

L40(150)A-IPL Energy Sensor

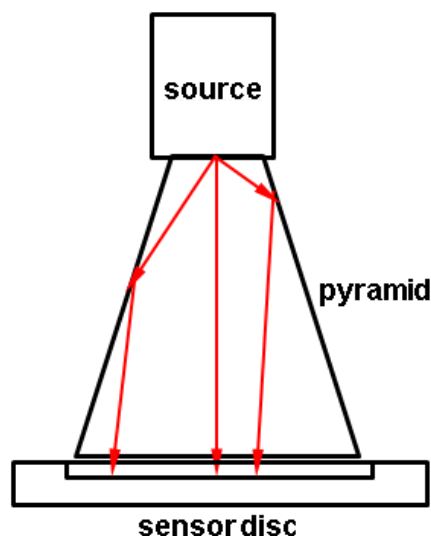
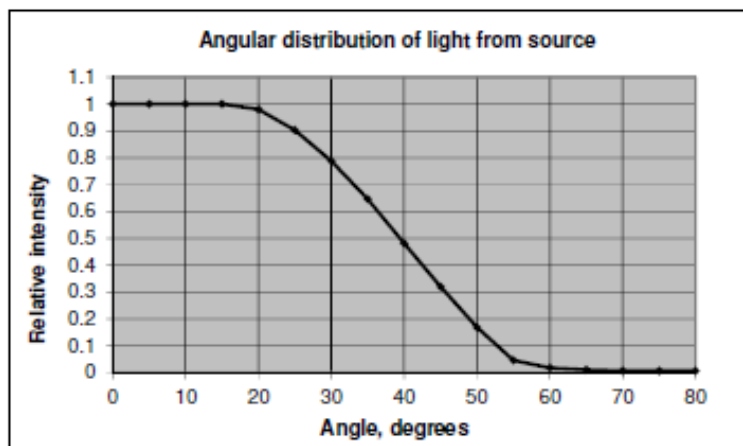
Ophir P/N 7Z02771

User Notes

This measurement sensor is specially designed for measuring gel coupled IPL Intense Pulsed Light sources and simulates how these sources are used when coupled to the skin for treatment using gel.

Gel coupled radiation has a very wide angle spread of significant radiation up to over ± 60 degrees as shown in the graph below. When radiation is coupled into an ordinary window, any radiation hitting the opposite face of the entrance glass at a larger angle than 42.3 degrees will be totally reflected back and therefore, an ordinary sensor will not be able to measure the radiation at larger angles. As seen in the graph below typical of the angular distribution on an IPL source, there is significant radiation at more than this angle. Therefore, the L40(150)A-IPL has been specially designed as a pyramid with slanted side walls so that it can capture the widely divergent beam of the IPL. The pyramid shape allows up to 55 degrees angle to reach the sensor disc so almost all the radiation emitted is captured.

The primary use of this sensor is to simulate treatment with gel or water coupling to the skin but the sensor is also calibrated for use with a YAG laser since many treatment systems have a laser as well as an IPL.



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Operation:

With IPL – GEL coupled

1. Smear a quantity of gel on the window so that when the IPL is placed on the window, the tip will be covered with gel.
2. Connect the sensor to the meter and set to energy on the correct energy range. Set the wavelength to “GEL”
3. Place the IPL tip gently on the gel on the window and fire the IPL source. The reading will appear on the meter.
4. If the IPL source is larger than the 22x22mm input window of the sensor, then pro rate the reading to give the correct output from the whole source. For instance if the source is 15x50mm, then multiply the reading by 50/22 to give the correct reading including the part not coupled into the sensor.

Note: the window can be scratched and the IPL tip can be damaged if the tip is scraped while in contact with the window.

With YAG laser:

1. Since the output of the YAG laser is not divergent, it is not necessary to optically couple the laser tip to the window. Make sure, though, that the window is clean and free of gel or other obstruction.
2. Connect the sensor to the meter and set to energy on the correct energy range. Set the wavelength to “1.06”
3. Point the laser tip at the center of the sensor at a distance of ~10cm and fire the laser. The reading will appear on the meter.