

SolarLUX Lighting Solutions

320 Watt Quantum ECO

Technical Specification

Release Version: V2.0

Release Date: 2025/04/15

Main advantages 320W Samsung Quantum ECO

1. High efficiency and Energy saving

The Samsung Quantum Board ECO delivers superior light intensity and faster plant growth compared to traditional HPS grow lights, while using only 30%–50% of the energy. Ideal for cost-effective and sustainable indoor growing.

2. Long Lifespan

Built with premium Samsung LEDs and high-efficiency LED drivers, the Quantum Board ECO ensures outstanding durability and performance. Surface-mounted with SMT technology, the components offer excellent reliability and an extended operational life.

3. Optimized Full Spectrum Light

The Quantum ECO has an efficiency of 2.60 $\mu\text{mol/J}$ and is equipped with Samsung LEDs of 3000K, 6500K, 460nm, 660nm and 730nm.

4. Adjustable Daisy-chain Dimming

Easily control light intensity with the built-in 0–10V dimmer knob. Adjust brightness based on your plant's specific needs throughout its growth cycle to maximize results.

In addition, several Quantum Boards can be daisy-chained, so that all lamps can be operated with one dim button or a 0-10V RJ12 controller. An RJ12 daisy-chain connection cable is included.

5. Simple Plug & Play Installation

Effortless setup - connect the LED driver to the board and plug it into any grounded 120V - 240V outlet. The driver can be mounted directly on the board or placed separately inside or outside the grow area. A simple hanging system is included.

6. Water-resistant Design

With an IP65 rating, the Samsung Quantum Board ECO is water-resistant and built to perform reliably in humid grow environments. The LEDs are protected by a waterproof coating and securely attached to an aluminum frame.

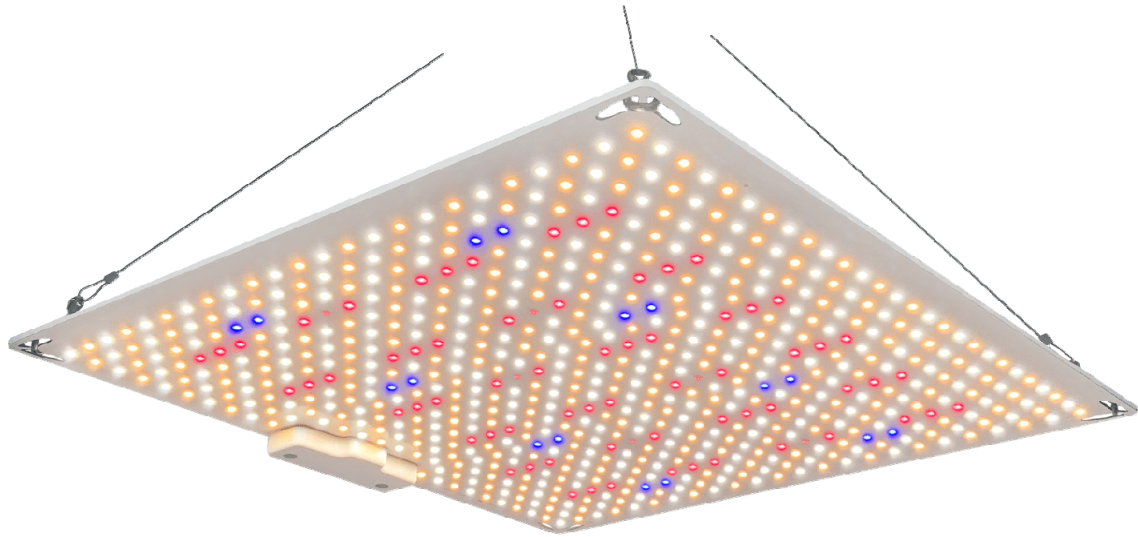
7. Advanced Passive Cooling

Engineered with a high-quality aluminum frame, the Quantum ECO offers efficient passive heat dissipation. This fanless design ensures silent operation, less maintenance, and superior energy efficiency.

8. ECO Friendly Technology

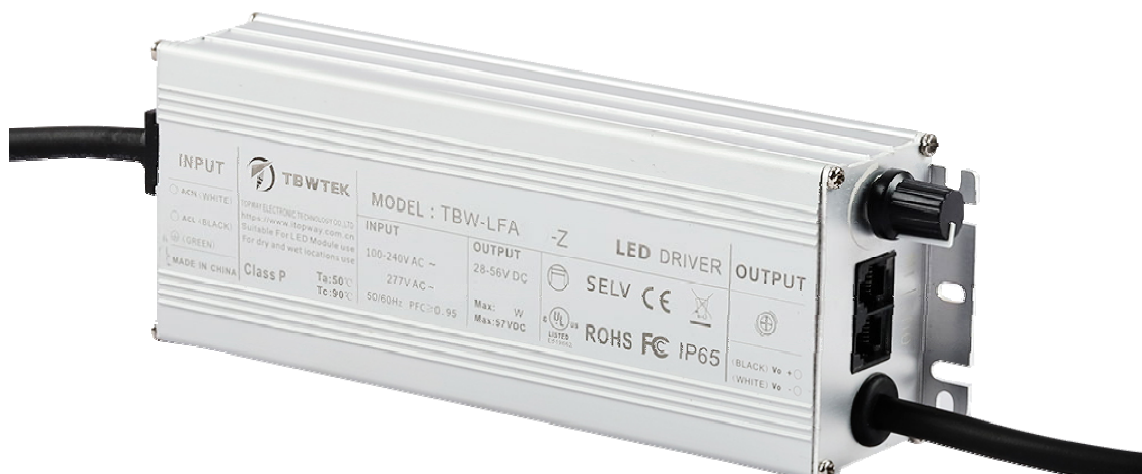
Unlike HPS or MH lamps, the Quantum Board ECO contains no harmful substances such as mercury or lead. It reduces hazardous waste and lowers your environmental impact. Manufacturing LEDs also consumes significantly less energy, making them the greener choice.

320W Quantum ECO

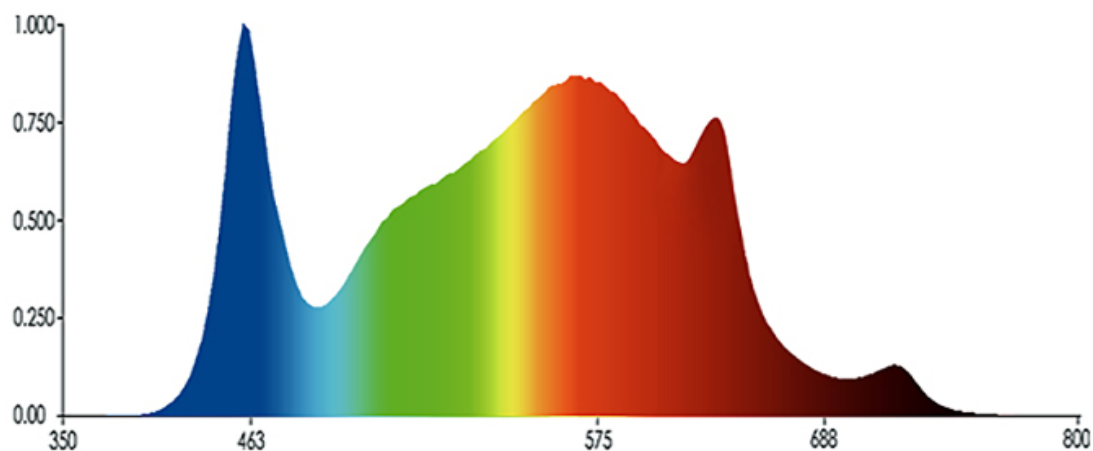


1. A Samsung Quantum Board ECO is suitable for indoor and greenhouse lighting.
2. The 320W Quantum ECO replaces a 600 Watt HPS grow light.
3. Ideal for all phases of plant growth and works well in any garden, both hydroponics and soil.
4. Utilizes a broad spectrum of light necessary for plant photosynthesis.

LED Driver with Daisy-chain Dimming



Samsung Quantum ECO Spectrum



Technical specification 320W Quantum ECO

Item	Value	Item	Value
LED chips	Samsung LM281B+	HPS equivalent	600 Watt
LED wavelength	Full-spectrum	Power consumption	~ 320 Watt
PPE	2,60 $\mu\text{mol/J}$	Dim control	0 – 100%
PPF	~ 830 $\mu\text{mol/s}$	Voltage AC	100V – 277V
Light distribution	120° beam angle	Work frequency	50Hz / 60Hz
Height above plants	> 15 cm	Working environment	0 ~ + 40°C
Ideal lighting area	< 1,5 m ²	Waterproof level	IP65
Lifespan	Up to 50.000 hours	Max. humidity	< 90% RH
Size Q100	440*440*45 mm	Weight	3.1 Kg

Samsung Quantum ECO 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. After sales service; 2 years limited warranty.