



About QUEENDOM

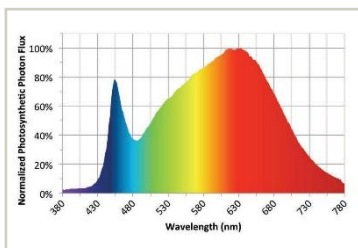
About us QUEENDOM Technology Co., Ltd. is a private technology enterprise integrating R&D, production, sales and service. It mainly develops, produces and sells special lighting products, agricultural lighting, cold chain lighting, and special emergency induction lighting products.

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



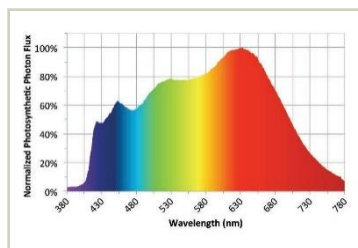
WHITE

W1 SPECTRUM



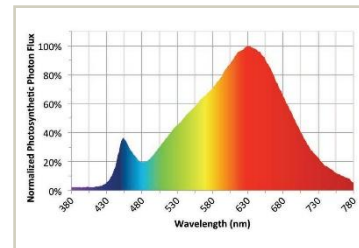
PPF ratio	
UV (380-399 nm)	0,26%
BLUE (400-499 nm)	15,73%
GREEN (500-599 nm)	35,82%
RED (600-699 nm)	40,11%

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

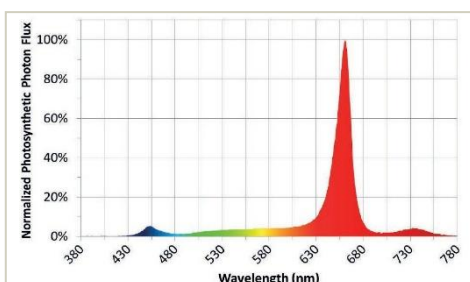


PPF ratio	
UV (380-399 nm)	0,21%
BLUE (400-499 nm)	9,82%
GREEN (500-599 nm)	32,61%
RED (600-699 nm)	48,18%

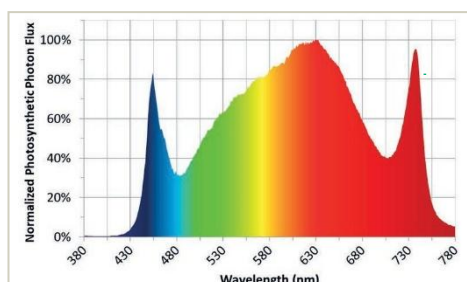
EXTRAFARRED

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



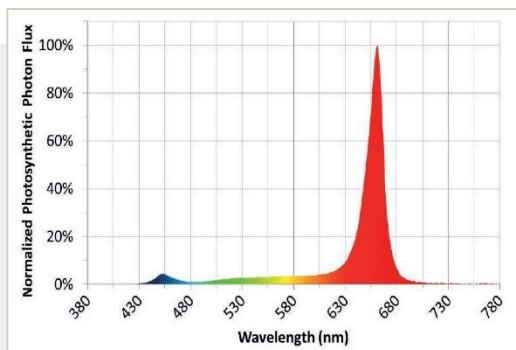
MULTI-SPECTRAL SOLUTION

For research application light recipes, we have developed multi-spectral solutions. These solutions come with a complete spectrum control system. They can be controlled and customized upon request..

WHITE / RED

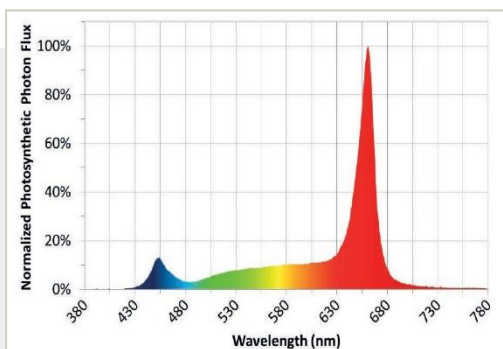
WR1 SPECTRUM

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%



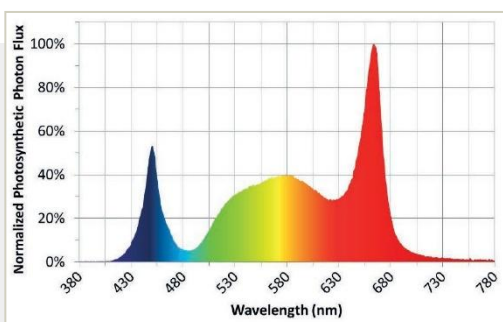
WR2 SPECTRUM

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%



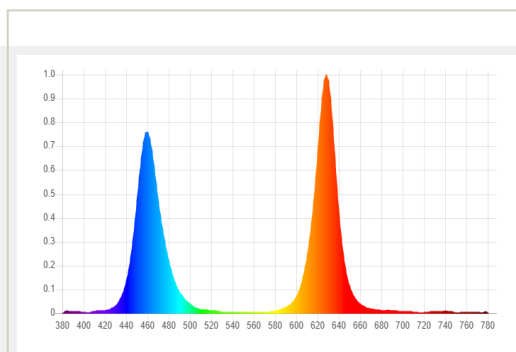
SPECTRAL RANGE

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

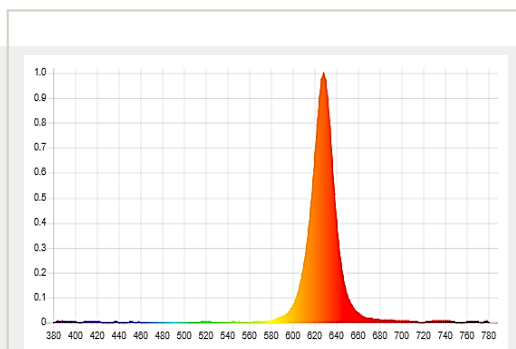
PPF ratio	
UV (380-399 nm)	/
BLUE (400-499 nm)	40.00%
GREEN (500-599 nm)	0.50%
RED (600-699 nm)	59.95%
FR (700-780 nm)	/
PAR (400-700nm)	98,03%



RED

R1 SPECTRUM

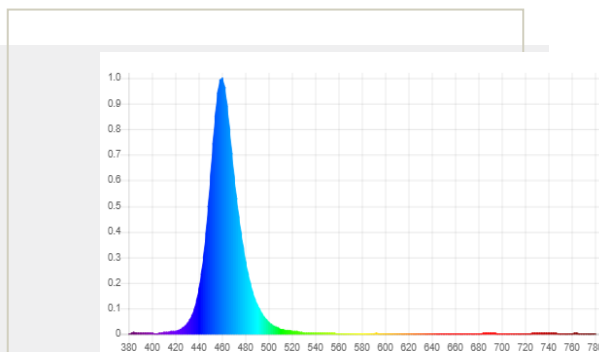
PPF ratio	
UV (380-399 nm)	/
BLUE (400-499 nm)	40.00%
GREEN (500-599 nm)	0.50%
RED (600-699 nm)	59.95%
FR (700-780 nm)	/
PAR (400-700nm)	98,03%



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

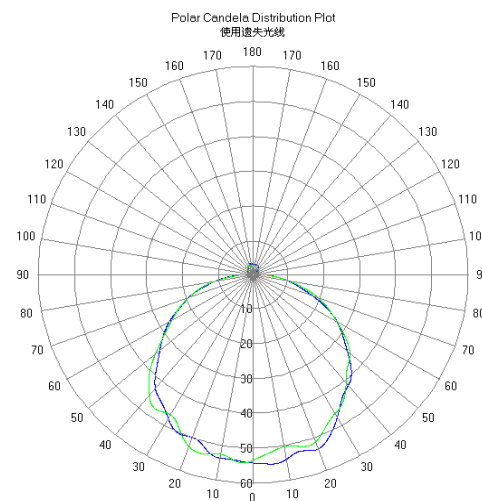
Plant growth lights
PLANT TUBES SERIES

TECHNICAL DATASHEETS



T8 PLANT TUBES LAMP

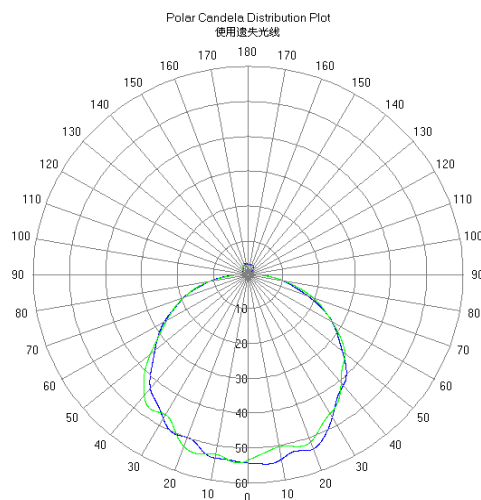
Power :9-36W



Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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)				

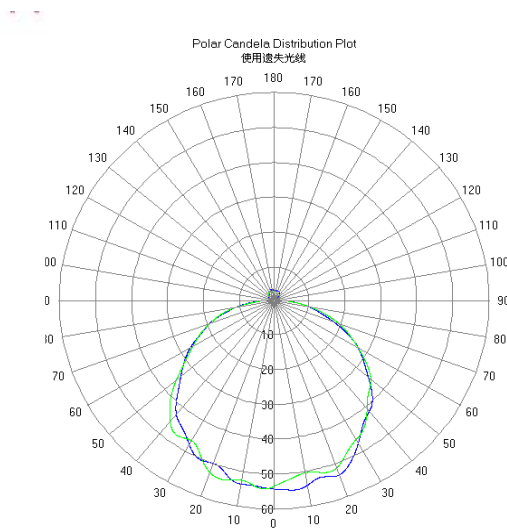
T8 INTEGRATED PLANT TUBES LAMPS

Power :18-65W


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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 (MM)	600*33*36	900*33*36	1200*33*36	1500*33*36	2400*33*36
DEG	200	200	200	200	200
BASE	PG7	PG7	PG7	PG7	PG7
Implementation standards	UL 8800 / EN 62471/RoHS)				

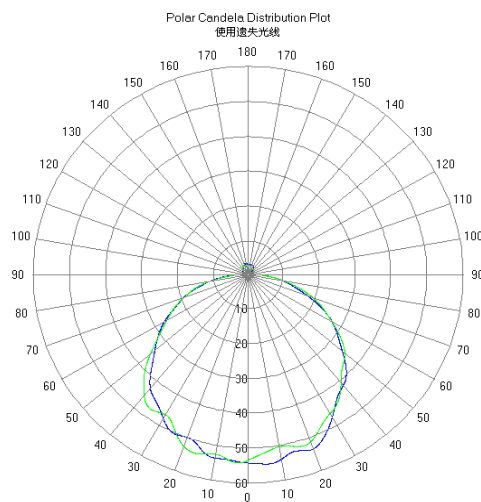
T0 PLANT TUBES LAMPS

Power 20-100W


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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)				

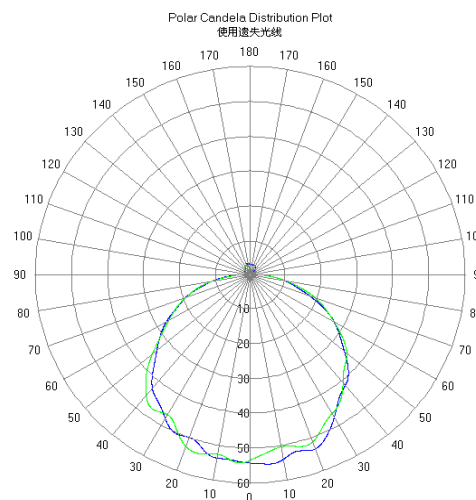
T2 PLANT TUBES LAMPS

Power 25-100W


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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/ mm		900*40*50	1200**40*50	1500**40*50	2400**40*50
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


Samsung LM301B



IP65 防水等级



多功能调光器



UL certification 电源



纯铝散热器



IP65 防水线

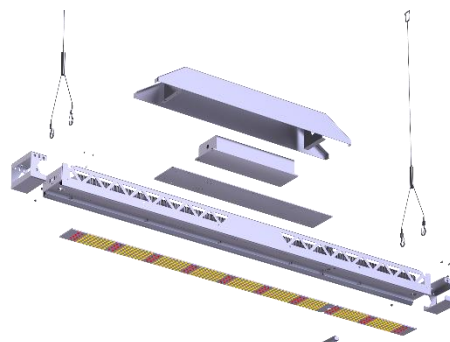
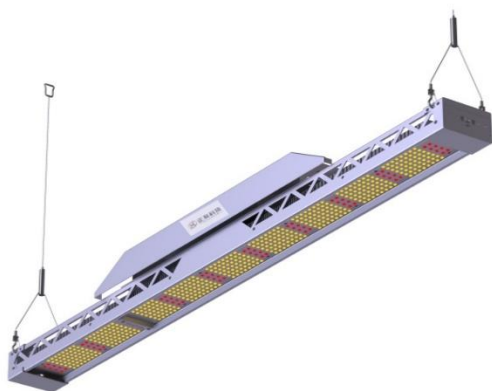


US, UK, AU, EU 插头可选

Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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**



Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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)				

PANEL HIGH BAY LIGHT-UFO RE

Power 100-300W


Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature Tj = 25°C.

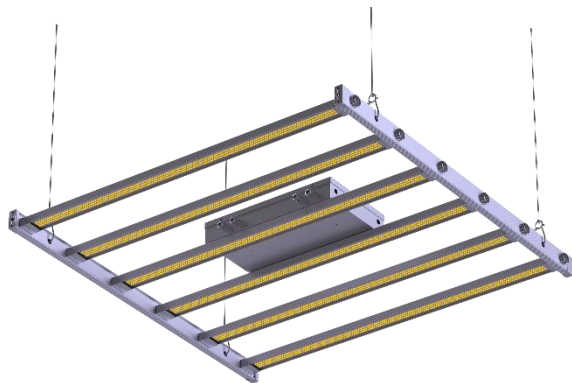
SPECIFICATIONS DRIVER(AC POWERED)					
Metric	UFOPGT***RB & UFOPGT**WW				
VOLTAGE & FREQUENCY: (VAC)	AC:85-165V/165-230V & 50/60Hz				
AC DERATED POWER – TYPICAL (W)	100	150	200	240	300
POWER FACTOR (PF)	>0.95	>0.95	>0.95	>0.95	>0.95
DIMMABLE	Optional 0-10V, PWM				
WORKING TEMPERATURE (°C)	-35°C – +85°C				
Driver Lifetime	50 000h (L90>36 000h)				
Water and dust protection	IP65				
PHOTOELECTRIC PROPERTIES					
TYPICAL WAVELENGTH (nm)	370-730nm	370-730nm	370-730nm	370-730nm	370-730nm
PHOTOSYNTHETIC PHOTON FLUX: PPF (μmol/s)	270	405	540	648	810
EFFICACY – AC DERATED PPE (μmol/J)	2.7	2.7	2.7	2.7	2.7
PHOTON EFFICACY: PEPBAR (μmol/J)	3.02	3.02	3.02	3.02	3.02
TYPICAL SPECTRAL HALF-WIDTH (NM)	10	10	10	10	10
PRODUCT PERFORMANCE					
SIZE(MM)	300x45mm	350*49mm	350*49mm	380x49mm	380x49mm
BEAM ANGLE (°)	90° (60°, 120°, asymmetric)				
INSTALLATION METHOD	Hoisting (suspended)				
Standards & Compliance	UL 8800 / EN 62471/RoHS)				

PRODUCT MODEL CODE CORRESPONDING SKU TABLE

PRODUCT	RANK NO.	SIZE	POWER		TYPICAL			SPECTRAL MATCHING			PPF/μ	EFFECT PPF/W
		(mm)	(W)	(VF/V)	MIN	MID	MAX	RED	BULE	INFR	mol/s/s	
PGT100RB	UFOPGT110	300x45mm	100	165-265V	450	/	660	60%	40%	/	280	2.8
PGT150RB	UFOPGT111	350*49mm	150	165-265V	450	/	660	60%	40%	/	420	2.8
PGT200RB	UFOPGT112	380x49mm	200	165-265V	450	/	660	60%	40%	/	560	2.8
PGT300RB	UFOPGT113	380x49mm	300	165-265V	450	/	660	60%	40%	/	840	2.8
PRODUCT	RANK NO.	SIZE	POWER		NOMINAL(CCT/K)			SPECTRAL MATCHING			PPF/μ	EFFECT PPF/W
		(mm)	(W)	(VF/V)	MIN	MID	MAX	Warm	Neutral	True	mol/s/s	
PGT100WW	UFOPGT114	300x45mm	100	165-265V	3000	/	6000	30%	70%	/	300	3.0
PGT150WW	UFOPGT115	350*49mm	150	165-265V	3000	/	6000	30%	70%	/	450	3.0
PGT200WW	UFOPGT116	380x49mm	200	165-265V	3000	/	6000	30%	70%	/	600	3.0
PGT300WW	UFOPGT117	380x49mm	300	165-265V	3000	/	6000	30%	70%	/	900	3.0

OCTOPUS PANEL LIGHT

Power **640-1500W**



Note: Product performance of QUEENDOM is measured at AC 220V input and LED junction temperature 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

Plant growth lights

TECHNICAL DATASHEETS



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

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/m ²)	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