

## OVERVIEW

The T10 LED grow tube features an integrated, one-piece design that eliminates complex assembly and enables tool-free, rapid installation. Engineered for small to mid-scale horticultural applications—including indoor gardening, greenhouses, and research labs—the T10 delivers targeted red-blue (RB) or full-spectrum white (WW) lighting with high photosynthetic efficiency. With PPF up to 270  $\mu\text{mol/s}$  and efficacy of 2.9  $\mu\text{mol/J}$ , it offers exceptional energy savings without compromising plant performance.



## FEATURES:

**Integrated Design:** One-piece construction for plug-and-play installation—no external drivers or brackets needed.

**Dual Spectrum Options:** Choose between targeted Red/Blue (660nm/450nm) for flowering or Full-Spectrum White (3000K + 6000K) for full-cycle growth.

**High Light Transmittance:** Transparent PC cover (94–96% transmittance) or diffused PC cover (85–92%) for uniform canopy coverage.

**Flame-Retardant:** PC housing meets UL94 V0/V2 safety standards.

**Flexible Mounting:** Compatible with standard T10/T12 fluorescent fixtures—supports surface, suspended, or rail mounting.

**Global Voltage:** Auto-ranging 85–230V AC, 50/60Hz—ready for worldwide use.

**Compact Sizes:** Available in 60cm, 90cm, 120cm, and 150cm lengths to fit any layout.

## APPLICATIONS:

**Indoor Gardening:** Ideal for herbs, leafy greens, succulents, and houseplants under shelves or cabinets.

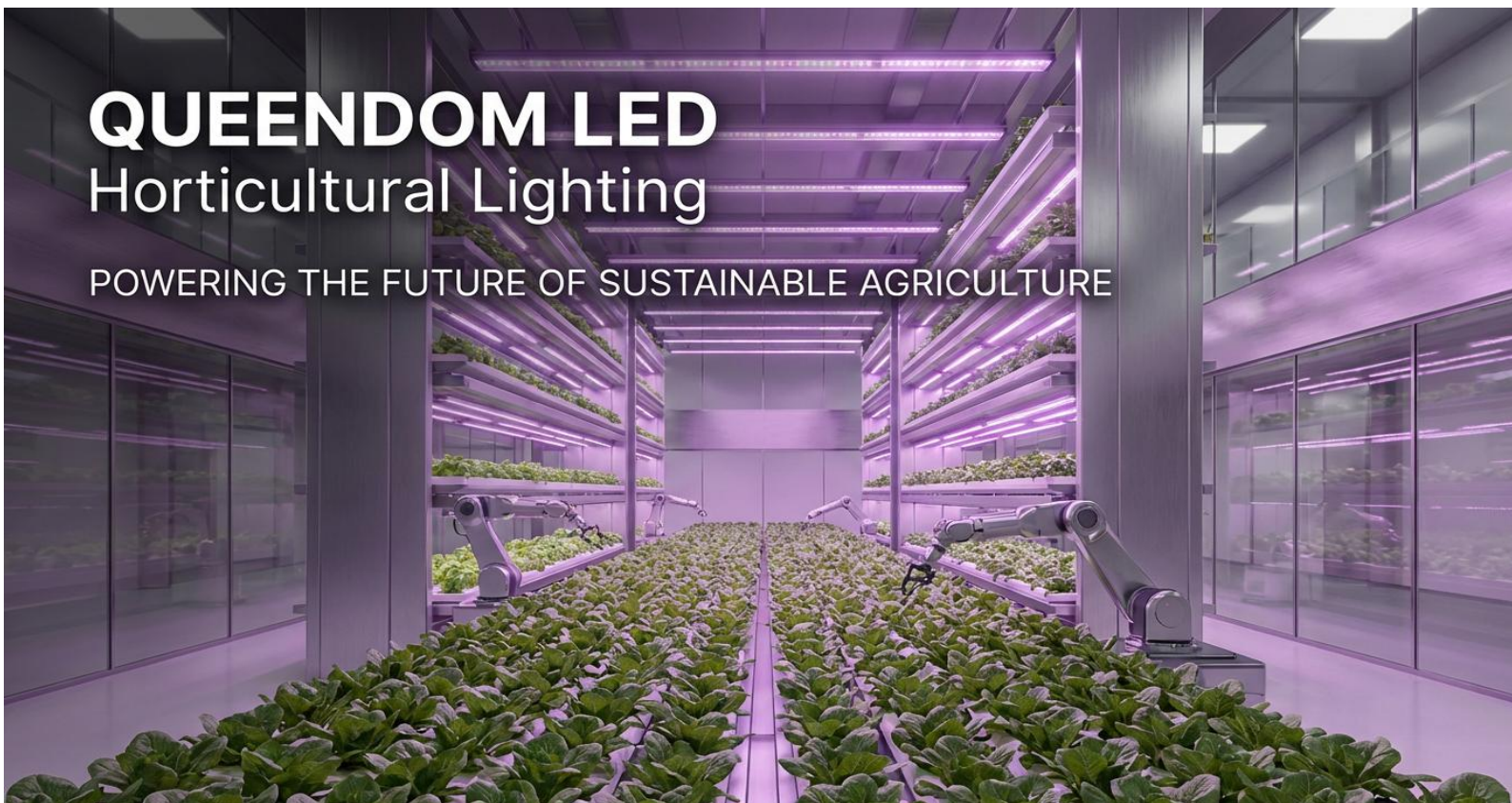
**Greenhouses & Nurseries:** Supplemental lighting during low-light seasons to maintain consistent crop cycles.

**Research & Education:** Stable, repeatable spectrum for plant physiology experiments in labs and classrooms.

**Retrofit Projects:** Direct replacement for existing T10/T12 fluorescent tubes—no rewiring require

# QUEENDOM LED Horticultural Lighting

## POWERING THE FUTURE OF SUSTAINABLE AGRICULTURE



**PRODUCT ELECTRICAL INDEX & TYPICAL WAVELENGTH**

Electrical & Photometric Specifications					
Metric / Model	2FT	3FT	4FT	5FT	6FT
Input Voltage & Frequency	AC 85–230 V, 50/60 Hz				
Rated Power (Typical W)	20	36	48	60	100
Power Factor (PF)	≥ 0.95				
Dimming	Optional 0-10V, PWM				
Driver Lifetime	~ 50 000h (L90>36 000h at 25°C)				
Photometric Performance					
WAVELENGTH [1] (nm)	370-730 nm	370-730 nm	370-730 nm	370-730 nm	370-730 nm
Photosynthetic Photon Flux (PPF) (μmol/s)	54	97	130	162	270
System Efficacy (PPE) (μmol/J)	2.7	2.7	2.7	2.7	2.7
LED-Only Efficacy (μmol/J)	3.02	3.02	3.02	3.02	3.02
Spectral Half-width (nm) (varies by LED)	10	10	10	10	10
Physical & Compliance					
Dimensions (L × Ø)	600×30mm	900×30mm	1200×30mm	1500×30mm	2400×30mm
Beam Angle: (°)	180°				
Housing Material	Aluminum + PC (Clear/Diffused)				
IP Rating	IP65 (Waterproof)				
Wiring Option	Direct-wire via PG7 waterproof gland (no ballast required)				
Implementation standards	UL 8800, EN 62471 (Risk Group 1), RoHS 3 (EU 2015/863)				

**Notes 1:**

The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

maintains a  $\pm 7.5\%$  tolerance on luminous flux measurements,  $\pm 0.15V$  tolerance on forward voltage measurements, and  $\pm 2$  tolerance on CRI measurements

Notes 2: Spectral half-width is the spectral bandwidth at 50% of the peak intensity.

Viewing angle is the off axis angle from the LED centerline where the luminous intensity is  $\frac{1}{2}$  of the peak value.

**Spectral Options:**

**Full-Sunlight Spectrum:** Broadband white light (380–730 nm) combining 6000K (cool white) and 3000K (warm white) LEDs, closely mimicking natural daylight with enhanced red and far-red continuity. CRI >90, suitable for full-cycle plant growth.

**Targeted Red-Blue (RB) Blend:** Optimized ratio of 60% deep red (660 nm) + 40% blue (450 nm) for vegetative vigor and compact morphology; ideal for seedling, propagation, or energy-efficient supplemental lighting.

**Advanced Full-Spectrum + FR:** Full-sunlight base with added far-red (730 nm) for photomorphogenic control (shade avoidance, flowering acceleration) – available on select models.

All above are standard configurations. Custom spectral recipes (e.g., 70/30 RB, UV inclusion, tunable white, or multi-channel control) are available upon request for commercial or research applications.

**Available Models & Part Numbers**

Model	Rank Code	Dimensions	Power	Part Number
Device Model	Rank	(mm)	(W)	P/N
PGT1020RB	PGT031	598×30	20	9405500000PG031
PGT1045RB	PGT032	898×30	36	9405500000PG032
PGT1020RB	PGT033	1198×30	48	9405500000PG033
PGT1080RB	PGT034	1498×30	60	9405500000PG034
Model	Rank Code	Dimensions	Power	Part Number
Device Model	Rank	(mm)	(W)	P/N
PGT1025WW	PGT035	598×30	20	9405500000PG035
PGT1045WW	PGT036	898×30	36	9405500000PG036
PGT1060WW	PGT037	1198×30	48	9405500000PG037
PGT1080WW	PGT038	1498×30	60	9405500000PG038

**Product Electrical Index**

Model	Rank Code	Dimensions	Power	Input Voltage	Peak Wavelength		Spectral Ratio (%)		PPF (μmol/s)	PPE Efficacy (μmol/J)
					Min	Max	Red	Blue		
Device Model	Rank	(mm)	(W)	(V AC)						
PGT1020RB	PGT031	598×30	20	85–230 V	450	660	60%	40%	54	2.7
PGT1045RB	PGT032	898×30	36	85–230 V	450	660	60%	40%	97	2.7
PGT1020RB	PGT033	1198×30	48	85–230 V	450	660	60%	40%	130	2.7
PGT1080RB	PGT034	1498×30	60	85–230 V	450	660	60%	40%	162	2.7
Model	Rank Code	Dimensions	Power	Input Voltage	CCT(K)		Spectral Ratio (%)		PPF (μmol/s)	PPE Efficacy (μmol/J)
Device Model	Rank	(mm)	(W)	(V AC)	MIN	MAX	WW	NW		
PGT1025WW	PGT035	598×30	20	85–230 V	3000	6000	30%	70%	58	2.9
PGT1045WW	PGT036	898×30	36	85–230 V	3000	6000	30%	70%	104	2.9
PGT1060WW	PGT037	1198×30	48	85–230 V	3000	6000	30%	70%	139	2.9
PGT1080WW	PGT038	1498×30	60	85–230 V	3000	6000	30%	70%	174	2.9

Note: WW = Warm White; NW = Neutral , White.PPF: μmol/m<sup>2</sup>/s @ 100 cm from surface.

**SPECTRAL POWER DISTRIBUTION CHARACTERISTIC**  
**CHARACTERISTIC CURVES & Peak Wavelength**

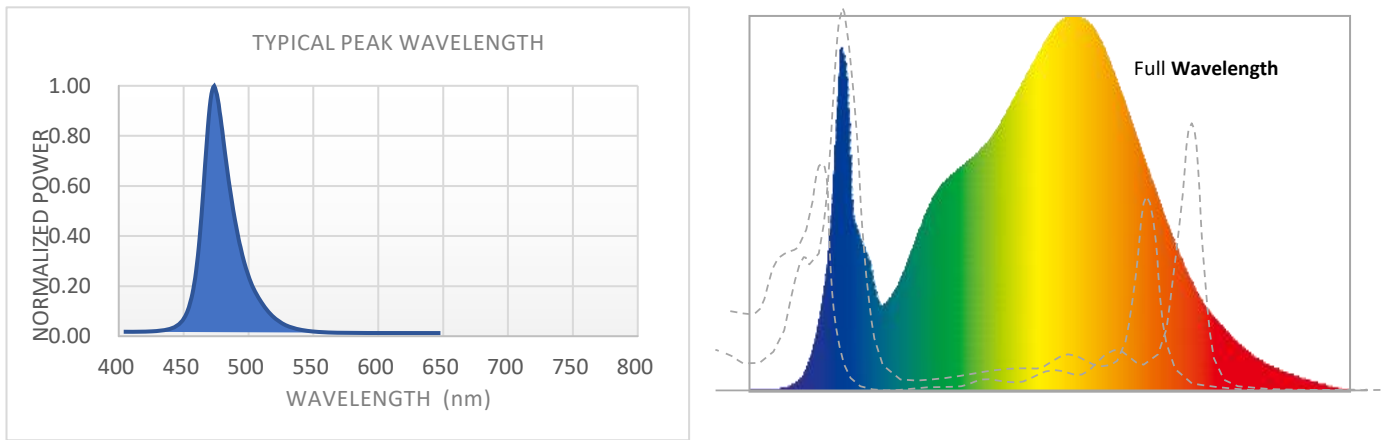
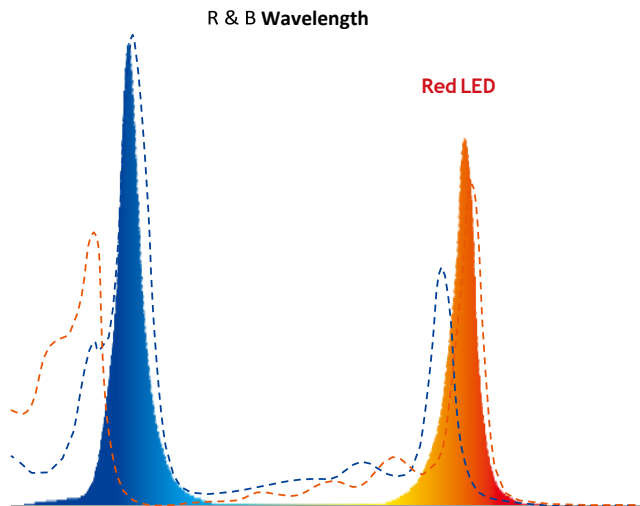
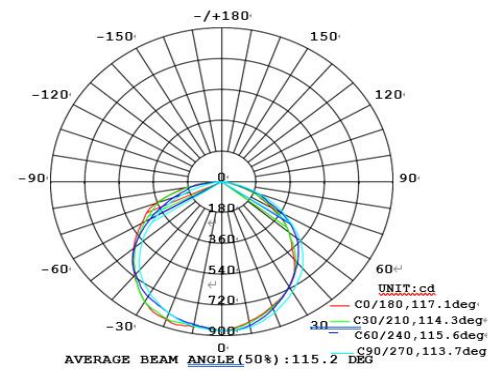


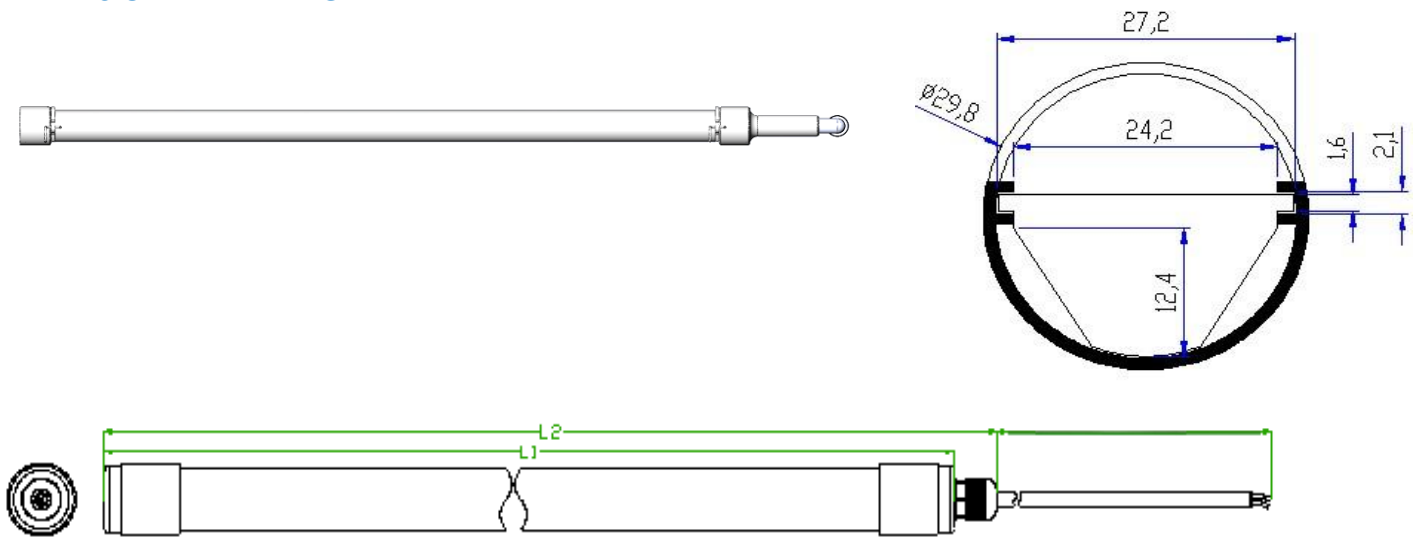
Figure 1. Typical peak value vs. full spectrum curve at a specified Tj=25°C.



LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



**DIMENSIONAL DRAWING:**



**Accessories**

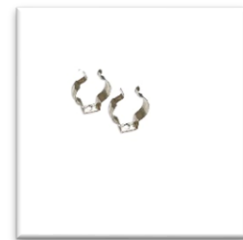
Queendom Connection Cable 180mm



Connect the dropped rope



Clamp bracket



Default buckle 2PCS /M

**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$  mm (.010" ) unless otherwise noted.
3. Protruded resin under flange is 1.00mm (.039" ) max.

	SIZE/ mm		
	L1	L2	L3
2FT	600	620	20
3FT	900	920	20
4FT	1200	1220	20
5FT	1500	1520	20
6FT	1800	1820	20