



## UV Measurement and Process Control Instruments

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### Subject: EIT 2.0 LEDCure Four Band Profiler Application Notes

The LEDCure Four Band Profiler contains all four EIT 2.0 LED L-Bands (L-365, L-385, L-395, L-405) in a single instrument. It was developed for Research & Development, Field Service Technicians, LED Source Suppliers and Formulators who routinely encounter different wavelength LEDs in a day.

The LEDCure Four Band Profiler will provide those users with a single instrument that can conveniently, accurately and repeatably measure 365, 385, 395 and 405 nm LEDs.

EIT 2.0 uses a narrow band (+/- 52 nm wide) approach with each L-Band versus a wide band approach.

The EIT 2.0 narrow band approach allows:

- EIT 2.0 to calibrate each L-Band to the corresponding LED source
- Greater control over the flatness of each L-Band response
- EIT 2.0 to use our patented Total Measured Optic Response in each L-Band in which all components in the optic stack are included in the instrument response

EIT 2.0's L-Bands have the following responses:

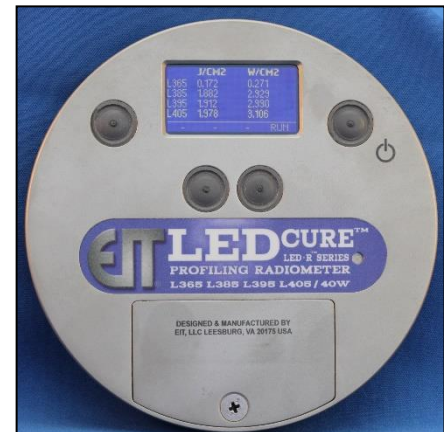
- L-365: 340-392 nm
- L-385: 360-412 nm
- L-395: 370-422 nm
- L-405: 380-432 nm

There is overlap in the L-bands which means that energy from an LED source will also show up in other bands other than the main band of interest from the LED.

In the example to the right, the energy from a 365 nm LED shows was measured. Values show up in all bands on the display. For a 365 nm LED source, the values from the L365 band should be used to quantify the output from the 365 nm source.

You cannot add the values together from each of the four bands to come up with a total UV value.

You should always use the values from band that matches the source wavelength.



	mJ/CM2	mW/CM2
L365	895.611	2714.927
L385	668.434	2025.581
L395	581.015	1770.419
L405	137.809	423.565

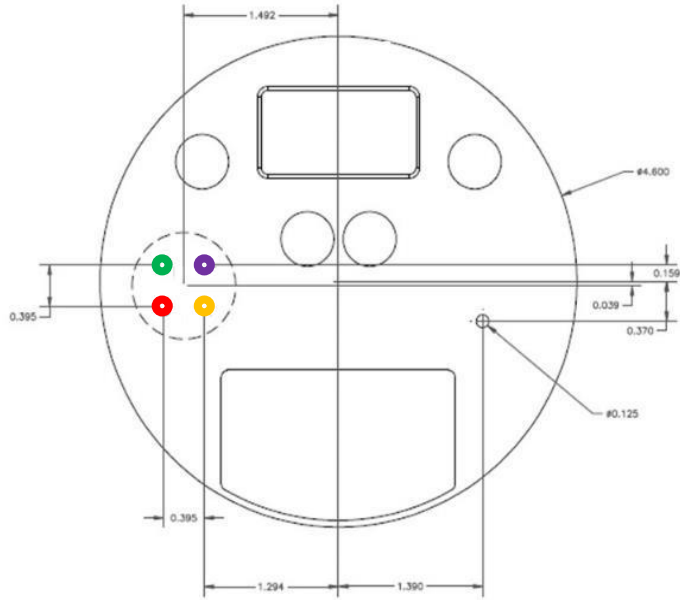
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Most LEDs sold with a Center Wave Length (CWL) variation of +/- 5 nm. The actual selection (binning) of individual diodes will vary from manufacturer to manufacturer. If a 395 nm LED is assembled with more 400+ nm chips, the L405 value may be higher.

The actual location of each band is shown in the diagram below.

**Optics Locations  
LEDCure**

- L365    L385
- L395    L405



The LEDCure Four Band Profiler can be run under multiple LED types, with different CWL's. In the example below, the Four Band Profiler was run a 365, 385, 395 and 405 nm LED. The data transfers to a computer at a fixed rate of 128 Hz. Smoothing in the instrument should be set to Smooth Profiler so that the display values best match the values calculated by PowerView III.

