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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 1,448,978,7 sq.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.
History

2015
• Established GigaTera Turkey

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 (Abu Dhabi, 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

2007
• Korea Technology Grand-prix award

2006
• Awarded industry package
  (Filed of information and communication & small and medium enterprises development explo)

2004
• Awarded the IRS2 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 headquarters office

1994
• Prize for the chief of industry development at the competitive exhibition of new products

1991
• Established (Korea Micro Wave)
Technology

1. Middle power LED and Reflector

- High Luminous Efficacy - More efficient than using lens diffusers
- Reflection ratio of 98% – Silver reflector
- Minimum glare and loss of luminance
- Middle Power Chip LED

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.52

<table>
<thead>
<tr>
<th>Wireless Control</th>
<th>Wired Control</th>
<th>Sensor Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZigBee, WiFi, LTE, W-CDMA</td>
<td>DALI, DMX-512, 1-10V</td>
<td>Occupancy Sensor, Daylight Sensor</td>
</tr>
</tbody>
</table>

3. Heat Dissipation Technology

- Maintain $\Delta T < 30^\circ C$ for all LED Products
- 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 ($\Delta T$) 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.

5. Cutting edge IT Convergence Technology

- Integration of information technologies with LED lighting technologies
- LED Lighting + WiFi + IP Camera for wireless security, please see p.10~12
- 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 (1440 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.
Vertical Integration

**Material**

- Die-Casting
- Machining
- Plating
- Painting
- Ceramic Fab.

**Final Product**

- SMD Line
- Sub-Assembly
- Unit-Assembly
- In-Line QA
- Warehouse

---

**One Roof Top System**

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

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**Reliability Test Facilities**

<table>
<thead>
<tr>
<th>Chamber</th>
<th>Drop Tester</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Chamber" /></td>
<td><img src="image2.png" alt="Drop Tester" /></td>
</tr>
<tr>
<td>Test Capacity</td>
<td>Test Capacity</td>
</tr>
<tr>
<td>-70°C ~ 150°C, RH 20% ~ 98%</td>
<td>Drop height: 30~120cm</td>
</tr>
<tr>
<td><strong>Constant Temp. &amp; Humid</strong></td>
<td><img src="image3.png" alt="Vibration Tester" /></td>
</tr>
<tr>
<td><img src="image4.png" alt="Constant Temp. &amp; Humid" /></td>
<td>Test Capacity</td>
</tr>
<tr>
<td>Test Capacity</td>
<td>3500Hz, 100G / 2inch, 2200lbs / half sine, smooth / sine, random, shock</td>
</tr>
<tr>
<td><strong>Thermal Shock Tester</strong></td>
<td><img src="image5.png" alt="Surge Tester" /></td>
</tr>
<tr>
<td><img src="image6.png" alt="Thermal Shock Tester" /></td>
<td>Test Capacity</td>
</tr>
<tr>
<td>Test Capacity</td>
<td>Open 1.2/50μs 20KV, Short 8/20μs 10KA</td>
</tr>
<tr>
<td><strong>Rain Tester</strong></td>
<td><img src="image7.png" alt="High Temperature Tester" /></td>
</tr>
<tr>
<td><img src="image8.png" alt="Rain Tester" /></td>
<td>Test Capacity</td>
</tr>
<tr>
<td>Test Capacity</td>
<td>RT~80°C</td>
</tr>
<tr>
<td><strong>Salt Spray Tester</strong></td>
<td><img src="image9.png" alt="Salt Spray Tester" /></td>
</tr>
<tr>
<td><img src="image10.png" alt="Salt Spray Tester" /></td>
<td>Test Capacity</td>
</tr>
<tr>
<td>Test Capacity</td>
<td>35°C &amp; NaCl 5%</td>
</tr>
</tbody>
</table>
Photometry Equipment

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

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)
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

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

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
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- 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

Test Results

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12) Luminous flux summary table
13) Zonal flux diagram
14) Lumen Pie Chart
15) Luminance Limiting Curve (glare rating)
No security blind spots
Prevention of crime and danger

- LED Lighting
- Real time video surveillance over smart devices
- IP Camera (2 Mega Pixel)
- Reduce operating costs via remote wireless network management and control

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPES70W</td>
<td>80W</td>
<td>100 lm/W</td>
<td>7,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>2.5 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100~277V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum
- Poly-carbonate (Clear)

Cover
- Mounting Option
- Mount Hole
- Light Distribution
- Horizontal Tenon Mount
- Ø2.4 in. (Ø60.5mm)
- Type V

Finish
- Powder Coating

Dimensions
- 24.6" (627mm)
- 4.1" (105mm)
- 3.4" (86mm)
- Ø2.4 in. (Ø60.5mm)

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
New standard for security equipment
- Real time video surveillance over smart devices
- Full HD(1920x1080p) video quality
- Adaptive area LED lighting
- Cost and energy savings achieved through the wireless network

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPES2-080-E</td>
<td>100W</td>
<td>95 lm/W</td>
<td>7,600 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>13 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td></td>
<td>(LED: 80W, AP/CAM: 20W)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100~277V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum
- Tempered Glass 3.2T (Clear)

Cover
- Powder Coating

Finish
- Horizontal Tenon Mount
- Ø2.4 in. (Ø60.5mm)
- Adaptive

Control System
- Sensor (Motion, Daylight)

Dimensions

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
IT Converged LED Lighting - Security

**SST** SPES-SETA

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 (employs a 10 times zoom optical lens)
- 3x3 MIMO 450 Mbps communication support and enhanced ad-hoc wireless coverage
- WiFi / LTE 4G support
- Built in micro SD card automatically saves video footage (*optional)

**Application**

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

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th><em>Luminous Efficacy</em></th>
<th><em>Luminous Flux</em></th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SST</td>
<td>120W</td>
<td>125 lm/W</td>
<td>12,500 lm</td>
<td>5000K</td>
<td>80</td>
<td>12 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C<del>60°C -22°F</del>140°F</td>
</tr>
</tbody>
</table>

* Luminous Efficacy: 125 lm/W * Luminous Flux: 12,500 lm * Color Temperature: 5000K * CRI: 80 * Weight: 12 kg * Life Time: 50,000hrs

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

**Mounting Option** Horizontal Tenon Mount  
**Mount Hole** Ø2.4 in. (Ø60.5mm)  
**Light Distribution** Type II-S  
**Control System** Wireless / Sensor (Motion, Daylight)

more details of GeSS on p.60

**Dimensions**

- 16.5" (421.5mm)
- 29.1" (740.2mm)
- 8.7" (221.5mm)

**Photometry**

Photometry graph showing CD: 0 - 900, 1,967, 2,850, 3,933, 4,917, 5,900.

[T 5000K / Type II-S]

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Roadway Lighting - Street Lighting

MEG MEGA

High Efficacy 120 lm/W
- Upgradable driver
- Excellent light distribution and uniformity
- Wireless lighting control
- Built-in 20kV surge protector (*Optional)

Application
Expressways, Highways, Streets

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>* Luminous Efficacy</th>
<th>* Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEG240</td>
<td>240W</td>
<td>120 lm/W</td>
<td>28,800 lm</td>
<td>5000K (3000K, 4000K available)</td>
<td>80 Ra</td>
<td>10.5 kg</td>
<td>50,000hrs</td>
<td>AC200~277V</td>
<td>-30°C<del>55°C / -22°F</del>131°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum
- Tempered Glass 4T (Clear)

Cover
- Powder Coating

Finish
- Powder Coating

Mounting Option
- Horizontal Tenon Mount Ø2.4 in. (Ø60.5mm)

Light Distribution
- Type III-S

Control System
- Wireless / Photo Sensor (NEMA)

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Unrivaled Efficacy 130 lm/W
- Silver reflection
- Vertical convection cooling (LED & Heat sink)
- Wireless lighting control
- Built-in 20kV surge protector
- Easy-to-install junction box

Application
Highways, Roadways, Streets

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>* Luminous Efficacy</th>
<th>* Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT100</td>
<td>100W</td>
<td></td>
<td>11,000 lm</td>
<td></td>
<td>80</td>
<td>80 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>MTL100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17.6 b</td>
<td></td>
<td></td>
<td>-22°F~140°F</td>
</tr>
<tr>
<td>MT130</td>
<td>130W</td>
<td></td>
<td>16,900 lm</td>
<td>5000K (4000K, 5700K available)</td>
<td>80 Ra</td>
<td>80 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>MTL130</td>
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<td></td>
<td></td>
<td></td>
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<td>17.6 b</td>
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<tr>
<td>MT150</td>
<td>150W</td>
<td></td>
<td>19,500 lm</td>
<td></td>
<td>80</td>
<td>80 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
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<tr>
<td>MTL150</td>
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<td>17.6 b</td>
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<td></td>
<td>-22°F~140°F</td>
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<tr>
<td>MT180</td>
<td>180W</td>
<td></td>
<td>23,400 lm</td>
<td></td>
<td>80</td>
<td>80 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
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<tr>
<td>MTL180</td>
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<td></td>
<td></td>
<td>17.6 b</td>
<td></td>
<td></td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body | Cover | Finish | Mounting Option | Mount Hole | Light Distribution | Control System | Option |
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>META</td>
<td>Cast Aluminum</td>
<td>Tempered Glass 4T (Clear)</td>
<td>Horizontal Tenon Mount</td>
<td>Ø2.38 in. (Ø60.5mm)</td>
<td>Type III-S</td>
<td>Wireless / Sensor (Daylight)</td>
<td>more details of GeSS on p.60</td>
</tr>
<tr>
<td>META LT</td>
<td></td>
<td>Powder Coating</td>
<td></td>
<td></td>
<td></td>
<td>Junction Box</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions

<table>
<thead>
<tr>
<th>• META</th>
<th>• META LT</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.9”(505mm)</td>
<td>26.6”(678mm)</td>
</tr>
<tr>
<td>18”/76.2mm</td>
<td></td>
</tr>
<tr>
<td>11.7”/297mm</td>
<td></td>
</tr>
</tbody>
</table>

Photometry

MT100 / 5000K / Type III-S
MT130 / 5000K / Type III-S
MT150 / 5000K / Type III-S
MT180 / 5000K / Type III-S

The above specifications were updated in October 2015 / The content may be subject to change without notice.
High Efficiency 125 lm/W
• Responsive to diverse settings from the linear tilting structure (Upwards: 20°, Downwards: 40°)
• Silver reflection
• Wireless lighting control
• Built-in 20kV surge protector

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SET060</td>
<td>60W</td>
<td>120 lm/W</td>
<td>7,200 lm</td>
<td></td>
<td></td>
<td>45 kg / 9.9 lb</td>
<td>5.5 kg / 12.2 lb</td>
<td>AC100~277V</td>
<td>-30°C<del>60°C -22°F</del>140°F</td>
</tr>
<tr>
<td>STL060</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SET080</td>
<td>80W</td>
<td>125 lm/W</td>
<td>10,000 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>45 kg / 9.9 lb</td>
<td>5.5 kg / 12.2 lb</td>
<td>50,000hrs</td>
<td></td>
</tr>
<tr>
<td>STL080</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SET100</td>
<td>100W</td>
<td>125 lm/W</td>
<td>12,500 lm</td>
<td></td>
<td></td>
<td>45 kg / 9.9 lb</td>
<td>5.5 kg / 12.2 lb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STL100</td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Body
• Cast Aluminum

Cover
• Tempered Glass 4T (Clear)

Finish
• Powder Coating

Mounting Option
• Horizontal Tilted Tenon Mount

Light Distribution
• Type II-S

Control System
• Wireless / Sensor (Daylight)

Dimensions

- SETA
- SETA LT

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

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

Specification

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>JET020</td>
<td>20W</td>
<td>95 lm/W</td>
<td>1,900 lm</td>
<td>5000K (5000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>2.3 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C, -22°F</del>140°F</td>
</tr>
<tr>
<td>JET030</td>
<td>30W</td>
<td>95 lm/W</td>
<td>2,850 lm</td>
<td>5000K (5000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.1 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C, -22°F</del>140°F</td>
</tr>
<tr>
<td>JET040</td>
<td>40W</td>
<td>95 lm/W</td>
<td>3,800 lm</td>
<td>5000K (5000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>4.1 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C, -22°F</del>140°F</td>
</tr>
<tr>
<td>JET050</td>
<td>50W</td>
<td>95 lm/W</td>
<td>4,750 lm</td>
<td>5000K (5000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>5.1 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C, -22°F</del>140°F</td>
</tr>
</tbody>
</table>

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
Mount Hole: Ø1.57 in.(Ø40mm), Ø2.38 in.(Ø60.5mm)
Control System: Sensor (Daylight)

Dimensions

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Security light to guard pedestrians during night

- Convenient light is offered in footpath of small road, residential area, and park
- Light weight of 6.0 lb (Driver integrated)
- Alternative to 100W or 150W metal light

Application
Roadway, Walkway, Parks, Industry complexes, Parking lots

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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<tbody>
<tr>
<td>SL050</td>
<td>50W</td>
<td>100 lm/W</td>
<td>5,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>2.7 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>SL070</td>
<td>70W</td>
<td>100 lm/W</td>
<td>7,000 lm</td>
<td>5000K (3000K, 4000K available)</td>
<td>80 Ra</td>
<td>6.0 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body: Cast Aluminum  
Cover: Poly Carbonate 2T (Clear)  
Finish: Powder Coating  
Mounting Option: Horizontal Tenon Mount  
Mount Hole: Ø1.69 in. (Ø42.8mm)  
Light Distribution: Type V

Dimensions

2.8” (70mm)  
24.7” (627mm)

Photometry
Brighter alley and less dazzling
- Solution for easy night activities and sleep disturbance
- High-efficiency product equipped with silver-nano reflector
- Long life cycle with vertical thermal fin structure

Application
School zones, Parking lots, Hospital parks, Residential

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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</thead>
<tbody>
<tr>
<td>JN009</td>
<td>9W</td>
<td>90 lm/W</td>
<td>810 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>1.7 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C / -22°F</del>140°F</td>
</tr>
<tr>
<td>JN018</td>
<td>18W</td>
<td>90 lm/W</td>
<td>1,620 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>3.8 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C / -22°F</del>140°F</td>
</tr>
</tbody>
</table>

* Tolerance : ± 5%

Body
- Cast Aluminum
- Polycarbonate 2T (Clear)

Cover
- Powder Coating

Finish
- Mounting Option
- Pole to SUS Band
- Ø2.38 in. (Ø60.5mm)
- Type III-S

Control System
- Sensor (Daylight)
- more details of GeSS on p.60

Dimensions

Photometry

[ JN009 / 5000K / Type III-S ]

[ JN018 / 5000K / Type III-S ]
LED Bay Lighting

**ACN ACORN**

**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**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACN180</td>
<td>180W</td>
<td>104 m/W</td>
<td>18,720 lm</td>
<td>4000K (3000K, 5000K available)</td>
<td>80 Ra</td>
<td>18 kg / 22 lb</td>
<td>50,000hrs</td>
<td>AC100<del>240V / AC100</del>277V</td>
<td>-30°C<del>50°C / -22°F</del>122°F</td>
</tr>
</tbody>
</table>

* Tolerance : ± 5%

**Body**
- Cast Aluminum
**Cover**
- Polycarbonate 3T (Diffuser)

**Mounting Option**
- Ceiling Bracket (Pipe & Chain)
**Light Distribution**
- 180° / Uplighting 26%
**Control System**
- Wireless
  more details of GeSS on p.60

**Photometry**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Photometry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pipe Type</td>
<td></td>
</tr>
<tr>
<td>• Chain Type</td>
<td></td>
</tr>
</tbody>
</table>

![Photometry Diagram](image)

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Bay Lighting

Unrivalled Efficacy 130 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)

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE080</td>
<td>80W</td>
<td>130 lm/W</td>
<td>10,400 lm</td>
<td>5000K (4000K, 5700K, 6500K available)</td>
<td>80 Ra</td>
<td>4.4 kg / 9.7 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~66°F</td>
</tr>
<tr>
<td>SE100</td>
<td>100W</td>
<td>130 lm/W</td>
<td>13,000 lm</td>
<td>5000K (4000K, 5700K, 6500K available)</td>
<td>80 Ra</td>
<td>6.0 kg / 13.2 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
<tr>
<td>SE130</td>
<td>130W</td>
<td>130 lm/W</td>
<td>16,900 lm</td>
<td>5000K (4000K, 5700K, 6500K available)</td>
<td>80 Ra</td>
<td>6.0 kg / 13.2 lb</td>
<td>50,000hrs</td>
<td>AC347~480V</td>
<td>-30°C~66°F</td>
</tr>
<tr>
<td>SE160</td>
<td>160W</td>
<td>130 lm/W</td>
<td>20,800 lm</td>
<td>5000K (4000K, 5700K, 6500K available)</td>
<td>80 Ra</td>
<td>6.0 kg / 13.2 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body: Cast Aluminum  
Cover: Polycarbonate  
Finish: Tempered Glass 3.2T (Clear / Frosted)  
Mounting Option: Ceiling Bracket (Pipe & Chain)  
Light Distribution:  
Control System: Wireless / Sensor (Daylight) / Wired (1-10V, DALI / Not applicable to VDE) 

Dimensions
- SE080 / SE100
- SE130 / SE160

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Bay Lighting

SEH SEGA-High Power

500W High Output High Bay Lighting
- Efficacy of 125 lm/W
- Maximized heat dissipation via unique vertical cooling structure
- Wired lighting control

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEH350</td>
<td>350W</td>
<td>Clear type 125 lm/W</td>
<td>43,750 lm</td>
<td>5000K (4000K available)</td>
<td>80 Ra</td>
<td>20 kg</td>
<td>50,000hrs</td>
<td>AC200~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>SEH500</td>
<td>500W</td>
<td>Clear type 125 lm/W</td>
<td>62,500 lm</td>
<td>5000K (4000K available)</td>
<td>80 Ra</td>
<td>32 kg</td>
<td>50,000hrs</td>
<td>AC347~480V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum
- Tempered Glass 4T (Clear / Frosted)
- Powder Coating

Cover
- Tempered Glass 4T (Clear / Frosted)

Finish
- Powder Coating

Mounting Option
- Ceiling Bracket (Pipe & Chain)
- 70°
- Wireless / Wired (1-10V)

Light Distribution
- 4T H
- 60°

Control System
- 4T H
- 60°

Dimensions

Photometry

350W / 70° / Frosted type

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LED Bay Lighting

IBL Indirect Bay Lighting

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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</thead>
<tbody>
<tr>
<td>IBL130</td>
<td>130W</td>
<td>105 lm/W</td>
<td>13,650 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>6.9 kg / 15.2 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-10°C<del>55°C / 14°F</del>131°F</td>
</tr>
<tr>
<td>IBL170</td>
<td>170W</td>
<td>100 lm/W</td>
<td>17,000 lm</td>
<td>80 Ra</td>
<td>6.9 kg / 15.2 lb</td>
<td>8.2 kg / 18.1 lb</td>
<td></td>
<td>AC100~240V</td>
<td>-10°C<del>50°C / 14°F</del>122°F</td>
</tr>
<tr>
<td>IBL200</td>
<td>200W</td>
<td>105 lm/W</td>
<td>21,000 lm</td>
<td>80 Ra</td>
<td>9.8 kg / 21.6 lb</td>
<td>16.6 kg / 36.6 lb</td>
<td></td>
<td>AC100~277V</td>
<td>-10°C<del>55°C / 14°F</del>131°F</td>
</tr>
<tr>
<td>IBL400</td>
<td>400W</td>
<td>105 lm/W</td>
<td>42,000 lm</td>
<td>80 Ra</td>
<td>16.6 kg / 36.6 lb</td>
<td>52,500 lm</td>
<td></td>
<td>AC100~277V</td>
<td>-10°C<del>50°C / 14°F</del>122°F</td>
</tr>
<tr>
<td>IBL500</td>
<td>500W</td>
<td>105 lm/W</td>
<td>52,500 lm</td>
<td>80 Ra</td>
<td>20.0 kg / 44.1 lb</td>
<td></td>
<td></td>
<td>AC147~480V</td>
<td>-10°C<del>50°C / 14°F</del>122°F</td>
</tr>
</tbody>
</table>

Body | Extruded Aluminum
Cover | Polycarbonate (Clear)
Finish | Anodized
Mounting Option | Wire Pendant
80° / 130°
Light Distribution | Wireless / Sensor (Occupancy, Daylight) / Wired (1-10V, DMX512)
Control System | more details of GeSS on p.60

The above specifications were updated in October 2015 / The content may be subject to change without notice.
The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Bay Lighting

NA

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA65</td>
<td>65W</td>
<td>105 lm/W</td>
<td>6,825 lm</td>
<td>5000K (4000K, 5700K available)</td>
<td>80 Ra</td>
<td>4.3 kg / 9.47 lb</td>
<td>5,000hrs</td>
<td>AC100~277V</td>
<td>-20°C<del>50°C, -4°F</del>122°F</td>
</tr>
<tr>
<td>NA80</td>
<td>80W</td>
<td></td>
<td>8,400 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>4.8 kg / 10.5 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-20°C<del>50°C, -4°F</del>122°F</td>
</tr>
<tr>
<td>NA100</td>
<td>100W</td>
<td></td>
<td>10,500 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>4.8 kg / 10.5 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-20°C<del>50°C, -4°F</del>122°F</td>
</tr>
<tr>
<td>NA600</td>
<td>600W</td>
<td></td>
<td>63,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>30 kg / 66.1 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body: Extruded Aluminum  
Cover: Polycarbonate (Clear)  
Finish: Anodized  
Mounting Option: Surface Mount  
Light Distribution: 90°  
Control System: Wireless (only NA600)

Dimensions

- NA65
  - 47.2" (1200mm)
  - 6.7" (170mm)

- NA80
  - 59.1" (1500mm)
  - 6.7" (170mm)

- NA100
  - 59.1" (1500mm)
  - 6.7" (170mm)

- NA600
  - 59.1" (1500mm)
  - 6.7" (170mm)

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Bay Lighting

**SORA**

**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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>* Luminous Efficacy</th>
<th>* Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR40</td>
<td>40W</td>
<td>100 lm/W</td>
<td>4,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>2.25 kg / 5.0 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-20°C~50°C</td>
</tr>
<tr>
<td>SR60</td>
<td>60W</td>
<td></td>
<td>6,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>3.0 kg / 6.6 lb</td>
<td></td>
<td>AC100~240V</td>
<td>-4°F~122°F</td>
</tr>
</tbody>
</table>

**Body Cover**
- Extruded Aluminum 1.2T
- Polycarbonate 1.2T (Diffuser)

**Mounting Option**
- Surface mount

**Light Distribution**
- 110°

**Control System**
- Sensor (Occupancy, Daylight)

* Tolerance : ± 5%

**Dimensions**

[Diagram of dimensions]

**Photometry**

[Graphs showing photometry]

The above specifications were updated in October 2015 | The content may be subject to change without notice.
LED Bay Lighting

ZAR ZARA

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>*Luminous Efficacy</th>
<th>*Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZAR040</td>
<td>40W</td>
<td>100 lm/W</td>
<td>4,000 lm</td>
<td>5000K</td>
<td>80</td>
<td>3.4 kg / 7.5 lb</td>
<td>30,000 hrs</td>
<td>AC100~277V</td>
<td>-20°C~50°C</td>
</tr>
<tr>
<td>ZAR060</td>
<td>60W</td>
<td>100 lm/W</td>
<td>6,000 lm</td>
<td>5000K</td>
<td>80</td>
<td>3.8 kg / 8.3 lb</td>
<td>50,000 hrs</td>
<td>AC220~240V</td>
<td>-4°F~122°F</td>
</tr>
</tbody>
</table>

Body
- Cover: Aluminum 1.2T, Polycarbonate 1.2T (Diffuser)
- Mounting Option: Surface Mount, 110°, Sensor (Occupancy), more details of GeSS on p.60

Dimensions
- ZAR40: 8.7” x 3.2” x 0.7”
- ZAR60: 8.7” x 3.2” x 0.9”

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Optimal LED lighting for an eco-friendly industrial workplace

- Amazing efficiency of 125 lm/W
- Light weight with 8.2 lb
- Light weight for easy installation
- Maximized heat dissipation via unique vertical cooling structure

Application
Factories, Superstores, Warehouses

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFL070</td>
<td>70W</td>
<td>125 lm/W</td>
<td>8,750 lm</td>
<td>5700K (3000K, 4000K, 5000K available)</td>
<td>80 Ra</td>
<td>3.7 kg / 8.2 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>60°C (-22°F</del>140°F)</td>
</tr>
<tr>
<td>EFL080</td>
<td>80W</td>
<td>130 lm/W</td>
<td>10,400 lm</td>
<td>5700K (3000K, 4000K, 5000K available)</td>
<td>80 Ra</td>
<td>4.9 kg / 10.8 lb</td>
<td></td>
<td>AC100~277V</td>
<td></td>
</tr>
<tr>
<td>EFL100</td>
<td>100W</td>
<td>125 lm/W</td>
<td>12,500 lm</td>
<td>5700K (3000K, 4000K, 5000K available)</td>
<td>80 Ra</td>
<td>4.9 kg / 10.8 lb</td>
<td></td>
<td>AC100~240V</td>
<td></td>
</tr>
<tr>
<td>EFL130</td>
<td>130W</td>
<td>130 lm/W</td>
<td>16,900 lm</td>
<td>5700K (3000K, 4000K, 5000K available)</td>
<td>80 Ra</td>
<td>4.9 kg / 10.8 lb</td>
<td></td>
<td>AC100~277V</td>
<td></td>
</tr>
</tbody>
</table>

Body: Cast Aluminum  
Cover: Polycarbonate 3T (Diffuser)  
Finish: Anodized  
Mounting Option: Ceiling Bracket (Pipe & Chain)  
Light Distribution: 80°/120°

Dimensions

- EFL070
- EFL080/EFL100/EFL130

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIF030</td>
<td>30W</td>
<td>95 lm/W</td>
<td>2,850 lm</td>
<td>5000K (3000K, 4000K available)</td>
<td>70 Ra</td>
<td>1.5 kg / 3.3 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~50°C</td>
</tr>
<tr>
<td>BIF050</td>
<td>50W</td>
<td>95 lm/W</td>
<td>4,750 lm</td>
<td>5,250 lm</td>
<td>70 Ra</td>
<td>2.2 kg / 4.9 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~50°C</td>
</tr>
<tr>
<td>BIF100</td>
<td>100W</td>
<td>95 lm/W</td>
<td>9,000 lm</td>
<td>10,500 lm</td>
<td>70 Ra</td>
<td>3.5 kg / 7.7 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C~50°C</td>
</tr>
</tbody>
</table>

Body: Cast Aluminium  
Cover: Polycarbonate 3T (Clear)  
Finish: Powder Coating  
Mounting Option: Swivel Bracket  
Light Distribution: Asymmetric Wide

**Dimensions**

- **BIF030**  
  5' (152mm)  
- **BIF050**  
  7.14' (181.5mm)  
- **BIF100**  
  9.7' (247mm)

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - Area Flood Lighting

Tailor-Made

Tailor Made Lighting Design
- Tiltable and rotatable LED module
- Dimmable
- Flexible light distribution to the desired area
- Cost savings in installation and maintenance

Application
Parking lots, Wall Packs, Roadways, Billboards

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM040</td>
<td>40W</td>
<td>91 lm/W</td>
<td>3,640 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM060</td>
<td>60W</td>
<td>91 lm/W</td>
<td>5,460 lm</td>
<td>5000K (3000K-4000K)</td>
<td>80 Ra</td>
<td>4.2 kg / 9.25 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>TM080</td>
<td>80W</td>
<td>92 lm/W</td>
<td>7,360 lm</td>
<td>6500K available</td>
<td></td>
<td>6.0 kg / 13.2 lb</td>
<td></td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
<tr>
<td>TM100</td>
<td>100W</td>
<td>94 lm/W</td>
<td>9,400 lm</td>
<td></td>
<td>80 Ra</td>
<td>6.5 kg / 14.3 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TM120</td>
<td>120W</td>
<td>95 lm/W</td>
<td>11,400 lm</td>
<td></td>
<td></td>
<td>9.5 kg / 20.9 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum

Cover
- Tempered Glass 3T (Clear)

Finish
- Powder Coating

Mounting Option
- Swivel Bracket / Surface Mount

Light Distribution
- 30° (Straight Position)

Control System
- Wired (1-10V)

Photometry

Dimensions

- **TM060**
  - 16.8"(426.2mm)
  - 4.5"(113.8mm)

- **TM120**
  - 37"(939.2mm)
  - 4.5"(113.8mm)

The above specifications were updated in October 2015 / The content may be subject to change without notice.
The above specifications were updated in October 2015 / The content may be subject to change without notice.

**LED Flood Lighting - Area Flood Lighting**

**MAN MAHA-NEO**

Certification under progress

---

**Unrivaled Efficacy 130 lm/W**
- Replacement for 1500W HID Flood light
- Outstanding cooling technology and durability
- 1.5kW HPS alternative lighting
- Separate driver compartment allows for easy maintenance and serviceability (*optional*)

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

---

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN600</td>
<td>600W</td>
<td>130 lm/W</td>
<td>78,000 lm</td>
<td>5000K (3000K, 4000K available)</td>
<td>80 Ra</td>
<td>27 kg / 59.5 lb</td>
<td>50,000 hrs</td>
<td>AC200–277V</td>
<td>-20°C<del>55°C -22°F</del>131°F</td>
</tr>
</tbody>
</table>

Body | Cast Aluminum  
Cover | Tempered Glass 41 (Clear)  
Finish | Powder Coating  
Mounting Option | Swivel Bracket  
Light Distribution | Asymmetric Wide  
Control System | Wireless / Wired (RS-485)  
more details of GeSS on p.60

---

**Dimensions**

- Width: 24.7" (629mm)
- Height: 7.6" (193.5mm)

---

**Photometry**

- Luminous Flux: 78,000 lm
- Color Temperature: 5000K
- CRI: 80 Ra
- Weight: 27 kg / 59.5 lb
- Life Time: 50,000 hrs
- Input Voltage: AC200–277V
- Operation Temperature: -20°C~55°C -22°F~131°F

---

The above specifications were updated in October 2015 / 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 130 lm/W luminous efficiency

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA200</td>
<td>200W</td>
<td>130 lm/W</td>
<td>26,000 lm</td>
<td>5000K</td>
<td>80</td>
<td>10 kg</td>
<td>50,000hrs</td>
<td>AC100–277V</td>
<td>-30°C–55°C / -22°F–131°F</td>
</tr>
<tr>
<td>MA300</td>
<td>300W</td>
<td>130 lm/W</td>
<td>39,000 lm</td>
<td>(3000K, 4000K available)</td>
<td>80</td>
<td>15 kg</td>
<td>50,000hrs</td>
<td>AC100–277V</td>
<td>-30°C–55°C / -22°F–131°F</td>
</tr>
<tr>
<td>MA400</td>
<td>400W</td>
<td>130 lm/W</td>
<td>52,000 lm</td>
<td>5000K</td>
<td>80</td>
<td>20 kg</td>
<td>50,000hrs</td>
<td>AC347–480V</td>
<td>-30°C–53°C / -22°F–127°F</td>
</tr>
</tbody>
</table>

Body: Cast Aluminum
Cover: Tempered Glass 4T (Clear)
Finish: Powder Coating
Mounting Option: Swivel Bracket / Pole Mount / Mount Bracket
Light Distribution: Asymmetric Wide
Control System: Wireless / Wired (RS-485)

Dimensions

- **MA200**
  - 110° Tilt: 14.1” (357mm)
  - 70° Tilt: 6.3” (160.5mm)

- **MA300**
  - 110° Tilt: 18.7” (475mm)
  - 70° Tilt: 6.3” (160.5mm)

- **MA400**
  - 110° Tilt: 22.7” (576.5mm)
  - 70° Tilt: 8.5” (215.5mm)

Photometry

- **MA200 / 5000K**
- **MA300 / 5000K**
- **MA400 / 5000K**

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - Area Flood Lighting

WP WAPA

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP050</td>
<td>50W</td>
<td></td>
<td>6,250 lm</td>
<td>5000K (3500K, 4000K available)</td>
<td>80 Ra</td>
<td>3.2 kg / 7.1 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>WP075</td>
<td>75W</td>
<td></td>
<td>9,375 lm</td>
<td>6500K available</td>
<td>42 kg / 9.3 lb</td>
<td>4.2 kg / 7.3 lb</td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
<td></td>
</tr>
<tr>
<td>WP100</td>
<td>100W</td>
<td></td>
<td>12,500 lm</td>
<td></td>
<td>4.2 kg / 7.3 lb</td>
<td>4.2 kg / 7.3 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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)
more details of GeSS on p.60

Dimensions

- WP050

- WP075/100

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - Area Flood Lighting

SFG SUFA-G

Certification under progress

Built-in 20kV Surge Protector
- Driver and LED module exchange type
- Tiltable and rotatable LED module
- Excellent cooling structure

Application
Tree lightings, Flag lightings

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFG050</td>
<td>50W</td>
<td>105 lm/W</td>
<td>5,000 lm</td>
<td>5000K</td>
<td>70 Ra</td>
<td>5.5 Kg</td>
<td>50,000hrs</td>
<td>AC100–277V</td>
<td>-30°C～55°C</td>
</tr>
<tr>
<td>SFG080</td>
<td>80W</td>
<td></td>
<td>8,400 lm</td>
<td>5000K, 4000K</td>
<td>70 Ra</td>
<td>12.1 lb</td>
<td></td>
<td>AC100–240V</td>
<td>-22°F～131°F</td>
</tr>
<tr>
<td>SFG100</td>
<td>100W</td>
<td></td>
<td>10,500 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body: Cast Aluminum
Cover: Polycarbonate (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.52

Dimensions

6.3” (160mm) x 6.3” (160mm)

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Less Glare Through Multiple Narrow Beam
- Ultimate 1 to 1 replacement for 2kW HID (SF800W)
- Excellent cooling structure
- High efficient light

Application
Sport Stadiums, Indoor Venues, Ports

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF200</td>
<td>200W</td>
<td>105 lm/W</td>
<td>21,000 lm</td>
<td>5000K</td>
<td>80</td>
<td>8 kg / 17.6 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C<del>60°C/-22°F</del>140°F</td>
</tr>
<tr>
<td>SF400</td>
<td>400W</td>
<td>105 lm/W</td>
<td>42,000 lm</td>
<td>(3000K, 4000K)</td>
<td>80</td>
<td>14.5 kg / 31.9 lb</td>
<td></td>
<td>AC100~240V</td>
<td>-30°C<del>55°C/-22°F</del>131°F</td>
</tr>
<tr>
<td>SF800</td>
<td>800W</td>
<td>105 lm/W</td>
<td>84,000 lm</td>
<td>3000K, 4000K</td>
<td>80</td>
<td>25 kg / 55.1 lb</td>
<td></td>
<td>AC347~480V</td>
<td>-30°C<del>50°C/-22°F</del>122°F</td>
</tr>
</tbody>
</table>

Body | Cover | Finish | Installation Type | Light Distribution | Control System |
---|-------|--------|-------------------|--------------------|----------------|
| Cast Aluminum | Tempered Glass 3.2T (Clear) | Powder Coating | SF200: Pole Mount / 2.38 in (60.5mm) | SF400, SF800: Mount Bracket | 15° / 20° / 30° / 45° |
| Wireless / Wired (RS-485) | more details of GeSS on p.60 |

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - Sports Flood Lighting

**SUFA SF**

### Dimensions

- **SF200**
  - 12.6"(320mm)
  - 8.4"(213.3mm)

- **SF400**
  - 12.6"(320mm)
  - 11.5"(292mm)

- **SF800**
  - 25.2"(640mm)
  - 11.5"(292mm)

### Photometry

- **SF200 / 5000K / 15°**
  - [Graph Image]
- **SF400 / 5000K / 15°**
  - [Graph Image]
- **SF800 / 5000K / 15°**
  - [Graph Image]

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Slimmed-down and amazing cooling structure
- Stable cooling structure that points the heat release
- Comes in diverse angles of 15, 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**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFX400</td>
<td>400W</td>
<td>105 lm/W</td>
<td>42,000 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>16.6 kg / 36.6 lb</td>
<td>50,000hrs</td>
<td>AC200~277V</td>
<td>-30°C<del>60°C (-22°F</del>140°F)</td>
</tr>
<tr>
<td>SFX500</td>
<td>500W</td>
<td>105 lm/W</td>
<td>52,500 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>32 kg / 70.6 lb</td>
<td>70 Ra</td>
<td>AC347~480V</td>
<td></td>
</tr>
<tr>
<td>SFX600</td>
<td>600W</td>
<td>105 lm/W</td>
<td>63,000 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>70 Ra</td>
<td>-40°C<del>60°C (-40°F</del>140°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFX800</td>
<td>800W</td>
<td>105 lm/W</td>
<td>44,000 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>70 Ra</td>
<td>-40°C<del>60°C (-40°F</del>140°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFX1K0</td>
<td>1000W</td>
<td>105 lm/W</td>
<td>105,000 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>70 Ra</td>
<td>50,000hrs</td>
<td>AC200~277V</td>
<td>-30°C<del>60°C (-22°F</del>140°F)</td>
</tr>
<tr>
<td>SFX1K2</td>
<td>1200W</td>
<td>105 lm/W</td>
<td>126,000 lm</td>
<td>5000K (5000K, 4000K, 3000K available)</td>
<td>80 Ra</td>
<td>70 Ra</td>
<td>50,000hrs</td>
<td>AC200~277V</td>
<td>-30°C<del>60°C (-22°F</del>140°F)</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum
- Tempered lass 3.2T (Clear)

Cover
- Powder Coating

Finish
- Swivel Bracket
- 15° / 20° / 30° / 45°
- Wireless / Wired (RS-485)

More details of GeSS on p.60

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Dimensions

- SFX400/SFX500/SFX600
  - 12.7" (323mm)
  - 16.2" (412mm)
- SFX800/SFX1K0/SFX1K2
  - 12.7" (323mm)
  - 16.8" (426mm)

Photometry

[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 October 2015. The content may be subject to change without notice.
LED Flood Lighting - Sports Flood Lighting

SFA SUFA-A

Certification under progress

Slimmed-down and amazing cooling structure

- Tiltable and rotatable for easy aiming
- External separate driver
- Stable cooling structure that points the heat release
- Linkage with wired, wireless control systems

Application
Sports stadiums, Indoor Venues, Ports

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SFA1K0</td>
<td>1000W</td>
<td>105 lm/W</td>
<td>105,000 lm</td>
<td>5000K (3000K-4000K available)</td>
<td>80 Ra</td>
<td>18 kg / 39.7lb</td>
<td>50,000hrs</td>
<td>AC200-240V</td>
<td>-30°C<del>55°C / -22°F</del>131°F</td>
</tr>
<tr>
<td>SFA1K2</td>
<td>1200W</td>
<td>100 lm/W</td>
<td>120,000 lm</td>
<td>5700K available</td>
<td>70 Ra</td>
<td>21 kg / 46.3lb</td>
<td>80 Ra</td>
<td>AC200-277V</td>
<td>-22°F~131°F</td>
</tr>
</tbody>
</table>

Body | Cast Aluminum
Cover | Tempered Glass 3.2T (Clear)
Finish | Powder Coating
Mounting Option | Wall Mount
Light Distribution | 15° / 20° / 30° / 45°
Control System | Wireless / Wired (RS-485)

Dimensions

- SFA1K0
  - 14.3" (363mm)
  - 23.5" (595.5mm)

- POWER BOX
  - 4.8" (121.5mm)
  - 23.4" (594mm)

Photometry

- Photometric ies data varies depending on the conditions of the environment of installation site.

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - façade Lighting

MH RGB MAHA-RGB

Automatic RGB Color Conversion
- Efficient lighting controls through a lighting control system
- Excellent Cooling Structure
- Diverse Mounting Options

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>* Luminous Efficacy</th>
<th>* Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA070-RGB</td>
<td>70W</td>
<td>—</td>
<td>—</td>
<td>Full Color</td>
<td>80 Ra</td>
<td>10kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~55°C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body</th>
<th>Cover</th>
<th>Finish</th>
<th>Mounting Option</th>
<th>Light Distribution</th>
<th>Control System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast Aluminum</td>
<td>Tempered Glass 4T (Clear)</td>
<td>Powder Coating</td>
<td>Swivel Bracket / Pole Mount / Mount Bracket</td>
<td>Asymmetric Wide</td>
<td>Wireless / Wired (RS-485)</td>
</tr>
</tbody>
</table>

Dimensions

- 14.1” (357mm)
- 6.3” (160.5mm)
- 2.1” (55.5mm)

* Tolerance : ± 5%

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Flood Lighting - façade Lighting

SF Green  SUFA-Green

Certification under progress

Sports Event Lighting with music synchronized

- Optimized Control Solutions with easy GUI-based program

Application

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF200-RGB</td>
<td>200W</td>
<td>—</td>
<td>—</td>
<td>Green Color</td>
<td>80</td>
<td>8 kg / 17.6 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C<del>60°C/-22°F</del>140°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum

Cover
- Tempered Glass 3.2T (Clear)

Finish
- Powder Coating

Installation Type
- Pole Mount / 2.38 in. (Ø60.5mm)

Light Distribution
- 15° / 20° / 30° / 45°

Control System
- Wireless / Wired (RS-485)

*Tolerance : ± 5%

Dimensions

12.6” (320mm)

8.4” (213.3mm)

17.4” (443.5mm)

205° / 315° / 425° / 535°

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Highlighting the symbol of the place through inspiring night views
- Optimized central control lighting solution

**Application**
Wall Packs, Billboards, Roadways, Parking lots

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>WP100-RGB</td>
<td>100W</td>
<td>50 lm/W</td>
<td>5,000 lm</td>
<td>Green Color</td>
<td>80 Ra</td>
<td>4.2 kg / 9.3 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C<del>60°C / -22°F</del>140°F</td>
</tr>
</tbody>
</table>

Body
- Cast Aluminum

Cover
- Tempered Glass 3.2T (Clear)

Finish
- Powder Coating

Mounting Option
- Wall Mount, Mount Bracket, Pole Mount
- Asymmetric Wide
- Wireless / Sensor (Daylight)

Light Distribution
- Control System

Control System
- more details of GeSS on p.60

* Tolerance : ± 5%

**Dimensions**
- 21.73" (552mm)
- 10.4" (264mm)
- 5.5" (140mm)

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Area Lighting

GIW GIWA

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIW100</td>
<td>100W</td>
<td>90 lm/W</td>
<td>9,000 lm</td>
<td>3000K</td>
<td>80 Ra</td>
<td>12 kg / 26.4lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>GIWA</td>
<td>100W</td>
<td>90 lm/W</td>
<td>9,000 lm</td>
<td>3000K</td>
<td>80 Ra</td>
<td>12 kg / 26.4lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
</tbody>
</table>

Body | Cast Aluminum
Cover | polycarbonate 3T (Diffuser)
Finish | Powder Coating
Mounting Option | Pole Mount
Mount Hole | Ø3.5 in. (Ø89.1mm)
Light Distribution | 160°

Dimensions

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>NM040</td>
<td>40W</td>
<td>120 lm/W</td>
<td>4,800 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>7.3 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td>NM050</td>
<td>50W</td>
<td>95 lm/W</td>
<td>4,750 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>9.5 kg</td>
<td></td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
<tr>
<td>NM070</td>
<td>70W</td>
<td>95 lm/W</td>
<td>6,650 lm</td>
<td>5000K (4000K, 5700K available)</td>
<td>80 Ra</td>
<td>12.350 kg</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>NM100</td>
<td>100W</td>
<td>95 lm/W</td>
<td>9,500 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>12.350 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NM130</td>
<td>130W</td>
<td>95 lm/W</td>
<td>12,350 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>12.350 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body | Cast Aluminum
Cover | polycarbonate 3T (Diffuser)
Finish | Powder Coating
Mounting Option | Pole Mount
Mount Hole | Ø2.88 inch (Ø73.1mm)
Light Distribution | NM040: 100° / NM050~NM130: 150°

Dimensions

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
Distinguished landscape light combining Beauty and Technology

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

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG130</td>
<td>130W</td>
<td>Min. 90 lm/W</td>
<td>Min. 7,650 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>6 kg</td>
<td>50,000hrs</td>
<td>AC100–277V</td>
<td>-30°C–60°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(White)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100–240V</td>
<td>-22°F–140°F</td>
</tr>
<tr>
<td></td>
<td>White-85W</td>
<td></td>
<td>RGB-45W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- During color conversion, actual power consumption is unchanged at 100 – 120W

Body
- Cast Aluminum
- Polyethylene (Clear)
- Powder Coating

Cover
- Horizontal Tenon Mount
- Mount Hole
- Light Distribution
- Type IV-S

Dimensions

- 37.3” (948mm)
- 20.5” (521mm)
- 16.6” (421mm)

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>EG150</td>
<td>150W</td>
<td>75 lm/W</td>
<td>8,250 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>17 kg</td>
<td>50,000hrs</td>
<td>AC100–277V</td>
<td>-30°C–60°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(White)</td>
<td>(White)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-22°F–140°F</td>
</tr>
</tbody>
</table>

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

Mounting Option | Post Top
Mount Hole | Ø3.5 in. (Ø89.1mm)
Light Distribution | Type IV-S

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF110</td>
<td>110W</td>
<td>Min. 90 lm/W</td>
<td>Min. 6,660 lm</td>
<td>5000K</td>
<td>80</td>
<td>5 kg</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-30°C~60°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(White)</td>
<td>(White)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100~240V</td>
<td>-22°F~140°F</td>
</tr>
<tr>
<td></td>
<td>White-74W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>RGB-36W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Body</th>
<th>Cover</th>
<th>Finish</th>
<th>Mounting Option</th>
<th>Mount Hole</th>
<th>Light Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast Aluminum</td>
<td>Polycarbonate (Clear)</td>
<td>Powder Coating</td>
<td>Horizontal Tenon Mount</td>
<td>Ø1.9 in. (Ø48.6mm)</td>
<td>Type IV-S</td>
</tr>
</tbody>
</table>

Photometry
LED Commercial Lighting - Linear Fluorescent Tube Lighting

LTB L-Tube

Affordable LED tube
- Non-flicker
- Glare-free and optimal uniformity
- Light weight (160g)
- Non-metallic heat sink
- Built-in Driver, external driver (*Optional)

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTB016</td>
<td>16W</td>
<td>130 lm/W</td>
<td>2,080 lm</td>
<td>5700K (3000K, 4000K 5000K, 6500K available)</td>
<td>80 Ra</td>
<td>0.19 kg / 0.42 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-10°C~40°C</td>
</tr>
<tr>
<td>LTB016</td>
<td>16W</td>
<td>140 lm/W</td>
<td>2,240 lm</td>
<td>80 Ra</td>
<td>0.16 kg / 0.35 lb</td>
<td>90 hrs</td>
<td>AC100~277V</td>
<td>-10°F~104°F</td>
<td></td>
</tr>
</tbody>
</table>

Body
- Polycarbonate

Cover
- Polycarbonate 1T (Diffuser)

Mounting Option
- G13 Base

Light Distribution
- 130°

Dimensions
- LTB16 (built-in driver)
  - 47.2" (1198 mm)
  - 1.0" (25.5 mm)

- LTB16 (external driver)
  - 47.2" (1198 mm)
  - 1.0" (25.5 mm)

Photometry
- [ LTB16 (built-in driver) / 5000K / 130° ]
- [ LTB16 (external driver) / 5000K / 130° ]

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Commercial Lighting - *Indirect Tube Lighting*

**ITB** I-TUBE

**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**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITB10</td>
<td>10W</td>
<td>110 lm/W</td>
<td>1,100 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100~240V</td>
<td></td>
</tr>
<tr>
<td>ITB16</td>
<td>16W</td>
<td>115 lm/W</td>
<td>1,840 lm</td>
<td>5000K (3000K, 4000K, 5700K, 6500K)</td>
<td>80 Ra</td>
<td>50,000hrs</td>
<td>0.40kg / 0.88 lb</td>
<td>AC100~240V</td>
<td></td>
</tr>
<tr>
<td>ITB19</td>
<td>19W</td>
<td>110 lm/W</td>
<td>2,145 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC220~240V</td>
<td>-20°C<del>50°C, -4°F</del>122°F</td>
</tr>
<tr>
<td>ITB20</td>
<td>20W</td>
<td>110 lm/W</td>
<td>2,145 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>AC100~277V</td>
<td></td>
</tr>
</tbody>
</table>

- Built-in Driver
- External Driver
- Tolerance : ± 5%

*Body*
- Aluminium 0.3T

*Cover*
- Polycarbonate 1T (Clear)

*Mounting Option*
- G13 Base, Surface Mount
- 110°

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Commercial Lighting - *Indirect Tube Lighting*

**I-TUBE ITB**

---

**Dimensions**

- **ITB10**
  - Surface Mount: 2.2" (57mm) x 46.5" (1180mm)
  - 3.46" (88mm) x 47.2" (1198mm)

- **ITB16 / ITB19**
  - Surface Mount: 2.2" (57mm) x 46.5" (1180mm)
  - 3.46" (88mm) x 47.2" (1198mm)

- **ITB20**
  - Surface Mount: 2.2" (57mm) x 59.1" (1500mm)
  - 3.46" (88mm) x 58.3" (1482mm)

---

**Photometry**

- **ITB10 / 5000K / 110°**
- **ITB16 / 5000K / 110°**
- **ITB19 / 5000K / 110°**
- **ITB20 / 5000K / 110°**

---

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Commercial Lighting - Troffer

TOP TOPA

Certification under progress

Refined and Comfortable Light

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

Application

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOP034-22</td>
<td>34W</td>
<td>105 lm/W</td>
<td>3,570 lm</td>
<td>5000K (3000K, 4000K 5700K available)</td>
<td>80 Ra</td>
<td>3.2 kg / 6.9 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-10°C~50°C</td>
</tr>
<tr>
<td>TOP040-24</td>
<td>40W</td>
<td>115 lm/W</td>
<td>4,600 lm</td>
<td></td>
<td>5.3 kg / 11.7 lb</td>
<td></td>
<td></td>
<td>AC100~240V</td>
<td>14°F~122°F</td>
</tr>
</tbody>
</table>

Body Cover

- Steel
- Polycarbonate (Diffuser)

Mounting Option

- Recessed
- 120°
- Wired (1-10V)

Light Distribution Control System

more details of GeSS on p.60

Dimensions

- TOP034
- TOP040

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Commercial Lighting - Recessed Panel Lighting

**TER**

**TERA**

**Non-flicker and Light weight**
- Simple and neat design
- Optimal uniformity
- Variety of sizes - 1x4, 2x2, 2x4

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

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
<th>Lamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>TER016-14</td>
<td>16W</td>
<td>115 lm/W</td>
<td>1,800 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>2.5 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~240V</td>
<td>-10°C~50°C</td>
<td>1</td>
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<tr>
<td>TER022-14</td>
<td>22W</td>
<td>115 lm/W</td>
<td>2,530 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>2.2 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~277V</td>
<td>-10°C~50°C</td>
<td>2</td>
</tr>
<tr>
<td>TER032-14</td>
<td>32W</td>
<td>110 lm/W</td>
<td>3,520 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>2.4 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~240V</td>
<td>-10°C~50°C</td>
<td>2</td>
</tr>
<tr>
<td>TER032-22</td>
<td>32W</td>
<td>115 lm/W</td>
<td>3,680 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.7 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~277V</td>
<td>-10°C~50°C</td>
<td>3</td>
</tr>
<tr>
<td>TER034-22</td>
<td>34W</td>
<td>100 lm/W</td>
<td>3,400 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.7 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~277V</td>
<td>-10°C~50°C</td>
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<tr>
<td>TER036-22</td>
<td>36W</td>
<td>112 lm/W</td>
<td>4,032 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.5 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~277V</td>
<td>-10°C~50°C</td>
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<tr>
<td>TER045-22</td>
<td>45W</td>
<td>115 lm/W</td>
<td>5,175 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.5 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~240V</td>
<td>-10°C~50°C</td>
<td>4</td>
</tr>
<tr>
<td>TER040-24</td>
<td>40W</td>
<td>110 lm/W</td>
<td>4,400 lm</td>
<td>5000K (3000K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.5 kg / 5.07 lb</td>
<td>50,000 hrs</td>
<td>AC100~240V</td>
<td>-10°C~50°C</td>
<td>4</td>
</tr>
</tbody>
</table>

**Body** | Steel
**Cover** | Polycarbonate 1T (Clear)
**Finish** | Powder Coating
**Mounting Option** | Recessed 110°

**Dimensions**

- 1x4 Type / M-T-bar
- 2x2 Type / M-T-bar
- 2x4 Type / M-T-bar

**Photometry**

* Tolerance : ± 5%
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>*Luminous Efficacy</th>
<th>*Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL220-40</td>
<td>40W</td>
<td>100 lm/W</td>
<td>4,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>3.6 kg / 7.9 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-10°C<del>50°C 14°F</del>122°F</td>
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<tr>
<td>BL220-45</td>
<td>45W</td>
<td>100 lm/W</td>
<td>4,500 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>3.6 kg / 7.9 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-10°C<del>50°C 14°F</del>122°F</td>
</tr>
<tr>
<td>BL220-50</td>
<td>50W</td>
<td>100 lm/W</td>
<td>5,000 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>3.6 kg / 7.9 lb</td>
<td>50,000hrs</td>
<td>AC100~277V</td>
<td>-10°C<del>50°C 14°F</del>122°F</td>
</tr>
</tbody>
</table>

Body: Polycarbonate, ABS
Cover: Polycarbonate (Diffuser)
Mounting Option: Recessed
Control System: Wired (1-10V, IR) / Wireless (Remote Control)

T-Bar Type
IP20

Dimensions

- T-Bar
  - 23.6"(600mm)
  - 23.4"(596mm)
  - 24.4"(622mm)
  - 3.8"(96mm)

- M-Bar
  - 24.3"(616mm)
  - 24.3"(616mm)
  - 3.7"(94mm)

* Europe Standard

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

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

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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</thead>
<tbody>
<tr>
<td>VR140-40</td>
<td>40W</td>
<td>100 lm/W</td>
<td>4,000 lm</td>
<td>5000K (3000K, 3500K, 4000K, 5700K available)</td>
<td>80 Ra</td>
<td>3.6 kg / 7 lb</td>
<td>50,000hrs</td>
<td>AC100<del>240V / AC100</del>277V</td>
<td>-10°C<del>50°C / 14°F</del>122°F</td>
</tr>
<tr>
<td>VR140-50</td>
<td>50W</td>
<td></td>
<td>5,000 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VR140-60</td>
<td>60W</td>
<td></td>
<td>6,000 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Body: Polycarbonate, ABS
- Cover: Polycarbonate (Diffuser)
- Mounting Option: Recessed
- Light Distribution: 115°
- Control System: Wired (1-10V, IR) / Wireless (Remote Control)

Dimensions

- T-Bar: 47.6” (1210mm)
- M-Bar: 50.4” (1280mm)

Photometry

*IP 20* M-Bar Type

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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</thead>
<tbody>
<tr>
<td>GAG008 6&quot;</td>
<td>7.5W</td>
<td>105 lm/W</td>
<td>787.5 lm</td>
<td></td>
<td>0.4 kg / 0.88 lb</td>
<td>5700K (3000K, 4000K available)</td>
<td>80 Ra</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
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<td>GAG010 6&quot;</td>
<td>10W</td>
<td>105 lm/W</td>
<td>1,050 lm</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>GAG015 8&quot;</td>
<td>15W</td>
<td>100 lm/W</td>
<td>1,500 lm</td>
<td></td>
<td>1.2 kg / 2.65 lb</td>
<td>80°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAG020 8&quot;</td>
<td>20W</td>
<td>90 lm/W</td>
<td>1,800 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GAG034 8&quot;</td>
<td>34W</td>
<td>110 lm/W</td>
<td>3,740 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body: Polycarbonate
Cover: 6” : Polycarbonate 2T (Clear / Diffuser)
8” : Polycarbonate 1.5T (Diffuser)
Finish: Powder Coating

Certification under progress

Photometry

Dimensions

- GAG 6"
- GAG 8”

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Commercial Lighting - Down Lighting

**RB RAINBOW**

**Luxurious embedded light (downlight) with several color temperatures**
- 4-step color temperature chip creates special environment
- Eco-friendly down light with low power consumption and long life cycle
- Special light to minimize eye fatigue

**Application**
Hospital, Restaurant, Healthcare center, Retail shop, Office

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>RB06</td>
<td>15W</td>
<td>25 lm/W</td>
<td>375 lm</td>
<td>5000K</td>
<td>80 Ra</td>
<td>1.1 kg</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-10°C~50°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.5 lb</td>
<td></td>
<td>AC100~277V</td>
<td>14°F~122°F</td>
</tr>
</tbody>
</table>

- Body: Cast Aluminum
- Cover: Polycarbonate (Clear)

**Body Cover**

**Mounting Option**
6 inch Hole Applied
134°

**Light Distribution**

<table>
<thead>
<tr>
<th>VA: 0°</th>
<th>10°</th>
<th>20°</th>
<th>30°</th>
<th>40°</th>
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</thead>
<tbody>
<tr>
<td>[ 5000K / 134° ]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Dimensions**

| Ø6.7” (Ø170mm) |

**Photometry**

- Tolerance: ± 5%

*The above specifications were updated in October 2015 / The content may be subject to change without notice.*
LED Commercial Lighting - Decorative Lighting

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

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

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

Dimensions
Ø11.5” (Ø283mm)
16” (404mm)
LED Special Lighting - Canopy Lighting

KAN KANA

Certification under progress

IP65 grade canopy lighting
• 125 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

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAN120</td>
<td>120W</td>
<td>125 lm/W</td>
<td>15,000 lm</td>
<td>5000K (3000K, 4000K available)</td>
<td>80 Ra</td>
<td>6.6 kg / 146 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>50°C -22°F</del>122°F</td>
</tr>
</tbody>
</table>

Body
Aluminum

Cover
Polycarbonate 3T (Clear)

Finish
Powder Coating

Mounting Option
Recessed (Canopy)

Light Distribution
120°

Dimensions

Photometry

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Special Lighting - Explosion Proof Lighting

**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**

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th><em>Luminous Efficacy</em></th>
<th><em>Luminous Flux</em></th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
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</thead>
<tbody>
<tr>
<td>TAN060</td>
<td>60W</td>
<td></td>
<td>7,800 lm</td>
<td>5000K (3000K, 5700K available)</td>
<td>80 Ra</td>
<td>9.5 kg / 20.9 lb</td>
<td>50,000hrs</td>
<td>AC100~240V</td>
<td>-30°C<del>40°C / -22°F</del>104°F</td>
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<tr>
<td>TAN080</td>
<td>80W</td>
<td>130 lm/W</td>
<td>10,400 lm</td>
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<tr>
<td>TAN100</td>
<td>100W</td>
<td>13,000 lm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Body: Cast Aluminum
Cover: Tempered Glass 15T (Clear)
Finish: Powder Coating
Mounting Option: Surface Mount 110° / 140° (Option)
Light Distribution

**Dimensions**

**Photometry**

The above specifications were updated in October 2015 / The content may be subject to change without notice.
LED Special Lighting - Automotive Inspection Lighting

**APL** Array Panel Lighting

Seamless All Around Panel Lighting
- Optimal lighting for paint Shop / VPC Shop
- Excellent cooling structure
- Non shadow inspection lighting

Application
Automobile Inspection, Paint Inspection, Defect Detection

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Power</th>
<th>Luminous Efficacy</th>
<th>Luminous Flux</th>
<th>Color Temperature</th>
<th>CRI</th>
<th>Weight</th>
<th>Life Time</th>
<th>Input Voltage</th>
<th>Operation Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>APL045</td>
<td>45W</td>
<td>100 lm/W</td>
<td>4,500 lm</td>
<td>4000K</td>
<td>90 Ra</td>
<td>6.5 kg / 143 lb</td>
<td>50,000 hrs</td>
<td>AC 100~277V</td>
<td>-10°C<del>50°C / 14°F</del>122°F</td>
</tr>
</tbody>
</table>

**Body**
- Polycarbonate

**Cover**
- Polycarbonate 2.5T (Diffuser)

**Finish**
- Powder Coating

**Light Distribution**
- 100°

**Control System**
- Wired (RS-485)

### Dimensions

23.6”(600mm) x 23.6”(600mm) x 4.2”(106.5mm)

### Photometry

[Luminous Flux Distribution Diagram]

* Tolerance: ± 5%

The above specifications were updated in October 2015 / The content may be subject to change without notice.
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.

### 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.

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### Equipment

- Master Unit-AIR
- USB Convertor
- Gateway
- IPC Wall Switch
By adopting wireless controls for control and maintenance, it will be efficient to manage normal highway roadway lights and security lights on a narrow road, 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.

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

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.

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.

Occupancy sensor

Large buildings or workplaces can save considerable energy just by turning off unnecessary lighting so a sensor system is increasingly essential for energy conservation and environmental protection. An occupancy sensor detects whether a certain room is occupied to automatically control the brightness. GESS uses the PIR type for low bay and a microwave type for a high bay areas.

Integrated sensor control (Occupancy sensor + Daylight sensor)

The integrated sensor control is the best sensor control solution to combine occupancy and daylight sensors for automatic control and to optimize the conservation of energy.
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.

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

IT Converged
Landscape
Roadway
Bay
Flood
Area
Special
Commercial