

# BLACK LIGHT LAMP

The **SB-100** was designed with the needs of the industry in mind. Its compact, lightweight lamp head has a stay-cool hand grip and an exclusive crack resistant, tempered filter which dramatically reduces replacement costs. The lamp head detaches easily from the metal handle of the transformer base for comfortable hand-held use. While mounted for bench use, it can be conveniently rotated 360° in both vertical and horizontal positions.

To reduce shock hazard, the **SB-100** comes equipped with a special heat resistant, 3-wire cord to reduce shock hazard and a fully enclosed, encapsulated transformer. Both the lamp head and transformer base are housed in rugged anodized aluminum to withstand rough use. The **SB-100** is *CSA-approved* for extra safety.

The **SB-100** can be equipped with your choice of two bulbs, each with a rated life of 5,000 hours. The spot bulb provides a concentrated beam with a steady-state 365 nm intensity of 4.800 uW/cm<sup>2</sup> at 15 inches (38.1 cm), while the flood bulb produces a broader beam of 1,200 uW/cm<sup>2</sup>. The **SB-100** has very low visible light emission (under two footcandles) to assure compliance with military and aerospace industry specifications.

To greatly reduce replacement costs due to broken bulbs, we include the unique Bulb-Saver at no extra charge. It minimizes bulb movement during normal handling, reducing the risk of breakage.



Model	Description	Price
<b>SB-100P/C</b>	Black Light Lamp, Long Wave UV	<b>\$717.00</b>
<b>100S</b>	100-watt Spot Bulb, Replacement	<b>\$96.00</b>
<b>100CF</b>	100-watt Flood Bulb, Replacement	<b>\$138.00</b>

# ULTRA-VIOLET RADIOMETERS

## Features:

- Unmatched over all accuracy of better than ±5% - directly traceable to NIST standards
- Precisely calibrated with pyro-electric radiometer
- No sensitivity to infrared or other undesirable radiation due to use of high-quality interference filters in sensor
- Low-offset trans-impedance amplifiers ensure excellent linearity
- Special diffusers in the sensor heads ensure accurate cosine response
- Sensor head is attached to the readout unit by a 3 ft. coiled cord which helps protect the sensor cell from shock and abuse, and isolates the cell from thermal gradients during handling, assuring drift-free measurements
- Versatile, four models measure different wavelength regions of ultraviolet and blue light
- Autozeroing feature
- Reliable, solid-state electro-optical circuitry



- Durable polycarbonate case
- Battery operated for complete portability with built-in battery level indicator

## Specifications:

### Readout Unit

Irradiance Range: 0 to 19,999 μW/cm<sup>2</sup>  
 Resolution: 10 μW/cm<sup>2</sup>  
 Overall Accuracy: Better than ±5% w/ reference to NIST  
 Temp. Coefficient: ±0.025%/°C (0 to 50°C)  
 Conversion Rate: 3 readings per second nominal  
 Display: 4 1/2 digit, 7 segment LED, 0.5" (12.7 mm) high

Power Supply: 4 "AA" size alkaline batteries  
 Dimensions: 7 1/4 x 3 1/2 x 2" (18.4 x 8.9 x 5.1 cm)  
 Weight: 1 lb. (0.45 kg)

### Sensor

Spectral Ranges: **DM-254X:** 230 to 280 nm  
**DM-300X:** 280 to 320 nm  
**DM-365X:** 320 to 400 nm  
**DM-450X:** 420 to 480 nm

Temp. Coefficient: ±0.20%/°C (0 to 50°C)  
 Dimensions: 3" x 2" x 1/2" (7.6 x 5.1 x 1.3 cm)  
 Weight: 1 1/4 oz. (35.4 g)  
 Sensor Cord Length: 3 ft. (91.4 cm)

Model	Description	Price
<b>DM-254XA</b>	Short Wave Digital Radiometer	<b>\$1282.00</b>
<b>DM-300XA</b>	Medium Wave Digital Radiometer	<b>\$1247.00</b>
<b>DM-365XA</b>	Long Wave Digital Radiometer	<b>\$899.00</b>

# ILLUMINOMETERS



## Features:

- Measuring rate of 1.5 times/second
- Over range & low battery indication
- Auto shut off
- Carrying case & 12V battery included
- Compact & lightweight

## MODEL ST-1301:

- User selectable Lux / Footcandles
- Max & Data hold function

## Specifications:

Ranges:	<b>ST-1300:</b> 0 to 50,000 lux; <b>ST-1301:</b> 0-50,000 lux, 0-5,000 Fc
Resolution:	<b>ST-1300:</b> 0.1 lux; <b>ST-1301:</b> 0.1 lux/Fc
Accuracy:	±5% of reading < 10,000 lux
Sampling Time:	1.5 times/second
Display:	3-1/2 digit LCD
Power Supply:	1 x 12V battery (included)
Dimensions:	7.4 x 2.5 x 1" (188 x 64 x 25mm)
Weight:	5.6 oz (160g)

Model	Description	Price
ST-1300	Light Meter	\$85.00
ST-1301	Light Meter	\$95.00

# ILLUMINOMETER



## Features:

- Designed for one-hand operation and to fit easily into a tool belt or pocket
- Auto-ranging
- User selectable Lux / Footcandles
- Min/Max & Data hold function
- Auto shut off & zero adjustment button
- Over range & low battery indication
- Battery included

## Specifications:

Ranges:	0 to 20,000 lux; 0 to 2,000 Fc
Resolution:	1, 10 lux; 0.1, 1 Fc
Accuracy:	±5% of reading
Sampling Time:	1 time/second
Power Supply:	1 x 9V battery (included)
Dimensions:	6 x 2.4 x 1.3" (156 x 60 x 33mm)
Weight:	5.6 oz (160g)

Model	Description	Price
LM-81LX	Illuminometer	\$125.00
CA-52A	Carrying Case	\$15.00

# ILLUMINOMETER



## Features:

- Digital dual filter light meter designed to measure a wide range of lighting types
- Large LCD display provides clear readouts even in high ambient light levels
- Measures to 20,000 Lux
- Data hold function
- Zero adjustment screw
- Over range & low battery indication
- Battery included

## Specifications:

Ranges:	0 to 20,000 lux
Resolution:	1, 10 lux
Accuracy:	±5% of reading
Sampling Time:	2 times/second
Display:	3 digit 0.5" high LCD
Power Supply:	1 x 9V battery (included)
Dimensions:	200 x 68 x 30mm
Weight:	280 g

Model	Description	Price
YK-10LX	Illuminometer	\$145.00
CA-52A	Carrying Case	\$15.00

# ILLUMINOMETER



## Features:

- Large, dual display, LCD with 40 segment bargraph
- High resolution and zero adjustment button
- Data Hold, Peak and Memory recall
- Min/Max function
- RS232 serial interface
- Auto shut off and low battery indication
- User selectable Lux/Fc
- Includes battery

## Specifications:

Ranges:	0 to 40,000 lux; 0 to 40,000 Fc
Resolution:	0.1 to 100 lux; 0.1 to 10 Fc
Accuracy:	±3% of reading
Display:	Dual, LCD and 40-segment bargraph
Power Supply:	1 x 9V battery (included)
Dimensions:	200 x 68 x 30mm
Weight:	220 g

Model	Description	Price
LX-1102	Illuminometer	\$220.00
CA-05A	Carrying Case	\$21.00
SW-U801-WIN	Software	\$97.00
UPCB-02	RS232 Cable	\$30.00

# ILLUMINOMETER



Accurately measures light levels from 0 to 5000 Foot Candles (Fc) and 0 to 50,000 Lux in three ranges and displays with resolution of 0.1 Fc and 1 Lux, respectively.

Easy to operate - simply switch to desired range. Precision selenium photovoltaic cells and microprocessor provide for excellent accuracy of  $\pm 5\%$  and a sampling time of 0.4 second. Large 0.5" LCD readout displays to 1999 counts and indicates overrange. DATA HOLD switch allows you to retain displayed value. Automatic zero adjustment.

Separate light sensor facilitates measurements in remote locations. Built-in analog output of 1mV per count enables you to transfer measured data to a recorder.

## Specifications:

Ranges:	2,000, 5,000, 50,000 lux; 200, 2,000, 5,000 Fc
Resolution:	1, 10, 100 lux; 0.1, 1, 10 Fc
Accuracy:	$\pm(5\% + 2 \text{ digits})$
Sampling Time:	0.4 second
Ambient Temp.:	0° to 50°C
Ambient Humidity:	Less than 80% R.H.
Display:	3 digit 0.5" high LCD; O/L indication: "1"
Power Supply:	1 x 006P 9V battery (included)
Dimensions:	163 x 70 x 30 mm
Weight:	220 g

Model	Description	Price
K7020	Illuminometer	\$220.00
1200C	Deluxe Carrying Case	\$84.00
CA-03	Vinyl Carrying Case	\$18.00

# ILLUMINOMETER



## Features:

- Simultaneous display of Foot Candles or Lux, plus four lighting types
- Measuring Ranges: 200.0/2000/5000 Fc; 2000/20,000/50,000 Lux
- Microprocessor assures maximum accuracy
- Super large 1.4" (1999 count) LCD display
- Displays % differential from reference point
- "ZERO" re-calibration
- Utilizes precision photo diode colour correction filter
- Cosine & colour corrected measurements
- 4% of full scale accuracy is enhanced by selecting lighting type (Tungsten/Daylight, Fluorescent, Sodium, Mercury)
- Record/Recall Min, MAX & AVG readings
- Data Hold plus Auto shut-off
- Built-in RS-232 serial interface, optional software
- Optional Windows® 95/98 compatible & DOS Data Acquisition software & serial cable enables user to display & capture readings on a PC
- Optional battery powered datalogger stores over 8000 readings for later transfer to a PC

Model	Description	Price
LX-105	Light Meter	\$269.00

# ILLUMINOMETER



In order to have good quality light, the luminous intensity at places of work, hospitals, offices or schools has to fulfill minimum guidelines. The **545** Light Meter can efficiently measure and document this important parameter. Using Comfort software, Light or Professional version, the information in the **545** can be downloaded and file location list can be saved. Using this software, separately saved luminous intensity values can be connected to form a curve. The "light profile" provides information on the uniformity of the lighting.

## Features:

- Timed mean calculation
- Multi-point calculation mean calculation via 99 measurement points
- Up to 99 file locations can be created
- Logger function stores up to 3000 values
- Prints functions as well as contents of memory to an infrared printer at the touch of a button
- 4-line display
- Hold/Min/Max/Mean function
- RS232 interface (electrically isolated)

## Specifications:

Sensor:	Silicon photodiode
Measurement Range:	0 to 100,000 Lux
Accuracy:	$f_1 = 8\%$ , $f_1 = V(I)$ adaptation; $f_2 = 5\%$ , $f_2 = \cos$ like rating
Resolution:	0 - 32,000 Lux: 1 Lux; 0 - 100,000 Lux: 10 Lux
Display:	2-line LCD & 2 matrix lines
Power Supply:	1 x 9V alkaline battery
Battery Life:	> 50 hours
Battery Check:	Automatically in 4 stages
Dimensions:	9" x 3" x 2"
Weight:	18 oz.

Model	Description	Price
<b>0560.0545</b>	Digital Light Meter/Data Logger	<b>\$808.00</b>
<b>0516.0441</b>	Protective Case w/ bench stand & belt clip	<b>\$73.00</b>
<b>0554.0545</b>	Infrared Printer w/ 4 AA batteries & 1 roll of thermal paper	<b>\$436.00</b>
<b>0554.0830</b>	Comfort "Light" Software	<b>\$407.00</b>
<b>0554.0274</b>	Comfort "Professional" Software	<b>\$407.00</b>
<b>0409.0178</b>	RS232 Cable	<b>\$65.00</b>

# ILLUMINOMETER



## Features:

- Measures incandescent, fluorescent metal halide, high-pressure sodium, and halogen lamp output
- Colour- and cosine-corrected for enhanced accuracy
- Measures up to 50,000 lux
- Large, easy-to-read, 2000-count display
- Peak and data hold means no lost measurements
- Compact, rugged construction

## Specifications:

Ranges:	0.1 - 20/200/2,000/5,000 Fc; 0.1 - 200/2,000/20,000/50,000 Lux
Accuracy:	Incandescent light: $\pm 4\%$ ; Other light: $\pm 7\%$
Sampling Rate:	2.5 times/second
Operating Temp.:	0 to 40°C (32 to 104°F)

Model	Description	Price
<b>93-172</b>	Digital Light Meter	<b>\$287.00</b>

# ILLUMINOMETERS



Model 2121.20

Model 2121.21

## Features:

- Easy one-hand operation
- Designed to measure a wide range of lighting types
- Removable sensor for remote reading
- Measures in foot-candles (fc) or lux
- Cosine corrected
- HOLD function
- PEAK function (**Model 2121.21**)
- MAX function (**Model 2121.20**)
- Backlit display
- CIE photopic response (human eye)
- Lightweight and compact
- Includes protective, safety gray holster

## Specifications:

Model	2121.20	2121.21
Ranges:	fc: 20/200/2000/20k lux: 20/200/2000/20k	fc: 20/200/2000/20k lux: 20/200/2000/20k/200k
Resolution:	0.1 fc/0.1 lux	0.1 fc/0.1 lux
Accuracy:	±3% ±10 cts	±3% ±10 cts
Sensor:	Silicon photodiode	
Spectral Response:	CIE photopic curve	
Sample Rate:	2.5X per second, nominal	
Display:	3-1/2 digit LCD	
Dimensions:	6.81 x 2.38 x 1.5" (173 x 60.5 x 38mm)	
Weight:	±3% ±10 cts	±3% ±10 cts

Model	Description	Price
2121.20	CA811 Digital Light Meter	\$166.00
2121.21	CA813 Digital Light Meter	\$230.00

# ILLUMINOMETER



The **LM631** is a portable, easy-to-use, compact-sized digital light meter designed for simple, one-hand operation with the measurement reading in lux or fc units. This value-priced unit offers high resolution readings and adherence to published standards for human eye response to illuminance.

## Features:

- Measures a wide range of light up to 20,000 fc or lux
- Front panel switchable, foot candles or lux
- High resolution of 0.01 fc/lux
- Sensor dome has 45" attached cord for measurement flexibility
- Built-in CIE spectrum curve for accurate human eye response
- Peak hold and data hold
- Large 3-1/2 digit display with backlight
- Meets EN61326-1 certification for safety
- Analog output for monitoring and charting
- Case is rugged Valox plastic in ergonomic design
- Battery hatch cover to easily replace batteries
- Shipped with carrying case, extra lens cover, 4 AAA batteries

Model	Description	Price
LM631	Digital Light Meter	\$158.00

# ILLUMINOMETER



## Features:

- Multifunction environment meter combines the functions of a sound level meter, light meter, humidity meter and thermometer into a single unit
- Auto shut off and low battery indication
- Included accessories: Rubber holster, 9V battery & K-type temperature probe

## Specifications:

Light Range:	To 20,000 lux
Sound Range:	To 100 dB
Humidity Range:	To 95%RH
Temperature Range:	To 1300°C
Power Supply:	1 x 9V battery (included)
Dimensions:	4.8 x 2.4 x 1.6" (121 x 61 x 40mm)
Weight:	9.9 oz (280g)

Model	Description	Price
ST-8820	Multifunction Digital Light Meter	\$295.00

# ILLUMINOMETER



## Features:

- 4-in-1 multi-function meter - anemometer, humidity meter, light meter and type K thermometer in one compact unit.
- User selectable Lux/Foot-candles
- Choice of air velocity units: m/s, km/h, mph, knots, ft/min
- °C/°F switchable
- Data Hold, Record (Max/Min)
- Designed for one-hand operation
- Includes battery

## Specifications:

Light Range:	0 to 20,000 lux, 0 to 2,000 Fc
Air Velocity Range:	0.4 to 30 m/s
Temperature Range:	-100 to 1300°C
Humidity Range:	10 to 95% RH
Sampling Time:	1 time/second
Display:	3-1/2 digit LCD
Power Supply:	1 x 9V battery (included)
Dimensions:	6.1 x 2.4 x 1.3" (156 x 60 x 33mm)
Weight:	5.6 oz (160g)

Model	Description	Price
LM-8000	Multifunction Digital Light Meter	\$225.00
CA-52A	Carrying Case	\$15.00

# PHOTOMETER

## Features:

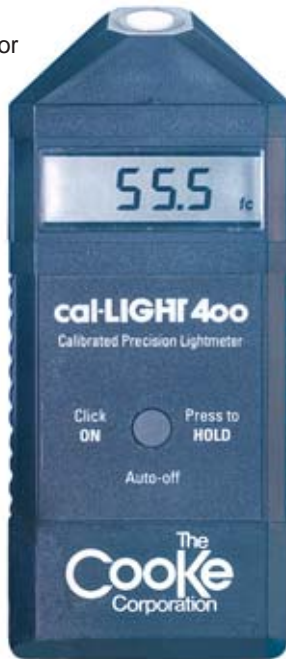
- High stability silicon photodiode sensor with human eye response correction
- Single button operation
- Auto ranging
- Auto power off
- User selectable units
- Cosine correction
- Photopic correction
- Illuminated display for applications requiring measurements of less than 3 lux

Developed to accurately measure ambient illumination and produce an accurate assessment of energy savings, the **CAL-LIGHT 400** features the unique combination of ergonomic design and individual calibration against NIST standards, all at a competitive price.

The **CAL-LIGHT 400** is equipped with an angled sensor which takes the measurement and simultaneously allows the output to be read. A single button controls the instrument. A click turns it ON, pressing holds the reading, and the light meter shuts off automatically in about one minute.

Every **CAL-LIGHT 400** has been individually calibrated and is accompanied by a certificate guaranteeing that its measurements conform exactly to the NIST standard, and will not differ from those of other instruments so calibrated.

The high sensitivity and high stability silicon photodiode sensor has two filters. First is a filter which is visible on the outside. This is called a cosine corrector and compensates for incident angle. It is also very easy to clean and protects the delicate optical



system behind it. Secondly, a colour filter together with the sensor behind it, allows the **CAL-LIGHT 400** to see the world like the human eye does. This is called photopic response and ours is precise to within 1%.

## Specifications:

Measuring Range:	0.1 fc or lux to 40,000 fc or lux
Units of Measure:	Choose fc or lux with user selectable switch in battery compartment
Accuracy:	Intensity linearity: 2% Photopic: better than 1.0% of CIE curve Cosine error: < ±1.0% up to an incident angle of ±85° Overall: ±5% of displayed value
Calibration:	Traceable to NIST and NRC Standards. Photopic response matches the CIE standard observer curve response to within 1% of the reading when using a standard tungsten source at 2856°K.
Light Sensor:	Silicon photodiode with photopic filter & cosine corrector. 10mm dia., angled 70° from display face
Display:	4 1/2 digit, 7 segment LED, 0.5" (12.7 mm) high
Operating Temp.:	32 to 130°F (0 to 55°C)
Power Supply:	9V alkaline battery
Battery Life:	300 hours continuous use
Dimensions:	5.5 x 2.3 x 1.0" (141 x 59 x 25 mm)
Weight:	5.3 oz (150 g)

Model	Description	Price
<b>CAL-LIGHT400</b>	Photometer	<b>\$450.00</b>
<b>CAL-LIGHT400L</b>	Photometer w/ Backlight	<b>\$485.00</b>

# SPOT PHOTOMETER



The **CAL-SPOT 400** is a calibrated precision spot measuring brightness meter designed with emphasis on user friendliness and accurate measurements traceable to national standards. The **CAL-SPOT 400** has a wide viewing field with zero magnification, which allows both eyes to be open for comfortable viewing. A distinctly marked dark circle in the center of the viewing field indicates the 1° measuring spot. Brightness measurements can be taken from about 8" to infinity with no need to focus.

The **CAL-SPOT 400** operates with push-on single button, has autoranging, auto-power off and a large LCD readout. The **CAL-SPOT** uses a silicon photodiode sensor and is corrected for human eye response. The combination of the stable silicon photodiode and microprocessor technology allows us to issue a calibration certificate with each **CAL-SPOT 400**, thus assuring traceability to NIST and NRC standards.

## Specifications:

Measuring Range:	0.1 to 400,000 foot-lamberts
Accuracy:	5%
Measuring Field:	1°
Viewing Field:	12°
Magnification:	1X, no magnification
Working Distance:	8" to infinity
Light Sensor:	Silicon photodiode with photopic filter
Spectral Response:	CIE photopic curve (human eye response)
Operating Temp.:	32 to 130°F (0 to 55°C)
Dimensions:	6.3 x 1.8 x 3.5"
Weight:	8 oz

Model	Description	Price
<b>CAL-SPOT400</b>	Spot Photometer	<b>\$2795.00</b>
<b>CAL-SPOT400VF</b>	Variable Focus Spotmeter	<b>\$2995.00</b>