



**Kipp &
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CALIBRATION CERTIFICATE

QUANTUM SENSOR

Calibration date : 26-juli-2001

Calibrated by : G. Lindner

Quantum sensor, type : **PAR LITE**

Serial no : 010164

Sensitivity ($\pm 2\%$) : 5.28 $\mu\text{V}/\mu\text{mol}/\text{s}\cdot\text{m}^2$
in solar radiation at airmass 1.5

Impedance : 240 Ohm

Calibration procedure : Exact interchange of test PAR LITE and reference
PAR LITE in a horizontal parallel beam from a Xenonlamp.
Photosynthetic photon flux density approx. 400 $\mu\text{mol}/\text{s}\cdot\text{m}^2$.
Instrument temperature approx. 25° C.

Hierarchy of traceability : The reference PAR LITE is calibrated against a standard of
known illuminance, the photometric standard lamp of Osram type
Wi 41/G with color temperature of 2856 K, which on his turn is
calibrated yearly at the dutch standard laboratory NMI.
From the known illuminance and the 2856 K spectrum the
photosynthetic photon flux density is calculated: 6.122 $\mu\text{mol}/\text{s}\cdot\text{m}^2$.

Correction applied : The sensitivity figure of the reference PAR LITE is made correct for
to hemispherical solar irradiance at airmass 1.5 (spectrum according
international standard ISO 9845-1). The correction of the
sensitivity figure was +1.2 %.

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