OL 490 Agile Light Source

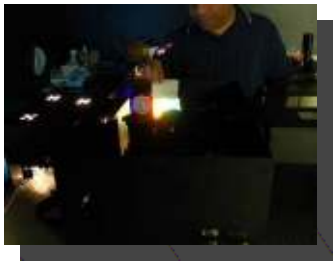
Capable of producing emissions at a single wavelength or broad spectrum. Steady state or varying with time. Optronic Laboratories' OL 490 Agile Light Source utilizes Texas Instruments' innovative Digital Light Processor technology (DLP®) to offer a programmable and variable high intensity and high resolution spectral output. The OL 490 is the next generation of precision spectral light sources and delivers an unprecedented level of flexibility and speed to a wide range of scientific and technical applications, including:

- **Chemometrics and Hazardous Materials** – The agile light source enables generation of synthetic spectra, which can be used for truthing of hazardous materials (HAZMAT) sensing technology. Although a variety of conventional and novel sensing technologies are now available for detecting pathogenic agents, few methods exist for testing their effectiveness. The OL 490 can be programmed to synthesize spectra rendering development and calibration processes routine and eliminate the need to handle such substances directly.

®*DLP is a registered trademark of Texas Instruments.*

- **Product Testing** – The OL 490 offers new options for commercial and industrial product testing, ranging from colormetric evaluation of substances to assessing the performance of optical elements under various operating lighting environments. These applications include on-line/off-line parts inspection, color matching/ rendering, and surface tests.

- **Instrument/Detector Spectral Response Calibration** – Typical monochromators coupled to incandescent sources provide only limited utility in terms of control of spectral content and programmable LED sources offer only limited spectral range and use static spectral filtering within to shape the profile. In comparison, the versatility, accuracy, reliability and speed of the OL 490 are unmatched.



- **Forensics and Biosciences Imaging** – The OL 490 brings new dimensions to tools already in use in clinical and field research. The OL 490 is the ideal source for fluorescence excitation, illumination for microscopy, and other forms of imaging, including fiber-based techniques such as endoscopy. Spectral output can be tailored to stimulate reactions in photosensitive biological systems.

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High Intensity, High Resolution Output
The OL 490's stable lamp sources offer output intensities exceeding that of conventional monochromator sources, over 200 mW across a spectral range of 380 nm – 780 nm, or 0.50 mW/nm from a 3 mm liquid light guide at resolutions of 10 nm.

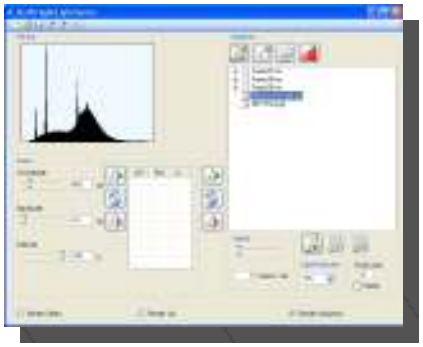
SOFTWARE

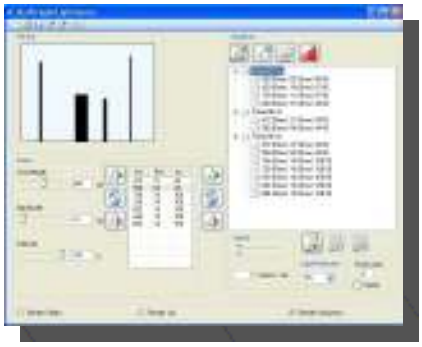
The OL 490's control software is both powerful and easy to use. Operators can easily set multiple bands, sweeps, and trigger modes. The OL 490's software allows direct control of the DLP mirror array to produce almost any desired spectrum. The software control has three (3) primary modes of operation that will render the desired spectral shape: Render Sliders, Render List, and Render Sequence.

- **Render Sliders**
  Real time manual rendering is easy with the slider controls, which instantly change the wavelength, bandwidth, or intensity by dragging the slider left and right, or entering a value in the text box. The spectral output is updated in real time, useful for manipulation of a single peak.

- **Render List**
  For combining multiple peaks, the Render List mode allows the slider controls to send each desired peak to a list that can be selected for composite rendering. The parameters of each individual peak can be edited and updated into the list.

- **Render Sequence**
  Spectral patterns may be sent from the list to a sequence inserted at any desired order in time. The sequence can be executed at a user selectable rate. Start, stop, and pause controls control the sequence output timing. The loop can be set for a specific number of cycles then stopped, or set for continuous operation.





OL 490 Preliminary Specifications

Output Intensity (10 nm HBW, 3 mm LLG)	229 mW
Spectral Resolution	5 nm (150 µm slit)
Spectral Range	380 – 780 nm
Spectral Accuracy	1 nm
Intensity Control Levels	up to 49,152 levels
Max Spectral Scan Rate	10000 spectra/s
Min Exposure Time	100 µs
Max Modulation Freq	5000 Hz
Out of Band Rejection (@ 550 nm, output 450 nm)	1000:1
Output Spot Size	3 mm
External Triggering	Yes
Modular Lamp Port	Yes
Voltage	47 – 63 Hz, 88 – 264 VAC
Control Interface	High-speed USB 2.0
Size	28"L x 9.75"W x 10.5" H (71.12cm x 24.77 cm x 26.67 cm)
Weight	32 lbs (14.52 kg)

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