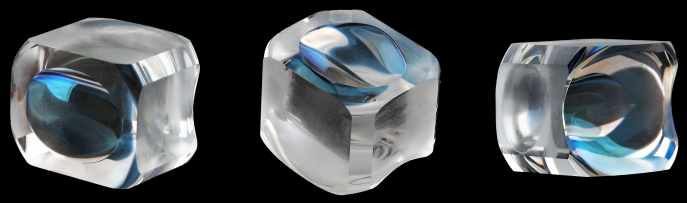
Enable a New Wave of Integration...

Introducing LightPath's Freeform Optics



Freeform optics have optical surfaces that don't require rotational symmetry, allowing optical designers to perform advanced beam shaping, reduce the number of optical elements, and make smaller and lighter optical systems.

Why LightPath?

MOLDING TECHNOLOGY

Our Precision Glass Molding (PGM) process enables an excellent combination of price, precision, and quality.

MATERIAL EXPERIENCE

We support a wide variety of visible and IR materials. Please contact one of our product experts for material selection and availability.

METROLOGY EXPERIENCE

We test new lenses using computer generated holograms to accurately measure freeform optics in production volume.

Advantages

Utilizing our proprietary molding technology, freeform optics can be mass produced rather than fabricating optical elements individually

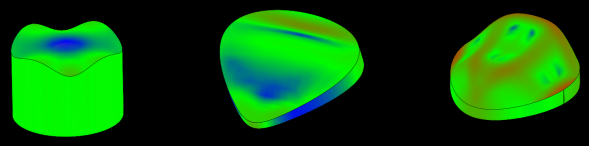
Our freeform optics are an optimal solution for high-performance applications requiring lighter weight, increased flexibility, and a more compact form factor

Applications

Augmented Reality / Virtual Reality
LIDAR / Remote Sensing
Infrared & Military Optical Systems
Automotive and LED Lighting
Semiconductor Manufacturing
Medical & Assistive Technologies

Freeform Typical Tolerances

PARAMETER	SPECIFICATION
Material	Glass
Maximum Diameter (mm)	23
Diameter (mm)	+/-0.015
Clear Aperture	90% of outer diameter
Center Thickness (mm)	+/-0.030
Surface Error P-V (nm)	<1000
Surface Error RMS (nm)	<300
Surface Roughness (nm)	<3
Scratch Dig	40-20
AR Coating	Standard multilayer broadband coatings and custom available



LightPath Technologies