



FLUENCE

B I O E N G I N E E R I N G

SPYDR_x
SPYDR_x PLUS

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 SPYDRx 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.
- 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: SPYDRx and SPYDRx PLUS are high-performance lighting systems. Do not touch while in operation.
- Connect the system only to power sources of the correct voltage. 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.
- 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 cultivation 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 H₂O, CO₂, RH, nutrients, and temperature are typically required.
- Mount the light bars 6" from the top of your canopy to ensure optimal light-use efficiency and uniformity. The SPYDR Series was designed to provide uniform light dispersion and requires precise deployment. A 1" variation in either direction will cause a significant change in uniformity and PPFD (which may or may not be desired).
- Many plants prefer increased 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/**

GENERAL CARE

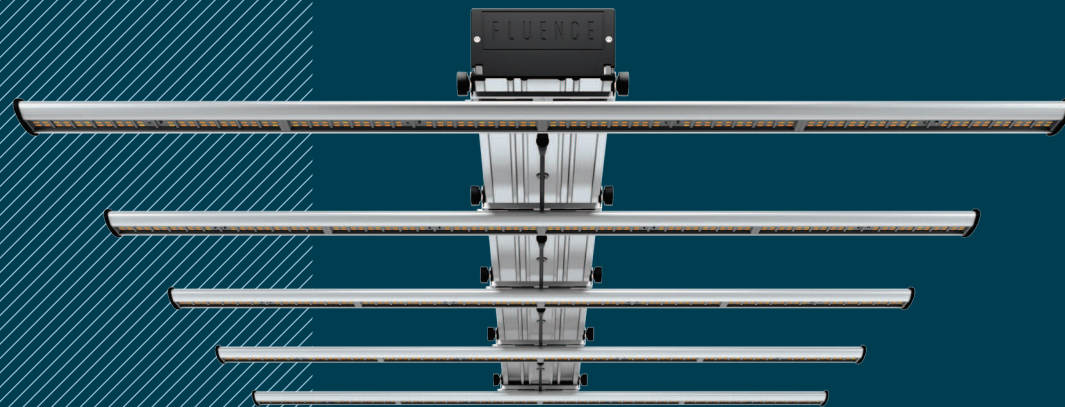
SPYDR Series systems are passively cooled with zero moving components. They are designed for harsh environments and years of maintenance-free performance. Some basic care will keep your system operating at peak performance cycle-after-cycle.

- 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 mounting surface. 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.

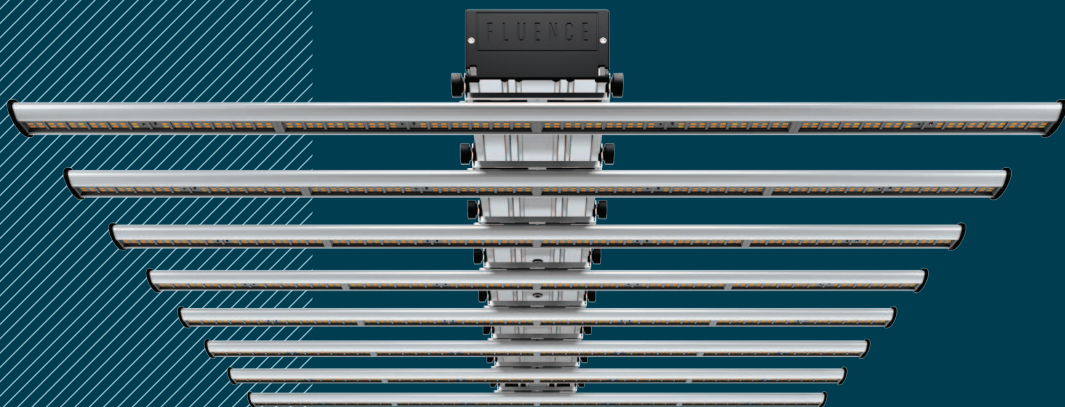
**For detailed instructions for maintenance and cleaning,
please visit www.fluence.science/support/**

**SPYDRx and SPYDRx PLUS 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.**

SPYDRx



SPYDRx PLUS



SYSTEM HARDWARE & ACCESSORIES

SYSTEM HARDWARE

A SPYDRx or SPYDRx PLUS console pre-configured with:

- A1** (5) or (8) Light Bar Brackets
- A2** (10) or (16) Clamping Knobs
- A3** (5) or (8) Male DC Connectors
- A4** Waterproof Dimming Connector with Dust Cap (dimmer sold separately)
- A5** Female AC Connector

B (5) or (8) Light Bars pre-configured with:

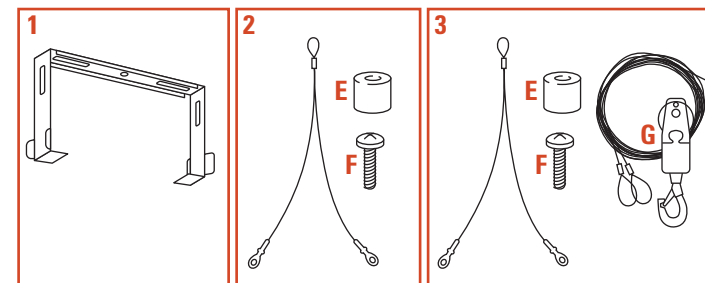
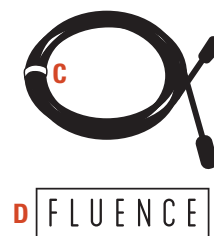
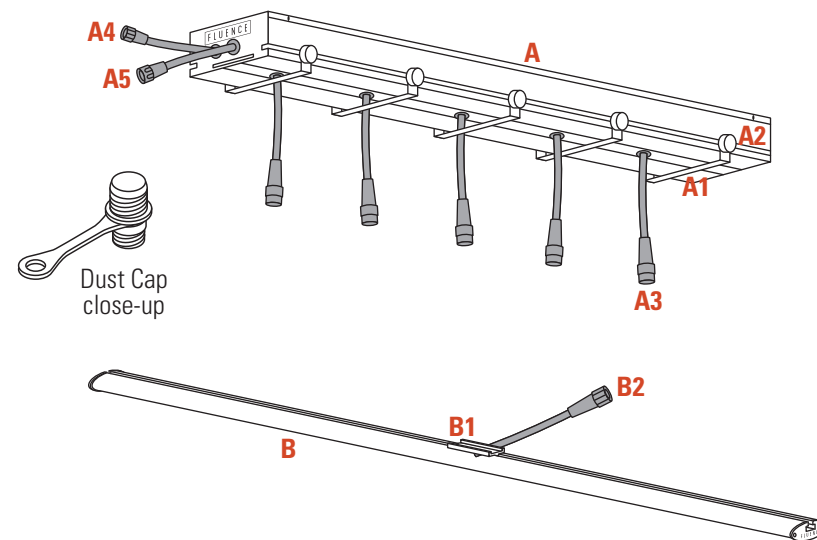
- B1** Slider Bracket
- B2** Female DC Connector

ACCESSORIES

- C** (1) 6' AC Cable
(15' Cable option if upgraded at time of purchase)
- D** (1) Vinyl-cut Fluence Sticker

MOUNTING HARDWARE OPTIONS

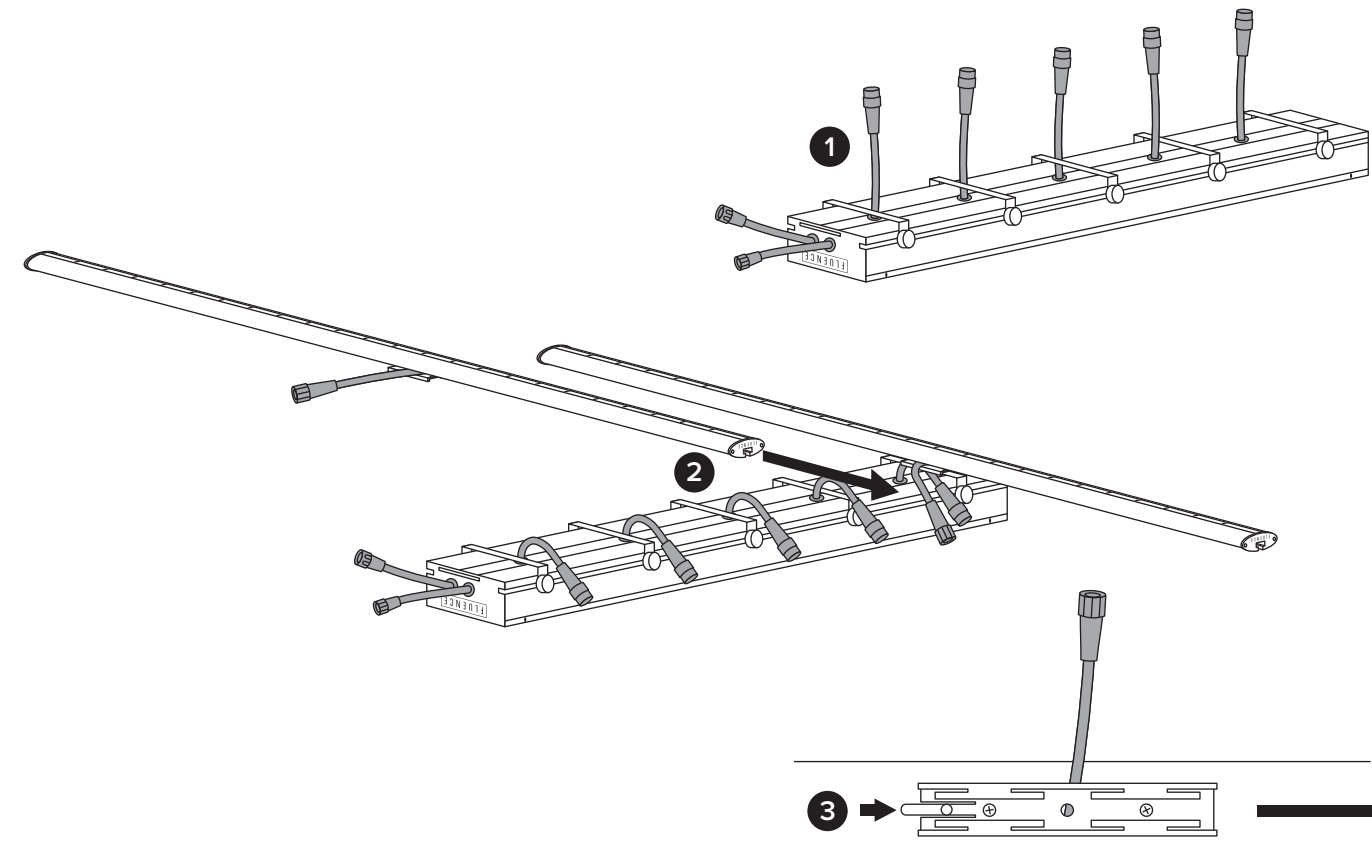
- 1** (2) C-brackets
- 2** (2) Aircraft Cables
- E** (4) Nylon Spacers
- F** (4) Mounting Screws
- 3** Adjustable Kit Bundle
(option if upgraded at time of purchase)
- E** (4) Nylon Spacers
- F** (4) Mounting Screws
- G** (2) Suspension Wire and Carabiner



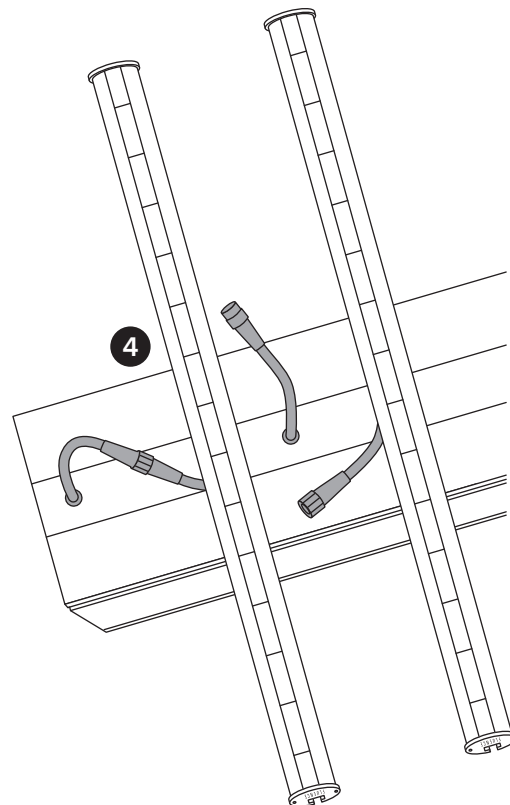
Unbox hardware and place on flush, stable surface. Take caution when handling light bars. Ensure the LED array does not come in contact with sharp objects or force that may damage the diodes.

ASSEMBLY INSTRUCTIONS

- 1 Lay the console on a flat surface with the light bar brackets facing up.
- 2 Attach light bars by sliding the plastic clip on back of light bars over the metal brackets attached to the console.
- 3 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.



- 4 Attach the light bar's female connector to the corresponding male DC connector on the console. Repeat steps 1-3 for the remaining light bars. Carefully turn the console over once all of the light bars are securely fastened. You may need a helping hand for this step. Make sure the surface is clear of objects which may damage LEDs.



- 5 To mount the fixture, refer to the instructions included in the hanging kit package with the associated accessories. Hang the fixture in the desired location and adjust the mounting height to six inches from canopy. Once the fixture is in place, plug the AC cable into fixture and wall outlet. Please make sure no one is looking directly at LEDs when power is connected.

- 6 If connecting SPYDR to a dimming system or controller, remove dust cap and use the 3-pin dimming connector.

Note, leave dust cap attached to connector when not dimming fixture. SPYDR will not turn on without the dust cap or dimming signal present.

SPYDR Series systems will deliver uniform PPFD at the recommended 6" mounting height. To achieve optimal light levels, increase distance from canopy or dim fixture to desired intensity.



TECHNICAL SPECIFICATIONS

STOCK KEEPING UNIT (SKU) CONFIGURATOR & OPTIONS
Example SKU: SR-X-I-1-06-N5-G

Family	Model	Spectrum	Input Voltage	Cord Length	AC Plug Type	Mounting Hardware
SR	SPYDR	I PhysioSpec Indoor	1 120V–277V	06 6.0’	N5 NEMA 5–15P	B C-Bracket
	PLUS		3 347V	15 15.0’	N6 NEMA 6–15P L7 NEMA L7–15P PT Pigtails	G Aircraft Cable A Adjustable Kit

Photosynthetic Photon Flux (PPF)¹

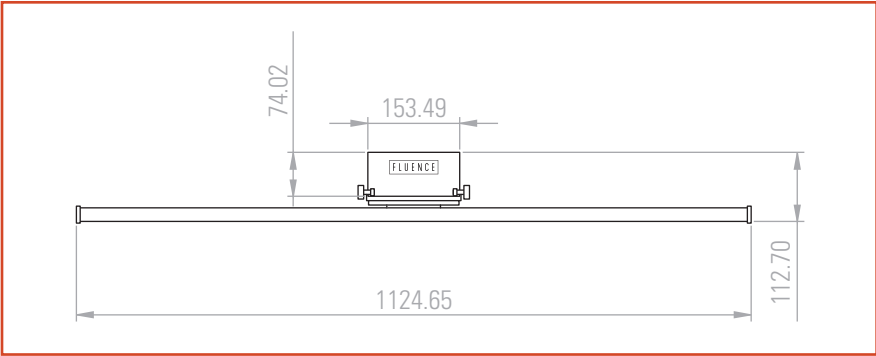
SPYDRx 810 µmol/s
SPYDRx PLUS 1535 µmol/s

Energy Efficiency (PAR)/Watt

SPYDRx 2.5 µmol/J
SPYDRx PLUS 2.3 µmol/J

Dimensions

SPYDRx 22 lbs 0oz | 44” x 42” x 4.6”
SPYDRx PLUS 32 lbs 3oz | 44” x 42” x 4.6”



Model	Input Power ²	Amps @ 120V	Amps @ 208V	Amps @ 240V	Amps @ 227V	Amps @ 347V	Frequency
SPYDRx	330W	2.8A	1.6A	1.4A	1.2A	.95A	50/60Hz
SPYDRx PLUS	660W	5.5A	3.2A	2.8A	2.4A	1.9A	50/60Hz

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

Light bars and power supply are splash-proof but not waterproof. In the event that the light bar becomes submersed, **first disengage the circuit breaker**, then unplug the fixture 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: Fluence Bioengineering fixtures are rated suitable for damp locations. A “damp 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 or ceiling fan. SPYDRx and SPYDRx PLUS are certified to meet UL standards (ETL) from the Intertek safety consulting and certification company. Systems are cETL listed and are rated IP55 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 reflection 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 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/