

# INSTRUCTION MANUAL

## Model 59150 Light Meter

### TABLET OF CONTENTS

#### TITLE

1. FEATURES
2. SPECIFICATIONS
3. PANEL DESCRIPTION
4. OPERATING INSTRUCTION
5. BATTERY REPLACEMENT

### 1. FEATURES

- Easy to use with pock size and light weight
- 3 1/2 digital LCD display with LUX, fc, LOBAT, MAX, HOLD indication
- Accurately display light level in terms of Foot Candles (Fc) or Lux over wide range.
- Measures from 0 to 50000 Lux/ Fc in four ranges with resolution 0.1Lux/Fc .
- Max Hold and Data Hold
- Auto power off

### 2. SPECIFICATIONS

**Display:** 1999 counts LCD display with LUX, fc, LOBAT, MAX, HOLD indication

**Polarity:** Automatic, (-) negative polarity indication.

**Over-range:** "1" mark indication.

**Low battery indication:** The "BAT" is displayed when the battery voltage drops below the operating level.

**Measurement rate:** 1.5 times per second, nominal.

**Storage temperature:** -10 °C to 60 °C (14 °F to 140 °F) at < 80 % relative humidity

**Auto Power Off:** Meter automatically shuts down after approx .15 minutes of inactivity.

**Power:** One standard 12V, A23 battery.

**Dimensions/Wt.:** 188 (H) x 64.5 (W) x 24.5 (D) mm/160g

**Photo Detector Dimensions/Wt.:** 115 X 60 X 27 mm/80g

### Light

**Measuring Range:** 200, 2000, 20000, 50000 Lux/fc (1Fc=10.76 Lux)

**Accuracy:**  $\pm 5\%$  rdg  $\pm 10$ dpts (< 10,000Lux/fc)

**Accuracy:**  $\pm 10\%$  rdg  $\pm 10$ dpts (> 10,000Lux/fc)

(20,000lux range reading x10, 50,000lux range reading x100)

**Overrate Display:** Highest digit of "1" is displayed.

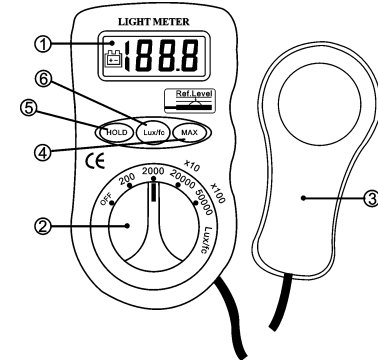
(calibrated to standard incandescent lamp at color temperature 2856 k).

**Repeatability:**  $\pm 2\%$ .

**Temperature Characteristic:**  $\pm 0.1\%$  / °C.

**Photo detector:** One silicon photo diode with filter.

### 3. PANEL DESCRIPTION



1. **LCD display:** 1999 counts LCD display with LUX, fc, LOBAT, MAX, HOLD indication
2. **Power /function /range switch:** Turn power ON or OFF and select measurement function and ranges.
3. **Photo Detector:** long life silicon photo diode inside
4. **MAX. HOLD:** If you press the MAX. button, the maximum reading will be held. Press once again the button, will release the hold and allow a further measurement.

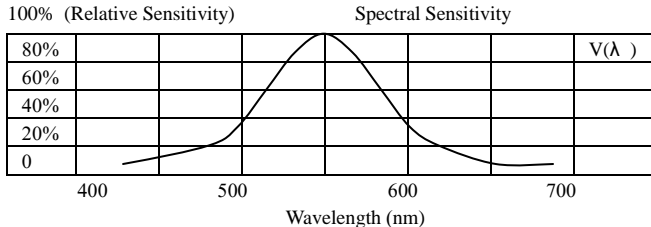
5. **DATA HOLD:** The reading will be held when Data Hold button Switch is pressed.  
If the button Switch is pressed once again, will release the hold and allow a further measurement.

6. **Function button:** Selects measurement functions of Lux or fc

#### 4. OPERATING INSTRUCTION

##### Measuring Light

1. Turn the power/function/range switch to select the range to desired (x1 lux/fc , x10lux/fc, x100lux/fc ) range.
2. Remove the photo detector to light source in a horizontal position.
3. Read the luminance nominal from the LCD display.
4. Over-range: If the instrument only display one “1” in the M.S.D. the input signal is too strong, and a higher range should be selected.
5. When the measurement is completed. Replace the photo detector from the light source.
6. 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) photopia curve  $V(\lambda)$  as the following chart described.



#### 7. Recommended Illumination:

Locations	Lux
*Office	
Conference, Reception room.	200 ~ 750
Clerical work	700 ~ 1,500
Typing drafting	1000 ~ 2,000
*Factory	
Packing work, Entrance passage	150 ~ 300
Visual work at production line	300 ~ 750
Inspection work	750 ~ 1,500
Electronic parts assembly line	1500 ~ 3,000
*Hotel	
Public room, Cloakroom	100 ~ 200
Reception, Cashier	200 ~ 1,000
*Store	
Indoors Stairs Corridor	150 ~ 200
Show window, Packing table	750 ~ 1,500
Forefront of show window	1500 ~ 3,000
*Hospital	
Sickroom, Warehouse	100 ~ 200
Medical Examination room	300 ~ 750
Operating room	
Emergency Treatment	750 ~ 1,500
*School	
Auditorium, Indoor Gymnasium	100 ~ 300
Class room	200 ~ 750
Laboratory Library Drafting room	500 ~ 1,500

#### 5. BATTERY REPLACEMENT

If the sign “BAT” appears on the LCD display, it indicates that the battery should be replaced. Open the battery case and replace the exhausted battery with new battery. (1 x 12V battery, A23 or equivalent )