

# INSTRUCITON    MANUAL

## DIGITAL ILLUMINANCE METER

### I INSTRUCTION:

The Digital Illuminance Meter is a precision instrument used to measure illuminance in the field.

It is fully cosine corrected for the angular incidence of light.

The illuminance meter is compact, tough and easy to handle owing to its construction.

The light sensitive component used in the meter is a very stable, long life silicon diode.

### II FEATURES:

- Light-measuring levers ranging from 0.1Lux to 200,000Lux, 0.01FC to 20,000FC repeatedly.
- High accuracy and rapid response.
- Data-Hold function for holding measuring values.
- Unit and sign display for easy reading.
- Automatic zeroing.
- Meter corrected for Luminous Efficiency function.
- Correction factor need not be manually calculated for nonstandard light sources.
- Short rise and fall times.

### III SPECIFICATIONS:

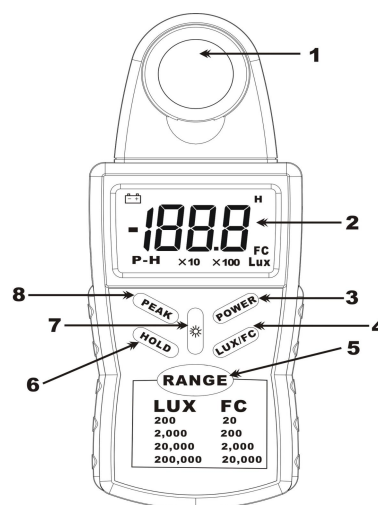
- DISPLAY: 3-1/2 digit LCD.
- Measuring Range: 200, 2,000, 20,000 and 200,000Lux  
(20,000Lux range reading  $\times 10$ ,  
200,000Lux range reading  $\times 100$ )  
20, 200, 2,000, 20,000FC  
(20,000FC range reading  $\times 10$ )

**\*1FC=10.76Lux**

- Over range display: Highest digit of "1" is displayed.
- Accuracy:  $\pm 3\%rdg \pm 0.5\%f.s( \pm 5\%rdg \pm 10dgt$   
as  $>20,000Lux/2,000FC$  range).  
(Calibrated to standard incandescent lamp at color temperature 2856K)
- Repeatability:  $\pm 2\%$
- Temperature Characteristic:  $\pm 0.1\%/^{\circ}C$ .
- Measuring Rate: Approximately 2.0time/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): 200 hours (Alkaline Battery).
- Dimensions: 165 $\times$ 67 $\times$ 32mm
- Weight: 155 g (including battery)
- Accessories: Carry case, instruction manual, battery.

### IV NAME OF PARTS AND POSITIONS:




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

### 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. Remove the photo detector cap and face it to light source in a horizontal position.
  4. Read the illuminance nominal from the LCD display.
  5. 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.
  6. Data-Hold mode: press the HOLD key to select Hold model. When HOLD mode is selected, the illuminance meter stops all further measurements. Press the HOLD key again to cancel HOLD mode. Then it resumes normal operation.
- Data-Peak mode: press the PEAK key to select PEAK mode.
7. 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, replace the photo detector cap and turn the power selector OFF.

## VI BATTERY CHECK-UP & REPLACEMENT:

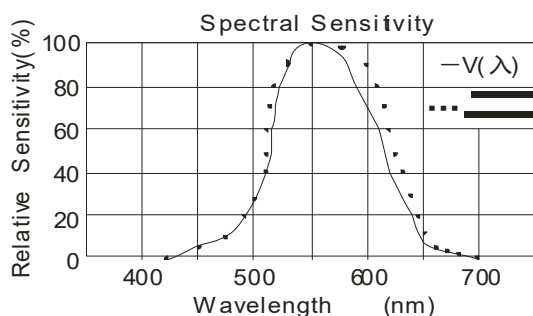
1. As the battery power is not sufficient, LCD will display “”; and replacement of one new battery type 9V is required.
2. After turning off the meter, press the battery cover and push in the direction of the arrow to open.
3. Disconnect the batter from the instrument and replace it with a standard 9-volt 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  $V(\lambda)$  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 **ti**of **thep** 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 ILLUNINATON:

LOCATIONS	Lux
a) OFFICE	
Conference, Reception room.	200~750
Clerical work	700~1,500
Typing drafting	1,000~2,000
b) FACTORY	
Packing work, Entrance passage	150~300
Visual work at production line	300~750
Inspection work	750~150
Electronic parts assembly	1,500~3,000
c) HOTEL	
Public room, cloakroom	100~200
Reception, cashier	220~1,000
d) STORE	
Indoors Stairs Corridor	150~200
Show window, packing table	750~1,500
Forefront of show window	1,500~3,000
e) HOSPITAL	
Sickroom, Warehouse	100~200
Medical Examination room	300~750
Operating room	
Emergency Treatment	750~1,500
f) SCHOOL	
Auditorium, Indoor Gymnasium	100~300
Class room	200~750
Laboratory Library drafting room	500~1,500