

Hortilight LED systems

HortiLight F50

Technical Specification

Release Version: V4.0

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Main advantages HortiLight F50

1. Energy efficient

The HortiLED F50 is an energy efficient LED grow light. Tests have shown that LED grow lights give plants greater light intensity and grow rates than standard HPS grow lights, yet using only 30% to 50% of the electricity.

2. High efficiency

The HortiLight F50 is available with various spectra and does have a PAR efficiency up to 3,2 $\mu\text{mol/J}$ (adv. bloom spectrum). The standard full-spectrum version with 120° beam angle does have a PAR efficiency of 2,7 $\mu\text{mol/J}$.

3. Long lifespan

The LEDs used for the HortiLight F50 are Samsung's Horticulture Series LEDs. The high-bin Samsung LEDs are especially developed for Horticulture environment, which ensures the LEDs are resilient against severe temperature, humidity and exposure to chemicals. This guarantees high light-output, high quality and high reliability with a long lifespan. (The Samsung LH351B LED has an expected lifetime of 280,000 hours!)

4. Easy setup

The HortiLED F50 requires a simple setup. Connect the power cord to 110V or 230V mains power. For spectrum control the dim cord needs to be connected to a PWM, 0-10V or Resistance dim device [Dali, Zibee optional].

5. Power Spectrum Control

To optimize plants photosynthesis and photomorphogenesis, the HortiLight F50 is provided with an adjustable full-spectrum. With a dim device (not included) the spectrum can be 50% to 100% adjusted from Growth mode to full-spectrum Bloom. The spectrum can also be adjusted from a sunrise spectrum to a sunset spectrum.

6. Impact- & waterproof

The HortiLight F50 does have a maximum IK10 impact protection level and a high IP66 waterproof level. This makes use in open roof greenhouses possible, like in Venlo or Cabrio greenhouses.

7. Advanced PCB design

The HortiLight F50 does have advanced PCB design with SSP technology to restrict the DC output Voltage to the LEDs Voltage. It avoids the LEDs from higher Voltage shocking. The SPC technology guarantees LEDs are driven safe. If any of the LEDs does fault, it will not affect other LEDs. The power design is also lighting- and surge-proof.

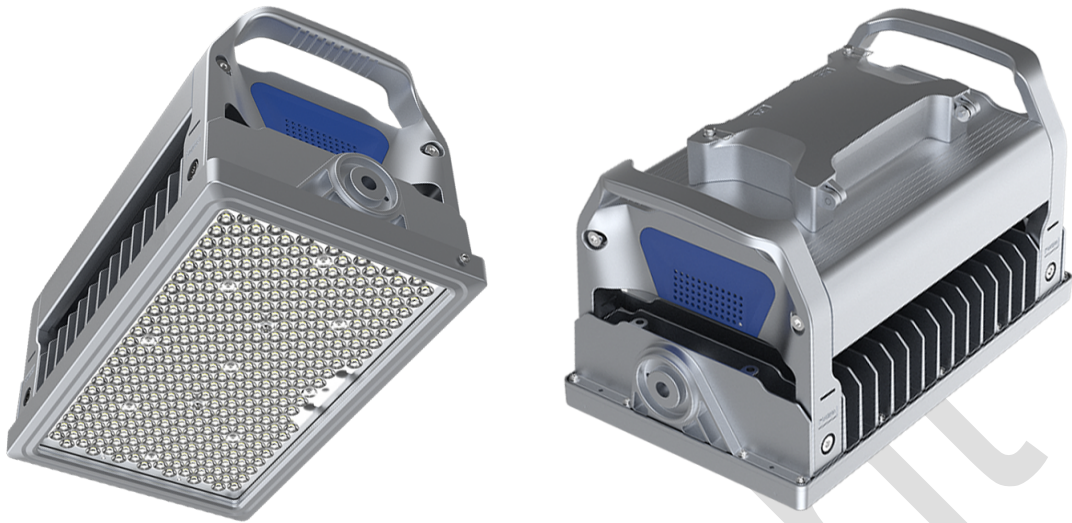
8. Advanced thermal design

For excellent cooling the LEDs are passively cooled by the aluminum heatsink and frame of the HortiLight F50. Passive LED cooling is preferred above active cooling. No moving parts are needed, which is energy efficient and requires no maintenance.

9. Environment friendly

The HortiLight F50 doesn't contain the harmful substances HPS lights have. LEDs are superior to other lighting technologies in terms of negative environmental and health effects during the manufacturing process. Producing LEDs consumes far less energy than manufacturing other lighting. LEDs contain no mercury and few if any toxins, such as iodine and lead. No hazardous waste to deal with makes our earth cleaner and greener!

Pictures HortiLight F50



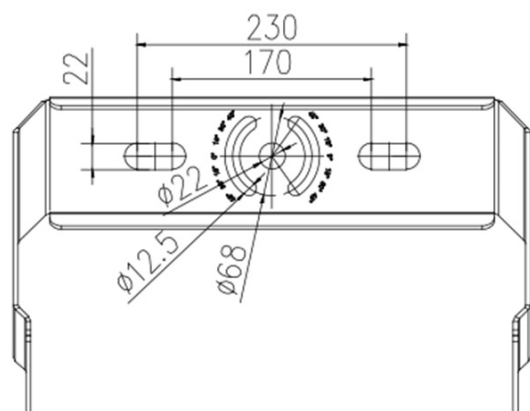
Application HortiLight F50

1. A HortiLight F50 grow light is suitable for (cabrio) greenhouse lighting.
2. The HortiLightF50 replaces 1000W HPS grow light.
3. Adjustable spectrum to optimize plants photosynthesis and photomorphogenesis.
4. Ideal for all phases of plant growth and works well in any garden, either hydroponics or soil based.
5. OEM/ODM or customized integrated grow lighting solutions are available on request.

Photo controller & Bracket [optional]

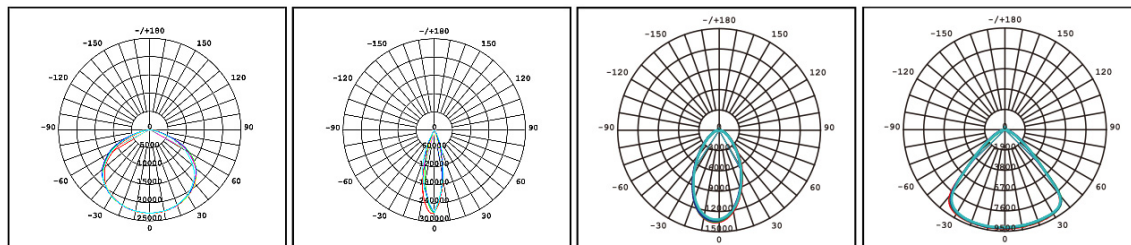
Optional Bracket for easy mounting on a C-profile or on a lattice. This means that plug and play switching from HPS to LED is possible without problems.

The optional Photo controller is applicable to control the lighting automatically in accordance with ambient natural lighting level.



Photometric diagrams

Beam angle: standard 120° [optional 30° / 60° / 90°]



Adjust the beam angle to the distance between the lamp and the crops, so that the plant surface is fully illuminated. When the HortiLight F50 will be uses in the top of a modern large high-roof greenhouse, a 30° beam angle is best for high PAR flux at crops level.

Technical specification HL-F50

Item	Value	Item	Value
LED drivers	MeanWell	Power consumption	~ 500 Watt
LED diodes	Samsung LH351H	Power growth mode	~ 250 Watt
LED type	Horticulture top-bin	Power factor	> 95%
Spectrum control	50% – 100%	Dimming 3 in 1	0-10V, PWM, Ω
Light distribution	120° [30°,60°,90°]	Voltage range	110V, 230V, [400V]
Lifespan	Up to 50.000 hours	Frequency	50Hz / 60Hz
Height above plants	> 10 cm	Ambient air	-20 ~ + 40°C
PAR efficiency	2,7 $\mu\text{mol/J}$	Waterproof level	IP66
PAR photon flux	~ 1.350 $\mu\text{mol/s}$	Impact protection	IK10
HortiLight F50 size	406*250*233mm	Weight	14,9 Kg

Certification and Warranty of HortiLight F50



Note:

1. Select different lighting time depending on plant species.
2. Don't look into the LED light directly without wearing sunglasses.
3. Power socket should be connected to the ground/earth.
4. The HortiLight F50 is CE, ELT and RoHs compliant.
5. Good after sales service; 3 year warranty [5 year optional].