

# NIR LENSES

The NIR objective fore lenses are optimized for the near-infrared wavelength region, 900 – 1700 nm. The Enhanced SWIR lenses on the following pages are also optimized for use in the NIR region.

When choosing between the NIR lenses, consider the desired magnification. The lenses in the NIR series offer a range of focal lengths (8 – 50 mm) and have field of view angles between 10° and 58°.



Optical Characteristics	OLN8	OLN12	OLN16	OLN25	OLN35	OLN50
Focal Length	8 mm	12 mm	16 mm	25 mm	35 mm	50 mm
F-number	1.4	1.4	1.4	1.4	1.4	1.4
Transmission	> 75%	> 75%	> 75%	> 75%	> 75%	> 75%
Minimum Working Distance *	10 cm	30 cm	30 cm	30 cm	30 cm	50 cm

### Mechanical Characteristics

Dimensions	58mm x ø 57mm	52mm x ø 42mm	53mm x ø 42mm	43mm x ø 42mm	43mm x ø 42mm	48mm x ø 47.5mm
Body Material	Anodized Al	Anodized Al	Anodized Al	Anodized Al	Anodized Al	Anodized Al
Mount	C-mount	C-mount	C-mount	C-mount	C-mount	C-mount

### Sample Object Sizes at Different Chosen Working Distances

Field of View angle (degrees) **	61.9	43.6	33.4	21.7	15.6	11.0
D = 100 mm [3.94 in] *	L= 120.00 W= 0.38	-- --	-- --	-- --	-- --	-- --
D = 300 mm [11.81 in] *	L= 360.00 W= 1.13	240.00 0.75	180.00 0.56	115.20 0.36	82.29 0.26	-- --
D = 500 mm [19.69 in]	L= 600.00 W= 1.88	400.00 1.25	300.00 0.94	192.00 0.60	137.14 0.43	96.00 0.30
D = 750 mm [29.53]	L= 900.00 W= 2.81	600.00 1.88	450.00 1.41	288.00 0.90	205.71 0.64	144.00 0.45
D = 1000 mm [39.37]	L= 1200.00 W= 3.75	800.00 2.50	600.00 1.88	384.00 1.20	274.29 0.86	192.00 0.60
D = 1500 mm [59.06]	L= 1800.00 W= 5.63	1200.00 3.75	900.00 2.81	576.00 1.80	411.43 1.29	288.00 0.90
D = 2000 mm [78.74 in]	L= 2400.00 W= 7.50	1600.00 5.00	1200.00 3.75	768.00 2.40	548.57 1.71	384.00 1.20
D = 3000 mm [118.11 in]	L= 3600.00 W= 11.25	2400.00 7.50	1800.00 5.63	1152.00 3.60	822.86 2.57	576.00 1.80
D = 1 km [3280 ft] ***	L= 1200.00 W= 3.75	800.00 2.50	600.00 1.88	384.00 1.20	274.29 0.86	192.00 0.60

\* Full field of view angle and sharp focus may not be achieved if distance is shorter than the given minimum working distance.

\*\* Default slit width (30 µm) and standard NIR detector effective slit length of 9.6 mm used for calculations.

\*\*\* Length and width at 1 km calculated in meters [m].



OLN25, OLN50

NIR Lenses Ordering Information		
Part Number	Description	Product Name
MRC-211-001-02	NIR Lens, C-Mount, 8mm f/1.4 (900-1700nm)	OLN8
MRC-211-001-03	NIR Lens, C-Mount, 12mm f/1.4 (900-1700nm)	OLN12
MRC-211-001-04	NIR Lens, C-Mount, 16mm f/1.4 (900-1700nm)	OLN16
MRC-211-001-05	NIR Lens, C-Mount, 25mm f/1.4 (900-1700nm)	OLN25
MRC-211-001-06	NIR Lens, C-Mount, 35mm f/1.4 (900-1700nm)	OLN35
MRC-211-001-07	NIR Lens, C-Mount, 50mm f/1.4 (900-1700nm)	OLN50