

EQ-77 LDLS™



High-Brightness, Long-Life, Broadband Laser-Driven Light Source

Based on the highly successful Laser-Driven Light Source (LDLS™) technology, the EQ-77 offers the highest radiance and irradiance available in a truly broadband white light source. The EQ-77 features a compact lamp house with ultra-clean construction that ensures long life and ultimate stability. With a 170nm-2100nm wavelength range and a single-beam output with retroreflector, the EQ-77 is flexible for a broad variety of applications.

Researchers using light for imaging and analytical spectroscopy in a variety of applications in the life and materials sciences need light sources capable of providing extreme high brightness and power across a broad wavelength range.

Traditionally, multiple lamps (such as Tungsten/Halogen, Xenon-arc, or Deuterium) have been used to cover this broad spectral range. However, combining multiple lamps is costly and optically inefficient. The use of electrodes within these lamps limits their ability to achieve the high brightness or power needed for the most demanding applications. Furthermore, traditional electrode-driven light sources have a short life during which the lamp output declines constantly necessitating frequent replacement.

To address these problems, Energetiq has developed a revolutionary single-light source technology called the Laser-Driven Light Source* (LDLS™) that enables extreme high brightness with a relatively flat spectrum from 170nm through visible and beyond, combined with lifetime an order of magnitude longer than traditional lamps. LDLS technology is fully embodied in the EQ-77 — an extremely bright and stable compact CW broadband source specifically designed for critical spectroscopic and imaging applications.

* Multiple Patents Worldwide

Features and Benefits

- Radiance >40mW/mm².sr.nm (wavelength dependent)
 - Fastest measurements
- Very low noise and excellent spatial stability
 - Precise & repeatable results
- Compact lamphouse with water-cooling and clean construction
 - Long life and stability
- Extreme high brightness across broad spectrum
 - UV-Vis-NIR (170nm – 2100nm)
- Electrodeless operation
 - Long life and low cost of ownership
- Electronic optical output control
 - Light attenuation

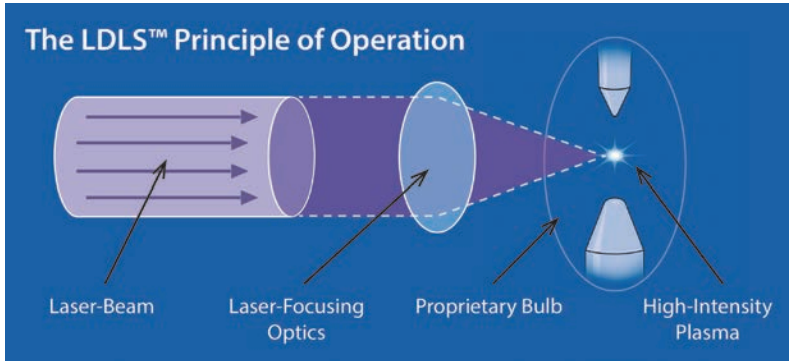
Applications

- Semiconductor Metrology & Inspection
- Monochromator Source
- UV-Vis-NIR Spectroscopy
- Photoemission Electron Microscopy (PEEM)
- Materials Characterization
- Advanced Imaging
- Thin Film Measurements

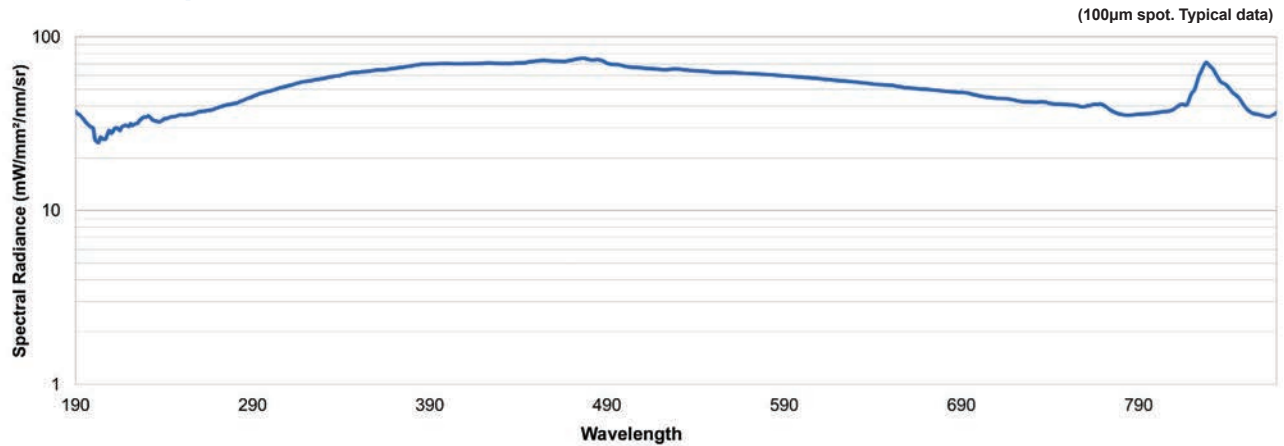


About Energetiq

Energetiq Technology, Inc. is a wholly-owned subsidiary of Hamamatsu Photonics. Energetiq combines its deep understanding of the plasma physics needed for high-brightness light generation with its long experience in building rugged industrial & scientific products. The result is that users can expect the highest levels of performance combined with the highest reliability.



EQ-77 LDLS Spectral Radiance



Specifications

Overview

- CW spectral output from 170nm - 2100nm
- Large collectable view angle – Numerical Aperture (NA): up to 0.50
- Typical bulb life >9,000 hrs.
- Flexible optical interface for single or dual beam output

Physical Specifications

EQ-77

- Lamp House
- Laser Drive Module

System Dimensions (H x W x D)

128mm x 175mm x 102mm
152mm x 250mm x 132mm

Weight

2.2 kg (4.9 lb)
2.9 kg (6.5 lb)

Utility Requirements

- Electrical: 100-240 VAC, 350W max.
- Lamp House Water Cooling: 1.0 liter/min (.27 gal/min), 18-24°C
- Purge Nitrogen: 190 sccm @ 20psig; Grade 6 recommended
- Compliance: CE Mark

Patent Numbers: US: 7435982; 7786455; 8525138; 8969841; 9048000; 9185786 -- Japan: 5410958; 5628253 -- Korea: 10-1507617 -- UK: GB2450045 -- Other Patents Pending