Laser-Driven Light Sources (LDLS™) from Energetiq

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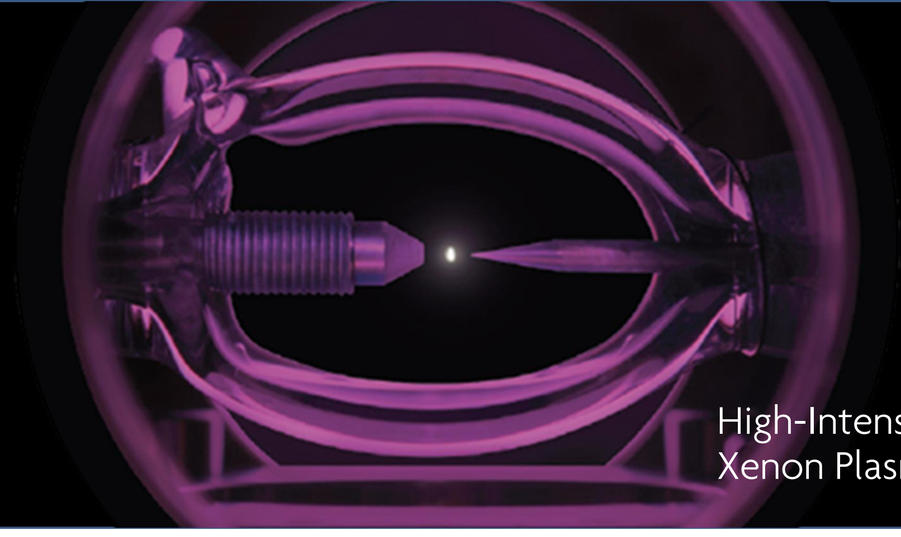


High-Intensity Xenon Plasma

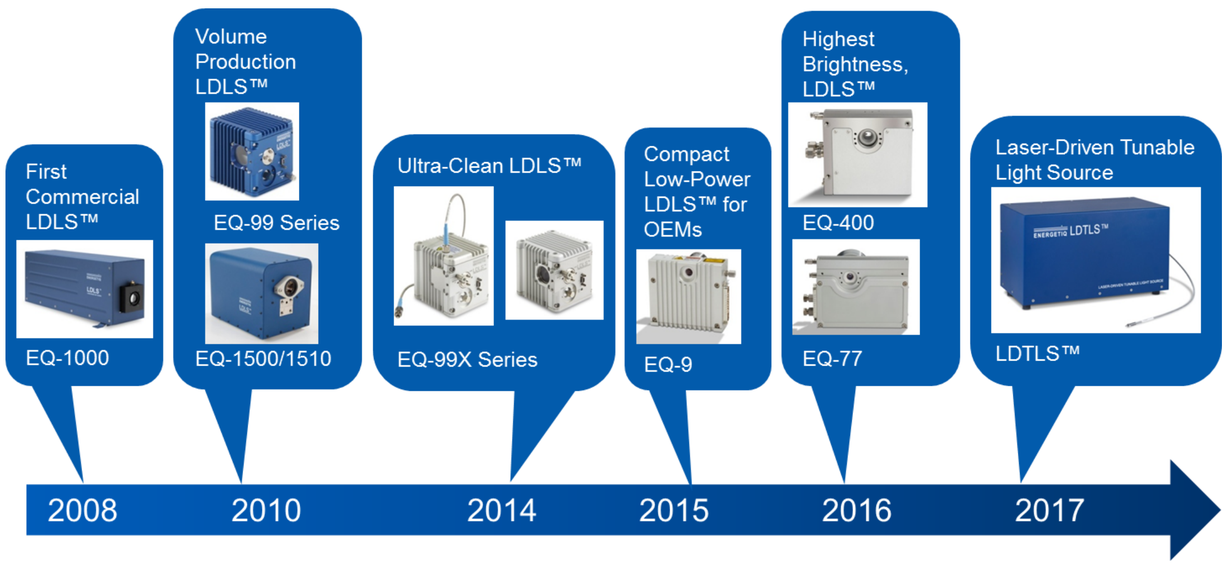
Energetiq's advanced Laser-Driven Light Sources produce high radiance light in the 170nm to 2400nm wavelength range.

LDLS™ are used in complex scientific and engineering applications such as analytical instruments for life sciences and leading edge semiconductor manufacture.

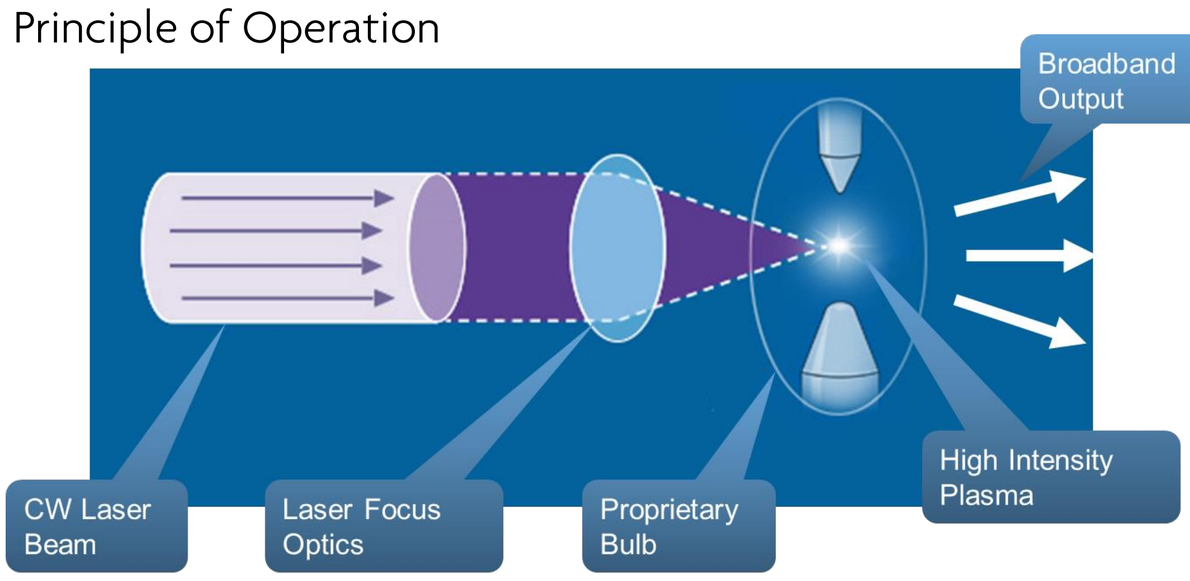
Key Features:

- Ultra-high brightness
- Excellent spatial & power stability
- Low cost of ownership
- Ultra-clean construction

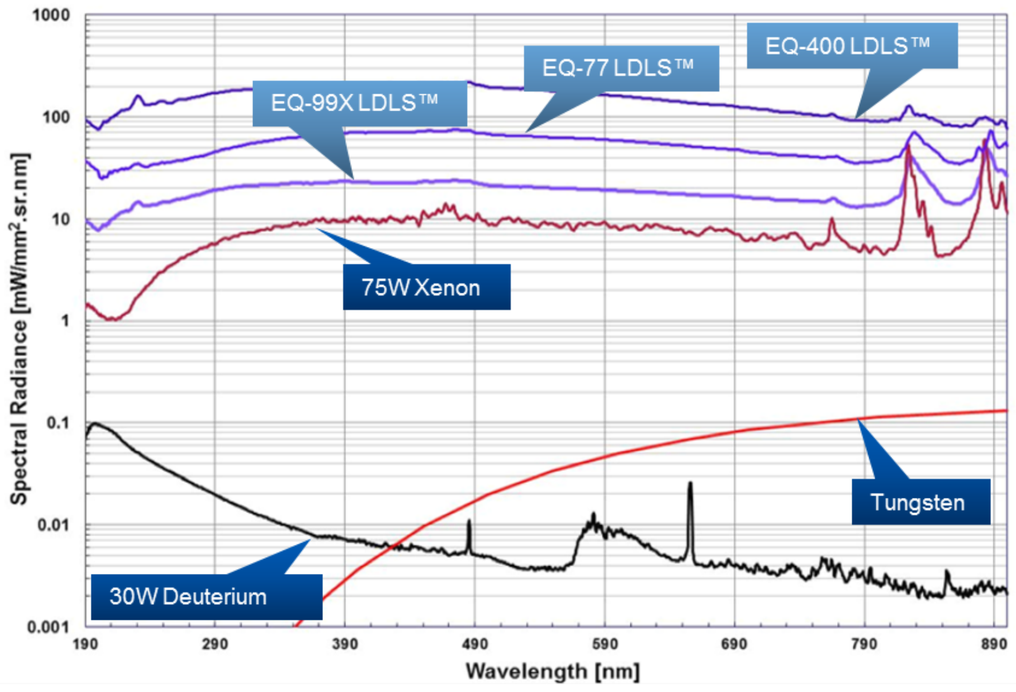
LDLS™ History of Innovation



Principle of Operation



LDLS™ vs. Traditional Lamps



Applications

- UV-Vis-NIR Spectroscopy
- Monochromator Source
- Thin-Film Measurements
- Optical Component Testing
- Environmental Analysis
- Materials Characterization
- Gas Phase Measurements
- Advanced Imaging
- Microscope Illumination
- Fiber Optics Testing
- Endoscopy/Borescopy
- Applications requiring long lamp life

Applications and Installations (›2000 units shipped)

Intracellular protein measurement using deep UV mass mapping [1]

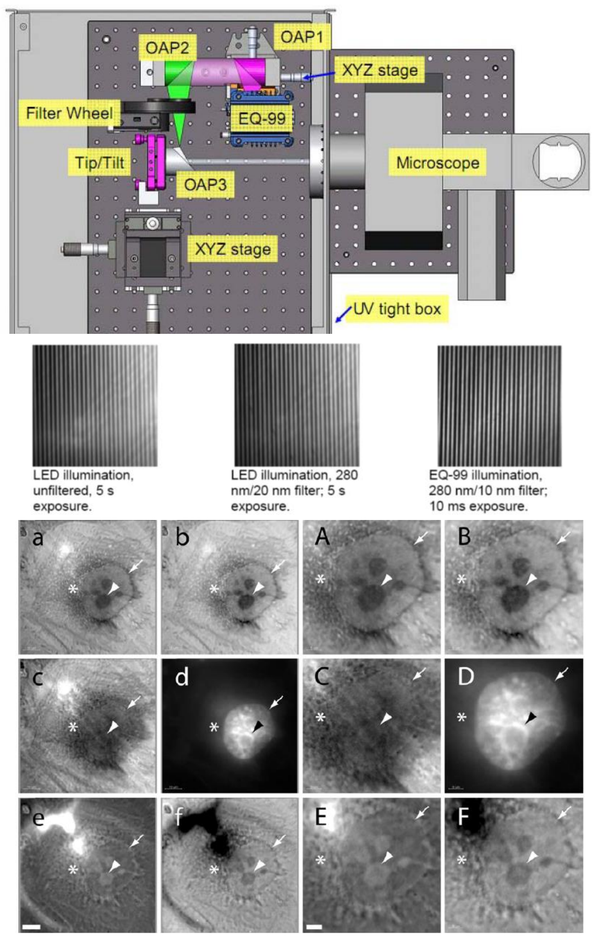
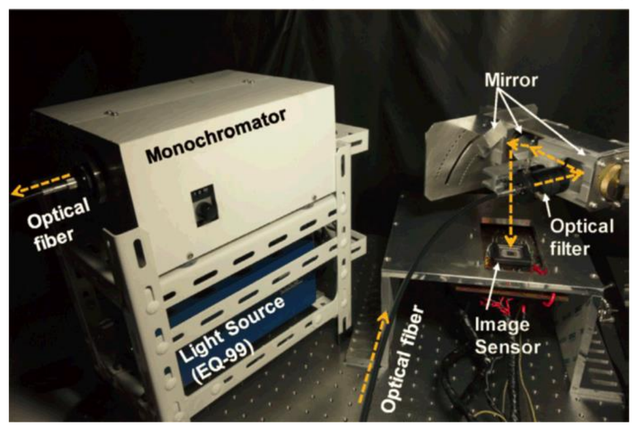
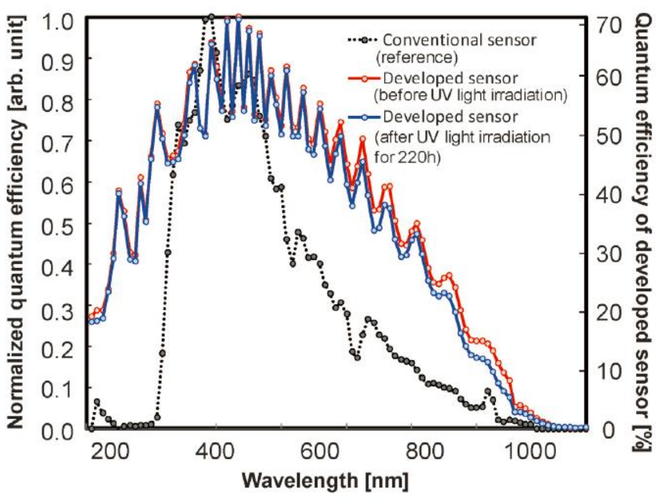
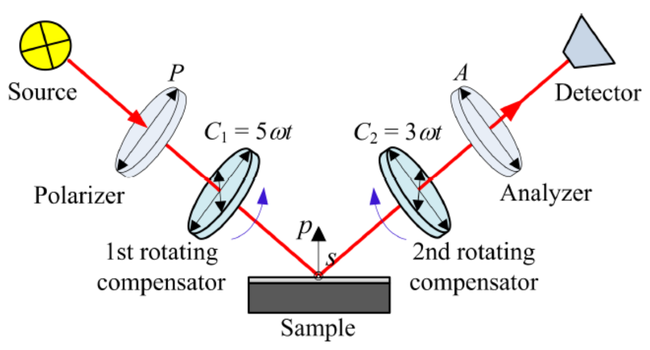


Image sensor spectral response characterization (190nm -1000nm) [2]





Mueller matrix polarimetry (MMP) for nanostructure metrology [3]



References

1. Cheung, Man C., et al. "Intracellular protein and nucleic acid measured in eight cell types using deep-ultraviolet mass mapping." Cytometry Part A 83.6 (2013): 540-551.
2. Stephen Horne ; Don Smith ; Matthew Besen ; Matthew Partlow ; Daniil Stolyarov, et al. "A novel high-brightness broadband light-source technology from the VUV to the IR", Proc. SPIE 7680, Next-Generation Spectroscopic Technologies III, 76800L (April 27, 2010); doi:10.1117/12.850269;
3. Liu, Shiyuan., et al. "Mueller Matrix Polarimetry: A Powerful Tool for Nanostructure Metrology". The Electrochemical Society. ECS Trans. 60, 237 (2014).

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Patent Numbers
US: 7435982; 7786455; 7989786; 8309943; 9048000; 9185786
Japan: 5410958; 5628253
Korea: 10-1507617
UK: GB2450045
Other patents pending

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