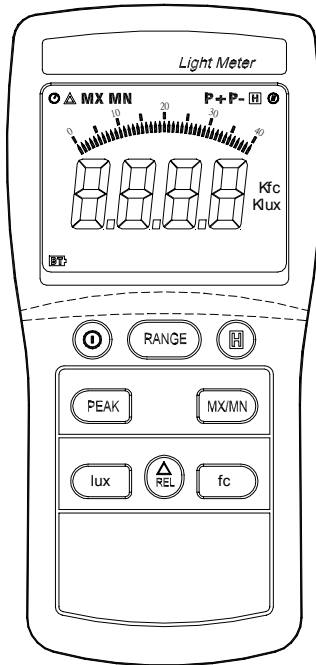


ISO-TECH DIGITAL LIGHT METER

LUX-1335

INSTRUCTION MANUAL



I INTRODUCTION

- The ISO-TECH LUX-1335 digital light meter is a precision instrument used to measure illuminance (lux, footcandle) .
- It meets CIE photopic spectral response.
- It is fully cosine corrected for the angular incidence of light.
- The meter is a compact, tough and easy to use instrument.
- The light sensitive component used in the meter is a very stable, long-life silicon photodiode and spectral response filter.
- U.S. Pat. No. Des. 446,135

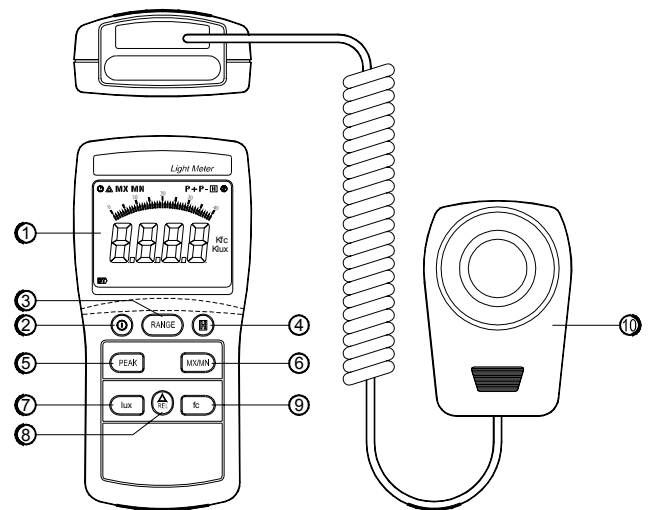
II FEATURES

- Light measurement ranging from 0.01 lux ~ 0.1 klux / 0.01 fc ~ 0.01 kfc, respectively.
- High accuracy and rapid response.
- Data-hold function
- Digital and analogue graphical display
- Automatic zeroing.
- Meter corrected for spectral relative efficiency.
- No manual correction factor calculations for non-standard light sources.
- Short rise and fall times.
- Peak-hold function
- Selectable scale – Lux or fc
- Auto power off after 30 minutes.
- Maximum and minimum measurements.
- Relative reading function.

III SPECIFICATIONS

- Display : 3-3/4 digit LCD with high speed 42 segment bargraph.
- Measuring Range : 40.00 lux, 400.0 lux, 4000 lux, 40.00 klux and 200.0 klux / 40.00 fc, 400.0 fc, 4000 fc, 20.00 kfc.
Note : 1fc=10.76Lux , 1lux=1000Lux , 1kfc=1000fc
- Overrange Display : LCD will show "OL" symbol.
- Spectral Response : CIE Photopic. (CIE human eye response curve).
- Spectral Accuracy : CIE V λ function $f'_{\lambda} \leq 6\%$
- Accuracy : $\pm 3\%$ rdg $\pm 0.5\%$ f.s. ($\pm 4\%$ rdg ± 10 dgts as $> 10,000$ lux/ fc range) .
(calibrated to standard incandescent lamp at colour temperature 2856 K) .
- Repeatability : $\pm 2\%$.
- Temperature Characteristics : $\pm 0.1\%/^{\circ}\text{C}$.
- Sampling Rate : 13.3 times/sec for analogue bar-graph indication ; 1.3 times/sec for digital display.
- Photo Detector : Silicon photo diode and spectral response filter.
- Operating Temperature & Humidity :
0 $^{\circ}\text{C}$ to 40 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ to 104 $^{\circ}\text{F}$) & 0% to 80% RH.
- Storage Temperature and Humidity :
-10 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ (14 $^{\circ}\text{F}$ to 140 $^{\circ}\text{F}$) & 0% to 70% RH.
- Power Source : 6 x 1.5V AAA batteries
- Battery life (typical) : 400 hours (zinc-carbon) .
- Photo detector Lead Length : 150 cm (approx.) .
- Photo detector Dimensions : 92L \times 60W \times 29H (mm);
- Meter Dimensions : 150L \times 72W \times 35H (mm);
- Weight : 320g .
- Accessories : Carry case & instruction manual

IV METER DIAGRAM



1. LCD Display : 3-3/4 digit display with a maximum reading of 3999 , and the indicating signs of measured values, unit function symbols, and decimal points etc are displayed.
2. ON/OFF button.
3. Range Selector button: Sequential selection of 40.00 lux, 400.0 lux, 4000 lux, 40.00 Klux 200.0 klux or 40.00 fc, 400.0 fc, 4000 fc, 20.00 Kfc. Total of 5 range for lux and 4 range for fc.
4. Data-Hold button
5. Peak Hold button

6. MX/MN button: Maximum and Minimum reading recall
7. Lux button : Pressing the Lux button selects taking measurement of illuminance in lux.
8. Relative Reading button
9. fc button : Pressing the fc button selects measurement of illuminance in footcandle scale; and, 1 footcandle = 10.76 lux.
10. Photo Detector.

V OPERATING INSTRUCTIONS

1. Power-up : Press the power button to turn the meter ON or OFF.
2. Selecting the lux or fc scale : Set the range selection switch to desired lux or fc range.
3. Remove the photo detector cap and hold the sensor towards the light source in a horizontal position.
5. Overrange : If "OL" is shown on the display, the input signal is too strong and a higher range should be selected.
6. Data-Hold mode : Press the HOLD button to select Data-Hold mode. When HOLD mode is selected, the illuminance meter stops all further measurements. Press the HOLD button again to exit DATA-HOLD mode and continue taking readings
7. Peak-Hold recorder mode : Press and hold down PEAK button until the display shows "CAL". Press the PEAK button repeatedly to reach P+ and P- mode as required. Expose the photo detector to the pulsating light field and read the result. Press and hold down PEAK button for 2 seconds to exit PEAK recorder mode, then the meter will resume normal operation.

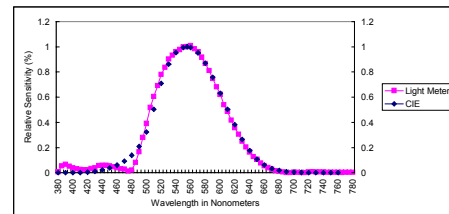
8. Maximum and Minimum record mode : Press MX/MN button to cycle through Maximum (MX) reading, Minimum (MN) reading and current reading (MX/MN blink) recorder mode. Press MX/MN button for two seconds to exit this mode.
9. Relative reading mode: Press Δ REL button to enter Relative mode. The display will show zero and the current reading will be stored as the zero reference value. Press again to exit this mode.
10. When the measurement is completed, replace the photo detector cap and turn the meter off.

VI BATTERY CHECK & REPLACEMENT

1. If the battery power is low, the LCD will display "BT" and battery replacement is required.
2. After turning off the meter, press the battery cover and push in the direction of the arrow to open.
3. Remove the batteries from the instrument and replace with 6 x 1.5V AAA batteries.
4. Replace cover.

VII SPECTRAL SENSITIVITY CHARACTERISTICS

- The response of the photo diode with the filters gives a spectral sensitivity characteristic of the meter which almost matches the C.I.E. (INTERNATIONAL COMMISSION ON ILLUMINATION) photopic curve $V(\lambda)$ as shown in the following chart.



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 marked 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 and the operational time. In order to maintain the basic accuracy of the instrument, periodic calibration is recommended.

IX RECOMMENDED ILLUMINATION

1fc = 10.76 Lux

LOCATIONS	Lux	fc
• OFFICE		
Conference, Reception room.	200 ~ 750	18 ~ 70
Clerical work	700 ~ 1,500	65 ~ 140
Typing drafting	1000 ~ 2,000	93 ~ 186
• FACTORY		
Visual work at production line	300 ~ 750	28 ~ 70
Inspection work	750 ~ 1,500	70 ~ 140
Electronic parts assembly line	1500 ~ 3,000	140 ~ 279
Packing work, Entrance passage	150 ~ 300	14 ~ 28

• HOTELS		
Public room, Cloakroom	100 ~ 200	9 ~ 18
Reception	200 ~ 500	18 ~ 47
Cashier	750 ~ 1000	70 ~ 93
• STORES		
Indoors Stairs Corridor	150 ~ 200	14 ~ 18
Shop window, Packing table	750 ~ 1,500	70~140
Forefront of shop window	1500 ~ 3,000	140 ~279
• HOSPITALS		
Sickroom, Warehouse	100 ~ 200	9 ~ 18
Medical Examination room	300 ~ 750	28 ~ 70
Operating room		
Emergency Treatmet	750 ~ 1,500	70 ~ 140
• SCHOOLS		
Auditorium, Indoor	100 ~ 300	9 ~ 28
Gymnasium,		
Class room	200 ~ 750	18 ~ 70
Laboratory, Library, Drafting, room	500 ~ 1,500	47 ~ 140

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