NIEUWKOOP

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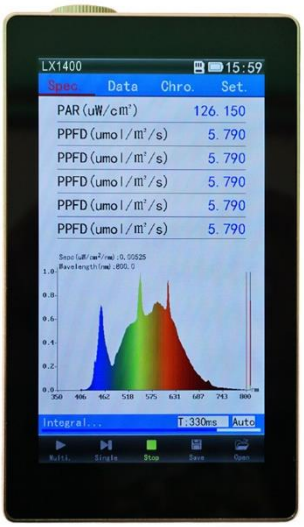
LEAFLET



LX1400

PAR/SPECTRUM METER

METEN = WETEN

Optimize cultivation

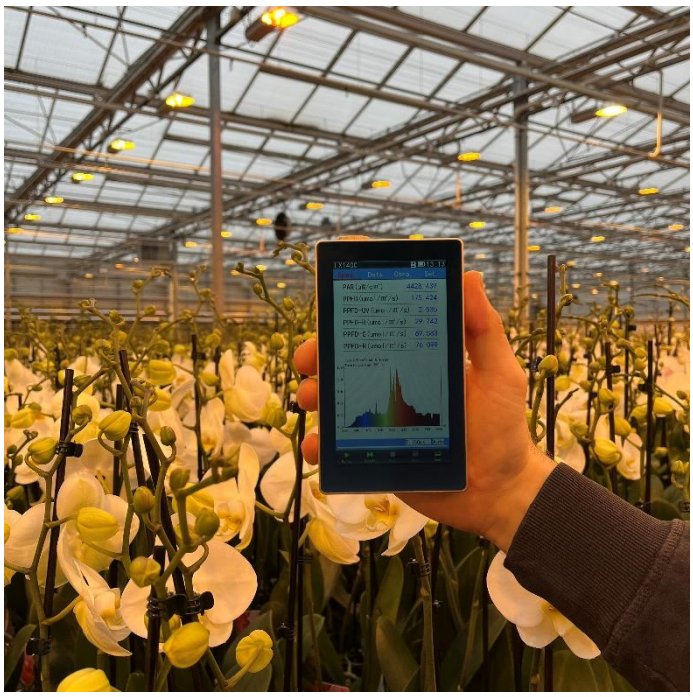
In the world of greenhouse horticulture and botany, measuring light quality plays a crucial role in optimizing plant growth and development. PAR spectrometers are instruments specifically designed to measure the photosynthetically active radiation level of an (artificial) light source, which is an essential parameter for plant health and productivity.

With the emergence and development of new types of grow lights, it is essential to measure and monitor light output.

The LX1400 is an advanced, professional measuring instrument designed to provide accurate measurements of photosynthetic active radiation level (PAR). Its compact portable design makes the meter highly suitable for use in the laboratory as well as in the field or greenhouse.

Important characteristics

1. Measuring range: The LX1400 offers a wide measurement range for PAR radiation, making it suitable for various applications in agriculture, (greenhouse) horticulture and research laboratories.
2. High accuracy: With advanced sensor technology, the LX1400 provides accurate measurements of PAR radiation and the emitted color spectrum, giving you reliable data for analysis.
3. PAR and color spectrum measurement in 1: The LX1400 measures both PAR and the colors of the light spectrum that are present. This gives you a good complete picture of what is going on in the greenhouse in terms of light.
4. Usability: The instrument is designed with ease of use in mind, with a touchscreen user interface and simple controls. This allows both beginners and experienced growers to work with it.
5. Data recording and analysis: Data recording and analysis software is supplied with the LX1400, allowing measurement data to be captured, stored and analyzed for further processing.



The LX1400 can measure and record the following test and measurement parameters.

Test parameters

- PPFD(umol/m2/s)
  "PPFD" stands for "Photosynthetic Photon Flux Density." PPFD is a measure of how many photons of a specific wavelength fall onto a given area per second and per square meter. It is often used in botany and horticulture to measure the intensity of light available for photosynthesis in plants. PPFD is measured in micromoles of photons per square meter per second (μmol/m²/s).

- PAR(mW/cm2)
  "PAR" stands for "Photosynthetically Active Radiation." It refers to the part of the electromagnetic spectrum used by plants for photosynthesis. PAR includes the visible light range, mainly wavelengths between 400 and 700 nanometers, which are essential for plant energy production. PAR is often measured in micromoles of photons per square meter per second (μmol/m²/s) and is an important measure of the amount of light available for photosynthetic processes in plants.

- Kppfv(umol/s/klm)
  "KPPFV" stands for "Color Temperature, Pulse Duration, Pulse Repetition Rate and Flash Variability." This is a term used in light measurement, especially when characterizing flash light sources such as camera flash. These parameters are important in assessing the quality and consistency of the light emitted by such strobes.

- YPF(umol/m2/s).
  "YPF" stands for "Yield Photon Flux" in light measurements. This is a measure of the total amount of photons emitted by a light source within the spectrum of wavelengths of interest for a given application. YPF is often used in assessing the efficiency of light sources for growth-related applications, such as in horticulture. It helps determine how effective a light source is in stimulating plant growth or other biological processes that depend on light energy.

Measurement parameters

Nieuwkoop Grow Light Analyzer (350nm-800nm), Model LX1400			
CCT（K）	Illuminance（lx）	Irradiance（uW/ cm2）	Blackbody deviation Duv
Red ratio（%）	Green ratio（%）	Blue ratio（%）	Spectral Distribution
Candlelight（Fc）	CRI（Ra） R1-R15	TLCI-2012	SDCM Color Tolerance
Peak wavelength（nm）	Half width（nm）	Dominant Wavelength (nm)	Center wavelength(nm)
Purity（%）	CIE1931 X,Y,Z	Light to dark visual ratio（S/P）	Centroid wavelength(nm)
PAR（uW/cm2）	PPFD（umol/m2/s）	Kppfv（umol/s/klm）	YPFD（umol/m2/s）
Ech-A（uW/cm2）	Ech-B（uW/cm2）	PPFD-UV（umol/m2/s）	PPFD-B（umol/m2/s）
PPFD-G（umol/m2/s）	PPFD-R（umol/m2/s）	PPFD-IR（umol/m2/s）	PPFD-FIR（umol/m2/s）
Chromaticity coordinates u,v Chromaticity coordinates x,y Chromaticity coordinates u ' v '		CIE1931 Chromaticity diagram CIE1960 Chromaticity diagram CIE1976 Chromaticity diagram	

Technische specificaties

- Spectral platform: CT system with long focus
- Illuminance range: 5-200,000 Lx
- CCT range: 1,000-100,000 K
- Accuracy: ±0.001 for x-, y- coordinates
- Repeatability: ±0.0005 for x-, y- coordinates
- Illuminance accuracy: ±4% (Class 1)
- Chromogenic accuracy: ±1.5%
- Wavelength accuracy: ±0.5nm
- Wavelength interval: 1nm
- Resolution: 16 bits, 250kSPS
- Display: 5'HD IPS LCD
- Sizing: 163×81×25.8mm

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