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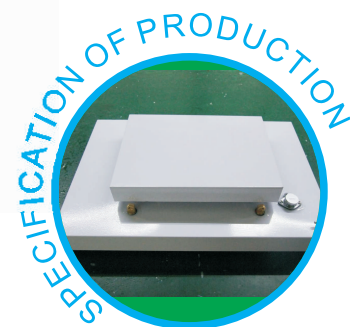
CTG-05 LED Grow Light

300W Water Proof LED Grow Light for Greenhouse

Pattern No. 201120089570.4



Technical Specification
Release Version: V2.1
Release Date: 2011/3/6





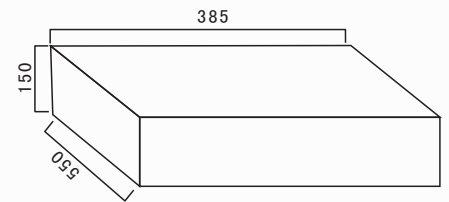
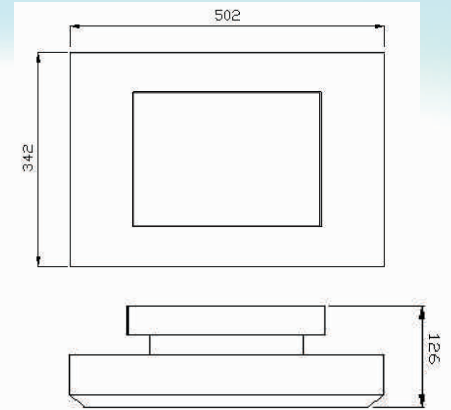
LED Grow Panel

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CTG-05

Pictures of CTG-05 LED Grow Light



Package Size

Main Advantages of CTG-05 LED Grow Light

1. High efficiency and Save Electricity

CTG-05 Led Grow Light produces great effect as 500W MH grow light. It saves 50%-75% electricity, greatly energy-saving and carbon-reducing.

2. Long life-span

LED life-span reaches 50,000 hours. LED chips are purchased from American or Taiwan chip manufacturer directly such as Bridgelux, Epistar etc. Unique SSP&SPC technology guarantees grow light working more stable and safer.

3. Plug and Play

Built-in power supply with Wide Voltage Range from AC85 to AC265V, no setup required, no reflector & ballast needed. No need any technical requirements for end users. Plugs directly into AC85-265V power socket, which makes the installation safe and simple.

4. Environment-friendly

It doesn't contain the harmful substance HPS & MH have, no hazardous waste to deal with which makes our earth cleaner and greener.

5. Easy maintenance

All the parts are connected by standard connectors, the connection is safer. Special design makes client maintain the light conveniently even after guarantee is expired.

6. Lighting protection and SSP technology

SSP technology, Lighting-proof and surge-proof are applied in the power design, no worry about lighting and power shocking. SSP technology restricts output DC voltage to be never higher than the LED chips voltage to avoid the LEDs from higher voltage shocking.

7. CT SPC technology guarantee super performance

CT SPC technology guarantee the light works more stable, any one of LED units fault will not affect other LEDs, and the whole light still works.

8. Advanced thermal design to make temperature lower

Welding LED directly onto AL-PCB instead of normal PCB, aluminum is well known in its passive heat dissipation, built-in fan is well known in its active heat dissipation. Both passive and active method are used to solve the heat dissipation excellently.

9. High powerful chips to attain higher luminescence

Use 2W High Power LED, higher luminescent efficiency, less heat producing

Application of CTG-05 LED Grow Light



Application: Hydroponics & Horticulture & Greenhouse Lighting, Seeding/Seedling/Breeding, Farm/Flower Exhibition/Garden/Bonsai etc

1. Ideal for all phases of plant growth, and works well in any indoor garden, either hydroponics or soil based.
2. Red and Orange are good for flowering and budding, blue is good for vegetative. Customers can choose the wavelength and color ratio which is most suitable for their plant growth.
3. The lighting area and height above the plant can be changed depend on different plants and environment.

Technical Specification of CTG-05 LED Grow Light

1. Power Factor(PF): AC220V PF>90%, AC110V PF>97%
2. Total Harmonic Distortion: <15%
3. Input AC : AC85-265V, 50Hz/60Hz
4. Input Power: 240-300W, depend on different Color Ratio
5. The number of LED: 144 PCS
6. Wavelength:
Blue 440nm or 460nm, Red 620nm or 660nm, Orange 615nm, IR 740nm or 850nm,
UV 380nm, White 2700K-10000K (To be selected by customer)
7. Proportion: Red: Blue: Orange=7: 1: 1 or decided by customer
8. Working environment temperature: -20°C~40 °C
9. Working environment humidity: <90%
10. Storage temperature: -40 °C ~ 60 °C
11. Level : Ip35
12. Working time: 10-14Hours /day
13. Package Size: 550mm*385mm*160mm
14. Gross Weight: 9.2KG Net Weight: 8.25KG

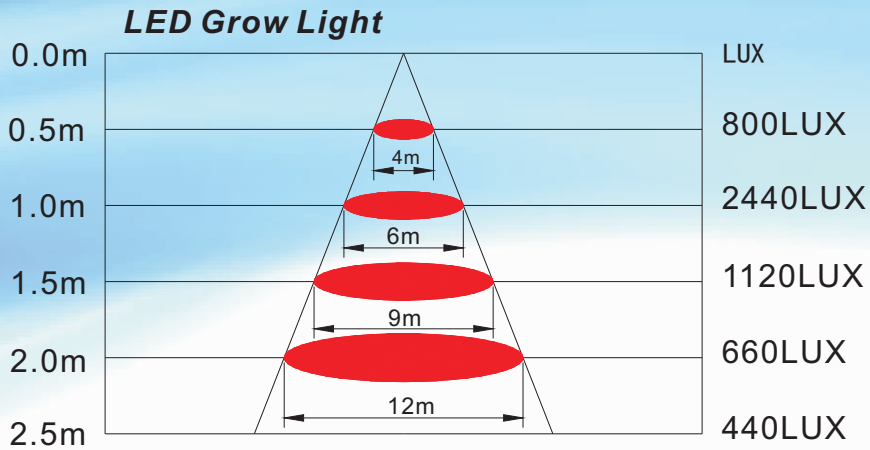
Thermal Test of CTG-05 LED Grow Light

Thermal Test Result of CTG-05 at 600mA for LED Driver											
Date	Time	Heat Sink		AL-PCB		Leg of LED		Air		LED to Air	
		°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
30th DEC	13:30	107.6	42	109.4	43	118.4	48	82.4	28	36	20
	14:00	105.8	41	113	45	122	50	90.5	32.5	31.5	17.5
	14:30	107.6	42	114.8	46	120.2	49	89.6	32	30.6	17
	15:00	109.4	43	113	45	120.2	49	89.6	32	30.6	17
	15:30	111.2	44	113	45	123.8	51	84.2	29	39.6	23
	16:00	114.8	44	114.8	46	122	50	86	30	36	20
	16:30	114.8	44	114.8	46	120.2	49	87.8	31	32.4	18
	17:00	114.8	44	116.6	47	125.6	52	86	30	39.6	22
	17:30	114.8	44	114.8	46	122	50	86	30	36	20
31st DEC	08:30	104	40	109.4	43	116.6	47	78.8	26	37.8	21
DEC	09:00	102.2	39	104	40	114.8	46	77	25	37.8	21

Note:

1. The temperature test was done from 13:30 30th DEC to 09:00 31st DEC.
2. In the whole LED light, the highest temperature area is located in LEDs.
3. The temperature arising between LED to Air variety from 17-23 °C. LED chips work under good condition.
4. The real testing may be slightly different to the above result.

Lux Parameter of CTG-05 LED Grow Light



Note: The above diagram is based on 630:460:613=35:5:5, the real test result depends on real Color Proportion.

Parameter of 2W LEDs applied in Grow Light

LED (2W)	Alias	λ_d (nm)	λ_p (nm)	$\Delta\lambda_d$ (nm)	Lm (lm)	Vf (V)	If (mA)	Pf (mW)
Ultra-Violet	UV	380	394	13.4	1.58	3.9	600	2340
Violet-Blue	440	447	440	18.2	13.3	4.03	600	2418
Royal blue	460	462	457.6	23	27	3.57	600	2220
Orange	615	618.0	625.8	16	62.5	2.4	600	1440
Red	630	628.5	636.2	16	63.2	2.6	600	1560
Deep Red	660	645.1	655.9	17.1	40.9	2.53	600	1518
Near-infrared	740	725	737	28.6	0.167*2	1.632	300*2	489.6*2
Middle-infrared	850	Test instrument unreachable			0	1.47	300*2	441.7*2

Note: Above information is based on the test result, real parameter may differ to the above.

Parameter Comparison of CTG-05 LED Grow Light with other Lights

Type Items	LED Grow Light	Incandescent Lamp	Fluorescent Lamp	Metal Halide
Visible light radiation energy	15-20%	5%	23%	27%
Infrared radiation energy	0%	90%	36%	17%
UV radiation energy	0%	0%	0%	19%
Physiological effective energy	15-20%	<0.1%	<1%	<0.5%
Conclusion	Most Suitable	Suitable	Little suitable	Not Suitable

CE

RoHS

Note:

1. Indoor use only.
2. Please select different lighting time depends on different plant.
3. Please use the light in ventilative environment to ensure the light works at higher performance.
4. Don't look this light directly without wearing sunglasses when it is working.
5. Power socket should be wired to the grounding earth.