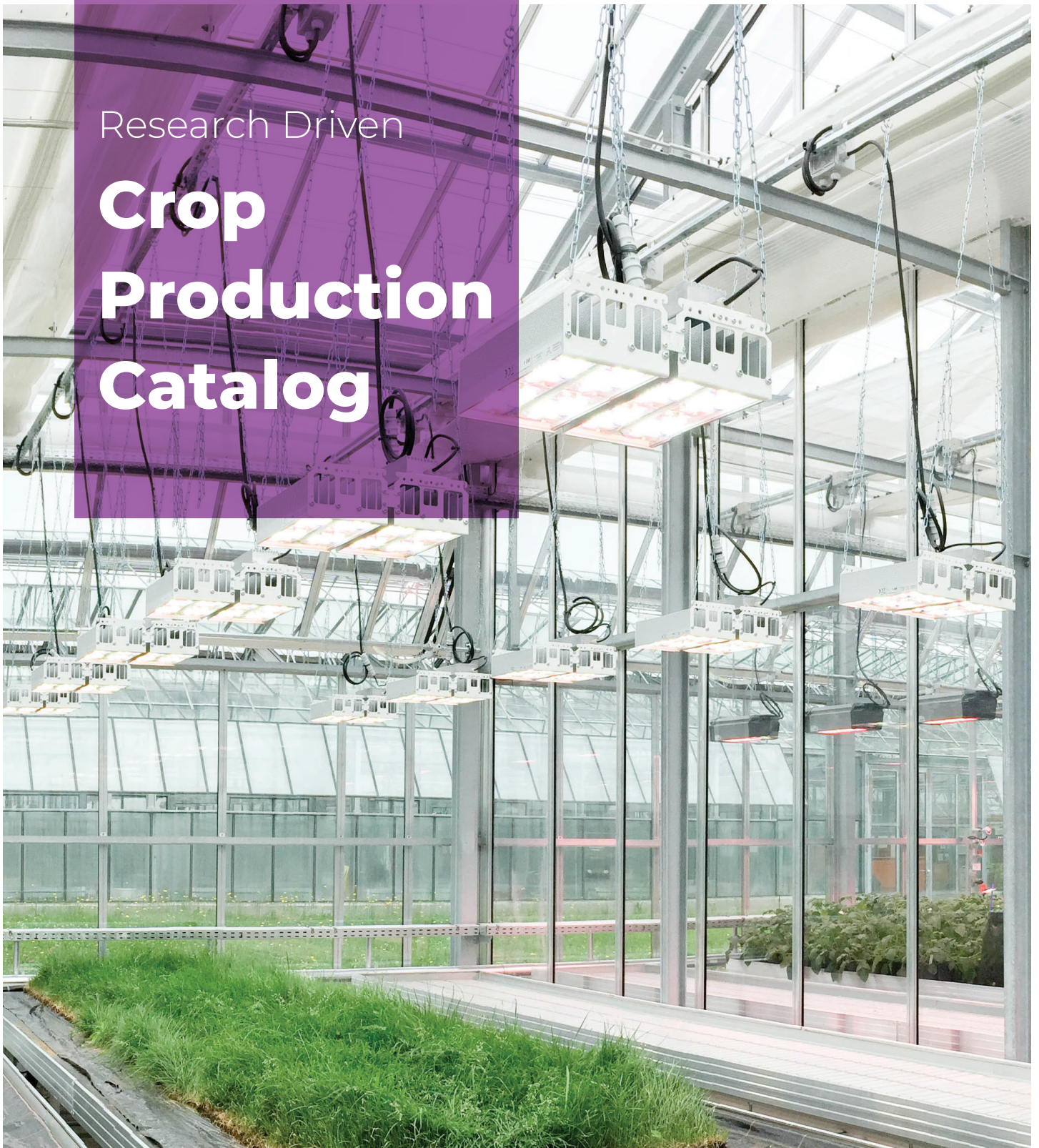


Research Driven

Crop Production Catalog



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VALOYA
Part of  **greenlux** Brand

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10+ Years of Advancing LED Horticulture

Valoya has engineered premium LED horticulture fixtures for Crop Science **since 2009** with 8 out of 10 of the world's most notable companies relying on our hardware. We are proud to bring our years of experience into applied crop science, launching our full line of Crop Production Solutions.

While continuing our research-driven approach, we forge ahead in optimizing Controlled Environment Agriculture systems from growth chambers to commercial greenhouses. From algae to evergreens to cannabis, we have a practical and precise instrument for the cultivation of any member of the plant kingdom.



Plant species / varieties tested



Plant trials conducted



Countries sold to so far



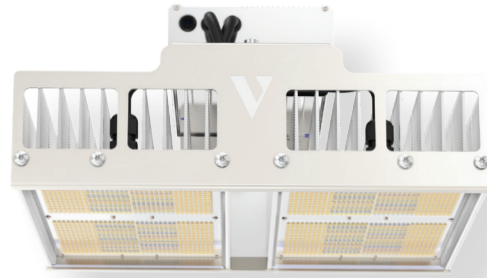
Patents granted

As our customers, your lighting needs are our lighting goals. Our years of crop science experience are applied at scale for crop production success.

- The Valoya Team

	Top Light	Multi Tier Racking	Modular Low Wattage	Specialty Low Wattage	HID
	RX-Series	RF-Series	BX120	L-Series, Clone LED18	CMH, HPS
Greenhouse	✓				✓
Indoor	✓	✓	✓	✓	✓
Multi Tier High PPFD		✓	✓		
Vertical Farm Low PPFD				✓	
Propagation				✓	

RX-Series

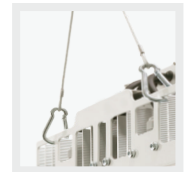


Designed as a replacement for HID lighting, the RX-series is a high power, dimmable LED luminaire with a high IP rating (IP65 - wet location). The robust all aluminium build, passive cooling and tempered glass cover ensure a long lifetime in the most demanding of environments.

- **Typical Applications**
High intensity lighting, HID replacement
- **PPFD**
100 ~ 1000 $\mu\text{mol m}^2 \text{s}^{-2}$ *
- **Accessories**
Standard hooks and mating part to the cable connector included. Optional hooks available to order.



Standard



Optional

Technical Specification	RX325	RX600
Spectrum	Solray385 SolrayX S2	Solray385 SolrayX
Power Consumption	330 W	653 W 658 W
Voltage Input	220 - 480 VAC	
Light Output (PPF)* up to	870 $\mu\text{mol/s}$ 900 $\mu\text{mol/s}$ up to 1000 $\mu\text{mol/s}$	1717 $\mu\text{mol/s}$ 1750 $\mu\text{mol/s}$
Efficacy (ePAR 280-800 nm)	2.6 $\mu\text{mol/J}$ 2.7 $\mu\text{mol/J}$ up to 3.0 $\mu\text{mol/J}$	2.62 $\mu\text{mol/J}$ 2.66 $\mu\text{mol/J}$
Weight, Luminaire and LED Driver	13.1 lb (5.8 kg)	25.6 lb (11.6 kg)
Dimensions, Luminaire (L x W x H)	13.7" x 9.2" x 6.9" (347 x 233 x 176 mm)	13.7" x 15.7" x 6.9" (347 x 400 x 176 mm)
Cables	11.8" mains to LED driver, 52" luminaire to LED driver, 11.8" dimming cable	
Plug Type	Open end (bare leads)/NEMA plugs	
Dimming	0-10V, PWM, Dim to Off	
L90 Q90	50,000+ h.	
Certifications / Approvals	DLC listed, cETLus marked, RoHS compliant	
Max. Ambient Operating Temperature	40° C	
Cooling	Passive	
Ingress Protection Rating	IP65	
Warranty	5 year limited warranty	

*Spectrum Dependent

RF-Series



The Racking Fixture combines the evolution of form factor for vertical cultivation with Valoya's historic build quality. We utilize **tempered glass lenses** to protect vital chip components while maintaining the light output and quality your crop needs for consistent and predictable results.

- **Typical Applications**

Mid-to-high intensity lighting, grow room

- **PPFD**

100 ~ 1200+ $\mu\text{mol m}^2 \text{s}^{-2}$ *

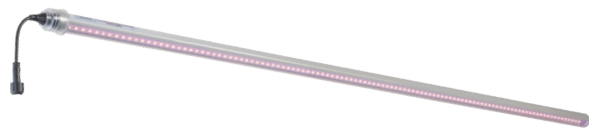
- **Accessories**

Standard hooks included. Optional hooks, mains input connector and blank cap available to order.



Technical Specification*	RF700-6	RF600-6	RF400-6	RF300-6	RF350-3	RF300-3
Spectrum	Solray385 SolrayX					
Power Consumption	714 W 686 W	656 W 651 W	451 W 450 W	335 W	358W 342 W	325 W 322 W
Voltage Input	220 - 480 VAC	220 - 480 VAC	110 - 277 VAC	220 - 480 VAC	220 - 480 VAC	220 - 480 VAC
Light Output (PPF)* up to	1790 $\mu\text{mol/s}$ 1825 $\mu\text{mol/s}$	1738 $\mu\text{mol/s}$ 1757 $\mu\text{mol/s}$	1189 $\mu\text{mol/s}$ 1188 $\mu\text{mol/s}$	921 $\mu\text{mol/s}$ 913 $\mu\text{mol/s}$	947 $\mu\text{mol/s}$ 901 $\mu\text{mol/s}$	860 $\mu\text{mol/s}$ 862 $\mu\text{mol/s}$
Efficacy (ePAR 280-800 nm)	2.64 $\mu\text{mol/J}$ 2.7 $\mu\text{mol/J}$	2.65 $\mu\text{mol/J}$ 2.7 $\mu\text{mol/J}$	2.64 $\mu\text{mol/J}$	2.75 $\mu\text{mol/J}$ 2.72 $\mu\text{mol/J}$	2.65 $\mu\text{mol/J}$ 2.63 $\mu\text{mol/J}$	2.65 $\mu\text{mol/J}$ 2.68 $\mu\text{mol/J}$
Weight, Luminaire and LED Driver	25.6 lb (11.6 kg)			13.1 lb (5.8 kg)		
Dimensions Luminaire (L x W x H)	46.8" x 44.4" x 3.3" (1190 x 1130 x 85 mm)			46.8" x 20.5" x 3.3" (1190 x 565 x 85 mm)		
Cables	11.8" mains to LED driver, 26" luminaire to LED driver, 11.8" dimming cable					
Plug Type	Open end (bare leads) or NEMA plugs					
Dimming	0-10V, PWM, Dim to Off					
L90 Q90	50,000+ h.					
Certifications / Approvals	DLC listed, cETLus marked, RoHS compliant					
Max. Ambient Operating Temperature	40° C					
Cooling	Passive					
Ingress Protection Rating	IP65					
Warranty	5 year limited warranty					

*Spectrum Dependent



L-Series

With absolute light uniformity and no heat produced even when placed right above the canopy, the L-Series is ideal for vertical farming, tissue culture, growth chambers, grafting and growing cannabis in the vegetative stage. The T8 form factor allows the L-series products to be installed in fluorescent tube fixtures without modification (fixtures with magnetic ballast). By using optional end-caps the IP rating can go as high as IP65.

- Typical Applications**

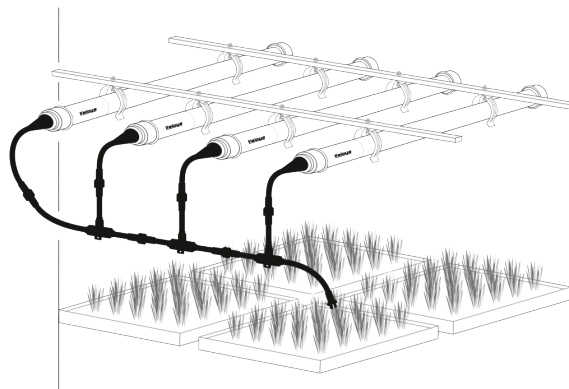
Mid-to-high intensity lighting, with high light uniformity even with low ceiling-to-canopy heights. Ideal for single tier applications in greenhouses, and indoor grow rooms.

- PPFD**

100 ~ 1200+ $\mu\text{mol m}^2 \text{s}^{-2}$ *

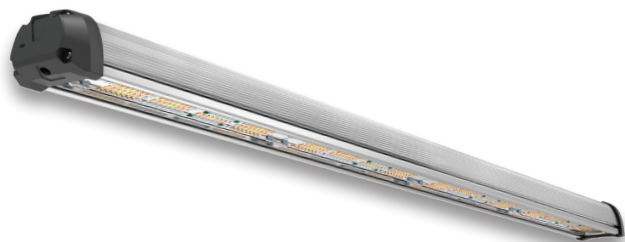
- Accessories**

Standard hooks included. Optional hooks, mains input connector and blank cap available to order.



Technical Specification*	L18	L28	L35
Spectrum		AP67	
Power Consumption	18 W	28 W	35 W
Voltage Input		120 - 240, 277 VAC	
Light Output (PPF)* up to		20 - 250 $\mu\text{mol/s}^*$	
Efficacy		Up to 2.1 $\mu\text{mol/J}^*$	
Weight, Luminaire and LED Driver		0.79 lb (0.36 kg)	0.97 lb (0.44 kg)
Dimensions, Luminaire (L x W x H)		47.2" / \varnothing 1.02 (1198 mm / \varnothing 26)	59" / \varnothing 1.02 (1498 mm / \varnothing 26)
Cables	0.3 m (11.8") mains to LED driver, 1.3 m (52") luminaire to LED driver, 0.3 m (11.8") dimming cable		
Plug Type	Open end (bare leads)/NEMA plugs		
Dimming	No		
L90 Q90	36,000+ h.		
Certifications / Approvals	CE marked, RoHS compliant Tested and certified to UL & CSA standards		
Max. Ambient Operating Temperature	40° C		
Cooling	Passive		
Ingress Protection Rating	IP65		
Warranty	5 year limited warranty		

*Spectrum Dependent



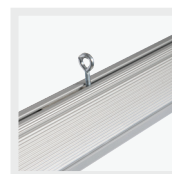
BX-Series

High power, modular, dimmable LED bars with a high IP rating (IP67 – wet location). BX are slim, robust, humidity and impact resistant fixtures for research and cultivation. LED chips are protected by a tempered glass cover which is durable and safe to clean. The fixture is passively cooled and designed to have a smooth surface without fins, fans and deep ridges, preventing the buildup of debris.

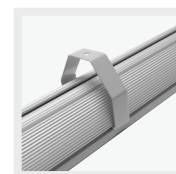
- **Typical applications**
Low-to-mid intensity lighting, growth rooms, multilayer

- **PPFD**
200 ~ 1200 $\mu\text{mol m}^2 \text{s}^{-2}$ *

- **Accessories**
Standard hooks and LED driver with mating part to the cable connector included. Optional hooks available to order.



Standard



Optional

Technical Specification

BX120

Spectrum	AP67 Solray385 SolrayX
Power Consumption	130 W
Voltage Input	220 - 480 VAC
Light Output (PPF)* up to	up to 400 $\mu\text{mol/s}^*$
Efficacy	up to 3.0 $\mu\text{mol/J}^*$
Weight, Luminaire and LED Driver	9.0 lb (4.1 kg)
Dimensions, Luminaire (L x W x H)	46.3" x 2.9" x 2.3" (1176 x 73.5 x 58 mm)
Cables	0.3 m (11.8") mains to LED driver, 1.3 m (52") luminaire to LED driver, 0.3 m (11.8") dimming cable
Plug Type	Open end (bare leads)/NEMA plugs
Dimming	0-10V, PWM, Dim to Off
L90 Q90	50,000+ h.
Certifications / Approvals	DLC listed, cETLus marked, RoHS compliant
Max. Ambient Operating Temperature	40° C
Cooling	Passive
Ingress Protection Rating	IP67
Warranty	5 year limited warranty

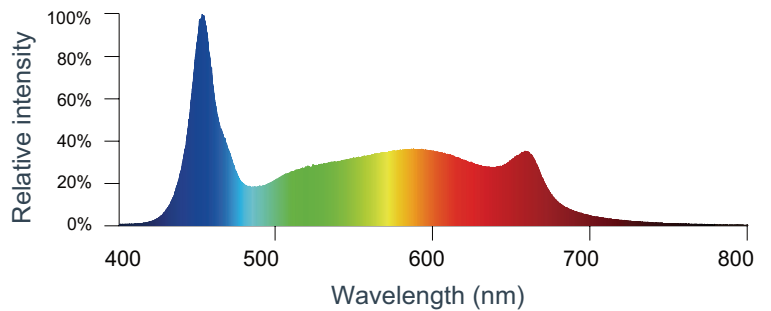
*Spectrum Dependent

CLONE LED18



Provides the perfect light spectrum for optimal plant growth and development during the cloning stage, resulting in faster and healthier growth. Designed with precision and consistency in mind.

- **Typical Applications**
Cloning, Tissue Culture
- **PPFD**
36 $\mu\text{mol m}^2 \text{s}^2$

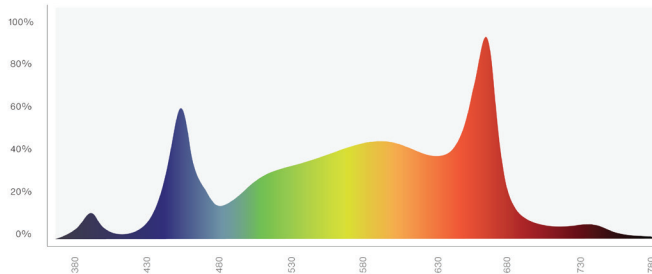


Technical Specification*	CLONE LED18
Spectrum	9000K
Power Consumption	20 W
Voltage Input	110-277 VAC
Light Output (PPF)* up to	40 $\mu\text{mol/s}$
Efficacy	2.0 $\mu\text{mol/J}$
Weight, Luminaire and LED Driver	0.84 lb (0.38 kg)
Dimensions, Luminaire (L x D)	44.1" x 1" x 1.4" (1120 mm x 26 mm x 35 mm)
Cables	1.3 m (52") mains to fixture
Plug Type	Ships with 120 V NEMA 5-15
L90 Q90	54,000+ h.
Certifications / Approvals	Tested and certified to ETL, CE, standards
Ambient Operating Temperature	35° C
Cooling	Passive
Ingress Protection Rating	IP65
Warranty	5 year limited warranty

Spectrum Dependent

Tailored Solutions for Your Systems

Solray385



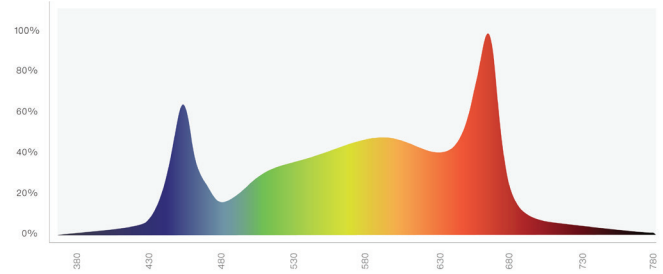
Enhanced Metabolite Production

Solray385® offers optimized spectrum for controlled environment agriculture and research throughout all growth stages. It provides a balanced range of wavelengths from UV to FR that is suitable for most plant species. Solray385 has been thoroughly tested and proven to be highly effective, serving as a sole source of light.

In addition, Solray385's unique characteristics allow plants to drive optimal phenotypical expression, resulting in the best possible plant growth. With Solray385, you can ensure that your plants receive the ideal light for optimal growth and development.

Available for: **RX-Series, RF-Series, BX-Series**

SolrayX



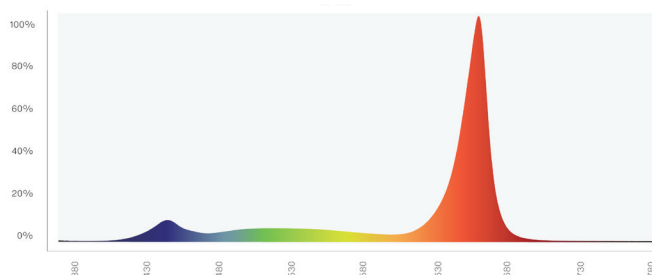
Enhanced PAR

SolrayX® spectrum is based on what most would consider a traditional plant growth spectrum with some proprietary tweaks. It covers all the wavelengths in the PAR range (400-700nm). It's an excellent choice for growers looking to optimize their plant growth and improve their crop yields. The SolrayX spectrum offers superior performance and efficiency, making it an ideal choice for both indoor and greenhouse applications.

SolrayX is optimized for CAPEX and longevity while retaining high visibility for scouting and grower environmental comfort.

Available for: **RX-Series, RF-Series, BX-Series**

S2

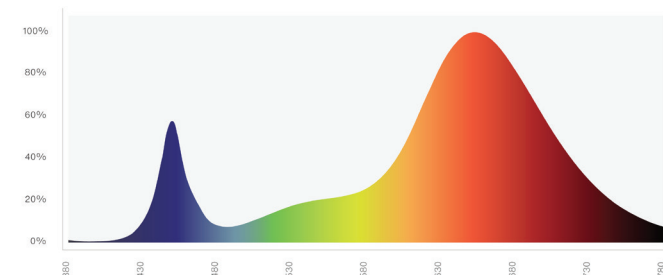


Supplemental

S2® spectrum is designed for supplemental lighting in greenhouses. It offers a complete light output across the PAR range (400-700nm) with extra energy in the red portion of the PAR range. Since it includes a generous amount of green light, so growers' eyes will not be strained like other "blurple" (blue and red only) lights. This is a critical point as it allows growers to properly see their plants when scouting for infestations, plant diseases, and nutritional issues.

Available for: **RX-Series**

AP67



All Stages/Crop Steering

AP67® spectrum is Valoya's patented traditional spectrum. It was originally designed to achieve robust vegetative growth but is still being proven to work well in all stages. It is being deployed extensively for tissue culture applications along with crop-science breeding programs around the world. One of its key highlights is that it increases overall biomass due to its ability to stimulate leaf expansion.

An additional benefit is that it has the potential to accelerate plant maturity and ripening.

Available for: **BX-Series, L-Series, Light Recipe Formulations**

HPS/CMH

To give growers the freedom to choose what is best for their plants, Valoya now offers a range of HID luminaires in addition to its LED portfolio.



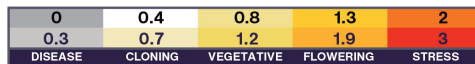
Model	Type		Description
M1000L VAL-H1-1000CG2W-GIA(120-240V) VAL-H1-1000TG2W- GIA(208-480V)	A low profile, double ended HPS luminaire, designed for the flowering phase in lower ceiling height set-ups without compromising light uniformity.		1. Wattage: 1000W Input Voltage: 120-240/208-480V 2. Dimming type: 600/750/ 825/ 1000 /1150/ and 0-10V 3. Die casting arm 4. Alanod (Germany) reflector, Efficiency 95%, super wide reflector
M1000c VAL-H1-1000EY1W-GIW	A high power CMH luminaire designed for veg applications.		1. Wattage: 1000W Input Voltage: 240-277V 2. Dimming type: 600/750/ 825/ 1000 /1150/ and 0-10V 3. Die casting arm 4. Alanod (Germany) reflector, Efficiency 98%, wide reflector
M1000h VAL-H1-1000EY1W-GIA	A high voltage version of our M1000 model.		1. Wattage: 1000W Input Voltage: 240-277V 2. Dimming type: 600/750/ 825/ 1000 /1150/ and 0-10V 3. Die casting arm 4. Alanod (Germany) reflector, Efficiency 95%, Medium reflector
M1000 VAL-H1-1000CY1W-GI28	A high intensity HPS luminaire for greenhouse and warehouse cultivation environments.		1. Wattage: 1000W Input Voltage: 120-240V 2. Dimming type: 600/750/ 825/ 1000 /1150/ and 0-10V 3. Die casting arm 4. Alanod (Germany) reflector, Efficiency 95%, Medium reflector
M630 VAL-H1-630277Y1W-W27A	A double ended CMH luminaire for mother rooms, vegetative phase and supplemental illumination in light DLI greenhouse applications.		1. Wattage: 630W Input Voltage: 277V 2. Dimming type: 600/750/ 825/ 1000 /1150/ and 0-10V 3. Die casting arm 4. Alanod (Germany) reflector, Efficiency 95%, medium reflector
M315ch VAL-H1-315277XK5W-WVA	A high voltage version of our M315c model, suitable for mother room, veg, flower and low DLI greenhouse applications.		1. Wattage: 315W Input Voltage: 277V 2. Dimming type: 0-10V RJ14 dimming 3. Profile arm 4. Alanod (Germany) reflector, Efficiency 95%, medium reflector
M315c VAL-H1-315CKW-WVG	A light weight and energy efficient CMH luminaire designed for use in mother rooms, veg, flower and low DLI greenhouse applications.		1. Wattage: 315W Input Voltage: 120-240V 2. Dimming type: 0-10V RJ14 dimming 3. Profile arm 4. Alanod (Germany) reflector, Efficiency 95%, medium reflector
M315c2 VAL-H2-315CLW-WNK	Two CMH lamps in a single luminaire designed for mother room, veg, bloom and low DLI greenhouse applications.		1. Wattage: 630W Input Voltage: 120-240V 2. Dimming type: 0-10V RJ14 dimming 3. Profile arm 4. Alanod (Germany) reflector, Efficiency 95%, medium reflector





Vapor Pressure Deficit (VPD)

15	0.0	0.1	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.1	59
16	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	61
17	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	63
18	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	64
19	0.0	0.1	0.2	0.3	0.4	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	66
20	0.0	0.1	0.2	0.4	0.5	0.6	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	68
21	0.0	0.1	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	70
22	0.0	0.1	0.3	0.4	0.5	0.7	0.8	0.9	1.1	1.2	1.3	1.5	1.6	1.7	72
23	0.0	0.1	0.3	0.4	0.6	0.7	0.8	1.0	1.1	1.3	1.4	1.5	1.7	1.8	73
24	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.0	1.2	1.3	1.5	1.6	1.8	1.9	75
25	0.0	0.2	0.3	0.5	0.6	0.8	1.0	1.1	1.3	1.4	1.6	1.7	1.9	2.1	77
26	0.0	0.2	0.3	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.2	79
27	0.0	0.2	0.4	0.5	0.7	0.9	1.1	1.3	1.4	1.6	1.8	2.0	2.1	2.3	81
28	0.0	0.2	0.4	0.6	0.8	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.5	82
29	0.0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	84
30	0.0	0.2	0.4	0.6	0.9	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.6	2.8	86
31	0.0	0.2	0.5	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.9	88
32	0.0	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.1	2.4	2.6	2.9	3.1	90
33	0.0	0.3	0.5	0.8	1.0	1.3	1.5	1.8	2.0	2.3	2.5	2.8	3.0	3.3	91
34	0.0	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	93
35	0.0	0.3	0.6	0.8	1.1	1.4	1.7	2.0	2.3	2.5	2.8	3.1	3.4	3.7	95
°C	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	°F
Relative Humidity, % RH															



°C and °F are Leaf Surface Temperatures

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