EIT 2.0™ LLC LEDCure® Profiler & LEDCure® Profiler Four Band
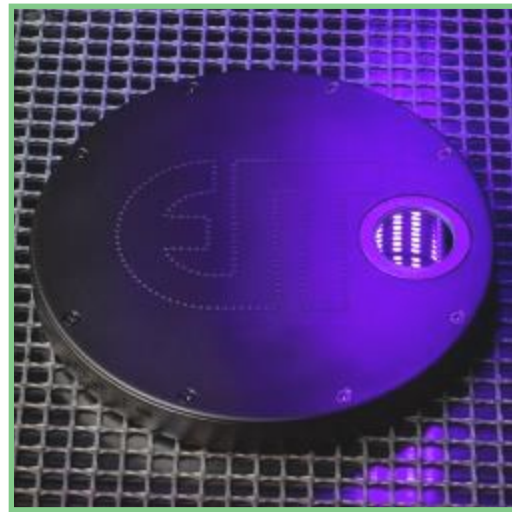
One Instrument: Two Options

The LEDCure Profiler and LEDCure Profiler Four Band radiometers support:
- Easy-to-use single button operation for production or lab environments with all values on the display
- Profiling function for laboratory, R&D, field service and troubleshooting calls

## One Instrument

Two Options

Display Option

- The *Display Option* presents the data (W/cm^2, J/cm^2 & low resolution irradiance profile) on the display
- Single button operation for ease of use on a production line

Display showing irradiance & energy density values and the irradiance profile from three LED arrays

Profiler Option

- The *Profiler Option* transfers the data including the irradiance profile to a computer
- EIT 2.0's UV PowerView Software® III allows for further analysis, comparison and evaluation of different variables
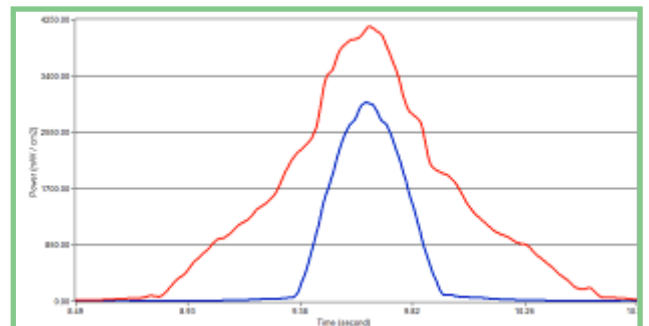

Irradiance profiles over laid on each other to analyze the differences (power, speed) between two different LEDS arrays

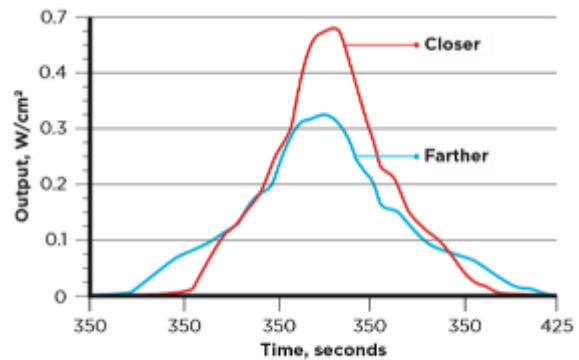# EIT 2.0 LEDCure® Profiler & EIT 2.0 UV PowerView Soft-

Profiler versions of the LEDCure operate in the same manner as Standard units. The data collected can be viewed on the instrument display at user adjustable effective sample rates of 25, 128 or 2048 Hz (samples/second).

The Profiler function allows the transfer of the numerical (irradiance, energy density) values **and** the irradiance profile (Watts as a function of time) at an effective sample rate of 128 Hz (samples/second). The transferred can be analyzed with the EIT 2.0 UV PowerView Software® III program and allows characterization of:

- Different sources, cure conditions, multiple LED arrays and readings over time, including height and power levels of the LED source, and variations in process speed and exposure time
- Performance of individual sources in multi-array systems
- Address changes and maintenance issues before they impact product quality
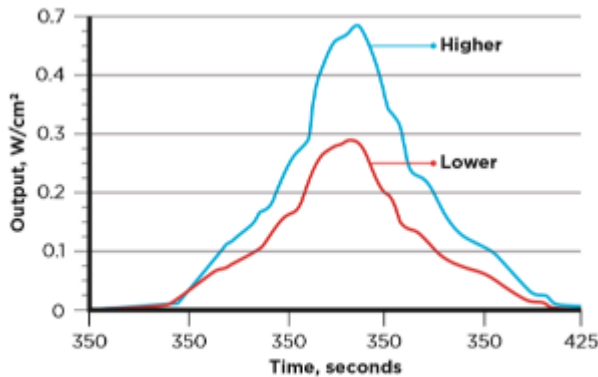

Changes in LED Lamp Intensity with Power Setting Changes

LED Lamp Intensity Changes with Distance from Lamp to Instrument

EIT 2.0 UV PowerView Software® III

- LabView (*.tdms) file format, used with all EIT 2.0 Profiling radiometers including LEDMAP, PowerMAP II, LEDCure Profiler, LEDCure Profiler Four Band, Power Puck II Profiler & UviCure Plus II Profiler
- USB Download, multiple right click options, enhanced notes section to add information and notes to each file
- Easily transfers screen shots, profiles and data tables into reports & programs, export data into Excel
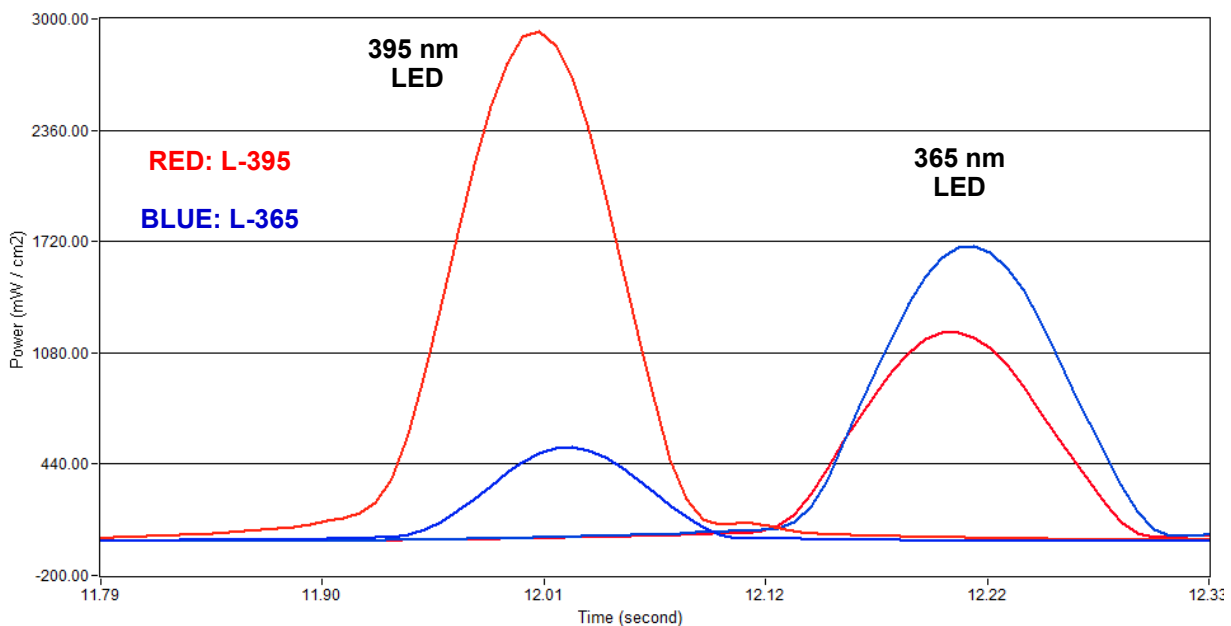

Irradiance Profiles of a 395 nm LED (left) and 365 nm LED (right) with the L-395 (Red) and L-365 (Blue) bands

EIT 2.0 LEDCure® Profiler Four Band

The LEDCure Profiler Four Band:

- Was developed for LED source manufacturers, formulators, R&D labs and field service technicians who routinely encounter different wavelength LEDs (365, 385, 395 & 405 nm) and want very accurate measurements in the band of interest

- Has all four EIT 2.0 L-Bands (L-365; L-385, L-395 and L-405) in one portable unit with a dynamic range of 40 W/cm^2

- Features each of EIT 2.0's four L-Bands with their patented Total Measured Optical Response (TMOR™) for accurate, repeatable and absolute UV LED measurements

- Is easy to use with individual L-Band Irradiance (W/cm^2) and Energy Density (J/cm^2) values shown on the display along with low-resolution irradiance profile

- Transfers values and profiles from all four EIT 2.0 L-Bands at 128 Hz to EIT 2.0's UV PowerView III Software® for detailed analysis
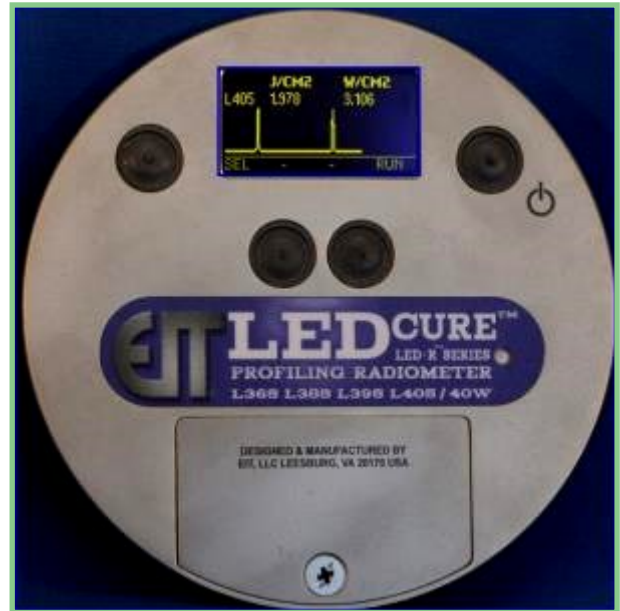
Use of the LEDCure Profiler Four Band EIT 2.0 L-Bands

- The Four Band LEDCure allows accurate, convenient measurement of different LED types with a single instrument
- Each EIT 2.0 L-Band is narrow with a Full Width Half Maximum (FWHM) response of 52 nm ± 2 nm
  - L-Band Responses: L-365: 340-392 nm; L-385: 360-412 nm; L-395: 370-422 nm; L405: 380-432 nm
- The narrow L-Band allows EIT 2.0 to achieve optimal instrument performance based on:
  - Our patented[1] TMOR™ in which includes ALL optics in the instrument response
  - Flat responsivity over the expected Center Wave Length (CWL) peak of ± 5nm for each LED type
  - Calibration of each individual L-Band to its respective LED type: L-365 band is calibrated to a 365 nm LED, etc.
- Energy from a 365 nm LED will also register in the adjacent L-Bands (385, 395) as show below
- With the LEDCure Profiler Four Band, it is important to only count the values in the EIT 2.0 L-Band that match the source type and not add L-Band values together to get the 'total LED energy'
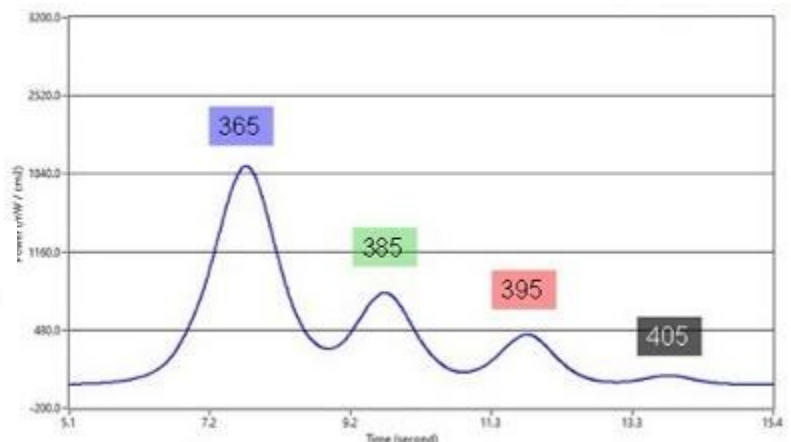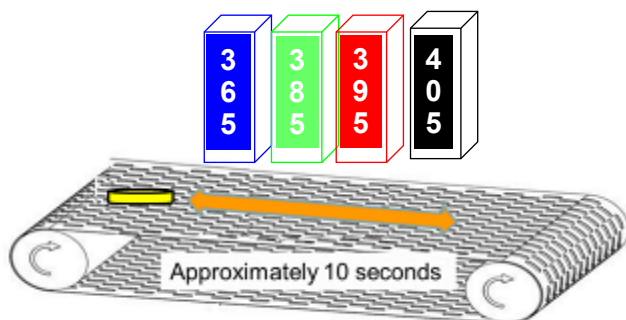
Left: Experimental set up with four different (365, 385, 395, 405 nm) individual LED sources on a conveyor

Right: L-365 irradiance profile showing the output energy in the adjacent L-bands. For a 365 nm LED, the values from the L-365 should be the only values used.

1: May, J.T. and Lawrence, M., inventors "Radiometry Instruments and Technology" U.S. Patent 9,778, 103 issued 10/3/2017

LEDCure® Profiler Product Specifications

Spectral Responses	L365: 340-392 nm: ± 2 nm (FWHM, 52 nm); 4 OD Blocking L385: 360-412 nm: ± 2 nm (FWHM, 52 nm); 4 OD Blocking L395: 370-422 nm: ± 2 nm (FWHM, 52 nm); 4 OD Blocking L405: 380-432 nm: ± 2 nm (FWHM, 52 nm); 4 OD Blocking	
Operating Range	200 mW/cm^2-40 W/cm^2 and 0-250 J/cm^2	100-200 mW/cm^2 and 0-50 J/cm^2
Accuracy	Typically, ± 2% or better; ± 10% of reading plus ± 0.2% of full scale	Typically, ± 5% or better; ± 10% of reading plus ± 0.1% of full scale. Note: These specifications are based on static (shuttered) exposure systems
Resolution	3 mW/cm^2	
Spatial Response	Approximately Lambertian (cosine)	
Repeatability	Typically better than 0.2% (unit alone); ≤ 1% max	
Calibration	Supplied with NIST traceable calibration certificate	
Smooth Modes	Smooth ON: Effective Sample rate of 25 equivalent samples/second Smooth PROFILER: Effective Sample rate of 128 equivalent samples/second* Smooth OFF: Effective Sample rate of 2048 equivalent samples/second *Recommended sample rate for most applications	
Sample Rate for Profiling	LEDCure Profiler has a fixed sample rate of 128 eq. samples/sec profiling. For best matching between instrument display and PowerView Software® III values, use Smooth Profiler mode	
Memory Capacity for Profiling	LEDCure Profiler memory supports data collection for ≥ 100 minutes	
UV PowerView Software® III	National Instruments LabVIEW based programming accommodates Windows 7 and 10 collected data stored in LabVIEW based *.tdms files	
Display	Easy to Read, Yellow Text on Black Background	
Operating Temperature	0-75°C Internal temperature; tolerates high external temperatures for short periods Audible alarm indicates when temperature has exceeded tolerance	
Battery/Battery Life	Two user-replaceable AAA Alkaline Cells/Approximately 20 hours with the display "on"	
Time-Out Period	2 minutes DISPLAY mode (no key activity)	
Dimensions, Materials Weight	4.60 x 0.50 inches; 117 mm x 12.7 mm (D x H) , Aluminum, stainless steel , 10.1 ounces (289 grams)	
Carrying Case	Material: Cut polyurethane interior, scuff resistant nylon exterior cover Size: 10.75 x 3.5 x 7.75 inches; 274 x 89 x 197 mm (W x H x D) Weight: 9 ounces (260 grams)	

CE This equipment is in conformity with the following standards and therefore bears CE marking: IEC 61326-1:2005, EN55011: 1998, EN61000-4-2: 1995, A1: 1998, A2: 2001; EN 61000-4-3: 2002, A1: 2002, following the provisions of the applicable directives: 98/34/EEC and amendments, 89/336/EEC and amendments.

ABOUT EIT 2.0 LLC

EIT 2.0 LLC was formed in 2022 under the same ownership and key management team to focus and accelerate the development of EIT's proprietary UV measurement products. Originally established in 1977, EIT has provided engineering & contract electronic manufacturing services (EMS) for medical, industrial, analytical instrument, telecommunications and aerospace customers. EIT 2.0's UV measurement products which include radiometers and on-line measurement systems have been sold worldwide since 1986. Over 100,000 EIT products have been sold to measure LED, broadband and UV germicidal sources.

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EIT 2.0 Products are designed and manufactured in the USA.