

Spherical Lenses

Cylindrical Lenses

Lens Kits

Achromatic Doublets

Multi-Element

Micro Optics

Mirrors

Prisms

Substrates & Windows

Beamsplitters

Polarizers

Filter & Apertures

Off-Axis Parabolic Mirrors

- Perfect for collimating point sources
- Spherical and chromatic aberration free
- Aluminum overcoated with MgF_2 for high durability
- Standard diameters from 2.5 to 10.0 inches

Off-axis paraboloids are excellent for collimation of a point source and for collecting of light from a distant source. The focal point is located outside of the collection area so that shadowing is eliminated.

These paraboloids are hand polished from large blanks of fine-annealed low expansion glass. They are finished to an accuracy of $\lambda/10$ and are provided with a measured interferogram. The back surface is ground so that when mounted the mirror normal bisects the angle between the focal axis and the collimated axis.

These mirrors are coated with protected aluminum to provide a reflectance of at least 85% over the visible and near infrared spectrum. (See reflectance curve on next page.) Protected gold coatings are also available upon request for use over the infrared spectrum.



Off-axis parabolic mirrors are classically used to focus distant objects. The focal point is outside of the collection area, so shadowing is eliminated. While the field of view is fairly restricted, within that area the imagery is diffraction limited and free of both chromatic and spherical aberration.

Specifications & Tolerances

Surface tolerance: $\lambda/10$

Surface quality: 60-40

Focal length: $\pm 1\%$ Thickness: $\pm 0.2\text{mm}$

Durability: to MIL-C-675

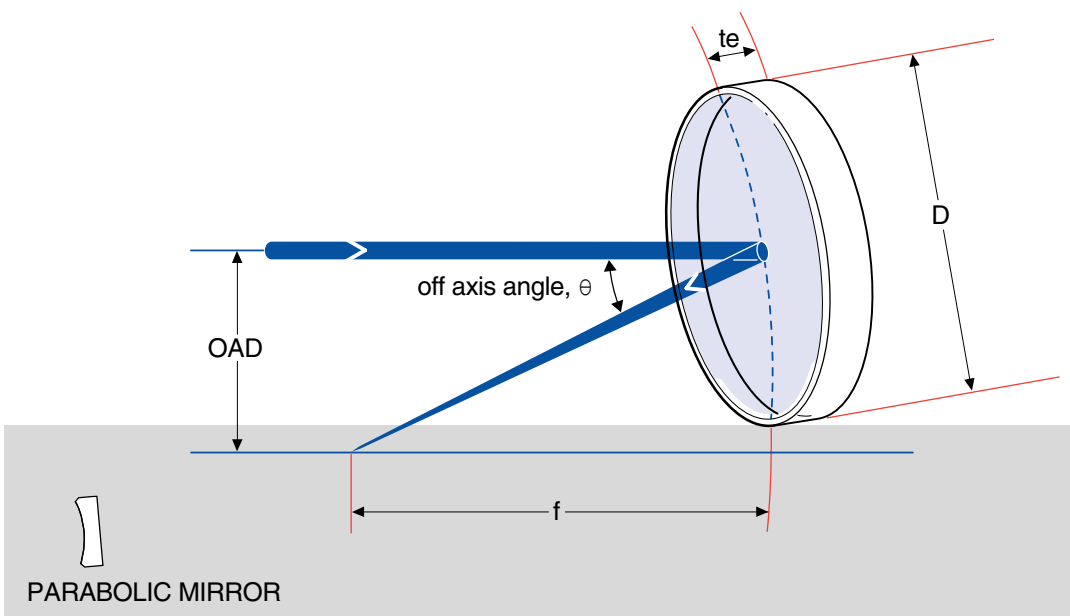
Reflectance: Protected Aluminum $R > 85\%$ (350-1550nm)

Diameter: +0, -0.2mm

Clear aperture: 90% diameter

Material: Low expansion glass

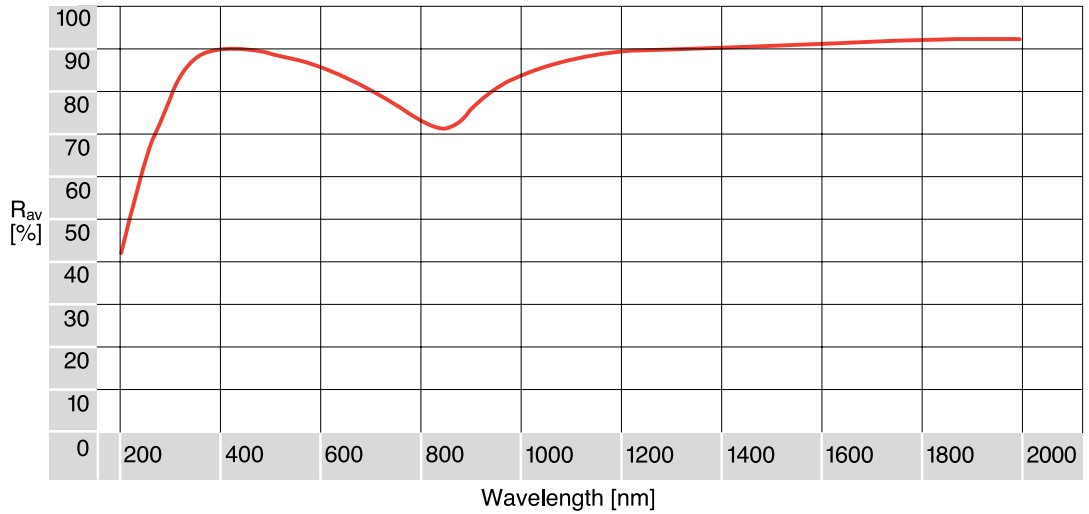
Off-axis distance tolerance: +6, -0mm



ORDERING
&
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OPTICAL COMPONENTS

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ALUMINUM COATING REFLECTIVITY

Al + MgF₂

Parabolic Mirrors

Focal Length (m)	Diameter, D (inches) (mm)		Thickness, te (mm)	Off-axis distance, OAD (mm)	Off-axis angle, θ (degrees)	Price	PART NUMBER
0.50	2.5	63.5	15.0	60	6.9		037-0110
0.75	3.0	76.2	15.0	80	6.1		037-0120
1.00	2.5	63.5	15.0	60	3.4		037-0130
1.00	4.0	101.6	17.0	110	6.3		037-0140
1.25	3.0	76.2	15.0	80	3.7		037-0150
1.25	5.0	127.0	20.0	100	4.6		037-0160
1.50	6.0	152.4	25.0	100	3.8		037-0170
2.00	4.0	101.6	17.0	110	3.2		037-0180
2.00	5.0	127.0	20.0	100	2.9		037-0190
2.00	8.0	203.2	33.0	150	4.3		037-0220
2.50	10.0	254.0	45.0	175	4.0		037-0230
3.00	6.0	152.4	25.0	100	1.9		037-0240
4.00	8.0	203.2	33.0	150	2.2		037-0250
5.00	10.0	254.0	42.0	175	2.0		037-0260

A wide variety of sizes can be supplied but these popular items are offered as standard. Please call with your requirements even if you do not see the exact paraboloid you need.

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Our extensive metrology capabilities ensure that our products will meet or exceed their specifications.

