

## Parabolic Mirrors - Parabolic Reflectors

Lightwave Enterprises, Inc. &ndash;

Specializing in the production of Custom Parabolic Mirrors / Parabolic Reflectors

Lightwave produces parabolic mirrors / parabolic reflectors to your specifications at our manufacturing plant in New York using our single point diamond turning system. We do not farm out our projects to other manufacturers. You can be sure you are receiving the personalized service you desire and the project confidentiality you deserve.

[Click Here](#) to send us your project specifications and drawings today.

[CLICK HERE](#) To submit your SPECIFICATIONS or DRAWINGS today.

About the Manufacture of Parabolic Mirrors and Parabolic Reflectors at LEI Optics, Inc.

Lightwave Enterprises manufactures high precision parabolic mirrors and parabolic reflectors directly from your specifications with a Moore Nanotechnology Systems 350 Ultra Precision Lathe. This lathe is one of the most accurate lathes available today. With machine resolution of 0.4 $\mu$ " (10nm) coupled with on-board profilometry, the lathe enables Lightwave technicians to generate and verify optical surfaces with surface and form accuracies to the sub-micron level and surface roughness measured down to the angstrom level.

At Lightwave, a team of engineers is ready to assist you with your project and any of the details of its design or manufacture, ensuring your project's cost effectiveness and success.

Call us at (585) 426-0910 or [Click Here](#) to send us your questions or project specs.

About Parabolic Mirrors / Parabolic Reflectors

A parabolic mirror is a specially shaped object designed to capture energy and focus it to a single point. It may also work as a way of distributing energy from the focus point back outwards. Parabolic mirrors may also be referred to as parabolic dishes or parabolic reflectors.

Parabolic mirrors offer excellent correction of spherical aberration. Parabolic mirrors can either be on-axis or off-axis.

On-axis parabolic mirrors produce collimated reflected light. Off-axis parabolic mirrors focus reflected light to a focal point off-axis. An important dimension to consider is the diameter. The diameter of the mirror if viewed straight on can also be thought of as the height. Another important parameter is the focal length. Focal length is the distance from the vertex of the mirror to the point where the light converges. Parabolic mirrors can be supplied in a variety of materials.

Common Coatings

Common coatings for parabolic mirrors include none (uncoated), aluminum, enhanced aluminum, protected aluminum, dielectric, bare gold, protected gold, rhodium, and silver.

Surface Quality Ratings

Surface quality ratings for parabolic mirrors include

- &bull; 10-5 scratch / dig
- &bull; 20-10 scratch / dig
- &bull; 40-20 scratch / dig
- &bull; 60-40 scratch / dig
- &bull; 80-50 scratch / dig
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## Digs & Scratches Defined

A dig is a defect on a polished optical surface that is nearly equal in terms of its length and width. A scratch is a defect on a polished optical surface whose length is many times its width.

- • 10 / 5 indicates the average diameter of the digs to be .05 mm
- • 20 / 10 indicates the average diameter of the digs to be .10 mm
- • 40 / 20 indicates the average diameter of the digs to be .20 mm
- • 60 / 40 indicates the average diameter of the digs to be .40 mm
- • 80 / 50 indicates the average diameter of the digs to be .50 mm