



LIGHT

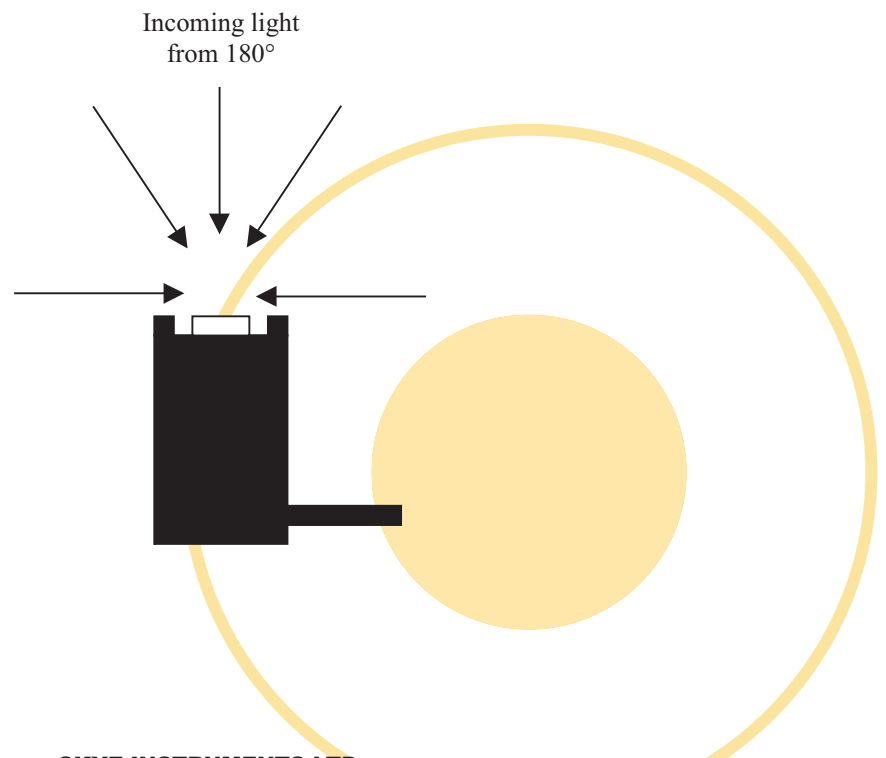
Definition of Cosine Correction

The design of Skye light sensors incorporates a cosine corrected light collecting head, enabling measurement of light from the 180° (2π) hemisphere above the sensor, according to Lambert's Cosine Law.

Lambert's Cosine Law states that radiant intensity observed at a "Lambertian" surface is directly proportional to the cosine of the angle between the incoming light and the normal to the surface.

It is important for light and solar radiation sensors to include a cosine correcting head to eliminate measurement errors which may arise when the light source (usually the sun) is not directly above the sensor, but at any angle within the hemisphere of measurement.

The Skye sensor head design includes a recess on the top surface which increases light collection at low sun angles, minimising cosine correction errors in this area. The white acrylic light collecting diffuser is also raised slightly to increase its collecting area at these low angles. The outer rim is present to prevent any light collection from below the horizon.



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