

SolarLUX Lighting Solutions

650W Samsung Quantum

Technical Specification

Release Version: V3.0

Release Date: 2025/04/15

Main advantages 650W Samsung Quantum

1. High efficiency and Energy saving

The Samsung Quantum Board is a high efficiency LED grow light. Tests have shown that LED grow lights provide plants with greater light intensity and growth rate than HPS grow lights while consuming only 30% to 50% of the electricity.

2. Long lifespan

The Quantum Boards are equipped with high-quality components, such as Samsung and Seoul LEDs and high-efficiency LED Drivers. The LEDs are computer SMT mounted on the circuit board, which ensures high quality and high reliability with long life.

3. LED spectrum

The 650W Quantum has an efficiency of 2.9 $\mu\text{mol/J}$ and is equipped with Samsung LEDs of 3000K, 6500K, 395nm, 460nm, 660nm and 730nm.

4. Dual spectrum switches

The 650W Samsung Quantum features two switches that control the 395 nm ultraviolet light and 730 nm far-red light, to optimize growth and flowering.

5. Daisy-chain dimming

The Samsung Quantum is equipped with a dimming button that allows the light intensity to be adjusted according to the needs of plants in each phase of the light cycle. In addition, several Quantum Boards can be daisy-chained, so that all lamps can be operated with one dim knob or with an external controller.

6. Plug & play

Only a simple installation is required; Connect the LED driver unit to the Quantum Board and plug into a grounded 120V or 230V outlet. The LED Driver can be mounted on top of the Quantum Board or hung inside or outside the grow room.

7. Waterproof

The Samsung Quantum Board is IP65 waterproof. The LEDs are attached to the aluminum frame and have a water-resistant coating.

8. Advanced thermal design

The LEDs are passively cooled by the aluminum frame of the Quantum Board. The aluminum PCB is directly attached to the aluminum body of the Samsung Quantum for excellent heat dissipation. Passive LED cooling is preferred above active cooling. No moving parts are needed, which is energy efficient and requires no maintenance.

9. SPC technology for excellent performance

SPC technology guarantees the LEDs are more stable. If one of the LEDs fails, it will not affect the other LEDs. The SPC design makes the Quantum Board solid and safe.

10. Environment friendly

An LED Quantum Board does not contain the harmful substances of HPS & MH; no hazardous waste to deal with, making our earth cleaner and greener. LEDs are superior to other lighting technologies in terms of negative environmental and health impacts during the manufacturing process. Producing LEDs takes much less energy than manufacturing other lighting. LEDs contain no mercury and little or no toxins such as iodine and lead.

650 Watt Quantum Board

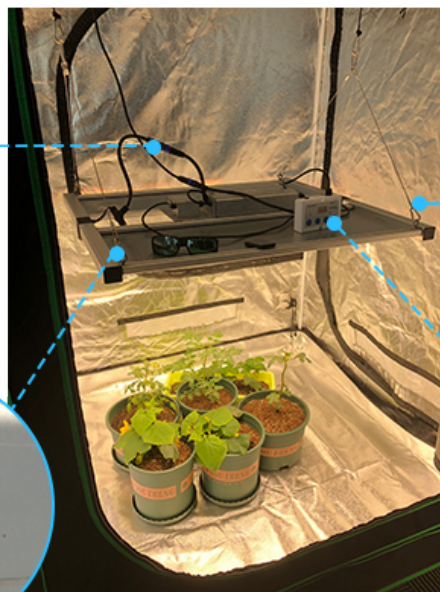


1. A Samsung Quantum Board is suitable for indoor and greenhouse lighting.
2. The 650W Quantum Board replaces 2 pieces of 600 Watt HPS grow lights.
3. Ideal for all phases of plant growth and works well in any garden, both hydroponics and soil.
4. Utilizes a broad spectrum of light necessary for plant photosynthesis.

Quantum Board Connectors & Switches



IP67 M15
Waterproof Connector



Steel Hangers

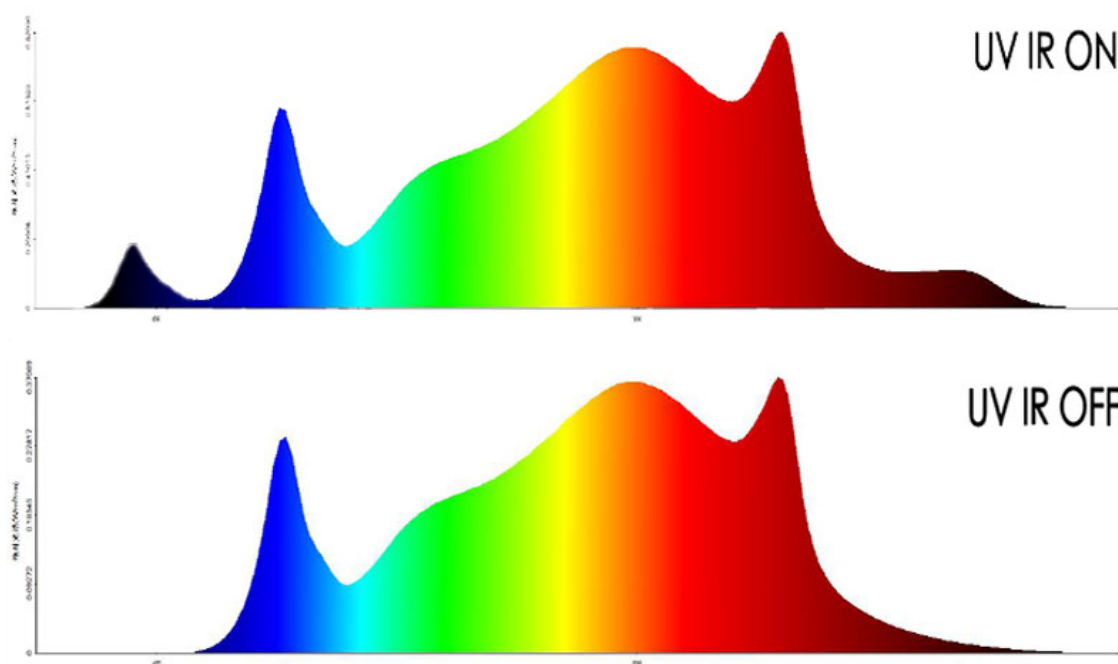


Dual Spectrum Switches



PWM LED Controller (optional)

Samsung Quantum Dual Spectrum



Technical specification 650W Quantum Board

Item	Value	Item	Value
LED chips	Samsung LM301B	HPS equivalent	2 pcs 600 Watt
LED wavelength	Full-spectrum	Power factor	> 95%
LED efficacy	2,9 $\mu\text{mol} / \text{J}$	Power consumption	~ 650 Watt
Dual spectrum switches	395nm & 730nm	Dim control	10 – 100%
Light distribution	120° beam angle	Voltage AC	100V – 277V
Height above plants	> 25 cm	Work frequency	50Hz / 60Hz
Ideal lighting area	~ 1,4 – 2,4 m ²	Working environment	-20 ~ + 40°C
Lifespan	Up to 50.000 hours	Waterproof level	IP65
Size Q650	870*695*40 mm	Weight	9,5 Kg

Samsung Quantum series certification and warranty



Note:

1. Select different lighting time depending on plant species.
2. Do not look directly at the LED light without wearing sunglasses.
3. The power socket must be connected to earth.
4. Good after sales service; 3 years limited warranty.