



Led Flower Growlights

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Technical Specification

# Spectrabox Professional (IV)

Release date: 2015/02/01



# Spectrabox

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## Main advantages of Spectrabox Professional LED grow lights

### 1. High efficiency and Energy saving

The Spectrabox Professional is a high efficiency LED grow light. Tests have shown that LED grow lights give plants greater light intensity and grow rates than standard HPS grow lights, yet using only 50% of the electricity.

### 2. Long life span

The Spectrabox Professional has an estimated life span of at least 30.000 hours. The life span of the LED's reaches up to 50,000 hours. The LED chips are mainly purchased from American chip manufacturer Bridgelux. The full-spectrum LED chip are designed by LFG and partners.

### 3. Plug and Play

No setup required; no reflector and ballast are needed. The Spectrabox Professional is a plug- and play grow light. Just plug directly into AC230 Volts power socket, which makes the installation safe and simple.

### 4 SSP technology and electrical protection

The Spectrabox Professional uses the unique SSP technology. The SSP technology restricts the DC output voltage to never be higher than the LED chips voltage. It avoids the LED's from higher voltage shocking. The power design is also lighting- and surge-proof.

### 5 SPC technology for excellent performance

SPC technology guarantees the Spectrabox Professional will work stable, even if any of the LED's does fail, it will not affect other LED's.

### 6 Flower Booster technology

The Spectrabox Professional is provided with a switchable Flower Booster to create an ideal growing and flowering environment, which increases yield and saves energy.

### 7 Smart fan drive

The LED chips are directly welded onto an aluminum PCB for excellent heat dissipation. To optimize cooling and heat dissipation, fans are directly attached to the PCB.

### 8 Full-spectrum LED chips to attain best light coverage

The Spectrabox Professional drive the 3W high power led chips with a safe amperage of 630mA. At these amperage individual led's do have the highest luminous output and it provides a long lifespan at high luminous output. The unique LFG full-spectrum Led chips with 80° lens do attain full-spectrum light coverage at 2 inches distance.

### 9. Environment friendly

A Spectrabox doesn't contain harmful substances such as mercury, iodine and lead like HPS & MH bulbs. LED's are superior in comparison to other lighting technologies in terms of negative environmental and health effects during the manufacturing process. Producing LED's consumes far less energy than manufacturing other lighting and it was noted the LED's contain no mercury and few if any toxins such as iodine and lead.

### 10. Easy maintenance

All electrical parts are wired with standard connectors, which make maintenance simple. When the warranty is expired, the maintenance can easily be done by customer.

## Application 180W Spectrabox Pro-IV LED grow light



1. The Spectrabox Professional LED grow light is suitable for greenhouse and indoor "darkroom" lighting.
2. The 180W Spectrabox Pro-IV LED grow light replaces a 250W - 400W HPS grow light.
3. Ideal for all phases of plant growth and works well in any garden, either hydroponics or soil based.
4. Using SCS to create optimal spectrum for plants photosynthesis and photo morphogenesis.
5. OEM/ODM or customized integrated grow lighting solutions are available on request.

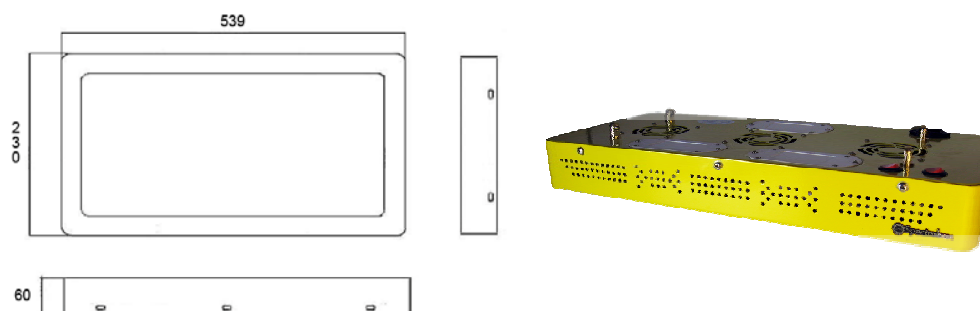
## Thermal Test of 180W Spectrabox Pro-IV LED grow light

Thermal test results for LED driver at 630mA											
Date	Time	Heat Sink		AL-PCB		Leg of LED		Air		LED to Air	
		°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
5 <sup>th</sup> January	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	22
	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
6 <sup>th</sup> January	08:30	104	40	109.4	43	116.6	47	78.8	26	37.8	21
	09:00	102.2	39	104	40	114.8	46	77	25	37.8	21

Note:

1. The temperature test was done with maximum fan output at 5<sup>th</sup> and 6<sup>th</sup> of January from 13.30 to 09:00.
2. In the whole LED light, the highest temperature area is located in LED's.
3. The temperature rising between LED to Air vary from 17°C to 22°C.
4. Conclusion Thermal Test: LED chip output is stable within range under test conditions.
5. Under real circumstances the outcome may be slightly different to the above results.

### Pictures of 180W Spectrabox Pro-IV LED grow light



### Technical specification 180W Spectrabox Pro-IV LED grow light

Item	Value	Item	Value
Driver led chips	630 mA	Led power output	149.3W typical
Number of led's	90 pieces	Power factor	> 90%
Wavelength	Full-spectrum	THD	< 15%
Led beam angle	80° improved lens	Power consumption	~ 181.5 Watt
Frame color	Yellow	Voltage	230 Volts
Estimate lifespan	> 30.000 hours	Work frequency	50 Hertz
Height above plants	0.05 up to 1.5 meters	Switch	Flower Booster
Working environment	-20 ~ + 40°C	Ventilations fans	3 pieces
Photon flux density	~ 300 $\mu\text{mol s/m}^2$	Relative humidity air	< 85%
Size Spectrabox	539x230x60 mm	N.W.	3.8 KG / pc
Package size	580x290x100 mm	G.W.	4.2 KG / pc

### Certification and Warranty of Spectrabox Professional LED grow lights



Note:

1. Indoor use only.
2. To avoid damage, don't use in dripping water environment or with dripping irrigation.
3. Select different lighting time depending on growing phase and species.
4. Use LED grow light in ventilated environment to ensure the light works at highest performance.
5. Don't look into the LED light directly without wearing sunglasses.
6. Power socket should be connected to the ground/earth.
7. After sales service; 2 years warranty; first year 100%, second year 50%.