

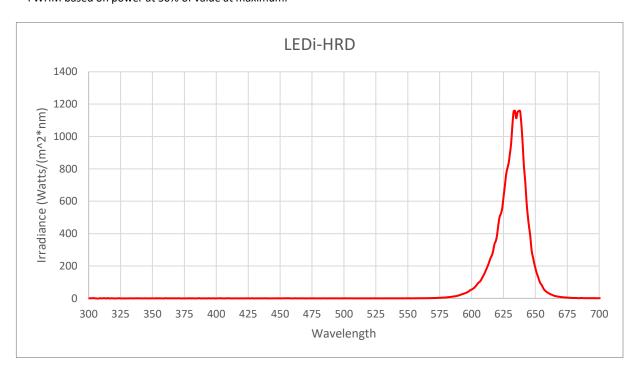
TECHNICAL RELEASE LUZCHEM EXPOSURE STANDARD: LEDI-HRD

General information: Luzchem Research, Inc. produces and freely distributes exposure standards as a service to scientists involved in research in photochemistry, photobiology and photostability. These standards are available in Luzchem's website for reference. They can be used to characterize conditions of exposure and should allow other scientists to readily replicate irradiation conditions. Measurements were made using a calibrated Ocean Optics USB4000 spectrometer (calibration valid until December 2021). To the best of our knowledge spectral information is accurate within the experimental resolution of ±2 nm. For more information concerning the procedure used to obtain this data, please consult tech@luzchem.com

Lamp Part Number	LEDi-HRD	Measurement Temperature	25 °C
Description	7 Red LEDs	Measurement date	December 11, 2020
Measurement distance	~ 3.8 cm lamp to target	Monitored range	300 to 850 nm
FWHM (nm)	18	FWHM peak range ⁽¹⁾	625-643 nm ⁽²⁾

⁽¹⁾ As output current is adjusted the peak wavelength can vary within the resolved peak range specified above with an additional ±5 nm margin of error (information provided by LED manufacturer).

⁽²⁾ FWHM based on power at 50% of value at maximum.



Power⁽³⁾⁽⁴⁾

Total Power in Visible Region (400-700 nm)	W/m²	27,400
Total Power under main peak (600-660 nm) ⁽⁵⁾	W/m²	26,400
Estimated dose for a cuvette with 2 cm ² exposure area	Watts	5.48

⁽³⁾ Power measured at maximum output available for LEDi-HRD. Power output of individual units may vary ±10%;

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⁽⁴⁾ Conversion factor for W/m² to W/cm²: divide by 10,000.

 $^{^{\}rm (5)}$ Based on power exceeding 5% of value at maximum.