



GENEVA SCIENTIFIC
LAB EQUIPMENT SOLUTIONS

LED PLANT GROWTH CHAMBER - LED-41L2



Model	LED-41L2
Exterior Dimensions (WxDxH)	41" x 33.6" x 77.2"
Temp. Range (w/ lights on)	10-44±0.5
Interior Space	37.2 cu.ft.
Total Shelving Floor Area	13.6 sq.ft.
Maximum Growing Height	21.6"
Light Intensity (6" from lamps)	1550 micromoles/m ² /sec
Number of Tiers	2

Applications

*This chamber is specifically designed for plant growth light quality studies and other experiments requiring specific wavelengths of light

Percival's IntellusUltra Controller

*The IntellusUltra control system was purpose-built for controlled environments and is standard on all Percival chambers.

*Robust and reliable, industrial-grade integrated hardware design

*Highly flexible architecture facilitates configuration, expansion and customization

*Precise, simultaneous control of up to 7 environmental parameters

*Industry-leading experiment protection and system diagnostics

IntellusUltra control graphical user interface

*A touchscreen user interface is provided as standard on all Percival Scientific plant growth chambers and allows users to interact with their controlled

IntellusUltra control graphical user interface (cont.)

environment in new and intuitive ways.

*10.1" IPS, high resolution display with 10-point multi-touch sensitivity

*Tabular and graphical presentation of chamber programs and parameters

*Highly visible process values and alarm notifications

*Enhanced user feedback menus

SciBrite™ Lighting System

Each lamp bank shall consist of SciBrite™ multi-color LED tiles consisting of:

*Cool white (6000K) LEDs

*Red (650-670nm) LEDs

*Blue (451nm) LEDs

*Far Red (720-740nm) LEDs

*Light intensity vs distance for the colors referenced above:

*1550 μmoles/m²/s at 6" (15cm) from the lamp canopy at 24°C

*1050 μmoles/m²/s at 20" (50cm) from the lamp canopy at 24°C

*Intensity breakdown by LED type

*Cool white (6000K) LEDs = 27%

*Red (650-670nm) LEDs = 25.4%

*Blue (451nm) LEDs = 29.2%

*Far Red (720-740nm) LEDs = 18.4%

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SciBrite™ Lighting System (cont.)

- *System controlled via open-loop dimming as a percentage of total output
- *Each color shall be independently dimmable as a percentage of total output between 1% to 100% in 1% increments
- *Each color on each tier is independently dimmable

Airflow/Circulation

- *Air circulation inside chamber is from a specifically designed air diffuser (air travels along the entire back wall, over the shelves and returns to the ceiling fans through an opening between the light fixtures and the doors)

Cabinet Construction

- *Interior constructed of 26-gauge galvanized steel
- *Interior floor constructed of 24-gauge polished stainless steel
- *Exterior constructed of 24-gauge Galvannealed extra-smooth steel
- *NSF-compliant seam design
- *Overall wall thickness is 2" (5.1 cm)
- *Integrated floor drain
- *Contains casters assembly and adjustable leveling legs
- *One 1.25" access port with air-tight plug
- *Highly durable and reflective coating

Insulation

- *Woodless construction using 2" thick foamed-in-place non-CFC Urethane insulation with 93% closed cell, R-value of 12.5, K-value of 0.16 and density of 2.2 lbs/ft³

Door

- *One door opening of 36.8" x 57.5" providing full access to chamber interior (magnetic gasket provides a tight seal to door frame)

Interior Space

- *37.2 cu.ft. with work area of 13.6 sq.ft. provided on two tiers

Shelving

- *Two tiers of white epoxy coated steel wire shelving (each shelf is 27"D x 36.3"W)
- *Shelving is vertically adjustable in 1/2" increments
- *Maximum growing height is 21.6"

Refrigeration

- *Self-contained air-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and close temperature control (this continuous running condensing unit ensures precise temperature control by alternately cycling refrigerant and hot gas to coil; this also prolongs life of compressor, and eliminates risk of ice build up in coil)
- *Solenoid valves have extended stem for quiet and long life operation
- *Ceiling mounted evaporator coil incorporates twin air circulation fans in aluminum housing (heat rejection to ambient [standard chamber] = 4700 BTU/hr.)

Temperature Range

- *10°-44°C (±0.5°C) lights on and 2°-44°C (±0.5°C) lights off

Temperature Safety Limit Controls

- *Experiment Protection: Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- *Controls shut down all power to chamber, activating alarms (when the temperature returns to the normal range the system will automatically reset)

Electrical Requirements

- *Consult Geneva Scientific for electrical requirements and amperage draw.

Options

- *Additive Humidity Control with Sensor
- *Dehumidifier with Sensor
- *IntellusUltra Connect
- *CO₂ Enrichment Package
- *Self-Contained Water-Cooled Condensing Unit
- *Dry Alarm Contacts
- *Extended Temperature Ranges
- *Convenience Receptacles



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Laminar Flow Hood

CO₂ Incubators

Ultralow Freezers