



Kipp & Zonen B.V.

Röntgenweg 1, 2624 BD Delft

P.O. Box 507, 2600 AM Delft

The Netherlands Tel: +31 15 269 8000 Fax: +31 15 262 0351

Canada. France. Germany. United Kingdom. USA.

1 631 589 2065
Robert + Dolce

CALIBRATION CERTIFICATE

QUANTUM SENSOR

Calibration date : 09 Februari 1999

Calibrated by : F. de Wit

Quantum sensor, type : **PAR LITE**

Serial no : 990021

Sensitivity ($\pm 2\%$) : 5.12 $\mu\text{V}/\mu\text{mol}/\text{s.m}^2$
in solar radiation at airmass 1.5

Impedance : 270 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 $\mu\text{mol}/\text{s.m}^2$. 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 $\mu\text{mol}/\text{s.m}^2$.

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

File name: PARLITEcalibratie cert..doc
Date : 980701

