

**LUMATEK**  
PROFESSIONAL LIGHTING

# VF90W LED FIXTURE



This versatile high efficacy fixture will ensure you reach your goals when used in Vertical Farming applications. From propagation factories and nurseries, climate chambers, warehouse farms, containers, between others, the Lumatek VF range will deliver the adequate light quality spectral and photosynthetic photon flux levels you need.

2.4  $\mu\text{mol}/\text{J}$

244  $\mu\text{mol}/\text{s}$  total output

**Ideal Spectrum and Light Intensity for low PPFD target plants**



UK  
CA

**3** YEAR  
WARRANTY

# VF90W LED

**PRODUCT CODE:** LUMLED014

**EFFICACY:** 2.4  $\mu\text{mol}/\text{J}$

**PPF:** 244  $\mu\text{mol}/\text{s}$

**INPUT VOLTAGE:** 220-240V, 50-60HZ

**DRIVER:** : 650W Driver (Sold Separately), each one can run up to 7 x VF90W Fixtures

**INPUT POWER:** 95W ( $\pm 5\%$ )

**FOOTPRINT:** 1.2x0.6m

**APPLICATION:** MULTI-LAYER, VERTICAL FARMING, RACKS/SHELVES

**WATERPROOF & DUSTPROOF:** IP65

**LIFETIME (LED BARS):** 60 000 HRS

**LIGHT DISTRIBUTION:** 120°

**LIGHT SOURCE:** 4000K WHITE HIGH SPEC DIODES;

3000K WARM WHITE HIGH SPEC DIODES

**CCT:** 3600K

**QUANTITY OF LED BARS:** 3x30W

**QUANTITY OF DIODES TOTAL:** WHITE 216; WARM WHITE 144

**QUANTITY OF DIODES PER LED BAR:** WHITE 72; WARM WHITE 48

**DIODES POWER PROPORTION:** WHITE 60%; WARM WHITE 40%

**DIODES EFFICIENCY:** 4000K White High Spec 2.6  $\mu\text{mol}/\text{J}$ ;

3000K Warm White High Spec Diodes 2.55  $\mu\text{mol}/\text{J}$

**DIMMABLE:** OFF-25%-50%-75%-100%

with 0-10V Light Dimmer (connected to driver)

**EXTERNAL CONTROL:** With Lumatek Digital Panel Plus 2.0

or Universal Controller 0-10V (connected to driver)

**WEIGHT:** 1.72 Kg

**DIMENSIONS:** 1207 x 521 x 20.5mm

**THERMAL MANAGEMENT:** PASSIVE COOLING

**POWER FACTOR:** 0.95

**MAX. AMBIENT TEMPERATURE (@ 1000W POWER):** 25°C

**BTU (WITH DRIVER ATTACHED):** 307 BTUs/h

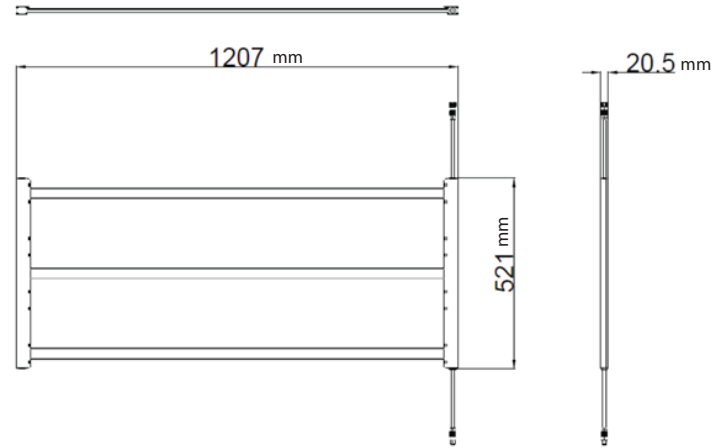
**WARRANTY:** 3 YEARS

**CERTIFICATIONS:**

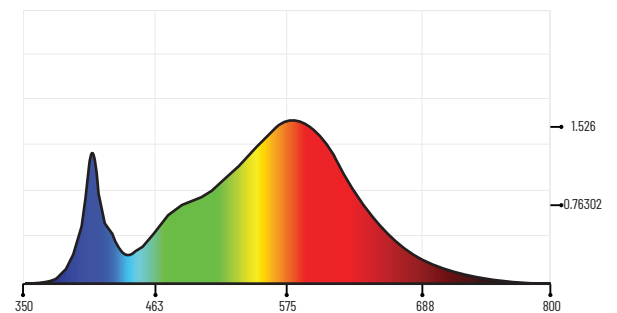
IP65, Rohs Directive 2011/65/EU And (EU)2015/863)

LED Fixture: CE Safety Standard: EN 60598-1:2015+A1:2018, EN 60598-2-1:1989, EN 62031:2020, EN 62493:2015, EN 62471:2008; CE EMC Standard: EN 55015:2019, EN 61547:2009, EN 61000-3-2:2019, EN 61000-3-3:2013+A1:2019

LED Driver: : CE Safety Standard: EN 60598-1:2015+A1:2018, EN 60598-2-1:1989, EN 62031:2020, EN 62493:2015, EN 62471:2008; CE EMC Standard: EN 61347-1:2015, EN 61347-2-13:2014+A1:2017, EN 62493:2015



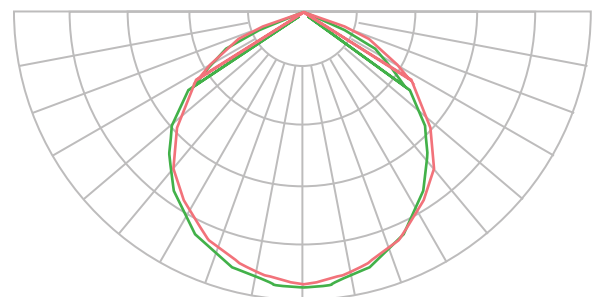
## SQD SPECTRUM GRAPH



## DISTRIBUTION CURVE FLUX

AVERAGE BEAM ANGLE (50%) : 114.4 DEG

C0/180, 114.9  
C90/270, 113.9



INPUT CURRENT (A/W) PER DIMMING RANGE OF 7 VF90W FIXTURES + 650W DRIVER

@ 277V		
DIMMING	INPUT POWER (W)	INPUT CURRENT (A)
100%	678	2,6
75%	509	1,9
50%	339	1,3
25%	170	0,8

@ 240V		
DIMMING	INPUT POWER (W)	INPUT CURRENT (A)
100%	680	2,9
75%	510	2,2
50%	340	1,5
25%	170	0,9

@ 230V		
DIMMING	INPUT POWER (W)	INPUT CURRENT (A)
100%	680	3,1
75%	510	2,3
50%	340	1,6
25%	170	0,9

ITEMS INCLUDED IN THE BOX:

- 1 x VF90W LED Fixture

EXTERNAL CONTROL

The VF Driver can also be externally controlled with a Lumatek digital lighting controller (Digital Panel Plus 2.0) featuring light timing, automated dimming (1% increments), temperature safety control, Sunrise & Sunset Mode for up to 100 drivers per controller



PPFD: PHOTOSYNTHETIC PHOTON FLUX DENSITY (µmol/m2/s)

FACTORS THAT CAN INFLUENCE PPFD TESTS

- TEST EQUIPMENT.
- LAMP BEADS DEVIATION
- AMBIENT TEMPERATURE DEVIATION
- PC COVER TRANSMITTANCE DEVIATION
- POWER SOURCE EFFICIENCY DEVIATION
- REFLECTION CONSIDERED OR NOT

RECOMMENDED PPFD (µmol/m2/s)

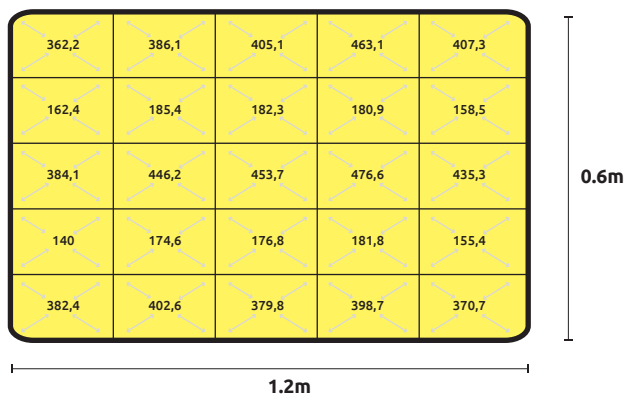
PLANT	SEED	CLONES	VEGETATIVE	FLOWERING
CANNABIS	100-300	75-150	300-550	650+
TOMATOES	150-350	75-150	350-550	650+
CUCUMBERS	100-300	--	300-550	650+
PEPPERS	150-350	--	300-550	650+

VF90W PPFD MAPS

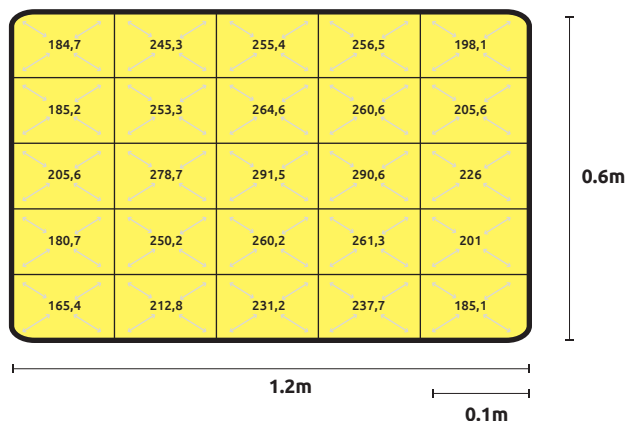
- TEST AREA 1.2mx0.6m
- TEST POINTS 25
- TEST EQUIPMENT INTEGRATING 2 METER SPHERE & LI-COR 180
- HEIGHT FROM CANOPY : 10cm, 20cm, 30cm, 50cm
- REFLECTION 0%
- FIXTURE POWER: 100%



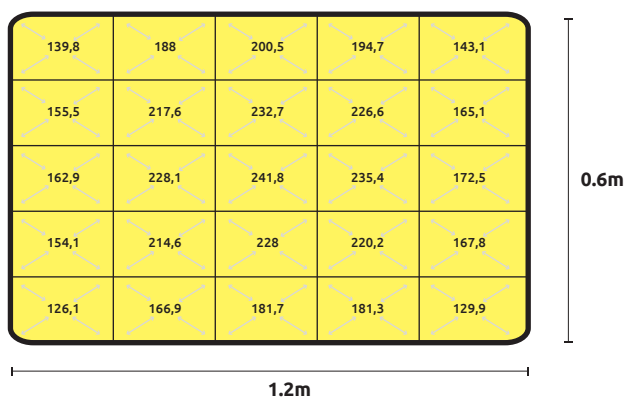
HEIGHT TO TEST POINT **10cm**  
 CANOPY AVERAGE PPFD **314.1  $\mu\text{mol/s/m}^2$**



HEIGHT TO TEST POINT **20cm**  
 CANOPY AVERAGE PPFD **291.5  $\mu\text{mol/s/m}^2$**



HEIGHT TO TEST POINT **30cm**  
 CANOPY AVERAGE PPFD **187.0  $\mu\text{mol/s/m}^2$**



HEIGHT TO TEST POINT **50cm**  
 CANOPY AVERAGE PPFD **125.4  $\mu\text{mol/s/m}^2$**

