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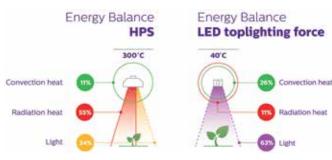
Horticulture LED Solutions

GreenPower LED toplighting force

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 $3650 \mu mol/s$ at an efficiency up to $3.5 \mu mol/J$. This allows for 1-to-1 HPS replacement utilizing the same connection, while almost doubling the light level compared to the newest generation HPS lights. In addition, toplighting force achieves $4.0 \mu mol/J$ efficiency when dimmed to 50% of its power and functions with 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.



Key benefits

- Replace existing 1040 W HPS light utilizing max. plug power
- Maximum light output of 3650 μmol/s and an efficacy of up to 3.5 μmol/J
- Two beam shapes ensure desired optimal uniformity or highest efficacy
- Dim to 50% and increase efficiency up to 4.0 μmol/J
- Minimal light interception

Optimizing growth predictability, improving crop quality and increasing vield

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.



Philips Greenpower LED toplighting force 347 V specifications

Beam	Spectral version		Deep Red/Blue types (DRB)	Deep Red/White types (DRW)		Vision White		Deep Red/White/ Far Red types (DRWFR) ¹
	Spectral code		LB	LB	MB	VSN2	EBW	FR_1
Standard beam	Typical photon flux	µmol/s	3650	3450	3250	2100	2500	3100
	Power consumption (max)	w	1040	1020	1000	790	840	950
	Efficacy	µmol/J	3.5	3.4	3.3	2.7	3.0	3.3
	Efficacy at 50% (dimmed)	µmol/J	4.0	3.8	3.7	2.9	3.2	3.7
Wide beam	Typical photon flux	µmol/s	3600	3400	3200			3000
	Power consumption (max)	w	1040	1020	1000			950
	Efficacy	µmol/J	3.5	3.3	3.2			3.2
	Efficacy at 50% (dimmed)	µmol/J	3.9	3.7	3.7			3.7

		Wide beam - beam angle 150°		
Light distribution		Standard beam - beam angle 120°		
Dimmable ²		10% - 100%		
Input voltage (50-60Hz)	VAC	347V		
Dimensions	cm inch	L: 69 27.2 W: 31 12.2 H: 11.2 4.		
Weight	kg lb	10.5 23.1		
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		UL/CSA		
Connector		Wieland RST20i3 Green		

Legend

LB	= Low Blue	EBW	= Efficient Broad White
MB	= Medium Blue	FR_1	= Far Red recipe 1
VSN2	= Vision - White spectrum		

¹ The published value represents the total photon flux from 400-800nm. All TLF products are prepared to work with GWCS (Coded Mains) protocol CMv1 / CMv2. This means that no control wires are needed.

- The modules will operate in combination with Standard and High Output GWCS transformers and transmitters.
- 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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