



QUEENDOM LIGHTING

Agricultural Lighting



About QUEENDOM Lighting

About us QUEENDOM Technology Co., Ltd. was established in 2004. It is a private technology enterprise integrating R&D, production, sales and service. It mainly develops, produces and sells semiconductor packaging equipment, smart products, smart lighting, agricultural lighting, cold chain lighting and special lighting products.

The industrial chain products mainly include: LED special lamps, agricultural planting, animal husbandry, aquaculture, cold chain marine aquatic industry and smart lighting series, which are widely used in modern agriculture, animal husbandry factories, co



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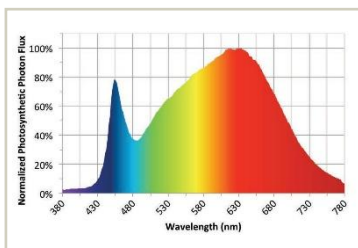
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Guangdong, China. Postcode 523800

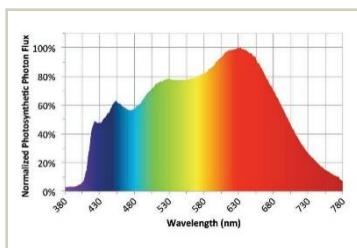
WHITE

W1 SPECTRUM



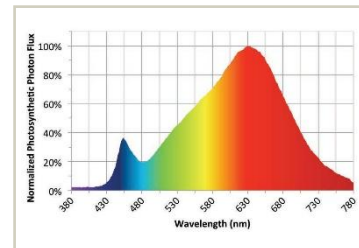
PPF ratio	
UV (380-399 nm)	0,26%
BLUE (400-499 nm)	15,73%
GREEN (500-599 nm)	35,82%
RED (600-699 nm)	40,11%

W2 SPECTRUM*



PPF ratio	
UV (380-399 nm)	0,27%
BLUE (400-499 nm)	20,93%
GREEN (500-599 nm)	33,64%
RED (600-699 nm)	37,00%

W3 SPECTRUM

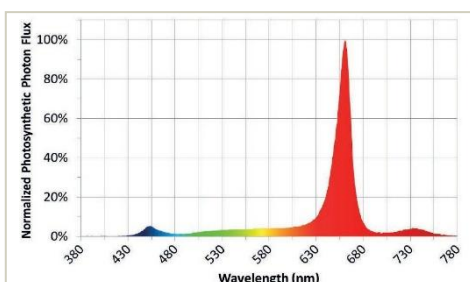


PPF ratio	
UV (380-399 nm)	0,21%
BLUE (400-499 nm)	9,82%
GREEN (500-599 nm)	32,61%
RED (600-699 nm)	48,18%

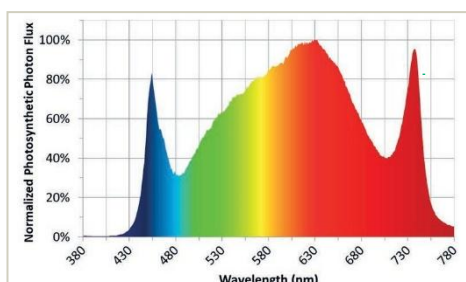
EXTRA FAR RED

All **QUEENDOM™** spectra can be completed by far red of which we are convinced of its interest in many applications.

W4 FR SPECTRUM



W5 FR SPECTRUM



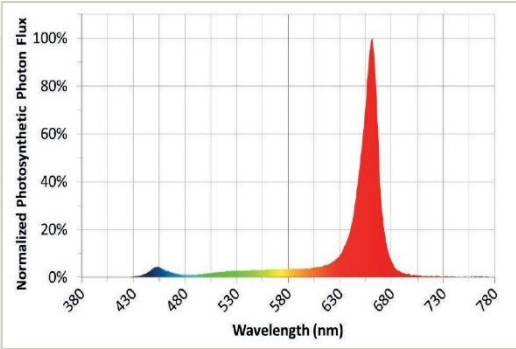
MULTI-SPECTRAL SOLUTION

For research applications or for persons wishing to create their own light recipe, we have developed multi- spectral solutions on our platforms. These solutions are accompanied by a complete spectral control system. Possibilities of control and customization on request.

WHITE / RED

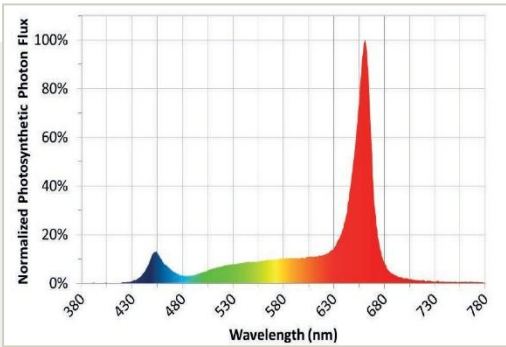
WR1 SPECTRUM

PPF ratio	
UV (380-399 nm)	0,05%
BLUE (400-499 nm)	5,07%
GREEN (500-599 nm)	10,75%
RED (600-699 nm)	83,08%
FR (700-780 nm)	1,05%
PAR (400-700nm)	98,90%



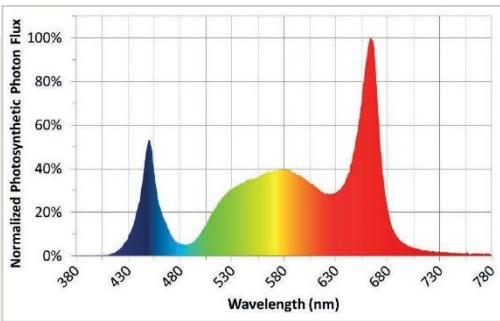
WR2 SPECTRUM

PPF ratio	
UV (380-399 nm)	0,04%
BLUE (400-499 nm)	10,21%
GREEN (500-599 nm)	21,73%
RED (600-699 nm)	66,43%
FR (700-780 nm)	1,59%
PAR (400-700nm)	98,37%



WR3 SPECTRUM

PPF ratio	
UV (380-399 nm)	0,05%
BLUE (400-499 nm)	16,16%
GREEN (500-599 nm)	37,30%
RED (600-699 nm)	44,91%
FR (700-780 nm)	1,58%
PAR (400-700nm)	98,37%

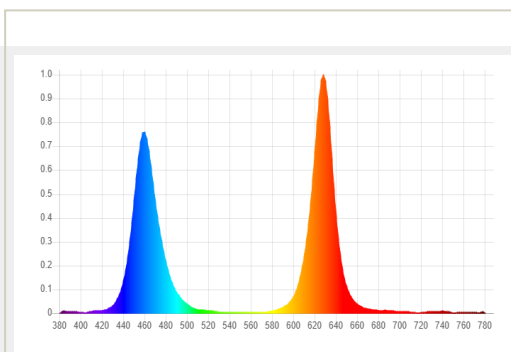


SPECTRAL RANGE
Whether in research or production, a single solution cannot meet all needs. Therefore, we offer a variety of spectra designed to suit different plant types, cultivation goals and environments. From the most energy-efficient options to the most comprehensive spectrum, our solutions offer the perfect balance of performance and flexibility.

RED/BULE

RB1 SPECTRUM

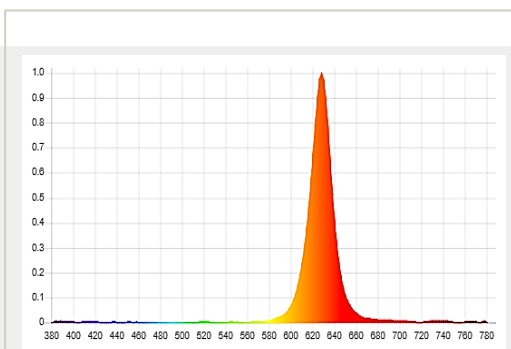
PPF ratio	
UV (380-399 nm)	/
BLUE (400-499 nm)	40.00%
GREEN (500-599 nm)	0.50%
RED (600-699 nm)	59.95%
FR (700-780 nm)	/
PAR (400-700nm)	98,03%



RED

R1 SPECTRUM

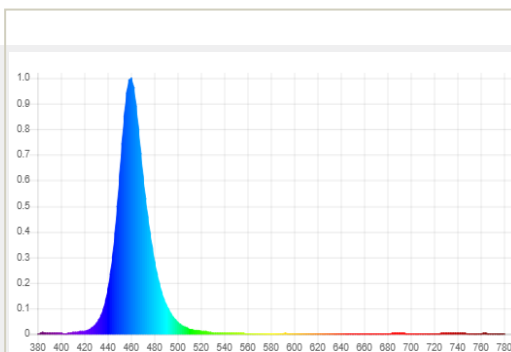
PPF ratio	
UV (380-399 nm)	/
BLUE (400-499 nm)	40.00%
GREEN (500-599 nm)	0.50%
RED (600-699 nm)	59.95%
FR (700-780 nm)	/
PAR (400-700nm)	98,03%



BULE

B1 SPECTRUM

PPF ratio	
UV (380-399 nm)	/
BLUE (400-499 nm)	40.00%
GREEN (500-599 nm)	0.50%
RED (600-699 nm)	59.95%
FR (700-780 nm)	/
PAR (400-700nm)	98,03%



SPECTRAL RANGE

Whether in research or production, a single solution cannot meet all needs. Therefore, we offer a variety of spectra designed to suit different plant types, cultivation goals and environments. From the most energy-efficient options to the most comprehensive spectrum, our solutions offer the perfect balance of performance and flexibility.



QUEENDOM LIGHTING
Agricultural Lighting

PLANT TUBES SERIES

TECHNICAL DATASHEETS



T8 PLANT TUBES LAMP

Power :9-36W

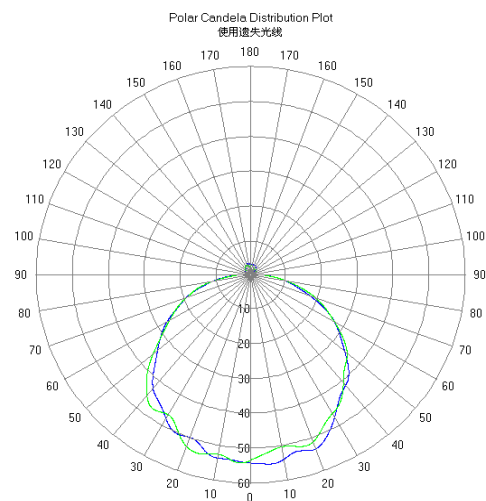


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	2FT	3FT	4FT	5FT	6FT
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	9	13	18	24	36
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	24	35	49	65	97
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE	600*26MM	900*26MM	1200*26MM	1500*26MM	2400*26MM
DEG	200	200	200	200	200
BASE	PG7	PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

T8 INTEGRATED PLANT TUBES LAMPS

Power :18-65W

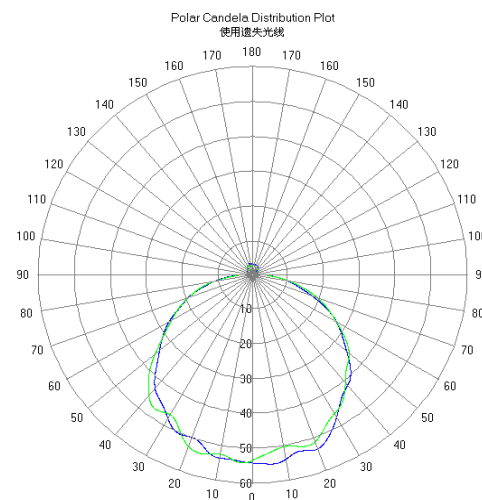


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	2FT	3FT	4FT	5FT	6FT
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	18	36	40	48	65
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	49	97	108	130	176
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE	600*26MM	900*26MM	1200*26MM	1500*26MM	2400*26MM
DEG	200	200	200	200	200
BASE	PG7	PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

T0 PLANT TUBES LAMPS

Power 20-100W

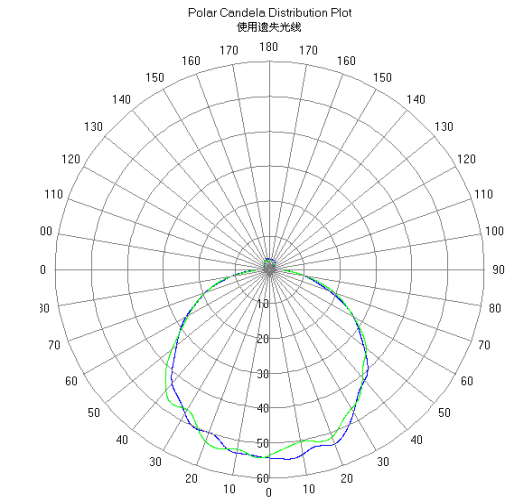


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	2FT	3FT	4FT	5FT	6FT
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	20	36	48	60	100
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	54	97	130	162	270
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE	600*30MM	900*30MM	1200*30MM	1500*30MM	2400*30MM
DEG	200	200	200	200	200
BASE	PG7	PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

T2 PLANT TUBES LAMPS

Power 25-100W

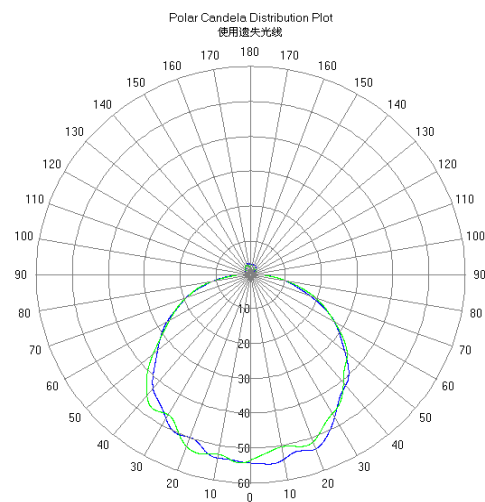


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	2FT	3FT	4FT	5FT	6FT
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	25	45	60	80	100
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	68	122	162	216	270
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE	600*30MM	900*30MM	1200*30MM	1500*30MM	2400*30MM
DEG	200	200	200	200	200
BASE	PG7	PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

L1 SERIES-Long Strip Plant Light

Power 60-150W

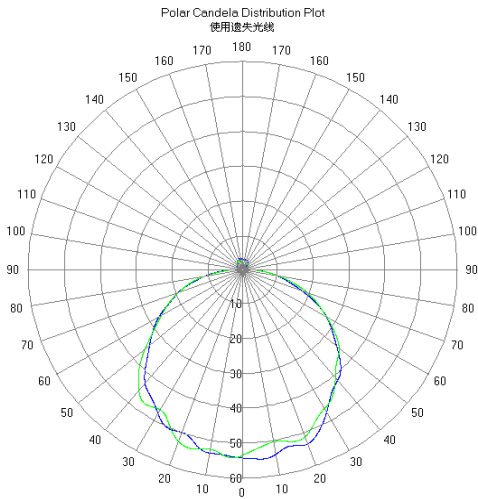


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	2FT	3FT	4FT	5FT	6FT
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	/	60	100	120	150
Power Factor	/	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	/	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)		370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)		162	270	324	405
Efficacy – AC derated PPE. (μmol/Joule)		2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)		3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)		10	10	10	10
Product performance					
SIZE		900*30MM	1200*30MM	1500*30MM	2400*30MM
DEG		200	200	200	200
BASE		PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

L2 SERIES-Long Strip Plant Light

Power 100-300W



Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	LPGT30***RB & LPGT30***WWR				
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	/	100	150	200	300
Power Factor	/	>95	>95	>95	>95
Dimmable	I 0-10V, PWM				
Power Factor	/	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)		370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)		270	405	540	810
Efficacy – AC derated PPE. (μmol/Joule)		2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)		3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)		10	10	10	10
Product performance					
SIZE		1050x75x20			
DEG		200	200	200	200
BASE		PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

L3 SERIES-Long Strip Plant Light

Power 240-480W

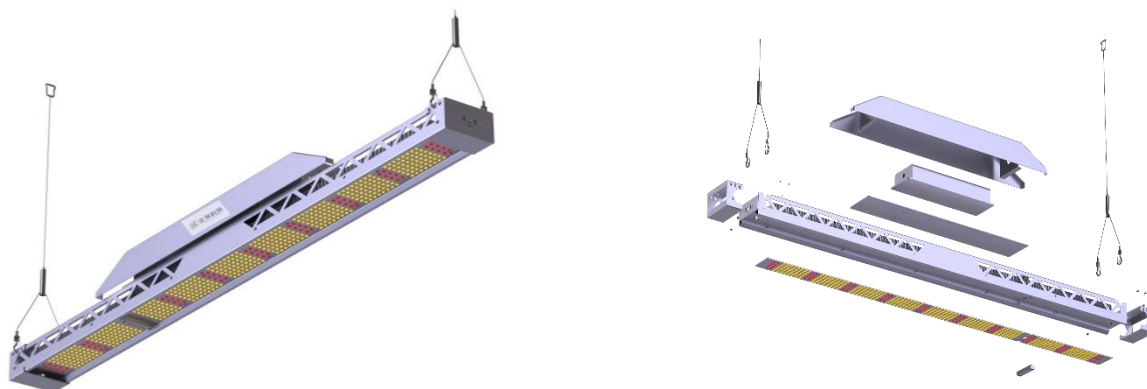


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	LPGT31***RB & LPGT31**WWR				
AC Voltage & Frequency: (VAC)	100-277VAC/347-480VAC & 50/60Hz				
AC Derated Power – Typical (W)				240	480
Power Factor				>95	>95
Dimmable	I 0-10V, PWM				
Power Factor				0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)				370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)				648	1296
Efficacy – AC derated PPE. (μmol/Joule)				2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)				3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)				10	10
Product performance					
SIZE		1030x81x56			
DEG				200	200
BASE				PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

PANEL GROW FLOOD LIGHT

Power **50-240W**



Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	FPG21***RB & FPG21**WWR				
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	50	100	150	200	240
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	135	270	405	540	648
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE(MM)	207x172x25	207x172x25	330x250x25	330x250x25	330x250x25
DEG	220	220	220	220	220
BASE					
Implementation standards	UL 8800 / EN 62471/RoHS)				

PANEL HIGH BAY LIGHT

Power **50-240W**



Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	HPG***RB & HPG**WWR				
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	50	100	150	200	240
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	135	270	405	540	648
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE(MM)	175x43	206x63	206x63	206x63	206x63
DEG	220	220	220	220	220
BASE					
Implementation standards	UL 8800 / EN 62471/RoHS)				

OCTOPUS PANEL LIGHT

Power **640-1500W**

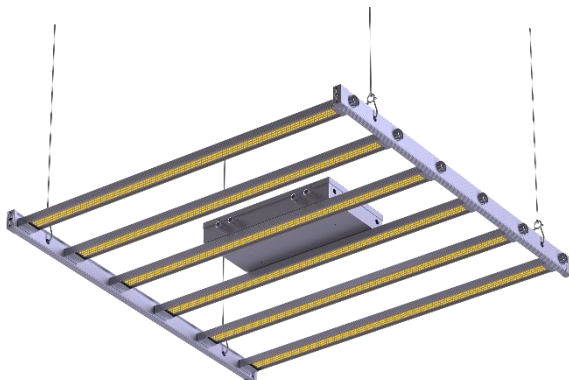


Table 1. Product performance of QUEENDOM T8 PANT TUBE VF=220V, Tj=25°C,.

Specifications with Approved Driver(AC Powered)					
Metric	OPG****WWR				
AC Voltage & Frequency: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC Derated Power – Typical (W)	640	800	1000	1200	1500
Power Factor	>95	>95	>95	>95	>95
Dimmable	Optional 0-10V, PWM				
Power Factor	0.95	0.95	0.95	0.95	0.95
Driver Lifetime	50 000h (L90>36 000h)				
Photoelectric properties					
WAVELENGTH [1] (nm)	370-730NM	370-730NM	370-730NM	370-730NM	370-730NM
Photosynthetic Photon Flux: PPF (μmol/s)	1728	2160	2700	3240	4050
Efficacy – AC derated PPE. (μmol/Joule)	2.7	2.7	2.7	2.7	2.7
Photon Efficacy: PEPBAR. (μmol/Joule)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH [1] (nm)	10	10	10	10	10
Product performance					
SIZE(MM)	1110*1110*40	1110*1110*40	1110*1800*40	1110*1800*40	1110*2100*40
DEG	230	230	230	230	230
BASE					
Implementation standards	UL 8800 / EN 62471/RoHS)				



QUEENDOM LIGHTING
Agricultural Lighting



Instructions for selecting plant lights

1. Determine the scene → 2. Measure the planting area → 3. Determine the planting type →
4. Select the spectrum type → 5. Calculate the total power → 6. Match the lamp model

Reference table for plant light selection

(red and blue spectrum vs full solar spectrum)

Scene classification	Planting area	Spectrum type	Recommended parameters	Applicable plant types
Gardening	1-5 m ²	Red and blue combined spectrum	Power: 20-50W; PPFD: 100-200 $\mu\text{mol}/\text{m}^2/\text{s}$; Spectral fixed ratio	Leafy vegetables (lettuce, spinach)
		(red 660nm: blue 450nm=2:1)		
		Full spectrum of the sun	Power: 30-60W; PPFD: 150-250 $\mu\text{mol}/\text{m}^2/\text{s}$; SSI > 0.85	Succulents, foliage plants
		(380-780nm, green light 25%)		
Vertical farm shelves	10-50 m ²	Red and blue combined spectrum	Power: 80-150W/layer; PPFD: 250-400 $\mu\text{mol}/\text{m}^2/\text{s}$;	Herbs (basil, mint)
		(red 660nm: blue 450nm=4:1)		
		Full spectrum of the sun	Power: 100-200W/layer; PPFD: 300-500 $\mu\text{mol}/\text{m}^2/\text{s}$; SSI > 0.9	Leafy vegetables (lettuce, kale)
		(red light 45% + blue light 20%)		
Greenhouse lighting	100-500 m ²	Red and blue combined spectrum	Power: 200-400W/lamp; PPFD: 600-800 $\mu\text{mol}/\text{m}^2/\text{s}$;	Fruits and vegetables (tomato, strawberry)
		(red 660nm: blue 450nm=5:1)		
		Full spectrum of the sun	Power: 300-500W/lamp; PPFD: 800-1000 $\mu\text{mol}/\text{m}^2/\text{s}$;	Flowers (rose, chrysanthemum)
		(red light 45% + far red light 10%)		
Medicinal plant factory	50-200 m ²	Red and blue + ultraviolet spectrum	Power: 150-300W/m ² ; PPFD: 400-600 $\mu\text{mol}/\text{m}^2/\text{s}$; UV module independent control	High-value crops (Ganoderma lucidum, Dendrobium)
		(red 70% + UV-A 3%)		
		Full spectrum of the sun + UV	Power: 200-350W/m ² ; PPFD: 500-700 $\mu\text{mol}/\text{m}^2/\text{s}$; SSI > 0.88	Cannabis, medicinal herbs
		(full spectrum + UV-A 2%)		
Field seedling cultivation	>1000 m ²	Red and blue combined spectrum	Power: 50-100W/m ² ; PPFD: 150-300 $\mu\text{mol}/\text{m}^2/\text{s}$; Suspension height 1.5-2.5m	Seedlings (rice, vegetable seedlings)
		(blue light 60% + red light 30%)		
		Full spectrum of the sun	Power: 80-150W/m ² ; PPFD: 200-400 $\mu\text{mol}/\text{m}^2/\text{s}$; Spectral uniformity CV < 15%	Cash crops (cotton, corn)
		(blue light 25% + red light 40%)		

Typical color bands and their functionsq

NO.	Spectral range	WAVELENGTH [1] (nm)	Core effects on plants	Artificial light source simulation control core data
1	Ultraviolet light (UV)	280-400	Induce stress resistance, secondary metabolites (such as anthocyanins)	Need to control dosage (excessive burning of leaves)
2	Blue light	400-500	Regulate stomatal opening, inhibit excessive growth, and promote chlorophyll synthesis	Need to balance ratio (high blue light inhibits stem elongation)
3	Green light	500-600	Penetrate the canopy and promote photosynthesis in lower leaves	Traditional LED green light has low efficiency (full spectrum chip required)
4	Red light	600-700	Drive light reactions (PSI/PSII) and accelerate flowering and fruiting	Need to supplement far-red light (660nm+730nm synergy)
5	Far red light (FR)	700-780	Regulate light morphology (such as shade avoidance reactions) and extend photoperiod effects	Need to dynamically adjust the red/far- red ratio (R:FR=1.2-0.8)

The core bands and functions of the solar full spectrum

NO.	classification	Type recommendation	Applicable scenarios & types	Technical indicators
1	Spectral range	full-spectrum LED	Full-cycle planting (leafy vegetables, fruits and vegetables, medicinal plants)	380-780nm (continuous spectrum, band coverage ≥ 95%)
2	Key band ratio	Multi-channel dimmable LED (RGB+FR)	Greenhouse lighting, vertical farms, seedling cultivation	- Blue light (450nm): 20-25% - Red light (660nm): 40-45% - Green light (550nm): 20-25% - Far red light (730nm): 5-10%
3	PPFD intensity	High-density LED (100-200W/m²)	Leafy vegetables (lettuce), fruits and vegetables (tomatoes, strawberries)	- Seedling stage: 150-250 μmol/m²/s - Growth period: 400-600 μmol/m²/s - Flowering and fruiting period: 600-800 μmol/m²/s
4	Photoperiod and DLI	Intelligent programming lamps	Fully artificial light plant factories, medicinal plant factories	- Photoperiod: 12-16 hours/day (simulating natural day and night) - DLI: 10-20 mol/m²/d (according to crop needs)
5	Ultraviolet (UV)	Ultraviolet fill light module	High-value medicinal plants (Dendrobium, Ganoderma lucidum)	- UV-A (380-400nm): 1-3% (inducing stress resistance) - UV-B (280-315nm): 0.1-0.5% (strictly controlled)
6	control	(PWM/0-10V signal))	Photoperiod-sensitive crops (chrysanthemum, cannabis)	- Red/blue ratio: daytime (1.5:1) → nighttime (0.8:1) - Far-red light: increased to 15% during flowering period

If there are other cases not described, please contact customer service for confirmation