

# LUX SENSOR SKL 310

Visible light can be defined as the part of the electromagnetic spectrum visible to the human eye. This response of the human eye to light can be expressed as a spectral response curve which has the form shown below. There is a peak sensitivity at 555nm for the light adapted eye. This curve is known as the photopic curve  $V(\lambda)$  or CIE Standard Observer Curve. The response curve for this filtered sensor is very similar to the Photopic curve shown below. Light falling within the curve is measured in Lux units.

Appropriate levels of light measured in Lux units are important in many areas of human activity such as close field work, general reading, relaxation and can have important psychological effects.



## SKL 310 SPECIFICATIONS

**Construction** - Material Dupont 'Delrin' fully sealed to IP67

**Cable** - 7-2-3C Screened Cable

**Sensor** - Cosine corrected head

**Detector** - Silicon photodiode

**Filters** - Optical Glass

**Sensitivity - current (1)** - 0.15 $\mu$ A/klx

**Sensitivity - voltage** - 100 $\mu$ V/klx

**Working range (2)** - 0-500 klx

**Linearity error-to above level** - <0.2%

**Absolute calibration error (3)** - typ. <3% 5% max

**Cosine error (4)** - 3%

**Azimuth error (5)** - <1%

**Temperature coefficient** -  $\pm 0.1\%/^{\circ}\text{C}$

**Longterm stability (6)** -  $\pm 2\%$

**Response time (7) (voltage output)** - 10ns

**Internal resistance (voltage output)** - c.650 $\Omega$

**Temperature range** - -35 to +75 $^{\circ}\text{C}$

**Humidity range** - 0-100% RH

**Weight** - 130g (with 3m cable)

**Dimensions** -



The design of buildings including all types of architectural models. Variations in levels of lighting are obviously a very important criterion when considering design

Specific lighting conditions under which animal experiments are carried out

Design of lighting levels in psychological experiments

Lighting for animal housing, e.g. poultry houses

## NOTES ON SPECIFICATIONS

(1) Current output varies from sensor to sensor. Each individual unit will have a slightly different output. A calibration certificate is supplied with each sensor.

(2) All Skye sensors will work at levels of irradiance well above that found in terrestrial sunlight conditions, room or growth chamber lighting.

(3) Main source of this error is uncertainty of calibration of Reference Lamp. Skye calibration standards are directly traceable to N.P.L. standard references.

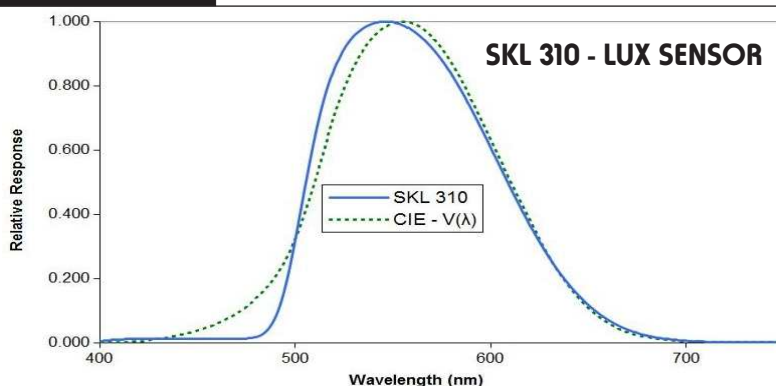
(4) Cosine error to 80 $^{\circ}$  is typically 5% max. Figures shown are for normal use sources, e.g., sun plus sky, diffuse sun, growth chambers, etc.

(5) Measured at 45 $^{\circ}$  elevation over 360 $^{\circ}$ .

(6) Maximum change in one year. Calibration check recommended at least every two years. Experience has shown that changes are typically much less than figures quoted.

(7) Times are generally less than the figure quoted, which is in nanoseconds. They may be slightly increased if long leads are fitted, or those of a higher capacity cable.

## GRAPH



## ORDERING INFORMATION

### Sensor

SKL 310 - Lux sensor with 3m cable

### Accessories

SKM 221 - Levelling unit

SKM 226 - Long arm pole/wall mount

### Meters and Dataloggers

SKL 300 - Display Meter

SKL 904 - SpectroSense2, 4 Channel Display Meter

SKL 906 - SpectroSense2+, 4 Channel Display and Logging Meter

SKL 908 - SpectroSense2+ 8 Channel Display and Logging Meter

\*GPS versions also available

SDL 5000 - DataHog datalogger