



GigaTera LED Lighting

2017 LED LIGHTING CATALOG

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GigaTera[®]
beyond light

2017

LED LIGHTING PRODUCTS CATALOG

Greetings

Design to manufacture component to system

Business Field

- LED Lighting Fixture
- IT Converged Lighting
- Mobile Communications Base Station (Filter & Antenna, RRH, RRA)



WHO WE ARE

Worldwide leader in LED Lighting Solution

KMW Gigatera is a provider of world class energy savings solutions with our cutting edge LED fixtures.

Core technologies such as our patented "Narrow Multi-Beam Forming" application are made possible by keeping in-house designers, engineers and manufacturers, allowing Gigatera to guarantee efficiency, reliability, and competitive pricing.

WHAT WE OWN

Vertical Integration from an R&D to mass production system

LED R&D and TEST Lab., Diecasting (Aluminium, Magnesium), Machining Center, Plating & Painting House, Ceramic LAB. & Fab., SMD Line.

WHAT WE OFFER

From basic components to Complete systems to fulfill your needs

KMW GigaTera's interior and exterior LED fixtures are a fusion of both elegant design and practical function.

Energy savings and a reduction in the carbon footprint are made without any sacrifice in light quality or performance.

Our integration of wireless communications with LED lighting technologies is just one way we push the limits of research and development to be at the forefront of the LED lighting industry.

FACILITIES

KMW occupies over 1,448,978,7sq.ft² including manufacturing and R&D facilities in Korea, the U.S.A., China and Japan. KMW produces high-quality RF & LED products with state-of-the-art production, equipment and innovative engineering.

2007

- Korea Technology Grand-prix award

2006

- Awarded industry package
(Filed of information and communication & small and medium enterprises development exploit)

2004

- Awarded the IR52 Jang Young Sil

2001

- Acquired KS A/ISO 14001 certificate
- A President citation (The Trade Day)

2000

- Established Huatian Telecom Inc. China (Xi'an)
- Established KMW Inc, Japan
- Registered KOSDAQ (Code)

1998

- Established a new factory (Dongtan)

1997

- KT Mark approved from the minister of Science and Technology
- President citation (The national conference of venture business)
- Established the 3rd factory (Yong-in)

1996

- Acquired the ISO9001 Certificate
- Changed the company name to KMW Inc.
- The minister of science and technology prize for venture business
(*The 1st prize of venture business)

1995

- Established KMW U.S.A (LA)
- Laboratory approved
- Established headquarter office

1994

- Prize for the chief of industry development at the competitive exhibition of new products

1991

- Established (Korea Micro Wave)

2016

- LED lighting installation - Pyeongchang 2018 winter olympic stadium
(*Skijumping, Biathlon, CrossCountry, Speed skating, Curling)
- The world's first LED lighting installation - Horse racing stadium (Japan)

2015

- LED lighting installation - New York Yankee stadium
- Established GigaTera India
- Established GigaTera Turkey
- Established a new factory (Vietnam)

2014

- The world's first LED lighting installation - MLB baseball stadium (Seattle, Mariners)
- Acquired the 1st ICT IT Converged LED security lighting in quality certification
(*SPES, SPES 2)
- Established GigaTera EU GmbH (Düsseldorf, Germany)
- Established GigaTera Middle East L.L.C (AbuDhabi, UAE)
- Established GigaTera G+ (China)
- Established GigaTera Japan Inc. (Japan)
- Established a new factory (Cheonan Factory)

2013

- Selected as a world class 300 corporate
- Export sales revenue, US \$200 Mil

2012

- TALQ consortium regular member registered
- Registered ESCO (No.2012-0557-4)
- Certified for its High Efficacy Energy Equipment of LED area lighting
(*Stella-50W, Stella-70W)

2011

- Laboratory approved (Anseong Factory)
- Developed IT converged LED Lighting
- Established coating factory branch
- Acquired TL9000 certification

2010

- Approved as advanced technology center by the ministry of Knowledge & Economy
- Acquired KS certificate in LED lighting
- New technology (NET) certification

2009

- Developed LED security lighting with antenna embedded
- Developed eco-friendly LED security lighting
- 8th Luminaire design grand-prix award
- Developed downlight integrated Antenna)

2008

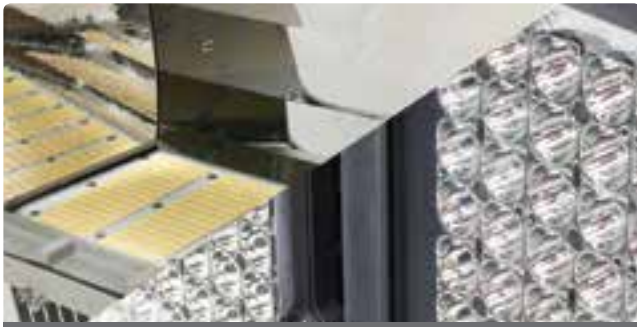
- Export sales revenue, US \$100 Mil



Technology

1. Reflector

- High Luminous Efficacy - More efficient than using lens diffusers
- Reflection ratio of 95% ~ 97% - Reflector
- Minimum glare and loss of luminance



Middle Power LED / High Power LED



Reflector

2. Smart Lighting Control Technology (GESS™)

- Easy and economically efficient in maintenance, network build-up and expansion when compared to other control systems
- Support smart and step-by-step upgrade
- please see more on p.74

Wireless Control

ZigBee, WiFi, LTE, W-CDMA

Wired Control

DALI, DMX-512, 1-10V

Sensor Control

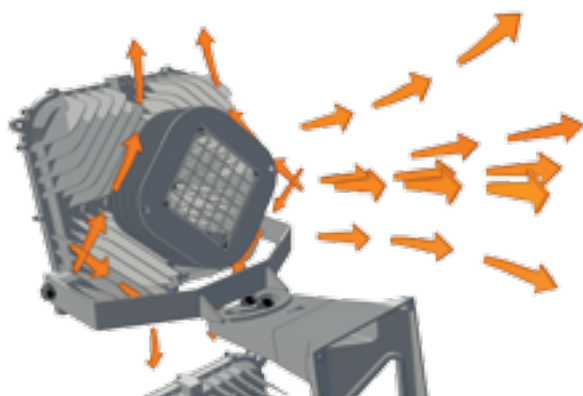
Occupancy Sensor
Daylight Sensor

3. Heat Dissipation Technology

- Proven Data from official organization
- Proper Junction Temperature Control
- Ensure customers long Life products

There are two major sources in the LED light fixture. One is from the LED light source itself, and the other is in the AC to DC converter. It is very critical factor to use external heat dissipation structures.

GigaTera's luminaries design is based on thermal control techniques to enhance natural convection when considering optical and thermal design.



Characteristics

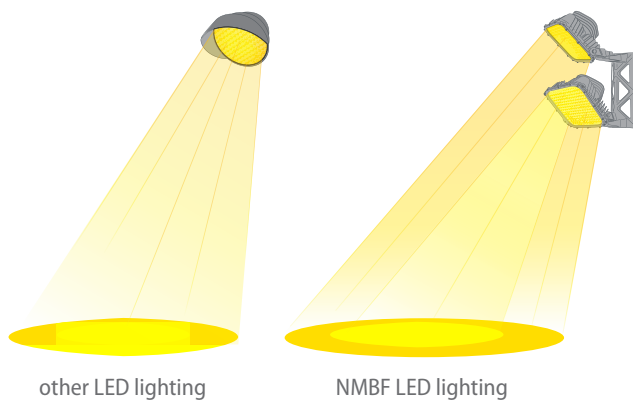
1. The junction temperature of the LED light source is kept below 149°F (65°C). (Theoretically, in order for the LED to achieve a life span of over 50,000 hours the junction temperature should be below 176°F (80°C))
2. Heat sources like the transformer and FET of the driver are designed with a heat dissipating mechanical structure to keep the temperature difference (ΔT) between the inside lead and outside temperature not more than 86°F (30°C).
3. As is commonly known, air flows from cold to hot. GigaTera maximizes this natural convection at the level of fixture design utilizing, for example, it uses an optimal mechanical structure for a vertically positioned LED module.

4. Narrow Multi-Beam Forming (NMBF) Technology

- GigaTera®'s renovated technology
- Maximizes energy savings
- Most optimized technology for preventing light pollution

Most manufacturers design the lighting fixtures implementing lens and reflector technologies for desired light distribution. These existing LED lighting methods according to the characteristics of the light will spread to a wider area and will also fall on the area that does not need the light and may lead to light pollution which is inefficient in terms of energy savings.

GigaTera®'s NMBF technology prevents light pollution and emits the light only to the target area, NMBF is advanced technology to control luminance with low power consumption to provide a similar level of luminous flux and also to maximize energy savings.



Characteristics

Modular type reflectors emit light to the area where light is required, without the glare.

5. Cutting edge IT Convergence Technology

- Integration of information technologies with LED lighting technologies
- LED Lighting + WiFi + IP Camera for wireless security + Emergency Rescue
- LED Lighting + Wireless Communications + Safety Helmet



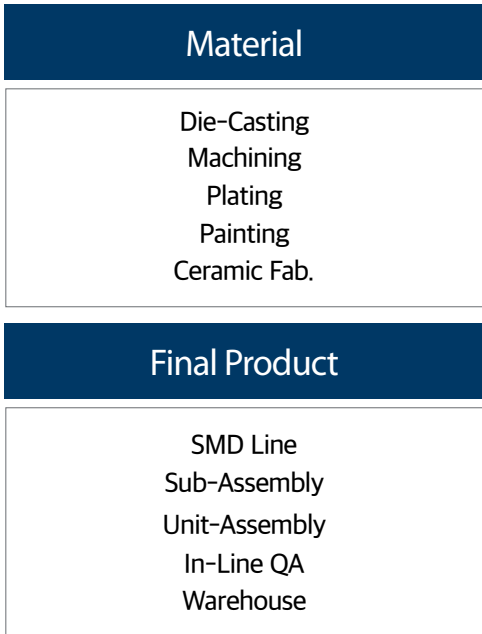
6. In-House Driver Technology

- GigaTera® has both the in house qualified driver engineers and the core technology.
- Performs for 2 months (1,440 hours) at +80°C acceleration test to ensure long life.
- GigaTera® ensures a 50,000 hours life time of the driver with its in-house technology and reliability test. Accordingly, any failed product during acceleration is not commercialized.

Temperature acceleration test



Vertical Integration



One Roof Top System

- Effective quality management
- Response for short delivery
- Price competitiveness

Reliability Test Facilities



Chamber



Drop Tester

Test Capacity
Drop height : 30~120cm
Test weight : 50kg



Constant Temp. & Humid

Test Capacity
-70°C ~ 150°C, RH 20% ~ 98%



Vibration Tester

Test Capacity
3500Hz, 100G / 2inch, 2200lbs / half
sine, smooth / sine, random, shock



Thermal Shock Tester

Test Capacity
-80°C ~ 220°C



Surge Tester

Test Capacity
Open 1.2/50µs 20kV
Short 8/20µs 10kV



Rain Tester

Test Capacity
IP Rating: IPX4 ~ IPX6
Temp. (15°C ~ 35°C)



High Temperature Tester

Test Capacity
RT~80°C



Salt Spray Tester

Test Capacity
35°C & NaCl 5%

Integrating Sphere System



- A system to measure the spectral properties, light efficiency
- Luminous flux radiate from a central position of the light source on the inner surface
- Real time measure of lamp stability and statistical analysis

standard metric

- CIE 84
- IESNA LM79

Test Results

- 1) Test Temperature (°C)
- 2) Burning Time (min)
- 3) Burning Attitude (Orientation)
- 4) Input Power (Voltage, Current, Power)
- 5) Total Lumen (lm)
- 6) Efficiency (lm/W)
- 7) Relative Spectral Energy Distribution Diagram
- 8) Relative Spectral Energy Data
- 9) Color Coordinates (x, y)
- 10) CIE 1931 Chromaticity Diagram
- 11) Correlated Color Temperature (K)
- 12) CRI (Color Rendering Index, Ra)
- 13) Special Color Rendering Indices (R1 ~ R15, Rt)
- 14) Color Rendering Group
- 15) Color Appearance Group
- 16) Dominant Wavelength (nm)
- 17) Peak Wavelength (nm)
- 18) Weighted Average Wavelength (nm)
- 19) FWHM (nm)
- 20) Spectral Energy (%)
- 21) Excitation Purity
- 22) Colorimetric Purity (%)
- 23) SDCM (Standard Deviation of Color Matching)
: McAdam Ellipse step calculation
- 24) ANSI C78.377-2011 Color System

Mirror Type Goniophotometer



- Rotating luminaire or light source around the optical axis and reflecting emitted light to mirror to measure the spectral properties and luminous intensity via sensor
- Set burning position to the same as actual installation of luminaire
- CIE and IESNA LM79 Stabilization Method applied for stabilization evaluation of light source
- Measurement Integration Time autoconfiguration
- Measure in conformity with NEMA Classification

standard metric

- CIE 43, 69, 70, 84, 121, 127
- IESNA LM31, LM35, LM41, LM42, LM46, LM79

Test Results

- 1) Beam angle / Field angle
- 2) LID diagram : Polar curve, H-V Plot
- 3) 10% LID diagram : Polar curve, H-V Plot
- 4) Cone Intensity Distribution diagram
- 5) Luminous Intensity Data table
- 6) IsoCandela diagrams
- 7) ConeLux Levels
- 8) IsoLux diagrams
- 9) 3D web format for IsoLux and IsoCandela diagrams
- 10) Luminance table
- 11) Cone Luminance Distribution diagram
- 12) Luminous flux summary table
- 13) Zonal flux diagram
- 14) Lumen Pie Chart
- 15) Luminance Limiting Curve (glare rating)
- 16) IESNA Zonal Cavity Coefficient table
- 17) CIBSE TM5 Utilization factor table
- 18) Roadway Utilization factor diagram with table export
- 19) CIBSE LG3 rating (glare control for VDUs)
- 20) UGR Table
- 21) IESNA Roadway : Type I/II/III/IV and Short/Medium/Long
- 22) Photometric Solid with azimuth angle offset
- 23) LM79 Test Report software
 - (1) Weighted Average (x, y) data
 - (2) Weighted Average (u, v) data
 - (3) Weighted Average CCT data
 - (4) Maximum Delta u'v'
- (5) xy, u'v' distribution chart at CIE1931 chromaticity diagram

SPES-ST-WP SPES- SETA



IP camera based convergence product that meets street light distribution (Type II-S) requirements

- High efficiency LED lighting that comes equipped with intelligent lighting controls
- Full-HD PTZ IP Camera (Optical 10x Mega pixel Zoom Lens)
- 3x3 MIMO 450 Mbps communication support and enhanced Ad-hoc wireless coverage
- WiFi
- Built in micro SD card automatically saves video footage (*optional)



IP 66

Application

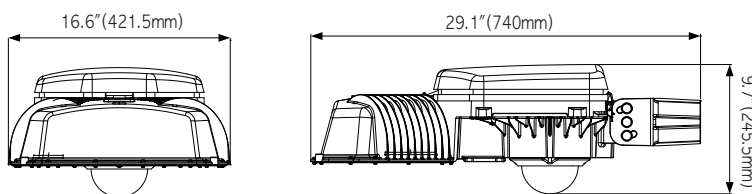
Walkways, Driveways, Industrial facilities, School zones, Cultural asset facilities, Hospitals, Shopping malls, Parking lots, Estates, Potential crime zones

Specifications

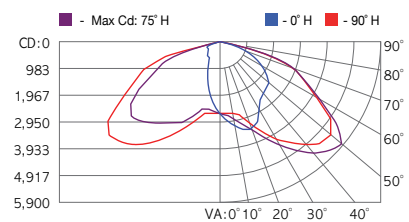
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SST	120W (LED: 100W, AP/CAM: 20W)	130 lm/W	13,000 lm	5000K (4000K available)	80 Ra	12 kg 26.5 lb	AC100~277V	-30°C~60°C -22°F~140°F
Body	Cast Aluminum							
Cover	Tempered Glass 4T (Clear)							
Finish	Powder Coating							
			Mounting Option	Horizontal Tenon Mount			Control System	Wireless / Sensor (Motion, Daylight) more details of GeSS on p.64
			Side Entry Arm	Ø2.4 in. (Ø60.5mm)			WiFi RF TX Power	Max 23dBm@5GHz
			Light Distribution	Type II-S			WiFi Antenna Gain	5dBi
							IP Camera	2M pixel IP Camera 10X Zoom PTZ (f=5.1 ~ 51mm) onvif

Dimensions



Photometry



[5000K / Type II-S]



IT Converged LED Lighting - Security

SPES-ST-WP-P SPES- SETA-Patch

Certification under progress

IP camera based convergence product that meets street light distribution (Type II-S) requirements

- High efficiency LED lighting that comes equipped with intelligent lighting controls
- Full-HD PTZ IP Camera (Optical 10x Mega pixel Zoom Lens)
- 3x3 MIMO 450 Mbps communication support and enhanced Ad-hoc wireless coverage
- WiFi
- Built in micro SD card automatically saves video footage (*optional)



IP 66

Application

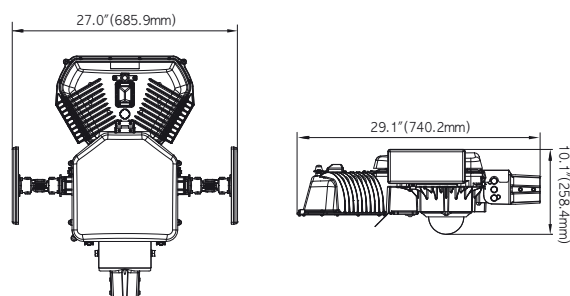
Walkways, Driveways, Industrial facilities, School zones, Cultural asset facilities, Hospitals, Shopping malls, Parking lots, Estates, Potential crime zones

Specifications

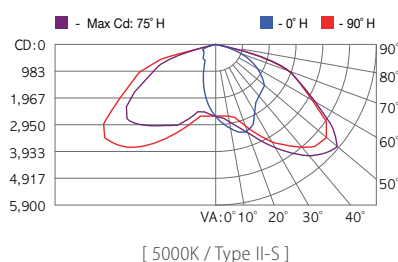
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SPES-ST-WP-P	120W (LED:100W, AP/CAM:20W)	130 lm/W	13,000 lm	5000K (4000K available)	80 Ra	14.6 kg 32.2 lb	AC100~277V	-30°C ~ 60°C -22°F~140°F
Body	Cast Aluminum							
Cover	Tempered Glass 4T (Clear)							
Finish	Powder Coating							
Mounting Option			Horizontal Tenon Mount					
Side Entry Arm			Ø2.4 in. (Ø60.5mm)					
Light Distribution			Type II-S					
Control System			Wireless / Sensor (Daylight, Occupancy) more details of GeSS on p.76					
WiFi RF TX Power							Max 23dBm@5GHz	
WiFi Antenna Gain							Min 10dBi	
WiFi Beam Width							Horizontal(42° ±10 °) Vertical(42° ±10 °)	
WiFi Antenna Pan							Tilting 180 °	
IP Camera							2M pixel IP Camera 10X Zoom PTZ (f=5.1 ~ 51mm) onvif	

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SPES-X1-NP

Certification under progress

IP 66



ICT converged product that is based on IP camera with various types of LED lighting

- Designed to equip with various types of LED lighting (Different brackets for LEDs)
- Full-HD PTZ IP Camera (Optical 10x Mega pixel Zoom Lens)
- Dual Camera : PTZ + fixed camera (for video analytic function)
- Built in micro SD card automatically saves video footage (*optional)
- Wireless audio + emergency Bell supported (*optional)

Application

Walkways, Driveways, Industrial facilities, School zones, Cultural asset facilities, Hospitals, Shopping malls, Parking lots, Estates, Potential crime zones

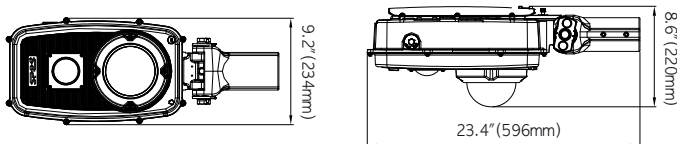
Example of SETA connection

Specifications

* Tolerance : ± 5%

Model	Power	IP Camera 1	IP Camera 2	Weight	Input Voltage	Operation Temperature
SPES-X1-NP	30W (MAX)	2M 10X PTZ	2M Fixed Dome	7.5kg 16.5 lb	AC100~277V	-30°C~60°C -22°F~140°F
Body Cover Finish	Cast Aluminum Tempered Glass 4T (Clear) Powder Coating	Mounting Option Side Entry Arm Control System	Horizontal Tenon Mount Ø2.4 in. (Ø60.5mm) Wireless (IEEE 802.15.4) more details of GeSS on p.76	IP Camera 1 IP Camera 2	2M pixel IP Camera 10X Zoom PTZ (f=5.1 ~ 51mm) onvif 2M pixel IP Camera ** option - 3M fisheye - 4K IP Camera onvif	

Dimensions



IT Converged LED Lighting - Security

SPES-X1-WP

Certification under progress

ICT converged product that is based on IP camera with various types of LED lighting

- Designed to equip with various types of LED lighting (Different brackets for LEDs)
- Full-HD PTZ IP Camera (Optical 10x Mega pixel Zoom Lens)
- Dual Camera : PTZ + fixed camera (for video analytic function)
- 2x2 MIMO supported for 450Mbps transmission speed and Ad-hoc for network extension. (Simple patch antenna)
- Built in micro SD card automatically saves video footage (*optional)
- Wireless audio + emergency Bell supported (*optional)

Application

Walkways, Driveways, Industrial facilities, School zones, Cultural asset facilities, Hospitals, Shopping malls, Parking lots, Estates, Potential crime zones



Specifications

* Tolerance : ± 5%

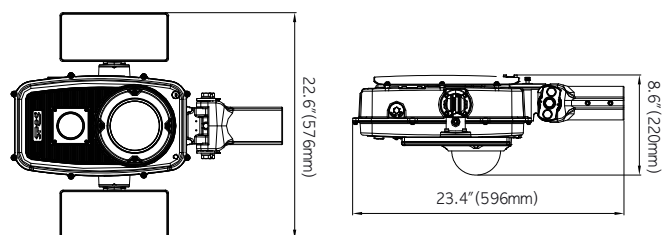
Model	Power	IP Camera 1	IP Camera 2	Weight	Input Voltage	Operation Temperature
SPES-X1-WP	30W (MAX)	2M 10X PTZ	2M Fixed Dome	8.9 kg 19.6 lb	AC100~277V	-30°C~60°C -22°F~140°F

Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

Mounting Option | Horizontal Tenon Mount
Side Entry Arm | Ø2.4 in. (Ø60.5mm)
Control System | Wireless (IEEE 802.15.4)
more details of GeSS on p.76

WiFi RF TX Power | 17dBm@5GHz
Wi-Fi AP | IEEE 802.11 a/n, ad hoc
WiFi Antenna Gain | 11 dBi
Transmission Speed | 3T3R. Max 450Mbps@HT40

Dimensions



IP Camera 1 | 2M pixel IP Camera
10X Zoom PTZ (F=5.1 ~ 51mm)
onvif

IP Camera 2 | 2M pixel IP Camera
** option
- 3M fisheye
- 4K IP Camera
onvif



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SPES-AL SPES-AirLink

Certification under progress



Enables real time Video data wireless transmission by 450Mbps of 3T3R Dual RF / Dual Antenna

- Enables free wireless network configuration by using Antenna PAN and Ad-hoc

Application

Walkways, Driveways, Industrial facilities, School zones, Cultural asset facilities, Hospitals, Shopping malls, Parking lots, Estates, Potential crime zones



Specifications

* Tolerance : ± 5%

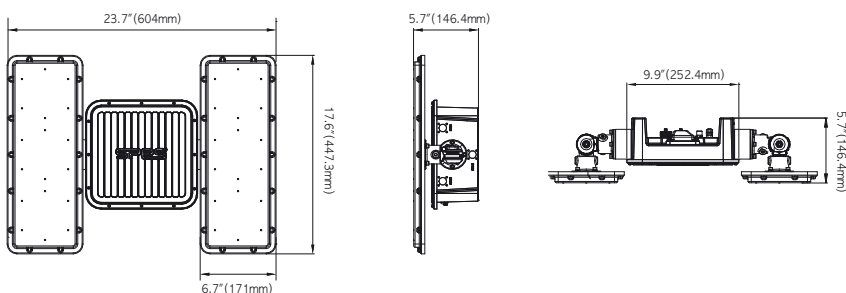
Model	Power	Frequency	RF Tx Power	RF Rx Sensitivity	Weight	Input Voltage	Operation Temperature
SPES-AL-P01	15W (MAX.)	5.15~5.87GHz	23dBm	-94dBm	6.5 kg 14.3 lb	POE(IEEE802.3.at) Option(12Vdc)	-40°C~60°C -40°F~140°F

Body | Cast Aluminum
Cover | Polycarbonate

Mounting Option | Wall Mount/ Pole Mount
Control System | Wireless Console

Antenna Type | Wall M 3T3R Patch antenna
Antenna Gain | Min.17.0dBi
Beam Width | Horizontal (21°± 3°), Vertical (21°± 3°)
Antenna Pan | Tilting 180°

Dimensions



SPES-SE SPES-SEGA

Certification under progress

Bay Lighting with Security camera

- Excellent Cooling Structure
- High Luminous Efficacy 130 lm/W
- Easy Replace & Install
(Full HD IP Camera with IR)

IP 65



Application

Sports Arenas, Warehouse, Superstores, Factories

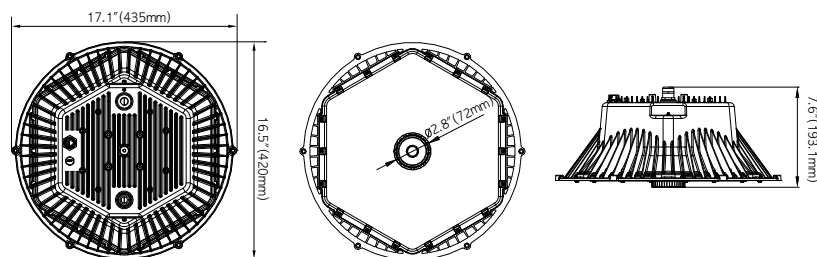
Specifications

* Tolerance : ± 5%

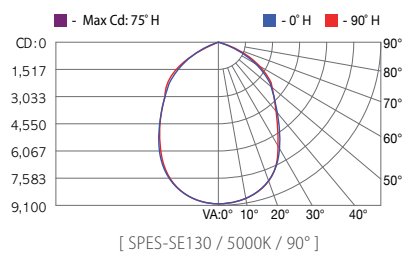
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SPES-SE130	130W	130 lm/W	16,900 lm	5000K (4000K, 5700K 6500K available)	80 Ra	6.5 kg 14.3 lb	AC100~240V PoE (IEEE 802.3af) for camera	-30°C~60°C -22°F~140°F

Body	Cast Aluminum	Mounting Option	Ceiling Bracket(Chain/Pipe)	IP Camera	2M pixel IP Camera (f=2.8mm) Power : PoE (IEEE 802.3.af) IR LED (21 ea) onvif
Cover	Tempered Glass 3.2T (Clear/Frosted)	Light Distribution	90° / 130°		
Finish	Powder Coating				

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SAGA-H Heavy Industrial Helmet



Smart solutions for a safe industrial work site



Walkie-talkie
: links to cell phone
: Uses 3G/LTE/WIFI



Hands-free



LED Lighting
: Maximum 2W
/ Narrow 15° Beam



Impact and Fall Detection



Beacon



Transmission of accident victim information and location



400MHz IP PTT Features

- Equipped with Walkie-talkie function that links helmets to smart phone
- Telecommunications are possible from anywhere regardless of telecommunication radius and environment
: uses 3G / LTE / Wi-Fi network
- Capable of transmitting various information including accident information and video footage
- Voice recording response when the line is busy and telecommunications history management available
- Capable of impact and accident detection and accident information transmission
- Transmission of accident location via linkage with Google Maps and personal information on the accident victim
- Telecommunications and lighting is possible thanks to the built-in battery
: telecommunications available for 13 hours / lighting available for 6 hours

Specifications

Helmet	Model Name	SAGA-H 400MHz (Industry Helmet)
	Frequency Range (FC Standard)	448.7500 ~ 448.9250MHz (channels 1~15) 449.1500 ~ 449.1875MHz (channels 16~19) 449.2125 ~ 449.2625MHz (beacon channel) Republic of Korea Standards
	Modulation Mode	F3E
	Frequency Stability	<±2.5ppm
	Channel Interval	12.5KHz
	Movement Mode	Half Duplex
	Antenna	Internal type
	Operation Temperature	-10°C ~ 50°C
	Power Usage	DC 3.7V@Typ.
	Communication Range	Greater than 4km (LOS conditions)
	Dustproof / waterproof rating	IP54 (dustproof / waterproof in daily use)
	Class	AB (Used for protection against falls / flying and falling objects), ABE
	Size	275mm X 195mm X 235mm (L x W x H)
	Weight	Less than 600g (excluding external battery)

Transmitter	Output power	Max 500mW (Republic of Korea Standards)
	Frequency Deviation	±2.5KHz
	Adjacent Power Channel	≤ 60dB

Receiver	Sensitivity (12dB SINAD)	0.35µV
	Spurious Response Rejection	>60dB
	Adjacent-channel selectivity	≥65dB
	CTCSS	50 Tone Code






Additional Functions	Bluetooth Version	3.0 Class II
	Bluetooth Profile	HFP V1.6, HSP V1.2, SPP V1.2
	G-Sensor	Impact Detection
	Beacon	Transmission, reception of a distress signal



SAGA-D Disaster Helmet



The only safety helmet to overcome disaster situations

-  Emergency
-  LED Lighting
-  Detection
-  Place
-  Beacon



SAGA-D with Beacon Features

- Lightweight in case for emergency use
- Evacuation guidance via 400MHz communications
- Built-in FM Radio, receives emergency broadcasts
- Earthquake detection function
- Life saving beacon signal

** The life saving beacon signal differs by model*



product
design award

2014

Specifications

Helmet

Model Name	SAGA D (400MHz)
Frequency Range	422.050 ~ 422.300 MHz (fc standard)
Modulation Mode	F3E
Frequency Stability	<±2.5ppm
Memory Channels	20Ch (Without Beacon) 14CH (With Beacon, Beacon 3CH)
Channel Separation	12.5KHz
Operating Mode	Half Duplex
Antenna	Internal Type
Operating Temperature	-10°C ~ 50°C
Power Usage	DC 3.7V
Current Consumption	LED : 145mA Communications : 110mA (10mW@RF Out Power)
Speaker Output	Max 0.5W, 8Ω
Size	278(L) X 237(W) X 165(H)
Weight	600g (Excluding external battery)

Transmitter

Output Power	10mW
Frequency Deviation	±2.5KHz
Adjacent Channel Power	≤60dB

Receptor

Wireless Communication Distance	Flat ground 2Km / urban location 300m / within a building 100m
Receiving Sensitivity (12dB SINAD)	0.25uV
Spurious Response Rejection	>60dB
Adjacent Channel Power	≥65

Additional Feature

FM Radio	Worldwide FM band support (76~108MHz)
G-Sensor	Earthquake detection (warning alarm sounds for 10 minutes when an earthquake has been detected)



The above specifications were updated in January 2017 / The content may be subject to change without notice.

WSL

Certification under progress



IP 66

for Wide Pole Spacing

- Excellent Light Distribution and Uniformity
- Built-in 20kV Surge Protection Device

Application

Expressways, Highways, Streets

Specifications

* Tolerance : ± 5%

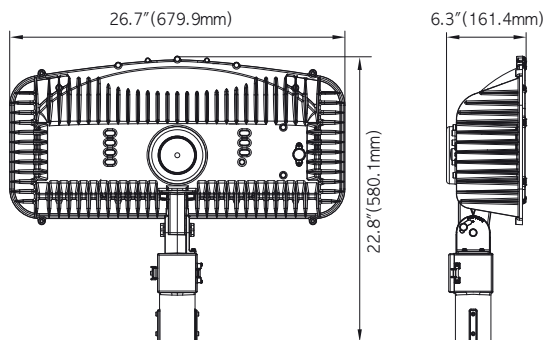
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
WSL200	200W	115 lm/W	23,000 lm	5000K	70 Ra	13.5 kg / 29.8 lb	AC 200~240V	-30°C~60°C
WSL280	280W		32,200 lm	(2400K, 3000K 4000K available)				-22°F~140°F

Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

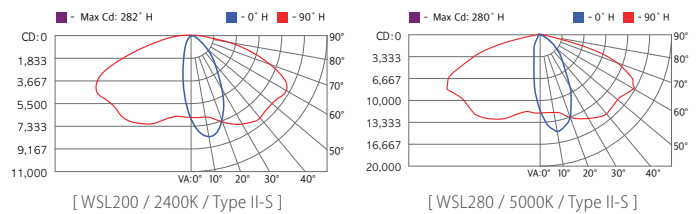
Mounting Option | Horizontal Tenon Mount
Side Entry Arm | Ø2.38 in. (Ø60.5mm)
Light Distribution | Type II-S

Control System | NEMA7, GNE, GNW
 more details of GeSS on p.76
Option | Junction Box

Dimensions



Photometry



HERA

Certification under progress



IP 68

Selection of Elegant Roundshaped Designs

- Reduction of Windloads with Roundshapes and curves
- Safe and Strong Finish (4 Book Clamp Method)
- Strong Resistance to Erosions (Salt Fod Test)
- Perfect Waterproof (IP 68)
- Excellent Light Distribution and Uniformity Ratio of Illumination on Roads

Application

Expressways, Highways, Streets

Specifications

* Tolerance : ± 5%

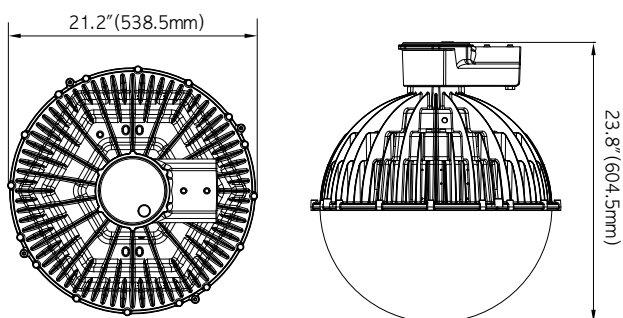
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
HRA160	160W	115 lm/W	18,400 lm	5000K (3000K, 4000K 5700K available)	80 Ra	14 kg / 30.9 lb	AC 100~277V	-30°C~60°C -22°F~140°F

Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

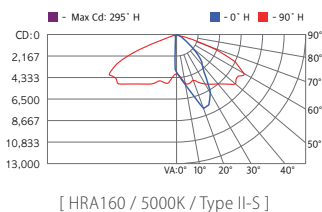
Mounting Option | Horizontal Tenon Mount
Side Entry Arm | Ø2.38 in. (Ø60.5mm)
Light Distribution | Type II-S

Control System | NEMA7, GNE, GNW
more details of GeSS on p.76

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

VG VEGA

Certification under progress



Delivers good beam control and Optimum illuminance

- High luminance efficiency to maximize energy saving
- NEMA Photocell applicable
- Driver replaceable without any tool
- Thermal control technique and design for longer life time
- 4T tempered glass to prevent damage



Application

Industry complexes, Business parks, Local-ways, Alley-ways, Corridors

Specifications

Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Life Time	Input Voltage	Operation Temperature
VG060	60W	120 lm/W	6,900 lm	5000K(4000K, 3000K available)	75 Ra	7.7 kg 16.97 lb	50,000hrs	AC100~277V AC347~480V	-30°C~60°C -22°F~140°F
VG080	80W	120 lm/W	9,200 lm						
VG100	100W	120 lm/W	11,500 lm						
VG130	130W	120 lm/W	14,950 lm						
VG150	150W	120 lm/W	17,250 lm						
VG180	180W	120 lm/W	20,700 lm						
VG200	200W	120 lm/W	22,000 lm			8.2 kg 18.07 lb			

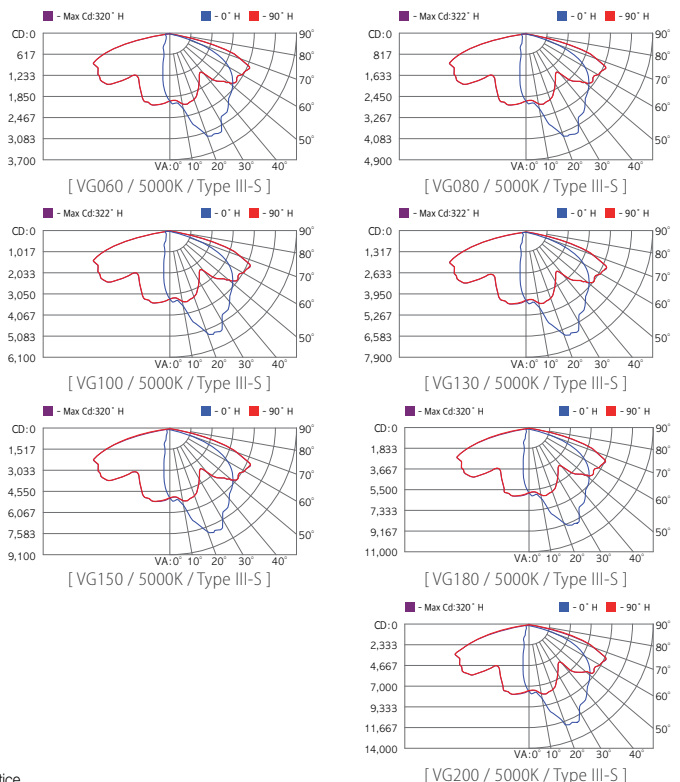
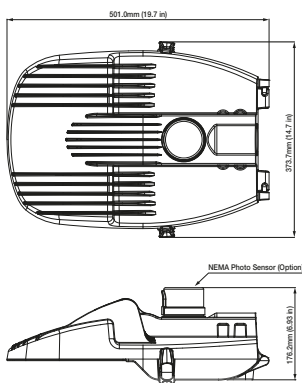
Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

Mounting Option | Horizontal Tenon Mount
Side Entry Arm | Ø2.38 in. (Ø60.5mm)
Light Distribution | Type II-S, Type III-S, Type IV-S

Control System | NEMA7, GNE, GNW
more details of GeSS on p.76

Dimensions

Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

LED Roadway Lighting - Street Lighting

MT & MTL META & META linear tilting

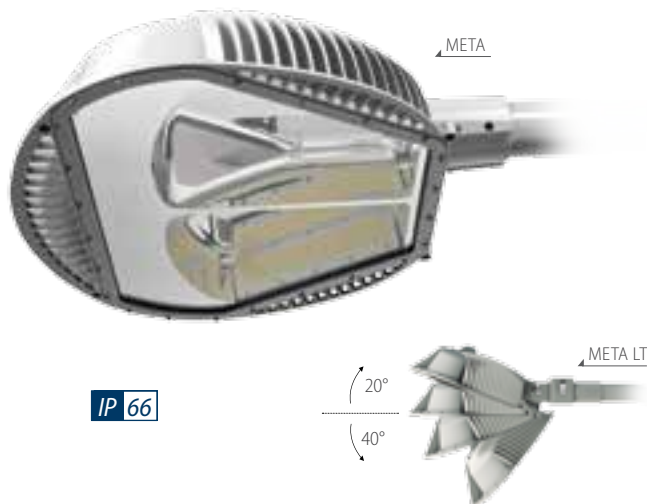


High Efficiency 140 lm/W

- Vertical convection cooling (LED & Heat sink)
- Wireless lighting control
- Built-in 20kV surge protector
- Easy-to-install junction box

Application

Highways, Roadways, Streets



IP 66

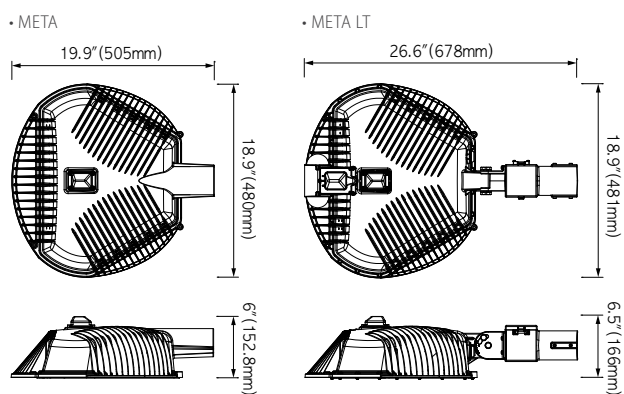
Specifications

* Tolerance : ± 5%

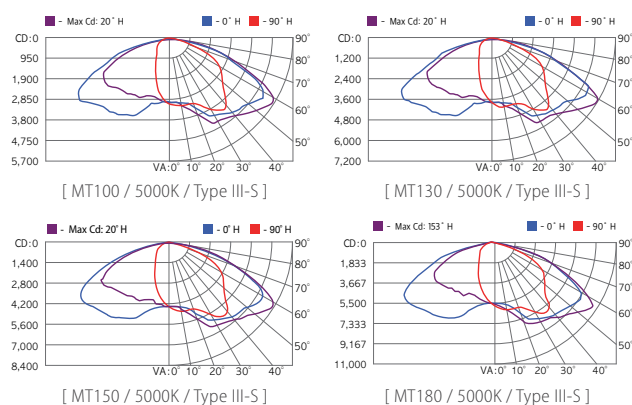
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MT100 MTL100	100W	140 lm/W	14,000 lm	5000K (4000K, 5700K available)	80 Ra	7.9 kg / 17.4 lb 7.7 kg / 16.9 lb	AC100~277V	-30°C~60°C -22°F~140°F
MT130 MTL130	130W		18,200 lm			7.9 kg / 17.4 lb 7.7 kg / 16.9 lb		
MT150 MTL150	150W		21,000 lm			7.9 kg / 17.4 lb 7.7 kg / 16.9 lb		
MT180 MTL180	180W		25,200 lm			7.9 kg / 17.4 lb 7.7 kg / 16.9 lb		

Body	Cast Aluminum	Mounting Option	Horizontal Tenon Mount	Control System	Wireless / Sensor (Daylight) / Whistle
Cover	Tempered Glass 4T (Clear)	Side Entry Arm	Ø2.38 in. (Ø60.5mm)	Option	more details of GeSS on p.76
Finish	Powder Coating	Light Distribution	Type III-S		Junction Box

Dimensions



Photometry



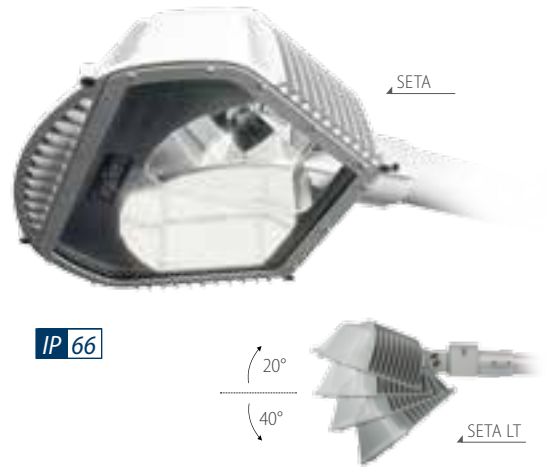
The above specifications were updated in January 2017 / The content may be subject to change without notice.

SET & STL SETA & SETA linear tilting



High Efficiency 130 lm/W

- Responsive to diverse settings from the linear tilting structure (Upwards: 20°, Downwards: 40°)
- Wireless lighting control
- Built-in 20kV surge protector



IP 66

Application

Industry complexes, Business parks, Local-ways, Alley-ways

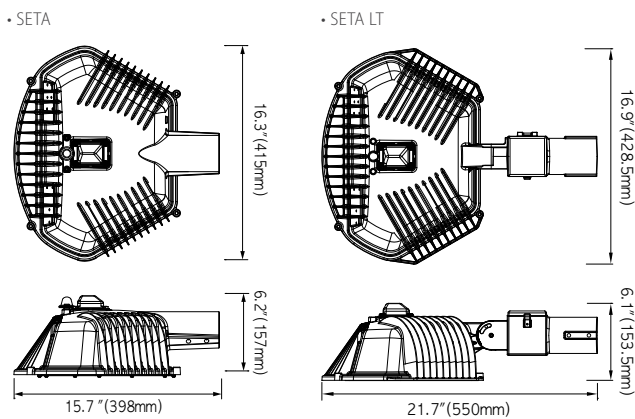
Specifications

* Tolerance : ± 5%

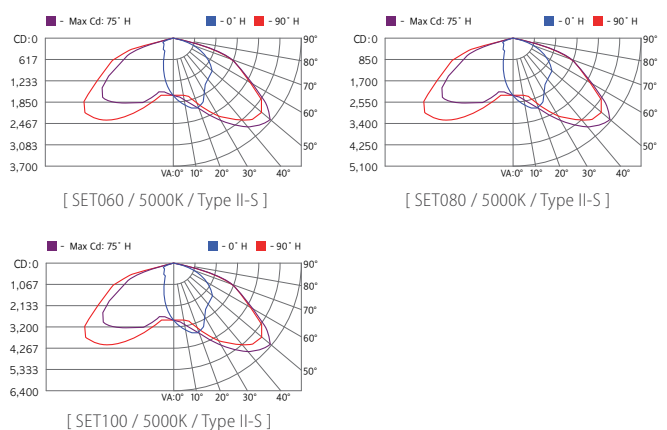
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SET060 STL060	60W	125 lm/W	7,500 lm			4.5 kg / 9.9 lb 5.5 kg / 12.2 lb		
SET080 STL080	80W	130 lm/W	10,400 lm	5000K (3000K, 4000K 5700K available)	80 Ra	4.5 kg / 9.9 lb 5.5 kg / 12.2 lb	AC100~277V	-30°C~60°C -22°F~140°F
SET100 STL100	100W	130 lm/W	13,000 lm			4.5 kg / 9.9 lb 5.5 kg / 12.2 lb		

Body	Cast Aluminum	Mounting Option	Horizontal Tenon Mount	Control System	Wireless / Sensor (Daylight) / Whistle more details of GeSS on p.76
Cover	Tempered Glass 4T (Clear)	Side Entry Arm	Ø2.38 in. (Ø60.5mm)		
Finish	Powder Coating	Light Distribution	Type II-S		

Dimensions



Photometry



MIN MINI & MINI linear tilting

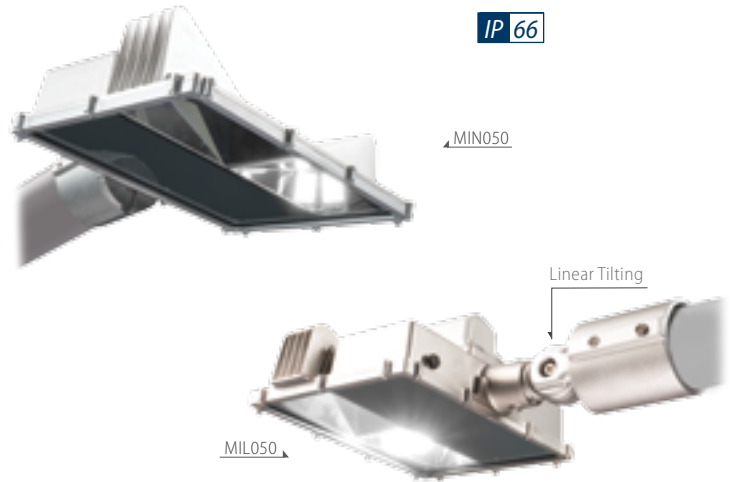
Certification under progress

Affordable Residential LED lighting

- Optimized to Narrow Roadways, Walking ways, Alley-way, Park applications
- High Luminous efficiency
- Design is available in a variety of installation environments
- IP66 Rated

Application

Local ways, Walking Paths, Alley ways, Parks, Batting Cages



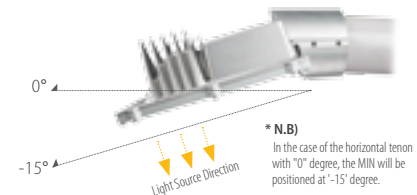
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MIN020	20W	100 lm/W	2,000 lm			1.2 kg / 2.6 lb		
MIN030	30W	100 lm/W	3,000 lm					
MIL030	30W	100 lm/W	3,000 lm					
MIN040	40W	100 lm/W	4,000 lm	5000K (3000K, 4000K 5700K available)	80 Ra	1.8 kg / 4.0 lb	AC 200~240V	-30°C~-60°C -22°F~-140°F
MIL040	40W	100 lm/W	4,000 lm					
MIN050	50W	105 lm/W	5,250 lm					
MIL050	50W	105 lm/W	5,250 lm					

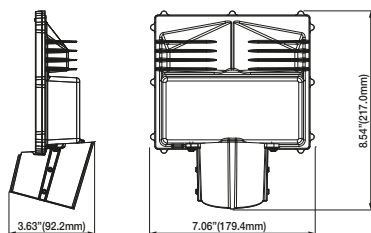
Body | Cast Aluminum
Cover | Poly Carbonate 1.5T (Clear)
Finish | Slot Blast

Mounting Option | Pole Mount
Side Entry Arm | Ø1.57 in. (Ø42mm)
Ø2.38 in. (Ø60.5mm)
Light Distribution | Type II-S
Control System | Wireless (only MIL030/040/050)
more details of GeSS on p.76

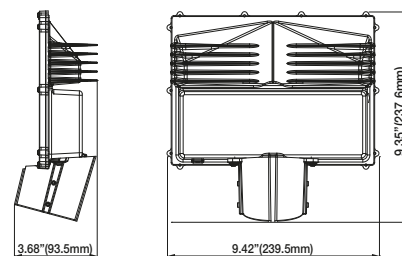


Dimensions

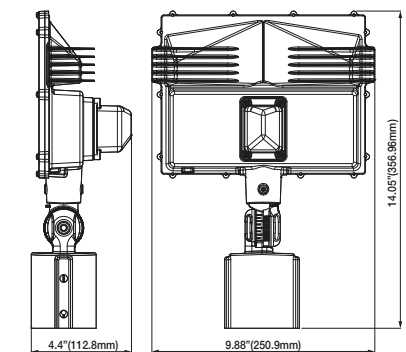
• MIN020



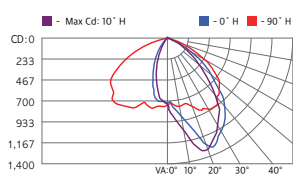
• MIN030 / 040 / 050



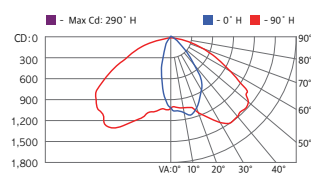
• MIL030 / 040 / 050



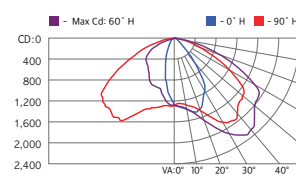
Photometry



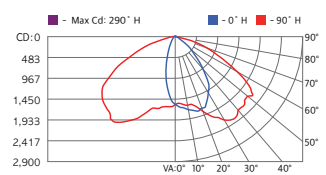
[MIN020 / 5000K / Type II-S]



[MIN030, MIL030 / 5000K / Type II-S]



[MIN040 / 5000K / Type II-S]



[MIN050, MIL050 / 5000K / Type II-S]

The above specifications were updated in January 2017 / The content may be subject to change without notice.

SOLAR SETA

Certification under progress



High Efficiency 140 lm/W

- Wireless Lighting Control
- Linear Tilt Bracket

Application

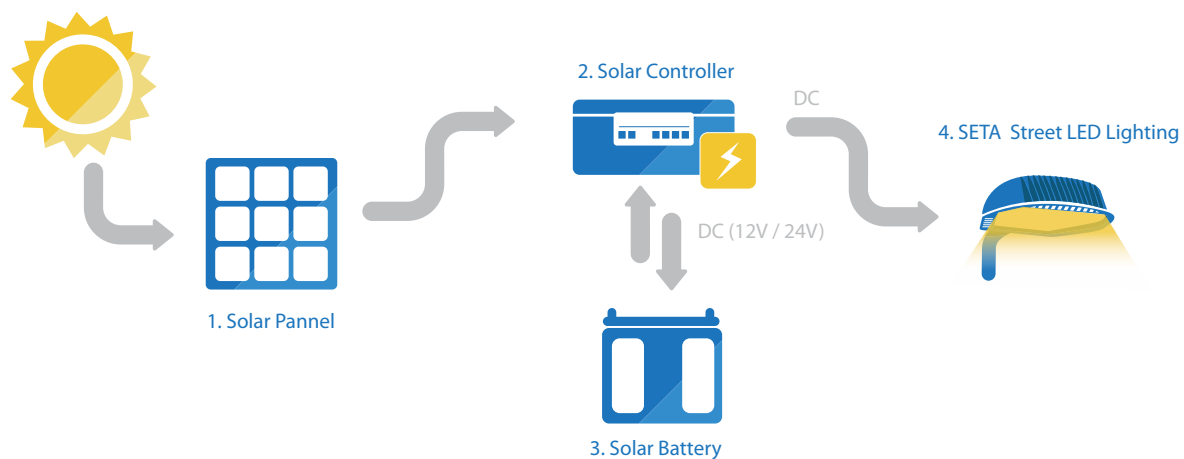
Industry complex, Business parks, Local ways, Alley-ways

Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
STS050	50W	140 lm/W	7,000 lm	5000K (3000K, 4000K 5700K available)	80 Ra	5.5 kg / 12.2 lb	DC 12V / 24V	-30°C~60°C -22°F~140°F
STS060	60W		8,400 lm					
Body	Cast Aluminum		Mounting Option	Horizontal Tilting Tenon Mount		Control System	Wireless / Sensor (Daylight)	
Cover	Tempered Glass 4T (Clear)		Side Entry Arm	Ø2.38 in. (Ø60.5mm)		more details of GeSS on p.76		
Finish	Powder Coating		Light Distribution	Type II-S				

Diagram



SOLAR MINI

Certification under progress

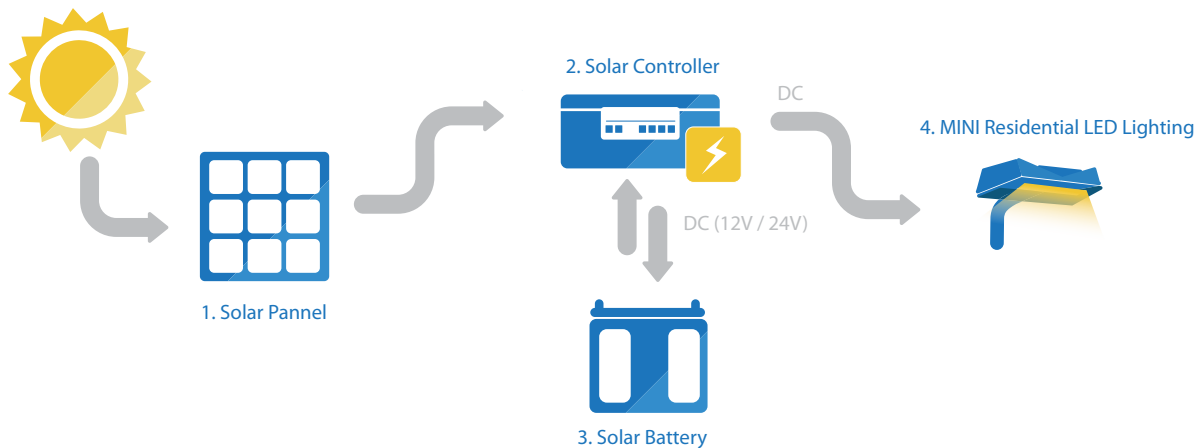


Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MIS020	20W	110 lm/W	2,100 lm			1.2 kg / 2.6 lb		
MIS030	30W	110 lm/W	3,150 lm	5000K				
MIS040	40W	110 lm/W	4,200 lm	(3000K, 4000K 5700K available)	80 Ra		DC 12V / 24V	-30°C~60°C -22°F~140°F
MIS050	50W	110 lm/W	5,000 lm			1.8 kg / 4.0 lb		
Body	Cast Aluminum		Mounting Option	Horizontal Tilting Tenon Mount			Control System	Wireless / Sensor (Daylight)
Cover	Tempered Glass 4T (Clear)		Side Entry arm	Ø1.57 in. (Ø42mm)				more details of GeSS on p.76
Finish	Powder Coating		Light Distribution	Ø2.38 in. (Ø60.5mm)				
				Type II-S				

Diagram



The above specifications were updated in January 2017 / The content may be subject to change without notice.

JET JETA



Outstanding Luminous Intensity But Low Energy Consumption

- Adjustable tilt puts light where it's needed (Upwards: 20°, Downwards: 40°)
- Automated light control (*optional)
- Built-in 20kV surge protection device
- Junction Box



IP 66



Applications

Residential, Industry complexes, Business parks, Local-ways, Alley-ways

Specification

* Tolerance : ± 5%

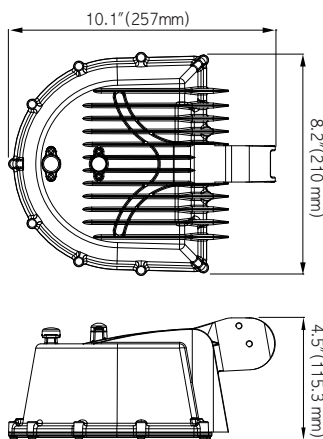
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
JET020	20W		2,000 lm					
JET030	30W	100 lm/W	3,000 lm	5000K (3000K, 4000K 5700K available)	80 Ra	2.3 kg 5.1 lb	AC100~240V	-30°C~60°C -22°F~140°F
JET040	40W		4,000 lm					
JET050	50W		5,000 lm					

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating

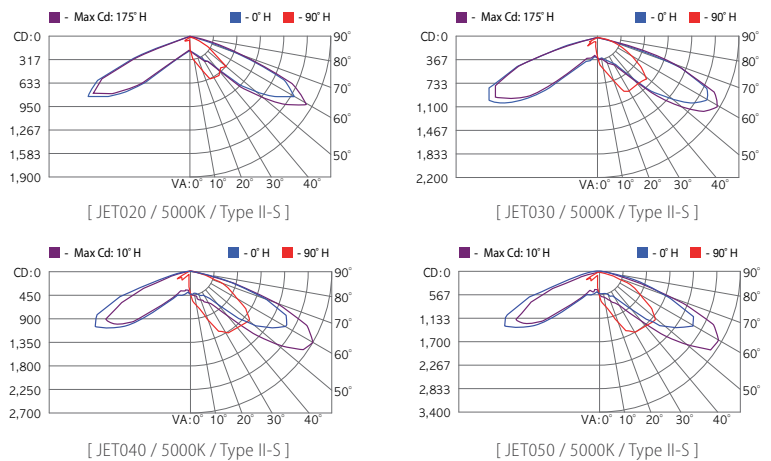
Light Distribution | Type II-S, Type III-S
Mounting Option | SUS Band, Horizontal Tenon Mount
Side Entry Arm | Ø1.57 in. (Ø42mm)
Ø2.38 in. (Ø60.5mm)

Control System | Sensor (Daylight)
more details of GeSS on p.76

Dimensions



Photometry



Whistle



• META-Whistle LT UL Certified



Emergency Signal System

- Alert function for different event with RGBA (4 colors)
- Wireless Node
- IP66 Rated

Application

Highways, Roadways, Streets

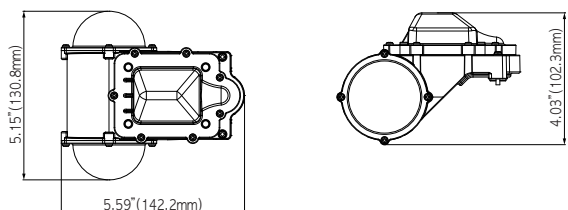
Applicable Product

• META • SETA • SPES-SETA

Specifications

Model	Standard	Frequency	RF Tx Power	RF Rx Sensitivity	Transfer Speed	Transfer Distance	Color Code	Network Configuration	Battery	Operating Temp.
Whistle	IEEE 802.14.4	2.4GHz	5dBm	-96dBm	250kbps	150M	4Color (RGB & Amber)	Mesh	7.4V. 1000mAh	-30°C~70°C -22°F~158°F

Dimensions



• RED (META-Whistle)



• GREEN (META-Whistle)



• BLUE (META-Whistle)



• AMBER (META-Whistle)



GNE GIGATERA NEMA

Certification under progress

Remote Control through wireless network

- Compliant with ANSI C136.41-2013 receptacles
- Wireless and Daylight sensors
- GPS Position System (*Optional)

Application

Street lightings, Roadway Lightings

IP 66



Specifications

Model	Power Consumption	Input Voltage	Output Power	Surge Protection	IP Rating	Operating Temperature	Control System	Position System
GNE	1W (Max.)	AC100~277V AC347~480V	15 VDC/0.3A	2kV	IP66	-30°C~60°C -22°F~140°F	Wireless Daylight Sensor	Standalone-GPS

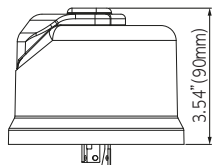
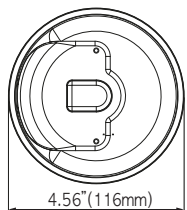
Power Contacts Body | Copper Alloy, tin over nickel plating
Polycarbonate

Network | Protocol : ZigBee IEEE 802.15.4
Frequency : 2.4GHz (ISM band : International) / 2,400 ~ 2,480MHz (16 Channel)

Remote Control | Light Dimming Control : 0~10 STEP
Light ON/OFF
AC Power Monitor

**GPS
Daylight Sensor**

Dimensions



GNW GIGATERA NEMA-WHISTLE

Certification under progress

Remote Control through wireless network

- Compliant with ANSI C136.41-2013 receptacles
- Different alert for various event with RGBA LED 4colors
- Wireless and Daylight sensors
- GPS Position System (*Optional)

Application

Street lightings, Roadway Lightings



IP 66

Specifications

Model	Power Consumption	Input Voltage	Output Power	Surge Protection	IP Rating	Operating Temperature	Control System	Position System
GNW	4W (Max.)	AC100~277V AC347~480V	15 VDC/0.3A	2kV	IP66	-30°C~60°C -22°F~140°F	Wireless Daylight Sensor	Standalone-GPS

Power Contacts | Copper Alloy, tin over nickel plating
Optic | Silver Coating Reflector
Cover | Polycarbonate

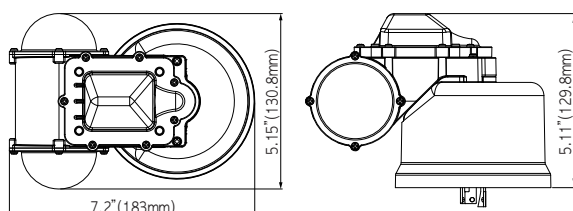
Network | Protocol : ZigBee IEEE 802.15.4
 Frequency : 2.4GHz (ISM band : International) / 2,400 ~ 2,480MHz (16 Channel)

Remote Control | Light Dimming Control : 0~10 STEP
 Light ON/OFF
 AC Power Monitor

GPS
Daylight Sensor

Whistle | LED strobe system for emergency alert signal
 RED / GREEN / BLUE / AMBER high-power color LED

Dimensions



• RED (VEGA-GNW)



• GREEN (VEGA-GNW)



• BLUE (VEGA-GNW)



• AMBER (VEGA-GNW)



SEH SEGA-High Power



High Output High Bay Lighting

- Efficacy of 125 lm/W
- Optimized light distribution
- Maximized heat dissipation via unique vertical cooling structure
- Wireless and wired lighting control

Application

Factories, Warehouses, Sports Arenas, Airports, Gyms, Airplane hangars

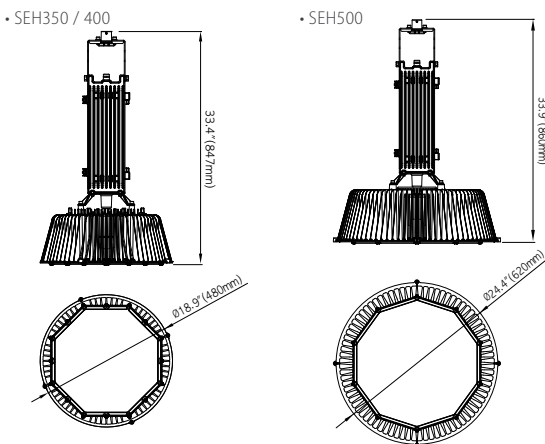
Specifications

* Tolerance : ± 5%

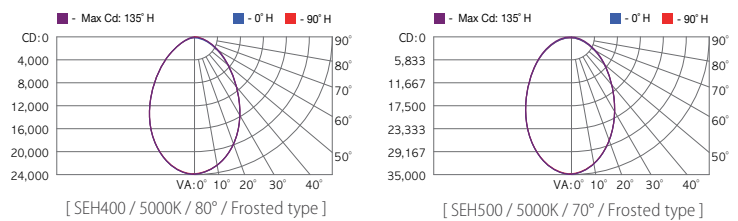
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SEH400	400W	Clear type	125 lm/W	50,000 lm	5000K (4000K available)	20 kg 44.1 lb	AC200~277V AC347~480V	-30°C~60°C -22°F~140°F
		Frosted type	115 lm/W	46,000 lm				
SEH500	500W	Clear type	125 lm/W	62,500 lm	5000K (4000K available)	32 kg 70.6 lb	AC200~277V AC347~480V	-30°C~60°C -22°F~140°F
		Frosted type	115 lm/W	57,500 lm				

Body	Cast Aluminum	Mounting Option	Pipe
Cover	Tempered Glass 4T (Clear / Frosted)	Light Distribution	70° (500W) / 80° (400W)
Finish	Powder Coating	Control System	Wireless / Wired (1-10V) more details of GeSS on p.76

Dimensions



Photometry



LED Bay Lighting

SE SEGA



IP 65



High Efficiency 145 lm/W

- Long life cycle with vertical thermal fin structure
- High Bay light with high energy saving and reasonable price
- Wireless dimming control associated with light control system (*optional)
- Hybrid Sensor Module available (* Occupancy / Wireless / Daylight)

Application

Factories, Warehouses, Superstores, Sports Arenas, Airports, Gyms

Specifications

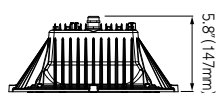
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SE080	80W	145 lm/W	11,600 lm	5000K	80 Ra	4.4 kg / 9.7 lb	AC100~277V	-30°C~60°C -22°F~140°F
SE100	100W	145 lm/W	14,500 lm	(3000K, 4000K,				
SE130	130W	145 lm/W	18,850 lm	5700K, 6500K		6.0 kg / 13.2 lb	AC100~240V	
SE160	160W	145 lm/W	23,200 lm	available)		AC347~480V		

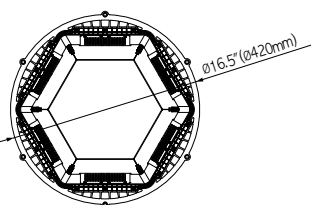
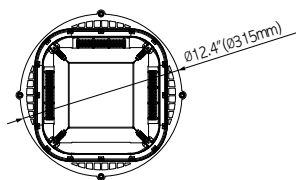
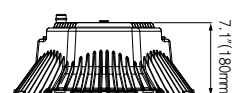
Body	Cast Aluminum	Mounting Option	Pipe, Chain
Cover	Polycarbonate		
Finish	Tempered Glass 3.2T (Clear / Frosted)	Light Distribution	SE080 : 80° / 100° SE100 : 80° / 110° SE130 / SE160 : 90° / 130°
	Powder Coating	Control System	Hybrid Sensor (Occupancy / Wireless / Daylight) Wireless / Wired (1-10V / * Not applicable to VDE) more details of GeSS on p.76

Dimensions

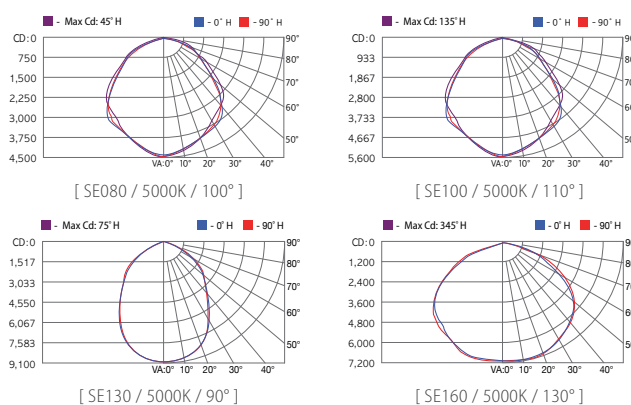
• SE080 / SE100



• SE130 / SE160



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

EFL High bay

Certification under progress

Optimal LED lighting for an eco-friendly industrial workplace

- Optimized lighting distribution for high bay applications
- Can choose narrow beam angle 60° or 40°
- Dimming control using wireless and wired communication
- Maximized heat dissipation via unique vertical cooling structure



Application

Factories, Superstores, Warehouses

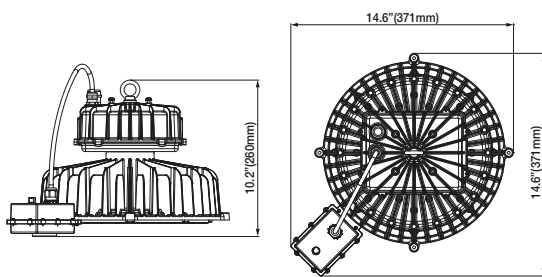
Specifications

* Tolerance : ± 5%

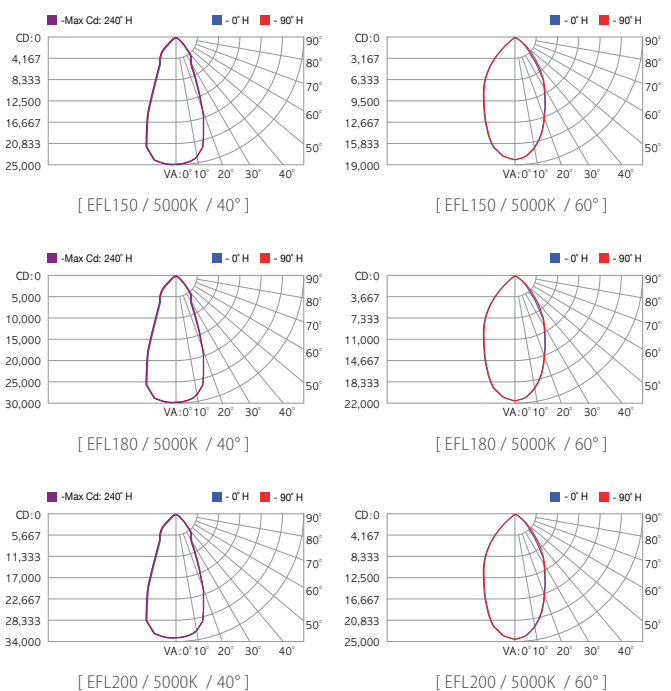
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
EFL150	150W	125 lm/W	18,750 lm	5000K	75 Ra	8 kg / 17.6 lb	AC100~240V	-30°C~60°C
EFL180	180W	125 lm/W	22,500 lm	(3000K, 4000K)			AC100~277V	-22°F~140°F
EFL200	200W	125 lm/W	25,000 lm	5700K (available)				

Body	Cast Aluminum	Mounting Option	Pipe, Chain, Direct Ceiling		
Cover	Glass Clear 3T			Light Distribution	40° / 60°
Finish	Anodized				

Dimensions



Photometry



EFL Low bay



IP 65

Shade Type (Light Distribution 80°)



High performance LED design delivering up to 150 lm/W

- Optimized lighting distribution according to various height of applications
- Maximized heat dissipation via unique vertical cooling structure
- Light weight for easy installation and replacement
- Affordable economic price

Application

Factories, Superstores, Warehouses

Specifications

* Glass Clear Cover Tolerance : ± 5%

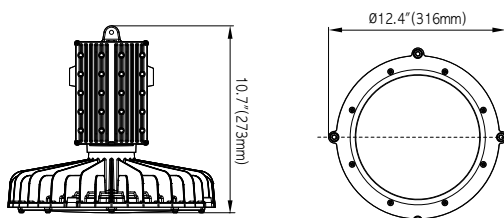
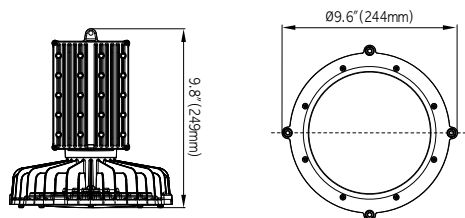
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
EFL070	70W	150 lm/W	10,500 lm			3.7 kg / 8.2 lb		
EFL080	80W	150 lm/W	12,000 lm	5000K		4.9 kg / 10.8 lb	AC100~240V	-30°C~60°C
EFL100	100W	150 lm/W	15,000 lm	(3000K, 4000K, 5700K available)	80 Ra	4.9 kg / 10.8 lb	AC100~277V	-22°F~140°F
EFL130	130W	150 lm/W	19,500 lm			4.9 kg / 10.8 lb		
EFL150	150W	150 lm/W	22,500 lm			4.9 kg / 10.8 lb		

Body	Cast Aluminum	Mounting Option	Pipe, Chain, Direct Ceiling
Cover	Glass Clear (Glass Frosted, PC Clear, PC Frosted)		Light Distribution
Finish	Anodized	Control System	Hybrid Sensor (Occupancy / Wireless / Daylight) / Wired(1-10V) more details of GeSS on p.76

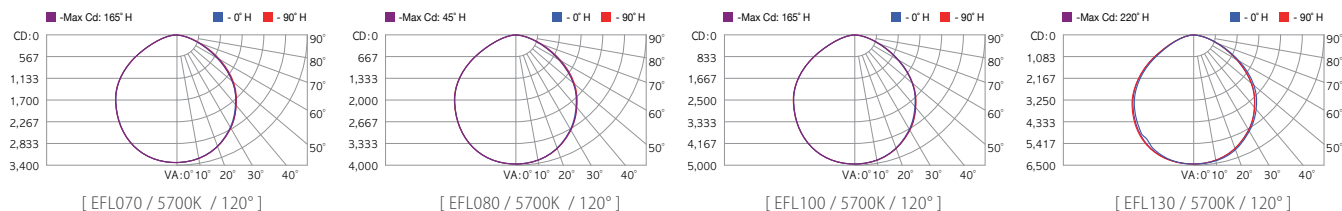
Dimensions

• EFL070

• EFL080 / EFL100 / EFL130 / EFL150



Photometry



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IBL Indirect Bay Lighting



IP 20

IBL200

Comfortable and Soft bay light

- Glare-free and highly efficient light
- Excellent uniformity and beam angle of 80° and 130°
- Easy replacement and installation
- Generally rich illumination in a space

Application

Factories, Warehouses, Superstores, Sports Arenas, Airports, Gyms

Specification

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
IBL130	130W	105 lm/W / 130 lm/W	13,650 lm / 16,900 lm/W			6.9 kg / 15.2 lb		-10°C~55°C / 14°F~131°F
IBL170	170W	105 lm/W / 130 lm/W	17,850 lm / 22,100 lm/W			8.2 kg / 18.1 lb		-10°C~50°C / 14°F~122°F
IBL200	200W	105 lm/W / 130 lm/W	21,000 lm / 26,000 lm/W	5000K (3000K, 4000K, 5700K available)	80 Ra	9.8 kg / 21.6 lb	AC100~240V AC100~277V AC347~480V	-10°C~55°C / 14°F~131°F
IBL400	400W	105 lm/W / 130 lm/W	42,000 lm / 52,000 lm/W			16.6 kg / 36.6 lb		-10°C~50°C / 14°F~122°F
IBL500	500W	105 lm/W / 130 lm/W	52,500 lm / 65,000 lm/W			20.0 kg / 44.1 lb		-10°C~50°C / 14°F~122°F

Emergency

IBL130	130W	100 lm/W	13,000 lm	5000K (3000K, 4000K, 5700K available)	80 Ra	9 kg / 19.8 lb	AC120~277V	-10°C~55°C / 14°F~131°F
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• Operating Time / luminous flux when an emergency : 90min (Min.) / 1,300 lm • Recharging Time : 20 hours(Max.)

Body | Extruded Aluminum
Cover | Polycarbonate (Clear)
Finish | Anodized

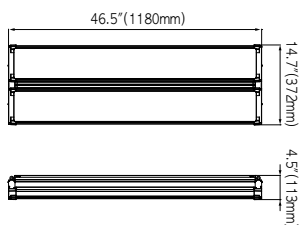
Mounting Option | Wire Pendant
Light Distribution | 80° / 130°
Control System | Wireless / Sensor (Occupancy, Daylight) / Wired (1-10V)
more details of GeSS on p.76



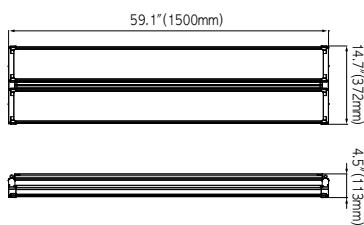
Indirect Bay Lighting **IBL**

Dimension

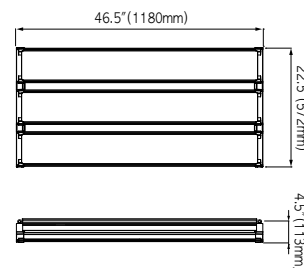
• IBL130



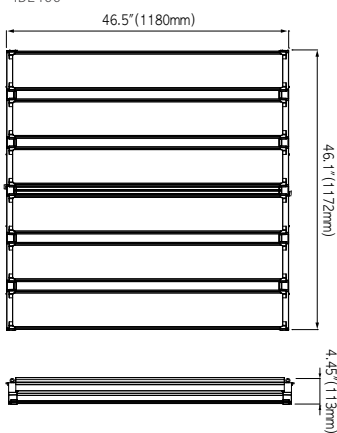
• IBL170



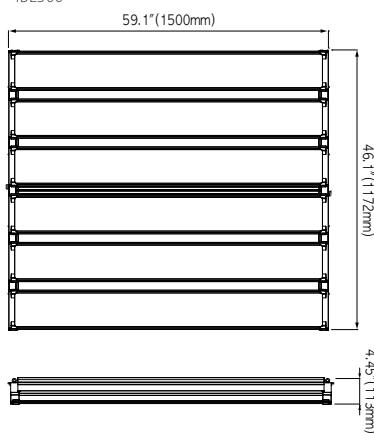
• IBL200



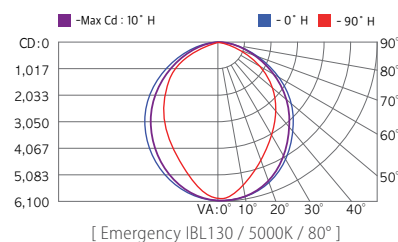
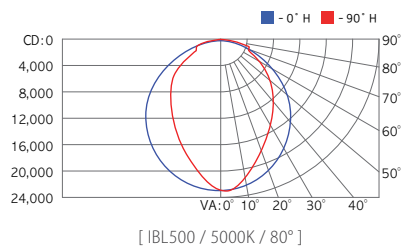
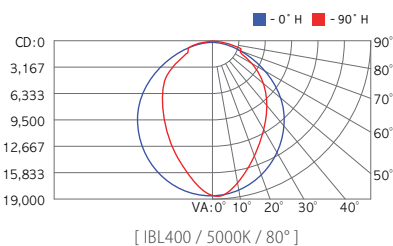
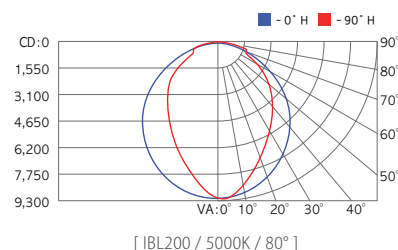
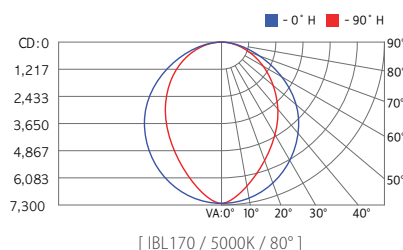
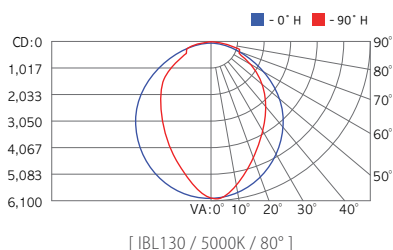
• IBL400



• IBL500



Photometry



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IP 65

Visually Comfortable Indirect Reflection

- Comfortableness for workers' eyes and better operation efficiency
- Glare-free and highly efficient light
- Optimal uniformity

Application

Large stores, Factories, Exhibitions, Airports, Gyms

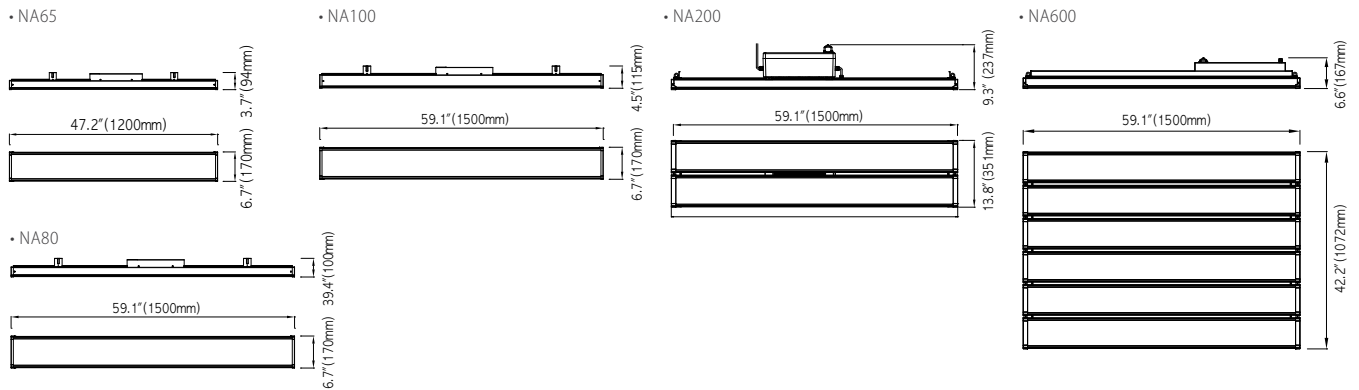
Specifications

* Tolerance : ± 5%

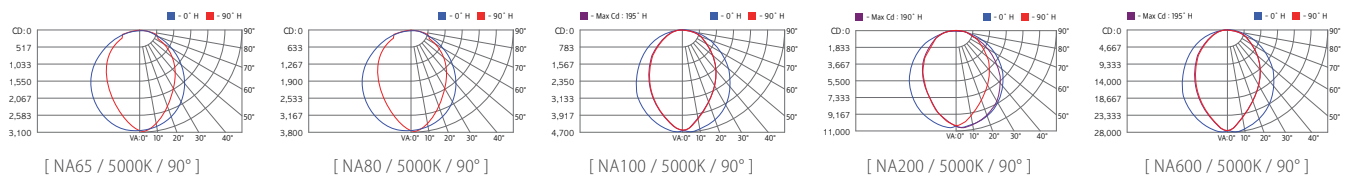
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
NA65	65W		6,825 lm / 8,450 lm			4.3 kg / 9.47 lb		
NA80	80W		8,400 lm / 10,400 lm			4.8 kg / 10.5 lb	AC100~277V	
NA100	100W	105 lm/W / 130 lm/W	10,500 lm / 13,000 lm	5000K (4000K, 5700K available)	80 Ra	4.8 kg / 10.5 lb	AC100~240V	-20°C~50°C -4°F~122°F
NA200	200W		21,000 lm / 26,000 lm			11 kg / 24.3 lb		
NA600	600W		63,000 lm / 78,000 lm			30 kg / 66.1 lb	AC347~480V	

Body	Extruded Aluminum	Mounting Option	Direct Ceiling, Wire Pendant, Pipe Pendant
Cover	Polycarbonate (Clear)	Light Distribution	90°
Finish	Anodized	Control System	Wireless(NA200, NA600) / Wired (1-10V) more details of GeSS on p.76

Dimensions



Photometry



LED Bay Lighting

SR SORA



IP 65

Comfortable, indirect lighting without any blinding effect

- Glare-free and highly efficient light
- Optimal uniformity
- Linkable (*optional)
- Optional motion and illumination sensors

Application

Parking lots, Factories, Exhibitions, Gyms

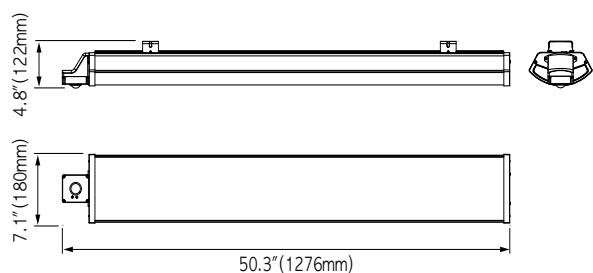
Specifications

* Tolerance : ± 5%

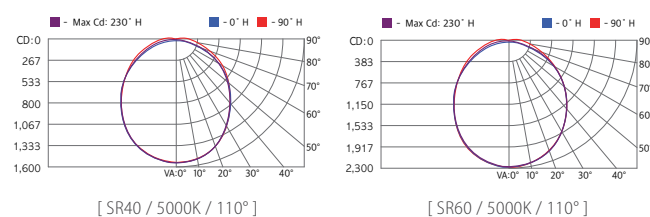
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature	IP Rate
SR40	40W	105 lm/W / 130 lm/W	4,200 lm / 5,200 lm	5000K (3000K, 4000K, 5000K 5700K available)	80 Ra	2.25 kg / 5.0 lb	AC100~277V	-20°C~50°C -4°F~122°F	IP65
SR60	60W		6,300 lm / 7,800 lm				AC100~240V		
SRA32	32W	105 lm/W	3,360 lm				AC100~240V		IP64
SRA40	40W		4,200 lm						

Body	Extruded Aluminum 1.2T	Mounting Option	Direct Ceiling
Cover	Polycarbonate 1.2T (Diffuser)	Light Distribution	110°
		Control System	Wireless / Sensor (Occupancy, Daylight) more details of GeSS on p.76

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.



IP 65

Easy Replace and Install

- Glare-free and highly efficient light
- Up Lighting
- Linkable
- Optional occupancy sensor

Application

Classrooms, Parking lots, Exhibitions, Airports, Factories, Gyms

Specifications

* Tolerance : ± 5%

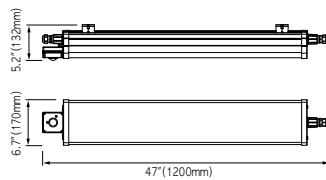
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
ZAR040	40W	100 lm/W	4,000 lm	5000K	80 Ra	3.4 kg / 7.5 lb	AC100~277V	-20°C~50°C
ZAR060	60W		6,000 lm			3.8 kg / 8.3 lb	AC220~240V	-4°F~122°F

Body | Aluminum 1.2T
Cover | Polycarbonate 1.2T (Diffuser)

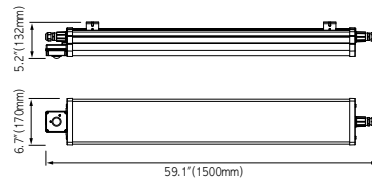
Mounting Option | Direct Ceiling
Light Distribution | 110° / Uplighting 9%
Control System | Sensor (Occupancy)
more details of GeSS on p.76

Dimensions

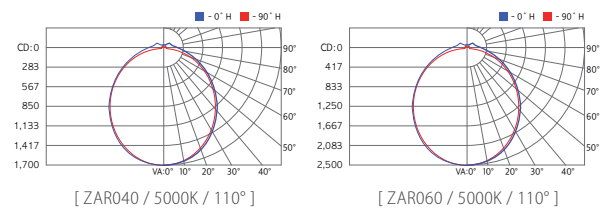
• ZAR40



• ZAR60



Photometry



LED Bay Lighting

ACN ACORN

IP 65

High-efficiency, high bay lighting

- Comfortably lighting with no glare
- Up Lighting
- Excellent cooling structure
- Optimal uniformity

Application

High Bay Stores, Factories, Exhibitions, Airports, Gyms

Specifications

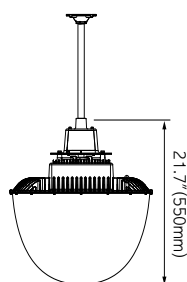
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
ACN180	180W	104 m/W	18,720 lm	4000K (3000K, 5000K available)	80 Ra	10 kg / 22 lb	AC100~240V AC100~277V	-30°C~50°C -22°F~122°F

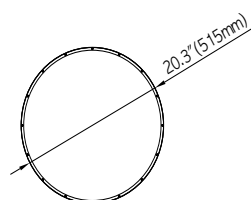
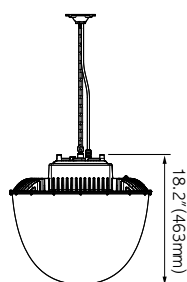
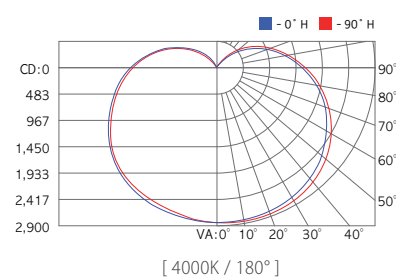
Body	Cast Aluminum	Mounting Option	Pipe, Chain
Cover	Polycarbonate 3T (Diffuser)	Light Distribution	180° / Uplighting 26%
Finish	Powder Coating	Control System	Wireless more details of GeSS on p.76

Dimensions

• Pipe Type



• Chain Type

**Photometry**

The above specifications were updated in January 2017 / The content may be subject to change without notice.

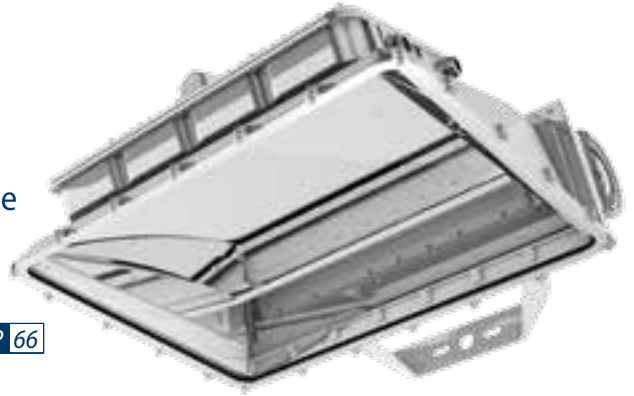
MAF MAHA-F

Certification under progress

Can send uniform light distribution even at long distance

- Ultimate 1 to 1 replacement for 1kW HID
- Outstanding energy saving with 120 lm/W luminous efficiency
- Dimming control using wireless and wired communication

IP 66



Application

Ports, Airport aprons, Container terminals, Sporting facilities, Parking lots

Specifications

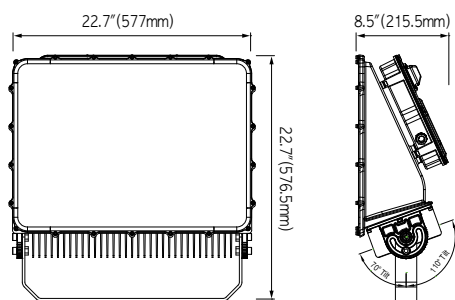
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MAF400	400W	120 lm/W	48,000 lm	5000K (3000K, 4000K, 5700K available)	70 Ra	20 kg / 44.0 lb	AC200~277V AC200~240V AC347~480V	-30°C~53°C / -22°F~127°F

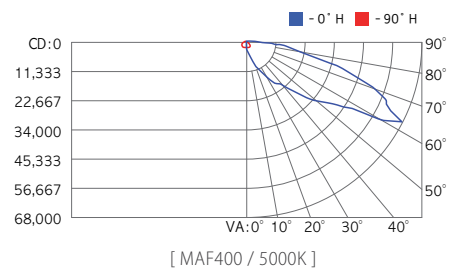
Body	Cast Aluminum	Mounting Option	Swivel Bracket
Cover	Tempered Glass 4T (Clear)	Light Distribution	Asymmetric
Finish	Powder Coating	Control System	Wireless / Wired

more details of GeSS on p.76

Dimensions



Photometry



LED Flood Lighting - Area Flood Lighting

MAN MAHA-NEO**Higher beam and higher luminous efficacy**

- Replacement for 1500W HID Flood light
- Outstanding cooling technology and durability
- 1.5kW HPS alternative lighting
- Built-in surge protection device

**IP 66****Application**

Ports, Airport aprons, Container terminals, Sporting facilities, Parking lots

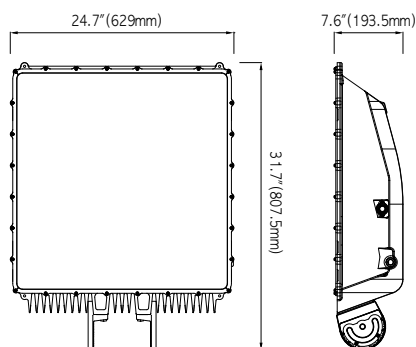
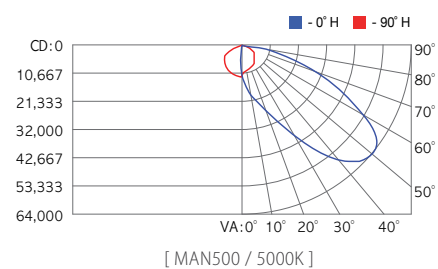
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MAN600	600W	145 lm/W	87,000 lm	5000K (3000K, 4000K available)	80 Ra	27 kg / 59.5 lb	AC200~277V	-30°C~55°C -22°F~131°F

Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

Mounting Option | Swivel Bracket
Light Distribution | Asymmetric
Control System | Wireless / Wired
more details of GeSS on p.76

Dimensions**Photometry**

The above specifications were updated in January 2017 / The content may be subject to change without notice.

New standard for High Mast light

- Dimming control using wireless communication
- Built-in 20kV surge protector
- Ultimate 1 to 1 replacement for 1kW HID (MA400W)
- Outstanding energy saving with 145 lm/W luminous efficiency

Application

Ports, Airport aprons, Container terminals, Sporting facilities, Parking lots



IP 66 MA400

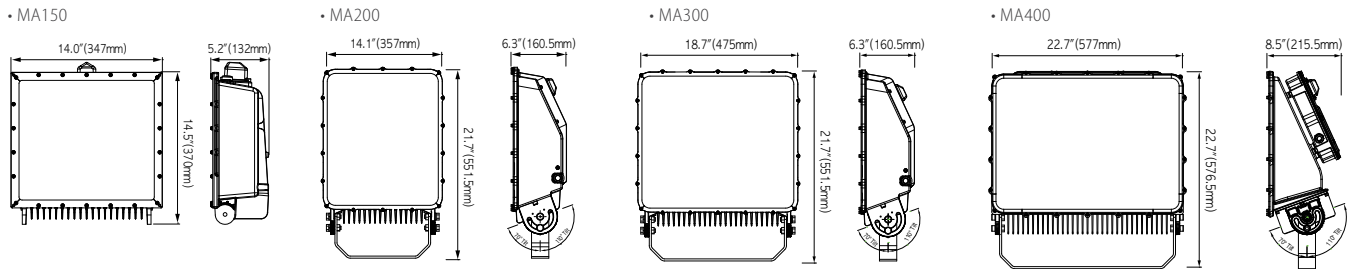
Specifications

* Tolerance : ± 5%

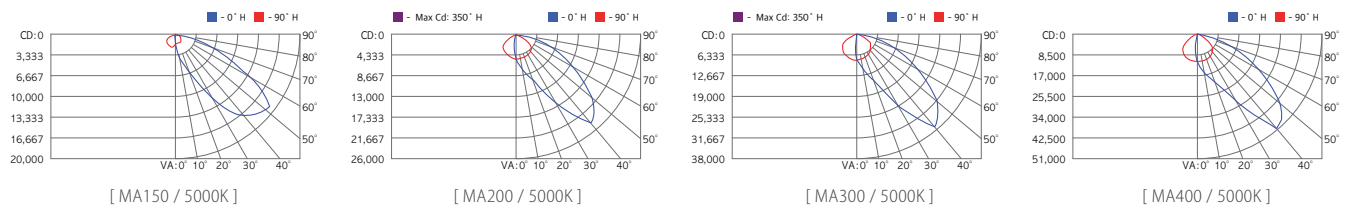
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MA150	150W	145 lm/W	21,750 lm	5000K (3000K, 4000K available)	80 Ra	7.5 kg / 16.6 lb	AC100~277V AC347~480V	-30°C~60°C / -22°F~140°F
MA200	200W		29,000 lm			10 kg / 22.1lb		-30°C~55°C / -22°F~131°F
MA300	300W		43,500 lm			15 kg / 33.1lb		-30°C~55°C / -22°F~131°F
MA400	400W		58,000 lm			20 kg / 44.0lb		-30°C~53°C / -22°F~127°F

Body	Cast Aluminum	Mounting Option	Swivel Bracket / Pole Mount / Mount Bracket		
Cover	Tempered Glass 4T (Clear)			Light Distribution	Asymmetric
Finish	Powder Coating			Control System	Wireless / Wired more details of GeSS on p.76

Dimensions



Photometry



SMA SUMA

Certification under progress

Can send uniform light distribution even at long distance

- High luminous efficacy 120 lm/W
- Tilting structure for optimized aiming (Upward : 90°, Downward : 90°)
- Dimming control using wireless and wired communication
- Outstanding cooling technology and durability

IP 66
SU300



Application

Ports, Airport aprons, Container terminals, Sporting facilities, Parking lots

Specifications

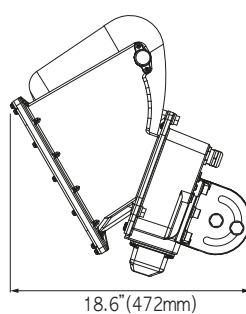
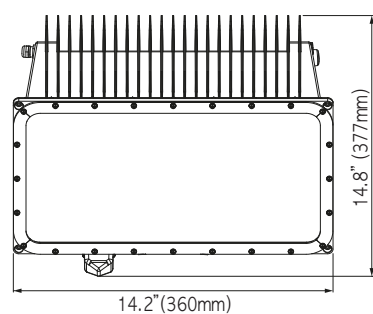
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SMA300	300W	120 lm/W	36,000 lm	5000K (3000K, 4000K, 5700K available)	70 Ra	12.5 kg / 27.6 lb	AC200~277V AC200~240V AC347~480V	-30°C~50°C -22°F~122°F

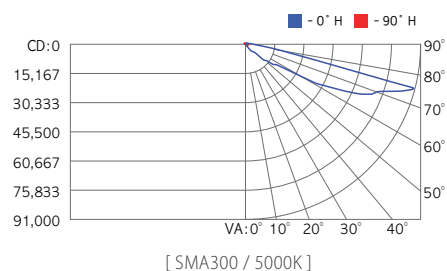
Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

Mounting Option | Swivel Bracket
Light Distribution | Asymmetric
Control System | Wireless / Wired
more details of GeSS on p.76

Dimensions



Photometry



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SFA SUFA-A



Tilt and rotatable for uniformity

- External separate driver
- Stable cooling structure that points the heat release
- Linkage with wired, wireless control systems

Application

Sports stadiums, Indoor Venues, Ports

IP 66

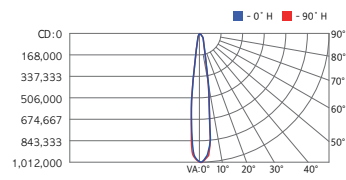
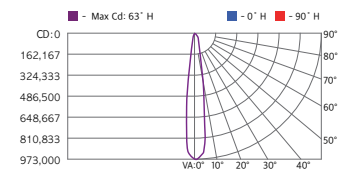
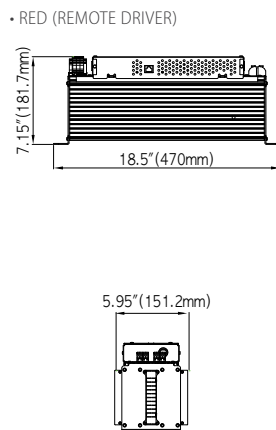
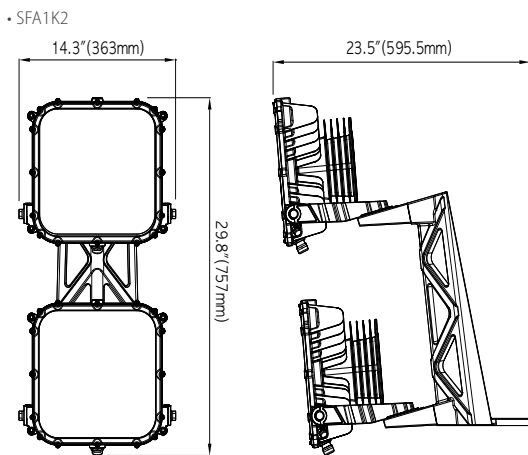
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SFA800	800W	105 lm/W 100 lm/W	84,000 lm 80,000 lm	5000K	80 Ra 90 Ra	18 kg / 39.7lb	AC220~240V AC220~277V AC347~480V	-30°C~55°C -22°F~131°F
SFA1K0	1000W	105 lm/W 100 lm/W	105,000 lm 100,000 lm	(3000K, 4000K 5700K available)	80 Ra 90 Ra			
SFA1K2	1200W	105 lm/W 100 lm/W	126,000 lm 120,000 lm		80 Ra 90 Ra			
Body	Cast Aluminum		Light Distribution	15° / 20° / 30° / 45°				
Cover	Tempered Glass 3.2T (Clear)		Control System	Wireless / Wired (RS-485)				
Finish	Powder Coating			more details of GeSS on p.76				

Dimensions

Photometry



LED Flood Lighting - Sports Flood Lighting

SFM SUFA-M



Tilt and rotatable for uniformity

- High CRI & R9 Content better visibility
- Linkage with wired and wireless control system even for event light control
- Stable cooling structure that points the heat release

Application

Sports stadiums, Indoor Venues, Ports



IP 66

Remote Driver

Specifications

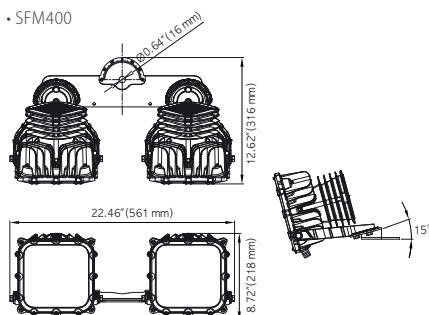
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SFM 400	400W (200W x 2Module)	100 lm/W	40,000 lm	4500K	80 Ra	8 kg / 17.6 lb	AC220~240V	-30°C~55°C
SFM1K2	1200W (200W x 6Module)	100 lm/W 105 lm/W	120,000 lm 126,000 lm	5000K (3000K, 4000K 5700K available)	90 Ra 80 Ra	21 kg / 46.3lb	AC220~277V AC347~480V	-22°F~131°F

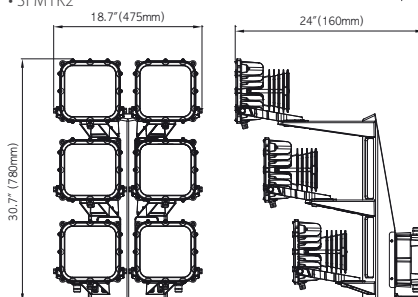
Body	Cast Aluminum	Mounting Option	Wall Mount
Cover	Tempered Glass 3.2T (Clear)	Light Distribution	15° / 20° / 30° / 45°
Finish	Powder Coating	Control System	Wireless / Wired (RS-485) more details of GeSS on p.76

Dimensions

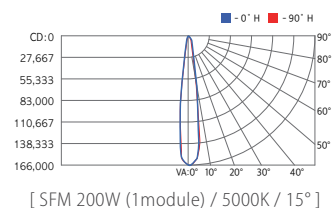
• SFM400



• SFM1K2



Photometry



[SFM 200W (1module) / 5000K / 15°]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SFX SUFA-X



Slimmed-down and amazing cooling structure

- Stable cooling structure that points the heat release
- Comes in diverse angles of 15, 20, 30 and 45 degrees
- Boosted installation efficiency thanks to the slimmed-down product
- Linkage with wired, wireless control systems

Application

Sports stadiums, Indoor Venues, Ports

Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SFX200	200W	105 lm/W 100 lm/W	21,000 lm 20,000 lm		80 Ra 90 Ra	6.6 kg / 14.5 lb		
SFX400	400W	105 lm/W 110 lm/W	42,000 lm 44,800 lm		80 Ra 70 Ra			
SFX500	500W	105 lm/W 110 lm/W	52,500 lm 55,000 lm		80 Ra 70 Ra	16.6 kg / 36.6 lb		
SFX600	600W	105 lm/W 110 lm/W	63,000 lm 66,000 lm	5000K (3000K, 4000K 5700K available)	80 Ra 70 Ra		AC200~277V AC347~480V	-30°C~55°C -22°F~131°F
SFX800	800W	105 lm/W 110 lm/W	84,000 lm 88,000 lm		80 Ra 70 Ra			
SFX1K0	1000W	105 lm/W 110 lm/W	105,000 lm 110,000 lm		80 Ra 70 Ra	32 kg / 70.6 lb		
SFX1K2	1200W	105 lm/W 110 lm/W	126,000 lm 132,000 lm		80 Ra 70 Ra			

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating

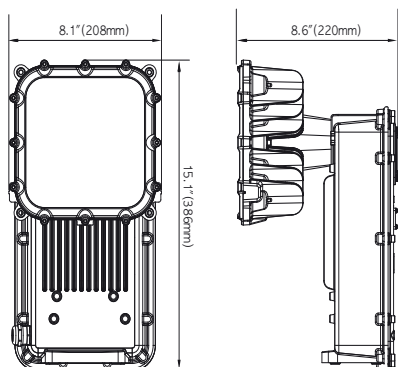
Mounting Option | Swivel Bracket
Light Distribution | 15° / 20° / 30° / 45°
Control System | Wireless / Wired (RS-485)
more details of GeSS on p.76



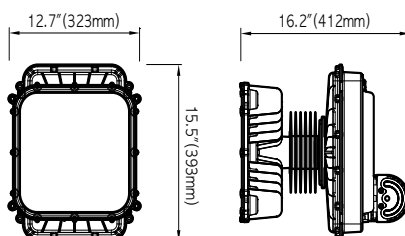
SUFA-X SFX

Dimensions

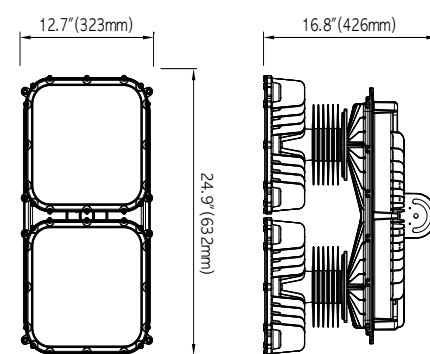
• SFX200



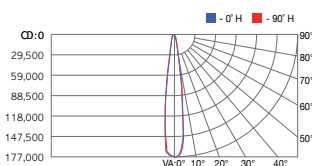
• SFX400/SFX500/SFX600



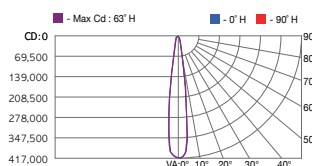
• SFX800/SFX1K0/SFX1K2



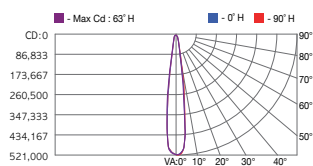
Photometry



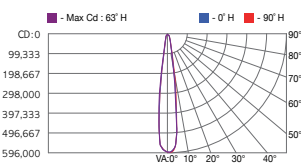
[SFX200 / 5000K / 15° / 70Ra]



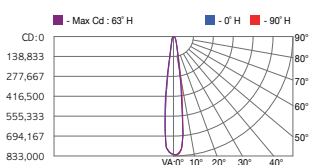
[SFX400 / 5000K / 15° / 70Ra]



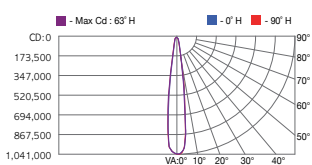
[SFX500 / 5000K / 15° / 70Ra]



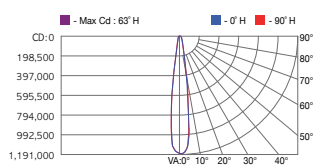
[SFX600 / 5000K / 15° / 70Ra]



[SFX800 / 5000K / 15° / 70Ra]



[SFX1K0 / 5000K / 15° / 70Ra]



[SFX1K2 / 5000K / 15° / 70Ra]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SFG SUFA-G



Built-in 20kV Surge Protector

- Driver and LED module exchange type
- Tilt and rotatable LED module
- Excellent cooling structure

IP 66



Application

Tree lightings, Building façades, Flag lightings

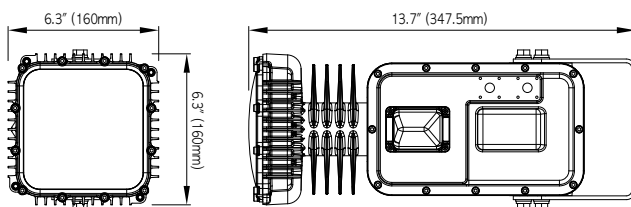
Specifications

* Tolerance : ± 5%

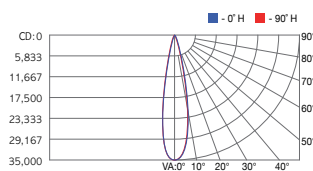
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Life Time	Input Voltage	Operation Temperature
SFG050	50W	105 lm/W	5,000 lm	5000K					
SFG080	80W	110 lm/W	8,000 lm	5000K (3000K, 4000K available)	70 Ra	5.5 Kg 12.1 lb	50,000hrs	AC100~277V AC100~240V	-30°C~55°C -22°F~131°F
SFG100	100W	110 lm/W	10,000 lm						

Body	Cast Aluminum	Mounting Option	Swivel Bracket
Cover	Polycarbonate (Clear)	Light Distribution	15° / 30°
Finish	Powder Coating	Control System	Wireless / Wired (RS-485) more details of GeSS on p.76

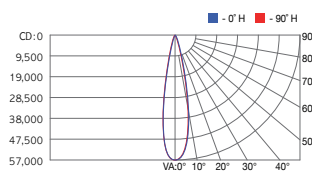
Dimensions



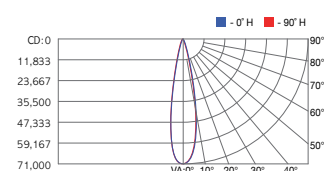
Photometry



[SFG050 / 5000K / 15°]



[SFG080 / 5000K / 15°]



[SFG100 / 5000K / 15°]



TSL TREE SPOT LIGHTING

Certification under progress

Give your Garden radiance it deserves!

- Excellent performance under all weather conditions
- Adjustable tilt up/down to illuminate the perfect spot
- 2 in 1 installation, stick into the ground and mount on the wall
- Water resistance IP67

IP 67



Application

Tree spot lightings, Wall lightings, Pathway lightings, Flag lightings

Specifications

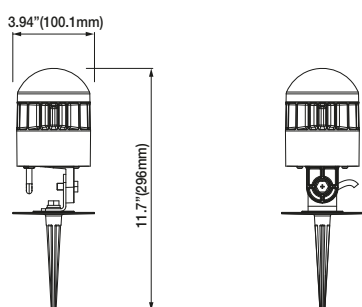
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
TSL024	24W	100 lm/W	2,400 lm	5000K (3000K, 4000K available)	70 Ra	1.05Kg / 2.3 lb	AC120~277V AC100~240V AC200~240V	-30°C~60°C -22°F~140°F
Body	Cast Aluminum							
Cover	Polycarbonate (Clear Type)							
Finish	Anodizing							
Mounting Option								
Beam Angle								

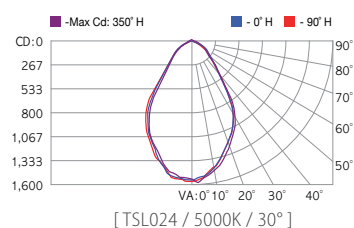
Pin Bracket (Ground mounting) / Swivel Bracket (Surface mounting)

30°

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

Ultralight and evenly distributed lighting for various spaces

- Multi-Functional
- Easy replacement and installation
- Wireless lighting control



Application

Wall Packs, Billboards, Roadways, Parking lots

Specifications

* Tolerance : ± 5%

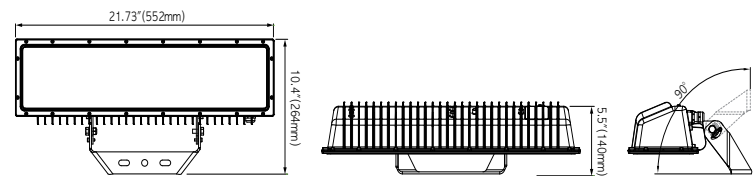
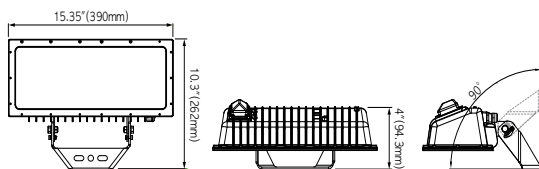
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
WP050	50W		6,750 lm	5000K		3.2 kg / 7.1 lb		
WP075	75W	135 lm/W	10,125 lm	(3500K, 4000K, 6500K available)	80 Ra	4.2 kg / 9.3 lb	AC100~277V AC100~240V	-30°C~60°C -22°F~140°F
WP100	100W		13,500 lm			4.2 kg / 9.3 lb		

Body Cast Aluminum Cover Tempered Glass 3.2T (Clear) Finish Powder Coating	Mounting Option Wall Mount, Mount Bracket, Pole Mount Light Distribution Asymmetric Wide Control System Wireless / Sensor (Daylight) <small>more details of GeSS on p.76</small>
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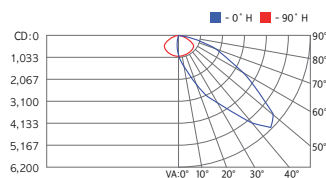
Dimensions

• WP050

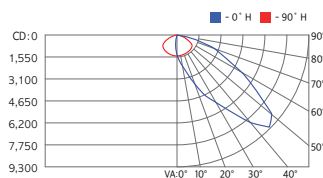
• WP075/100



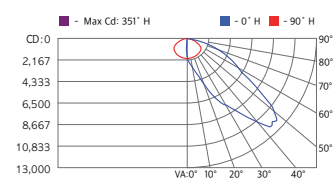
Photometry



[WP050 / 5000K]



[WP075 / 5000K]



[WP100 / 5000K]



LED Flood Lighting - Area Flood Lighting

BIF BIFA

Certification under progress

**Billboard Floodlight Boasting
Amazing Energy Savings**

- Energy savings of 70 – 80%
- Efficient beam control maximizes set back of fixture from target illumination area
- Horizontally wide beam allows for shorter arm when compared to existing lights
- Elegant product exterior
- Optimized light distribution without light trespass

**Application**

Billboards, Wall Packs

IP 66**Specifications**

*Tolerance : ± 5%

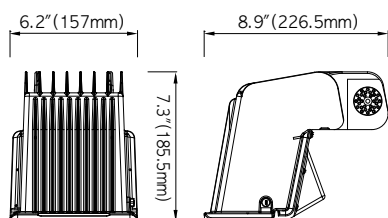
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
BIF050	50W	105 lm/W	5,250 lm	5000K	70 Ra	2.2 kg / 4.9 lb	AC100~240V	-30°C~50°C
BIF100	100W	105 lm/W	10,500 lm	(3000K, 4000K available)	70 Ra	3.5 kg / 7.7 lb	AC100~240V	-22°F~122°F

Body | Cast Aluminum
Cover | Polycarbonate 3T (Clear)
Finish | Powder Coating

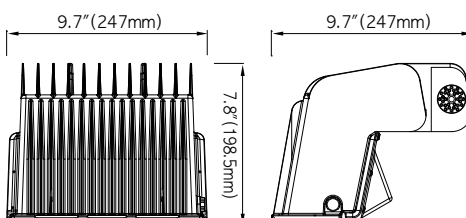
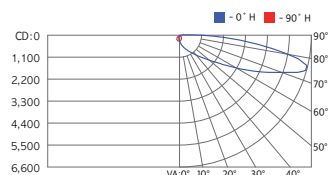
Mounting Option | Swivel Bracket
Light Distribution | Asymmetric Wide

Dimensions

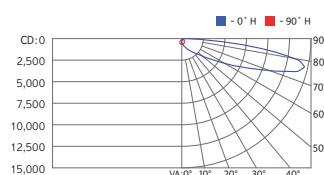
• BIF050



• BIF100

**Photometry**

[BIF050 / 5000K]



[BIF100 / 5000K]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

SFX RGB SUFA-X RGB 400W

Certification under progress



IP 66

Slimmed-down and amazing cooling structure

- Stable cooling structure that points the heat release
- Comes in diverse angles of 15, 20, 30 and 45 degrees
- Linkage with wired, wireless control systems

Application

Sporting Arenas, Commercial Buildings, Village & Private Houses, Construction Structures

Specifications

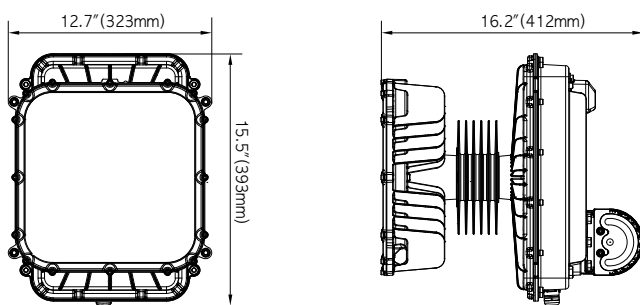
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	Weight	Input Voltage	Operation Temperature
SFX400-RGB	400W	—	—	RGB Color	16.6 kg / 36.6 lb	AC220~240V AC200~277V AC347~480V	-30°C~55°C -22°F~131°F

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating

Installation Type | Swivel Bracket
Light Distribution | 15° / 20° / 30° / 45°
Control System | Wireless / Wired (RS-485)
more details of GeSS on p.76

Dimensions



LED Flood Lighting - *façade Lighting***SFX R/G/B** SUFA-X R/G/B 200W

Certification under progress

Provides effective and impressive emphasis for making popular attraction

- Good color reproduction and high energy efficiency
- Glare free from Narrow beam reflector(NMBF™ Technology)
- Linkage with Wired & Wireless control system even for event light control

IP 66**Application**

Sports Facilities, Architectural Flood Lighting, Industrial Areas

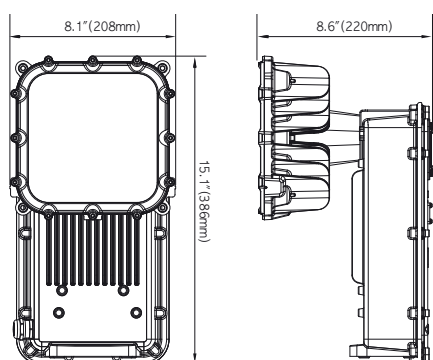
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	Weight	Input Voltage	Operation Temperature
SFX200-RGB	200W	—	—	RGB Color	6.6 kg / 14.5 lb	AC100~277V AC100~240V AC347~480V	-30°C~60°C -22°F~140°F

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating

Installation Type | Swivel Bracket, Direct Ceiling
Light Distribution | 15° / 20° / 30° / 45°
Control System | Wireless / Wired (RS-485)
more details of GeSS on p.76

Dimensions**Color Type**

• Blue

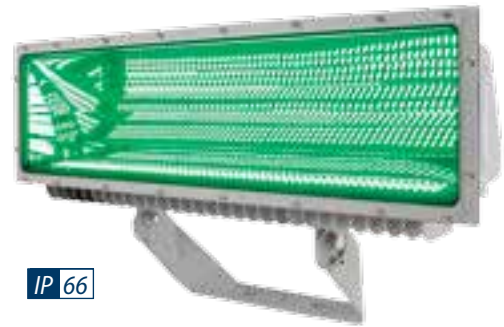
• Green

• Red



The above specifications were updated in January 2017 / The content may be subject to change without notice.

WP Green WAPA-Green



Highlighting the symbol of the place through inspiring night views

- Optimized central control lighting solution

Application

Wall Packs, Billboards, Roadways, Parking lots

Specifications

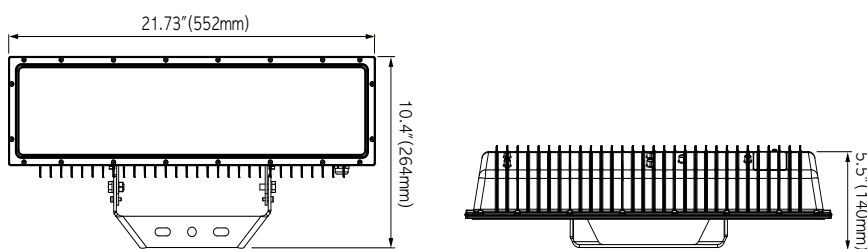
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
WP100-RGB	100W	50 lm/W	5,000 lm	Green Color	80 Ra	4.2 kg / 9.3 lb	AC100~277V	-30°C~60°C -22°F~140°F

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating

Mounting Option | Wall Mount, Mount Bracket, Pole Mount
Light Distribution | Asymmetric
Control System | Wireless / Sensor (Daylight)
more details of GeSS on p.76

Dimensions



LED Flood Lighting - *façade Lighting*

MH RGB MAHA-RGB

Certification under progress

Automatic RGB Color Conversion

- Efficient lighting controls through a lighting control system
- Excellent Cooling Structure
- Diverse Mounting Options

IP 66



Application

Ports, Airport aprons, Container terminals, Sporting facilities, Parking lots

Specifications

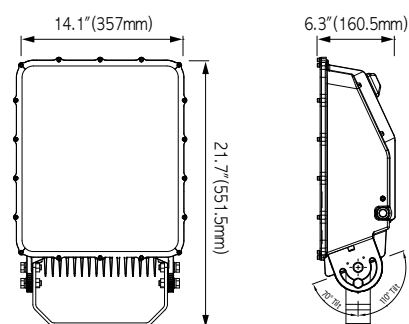
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
MA070-RGB	70W	—	—	Full Color	80 Ra	10 kg / 22.1lb	AC100~277V	-30°C~55°C -22°F~131°F

Body | Cast Aluminum
Cover | Tempered Glass 4T (Clear)
Finish | Powder Coating

Mounting Option | Swivel Bracket / Pole Mount / Mount Bracket
Light Distribution | Asymmetric
Control System | Wireless / Wired (RS-485)
more details of GeSS on p.76

Dimensions



The above specifications were updated in January 2017 / The content may be subject to change without notice.

NM



360° light distribution projects light uniformly at all angles

- Ensured long life and excellent cooling structure
- Glare control with cutoff optics
- NEMA-Photo Sensor (*optional)



Application

Business parks , Walkways, Villages, Parking lots

Specifications

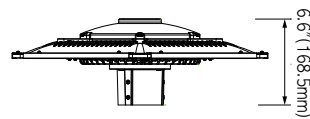
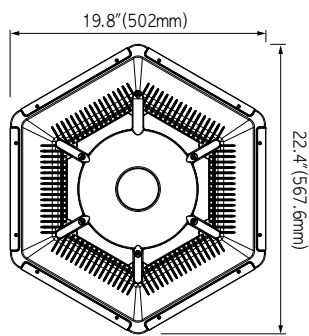
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
NM050	50W	105 lm/W	5,250 lm	5000K (4000K, 5700K available)	80 Ra	7.3 kg / 16.1 lb	AC100~277V AC100~240V	-30°C~60°C -22°F~140°F
NM070	70W	105 lm/W	7,350 lm					
NM100	100W	105 lm/W	10,500 lm					
NM130	130W	105 lm/W	13,650 lm					

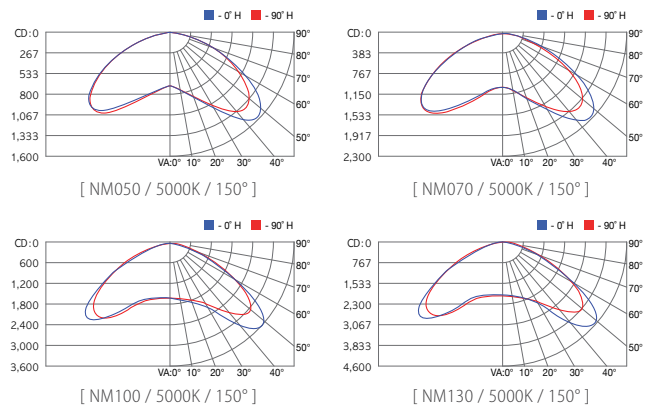
Body | Cast Aluminum
Cover | Polycarbonate 3T (Diffuser)
Finish | Powder Coating

Mounting Option | Post Top
Mount Hole | Ø2.99 inch. (Ø76.0mm)
Light Distribution | NM040 : 100° / NM050~NM130 : 150°

Dimensions



Photometry



NEM



Ensured Long Life and Excellent Cooling Structure

- Excellent Light Distribution and Uniformity
- Cutoff Optics

Application

Business parks , Walkways, Villages, Parking lots

Specifications

* Tolerance : ± 5%

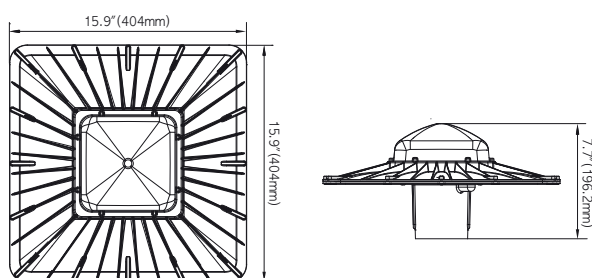
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
NEM040	40W	120 lm/W	4,800 lm	5000K	80 Ra	3.5 kg / 7.7 lb	AC100~277V AC100~240V	-30°C~60°C -22°F~140°F

Body | Cast Aluminum
Cover | Polycarbonate 3T (Diffuser)
Finish | Powder Coating

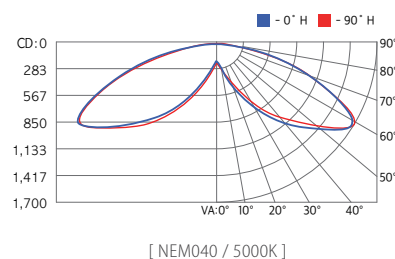
Mounting Option | Post Top
Mount Hole | Ø2.99 inch. (Ø76.0mm)
Light Distribution | 150°

Control System | Wireless
more details of GeSS on p.76

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

Exceptional landscape lighting with technology

- Visual interest by combining oriental traditional design
- High efficient light and optimal uniformity

Application

Business parks , Walkways, Villages, Parking lots



IP 65

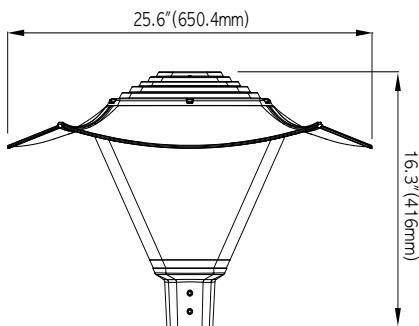
Specifications

* Tolerance : ± 5%

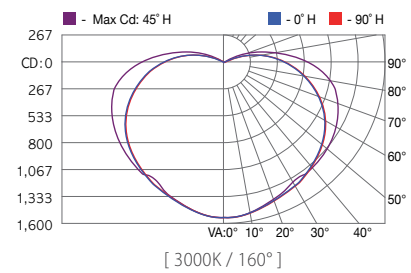
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
GIW100	100W	90 lm/W	9,000 lm	3000K	80 Ra	12 kg / 26.4lb	AC100~277V AC100~240V	-30°C~-60°C -22°F~-140°F

Body	Cast Aluminum	Mounting Option	Post Top
Cover	polycarbonate 3T (Diffuser)	Mount Hole	Ø2.38 in. (Ø60.5mm)
Finish	Powder Coating	Light Distribution	160°

Dimensions



Photometry



LED Landscape Lighting



Utility model 20-450063



Distinguished landscape light combining Beauty and Technology

- Producing excellent surroundings
- Automatic color conversion
- Excellent publicity- tourist attraction
- Effective investment- Landscape, Security, Marketing



IP 65

* Separate Driver & Terminal

Application

Parks, Waterside parks, Waterside hotels, Resorts, Department stores, Parking lots, Franchises, Villas, Building, Garden cities

Specifications

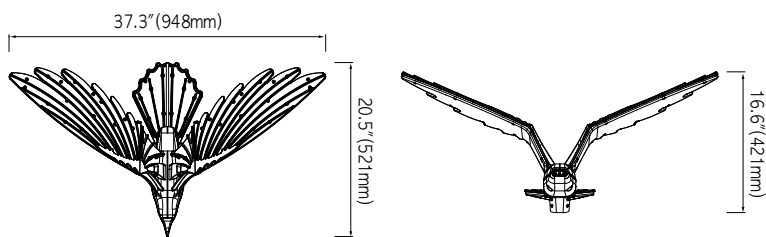
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
SG130	130W	90 lm/W	7,650 lm	5000K	80 Ra	6 kg	AC100~277V	-30°C~60°C
	White-85W RGB-45W	(White)	(White)			13.3 lb	AC100~240V	-22°F~140°F

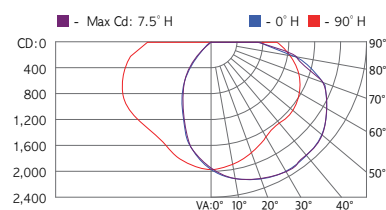
* During color conversion, actual power consumption is unchanged at 100 ~ 120W

Body	Cast Aluminum	Mounting Option	Horizontal Tenon Mount
Cover	Polycarbonate (Clear)	Mount Hole	Ø1.9 in. (Ø48.6mm)
Finish	Powder Coating	Light Distribution	Type IV-S

Dimensions



Photometry



[5000K / Type IV-S]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

EG EAGLE



Symbolize your Place with unique RGB lighting effect

- Beautiful white and RGB colored landscape lighting
- Producing excellent surroundings
- Effective investment- Landscape, Security, Marketing

Application

Parks, Theme Parks, Hotels, Resorts, Department Stores, Parking Lots, Villas, Buildings, Garden Cities, Franchises



IP 65

* Separate Driver & Terminal

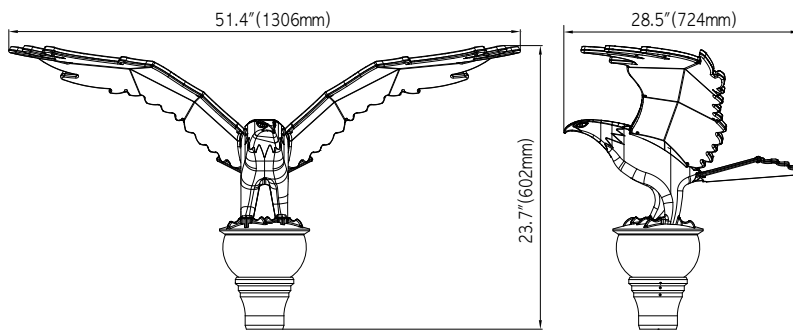
Specifications

* Tolerance : ± 5%

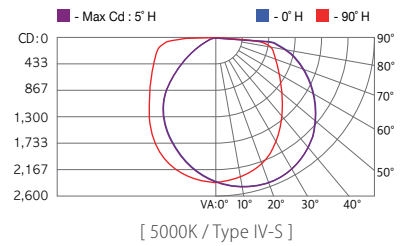
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
EG150	150W White-110W RGB-40W	75 lm/W (White)	8,250 lm (White)	5000K	80 Ra	17 kg 37.5 lb	AC100~277V	-30°C~-60°C -22°F~-140°F

Body	Cast Aluminum	Mounting Option	Post Top
Cover	Polycarbonate (Clear)	Mount Hole	Ø3.5 in. (Ø89.1mm)
Finish	Powder Coating	Light Distribution	Type IV-S

Dimensions



Photometry



LED Landscape Lighting

BF BUTTERFLY

Utility model 20-450063



Symbolize your Place with unique RGB lighting effect

- Automatic color conversion
- Indoor and outdoor applications
- Automatic color change
- Creating excellent surroundings

Application

Parks, Theme Parks, Hotels, Resorts, Department Stores, Parking Lots, Villas, Buildings, Garden Cities, Franchises



IP 65

* Separate Driver & Terminal

Specifications

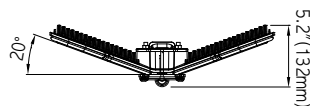
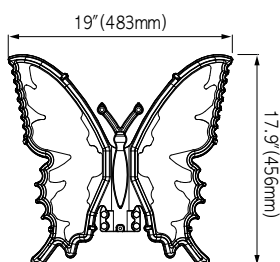
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
BF110	110W	90 lm/W	6,660 lm	5000K	80 Ra	5 kg	AC100~277V	-30°C~60°C
	White-74W	(White)	(White)			11 lb	AC100~240V	-22°F~140°F
	RGB-36W							

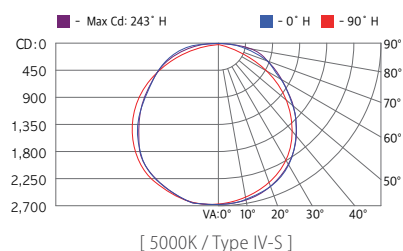
* During color conversion, actual power consumption is unchanged at 90 ~ 105W

Body	Cast Aluminum	Mounting Option	Horizontal Tenon Mount
Cover	Polycarbonate (Clear)	Mount Hole	Ø1.9 in. (Ø48.6mm)
Finish	Powder Coating	Light Distribution	Type IV-S

Dimensions



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

ITB I-TUBE**IP 40****Visually Comfortable Indirect Reflection**

- Easy to replace and install
- Glare-free and highly efficient light
- Optimal uniformity

Application

Home, Offices, Factories, Super stores, Big box chains, Gyms

Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
ITB16 <i>Isolation</i>	16W	115 lm/W	1,840 lm	5000K (3000K, 4000K 5700K, 6500K available)	80 Ra	Built-in Driver 0.44kg / 0.97 lb	AC100~240V	-10°C~50°C 14°F~122°F
ITE16 <i>Non-Isolation</i>	16W							
ITB19 <i>Isolation</i>	19W (19.5W)	110 lm/W	2,145 lm			Built-in Driver 0.44kg / 0.97 lb	AC100~240V	
ITE19 <i>Non-Isolation</i>	19W (19.5W)	115 lm/W	2,243 lm					
ITB20 <i>Isolation</i>	20W (19.5W)	110 lm/W	2,145 lm			Built-in Driver 0.52kg / 1.15 lb	AC100~240V	
ITE22 <i>Non-Isolation</i>	22W	110 lm/W	2,420 lm					

Body | Aluminum 0.3T
Cover | Polycarbonate 1T (Clear)

Mounting Option | G13 Base, Direct Ceiling
Light Distribution | 110°

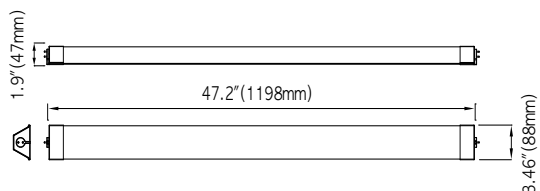


I-TUBE ITB

Dimensions

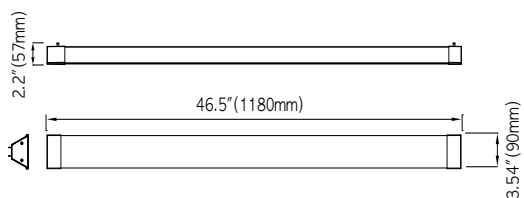
• ITB16 / ITE16 / ITB19 / ITE19 / ITE122

G13 Base



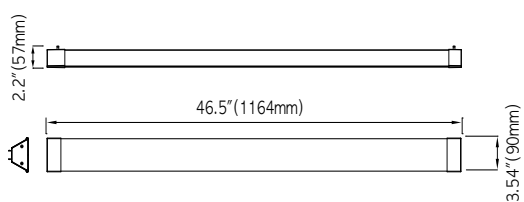
• ITB16 / ITB19

Surface Mount



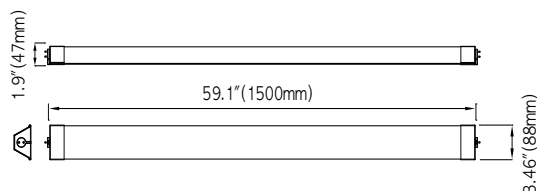
• ITE16 / ITE19 / ITE122

Surface Mount

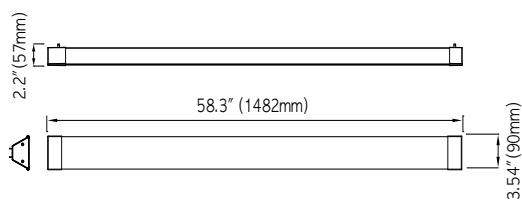


• ITB20

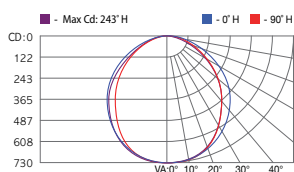
G13 Base



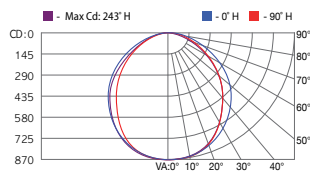
Surface Mount



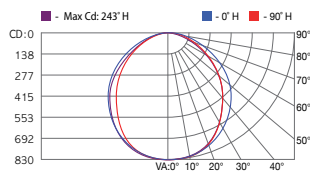
Photometry



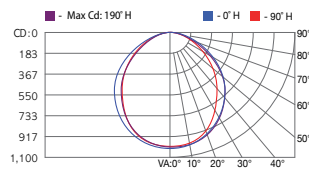
[ITB16 / 5000K / 110°]



[ITE19 / 5000K / 110°]



[ITB20 / 5000K / 110°]



[ITE22 / 5700K / 110°]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

No-glare by indirect lighting technology

- A simple design with visually better
- Variable fixture color available
- Versatile mounting options (Surface, Suspended or Connectable)



IP 40

Application

Lounges, Auditoriums, Cafeterias, Offices

Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Product Length	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
NTE164	16W	105 lm/W / 130 lm/W	1,680 lm / 2,080 lm						
NTE194	19.5W	105 lm/W / 130 lm/W	2,047 lm / 2,535 lm	4ft(1,200mm)			1.6 kg / 3.5 lb		
NTE224	22W	105 lm/W / 130 lm/W	2,310 lm / 2,860 lm						
NTE165	16W	105 lm/W / 130 lm/W	1,680 lm / 2,080 lm						
NTE195	19W	105 lm/W / 130 lm/W	2,047 lm / 2,535 lm	5ft(1,500mm)	5700K ~ 2700K	80 Ra	2.3 kg / 5.07 lb	AC120~277V AC200~240V	-10°C~50°C 14°F~122°F
NTE225	22W	105 lm/W / 130 lm/W	2,310 lm / 2,860 lm						
NTE328	32W	105 lm/W / 130 lm/W	3,360 lm / 4,160 lm						
NTE398	39W	105 lm/W / 130 lm/W	4,095 lm / 5,070 lm	8ft(2,400mm)			4.1 kg / 9.03 lb		
NTE448	44W	105 lm/W / 130 lm/W	4,620 lm / 5,720 lm						

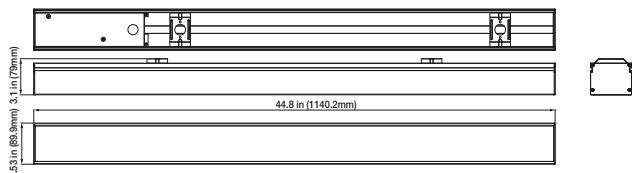
Body	Extrude Aluminum	Mounting Option	Direct Ceiling, Wire Pendant, Pipe Pendant
Cover	Silver Anodizing or Variable Color available	Light Distribution	110°



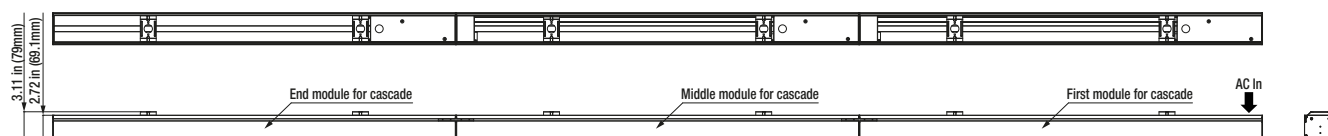
NEAT NTE

Dimensions

- Standalone (NTE164 / NTE194 / NTE224)



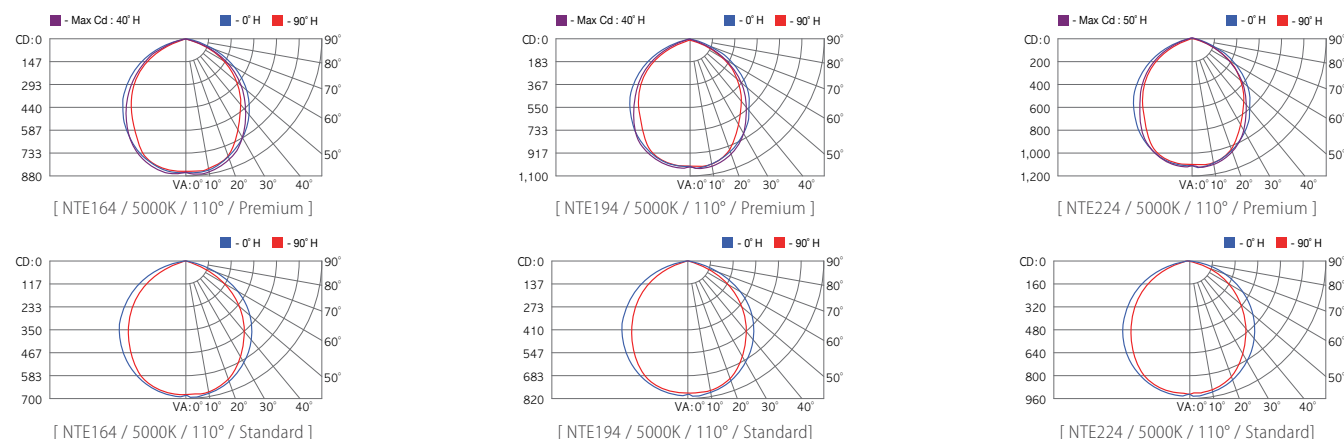
- Cascade (3 module) ** NTE164 / NTE 194 / NTE224 / NTE165 / NTE 195 / NTE 225 - Maximum Quantity 14ea / NTE328 / NTE 398 / NTE448 - Maximum Quantity 7ea



- Sample image for NTE cascade type wire installation



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

TOP TOPA



Refined and Comfortable Light

- Sense of dimensional design
- Dimming control (*optional)

Application

Business Meeting rooms, Office Businesses, Seminar rooms, Classrooms, Hospitals, Stores



IP 20

Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
TOP034-22	34W	105 lm/W	3,570 lm	5000K (3000K, 4000K)	80 Ra	3.3 kg / 7.3 lb	AC100~277V	-10°C~50°C 14°F~122°F
TOP040-24	40W	115 lm/W	4,600 lm	5700K available)		6.0 kg / 14.8 lb	AC100~240V	
Emergency								
TOP034-22	34W	80lm/W	2,720 lm	5000K (3000K, 4000K, 5700K available)	80 Ra	4.2 kg / 9.3 lb	AC120~277V	-10°C~50°C 14°F~122°F
TOP040-24	40W	90lm/W	3,600 lm			6.0 kg / 14.8 lb	AC100~240V	

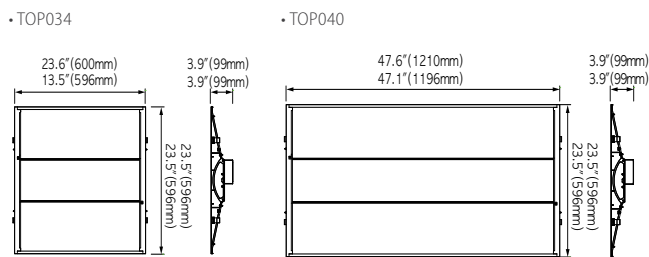
TOP034-22 • Operating Time / luminous flux when an emergency : 90min (Min.) / 1,800 lm • Recharging Time : 20 hours(Max.)
 TOP040-24 • Operating Time / luminous flux when an emergency : 90min (Min.) / 1,900 lm • Recharging Time : 20 hours(Max.)

Body | Steel
Cover | Polycarbonate (Diffuser)

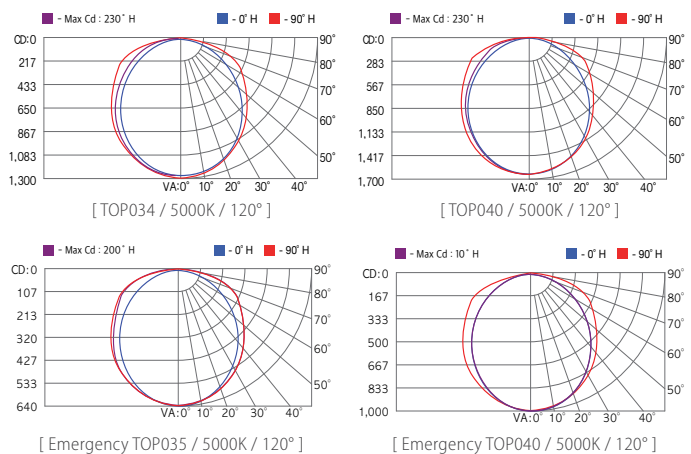
Mounting Option | Recessed
Light Distribution | 120°
Control System | Wired (1-10V)

more details of GeSS on p.76

Dimensions



Photometry



TRR TERA-Retrofit



2x4

No flicker and no-glare by indirect tube lighting technology

- Ideal for office, government, educational and retail retrofits
- Save energy costs while improving your light quality
- A simple and neat design with visually better
- GigaTera's retrofit kit can be retrofitted into most existing troffers within 10 minutes.

IP 20

Application

Big box chains, Super stores, Factories, Offices, Gyms

Specifications

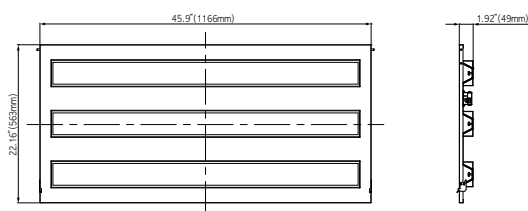
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
TRR040-24	40W	130 lm/W 115 lm/W	5,200 lm 4,600 lm	5000K (3000K, 4000K 5700K available)	80 Ra	5.8 kg / 12.8 lb	AC100~240V AC100~277V	-10°C~50°C 14°F~122°F

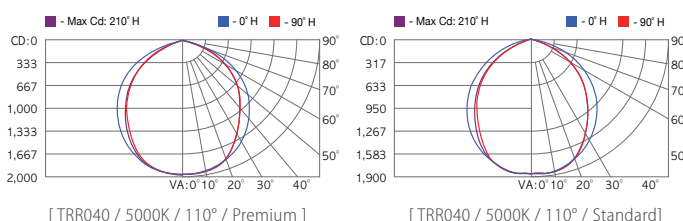
Body	Steel	Mounting Option	Recessed
Cover	Polycarbonate 1T (Clear)	Light Distribution	110°
Finish	Powder Coating	Control System	Wired (1-10V) more details of GeSS on p.76

Dimensions

• 2x4 Type / Retrofit



Photometry

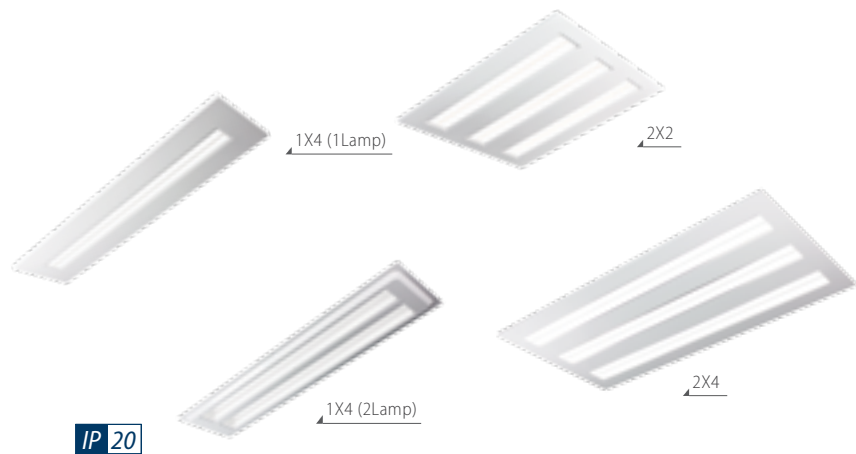


The above specifications were updated in January 2017 / The content may be subject to change without notice.

TER TERA

Non-flicker and Light weight

- Simple and neat design
- Optimal uniformity
- Variety of sizes - 1x4, 2x2, 2x4
- The size can be customized



Application

Big box chains, Super stores, Factories, Offices, Gyms

Specifications

* Tolerance : ± 5%

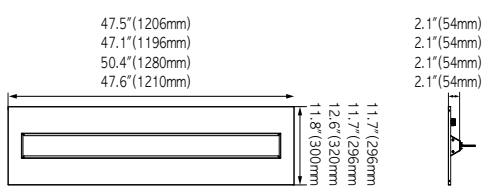
Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature	Lamp
TER016-14 <i>Built-in Driver</i>	16W	115 lm/W	1,840 lm			3.4 kg / 7.5 lb			1
TER022-14 <i>Built-in Driver</i>	22W	110 lm/W	2,420 lm			3.4 kg / 7.5 lb			1
TER032-14 <i>Built-in Driver</i> <i>External Driver</i>	32W	115 lm/W 105 lm/W / 130 lm/W	3,680 lm 3,360 lm / 4,160 lm	5000K (3000K, 4000K 5700K available)	80 Ra	2.4 kg / 6.0 lb	AC100~240V AC100~277V	-10°C~50°C 14°F~122°F	2
TER032-22 <i>External Driver</i>	32W	115 lm/W / 130 lm/W	3,680 lm / 4,160 lm			3.7 kg / 8.15 lb			3
TER040-24 <i>External Driver</i>	40W	115 lm/W / 130 lm/W	4,600 lm / 5,200 lm			5.8 kg / 12.8 lb			3
Emergency									
TER032-22 <i>External Driver</i>	34W	85 lm/W	2,890 lm	5000K (3000K, 4000K 5700K available)	80 Ra	6.0 kg / 13.2 lb	AC100~240V AC120~277V	-10°C~50°C 14°F~122°F	3
TER040-24 <i>External Driver</i>	40W	95 lm/W	3,800 lm			7.7 kg / 17.0 lb			
TER032-22 • Operating Time / luminous flux when an emergency : 90min (Min.) / 1,800 lm • Recharging Time : 20 hours(Max.) TER040-24 • Operating Time / luminous flux when an emergency : 90min (Min.) / 1,900 lm • Recharging Time : 20 hours(Max.)									

Body	Steel	Mounting Option	Recessed
Cover	Polycarbonate 1T (Clear)	Light Distribution	110°
Finish	Powder Coating	Control System	Wired (1-10V) more details of GeSS on p.76

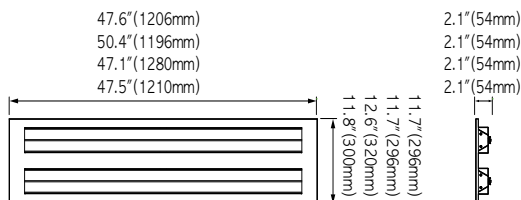


Dimensions

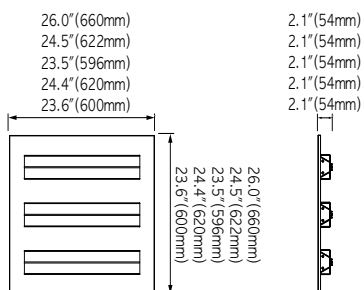
• 1x4 Type(1Lamp)



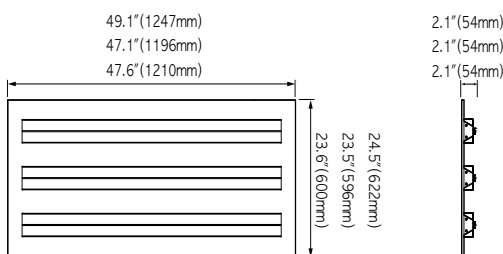
• 1x4 Type(2Lamp)



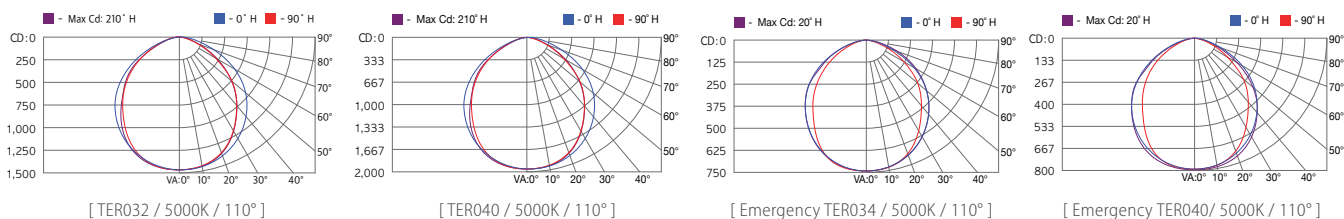
• 2x2 Type / M,T-bar



• 2x4 Type / T-bar



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

Refined and Comfortable Design

- Excellent uniformity without shadow area
- Convenient lighting of 100 lm/W to save 50% or higher energy
- Emergency battery back up



Application

Offices, Businesses meeting rooms, Hospitals, Seminar rooms, Classrooms, Stores

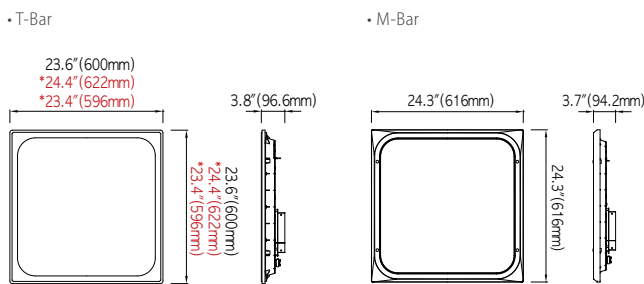
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
BL220-40	40W		4,600 lm	5000K				
BL220-45	45W	115 lm/W	5,175 lm	3000K, 3500K 4000K, 5700K available)	80 Ra	3.6 kg / 7.9 lb	AC100~240V AC100~277V	-10°C~50°C 14°F~122°F
BL220-50	50W		5,750 lm					

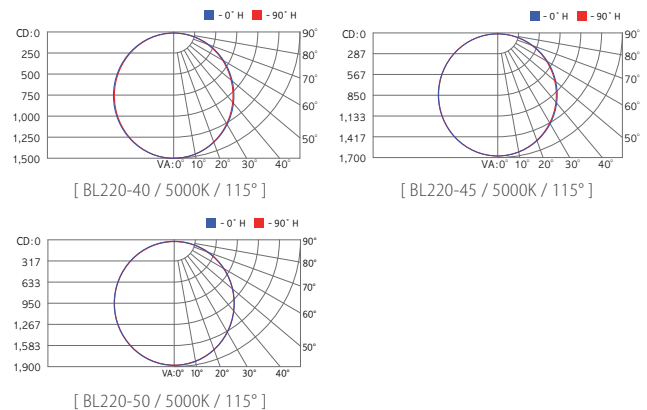
Body	Polycarbonate, ABS	Mounting Option	Recessed
Cover	Polycarbonate (Diffuser)		
		Light Distribution	115°
		Control System	Wired (1-10V, IR) / Wireless (Remote Control)
			more details of GeSS on p.76

Dimensions



* Europe Standard

Photometry



LED Commercial Lighting - Recessed Panel Lighting

VR VERONA



High-efficiency recessed panel lighting to replace embedded fluorescent lighting device

- Excellent uniformity without dark spot
- Convenient 100 lm/W indoor lighting to save energy
- Slim and Simple Design



IP 20 M-Bar Type

Application

Offices, Businesses meeting rooms, Hospitals, Seminar rooms, Classrooms, Stores

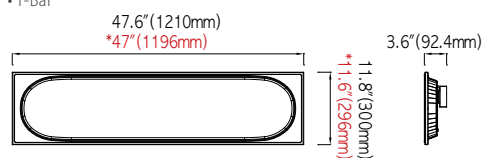
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
VR140-40	40W		4,000 lm	5000K				
VR140-50	50W	100 lm/W	5,000 lm	3000K, 3500K 4000K, 5700K available)	80 Ra	3.6 kg / 7.9 lb	AC100~240V AC100~277V	-10°C~50°C 14°F~122°F
VR140-60	60W		6,000 lm					
Body	Polycarbonate, ABS		Mounting Option	Recessed				
Cover	Polycarbonate (Diffuser)		Light Distribution	115°				
			Control System	Wired (1-10V, IR) / Wireless (Remote Control) more details of GeSS on p.76				

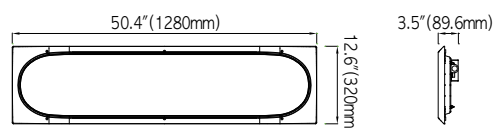
Dimensions

• T-Bar

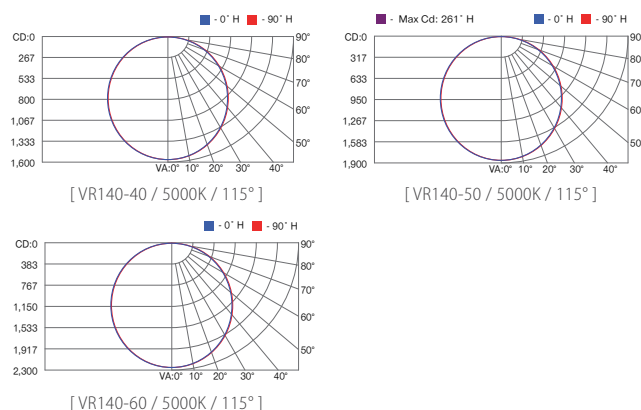


* Europe Standard

• M-Bar



Photometry



The above specifications were updated in January 2017 / The content may be subject to change without notice.

GAG GAGA



High integrity space direction with an elegant design

- 6"/8" recessed downlight with a luminous efficiency of 105 lm/W
- Easy and convenient installation is possible thanks to the fixed pin installation method
- Outstanding cost savings
- Lightweight (400g)

Application

Department Stores, Stores, Offices, Corridors, Restaurants



Specifications

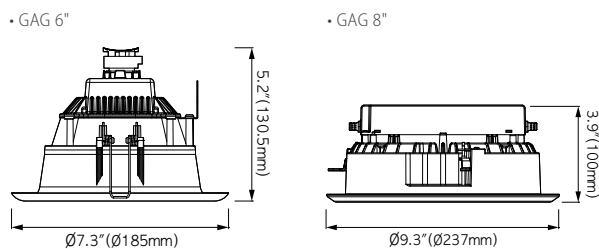
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
GAG008 6 inch	7.5W	105 lm/W	788 lm	5700K (3000K, 4000K available)	80 Ra	0.4 kg / 0.88 lb	AC100~240V	-10°C~50°C 14°F~122°F
GAG010 6 inch	10W	105 lm/W	1,050 lm					
GAG015 8 inch	15W	95 lm/W	1,425 lm					
GAG020 8 inch	20W	95 lm/W	1,900 lm			1.0 kg / 2.65 lb		
GAG034 8 inch	34W	110 lm/W	3,740 lm					

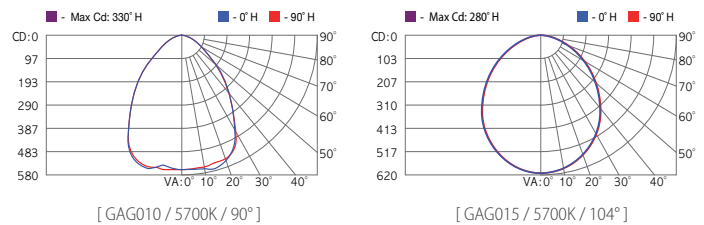
Body | Polycarbonate
Cover | 6" : Polycarbonate 2T (Clear / Diffuser)
8" : Polycarbonate 1.5T (Diffuser)

Mounting Option | Recessed
Light Distribution | 90° / 104°

Dimensions



Photometry



LED Special Lighting - Canopy Lighting

KAN KANA**IP 54****IP54 grade canopy lighting**

- 130 lm/W high luminous efficient product
- 120 degree beam angle
- Reduced electricity expenses and other maintenance expenses
- Product with outstanding visibility

Application

gas stations, parking lots

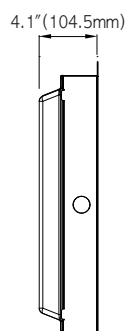
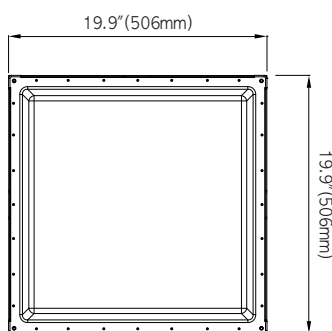
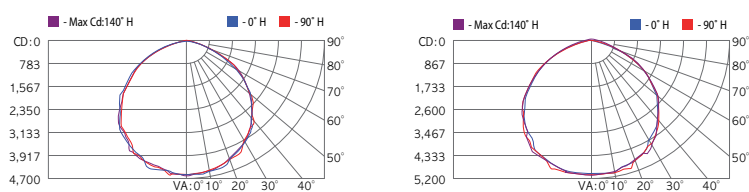
Specifications

* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
KAN100	100W	130 lm/W	13,000 lm	5000K	80 Ra	6.6 kg / 14.6 lb	AC100~240V	-30°C~50°C
KAN120	120W	125 lm/W	15,000 lm	(3000K, 4000K available)				-22°F~122°F

Body | Aluminum
Cover | Polycarbonate 3T (Clear)
Finish | Powder Coating

Mounting Option | Direct Ceiling
Light Distribution | 120°

Dimensions**Photometry**

[KAN100 / 5000K / 120°]

[KAN120 / 5000K / 120°]



The above specifications were updated in January 2017 / The content may be subject to change without notice.

TAN TANA



Strong and stable Structure electrically & mechanically

- Excellent cooling system
- Ideal for industrial applications, hazardous work space and areas where gases, vapors and dusts may be present

Application

Industrial Gas Production, Oil Plants, Chemical Plants, Gas Station, Electricity Facility, Coating Factory

Specifications

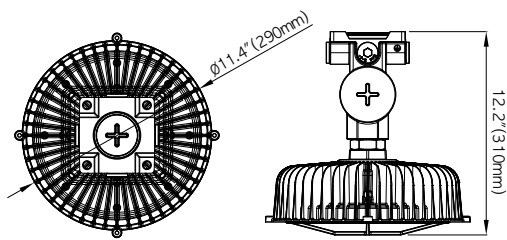
* Tolerance : ± 5%

Model	Power	* Luminous Efficacy	* Luminous Flux	Color Temperature	CRI	Weight	Input Voltage	Operation Temperature
TAN060	60W		7,800 lm	5000K				
TAN080	80W	130 lm/W	10,400 lm	(3000K, 5700K available)	80 Ra	9.5 kg / 20.9 lb	AC100~240V	-30°C~40°C -22°F~104°F
TAN100	100W		13,000 lm					

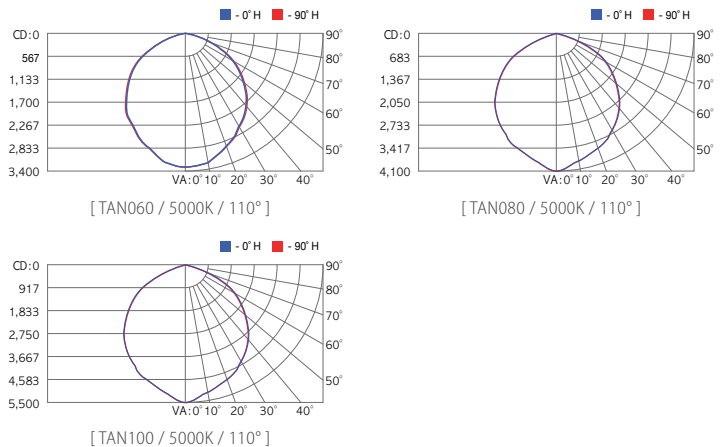
Body | Cast Aluminum
Cover | Tempered Glass 15T (Clear)
Finish | Powder Coating

Mounting Option | Direct Ceiling
Light Distribution | 110° / 140° (Option)

Dimensions



Photometry



KS KARA STAND



Analog Sensitivity Seamless Dimming Effect

- Automatic color conversion mode support
- Slim and simple design
- 2 x warm white and 1 x RGB

Application

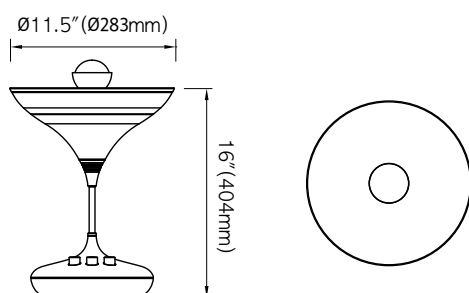
Living Rooms, Bedrooms, Offices, Hotels

Specifications

Model	Power	Luminous Efficacy	Luminous Flux	Color Temperature	CRI	Weight	Life Time	Input Voltage	Operation Temperature
KS20	20W	50 lm/W	800 lm	UP : 3000K Down : 2700K Top : RGB	80 Ra	2.5 kg 5.6 lb	50,000hrs	AC100~240V	-10°C~50°C 14°F~122°F

Body	Polycarbonate, Aluminum
Cover	Polycarbonate 2T (Diffuser)
Finish	Powder Coating, Chromium Plating

Dimensions



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GESS™

GigaTera ecology Service System

The GigaTera **GESS™** lighting control system is an eco-friendly system with minimized energy consumption and emissions. In addition, it has wireless, wired, and sensor control systems to provide the most stable and economical lighting control solutions ever.

GESS™ Feature

1. Support for different controls

The **GESS™** control system provides different supports, including streetlight as well as wireless, wired, and sensor controls that allows even for hybrid controls to be implemented by combining any of them upon customer request.

With this hybrid control, a customized control system can be implemented based on usage conditions with the advantage of energy savings and services.

2. Application of the standard lighting control protocol

The **GESS™** control system supports wireless and wired standard protocols.

3. From individual to group controls

The **GESS™** control system provides individual and group controls. With this function user can set different on/off time and intensities in different areas for the optimal energy savings and automatically or manually control the lighting using a GUI or central console without visiting the site.

4. Reliable system

The **GESS™** control system is a solution dedicated to GigaTera LED lighting, making it more reliable than other control systems. The main GigaTera street lights, META and HERA, have the wireless node system (ZB Node). Indoor lights, such as Bela, Verona, and Galaxy, have the 1-10V, DMX-512, DALI control board, and indoor ceiling lights, including IBL, NANA, and SORA, which detects the sensors. Different GigaTera lighting products are perfectly controlled by the **GESS™** system.

5. Energy and maintenance cost savings

The **GESS™** control system can save energy consumption and maintenance costs.

GESS™ Equipment



• Master Unit-AIR



• USB Converter



• Gateway



• IPC Wall Switch

GESS™ ROAD

Roadway Lighting Control

Normal highway roadway lighting and security lights on narrow roads can be efficiently managed by adopting the wireless control for the control and maintenance without the need for separate cabling.

The **GESS** Roadway lighting control is a dedicated system for the GigaTera® roadway light that provides support for remote intensity controls through 2G, 3G, and 4G cellular network communication in order for the additional energy savings and uniformity as well as mesh network, self-diagnosis, system error reporting, and real-time monitoring in implementing higher electrical efficiency by saving the cost and time for the operation and maintenance.

GESS™ AIR

Wireless Lighting Control

A wireless control function can be implemented by connecting the built-in wireless node (ZB Node) and the local wall-mounting switch (IPC controller) or master unit.

The wireless control solution is based on the ISM Band 2.4 GHz and can be implemented in central and local controls. The wall-mounting switch (IPC controller) can be used for both, while the master unit can be used for the central control configuration. The central control requires an operation PC for the GUI program.

*ISM band means bandwidth available for industry, science, and medicine

GESS™ WIRE

Wired Lighting Control

The GESS supports RS-485 communication protocol.

The RS-485 communication protocol can create a network of units connected to a single RS-485 serial port with a multidrop function. One master unit can be connected with up to 32 slave units while providing a maximum of 1.2 km in serial communication.

The GESS supports the DALI protocol.

The digital addressable lighting interface (DALI) is a standard lighting protocol that offers a flexible and intelligent alternative to indoor lighting controls and provides individual and group controls through unlimited bidirectional communication. With the double-wire control line, DALI can control up to 64 lighting fixtures and up to 16 groups individually or through broadcast mode. The recommended communication distance is 300 m or less.

The GESS supports 1-10V interface.

The 1-10V interface offers better performance per price and controls a minimum of 1V to a maximum of 10V of brightness.

The GESS DMX-512 protocol.

This method can control up to 256 lights.

GESS™ SENSE

Sensor Lighting Control

Daylight sensor

An office or a workplace requires specific and uniform illumination. For energy savings, reduce the visual dissatisfaction experience by employee worker, and for efficiently maintained illumination, technology is required to detect light and thus automatically control the lighting fixtures. It is more effective to control lighting fixtures by setting and applying certain conditions to an illumination sensor rather than relocating the sensor or considering block condition upon the environmental conditions. **GESS** technology helps effective illumination control for the bay and Roadway Lighting.

Motion sensor (PIR Sensor)

Large buildings or workplaces can save a considerable amount of energy just by turning off the lighting when unnecessary so a sensor system is increasingly essential for energy conservation and environmental conservation. An motion sensor detects if someone is present in a certain room and automatically controls the brightness. **GESS** uses the PIR type for low ceilings (up to 5m) and a microwave type for high ceilings (up to 12m).

Integrated sensor control (Motion sensor + Daylight sensor)

The integrated sensor control are the best sensor control solutions to combining motion and daylight sensors for automatic control and to optimize the conservation of energy.



About GigaTera



Giga, stands for the frequency range in KMW's wireless telecommunications business,

Tera, stands for the frequency range in KMW's LED lighting business.

KMW's GigaTera pursues a unique and state-of-the-art IT converged lighting technology in intended for contributing to human society.

The most current version of this document will always be available at : www.gigateraled.com

GigaTera reserves the right to make changes without notice in order to supply the best product possible.

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Commercial
Special