

Measuring Light



Individual light sensors, available individually or as a bar of 3 or 6 sensors, allow you to measure site-specific areas. These hand-held sensors feature cosine correction, built-in levels, and mounting brackets for stationary measurements. Light Bars are frequently used when measuring across a greenhouse bench.

- 3415FX FieldScout External Light Sensor Meter
- 3668I Quantum Light Sensor
- 3668I3 Quantum Light 3 Sensor Bar
- 3668I6 Quantum Light 6 Sensor Bar
- 3676I UV Light Sensor
- 3670I Silicon Pyranometer Sensor



LEAF AREA INDEX

Leaf Area Index or LAI is the ratio of surface vegetation to total land area. One indirect method of calculation of LAI measures light intensity above the canopy and compares it to light intensity at ground level.

HOW DO I MEASURE LIGHT?

Light Bars take the average light reading for multiple sensors across a fixed length. This can be used to determine canopy density and light transmission.

WatchDog® WeatherTracker - No Computer Needed Model 305 Greenhouse Growth Tracker

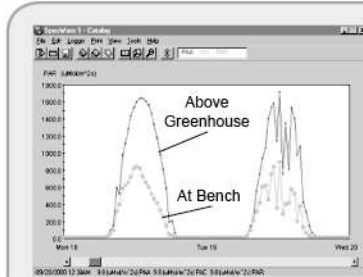
The Greenhouse Growth Tracker is a comprehensive tool used to assess physiological maturity of plants – without the need of a computer. The Growth Tracker measures plant light exposure over time (in moles/day) and also calculates day/night temperature differential. This stand-alone unit not only displays current conditions every 20 seconds but also stores up to 12 months of data summaries – without needing a computer!



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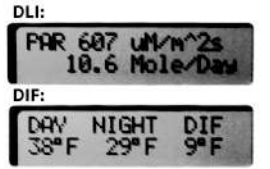


3686WD
with 3668I
Quantum
Light Sensor



OUTSIDE LIGHT VS. AT THE BENCH

Glazing and greenhouse materials can cause light transmission to vary from 50-90%. Using 2 light sensors, one on the outside of the greenhouse and another at the bench, will allow you to calculate and track light transmission.



WatchDog Model 2475 Plant Growth Station

The Plant Growth Station monitors and records temperature, humidity, and light conditions within a greenhouse setting. Integrate with an additional quantum light sensor, and you are now able to compare available outdoor light to actual light reaching greenhouse benches — effective in tracking actual light transmission. Current and up to twelve months of historical data will display on the LCD screen. Average temperatures, light intensity, DLI, and day/night temperature differential are displayed on the LCD.

Resources:

J.W. Reed, P. Nagpal, D.S. Poole, M. Furuya and J. Chory. *Mutations in the Gene for the Red/Far-Red Light Receptor Phytochrome B Alter Cell Elongation and Physiological Responses throughout Arabidopsis Development.* Plant Cell, February 1993, 5(2): 147-157.

Erwin, J.E., Rohwer, C. and Gesick, E. *Red:Far Red and Photosynthetically Active Radiation Filtering By Leaves Differs With Species.* Acta Hort. (ISHS) 711:195-200.

L Ellington. *Klerk's Growlite.* 2nd Quarter 2003. Klerk's Plastic Products Manufacturing, Inc.

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