

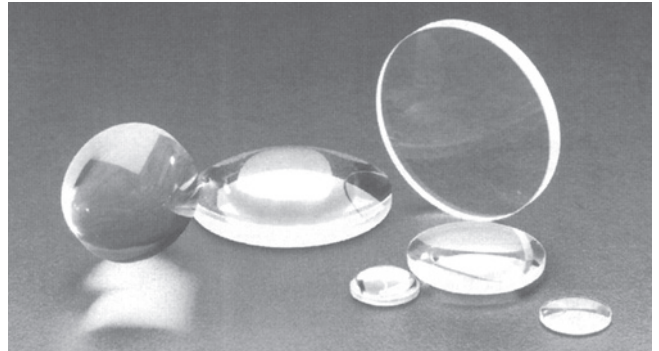
# Plano convex lenses

Plano convex lenses are the most basic optical elements. They have positive focal lengths and close to the optimum shape for use as collimating condensers and as focussing lenses for collimated beams.

The orientation of the lenses within the optical system is critical to the image quality. They have low spherical aberration if the lens is orientated in such a way that the collimated beam enters or leaves from the curved side so the plano side faces the focus or point source.

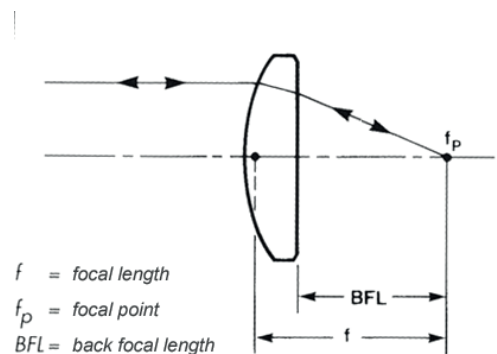
## Focal length at other wavelengths

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

Specifications		
Tolerance	diameter:	+0 mm; -0,2 mm
	focal length:	±2%
	back focal length:	±2%
Usable Aperture	90% of diameter	
Substrate	BK 7 bzw. B 270, Suprasil® 2	
Index of Refraction	BK 7:	1,5167 @ 589 nm
	B 270:	1,5230 @ 589 nm
	Suprasil®:	1,4584 @ 589 nm
Surface Accuracy Error	1 – 2 λ	
Centration	within 1 – 2 min	



# Plano convex lenses

## Ordering Information

$\varnothing$ (mm)	f nominal @ 589 nm	F-Number	Quartz BFL nominal @ 589 nm	Order No.	Glass BFL nominal @ 589 nm	Order No.
6,35	9,5	1,5	8,0	3-41115		
	12,7	2,0	11,6	3-41116		
	19	3,0	18,1	3-41117		
	25	4,0	24,1	3-41118		
	38	6,0	37,1	3-41119		
12,7	16	1,3	12,7	3-41209	13,3	3-40209
	19	1,5	16,3	3-41210	16,8	3-40210
	25	2,0	22,9	3-41220	23,2	3-40220
	38	3,0	36,4	3-41230	36,6	3-40230
	50	4,0	48,6	3-41240	48,6	3-40240
	75	6,0	73,6	3-41250	73,6	3-40250
	100	8,0	98,6	3-41252	98,6	3-40252
	125	10,0	123,6	3-41254	123,6	3-40254
	150	12,0	148,6	3-41256	148,6	3-40256
200	16,0	198,6	3-41258	198,6	3-40258	
25,4	33	1,3	27,2	3-41329	28,2	3-40329
	38	1,5	33,2	3-41330	33,9	3-40330
	50	2,0	46,2	3-41340	46,8	3-40340
	63	2,5	59,9	3-41345	60,2	3-40345
	75	3,0	72,2	3-41350	72,3	3-40350
	88	3,5	85,2	3-41354	85,3	3-40354
	100	4,0	97,2	3-41360	97,3	3-40360
	125	5,0	122,2	3-41365	122,3	3-40365
	150	6,0	147,2	3-41370	147,3	3-40370
	175	7,0	172,2	3-41375	172,3	3-40375
	200	8,0	197,2	3-41380	197,3	3-40380
	250	10,0	247,2	3-41390	247,3	3-40390
	350	14,0	347,2	3-41400	347,3	3-40400
	500	20,0	497,2	3-41410	497,3	3-40410
	750	30,0	747,2	3-41415	747,3	3-40415
1000	40,0	997,2	3-41420	997,3	3-40420	



# Plano convex lenses

∅ (mm)	f nominal @ 589 nm	F-Number	Quartz BFL nominal @ 589 nm	Order No.	Glass BFL nominal @ 589 nm	Order No.
38,1	50	1,3	41,7	3-41540	43,2	3-40540
	63	1,6	56,8	3-41545	57,7	3-40545
	75	2,0	69,7	3-41550	70,5	3-40550
	88	2,3	83,4	3-41555	84,0	3-40555
	100	2,6	95,8	3-41560	96,3	3-40560
	125	3,3	121,5	3-41565	121,7	3-40565
	150	4,0	146,5	3-41570	146,7	3-40570
	175	4,6	171,5	3-41575	171,7	3-40575
	200	5,2	196,5	3-41580	196,7	3-40580
	250	6,5	246,5	3-41590	246,7	3-40590
	350	9,3	346,5	3-41600	346,7	3-40600
	500	13,0	496,5	3-41610	496,7	3-40610
	750	19,7	746,5	3-41615	746,7	3-40615
1000	26,3	996,5	3-41620	996,7	3-40620	
50,8	65	1,3	53,8	3-41749	56,0	3-40749
	75	1,5	65,9	3-41750	67,4	3-40750
	88	1,7	80,4	3-41760	81,5	3-40755
	100	2,0	93,3	3-41765	94,2	3-40760
	125	2,5	119,5	3-41770	120,2	3-40765
	150	3,0	145,2	3-41775	145,7	3-40770
	175	3,5	170,6	3-41780	170,7	3-40775
	200	4,0	195,6	3-41790	195,7	3-40780
	250	5,0	245,6	3-41800	245,7	3-40790
	350	7,0	345,6	3-41810	345,8	3-40800
	500	10,0	495,6	3-41815	495,7	3-40810
	750	15,0	745,6	3-41811	745,7	3-40815
	1000	20,0	995,6	3-41820	995,7	3-40820
	1500	30,0	1495,6	3-41821	1495,7	3-40825
2000	40,0	1995,5	3-41830	1994,7	3-40830	
76,2	100	1,3	84,2	3-41960	87,2	3-40960
	125	1,6	113,3	3-41965	115,1	3-40965
	150	2,0	140,4	3-41970	141,7	3-40970
	175	2,3	166,7	3-41975	167,8	3-40975
	200	2,6	192,5	3-41980	193,5	3-40980
	250	3,3	243,8	3-41990	244,3	3-40990
	350	4,6	344,1	3-41995	344,3	3-40995
	500	6,5	494,1	3-42010	494,3	3-41010
	750	9,8	744,1	3-42011	744,3	3-41011
	1000	13,1	994,1	3-42012	994,3	3-41012
	1500	19,7	1494,1	3-42013	1494,3	3-41013
	2000	26,2	1994,0	3-42014	1994,2	3-41014



# Plano convex lenses

$\varnothing$ (mm)	f nominal @ 589 nm	F-Number	Quartz BFL nominal @ 589 nm	Order No.	Glass BFL nominal @ 589 nm	Order No.
101,6	150	1,5	132,5	3-42015	135,4	3-41015
	200	2,0	187,3	3-42016	189,1	3-41016
	250	2,5	239,7	3-42017	241,1	3-41017
	500	5,0	492,2	3-42018	492,5	3-41018
	1000	10,0	992,2	3-42019	992,5	3-41019

