

Digital Illuminance Meter

Model: LX1330B

Instruction Manual

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I. Instruction:

The Digital Illuminance Meter is a precision instrument used to measure illuminance in the special field such as construction, inspection, photography, greenhouse gardening and etc. It is fully cosine corrected for the angular incidence of light.

The illuminance meter is compact, tough and easy to handle because of its construction. The light sensitive component uses a very stable and long life silicon diode to ensure stability with spectral response filter and fully corrected for the angular incidence of light.

II Features:

- Light-measuring levels ranging from 0.1Lux to 200,000Lux, 0.01FC to 20,000FC repeatedly.
- Highly accurate with precise and rapid response even in high ambient light.
- Data-Hold function for holding measuring values.
- Units and signs display are arranged logically and clearly for ease and comfort of reading results
- Automatic zeroing.

- Meter corrected for Luminous Efficiency function.
- Correction factor need to be manually calculated for nonstandard light sources.
- Short rise and fall times.
- Accessories:
Carry case, instruction manual, battery.

III Specifications:

- Display:

3-1/2 digit LCD.

- Measuring Range:

200, 2,000, 20,000 and 200,000Lux

(20,000Lux range reading×10,

200,000Lux range reading×100)

And/or

20, 200, 2,000, 20,000FC

(20,000FC range reading×10)

*** $1FC = 10.76Lux$**

- Out of range display:

Highest digit of “1” is displayed.

- Accuracy:

$\pm(3\%rdg + 10dgt) \leq 20,000Lux/2,000FC$

$\pm(5\%rdg + 10dgt) > 20,000Lux/2,000FC$

- Repeatability:

$\pm 2\%$

- Temperature Characteristic:

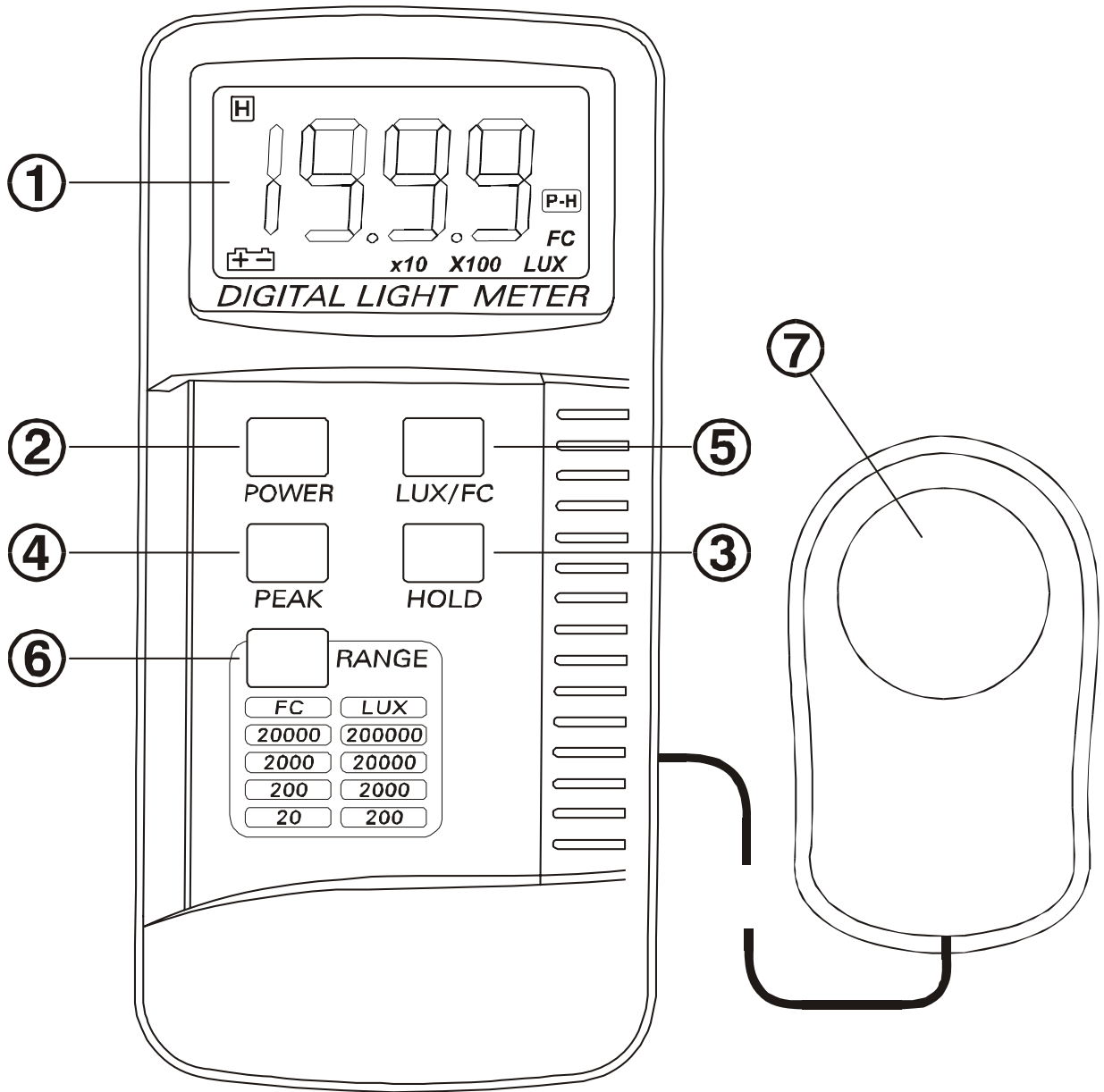
$\pm 0.1\%/^{\circ}C$.

- Measuring Rate:

Approximately 2.0 time/sec.

- Photo detector:
One silicon photo diode with filter.
- Operating Temperature and Humidity:
0°C to 40°C (32°F to 104°F)
0 to 80% RH
- Storage Temperature and Humidity:
-10°C to 60°C (14°F to 140°F)
0 to 80% RH
- Power Source:
One 9Volt Battery
(NEDA 1604 or JLS 006P or IEC6F22)
- Battery life (typical):
200hours (Alkaline Battery).
- Photo Detector Lead Length:
150cm (approx).
- Photo Detector Dimensions:
100mm(H) ×60mm(w) ×28mm(D).
- Dimensions:
149mm(H) ×71mm(w) ×41mm(D).
- Weight:
250g (5.8oz).

IV Name of Parts & Positions:



1. LCD Display: 3-1/2 Digits with a maximum reading of 1999.
2. Power Switch: The power switch key turns the digital illuminance meter ON or OFF.
3. Data-Hold Switch: Pressing the HOLD key selects HOLD mode. When the HOLD mode is selected, the digital illuminance meter stops all further measurements. Pressing the HOLD key again cancels the HOLD mode, causing the digital illuminance meter to resume taking measurements.
4. Data-Peak Switch: Pressing the PEAK key again to clear the peak recording mode.
5. LUX/FC Unit Switch: Pressing the LUX/FC button to choose LUX or FC unit.
6. Range Switch: Pressing the range key changes 200LUX/20FC, 2,000LUX/200FC, 20,000LUX/2,000FC, 200,000LUX/20,000FC ranges, circularly.
7. Photo Detector.


V Operating Instructions:

1. Power-up: Press the power key to turn the meter ON or OFF.
2. Selecting the LUX/FC scale: Set the range selection switch to desired LUX/FC range.
3. Open the photo detector cap and face it to light source in a horizontal position.
4. Read the illuminance result from the LCD display.
5. Out of Range: If the instrument only display one "1" in the M.S.D., that means the input signal is too strong, so a higher range should be selected.
6. Data-Hold mode: Press the HOLD key to select Hold mode. When the mode is selected, the illuminance meter stops all further measurements. Press the HOLD key again to cancel HOLD mode. Then it resumes normal operation and you can do the measurement again.
7. Data-Peak mode: Press the PEAK key to select PEAK mode. When PEAK mode is selected, the illuminance meter stops all further measurements. Press the HOLD

key again to cancel HOLD mode. Then it resumes normal operation.

8. When the measurement is completed, place the photo detector cap back and turn the power selector OFF.

VI Battery Check-up & Replacement:

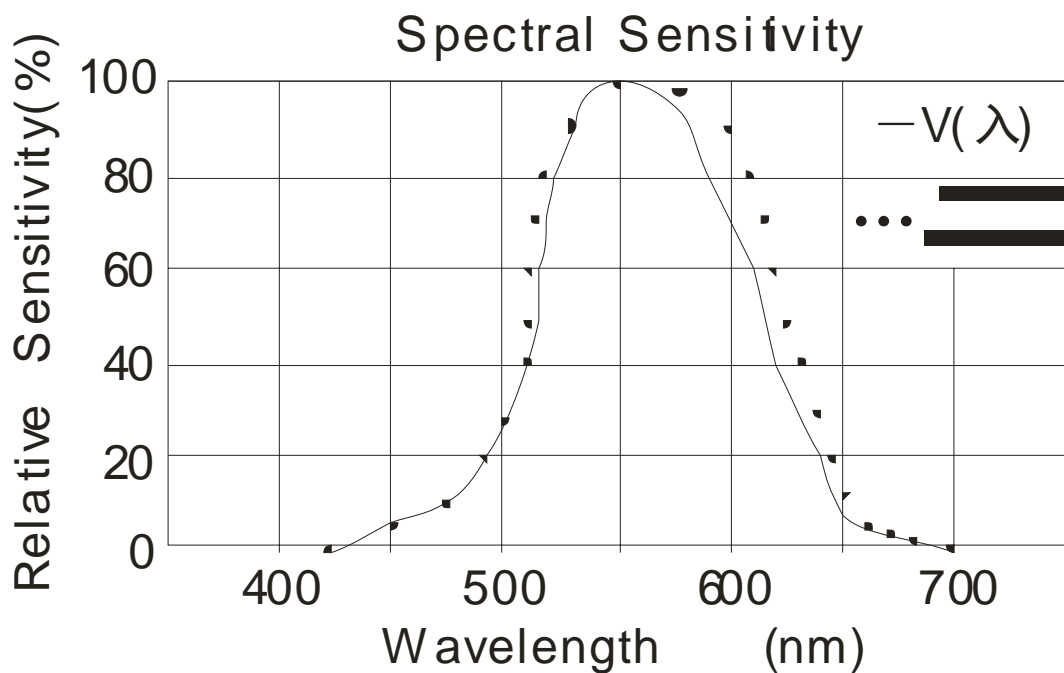
1. When the battery power is not sufficient, LCD will display “ ”; therefore a new battery type 9V is required.
2. After turning off the meter, press the battery cover and push in the direction of the arrow to open.
3. Disconnect the battery from the instrument and replace it with a standard 9-volt transistor battery and go for the cover.

VII Spectral Sensitivity Characteristic:

- To the detector, the applied photo diode with filters makes the spectral sensitivity characteristic almost meet C.I.E.

(INTERNATIONAL COMMISSION ON ILLUMINATION)

photopic curve V as the following chart described.



VIII Maintenance:

1. The white plastic disc on the top of the detector should be cleaned with a damp cloth when necessary.
2. Do not store the instrument where temperature or humidity is excessively high.
3. The reference level, as marker on the face plate, is the tip of the photo detector globe.
4. The calibration interval for the photo detector will vary according to operational conditions, but generally the sensitivity decreases in direct proportion to the product of luminous intensity by the operational time. In order to maintain the basic accuracy of the instrument, periodic calibration is recommended.

IX Recommended Illumination:

Office	Conference, reception room	200~750Lux
	Clerical work	700~1,500Lux
	Typing drafting	1,000~2,000Lux
Factory	Packing work, entrance passage	150~300Lux
	Visual work at production line	300~750Lux
	Inspection work	750~1,500Lux
	Electronic parts assembly line	1,500~3,000Lux
Hotel	Public room, cloakroom	100~200Lux
	Reception, cashier	220~1,000Lux
Store	Indoors stairs corridor	150~200Lux
	Show window, packing table	750~1,500
	Forefront of show window	1,500~3,000
Hospital	Sickroom, warehouse	100~200Lux
	Medical examination room	300~750Lux
	Operation room, emergency treatment	750~1,500Lux
School	Auditorium, indoor gymnasium	100~300Lux
	Class room	200~750Lux
	Laboratory, library, drafting room	500~1,500Lux