Ultra Plant™

Grow Light Specification Sheet

Brings You Better Margin from Plant.

UP150P

Model
Premium

Ultra Plant™ is the most versatile horticulture lighting with dimmable spectrum control, uniform light distribution, suitable for top lighting of all types of crops. No matter it applies to anywhere for any crop, Ultra Plant™ can do perfect work for you.

www. fetonlight.com

Subject to Ultra Plant_Spec Sheet_Rev. 122021

General Introduction

Ultra Plant™ offers One Chip Technology aimed to meet your expectation such as improve quality, increase yield, or better the margin, etc., all for helping you realize a higher return on your crops.

We combined our advanced All-In-One technology with patented optical design and customized light spectrum supported from our experienced LED engineers, plant specialists and other partners working on horticulture.

Ultra Plant™ is the most versatile lighting fixture with flexible brightness, precise spectrum control and uniform, wider light distribution, suitable for top lighting of all types of crops. No matter it applies to anywhere for any crop, Ultra Plant™ can do perfect work for you.

One Chip Technology

The One Chip Technology, also called All-In-One, is a complete new approach in horticulture LED lighting.

Ultra Plant™ is developed according to an idea of the combination of full spectral into one LED chip – it has never been deployed yet in horticulture lighting but why not?

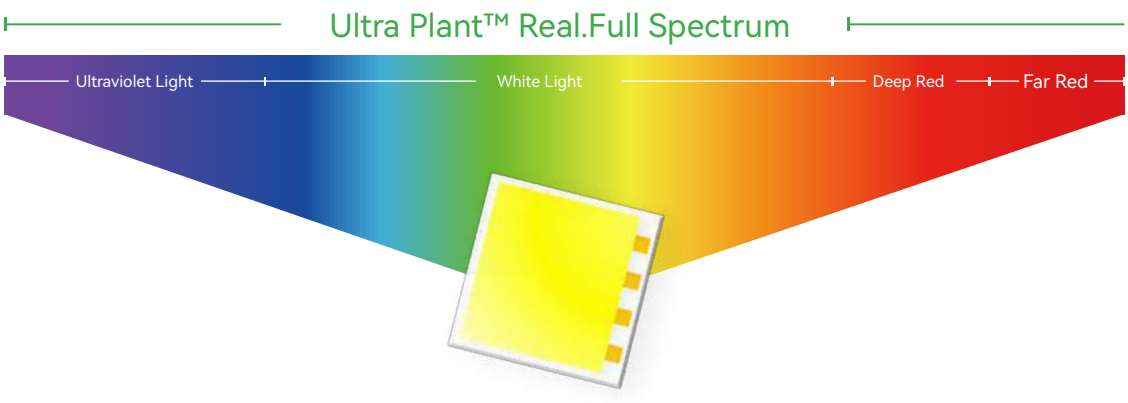
We have noticed that there still has a demand on uniformity of light distribution and full spectra distribution for those who want a better crop yield, quality and ROI.

The importance of uniformity distribution in LED grow light systems is many times seriously underestimated. Certainly plants are more sensitive and have absolute need of a proper light distribution.

A lot of horticulture LED grow lights seem perfect but sometimes still have difficulties for users to manage a perfect light distribution for their crops.

Now, One Chip Technology can realize perfect distribution from the LED design. Every piece of 5050 chip will irradiate UV, white light, deep red and far red spectrum and is dimmable in the device. Based on the uniformity, Ultra Plant™ is the solution to manage crops' growth and quality to keep pace with each others, to ease investment in labor.

Ultra Plant™ is not just to settle today's problems in LED grow lights, but offers possibilities in the future you grow.



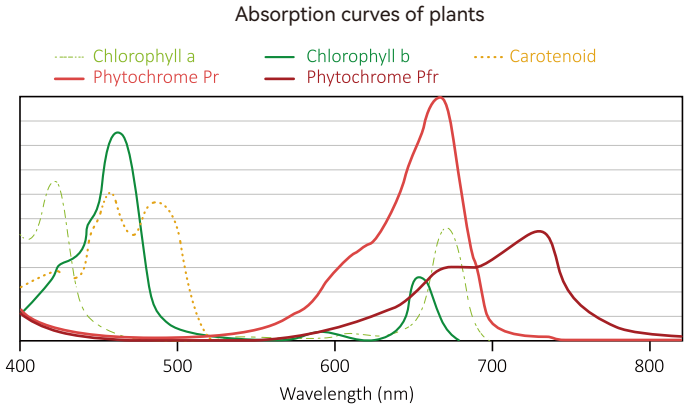
Light and Plant Growth

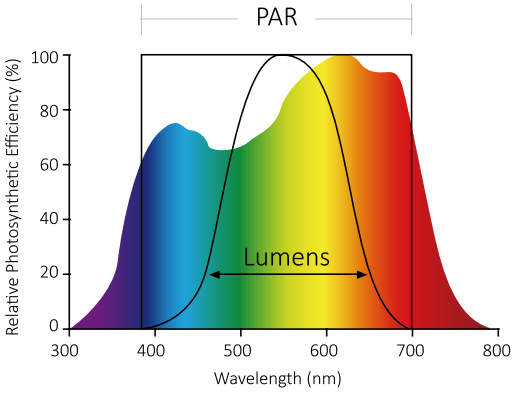
Every crop and every growth stage requires an individual light receipe, including wavelength, photoperiod and intensity.

Plants absorb radiation mostly in the 380-700nm visible range and convert CO_2 uptake and water into oxygen and glucose. The amount of absorption in each wavelength depends on the cellular structure of the plant and may differ from species to species somewhat.The amount of light affects the photosynthesis process in the plant. This process is a photochemical reaction within the chloroplasts of the plant cells in which CO_2 is converted into carbohydrate under the influence of the light energy.

The spectral composition of the different wavelength regions (blue, green, yellow, red, far red or invisible e.g. UV or IR) is important for the growth, shape, development and flowering (photomorphogenesis) of the plant. For the photosynthesis, the blue and red regions are most important.

Photosynthetic efficiency is mainly driven by chlorophyll a and b. Chlorophyll a and b are mainly responsible for the photosynthesis and responsible for the definition of the area for the photosynthetically active radiation PAR. Therefore, more accurate the light is provided, higher the photosynthetic efficiency is, and better the growth is.





Wavelength Effects on Plants

Light is what determines photosynthesis and that triggers multiple physiological processes in plants. It is defined by spectral composition, intensity, duration, distance, direction and colour. In below chart, we take a deeper look into the visible wavelength range and how each influences plant growth.

Wavelength Range	Photosyntesis	Further Effects
200~280nm		Harmful
280~315nm		Harmful
315~380nm		Enhance plant architecture and long-term health
380~400nm	Yes	
400~520nm	Yes	Vegetative growth
520~610nm	Some	Vegetative growth
610~720nm	Yes	Vegetative growth, Flowering, Budding
720~1000nm		Germination, Leaf building and growth, Flowering
> 1000nm		Converted to heat

Ultra Plant™ Real.Full Spectrum-660nm Enhanced

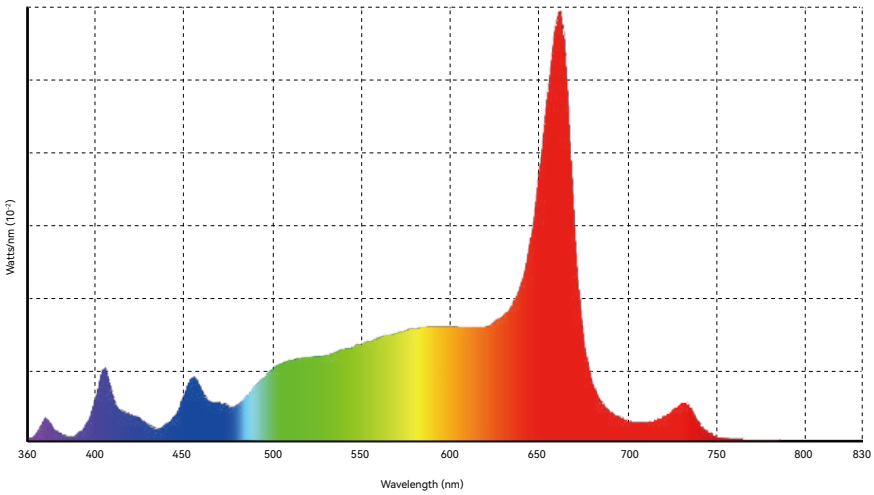
All-In-One Spectral Distribution

- 315~400nm is considered one of the longest UV light wavelengths and it can enhance plant pigmentation, thicken leaves and may even help manage insect populations. It's used to manage plant architecture and long-term health.

- 440~500nm plays a major role in plant quality and is needed to ensure that plant development is optimal, and optimised. In conjunction with this light, the plant's roots are developed properly, that growth is managed correctly, and that chlorophyll absorption is maximised. At this light wavelength leafy plants really do benefit the most.

- 610~700nm is considered the optimum wavelength for chlorophyll absorption, germination and flower or bud development. With a clear focus on hyper red 660nm spectrum, this wavelength is perfect for flowering and for photoperiodism.

- 700~800nm increases the rate of photosynthesis and recent research has found that this can promote extension growth, enhance the transition period from vegetative growth to flowering and has myriad benefits.



All-In-One Distribution

Spectra Section	Dimming Range
UV + Visible	0, 10%~100%
White Light	0, 10%~100%
Far Red	0, 10%~100%
Deep Red	0, 10%~100%

PPFD Map Reference

AVE PPFD 777

532	772	806	524
723	1074	1065	741
709	1060	959	658
508	799	677	471

1128

150W 2.13μmol/J
Height=30cm/12"

AVE PPFD 576

348	513	522	362
504	737	739	549
529	757	788	562
427	615	601	428

810

150W 2.13μmol/J
Height=45cm/18"

AVE PPFD 420

304	353	350	281
390	479	488	388
438	526	530	418
371	465	466	357

532

150W 2.13μmol/J
Height=60cm/24"

Illuminance Distribution

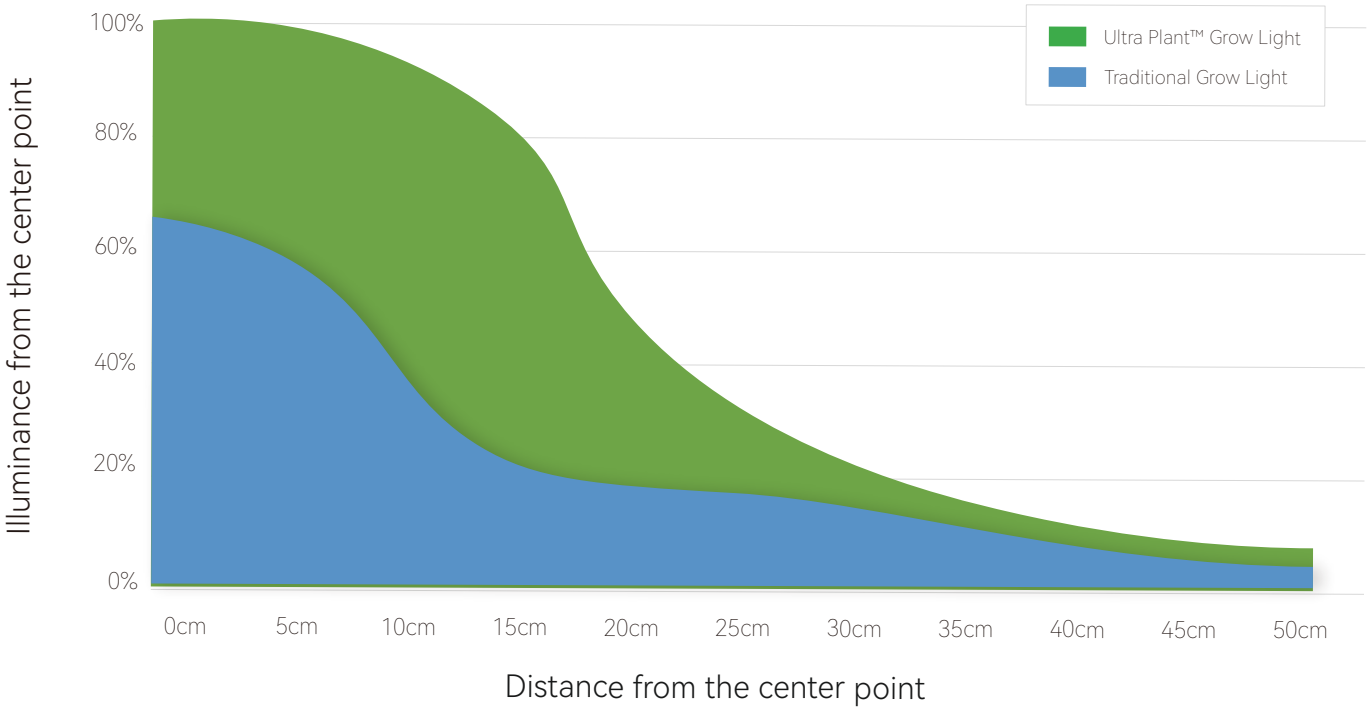
Ultra Plant™ One Chip Technology offers a more uniform, higher illuminance distribution in full spectrum or specific spectral range. Take 660nm as an example, under same power, hanging height and coverage, Ultra Plant™ outperforms traditional grow lights in center point, edge point and overall uniformity.

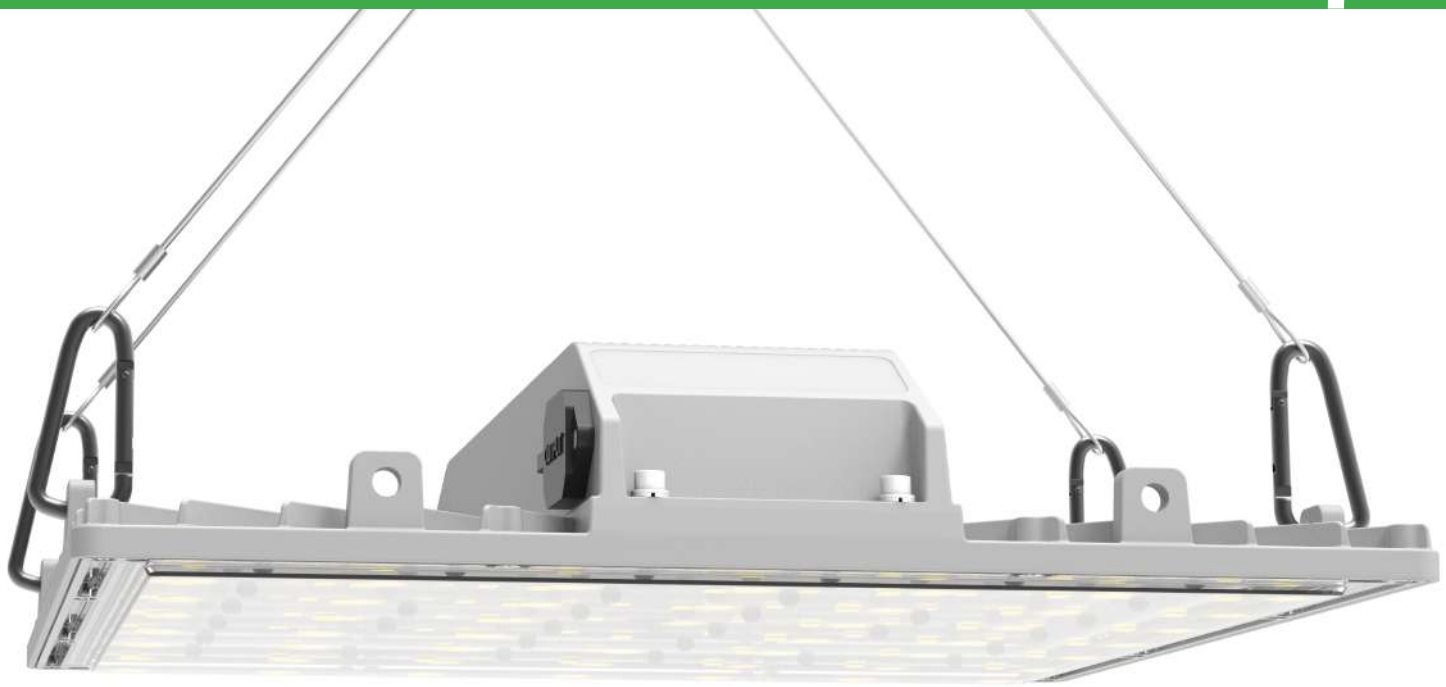
One obvious feature is that Ultra Plant™ has fewer LED chip in total but every chip delivers higher illuminance and the same wavelength under different specific spectra. Let's take 660nm as an example:

44% Higher in the center point

66% Higher in the edge point

66% Higher average illuminance





Feature

- One chip for full spectrum
- 4-channel dimmable spectrum
- Maximize light uniformity
- Balanced irradiation intensity
- Smart dimming control
- Suitable to more than one plant

Application

Ideal for top lighting solution for commercial applications, all phases of plant growth, sowing, flowering, fruiting, breeding and cultivation in the house garden, pot culture, vertical farm, flower exhibition, bonsai, greenhouse and pipeline.




Qualification & Warranty

FC IP 65 3 YEARS WARRANTY

Technical Details

General	
Product	Ultra Plant™ Grow
Model	UP150P
Electrial	
Input Voltage	AC100-277V
Frequency	50/60Hz
Power	150W
Power Factor	> 0.96
Optical	
PPF	255.6μmol/s (White + Deep Red)
PPE	2.13μmol/J (White + Deep Red)
Spectral	White Light, UV+Visible Deep Red, Far Red
Beam Angle	90°
Physical	
Dimming	0~100% (APP)
Lifespan	L70 > 50,000 hours
Material	Die-Casting Aluminum + PMMA
Product Size	360x360x60mm (14.2"x14.2"x2.4")
Net Weight	4.0KG (8.8lbs)
Gross Weight	4.4KG (9.7lbs)
Package	
Carton Size	400x400x175mm (15.7"x15.7"x6.9")
CTN	2PCS
Carton Weight	10.2KG (22.5lbs)

Parts & Accessories

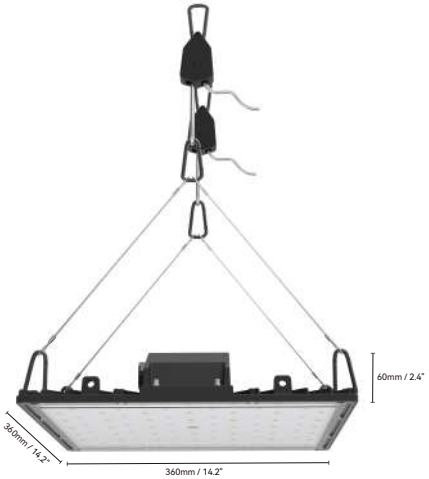
6.5ft Power Cord - 1PCS

1/8" Rope Racket Hanger - 2PCS

Hanging Cors - 4PCS

Quick-lock Bolt - 2PCS

Plate Breacket - 2PCS



LED Grow Light Fixture - 1PCS

Kindly Note:

1PCS Daisy chain cord will be provided for every extra 1 pack.

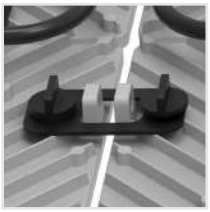
Installation

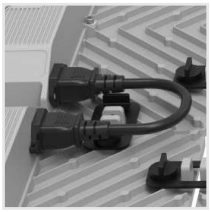
1 Pack Installation

1. Attach hanging cors on holes at the back of the fixture.
2. Connect hanging cors with lifting rope with carabiners.
3. Adjust the lifting rope to a suitable installation height and hang up.
4. Plug the power cord to the socket.

2/3/4 Packs Installation

1. Insert plate brackets into the right position.
2. Lock plate brackets with quick-lock bolts.
3. Connect the fixtures with daisy chain cord.
4. Follow above “1 Pack Installation”.





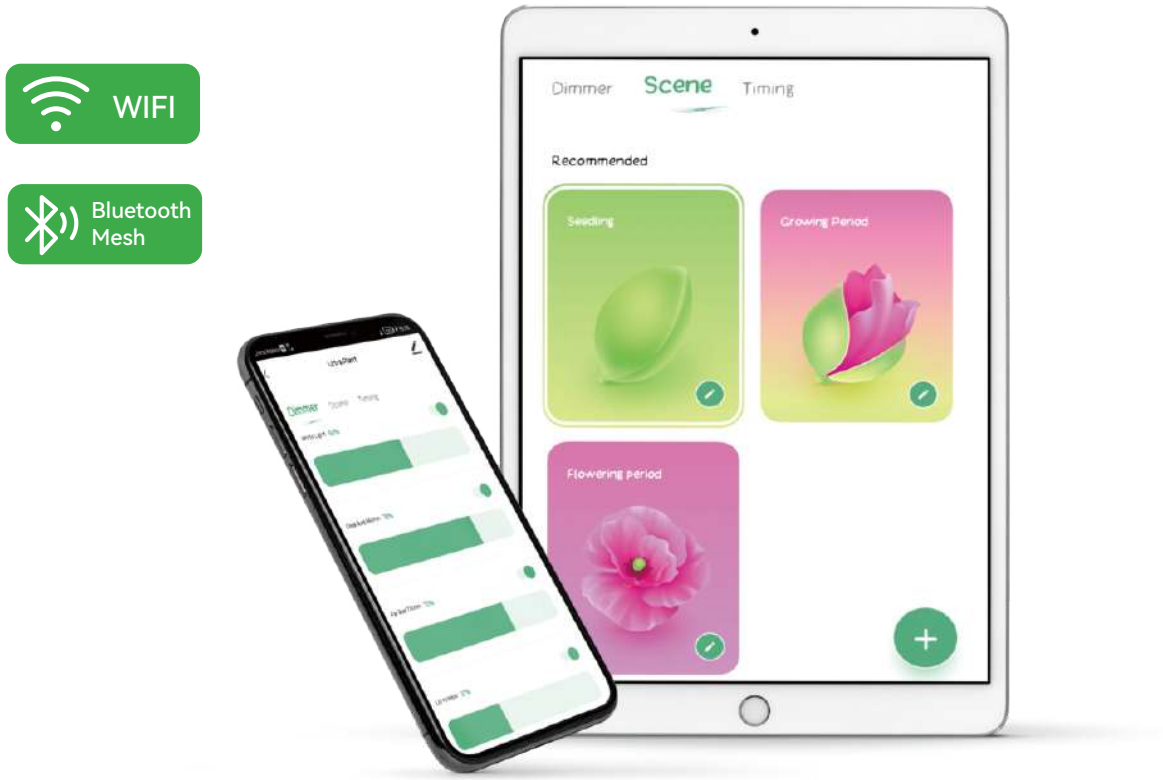
Kindly Note:

1. Unpack and carefully examine the fixture and all packing materials Do not attempt to use this fixture if it is damaged.
2. Ensure the light fixture is not plugged in to the electrical power.

Smart Wireless Control

Ultra Plant™ provides a smart wireless lighting controller for horticulture, bringing precision schedule dimming to your LED lighting systems.

After access to your current gateway or router, Ultra Plant™ is capable of controlling more fixtures and growth process via WIFI and bluetooth mesh, incorporates own APP for large scale and remote management for users.



1 Timer

2 Scheduling

3 Dimming

4 Scene

5 Storage

6 Preset