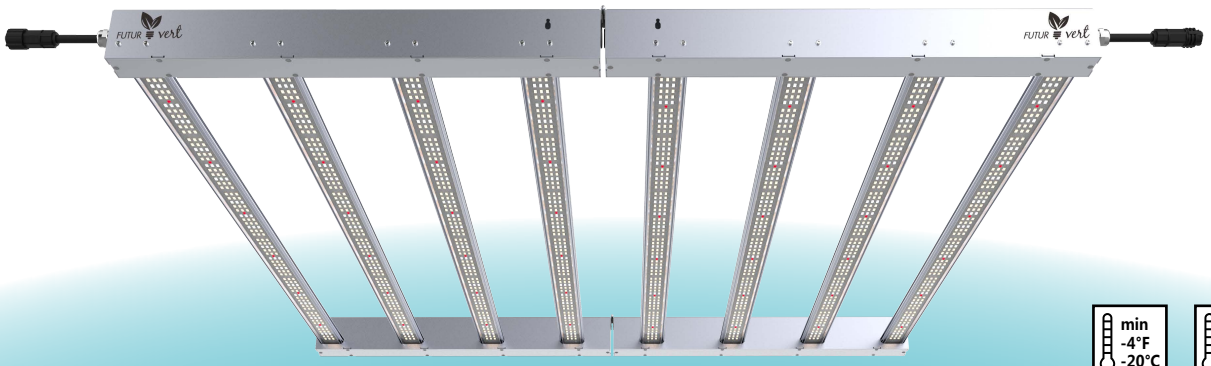
FUTUR vert

La solution écologique pour tous vos besoins d'éclairage
Ecological solutions for all your lighting needs
Soluciones ecológicas para todos los proyectos de iluminación y alumbrado



min -4°F -20°C

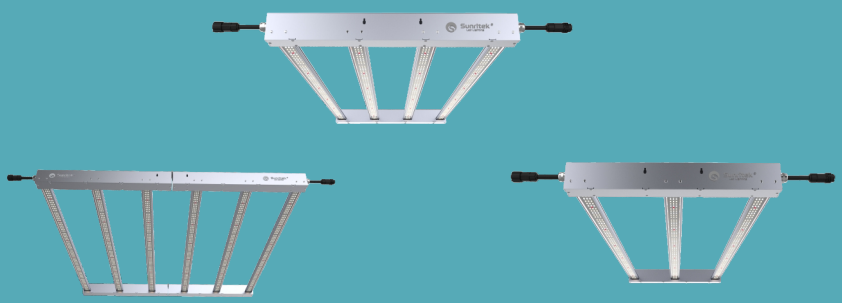
max 176°F 45°C

Intertek

FM series

LED GROW LIGHTS

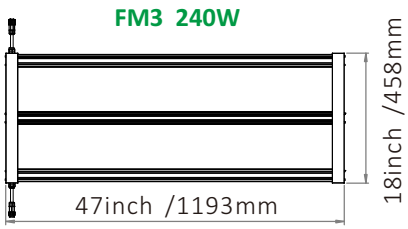
Spec Sheets

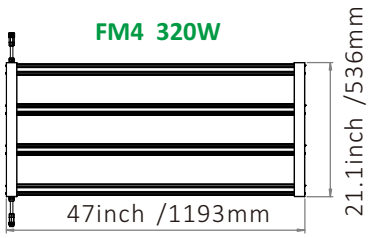


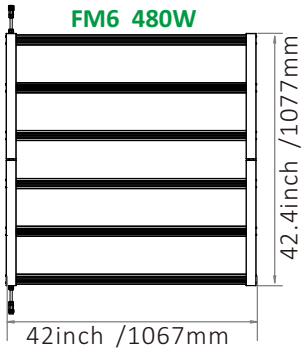
Product Description

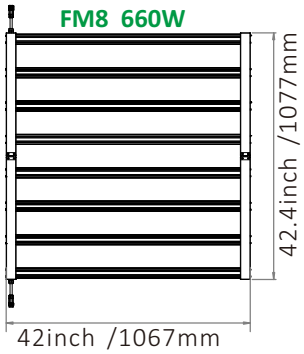
- Fanless Design
- OSRAM LEDS, LM-80
- IP65 Waterproof
- ETL, LM-79, CE certification
- Dimmable: 0-10V/1-10V Dimming
- Slim design and 180 degree foldable, making it small and compact, easy to install.
- Covering all growing stages including Genetics, Propagation,Vegetation and Flowering.
- Lights can be connected in series, with simple power supply and dimming control function.
- Hollow design makes it with good air fluidity and great heat dissipation.
- Giving large luminous area and uniform PPFD distribution.

Dimension









Application Guide

Ver cal Farming

To replace T5 4ft 8pcs*54W Fluorescent Tube light.
Futur Vert LED Grow Light is 35% higher in PPFD, 35% lower in power consumption and 50% less in BTU.
FM3/FM4 are not only suitable for genetics & propagation period of marijuana but also suitable for lettuce & leaf planting.

To replace 1000W HPS/CMH light.
Futur Vert LED Grow Light is 70% higher in PPFD, 33% lower in power consump on and 33% less in BTU.
FM6/FM8 is especially suitable for vegeta on and flowering period.

Genetics & Propagation
FM3/FM4

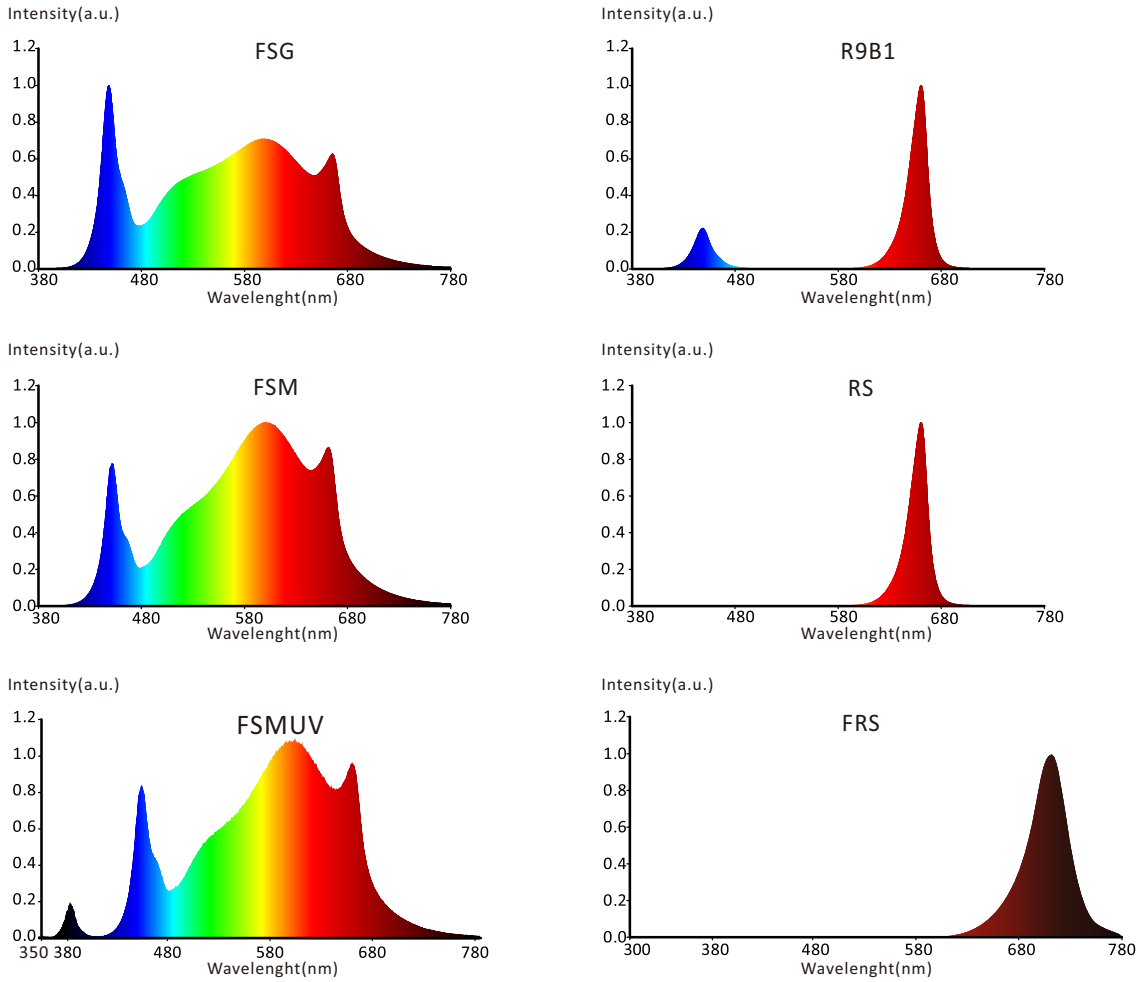
Vegetation & Flowering
FM6/FM8

Performance Summary

Model	FM3	FM4
Power Consumption (incl. driver)	240W	320W
Input Voltage	AC100-277V	
Input Current	Max 3A@100VAC Max 1.2A@230VAC Max 1A@277VAC	Max 4A@100VAC Max 1.6A@230VAC Max 1.3A@277VAC
Input Frequency	50/60Hz	
Power Factor	＞0. 9	
Spectrum	FSM / FSG / FSMUV / R9B1	FSM / FSG / FSMUV / R9B1
PPF(μmol/s)	528 576 / 576 624 / 504 552 / 528 648	704 768 / 768 832 / 672 736 / 704 864
Efficacy(μmol/J)	2.2 2.4 / 2.4 2.6 / 2.1 2.3 / 2.2 2.7	2.2 2.4 / 2.4 2.6 / 2.1 2.3 / 2.2 2.7
Heat Output	816 BTU/h	1088 BTU/h
Dimming	0-10V / 1-10V	
Operating Temperature	-4-113℉ (-20-45℃)	
Storage Temperature	-40-176℉ (-40-80℃)	
Dimensions (L x W x H)	47*18*2.0inch (1193*458*50mm)	47*21.1*2.0inch (1193*536*50mm)
Weight	11.9lbs(5.4kg)	14.6lbs(6.6kg)
L70 Rating	＞78,000 hrs	
L90 Rating	＞54,000 hrs	
ETL Certification	UL 8750 Luminaires [UL 1598:2008 Ed.3 +R:17Oct2012] Luminaires (R2013) [CSA C22.2#250.0:2008 Ed.3 +G1;G2]	
Location Rating	Damp	
LVD Certification	IEC/EN 60598-2-1 IEC/EN 60598-1	

Model	FM6								FM8							
Power Consumption (incl. driver)	480W								660W							
Input Voltage	AC100-277V															
Input Current	Max 5.5A@100VAC Max 2.5A@230VAC Max 2A@277VAC								Max 7.7A@100VAC Max 3.5A@230VAC Max 2.7A@277VAC							
Input Frequency	50/60Hz															
Power Factor	＞0. 9															
Spectrum	FSM		FSG		FSMUV		R9B1		FSM		FSG		FSMUV		R9B1	
PPF(μmol/s)	1056	1152	1152	1248	1008	1104	1056	1296	1452	1584	1584	1716	1386	1518	1452	1782
Efficacy(μmol/J)	2.2	2.4	2.4	2.6	2.1	2.3	2.2	2.7	2.2	2.4	2.4	2.6	2.1	2.3	2.2	2.7
Heat Output	1632 BTU/h								2244 BTU/h							
Dimming	0-10V / 1-10V															
Operating Temperature	-4-113℉ (-20-45℃)															
Storage Temperature	-40-176℉ (-40-80℃)															
Dimensions (L x W x H)	42*42.4*2.0inch (1067*1077*50mm)															
Weight	24lbs(10.9kg)								30lbs(13.6kg)							
L70 Rating	＞78,000 hrs															
L90 Rating	＞54,000 hrs															
ETL Certification	UL 8750 Luminaires [UL 1598:2008 Ed.3 +R:17Oct2012] Luminaires (R2013) [CSA C22.2#250.0:2008 Ed.3 +G1;G2]															
Location Rating	Damp															
LVD Certification	IEC/EN 60598-2-1 IEC/EN 60598-1															

Spectrum selected



Full Spectrum :FSG

The specially deployed full spectrum fills the negligence of the main photoreceptors and pigments outside the 660nm and 450nm range, and it is suitable for reproduction to aging in indoor environments,which increases the radiant energy of red light at 660nm wavelength in white light . The overall color temperature of FSG's full spectrum is controlled at 4000K.It provides a beautiful working environment and a more realistic color reproduction degree at a CRI level of 88.

Full Spectrum :FSM

The specially deployed full spectrum fills the negligence of the main photoreceptors and pigments outside the 660nm and 450nm range, and it is suitable for reproduction to aging in indoor environments. The overall color temperature of FSM's full spectrum is controlled at 3000-3300K, which increases the radiant energy of red light at 660nm wavelength in white light. It provides a beautiful working environment and a more realistic color reproduction degree at a CRI level of 85.

Spectrum :FSMUV

FSMUV is 385nm ultraviolet radiation and Full Spectrum, Studies have shown that THC content can be increased in cannabis plants If done correctly. If improper operation,studies have shown that UV stress will efects light suppression of chloroplasts, the reduction of plant yields and lamina deaths

Spectrum :R9B1

R9B1 use 450nm blue light and 660nm red light with bimodal spectrum, based on the latest academic research,which is the most efficient spectrum in increasing plant anthocyanin, chlorophyll and carotenoid yield.

Spectrum :RS

With a peak spectrum at 660nm, RS is designed to exclusively target phytochrome red photoreceptors. This spectrum is widely used to target Phytochrome Red (Pr) in photomorphogenic lighting applications, and it is used to delay flowering in short-day plants.

Spectrum :FRS

With a peak spectrum at 730nm, FRS is designed to exclusively target phytochrome far red photoreceptors. This spectrum is widely used to target Phytochrome Far Red (Pfr) in photomorphogenic lighting applications, and it is used to lengthen the dark period to encourage the flowering process in Short Day Plants.

LM-80 Report Of OSRAM

Appendix A:
Lumen Maintenance Projection (IES TM-21-11)

For Information Only!

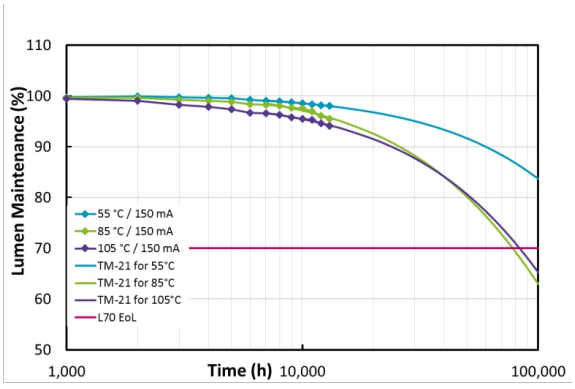
1. General Information

Description of LED light source tested	DURIS E 5 GW JDSRS1.EC
Sample size per temperature	30
LED drive current used in the test	150 mA
Test duration	13,000 hours
Test duration used for projection	8,000 hours to 13,000 hours

2. Projection Data

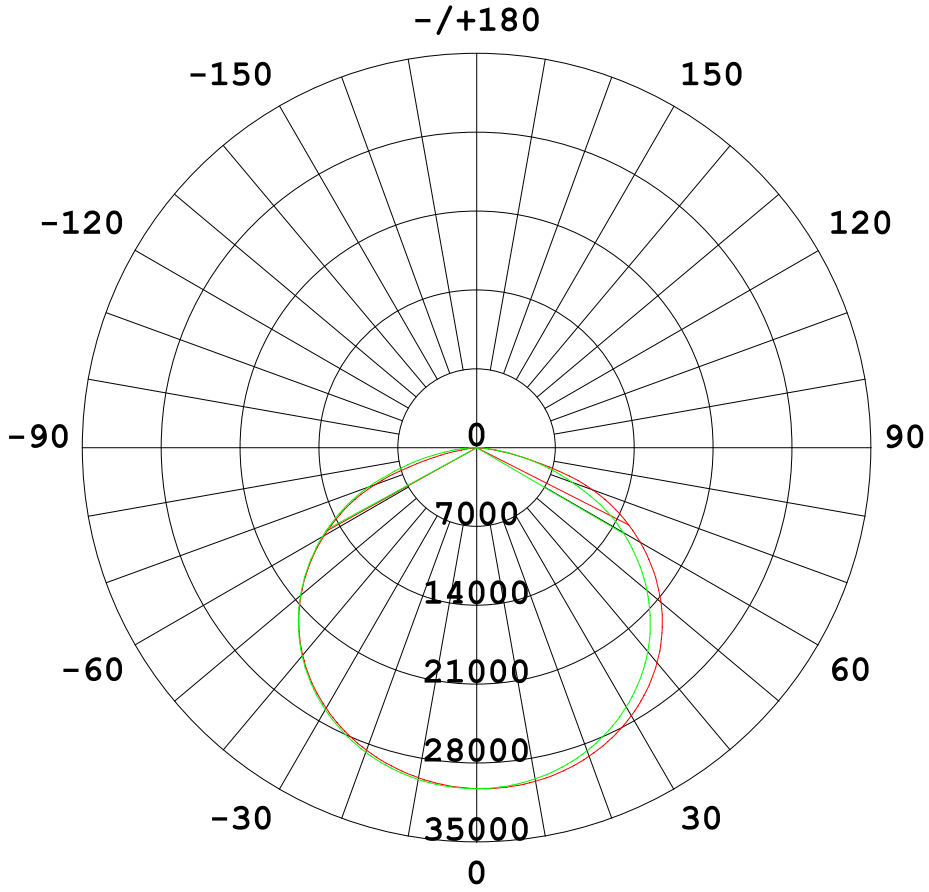
	I	II	III
Case temperature (solder point)	T_S = 55 °C	T_S = 85 °C	T_S = 105 °C
α	1.818E-06	4.821E-06	4.227E-06
B	1.004E+00	1.019E+00	9.957E-01
Reported L70	>78,000 hours	77,955 hours	>78,000 hours

3. Graphic chart



OSRAM
Opto Semiconductors

IES



UNIT:cd

C0/180,124.0

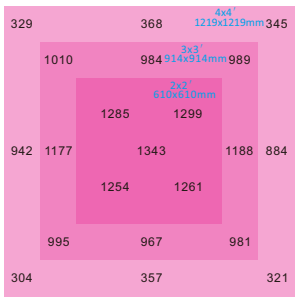
C90/270,121.1

Beam Angle(50%Imax):C0/180Left:62.0 Right:62.0 [C0/180]Total=124.0
:C90/270Left:60.5 Right:60.5 [C90/270]Total=121.1

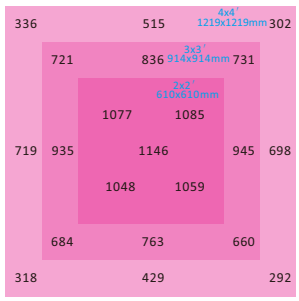
Photon Flux Distribution

Measured in isola on at 100% light intensity with fixture centrally hanging at pre-determined height above a 4′x4′ grow area.

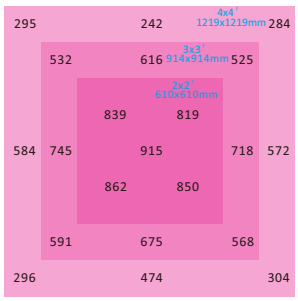
670W FM8 PPFD Distribution[1,2] FSG 2.4umol/s



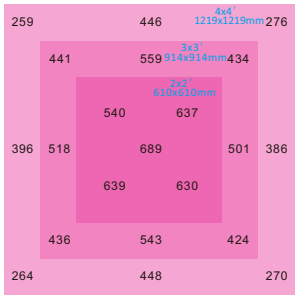
6″/152mm Height



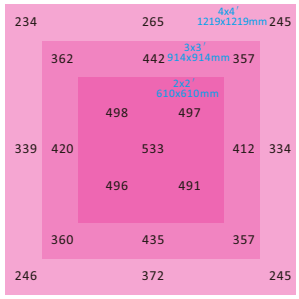
12″/305mm Height



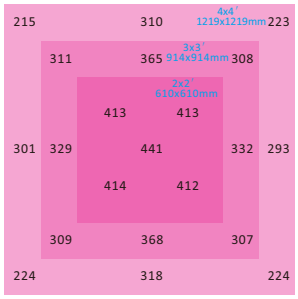
18″/457mm Height



24″/610mm Height

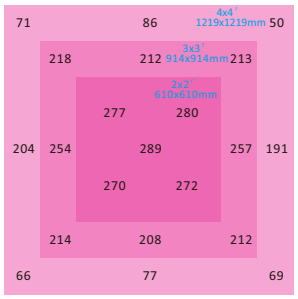


30″/762mm Height

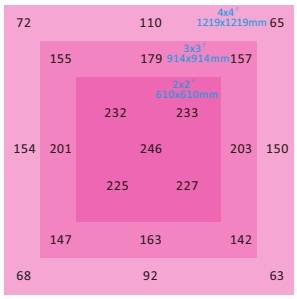


36″/914mm Height

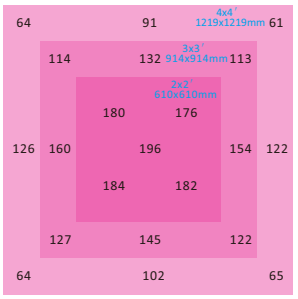
670W FM8 PAR Distribution[1,2] FSG 2.4umol/s



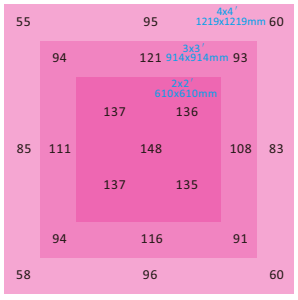
6″/152mm Height



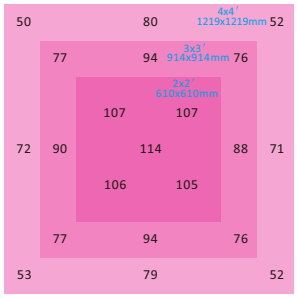
12″/305mm Height



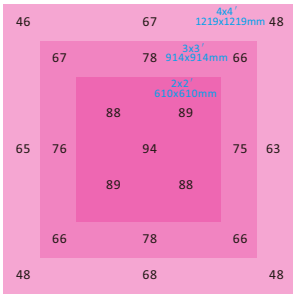
18″/457mm Height



24″/610mm Height



30″/762mm Height



36″/914mm Height

1. At 100% light intensity
2. Measured in isolation, no adjacent grow lights, no reflective walls

Plug Specifications

Plug for the US and Canada

- Plug type: NEMA 5-15P and NEMA 6-15P
- 120V/60Hz and 208V/60Hz

- UL certified

Plug for the EU

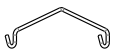
- Plug type: CEE 7/7
- 230V/50Hz

Installation

Accessories:

Steel string + latch

Long hook



Short hook

Base of hook

AC power cord

Dimming cord

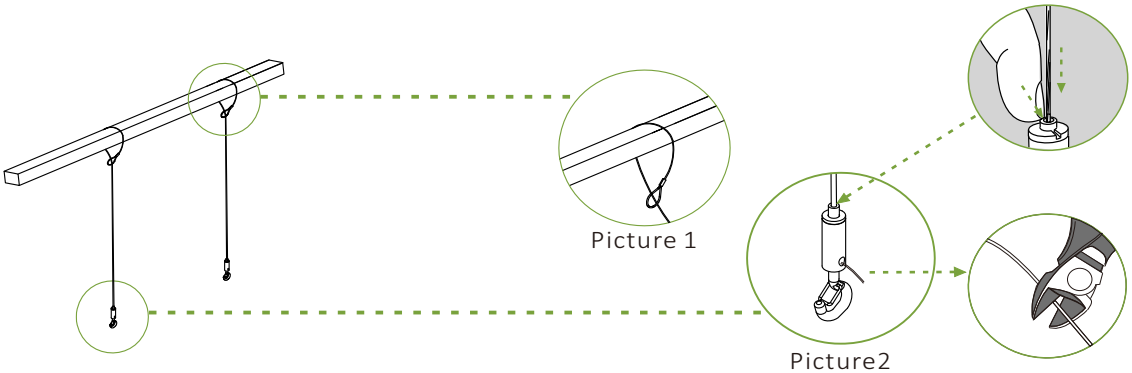
AC connection wire

Dimming connection wire

1 Pendant

1.1 Install the string on the beam (as shown in picture 1)

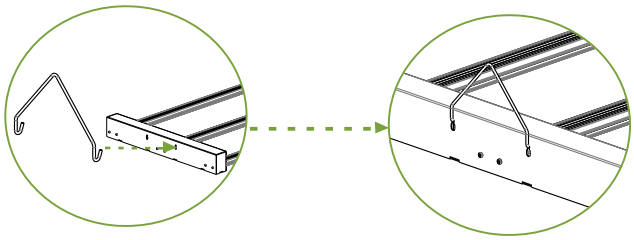
1.2 Use the string to adjust the mouting height of the fixture(as shown in picture2)



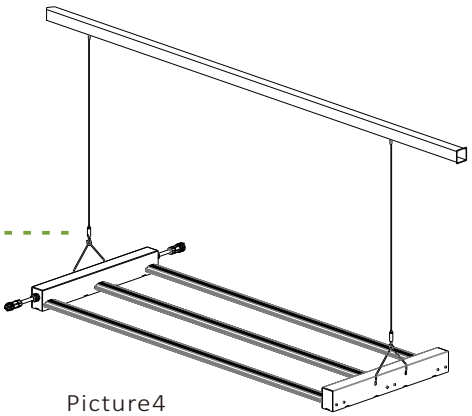
Picture 1

Picture2

1.3 Install the hooks on the light fixture and hang the hooks into two strings,(as shown in picture3 and picture4)

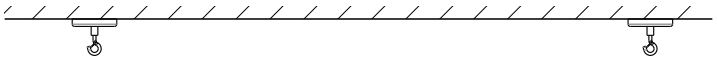


Picture3

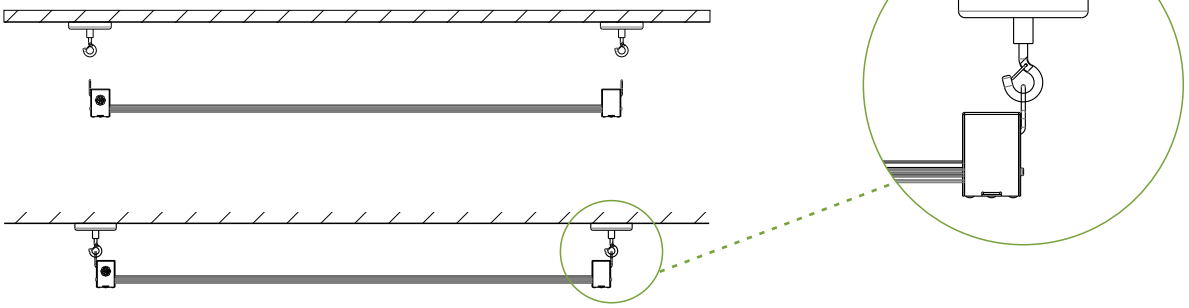


Picture4

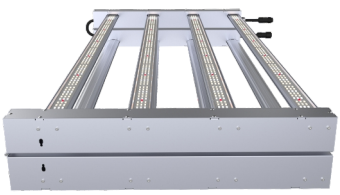
2 Surface Mounted

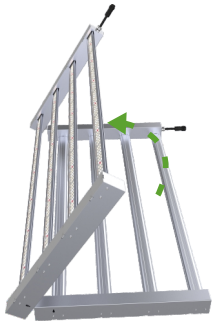


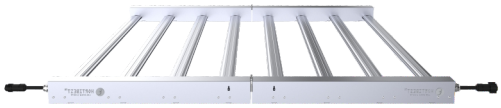
Screw the hook base into an overhead support structure



3 FM6/FM8 180 degree Foldable



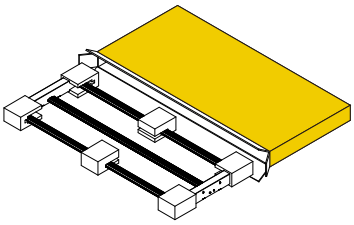




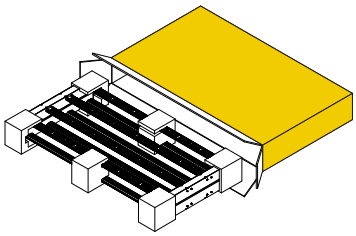
Packing

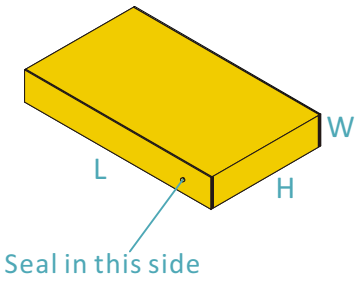
Type	Carton Size	G.W per Carton	Quantity per Carton
FM3	L48.6*W3.7*H22.6inch (L1235*W95*H575mm)	13.4lbs (6.1g)	1 PCS
FM4	L48.6*W3.7*H25.8inch (L1235*W95*H655mm)	15.9lbs (7.2kg)	1 PCS
FM6	L43.7*W6.5*H25.8inch (L1110*W165*H655mm)	24.9lbs (11.3kg)	1 PCS
FM8	L43.7*W6.5*H25.8inch (L1110*W165*H655mm)	28lbs (12.7kg)	1 PCS

FM3/FM4



FM6/FM8





Manufacturer s Recommendations

1.Risk of fire or electric shock,please turn off power before installing.
2.Always use product within its stated Safe Working Load.
3.Do not use for lifting, such as in a crane or pulley situation, or for hanging services exhibiting movement or dynamic behavior. Designed for hanging statically positioned services only.
4.Do not walk or stand on the product installation.
5.Always use manufacturer supplied and specified cable. Never use on coated cable or other cable.
6.Do not apply oil or any other lubricant to the fastener or any other part of the cable assembly.

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