

Plano concave lenses

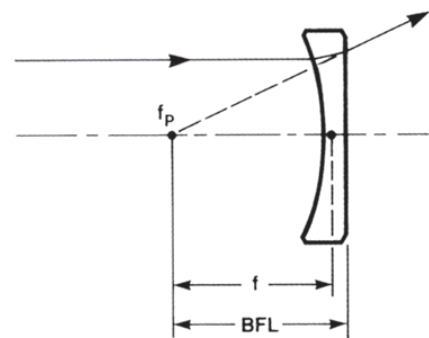
Plano concave lenses have negative focal lengths with twice the radius of curvature. They produce virtual images, which can be seen through the lens. They diverge a collimated beam and vice versa.

As with plano convex lenses spherical aberration is lowest, when the concave surface faces a collimated beam.

Focal length at other wavelengths

The focal length changes as a function of wavelength (dispersion). To find the focal length at other wavelengths as listed below, multiply the focal length at 589 nm (listed in the ordering info) by the factor in the following table.

Wavelength (nm)	Factor	
	Quartz	Glass
190	0,81	-
250	0,90	-
488	0,99	0,989
633	1,003	1,003
850	1,013	1,014
1050	1,02	1,02
2000	1,046	1,05



f = focal length
 f_p = focal point
 BFL = back focal length

Specifications		
Tolerance	diameter:	+0 mm; -0,25 mm
	focal length:	±2%
	back focal length:	±2%
Usable Aperture	95% of diameter	
Substrate	BK 7, Suprasil® 2	
Index of Refraction	BK 7:	1,5167 @ 589 nm
	Suprasil®:	1,4584 @ 589 nm
Surface Accuracy Error	1 – 2 λ	
Centration	within 1 – 2 min	

Ordering Information

∅ (mm)	f nominal @ 589 nm	F-Number	Quartz BFL nominal @ 589 nm	Order No.	Glass BFL nominal @ 589 nm	Order No.
12,7	-25,1	-2	-26,5	3-42301	-26,3	3-42201
	-50,2	-4	-51,5	3-42302	-51,3	3-42202
	-75,3	-6	-76,6	3-42305	-76,4	3-42205
	-100,3	-8	-101,7	3-42308	-101,5	3-42208
25,4	-50,2	-2	-51,5	3-42300	-51,3	3-42200
	-75,3	-3	-76,6	3-42310	-76,4	3-42210
	-100,3	-4	-101,7	3-42320	-101,4	3-42220
	-150,5	-6	-151,9	3-42325	-151,4	3-42225
38,1	-75,3	-2	-76,6	3-42330	-76,3	3-42230
	-115,4	-3	-116,8	3-42332	-116,4	3-42232
	-150,5	-4	-151,9	3-42335	-151,4	3-42235
	-225,8	-6	-227,1	3-42338	-226,4	3-42238
50,8	-100,3	-2	-101,7	3-42350	-101,4	3-42250
	-150,5	-3	-151,7	3-42360	-151,3	3-42260
	-200,7	-4	-202,0	3-42365	-201,4	3-42265
	-250,8	-5	-252,2	3-42370	-251,4	3-42270

