



Type(s)

Project

Date

Notes

GENERAL INFORMATION

Rosa is a research light source offering many wavebands, from UV to IR, at high power. It is designed for research lighting experimentation for horticulture, zoology, behavioral science and similar purposes.

Rosa is fitted with a wide range of available wavebands, each of which is individually controllable using a RAYN Touch controller or other DMX source, providing the ideal tool for researchers to explore the effects of photosynthesis and other photobiological phenomena in plants, animals and materials.

Rosa luminaires are available in several standard versions, and custom spectral recipes can be provided. Options are available for a supplementary broadband light source (see ordering information at right).

Systems may be assembled with an unlimited number of luminaires, and can be set up to be controlled together or independently by the RAYN Touch control system.

Rosa luminaires may be combined into a unified system along with other light sources from a wide range of manufacturers and other RAYN Growing System luminaires.

LIGHT SOURCE DESIGN

(Patents pending)

Each luminaire contains eight colored light sources and optionally two white light sources.

Each colored light source is specially designed to maximize color homogeneity and evenness of field. Colored fringes are eliminated, resulting in more consistent illumination and better photosynthesis across the growing area.

ORDERING INFORMATION

Model	Description
ROSA 600	Rosa 600 fitted with 10 to 13 color wavebands
ROSA 600+	Rosa 600 fitted with 9 to 11 color wavebands and supplementary broadband light source

Additional RAYN Products

Model	Description
RAYN TOUCH	RAYN Touch Controller
RPS	RAYN Photo Sensor

PRODUCT SPECIFICATIONS

Optical

MEDIUM THROW

- High performance aluminized reflectors with internal color diffusion
- 1–2 m operation

LONG THROW

- High performance aluminized reflectors with internal color diffusion
- 2–4 m operation

VERY LONG THROW

- High performance aluminized reflectors with internal color diffusion
- > 4 m operation

Control

- ANSI E1.11:DMX512 control protocol, in and thru
- Daisy-chained RS485 wiring to save cost and simplify installation
- Connect up to 32 Rosa luminaires to a single control line
- High reliability, self-correcting
- DMX-RDM Remote Device Management providing remote configuration and addressing; no need to set local controls on the luminaire

Intensity control of wavebands

- High-resolution digital control for each waveband with better than 1% accuracy and repeatability
- Continuous intensity from 0 to 100%
- Ultra-stable operation at all intensity levels, including below 10%
- Automatic temperature-controlled ventilation fans
- Very high frequency PWM intensity control at 25 kHz

Physical and Electrical

- Dimensions: 533 x 280 x 235 mm (21 x 11 x 9.23 in)
- Weight: 15.8 kg (34.9 lb)
- Power 850 W max.
- Recommended power feed: 120 VAC / 10 A, 230 VAC / 6 A
- 100–250 VAC, 50–60 Hz operation
- Power input via captive cable in waterproof gland
- Single phase, 2-wire plus Earth / Ground (Class I apparatus, must be grounded via a 3-core power cable)
- Leakage current:
 - $\leq 500 \mu\text{A}$ @ 120 VAC / 60 Hz
 - $\leq 1 \text{ mA}$ @ 240 VAC / 50 Hz

Environmental

- -10°–45° C (14°–133° F) ambient
- 0–90% relative humidity, non-condensing
- **NOTE:** Where dewing is anticipated, please contact RAYN Growing Systems (see contact information at the end of this document)
- Ingress protection: IP 42
- For indoor use only

Regulatory and compliance

- UL1598 Listed
- FCC, Part 18 and other relevant parts
- CE Compliant, EN60598-1, EN60598-2-1, EN62471, EN55015, EN61547 and EN61000-3-2

ROSA WAVEBANDS

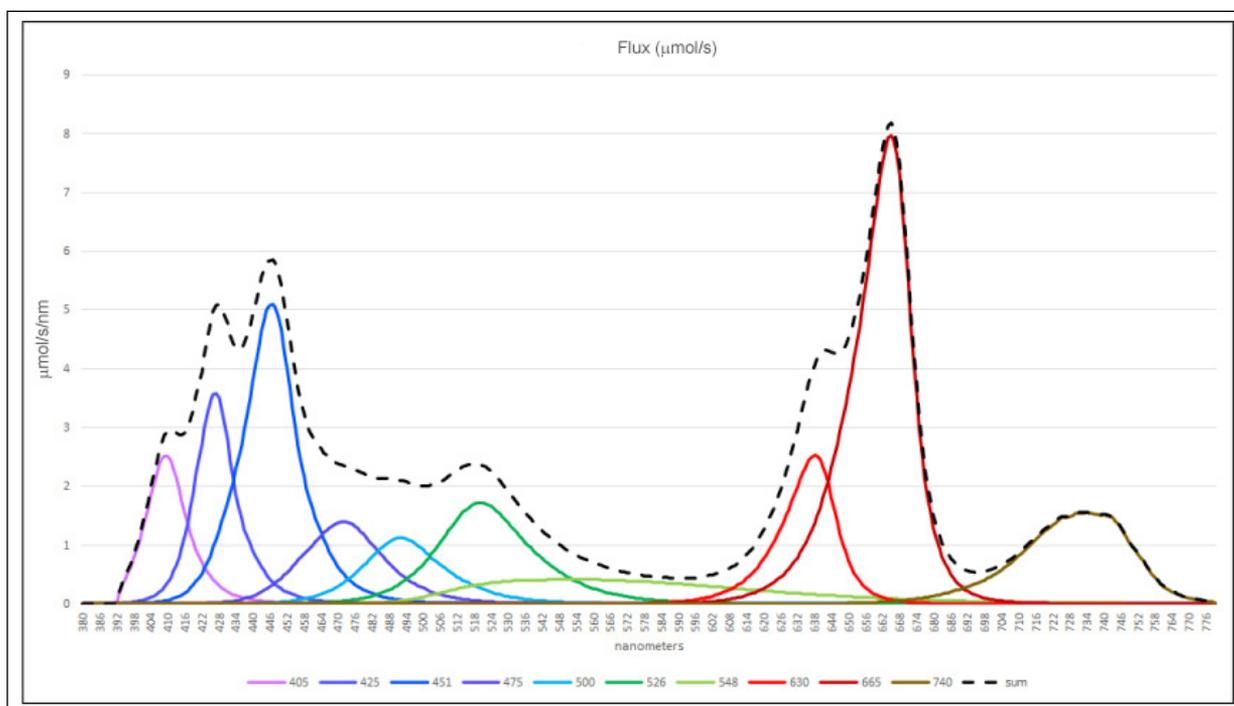
Rosa wavebands are offered all the way from UV to IR, with fine-grain control of up to 13 individual wavebands. An optional additional broadband light source may be provided, similar to white light. This may be used both for human observation and to boost the photosynthetic flux to even higher levels.

Custom models are available with many wavebands in your desired proportions and optionally with a pair of supplementary high-output broadband white light sources, which are optimized for photosynthetic effect. Please contact RAYN Growing Systems (see contact information at the bottom of the last page).

Rosa 600 model R3a

10 individual wavebands. All channels at full.

Total $\mu\text{mol/s} = 680$



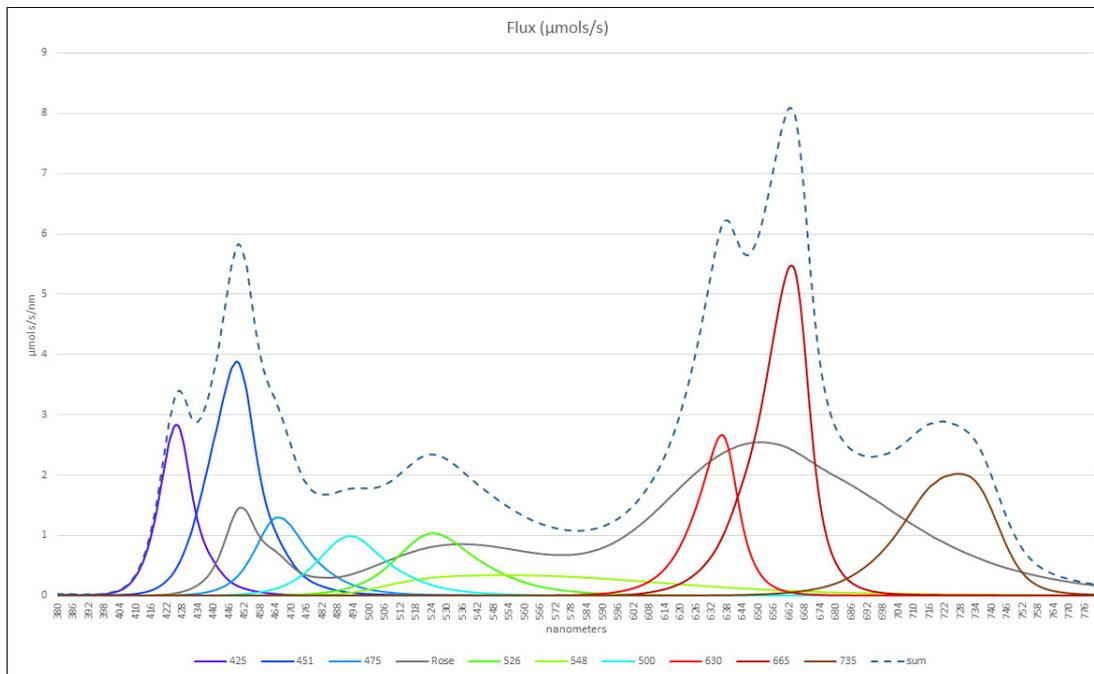
ROSA WAVEBANDS

ROSA 600+ Model R3e 'WhiteRose'

9 individual wavebands plus supplementary horticultural white.

n.b. 'Rose' indicates a white source with enhanced blue and deep red content.

Total $\mu\text{mol/s} = 900$



DMX CHANNEL MAPS

Rosa 600 Model R3a

CHANNEL	DESCRIPTION
1	Master Intensity
2	405 nm
3	425 nm
4	451 nm (a)
5	451 nm (b)
6	475 nm
7	500 nm
8	526 nm (a)
9	526 nm (b)
10	548 nm
11	665 nm (a)
12	526 nm (c)
13	630 nm
14	665 nm (b)
15	665 nm (c)
16	735 nm
17	n/c

Rosa 600+ Model R3e 'WhiteRose'

CHANNEL	DESCRIPTION
1	Master Intensity
2	Rose (a)
3	425 nm
4	451 nm (a)
5	451 nm (b)
6	475 nm
7	Rose (b)
8	526 nm (a)
9	526 nm (b)
10	548 nm
11	Rose (c)
12	500 nm
13	630 nm
14	665 nm (a)
15	665 nm (b)
16	735 nm
17	Rose (d)

PHYSICAL

Rosa Luminaires Dimensions

Model	Height		Width		Depth	
	mm	in	mm	in	mm	in
600	124	4.9	185	7.3	108	4.2
600+	152	6.0	228	9.0	130	5.2

