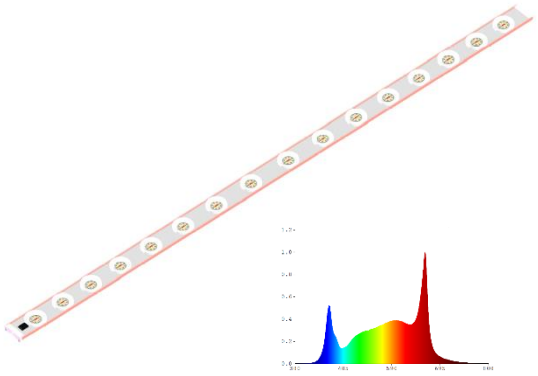
Horticulture LED module Indoor Agriculture - LED plant lights, Efficiency up to 3.0 umol/J

MODEL: RX-G45-120H series www.koraylight.com www.xinelam.com

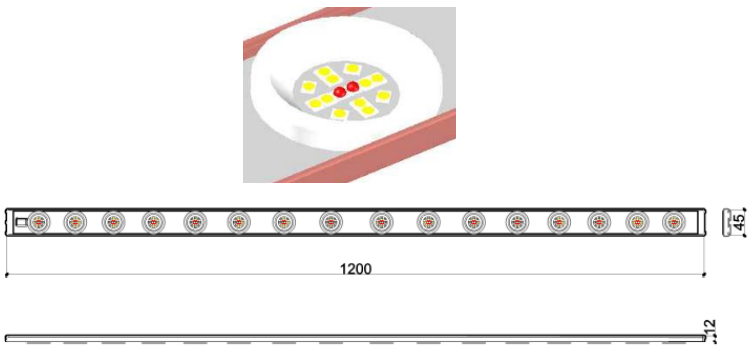
Description: RX-G45-120H Version 3.0 Horticulture LED module, Indoor Agriculture - LED plant lights, Efficiency up to 3.0 umol/J saving energy 50%, 60D and 90D Newly designed patented product, unique reflection and lens structure - high efficiency concentrating, uniform spectral radiation, directional illumination, higher light utilization, energy saving of at least 50% compared to similar LEDs; means building your with fewer plant lights farm, It is especially suitable for plant factories with high-density shelf structures.



1. Vertical agricultural gardening LED for shelf structure plant factories, home indoor plant farms
2. 60D and 90D Type unique lens structure, uniform spectral radiation, lens + reflector, directional illumination, higher light utilization, Waterproof rating IP67 for harsh environments
3. Type 90 adopts reflective cup method, PPF efficiency is up to 3.0μmol/J (CC type)
4. Preferred plant-specific full spectrum, higher light absorption rate
5. Input voltage: DC24V, safe and reliable
6. Service life 50,000 hours
7. CE RoHS FCC

Model	Dimension LxWxH	Spectral Wavelength	Photon PPFD μmol/m²/s	Luminous flux PAR Output	Power Input	Comment
RX-G45-120H-90	1205x45x12mm	F22	200μmol @0.2m 11442Lx 133μmol @0.3m 7635Lx 75μmol @0.5m 4335Lx	101μmol/s 5888Lm	40W DC24V	Constant voltage Input 2.5umol/J General spectrum Reflective cup protection
RX-G45-120H-90D	1205x45x19mm	F22	254μmol @0.2m 15234Lx 172μmol @0.3m 10136Lx 98μmol @0.5m 5769Lx	95μmol/s 5500Lm	40W DC24V	Constant voltage Input 2.3umol/J General spectrum 90D lens reflector
RX-G45-120H-60D	1205x45x25mm	F22	310μmol @0.2m 17753Lx 211μmol @0.3m 12109Lx 129μmol @0.5m 7434Lx	95μmol/s 5500Lm	40W DC24V	Constant voltage Input 2.3umol/J General spectrum 60D lens reflector
RX-G45-120H-90-CC	1205x45x12mm	F22	114μmol @0.2m 6560Lx 171μmol @0.2m 9861Lx 229μmol @0.2m 13141Lx	61μmol/s 3501Lm 89μmol/s 5141Lm 121μmol/s 6925Lm	1A @ 19.9V 1.5A @20.4V 2A @20.9V	2.8-3.1umol/J Constant current input Reflective cup protection
Surface temperature rise Tc 18K, Operating temperature: -30°C ~ 40°C, Lifespan: 50,000 hrs (Note: Ta ≤ 25°C) Tolerance range for optical and electrical data: ± 10%. Custom plant light spectrum (Light recipe) please contact Koray						

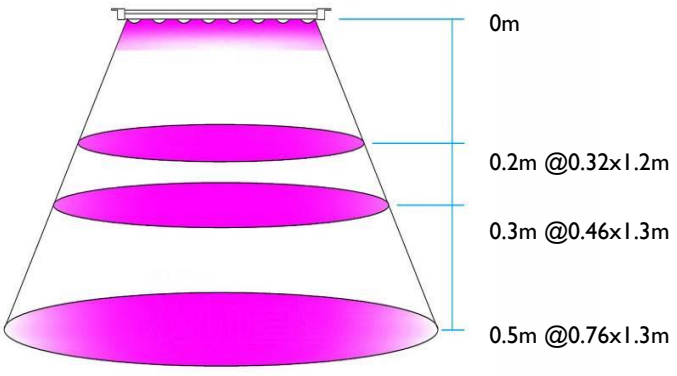
Dimension:



UNIT: mm

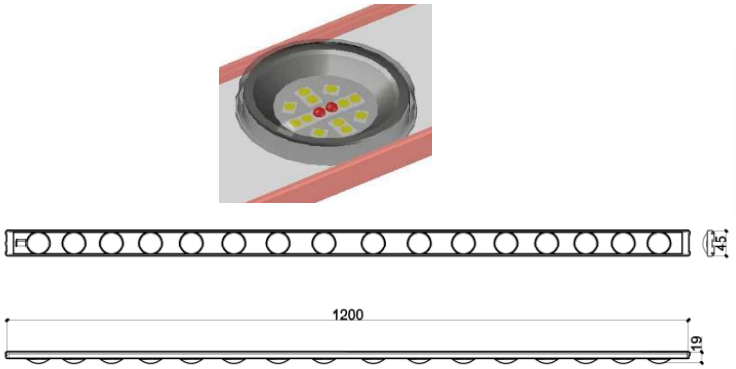
RX-G45-120H-90

Depth distance & Coverage:



Max PPFD intensity 50%

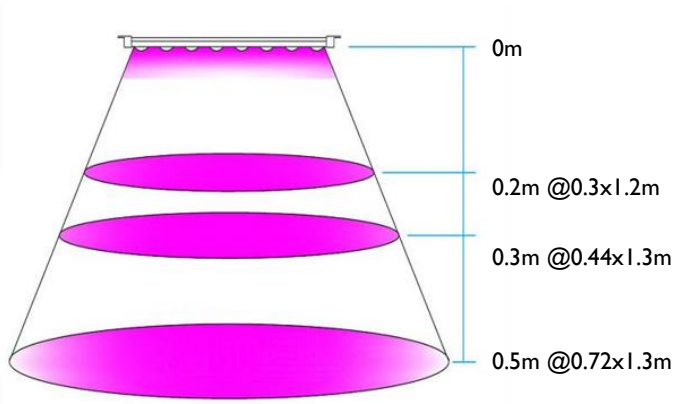
Dimension:



UNIT: mm

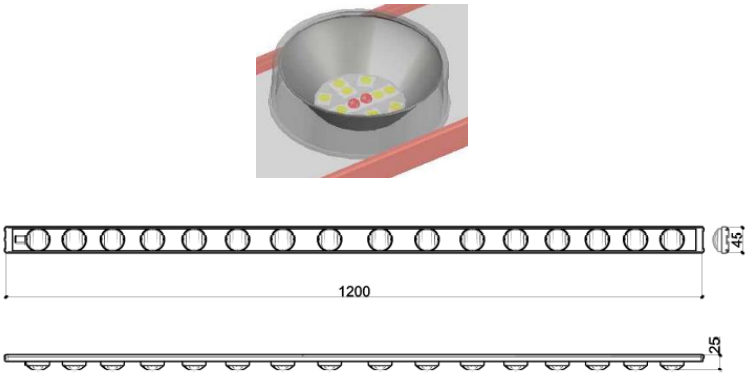
RX-G45-120H-90D

Depth distance & Coverage:



Max PPFD intensity 50%

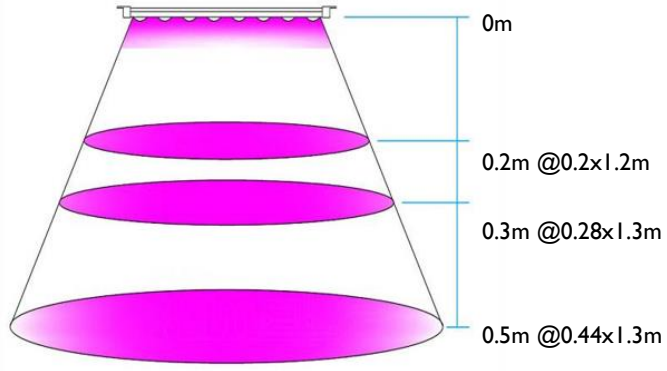
Dimension:



UNIT: mm

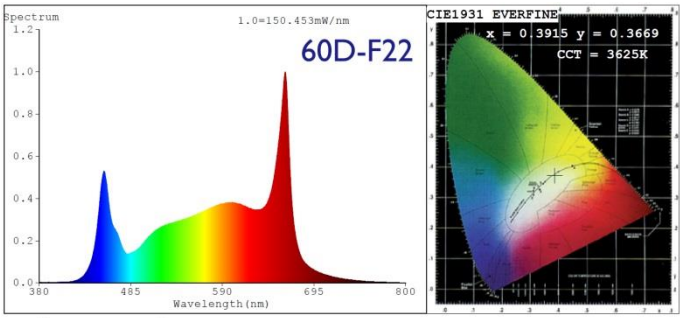
RX-G45-120H-60D

Depth distance & Coverage:



Max PPFD intensity 50%

- PPF Testing report



Color Parameters:

Chromaticity Coordinate:x=0.3911 y=0.3685/u'=0.2356 v'=0.4995
CCT=3648K(Duv=-0.0068) Dominant WL:Ld =584.2nm Purity=28.0%
Ratio:R=21.3% G=74.7% B=4.0% Peak WL:Lp=662.5nm FWHM=20.5nm
Render Index:Ra=97.2 AvgR=95.6
R1 =98 R2 =98 R3 =96 R4 =96 R5 =97 R6 =94 R7 =98
R8 =99 R9 =95 R10=96 R11=95 R12=75 R13=99 R14=97 R15=97

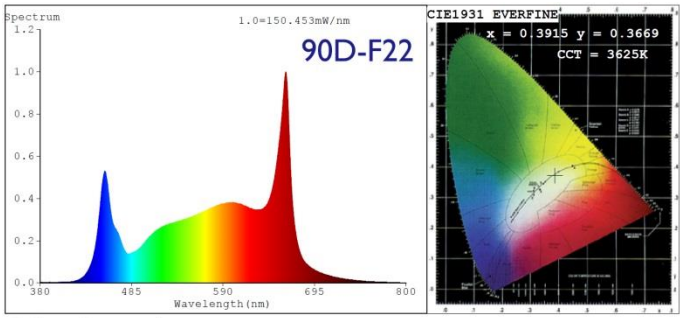
Photo Parameters: 96μmol/J 41w

Flux = 5558 lm Eff. : 135.06 lm/W Fe = 20.22 W
Scotopic:9568.8 S/P:1.7216
Photosynthetic:PPF:95.639umol/s PAR WATT:19841mW(400-700nm)

Electrical parameters:

V = 23.999 V I = 1.715 A P = 41.15 W PF = 1.000
LEVEL:OUT WHITE:OUT

RX-G45-120H-60D-F22 1.7A PPF text



Color Parameters:

Chromaticity Coordinate:x=0.3920 y=0.3690/u'=0.2360 v'=0.4999
CCT=3631K(Duv=-0.0068) Dominant WL:Ld =584.2nm Purity=28.4%
Ratio:R=21.4% G=74.6% B=3.9% Peak WL:Lp=661.8nm FWHM=20.0nm
Render Index:Ra=97.2 AvgR=95.5
R1 =98 R2 =98 R3 =96 R4 =97 R5 =98 R6 =94 R7 =98
R8 =99 R9 =94 R10=96 R11=95 R12=76 R13=99 R14=97 R15=97

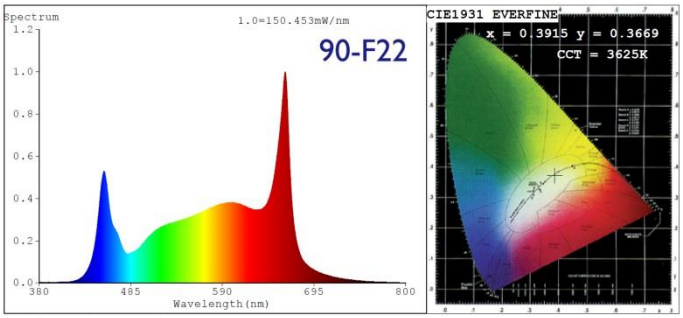
Photo Parameters: 95μmol/J 41w

Flux = 5550 lm Eff. : 135.83 lm/W Fe = 20.15 W
Scotopic:9518.8 S/P:1.7152
Photosynthetic:PPF:95.304umol/s PAR WATT:19770mW(400-700nm)

Electrical parameters:

V = 24.000 V I = 1.702 A P = 40.86 W PF = 1.000
LEVEL:OUT WHITE:OUT

RX-G45-120H-90D-F22 1.7A PPF text



Color Parameters:

Chromaticity Coordinate:x=0.3906 y=0.3678/u'=0.2356 v'=0.4991
CCT=3656K(Duv=-0.0070) Dominant WL:Ld =584.4nm Purity=27.6%
Ratio:R=21.4% G=74.7% B=4.0% Peak WL:Lp=662.5nm FWHM=20.3nm
Render Index:Ra=97.2 AvgR=95.6
R1 =98 R2 =98 R3 =96 R4 =96 R5 =97 R6 =94 R7 =98
R8 =100 R9 =96 R10=96 R11=95 R12=75 R13=99 R14=97 R15=98

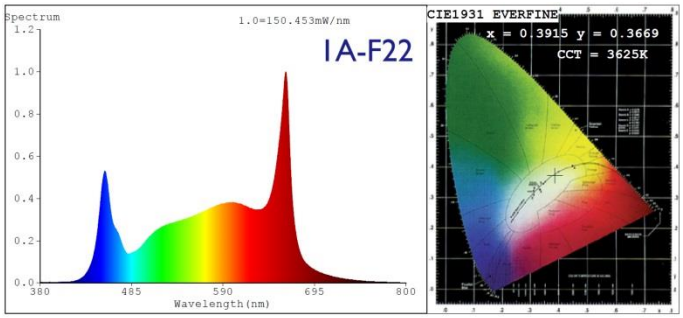
Photo Parameters: 101μmol/J 41w

Flux = 5888 lm Eff. : 144.47 lm/W Fe = 21.35 W
Scotopic:10152 S/P:1.7243
Photosynthetic:PPF:100.93umol/s PAR WATT:20954mW(400-700nm)

Electrical parameters:

V = 23.999 V I = 1.698 A P = 40.76 W PF = 1.000
LEVEL:OUT WHITE:OUT

RX-G45-120H-90-F22 1.7A PPF text



Color Parameters:

Chromaticity Coordinate:x=0.3915 y=0.3669/u'=0.2365 v'=0.4988
CCT=3625K(Duv=-0.0077) Dominant WL:Ld =584.9nm Purity=27.6%
Ratio:R=21.6% G=74.3% B=4.1% Peak WL:Lp=661.9nm FWHM=19.1nm
Render Index:Ra=97.2 AvgR=95.2
R1 =98 R2 =98 R3 =96 R4 =97 R5 =98 R6 =95 R7 =98
R8 =98 R9 =90 R10=97 R11=96 R12=75 R13=98 R14=98 R15=96

Photo Parameters: 61μmol/J 20w

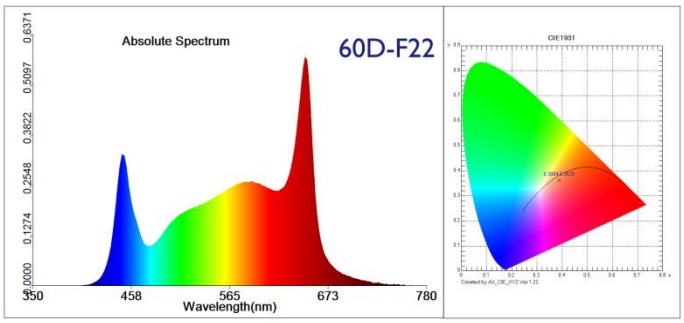
Flux = 3501 lm Eff. : 175.98 lm/W Fe = 12.84 W
Scotopic:6050.5 S/P:1.728
Photosynthetic:PPF:60.791umol/s PAR WATT:12601mW(400-700nm)

Electrical parameters:

V = 19.897 V I = 1.000 A P = 19.90 W PF = 1.000
LEVEL:OUT WHITE:OUT

RX-G45-120H-90-CC-F22 1A PPF text

- PPFD Testing report



Test parameter:

E= 17753.0 lx E(fc)=1649.91 fc

CIE x= 0.3884	CIE y= 0.3628	CIE u'=0.2362	CIE v'=0.4965
Tc=3668 K	Lp=662.0 nm	HW=27.1 nm	Ld=585.8 nm
Pur=25.4 %	Ratio_R=21.5 %	Ratio_G=74.4 %	Ratio_B=4.1 %
Duv=-0.00886			

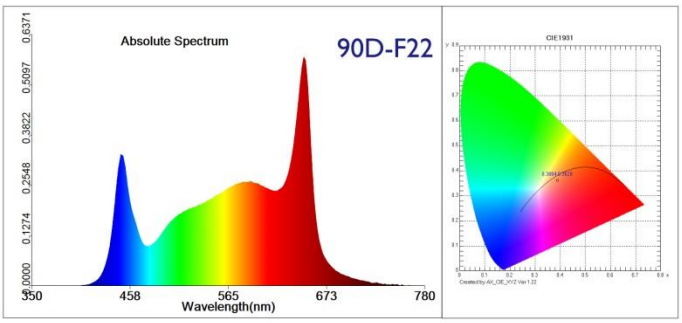
Ra=97.0	R1= 98	R2= 98	R3= 96
R4= 96	R5= 98	R6= 94	R7= 98
R8= 98	R9= 91	R10= 96	R11= 95
R12= 78	R13= 98	R14= 97	R15= 96

SDCM=12.1(F3500)
White Class:OUT

310μmol/m²/s

E1=64.317 W/m2	E2=65.269 W/m2	PPFD=309.93 μmol/(m·s)
Ech-A=14.109 W/m2	Ech-B=12.666 W/m2	Ef=0.9203 W/m2
Eb=12.436 W/m2	Ey=23.539 W/m2	Er=28.386 W/m2
Ep=56.484 Wphyto/m2	Erb_Ratio=2.2824	
PPFDf=5.5659E+000 μmol/(m2·s)		

RX-G45-120H-60D 0.2m 40W PPFD test



Test parameter:

E= 15233.5 lx E(fc)=1415.75 fc

CIE x= 0.3834	CIE y= 0.3638	CIE u'=0.2324	CIE v'=0.4962
Tc=3816 K	Lp=662.0 nm	HW=39.9 nm	Ld=584.2 nm
Pur=24.2 %	Ratio_R=20.6 %	Ratio_G=75.3 %	Ratio_B=4.1 %
Duv=-0.00702			

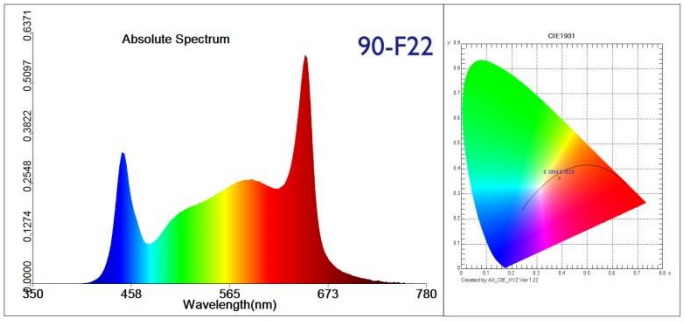
Ra=95.4	R1= 96	R2= 98	R3= 96
R4= 94	R5= 96	R6= 93	R7= 96
R8= 95	R9= 90	R10= 94	R11= 94
R12= 75	R13= 97	R14= 98	R15= 98

SDCM= 9.8(F4000)
White Class:OUT

254μmol/m²/s

E1=53.127 W/m2	E2=53.933 W/m2	PPFD=254.14 μmol/(m·s)
Ech-A=10.663 W/m2	Ech-B=10.583 W/m2	Ef=0.78469 W/m2
Eb=10.817 W/m2	Ey=20.43 W/m2	Er=21.919 W/m2
Ep=46.498 Wphyto/m2	Erb_Ratio=2.0264	
PPFDf=4.7445E+000 μmol/(m2·s)		

RX-G45-120H-90D 0.2m 40W PPFD test



Test parameter:

E= 11441.5 lx E(fc)=1063.33 fc

CIE x= 0.3868	CIE y= 0.3612	CIE u'=0.2358	CIE v'=0.4955
Tc=3697 K	Lp=662.0 nm	HW=27.1 nm	Ld=586.2 nm
Pur=24.5 %	Ratio_R=21.4 %	Ratio_G=74.4 %	Ratio_B=4.2 %
Duv=-0.00922			

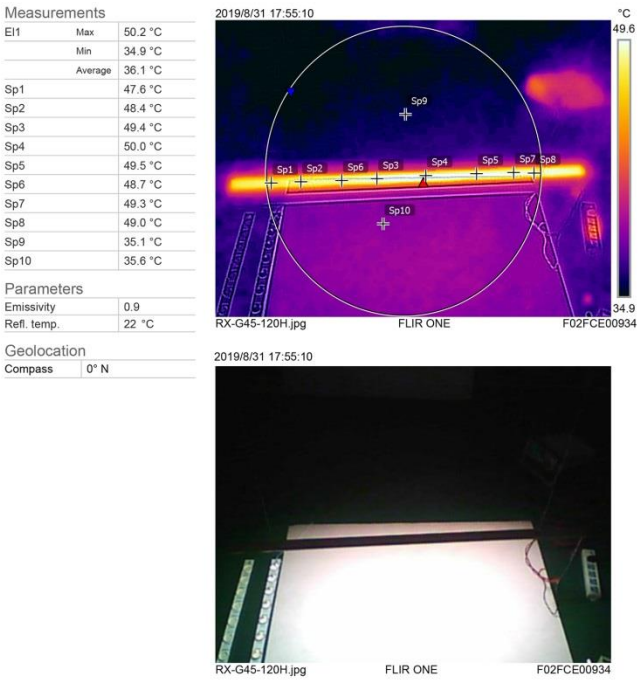
Ra=97.0	R1= 98	R2= 98	R3= 96
R4= 97	R5= 98	R6= 94	R7= 98
R8= 97	R9= 90	R10= 96	R11= 95
R12= 78	R13= 98	R14= 97	R15= 96

SDCM=12.8(F3500)
White Class:OUT

200μmol/m²/s

E1=41.48 W/m2	E2=42.093 W/m2	PPFD=199.67 μmol/(m·s)
Ech-A=9.0323 W/m2	Ech-B=8.2342 W/m2	Ef=0.59859 W/m2
Eb=8.1451 W/m2	Ey=15.176 W/m2	Er=18.187 W/m2
Ep=36.403 Wphyto/m2	Erb_Ratio=2.2329	
PPFDf=3.6195E+000 μmol/(m2·s)		

RX-G45-120H-90 0.2m 40W PPFD test



RX-G45-120H-90 Surface temperature test