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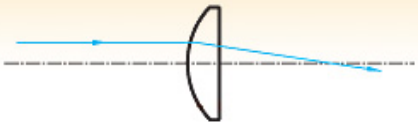
THORLABS

LJ1155L1 - SEP 1, 2017

Item # LJ1155L1 was discontinued on SEP 1, 2017. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

PLANO-CONVEX CYLINDRICAL LENSES, N-BK7, UNCOATED

- **Ideal for Applications Requiring Magnification in One Dimension**
- **Provide Anamorphic Shaping of a Beam**
- **Collimates & Circularizes the Output of a Laser Diode**



LJ1942L2

LJ1402L1

LJ1598L1

OVERVIEW

Features

- Fabricated from N-BK7 Glass
- Collimates and Circularizes the Output of a Laser Diode
- Uncoated Wavelength Range: 350 nm - 2.0 µm
- Focal Lengths from 3.9 mm to 1000.0 mm
- Focal Length Tolerance is ±1%

Positive cylindrical lenses are ideal for applications requiring magnification in one dimension. While spherical lenses act symmetrically in two dimensions on an incident ray, cylindrical lenses act in the same manner but only in one dimension. A typical application is to use a pair of cylindrical lenses to provide anamorphic shaping of a beam. A pair of positive cylindrical lenses can be used to collimate and circularize the output of a laser diode. Another application possibility would be to use a single lens to focus a diverging beam onto a detector array. To minimize the introduction of spherical aberrations, collimated light should be incident on the curved surface when focusing it to a line, and light from a line source should be incident on the plano surface when collimating.

These N-BK7 Plano-Convex Cylindrical lenses are available uncoated or with one of three Antireflection Coatings, which can reduce the amount of light reflected from each surface of the lens. The uncoated lenses are highlighted on this page. Lenses with a -A (350 - 700 nm range), -B (650 - 1050 nm range), or -C (1050 - 1700 nm range) antireflection coating are featured elsewhere. Please see the *Graphs* tab for coating information.

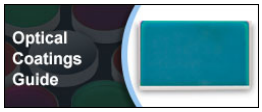
For cage system and lens tube compatibility, please see our Mounted Plano-Convex Round Cylindrical lenses. These lenses are typically easier to integrate into our standard optomechanics.

Common Specifications		
Substrate Material		N-BK7[a]
Uncoated Wavelength Range[b]		350 nm - 2.0 µm
Design Wavelength		587.6 nm
Length Tolerance		+0.00 / -0.10 mm
Height Tolerance		+0.00 / -0.10 mm
Center Thickness Tolerance		±0.1 mm
Focal Length Tolerance		±1%
Surface Quality		60-40 Scratch-Dig
Centration		For f ≤50 mm: ≤5 arcmin For f >50 mm: ≤3 arcmin
Surface Flatness (Plano Side)	Height	λ/2
	Length	λ/2
Cylindrical Surface Power[c] **(Convex Side)**	Height	3λ/2
	Length	3λ/2
Irregularity (Peak to Valley)	Height (Plano, Curved)	λ/4, λ
	Length (Plano, Curved)	λ/4, λ/cm
Clear Aperture		>90% of Surface Dimensions

- Click Link for Detailed Specifications on the Substrate
- These lenses are also available with a -A, -B, or -C antireflection coating.
- Much like surface flatness for flat optics, surface power is a measure of the deviation between the surface of the curved optic and a calibrated reference gauge, typically for a 633 nm source, unless otherwise stated. This specification is also commonly referred to as surface fit.

Zemax Files

Click on the red Document icon next to the item numbers below to access the Zemax file download. Our entire Zemax Catalog is also available.

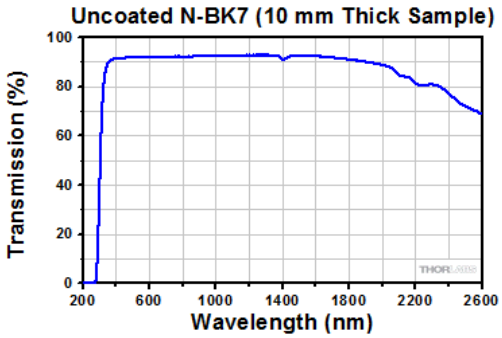


Plano-Convex Cylindrical Lens Selection Guide				
Substrate	N-BK7	UV Fused Silica	N-BK7 (Round)	UV Fused Silica (Round)
AR Coating Range	Uncoated 350 - 700 nm 650 - 1050 nm 1050 - 1700 nm	Uncoated 245 - 400 nm	Uncoated 350 - 700 nm 650 - 1050 nm 1050 - 1620 nm	Uncoated 350 - 700 nm 650 - 1050 nm 1050 - 1700 nm

GRAPHS

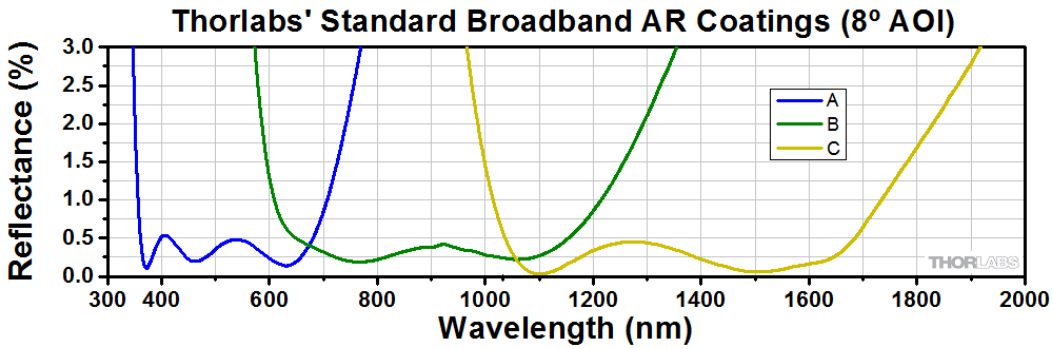
All cylindrical lenses can be ordered uncoated and the cylindrical lenses made from N-BK7 can be ordered with one of the following broadband AR coatings: -A: 350-700 nm, -B: 650-1050 nm, or -C: 1050-1700 nm

These high-performance multilayer AR coatings have an average reflectance of less than 0.5% (per surface) across the specified wavelength ranges. The central peak in each curve is less than 0.25%. These coatings provide good performance for angles of incidence (AOI) between 0° and 30° (0.5 NA). For optics intended to be used at large angles, consider using a custom coating optimized at a 45° angle of incidence; this custom coating is effective from 25° to 52°. The plot shown below indicates the performance of the standard coatings in this family as a function of wavelength.



Click to Enlarge

Click Here for Raw Data



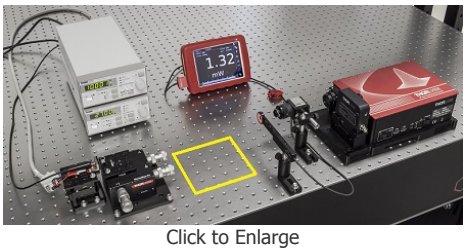
LAB FACTS

Comparison of Circularization Techniques for Elliptical Beams

Lab Facts

Click for Full Lab Facts Summary

Edge-emitting laser diodes emit elliptical beams as a consequence of the rectangular cross sections of their emission apertures. The component of the beam corresponding to the narrower dimension of the aperture has a greater divergence angle than the orthogonal beam component. As one component diverges more rapidly than the other, the beam shape is elliptical rather than circular.



Click to Enlarge
The beam circularization systems were placed in the area of the experimental setup highlighted by the yellow rectangle.

Elliptical beam shapes can be undesirable, as the spot size of the focused beam is larger than if the beam were circular, and larger spot sizes have lower irradiances (power per area). Several different techniques can be used to circularize an elliptical beam, and we experimented with and compared the performance of three methods based on a pair of cylindrical lenses, an anamorphic prism pair, and a spatial filter. The characteristics of the circularized beams were evaluated by performing M^2 measurements, wavefront measurements, and measuring the transmitted power.

Click to Enlarge
Cylindrical Lens Pair System

Click to Enlarge
Anamorphic Prism Pair System

Click to Enlarge
Spatial Filter System

While we demonstrated that each circularization technique improves the circularity of the elliptical input beam, we showed that each technique provides a different balance of circularization, beam quality, and transmitted power. Our results, which are documented in this Lab Fact, indicate that an application's specific requirements will determine which is the best circularization technique to choose.

Experimental Design and Setup

The experimental setup is shown in the picture at the top-right. The elliptically-shaped, collimated beam of a temperature-stabilized 670 nm laser diode was input to each of our circularization systems. Collimation results in a low-divergence beam, but it does not affect the beam shape.

The beam circularization systems, shown to the right, were placed, one at a time, in the vacant spot in the setup highlighted by the yellow rectangle. With this arrangement, it was possible to use the same experimental conditions when evaluating each circularization technique, which allowed the performance of each to be directly compared with the others. Some information describing selection and configuration procedures for several components used in this experimental work can be accessed by clicking the following hyperlinks:

- Mounting Laser Diodes
- Driving a Laser Diode
- Selecting a Collimating Lens
- Aspheric Lenses
- Spatial Filters

The characteristics of the beams output by the different circularization systems were evaluated by making measurements using a power meter, a wavefront sensor, and an M^2 system. In the image of the experimental setup, all of these systems are shown on the right side of the table for illustrative purposes; they were used one at a time. The power meter was used to determine how much the beam circularization system attenuated the intensity of the input laser beam. The wavefront sensor provided a way to measure the abberations of the output beam. The M^2 system measurement describes the resemblence of the output beam to a Gaussian beam. Ideally, the circularization systems would not attenuate or abberate the laser beam, and they would output a perfectly Gaussian beam.

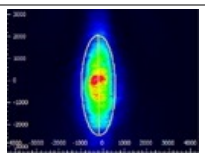
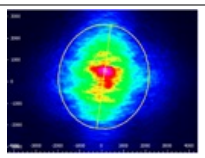
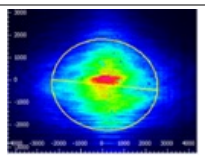
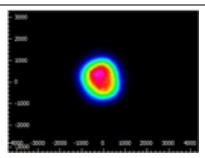
Edge-emitting laser diodes also emit astigmatic beams, and it can be desirable to force the displaced focal points of the orthogonal beam components to overlap. Of the three circularization techniques investigated in this work, only the cylindrical lens pair can also compensate for astigmatism. The displacement between the focal spots of the orthogonal beam components were measured for each circularization technique. In the case of the cylindrical lens pair, their configuration was tuned to minimize the astigmatism in the laser beam. The astigmatism was reported as a normalized quantity.

Experimental Results

The experimental results are summarized in the following table, in which the green cells identify the best result in each category. Each circularization approach has its benefits. The best circularization technique for an application is determined by the system's requirements for beam quality, transmitted optical power, and setup constraints.

Spatial filtering significantly improved the circularity and quality of the beam, but the beam had low transmitted power. The cylindrical lens pair provided a well-circularized beam and balanced circularization and beam quality with transmitted power. In addition, the cylindrical lens pair compensated for much of the beam's astigmatism. The circularity of the beam provided by the anamorphic prism pair compared well to that of the cylindrical lens pair. The beam output from the prisms had better M^2 values and less wavefront error than the cylindrical lenses, but the transmitted power was lower.

Method	Beam Intensity Profile	Circularity[a]	M^2 Values	RMS Wavefront	Transmitted Power	Normalized Astigmatism[b]

Collimated Source Output (No Circularization Technique)	 Click to Enlarge Scale in Microns	0.36	X Axis: 1.28 Y Axis: 1.63	0.17	Not Applicable	0.67
Cylindrical Lens Pair	 Click to Enlarge Scale in Microns	0.84	X Axis: 1.90 Y Axis: 1.93	0.30	91%	0.06
Anamorphic Prism Pair	 Click to Enlarge Scale in Microns	0.82	X Axis: 1.60 Y Axis: 1.46	0.16	80%	1.25
Spatial Filter	 Click to Enlarge Scale in Microns	0.93	X Axis: 1.05 Y Axis: 1.10	0.10	34%	0.36

- Circularity=d_{minor}/d_{major}, where d_{minor} and d_{major} are minor and major diameters of fitted ellipse (1/e intensity) and Circularity = 1 indicates a perfectly circular beam.
- Normalized astigmatism is the difference in the waist positions of the two orthogonal components of the beam, divided by the Raleigh length of the beam component with the smaller waist.

Components used in each circularization system were chosen to allow the same experimental setup be used for all experiments. This had the desired effect of allowing the results of all circularization techniques to be directly compared; however, optimizing the setup for a circularization technique could have improved its performance. The mounts used for the collimating lens and the anamorphic prism pair enabled easy manipulation and integration into this experimental system. It is possible that using smaller mounts would improve results by allowing the members of each pair to be more precisely positioned with respect to one another. In addition, using made-to-order cylindrical lenses with customized focal lengths may have improved the results of the cylindrical lens pair circularization system. All results may have been affected by the use of the beam profiler software algorithm to determine the beam radii used in the circularity calculation.

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=3.9 - 10 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1598L1	3.9 mm	6.0 mm	4.0 mm	2.0 mm	3.8 mm	2.0 mm	1.4 mm	
LJ1598L2		8.0 mm						
LJ1310L1	4.0 mm	6.0 mm	4.0 mm	2.1 mm	3.6 mm	2.0 mm	1.7 mm	
LJ1310L2		8.0 mm						
LJ1918L1	5.8 mm	6.0 mm	4.0 mm	3.0 mm	2.8 mm	2.0 mm	4.0 mm	
LJ1918L2		8.0 mm						
LJ1227L1	6.4 mm	8.0 mm	6.0 mm	3.3 mm	4.0 mm	2.0 mm	3.7 mm	
LJ1227L2		12.0 mm						
LJ1874L1	7.7 mm	9.0 mm	7.0 mm	4.0 mm	4.1 mm	2.0 mm	5.0 mm	
LJ1874L2		14.0 mm						
LJ1822L1	9.7 mm	12.0 mm	10.0 mm	5.0 mm	6.7 mm	2.0 mm	5.3 mm	
LJ1878L1	10.0 mm	12.0 mm	10.0 mm	5.2 mm	5.9 mm	2.0 mm	6.1 mm	
LJ1878L2		20.0 mm						

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1598L1	**f = 3.90 mm, H = 4.00 mm, L = 6.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$46.25**	**Today**
LJ1598L2	**f = 3.90 mm, H = 4.00 mm, L = 8.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$55.00**	**Today**
LJ1310L1	**f = 4.00 mm, H = 4.00 mm, L = 6.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$46.25**	**Today**
LJ1310L2	**f = 4.00 mm, H = 4.00 mm, L = 8.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$55.00**	**Today**
LJ1918L1	**f = 5.80 mm, H = 4.00 mm, L = 6.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$46.25**	**Today**
LJ1918L2	**f = 5.80 mm, H = 4.00 mm, L = 8.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$55.00**	**Today**
LJ1227L1	**f = 6.35 mm, H = 6.00 mm, L = 8.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1227L2	**f = 6.35 mm, H = 6.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$93.50**	**Today**
LJ1874L1	**f = 7.70 mm, H = 7.00 mm, L = 9.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$54.00**	**Today**
LJ1874L2	**f = 7.70 mm, H = 7.00 mm, L = 14.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$65.00**	**Today**
LJ1822L1	**f = 9.70 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$62.75**	**Today**
LJ1878L1	**f = 10.00 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$62.75**	**Today**
LJ1878L2	**f = 10.00 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$77.00**	**Today**

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=12.7 - 20 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1942L1	12.7 mm	12.0 mm	10.0 mm	6.6 mm	4.3 mm	2.0 mm	9.9 mm	
LJ1942L2		20.0 mm						
LJ1909L1	13.7 mm	15.0 mm	13.0 mm	7.1 mm	6.3 mm	2.0 mm	9.6 mm	
LJ1636L1	15.0 mm	12.0 mm	10.0 mm	7.8 mm	3.8 mm	2.0 mm	12.5 mm	
LJ1636L2		20.0 mm						
LJ1095L1	19.0 mm	18.0 mm	16.0 mm	9.8 mm	6.1 mm	2.0 mm	15.0 mm	
LJ1155L1	19.7 mm	18.0 mm	16.0 mm	10.2 mm	5.9 mm	2.0 mm	15.8 mm	
LJ1960L1	20.0 mm	12.0 mm	10.0 mm	10.3	3.3 mm	2.0 mm	17.8 mm	
LJ1960L2		20.0 mm						
LJ1328L1	20.0 mm	17.0 mm	15.0 mm	10.3 mm	5.2 mm	2.0 mm	16.6 mm	
LJ1328L2		30.0 mm						

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1942L1	**f = 12.70 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$53.00**	**Today**
LJ1942L2	**f = 12.70 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$65.00**	**Today**
LJ1909L1	**f = 13.70 mm, H = 13.00 mm, L = 15.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$60.75**	**Today**
LJ1636L1	**f = 15.00 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$53.00**	**Today**
LJ1636L2	**f = 15.00 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$65.00**	**Today**
LJ1095L1	**f = 19.00 mm, H = 16.00 mm, L = 18.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$69.25**	**Today**
LJ1155L1	**f = 19.70 mm, H = 16.00 mm, L = 18.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$69.50**	**3-5 Days**
LJ1960L1	**f = 20.00 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$53.00**	**Today**
LJ1960L2	**f = 20.00 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$65.00**	**Today**
LJ1328L1	**f = 20.00 mm, H = 15.00 mm, L = 17.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$66.25**	**Today**
LJ1328L2	**f = 20.00 mm, H = 15.00 mm, L = 30.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$80.25**	**Today**

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=22.2 - 40 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1638L1	22.2 mm	15.0 mm	12.5 mm	11.5 mm	3.9 mm	2.0 mm	19.7 mm	
LJ1810L1	25.0 mm	12.0 mm	10.0 mm	12.9 mm	3.0 mm	2.0 mm	22.9 mm	
LJ1810L2		20.0 mm						
LJ1075L1	25.0 mm	22.0 mm	20.0 mm	12.9 mm	6.7 mm	2.0 mm	20.4 mm	
LJ1075L2		40.0 mm						
LJ1014L1	25.4 mm	18.0 mm	16.0 mm	13.1 mm	4.7 mm	2.0 mm	22.3 mm	
LJ1622L1	25.4 mm	28.0 mm	25.4 mm	13.1 mm	11.8 mm	2.0 mm	17.6 mm	
LJ1212L1	30.0 mm	22.0 mm	20.0 mm	15.5 mm	5.7 mm	2.0 mm	26.3 mm	
LJ1212L2		40.0 mm						
LJ1765L1	38.1 mm	28.0 mm	25.4 mm	19.7 mm	6.6 mm	2.0 mm	33.7 mm	
LJ1402L1	40.0 mm	12.0 mm	10.0 mm	20.7 mm	2.6 mm	2.0 mm	38.3 mm	
LJ1402L2		20.0 mm						
LJ1125L1	40.0 mm	22.0 mm	20.0 mm	20.7 mm	4.6 mm	2.0 mm	37.0 mm	
LJ1125L2		40.0 mm						

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1638L1	**f = 22.20 mm, H = 12.50 mm, L = 15.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$60.75**	**Today**
LJ1810L1	**f = 25.00 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$53.00**	**Today**
LJ1810L2	**f = 25.00 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$65.00**	**Today**
LJ1075L1	**f = 25.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1075L2	**f = 25.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$96.75**	**Today**
LJ1014L1	**f = 25.40 mm, H = 16.00 mm, L = 18.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$69.50**	**Today**
LJ1622L1	**f = 25.40 mm, H = 25.40 mm, L = 28.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$96.00**	**Today**
LJ1212L1	**f = 30.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1212L2	**f = 30.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$96.75**	**Today**
LJ1765L1	**f = 38.10 mm, H = 25.40 mm, L = 28.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$96.00**	**Today**
LJ1402L1	**f = 40.00 mm, H = 10.00 mm, L = 12.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$53.00**	**Today**
LJ1402L2	**f = 40.00 mm, H = 10.00 mm, L = 20.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$67.00**	**Today**
LJ1125L1	**f = 40.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1125L2	**f = 40.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$97.75**	**Today**

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=50 - 100 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1821L1	50.0 mm	22.0 mm	20.0 mm	25.8 mm	4.0 mm	2.0 mm	47.4 mm	
LJ1821L2		40.0 mm						
LJ1695L1	50.0 mm	32.0 mm	30.0 mm	25.8 mm	6.8 mm	2.0 mm	45.5 mm	
LJ1695L2		60.0 mm						
LJ1728L1	50.8 mm	53.0 mm	50.8 mm	26.4 mm	21.6 mm	2.0 mm	36.7 mm	
LJ1430L1	60.0 mm	32.0 mm	30.0 mm	31.0 mm	5.9 mm	2.0 mm	56.1 mm	
LJ1477L1	70.0 mm	32.0 mm	30.0 mm	36.2 mm	5.3 mm	2.0 mm	66.5 mm	
LJ1703L1	75.0 mm	53.0 mm	50.80 mm	38.8 mm	11.5 mm	2.0 mm	67.4 mm	
LJ1054L1	75.6 mm	28.0 mm	25.40 mm	39.1 mm	5.1 mm	3.0 mm	72.2 mm	
LJ1054L2		51.0 mm						
LJ1258L1	75.6 mm	53.0 mm	50.80 mm	39.1 mm	12.4 mm	3.0 mm	67.4 mm	
LJ1105L1	80.0 mm	22.0 mm	20.0 mm	41.3 mm	4.2 mm	3.0 mm	77.2 mm	
LJ1105L2		40.0 mm						
LJ1567L1	100.0 mm	32.0 mm	30.0 mm	51.7 mm	5.2 mm	3.0 mm	96.6 mm	
LJ1567L2		60.0 mm						

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1821L2	**f = 50.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$97.75**	**Today**
LJ1695L1	**f = 50.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1695L2	**f = 50.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1821L1	**f = 50.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1728L1	**f = 50.80 mm, H = 50.80 mm, L = 53.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$166.00**	**Today**
LJ1430L1	**f = 60 mm, H = 30 mm, L = 32 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1477L1	**f = 70.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1703L1	**f = 75.00 mm, H = 50.80 mm, L = 53.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$165.00**	**Today**
LJ1054L1	**f = 75.60 mm, H = 25.40 mm, L = 28.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$96.00**	**Today**
LJ1054L2	**f = 75.60 mm, H = 25.40 mm, L = 51.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$116.00**	**Today**
LJ1258L1	**f = 75.60 mm, H = 50.80 mm, L = 53.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$165.00**	**Today**
LJ1105L1	**f = 80.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1105L2	**f = 80.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$98.75**	**Today**
LJ1567L1	**f = 100.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1567L2	**f = 100.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=130 - 250 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1640L1	130.0 mm	32.0 mm	30.0 mm	67.2 mm	4.7 mm	3.0 mm	126.9 mm	
LJ1934L1	150.0 mm	22.0 mm	20.0 mm	77.5 mm	3.6 mm	3.0 mm	147.6 mm	
LJ1629L1	150.0 mm	32.0 mm	30.0 mm	77.5 mm	4.5 mm	3.0 mm	147.1 mm	
LJ1629L2		60.0 mm						
LJ1895L1	150.0 mm	90.0 mm	100.0 mm	77.5 mm	21.3 mm	3.0 mm	136.0 mm	
LJ1653L1	200.0 mm	32.0 mm	30.0 mm	103.4 mm	4.1 mm	3.0 mm	197.3 mm	
LJ1653L2		60.0 mm						
Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1309L1	200.0 mm	90.0 mm	100.0 mm	103.4 mm	15.9 mm	3.0 mm	189.5 mm	
LJ1309L2		145.0 mm						
LJ1277L1	250.0 mm	22.0 mm	20.0 mm	129.2 mm	3.4 mm	3.0 mm	247.8 mm	
LJ1277L2		40.0 mm						
LJ1267L1	250.0 mm	62.0 mm	60.0 mm	129.2 mm	6.5 mm	3.0 mm	245.7 mm	

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1640L1	**f = 130.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1934L1	**f = 150.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$79.50**	**Today**
LJ1629L1	**f = 150.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1629L2	**f = 150.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1895L1	**f = 150.00 mm, H = 100.00 mm, L = 90.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$297.00**	**Today**
LJ1653L1	**f = 200.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1653L2	**f = 200.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1309L1	**f = 200.00 mm, H = 100.00 mm, L = 90.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$297.00**	**Today**
LJ1309L2	**f = 200.00 mm, H = 100.00 mm, L = 145.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$404.00**	**Today**
LJ1277L1	**f = 250.00 mm, H = 20.00 mm, L = 22.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$80.25**	**Today**
LJ1277L2	**f = 250.00 mm, H = 20.00 mm, L = 40.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$99.00**	**Today**
LJ1267L1	**f = 250.00 mm, H = 60.00 mm, L = 62.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$187.00**	**Today**

Plano-Convex Cylindrical Lenses, N-BK7, Uncoated (f=300 - 1000 mm)

Item #	Focal Length[a]	Length	Height	Radius	Center Thickness	Edge Thickness	Back Focal Length	Reference Drawing
LJ1558L1	300.0 mm	32.0 mm	30.0 mm	155.1 mm	3.7 mm	3.0 mm	297.7 mm	
LJ1558L2		60.0 mm						
LJ1996L1	300.0 mm	62.0 mm	60.0 mm	155.1 mm	5.9 mm	3.0 mm	296.2 mm	
LJ1363L1	400.0 mm	32.0 mm	30.0 mm	206.7 mm	3.5 mm	3.0 mm	397.7 mm	
LJ1363L2		60.0 mm						
LJ1144L1	500.0 mm	32.0 mm	30.0 mm	258.4 mm	3.4 mm	3.0 mm	497.7 mm	
LJ1144L2		60.0 mm						
LJ1836L1	700.0 mm	32.0 mm	30.0 mm	361.8 mm	3.3 mm	3.0 mm	697.8 mm	
LJ1516L1	1000.0 mm	32.0 mm	30.0 mm	516.8 mm	3.2 mm	3.0 mm	997.9 mm	
LJ1516L2		60.0 mm						

- All focal lengths are specified at the design wavelength (587.6 nm). Since the index of refraction for N-BK7 is inversely proportional to the wavelength, the focal length of each lens increases with increasing wavelength.

Part Number	Description	Price	Availability
LJ1558L1	**f = 300.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1558L2	**f = 300.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1996L1	**f = 300.00 mm, H = 60.00 mm, L = 62.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$187.00**	**Today**
LJ1363L1	**f = 400.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1363L2	**f = 400.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1144L1	**f = 500.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1144L2	**f = 500.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**
LJ1836L1	**f = 700.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1516L1	**f = 1000.00 mm, H = 30.00 mm, L = 32.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$109.00**	**Today**
LJ1516L2	**f = 1000.00 mm, H = 30.00 mm, L = 60.0 mm, N-BK7 Plano-Convex Cylindrical Lens, Uncoated**	**$131.00**	**Today**

Visit the *Plano-Convex Cylindrical Lenses, N-BK7, Uncoated* page for pricing and availability information:
https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=2803