



## **594nm (YELLOW) AND 612nm (ORANGE) LASERS**

Research Electro-Optics, Inc. (REO) has been a leader in the field of high performance and high reliability Helium-Neon lasers for over twenty years. The vast majority of our laser tubes manufactured over the years have been incorporated into medical, scientific and critical manufacturing instruments. This experience, combined with our on-staff technical expertise and flexible manufacturing structure, makes REO uniquely suited to supplying Helium-Neon lasers for performance critical applications.

REO's primary strength in the Helium-Neon laser market is our in-house optical fabrication and coating capability. It is widely acknowledged that mirror performance is one of the most critical factors in maintaining consistently long laser life. Manufacturing these components in-house is the best way to develop insight into the technical factors affecting mirror performance and to ensure consistent mirror quality. Our technical insight into optimizing mirror performance provides our laser products with competitive advantages in terms of output power and laser lifetimes. Utilizing enhanced designs and superior components, these lasers deliver unsurpassed operational stability and longer laser lifetimes.

REO's historical emphasis has been on meeting the needs of the OEM customer. Our long history with laser manufacturing, our in-house control of critical components, and our advanced quality system endow REO with all of the desired attributes of a critical OEM vendor. REO's focus on the high performance segment of the Helium-Neon market has enabled us to maintain a flexible, performance-oriented manufacturing structure that can be easily adapted to meet custom requirements when an OEM application demands it.

REO reinforces our quality statement by offering a one-year warranty on all Helium-Neon lasers.



### **Features:**

- Longer Lifetimes
- Higher Output Powers
- Power Stability
- Thermal Stability
- Beam Pointing Stability

### **Applications:**

- DNA Micro Array Analysis
- Confocal Microscopy
- Flow Cytometry
- Biomedical Instrumentation

## 594nm (YELLOW) LASERS

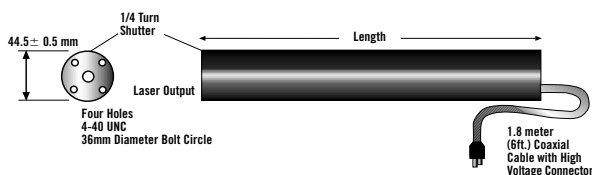
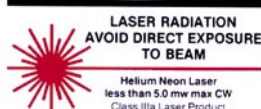
Model Number	Mode Structure	Minimum Output Power (mW)	Beam Diameter (mm)	Beam Divergence (mrad)	Polarization Ratio	Longitudinal Mode Spacing (MHz)	CDRH Class	Recommended Power Supply	Length (mm) ±1mm
LHYR-0100	TEM <sub>00</sub>	1.0	0.67	1.12	RANDOM	566	IIIa	LPS	330.2
LHYP-0101	TEM <sub>00</sub>	1.0	0.74	1.03	500:1	416	IIIa	LPS	425.5
LHYR-0200	TEM <sub>00</sub>	2.0	0.72	1.05	RANDOM	441	IIIa	LPS	425.5
LHYP-0201	TEM <sub>00</sub>	2.0	0.74	1.03	500:1	416	IIIa	LPS	425.5
LHYR-0100M	MULTIMODE	1.0	~1.14	~2.83	RANDOM	566	IIIa	LPS	330.2
LHYR-0200M	MULTIMODE	2.0	~1.61	~3.41	RANDOM	441	IIIa	LPS	425.5
LHYR-0600M	MULTIMODE	6.0	~2.59	~4.48	RANDOM	303	IIIb	LPS-H1	533.4

## 612nm (ORANGE) LASERS

Model Number	Mode Structure	Minimum Output Power (mW)	Beam Diameter (mm)	Beam Divergence (mrad)	Polarization Ratio	Longitudinal Mode Spacing (MHz)	CDRH Class	Recommended Power Supply	Length (mm) ±1mm
LHOP-0201	TEM <sub>00</sub>	2.0	0.75	1.04	500:1	441	IIIa	LPS	425.5
LHOR-0250	TEM <sub>00</sub>	2.5	0.75	1.04	RANDOM	441	IIIa	LPS	425.5
LHOR-0150M	MULTIMODE	1.5	~1.70	~4.14	RANDOM	566	IIIa	LPS	330.2
LHOR-0300M	MULTIMODE	3.0	~1.57	~3.49	RANDOM	441	IIIa	LPS	425.5
LHOR-0500M	MULTIMODE	5.0	~1.90	~4.01	RANDOM	375	IIIb	LPS	482.6

Yellow and orange Helium-Neon lasers are useful in applications where specific wavelength excitation is critical. Yellow lasers in particular have many applications in biomedical instrumentation utilizing fluorescent dyes. REO's wide product range offers a high degree of flexibility in matching laser models to specific applications.

REO's yellow and orange lasers offer stable, single line emission without complications from lasing on neighboring wavelength transitions. These lasers also display excellent output mode purity. This allows the OEM integrator to be confident of stable, predictable operation in performance critical applications.



	Operating	Non-Operating
TEMPERATURE (C°)	-20° TO +70°	-40° TO +80°
ALTITUDE (meters)	0 TO 3,000	0 TO 6,000
HUMIDITY	≤ 80%	≤ 95%
SHOCK	15 g for 11 msec	
STARTING VOLTAGE	< 10 kVDC	
BEAM DRIFT AFTER 20 MINUTE WARM UP	< 0.2 mrad	
LONG TERM BEAM DRIFT	< 0.05 mrad	
NOISE (30Hz - 10MHz)	< 1% rms	



Research Electro-Optics, Inc.

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