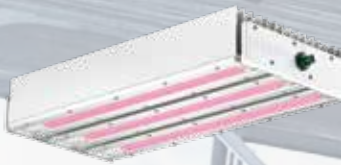


PHILIPS

Horticulture LED

GreenPower LED
toplighting force



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Providing maximum light all year round

Cutting down on energy costs used to be a grower's most important goal. Now growers are aware that higher light levels can significantly increase yield—and they require a solution that can provide that.

The Philips GreenPower LED toplighting force (TLF), the ultimate LED grow light for light-loving crops. It creates summer conditions all year round, but without the heat dissipation of high-pressure sodium lights (HPS). Utilizing an existing plug power of 1040 W, growers can achieve a maximum light output of 3600 $\mu\text{mol/s}$ at an efficiency up to 3.7 $\mu\text{mol/J}$. This allows for 1-to-1 HPS replacement utilizing the same connection, while increasing the light levels by 84% compared to the newest generation HPS lights. In addition, toplighting force achieves 3.9 $\mu\text{mol/J}$ efficiency when dimmed to 50% of its power and functions with minimal light interception.

**Replace connection
for a 84% light level increase**



HPS
1800 $\mu\text{mol/s}$

TLF
3600 $\mu\text{mol/s}$

OR

**Half the amount of fixtures
for the same energy**

2 x HPS
1800 $\mu\text{mol/s}$



1 x TLF
3600 $\mu\text{mol/s}$

Key benefits

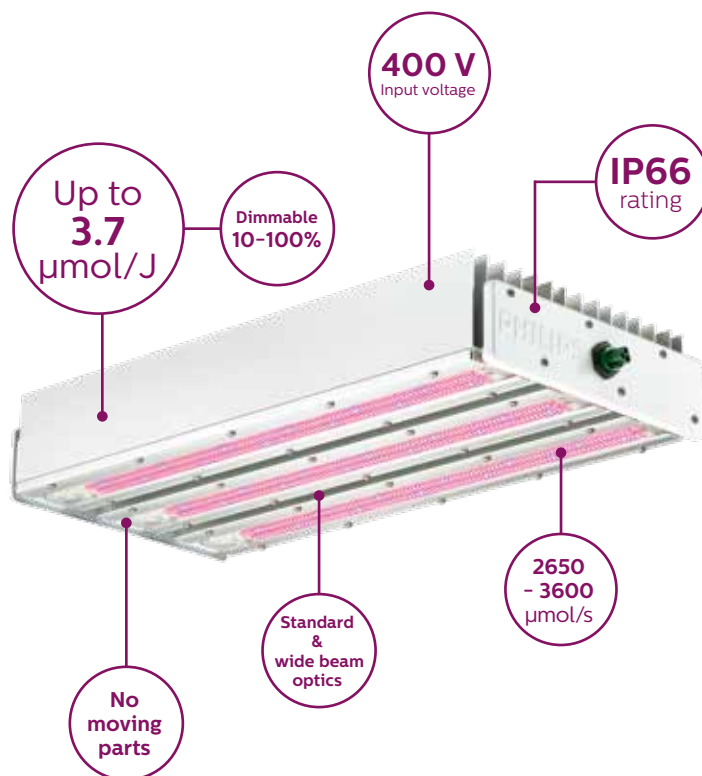
- Replace existing 1040 W HPS light for an 84% light increase
- Maximum light output of 3600 $\mu\text{mol/s}$ and an efficacy of up to 3.7 $\mu\text{mol/J}$
- Two beam shapes ensure desired optimal uniformity or highest efficacy
- Dim to 50% and increase efficiency up to 3.9 $\mu\text{mol/J}$
- Minimal light interception

The result is a powerful asset with which you will get the most out of today's horticultural market, including optimally predictable growth, better crop quality and higher yield.

Optimizing growth predictability, improving crop quality and increasing yield

When you want to generate the highest light level (photosynthetic photon flux) using the fewest grow lights possible, toplighting force is a smart LED investment, whether you're replacing HPS lights on a 1:1 basis or building an installation from scratch. Philips Greenpower LED toplighting force is available in two beam shapes: a wide beam for optimal uniformity in case of limited height to the crop and a standard beam that offers highest efficacy.

By using the Philips GrowWise control system, growers can dim the lights to as little as 10% of the maximum output, stand-alone as well as integrated with a climate computer or greenhouse management system. Dimming boosts light efficacy, allows sunset-to-sunrise mimicking for a smoother temperature build-up and responds to energy management-related load shifts. Signify plant specialists, application engineers and account managers will work with you to customize light solutions tailor-made for your growing conditions.



Product specifications GreenPower LED toplighting force 400V

Beam	Spectral version		Deep Red/Blue types		Deep Red/White types				Deep Red/White/Far Red types		
	Spectral code		LB		LB		MB		FR_1		FR_RSE
Standard beam	Typical photon flux ¹	μmol/s	3600	2850	3300	2800	3250	2800	3100	2750	3100
	Power consumption (max)	W	1040	780	1000	800	1000	820	950	820	950
	Efficacy	μmol/J	3.5	3.7	3.3	3.5	3.3	3.4	3.3	3.4	3.3
	Efficacy at 50% (dimmed)	μmol/J	3.8	3.9	3.6	3.7	3.6	3.6	3.6	3.6	3.6
Wide beam	Typical photon flux ¹	μmol/s	3500	2750	3200	2700	3150	2700	3000	2650	
	Power consumption (max)	W	1040	780	1000	800	1000	820	950	820	
	Efficacy	μmol/J	3.4	3.5	3.2	3.4	3.2	3.3	3.2	3.2	
	Efficacy at 50% (dimmed)	μmol/J	3.7	3.7	3.5	3.6	3.5	3.5	3.5	3.4	

Light distribution		Standard Beam → beam angle 120° Wide Beam → beam angle 150°
Dimmable ²		10% - 100%
Input voltage (50-60Hz)	VAC	400V
Dimensions	cm	Length: 69 Width: 31 Height: 11,2
Weight	kg	10,5
Power factor		0.98
Total Harmonic Distortion	%	< 15
Rated Average Lifetime ³	hrs	36.000 - L95
Ingress protection rating		IP66/ wet locations
Cooling		Passively cooled
Approval marks		CE, ENEC, RoHS
Connector		Wieland RST20i3 Green

Legend

DR = Deep Red	LB = Low Blue
B = Blue	MB = Mid Blue
W = White	_1 = FR Low Blue
FR = Far Red	RSE = Rose Module

- ¹ The published value represents the total photon flux from 400 - 800nm.
- ² In combination with Philips GrowWise control system.
- ³ Lifetime and maintenance values are given at an ambient temperature of 25 °C / 77 °F. All measured lifetimes are industry standard measurements indicating average length of operation and not a performance claim specific to any individual product.



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