



Horticulture LED Lighting Technology

Applications & Grow Lights

SOME REFERENCES



LED GROW LIGHT TECHNOLOGY

Grow lights are used in applications where there is either no naturally occurring light or where supplemental light is required. Horticultural LED systems and the spectral science they have made possible have already revealed some amazing effects, including using light alone to create bigger yields per plant; producing more marketable crops overall; and changing the wavelength of light to change the flavor of foods. For these reasons and others, including the ones detailed below, LEDs are on their way to replacing legacy lighting systems in many new and newly renovated growing operations. In addition, LED technology is popular for scientific application to get the best results with high-efficiency photosynthesis and healthy growth duration.

Tissue Culture

Algae Production

Scientific Research

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Plantekno was founded in 2012 to provide the newest lighting technology in the horticultural sector.
We are working hard for the future of agriculture technology.



Professional
APPLICATIONS
with Professional Grow Lights

A successful grow story
begins with professional
Grow Lights



Vertical Farming

GROW INDOOR

high quality and fresh
green plants



Indoor farming technology has more advantages than the traditional farming method. Possible to grow more type plants all year round without regard to the weather, insects, and diseases. True spectrum engineering helps you to grow best plants with a perfect appearance and flavor. We are ready to help you with the turnkey installation.



Greenhouse Lighting

Get More Harvest

Spectrum Combination

Daily Light Integral

Photoperiod

and more...

Quality and high yield are related to temperature, humidity, nutrition, but also lighting of plants. Daily light integral and photoperiod are the critical factor in growth duration. Lighting of plants stimulates or suppress vegetation, flowering and fruiting. Plantekno always provides true and high technology lighting your greenhouse.





Seedling

QUALITY FUTURE starts with a Strong Beginning

Beginning condition of plants between germination and transplant steps is a crucial factor for a healthy growing duration in the future. In this step, plants should have strong root, leaves, body and be able to accumulate power for a healthy growth in the future. You can obtain strong seedlings with true grow light technology.





Grafting

Healthy Grafting

Strong Plants

with powerful lights



A healthy grafting needs true and sufficient level lighting. You can increase your successful grafting rate and reduce your electric usage with Plantekno grow lights. For good results, we are ready to help you install professional lighting.

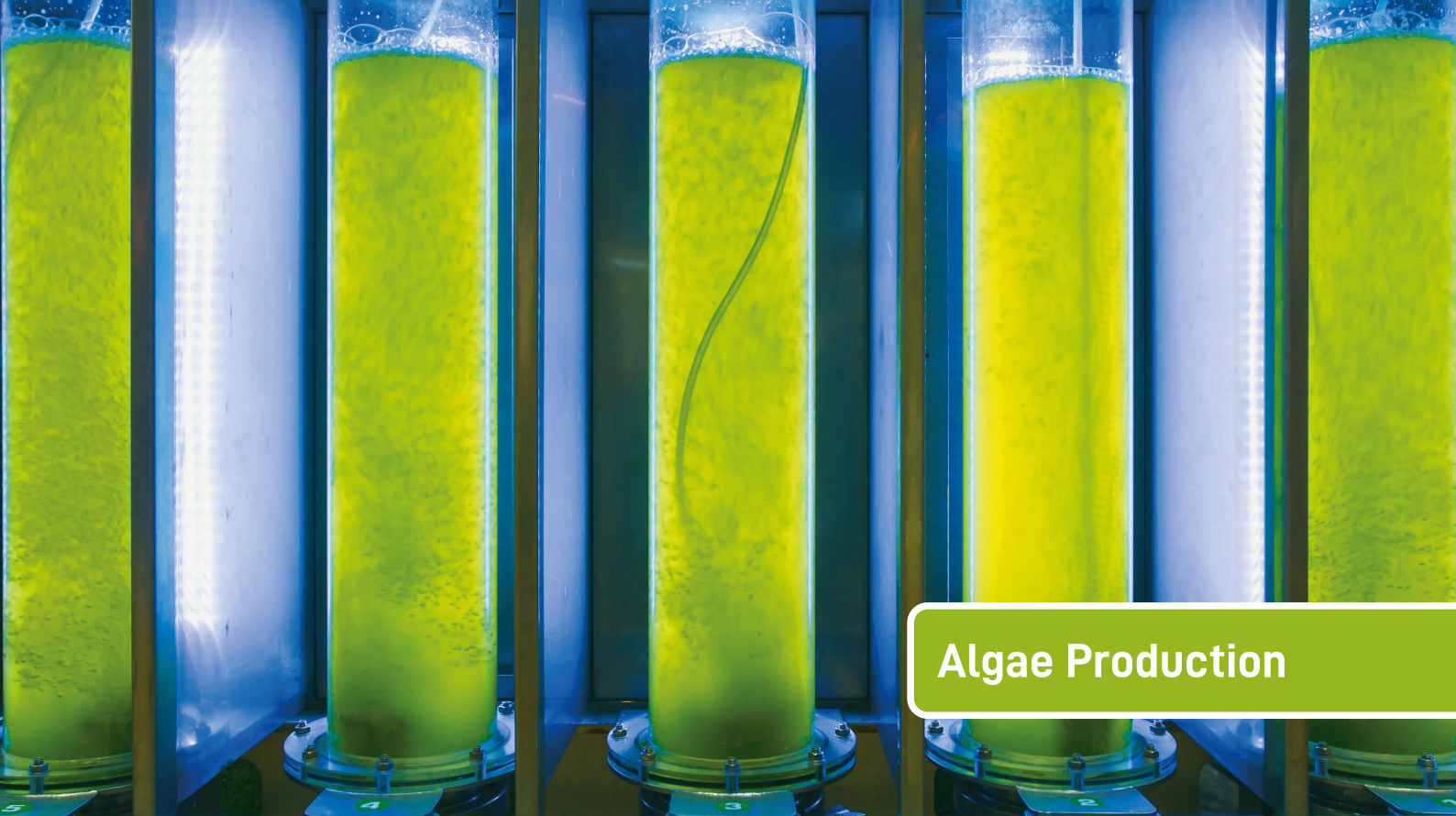


Tissue Culture

Increase Production with a true light recipe



Tissue culture is the growth of tissues or cells separate from the organism. This is typically facilitated via use of a liquid, semi-solid, or solid growth medium, such as broth or agar. Multiplication, shooting and rooting are critical steps to increase the successful production rate. True lighting technics help you to get better results.



Algae Production

Blue-Green Algae increase production capacity

Cyanobacteria (prokaryotes) known as blue-green algae. Algae production in the reactor also needs quality lighting for successful results. LED technology provides many advantages to obtain best results with spectrum recipe. Plantekno can provide quality grow lights for your studies and production process.



Fast Life Cycle

Do not waste more time

Increase **breeding** cycle

Plant breeding uses deliberate interbreeding (crossing) of closely or distantly related individuals to produce new crop varieties or lines with desirable properties. In this duration environmental factors should be suitable for a healthy breeding. Lighting is one of the most important factors for a healthy growth process and to control photoperiodism.



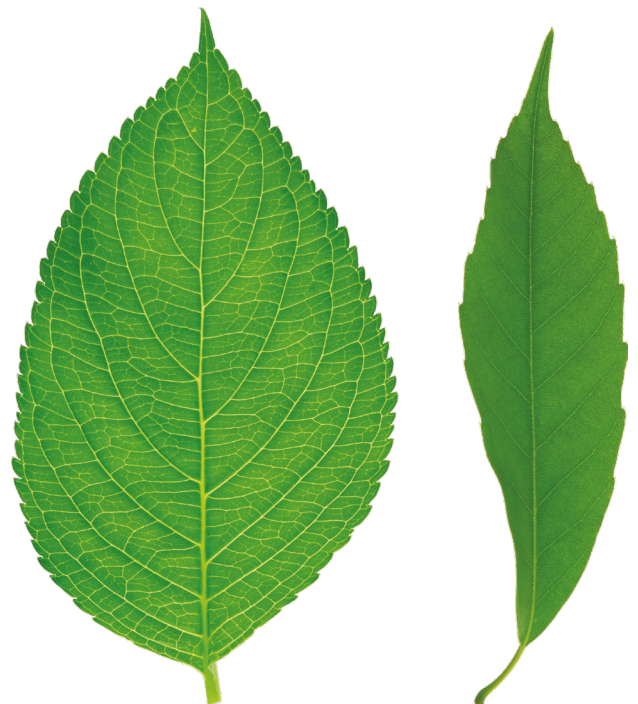


Scientific Research

Light Effects on Plants

Change parameters of light

Each different plant species responds differently to each light condition such as intensity and spectrum combination. Under different conditions, morphological, genetic and chemical changes give us scientific messages. We are always ready to support scientific institutions that are working in this field.





Horticulture Lighting

Professional **GROW LIGHTS** for professional applications



ECOLine was developed for less light required applications. ECOLine series have the thin and lightweight design, nevertheless which works with internal power supply. The IP52 level is provided protection against for medium humidity level environment. EcoLine is suitable for lots of application such as indoor growing, tissue culture, vertical farming, grafting etc.



Vertical Farming



Grafting



Seedling



Tissue Culture

	ECOLine Colorful G1	ECOLine Colorful G2	ECOLine White G1	ECOLine White G2
Power Input	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz	80-305VAC / 50-60 Hz
Power Usage	12/18/24/30/36 Watt	12/18/24/30/36 Watt	12/18/24/30/36 Watt	12/18/24/30/36 Watt
Efficiency	Up to 90%	Up to 90%	Up to 90%	Up to 90%
PPF/W	1.9 µmol/W	2.1 µmol/W	180 Lumen/W	200 Lumen/W
Total PPF	23/34/46/57/68 µmol/s	25/38/50/63/76 µmol/s	2160-6480 Lumen	2400-7200 Lumen
IP Protection	IP52	IP52	IP52	IP52
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
Working Humidity	%80 (non-condensing)	%80 (non-condensing)	%80 (non-condensing)	%80 (non-condensing)
Operating Temp.	30-40 °C	30-40 °C	30-40 °C	30-40 °C
Ambient Temp.	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
Spectrum	Standard and Optional	Standard and Optional	2000K - 10000K	2000K - 10000K
Lifespan L70	40.000h	50.000h	50.000h	60.000h
Viewing Angle	120 degree (50%)	120 degree (50%)	120 degree (50%)	120 degree (50%)
Dimension	60/90/120/180x(29x34) cm	60/90/120/180x(29x34) cm	60/90/120/180x(29x34) cm	60/90/120/180x(29x34) cm
Weight	335/470/610/745/885 g	335/470/610/745/885 g	335/470/610/745/885 g	335/470/610/745/885 g
Certificate	CE	CE	CE	CE
Warranty	2 years	3 years	2 years	3 years

Order Code - Colorful	Length	Power	PPF	Order Code - White	Length	Power	Lumen	CODE	Standard Spectrum Combinations
PL060012D150ECGLC-G1	60cm	12W	23 µmol/s	PL060012D150ECGLW-G1	60cm	12W	2160 L	PL32A	General purpose with highest efficiency output
PL060012D150ECGLC-G2	60cm	12W	25 µmol/s	PL060012D150ECGLW-G2	60cm	12W	2400 L	PL33G	Best combination for Germination purpose
PL090018D150ECGLC-G1	90cm	18W	34 µmol/s	PL090018D150ECGLW-G1	90cm	18W	3240 L	PL34S	Best combination for Seedling
PL090018D150ECGLC-G2	90cm	18W	38 µmol/s	PL090018D150ECGLW-G2	90cm	18W	3600 L	PL35V	Best combination for Vegetative growth
PL120024D150ECGLC-G1	120cm	24W	46 µmol/s	PL120024D150ECGLW-G1	120cm	24W	4320 L	PL36F	Best combination for Flowering and Fruiting
PL120024D150ECGLC-G2	120cm	24W	50 µmol/s	PL120024D150ECGLW-G2	120cm	24W	4800 L	*** Custom design available.	
PL150030D150ECGLC-G1	150cm	30W	57 µmol/s	PL150030D150ECGLW-G1	150cm	30W	5400 L	General Notes <ul style="list-style-type: none"> Optionally a specific spectrum combination with unique colors. Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin PPF, Lumen, Watt values are based on general spectrum combination and can be different according to any other spectrum combinations. All values may vary in the range of +-5%. 	
PL150030D150ECGLC-G2	150cm	30W	63 µmol/s	PL150030D150ECGLW-G2	150cm	30W	6000 L		
PL180036D150ECGLC-G1	180cm	36W	68 µmol/s	PL180036D150ECGLW-G1	180cm	36W	6480 L		
PL180036D150ECGLC-G2	180cm	36W	76 µmol/s	PL180036D150ECGLW-G2	180cm	36W	7200 L		





GreenLine was developed for professional applications such as plant production and research. 100% anodized aluminum body was designed for lowest thermal resistance to provide long lifespan using. GreenLine contains high quality and efficiency LED technology to provide excellent results for your applications.



Vertical Farming



Grafting



Scientific Practices



Seedling



Tissue Culture

	GreenLine G1 75cm	GreenLine G2 75cm	GreenLine G1 150cm	GreenLine G2 150cm
Power Input	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz
Power Usage	30 Watt	30 Watt	60 Watt	60 Watt
Efficiency	Up to 96%	Up to 96%	Up to 96%	Up to 96%
PPF/W	2.8 µmol/W	3.2 µmol/W	2.8 µmol/W	3.2 µmol/W
Total PPF	84 µmol/s	96 µmol/s	168 µmol/s	192 µmol/s
IP Protection	IP65	IP65	IP65	IP65
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
Working Humidity	%96 (non-condensing)	%96 (non-condensing)	%96 (non-condensing)	%96 (non-condensing)
Operating Temp.	30-40 °C	30-40 °C	30-40 °C	30-40 °C
Ambient Temp.	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
Spectrum	Standard and Optional	Standard and Optional	Standard and Optional	Standard and Optional
Lifespan L70	40.000h	60.000h	40.000h	60.000h
Viewing Angle	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)
Dimension	750x48x49mm	750x48x49mm	1500x48x49mm	1500x48x49mm
Weight	1.25 kg	1.25 kg	1.8 kg	1.8 kg
Certificate	CE	CE	CE	CE
Warranty	3 years	4 years	3 years	4 years

Order Code	Length	Power	V. Angle (50%)	PPF	CODE	Standard Spectrum Combinations
PL075030D090GL-G1	75cm	30W	90 degree	84 µmol/s	PL32A	General purpose with highest efficiency output
PL075030D090GL-G2	75cm	30W	90 degree	96 µmol/s	PL33G	Best combination for Germination purpose
PL075030D120GL-G1	75cm	30W	120 degree	84 µmol/s	PL34S	Best combination for Seedling
PL075030D120GL-G2	75cm	30W	120 degree	96 µmol/s	PL35V	Best combination for Vegetative growth
PL150060D090GL-G1	150cm	60W	90 degree	168 µmol/s	PL36F	Best combination for Flowering and Fruiting
PL150060D090GL-G2	150cm	60W	90 degree	192 µmol/s	*** Custom design available.	
PL150060D120GL-G1	150cm	60W	120 degree	168 µmol/s	General Notes <ul style="list-style-type: none"> 100-277VAC Power Input Optionally a specific spectrum combination with unique colors. Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin PPF, Lumen, Watt values are based on general spectrum combination and can be different according to any other spectrum combinations. All values may vary in the range of +-5%. 90° viewing angle can be applied for only high quantity orders. 	
PL150060D120GL-G2	150cm	60W	120 degree	192 µmol/s		





Extreme GreenLine can be the best solution for top lighting in greenhouses. Extreme GreenLine series substitute traditional HID/HPS lighting. It has the important features such as long lifespan, up to 3.20 $\mu\text{mol/W}$ light output and up to 96% electric using efficiency. Extreme GreenLine has IP65 protection structure against water and humidity, which has also a specially designed aluminum body for the best thermal conductivity. In addition, natural cooling technology provides a quiet environment.



Scientific Practices



Greenhouse



Speed Breeding



Seedling



Algae Production

	Extreme GreenLine G1	Extreme GreenLine G2	Order Code		V. Angle (50%)	Power	PPF
Power Input	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	PL120160D090EGLH-G1	90 degree	160W	448 μmol/s	
Power Usage	160 Watt	160 Watt	PL120160D090EGLH-G2	90 degree	160W	512 μmol/s	
Efficiency	Up to 96%	Up to 96%	PL120160D120EGLH-G1	120 degree	160W	448 μmol/s	
PPF/W	2.8 μmol/W	3.2 μmol/W	PL120160D120EGLH-G2	120 degree	160W	512 μmol/s	
Total PPF	448 μmol/s	512 μmol/s	CODE	Standard Spectrum Combinations			
IP Protection	%96 (non-condensing)	%96 (non-condensing)	PL32A	General purpose with highest efficiency output			
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	PL33G	Best combination for Germination purpose			
Working Humidity	%96 (non-condensing)	%96 (non-condensing)	PL34S	Best combination for Seedling			
Operating Temp.	30-40 °C	30-40 °C	PL35V	Best combination for Vegetative growth			
Ambient Temp.	-10 +30 °C	-10 +30 °C	PL36F	Best combination for Flowering and Fruiting			
Spectrum	Standard and Optional	Standard and Optional	*** Custom design available.				
Lifespan L70	40.000h	60.000h	General Notes				
Viewing Angle	90 or 120 degree (50%)	90 or 120 degree (50%)	<ul style="list-style-type: none">• 100-277VAC Power Input• Optionally a specific spectrum combination with unique colors.• Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin• PPF, Lumen, Watt values are based on general spectrum combination and can be different according to any other spectrum combinations.• All values may vary in the range of +5%.• 90° viewing angle can be applied for only high quantity orders.				
Dimension	1210x88x66mm	1210x88x66mm					
Weight	2.6 kg	2.6 kg					
Certificate	CE	CE					
Warranty	3 years	4 years					





ExPAR is a good choice for lighting in greenhouses and any other indoor applications with 320W & 480W options. ExPAR is the best solution substitute traditional HID/HPS lighting with low-cost lighting per unit area. It has the important features such as a long lifespan, up to 3.20 $\mu\text{mol/W}$ light output and up to 96% electric using efficiency. ExPAR has IP65 protection structure against water and humidity to use safely in all usage area. 100% anodized aluminum body provides the best thermal conductivity for healthy lighting and long lifespan.



Scientific Practices



Greenhouse



Speed Breeding



Seedling



Algae Production

	ExPAR Premium 320W G1	ExPAR Premium 480W G1	ExPAR Premium 320W G2	ExPAR Premium 480W G2
Power Input	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz	220-230VAC / 50-60 Hz
Power Usage	320 Watt	480 Watt	320 Watt	480 Watt
Efficiency	Up to 96%	Up to 96%	Up to 96%	Up to 96%
PPF/W	2.8 $\mu\text{mol/W}$	2.8 $\mu\text{mol/W}$	3.2 $\mu\text{mol/W}$	3.2 $\mu\text{mol/W}$
Total PPF	896 $\mu\text{mol/s}$	1344 $\mu\text{mol/s}$	1024 $\mu\text{mol/s}$	1536 $\mu\text{mol/s}$
IP Protection	IP65	IP65	IP65	IP65
Heat Output	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W	3.4 BTU/h.W
Working Humidity	%96 (non-condensing)	%96 (non-condensing)	%96 (non-condensing)	%96 (non-condensing)
Operating Temp.	30-40 °C	30-40 °C	30-40 °C	30-40 °C
Ambient Temp.	-10 +30 °C	-10 +30 °C	-10 +30 °C	-10 +30 °C
Spectrum	Standard and Optional	Standard and Optional	Standard and Optional	Standard and Optional
Lifespan L70	40.000h	40.000h	60.000h	60.000h
Viewing Angle	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)	90 or 120 degree (50%)
Dimension	320x136x240mm	320x136x240mm	320x136x240mm	320x136x240mm
Weight	3.7 kg	4.1 kg	3.7 kg	4.1 kg
Certificate	CE	CE	CE	CE
Warranty	3 years	3 years	4 years	4 years

Order Code	V. Angle (50%)	Power	PPF	CODE	Standard Spectrum Combinations	General Notes
PL120320D090EGLH-G1	90 degree	320W	896 μmol/s	PL32A	General purpose with highest efficiency output	<ul style="list-style-type: none">• 100-277VAC Power Input• Optionally a specific spectrum combination with unique colors.• Available Colors: 450nm, 660nm, 730nm, 2000-10000 Kelvin• PPF, Lumen, Watt values are based on general spectrum combination and can be different according to any other spectrum combinations.• All values may vary in the range of +-5%.• ExPAR series use fan for cooling.• 90° viewing angle can be applied for only high quantity orders.
PL120320D090EGLH-G2	90 degree	320W	1024 μmol/s	PL33G	Best combination for Germination purpose	
PL120480D090EGLH-G1	90 degree	480W	1344 μmol/s	PL34S	Best combination for Seedling	
PL120480D090EGLH-G2	90 degree	480W	1536 μmol/s	PL35V	Best combination for Vegetative growth	
PL120320D120EGLH-G1	120 degree	320W	896 μmol/s	PL36F	Best combination for Flowering and Fruiting	
PL120320D120EGLH-G2	120 degree	320W	1024 μmol/s	*** Custom design available.		
PL120480D120EGLH-G1	120 degree	480W	1344 μmol/s			
PL120480D120EGLH-G2	120 degree	480W	1536 μmol/s			



Turnkey Vertical Farming Solutions



Do you need **Turnkey Solutions**?

Plantekno can help you to install your system with all your needs.

- Grow Light Installation
 - Cable Installation
- Electric Control Panel Installation
 - Shelf Installation
- NFT or DFT Installation
 - Lighting Controller
 - EC-Ph Controller
- Temperature Controller
 - Humidity Controller

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PLANT FACTORY
AUTOMATION
SOLUTION PARTNER with PLANTEKNO

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Turnkey Greenhouse Lighting Installation



We provide turnkey installation services with our professional team.



Lighting Strategy Support

- Lighting Duration
- Lighting Intensity and Spectrum Recipe
- DLI Calculation



Installation Service

- Grow Light Installation
 - Cable Installation
- Electric Control Panel Design & Installation

SmartDLI

Easy and Economic Solution for Economical Lighting

No need any other thing!

SmartDLI technology controls your lights without any human intervention.
Just enter DLI target to start economic & true lighting.

for more information, contact us



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