

LIGHT METER

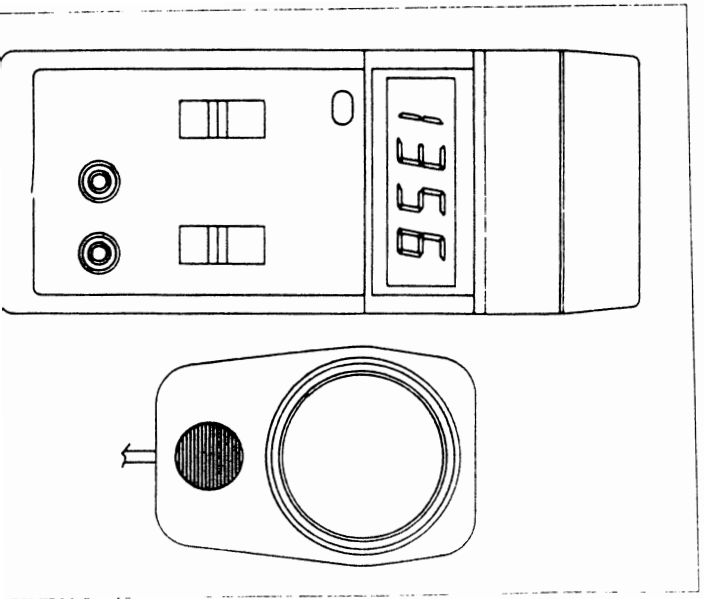


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1. FEATURES

- * Sensor used the exclusive photo diode & color correction filter, spectrum meet C. I. E. Photopic.
- * Both Lux & Foot-candle measurement, wide range.
- * Analog output, can connect the external recorder.
- * High accuracy in measuring.
- * Separate LIGHT SENSOR allows user to measure the light at an optimum position.
- * Fast & Slow response time selector.
- * LSI circuit provides high reliability and durability.
- * LCD display allows clear read-out even at high ambient light level.
- * Pocket size, easy to carry out & operation.
- * Compact, light weight and excellent operation.
- * Built-in low battery indicator.

2. SPECIFICATIONS

2-1 General Specifications

Display	13 mm(0.5") LCD(Liquid Crystal Display).
Measurement	Lux, Ft-candle(Fc).
Ranges	Lux-0 to 50,000 Lux, 3 ranges. Foot-candle: 0 -5,000 Fc, 3 ranges.
Sensor	Used the exclusive photo diode & color correction filter, spectrum designed to meet C. I. E.
Zero Adj.	Automatic adjustment.
Sampling Time	Approx. 0.4 sec.
Response Time	Fast & Slow selector.

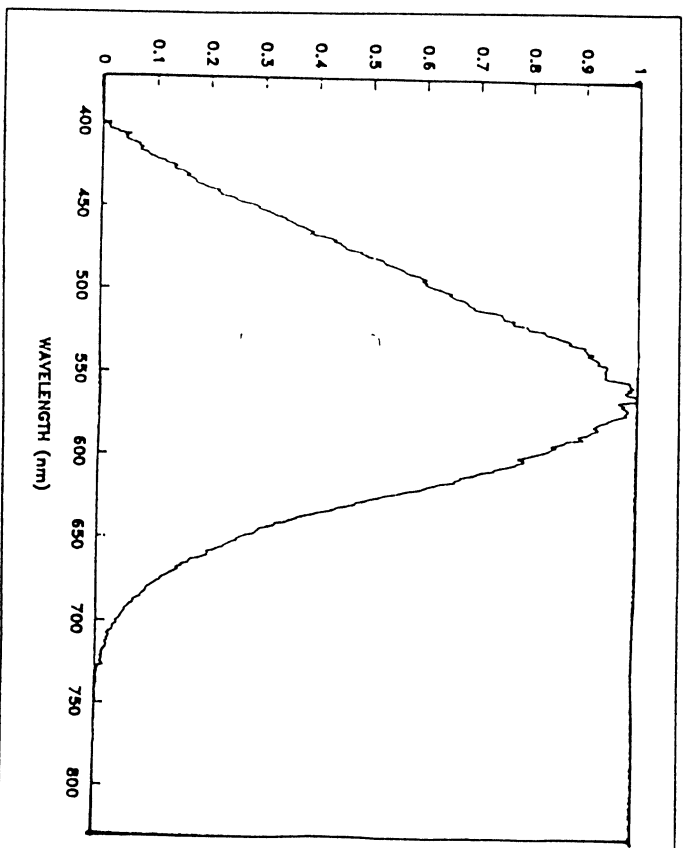
Over input indication	Indication of "1".
Analog Output	0.1 mV/1 digits, max. output .200 mV.
Operating Temperature	0 °C to 50 °C(32 °F to 122 °F).
Operating Humidity	Less than 80% RH.
Power Supply	006P DC 9V battery
Power Current	Approx. DC 2 mA.
Weight	220 g/0.52 LB
Dimension	Main instrument: 163 x 70 x 30 mm (6.4 x 2.8 x 1.2 inch). Sensor probe: 85x55x12 mm(3.2x2.2x0.5 inch).
Accessories included	Instruction manual.....1 PC. Sensor probe.....1 PC.
Optional Accessories	Carrying Case, CA-03.

2-2 Electrical Specifications

Lux		
Range	In-range Display	Resolution Accuracy
2,000 Lux	0-1,999 Lux	1 Lux ±(5% + 2 d)
20,000 Lux	2,000-19,990 Lux	10 Lux ±(5% + 2 d)
50,000 Lux	20,000-50,000 Lux	100 Lux ±(5% + 2 d)

Foot-candle (Fc)		
Range	In-range Display	Resolution Accuracy
200 Fc	0-199.9 Fc	0.1 Fc ±(5% + 2 d)
2,000 Fc	200-1,999 Fc	1 Fc ±(5% + 2 d)
5,000 Fc	2,000-5,000 Fc	10 Fc ±(5% + 2 d)

2-3 Spectrum for Light Sensor



3. FRONT PANEL DESCRIPTION

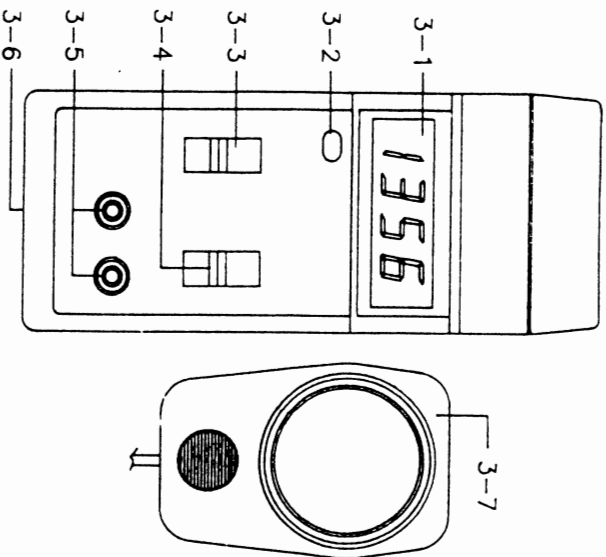


Fig. 1

- 3-1 Display
- 3-2 Data Hold Switch
- 3-3 Power Off/Range Switch
- 3-4 LUX/Fc Switch & Response Time Switch
- 3-5 Analog Output Terminal
- 3-6 Battery Compartment/Cover
- 3-7 Light Sensor

4. MEASURING PROCEDURE

- (1) Determine Lux or Ft-candle on slide switch(3-4, Fig.1) Determine the response time on slide switch(3-4, Fig.1), typical select to the "SLOW" position.
- (2) Select the max. range on the "Range Switch"(3-3, Fig. 1).
- (3) Hold the "Light Sensor"(3-6, Fig. 1) by hand & face the measuring light oppositely, then the Display(3-1, Fig. 1) will show light values directly.
- (4) During the measurement, if slide the "Data Hold Switch"(3-2, Fig. 1) to the "hold" position, then will freeze the display reading permanently.
Slide the "Hold Switch" to the left side will release the data hold function again.

5. CORRECTION FACTOR FOR DIFFERENT TYPES OF LIGHTING

The light meter 401025 is calibrated under the "Standard light tungsten source of 2856°K" precisely. If the user intends to use the light meter to make the precision measurements using the types of lighting :

"MERCURY LAMP",
"FLUORESCENT LAMP",
"DAYLIGHT",

Then the reading values should be corrected (multiply) by the following factor.

MERCURY LAMP	x 1.14
FLUORESCENT LAMP	x 1.10
DAYLIGHT	x 0.85

6. MEASURING CONSIDERATION

- (1) As the range of 20,000 Lux(2000 Fc) is designed to measure the light values ≥ 2000 Lux(200 Fc). So if the measured light values less than 2000 Lux(200 Fc), please select the "Range Switch" to the lower range to let display reading show high resolution & be kept within high accuracy.
- (2) As the range of 50,000 Lux(5000 Fc) is designed to measure the light values $\geq 20,000$ Lux(2,000 Fc) So if the measured light values less than 20,000 LUX(2,000 Fc) please select the "Range Switch" to the lower range to let display reading show high resolution & be kept within high accuracy.

7. BATTERY REPLACEMENT

- (1) When the left corner of the LCD display shows "LO BAT", it indicates the battery output less than 6.5 V – 7.5 V. Replacement of the battery is then needed. However measurement could still be taken for another few hours before the tester becomes inaccurate.
- (2) Open the Battery Cover (3–6, Fig 1) at the back of tester and remove the battery.
- (3) Replace with a 9V battery and reinstate the cover.

THE CALIBRATING PROCEDURES OF
DIGITAL LUX METER LX-102

1. SELECT THE *10 MEASUREMENT RANGE. AND ADJUST VR5 LET EXTERNAL VOTAGE METER TO SHON "100.0mv".
2. SELECT THE *10 MEASUREMENT RANGE. TO COVER SENSOR ADJUST VR3 TO LET DISPLAY SHOW "ZERO".
3. SELECT THE *10 MEASUREMENT RANGE. ADJUST THE VR4 TO THE CORRECT LUX VALUE NEAR 10000 LUX.
4. SELECT THE *10 MEASUREMENT RANGE. TO COVER SENSOR ADJUST VR3 TO LET DISPLAY SHOW "ZERO".
5. SELECT THE *10 MEASUREMENT RANGE. ADJUST THE VR4 TO THE CORRECT LUX VALUE NEAR 10000 LUX.
6. SELECT THE *100 MEASUREMENT RANGE. ADJUST THE VR2 TO THE CORRECT LUX VALUE NEAR 10000 LUX.
7. SELECT THE *1 MEASUREMENT RANGE. ADJUST THE VR1 TO THE CORRECT LUX VILUE NEAR 1000 LUX.

1. DISPLAY

A. "LO BAT" NO LIGHTED WHEN BATTERY IN LOW VOLTAGE OR "LO BAT" LIGHTED PERMANENTLY EVEN BATTERY IS IN THE NORMAL CONDITION.....

LCD DISPLAY, CONDUCTING RUBBER, D1, Q1, R19, R20, R22, R23, U2.

B. ONE OF DIGIT'S SEGMENTS IS NOT GOOD.....

LCD DISPLAY, CONDUCTING RUBBER, U1, PCB.

C. NO DISPLAY INDICATION....

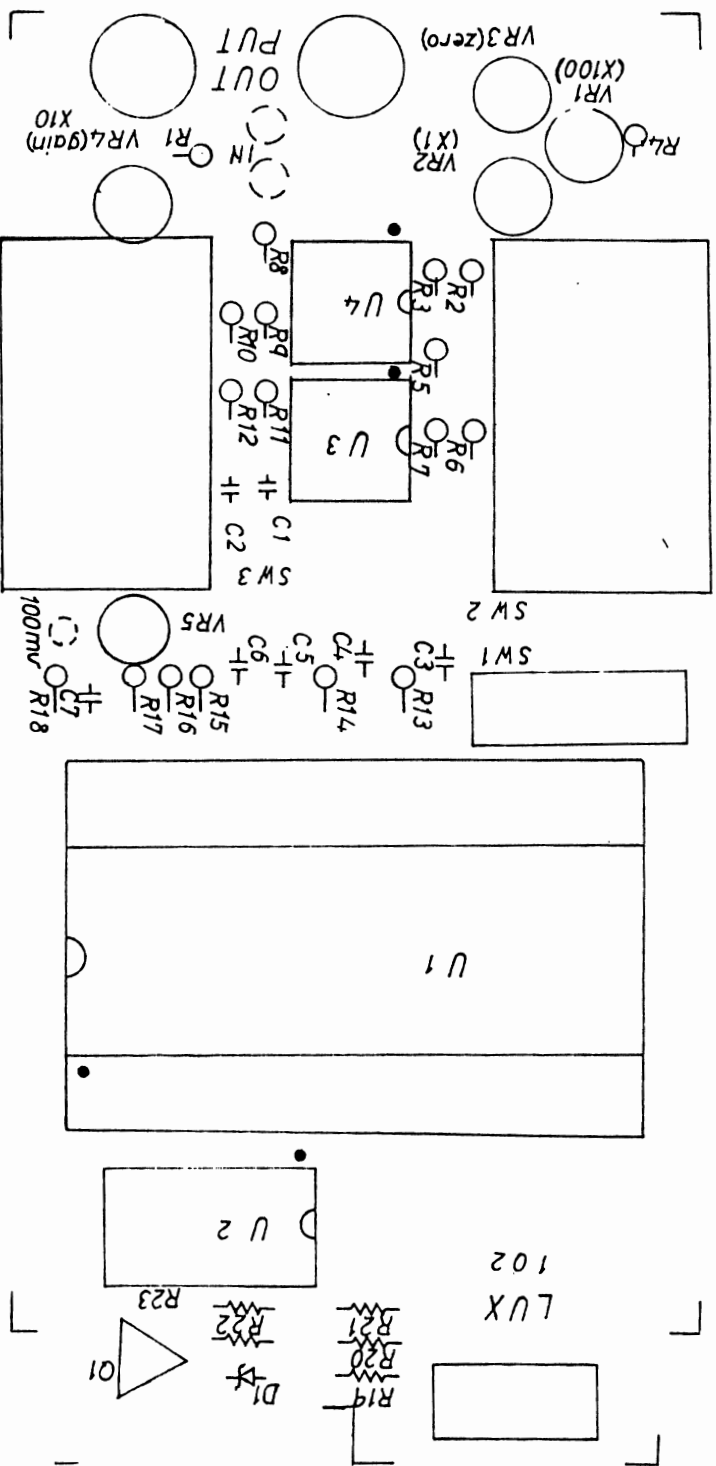
BATTERY, U1, SW2 (RANGE SWITCH).

2. IF THE FUNCTION OUT OF WORK, PLEASE CHECK: .

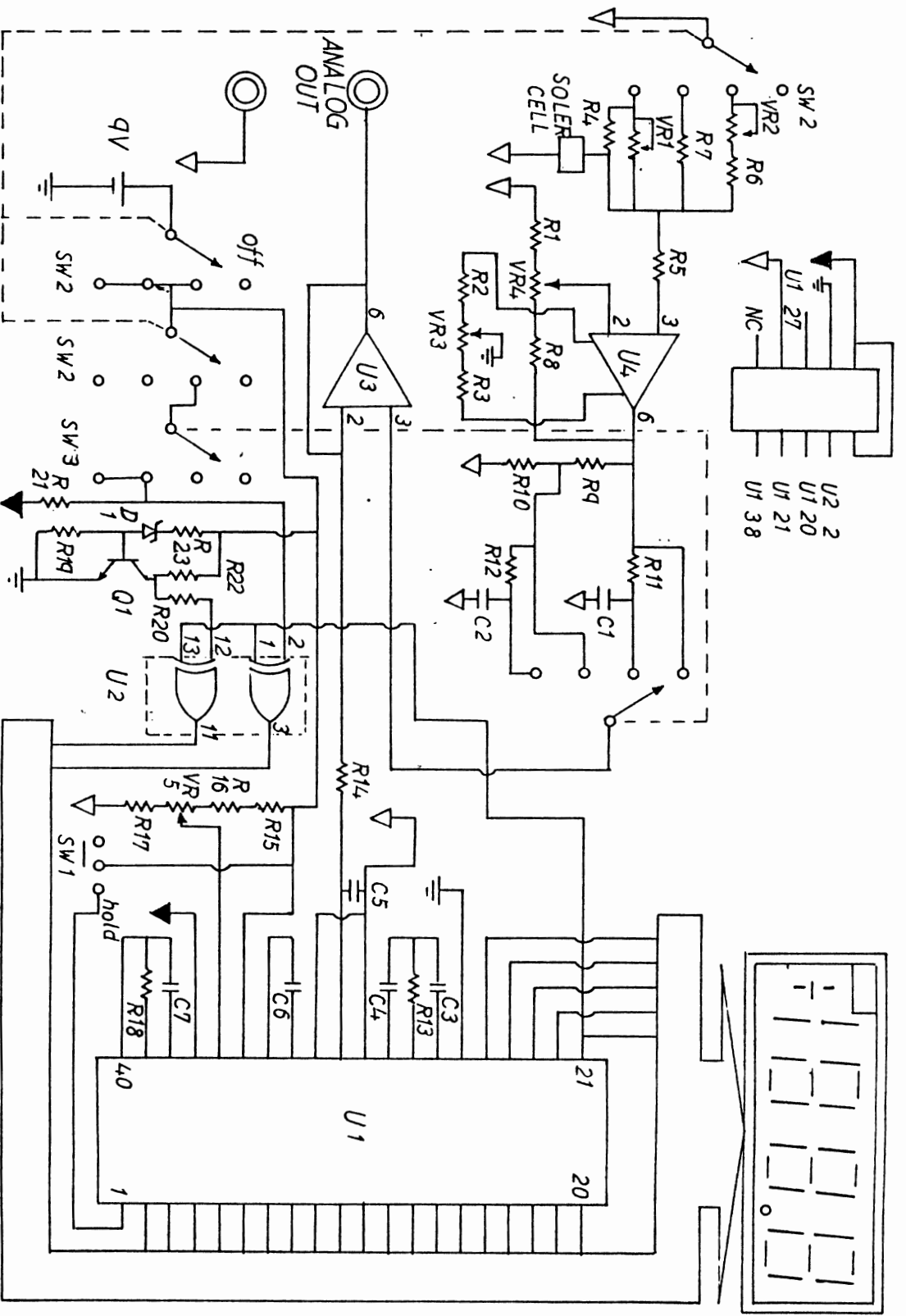
A. POWER SWITCH SW1. RANGE SWITCH

B. U1, U3, U4. R1-R12, R14, VR1-VR4, C1, C2, C5.

C. SOLAR CELL.



修正 REVISION	日期 DATE	說明 DESCRIPTION	核准 APPROVAL BY	繪圖 DRAWN BY	設計 DESIGNED BY	比例尺 SCALE	日期 DATE	圖名 NAME: LUX-102	圖號 DRAWING NO
				校對 CHECKED BY	核准 APPROVED BY			企業有限公司 ENTERPRISE CO., LTD.	



修正 REVISION	日期 DATE	說明 DESCRIPTION	核准 APPROVAL BY	繪圖 DRAWN BY	設計 DESIGNED BY	比例尺 SCALE
				校對 CHECKED BY	核准 APPROVED BY	日期 DATE
圖名: LUX 102 NAME: LUX 102 Lutron 路昌電子企業有限公司 LUTRON ELECTRONIC ENTERPRISE CO., LTD.						
DRAWING NO.						