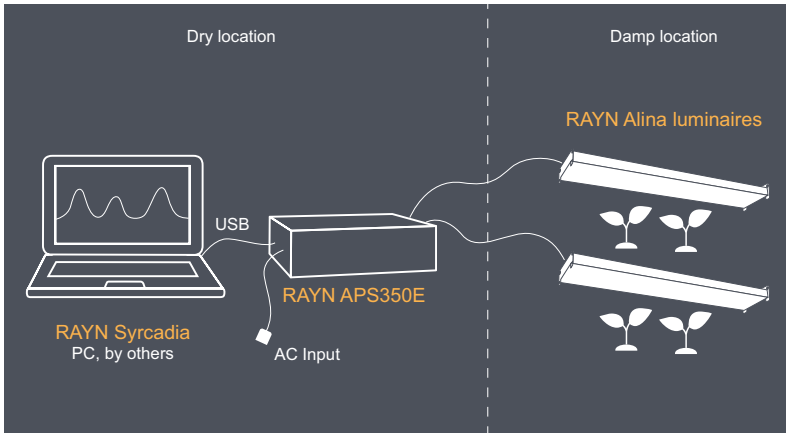


Advanced Educational Lighting



Type(s)
Project
Date
Notes

DYNAMIC HORTICULTURAL LIGHTING SYSTEM FOR CLASSROOMS

The Alina Education Package from RAYN Growing Systems is an advanced lighting system designed to provide students an opportunity to observe the effect of lighting spectrum on plant phenotype.

Classrooms can utilize this advanced educational lighting system by running experiments on how light spectrum and intensity affect plant growth and development. This industry grade lighting equipment provides students exposure to plant processes such as photosynthesis, photomorphogenesis, and secondary metabolite production.

The Syrcadia software supplied with the package (PC running Windows® 10 or newer not included) provides controls that allow students to create and record light recipes, schedule the day length and trigger lighting states automatically using a recorded day plan. Day plans can be combined into a crop plan for a full growth cycle.

ORDERING INFORMATION

Part Number	Description
7432K1017	Alina Education Package including: <ul style="list-style-type: none"> • (1) APS 350E Power Supply with two, 2 m (6 ft) hardwired lamp cables for connection to the Alina Lamp Heads • (2) Alina Lamp Heads fitted with six standard wave bands • (1) Power input cable with IEC connector • (1) 1.5 m (5 ft) USB-B cable • (1) USB drive with Syrcadia software, RDM Configuration software, and the first Red Lettuce Experiment Configuration file

Note: Control of the Alina Education Package requires a PC running Windows® 10 or newer, provided by others.

SPECIFICATIONS

LAMP HEAD

Optical

- The standard poly-carbonate high-strength front lens is optically clear and provides a 120° beam spread.

Power and Control

- Power is supplied directly from the APS 350E to the Alina Lamp Heads using the integral lamp cables. Lamp cables include conductors for both power and control signal.
- Individual control of the Lamp Head and their LEDs is provided from Syrcadia software running on a compatible PC (by others) to the APS 350E power supply.
- High-resolution digital dimming on each waveband, from 0%–100% with better than 1% accuracy and repeatability.
- Ultra-stable operation at all levels including below 10%.

Electrical

- For use with the provided power source APS 350E only.
- Class III, 56–60 VDC, 200 W maximum, 3.5 A maximum

Environment

- The Alina Lamp Head is suitable for installation in wet locations (IP65 rated).
- -10°C to 40°C (14°F to 104°F), 0%–100% condensing humidity, non-corrosive

Mounting

- Mounts by suspension or shelf-based installation (mounting hardware by others) within 2 m (6 ft) of the APS 350E power supply.

APS 350E POWER SUPPLY

Electrical

- Power Input: 100–240 VAC, 50/60 Hz
- Maximum current: 425 W, Maximum output: 4.3 A
- Fused IEC inlet and On/Off power switch. Regionally specific power input cable included.
- Integral lamp cables supporting two Alina Lamp Heads for both power and control signal.

Mounting

- Table top mounting
- Clearance minimum of 76 mm (3 in) per side and minimum of 203 mm (8 in) from the rear panel.
- Mount within 2 m (6 ft) of the Alina Lamp Heads.

Environment

- The APS 350E is suitable for installation in dry locations (IP20 rated)
- -10°C to 40°C (14°F to 104°F), 0%–90% non-condensing humidity

SYRCADIA SOFTWARE

Connection

- Requires Windows® 10 or newer
- Connects via USB-B cable (provided) from a compatible PC to the APS 350E Power Supply
- Single zone operation
- Manual control for multiple wavebands and intensity
- Record Spectra for manual or time-of-day triggered playback
- Day Plan for automating playback of recorded spectra
- Built-in Help System

REGULATORY AND COMPLIANCE

- cULus Listed
- FCC Part 15 and other relevant parts
- CE compliant, EN60598-1, EN60598-2-1, EN62471, EN55015, EN61547 & EN61000-3-2

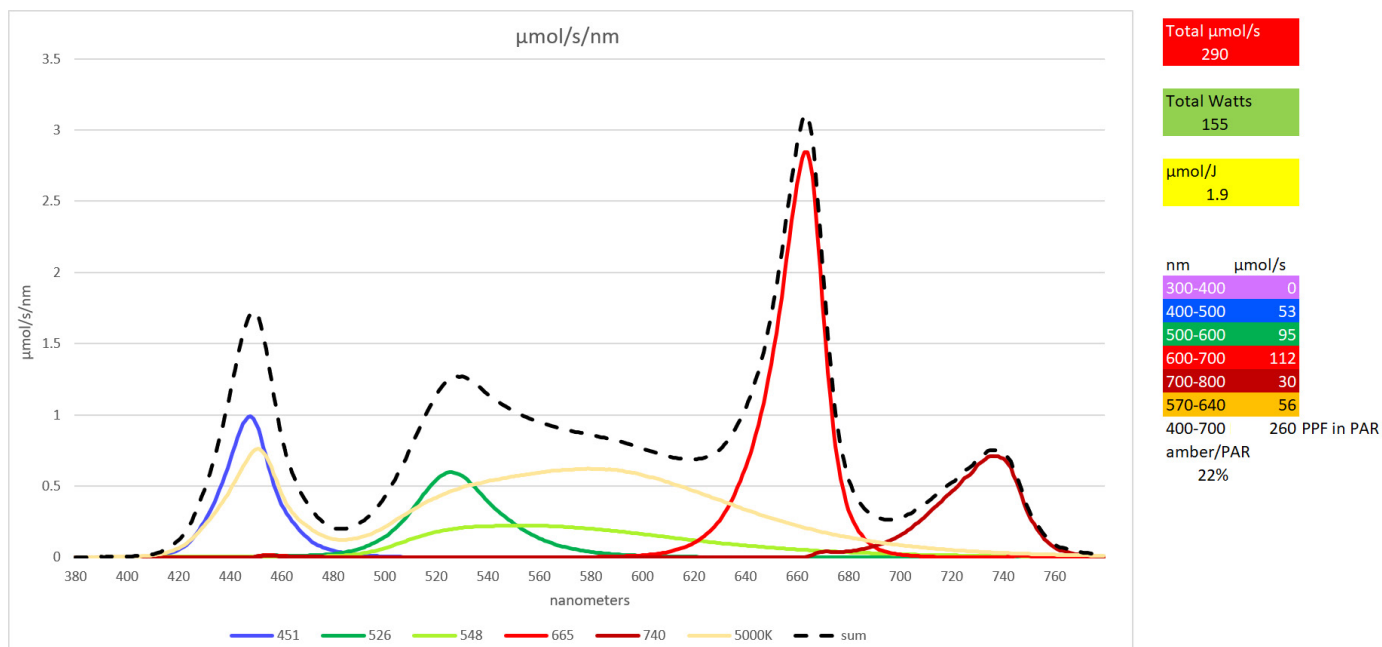
Alina Wavebands

Alina Lamp Head standard wavebands include 256 LED chips providing colors as follows:

COLOR	DESCRIPTION
Blue	451 nm Indigo Blue
Green	525 nm Deep Green
Lime	548 nm Broadband Phosphor-Converted Pale Green
Deep red	665 nm Deep Red
Far red	735 nm Far Red
White	5000 K High Efficiency White

Alina Lamp Head Radiant Flux

- Total flux = 290 $\mu\text{mol/s}$ of which:
 - White = 93 $\mu\text{mol/s}$
 - Colors = 197 $\mu\text{mol/s}$



Note: Lamp head efficiency = 1.9 $\mu\text{mol/J}$. Additional losses occur on the Alina Power System depending on loading and pattern of usage.

PHYSICAL

ALINA APS 350E

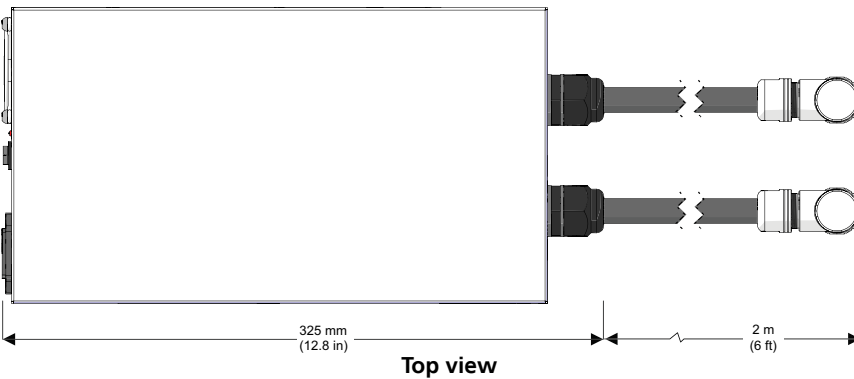
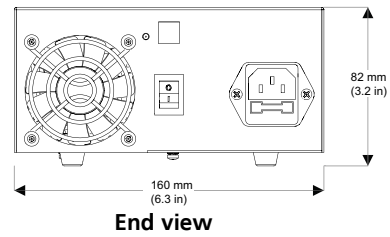
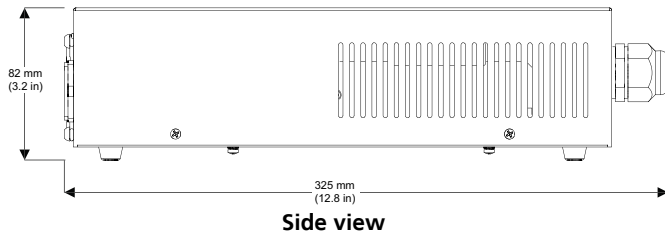
Weights

Model	Weight		Shipping Weight	
	kg	lb	kg	lb
Alina APS 350E	3.2	6.9	4.2	9.2

Dimensions

Model	Height		Width		Depth	
	mm	in	mm	in	mm	in
Alina APS 350E	82	3.2	160	6.3	325*	12.8*

*Add 2 m (6 ft) for the Alina lamp cable.



ALINA LAMP HEAD

Weights

Model	Weight		Shipping Weight	
	kg	lb	kg	lb
Alina Lamp Head	3.0	6.5	3.4	7.5

Dimensions

Model	Height		Width		Depth	
	mm	in	mm	in	mm	in
Alina Lamp Head	52*	2.0*	595	23.4	148	5.8

*The Alina Lamp Head with the lamp cable connected is 86 mm (3.4 in) high.

