

# BIOS Icarus® Gi2

Indoor, Open-Bed Crop Production

The BIOS Icarus® Gi2 is the controlled environment agricultural industry's superior choice for commercial crop production applications. The thoughtfully inspired Icarus Gi2 has the highest Photosynthetically Active Radiation (PAR) output and PAR photon efficacy for a truly industrial-grade LED fixture specifically designed for the industry. The Gi2 has an optimized broad spectrum that maximizes photosynthesis and plant growth while also providing for a very comfortable visual experience that allows for ideal conditions for crop assessment.

Engineered for science, this optimized industrial grade LED fixture is unique in that it meets the demanding requirements for commercial crop production with superior performance, energy efficiency, durability, and competitive cost that is lacking in the LED grow light market today.

## FEATURES AND BENEFITS

- Fully assembled, industrial grade construction and durability
- Optimized spectrum for all phases of plant growth and production
- Scientifically engineered spectrum to maximize photosynthesis, growth, and yield
- >40% less energy consumed and heat generated to produce an equivalent amount of delivered PAR than 1000W HPS
- Superior delivered PAR output and PAR photon efficacy than 1000W HPS
- Superior lighting uniformity across the plant canopy
- Passive cooling design eliminates inferior features such as fans, moving parts, and noise
- Sustainable and environmentally friendly mercury-free lighting source compared to traditional technologies (HID and fluorescent) requiring hazardous waste disposal
- Adjustable LED panels allowing for more focused or more diffuse lighting distribution over the plant canopy
- Applications: Indoor crop production, greenhouses, growth chambers, retro-fit existing HID or new construction controlled environment grow facilities

## APPLICATIONS

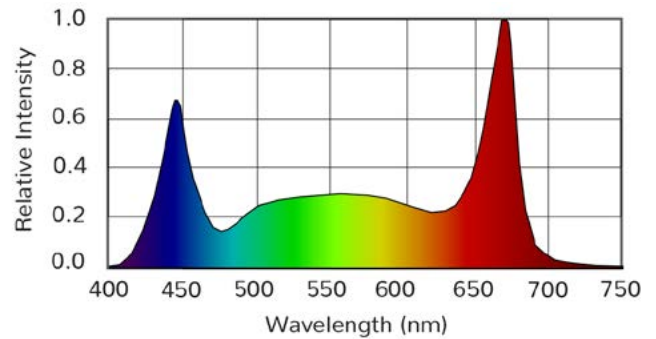
Indoor crop production, greenhouses, growth chambers, retro-fit existing HID or new construction controlled environment grow facilities



## FEATURES AND BENEFITS

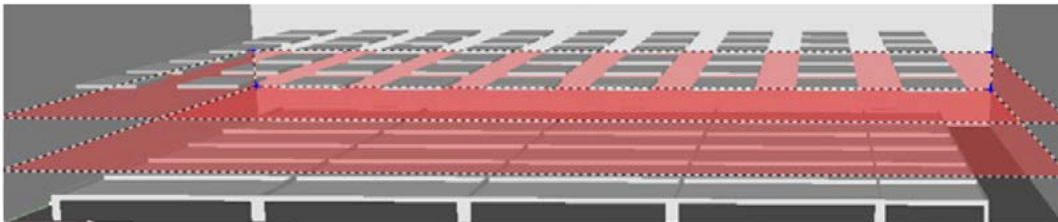
- Fixture Wattage: 640 Watts
- Voltage: 100-277VAC & 277-480VAC
- Photosynthetic Photon Flux ( $\mu\text{mol PAR/s}$ ): 1370  $\mu\text{mol/s}$
- PAR Photon Efficacy ( $\mu\text{mol PAR/J}$ ): 2.14  $\mu\text{mol/J}$
- Optimal Mounting Height: 12" – 36" (30-91 cm) above the plant canopy
- Optimal Footprint: 4' x 4' (1.2 m x 1.2 m), 16 ft<sup>2</sup> (1.5 m<sup>2</sup>); 5' x 5' (1.5 m x 1.5 m), 25 ft<sup>2</sup> (2.3 m<sup>2</sup>)
- Average Photosynthetic Photon Flux Density (across 4'x4' area):  $\sim 800 \mu\text{mol}/(\text{m}^2 \cdot \text{s})$
- Spectrum: Photosynthetically Optimized Broad Spectrum
- % Blue (400-500 nm): 19%
- Fixture Dimensions: 33" long x 28" wide (83.8 cm x 71.1 cm)
- Fixture Weight: 40 lbs (18 kg)
- Housing and Finish: Powder coated extruded aluminum
- Mounting: Y-fit Gripple Hangers
- Dimmability: 0-10 V
- Rated Power Factor: >95%
- Warranty: 5 Year Limited
- Ingress Protection: IP65
- Certifications: UL Wet-rated, UL8800, TÜV SÜD America, RoHS, FCC
- Photometrics: Leading Testing Laboratories

## SPECTRAL GRAPH

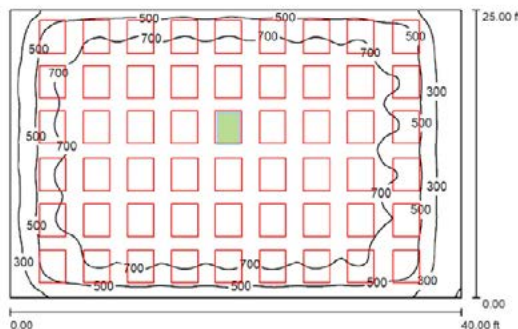


## EXAMPLE LIGHTING LAYOUT

ONE ICARUS Gi2 PER 4 FT X 4 FT GROW BED

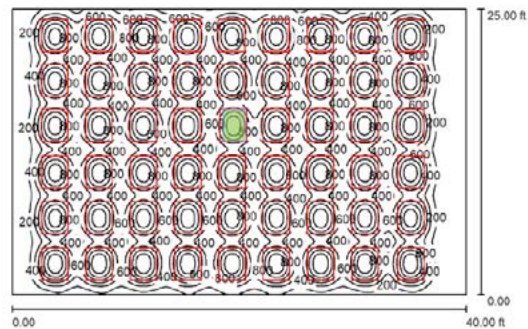


Veg Growth Lighting Layout  
36" Above Canopy



Average PPFD: 812  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Minimum: 787  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Maximum: 831  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Min/Avg: 0.969  
 Min/Max: 0.948

Flower Growth Lighting Layout  
12" Above Canopy



Average PPFD: 1088  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Minimum: 685  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Maximum: 1400  $\mu\text{mol}/\text{m}^2\text{-s}$   
 Min/Avg: 0.630  
 Min/Max: 0.489