Cylindrical Plano-concave Lenses

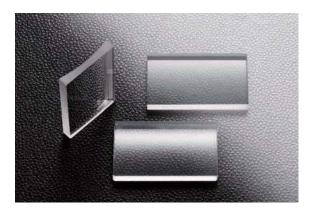
CPCL-N/CPCQL-N



Cylindrical plano-concave lens has a concave curvature in the vertical direction and has no curvature in the horizontal direction.

Used in such applications in combination with a plano-convex cylindrical, elliptical shaped beam to a circular beam of semiconductor laser.

- There are two types available; BK7 for from visible range to infrared wavelength range, high-strength synthetic fused silica which has high laser damage threshold used in less than 350nm ultraviolet light.
- Made of BK7 lenses are also available with three types of anti-reflection coating in the infrared wavelength, near-infrared wavelength and visible wavelength.
- By using a cylindrical lens in the optical system, it is available to change the shape and aspect ratio of the illumination light beam.



CLB: BK7 CLSQ: Synthetic fused silica		
546.1nm		
BK: n _e =1.519 Synthetic fused silica: n _e =1.460		
Uncoated: the end of the part number 'N' Anti-reflection coating: the end of the part number 'NM', 'NIR1', 'NIR2'		
Anti-reflection coating: 4J/cm ² Laser pulse with 10ns, repetition frequency 20Hz		
90% of square or rectangle to actual dimension		
20–10		

Guide

- It is also available other than the products which listed in the catalog such as focal length and outer diameter size.
- Production is also available with a specific wavelength of anti-reflective coating on the lens of no coated.
- ▶ To fixe the cylindrical lenses, it is available cylindrical lens holders (cf. CHA). Reference D031

Attention

- ▶ The cylindrical plano-concave lens has chromatic aberration, the focal length will vary depending on the wavelength. Please check the "wavelength characteristic of the focal length data" on the Web for the focal lengths of each wavelength. >WEB Refer catalog Code W3068
- There is a direction to put light in a plano-concave cylindrical lens. Please let the incident parallel light from the concave side. There is a possibility that the spherical aberration increases when in reverse, the optical performance of the system will not be appropriate.
- Losses due to reflection of the front and rear surfaces of the lens, the transmittance of no coated is about 90%

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Principal point

anti-reflection coating

Tolerance

Thickness tc±0.2

Length

A+0 B+0 -0.1

How to specify the anti-reflection coating

In case of specifying a anti-reflection coating 633nm - 1064nm to near infrared lens of CPCL-3050-200N.

⇒ CPCL-3050-200NIR1

Schematic

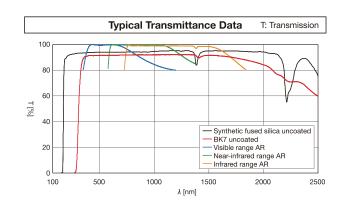
Focal point

Outline Drawing

Type of AR Coat	Part Number	Wavelength Range [nm]	Transmittance [%]	
Visible range	CPCL-3050-200NM	400 – 700	> Average 99	
Near-infrared	CPCL-3050-200NIR1	633 – 1064	> Average 98.5	
Infrared	CPCL-3050-200NIR2	750 – 1550	> Average 98.5	

Part of the above is an example of if you want to coat anti-reflective coating on the lens of the CPCL-3050-200N

Anti-reflection coating can be available to the lens of all of CPCL.



Compatible Optic Mounts

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					•				
BK7 10×10mm –	30×50mm								
Uncoated	1	cify the anti-refle	ction coating		Focal length	Thickness of	Thickness of	Back focal	Radius of
Part Number	Visibe	Near-infrared	Infrared	A×B [mm]	f	the edge te	the center tc	length fb	curvature r
	400 – 700nm	633 – 1064nm	750 – 1550nm		[mm]	[mm]	[mm]	[mm]	[mm]
CPCL-1010-15N CPCL-1010-20N	M M	IR1	IR2 IR2	10×10 10×10	–15 –20	4.0 3.0	2.2 1.7	–16.4 –21.1	7.79 10.38
CPCL-1010-25N	M	IR1	IR2	10×10	–25	3.0	2.0	-26.3	12.98
CPCL-1010-30N	М	IR1	IR2	10×10	-30	3.0	2.2	-31.4	15.57
CPCL-1010-40N CPCL-1020-15N	M	IR1 IR1	IR2 IR2	10×10 10×20	-40 -15	3.0 4.0	2.4	-41.6 -16.4	20.76 7.79
CPCL-1020-15N CPCL-1020-20N	M	IR1	IR2	10×20	-15 -20	3.0	1.7	-10.4 -21.1	10.38
CPCL-1020-25N	М	IR1	IR2	10×20	-25	3.0	2.0	-26.3	12.98
CPCL-1020-30N	M	IR1	IR2	10×20	-30	3.0	2.2	-31.4	15.57
CPCL-1020-40N CPCL-1515-20N	M	IR1 IR1	IR2 IR2	10×20 15×15	-40 -20	3.0 5.0	1.8	-41.6 -21.2	20.76 10.38
CPCL-1515-25N	M	IR1	IR2	15×15	-25	5.0	2.6	-26.7	12.98
CPCL-1515-30N	М	IR1	IR2	15×15	-30	4.0	2.1	-31.4	15.57
CPCL-1515-40N	M	IR1	IR2	15×15	-40	4.0	2.6	-41.7	20.76
CPCL-1525-20N CPCL-1525-25N	M M	IR1	IR2 IR2	15×25 15×25	–20 –25	5.0 5.0	1.8 2.6	-21.2 -26.7	10.38 12.98
CPCL-1525-25N	M	IR1	IR2	15×25	-30	4.0	2.1	-20.7 -31.4	15.57
CPCL-1525-40N	М	IR1	IR2	15×25	-40	4.0	2.6	-41.7	20.76
CPCL-2020-25N	M	IR1	IR2	20×20	-25	7.0	2.3	-26.5	12.98
CPCL-2020-30N CPCL-2020-40N	M M	IR1 IR1	IR2 IR2	20×20 20×20	–30 –40	6.0 5.0	2.4	-31.6 -41.6	15.57 20.76
CPCL-2020-50N	M	IR1	IR2	20×20	-50	4.0	2.0	-51.3	25.95
CPCL-2020-60N	M	IR1	IR2	20×20	-60	4.0	2.4	-61.5	31.14
CPCL-2020-70N	M M	IR1	IR2 IR2	20×20 20×20	–70 –80	4.0	2.6 2.8	–71.7 –81.8	36.33 41.52
CPCL-2020-80N CPCL-2020-100N	M	IR1	IR2	20×20	–60 –100	4.0	3.0	-102.0	51.90
CPCL-2020-130N	М	IR1	IR2	20×20	-130	4.0	3.3	-132.1	67.47
CPCL-2020-150N	M	IR1	IR2	20×20	-150	4.0	3.4	-152.2	77.85
CPCL-2020-200N CPCL-2020-250N	M M	IR1	IR2 IR2	20×20 20×20	–200 –250	4.0	3.5 3.6	-202.3 -252.4	103.80 129.75
CPCL-2020-300N	M	IR1	IR2	20×20	-300	4.0	3.7	-302.4	155.70
CPCL-2030-100N	М	IR1	IR2	20×30	-100	4.0	3.0	-102.0	51.90
CPCL-2030-130N	M	IR1	IR2	20×30	-130	4.0	3.3	-132.1	67.47
CPCL-2030-150N CPCL-2030-200N	M M	IR1	IR2 IR2	20×30 20×30	–150 –200	4.0	3.4	-152.2 -202.3	77.85 103.80
CPCL-2030-250N	M	IR1	IR2	20×30	-250	4.0	3.6	-252.4	129.75
CPCL-2030-300N	М	IR1	IR2	20×30	-300	4.0	3.7	-302.4	155.70
CPCL-2040-25N CPCL-2040-30N	M M	IR1	IR2 IR2	20×40 20×40	–25 –30	7.0	2.3	–26.5 –31.6	12.98 15.57
CPCL-2040-40N	M	IR1	IR2	20×40	-40	5.0	2.4	-41.6	20.76
CPCL-2040-50N	М	IR1	IR2	20×40	-50	4.0	2.0	-51.3	25.95
CPCL-2040-60N	M	IR1	IR2	20×40	-60 -70	4.0	2.4	-61.5	31.14
CPCL-2040-70N CPCL-2040-80N	M M	IR1 IR1	IR2 IR2	20×40 20×40	–70 –80	4.0	2.6 2.8	–71.7 –81.8	36.33 41.52
CPCL-2050-100N	M	IR1	IR2	20×50	-100	4.0	3.0	-102.0	51.90
CPCL-2050-130N	М	IR1	IR2	20×50	-130	4.0	3.3	-132.1	67.47
CPCL-2050-150N CPCL-2050-200N	M M	IR1 IR1	IR2 IR2	20×50 20×50	–150 –200	4.0	3.4 3.5	-152.2 -202.3	77.85 103.80
CPCL-2050-200N CPCL-2050-250N	M	IR1	IR2	20×50	-250 -250	4.0	3.6	-202.3 -252.4	129.75
CPCL-2050-300N	М	IR1	IR2	20×50	-300	4.0	3.7	-302.4	155.70
CPCL-3030-50N	M	IR1	IR2	30×30	-50 60	7.0	2.2	-51.5	25.95
CPCL-3030-60N CPCL-3030-70N	M M	IR1	IR2 IR2	30×30 30×30	-60 -70	5.0	2.1 1.8	-61.4 -71.2	31.14 36.33
CPCL-3030-80N	M	IR1	IR2	30×30	_80	5.0	2.2	-81.4	41.52
CPCL-3030-100N	M	IR1	IR2	30×30	-100	5.0	2.8	-101.8	51.90
CPCL-3030-130N	M	IR1	IR2	30×30	-130 150	5.0 5.0	3.3	-132.2	67.47
CPCL-3030-150N CPCL-3030-200N	M M	IR1	IR2 IR2	30×30 30×30	–150 –200	5.0	3.5 3.9	-152.3 -202.6	77.85 103.80
CPCL-3030-250N	M	IR1	IR2	30×30	-250	5.0	4.1	-252.7	129.75
CPCL-3030-300N	M	IR1	IR2	30×30	-300	5.0	4.3	-302.8	155.70
CPCL-3040-50N CPCL-3040-60N	M M	IR1 IR1	IR2 IR2	30×40 30×40	–50 –60	7.0 6.0	2.2 2.1	-51.5 -61.4	25.95 31.14
CPCL-3040-50N	M	IR1	IR2	30×40		5.0	1.8	-71.2	36.33
CPCL-3040-80N	М	IR1	IR2	30×40	-80	5.0	2.2	-81.4	41.52
CPCL-3050-100N	M	IR1	IR2	30×50	-100	5.0	2.8	-101.8	51.90
CPCL-3050-130N CPCL-3050-150N	M M	IR1	IR2 IR2	30×50 30×50	–130 –150	5.0 5.0	3.3 3.5	-132.2 -152.3	67.47 77.85
CPCL-3050-150N	M	IR1	IR2	30×50	-200	5.0	3.9	-202.6	103.80
CPCL-3050-250N	М	IR1	IR2	30×50	-250	5.0	4.1	-252.7	129.75
CPCL-3050-300N	М	IR1	IR2	30×50	-300	5.0	4.3	-302.8	155.70

Synthetic fused silica	10×10mm – 3	30×50mm				
Part Number	A×B	Focal length	Thickness of the edge te	Thickness of the center tc	Back focal length	Radius of curvatu
art (varibo)	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
CPCQL-1010-15N	10×10	–15	4.0	1.9	-16.3	6.90
CPCQL-1010-20N	10×10	–20	3.0	1.5	-21.0	9.20
CPCQL-1010-25N	10×10	–25	3.0	1.9	-26.3	11.50
CPCQL-1010-30N	10×10	-30	3.0	2.1	-31.4	13.80
CPCQL-1010-40N	10×10	-40	3.0	2.3	-41.6	18.40
CPCQL-1020-15N	10×20	-15	4.0	1.9	-16.3	6.90
CPCQL-1020-20N	10×20 10×20	-20 -25	3.0	1.5	-21.0	9.20 11.50
CPCQL-1020-25N CPCQL-1020-30N	10×20 10×20	-25 -30	3.0	1.9 2.1	-26.3 -31.4	13.80
CPCQL-1020-30N	10×20 10×20		3.0	2.3	-41.6	18.40
CPCQL-1515-20N	15×15	-20	6.0	2.1	-21.5	9.20
CPCQL-1515-25N	15×15		5.0	2.2	–26.5	11.50
CPCQL-1515-30N	15×15	_30	4.0	1.8	-31.2	13.80
CPCQL-1515-40N	15×15	-40	4.0	2.4	-41.6	18.40
CPCQL-1525-20N	15×25	-20	6.0	2.1	-21.5	9.20
CPCQL-1525-25N	15×25	–25	5.0	2.2	-26.5	11.50
CPCQL-1525-30N	15×25	-30	4.0	1.8	-31.2	13.80
CPCQL-1525-40N	15×25	-40	4.0	2.4	-41.6	18.40
CPCQL-2020-25N	20×20	-25	7.0	1.2	-25.8	11.50
CPCQL-2020-30N	20×20	-30	6.0	1.7	-31.2	13.80
CPCQL-2020-40N	20×20	-40	5.0	2.0	-41.4	18.40
CPCQL-2020-50N	20×20	-50	4.0	1.7	-51.2	23.00
CPCQL-2020-60N	20×20	-60	4.0	2.1	-61.5	27.60
CPCQL-2020-70N	20×20	-70	4.0	2.4	-71.6	32.20
CPCQL-2020-80N	20×20	-80	4.0	2.6	-81.8	36.80
CPCQL-2020-100N	20×20	–100	4.0	2.9	-102.0	46.00
CPCQL-2020-130N	20×20	–130	4.0	3.2	-132.2	59.80
CPCQL-2020-150N	20×20	–150	4.0	3.3	-152.2	69.00
CPCQL-2020-200N	20×20	–200	4.0	3.5	-202.4	92.00
CPCQL-2020-250N	20×20	–250	4.0	3.6	-252.4	115.00
CPCQL-2020-300N	20×20	-300	4.0	3.6	-302.5	138.00
CPCQL-2040-25N	20×40	-25	7.0	1.2	-25.8	11.50
CPCQL-2040-30N	20×40 20×40	-30 -40	6.0 5.0	1.7 2.0	-31.2 -41.4	13.80 18.40
CPCQL-2040-40N CPCQL-2040-50N	20×40 20×40		4.0	1.7	-41.4 -51.2	23.00
CPCQL-2040-60N	20×40 20×40		4.0	2.1	-61.5	27.60
CPCQL-2040-70N	20×40	00 70	4.0	2.4	–71.6	32.20
CPCQL-2040-80N	20×40		4.0	2.6	-81.8	36.80
CPCQL-2050-100N	20×50	-100	4.0	2.9	-102.0	46.00
CPCQL-2050-130N	20×50	-130	4.0	3.2	-132.2	59.80
CPCQL-2050-150N	20×50	–150	4.0	3.3	-152.2	69.00
CPCQL-2050-200N	20×50	-200	4.0	3.5	-202.4	92.00
CPCQL-2050-250N	20×50	-250	4.0	3.6	-252.4	115.00
CPCQL-2050-300N	20×50	-300	4.0	3.6	-302.5	138.00
CPCQL-3030-50N	30×30	-50	7.0	1.4	-51.0	23.00
CPCQL-3030-60N	30×30	-60	6.0	1.6	-61.1	27.60
CPCQL-3030-70N	30×30	- 70	6.0	2.3	-71.6	32.20
CPCQL-3030-80N	30×30	-80	5.0	1.8	-81.2	36.80
CPCQL-3030-100N	30×30	-100	5.0	2.5	-101.7	46.00
CPCQL-3030-130N	30×30	-130	5.0	3.1	-132.1	59.80
PCQL-3030-150N	30×30	–150	5.0	3.3	-152.3	69.00
CPCQL-3030-200N	30×30	-200	5.0	3.8	-202.6	92.00
CPCQL-3030-250N	30×30	-250	5.0	4.0	-252.8	115.00
PCQL-3030-300N	30×30	-300	5.0	4.2	-302.9	138.00
PCQL-3040-50N	30×40	–50	7.0	1.4	-51.0	23.00
PCQL-3040-60N	30×40	-60	6.0	1.6	-61.1	27.60
PCQL-3040-70N	30×40	-70	6.0	2.3	-71.6	32.20
CPCQL-3040-80N	30×40	-80	5.0	1.8	-81.2	36.80
CPCQL-3050-100N	30×50	-100	5.0	2.5	-101.7	46.00
PCQL-3050-130N	30×50	-130	5.0	3.1	-132.1	59.80
CPCQL-3050-150N	30×50	–150 200	5.0	3.3	-152.3	69.00
CPCQL-3050-200N	30×50	-200 250	5.0	3.8	-202.6	92.00
CPCQL-3050-250N CPCQL-3050-300N	30×50 30×50	–250 –300	5.0 5.0	4.0 4.2	-252.8 -302.9	115.00 138.00

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