

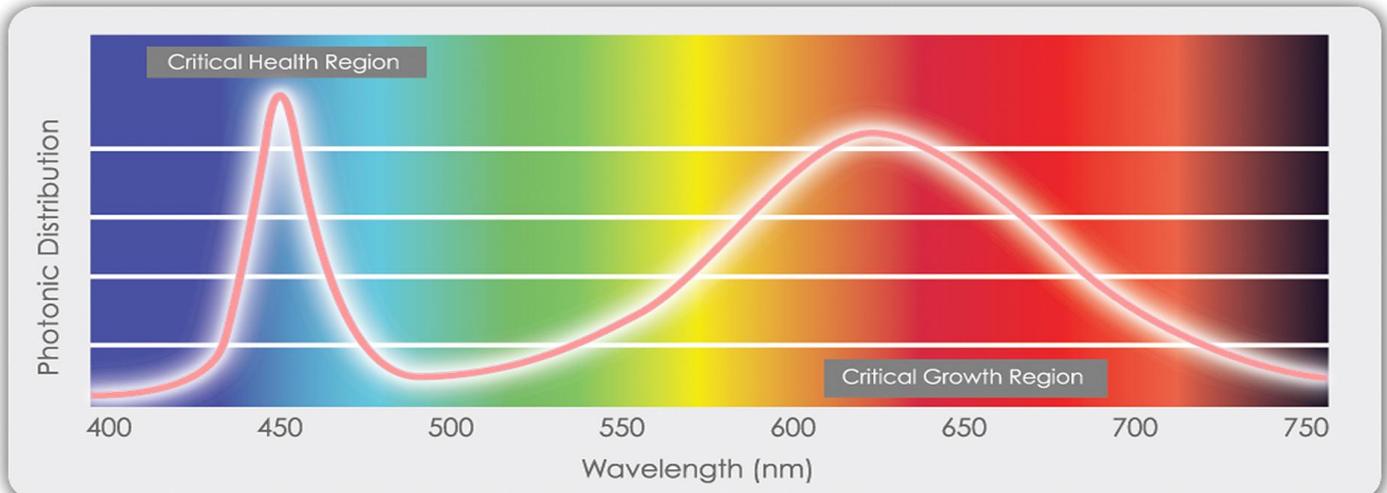
TotalGrow™ Broad Grow Spectrum Light Bulb



Blanket plants with amazingly uniform light in the wavelengths plants need most for quick and healthy growth.



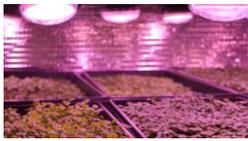
- Versatile source of growing power for either sunlight supplementation or sole source lighting.
- Improve growth efficiencies with high-quality light at your ideal intensity, precisely where needed.
- Custom-tailored full spectrum that is exceptional for plant growth and pleasant to human eyes.
- Low maintenance and long lifetime with no toxic heavy metals, neurotoxins or breakable glass.



Blue Photons (400-499nm)	Green-Yellow Photons (500-599nm)	Orange-Red Photons (600-700nm)	Far-Red Photons (701-800nm)
<ul style="list-style-type: none"> • Drive dense plant growth • Support plant health and appearance • Support root development and nutrient production • Stimulate chlorophyll production and gas exchange 	<ul style="list-style-type: none"> • Provide the least amount of growth per photon • Provide the best penetration for subcanopy growth • Enable visual health assessment 	<ul style="list-style-type: none"> • Most efficient at driving plant growth • Best chlorophyll absorption • Critical for flowering and day length control 	<ul style="list-style-type: none"> • Support total plant function • Enhance the photosynthetic efficiency of other wavelengths • Enable day length control

Broad Spectrum: TotalGrow™ provides a broad spectrum of light in the wavelengths that plants need most for quick and healthy growth.

Usage Guidelines: TG1A Broad Grow Spectrum Light

 TG1A-2A-1003	Plant Size	Small	Medium	Large
	Applications		Germination, Early Propagation, Microgreens 	Late Propagation, Lettuce, Basil 
Sole Source (100% Artificial Lighting)	Bulb Coverage	1.5-2 sq ft	1 sq ft	¼ - ¾ sq ft
	Bulb Spacing	15-18"	12"	6-12" (intracanopy lighting advised †)
	Bulb Height*	10-24"	8-12"	6-12"
Supplemental (greenhouse sun + lights)	Bulb Coverage	6-9 sq ft	3-5 sq ft	1-2 sq ft
	Bulb Spacing	30-36"	2'	12-18" (intracanopy lighting advised †)
	Bulb Height*	20-36"	16-24"	8-24"

*Plant top to bulb bottom; lower heights are important for small numbers of bulbs, heights can be increased as desired in large grids of bulbs.

†Add horizontal/angled bulbs between plants for additional lights beyond "Medium Plant Size" grid, e.g. 1 bulb directed at the side of a plant for every 1-2 bulbs above the plant.

Competitive Advantages

Fluorescent

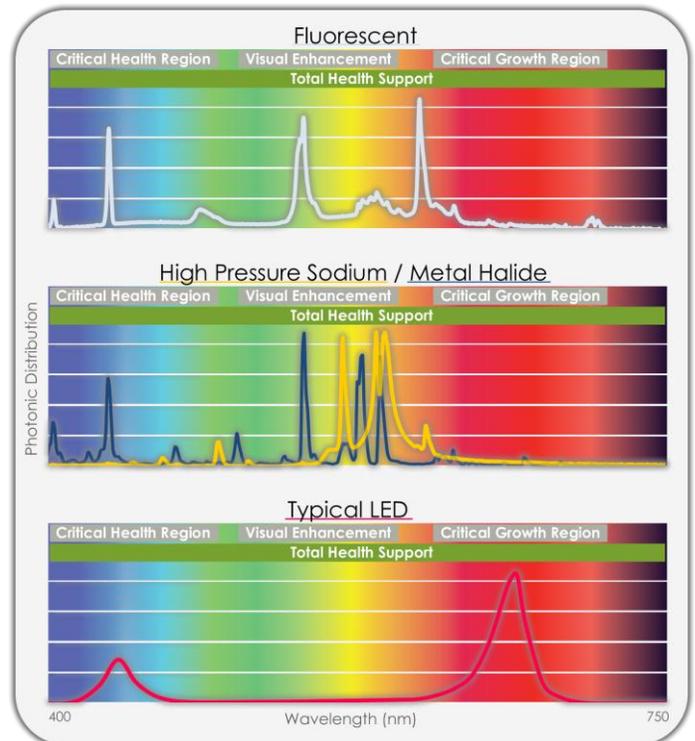
- Inefficient light generation and short lifetime.
- Inefficient growing spectrum – extra green light, diminutive red light and especially far red light.
- Higher heat generation.
- Toxic mercury vapors in easily broken glass.

HID (high pressure sodium or metal halide)

- Requires excessive fixture heights and ventilation/cooling.
- Inefficient light spectra for growing.
- High powered bulbs waste light in high-intensity hot spots.
- Hazardous heavy metals in breakable glass.

Typical LED

- Narrow spectral output bands – missing wavelengths reduce growth efficiency, plant quality, and nutrient development.
- Generally create harsh visual working environments with unnatural plant appearances, even causing headaches.
- Directional LEDs create poor lighting uniformity, requiring extra lights or creating inconsistencies.
- Require multiple different LEDs to approximate a desired spectrum, resulting in color separation and shifts over time.



Item	TG1A	
Product Type	Light Bulb	
Power Consumption	11W	
Projected Service Life	50,000 hours	
Output Efficiency	1.3 μmole/J	

contact: info@venntis.com



Informational & Testimonial Video