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THORLABS

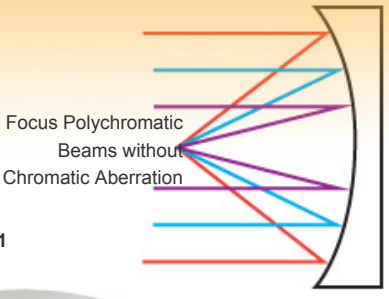
CM508-100-E01 - FEB 20, 2019

Item # CM508-100-E01 was discontinued on FEB 20, 2019. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

CONCAVE MIRRORS: UV BROADBAND DIELECTRIC COATING (350 - 400 NM)

- **Focal Lengths from 25 - 500 mm**
- **Ø1/2", Ø1", Ø2", or Ø75 mm**
- **Dielectric Coating for 350 - 400 nm**
- **No Chromatic Aberration Introduced**

CM127-025-E01
(Ø1/2")



CM254-050-E01
(Ø1")

CM750-150-E01
(Ø75 mm)

CM508-100-E01
(Ø2")

OVERVIEW

Features

Dielectric Concave Mirrors Selection Guide[a]	
UV (350 - 400 nm)	Visible (400 - 750 nm)
NIR (750 - 1100 nm)	Telecom (1280 - 1600 nm)

- See the *Concave Mirror Guide* tab, above, for our complete selection of concave mirrors.

- Dielectric Coating: 350 - 400 nm (-E01)
- >99% Average Reflectivity in Dielectric Coating Range
- Four Diameter Options: 1/2", 1", 2", or 75 mm
- Focal Lengths Range from 25 mm - 500 mm

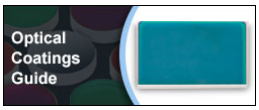
Thorlabs' Broadband Dielectric Concave Mirrors are designed for light collection, imaging, and focusing applications. These reflective optics focus light without introducing chromatic aberration, making them especially suitable for broadband sources.

Common Specifications	
Available Diameters	Ø1/2", Ø1", Ø2", and Ø75 mm
Dielectric Coating Range	350 - 400 nm; R_{avg} >99%
Clear Aperture	>90% of Diameter
Surface Irregularity	λ/4 @ 633 nm
Surface Quality	20-10 Scratch-Dig
Diameter Tolerance	+0.0/-0.2 mm
Thickness Tolerance	±0.2 mm
Substrate	N-BK7[a]
Backside Surface	Fine Ground and Engraved with Part Number (Not Polished)

- Click Link for Detailed Specifications on the Substrate

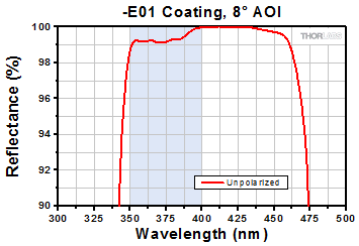
All of the mirrors on this page can be mounted by our Precision Kinematic Mirror Mounts.

Thorlabs also offers metallic concave mirrors that operate over a broader wavelength range at the expense of lower reflectivity. Please contact Tech Support for custom versions of these optics.

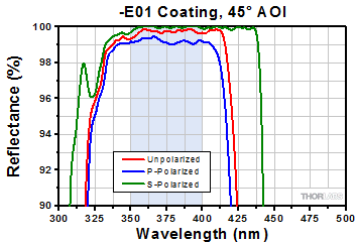


GRAPHS

These plots show the reflectivity of our -E01 dielectric coating for a typical coating run. The shaded region in each graph denotes the spectral range over which the coating is highly reflective. Due to variations in each run, this recommended spectral range is narrower than the actual range over which the optic will be highly reflective. If you have any concerns about the interpretation of this data, please contact Tech Support. For applications that require a mirror that bridges the spectral range between two dielectric coatings, please consider a metallic concave mirror.



Click to Enlarge



Click to Enlarge

Excel Spreadsheet with Raw Data for -E01 Coating, 8° and 45° AOI

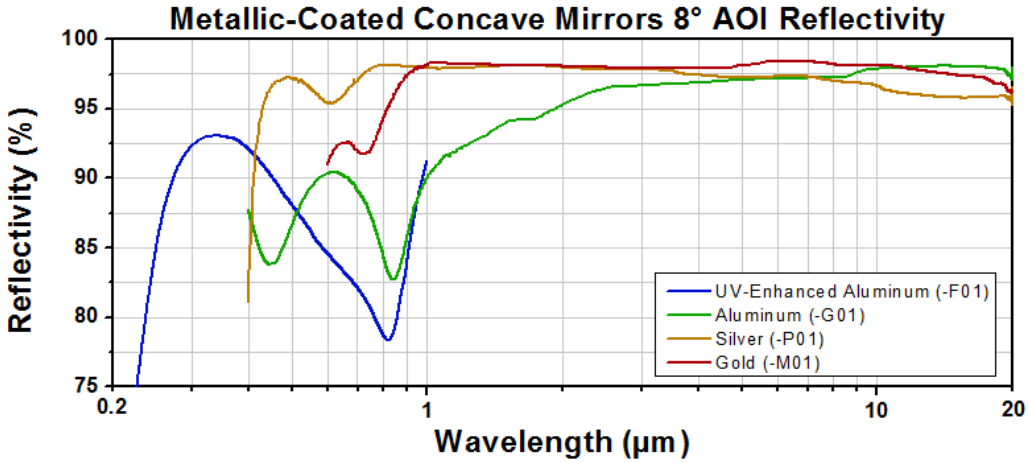
CONCAVE MIRROR GUIDE

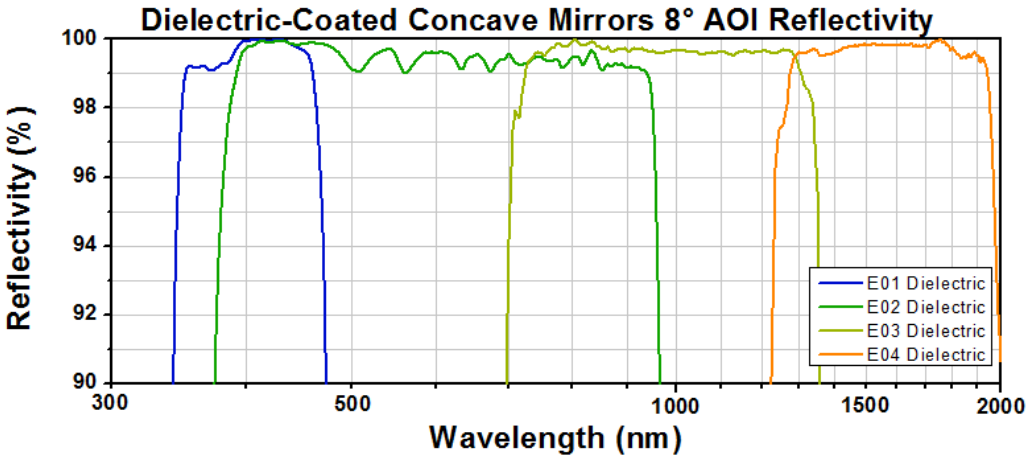
Concave Mirror Selection Guide

Thorlabs offers concave mirrors with both metallic and dielectric stack reflective coatings. Metallic-coated mirrors offer relatively high reflectivity (90-95%) over a wide wavelength range, while dielectric-coated mirrors provide even higher reflectivity (>99%) but over a smaller wavelength range. See the table to the right for an overview of the various coatings we offer for our concave mirrors. All coating options are available on optics with diameters ranging from Ø1/2" to Ø75 mm. Metallic mirrors are available with focal lengths from 9.5 - 1000 mm, while dielectric mirrors are available with focal lengths from 12 - 1000 mm.

Below are reflectivity plots for our complete line of concave mirrors. To view our selection of mirrors available with a particular coating, either click on the graphed line of interest or the corresponding coating name in the legend. Graphs are shown for an angle of incidence (AOI) of 8 degrees, which is the recommended angle at which to use a concave mirror.

Concave Mirrors Coating Options	
Coating	**Wavelength Range**
UV Enhanced Aluminum	250 - 450 nm
Aluminum	450 nm - 20 µm
Silver	450 nm - 20 µm
Gold	800 nm - 20 µm
E01 Dielectric	350 - 400 nm
E02 Dielectric	400 - 750 nm
E03 Dielectric	750 - 1100 nm
E04 Dielectric	1280 - 1600 nm





Click on a particular graphed line or the corresponding name in the legend to view concave mirrors with that coating option.

Ø1/2" (12.7 mm) -E01 Broadband Dielectric Concave Mirrors (350 - 400 nm)

Item #	Focal Length	Center Thickness	Edge Thickness	Radius of Curvature	Reference Drawing
CM127-025-E01	25 mm	3.0 mm	3.4 mm	50.0 mm (1.97")	

This item will be retired without replacement when stock is depleted. If you require it for line production, please contact our OEM Team.

Part Number	Description	Price	Availability
CM127-025-E01	**Ø1/2" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 25 mm**	**$39.92**	**Today**

Ø1" (25.4 mm) -E01 Broadband Dielectric Concave Mirrors (350 - 400 nm)

Item #	Focal Length	Center Thickness	Edge Thickness	Radius of Curvature	Reference Drawing
CM254-025-E01	25 mm	6.0 mm	7.6 mm	50.0 mm (1.97")	
CM254-050-E01	50 mm		6.8 mm	100.0 mm (3.94")	
CM254-075-E01	75 mm		6.5 mm	150.0 mm (5.91")	
CM254-100-E01	100 mm		6.4 mm	200.0 mm (7.87")	

Part Number	Description	Price	Availability
CM254-025-E01	**Ø1" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 25 mm**	**$165.99**	**Today**
CM254-050-E01	**Ø1" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 50 mm**	**$165.99**	**Today**
CM254-075-E01	**Ø1" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 75 mm**	**$165.99**	**Today**
CM254-100-E01	**Ø1" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 100 mm**	**$165.99**	**Today**

Ø2" (50.8 mm) -E01 Broadband Dielectric Concave Mirrors (350 - 400 nm)

Item #	Focal Length	Center Thickness	Edge Thickness	Radius of Curvature	Reference Drawing
CM508-050-E01	50 mm	9.0 mm	12.2 mm	100.0 mm (3.94")	
CM508-100-E01	100 mm		10.6 mm	200.0 mm (7.87")	

These items will be retired without replacement when stock is depleted. If you require one of these parts for line production, please contact our OEM Team.

Part Number	Description	Price	Availability
CM508-050-E01	**Ø2" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 50 mm**	**$76.69**	**Today**
CM508-100-E01	**Ø2" Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 100 mm**	**$75.64**	**Lead Time**

Ø75 mm -E01 Broadband Dielectric Concave Mirrors (350 - 400 nm)

Item #	Focal Length	Center Thickness	Edge Thickness	Radius of Curvature	Reference Drawing
CM750-075-E01	75 mm	12.0 mm	16.7 mm	150.0 mm (5.91")	
CM750-150-E01	150 mm		14.3 mm	300.0 mm (11.81")	
CM750-200-E01	200 mm		13.7 mm	400.0 mm (15.75")	
CM750-500-E01	500 mm		12.7 mm	1000.0 mm (39.37")	

These items will be retired without replacement when stock is depleted. If you require one of these parts for line production, please contact our OEM Team.

Part Number	Description	Price	Availability
CM750-075-E01	**Ø75 mm Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 75 mm**	**$105.06**	**Today**
CM750-150-E01	**Ø75 mm Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 150 mm**	**$105.06**	**Today**
CM750-200-E01	**Ø75 mm Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 200 mm**	**$105.06**	**Today**
CM750-500-E01	**Ø75 mm Dielectric-Coated Concave Mirror, 350 - 400 nm, f = 500 mm**	**$105.06**	**Today**

Visit the *Concave Mirrors: UV Broadband Dielectric Coating (350 - 400 nm)* page for pricing and availability information:
https://www.thorlabs.com/newgrouppage9.cfm?objectgroup_id=5506