

**RMI's LoLA Lens** - an ultra-low absorbing optical lens that is designed to optimize CO2 laser performance.

All RMI Laser Optics are manufactured in a vertically-integrated manufacturing process, adhering to strict precision specifications for efficient maximum output. Carefully controlled raw materials, CVD processing, polishing and coating, make these laser cutting lenses suitable for high power laser cutting machines – up to 10 Kilowatts.



The CO2 Laser is one of the first gas lasers ever developed. Being a high-power and continuous wave laser, it is mainly used in industrial materials processing such as metal cutting, welding, etching and marking.

For best laser performance, optical components need to be replaced periodically. Focusing lenses used in industrial CO2 laser systems are especially prone to damage from constant wear, splatter and other environmental factors; they require regular upkeep.

RMI is a proud innovator of the LoLA™ (Low Laser Absorption) Lens, a CO2 laser focusing lens with a true absorption rating of  $\leq 0.13$ . LoLA Lenses are designed for peak performance and longer life. Our thin film coating is specially formulated for maximum environmental durability and high damage threshold at 10.6  $\mu\text{m}$ .

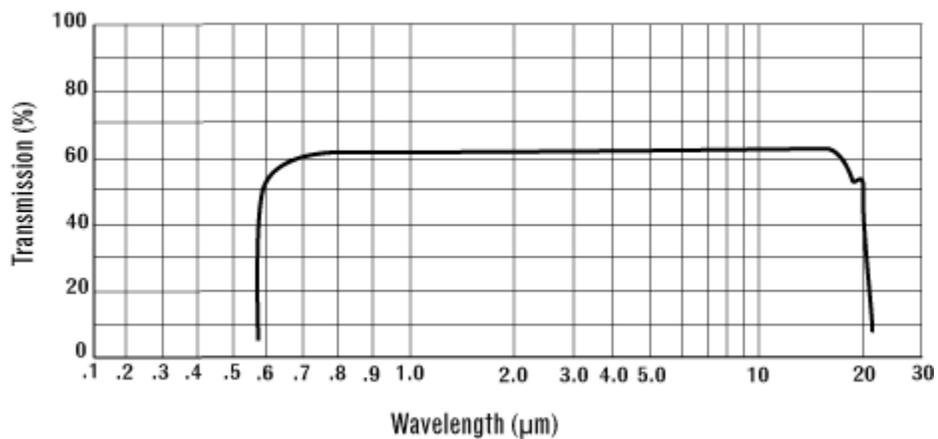
## Specifications

<b>Material:</b>	ZnSe
<b>Surface Figure:</b>	Both Surfaces
ZnSe:	$\lambda/40$ at 10.6 $\mu\text{m}$
<b>Surface Quality:</b>	Both Surfaces
ZnSe:	20-10
<b>Diameter Tolerance:</b>	+ 0.000", - 0.010"
<b>Thickness Tolerance:</b>	$\pm 0.010$ "
<b>Focal Length Tolerance:</b>	$\pm 0.5\%$
<b>Centration Error:</b>	< 3 arc minutes
<b>Bevels:</b>	0.010" - 0.030" at 45°
<b>Clear Aperture:</b>	Central 90% of diameter

Zinc Selenide: ZnSe

Refractive Index (@ 1.00 micron): 2.49

Useful Wavelength Range (Transmission): 500nm to 20.0 $\mu\text{m}$



The LoLA narrowband Anti-Reflection coating decreases the surface reflectance to less than 0.2% at the specified center wavelength. This dielectric coating is durable and highly resistant to laser damage.

<b>10.6 <math>\mu\text{m}</math> Narrowband Anti-Reflection (NAR)</b>	
<b>Reflectance:</b>	$R \leq 0.2\%$ at 10.6 $\mu\text{m}$
<b>Damage Threshold:</b>	$\lambda > 10.6 \mu\text{m}$ : 2 J/cm <sup>2</sup> , 10 ns pulse
<b>Absorption</b>	$\leq 0.13\%$

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