


Brookhaven National Laboratory Safety & Health Services Division INDUSTRIAL HYGIENE GROUP	<b>Meter - Operator Aid</b>	REVISION DATE <b>12/16/11</b>	NUMBER <b>IH-OA-48</b>
---	-----------------------------	----------------------------------	---------------------------

## Center 337 Mini Light Meter

The *Center*<sup>®</sup> 337 Mini Light Meter is used in working environmental checks, illumination design verifications and other light monitoring applications.



- "Visible light" corresponds to a wavelength range of 400 - 700 nanometers (nm) and a color range of violet through red. The meter has its strongest spectral sensitivity response from 500 nm to 600 nm [green through orange]. The highest sensitivity is at 560 nm (yellow).
  - The meter will not detect Violet [400 nm] and has weak sensitivity to Blue [475nm] and Red [650 nm].
  - It is ideal for responding in a manner similar to the human eye for the mixture of colors in sunlight and artificial lighting.
1. **Turning on and zeroing of the unit:** With the black cover over the lens, press the On/Off key once. The meter turns on. The meter display will flash “-CAP-“, then “CAL “. The meter will then automatically zero and “0.00” should appear.
 

  
 On/Off  
Symbol
  2. **Calibration of the equipment:** The meter was purchased with NIST calibration. It is not necessary to calibrate the unit prior to each use. Calibration of the unit is done by returning it to a vendor or replacement with a new unit. The unit is not to be used if over **5 years** from the date of calibration. Note: The “CAL” the meter performs at start up is a self zeroing of the meter and must be done with the cap over the light sensor.
  3. **Operation of the meter:** The monitor immediately displays the reading in footcandles [fc] or lux [lx] on powering the unit. No warm-up is necessary. [The sensor is compensated with a filter to make the response close to human eyes. The light source angle is also compensated according to its cosine function.]
  4. **Changing Settings**
    - The meter starts up in *auto-range* and that is the best mode to operate in. Pressing the RANGE button activates the *manual range* selection and the meter moves from the lowest to the next range each time the RANGE button is pressed. The display indicates the range in the lower left corner.
    - The meter is switched between foot candles [fx] and lux [lx] by pressing the fx/lx button.  
Note 10 lx = 1 fc
  5. **Holding a reading for viewing:** When a reading needs to be taken at a location where the display can not be seen, such as over the user’s head, pressing the HOLD button captures the reading on the display at the time the button is pressed. The value continues to be displayed until the HOLD button is pressed again. Note: the meter does not store values when the power is off or log data for later retrieval.
  6. **Turning off the unit:** Press the On/Off key and the meter will shut off. No data is stored.

<b>Brookhaven National Laboratory</b> Safety & Health Services Division INDUSTRIAL HYGIENE GROUP	<b>Meter - Operator Aid</b>	REVISION DATE <b>12/16/11</b>	NUMBER <b>IH-OA-48</b>
--	-----------------------------	----------------------------------	---------------------------

7. **Analyzing data from the meter:** The following table presents the light meter recommendation of the Illuminating Engineering Society of North America and are used as the guidance for acceptable light levels: [Note 10 lx = 1 fc]

ANSI/IESNA RP-1-04 Office Lighting	A. Public Spaces	30 lx	3 fc
	B. Simple orientation for short visits	50 lx	5 fc
	C. Working Spaces where simple visual tasks are performed	100 lx	10 fc
	D. Performance of visual tasks of high contrast and large size	300 lx	30 fc
ANSI/IESNA RP-7-01 Lighting Industrial Facilities	E. Performance of visual tasks of high contrast and small size or tasks of low contrast and large size	500 lx	50 fc
	F. Performance of visual tasks of low contrast and small size	1000 lx	100 fc
	G. Performance of visual tasks of near threshold(critical importance, specialized, very small or very low contrast)	3000 to 10,000 lx	300 to 1000 fc

