REED

Model R8140
LED Light Meter

Instruction Manual

Table Of Contents

Features

- Measures ambient light levels of white, red, yellow, green and blue LED light and visible light in Foot-candles or Lux
- Large, backlit LCD display
- Detachable and rotatable light sensor
- Min/Max and data hold functions
- Cosine and color corrected measurements
- User adjustable parameter for specialized light sources
- Low battery indicator and auto shut off
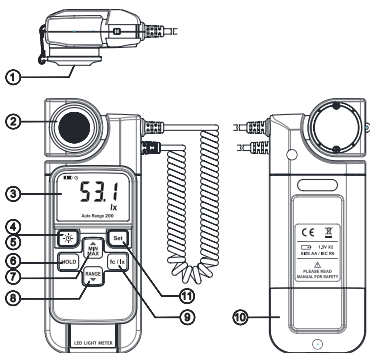- Includes battery, sensor cover, and hard carrying case

Applications

- OSHA work environment compliance
- Cinematography and photography applications
- Museum exhibits
- Lighting system installation
- Environmental monitoring
- Interior design projects
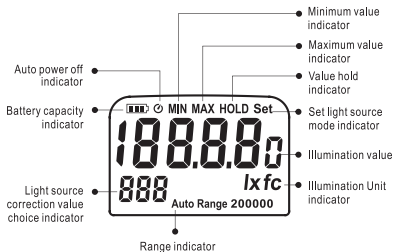- Industrial applications

Specifications

Measuring Range(s):	Lux: 0 to 199,900
	Fc: 0 to 19,990
Accuracy:	Incandescent Light Source: ±(3% rdg.+ 5 dgt)
	Other Visible Light Source: ±8% rdg.
Resolution:	Lux: 0.1
	Fc: 0.01
Response Time:	500mS
Sensor Type:	Silicon photodiode with color correction filter and cosine correction
Light Types:	White LED, Yellow LED, Green LED, Red LED, Blue LED, Warm White Fluorescent, Cold White Fluorescent Lamp, Incandescent
Angle deviation from cosine characteristics:	10°± 1%
	30°± 2%
	60°± 5%
	80°± 20%
Autoranging:	Yes (Auto and Manual)
Display:	6-digit LCD
Backlit Display:	Yes
Data Hold:	Yes
Min:	Yes
Max:	Yes
Overrange Indicator:	Yes
Auto Shut-off:	Yes (after 30 mins)
Low Battery Indicator:	Yes
Power Supply:	2 x AA batteries
Battery Life:	Approx. 80 hours
Product Certifications:	CE, RoHS
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	14 to 122°F (-10 to 50°C)
Operating Humidity Range:	0-80%
Dimensions:	6.7 x 2.5 x 1.5" (169 x 63 x 37mm)
Weight:	7.4 oz (210g)

Instrument Description

1. Lens cover
2. Light sensor
3. LCD display
4. Power button
5. Backlight (Power) button
6. HOLD button
7. Max/Min button
8. Range selector button
9. Fc/Lx selector button
10. Battery cover
11. Set button

Display Description

- Minimum value indicator
- Maximum value indicator
- Value hold indicator
- Set light source mode indicator
- Illumination value
- Illumination Unit indicator
- Auto power off indicator
- Battery capacity indicator
- Light source correction value choice indicator
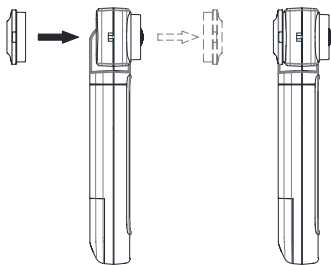- Range indicator

Operating Instructions

Press the **POWER** button to turn the meter on. "CAP-" will auto-appear on the LCD display. After "CAL-" appears, the meter automatically adjusts to zero. When automatic zero adjustment is completed, "CAL-" disappears and "0.0" will appear, confirming the cap can be removed to start measuring. Press the **POWER** button again to turn off the meter, and cover the light sensor with the protective cap.

Note: If "ERR1" appears, check the protective cap to insure it is properly secured.

Protective Cap

This is used to protect the light sensor from damage and creates a complete dark environment for the meter to self-calibrate on start-up.
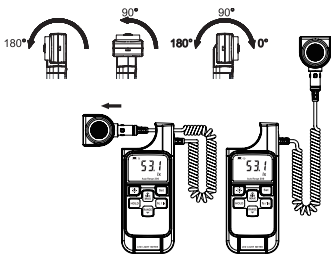

Adjustable Probe

Depending on the application, the light probe can be adjusted or removed from the meter.

Power Button

Push this button to turn on the meter. Push and hold this button for 3 seconds to turn the meter off. The unit will automatically turn itself off after 30 minutes of inactivity. To disable the automatic power off function, turn the meter off, push and hold the "HOLD" button, then push the **POWER** button to turn the meter on. The "⏻" will disappear from the LCD confirming this setting.

Backlight (Power) Button

Push this button to turn the LCD backlight ON and OFF. The backlight will automatically turn off after 30 seconds in order to preserve battery power.

HOLD Button

The user may hold the current reading on the LCD display by pressing the "HOLD" button. A user may press the button again to resume normal operating mode.

Max/Min Button

By pushing this button, the user may swap between maximum, minimum and current reading. Push and hold this key for 3 seconds to exit MAX/MIN mode and return to normal operating mode.

Measurement Range Selection

The user may use this button to select the preferred measuring range. The available ranges are: AUTO, 200, 2000, 20000, 200000 lx / AUTO, 20, 200, 2000, 20000 fc.

Unit of Measure Selection

Press this button to toggle between Foot Candle and Lux unit of measurement.
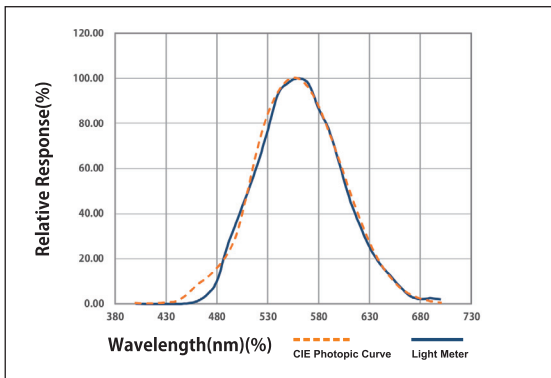
Selecting the Appropriate Light Setting

Press the [Set] button, and use the ▲ and ▼ buttons to select a preset correction setting from L0 to L8. According to the lighting source, the user should set their appropriate preset correction for the accurate measuring result. The user can set his correction factor if a high precision light meter with " V(λ) " < 3% is available. Choose one of the following settings based on your light source:

    L0: Standard incandescent light source

    L1: LED white daylight (5000K)

    L2: LED AMBER (YELLOW) light (3000K)

    L3: LED GREEN light

    L4: LED RED light

    L5: LED BLUE light

    L6: Warm White Fluorescent Lamp (2700K)

    L7: Cold White Fluorescent Lamp (6500K)

    L8: user setup mode

Characteristics of Sensor Spectrum Response

Battery Replacement

When battery indicator displays a low battery, the user should replace the battery. The battery cover can be opened with a philips screw driver and two AA type batteries should be replaced.

Maintenance and Care

- Repairs or servicing not covered in this manual should only be performed by qualified personal.
- Periodically wipe the meter with a dry cloth. Do not use abrasives or solvents on this instrument.

For service on this or any other REED product or information on other REED products, contact REED Instruments at info@reedinstruments.com.

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