

**SAMSUNG
OSRAM**



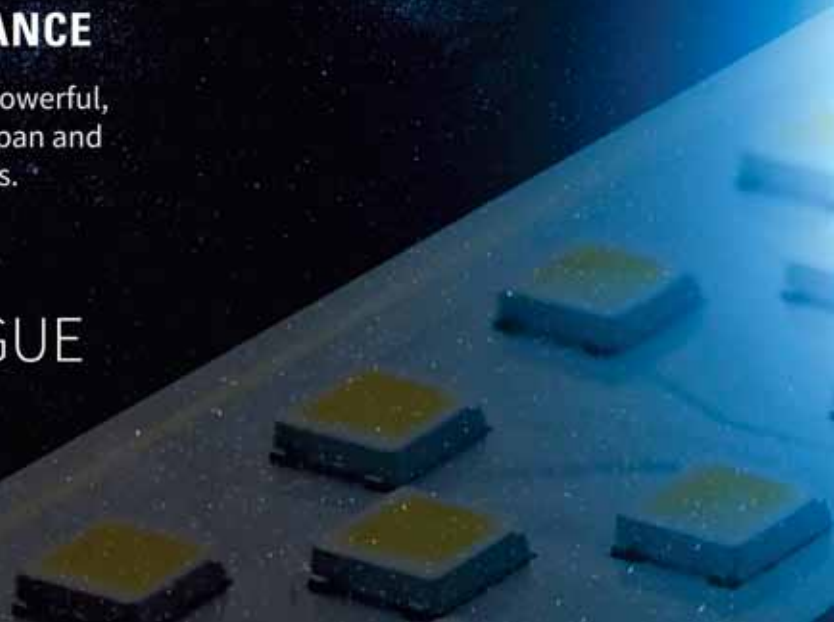
OPTIMUM

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

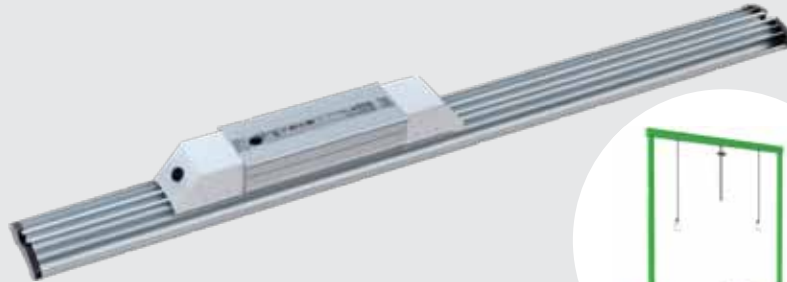


60 W Single Bar	04
100 W & 200 W UFO	06
300 W & 500 W UFO	08
630 W 6 Bar	10
780 W 8 Bar	12
820 W LED Solar	14
Eco Smart Controller	16
Smart Controller	18
Model Z Smart Controller	20
LED Growing Tips	22
PPFD User Guide	23

60 W Single Bar

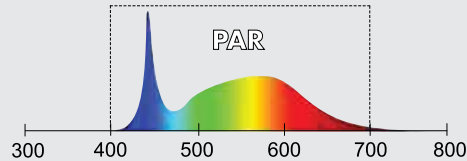
LED Model X

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

2.1 $\mu\text{mol/J}$

Input power: 100 W

Weight: 3 kg

Dimensions: 28 \varnothing x 11.5 cm High

200 W UFO

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

2.1 $\mu\text{mol/J}$

Input power: 200 W

Weight: 4 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

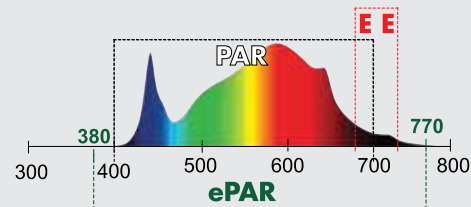
No cooling fan required



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 (0-10 V)

300 W UFO

620 $\mu\text{mol/s}$ PPFD
2.1 $\mu\text{mol/J}$
Input power: 300 W
Weight: 6 kg
Dimensions: 40 \varnothing x 16.5 cm High

500 W UFO

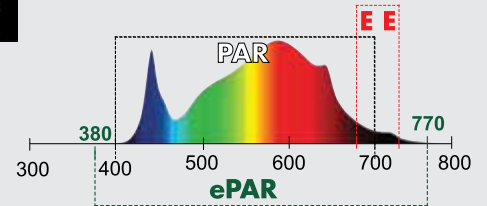
1050 $\mu\text{mol/s}$ PPFD
2.1 $\mu\text{mol/J}$
Input power: 500 W
Weight: 7 kg
Dimensions: 45 \varnothing x 23 cm High



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 6 Bar

LED Model S 630 W 6 Bar

1,720 $\mu\text{mol/s}$ PPFD

2.73 $\mu\text{mol/J}$

Full Spectrum

Samsung LM301H White

Osram 660 nm Hyper Red

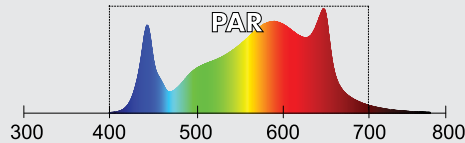
Inventronics Driver

Weight 16.5 kg

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

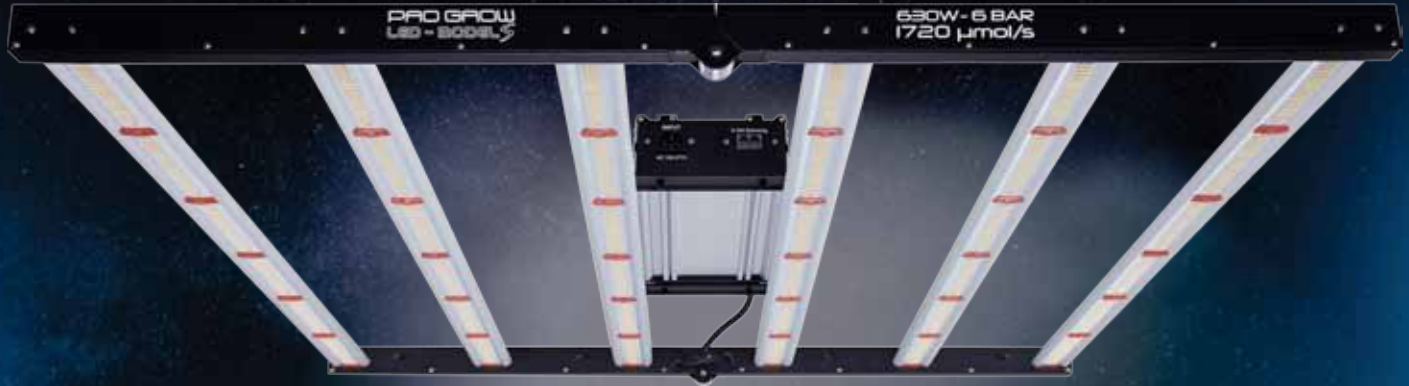


PAR SPECTRUM GRAPH



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

4K
BALANCED
CRI:90

PRO GROW
INDUSTRY LEADING PERFORMANCE



780 W 8 Bar

LED Model Z 780 W 8 Bar

1,870 $\mu\text{mol/s}$ PPF

1,950 $\mu\text{mol/s}$ BPF (ePar)

2.6 $\mu\text{mol/J}$

Full Spectrum

Samsung LM301H White

Osram Hyper Red and Far Red

Optimum UVA & UVB

Optimum Driver

Weight 13.7 kg

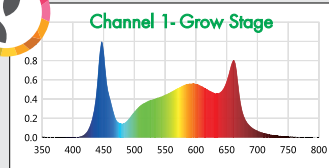
Dimensions 110 x 106 x 5 cm

AMPERAGE @240 V

780 W

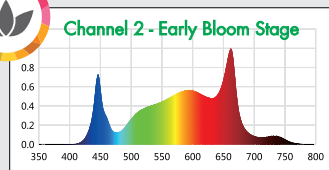
3.25 A

3 CHANNEL ADJUSTABLE SPECTRUM



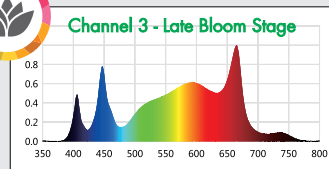
Increased Blue

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



Increased Red & Far-red

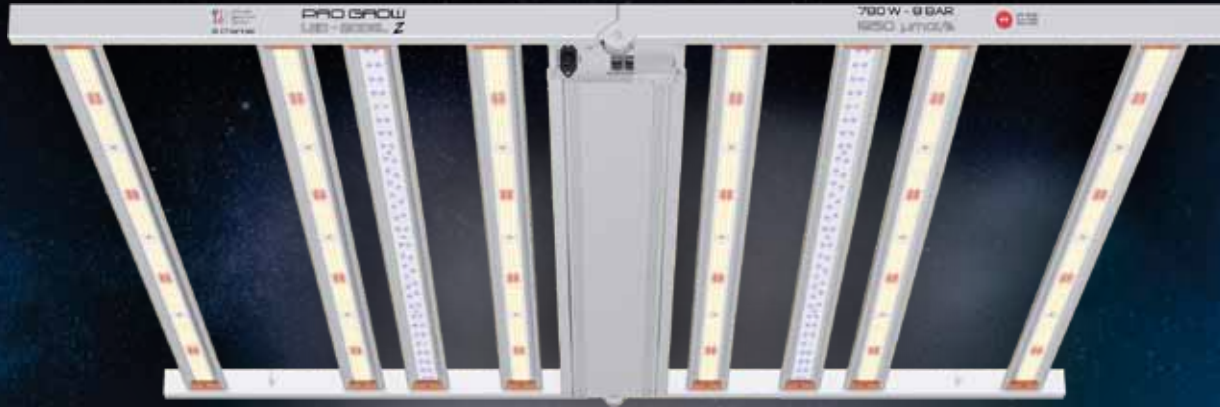
Higher Red and Far-red output (4K) for increased production in flowering plants. The right amount of Far-red light engages Emerson Effect, encourages early node staging and more flower sites.



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



820 W Solar



LED Solar 820 W

2,000 $\mu\text{mol/s}$ PPFD

2.5 $\mu\text{mol/J}$

Seoul 5050 White

Led-star Blue

Osram 660 nm Hyper Red

Inventronics Drivers

Weight 12.5 kg

Dimensions 74 x 30 x 9 cm

AMPERAGE @240 V

820 W

3.42 A

AMPERAGE @415 V

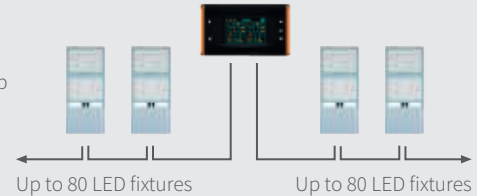
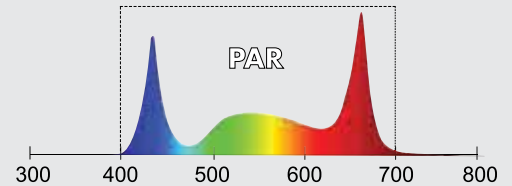
820 W

1.98 A

Compatible with 0-10 V Controllers.

The 820 W Solar is fitted with RJ-14 connection ports allowing the use of up to 160 fixtures per controller by daisy chaining the fixtures.

PAR SPECTRUM GRAPH



High Bay Greenhouse Fixture

Retrofit 1:1 1000 W HPS Replacement



LED - SOLAR

SK
DAYLIGHT
CRI:85

PRO GROW
INDUSTRY LEADING PERFORMANCE



Eco Smart Controller



Controls up to:
30 x UFO LED (0-10 V)
30 x Model S
30 x Solar 820
Via RJ14 connection



On/ Off Timing



Sunrise & Sunset



Temperature
& Humidity



Touch Screen



Temperature / humidity
sensor included

The new Eco Smart Controller

The Affordable, 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 Model S
160 x Solar 820
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



Model Z Smart Controller



Controls up to:
80 x Model Z
Via RS-485
connection



Optional PPFD sensor
(sold separately)



Temperature / humidity
sensor included



On/ Off Timing



Sunrise & Sunset



Temperature
& Humidity



Touch Screen



PPFD output
control

RS-485 Controller for Model Z 780 W 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 & 780 W Bars are all stand alone grow and bloom fixtures, dependent on the footprint of the grow area.
- 820 W Solar are suitable for supplementary greenhouse lighting.
- 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 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	820 W Solar
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 $\mu\text{mol}/\text{s}$	1720 $\mu\text{mol}/\text{s}$	1950 $\mu\text{mol}/\text{s}$	2000 $\mu\text{mol}/\text{s}$
PPF Efficacy	2.4 $\mu\text{mol}/\text{J}$	2.1 $\mu\text{mol}/\text{J}$	2.1 $\mu\text{mol}/\text{J}$	2.1 $\mu\text{mol}/\text{J}$	2.1 $\mu\text{mol}/\text{J}$	2.73 $\mu\text{mol}/\text{J}$	2.6 $\mu\text{mol}/\text{J}$	2.5 $\mu\text{mol}/\text{J}$
Kelvin	6.5K	4K	4K	4K	4K	4K	3.8 / 4.2K	5K
CRI	90	90	90	90	90	91.8	92.6	81.5
Coverage	0.5 m^2	0.5 m^2	0.75 m^2	1 m^2	1.2 m^2	1.5 m^2	2.25 m^2	1.5 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	985 @ 30 cm	1227 @ 30 cm	1436 @ 90 cm

STAGE	Required $\mu\text{mol/s}$	Recommended Height Of LED Fixture Above The Canopy @ 100% Intensity							
Clones	75 - 125	40 - 60 cm	95 cm	110 cm	120 cm	150 cm	150 cm	160 cm	-
Mother Plants	400 - 600	-	20-15 cm	30-45 cm	80-65 cm	110-90 cm	110-60 cm	115 - 85 cm	200-180 cm

GROWTH CYCLE

Early Vegetative	125 - 200	45-30 cm	75-55 cm	100-90 cm	110-100 cm	130-90 cm	130-120 cm	130 - 120 cm	270 cm
Late Vegetative	200 - 300	30-20 cm	55-35 cm	90-75 cm	100-85 cm	120-110 cm	120-110 cm	120 - 110 cm	240 cm

FLOWERING CYCLE

Week 1	300 - 400	-	45-30 cm	80-70 cm	90-80 cm	110-105 cm	110-105 cm	120 - 110 cm	220 cm
Week 2	400 - 500	-	35-20 cm	75-55 cm	80-70 cm	110-100 cm	105-80 cm	110- 90cm	200 cm
Week 3	500 - 600	-	20-15 cm	55-45 cm	70-65 cm	100-90 cm	80-65 cm	90 - 80 cm	180 cm
Week 4	600 - 700	-	10 cm	45-35 cm	65-55 cm	90-70 cm	65-55 cm	75 - 60 cm	160 cm
Week 5	700 - 750	-	-	35-30 cm	55 cm	70-65 cm	55 cm	65 cm	140 cm
Week 6	750 - 850	-	-	30-25 cm	55-50 cm	65-60 cm	50-45 cm	60 - 55cm	120 cm
Week 7-9	900+	-	-	20 cm	45 cm	55 cm	40 cm	50cm	110 cm



PRO GROW
INDUSTRY LEADING PERFORMANCE



WHOLESALE HORTICULTURAL GROUP Pty Ltd

sales@whg.net.au