



CYLINDRICAL LENS

Cylindrical lenses are useful in applications such as optical data storage and retrieval systems for imaging linear arrays, spectroscopic instrumentation for imaging slits, and other processes involving scanning techniques.

In addition, they are frequently used with lasers to generate a narrow line of light that is used for measurement or alignment. Ordinary lenses have one or more spherical surfaces, yet a curved surface on a cylindrical lens is shaped (as the name suggests) like a cylinder. Instead of a focal point, their performance is characterized by a focal line that lies parallel to the cylindrical axis. The same lens formulas that describe the behavior of common spherical elements also apply to cylindrical lenses, but in one dimension only.

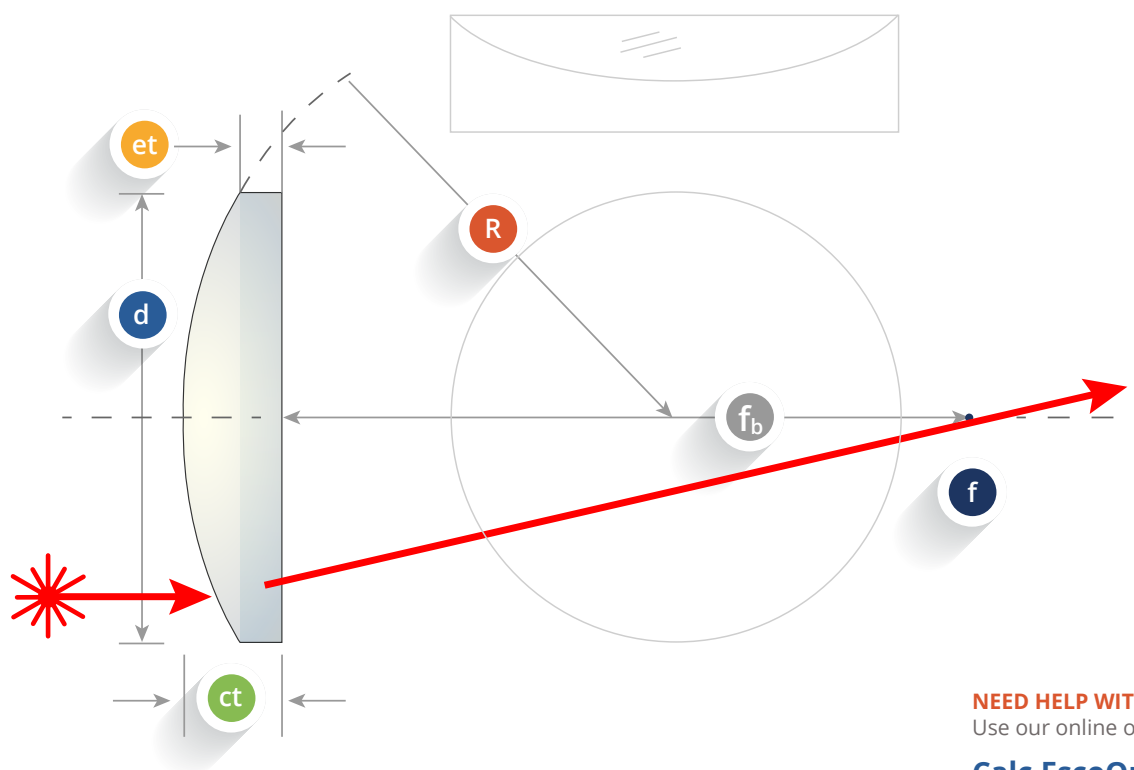
N-BK7/S-BSL 7 Optical Glass

S1 UV Grade Fused Silica

G1 Commercial Grade Fused Quartz

For more information on these lenses or custom applications, please contact us at sales@EscoOptics.com

For small or large run custom lenses please visit EscoOptics.com/quote



NEED HELP WITH A CALCULATION?

Use our online optical calculator

Calc.EscoOptics.com

Focal Length Tolerance
Diameter Tolerance
Thickness Tolerance
Design Wavelength

+/- 3%
+/- 0.125 mm
+/- 0.5 mm
546 nm

Axis Linerarity
Surface Quality
Edges

<6'
60-40 scratch-dig
Fine ground and beveled

All dimensions in mm unless otherwise specified



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95 Chamberlain Road | Oak Ridge, NJ 07438 | 800.922.3726 | EscoOptics.com



Made in the USA



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S1-UV Grade Fused Silica*	P/N	f_{nom}	Diameter	f/#	CT	ET	EFL ₂₅₀	BFL ₂₅₀
	B110015	38.1	25.4	1.5	6.9	1.5	35.1	30.4
	B110020	50.8	25.4	2.0	5.3	1.5	46.7	43.2
	B115020	50.8	38.1	1.3	11.8	2.0	46.7	38.8
	B110030	76.2	25.4	3.0	3.9	1.5	70.1	67.5
	B115030	76.2	38.1	2.0	7.6	2.0	70.1	65.0
	B120030	76.2	50.8	1.5	12.9	2.0	70.1	61.5
	B110040	101.6	25.4	4.0	3.3	1.5	93.5	91.3
	B115040	101.6	38.1	2.7	6.1	2.0	93.5	89.4
	B120040	101.6	50.8	2.0	9.5	2.0	93.5	87.1
	B110060	152.4	25.4	6.0	2.7	1.5	140.2	138.4
	B115060	152.4	38.1	4.0	4.6	2.0	140.2	137.1
	B120060	152.4	50.8	3.0	6.8	2.0	140.2	135.7
	B110100	254.0	25.4	10.0	2.2	1.5	233.7	232.2
	B115100	254.0	38.1	6.7	3.6	2.0	233.7	231.3
	B120100	254.0	50.8	5.0	4.8	2.0	233.7	230.5

G1 Optical Grade Fused Quartz	P/N	f_{nom}	Diameter	f/#	CT	ET	EFL ₃₀₀	BFL ₃₀₀
	B410015	38.1	25.4	1.5	6.9	1.5	35.9	31.2
	B410020	50.8	25.4	2.0	5.3	1.5	47.9	44.4
	B415020	50.8	38.1	1.3	11.8	2.0	47.9	39.9
	B410030	76.2	25.4	3.0	3.9	1.5	71.8	69.2
	B415030	76.2	38.1	2.0	7.6	2.0	71.8	66.7
	B420030	76.2	50.8	1.5	12.9	2.0	71.8	63.2
	B410040	101.6	25.4	4.0	3.3	1.5	95.8	93.6
	B415040	101.6	38.1	2.7	6.1	2.0	95.8	91.7
	B420040	101.6	50.8	2.0	9.5	2.0	95.8	89.4
	B410060	152.4	25.4	6.0	2.7	1.5	143.7	141.9
	B415060	152.4	38.1	4.0	4.6	2.0	143.7	140.5
	B420060	152.4	50.8	3.0	6.8	2.0	143.7	139.1
	B410100	254.0	25.4	10.0	2.2	1.5	239.4	238.0
	B415100	254.0	38.1	6.7	3.6	2.0	239.4	237.0
	B420100	254.0	50.8	5.0	4.8	2.0	239.4	236.2



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*Corning 7980/Heraeus SupraSil 313



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N-BK7/S-BSL7 Optical Glass	P/N	f_{nom}	Diameter	f/#	CT	ET	EFL ₅₄₆	BFL ₅₄₆
	B610015	38.1	25.4	1.5	6.1	1.5	38.1	34.1
	B610020	50.8	25.4	2.0	4.8	1.5	50.8	47.7
	B615020	50.8	38.1	1.3	10.2	2.0	50.8	44.1
	B610030	76.2	25.4	3.0	3.6	1.5	76.2	73.8
	B615030	76.2	38.1	2.0	6.9	2.0	76.2	71.6
	B620030	76.2	50.8	1.5	11.3	2.0	76.2	68.8
	B610040	101.6	25.4	4.0	3.1	1.5	101.6	99.6
	B615040	101.6	38.1	2.7	5.6	2.0	101.6	97.9
	B620040	101.6	50.8	2.0	8.5	2.0	101.6	96.0
	B610060	152.4	25.4	6.0	2.5	1.5	152.4	150.7
	B615060	152.4	38.1	4.0	4.3	2.0	152.4	149.5
	B620060	152.4	50.8	3.0	6.2	2.0	152.4	148.3
	B610100	254.0	25.4	10.0	2.1	1.5	254.0	252.6
	B615100	254.0	38.1	6.7	3.4	2.0	254.0	251.8
	B620100	254.0	50.8	5.0	4.5	2.0	254.0	251.0

N-BK7/S-BSL7 Optical Glass

For standard optical glass components, or when optical glass is generically requested for custom elements, Esco Optics uses a grade A fine annealed N-BK7/S-BSL7 or equivalent optical glass. This is a high quality optical material that is used whenever the additional benefits of fused silica are not required.

The refractive index of N-BK7/S-BSL7 is 1.51680 @ 587.6 nm and the dispersion is 64.18. Since N-BK7/S-BSL7 performs well in all manufacturing phases, no special handling is required, thus reducing manufacturing costs. It is a relatively hard material with extremely low bubble content, high homogeneity, low cost and easily available. Standard grade N-BK7/S-BSL7 provides excellent transmittance throughout the visible and near infrared spectra and to 350 nm in the ultraviolet. There is a UN-BK7/S-BSL7 material available for applications deeper into the UV region.