LUCIUS FLEX
USER MANUAL

CERTIFIED BY **WESTERN ELECTRICAL**

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USER MANUAL

LUCIUS FLEX

1. INTRODUCTION

Congratulations for purchasing your LUCIUS FLEX.

Please read and understand this manual in its entirety before using the LUCIUS FLEX. Have an experienced, certified personnel to mount and install this device.
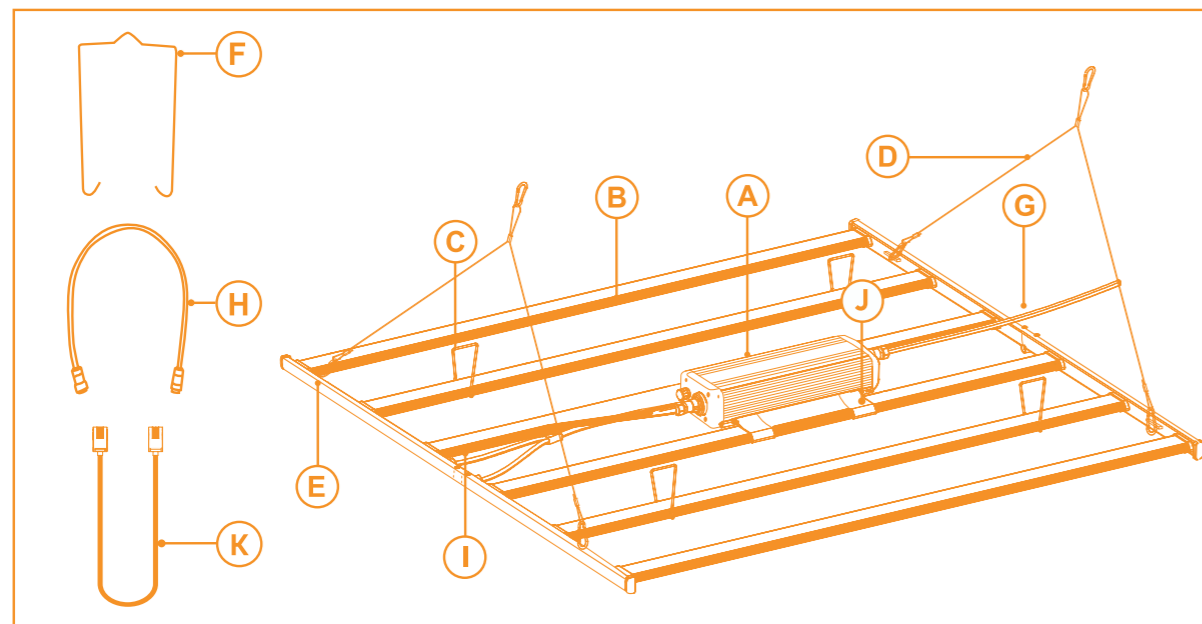
Only use this product as specified within the manual.

2. PRODUCT DESCRIPTION

The 645W LUCIUS FLEX is engineered for horticultrual application. Powered by Samsung and Osram, the LUCIUS FLEX equips six LED bars with a high PPF Efficacy (2.8μmol/J), and a uniformed coverage area for optimal plant growth. Purposed to accomodate the grower's needs, the LUCIUS FLEX has dimming capability and multiple installation options.

3. CONTENTS

Ⓐ LED driver

Ⓑ LED bars

Ⓒ Solid Decking Mount

Ⓓ Lance Hanger

Ⓔ Hanging Points

Ⓕ Waterfall Mount

Ⓖ Input Power Cord

Ⓗ Output Extension Cord

Ⓘ Output Cable

Ⓙ Driver Mounts

Ⓚ 6p6c Cable

LIGHTING THE WAY

We at Lucius are passionate gardeners who take pride in creating perfect solutions for your garden.

With the help of science and technology, our goal is to save you on power consumption by improving ballast efficiency and PPF Efficacy with our commercial greenhouse fixtures.

Learn more about lighting and how it can optimise your system.

Contact Western Electrical: **info@westernelectrical.com.au**

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LUCIUS FLEX

8. SAFETY RECOMMENDATIONS AND WARNINGS

Warning:

Please read the following instructions carefully before using or working with the product!

• Always adhere to local rules and regulations when installing or using the LUCIUS FLEX.

• Do not open or disassemble the LUCIUS FLEX - it contains no serviceable parts inside. Opening or modifying the LUCIUS FLEX can be dangerous and will void the warranty.

• This product may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45 ~ 30 MHz.

• Do not use the LUCIUS FLEX when either the unit or its power cord are damaged. Replace the power cord only with the original certified cords.

• Modifications to the cords can lead to unwanted electromagnetic interference and other effects; this will void the warranty and nullify any compliance with legal regulations.

• Do not expose the LUCIUS FLEX to:
  - Condensation, humidity, heavy mist, fog, or direct spray;
  - Ambient temperatures outside the specified range;
  - Dust and/or contamination;
  - Direct sunlight during use or HID light that could heat up the power supply enclosure.

• Always disconnect the LUCIUS FLEX from mains before performing any maintenance.

• Always allow for a cool down period of at least 30 minutes before touching the LED bars. Touching the LED bars when the unit is lit or immediately afterwards will result in severe burns!

• Do not use the LUCIUS FLEX near flammable, explosive, or reactive substances. The unit reaches temperatures of >40°C / 104° F.

• Do not use sulfur vaporizers or water misters.

• The installation and use of this unit is the responsibility of the end user. Incorrect use or installation can lead to malfunction and failure of the unit. Any damage to the unit as a result of incorrect installation or use revokes the warranty.

9. WARRANTY

The company warrants the mechanical and electronic components of this product and guarantees the materials and workmanship is free of defects if used under normal operating conditions, for a peroid of three years from the original date of purchase.
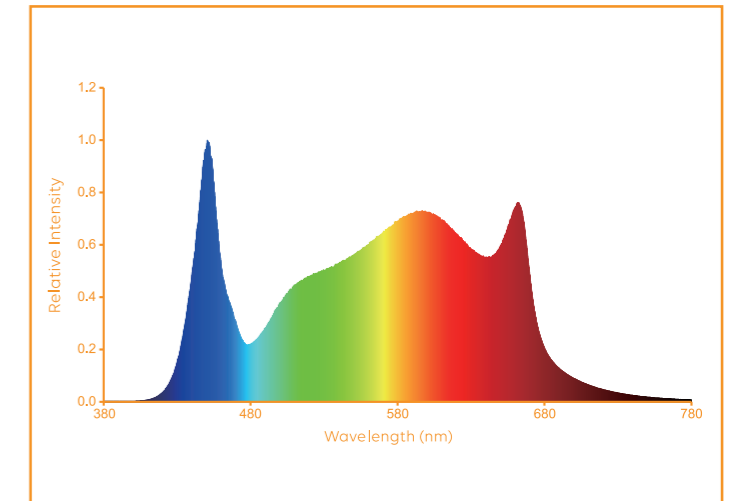
If you find that there are any defects with this product that relate to either the workmanship or the materials but are not due to improper use or user error, the company shall, at its discretion, either replace or repair the product. The date of the limited warranty shall apply to the replacement from the date of the purchase of the initial product for three years.

4. PRODUCT INFORMATION AND SPECIFICATIONS

4.1 TECHNICAL SPECIFICATIONS

LED Manufacturer	Samsung & OSRAM			
Spectrum	Full spectrum			
PPF	1806μmol/s			
Efficacy	2.8μmol/J			
Input Voltage	120V	208V	240V	277V
Input Current	5.38A	3.1A	2.69A	2.33A
Frequency	50/60Hz			
Input Power	645W			
Colour Temperature	4000K			
CRI	90%			
Fixture Dimensions (L x W x H)	117.4cm x 110.7cm x 4.75cm 46.2" x 43.6" x 1.87"			
Fixture Weight	6kg / 13.2lb			
Driver Weight	3.76kg / 8.3lb			
Total Weight	9.76kg / 21.5lb			
Optimal Operating Temperature	20 ~ 35°C / 68 ~ 95°F			
Thermal Management	Passive			
External Control	0 - 10V LED Controller			
Dimming Option	40% / 50% / 60% / 80% / 100%			
Beam Angle	120°			
Lifetime	L90:> 54,000hrs			
Power Factor	>90%			
Waterproof Rating	IP66			
Warranty	3 year Warranty			

SPECTRUM

4.2 COVERAGE AREA

PPFD is the number of photosynthetically active photons that fall on a given surface each second.

The PPFD map test is conducted on a 2.2 x 2.2m plane. An Apogee MQ-500 Full Spectrum Sensor is used to measure 529 points in a dark room without reflective walls, floor or ceiling.

LUCIUS FLEX is measured at 100% Light Intensity.

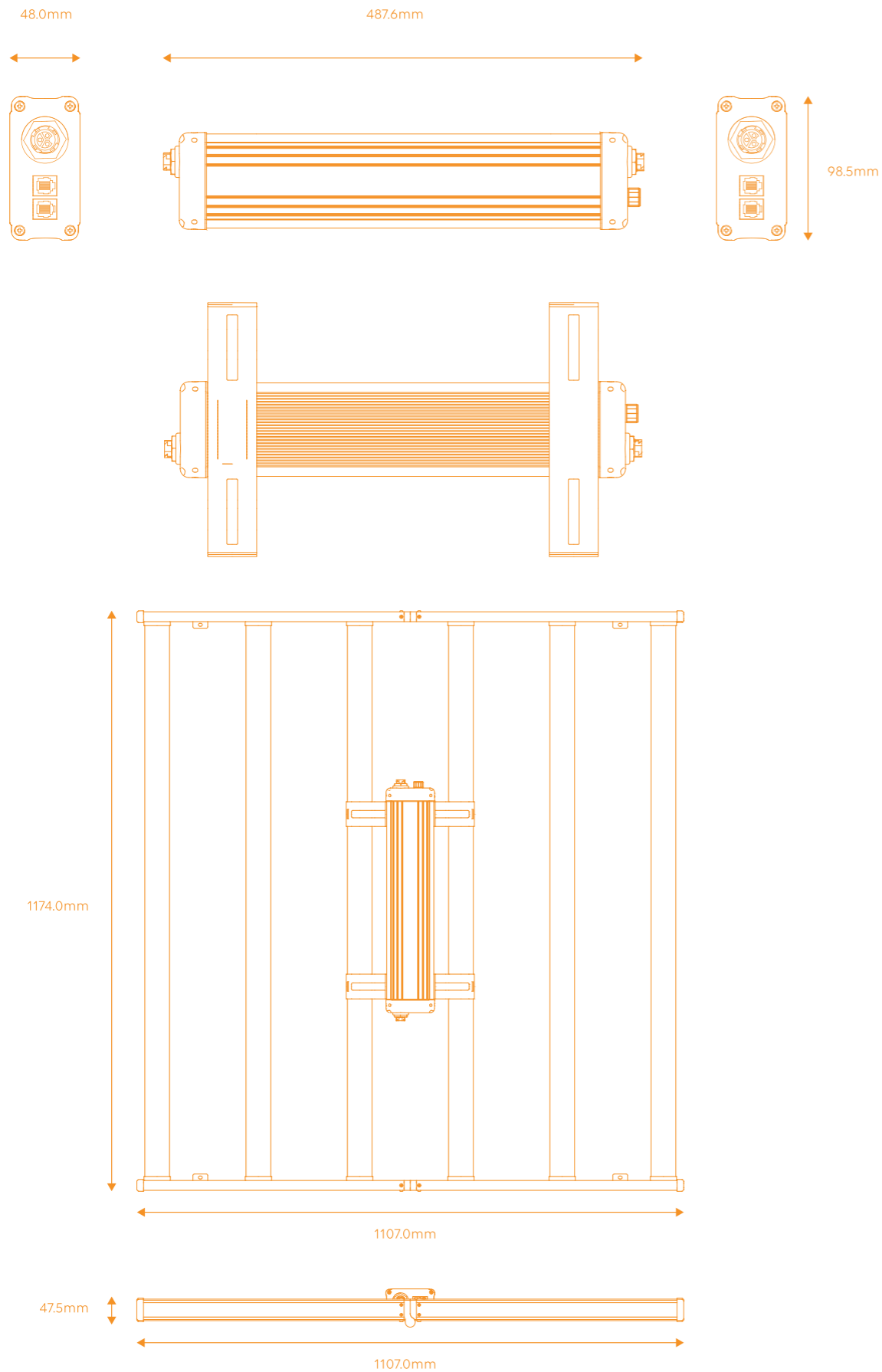| Application	Vegetative	Flower	
[1]Hanging Height (cm)	81	33	19
Max PPFD (μmol/s/m²)	500	1000	1200
Coverage Dimensions (m)	2.10 x 2.10	1.45 x 1.55	1.35 x 1.45
[2]Coverage Area (m²)	4.41	2.25	1.95

[1] *Hanging Height refers to the distance between the plant canopy and the LED.*

[2] *Coverage Area refers to the region that the plants receive at minimum 200PPFD for Flowering and 100PPFD for Vegetative.*

See lucius.com.au to view the PPFD Map.

4.3 ENVIRONMENT

The LUCIUS FLEX works at optimal capacity when the air temperature is between 20 ~ 35° C / 68 ~ 95° F.

4.4 DIMENSIONS

48.0mm

487.6mm

98.5mm

1174.0mm

1107.0mm

47.5mm

1107.0mm

5.6 CONNECTING THE LED FIXTURE TO THE POWER SUPPLY

WARNING:
• Make sure the power supply is switched off before connecting the LUCIUS FLEX.
• Connect the cables according to the local rules, safety regulations and electrical code.
• Ensure the external switching gear can cope with the inrush of electric current for the
  LUCIUS FLEX unit/s.
  - Connect the M19 female connector on power cable to the male connector on the
    power supply enclosure.
  - Connect the power cable to the power supply.
  - Switch on the power supply.

CAUTION:
Ensure the cord is not coiled and does not touch any hot surfaces.
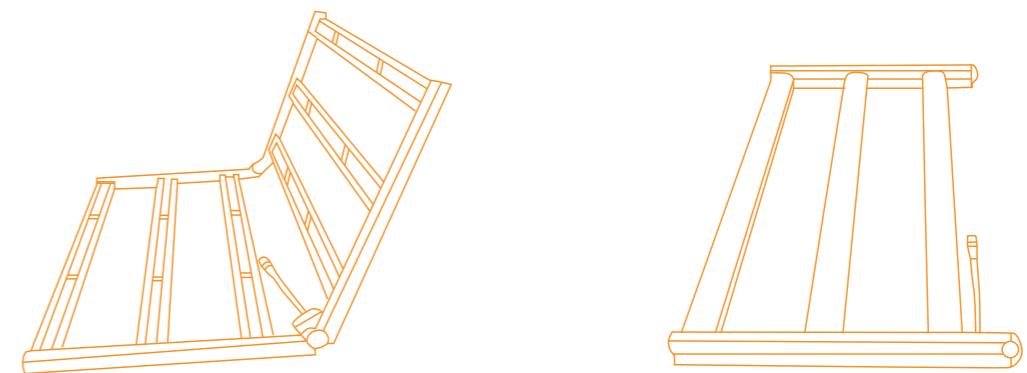
6. INSPECTION AND MAINTENANCE

WARNING:
• Disconnect the LUCIUS FLEX from the power supply before performing any maintenance.
• Do not connect or disconnect the LUCIUS FLEX while it is under load.
• Do not open or disassemble the LUCIUS FLEX – it contains no serviceable parts inside. Opening
  the unit can be dangerous and will void the warranty.
• Always allow for a cool down period of at least 30 minutes before touching the LED bars.

CAUTION:
• Do not clean the LUCIUS FLEX with detergents, abrasives or other aggressive substances.
• Please regularly check the unit for dust or build-up. Clean if necessary.
  Contamination may cause overheating and decrease performance. Clean the outside
  of the unit using a dry or damp cloth.
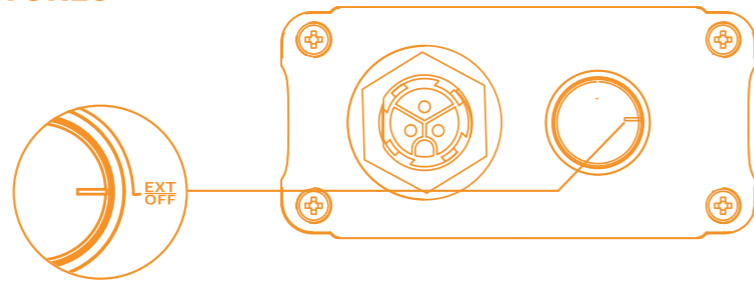• Regularly check the cables of the LUCIUS FLEX to ensure it is undamaged.

7. STORAGE AND DISPOSAL

• Store the LUCIUS FLEX in a dry and clean environment, with an ambient temperature of
  - 20 ~ 85°C /-4 ~ 185° F.
• The product must not be discarded as unsorted municipal waste, but must be collected
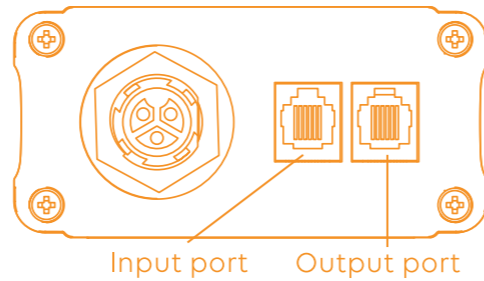 for the purpose of treatment, recovery and environmentally sound disposal.

5.5 CONNECTING UP TO 160 LED FIXTURES

• Set the knob to EXT.

EXT
OFF

• Remove the rubber cap from the input port on the first
   LUCIUS FLEX.

Note: Keep the rubber cap in a safe place! The rubber cap
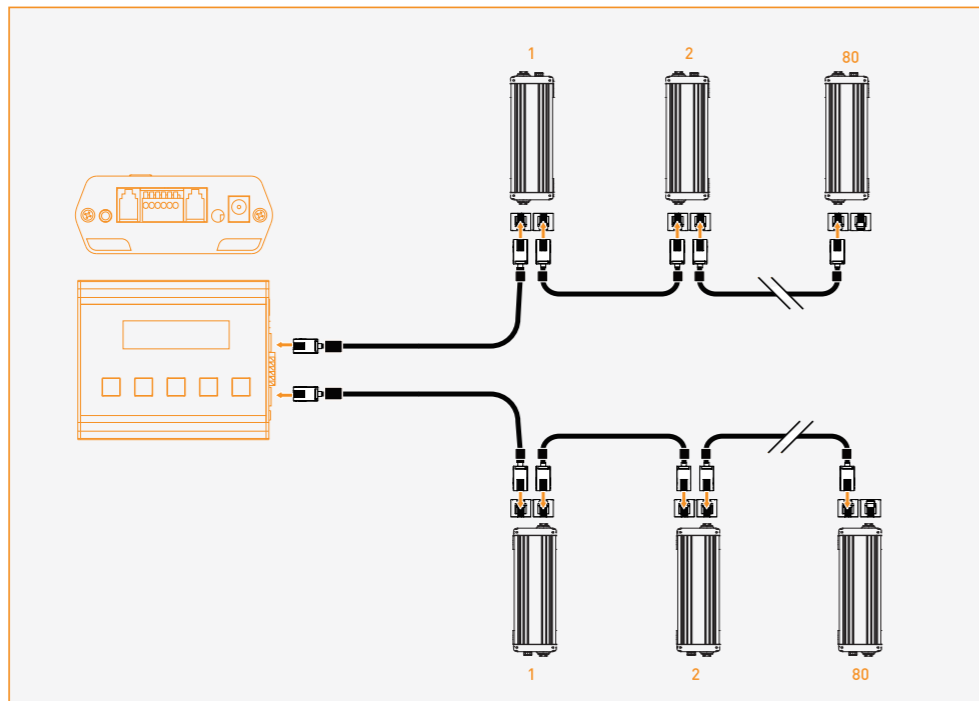is necessary to protect the LUCIUS FLEX port in a standalone mode.

Input port   Output port

• Connect the 6p6c cable to the LED controller and into the input of the first
   LUCIUS FLEX.

• Remove the rubber cap from the output of the first LUCIUS FLEX and the
   input of the second LUCIUS FLEX.

• Connect using 6p6c cable.

• Repeat these steps connecting up to 160 LUCIUS FLEX units.

Warning: Ensure the power cord and the controller cables do not touch any of the LED bars, otherwise
you may risk an electric shock!

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5. INSTALLATION

Warning:
Installing the LUCIUS FLEX should be performed by certified service personnel, in accordance with the
applicable local laws and regulations. The installer is responsible for the correct and safe installation of
the unit.

Ensure the local cabling can support the voltage and current requirement of the LUCIUS FLEX.
Avoid coiled cords and keep main leads separated. This prevents electromagnetic interference.
Do not connect or disconnect the LUCIUS FLEX under load.

5.1 INSTALLATION PREPARATIONS

The LUCIUS FLEX fixture comes with lance hangers, solid deck and waterfall mount hanging hardware. In
order to mount your LUCIUS FLEX correctly, start by identifying a suitable support structure you can mount
your fixture on. Common support structures include pallet racks, trusses, structural channels, Unistrut, and
rolling tables. For optimal results, we recommend that two people mount this fixture together.

Warning! Be sure to mount the system to something that can hold the weight of the LUCIUS FLEX.
Note: Ensure the LED bars does not come in contact with sharp objects or force that may damage the LEDs.
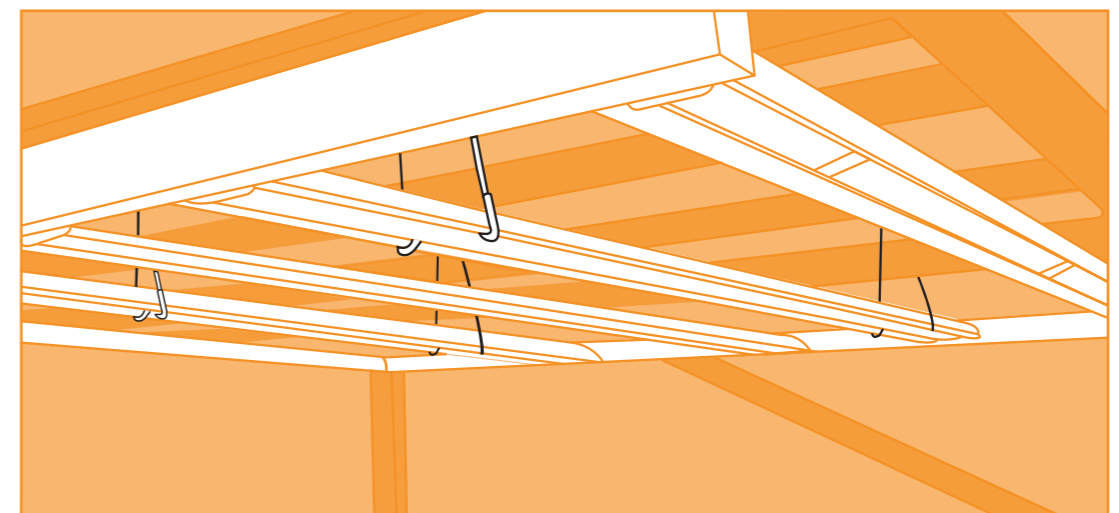Be sure to wait at least 30 minutes for the LED bars to cool down before touching them.

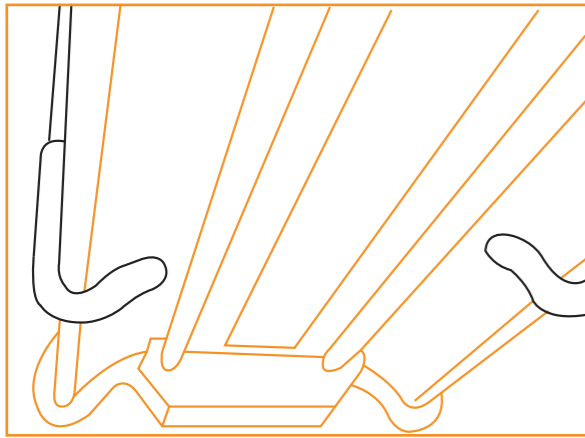## 5.2 MOUNTING WITH SOLID DECKING MOUNTS

We suggest hanging the LUCIUS FLEX from cross bars in a rack system with solid support, that is able to
withstand the weight.
To create proper balance, be sure to position the LUCIUS FLEX parallel to the length of the rack during the
setup process.
• Using the solid decking mounts, loop each mount across the crossbar above the LED light bar second from
   the end of either side of the fixture. Use two decking mounts on either end.
Note: Do not attach mounting hardware to the end light bars, else you may risk damaging the fixture.
• Once all four decking mounts are in place, use two people to lift up the LUCIUS FLEX and mount it on the
   decking mounts. You can do this by carefully prying apart the hooks until there is enough room to slide the
   fixture in between. Release the decking mounts and they will hook around the fixture.

• Adjust the LUCIUS FLEX so that each decking mount makes as much surface contact with the fixture as possible.

• Now that the fixture is secured to the decking mounts, you can adjust the position of the lights by sliding the decking mounts across the crossbars and setting it in the appropriate location for your growing operation.

Note: it is possible to hang the LED ballast separately. Please refer to paragraph 5.4

• If you plan to use a LED Controller, continue to paragraph 5.5.
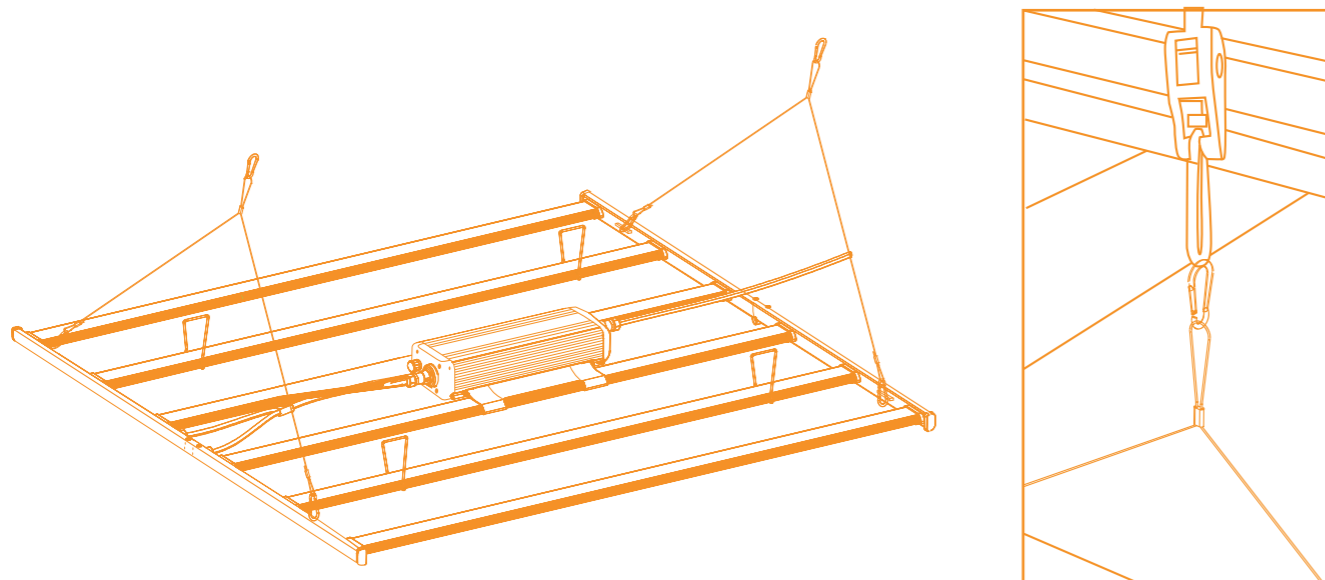• If you plan to install multiple LUCIUS FLEX units, simply repeat the steps from section 5.

5.3 MOUNTING WITH LANCE HANGERS

We suggest that you hang the LUCIUS FLEX from two points in an area with high clearance, such as a ceiling or other support structures. There are 2 lance hangers included for this purpose.
Before you mount your LUCIUS FLEX, please complete the following steps to attach the power supply to the light bars as outlined in 5.4.
Note: The power supply enclosure MUST be mounted on the center two light bars before hanging with the lance hangers.
• Find the 4 mounting points and slide the lance hanger into 2 of them. Gently pull the hanger up from the center of the hanger until the loop snaps into place.
• Once both hangers are securely in place, use two people to lift to the fixture to install the hanging hardware. Be sure to hang from the center of the lance hanger otherwise your fixture may be unbalanced.

• If you plan to use a LED Controller, continue to paragraph 5.5.
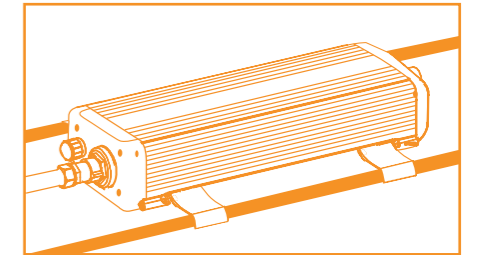• If you plan to install multiple LUCIUS FLEX units, simply repeat the steps from section 5.

5.4 MOUNTING THE POWER SUPPLY ENCLOSURE

• When unboxing and unfolding the LUCIUS FLEX for the first time, place it on a flush, level surface with the LEDs facing down.
• There are two ways to mount your power supply: attached to the LED bars or hung up with the waterfall mounts.

(1) Attach enclosure mounts to the center of two bars.

• Secure the driver to the enclosure mounts.

Note: Ensure you place the driver with the correct orientation with the enclosure output facing the LED output cable.

(2) Loop the waterfall mounts on the wire deck or cross bar. Slightly separate the mounting hardware until the hooks slide into the holes on the side of the power supply enclosure.