



FL300 SUNLIGHT FIXTURE



The sunlight replicating LED fixture - mainly for climate chambers, garden centers & indoor environmental planting

Highlights

- Dynamic control of the light intensity
- Consistent light on the plants due to an optical lens system (patent pending)
- Spectral distribution similar to the sun
- The natural replacement for the conventional HPS systems
- Enables easy integration with climate control systems
- Better plant quality and higher output
- Long lifetime with no reduction of the light output
- Get a specific lighting plan based on the needs of your production
- Danish developed and manufactures since 20015

When evaluating possible LED solutions, it is important to check two parameters: Temperature of the LED when the fixture is running and the distribution profile on your plants. The FL300 Sunlight is equipped with a patented active cooling system that enables a low LED temperature and therefore a long lifetime that a passive cooled LED fixture does not have.

The FL300 Sunlight is designed with a patent pending optical lens system that enables a traditional installation plan similar to HPS with homogenous distribution profile on plant level - but with less waste of light.

Controllable

The light intensity can be customized for individual crops in combination with LCC4 climate control systems. An alternative to the LCC4 climate control system is a small Control Unit which controls up to 49 fixtures. A further alternative is the LED Light Controller, which can be connected with your climate computer from another provider. That way you can maintain the full control of your LED installation.

Documented results

The research institution of Aarhus University is well known in Europe for experiments in plant responses, including trials with LED lights. After evaluating several LED solutions, they installed FL300 Sunlight in their new climate chambers situated at the Aarslev Research Station. Each 4.2 m² cell was equipped with 16 FL300 fixtures installed with dynamic control. The installation was completed in the fourth quarter of 2012 and has proven itself on various crops ranging from tomatoes to various grains.

Together with the substantial energy savings – both in terms of light efficiency and reduced cooling – the installation provides a uniformity of light which is greatly improved, when compared to what is achievable with traditional lighting technology.

The conclusion was that despite the low electricity consumption, the plants are growing very well in the “new light”. Getting a tomato plant to flower under LED lighting alone is difficult – and this is no longer an issue with the FL300 Sunlight.



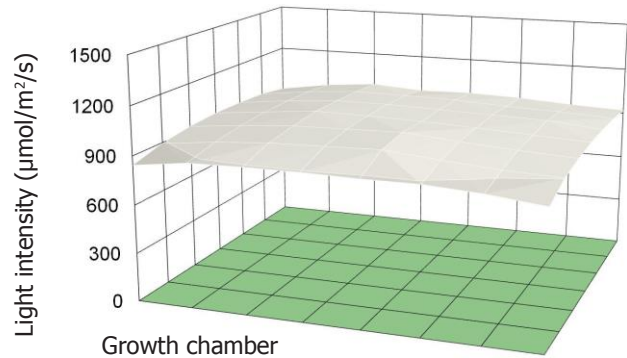
SPECIFICATIONS / FL300 SUNLIGHT FIXTURE

Parameter	
Power input	230 V AC / 50/60 Hz
Nominal current	2.4 A
Power usage	100 - 550 watt (adjusted via controller)
Light output	Up to 1.5 $\mu\text{mol/s}$ per Watt*
Net weight	12.4 kg
Dimensions L x W x H	550 x 230 x 160 mm
Operating temperature	0 - 40° C
Light intensity decay	At least 70,000 hours at L80B10
Coverage	0.25 - 12 m ² (depending on light intensity)
Light modulation range	From 20 - 100 % intensity
Light content	See table below

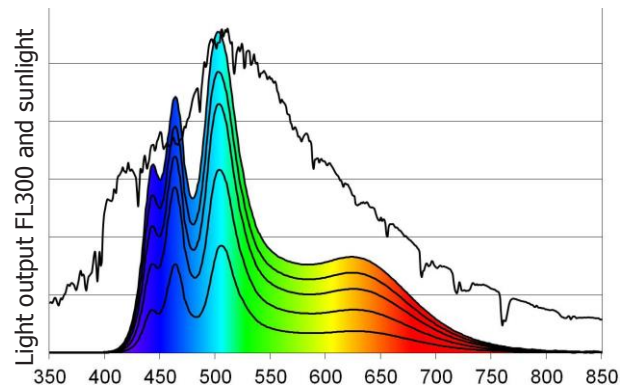
*Depending on light modulation

% Light in terms of total PAR Light

	Sunlight	FL300 Sunlight
400 - 500 nm	33 %	33 %
500 - 600 nm	41 %	40 %
600 - 700 nm	26 %	27 %



Light distribution profile of 16 FL300 Sunlight in a 4.2 m² chamber. Average light intensity 947 $\mu\text{mol/m}^2/\text{s} \pm 4\%$ STDV



Spectral distribution of FL300 Sunlight together with a spectral profile of sunlight.

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