



LIGHT

Underwater Light Measurement

Skye Instruments light and radiation sensors are calibrated traceable to the UK National Physical Laboratory in air. However, all are guaranteed to 4m submergence (with the exception of sensors with fibre optic probes or removable cosine correcting heads) and there are several Skye customers using sensors down to 10-15m depths without problem.

The SKM 228 underwater lowering frame allows one or two light sensors to be attached and submerged. Its construction keeps the sensors vertical and steady in still or flowing waters. The sensors can be mounted facing upwards or downwards in any combination as preferred.

There are published papers available which describe light measurements underwater, some references are below.

In summary, light sensors under-read in depths greater than 10 cm. On average, underwater measurements should be multiplied by 1.3 to compensate for this.

Also 'surface popple' effects (constantly changing reflections on the water surface) should be averaged out over a time period (such as with a DataHog datalogger), and single 'spot' measurements should be avoided.

REFERENCES

D F Westlake. Some problems in the measurement of radiation under water: A review. Photochemistry & Photobiology 1965 Vol 4 pp 849-868

Skye Application Notes based on a report by the UK Freshwater Biological Association

SKYE INSTRUMENTS LTD

21, Ddole Enterprise Park, Llandrindod Wells, Powys, LD1 6DF, UK

Tel: +44(0)1597 824811 Fax: +44(0)1597 824812

Email: skyemail@skyeinstruments.com Web: www.skyeinstruments.com

