



SpecGradeLED

Horticulture Lights

SpecGrade LED is committed to increasing yields & ROI with photobiological and engineering excellence.

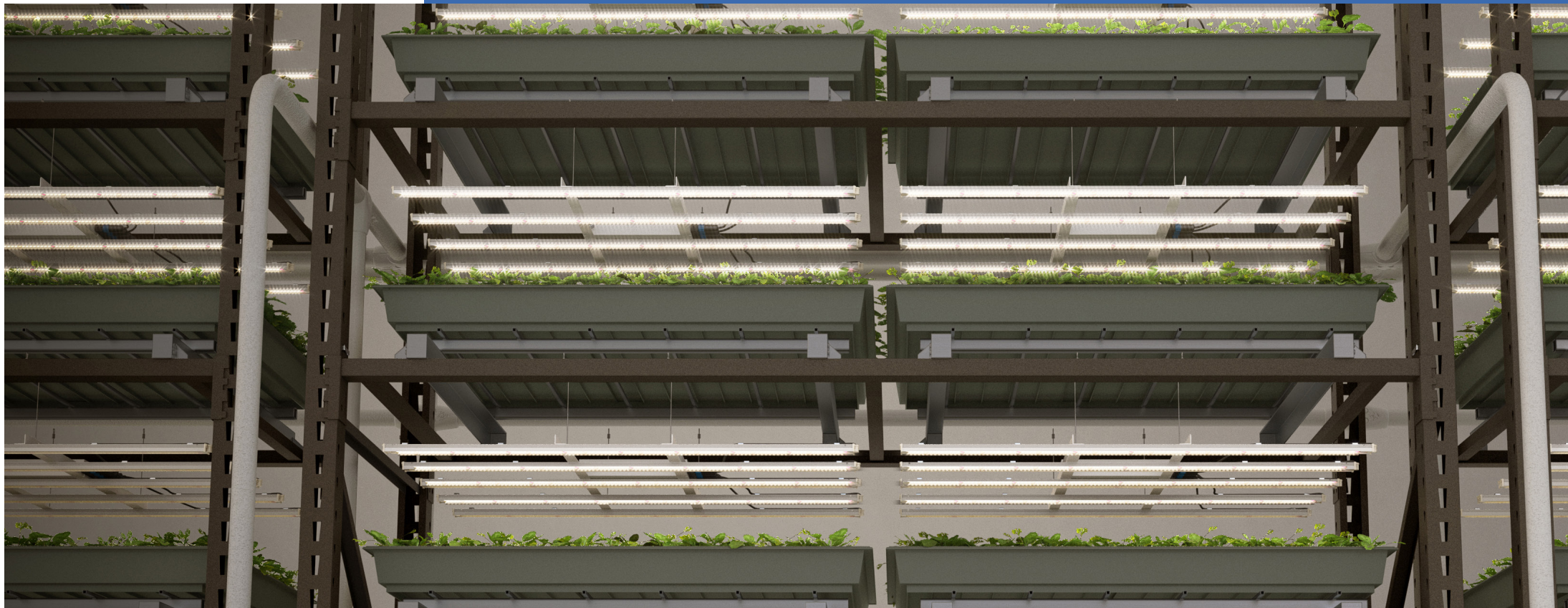
www.specgradeled.com/grow

Grow Lighting: Propagation through Flowering

Introduction

Controlled environment agriculture (CEA), or the practice of growing plants entirely indoors, is on the rise in the United States and around the world. To maximize space, many cultivators are implementing vertical growing practices which require grow lights to be in close proximity to the plant canopy. SpecGrade LED provides horticulture lighting solutions for every stage of a plant’s growth from propagation to vegging to flowering, no matter what you’re growing.

We designed our horticulture lineup with sustainability at the forefront. Not only do our LED grow lights operate at lower temperatures than older technology, but many of our fixtures are modular. The modular design of our fixtures allow cultivators to perform field repair without experiencing extended down-time. It also means that as technology changes, or a different spectrum is desired, growers can easily adapt by replacing the LED boards without replacing the entire fixture.



Contents.

1	Features & Benefits SpecGrade LED's forward thinking and innovative designs bring together sustainability and flexibility for cultivators.
2	Illumina The Illumina's perfect light intensity will result in a reduction of rooting time without bleaching leaves.
3	Flora Series Designed for the vegging stage, the Flora series provides the right spectrum and intensity for micro greens, leafy vegetables, and young cannabis plants.
4	Verta Series Easily go from Vegging to Flowering with the powerful, yet versatile Verta Indoor Series.
5	Linea Series Designed for the greenhouse, these grow lights provide excellent customization options.
6	Extra This inter-canopy grow light is designed and engineered to supplement existing top lighting to increase yields 10-20%.
7	Supplemental Wavelengths Cultivators on the leading edge will appreciate the Far Red and UV modules. Operate them independently from your top lighting.
8	Grow Connect Our daisy-chaining solution makes it easy to set up your lights or rearrange them as needed.
9	Grow Connect Controls Experience the value of having all your environmental data at your fingertips, in-house or remotely.

Features & Benefits

Sustainable Engineering

SpecGrade LED's horticulture lineup places sustainability front and center. Not only do our LED grow lights operate at lower temperatures than older technology, but feature a robust construction that ensures years of use. Because every part of our grow lights must stand up to chemicals, fertilizers, methane emissions, nitrous oxide, heat, humidity, water, dust, and dirt, our engineers specify the highest quality components on the market for each grow light we manufacture.

Proprietary 100% Passive Thermal Mamangement

Our proprietary 100% passive thermal management system radiates less heat onto the plants while at the same time delivering unprecedented light levels and uniformity. It also means that the LEDs will last longer. This makes our indoor horticulture lighting solutions ideal for vertical cultivation.

Proven Spectrums

Our spectrums have been proven at universities and in various grow environments to improve cannabis trichomes and taste while cutting operational costs and shortening grow cycles. Cultivators can rely on our spectral accuracy to provide what their plants need at each growth stage.

Modular Design

The modular design of many of our fixtures allow cultivators to perform field repair without experiencing down-time. It also means that as technology changes, or a different spectrum is desired, growers can easily adapt by replacing the LED boards without replacing the entire fixture.

Industry Leading Warranty

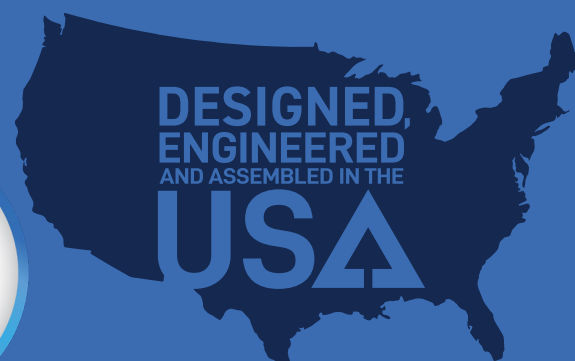
SpecGrade LED's standard 7-year warranty on the LEDs and 5-year warranty on the drivers coupled with DLC certifications says volumes about how our robust engineering will stand up to harsh grow environments. Our tube-style lights have an industry-standard 5-year warranty on the LEDs and drivers. Our use of high-quality materials and our focus on luminaire durability will ensure your grow lighting investment will lower your operational costs while standing the test of time.

5 YEAR*
DRIVER
WARRANTY

*See website for details.

7 YEAR*
LED
WARRANTY

*See website for details.



ILLUMINA PROPAGATION

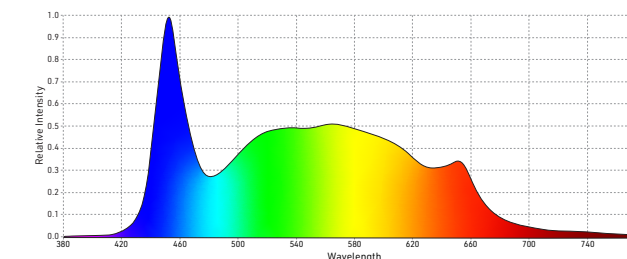
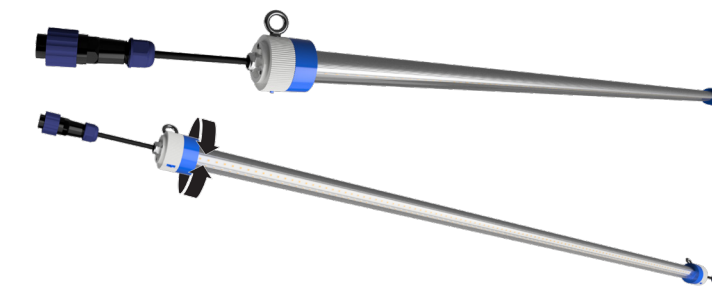
The Illumina is a rotatable propagation grow light with a 150° beam to deliver light exactly where it's needed. At 24 Watts, the Illumina has an efficacy of 2.1 μmol/s. Exceptionally lightweight, the Illumina offers several different mounting options from the included clip rings to surface mounts and suspended installation.

The Illumina comes standard with SpecGrade LED's P2 propagation spectrum, a full spectrum high in the blues between 420-460nm. Compatible with 0-10 Volt dimmers of up to 277V, the Illumina provides a flexible

propagation lighting solution for cultivators. The Illumina has an industry-standard 5-year LED and driver warranty.

Illumina-24

PPF (± 5%)	: 50 μmol/s
System Power	: 24W
Efficacy (± 5%)	: 2.1 μmol/s
Dimensions	: 1.75" x 48.23"
Weight	: 1.5 lbs



P2 Spectrum | Propagation
Standard

FLORA VEG

The Flora Series was the first dedicated grow lighting solution for the vegging phase of the plant growth cycle. It is the perfect LED sole-source solution for micro greens and leafy vegetables as well as the critical veg, clone and propagation stages of cannabis. Lower intensity levels combined with 0-10V dimmer compatability provides tight control. Not only will you improve your horticulture environment,

you will have the ability to reduce operating costs. To minimize stress during this phase, our proprietary thermal management system is designed to direct heat away from your delicate plants.

The Flora Series is designed for vertical cultivation applications with a low profile form factor, superior PAR control and uniformity.

Our proven K1 spectrum will increase your plant’s structural integrity, reduce veg cycle times, ensure proper photosynthesis, as well as increase root biomass.

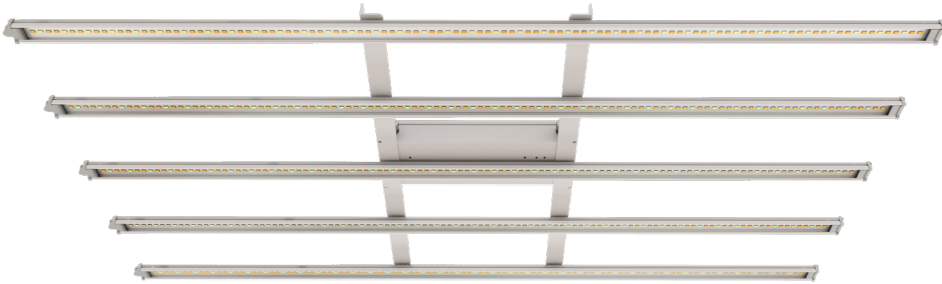


Propagation, Cloning & Vegging



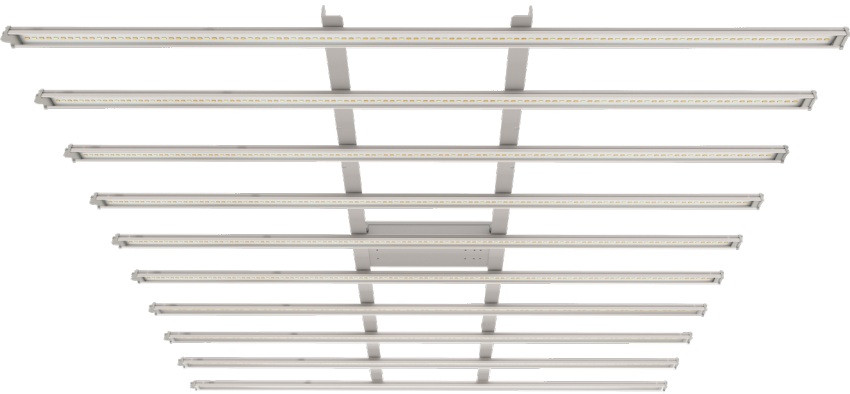
Flora-3

PPF (± 5%)	: 197 µmol/s	Coverage Area	: 1.5' x 4'
System Power	: 90W	Dimensions	: 42.5" x 10.6" x 2.4"
Efficacy (± 5%)	: 2.23 µmol/s	Weight	: 10.1 lbs



Flora-5


PPF (± 5%)	: 322 µmol/s	Coverage Area	: 2' x 4'
System Power	: 150W	Dimensions	: 42.5" x 20" x 2.4"
Efficacy (± 5%)	: 2.23 µmol/s	Weight	: 15 lbs

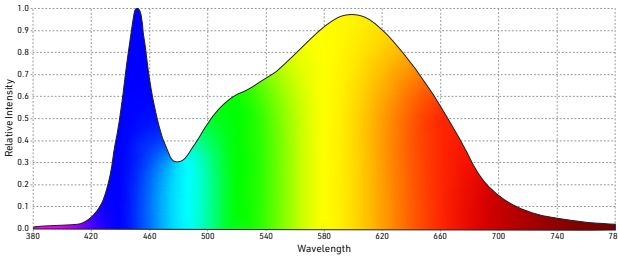


Flora-10

PPF (± 5%)	: 664 µmol/s	Coverage Area	: 4' x 4'
System Power	: 330W	Dimensions	: 42.5" x 42.5" x 2.4"
Efficacy (± 5%)	: 2.23 µmol/s	Weight	: 28.9 lbs







K1 Spectrum | Vegging Standard

VERTA INDOOR

Vegging through Flowering

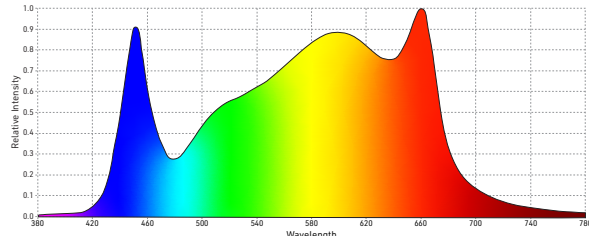
SpecGrade's powerful yet versatile Verta Series is perfect for both flowering and vegging in indoor applications. It's modular design allows you to change out the LED boards should you choose to switch the spectrum or increase the efficacy as technology evolves. The proprietary thermal managment system radiates less heat onto the plants while at the same time delivering

unprecedented light levels and uniformity. The standard 0-10V dimming functions can easily be utilized with the Grow-Connect-ready (daisy chaining) wiring harness. The finely tuned A1 Entire Life Cycle Spectrum has been proven at universities and various grow environments to improve the trchomes and taste while cutting operational costs and shortening grow cycles.

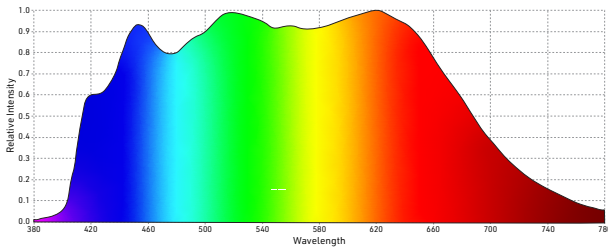
MODULAR DESIGN

100% PASSIVE THERMAL MANAGEMENT

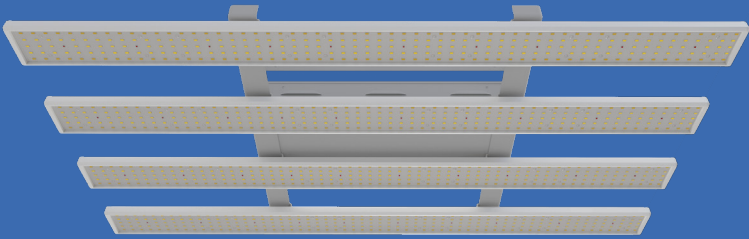
DAISY CHAINABLE



A1 Spectrum | Entire Life Cycle Standard

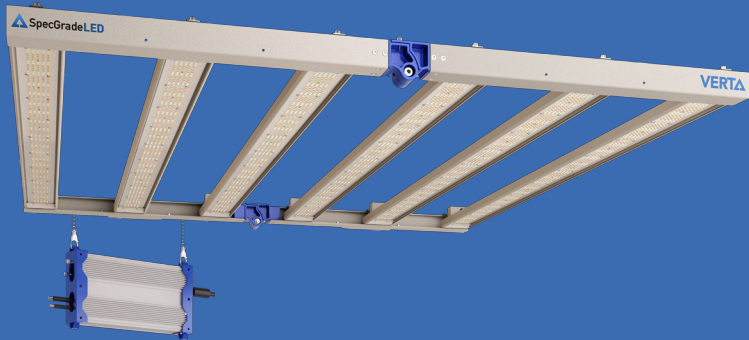


S1 Spectrum | Entire Life Cycle Optional, No DLC Certification



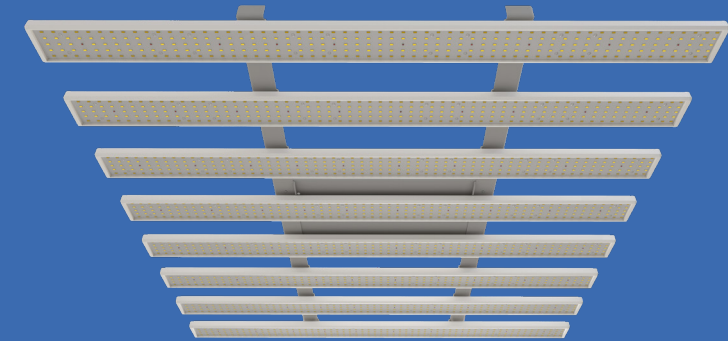
Verta-4

PPF (± 5%)	: 822 µmol/s	Coverage Area	: 2' x 4'
System Power	: 325W	Dimensions	: 42" x 20" x 3.75"
Efficacy (± 5%)	: 2.5 µmol/s	Weight	: 22.5 lbs
<i>*Special Order Only</i>			



Verta-6F

PPF (± 5%)	: 2050 µmol/s	Coverage Area	: 4.5' x 4.5'
System Power	: 720W	Dimensions	: 47" x 42" x 2.5-3.5"
Efficacy (± 5%)	: 2.8 µmol/s	Weight	: 23.5 lbs
<i>*Remote Drive</i>			
		Driver Weight	: 8 lbs



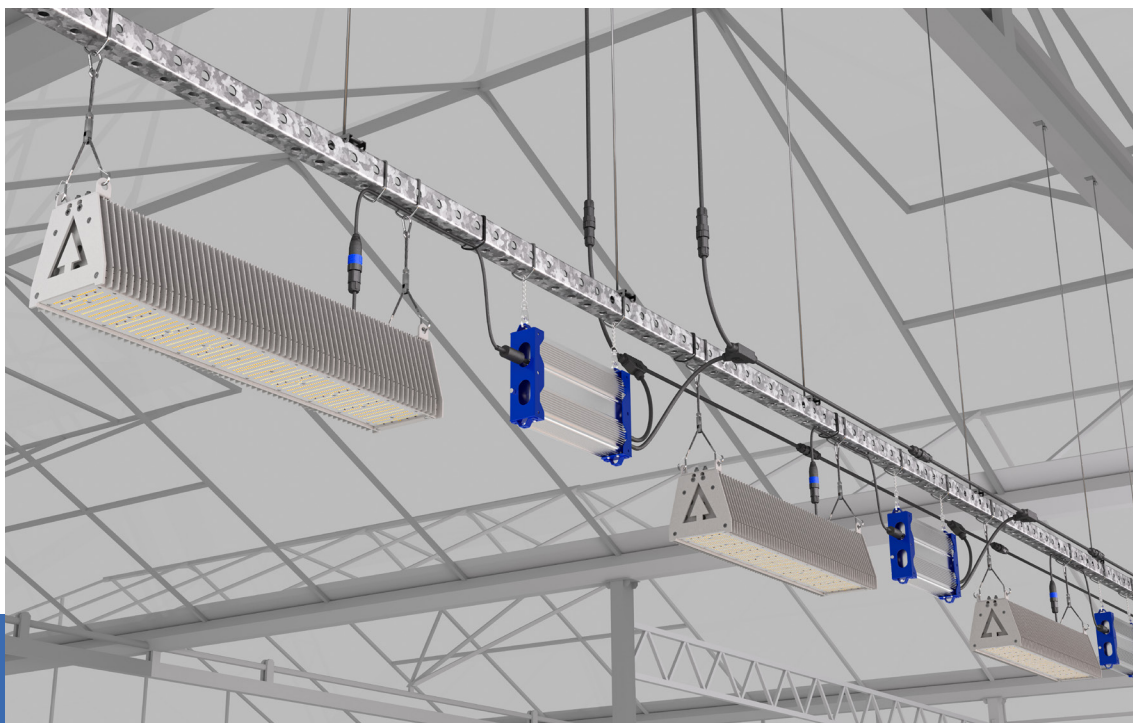
Verta-8

PPF (± 5%)	: 1700 µmol/s	Coverage Area	: 4.5' x 4.5'
System Power	: 640W	Dimensions	: 42" x 42" x 3.75"
Efficacy (± 5%)	: 2.7 µmol/s	Weight	: 43 lbs

LINEA

INDOOR & GREENHOUSE

The Linea Series is designed to provide photobiological and engineering excellence for professional cultivators. Whether your intent is to use this grow light as supplemental or sole-source lighting the Linea will provide your crops with unmatched uniformity and virtually no shadowing. Each wattage is available with an efficacy of up to an industry high of 3.9 $\mu\text{mol/s}$ (using our RB1 Spectrum).



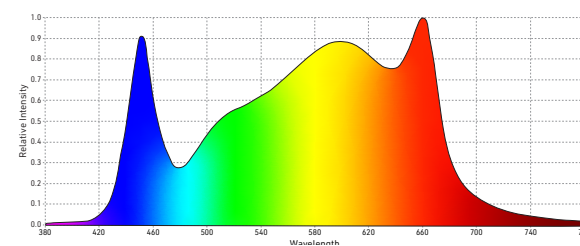
Our proprietary double-folded aluminum heat-sinking fins are engineered to ensure the LEDs will perform at the lowest operating temperature ensuring the longest life.

With three different power levels and spectrums to choose from, the Linea is customizable to meet your environmental needs.

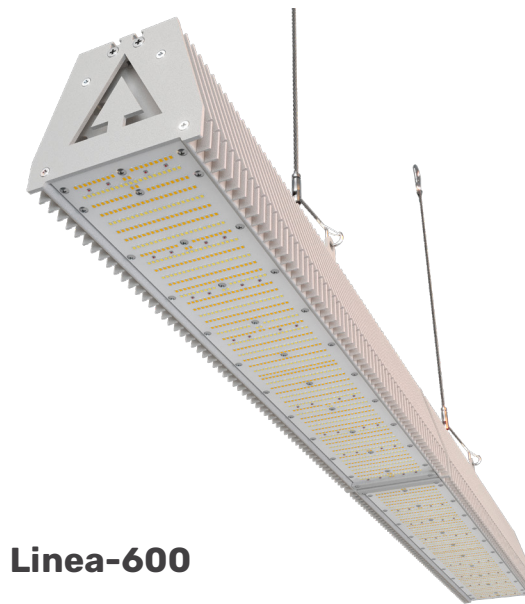


Linea-300

PPF ($\pm 5\%$)	: 780-1230 $\mu\text{mol/s}$
System Power	: 305-320W
Efficacy ($\pm 5\%$)	: 2.5-3.9 $\mu\text{mol/s}$
Coverage Area	: Variable
Dimensions	: 24" x 5.1" x 5.6"
Weight	: 9.5 lbs
Driver Weight	: 7 lbs

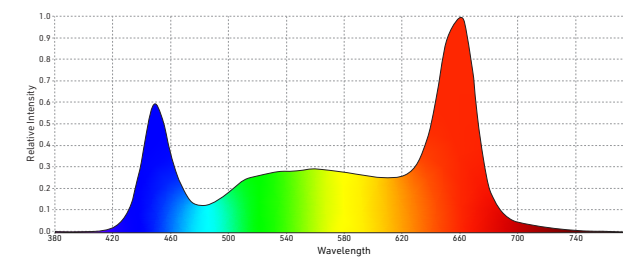


A1 Spectrum | Entire Life Cycle
Standard

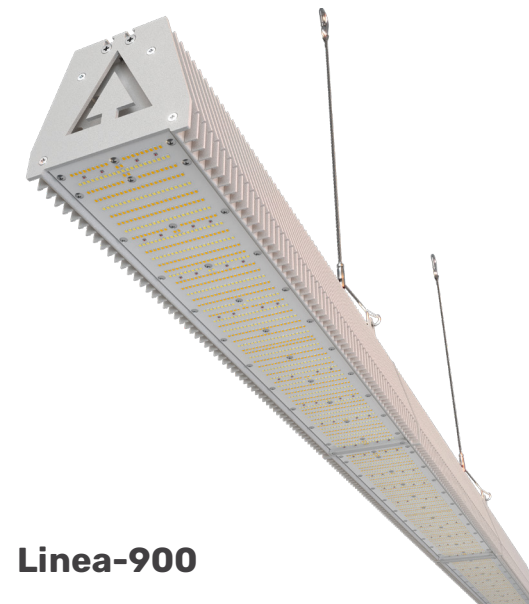


Linea-600

PPF ($\pm 5\%$)	: 1560-2460 $\mu\text{mol/s}$
System Power	: 610-640W
Efficacy ($\pm 5\%$)	: 2.5-3.9 $\mu\text{mol/s}$
Coverage Area	: Variable
Dimensions	: 48" x 5.1" x 5.6"
Weight	: 19 lbs
Driver Weight	: 7 lbs

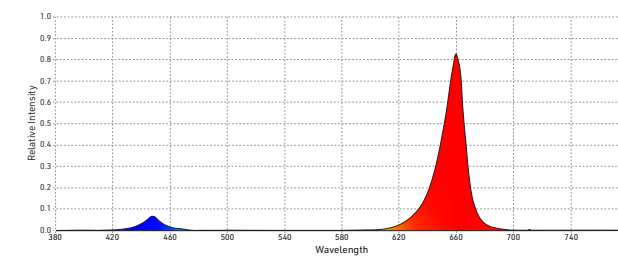


M1 Spectrum | Greenhouse Optimized
Optional, No DLC Certification



Linea-900

PPF ($\pm 5\%$)	: 2340-3690 $\mu\text{mol/s}$
System Power	: 915-960W
Efficacy ($\pm 5\%$)	: 2.5-3.9 $\mu\text{mol/s}$
Coverage Area	: Variable
Dimensions	: 72" x 5.1" x 5.6"
Weight	: 28.5 lbs
Driver Weight	: 7 lbs

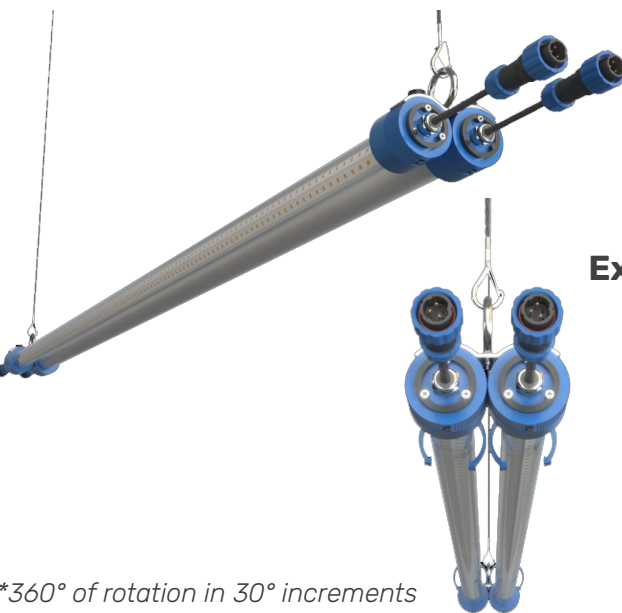


RB1 Spectrum | Maximized Efficiency
Optional, No DLC Certification

EXTRA INTER-CANOPY

The leaves of most plants prohibit the PAR from top lighting from reaching the lower levels on the stalk. SpecGrade LED's bi-directional inter-lighting Extra-48 is designed to drop below the canopy to supplement your existing top lighting increasing yields from 10-20%.

The combination of performance and light weight offer additional versatility to cultivators. Designed with customization in mind, the Extra-48 features aim-able LEDs and is wired for daisy-chaining.

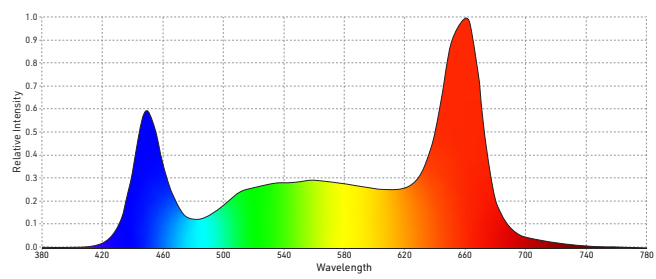


*360° of rotation in 30° increments



Extra-48

- PPF (± 5%) : >100 µmol/s
- System Power : 48W
- Efficacy (± 5%) : 2.2 µmol/J
- Coverage Area : Variable
- Dimensions : 48.27" x 3.5" x 3"
- Weight : 3 lbs



M1 Spectrum | Optimized Standard

FAR RED & UV MODULES

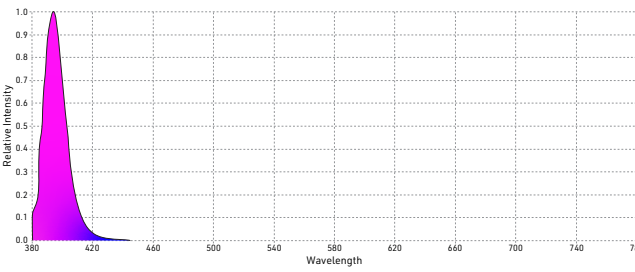
Supplemental Wavelengths

Designed with flexibility and customization in mind, the UV and Far Red offer a rotatable 150° of photon output for directed lighting. Compatible with 0-10V dimmers and daisy-chainable separately from top lighting for easy control.



Ultraviolet

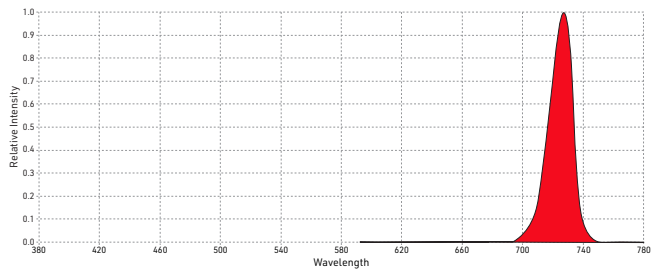
- System Power : 15W
- Coverage Area : Variable
- Dimensions : 48" x 1.5"
- Weight : 1.5 lbs



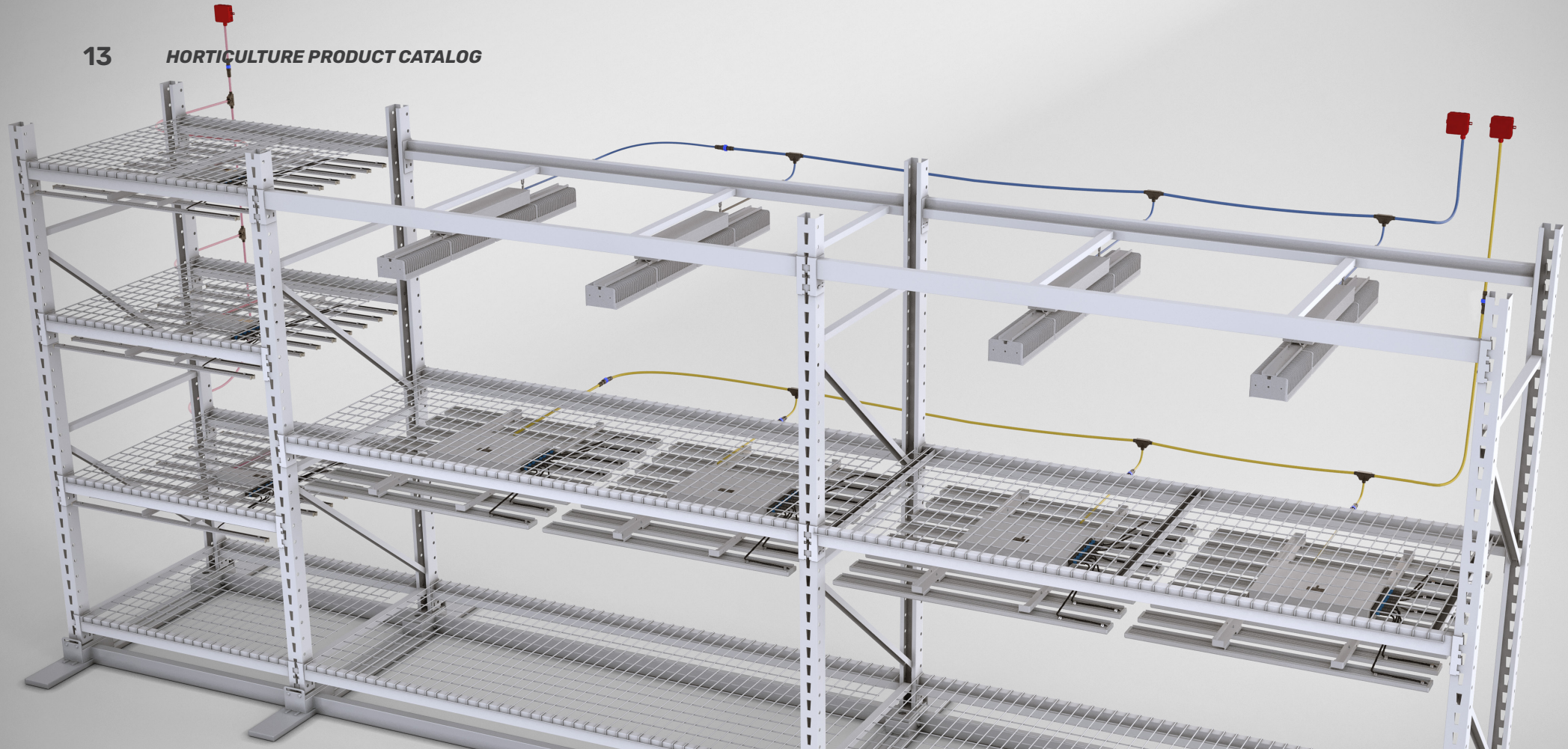
UVA Spectrum Standard

Far Red

- System Power : 15W
- Coverage Area : Variable
- Dimensions : 48" x1.5"
- Weight : 1.5 lbs



Far Red Spectrum Standard

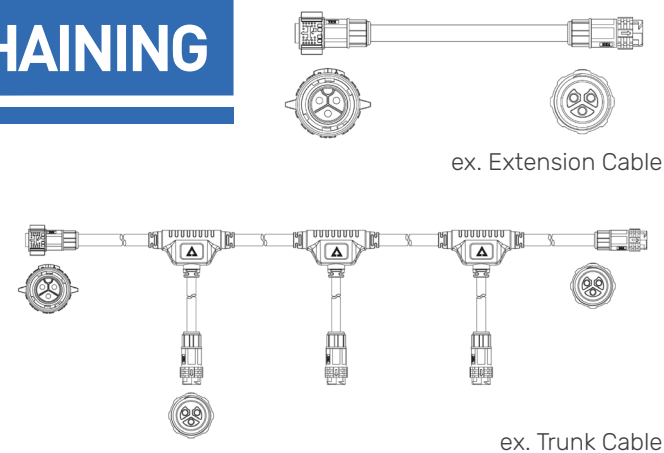


GROW-CONNECT

DAISY-CHAINING

SpecGrade's Grow-Connect is an easy to install daisy-chain wiring solution that is wet-location rated for grow facilities. Multiple grow lights may be wired together in a plug-and-play sequence beginning from the power and/or dimming source. This solution will greatly reduce installation costs

and will even allow you to quickly reconfigure your system without having to call an electrician. Grow Connect is available for separate power or dimming control. Contact a SpecGrade representative for assistance in laying out your system.



GROW-CONNECT

CONTROLS

Powered by

Clarity

Wireless Climate Monitoring System

Grow Connect Controls is the brains of your operation. When connected to PAR Sensors, Soil Probes, and Air Quality Sensors your plants can communicate with your growers better than ever before. Compatible cameras can be integrated for real-time viewing from your dashboard. Your team will also be able to reference up to the minute data and compare historical figures.

Constantly monitor multiple data points across

your sensors and zones. Know immediately about issues by setting alert thresholds. From the mobile app or your computer you can catch potential issues before they cause problems in your growing environment, like micro-climates or power outages.





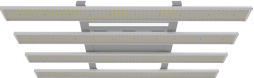

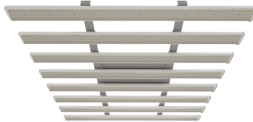

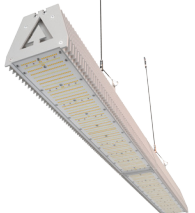
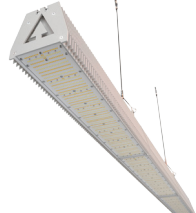



With custom reports, alerts and notifications delivered with the mobile app you can be on top of your environment no matter where you are.

Monitor Temperature
Humidity
Air Quality
Soil Moisture
PAR Levels
Plant Tracking
Cameras
Occupancy

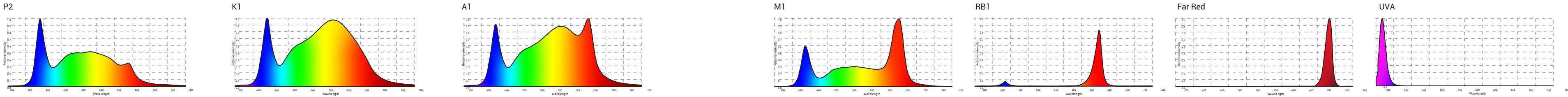
Control Lighting
HVAC
Irrigation
Scheduling

Communication Custom Reports
Alerts & Notifications



	PROPAGATION SERIES	VEGGING SERIES			INDOOR SERIES			GREENHOUSE SERIES			INTER-LIGHTING SERIES	SUPPLEMENTAL WAVELENGTHS	
													
MODEL	ILLUMINA-24	FLORA-3	FLORA-5	FLORA-10	VERTA-4	VERTA-6F	VERTA-8	LINEA-300	LINEA-600	LINEA-900	EXTRA-48	FAR RED	ULTRAVIOLET
DIMENSIONS	48" X 1.75"	42.5" x 10.6" x 3.75"	42" x 42" x 3.75"	42" x 42" x 3.75"	42" x 20" x 3.75"	47" x 42" x 3.5"	42" x 42" x 3.75"	24" X 5.1" x 5.6"	48" X 5.1" x 5.6"	72" X 5.1" x 5.6"	48.27" x 3.5" x 3"	48" X 1.75"	48" X 1.75"
COVERAGE AREA	Variable	1.5'x 4'	2'x 4'	4'x 4'	2' x 4'	4.5' x 4.5'	4.5'x 4.5'	Variable	Variable	Variable	Variable	Variable	Variable
RECOMMENDED MOUNTING HEIGHT ABOVE CANOPY	Variable	5" ~ 12"	5" ~ 12"	5" ~ 12"	6" ~ 12"	6" ~ 12"	6" ~ 12"	Variable	Variable	Variable	Variable	Variable	Variable
PPF	50 µmol/s	200 µmol/s	332 µmol/s	664 µmol/s	822 µmol/s	2050 µmol/s	1700 µmol/s	780-1230 µmol/s	1560-2460 µmol/s	2340-3690 µmol/s	100 µmol/s	N/A	N/A
EFFICACY (±5%)	2.1 µmol/J	2.23 µmol/J	2.23 µmol/J	2.23 µmol/J	2.5 µmol/J	2.8 µmol/J	2.7 µmol/J	2.5-3.9 µmol/J	2.5-3.9 µmol/J	2.5-3.9 µmol/J	2.2 µmol/J	N/A	N/A
SYSTEM POWER CONSUMPTION	24W	90W	150W	300W	325W	720W	640W	305-320W	610-640W	915-960W	48W	15W	15W
LIFETIME	Q90>50,000hrs	Q90>40,000hrs	Q90>40,000hrs	Q90>40,000hrs	Q90>41,000hrs	Q90>41,000hrs	Q90>41,000hrs	Q90>41,000hrs	Q90>41,000hrs	Q90>41,000hrs	Q90>50,000hrs	L90>50,000hrs	L90>50,000hrs
CERTIFICATIONS	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	ETL, CE, IP66, UL8800	CE & IP66	CE & IP66
DLC	Yes (DLC ID: H-0002010)	Yes (DLC ID: H-Y4P7WTR)	Yes (DLC ID: H-VS18PBW)	Yes (DLC ID: H-42LHE2C)	Yes (DLC ID: H-9CA0NFV)	Yes (DLC ID: H-7G3M18)	Yes (DLC ID: H-1HTUKB1)	A1 Spectrum Model* LINEA-300-A1-V01 (DLC ID: H-0002540)	A1 Spectrum Model* LINEA-600-A1-V01 (DLC ID: H-0002538)	A1 Spectrum Model* LINEA-900-A1-V01 (DLC ID: H-0002539)	Yes (DLC ID: H-0002009)	Not Eligible	Not Eligible
LENSED	Yes	Yes	Yes	Yes	Optional	Optional	Optional	No	No	No	Yes	Yes	Yes
AVAILABLE SPECTRA	P2	K1	K1	K1	A1	A1	A1	A1, M1, RB1	A1, M1, RB1	A1, M1, RB1	M1	FAR RED	UVA
DIMMING CAPABILITY	0-10V [Standard]	0-10V [Standard] / DALI / Dim to Off / Wireless									0-10V [Standard]		
WARRANTY	5-Year LED & Driver Warranty	7-Years on the Printed Circuit Board & 5-Years on Drivers									5-Year LED & Driver Warranty		

Spectrums:



* Not all product variations listed on this page are DLC qualified. Visit www.designlights.org/search to confirm qualification

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Address

639 Eastgate Parkway
Columbus, Ohio 43230

Phone & Fax

Free Toll : 880-410-5337
Phone : 614-868-5337

Online

Email : info@SpecGradeLED.com
Website : www.SpecGradeLED.com/Grow

10 YEARS
OF
EXCELLENCE

