

A vibrant field of pink and red poppies under a bright, hazy sunset sky. The sun is low on the horizon, creating a warm, golden glow. The field is filled with numerous poppies in various shades of pink, red, and white, with green foliage interspersed. In the background, there are rolling hills and a line of trees under the soft light of the setting sun.

The Cool Plasma Lamp

HortiMax 

## The Science

Similarly to white LED, the Cool Plasma light is generated when a special blend of phosphorus is given energy.

While this technology has been around for more than 50 years, it has been under-commercialised compared to other ones that have been judged more profitable by their manufacturers.

The Cool Plasma lamp produces a full spectrum white light properly adapted to the plants' needs.

Our lighting technology is outperformed only by the sun. No other man made light source comes even close.

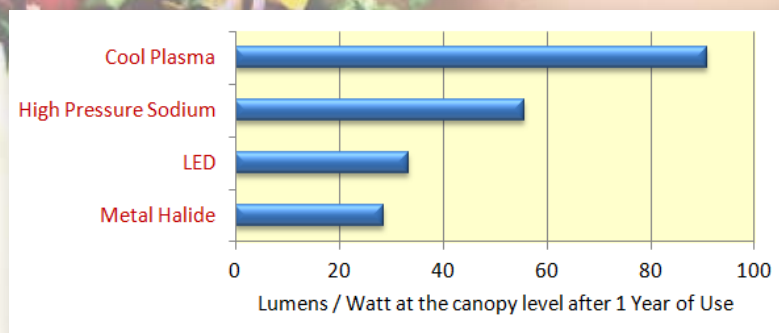
You will be absolutely amazed by the healthy premium quality medical herbs and flowering plants grown under our Cool Plasma Light. No more yellow leaves caused by the artificial light from MH, HPS and LED lamps!

## A Better Lighting Technology

Today, using advanced electronics and state of the art fabrication techniques, the Cool Plasma lamp has the following unique characteristics:

- ✧ The electronic module which drives the Cool Plasma bulb, commonly called ballast, employs advanced electronic circuitry that is more than 98 % efficient. This means more power is delivered by the module directly to the bulb, generating more useful light instead of unwanted heat.
- ✧ The energy transfer technique used to generate the cool plasma is the most efficient known to date. Contrary to High Pressure Sodium ( HPS ), Metal Halide ( MH ) and Fluorescent lamps, requiring the passage of high voltage electric currents to start and maintain excited the arc's plasma zone, the Cool Plasma bulb calls upon natural resonance that involves very little driving energy and no electrodes.

As an example, after a year of operation, the Cool Plasma lamp has the higher rating of Lumens per Watt: almost 2 times more on the plant than HPS and about 3 times more than LED or MH.



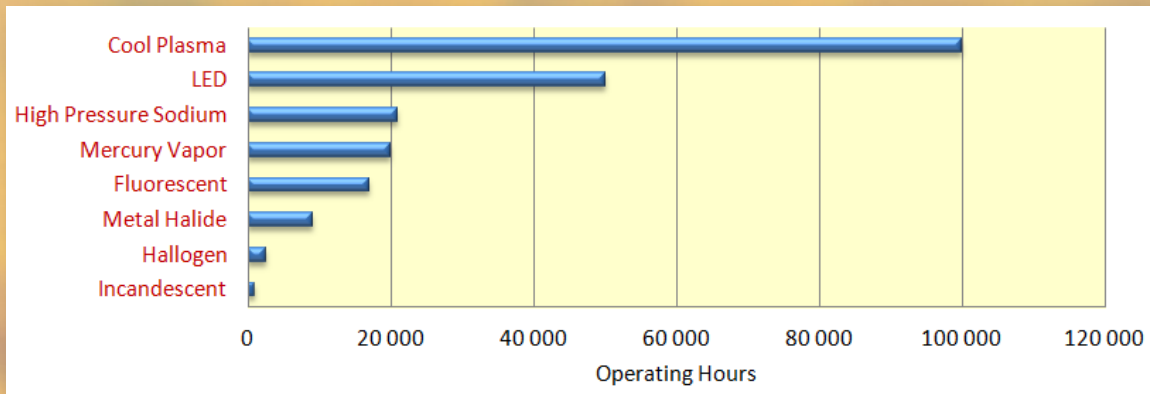
- ✧ The bulb runs warm and you can almost touch it with your bare hand while it's working. Again, more light and less heat. Consequently, the global heat load of your grow room or greenhouse is greatly reduced and less BTU's of air conditioning is requires to keep your precious plants in the comfort zone.
- ✧ The life expectancy of the Cool Plasma lamp bulb is rated by the manufacturer at 100,000 hours. That is almost 20 years at an average of 14 hours of light per day. In comparison, HID and HPS technologies require a light bulb change every 6–12 month to maintain reasonable light intensity & quality, and a condenser change once a year, on average.

## More Light for the Buck

Our 400 Watt Cool Plasma light outputs a healthy 36,000 lumens of light intensity in the visible spectrum required by plants, at an outstanding 90 Lumens per Watt ... now that's performance. The Cool Plasma light retains this initial performance for a much longer period of time than any other type of grow light. It well known for instance that HID lamps loose 20 % of their performance soon after the initial burn-in period.

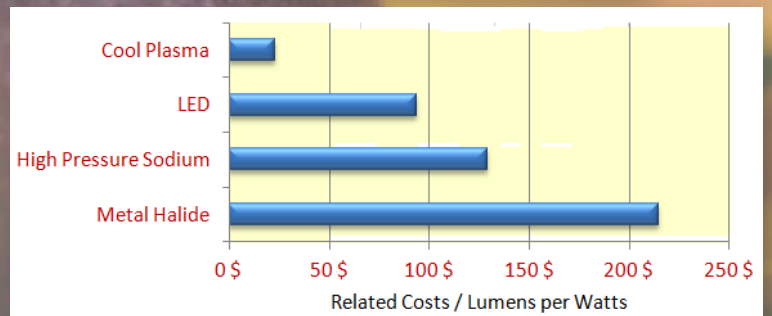
This means you won't have to disburse again in the foreseeable future for your lighting needs ( unless you expand your grow room ) and you won't have to waste any more time acquiring and changing those lamps.

Here is the life expectancy comparison of various types of bulbs as specified by the manufacturers:



Now, when one considers the costs of ...

- The lamp acquisition
- The replacement costs of the bulbs
- The electricity needed to run the lamp
- Ventilation/Air Conditioning acquisition
- Ventilation/Air Conditioning electricity



... and then compares this to the lamp's Lumens/Watt figure of merit, one soon realises that the Cool Plasma lamp is definitely the very best investment and the only one which brings higher yields and profitability this fast.

Compared to the Cool Plasma lamp and for the amount of light delivered, the cost of ownership and operation of the Metal Halide is nearly 9 times higher, 5 times more for the High Pressure Sodium, and almost 4 times more for the LED.

It also has been observed that LED degrades much more rapidly than claimed if not cooled down adequately, and that is why they have such high failure rate.

It's a no-brainer. The Cool Plasma light pays for itself in a mere couple of months and from there-on its just profits. You can now pack more lights in your grow room than ever before. Those of you who already use MH & HPS lamps may observe, when purchasing bulbs next time, that you would already had covered at least 20 % of your cost by changing immediately to the Cool Plasma lamp.

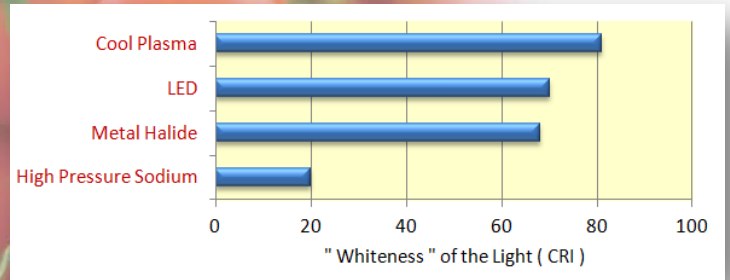
*The sooner you buy, the sooner you start saving.*

## Better Quality of Lighting

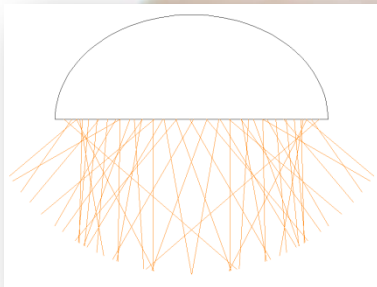
Using a scientifically formulated phosphorus mixture, the lamp emits a 5,000 K white light spectrum, very similar to noon daylight. Optionally, our bi-spectrum lamp can emulate the autumn spectrum on demand so that plants may thrive in their flowering and fruit producing period. Its CRI ( Color Rendering Index ) is better than 80, almost as if you would be outside in broad daylight.

The PAR ( Photosynthetically Active Radiation ) rating of the cool Plasma lamp is as excellent :

- \* 95 % for the Carotenoids
- \* 90 % of the UV's plant needs
- \* 80 % of the Infrared's plant needs



MH and HPS light have an excessive amount of Ultraviolet and Infrared or Heat. The Cool Plasma light does not.



The light outputted by the large emitting area of the Cool Plasma lamp inside our specially designed, highly specular hood, is spread evenly underneath it, instead of coming from a point source, such as with the HPS and HID.

Since the lamp can be a few inches from the plant's canopy, the plant receives a greater amount of light. There is less shading of the lower leaves contrary to what we see with the typical point source lighting.

The plants are more compact and have an ideal spread.

The next picture is one of a tomato plant grown under the Cool Plasma lamp. See how healthy the plant is and the abundance of trichomes, something unseen before with any other artificial lights.



## A Cool White Light



HPS and HID lamps have a nasty reputation for emitting painful, hot rays. On the other hand, the Cool Plasma lamp white light is only slightly warm. You may comfortably put your hand just 6 inches underneath the bulb.

The surface temperature of a MH or HPS bulb is around 230 °C ( 450 °F ) while the Cool Plasma bulb is a mere 35 °C ( 95 °F ).

This results in lights which may now be hung closer to the plant canopy which will receive a greater amount of lighting, consequently increasing yield.

You and your plants will welcome this refreshing change.



## No Detectable Electromagnetic Emissions

The energy transfer to the lamp needed to establish the cool plasma is made in such a fashion that it does not radiate RF electromagnetic radiations, just light, thus it has stealth operation radio wise. Someone using a scanner nearby, for instance, will pick up nothing else than the background noise, even though he is standing a few feet's from the grow room or greenhouse.

There is no risk of electronic interference with surrounding equipments.

All other technologies of lightning, being HPS, HID, Fluorescent, Incandescent, etc., emit an alternating electric field in their respective frequency of operation ( 60 Hz up to the micro-waves ), which some say could be detrimental to health. An electro-sensitive person feels highly comfortable in the vicinity of this new light.

## Run's Silently

Since the Cool Plasma lamp employs an efficient electronic module instead of a bulky transformer, it runs silently. There is no embarrassing "Hum" such as the one associated with the old transformer ballast approach.

## More Secure

Since its cool, the bulb of the Cool Plasma lamp will not shatter if accidentally splashed by water, unlike the excessively hot HID or HPS bulbs. No risk of fire, burns or exploding bulbs.

## Environmentally Friendly

The Cool Plasma lamp contains no liquid Mercury and can be easily recycled at the end of its extended life expectancy. On the other hand, HID and HPS lamps must be replaced often and, since they contain liquid mercury, they are considered a hazardous waste.

There is no bulb to discard for a very long time when using the Cool Plasma light, a good gesture for our planet.

The Cool Plasma lamp and its electronic driver have been well rated by official laboratories.



## Flicker Free

Most lamps like fluorescent, HPS and HID flash at high frequency just like a stroboscope. Someone being submitted to such an environment during a long period feels agressed by an unexplainable and continuous discomfort. The Cool Plasma lamp is continuously on, running at full power, and its light is flicker free.

## Fast Start and Restart

The lamp starts immediately and without hesitation when switched on, unlike the HPS and MH lamps which take about 15 minutes to get to full power. Also, in the advent of a power outage, the lamp turns back on automatically without the need to cool down. You will have more up-time from your light system.



## Specifications



Lumens	21,000
Dimensions ( Diameter x Height )	22" ( 545 mm ) x 13" ( 330 mm )
Weight	20 Pounds ( 9 Kg )
Power Needed only	250 W
The Light's Whiteness Index	5,000 K
Color Rendering Index - CRI	80
Photosynthetically Active Radiation - PAR	95% Visible, 90% UV, 80% Infrared
Universal Power Source	110-380 VAC / 60 Hz / Single Phase
Reflector Material	Highly Reflective Aluminum
Electrical Connection	Comes with un-terminated 6' cord
Option	2,700 K to 6,500 K
Manufacturer's Warranty	2 Years limited

