

## FL300 GROW WHITE 1.2 - CONTROLLABLE



The FL300 Grow white top-light is a 460 watt fixture. The Grow White spectrum was developed by growers with special lighting requirements and offers a full continuous spectrum. This spectrum is used in production areas where a higher photosynthetic activity is required, or by growers requiring supplementary lighting where colour recognition and rapid, healthy growth are key factors. This fixture is the natural replacement for the conventional HPS-system.

### BENEFITS

ITEM	DESCRIPTION
1	Control of spectral composition and light intensity.
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Minimize the use of Plant Growth Regulation (PGR).
5	Control the height of the plant.
6	Control the intensity of the taste.
7	Save energy and improve plant growth.

### APPLICATIONS



Greenhouses



Garden Centers



Research



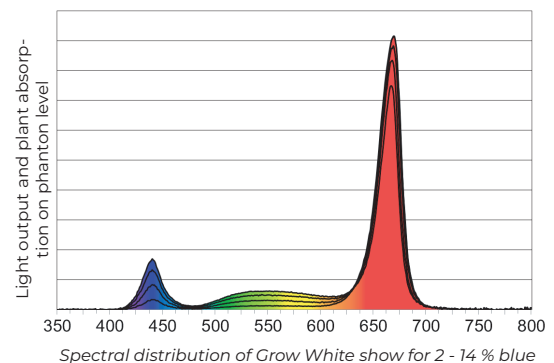
Climate Chambers

### TECHNICAL SPECIFICATIONS

ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	230 V AC / 50 Hz 110-277 V / 60 Hz
2	POWER USAGE	100 - 460 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	2.94 $\mu\text{mol/s}$ per Watt*
4	PPF	1352 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	3.23 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 2 - 14 % blue light of total light
7	GREEN / WHITE CONTENT	From 3 - 22 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## FL300 GROW 1.2 - CONTROLLABLE



The FL300 Grow LED top-light is a 500 watt fixture, and the light spectrum can be designed for individual crops. This fixture suits most modern production greenhouses in the world and is also recommended for a hybrid solution. A hybrid solution combines HPS and FL300 Grow, and the solution unites heat radiation from the HPS and the photosynthetic radiated light of the FL300 system. You get the best of both worlds and also the capability to grow high-quality plants without changing your entire system all at once.

### BENEFITS

ITEM	DESCRIPTION
1	Control of spectral composition and light intensity.
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Minimize the use of Plant Growth Regulation (PGR).
5	Control the height of the plant.
6	Control the intensity of the taste.
7	Save energy and improve plant growth.

### APPLICATIONS



Greenhouses



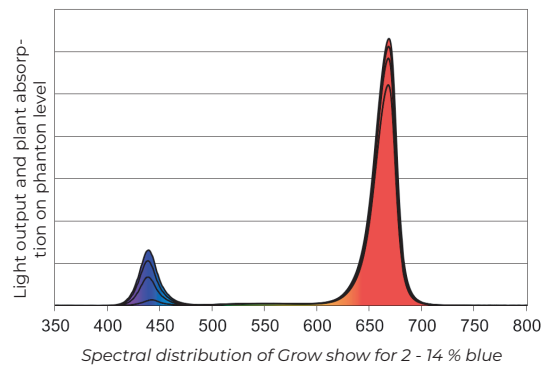
Research

### TECHNICAL SPECIFICATIONS

ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	230 V AC / 50 Hz 110-277 V / 60 Hz
2	POWER USAGE	100 - 500 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	3.2 $\mu\text{mol/s}$ per Watt*
4	PPF	1600 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	3.51 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 2 - 14 % blue light of total light
7	GREEN / WHITE CONTENT	From 1 - 5 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## FL300 SUNLIGHT 1.2 - CONTROLLABLE



The FL300 Sunlight is a 460 watt top light fixture which is recommended for growth applications where natural light is essential or for supplementary lighting where colour recognition is important. The white light secures better representation of colours and a comfortable work light. The FL300 Sunlight is designed with a patent pending optical lens system that enables a traditional installation plan similar to HPS with homogeneous distribution profile on plant level - but with less waste of light.

### BENEFITS

ITEM	DESCRIPTION
1	Dynamic control of light intensity.
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Better plant quality and higher output.
5	Save energy.
6	High colour recognition - makes it very suitable for e.g. garden centers and botanical gardens.

### APPLICATIONS



Greenhouses



Garden Centers



Research



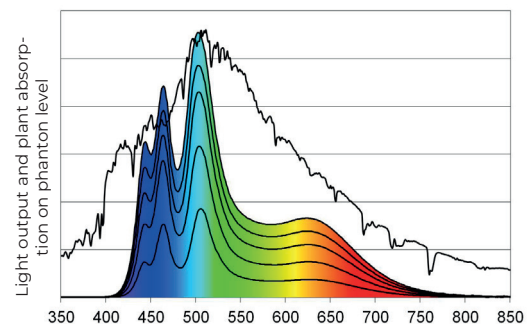
Climate Chambers

### TECHNICAL SPECIFICATIONS

ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	230 V AC / 50 Hz 110-277 V / 60 Hz
2	POWER USAGE	100 - 460 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	1,78 $\mu\text{mol/s}$ per Watt*
4	PPF	1352 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	818 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 20 - 100 % blue light of total light
7	GREEN / WHITE CONTENT	From 33 - 73 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



Spectral distribution of Sunlight together with a spectral profile of sunlight.



## FL100 GROW WHITE 1.2 - CONTROLLABLE



The FL100 Grow White is a 150 watt top light developed together with growers having special lighting requirements.

This light bar is used in production areas where a higher photosynthetic activity is required, or by growers requiring supplementary lighting where colour recognition and rapid, healthy growth are key factors. It is highly recommended for indoor growing, vertical farming and climate chambers, and more fixtures can be interconnected.

### BENEFITS

ITEM	DESCRIPTION
1	Control of spectral composition and light intensity
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Energy saving.
5	Better plant quality and higher output.
6	A minimal shadow footprint.
7	Minimize the use of Plant Growth Regulation (PGR)

### APPLICATIONS



Greenhouses



Garden Centers



Research



Vertical Farming



Indoor Growing



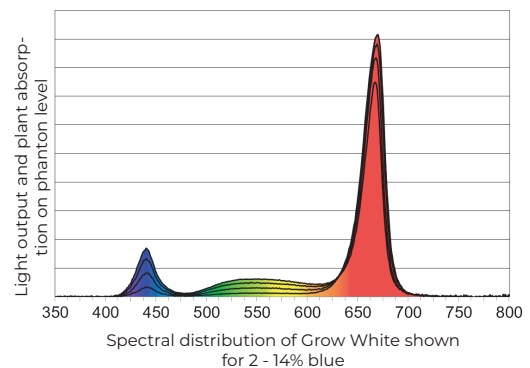
Climate Chambers

### TECHNICAL SPECIFICATIONS

ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	400 V AC / 50 Hz (380 - 480 AC) / 60 Hz
2	POWER USAGE	50 - 150 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	2,92 $\mu\text{mol/s}$ per Watt*
4	PPF	438 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	3,19 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 2 - 14 % blue light of total light
7	GREEN / WHITE CONTENT	From 2 - 22 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## FL100 GROW 1.2 - CONTROLLABLE



The FL100 Grow is a 150 watt top light fixture, and more fixtures can be interconnected. This fixture suits most modern production greenhouses in the world and is also recommended for a hybrid solution. A hybrid solution combines HPS and FL100 Grow, and the solution unites heat radiation from the HPS and the photosynthetic radiated light of the FL100 system. The fixture is fully controllable and the spectrum can be designed for individual crops. Investing in a controllable LED fixture means you always have the option to change the light and spectrum.

### BENEFITS

ITEM	DESCRIPTION
1	Control of spectral composition and light intensity.
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Energy saving.
5	Better plant quality and higher output.
6	Reduce climate footprint
7	Minimize the use of Plant Growth Regulation (PGR)

### APPLICATIONS



Greenhouses



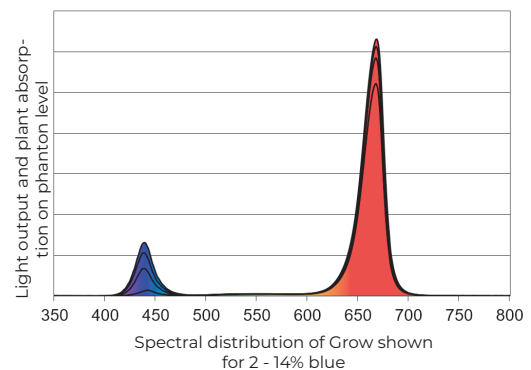
Research

### TECHNICAL SPECIFICATIONS

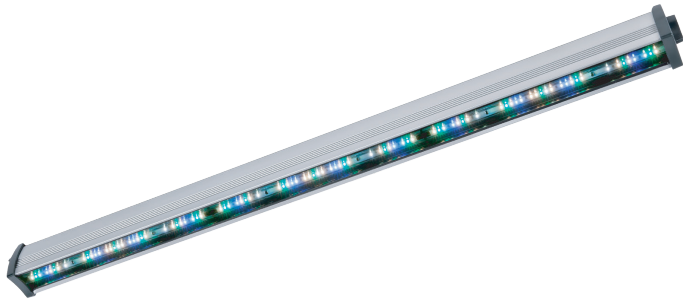
ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	400 V AC / 50 Hz (380 - 480 V AC) / 60 Hz
2	POWER USAGE	75 - 150 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	2,96 $\mu\text{mol/s}$ per Watt*
4	PPF	444 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	3,24 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 2 - 14 % blue light of total light
7	GREEN / WHITE CONTENT	From 1 - 5 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## FL100 SUNLIGHT 1.2 - CONTROLLABLE



The FL100 Sunlight is a 150 watt top light and it boasts the spectrum with an almost perfect match of the rays of the sun – hence the name FL100 Sunlight. The FL100 Sunlight is recommended for growth chamber applications where natural light is important or for supplementary lighting where colour recognition is important; for instance, for indoor growing and landscaping such as offices, restaurants or even for growing in shipping containers.

### BENEFITS

ITEM	DESCRIPTION
1	Dynamic control of light intensity.
2	Consistent light on the plants due to a patented optical lens system.
3	Long lifetime with no reduction of the light output.
4	Colour recognition.
5	Fixtures can be interconnected.

### APPLICATIONS

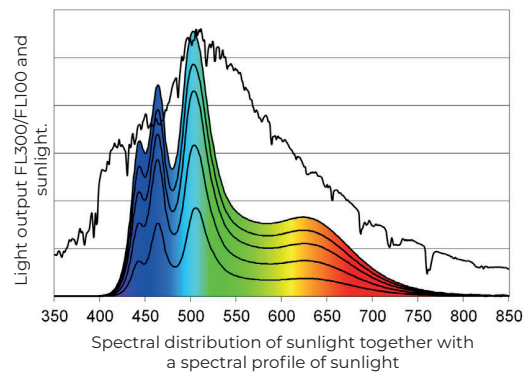


### TECHNICAL SPECIFICATIONS

ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	400 V AC / 50 Hz (380 - 480 V AC) / 60 Hz
2	POWER USAGE	50 - 150 watt (adjusted via controller)
3	LIGHT OUTPUT FROM FIXTURE	1,74 $\mu\text{mol/s}$ per Watt*
4	PPF	261 $\mu\text{mol/s}$
5	LIGHT OUTPUT FROM DIODES	1,91 $\mu\text{mol/j}$
6	LIGHT MODULATION RANGE	From 30 - 100 % light intensity
7	GREEN / WHITE CONTENT	From 33 - 73 % of total light *

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## GROW HORTI - PLUG & PLAY



Our Grow Horti LED fixture is for those who want the benefits from LED grow lights, but do not need to change the spectral distribution. Put differently, Grow Horti is our simple and effective LED fixture. It is a plug-and-play solution, making installation easy as can be – and making changing from HPS to LED simple. We make sure to adapt the grow light to your specific culture, which is why the fixture is available with four different.

### BENEFITS

ITEM	DESCRIPTION
1	Reduce climate footprint.
2	A 245W fixture available as both 230V and 400V.
3	Easy installation of the lightweight fixture with a plug-&-play solution.
4	Available with 4 firm different light profiles of the blue light.
5	Designed for the humid climate of a growing environment - IP65.
6	Predominantly emits white working light making it easy to see the plants' colour.
7	Latest diode technology, which provides low power consumption and increased efficiency.
8	LEDs improve plant growth and increase taste intensity of edible plants.

### GROWTH AND CLIMATE

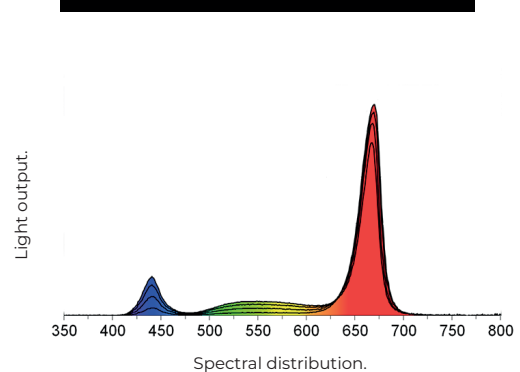
ITEM	DESCRIPTION
1	Ensuring a constant and precise light on the plant.
2	The blue light may reduce the need for Plant Growth Regulation.
3	LEDs do not emit much heat.
4	Available with 4 firm different light profiles of the blue light.
5	Long lifetime with no reduction of light output over time..
6	Grow Horti can easily connect to any climate control regardless of brand and supplier.

### TECHNICAL SPECIFICATIONS

ITEM	FEARTURE	DESCRIPTION
1	POWER INPUT	230 V AC or 400 V AC / 50/60 Hz
2	POWER USAGE	245 watt
3	LIGHT OUTPUT FROM FIXTURE	2,73 $\mu\text{mol/s}$ per Watt depending on model
4	LIGHT MODULATION RANGE	2 - 8 % blue light of total light
5	GREEN / WHITE CONTENT	From 4 - 13 % of total light depending on model

\* Depending on the spectral settings.

### SPECTRAL DISTRIBUTION



## LED GROW VERTI



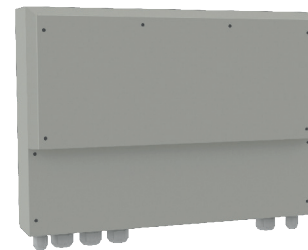
The LED Grow Verti is well-suited for tight areas or for where you just want to make full use of the space. The fixture is suitable for multilayer production, containers, industrial buildings, restaurants, closed cultivation rooms and much more - there are a world of options.

		BENEFITS
ITEM	DESCRIPTION	
1	The composition of the diode colors is adapted to the plant's needs (the photosynthetically active light), for improved growth.	
2	LEDs do not emit much heat. The advantage is that by heating from an alternative heat source instead of the fixtures a healthy and uniform climate is ensured without large fluctuations in temperature.	
3	Uniform light on the plant due to an optical lens system - thereby minimizing light waste and shadow footprint.	
4	LED may reduce the need for Plant Growth Regulation (PGR).	
5	Long lifetime with no reduction of light output over time.	

		FEATURES
ITEM	DESCRIPTION	
1	Ultra-slim (6mm) - utilizes your entire space.	
2	It can be customized to fit your production area.	
3	Adjustable spectral distribution and light intensity - can therefore be adopted to the individual culture's needs.	
4	Also available as non-controllable and with fixed diode assembly.	
5	Possible to purchase design that allows changing LEDs to keep up with the latest diode technology.	
6	Latest diode technology, which provides low power consumption, increased efficiency and a long lifetime.	
7	Emits very little heat, so no need for cooling.	
8	Designed for the humid climate of a growing environment - IP65.	
9	LED improves plant growth and increases the taste intensity of edible plants.	

TECHNICAL SPECIFICATIONS		
ITEM	FEATURE	DESCRIPTION
1	POWER INPUT	230 V AC
2	NOMINAL CURRENT	0.65 A
3	POWER CONSUMPTION	135 Watt
4	LIGHT OUTPUT	2.22 Mmol/s per Watt
5	NET WEIGHT	5.3 kg
6	DIMENSIONS L x W x H	800 x 600 x 6 mm
7	CABLE LENGTH	To be customized
8	OPERATING TEMPERATURE	0 - 40° C
9	LIGHT MODULATION RANGE	4 - 14 % blue light of total light
10	GREEN / WHITE CONTENT	From 5 - 22 % of total light depending on model

AFP TO CONTROL SPECTRAL DISTRIBUTION & LIGHT INTENSITY	
ITEM	FEATURE
1	The AFP standard is the central unit for connecting all of inputs and outputs. And it connects to the central communication line (IPC), by the optical connections.



AFP

