




FLUENCE

BY OSRAM



SPYDR 2x  
SPYDR 2p  
SPYDR 2i

# USER MANUAL

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## IMPORTANT SAFETY PRECAUTIONS & EXPLANATION OF SYMBOLS

- Please read this manual thoroughly before attempting to install or operate any Fluence SPYDR Series system.
- After successful installation and configuration of the system, be sure to retain this manual in a safe place for future reference. Safety is a key component to a long lasting and trouble-free installation.
- It is important you read, fully understand, and observe the subsequent safety precautions. If you are not comfortable with the installation of high performance lighting systems, you should seek the services of a qualified installation professional or call us for help.
- NOTICE: The SPYDR 2x, SPYDR 2p and SPYDR 2i are high-performance lighting systems. Do not touch while in operation.
- Connect the system only to the power sources of the appropriate voltage using the AC plug type received. Protect power cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the unit. Only connect the system to an electrical outlet or extension cord of appropriate type and rating. Connect the system only to the power sources of the correct voltage using the plug received.
- DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades –one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third grounding prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord, only use one of similar type and equal or greater current rating.
- The system should only be cleaned as directed in the manual. You should seek service for your system by qualified service personnel if any of the

following occur:

1. The power-supply cord or the plug has been damaged.
2. The unit has been exposed to rain.
3. The unit exhibits a marked change in performance.
4. The unit has been dropped, or its enclosure or chassis is damaged.

## CULTIVATION BEST PRACTICES

Fluence encourages everyone to experiment and pursue their own techniques. Every crop is different and everyone has different goals. However, our internal research has given us insight into several strategies we would like to share.

- Regularly check your plants' growth and health. Fluence lighting systems deliver high levels of PAR, typically more than experienced in nature. Adjustments to H<sub>2</sub>O, CO<sub>2</sub>, RH, nutrients, and temperature are typically required.
- Mount the fixture at least 6" from the top of your canopy to ensure optimal uniformity and consistent PPFD. The SPYDR Series was designed to provide uniform light dispersion and requires precise deployment. A 1" variation in either direction will have a significant change in uniformity and PPFD (which may or may not be desired).
- Many plants prefer higher temperatures when exposed to high PPFD. Experiment with higher temperatures to achieve higher yields. Canopy temperature and room ambient temperature often vary. For accurate results, test at the canopy level to gauge leaf surface temperature.

**For cultivation recommendations visit  
[www.fluence.science/cultivation-guide/](http://www.fluence.science/cultivation-guide/)**

## GENERAL CARE

SPYDR Series systems are passively cooled with zero moving components. They are designed for harsh environments and years of maintenance-free performance. Some basic care will keep your system operating at peak performance cycle-after-cycle.

- Natural convection removes heat away from the heatsink. In order for the system to properly cool itself, at least one inch of space is required between the console and the roof of your grow area. Failure to do so may shorten the fixture's lifespan.
- To achieve the optimal lifespan and performance of your fixtures, routinely check for and remove excess dust, debris, and mineral build up from heatsink and LED array. Cleaning should always be done with the fixture unplugged from its power source using low-pressure compressed air or water to rinse away dirt from light bars.
- Never use a cloth to clean the diode array. Doing so can scratch or compromise the integrity of the silicon seal, or dislodge diodes entirely.
- To limit degradation, avoid touching the diodes with your hands, even in a powered off state.

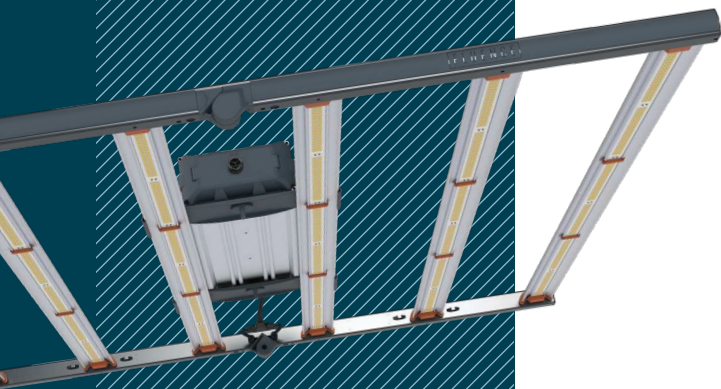
**For detailed instructions for maintenance and cleaning, please visit [www.fluence.science/support/](http://www.fluence.science/support/).**



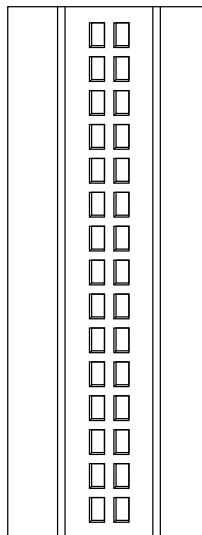
**SPYDR LED solutions are  
high-performance lighting systems.  
Do not touch while in operation.**

**Last and most important, please  
recycle all packaging material.  
Future generations will thank you.**

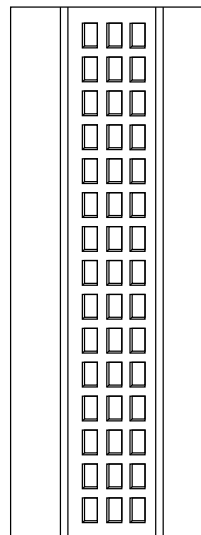
## SPYDR 2



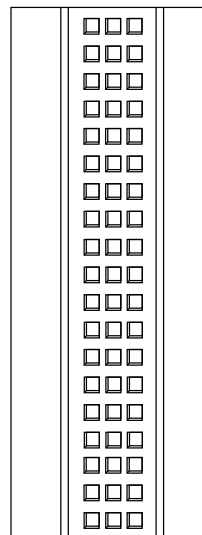
### SPYDR 2x



### SPYDR 2p



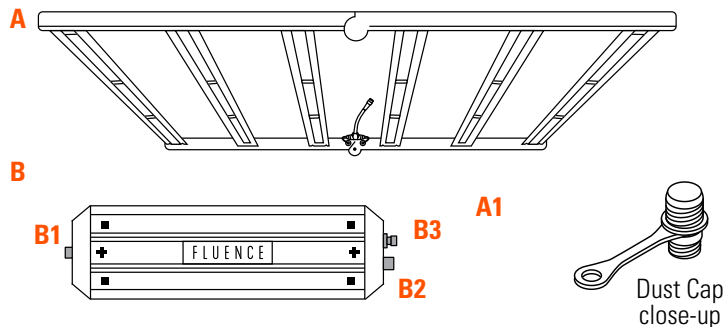
### SPYDR 2i



## SYSTEM HARDWARE & ACCESSORIES

### SYSTEM HARDWARE

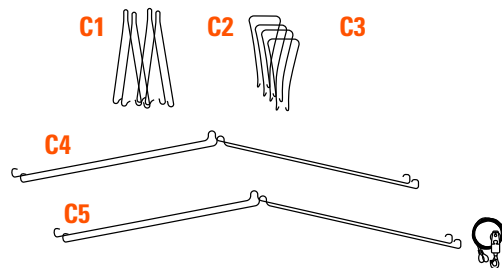
- A** SPYDR 2x, SPYDR 2p and SPYDR 2i fixture pre-configured with:
- A1** Standard DC Cable
- B** Power Supply Enclosure pre-configured with:
- B1** Male AC Connector
  - B2** Female DC Connector
  - B3** Male Dimming connector with dust cap (dimmer sold separately)



### MOUNTING HARDWARE OPTIONS

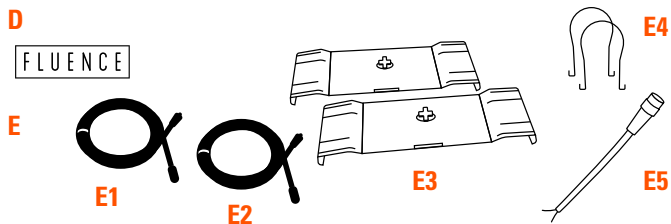
(depending on your selection at the time of purchase)

- C1** Waterfall Mount
- C2** Solid Decking Mount
- C3** Sloped Decking Mount
- C4** Lance Hanger
- C5** Lance Hanger with Adjustable Kit (option if upgraded at time of purchase)



### ACCESSORIES

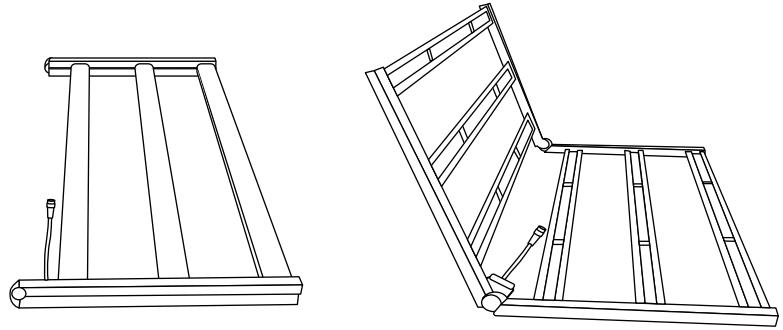
- D** (1) Vinyl-cut Fluence Sticker
- E** Power Supply Accessories
  - E1** (1) 6' AC Power Cord
  - E2** (1) 15' AC Power Cord option if upgraded at time of purchase
  - E3** (1) 3' or 6' DC Extension Cord option if upgraded at time of purchase
  - E4** (2) Power Supply Light Bar Brackets
  - E5** (2) Power Supply Enclosure Mount
  - E5** Pigtail Dimming Adapter (purple/grey leads) with PushLock



## ASSEMBLY INSTRUCTIONS

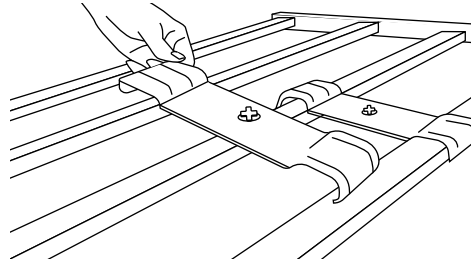
**Take caution when handling light bars. Ensure the LED array does not come in contact with sharp objects or force that may damage the diodes.**

- 1 Unbox and unfold module and place on flush, stable surface.



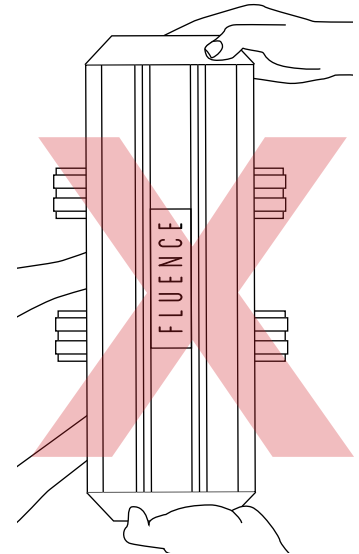
- 2 There are two ways to mount your power supply: attach to the light bars or remote mount to a surface.

**A.** Ensure the quick-release mechanism on light bar clip is positioned according to diagram before sliding into place. The spring tab will lock light bar into place when properly centered.



**i.** When the module is unfolded and LEDs are facing down against the flush surface, attach Power Supply Light Bar Brackets to the center two bars and press firmly until they snap into place.

**SAFETY NOTE: Light Bar Brackets must be installed only on the light bars and parallel to the ground mounted to the light bars**



ii. Identify the bracket lock receivers on the underside of the power supply enclosure.

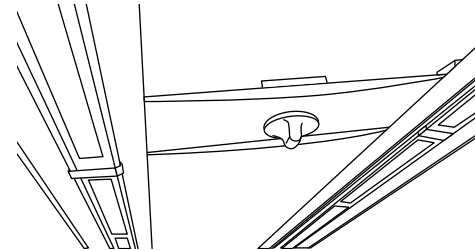
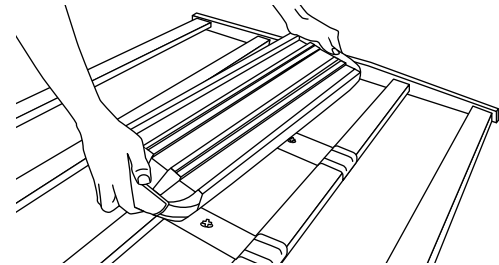
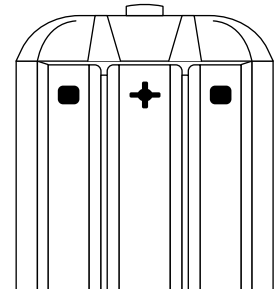
iii. Place power supply enclosure on top of brackets, aligning the bracket mounts with the bracket receivers.

iv. Reach under the power supply and twist the bracket locks into place.

v. Once the power supply enclosure is installed, do not attempt to fold the SPYDR 2 module. Doing so will cause significant damage to the fixture.

**B. Remote mount:**

To remote mount the power supply, refer to the mounting instruction manual.



## TECHNICAL SPECIFICATIONS

### STOCK KEEPING UNITY (SKU) CONFIGURATOR & OPTIONS

Example SKU: SR-X-I-1-06-N5P-00-W

Family	Model	Spectrum	Input Voltage	AC Power Cord	AC Plug	DC Extension Cord	Mounting Hardware
SR SPYDR	2x X	I PhysioSpec Indoor™	1 100-277V	06 6.0' (1.83m)	N5P NEMA 5–15P	00 None	W Waterfall Mounts
	2p PLUS		3 347V*	15 15.0' (4.57m)	N6P NEMA 6–15P	03 3' (.91cm)	S Solid Decking Mounts
	2i i		4 400V*		L7P NEMA L7–15P	06 6' (1.83m)	M 2-Point Hanging Lances
			5 480V*		TFP Schuko Type F		M 2-Point Adjustable Hanging Kit
				PT Pigtails			

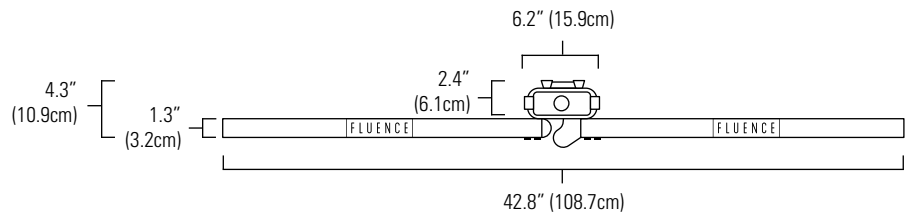
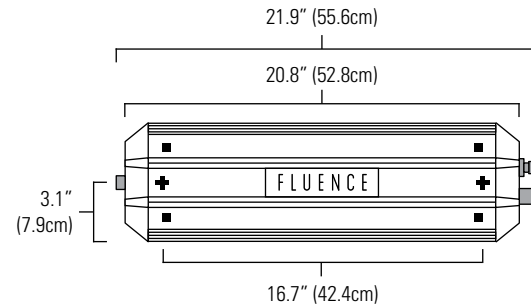
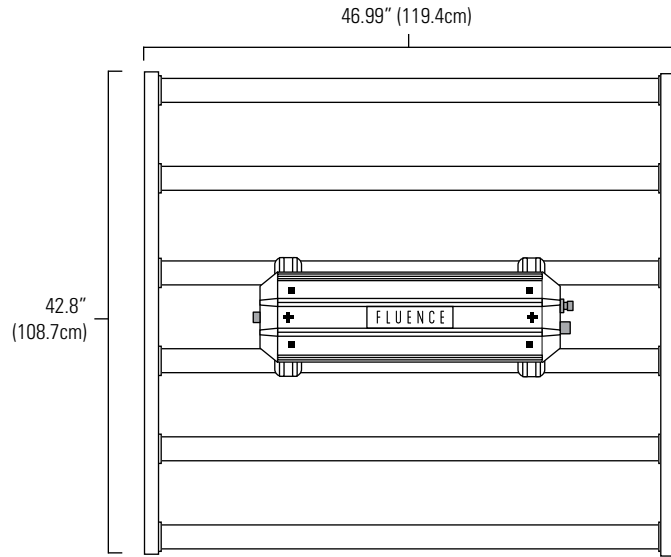
\*347-480V SPYDR configurations operates at 3% higher wattage on average.

SPYDR	Input Power	Amps @ 120V	Amps @ 208V	Amps @ 240V	Amps @ 277V	Amps @ 347V
2x	325W	2.71A	1.56A	1.35A	1.17A	0.96A
2p	632W	5.27A	3.04A	2.63A	2.28A	1.88A
2i	630W	5.25A	3.03A	2.63A	2.27A	1.87A



Specifications	SPYDR 2x	SPYR 2p	SPYDR 2i
<b>Light Source</b>	LED	LED	LED
<b>Spectrum</b>	I	I	I
<b>PPF</b>	875 $\mu\text{mol/s}$	1580 $\mu\text{mol/s}$	1700 $\mu\text{mol/s}$
<b>Input Power</b>	325W	632W	630W
<b>Efficacy</b>	2.6 $\mu\text{mol/J}$	2.5 $\mu\text{mol/J}$	2.7 $\mu\text{mol/J}$
<b>Input Voltage</b>	Autosensing 100-277V, 347V, 400V & 480V*	Autosensing 100-277V, 347V, 400V & 480V*	Autosensing 100-277V, 347V, 400V & 480V*
<b>Fixture Dimensions/Weight</b>	42.8" L x 46.99" W x 4.3" H   24lbs 13oz 108.7cm L x 119.4cm W x 10.9cm H   11.26kg	42.8" L x 46.99" W x 4.3" H   27lbs 11oz 108.7cm L x 119.4cm W x 10.9cm H   12.55kg	42.8" L x 46.99" W x 4.3" H   27lbs 11oz 108.7cm L x 119.4cm W x 10.9cm H   12.55kg
<b>Mounting Height</b>	$\geq 6"$ (15.2cm) Above Canopy	$\geq 6"$ (15.2cm) Above Canopy	$\geq 6"$ (15.2cm) Above Canopy
<b>Thermal Management</b>	Passive	Passive	Passive
<b>Dimming</b>	0-10V	0-10V	0-10V
<b>Light Distribution</b>	120°	120°	120°
<b>Lifetime</b>	L90: > 54,000hrs	L90: > 54,000hrs	L90: > 54,000hrs
<b>Power Factor</b>	> 90%	> 90%	> 90%
<b>Certifications</b>	UL1598 Wet-Location Rated, IP66 & CE	UL1598 Wet-Location Rated, IP66 & CE	UL1598 Wet-Location Rated, IP66 & CE
<b>Warranty</b>	3 Year Standard or 5 Year Extended Warranty	3 Year Standard or 5 Year Extended Warranty	3 Year Standard or 5 Year Extended Warranty

## Dimensions



## WARNING

Risk of electrical shock. To reduce the possibility of serious injury, always take the proper precautions and unplug the fixture before moving or cleaning.

## WARNING

Fixture and power supply are UL 1598 Wet Location rated but are not designed to be submerged in water. In the event that the module or power supply enclosure becomes submersed, **first disengage the circuit breaker**, then unplug submersed components before proceeding to remove from water.

## CAUTION

To prevent eye damage, avoid looking directly at the unshielded LEDs.

## CAUTION

LED and heat sink surfaces may be hot. Allow sufficient cooling time before handling.

## CAUTION

To reduce the risk of overheating or fire, never place operating fixtures face down on a flush surface. Always allow for adequate ventilation of fixtures and power supplies.



ETL Rating: SPYDR fixtures are rated suitable for wet locations. A “wet location” is defined as an interior or exterior location in which water or other liquids may drip, splash or flow on or against the electrical components of a lighting fixture. SPYDR Series fixtures and power supply are certified to meet UL standards (ETL) from the Intertek safety consulting and certification company. Systems are cETL listed and are rated IP66 by IEC standard 60529.

- 1 PPF calculations compiled using integrating sphere measurements and typical spectroradiometric data for each LED to determine typical fixture performance. Actual photometric results may vary within the LED manufacturer's bin tolerance.
- 2 Wattage values are typical expected values. Fluence maintains a tolerance of +/- 10% on flux and power specifications. Target light levels can vary from projected levels depending on ambient temperature, room reflections values and dirt accumulation.

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## **OUR PRODUCT GUARANTEE & WARRANTY**

Every SPYDR system is engineered and built by Fluence Bioengineering in Austin, Texas, USA using state-of-the-art robotics and hand craftsmanship. All SPYDR systems are guaranteed against manufacturing defects for three years from date of purchase. Contact us at [support@fluencebioengineering.com](mailto:support@fluencebioengineering.com) for information on five year extended warranties.

We stand behind our research, we stand behind our technology and we stand behind our clients. [www.fluence.science/warranty/](http://www.fluence.science/warranty/)