



- Simple to Operate
- Set Screw Locks Lightguide in Place
- PTB and NIST Traceable

## ACCU-CAL™ 50-LED Radiometer

Consistent light curing requires periodic monitoring of light energy intensity and dosage levels. The ACCU-CAL™ 50-LED radiometer is simple to operate and offers accurate measurement of curing energy. The ACCU-CAL™ 50-LED can measure energy levels emitted from lightguides (3 mm, 5 mm, and 8 mm), BlueWave® QX4® LED heads, LED flood lamps, and line-pattern curing systems. A spectral sensitivity range of 350 - 450 nm and intensity measurement from 1 mW/cm<sup>2</sup> to 40 W/cm<sup>2</sup>, makes this unit ideal for measuring LED curing source energy levels. A specially designed photo-sensor assembly provides repeatable measurements and protection from high temperatures associated with some LED systems on the market.

### Three Reasons to Use a Radiometer

- **Maintaining a Reliable Light-Curing Process** – A radiometer helps to ensure that a light-curing system is providing the intensity and dosage levels required for successful curing.
- **Providing a Worker Friendly Light-Curing Process** – The ACCU-CAL™ 50-LED is sufficiently sensitive to measure the intensity of stray or reflected energy (as little as 1 mW/cm<sup>2</sup>). Dymax recommends that worker UVA exposure not exceed 1 mW/cm<sup>2</sup>. For reference, UV (320-395 nm) intensity on a sunny day can range from 2-6 mW/cm<sup>2</sup>.
- **Measuring Transmission Rates through Substrates** – A radiometer can be used to measure the transmission rates of various wavelengths through substrates that sometimes absorb various frequencies of energy. To assure an effective curing process it is critical to measure the light intensity reaching the cure site below any intervening substrate.



# Specifications

| Specifications                      |                                                                                                       |
|-------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>Spectral Sensitivity</b>         | 350 to 450 nm                                                                                         |
| <b>Intensity Range</b>              | 1 mW/cm <sup>2</sup> to 40 W/cm <sup>2</sup>                                                          |
| <b>Resolution</b>                   | Intensity (1 mW/cm <sup>2</sup> ; to three significant digits)<br>Dose (1 mJ/cm <sup>2</sup> )        |
| <b>Calibration Period</b>           | 12 months                                                                                             |
| <b>Operating Temperature Ranges</b> | Optometer: +5 to +40°C<br>Detector: 120°C continuous, Peak 200°C                                      |
| <b>Measurement Modes</b>            | Intensity (mW/cm <sup>2</sup> )<br>Peak Intensity (mW/cm <sup>2</sup> )<br>Dose (mJ/cm <sup>2</sup> ) |
| <b>Light Sources</b>                | Lightguides (3 mm, 5 mm, and 8 mm), BlueWave® QX4® LED Heads, LED Flood Lamps                         |
| <b>Power Supply</b>                 | Two (2) AA batteries                                                                                  |
| <b>Battery Life</b>                 | 250 hours (automatic shutoff after 1 hour)                                                            |
| <b>Sensor Dimensions</b>            | Photo-Sensor Diameter = 9 mm<br>Diameter = 37 mm<br>Thickness = 8 mm<br>Cable Length = 1 M            |
| <b>Meter Dimensions</b>             | 145 mm x 63 mm x 30 mm (Length x Width x Thickness)                                                   |

## Radiometer Calibration

Dymax recommends calibrating the ACCU-CAL™ 50-LED radiometer annually to ensure proper operation of the instrument. Calibration services are available through Dymax. Please contact Dymax Customer Support for more information.

## Ordering Information

| Product                                                                    | Part Number | Description                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCU-CAL™ 50-LED for LED Spot and Flood Units                              | 40505       | Complete radiometer with 3 mm, 5 mm, and 8 mm lightguide adapters, lightguide simulator*, and an optical adapter for use with the BlueWave® QX4® and BlueWave® MX-275; includes storage/carrying case                                                                                                                               |
| ACCU-CAL™ 50-LED for LED Flood Units                                       | 40519       | Complete radiometer for LED flood and conveyor systems; includes storage/carrying case                                                                                                                                                                                                                                              |
| Flood to Spot Adapter Kit                                                  | 39554       | Kit includes three lightguide adapters (3 mm, 5 mm, and 8 mm) and a lightguide simulator*                                                                                                                                                                                                                                           |
| Lightguide Adapter                                                         | 39556       | Fits 3 mm ID lightguides (5 mm OD)                                                                                                                                                                                                                                                                                                  |
|                                                                            | 39557       | Fits 5 mm ID lightguides (7 mm OD)                                                                                                                                                                                                                                                                                                  |
|                                                                            | 39558       | Fits 8 mm ID lightguides (10 mm OD)                                                                                                                                                                                                                                                                                                 |
| Lightguide Simulator                                                       | 38408       | Lightguide simulator (Fits all standard lightguide entrance fittings)                                                                                                                                                                                                                                                               |
| BlueWave® QX4® Optic Adapter Upgrade Kit                                   | 42218       | This option is for customers who already own an ACCU-CAL™ 50-LED. The kit includes the optic adapter and updated software and calibration for your existing radiometer. The customer's radiometer must be returned to Dymax for programming and calibration.                                                                        |
| Line Optic Adapter Upgrade Kit for the BlueWave® QX4® and BlueWave® MX-275 | 43383       | This option is for customers who already own an ACCU-CAL™ 50-LED. The kit includes the optic adapter and updated software to allow your radiometer to measure line-pattern systems. It also includes calibration for your existing radiometer. The customer's radiometer must be returned to Dymax for programming and calibration. |

\*A lightguide simulator is used to measure direct spot lamp intensity (required to calculate lightguide transmission)



ACCU-CAL™ 50-LED for measuring floods  
lamps only PN 40519



ACCU-CAL™ 50-LED for measuring LED spots  
and flood lamps PN 40505



[www.dymax.com](http://www.dymax.com)

#### Americas

USA | +1.860.482.1010 | [info@dymax.com](mailto:info@dymax.com)

#### Europe

Germany | +49 611.962.7900 | [info\\_de@dymax.com](mailto:info_de@dymax.com)  
Ireland | +353 21.237.3016 | [info\\_ie@dymax.com](mailto:info_ie@dymax.com)

#### Asia

Singapore | +65.67522887 | [info\\_ap@dymax.com](mailto:info_ap@dymax.com)  
China | +86.755.83485759 | [dymaxasia@dymax.com](mailto:dymaxasia@dymax.com)  
Hong Kong | +852.2460.7038 | [dymaxasia@dymax.com](mailto:dymaxasia@dymax.com)  
Korea | +82.31.608.3434 | [info\\_kr@dymax.com](mailto:info_kr@dymax.com)

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