

User Manual



LT80 LED Light Meter



Introduction

Congratulations on your purchase of the Triplett LT80 LED Light Meter that measures light intensity from white LED light sources. The LT80 can also measure light from fluorescent, metal halide, high- pressure sodium, and incandescent sources, for reference only (unspecified accuracy). The LT80 can measure light up to 40,000 Fc (400,000 Lux).

Safety

- Do not operate the meter in environments where the following are present: explosive gases (or materials), combustible gases (or materials), steam, or dust.
- Please replace the battery immediately when the low battery symbol appears on the LCD.
- Do not touch the meter's circuit board for any reason; static electricity or contamination could damage the sensitive components.
- This instrument was designed for pollution degree 2. Operation Altitude: Up to 2000m (7000').

Description

1. Photo Detector Cover
2. Photo Detector (Sensor)
3. LCD Display
4. Lux/Fc Button
5. Calibration and ZERO Button
6. Data Hold Button
7. MAX/AVG/MIN Button
8. Power Button: ON/OFF



Operation

Power ON/OFF

Long press the Power button to power the meter. To power the meter OFF, short press the Power button.


Taking Measurements

1. Switch the meter ON and remove the sensor's protective cover to expose the light sensor dome. The display should switch ON; if not, check that batteries are installed and fresh.
2. The meter measures the intensity of the light (illuminance) that strikes the sensor dome in foot-candles and Lux units (1 fc = 10.76 lux), displaying this measured value on its LCD.
3. Position the meter and light source so that the light strikes the sensor dome straight on (perpendicular) with as little an angle as possible.
4. The meter's display can show a value up to 9999. However, for readings that represent measurements higher than this, the meter uses x10 or x100 feature. For example, to represent a measurement of 11,000 fc the meter will display 1100 with the x10 indicator.

Auto Power OFF

To save battery life, the meter powers down automatically after approximately 12 minutes of inactivity.

Enable/Disable Auto Power Off

While the meter is ON, long press the Power button to disable the Auto Power OFF utility (the Clock symbol  will switch OFF). To enable the Auto Power OFF utility, repeat this process.

LUX/FC Button

Press the LUX/FC button to toggle between Lux and FC (foot-candles) measurement units.

MAX/AVG/MIN Button

The meter can record the maximum, minimum, and average readings as described below:

Short press the "MAX/MIN" button and the meter will begin to track the maximum/average/minimum measurements; the "MAX" icon will display at the top of the LCD window indicating that the meter is now showing the maximum reading. The reading will not change until a higher reading is registered.

Press the "MAX/MIN" button again to switch from "MAX" to "AVG", where the meter will show the average measurement value. The "AVG" icon will be displayed above the displayed value.

Press the "MAX/MIN" button again to change the mode from "AVG" to "MIN", where the meter will show the minimum value measured. The "MIN" icon will be displayed.

Press the "MAX/MIN" button again to switch from "MIN" back to "MAX".

To exit this mode, hold the "MAX/MIN" button for at least 2 seconds. The MAX/AVG/MIN icons should all be switched OFF when the unit returns to the normal operating mode.

HOLD Button

Press the HOLD button to freeze the current reading on the LCD. Press the HOLD button again to release the reading. In the Data Hold mode, HOLD is displayed on the LCD.

Zero Calibration Procedure

Ensure that the protective cap is attached to the light sensor.

Power the meter and the LCD should display '0'.

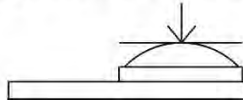
1. Short press the "CAL ZERO" button to perform the zero adjustment (CAL will appear on the display).
2. The CAL display will switch off when the calibration has been completed.

3. If the protective cap is not covering the sensor when the Zero calibration is started the LCD display will read CAP. In this case, please cover the sensor with the cap and restart this procedure.

Measurement Tips

For maximum accuracy allow the light being measured to fall directly on the sensor as perpendicular as possible with a minimal angle of incidence.

Light Source 0 degree





When the meter is not in use, please keep the protective cap in place over the light sensor. This will prolong the life of the sensor.

When the meter is to be stored for long periods, please remove the batteries and store them separately. Batteries can leak and cause damage to the meter's components.

Avoid areas of high temperature and humidity when using this instrument.

Battery replacement

	WARNING
	If the symbol "  " appears on the LCD, please replace the battery immediately

- Turn off the instrument.
- Remove the battery cover
- Replace the battery.
- Install the battery cover

Specifications

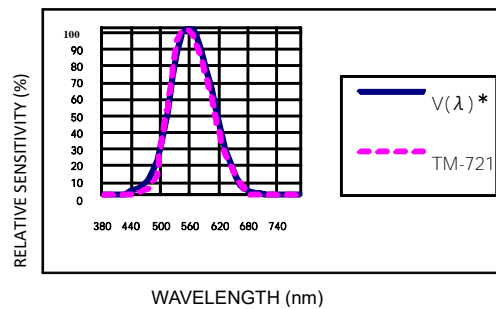
Display	9999 count, maximum display 9999	
Sensor	Silicon photodiode and filter	
Measuring Range	999.9,9999, 99990,400,000 Lux 99.99,999.9,9999,40,000 Footcandles	
Resolution	0.1,1, 10,100 Lux 0.01,0.1,1,10 Footcandles	
Accuracy	$\pm 3\%$ $\pm 3\text{Lux}$ (0~500Lux), $\pm 3\%$ (up 501 Lux) (Calibrated to standard incandescent lamp 2856° K) 8% other visible light source	
Angle deviation from cosine characteristics	30°	$\pm 2\%$
	60°	$\pm 6\%$
	80°	$\pm 25\%$
Power Supply	2 batteries 1.5V AAA MN2400 LR03 AM4	
Battery life	About 200 hours	
Dimensions	133(L)x48(W)x23mm(L) Hmm 5.3(L)x 1.9(W) x0.2(L) inch	
Weight	250g (include battery)	
Accessories	User's manual, carrying case, 1.5V battery*2	

Relative Spectral Sensitivity

The deviation from the comparative standards for luminosity is determined by JIS standard C 1609-1993.

Peak sensitivity wavelength: 550 nm .

Typ. Ta=23°C



Typical Light Levels (1 Fc = 10.76 Lux)

Lux	Foot Candles		Lux	Foot Candles	
		Factories			Home
20-75	2-7	Emergency Stairs, Warehouse	100-150	10-15	Washing
75-150	7-15	Exit/Entrance Passages	150-200	15-20	Recreational Activities
150-300	15-30	Packing Work	200-300	20-30	Drawing Room, Table
300-750	30-75	Visual Work: Production Line	300-500	30-50	Makeup
750-1,500	75-150	Typesetting: Inspection Work	500-1,500	50-150	Reading, Study
1,500-3,000	150-300	Electronic Assembly, Drafting	1,000-2,000	100-200	Sewing
		Office			Restaurant
75-100	7-10	Indoor Emergency Stairs	75-150	7-15	Corridor Stairs
100-200	10-20	Corridor Stairs	150-300	15-30	Entrance, Wash Room

200-750	20-75	Conference, Reception Room	300-750	30-75	Cooking Room, Dining Table
750-1,500	75-150	Clerical Work	750-1,500	75-150	Show Window
1,500-2,000	150-2000	Typing, Drafting			
		Store			Hospital
75-150	7-15	Indoors	30-75	3-7	Emergency Stairs
150-200	15-20	Corridor/Stairs	75-100	7-10	Stairs
200-300	20-30	Reception	100-150	10-15	Sick Room, Warehouse
300-500	30-50	Display Stand	150-200	15-20	Waiting Room
500-750	50-75	Elevator	200-750	20-75	Medical Exam Room
750-1,500	75-150	Show Window, Packing Table	750-1,500	75-150	Operating Room
1,500-3,000	150-300	Storefront, Show Window	5,000-10,000	500-1000	Eye Inspection

Warranty Information

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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