

**SAMSUNG
OSRAM**



OPTIMUM

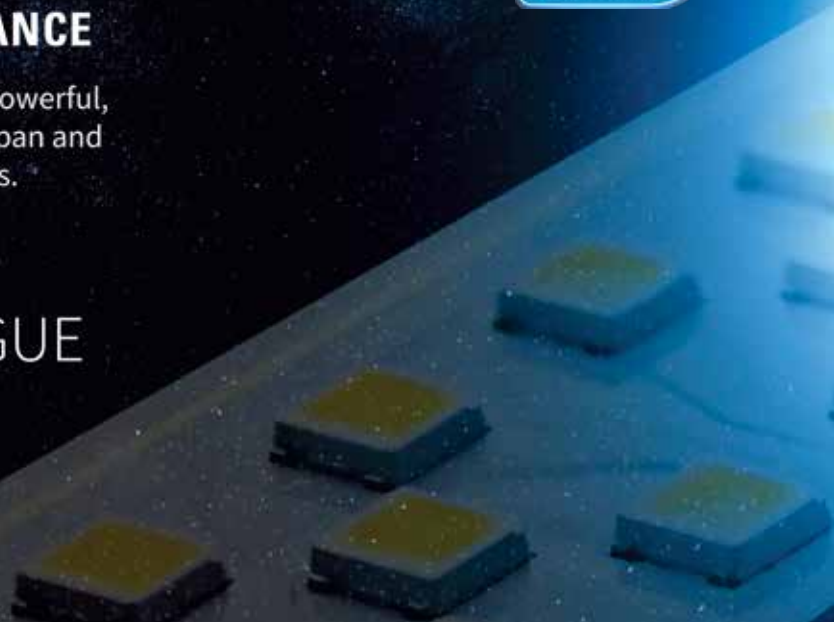


PRO GROW

INDUSTRY LEADING PERFORMANCE

PRO GROW LED grow lighting systems deliver powerful, full spectrum, high performance with long lifespan and energy savings for commercial & hobby growers.

LED PRODUCT CATALOGUE



INTRODUCING

PRO GROW range of LEDs utilise industry leading diodes, coupled with reliable electronics to deliver horticultural LED lighting solutions that outperform the competition in quality light output, end product yield and purchase price.

The importance of PPFD:

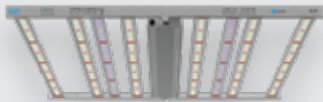
Photosynthetic Photon Flux Density (PPFD) is the measurement of light arriving at your plant canopy. PRO GROW LEDs produce more PPFD than HID lights and most competing LED brands. This higher PPFD rate can be overwhelming to small (and even large) plants. Growers are fast learning that PPFD levels are the most crucial factor when growing indoors under LEDs. PPFD at the canopy can be controlled via the dimming dial or by simply raising or lowering your LED.

PPFD User Guide:

The PPFD User Guide tells you at what height to run each PRO GROW LED fixture on any given week of your grow / bloom cycle. When learning to use your new LED it is important to follow these recommendations. The correct fixture height above the plant canopy will ensure your plants aren't getting too much light, too soon. Always start with reduced light, slowly increasing to full light output at the middle of the flowering period.



CONTENTS

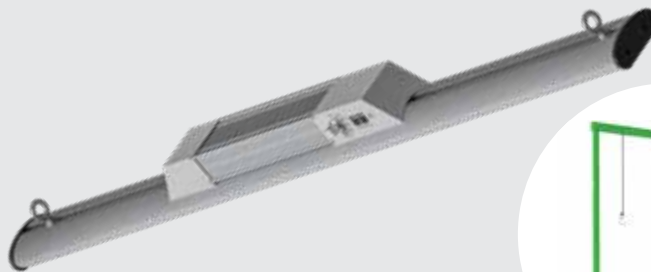


60 W Single Bar	04
100 W & 200 W UFO	06
300 W & 500 W UFO	08
630 W EVO 6 Bar	10
780 W EVO 8 Bar	12
800 W EVO 8 Bar	14
Eco Smart Controller	16
Smart Controller	18
780 W EVO Smart Controller	20
LED Growing Tips	22
PPFD User Guide	23

60 W Single Bar

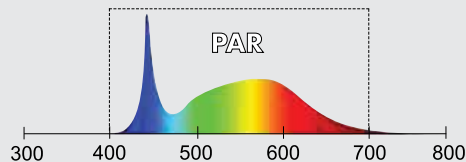
LED Model X 60 W (0-10 V)

140 $\mu\text{mol/s}$ PPFD
2.4 $\mu\text{mol/J}$
Optimum 6,500 K Blue
Optimum Driver
Weight 1.3 kg
Dimensions 58 x 6 x 6 cm



Optional Stand
66 L x 46 W x 67 cm H

PAR SPECTRUM GRAPH



AMPERAGE @240 V	
60 W	0.25 A

Vegetative Horticultural Light



LED - MODEL X

6K
DAYLIGHT
CRI:90

PRO GROW
INDUSTRY LEADING PERFORMANCE



100 W & 200 W UFO

100 W UFO

210 $\mu\text{mol/s}$ PPFD

2.3 $\mu\text{mol/J}$

Input power: 100 W

Weight: 2.1 kg

Dimensions: 28 \varnothing x 11.5 cm High

200 W UFO (0-10 V)

420 $\mu\text{mol/s}$ PPFD

2.3 $\mu\text{mol/J}$

Input power: 200 W

Weight: 3.5 kg

Dimensions: 40 \varnothing x 12.5 cm High



AMPERAGE @240 V

100 W	0.42 A
200 W	0.83 A



Save

Energy-efficient LED technology lowers energy usage.



Easy

- Plug & Play.
- Set & Forget.



Quiet

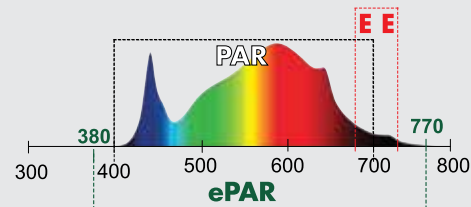
No cooling fan required



Versatile

Full spectrum grow & bloom horticultural lighting from one fixture.

EXTENDED PAR SPECTRUM GRAPH (ePAR)



Full Spectrum Horticultural Light



4K
BALANCED
CRI:90

PRO GROW
INDUSTRY LEADING PERFORMANCE



+730 nm
FAR-RED DIODES



300 & 500 W UFO

300 W UFO (0-10 V)

620 $\mu\text{mol/s}$ PPFD

2.3 $\mu\text{mol/J}$

Input power: 300 W

Weight: 6 kg

Dimensions: 40 \varnothing x 16.5 cm High

500 W UFO (0-10 V)

1050 $\mu\text{mol/s}$ PPFD

2.3 $\mu\text{mol/J}$

Input power: 500 W

Weight: 8.6 kg

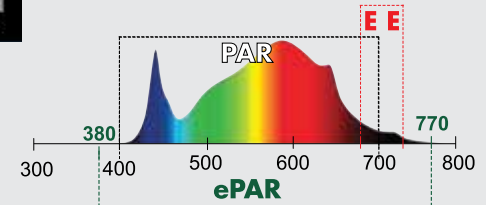
Dimensions: 45 \varnothing x 23 cm High



AMPERAGE @240 V	
300 W	1.25 A
500 W	2.08 A



EXTENDED PAR SPECTRUM GRAPH (ePAR)



Save

Energy-efficient LED technology lowers energy usage.



Easy

- Plug & Play.
- Set & Forget.



Quiet

No cooling fan required



Versatile

Full spectrum grow & bloom horticultural lighting from one fixture.

Full Spectrum Horticultural Light



4K
BALANCED
CRI:90

PRO GROW
INDUSTRY LEADING PERFORMANCE



+730 nm
Far-red diodes



630 W EVO 6 Bar

LED Model S 630 W EVO 6 Bar

1,760 $\mu\text{mol/s}$ PPFD

2.8 $\mu\text{mol/s/J}$

Full Spectrum

Samsung LM301H EVO 4000 K

Samsung LM301H 4000 K

Osram 600 nm Hyper-red

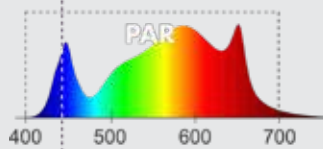
Sosen Driver

Weight 16.5 kg

Dimensions 116 x 106 x 11.5 cm
(with ballast attached)



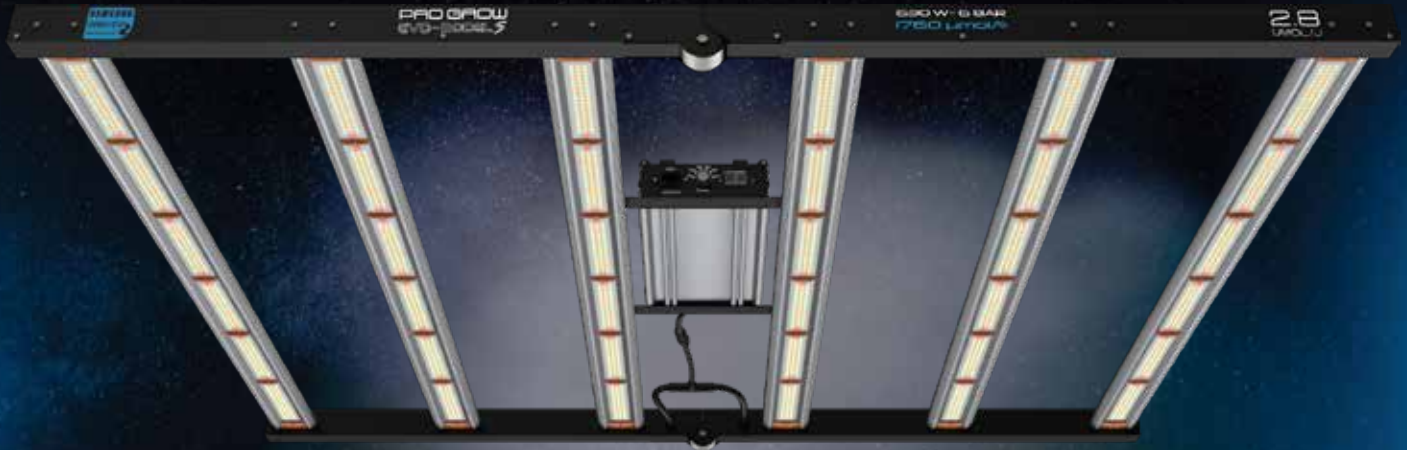
PAR SPECTRUM GRAPH
EVO 4000 K (437 nm)



AMPERAGE @240 V	
630 W	2.62 A

Dimmable Driver
250 W / 380 W / 500 W / 630 W.
Remote ballast installation
up to 1.8 m from unit with
included extension cable.

Full Spectrum Horticultural Light



LED - MODEL S

4.3K
BALANCED
CRI:88

PRO GROW
INDUSTRY LEADING PERFORMANCE



780 W EVO 8 Bar

LED Model Z 780 W EVO 8 Bar

1,920 $\mu\text{mol/s}$ PPF

2,000 $\mu\text{mol/s}$ BPF (ePar)

2.8 $\mu\text{mol/J}$

Full Spectrum

Samsung LM301H EVO 4000 K

Samsung LM301H 4000 K

Osram 660nm Hyper-Red

Optimum Blue 450 nm

Optimum Far red

Optimum Driver

Weight 13.7 kg

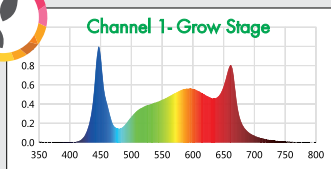
Dimensions 110 x 106 x 5 cm

AMPERAGE @240 V

780 W

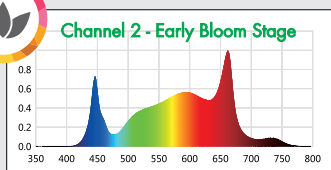
3.25 A

3 CHANNEL ADJUSTABLE SPECTRUM



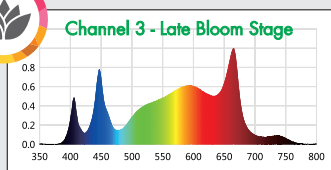
Increased Blue

Deep blue (5K) targets peak chlorophyll & photosynthesis production for boosted vegetative growth & plant vigour.



Increased Red & Far-red

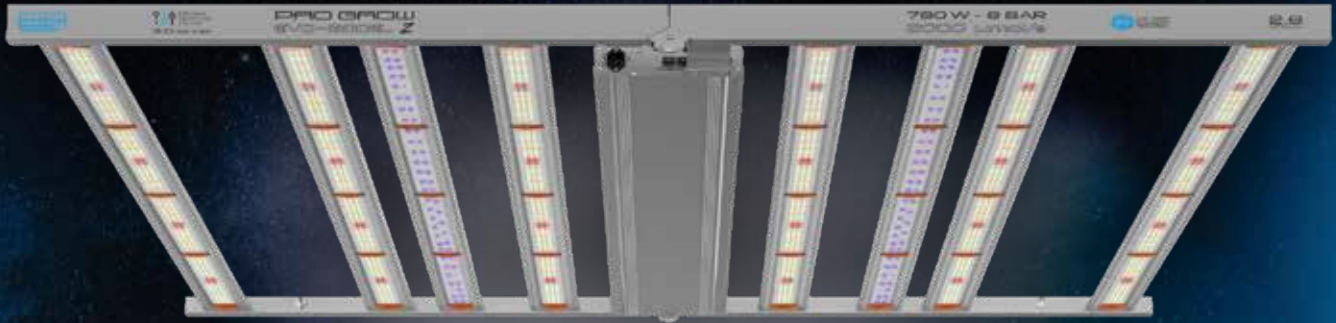
Higher Red and Far-red output (4K) for increased production in flowering plants. The right amount of Far-red light engages Emerson Effect, encourages early node staging and more flower sites.



Increased Red, Far-red + UVA/UVB

UV & Red & Far-red offers maximum BPF (ePar). This encourages lateral branching, less stretching, enhanced flower size and improves essential oils, taste and aroma.

Full Spectrum Horticultural Light



LED - MODEL Z



PRO GROW
INDUSTRY LEADING PERFORMANCE



800 W EVO 8 Bar

LED Model E 800 W EVO 8 Bar

430 V 3 phase

2,400 $\mu\text{mol/s PPF}$

3.0 $\mu\text{mol/J}$

Full Spectrum

Samsung LM301H EVO 4000 K

Samsung LM301H 4000 K

Osram Hyper Red

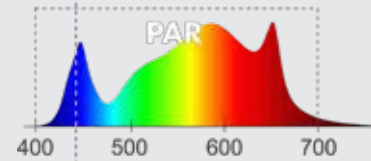
Inventronics Driver

Weight 22 kg

Dimensions 110.5 x 106 x 7 cm

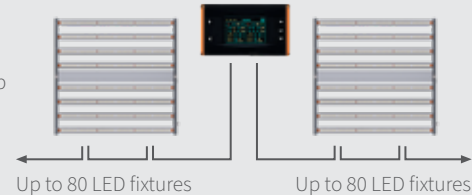


PAR SPECTRUM GRAPH
EVO 4000 K (437 nm)



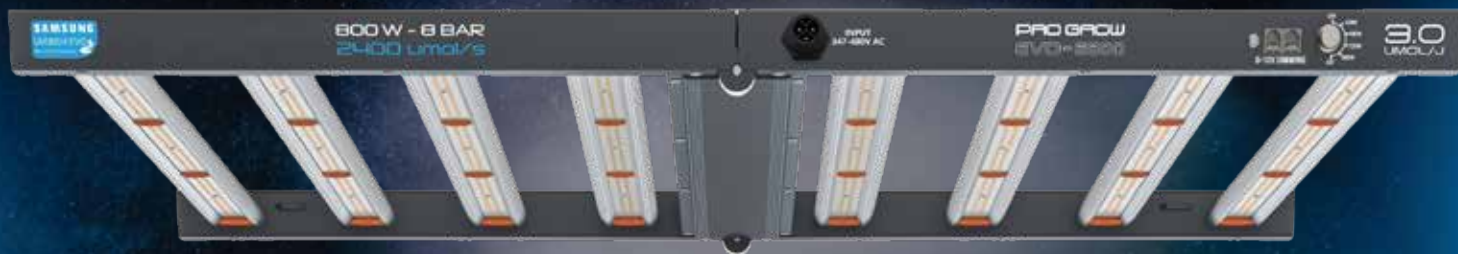
Compatible with 0-10 V Controllers.

The E800 EVO 8 Bar is fitted with RJ-14 connection ports allowing the use of up to 160 fixtures per controller by daisy chaining the fixtures.



Full Spectrum Horticultural Light

Retrofit 1:1 1000 W HPS Replacement



E800-430V

PRO GROW
INDUSTRY LEADING PERFORMANCE

4.3K
BALANCED
CRI:88



Eco Smart Controller



Controls up to:
30 x UFO LED (0-10 V)
30 x 630 W EVO
30 x 800 W EVO
Via RJ14 connection



On/ Off Timing



Temperature
& Humidity



Sunrise & Sunset



Temperature / humidity
sensor included

Eco Smart Controller

Multi Fixture Controller for 0-10 V LEDs



PRO GROW
INDUSTRY LEADING PERFORMANCE



LED Smart Controller



Controls up to:
160 x UFO LED (0-10 V)
160 x 630 W EVO
160 x 800 W EVO
Via RJ14 connection
(80 per room)



Temperature / humidity sensor included



On/ Off Timing



Sunrise & Sunset



Temperature & Humidity



Touch Screen



Simultaneous Dual Room Control

Control Two Rooms Simultaneously



PRO GROW
INDUSTRY LEADING PERFORMANCE



780 W EVO Smart Controller



Controls up to:
80 x 780 W EVO
Via RS-485
connection



Optional PPF sensor
(sold separately)



Temperature / humidity
sensor included



On/ Off Timing



Sunrise & Sunset



Temperature
& Humidity



Touch Screen



PPFD output
control

Smart Controller for 780 W EVO LED



PRO GROW
INDUSTRY LEADING PERFORMANCE



**Ultimate
Spectrum
Control**

LED Growing Tips

PRO GROW LEDs offer full spectrum, high colour rendering index, horticultural lighting.

- High light requirement plants need approximately 500 W / m² of LED light.
- 60 W Bars are suitable for seedlings and cuttings.
- 100 & 200 W UFOs are suitable for supplementary or under canopy lighting.
- 300 & 500 W UFOs and 630 W EVO LED & 780 W EVO LED Bars are all stand alone grow and bloom fixtures, dependent on the footprint of the grow area.
- 800 W EVO LEDs are suitable for commercial facilities.
- LED energy savings are achieved by reducing the heat load of indoor growing areas, requiring less air movement or HVAC.
- LED powered greenhouses may require additional heating in cold climates. The plant root zone may be warmed to 25°C in cool climates for increased growth rates.
- Plants grown under LEDs in lower ambient temperatures may require less watering than with HID lighting. The use of well drained plant growth media or soils is advised.
- The increased light intensity of LED light should be matched with increased nutrient strength. Nutrient strength may be increased by up to 30% more than the nutrient manufacturers recommended feed chart.
- LED lights provide the light energy for photosynthesis. Other environmental factors such as room temperature, airflow, circulation, media, nutrients, and plant genetics are just as important as the light source. Do not just focus on a single part of the growing process. Understanding all growth factors and their interconnection will further ensure your success. Grow like a pro with PRO GROW.



PRO GROW LED - PPF User Guide ($\mu\text{mol}/\text{m}^2/\text{s}$).

LED Fixture	60 W 1 Bar	100 W UFO	200 W UFO	300 W UFO	500 W UFO	630 W 6 Bar	780 W 8 Bar	E800 8 Bar
Total PPF	140 $\mu\text{mol}/\text{s}$	210 $\mu\text{mol}/\text{s}$	420 $\mu\text{mol}/\text{s}$	620 $\mu\text{mol}/\text{s}$	1050 $\mu\text{mol}/\text{s}$	1760 $\mu\text{mol}/\text{s}$	2000 $\mu\text{mol}/\text{s}$	2400 $\mu\text{mol}/\text{s}$
PPF Efficacy	2.4 $\mu\text{mol}/\text{J}$	2.3 $\mu\text{mol}/\text{J}$	2.3 $\mu\text{mol}/\text{J}$	2.3 $\mu\text{mol}/\text{J}$	2.3 $\mu\text{mol}/\text{J}$	2.8 $\mu\text{mol}/\text{J}$	2.82 $\mu\text{mol}/\text{J}$	3.0 $\mu\text{mol}/\text{J}$
Kelvin	6.5K	4 K	4 K	4 K	4 K	4.3K	3.8 / 4.2K	4 K
CRI	90	90	90	90	90	88.2	91	90
Effective Coverage	0.25 m ²	0.25 m ²	0.56 m ²	1 m ²	1.44 m ²	1.44 m ²	2.25 m ²	2.25 m ²
Output PPF ($\mu\text{mol}/\text{m}^2/\text{s}$).	250 @ 30 cm	342 @ 30 cm	730 @ 30 cm	1250 @ 30 cm	1297 @ 40 cm	1220 @ 30 cm	1411 @ 30 cm	1870 @ 30 cm

STAGE	DLI	PPFD	Recommended Height Of LED Fixture Above The Canopy @ 100% Intensity							
Unrooted Clones & Seeds (18 hour Photoperiod)										
7-14 days	8	125	50 cm	70 cm	-	-	-	-	-	-
Rooted Clones & Seedlings (18 hour Photoperiod)										
Week 1	12	200	40 cm	55 cm	90 cm	105 cm	-	-	-	-
Week 2	16	250	30 cm	45 cm	80 cm	95 cm	115 cm	127 cm	-	-
Week 3	19	300	25 cm	30 cm	77 cm	85 cm	105 cm	125 cm	-	-
Mother Plants	35	550	-	18 cm	50 cm	67 cm	80 cm	80 cm	88 cm	140 cm
Vegetative (18 hour Photoperiod)										
Week 1	25	400	15 cm	25 cm	70 cm	78 cm	95 cm	100 cm	110 cm	160 cm
Week 2	30	475	10 cm	22 cm	55 cm	76 cm	88 cm	90 cm	100 cm	150 cm
Week 3	35	550	-	18 cm	50 cm	74 cm	80 cm	80 cm	88 cm	140 mm
Week 4	40	625	-	15 cm	44 cm	61 cm	76 cm	70 cm	80 cm	130 mm
Week 5	43	675	-	10 cm	38 cm	58 cm	73 cm	66 cm	75 cm	125 mm
Flowering (12 hour Photoperiod)										
Week 1	30	700	-	-	32 cm	55 cm	72 cm	62 cm	70 cm	122 cm
Week 2	35	825	-	-	28 cm	50 cm	66 cm	57 cm	62 cm	100 cm
Week 3	40	940	-	-	25 cm	47 cm	58 cm	48 cm	55 cm	87 cm
Week 4	45	1050	-	-	15 cm	42 cm	53 cm	39 cm	48 cm	71 cm
Week 5 - 6	50	1175	-	-	10 cm	33 cm	48 cm	34 cm	40 cm	64 cm
Week 7 - 9	45	1050	-	-	15 cm	42 cm	53 cm	39 cm	48 cm	71 cm



PRO GROW
INDUSTRY LEADING PERFORMANCE



WHOLESALE HORTICULTURAL GROUP Pty Ltd

sales@whg.net.au