doric™ Gradient-Index Cylindrical Lens

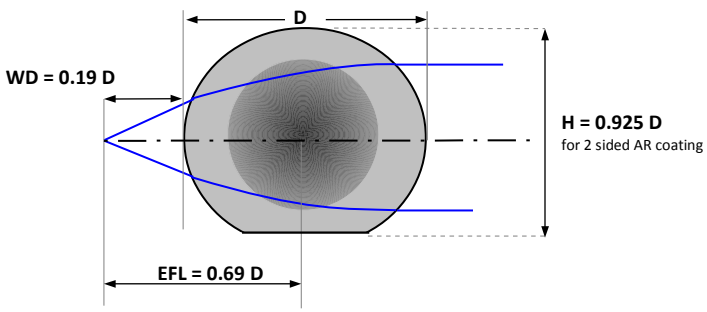
A simple tuning of the drawing process results in diffraction-limited microlenses in the shape of fibers or rods with precise diameters and unsurpassed surface quality. When illuminated sideways, these fibers act as perfect cylindrical lenses with 0.5 NA. The fused silica cladding and the gradient-index core of these lenses withstand very high temperatures (transition temperature is approximately 1100°C). The lenses can be used in visible and near infra red spectrum.

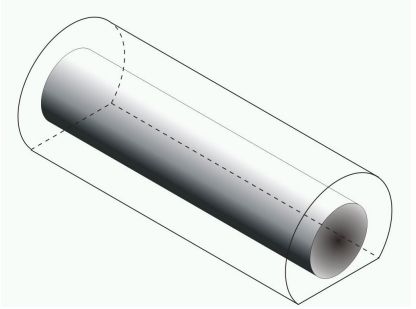
The rods or fibers are cut to desired length. The round cross-section of these lenses results in the large field of view and simple, costeffective alignment with the laser diodes where most of the positioning errors result in simple focusing errors. This leads to effective "best focus" search beneficial for automated or manual positioning. These lenses could be used either as fast-axis collimators for single laser diodes or for building cylindrical lens arrays for laser diode bars. In order to accommodate a small emitter pitch, the edge of the lens may be ground to a desired width.

Core is proprietary graded index material. Index profile is available after signing a non-disclosure agreement.

WEBCODE:	D148 -_ _ _ _

LENS DRAWING

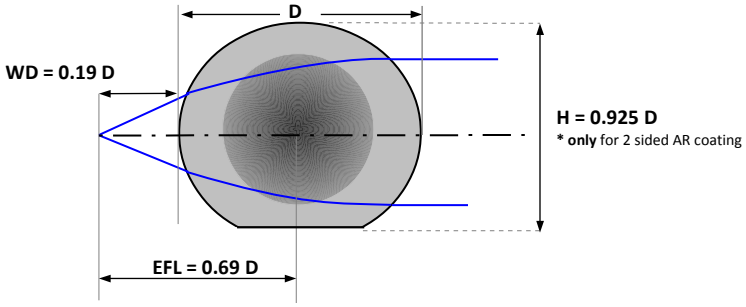


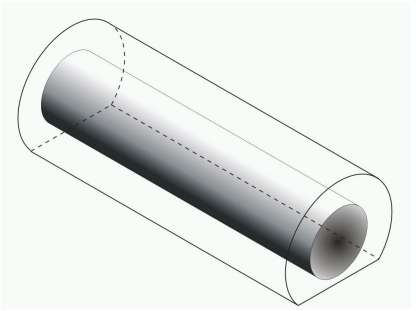


SPECIFICATIONS	SYMBOL	VALUE
Lens Type		CYLINDRICAL
Material		FUSED SILICA (with GRIN doped core)
Transition Temperature	Tg	~ 1100°C
Operating Wavelength	λ	600 – 1600 nm
Available diameter	D	see next table
Diameter tolerance	ΔD	+/- 10 µm for Φ = 60 to 500 µm +/- 20 µm for Φ = 0.60 to 1.50 mm
Effective focal length	EFL	EFL = 0.69 D
Working distance	WD	WD = 0.19 D
Numerical aperture	NA	0.50
AR coating	AR	AA-808 : narrow band all-around @ 800 – 820 nm AA-940 : narrow band all-around @ 930 - 950 nm
Note		other custom diameter and custom AR coating are available upon request

LENS CODE:	D148 -_ _ _ _

LENS DRAWING





LENS CODE	DIAMETER [microns]	FOCAL LENGTH [microns]	WORKING DISTANCE [microns]	HEIGHT [microns] *only for 2 sided AR	
	D	EFL = 0.69 D	WD = 0.19 D	H = 0.925 D	
D148-0383	60	41	11	-	
D148-0384	80	55	15	-	
D148-0385	100	69	19	-	
D148-0386	120	82	23	-	
D148-0387	150	104	29	-	
D148-0388	200	138	38	-	
D148-0389	250	172	47	-	
D148-0390	300	207	57	-	
D148-0391	400	276	76	370	
D148-0392	500	345	95	462	
D148-0393	555	383	105	513	
D148-0394	600	414	114	555	
D148-0395	750	518	143	694	
D148-0396	800	552	152	740	
D148-0398	1000	690	190	925	
D148-0403	1200	828	228	1110	
D148-1351	1300	897	247	1203	
D148-0399	1500	1035	285	1387	