



Holographic Optical Elements

Applications Data Sheet

LGS Holographic Optical Elements (HOEs) offer multiple opportunities for the HUDs for military and aerospace applications. Holographic Optical Elements perform the function of optical components such as lenses, gratings, image masks and mirrors, using only a thin, clear photopolymer film that can be applied to glass or plastic surfaces. When a light source such as LED or laser is projected onto the surface, the invisible recorded holographic function comes to life. Luminit's holographic capabilities include mastering and replication of transmission, reflection and substrate guided HOEs, from small (cm²) to large (ft²) sizes, monochrome, full-color and even infrared elements. The technology is used across a number of industries, including head-up, helmet-mounted, and near-to-eye display systems.

BENEFITS OF LUMINIT HOES

- More efficient product design
- Larger virtual image size
- Reduced weight and more flexibility in packaging design
- Reductions in power consumption due to increased efficiency

APPLICATIONS OF LGS HOES

- Augmented Reality & Virtual Reality
- Head-mounted displays for off-axis image projection
- Personal wearable display eyewear
- Eye-tracking
- More efficient backlighting on LED and LCD lighting
- Enhanced solar concentrators, optical sensors and spectrometers
- Increased high capacity recording memory

SPECIFICATIONS:

Material Composition: polymer thin film on glass or plastic

Minimum size: < 1 cm²

Maximum Size: > 1 ft²

Thicknesses: 5-50 um film on various substrates

Brightness uniformity: > 80%

Substrate: Glass, acrylic, polycarbonate

Diffraction efficiency: up to 90%

Transmission Rate: > 90%