



SINGLE-LAYER THC LASER-HUD FOR AUTOMOTIVE HEAD-UP DISPLAYS

Made with a thin (5-50 micron) photopolymer recording media, Luminit's Transparent Holographic Components (THCs) use advanced holographic optical element designs to replace traditional bulky optics with a thin, lightweight clear film component. Our laser-HUD design occupies <1.5 liters under dash, making Luminit THCs ideal for Head-Up Display (HUD) systems where space and weight are limited. The holograms recorded in this single-layer film have properties of "volume" (Bragg) holograms that can provide optical power and perform both lens and mirror functions, in addition to being wavelength and angularly selective with very low scattering. Transparency above 90% and high diffraction efficiency up to 80% mean that THCs deliver brighter, more compact designs that provide a larger virtual image size and larger Field of View.

BENEFITS

- Single-layer RGB HOE for bright daylight viewable image playback
- Compact form factor (<1.5 liter) for efficient under-dash designs
- Full color images
- Unparalleled transparency above 90%
- High diffraction efficiency above 80%
- Larger, brighter virtual image size
- Can be mass produced in high-volumes
- Transparent and lightweight
- Wide Field of View (FOV)
- Flexible Virtual Image Distance (VID)
- Very large eye-box

ONE-LAYER RGB HOE HUD SYSTEM SPECIFICATIONS

- Laser playback wavelengths: 647-nm, 532-nm, 460-nm
- Luminance: of virtual image 16,000nit (with 60,000nit on under-dash diffuser)
- Diffraction efficiency: >70% of input RGB laser light
- Brightness uniformity: >80%
- Transparency (white light): 84% with Haze: <2%
- Transparent Holographic Component™ (THC) physical size: 190-mm (V) x 262-mm (H) (7.5" x 10.5")
- Eye box: 50-mm (V) x 100-mm (H)
- Eye relief: 50-cm – 80-cm
- FOV: 8°(V) x 16°(H) with virtual image at infinity
- Compact design: 1.5-liter volume under dash

Other Custom HOE Options:

- RGB wavelengths variable to match common laser diodes
- Can be delivered with thin PC or TAC films and/or thick glass, acrylic, or PC substrates
- Windshield integration compatible

