

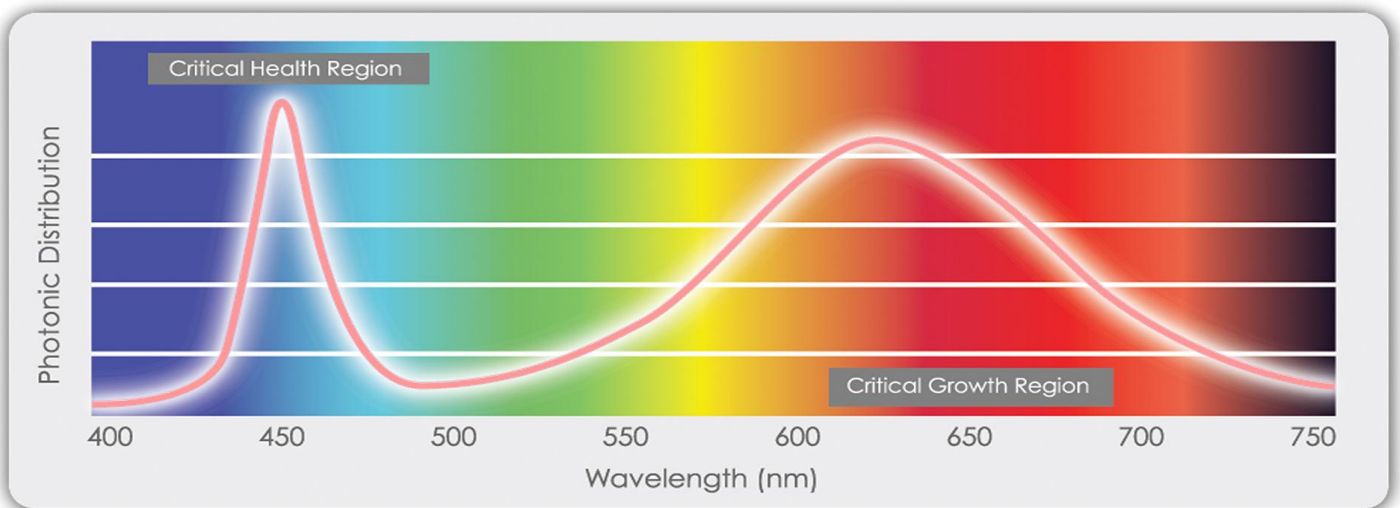
# TotalGrow™ Broad Grow Spectrum Light Fixture



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 moving parts.



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"> <li>• Drive dense plant growth</li> <li>• Support plant health and appearance</li> <li>• Support root development and nutrient production</li> <li>• Stimulate chlorophyll production and gas exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Provide the least amount of growth per photon</li> <li>• Provide the best penetration for subcanopy growth</li> <li>• Enable visual health assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Most efficient at driving plant growth</li> <li>• Best chlorophyll absorption</li> <li>• Critical for flowering and day length control</li> </ul>	<ul style="list-style-type: none"> <li>• Support total plant function</li> <li>• Enhance the photosynthetic efficiency of other wavelengths</li> <li>• Enable day length control</li> </ul>

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

## Competitive Advantages

### HID (High Pressure Sodium or Metal Halide)

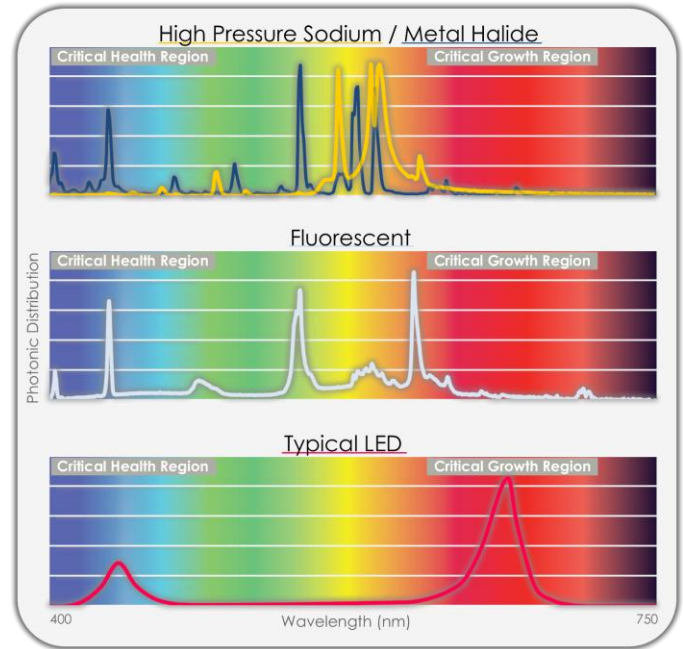
- Inefficient light spectrum for growing and improving quality.
- Less efficient overall light generation.
- High powered bulbs waste light in high-intensity hot spots.
- Radiant heat requires extra watering, nutrients and airflow.
- Hazardous heavy metals in breakable glass.





### Fluorescent


- Inefficient light generation and short lifetime.
- Inefficient growing spectrum – extra green light, too little red light and especially far red light.
- Impractical in greenhouses due to excessive shadowing.
- Toxic mercury vapors in easily broken 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.



Usage Guidelines: TG15A Broad Grow Spectrum Light Fixtures				
 TG15A-11-1003-AA1	<b>Plant Size</b>	<b>Small</b>	<b>Medium</b>	<b>Large<sup>†</sup></b>
	<b>Examples</b>	Germination, Early Propagation 	Late Propagation, Lettuce, Basil 	Tomatoes, Large Peppers, Plants larger 
<b>Sole Source (100% Artificial Lighting)</b>	<b>Coverage</b>	20-30 sq ft	12-20 sq ft	3-12 sq ft
	<b>Approx. Spacing</b>	4 ft x 6 ft	3 ft x 5 ft	2 ft x 4 ft
	<b>Approx. Height*</b>	3 ft	2 ft	1 ft
<b>Supplemental (greenhouse sun + lights)</b>	<b>Coverage</b>	80-120 sq ft	50 - 80 sq ft	10 - 50 sq ft
	<b>Approx. Spacing</b>	9 ft x 11 ft	7 ft x 9 ft	5 ft x 7 ft
	<b>Approx. Height*</b>	8 ft	6 ft	4 ft
*Plant top to fixture bottom; avoid significantly higher heights when using small quantities of fixtures or use reflective walls if possible.				
†Add TG1A bulbs between large plants for highly efficient intracanopy lighting for best results.				

Item	TG15A	 CERTIFIED SAFETY US/CA E362924 Damp
Product Type	Light Fixture	
Power Consumption	155W	
Projected Service Life	50,000 hours	
Output Efficiency	1.4 µmole/J	

**contact: info@venntis.com**

Fixtures to be Replaced	TotalGrow™ TG1A (155W) Equivalent		
	Minimum	Recommended	SuperCharged
400W HPS/MH	1	1.5	2
600W HPS/MH	2	2.5	3
1000W HPS/MH	3	4	5
T5 8 Tube 4' Fluorescent	1	1.5	2
<i>Result: 30-70% Power Savings &amp; Boosted Yield/Quality Potentials</i>			



Informational & Testimonial Video