

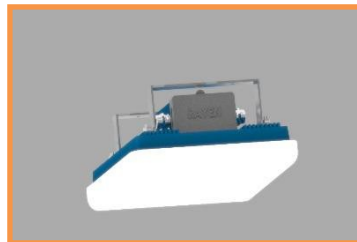
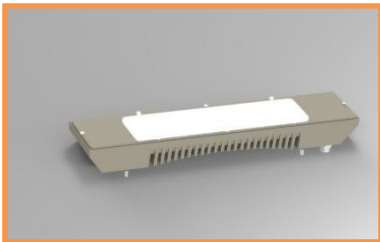


COMMITTED TO SERVE THE NATION

BROCHURE

for

Incatted LED Lights



RAY ENTERPRISES

(An ISO 9001: 2015 Certified Company) NATIONAL

AWARD WINNER FOR INNOVATION Address :

18, Industrial Estate, Ambala Cantt. – 133001 (Haryana)

Tel. : 0171- 2699399, Fax : 0171 – 2699420

E-mail : info@rayen.in / rayen1981@gmail.com

Website : www.rayen.in

ABOUT US

Ray Enterprises is a 38 years old specialized technology ISO 9001-2015 certified company and stands for creativity, development and customization in lighting applications.

We are one of the few suppliers in India who mainly develop and produces LED Lights for Marine applications.

Our efforts have been acknowledged by Govt. of India and we have been awarded National Award for Innovation.

With a talented and committed team of engineers and sales staff, our company specializes in designing, manufacturing and marketing the marine equipment.

Our commitment and acceptability is reflected in our presence in various projects of national importance, wherein we have contributed as follows.

1. Development of complete range of lighting systems, junction boxes, plug & sockets, switches for submarine project - ATV
2. Development of Lighting systems , Emergency supply systems & AELS for Indian Air Craft Carrier IAC P-71.
3. Development & Supply of complete range of Lighting systems of Indigenous Main Battle Tank ARJUN.

Indigenization has been USP (Unique Sales Procedure) of our company since inception and we have indigenised the following for Indian Navy in association with DEE, IHQ/MoD/Sena Bhawan, New Delhi.

- i) Indicator Course Battenberg MK-5
- ii) Stuart Marine Distance Meter
- iii) 15" Signalling Projector cum Search Light
- iv) LED based Automatic Emergency Lantern (AEL)
- v) Range of LED lights for Naval ships eg. ; LED Flat Light, Flush Light, Pendant Light Red, Pendant Light with Side light, Weather deck light, Bunk Light, Down Lighter, Mirror Light, Desk Light, Emergency Light, PBL, Bilge Light, Emergency Bulkhead light, Portable Hand Lamp, Chart Table light, Spot Light, Flood Light, High Roof Light, Two in one LED Pendant Light (white/Red), Two in one (White Red & White Blue) LED Cabin/Tube Light, LED Ceiling Flush Type Light and Ceremonial Garland with 6W LED Module etc.

Beside this, range of LED Lights for submarine have also been indigenised eg. LED Flat Light for living spaces, LED Bunk Light, LED based Pendant Light, LED based Panel Light and LED based light Signalling Projector.

With the changing market trends and innovation, RAYEN embraces tomorrow challenges. Our technical staff rise to meet the technical need of every customer and endeavor to provide the best and most innovative lighting solutions.

We are pleased to present you with this brochure, which is designed to provide you with solutions of range of LED Lights and Retrofit LED Lights under guidance from DEE, New Delhi.

This brochure presents a cross section of wide scope of our work and products. In everything we do, it is always the people who come first. Our goal is satisfied end customers.

Our highly skilled and dedicated R & D team is always working towards producing new products and adopting Innovative technologies.

We have in-house facilities of Spectro photometer with the help of which vital parameters are measured and these have been reflected in literature of products.

Brief information regarding the various parameters given in the literature of products.

Spectrum: The spectrum graph depicts the peak wave length at which the intensity of light source is maximum. Peak count, the maximum counts in the spectral diagram.

Flickering: Light flicker refers to quick, repeated changes in light intensity that makes the light flutter and be unsteady. Obvious flicker might let human be uncomfortable.

Flicker percentage is a relative measure of the cyclic variation in output of a light source. Higher values indicate an increased possibility of noticeable lamp flicker, as well as stroboscopic effect. Therefore, lower flicker percentage is better and the standard is less than 5.

IEC SDCM: The color variation is measured by the standard deviation of color matching (SDCM). A color difference of 1 SDCM unit is not visible, 2 to 4 units is barely visible, and 5 or more units is readily noticeable. The lower the number of SDCM, the smaller the color shift.

Chromaticity Coordination: CIE1976, chromaticity diagram, uniform-chromaticity scale which advantage is that the distance between points is approximately proportional to the perceived color difference.

LED fixtures are the new technology products, which have the following advantages over the conventional fixtures being used.

Energy efficiency: These fixtures are highly energy efficient, resulting in substantial energy cost savings. LEDs also aim light in a specific direction unlike conventional sources, which emit light—and heat—in all directions. This directional lighting capability reduces wasted light and energy.

Extended life: LED Lights have an expected lifespan of around 50,000 hours, which is five time more than the compact fluorescent (CFL's). With a longer operational life, LEDs can reduce labor costs of replacing bulbs, achieving a lower maintenance lighting system. These are called zero maintenance fixtures

No IR or UV Emissions :Less than 10 percent of the power used by incandescent lamps is actually converted to visible light; the majority of the power is converted into infrared (IR) or radiated heat. Excessive heat and ultraviolet radiation (UV) presents a burn hazard to people and materials. LEDs emit virtually no IR or UV. Rapid advancements in LED lighting technologies, with more improvements on the horizon, have resulted in lowered costs and increased reliability of LEDs. And while it may be tempting to assume LEDs are the right choice for all applications because of their energy efficiency, selection should be based on a combination of factors, including light quality and distribution, dimmability, and expected lifetime.

Durability: Without filaments or glass enclosures, LEDs are breakage resistant and largely immune to vibrations and other impacts. Traditional lighting is usually contained in a glass or quartz exterior, which can be susceptible to damage. LEDs, on the other hand, tend not to use any glass, instead they are mounted on a circuit board and connected.

Cold temperature operation: LEDs love the cold unlike fluorescent lamps. At low temperatures, higher voltage is required to start fluorescent lamps, and luminous flux (the perceived power or intensity of light) is decreased. In contrast, LED performance increases as operating temperatures drop. This makes LEDs a natural fit for refrigerated display cases, freezers and cold storage spaces in addition to outdoor applications.

Instant on: Most fluorescent and HID lamps do not provide full brightness the moment they're switched on, with many requiring three minutes or more to reach maximum light output. LEDs come on at 100-percent brightness almost instantly however, and with no re-strike delay.

Rapid cycling: Traditional light sources tend to have a shorter lifespan the more they're switched on and off, whereas LEDs are unaffected by rapid cycling. In addition to flashing light displays, this capability makes LEDs well suited for use with occupancy or sensors.

Controllability: LEDs are inherently compatible with dimmers and can even be dimmed to 10 percent of light output and the dimming is smooth and seamless.

Blinding Effect: The LED's are not visible to the naked eye in both 'ON' and 'OFF' position.

Failure of LED: Fusing of single LED or around 5% of the LED does not effect overall performance of light i.e. the lux level remain almost the same.

Lumen Efficiency of LED Module: The lumen efficiency of LED being used is more than 120 lumens per watt.

Power Supply :Inbuilt protection circuit to protect from overheating, over charging, short circuit and high surges have been provided in the Power supply circuit.

Modularity :Same MCPCBs and Power supplies have been used in three fixtures mainly FTL, Pendant Light and Weather Deck Light in order to have better inventory control, as these are interchangeable.

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LED Pendent Light

NSN No: N6220-720471396

RAYEN Model No: RE-LPL-785

Application:

For gangway, passage, Engine room illumination

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-44
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 15W
- LUX value at 1M: ≥ 300 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Parameters from Actual Report generated on
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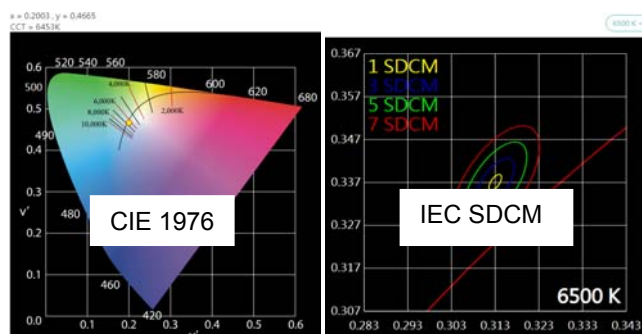
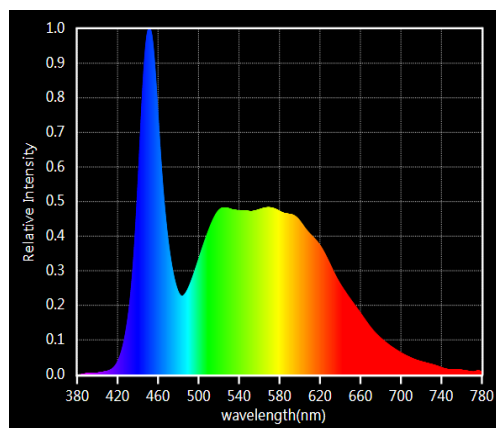
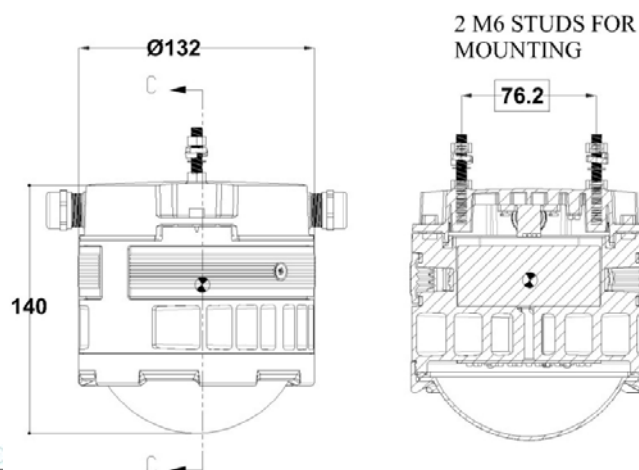
CRI: 86

CCT: 6453K

Product Photo



Technical Drawing



LED Cabin/Tube Light

NSN No: N6220-720471397

RAYEN Model No: RE-SDPL-786

Application:

For Alleyways, Engine Room, Cabins

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 3.5 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 300 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

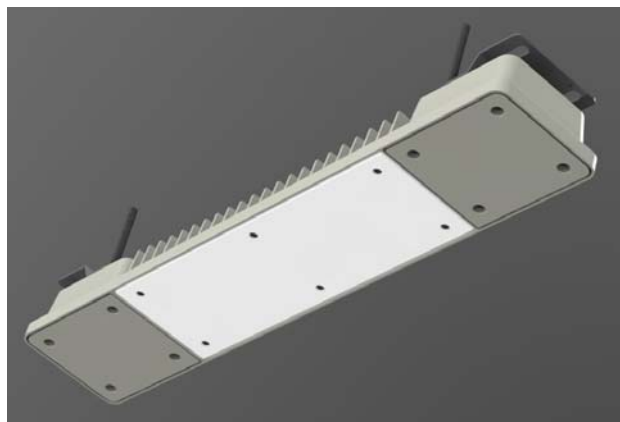
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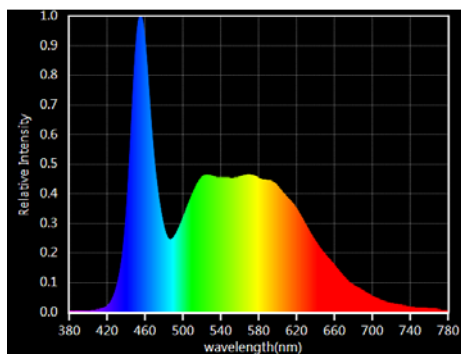
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CCT: 6583K

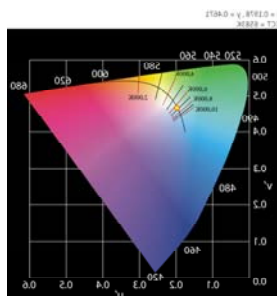
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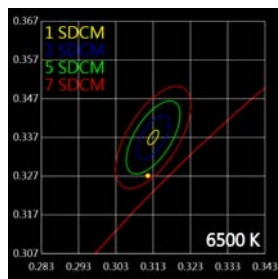
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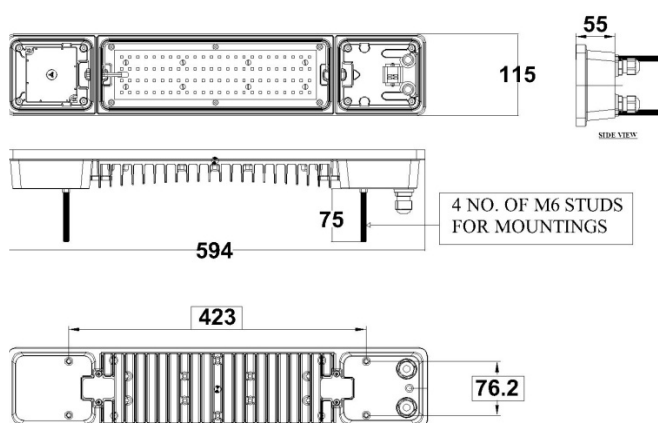
Spectrum



CIE 1976



IEC SDCM



LED Weather Deck Light

NSN No: N6220-720471405

RAYEN Model No: RE-WDL-789

Product Photo



Application:

For Weather Deck Areas

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser-Polycarbonate Sheet
- Finish: Epoxy-polyurethane Painted RAL 9001
- Protection: IP-67
- Weight: 4 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

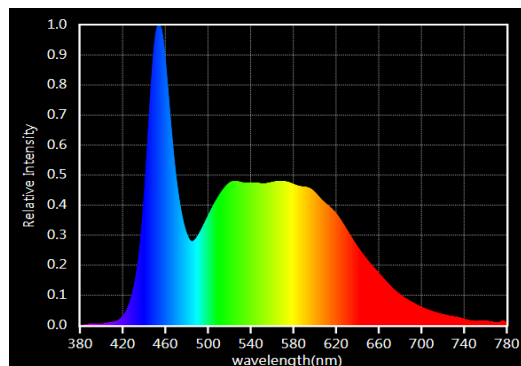
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 15W
- LUX value at 1M: ≥ 400 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G

Actual Report generated on Portable Photo Spectrometer

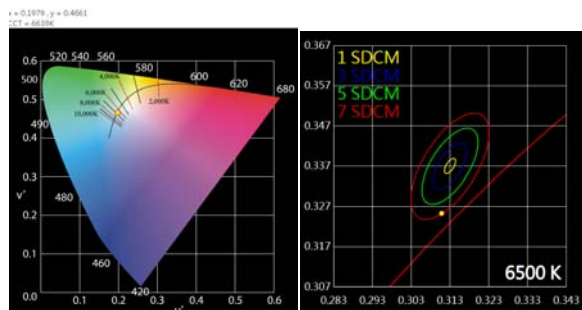
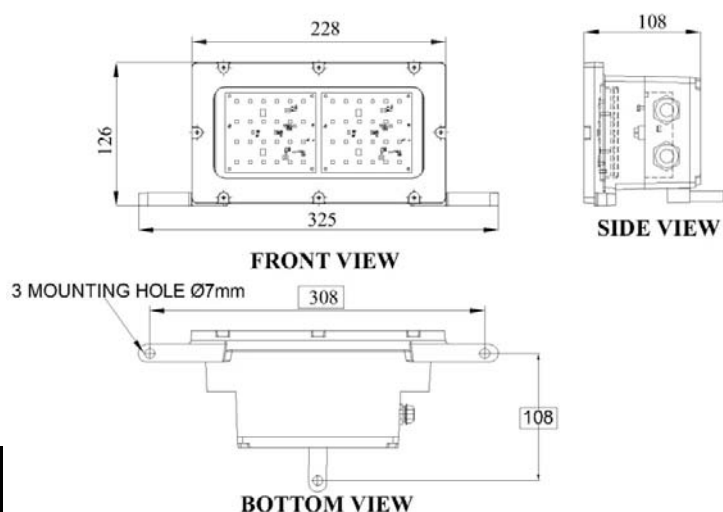
At our in house lab:

CRI: 87

Technical Drawing



Spectrum



CIE 1976

IEC SDCM

RAY ENTERPRISES

LED Flush Mounted Light

NSN No: N6220-720471411

RAYEN Model No: RE-FTL-788

Application:
For Cabins, Alleyways

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-20
- Weight: 4 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 450 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

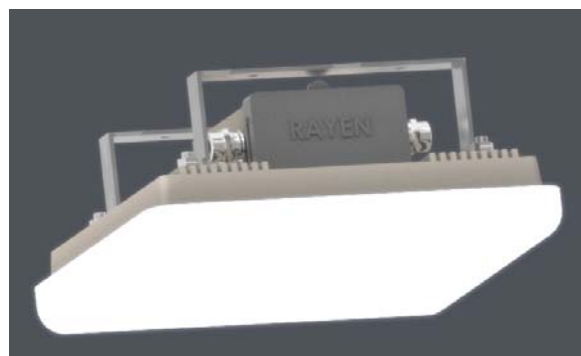
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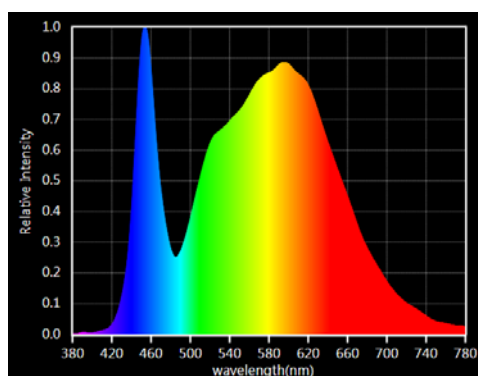
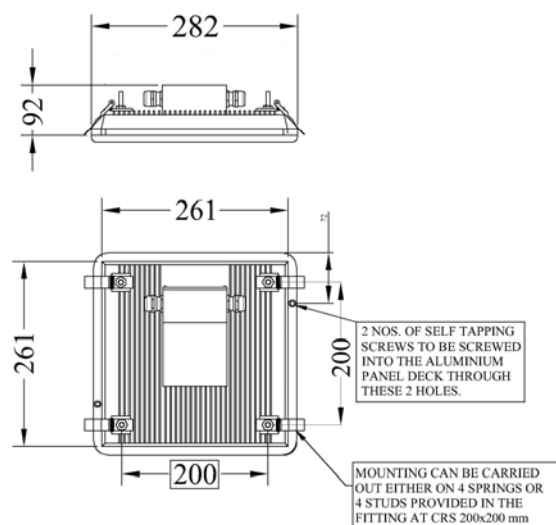
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CCT: 4043K

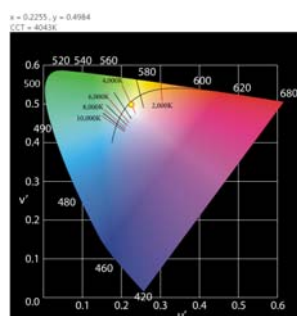
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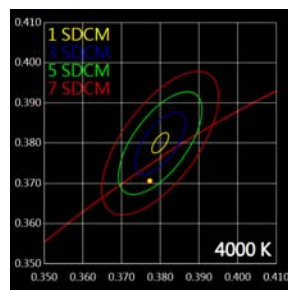
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

LED Based Bunk Light

NSN No: N6220-720471406

RAYEN Model No: RE-LBL-795

Application:

For Bunk Areas

Features:

- Material:- Body - Mild Steel
Cover-Stainless Steel
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-20
- Weight: 1.2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 6W
- LUX value at 1M: ≥ 200 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer

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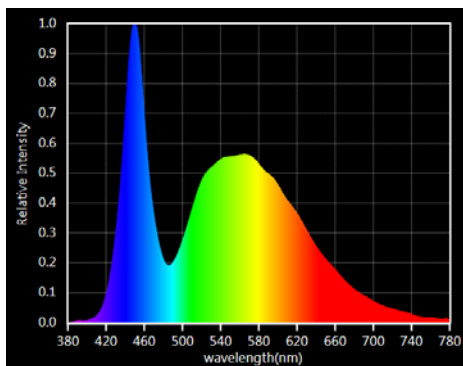
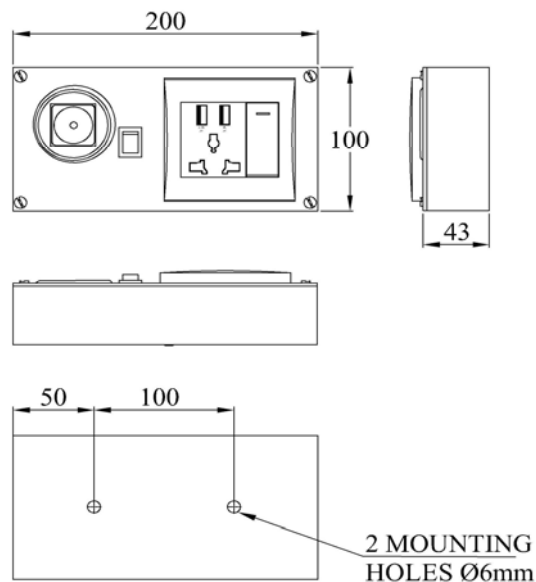
CRI: 78

CCT: 6359K

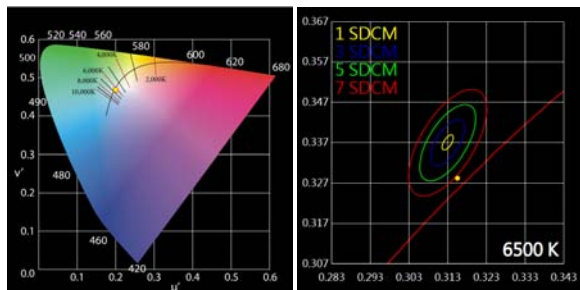
Product Photo



Technical Drawing



Spectrum



CIE 1976

IEC SDCM

Red LED Pendant Light

NSN No: N6220-720471407

RAYEN Model No: RE-RLPL-784

Application:

For Alleyways, Cabins, Engine Room

Features:

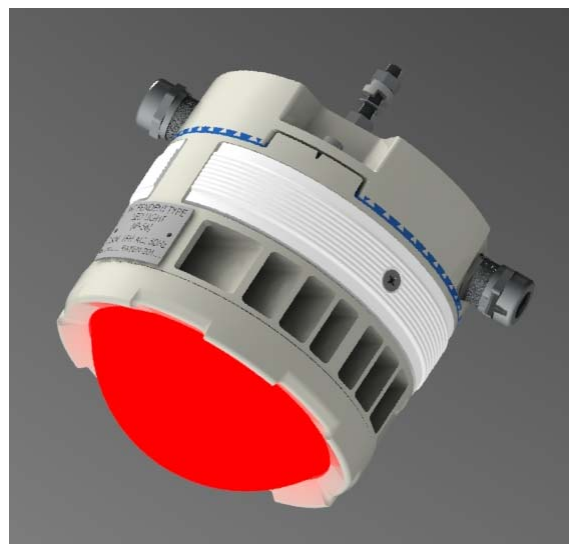
- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

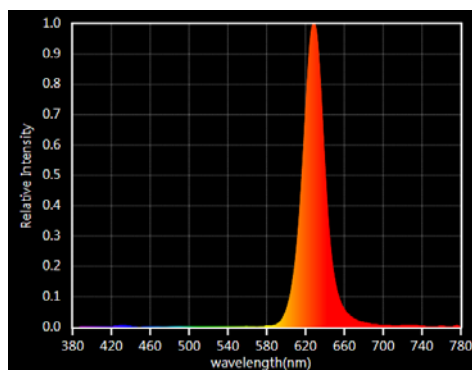
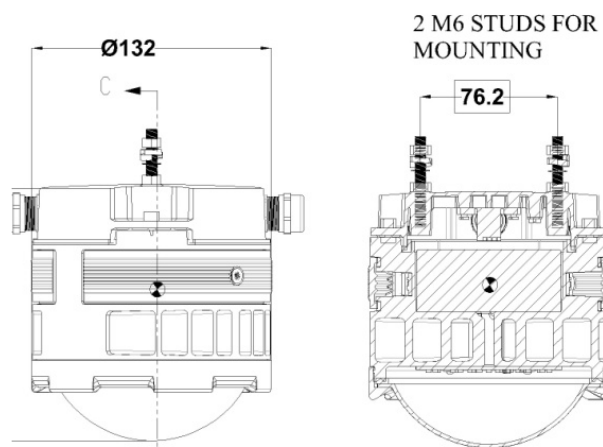
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 3W
- LUX value at 1M: ≥ 60 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our In-House lab:

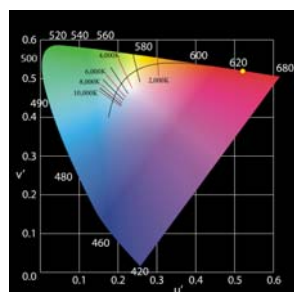
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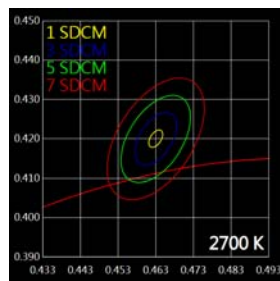
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

Two in one (White/Red) LED Pendant Light

NSN No: N6220-720471408

RAYEN Model No: RE-TLPL-783

Application:

For Alleyways, Cabins, Engine Room

Features:

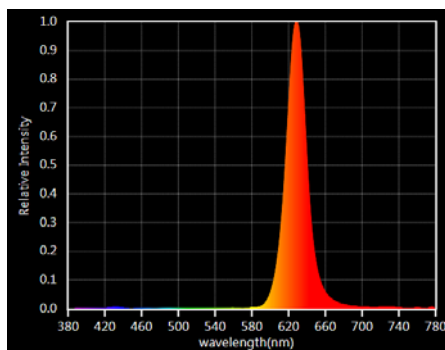
- Material: - Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

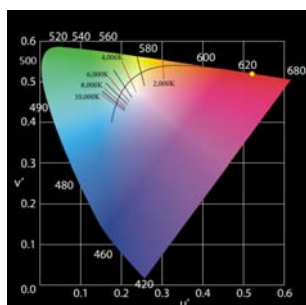
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 15W (Down light), 5W (Side Light)
- LUX value at 1M: ≥ 300 lux (Down Light), ≥ 60 lux (Red)
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer At our in house lab: (For White LED refer model: RE-LPL-785)

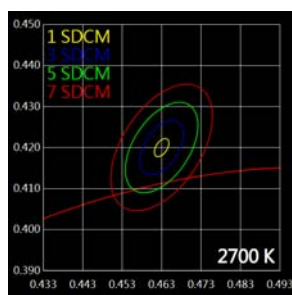
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Spectrum

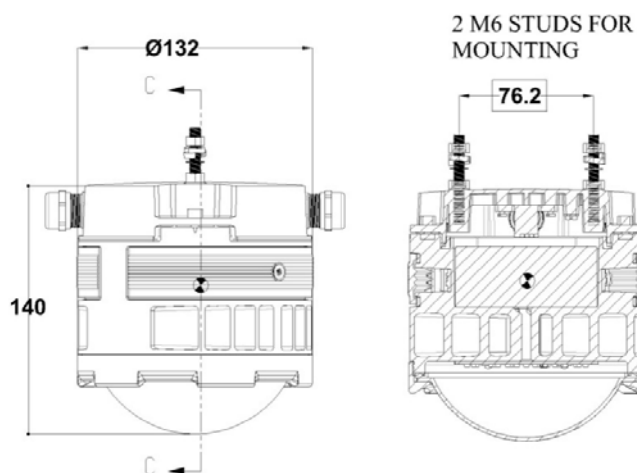


CIE 1976



IEC SDCM

Technical Drawing



Two in One (White/Red) Surface Mounted Tube Light

NSN No: N6220-720471409

RAYEN Model No: RE-SDPL-WR-786

Application:

For Alleyways, Engine Room, Cabins

Features:

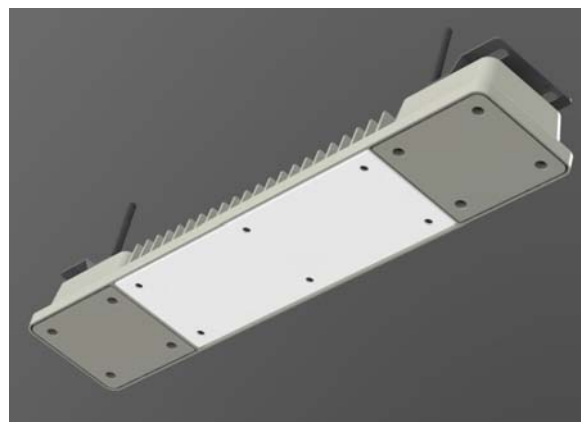
- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 3.5 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

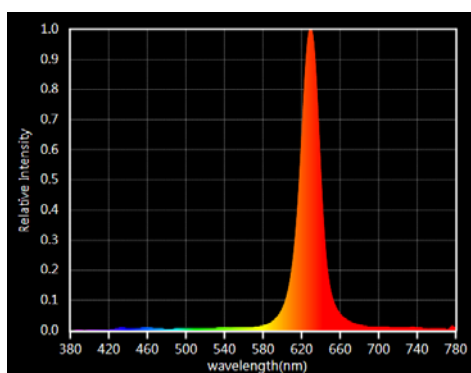
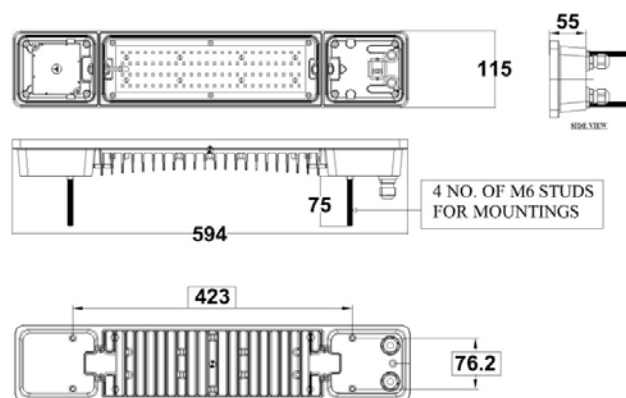
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 300 lux (White), ≥ 60 lux (Red)
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer
At our in house lab: (For White LED refer model no: RE-SDPL-786)

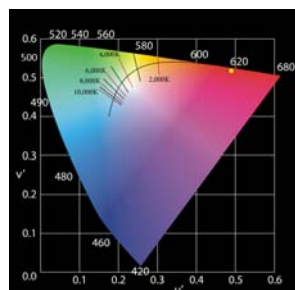
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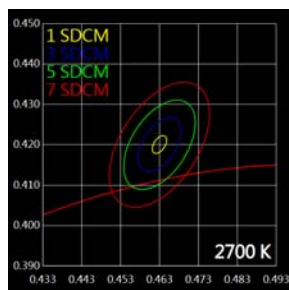
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

Two in One (White/Blue) Surface Mounted Tube Light

NSN No: N6220-720471410

RAYEN Model No: RE-SDPL-WB-786

Application:

For Alleyways, Engine Room, Cabins

Features:

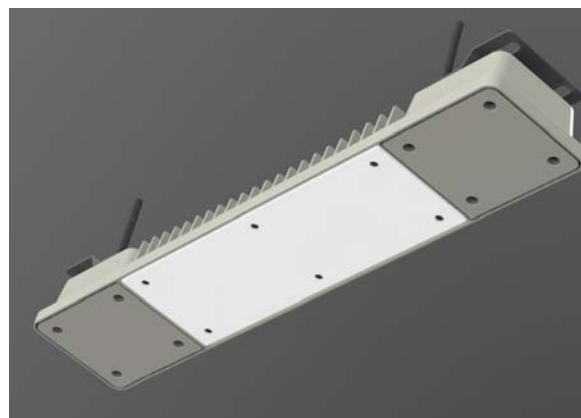
- Material: - Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 3.5 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

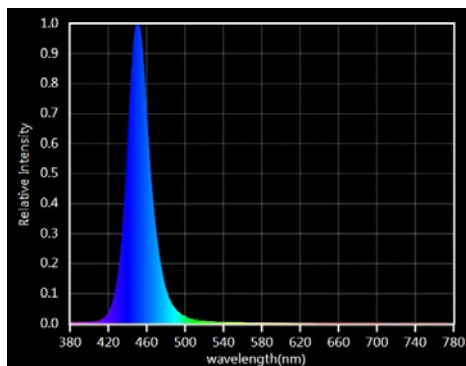
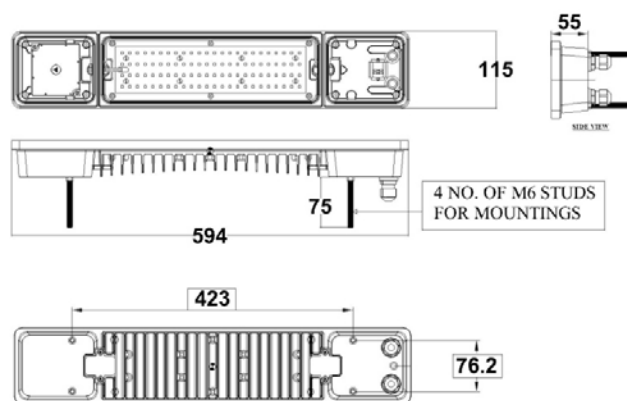
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 300 lux (White), ≥ 80 lux (Blue)
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our In-House lab: (For White LED refer model No: RE-SDPL-786)

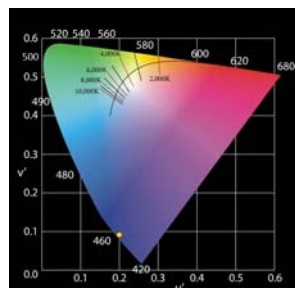
Product Photo



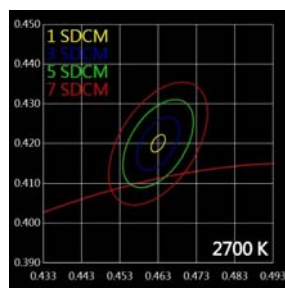
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

LED Emergency Light

NSN No: N6220-720471412

RAYEN Model No: RE-EMLS-790

Application:

For all accommodation & working areas to provide alternate means of illumination in the event of failure of primary lighting.

Features:

- Material:- Body - LM6 Aluminium Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Painted Red
- Protection: IP-56
- Weight: 1 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

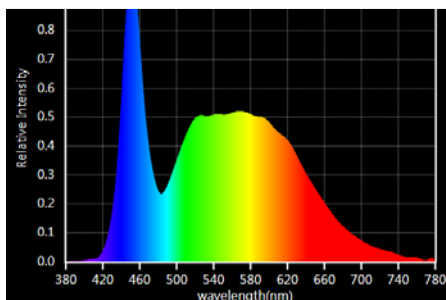
- Voltage: 24V DC
- Wattage: 10W
- LUX value at 1M: ≥ 1200 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our In-House lab:

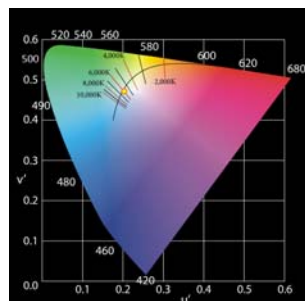
CRI: 86

CCT: 6002K

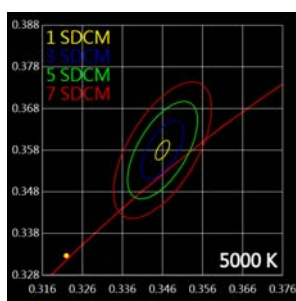
Flicker Percentage:



Spectrum

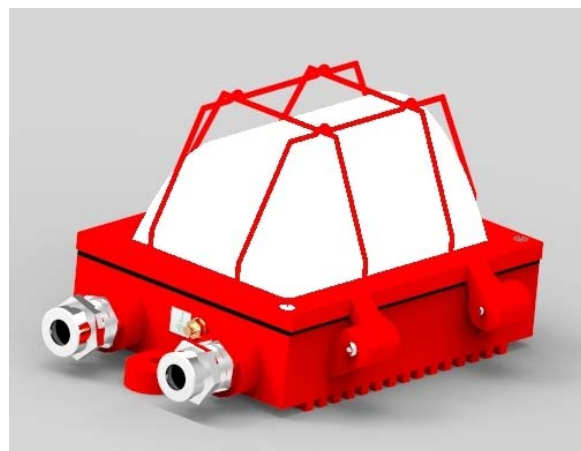


CIE 1976

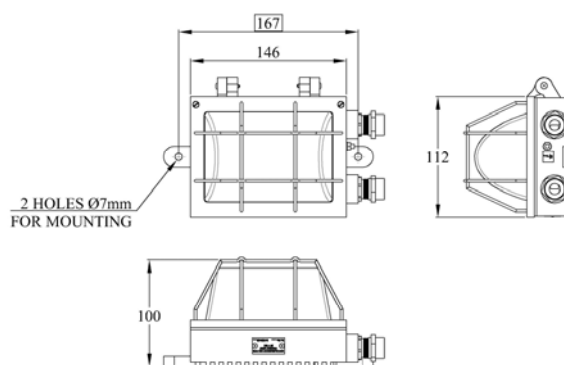


IEC SDCM

Product Photo



Technical Drawing



RAY ENTERPRISES

LED Pendant Light with Side Light

NSN No: N6220-720471963

RAYEN Model No: RE-SDPL-787

Application:

For Alleyways, Cabins, Engine Room

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

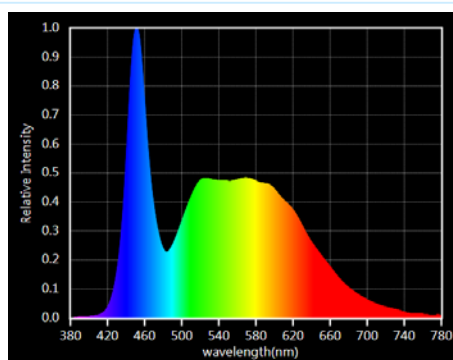
Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
 - Wattage: 15W (Down Light), 5W (Side Light)
 - LUX value at 1M: ≥ 300 lux (Down Light), ≥ 60 lux (Side Light)
 - Environmental Test: Comply to JSS55555
 - EMI/EMC: Comply to MIL-STD-461E/F/G
 - SOTR: Comply to EED-50-33(R1)
- Actual Report generated on Portable Photo Spectrometer At our in house lab:
CRI: 86
CCT: 6453K

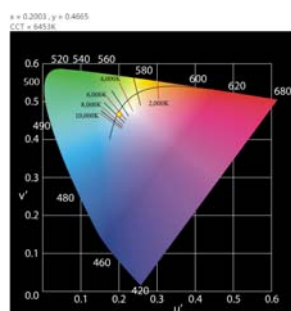
Product Photo



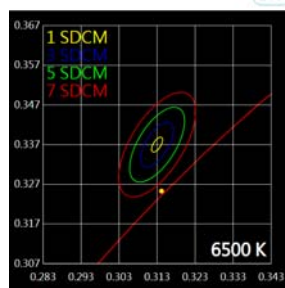
Technical Drawing



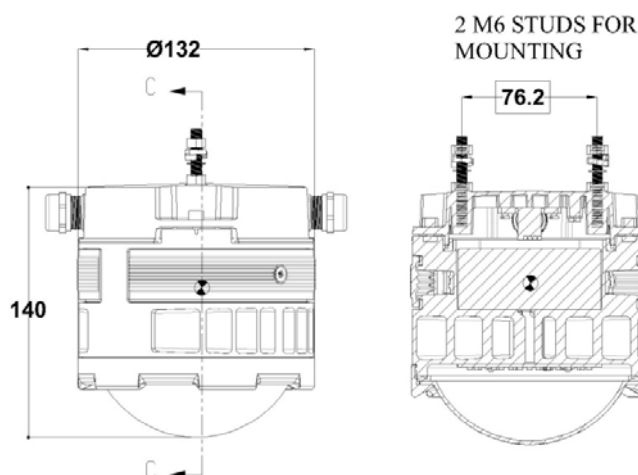
Spectrum



CIE 1976



IEC SDCM



RAY ENTERPRISES

LED Machinery Space Light

NSN No: N6220-720471795

RAYEN Model No: RELFL-120W-802

Application:
For Machinery Space

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Transparent Toughened Glass
- Finish: Epoxy-polyurethane Painted RAL 9001
- Protection: IP-56
- Weight: 7 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

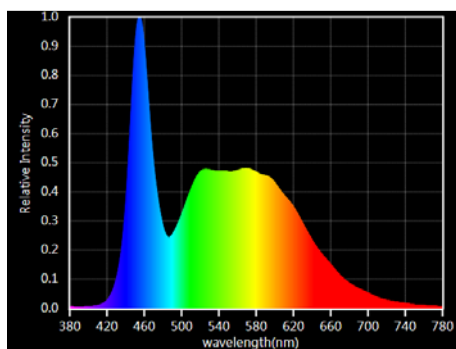
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 120W
- LUX value at 1M: ≥ 4500 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our in house lab:

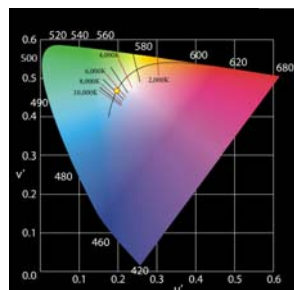
CRI: 84

CCT: 6625K

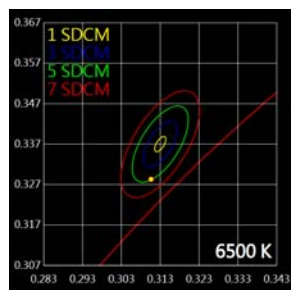
Flicker Percentage:



Spectrum



CIE 1976

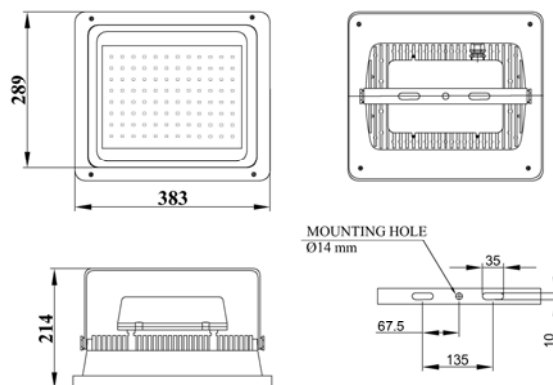


IEC SDCM

Product Photo



Technical Drawing



LED Hanger Light

NSN No: N6220-720471995

RAYEN Model No: RE-HRLF-801

Application:
For Hanger Areas

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Transparent Toughened Glass
- Finish: Epoxy-polyurethane Painted RAL 9001
- Protection: IP-56
- Weight: 7.5 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

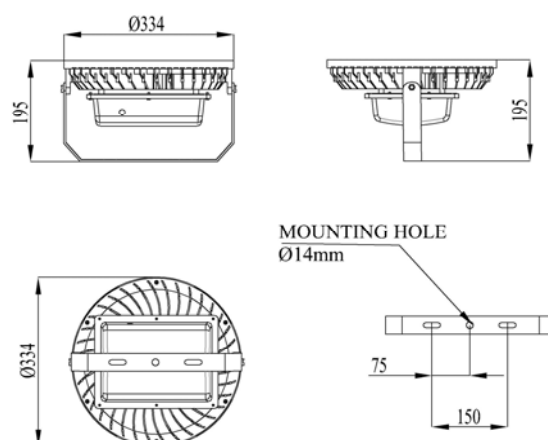
Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 90W
- LUX value At 1M: $\geq 12,500$ lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

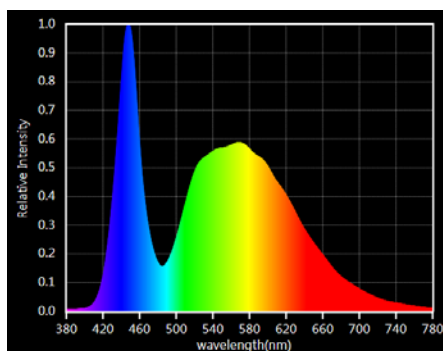
Product Photo



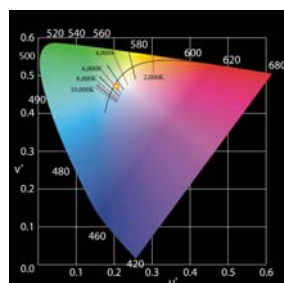
Technical Drawing



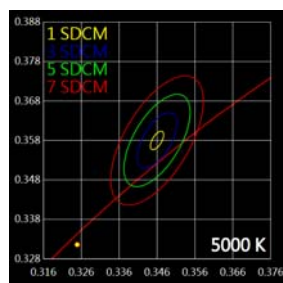
Actual Report generated on Portable Photo
Spectrometer at our in house lab:
CRI: 77
CCT: 5860K
Flicker Percentage:



Spectrum



CIE 1976



IEC SDCM

LED Bilge Light

NSN No: N6220-720471994

RAYEN Model No: RE-WDL-789

Application:
For Machinery spaces

Features:

- Material: - Body - Aluminium Sheet
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-65
- Weight < 3.5 Kg
- Life of Light Fitting: ≥50,000 Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

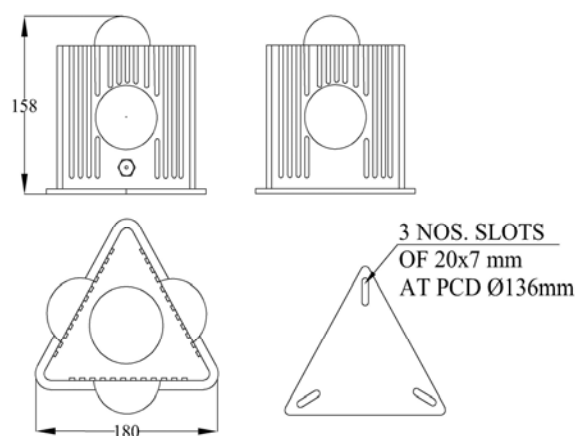
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 20W
- Lux Value: >250 Lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Product Photo



Technical Drawing

LUMINAIRIE EFFICIENCY >85%
LUX VALUE : >250 LUX
LUMENS/WATT: 120
WATTAGE: <20W
COLOUR TEMP: 6500K
CRI > 75
POWER FACTOR >0.85
Brass cable gland PG -11 AS PER EN50262
OR UL514B
TALLY PLATE: AS PER NES 723



LED Pendent Light CAT-A

NSN No: N6220-720473132

RAYEN Model No: RE-SDPL-785

Application:

For Alleyways, Cabins, Engine Room

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 15W (Down Light), 5W (Side Light)
- LUX value at 1M: ≥ 300 lux (Down Light), ≥ 60 lux (Side Light)
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our in house lab:

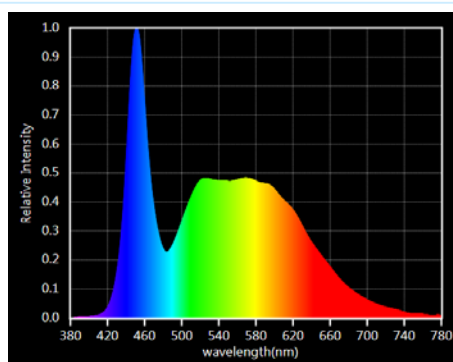
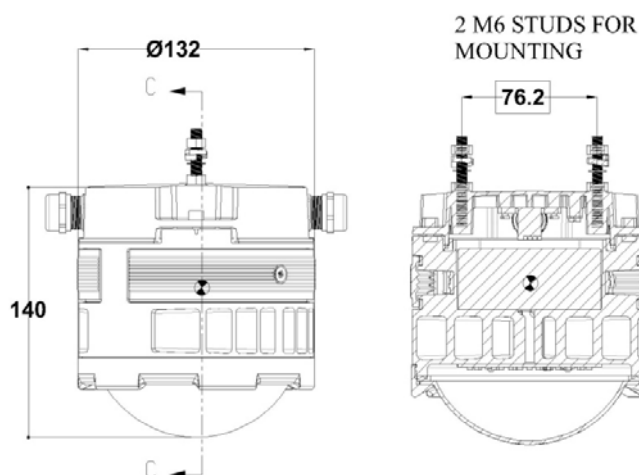
CRI: 86

CCT: 6453K

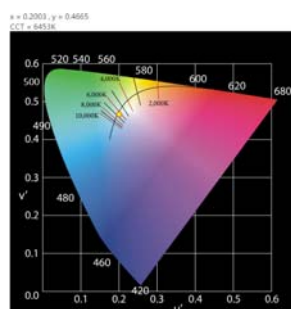
Product Photo



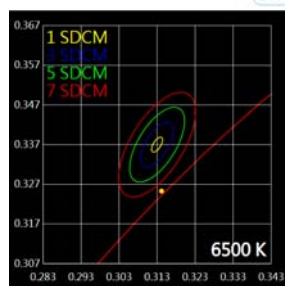
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

LED Cabin/Tube Light

NSN No: N6220-720473131

RAYEN Model No: RE-SDPL-786

Application:

For Alleyways, Engine Room, Cabins

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 3.5 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 300 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

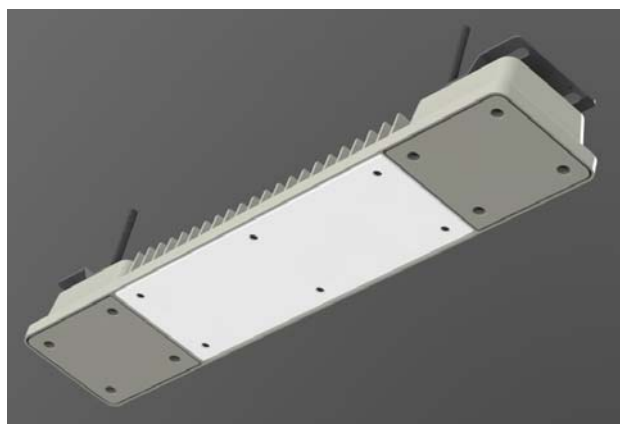
Actual Report generated on Portable Photo Spectrometer at our in house lab:

CRI: 86

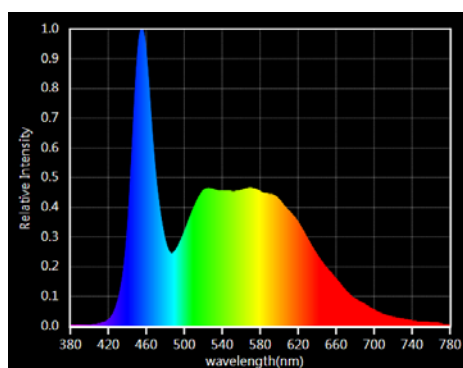
CCT: 6583K

Flicker Percentage:

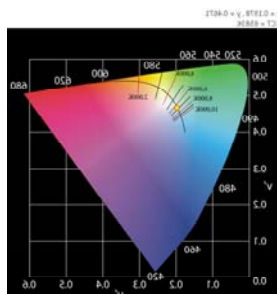
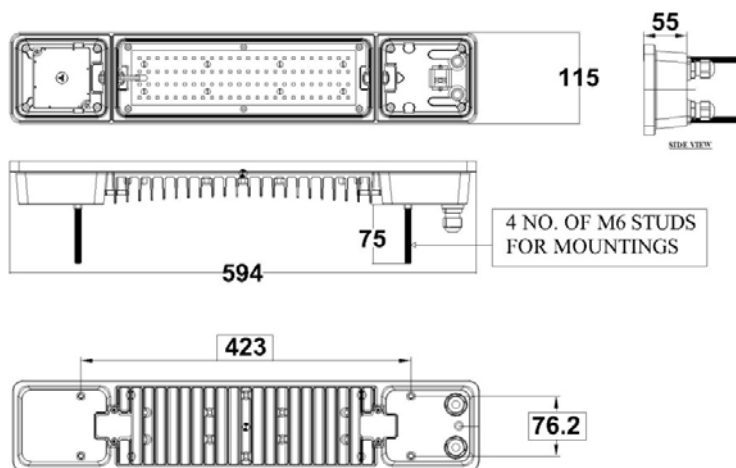
Product Photo



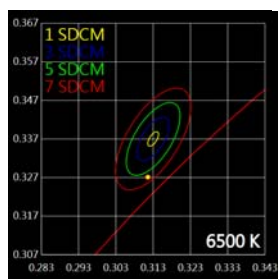
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

LED Pendent Light (Ranvijay Class)

RAYEN Model No: RE-SDPL-RUSSIAN-807

Application:

For Alleyways, Cabins, Engine Room

Features:

-Material:- Body - LM6 Aluminium Die Casted
Diffuser - Polycarbonate injection Moulded

-Finish: Epoxy-polyurethane Painted RAL 9010

-Protection: IP-56

-Weight: 2 Kg ($\pm 10\%$)

-Life of Light Fitting: $\geq 50,000$ Hrs

-LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

-Voltage: 110-230V AC, 50 Hz, 1 Ph.

- Wattage: 15W (Down Light), 5W (Side Light)

-LUX value at 1M: ≥ 300 lux (Down Light), ≥ 60 lux (Side Light)

-Environmental Test: Comply to JSS55555

-EMI/EMC: Comply to MIL-STD-461E/F/G

-SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo

Spectrometer at our in house lab:

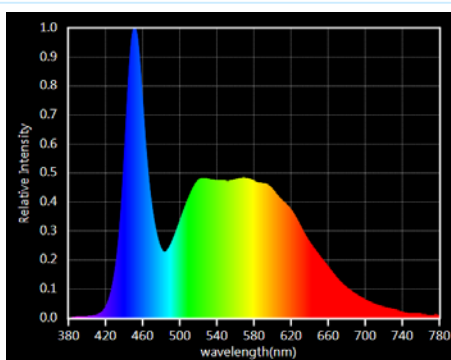
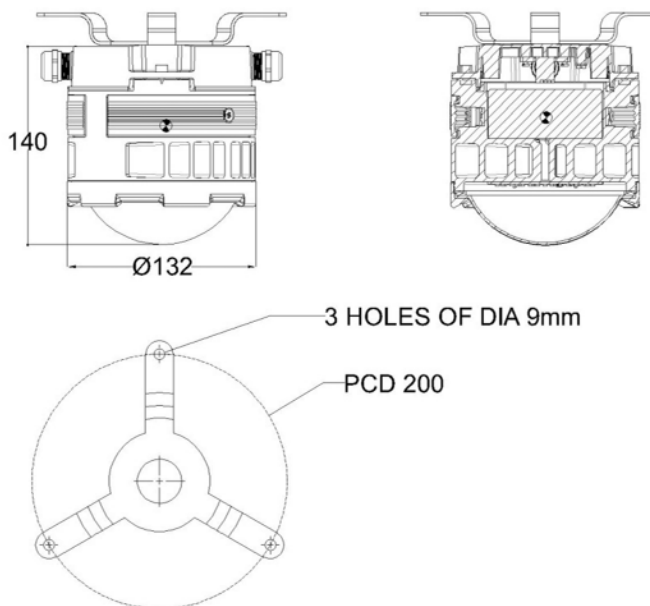
CRI: 86

CCT: 6453K

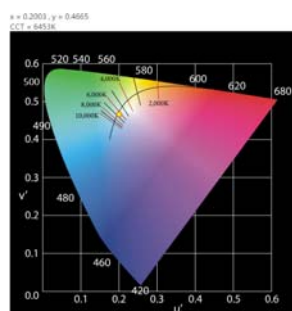
Product Photo



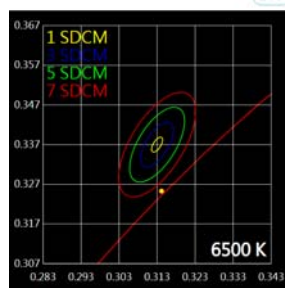
Technical Drawing



Spectrum



CIE 1976



IEC SDCM

RAY ENTERPRISES

LED Pendant Light (Russian Class)

RAYEN Model No: RE-SDPL-RUSSIAN-806

Application:

For Alleyways, Cabins, Engine Room

Features:

- Material:- Body - LM6 Aluminium Die Casted
Diffuser - Injection Moulded Polycarbonate
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-56
- Weight: 2 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 15W (Down Light), 5W (Side Light)
- LUX value at 1M: ≥ 300 lux (Down Light), ≥ 60 lux (Side Light)
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our in house lab:

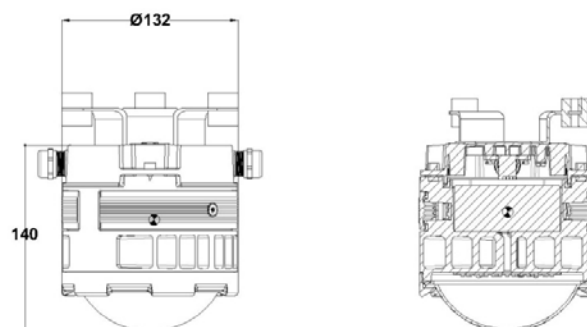
CRI: 86

CCT: 6453K

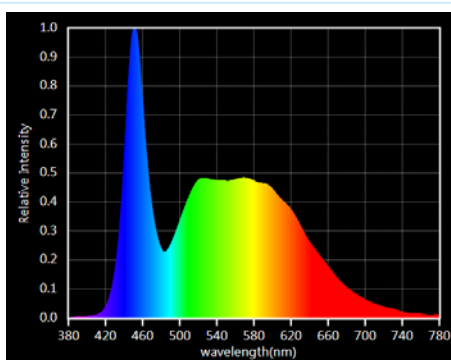
Product Photo



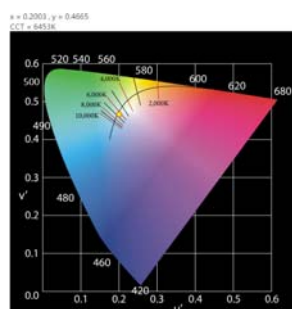
Technical Drawing



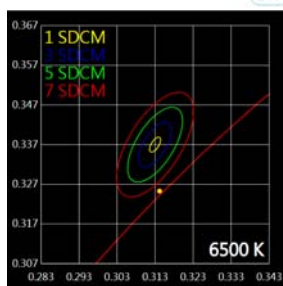
DETAILS OF MOUNTING ON REAR BODY



Spectrum



CIE 1976



IEC SDCM

LED Mess Deck (Ranvijay Class)

RAYEN Model No: RE-LMDL-RANVIJAY-809

Application:

For Alleyways, Engine Room, Cabins

Features:

- Material:- Body - Aluminium Sheet
Diffuser - Polycarbonate Sheet
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-44
- Weight: 3 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

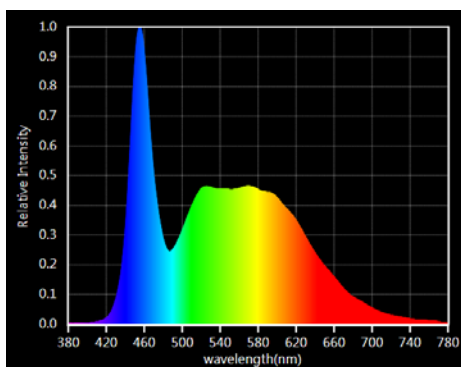
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W Max.
- LUX value at 1M: ≥ 300 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33 (R1)

Actual Report generated on Portable Photo Spectrometer at our in house lab:

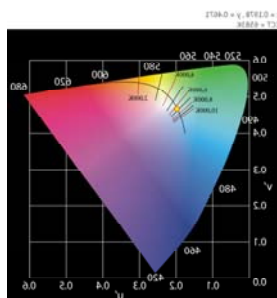
CRI: 86

CCT: 6583K

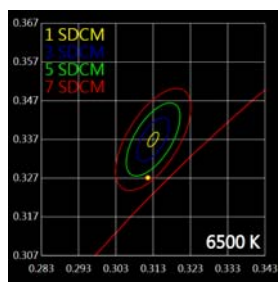
Flicker Percentage:



Spectrum

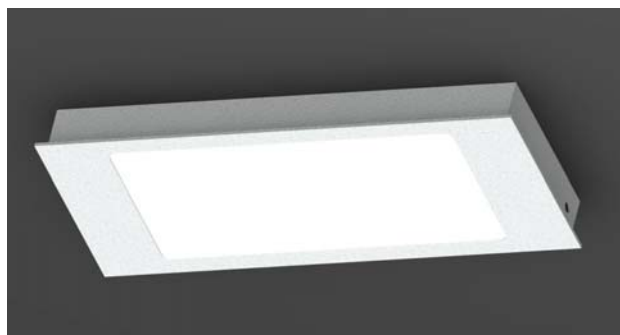


CIE 1976

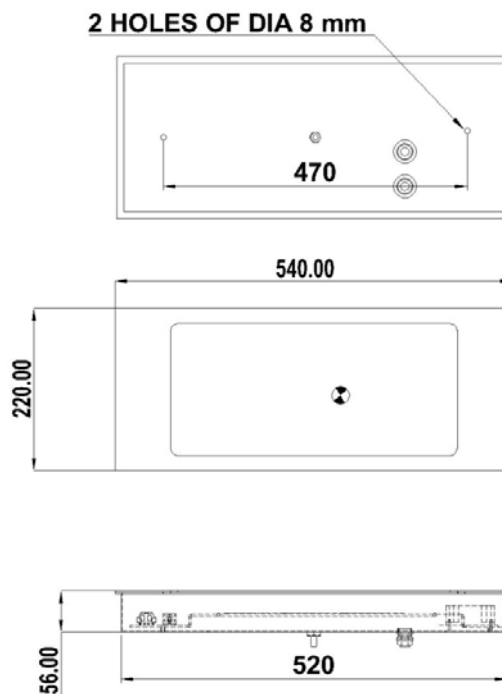


IEC SDCM

Product Photo



Technical Drawing



LED Panel Light (Kolkata Class)

RAYEN Model No: RE-LPL-KOLKATA-808

Application:

For Alleyways, Engine Room, Cabins

Features:

- Material:- Body - Aluminium Sheet
Diffuser - Polycarbonate Sheet
- Finish: Epoxy-polyurethane Painted RAL 9010
- Protection: IP-44
- Weight: 3 Kg ($\pm 10\%$)
- Life of Light Fitting: $\geq 50,000$ Hrs
- LED driver has inbuilt protection from heating, short circuit, surge.

Electrical:

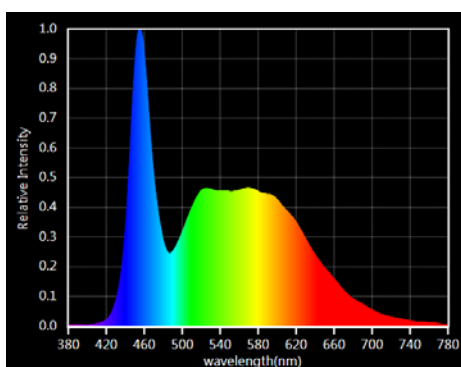
- Voltage: 110-230V AC, 50 Hz, 1 Ph.
- Wattage: 30W
- LUX value at 1M: ≥ 300 lux
- Environmental Test: Comply to JSS55555
- EMI/EMC: Comply to MIL-STD-461E/F/G
- SOTR: Comply to EED-50-33(R1)

Actual Report generated on Portable Photo Spectrometer at our in house lab:

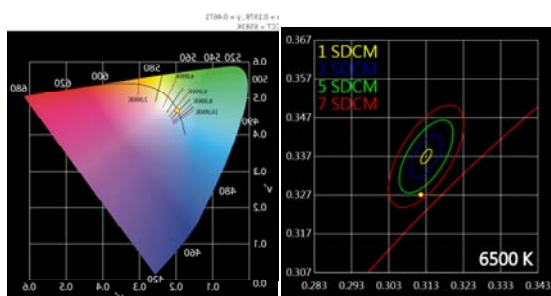
CRI: 86

CCT: 6583K

Flicker Percentage:



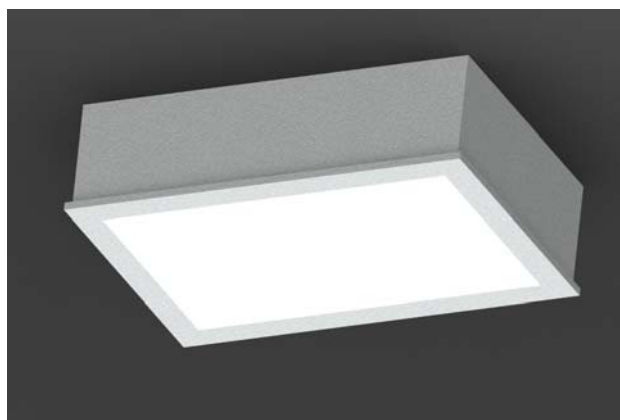
Spectrum



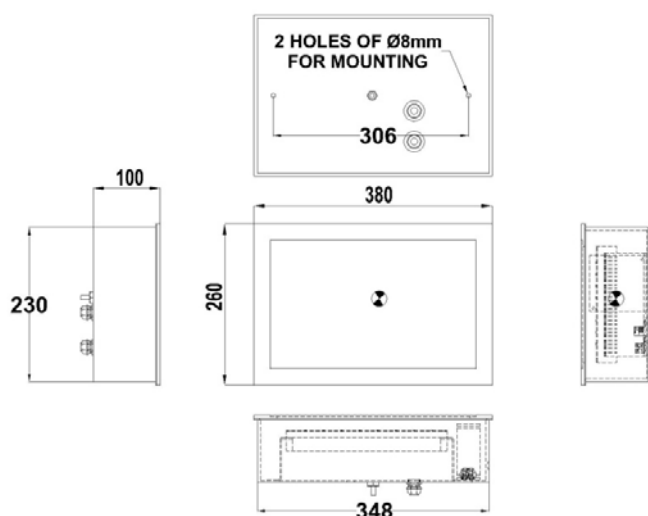
CIE 1976

IEC SDCM

Product Photo



Technical Drawing



RAY ENTERPRISES