

Horticulture LED Solutions

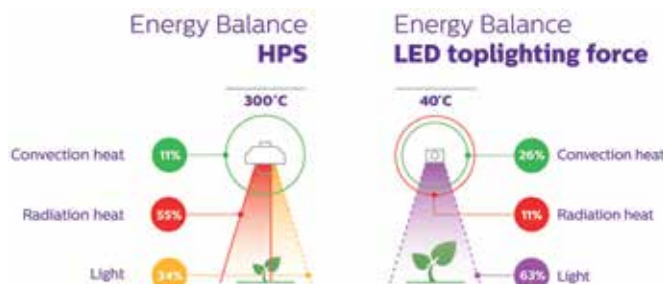
GreenPower LED  
toplighting force



## 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  $\mu\text{mol/s}$  at an efficiency up to 3.5  $\mu\text{mol/J}$ . 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  $\mu\text{mol/J}$  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.



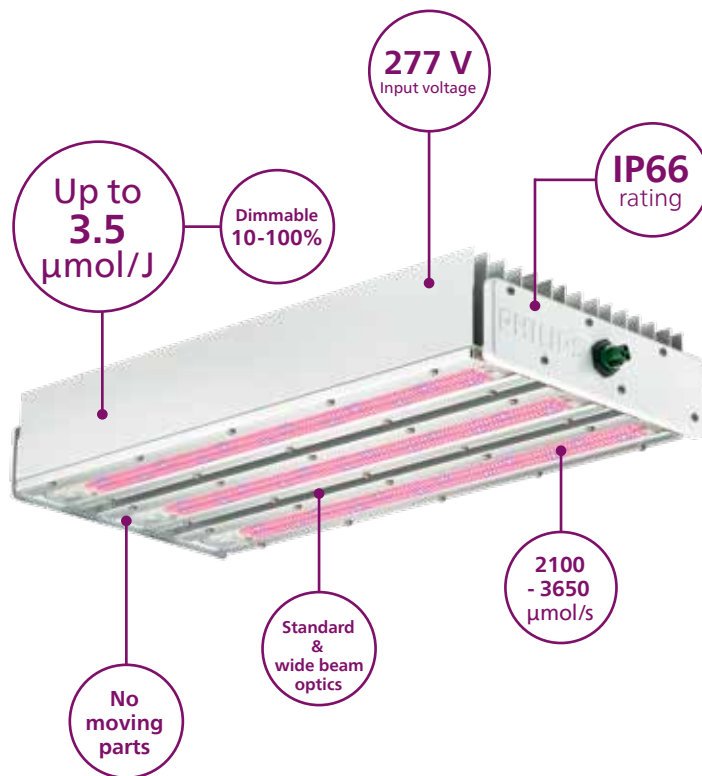
### Key benefits

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

# 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.



## Philips Greenpower LED toplighting force 277 V specifications

Beam	Spectral version		Deep Red/Blue types (DRB)	Deep Red/White types (DRW)			Vision White		Deep Red/White/Far Red types (DRWFR) <sup>1</sup>
	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	

Light distribution		Wide beam - beam angle 150° Standard beam - beam angle 120°
Dimmable <sup>2</sup>		10% - 100%
Input voltage (50-60Hz)	VAC	277V
Dimensions	cm   inch	L: 69   27.2 W: 31   12.2 H: 11.2   4.4
Weight	kg   lb	10.5   23.1
Power factor		0.98
Total Harmonic Distortion	%	< 15
Rated Average Lifetime <sup>3</sup>	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

- 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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