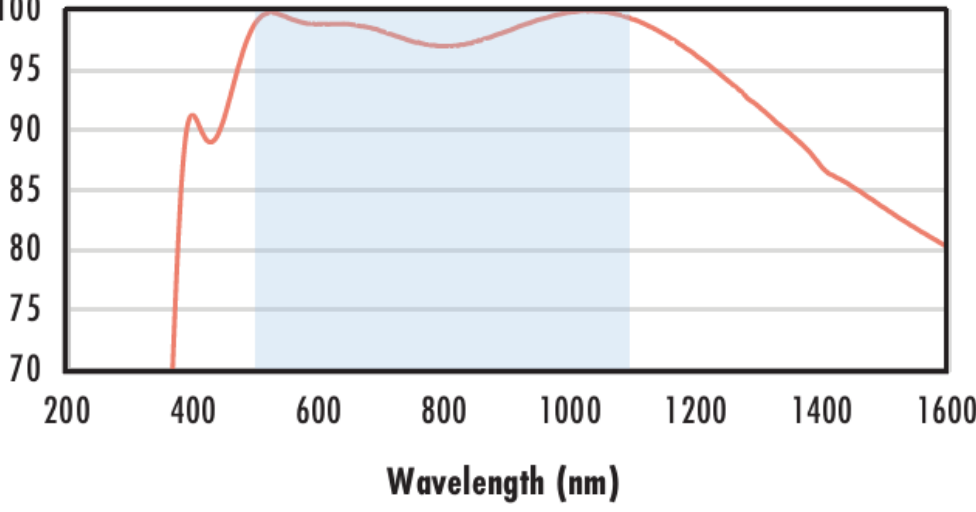
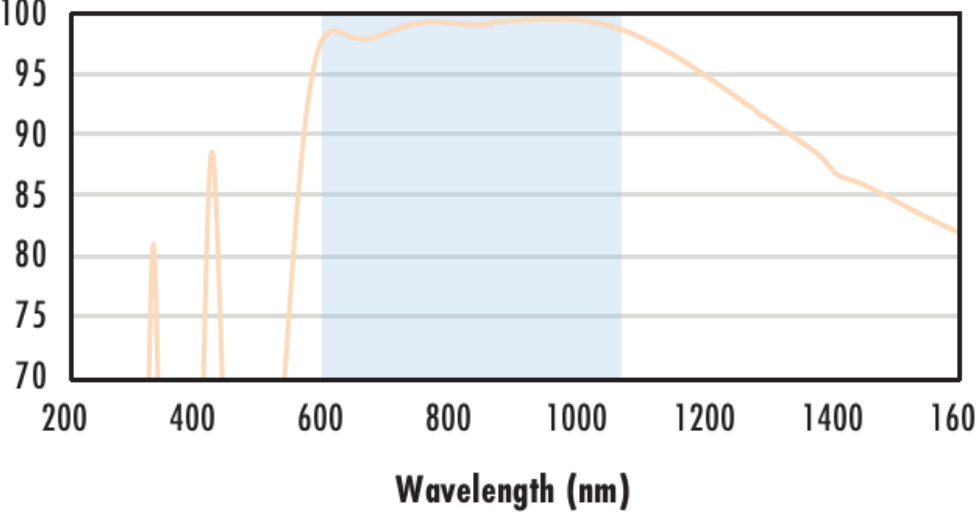
TECHSPEC® MgF<sub>2</sub> Coated Plano-Concave (PCV) Lenses are designed to bend parallel input rays to diverge from one another on the output side of the lens causing this lens to have a negative focal length. These lenses can be used for balancing aberrations created by other lenses within a system 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



| N-BK7                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><h3>Uncoated N-BK7 Typical Transmission</h3></div>                     | <div>Typical transmission of a 3mm thick, uncoated N-BK7 window across the UV - NIR spectra.</div> <div><a href="#">Click Here to Download Data</a></div>                                                                                                                                                                                                                                                                                          |
| <div><h3>N-BK7 with MgF<sub>2</sub> Coating Typical Transmission</h3></div> | <div>Typical transmission of a 3mm thick N-BK7 window with MgF<sub>2</sub> (400-700nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><math>R_{avg} \leq 1.75\% @ 400 - 700\text{nm (N-BK7)}</math></div> <div>Data outside this range is not guaranteed and is for reference only.</div> <div><a href="#">Click Here to Download Data</a></div> |
| <div><h3>N-BK7 with VIS-EXT Coating Typical Transmission</h3></div>         | <div>Typical transmission of a 3mm thick N-BK7 window with VIS-EXT (350-700nm) coating at 0° AOI.</div> <div>The blue shaded region indicates the coating design wavelength range, with the following specification:</div> <div><math>R_{avg} \leq 0.5\% @ 350 - 700\text{nm}</math></div> <div>Data outside this range is not guaranteed and is for reference only.</div>                                                                         |

|                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                              | <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p data-bbox="583 371 1008 463"><b>N-BK7 with VIS-NIR Coating</b><br/><b>Typical Transmission</b></p>       | <p>Typical transmission of a 3mm thick N-BK7 window with VIS-NIR (400-1000nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\% @ 880\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 400 - 870\text{nm}</math><br/><math>R_{avg} \leq 1.25\% @ 890 - 1000\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p> |
| <p data-bbox="594 994 976 1086"><b>N-BK7 with VIS 0° Coating</b><br/><b>Typical Transmission</b></p>      | <p>Typical transmission of a 3mm thick N-BK7 window with VIS 0° (425-675nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.4\% @ 425 - 675\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                   |
| <p data-bbox="567 1587 1039 1679"><b>N-BK7 with YAG-BBAR Coating</b><br/><b>Typical Transmission</b></p>  | <p>Typical transmission of a 3mm thick N-BK7 window with YAG-BBAR (500-1100nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{abs} \leq 0.25\% @ 532\text{nm}</math><br/><math>R_{abs} \leq 0.25\% @ 1064\text{nm}</math><br/><math>R_{avg} \leq 1.0\% @ 500 - 1100\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>      |
| <p data-bbox="615 2211 1008 2303"><b>N-BK7 with NIR I Coating</b><br/><b>Typical Transmission</b></p>     | <p>Typical transmission of a 3mm thick N-BK7 window with NIR I (600 - 1050nm) coating at 0° AOI.</p> <p>The blue shaded region indicates the coating design wavelength range, with the following specification:</p> <p><math>R_{avg} \leq 0.5\% @ 600 - 1050\text{nm}</math></p> <p>Data outside this range is not guaranteed and is for reference only.</p> <p><a href="#">Click Here to Download Data</a></p>                                                                                                                |
| <p data-bbox="604 2858 1018 2899"><b>N-BK7 with NIR II Coating</b></p>                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



Coating Curves

Compatible Mounts