JFUNGSRAM[™]

Tungsram Flexi-Grow

Tailored to your needs

The LED Greenhouse Linear Toplight lamp of the Tungsram Agritech Series has been designed as a replacement for traditional 1000 W High Pressure Sodium lamps. It has an improved efficacy up to 4.0 µmol /J and uses more than 50% less energy and it also offers light level up to 3580 µmol/s therefore fewer LED fixtures may be needed to achieve the required PPFD (photosynthetic photon flux density). Our Toplight modules have standard and special wide beam optics, with which we can ensure the most uniform light distribution for your plants to grow evenly and maximize the yield.

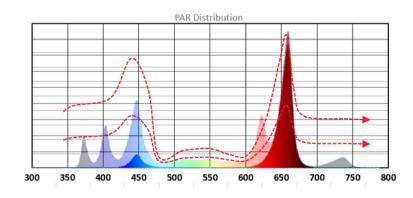
We are flexible in meeting your demands for 4.0 Modular lighting up your greenhouse. The offer will be based on the main criteria you specify: µmol/] design Optimized for investment: If the goal is to
 keep the initial invest keep the initial investment low, choose our investment optimized solution, which balances energy consumption and light output. 3580 Customizable Optimized for operational cost: If the aim is µmol/s spectrum to minimize operating costs, we will be able to power the greenhouse with high efficiency luminaires up to 4.0 µmol/J. Maximized for light output: If you want to maximize the photons for your crop, our high Wide beam PPF (up to 3580 µmol/s) lamps are the most Compact **Optics high** optimal. You can achieve the best quality, yield size uniformity and nutritional value with them.

Key product features	
• Modular system 1,2,3 module options	• Sandard and wide beam option
 Highest efficiency LED design, up to 4.0 μ mol/J 	• Passive cooling, No moving part!
• High PPF up to 3580µmol/s	 Simple hanging system for easy installation
• Small size for minimal shading	• 180-528V driver, Pf > 0.9
• Life time L90/B50 50000h (Ta=25°C)	• IP66, IK08 rated
• Operating Environment: 0°C to +40°C	 Regulatory approvals CE, RoHS
Remote driver	• Dimming options available (1-10 V and bluetooth controlled)

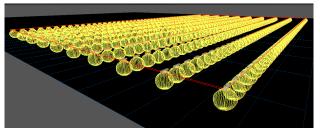
Customizable spectrum

Our crop advisors could help you to choose the most suitable spectrum for your crops and our factory make the lamps accordingly. Exact spectrum may vary between varieties and growth strategies.

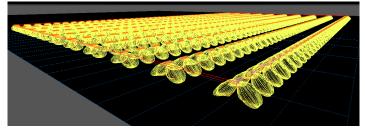
We can customize the spectrum based on what **the buyer** or an **independent crop advisor** or **our own crop adviser** suggests.



Wide beam optics for high uniformity



Standard beam



Wide beam

Uniform light distribution

Fewer fixtures, lower investment cost

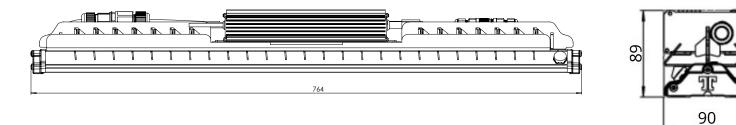
Equal light for all plants, stable yield

Modular system





Dimension (mm) Weight: ~ 3.5 kg per module



Mounting options



Ease of installation

Extra light weight ~ 3.5kg per module

Less shading

Product Specifications for our different product types

With our products, any spectrum can be produced, thus can be requested, so the actual number of product varieties is infinite and depends only on the needs of our customers and their plants.

Lowest initial investment												
Specification		Investi	ment Opti	mized		Specification	Investment Optimized					
Growth Spectrum	HR LB					Growth Spectrum	HR LB G FR					
Lamp type	Single Module			Lamp type	Single Module	Double Module		Triple Module				
Beam type	Standard	Standard	Wide	Standard	Wide	Beam type	Standard	Standard	Wide	Standard	Wid	
P (W)	285	570	570	855	855	P (W)	302	604	604	906	906	
PPF µmol/s	919	1837	1801	2756	2719	PPF µmol/s	923	1846	1806	2769	272	
Efficacy (µmol/J)	3,2	3,2	3,2	3,2	3,2	Efficacy (µmol/J)	3,1	3,1	3	3,1	3	

Maximize energy saving												
Specification		н	igh Efficac	У		Specification	High Efficacy					
Growth Spectrum	HR LB					Growth Spectrum	HR LB G FR					
Lamp type	Single Double Module Module		Triple Module		Lamp type	Single Module	Double Module		Triple Module			
Beam type	Standard	Standard	Wide	Standard	Wide	Beam type	Standard	Standard	Wide	Standard	Wide	
P (W)	259	518	518	777	777	P (W)	271	542	542	814	813	
PPF µmol/s	960	1921	1880	2881	2840	PPF µmol/s	946	1893	1854	2839	2800	
Efficacy (µmol/J)	3,7	3,7	3,6	3,7	3,7	Efficacy (µmol/J)	3,5	3,5	3,4	3,5	3,4	

				Ir	ncrease	d crop yield							
Specification		н	ligh outpu	ıt		Specification	High output						
Growth Spectrum	HR LB					Growth Spectrum	HR LB G FR						
Lamp type	Single Module	Dou Mod		Triple Module		Lamp type	Single Module	Double Module		Triple Module			
Beam type	Standard	Standard	Wide	Standard	Wide	Beam type	Standard	Standard	Wide	Standard	Wi		
P (W)	323	646	646	969	969	P (W)	328	656	656	984	98		
PPF µmol/s	1119	2238	2190	3357	3309	PPF µmol/s	1080	2160	2117	3240	31		
Efficacy (µmol/J)	3,5	3,5	3,4	3,5	3,4	Efficacy (µmol/J)	3,3	3,3	3,2	3,3	3,		

LB: low blue, HR: high red, R: red, FR: far red, G: green

We in Tungsram Operations Kft, are constantly developing and improving our products. For this reason, all product descriptions in this catalogue are intended as a general guide, and we may change specifications from time to time in the interest of product development, without prior notification or public announcement. All descriptions in this publication present only general particulars of the goods to which they refer and shall not form part of any contract. Data in this guide has been obtained in controlled experimental conditions. However, Tungsram cannot accept any liability arising from the reliance on such data to the extent permitted by law. Tungsram Toplight Datasheet – September 2021

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