ACCU-CAL™ 50-LED

LED Radiometer

ACCU-CAL™ 50-LED (PN 40519)

ACCU-CAL™ 50-LED with Adapter Kit (PN 40505)

Operation Manual

DYMAX®

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INTRODUCTION

The enclosed ACCU-CAL™ 50-LED Radiometer was developed and manufactured by the DYMAX team, driven by a desire to best serve your needs. Before shipping, your ACCU-CAL™ 50-LED Radiometer was calibrated and tested against standard LED light sources to ensure accurate performance.

The operation of this radiometer in conjunction with an LED light-curing system will maximize safety and user-friendly performance and provide optimum yield of your technological process.

THEREFORE, WE ENCOURAGE YOU TO READ, UNDERSTAND, AND FOLLOW ALL SAFETY AND OPERATING INSTRUCTIONS AND RECOMMENDATIONS COMPILED IN THIS AND OTHER RELATED MANUALS prior to setting up and operating this instrument and any associated light-curing systems.

Par conséquent, nous vous encouragez a lire, comprend, et suivre tout sécurité et instructions d'opération et conseillations rédiger dans cette et autre manuels etablir un lien avant de mettre en place et de faire marcher cette nouveau système de lampe de tache ou cettes composants individuel.

If you encounter a problem, have any questions, or would like to help us with your suggestions or recommendations, please contact our Technical or Customer Service Departments at 860-482-1010. Trained DYMAX professionals are standing by to serve you.

Si vous rencontrez un problème, avait n'importe de questions, ou si vous voudrez de nous aider avec tes suggestions ou conseillations, s'il vous plait contacte notre departements technique ou service client à 860-482-1010. Dymax formé professionals attendre a vous servir.

UNPACKING AND INSPECTION

Upon receipt of the unit, carefully remove the contents from the boxes and check for damage. **DYMAX is not responsible for damage from shipping – all claims for shipping damage should be made with carrier.**

Check all boxes for contents and write down any serial numbers for further reference. You may wish to retain original shipping cartons in case you need to repackage any item for return.

If you observe or experience any problem with your equipment, notify DYMAX Customer Support, your authorized distributor, or your DYMAX Representative immediately.

Figure 1. ACCU-CAL™ 50-LED Radiometer (PN 40505)

NOTE: REPORT ANY SHORTAGE TO DYMAX CORPORATION CUSTOMER SUPPORT

Phone: 860-482-1010 **Fax**: 860-626-7681

Before continuing with unpacking and installation, please read the following chapters of this manual for safety recommendations and installation, operation, and troubleshooting instructions.

CAUTION! Always wear protective goggles or face shield when working near the front of any unit which emits UV light! The rear of some units also emit stray UV light.

WARNING! Always observe safety requirements!

PRÉ-CAUTION! Toujours faisez de l'usage des lunettes de protection ou protéger de visage marche près du devant d'élément!

PRÉ-CAUTION! Risque de décharge électrique quand le couvert est enlever!

ACHTUNG! Tragen Sie immer eine Sicherheitsbrille oder einen Gesichtsschutz, wenn Sie nahe an der UV Lichtquelle arbeiten. Die Rückseite des Gerätes emittiert gestreutes UV Licht!

WARNHINWEIS! Bitte beachten Sie immer die Sicherheitshinweise!

SAFETY

The ACCU-CAL™ 50-LED Radiometer is designed to be used in conjunction with DYMAX LED curing equipment that is properly setup, with components correctly connected, and operated in accordance with relevant instructions.

SAFETY RECOMMENDATIONS:

- When working with UV or visible light sources, use goggles (provided) or a face shield approved for UV protection to protect your eyes.
- Long-sleeved shirts or a lab coat are recommended to protect the arms, and use of UV opaque gloves will protect the hands.

Sécurité

L'équipment ètre concu pour ètre utilisé correctement constituer, avec composants brancher correctement, et marché en conformément avec instructions important. Le plan étais developer pour render au maxime opérateur sécurité et minimiser expositon à ultraviolette.

Recommander de sécurité:

- Emploi lunettes, ou un protéger de visage pour protection de ultraviolet pour protéger vous oeux.
- Chemises à manche long, ou manteau de labo, sont recommander pour protéger les bras, et utilisation de ultraviolette gants opague vais protéger les mains.

SICHERHEITSHINWEISE

Dieses Gerät wurde so entwickelt, dass es nur vollständig, alle Komponenten korrekt miteinander verbunden, in Übereinstimmung mit relevanten Instruktionen betrieben wird. Bei der Entwicklung wurde weiterhin großen Wert auf die Benutzersicherheit und minimale UV Belastung gelegt.

SICHERHEITSHINWEISE:

- Tragen Sie immer die mitgelieferten Sicherheitsbrille oder speziellen Gesichtsschutz, der Ihre Augen vor UV Licht schützt.
- Wir empfehlen Langarm - Hemden oder einen Laborkittel zu tragen, um die Arme zu schützen. Für die Hände empfehlen wir UV- geblockte Handschuhe.

BITTE BEACHTEN SIE: Durch den installierten inneren Filter strahlt die BlueWave® LED Prime UVA und sichtbares Licht aus. Schauen Sie deshalb niemals direkt in die Lichtquelle, wenn das Gerät angeschaltet ist.

GENERAL

The ACCU-CAL™ 50-LED Radiometer is a microprocessor-based measurement instrument designed to measure curing-energy radiation in the range of 350 - 450 nm.

The ACCU-CAL™ 50-LED uses two AA batteries.

ENVIRONMENTAL CONSIDERATIONS:

- Optical measurement instruments are sensitive to extremes in environmental conditions like high temperature, humidity, and contamination. Protect the device and its detector(s) from high humidity, high temperature, direct sunlight, and contamination.
- Do not use the ACCU-CAL™ 50-LED Radiometer immediately after having taken it from a cold into a warm environment. Under certain circumstances, condensation could develop and may cause inaccurate measurement results. Allow the device to adjust to room temperature before use.

Do not use the ACCU-CAL™ 50-LED Radiometer in powerful magnetic, electromagnetic, or electrostatic fields. These disturbances may influence measurement results.

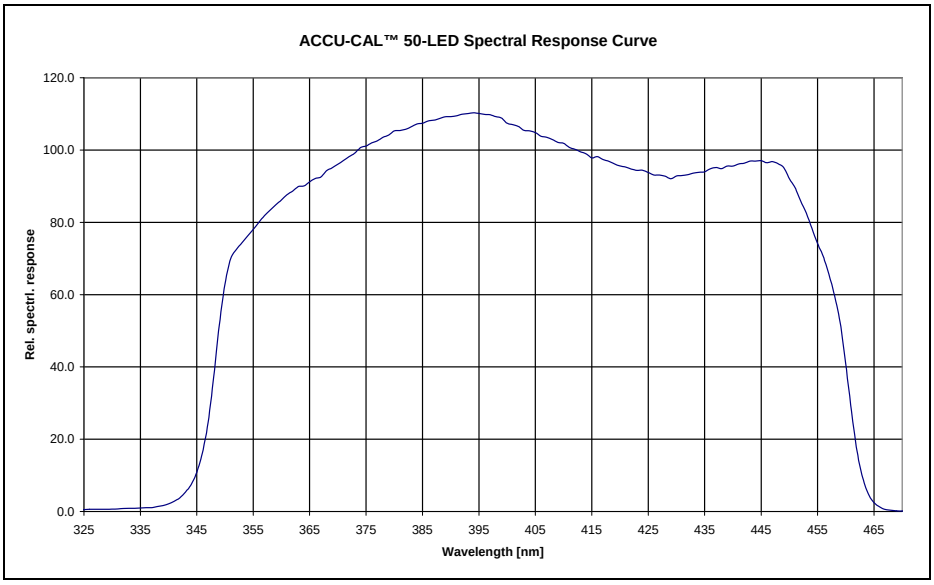

Figure 2. ACCU-CAL™ 50-LED Spectral Response Curve

SPECIFICATIONS

Power	Two AA size batteries
Display	LCD Graphic Display 97x 32 Pixel Display area: 0.56 in x 1.41 in (14.3 mm x 35.8 mm)
Detector Interface	9-Pin MDSM9 socket, 4 inputs
Measurement Ranges	Four modes of operation Auto range within each operating mode
Front Panel Control	3 buttons
Temperature	Operating: 5 to 40°C Storage: -10 to 50° C
Size	5.71 in x 2.48 in x 1.18 in (145 mm x 63 mm x 30 mm)
Weight	0.33 lbs (150 g)

OPERATION

1. The ACCU-CAL™ 50-LED Radiometer may be used to measure intensity from LED-type flood lamps or spot lamps. For flood lamp use, attach the Detector to the radiometer as shown in Figure 3 and do not attach any of the Lightguide Adapters.

2. For spot lamp use, select an adapter that matches the size of the lightguide that is installed on the spot lamp. 3 mm, 5 mm, and 8 mm adapters are available.

3. Install the Lightguide Adapter on the end of the Detector using the two, 2 mm screws provided.

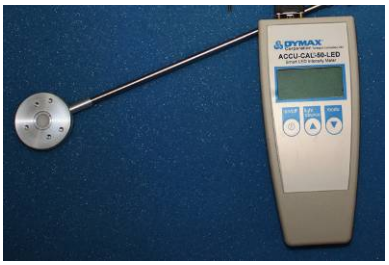

Figure 3. Radiometer with Detector

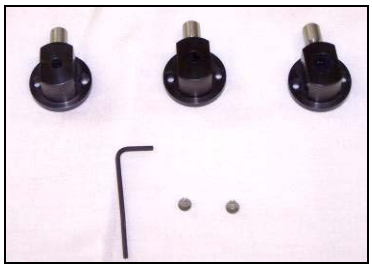

Figure 4. Lightguide Adapters

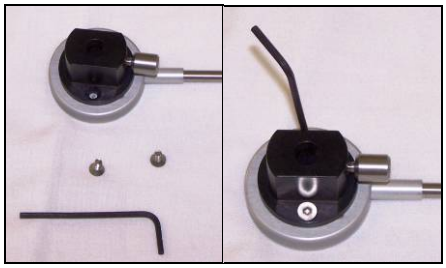

Figure 5-6. Adapter Installation (Step 3)

4. Attach the Lightguide Adapter to the spot lamp lightguide by inserting the lightguide into the Lightguide Adapter until it bottoms out. Tighten the set screw when the lightguide is installed.

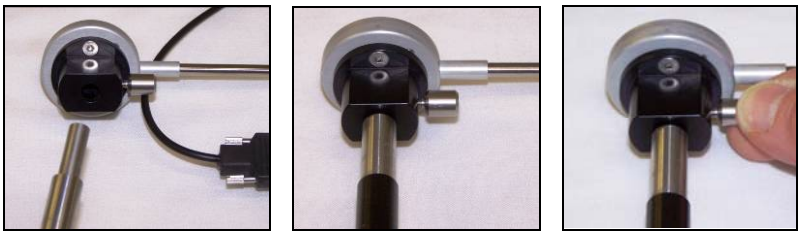

Figure 7-9. Attach Lightguide Adapter to Lightguide (Step 4)

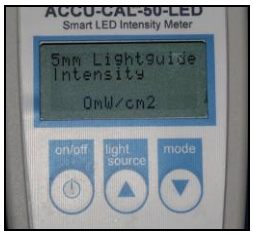

Figure 10. Radiometer Face Plate

5. Press and release the On/Off key on the Radiometer Face Plate to turn the radiometer on and off.
6. Press and release the Light Source Key to select the light source being measured. The different light source options are:
    - Flood Lamp - For use when measuring energy of a flood-lamp light source.
    - 3 mm Lightguide - For use when measuring energy at the end of a 3 mm lightguide.
    - 5 mm Lightguide - For use when measuring energy at the end of a 5 mm lightguide.
    - 8 mm Lightguide - For use when measuring energy at the end of an 8 mm lightguide.
7. Press and release the Mode key to select between the meters operating modes. The different operating modes are:
    - Peak Intensity - Shows the highest intensity in mW/cm^2 seen by the detector during the measurement and stores that value in the display.
    - Intensity - Shows the intensity in mW/cm^2 at the detector during the measurement. This is a dynamic readout of intensity.
    - Dose - Shows the total energy dose in mJ/cm^2 at the detector during the measurement.

      NOTE: This measurement is time dependent.

MAINTENANCE

The ACCU-CAL™ 50-LED was designed to operate with minimum maintenance. Follow the schedule below to assure top unit performance.

- Calibrate the instrument at least annually. Calibration service is available through DYMAX Customer Service or DYMAX Product Repair.
- Change the batteries when a low battery warning is received. The ACCU-CAL™ 50-LED uses two AA-type batteries. The battery compartment is on the back of the instrument.
- Keep the detector head's sensing element clean and free of contaminants. The detector head may be cleaned with a clean tissue wetted with isopropyl alcohol.

Figure 11. Battery Compartment (Closed & Open)

SPARE PARTS/OPTIONS/ACCESSORIES:

ITEM	PART#
Adapter Kit – Flood to Spot Model (includes parts listed below)	39554
Lightguide Simulator	38408
Lightguide Adapter, 8 mm	39558
Lightguide Adapter, 5 mm	39557
Lightguide Adapter, 3 mm	39556

WARRANTY

CAUTION!

DYMAX CORPORATION RESERVES THE RIGHT TO INVALIDATE ANY WARRANTIES, EXPRESSED OR IMPLIED, DUE TO ANY REPAIRS PERFORMED OR ATTEMPTED ON DYMAX EQUIPMENT WITHOUT WRITTEN AUTHORIZATION FROM DYMAX. THOSE CORRECTIVE ACTIONS LISTED BELOW ARE LIMITED TO THIS AUTHORIZATION.

DYMAX Corporation offers a one-year warranty against defects in material and workmanship on all system components *with proof of purchase date*. Unauthorized repair, modification, or improper use of equipment may void warranty. The use of aftermarket replacement parts not supplied or approved by DYMAX Corporation, will void any effective warranties and may result in damage to the equipment.

Please note that most dispensing and curing system applications are unique. DYMAX does not warrant the fitness of the product for the intended application. Any warranty applicable to the product, its application and use is strictly limited to that contained in DYMAX's standard Conditions of Sale. DYMAX recommends that any intended application be evaluated and tested by the user to insure that desired performance criteria are satisfied. DYMAX is willing to assist users in their performance testing and evaluation by offering equipment trial rental and leasing programs to assist in such testing and evaluation. Data sheets are available for valve controllers or pressure pots upon request. MAN002 PN40506 03/25/2011

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