

## GLBTECH's LED lamp applications

Strawberry & Fruity vegs (Main/Supplementary light)

Leafy vegetables (Main light)

Industrial/medicinal crops (Main light)

Marijuana (Main light)

# GLBTECH

[www.farmbioled.com](http://www.farmbioled.com)

Realizing a customized spectrum with optimal photosynthesis for each crop!!!



- \* The largest LED lighting supplier in Korea for plant growth
- \* Integrated production system from LED PKG to LED lighting
- \* Customized design with optimal wavelength for each crop and its growth stage
- \* '100% made in Korea' for reliable quality and prompt after-sales service.
- \* LED lamp application of design patent technology
- \* Product Line-up with excellent cost-effectiveness

# About us

## GLBTECH is

leading the market for LEDs for semiconductor's photo-lithography rooms and high CRI LEDs with global patents, as a manufacturer that develops and produces LEDs, which play a central role in the green growth industry, and LED lighting using the LED light sources. We provide indoor and outdoor premium LED lighting products ranging from broadcast lighting, inspection lighting, semiconductor lighting, and anti-bug lighting to customer satisfaction. We supply the best products with customized specifications from individual LED products to total LED solutions. Our main customers are global semiconductor, display, and construction companies, so we prioritize quality to respond to them.

### Why should **GLBTECH** be?

1. It is a reliable domestic manufacturer proven to have attracted approximately 10 billion won in investment from government investment institutions such as Korea Development Bank and Kiwoom Securities.
2. We are a specialized LED manufacturer that has proven to establish a solid quality control system by supplying semiconductor LED lighting to Samsung Electronics and LG Display, and anti-bug LED to Hyundai and Kia Motors.
3. LED lighting for plant growth, developed by developers with more than 20 years of experience in LED chips and LED PKG, by consolidating know-how, is 100% produced domestically.
4. From the stage of development of LED lighting for plant growth, through collaboration with leading domestic and foreign plant factory companies and farmers who directly cultivate plants, we have gone through numerous cultivation tests and developed. We are producing and supplying optimal customized lighting for various crops.
5. We provide optimal lighting tools such as PPF (photosynthetic photon density) and illuminance values according to crop cultivation stands and building structures.

## GLBTECH's LED lighting index for plant growth

Plant type	Cultivated plant	Application	Lighting type	Lamp type	Page#
Fruity veges	Strawberry	Indoor farm For strawberry	Main lighting	System T8	11 ~ 14
				Raceway	18 ~ 20
	Tomato (Fruity) adult cultivation	Glass greenhouse	Supplementary lighting	System T8	14 ~ 16
		Glass greenhouse	Supplementary lighting	High bay lighting	21
	Tomato (Fruity) seedling	Indoor farm	Main lighting	System T8	4
Medicinal crops	Wasabi	Indoor farm	Main lighting	System T8	4, 6, 7
	Sprout ginseng	Indoor farm	Main lighting	System T8	6, 7
	Centella asiatica, angelica root, banga, perilla, basil	Indoor farm	Main lighting	System T8	5 ~ 7
Glass greenhouse		Supplementary lighting	High bay lighting	21	
Leafy green	lettuce adult	Indoor farm	Main lighting	System T8	3 ~ 4
	lettuce seedling	Indoor farm	Main lighting	System T8	5
Flowers	Mini roses, hydrangeas	Indoor farm	Main lighting	System T8	14
		Indoor farm	Main lighting	Raceway	17, 20
		Glass greenhouse	Supplementary lighting	Raceway	17, 20

# Leafy green (Main lighting) – System T8

Model# : GTS-22A18W-M32K-12-F

Design Registration No : KR30-1152972

Certifications : CE (LVD, EMS, RoHS)

KC (KC60598-1, KC60598-2-1)

Waterproof : IP 65 (KS C IEC 60529;2013)

## ! Features !

- High CRI with enhanced 660nm Red wavelength range (White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Selectable CCT of white LED (2700K~7000K)
- Verified through various field tests for Lettuce and Korean ginseng
- LED dimming control available (optional), Flicker-Free

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Leafy vegetables
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

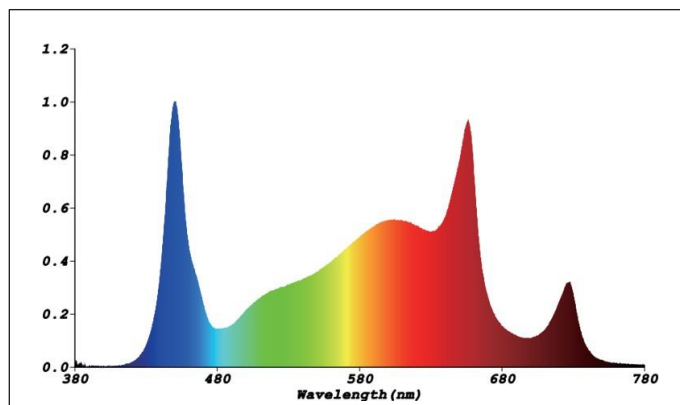
## OPTICAL

Color Temperature (CCT)	3,200K±300
Flux (lm) (Typ)	2,130 lm
Efficacy (lm/W) (Typ)	117 lm/W
PPFD (@20/30cm/umol/(m²·s))	78 / 53

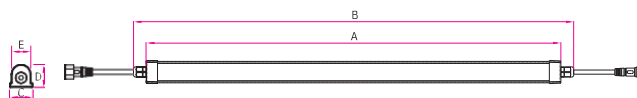
## ELECTRICAL

Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	18W ±10%

## SPECTRUM DATA



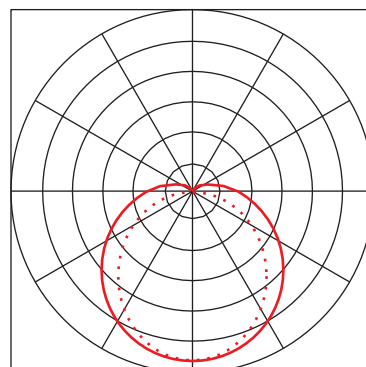
## DIMENSIONS



Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	33mm±1	27.5mm±1	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Leafy & Fruity (Main lighting) – System T8

Model# : GTS-22A26W-M40K-12

Design Registration No : KR30-1152972

KC (KC60598-1, KC60598-2-1)

Waterproof : IP 65 (KS C IEC 60529;2013)

## ! Features !

- High CRI with enhanced 660nm Red wavelength range (White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Selectable CCT of white LED (2700K~7000K)
- Verified through various field tests for Lettuce and Special crops
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light source)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Leafy vegetables and Special crops
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

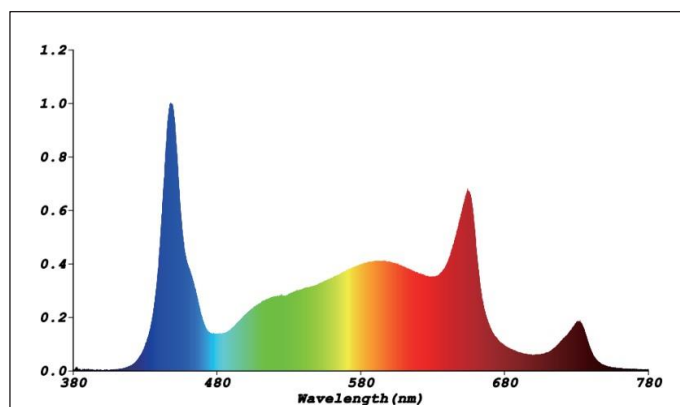
## OPTICAL

Color Temperature (CCT)	4,300K ± 300
Flux (lm) (Typ)	3,010 lm
Efficacy (lm/W) (Typ)	118 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	119 / 79

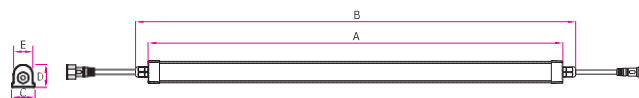
## ELECTRICAL

Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	26W ± 10%

## SPECTRUM DATA



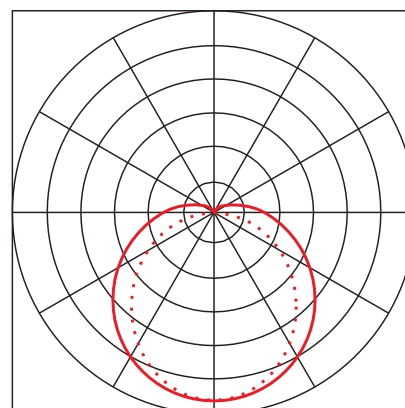
## DIMENSIONS



Model	A		B	
System T8	1,200mm ± 2		1,240mm ± 2	
Base	C	D	E	Cover
2pin Cap	33mm ± 1	33mm ± 1	27.5mm ± 1	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Leafy Green seedling (Main lighting) – System T8

**Model# : GTS-22A18W-40KT-12-F**

**Design Registration No : KR30-1152972**

**Certifications : CE (LVD, EMS, RoHS)**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- White LED lamp with enhanced 450nm Blue wavelength range
- 600mm, 1200mm, 1500mm, 2000mm Available
- Selectable CCT of white LED (2700K~7000K)
- Verified through various field tests from seed germination to raising seedlings
- LED dimming control available (optional), Flicker-Free

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for raising seedlings of Leafy



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

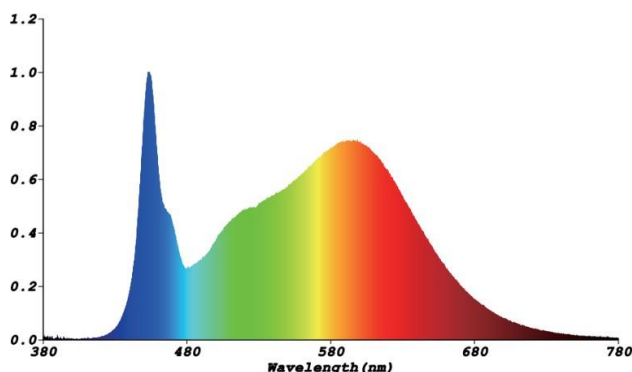
## OPTICAL

Color Temperature (CCT)	4,000K ± 300
Flux (lm) (Typ)	2,930 lm
Efficacy (lm/W) (Typ)	164 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	82 / 56

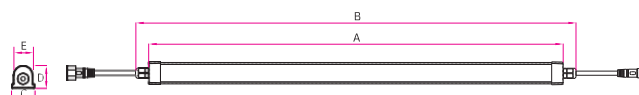
## ELECTRICAL

Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	18W ± 10%

## SPECTRUM DATA



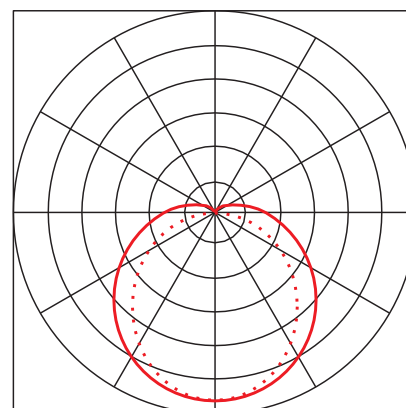
## DIMENSIONS



Model	A		B	
System T8	1,200mm ± 2		1,240mm ± 2	
Base	C	D	E	Cover
2pin Cap	33mm ± 1	33mm ± 1	27.5mm ± 1	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Medicinal crops (Main lighting) – System T8

**Model# : GTS-00A18W-27KV-12**

**Patent Registration No : KR10-2339718**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 642nm Red wavelength range
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Wasabi and Korean ginseng
- LED dimming control available (optional)



## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Wasabi, Korean ginseng
- Glasshouse farm (as supplemental lights)

## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

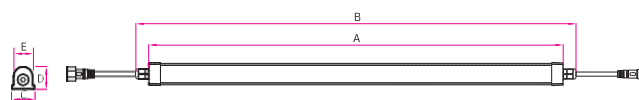
## OPTICAL

Color Temperature (CCT)	2,700K ± 300
Flux (lm) (Typ)	1,700 lm
Efficacy (lm/W) (Typ)	92 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s)	66 / 45

## ELECTRICAL

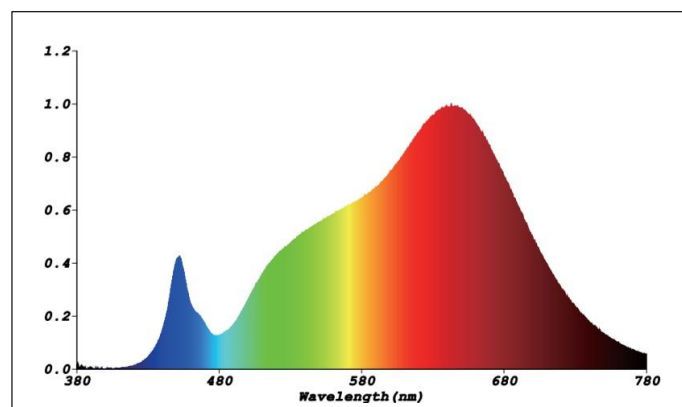
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	18W ± 10%

## DIMENSIONS



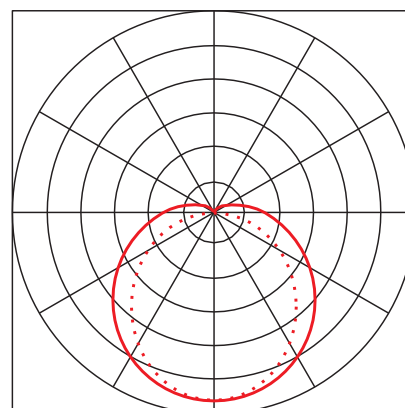
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	33mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Medicinal crops (Main lighting) – System T8

**Model# : GTS-22A26W-27KV-12**

**Patent Registration No : KR10-2339718**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 642nm Red wavelength range
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Wasabi and Korean ginseng
- LED dimming control available (optional)



## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Wasabi, Korean ginseng
- Glasshouse farm (as supplemental lights)

## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

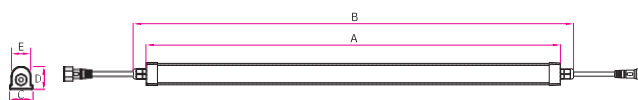
## OPTICAL

Color Temperature (CCT)	2,700K ± 300
Flux (lm) (Typ)	2,850 lm
Efficacy (lm/W) (Typ)	110 lm/W
PPFD (@20/30cm/umol/(m²·s))	98 / 66

## ELECTRICAL

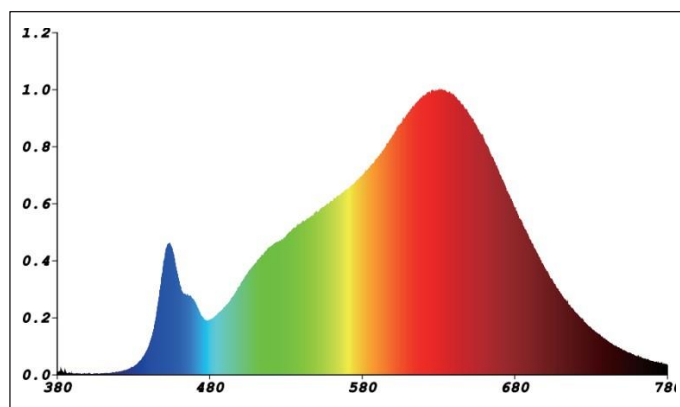
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	26W ± 10%

## DIMENSIONS



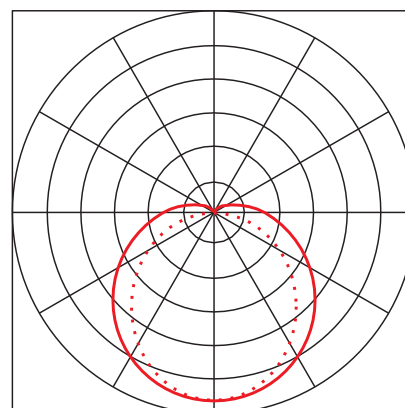
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	33mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Mushroom (Main lighting) – System T8

**Model# : GTS-00A18W-65KT-12-F**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- White LED lamp with enhanced 450nm Blue wavelength range
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Mushroom
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Mushroom
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

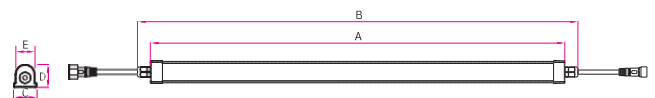
## OPTICAL

Color Temperature (CCT)	6,500K ± 300
Flux (lm) (Typ)	2,290 lm
Efficacy (lm/W) (Typ)	122 lm/W
PPFD (@20/30cm/umol/(m²·s))	80 / 54

## ELECTRICAL

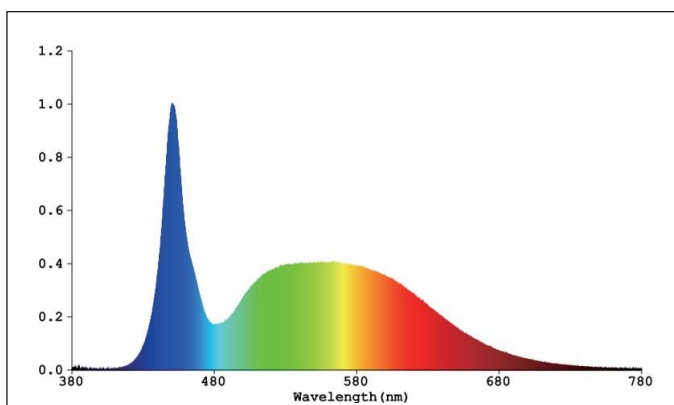
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	18W ± 10%

## DIMENSIONS



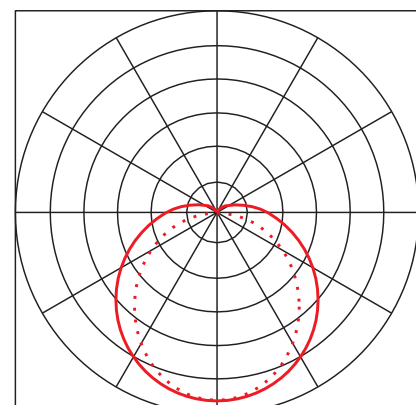
Model	A		B	
System T8	1,200mm ± 2		1,240mm ± 2	
Base	C	D	E	Cover
2pin Cap	33mm ± 1	32mm ± 1	27.5mm ± 1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution





# Medicinal crops (Main lighting) – System T8

**Model# : GTS-22A30W-35KV-15**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 642nm Red wavelength range
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Wasabi and Korean ginseng
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Wasabi, Korean ginseng
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

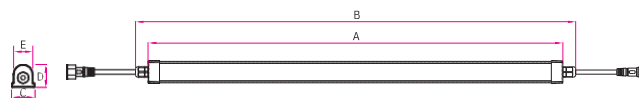
## OPTICAL

Color Temperature (CCT)	3,500K ± 300
Flux (lm) (Typ)	3,410 lm
Efficacy (lm/W) (Typ)	117 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	101 / 69

## ELECTRICAL

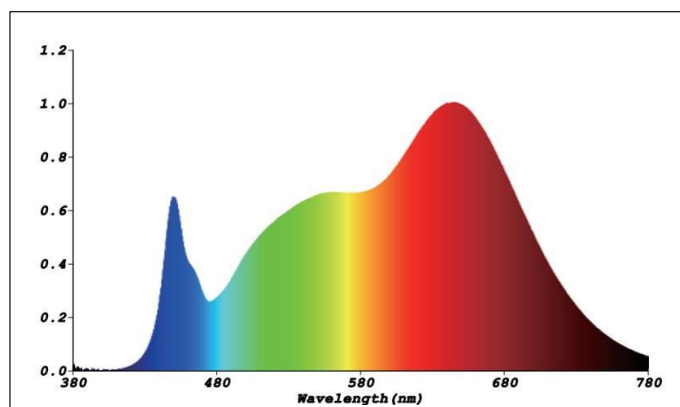
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



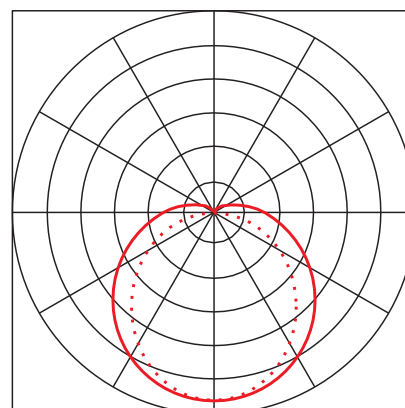
Model	A		B	
<b>System T8-1200</b>	1,200mm±2		1,240mm±2	
<b>System T8-1500</b>	1,500mm±2		1,540mm±2	
Base	C	D	E	Cover
<b>2pin Cap</b>	33mm±1	32mm±1	27.5mm±1	Polycarbonate

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Medicinal crops (Main lighting) – System T8

**Model# : GTS-22A30W-35KV-15-R20**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength (White + Red)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Lettuce and Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1500 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

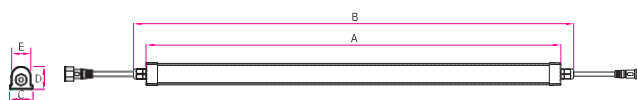
## OPTICAL

Color Temperature (CCT)	3,500K ± 300
Flux (lm) (Typ)	3,100 lm
Efficacy (lm/W) (Typ)	110 lm/W
PPFD (@20/30cm/umol/(m²·s))	101 / 69

## ELECTRICAL

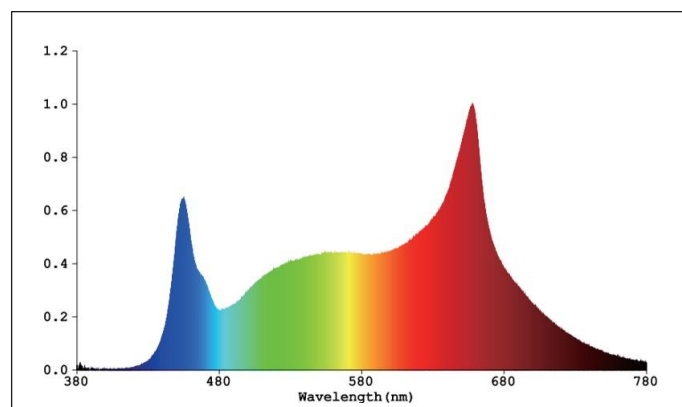
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	28W ± 10%

## DIMENSIONS



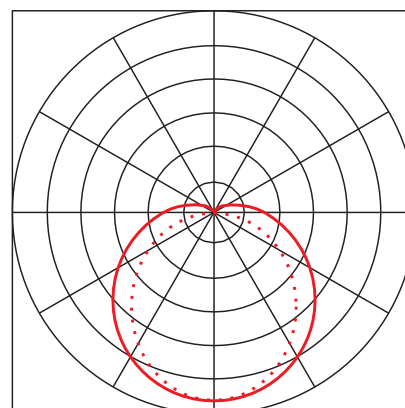
Model	A		B	
<b>System T8-1200</b>	1,200mm±2		1,240mm±2	
<b>System T8-1500</b>	1,500mm±2		1,540mm±2	
Base	C	D	E	Cover
<b>2pin Cap</b>	33mm±1	32mm±1	27.5mm±1	Polycarbonate

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Indoor Strawberry (Main lighting) – System T8

**Model# : GTS-22A28W-H23K-12**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength (White + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

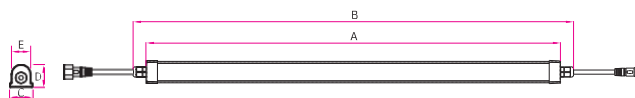
## OPTICAL

Color Temperature (CCT)	2,230K ± 300
Flux (lm) (Typ)	2,350 lm
Efficacy (lm/W) (Typ)	81 lm/W
PPFD (@20/30cm/umol/(m²·s))	174 / 108

## ELECTRICAL

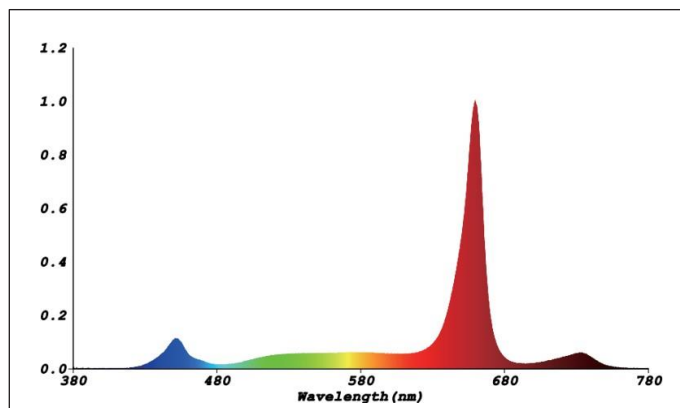
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	28W ± 10%

## DIMENSIONS



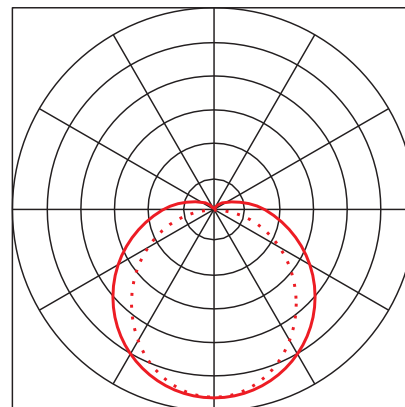
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Indoor Strawberry (Main lighting) – System T8

**Model# : GTS-22A30W-H27K-12**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength range (White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

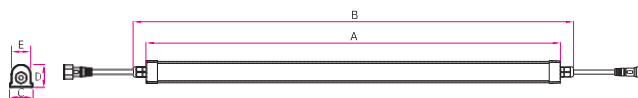
## OPTICAL

Color Temperature (CCT)	2,700K ± 300
Flux (lm) (Typ)	2,320 lm
Efficacy (lm/W) (Typ)	78 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s)	169 / 117

## ELECTRICAL

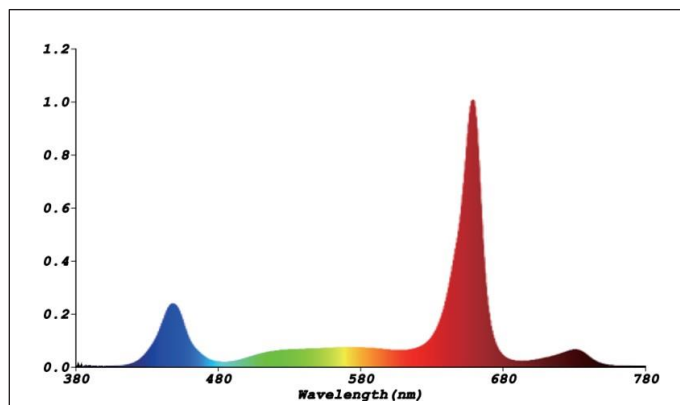
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



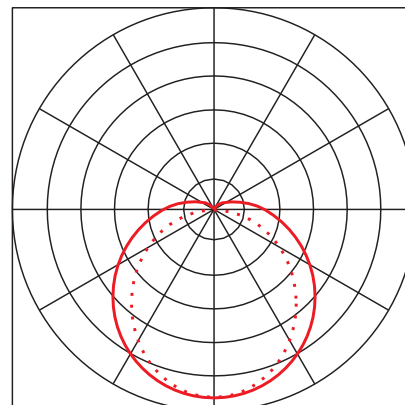
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Strawberry (Main/Supplementary) - System T8

**Model# : GTS-22A30W-H48K-12**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength (White + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

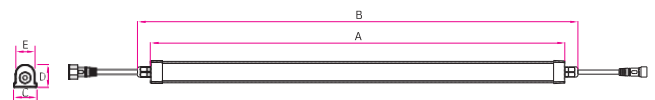
## OPTICAL

Color Temperature (CCT)	4,800K ± 300
Flux (lm) (Typ)	4,250 lm
Efficacy (lm/W) (Typ)	132 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	159 / 107

## ELECTRICAL

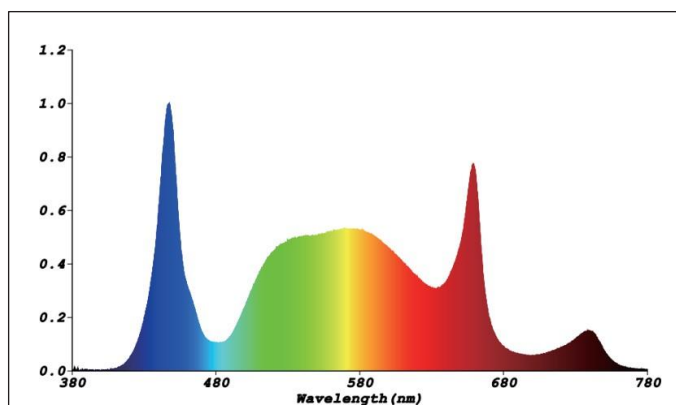
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



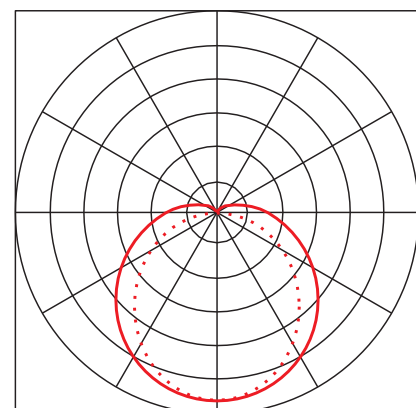
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Strawberry (Main/Supplementary) - System T8

**Model# : GTS-22A30W-H48K-12(SB)**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength (White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

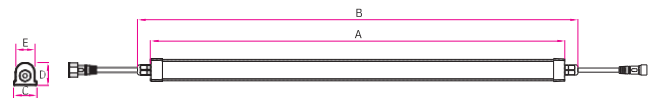
## OPTICAL

Color Temperature (CCT)	4,800K ± 300
Flux (lm) (Typ)	4,090 lm
Efficacy (lm/W) (Typ)	130 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	171 / 111

## ELECTRICAL

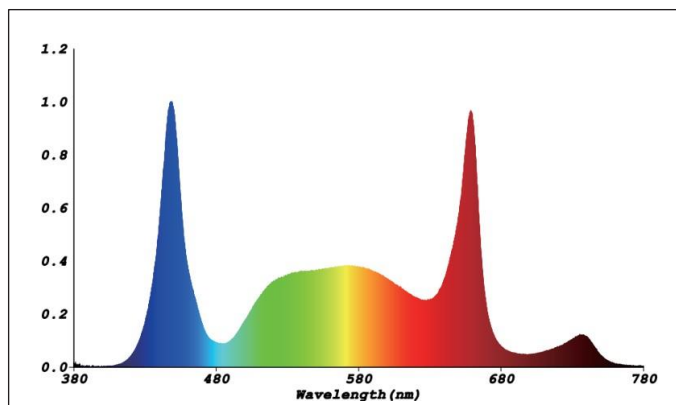
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



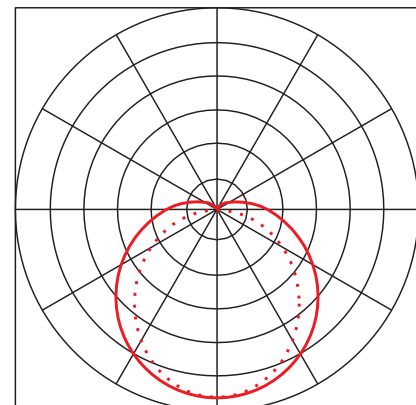
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Strawberry (Supplementary) – System T8

**Model# : GTS-22A30W-F47K-12**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- LED lamp with Full Spectrum (UV + White + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

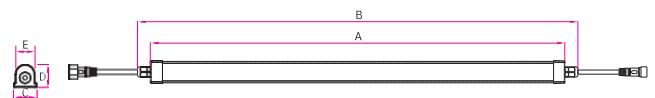
## OPTICAL

Color Temperature (CCT)	4,700K ± 300
Flux (lm) (Typ)	3,210 lm
Efficacy (lm/W) (Typ)	104 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	137 / 90

## ELECTRICAL

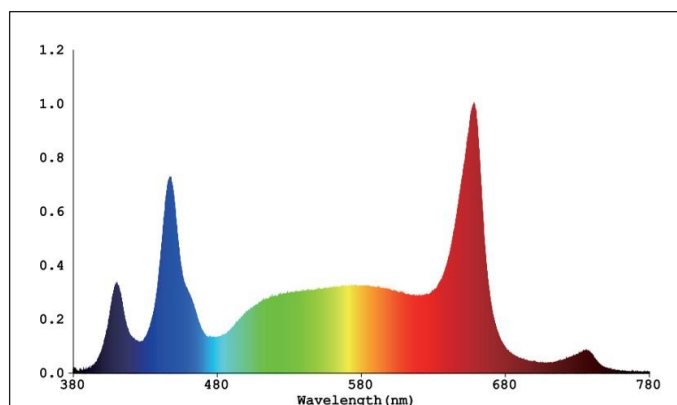
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



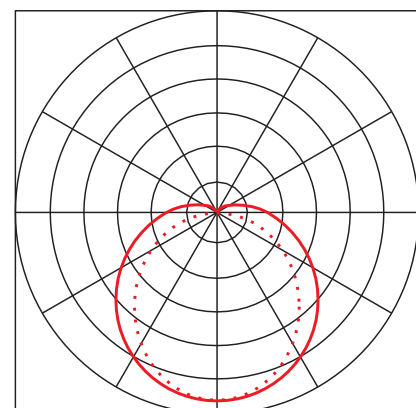
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



# Strawberry (Supplementary) – System T8

**Model# : GTS-22A30W-F35K-12**

**Design Registration No : KR30-1152972**

**KC (KC60598-1, KC60598-2-1)**

**Waterproof : IP 65 (KS C IEC 60529;2013)**

## ! Features !

- High CRI with enhanced 660nm Red wavelength (White + Red)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Fruity vegetables like Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1200 x 33 x 32(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~ 40°C

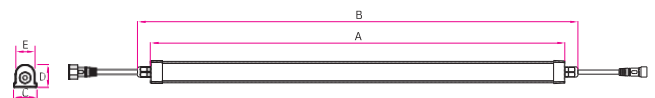
## OPTICAL

Color Temperature (CCT)	4,000K ± 300
Flux (lm) (Typ)	3,410 lm
Efficacy (lm/W) (Typ)	117 lm/W
PPFD (@20/30cm/umol/(m²·s))	153 / 99

## ELECTRICAL

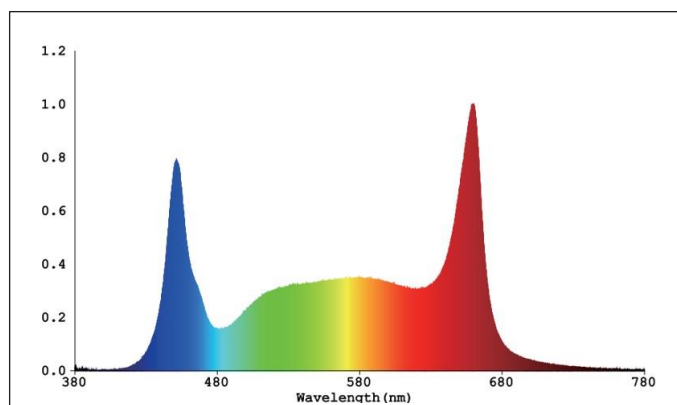
Power Factor	> 0.9
Input Voltage	AC 220V / 60 Hz
Power consumption	30W ± 10%

## DIMENSIONS



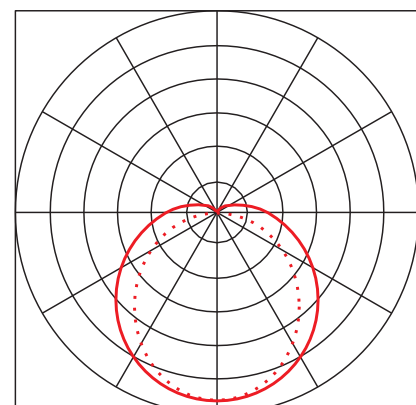
Model	A		B	
System T8	1,200mm±2		1,240mm±2	
Base	C	D	E	Cover
2pin Cap	33mm±1	32mm±1	27.5mm±1	PC(Clear)

## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution





# Strawberry, Flowers (Main/Supplementary) - Raceway

**Model# : GRW-22A50W-H63K-12**

**Certifications : KC(JH111059-23002)**

**Waterproof : IP 65**

## ! Features !

- High CRI with enhanced 660nm Red wavelength range (White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor horticulture farm (Best solution for vertical growing systems)
- Specially designed for Strawberry, Marijuana, Fruit and Flowers
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1,200x 48.5(H)-R40mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~40°C

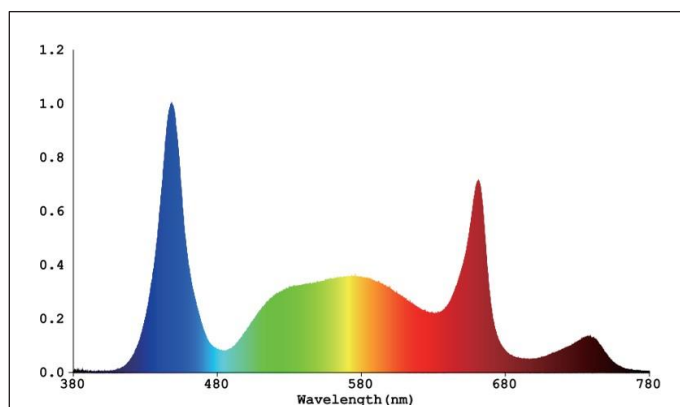
## OPTICAL

Color Temperature (CCT)	6,300K ± 300
Flux (lm) (Typ)	5,410 lm
Efficacy (lm/W) (Typ)	109 lm/W
PPFD (@20/30cm/umol/(m²·s))	229 / 155

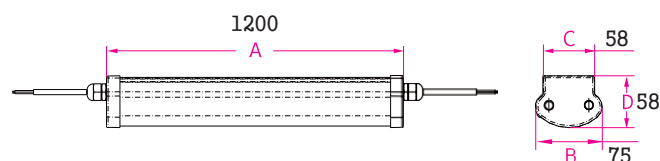
## ELECTRICAL

Power Factor	0.9 ~
Input Voltage	AC 220V / 60 Hz
Power consumption	50W ± 10%

## SPECTRUM DATA



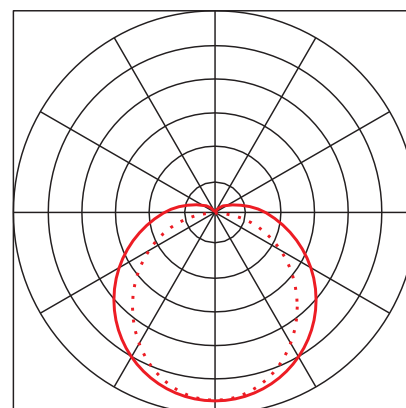
## DIMENSIONS



Model	A		B
	1,200mm ± 2		75.0mm ± 2
Raceway	C	D	Cover
	58mm ± 2	58mm ± 2	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Strawberry (Main lighting) – Raceway

**Model# : GRW-22A50W-F80K-12**

**Certifications : KC(JH111059-23002)**

**Waterproof : IP 65**

## ! Features !

- LED lamp with Full Spectrum (UV + White + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor farm (Best solution for vertical growing systems)
- Specially designed for Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1,200x 48.5(H)-R40mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~40°C

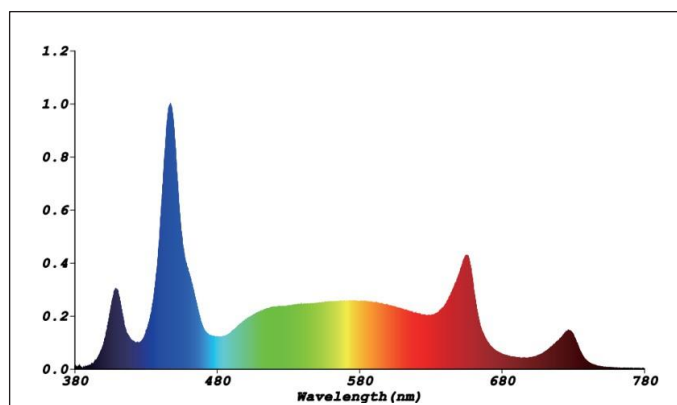
## OPTICAL

Color Temperature (CCT)	8,000K ± 300
Flux (lm) (Typ)	5,020 lm
Efficacy (lm/W) (Typ)	102 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	229 / 153

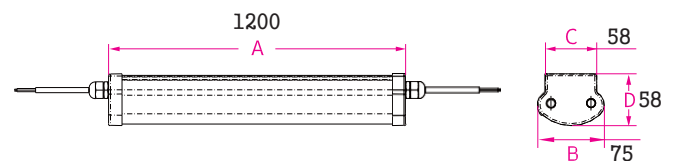
## ELECTRICAL

Power Factor	0.9 ~
Input Voltage	AC 220V / 60 Hz
Power consumption	50W ± 10%

## SPECTRUM DATA



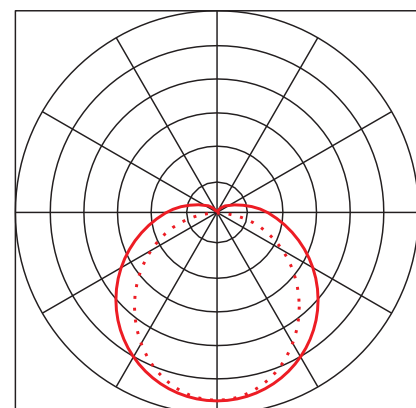
## DIMENSIONS



Model	A		B
	1,200mm ± 2		75.0mm ± 2
Raceway	C	D	Cover
	58mm ± 2	58mm ± 2	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Strawberry (Main lighting) – Raceway

**Model# : GRW-22A50W-F80K-12(CM)**

**Certifications : KC(JH111059-23002)**

**Waterproof : IP 65**

## ! Features !

- LED lamp with Full Spectrum (UV + White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor farm (Best solution for vertical growing systems)
- Specially designed for Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1,200x 48.5(H)-R40mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~40°C

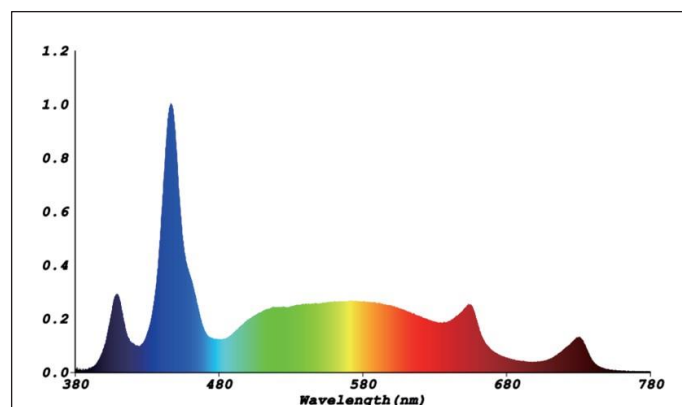
## OPTICAL

Color Temperature (CCT)	8,000K ± 300
Flux (lm) (Typ)	5,350 lm
Efficacy (lm/W) (Typ)	110 lm/W
PPFD (@20/30cm/umol/(m <sup>2</sup> ·s))	215 / 144

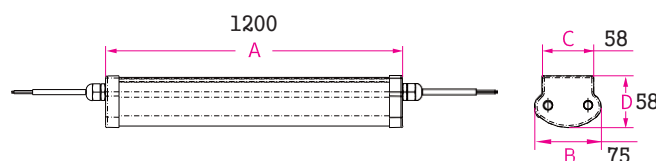
## ELECTRICAL

Power Factor	0.9 ~
Input Voltage	AC 220V / 60 Hz
Power consumption	50W ± 10%

## SPECTRUM DATA



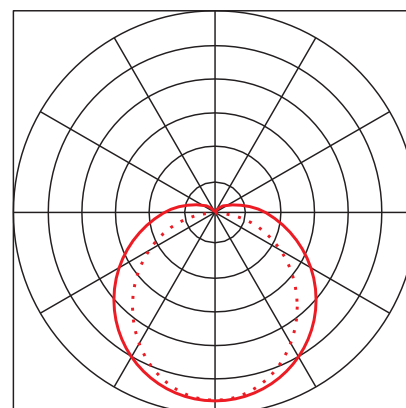
## DIMENSIONS



Model	A		B
	1,200mm ± 2		75.0mm ± 2
Raceway	C	D	Cover
	58mm ± 2	58mm ± 2	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Strawberry (Main/Supplementary) - Raceway

**Model# : GRW-22A50W-F80K-12(SB)**

**Certifications : KC(JH111059-23002)**

**Waterproof : IP 65**

## ! Features !

- LED lamp with Full Spectrum (UV + White + Blue + Red + IR)
- 600mm, 1200mm, 1500mm, 2000mm Available
- Verified through various field tests for Strawberry
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor farm (Best solution for vertical growing systems)
- Specially designed for Strawberry
- Glasshouse farm (as supplemental lights)



## PHYSICAL

Dimensions	1,200x 48.5(H)-R40mm
Beam Angle	120° ± 10°
Housing (Material)	Al anodizing / PC
Operating Temp.	-10°C ~40°C

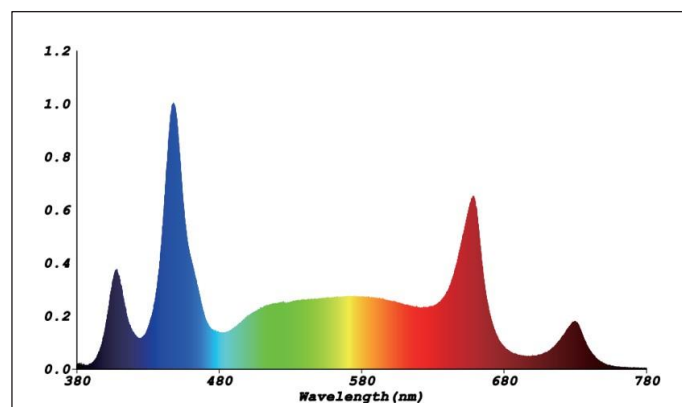
## OPTICAL

Color Temperature (CCT)	7,400K ± 300
Flux (lm) (Typ)	4,470 lm
Efficacy (lm/W) (Typ)	88 lm/W
PPFD (@20/30cm/umol/(m²·s))	215 / 145

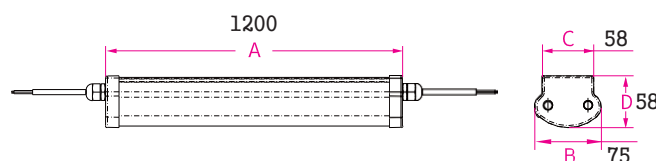
## ELECTRICAL

Power Factor	0.9 ~
Input Voltage	AC 220V / 60 Hz
Power consumption	50W ± 10%

## SPECTRUM DATA



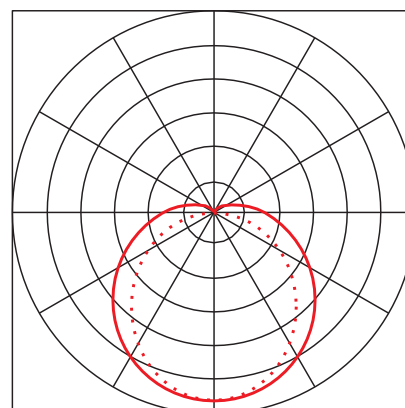
## DIMENSIONS



Model	A		B
	1,200mm ± 2		75.0mm ± 2
Raceway	C	D	Cover
	58mm ± 2	58mm ± 2	PC(Clear)

## PHOTOMETRICS

Polar distribution



# Fruity in glasshouse (Supplementary lighting) - High bay light

**Model# : GPG-22A300W (High Bay Light)**

**Certifications : KC(JH111059-23002)**

**Waterproof : IP 65**

## ! Features !

- High CRI with enhanced 660nm Red wavelength range (White + Red)
- Verified through various field tests for Strawberry, Tomato, Cucumber, Water-melon, Melon, Marijuana, etc.
- LED dimming control available (optional)

## ! Applications !

- Smart farm (as main light sources)
- Indoor farm
- Glasshouse farm and Greenhouse farm (as supplemental lights)



## PHYSICAL

Dimensions	304(L)x276(W)x177(H)mm
Beam Angle	120° ± 10°
Housing (Material)	Aluminum / Glass
Operating Temp.	-10°C ~ 40°C

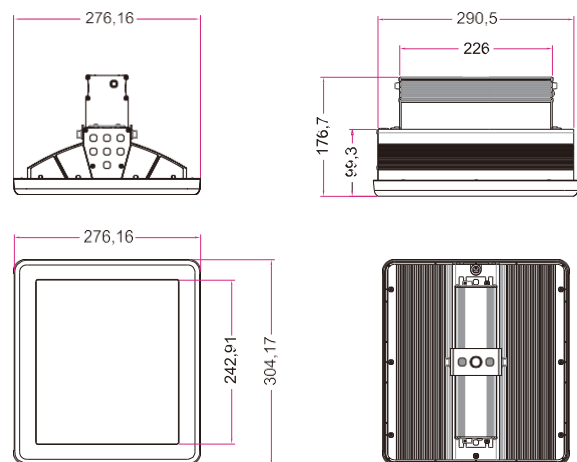
## OPTICAL

Flux (lm) (Typ)	46,500 lm
PPF (umol/s)	880 umol/s
PPE (umol/J)	3.0 umol/J

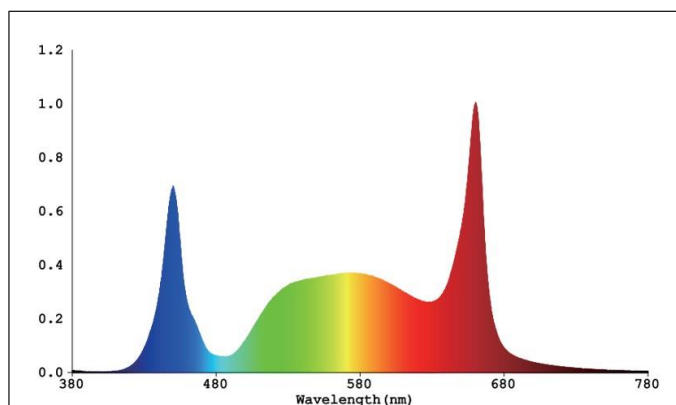
## ELECTRICAL

Power Factor	>0.9 ~
Input Voltage	AC 220V / 60 Hz
Power consumption	300W ± 10%

## DIMENSIONS

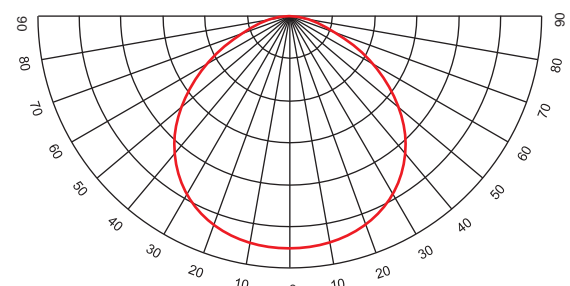


## SPECTRUM DATA



## PHOTOMETRICS

Polar distribution



## Various lighting from 10W to 300W for each crop and growth stage!!!



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