

User's Guide

EXTECH
INSTRUMENTS

EasyView Digital Light Meter

Model EA31



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Introduction

Congratulations on your purchase of the Extech EasyView Digital Light Meter which measures the amount of light falling on a surface (illuminance) in Foot-candles or Lux. This device measures up to 20,000 Fc and 20,000 Lux. Careful use of this meter will provide years of reliable service.

Specifications

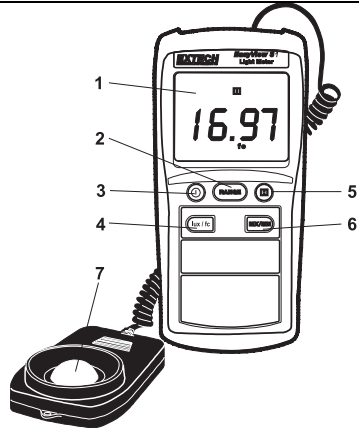
Units	Ranges and Resolution	Accuracy
Lux	20.00, 200.0, 2000, 20.00kLux	$\pm (3\% \text{ rdg} + 0.5\% \text{ FS})$ $\pm (4\% \text{ rdg} + 0.5\% \text{ FS}, \text{ if } > 10,000\text{lux or } 1,000\text{fc})$
Foot-candles	20.00, 200.0, 2000, 20.00kfc	

General Specifications

Display	3-1/2 digit, 2000 count LCD
Over range indication	LCD displays 'OL'
Spectral response	CIE photopic (CIE human eye response curve), Cosine corrected
Spectral accuracy	CIE V_{λ} function ($f_1 \leq 6\%$)
Measurement Repeatability	$\pm 2\%$
Calibration	Calibrated to a standard incandescent lamp at color temperature 2856°K
Temperature coefficient	$\pm 0.1\%$ per °C
Sampling rate	2.5 times per second
Photo detector	Silicon photo-diode and spectral response filter
Operating conditions	Temperature: 32 to 104°F (0 to 40°C); Humidity: < 80% RH
Storage conditions	Temperature: 14 to 140°F (-10 to 50°C); Humidity: < 80% RH
Dimensions	5.91 x 2.8 x 1.4" (150 x 72 x 35mm)
Weight	Approx. 11.3 oz. (320g) with battery
Photo Detector Dimensions	3.62 x 2.36 x 1.14" (92 x 60 x 29mm)
Detector cable length	3' (91cm) approximately
Low battery indication	"BT" appears on the LCD
Power supply	6 'AAA' cells; Battery life approx 400 hours

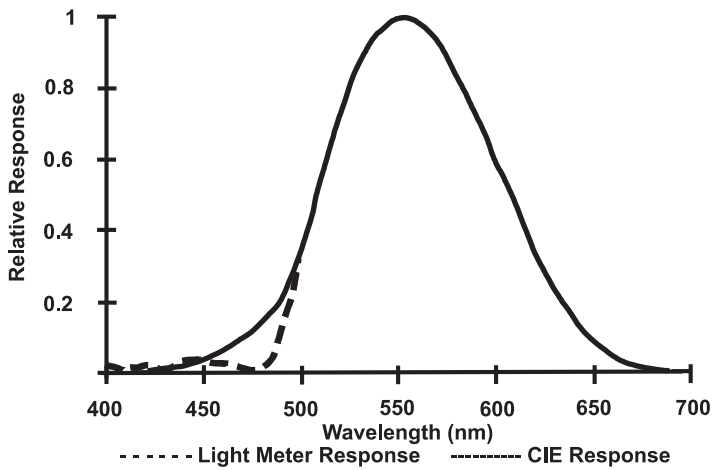
Meter Description

1. LCD display
2. Range button
3. Power ON/OFF button
4. lux / fc selection button
5. Data HOLD button
6. MAX/MIN button
7. Photo sensor (lens cover not shown)
(Tripod mount on rear of sensor)




Note: Battery compartment is located on the rear of the instrument

Spectral Sensitivity



Operation

Power ON or OFF

Press the  button to turn power on or off.

Units of measure

Press the lux / fc button to select the unit of measure. “fc” or “lux” will appear in the display.

Light sensor

1. The light sensor is attached to the meter with a coiled cable which allows placement of the sensor up to approximately 3 feet from the meter.
2. The light sensor is a silicon photo diode and resides under the white domed lens.
3. To protect the lens from scratches, keep the protective cap on the sensor whenever the unit is not in use.
4. The back of the sensor has a tripod mounting hole.


Taking measurements

1. Remove the protective cap from the sensor.
2. Place the sensor in a horizontal position at the measurement location.
3. Read the light level on the display. If the light measurement is out of range an “OL” indication will appear on the display. If the ‘OL’ appears, select a higher range by pressing the RANGE button.

MX MN Function

1. Press the MX/MN button once to put the meter in MX/MN mode. The meter will now display the highest reading that occurs while the function is enabled. The “**MAX**” icon will appear in the display.
2. Press the MX/MN button again to display the lowest reading that occurs while the function is enabled. The “**MIN**” icon will appear in the display.
3. Press MX/MN again to toggle between the MAX and MIN readings.
4. To exit the MX MN mode and return to the normal real time display, press and hold the MX/MN button (2 seconds) until the **MAX** and **MIN** icons disappear.

Data Hold

Press the **HOLD** button to freeze the displayed reading. The  hold icon will appear on the display. Press the **HOLD** button again to return to normal operation.

Reference

Foot candles	Lux	Typical Light Levels
>10000	>107600	Sunlight
1000 to 10000	10760 to 107600	Operating Table
100 to 1000	1076 to 10760	Assembly (fine) Football stadium Emergency room Drafting table
10 to 100	107 to 1076	Overcast day Assembly (general) Classroom Casual reading Shipping area Stairwell Auditorium
1 to 10	10.7 to 107	ATM machine Storage room Building entrance Parking lot
0 to 1	0 to 10.7	Highway f Full moon

Foot-candle / Lux conversion

1 lux = .09290 foot-candles

1 foot-candle = 10.764 lux

Maintenance

Cleaning and storage

1. The white plastic sensor dome should be cleaned with a damp cloth when necessary.
2. Store the meter in an area with moderate temperature and humidity (refer to the operating and storage range in the specifications chart earlier in this manual).

Battery Replacement

When the battery voltage is low the **BT** symbol will appear on the display. Replace the six (6) 1.5 'AAA' batteries by removing the rear (center) battery compartment screw and accessing the battery compartment. Observe polarity when placing the batteries in the compartment. Ensure that the compartment cover is securely fastened when finished.