
Do you want
to grow with us?
hispaledGrow
SMART GROW SOLUTIONS
hispaled.es

SmartGrow®

Audit > Methodology > Installation > Control > Warranty

In recent years, Hispaled has participated in a process of research, development, and testing of LED lighting projects for greenhouse crops. This experience, carried out in collaboration with producers and experts from the academic world, has led to the launch of a range of high-tech products with variable light spectra depending on the crop and/or its phenology: flowering, vegetative phase, germination, and emergence, among others.

HispaledGrow® has over 10 years of experience in connectivity solutions applied to SMART LIGHTING.

Our LEDHI system has three functional elements:

SENSORIZATION

This is a network of specific spectrum light sensors to identify the needs of plants at certain wavelengths.

They are responsible for recording the level of radiation for different wavelengths over time and transmitting the data to a central server for analysis.

AUTOMATION

Central processing system. The heart of the system is a software platform responsible for analysing spectrum inputs (sensor data) and generating control outputs to the LED luminaires to complete the measured spectrum and obtain the target spectrum programmed by the user.

LIGHTING

Dynamic spectrum LEDs. These are responsible for providing complementary light radiation to natural light in the greenhouse.

They have an LED engine based on a mixture of different types of LED diodes according to their spectral radiation.

We work on your plants, in your greenhouse...

With SmartGrow®, we provide you with remote control of your lighting installations, allowing you to optimise and fully control production.

LEDHI®: Intelligent supplemental lighting system based on dynamic spectrum LED technology for horticultural crops under glasshouses

SmartGrow® Linear LED Solutions

hispaled Grow
SMART GROW LAMPS
HORTICULTURE

INTER LIGHTING

	HG-IL-120	HG-IL-240
Length	1200 mm	2400 mm
Input voltage	180-528V	180-528 Vac
Power	70W	140W
Flow	195 µmoles	390 µmoles
Efficiency	2,8µmoles/J	2,8µmoles/J
IP rating	IP65	IP65

HISPALED GROW INTERLIGHTING® is a **linear configuration system with LED technology** that is 100% flexible, easy to install, and fully configurable in terms of both intensity and spectrum.

Its light opening system makes it ideal for use in vertical growth crops, at a very short distance from the plant, making it the most efficient system available. It is also an ideal solution for **vertical farming** installations.

SmartGrow® Spectrum

We develop specific colour formulation programmes for greater performance and production care.

Phase Vegetative

Phase Flowering

Broad Spectrum

Benefits:

Linear luminaires

Installation Scalable

Remote Control SMART GROW

Increase in production

Quality control

Pharmaceutical applications

SmartGrow® Modular LED Solutions

HISPALED GROW TOP LIGHTING® is a **modular LED system for overhead lighting of crops in open fields**. It allows each stage of cultivation to be controlled with variable or fixed spectrum equipment, **adapting the basic configuration of the luminaires in systems of 1 to N independent blocks according to requirements.**

The modules incorporate high-performance power LEDs, offering extensive product guarantees and the highest yields on the market.

hispaled Grow
SMART GROW LAMPS

HORTICULTURE

TOP LIGHTING

	HG-TL-150	HG-TL-300 *
Input voltage	180-528V	HG-TL-450 *
Power	150W	HG-TL-600 *
Flow	420 µmoles	
Efficiency	2,8µmoles/J	
IP rating	IP65	

* Proportional values for 2 / 3 / 4 modules

SmartGrow® Spectrum

We develop specific colour formulation programmes for greater performance and production care.

Phase Vegetative | Phase Flowering | Broad Spectrum

Benefits:

Linear luminaires | Installation Scalable | Remote Control SMART GROW

Increase in production | Quality control | Quality control

hispaledGrow
SMART GROW SOLUTIONS

INSTALLATION SOLUTIONS

TOP LIGHTING

Designed for overhead lighting of crops in soil, seedbeds, etc.

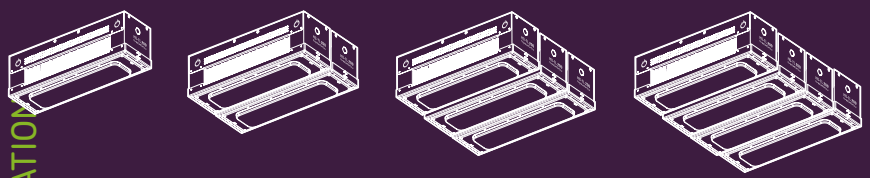
TOP LIGHTING®
It is a MODULAR SYSTEM that allows each phase of cultivation to be controlled, adapting the lighting to a set of independent modules to provide the necessary spectrum at all times.

Custom installation

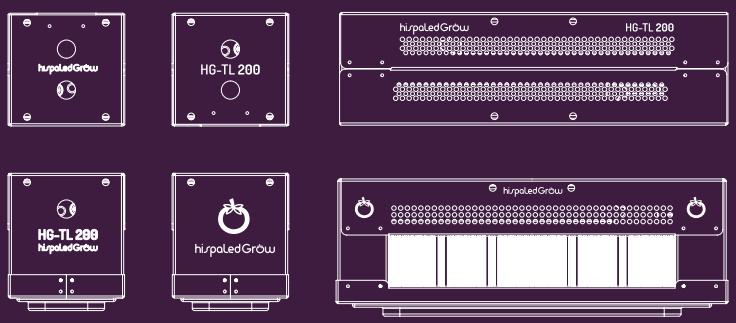
Hispaled will study the most suitable solution for your greenhouse, both in terms of installation (height, layout and number of lights, etc.) and in terms of flow and the '**Smart**' spectrum. Once the system is up and running, the '**Smart Grow**' platform collects data from the sensor system and generates the necessary changes to ensure that the plant works properly.

BASIC SETTINGS

HG-TL-150W HG-TL-300W HG-TL-450W HG-TL-600W



TECHNICAL SPECIFICATION TOP LIGHTING

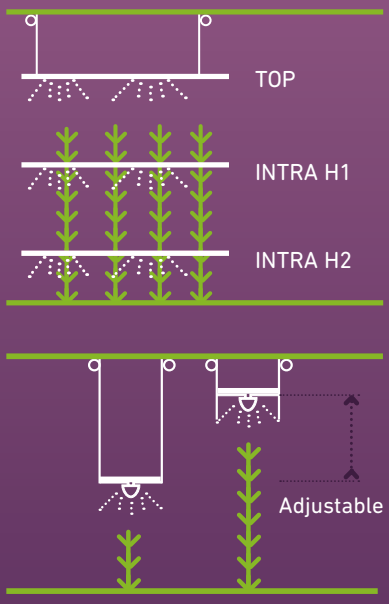


INTER LIGHTING

Maximum efficiency for crops in suspended supports, or *vertical farming*

FLEXI LIGHT® SYSTEM: HEIGHT ADJUSTABLE

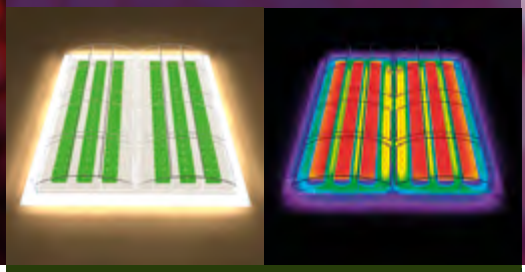
The distance is controlled by a pulley system, allowing the height to be adjusted according to the growth of the crop.

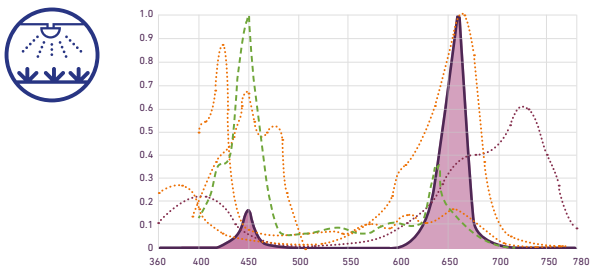


Discover the power of the dynamic spectrum SmartGrow®

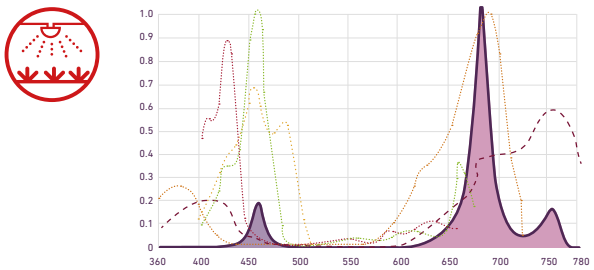
THE KEY TO SUCCESS, SMARTGROW: A LUMINARY, INFINITE SOLUTIONS

Our dynamic SmartGrow® SPECTRUM is equipped with artificial intelligence-based technology that learns, modifies, and optimises processes based on the crop's response to environmental conditions and plant nutrition.

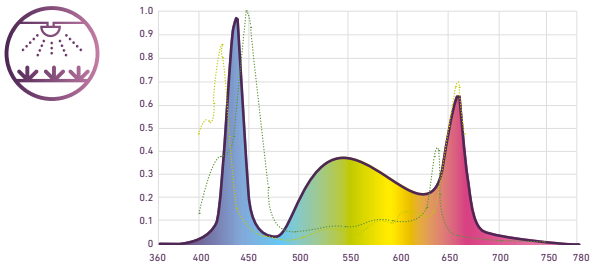




The images show three different customised light spectra, which are the result of studying three different crops at different phenological stages.



In the first two, wavelengths centred more on blue or red prevail, while the third corresponds to a broader spectrum,



At Hispaled, we have identified and tested more than 100 different spectra, and as a result, we have a very extensive database that we can use to continue working on constantly improving crop production yields.

SPECTRUM AUDIT

By using PAR (Photosynthetically Active Radiation) sensors, we supplement with artificial lighting until we achieve the optimal lighting levels for each crop, known as DLI (Daily Light Integral).

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SmartGrow®

Would you like to grow with us?

hispaledGrow

SPAIN

HEADQUARTERS / FACTORY
MADRID / GALICIA

BOLIVIA

LA PAZ
DELEGATION

COLOMBIA

BOGOTÁ
DELEGATION

MOROCCO

CASABLANCA
DELEGATION

Networks

hispaled
A different vision

THC
Tetrahidrocannabinol

CBD
Cannabidiol

SmartGrow® for Cannabis crops

LED Solutions
HORTICULTURE

CANNABIS
MEDICAL APPLICATIONS

For our cannabis cultivation project, we will have three areas with clearly defined processes in which we can apply two light spectra, controlling the power applied by the number of lights, area, and angle of light emission.

MOTHERS AND CUTTINGS

During the multiplication phase, rooting is very important to achieve high plant quality, as it needs a period of light acclimatisation for its morphological development: internodal growth, diameter and height of the shoot/trunk.

For this phase, we use the EL-145 light spectrum. For cuttings, we apply the same spectrum, but we work with 100° optics to focus on the trays and slightly increase the energy deposited on the crops.

VEGETATIVE STAGE AND GROWTH

This phase is vitally important for the crop, as it is during this phase that the leaf tissue will develop, which will be responsible for fixing CO2 for carbohydrate synthesis.

During this phase, the crop needs a light spectrum that pays more attention to the percentages of wavelengths in the blue range. For this phase, the spectrum developed corresponds to EL-238.

REPRODUCTIVE PHASE AND FLOWERING

During this phase of inflorescence formation, the photoperiod is critical. During this phase, the crop needs greater light intensity in order to translocate and synthesise carbohydrates, alkaloids and terpenes to the inflorescences.

Lighting requirements during this period change considerably in duration, intensity and quality, with the focus on the percentages of red wavelengths.
The EL-135 spectrum is available for this phase.