

# cal-SPOT 401

Calibrated Precision Spot Photometer

## Operating Instructions

### Features


The cal-SPOT 401 was designed for easy operation featuring single button operation, auto ranging display and auto power “OFF”. The cal-SPOT 401 comes complete with a calibration certificate traceable to NIST standards, carrying case, operating instructions and 9 volt battery.

### Controls

To operate the cal-SPOT 401, slide your right hand through the leather strap located on the side of the instrument. The adjustable velcro strap fasteners can be adjusted to fit your hand comfortably. Your index finger can now easily navigate the red button found on top of the instrument. Depressing the red button switches the cal-SPOT 401 “ON”, depress and hold “HOLDS” the reading, and release returns function to “AUTO RANGING” mode.

### How to Measure


The cal-SPOT 401 provides accurate luminance measurements when the operational guidelines are followed.

- 1) Place the cal-SPOT 401 in your right hand.
- 2) Depress and release the red button on top of the instrument. This activates the display and the readings change as the instrument is pointed in various directions. The low battery symbol  should not be displayed.
- 3) To view, place your eye up against the viewing port of the instrument. The viewing field is 12 degrees, and the 1 degree measuring field-of-view (FOV) is represented by the black dot seen in the center of the viewing field.

- 4) To begin measuring, select a working distance (minimum 8 inches) where the 1 degree FOV dot covers a maximum of 50% of the sample being measured. To focus the optics, rotate the input optics located on the front of the cal-SPOT 401. Once the sample is clearly in focus and correctly located in the FOV, depress and hold the red button. During the depress and hold function, the LCD display located on the side of the instrument will display your measurement reading. Release the red button to take a new measurement. Should the cal-SPOT 401 switch off during a measurement, simply depress and release the button and resume operation.
- 5) Luminance measurements are not affected by the working distance between the cal-SPOT 401 and the sample, providing that the sample illuminance output is even and the 1 degree FOV dot is accurately located within the perimeter of the sample.

## Maintenance

### “Battery Replacement”

When the LCD displays the replace battery symbol , remove the battery cover located on the front of the cal-SPOT 401. The 9 volt battery is accessible by loosening (turning counterclockwise) the screw using a #1 Philips type screwdriver. Gently pull the battery cover door upward and outward. Remove the 9 volt battery from the unit by grasping the contact clip, be careful not to pull on the wires. When placing the new battery into the unit, push gently until battery is seated against back of chamber. Reinsert the battery cover and tighten the screw (turn clockwise). To ensure accurate measurements, the cal-SPOT 401 should be re-calibrated on a yearly basis. The re-calibration service provided by The COOKE Corporation will maintain the cal-SPOT 401's calibration traceability to NIST standards.

## Cleaning

Use a damp cloth and mild detergent for the painted surfaces. The optics should be cleaned with lens paper, alcohol, or compressed air depending on the contaminate.



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