

Lumimax LED Grow Light

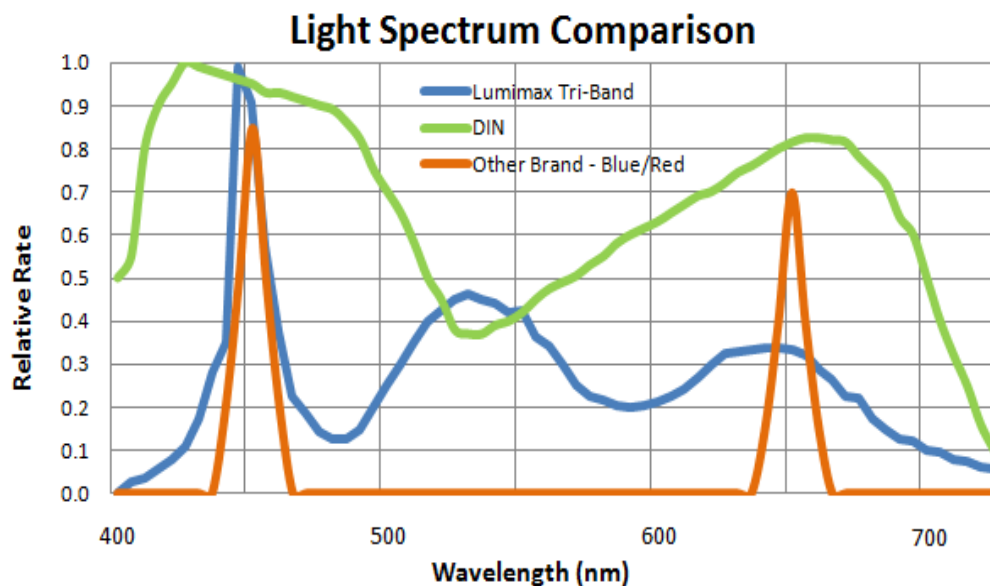
Our Technology

Lumimax's LED Grow Lights are built with custom Tri-band LED which is designed with patented Phosphor Technology. Unlike other manufacturer's design, using mix of Blue/Red or Blue/Orange/Red LEDs to make dual/tri band grow light, this new Phosphor Technology allow us to make single LED chip to emit 3 custom wavelengths. Our Tri-band LED chip can provide a more complete spectrum as compare to other narrow spectrum mix LED design.

PAR Spectrum

Photosynthetically Active Radiation, often abbreviated PAR, designates the spectral range (wave band) of solar radiation from 400 to 700 nanometers that plants are able to use in the process of photosynthesis.

Different stages of plant growth require different spectra. Blue spectrum light will trigger a greater vegetative response in plants and Red spectrum light will trigger a greater flowering response in plants. However plants do not flourish in monochromatic or dichromatic light, they require full-spectrum light to be able to reach their full potential. Our LED Grow Light can be tailored to rich in Blue/Orange/Red light with enough light for all other wavelengths within the PAR spectrum. Thus providing optimal light spectrum for greatest plant growth.



*DIN =German Institute of Standard, Section DIN 5031-10, Plant Photosynthesis Sensitivity Curve.

Photosynthetic Photon Flux

Most lighting products are designed for human application. The intensity of visible light is expressed in Lux, a photometric unit based on the average sensitivity of the human eye. Plants have a completely different sensitivity for light than the human eye. For plant growth, it is important to define light as small light particles, called photons or quantum. Research at universities and applied research stations has demonstrated that the rate of photosynthesis is determined by the amount of Photons between 400-700nm wavelength. This growth light is called Photosynthetic Photon Flux (PPF). This is the only reliable measure to clarify if a light source is suitable for photosynthesis. For helping you to select a grow light we will specify the PPF value in micromols per meter square per second ($\mu\text{mol}/\text{m}^2/\text{s}$) for all our grow light.

Plant Type	$\mu\text{mol}/\text{m}^2/\text{s}$ Needed
House Plant	>30
Mushroom	100
Green Plant (like Lettuce, Spinach)	150
Corn, Rice	400
Tomatoes & other Fruit Crops	400

Using Lumimax LED Grow Light

In traditional High Pressure Sodium (HPS) or Metal Halide (MH) grow light up to 80% of the energy is wasted as heat radiation which makes the grow room

Source	Lifetime	Heat Radiation	Cooling
Traditional MH, HPS.	10,000 ~ 14,000 hours	Very High	Require
Lumimax LED Grow Light	50,000 hours	Low	Not Require

too hot and requires additional cooling setup to lower the room temperature. Often the heat from these grow lights can burn the plant if not space far enough from the grow light. The lifetime of the HPS and MH is usually around 10,000 ~ 14,000 hours. Lumimax LED Grow Light generates far less heat and doesn't require extra cooling setup. Our Grow Light can also last 50,000 hours making it more cost effective to run than the traditional HPS and MH grow lights.



Lumimax's new LED Grow Light Panel is specially designed for easy setup from small complete growing unit to home growing garden to growing factory. Distance from the top of the plant can be as low as 1 foot, making it possible to setup multi-layer growing beds to double/triple growing capacity.

Complete Growing Unit



Home Growing Garden



Growing Factory

