

Future is this
HALONIX

Lighting Solutions

For Highways and Expressways

ABOUT HALONIX

Halonix Technologies Pvt Ltd is amongst India's fastest growing electrical company. It caters to both retail and institutional buyers with its innovative, economical and smart-tech offerings across Lighting, Fans and Smart/IOT Products. The company has been a forerunner in the development of energy-efficient lighting solutions in various segments like PSU's, Government, Railways, Airports, NHAls, Manufacturing Industries, IT/ITES, Corporates, Hospitality and Healthcare. With the credo of Make in India and Made for India, Halonix's success has been built on its unparalleled ability to develop, validate and deploy solutions that are relevant and suitable for Indian conditions. Because of its relentless key focus on innovation across the product range, the brand is widely accepted by end customers & business influencers like architects & electrical consultants throughout India.

Halonix is one of the few companies in India with a fully accredited NABL self-certified laboratory and state-of-the-art R&D laboratory within its manufacturing plant, allowing its dedicated R&D and design teams to push the envelope and develop cutting-edge products tailor-made for Indian consumers. The company has state-of-the-art manufacturing facilities and has been accredited with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications. It is also the first company to set up a pan-India dedicated service network for lighting to cater to the need of retail and institutional segments. Its wide distribution network comprising of over 800 dealers & distributors and 20 depots ensures that its products are made available across the length and breadth of a country.

Spearheading the technological revolution, Halonix is one of the top 5 brands in the lighting industry. Halonix has continuously driven relevant technological innovations such as DJ Speaker bulb, Air Purifier Ionizer bulb, Plug & Play Fire Alarm, Smart Wi-Fi Plug, Motion sensor bulb, multi-wattages in one product solutions, RF wireless based Smart Lighting, Bluetooth based solution, Architectural Lighting, Façade Lighting to its product portfolio with an in-house product design and development team.

Halonix has also launched innovative products in the Fans segment by combining innovation and user-centric design to create greater value for its customers. Some path-breaking innovations include Morpheus - India's first retractable blade chandelier fan, Halo - a novel design IOT fan, Cuboid - a low ceiling lighting and fan solution and Smart IOT Fan Kit amongst others.

Halonix has launched a range of wifi security cameras under its sub-brand Halonix Shield, amongst its security camera products is India's first totally wireless security camera with in-built battery that lasts up to 30 days.



CRS APPROVED LED PRODUCTS



IN-HOUSE NABL ACCREDITED LAB



PAN-INDIA AFTER SALES SERVICE & SUPPORT



**MAKE IN INDIA:
IN-HOUSE MANUFACTURING AT HARIDWAR**



**MADE FOR INDIA: PRODUCT ADAPTED AS PER
INDIAN DIVERSE POWER CONDITIONS**

HALONIX IN-HOUSE MANUFACTURING & TESTING MACHINE



SHEARING
Shearing is a process where sheet cutting is done according to PCB size



BRUSHING
Brushing is the cleaning process after cutting



PRINTING
There are three types of printing, Circuit printing, Masking printing & Legend printing



ETCHING
In etching it removes excess copper, ink stripping and removing ink from printed circuit



OVEN
Baking masking ink



TARGET HOLE
It's a guide hole for printing and CNC



CNC
CNC is a process for drilling and routing



BBT
BBT is a process used for testing PCB circuit



V-CUT
Depanalization for break pcb



PRESS
The press is where cutting and routing is done



EXPOSING
Exposing film for Circuit, Masking & Legend



UV
Cure ink

LIST OF SOME PROJECTS EXECUTED



Expressway - Uttar Pradesh



Expressway - Uttar Pradesh



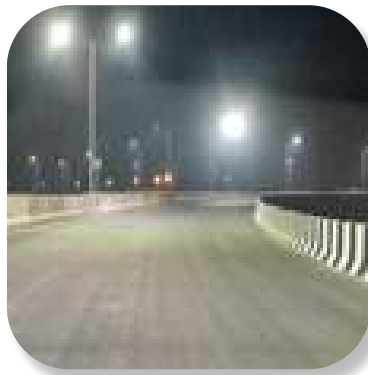
NHAI Project - Gujarat



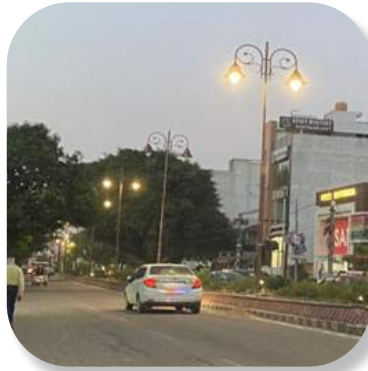
Flyover - Hyderabad



NHAI - Raipur



NHAI Project - Rajasthan



Bareilly - UP



NHAI Solar Project - Chennai

- Hyderabad Deccan Highway, Hyderabad
- Krishnagiri Toll Road NH-7 Tamilnadu
- Odisha – Singhara to Brinjabhal
- Maharashtra Nagpur Highway
- Bundelkhand Expressway
- Purvanchal Expressway
- NH754K-SR8-Amritsar-Jamnagar Highway
- Surat Hazira Highway NH-6
- Rajasthan Balotra Highway
- Watul to Talgaon Highway
- Kundal Jhandol Highway
- Jhalor to Sindri
- Sanand Bagodra
- Mahesana State Highway
- Kim Surat Highway
- Etawah-Chakeri NH2
- Losari-Machavaram NH216
- Chiplun-Guhagar
- NH47-
- NH152D-Jind-Rohtak
- NH340-Rayachoty to Angallu
- Kashipur-Sitarganj NH74
- NH214A Dhindi-Digamaru
- NH334B - Meerut Bhagpat
- Kamliya Kanderwasa-pkg-21 MP
- NH43 Vizianagaram- Raipur to Vishakhapatnam
- Delhi - Vadodara (Ujina, Mewat)

LIGHTING IMPORTANCE AT HIGHWAYS/EXPRESSWAYS

- The main purpose of road lighting is to enable road users to Accurately and easily see the carriageway and surroundings in the dark.
- Majority of road accidents are caused in night and the poor lighting is the main cause.
- Improved visibility at night by means of artificial lighting lessens the strain on driving and ensures comfort. The drivers feel more Confident in driving under proper road lighting.

LIGHTING LOCATION

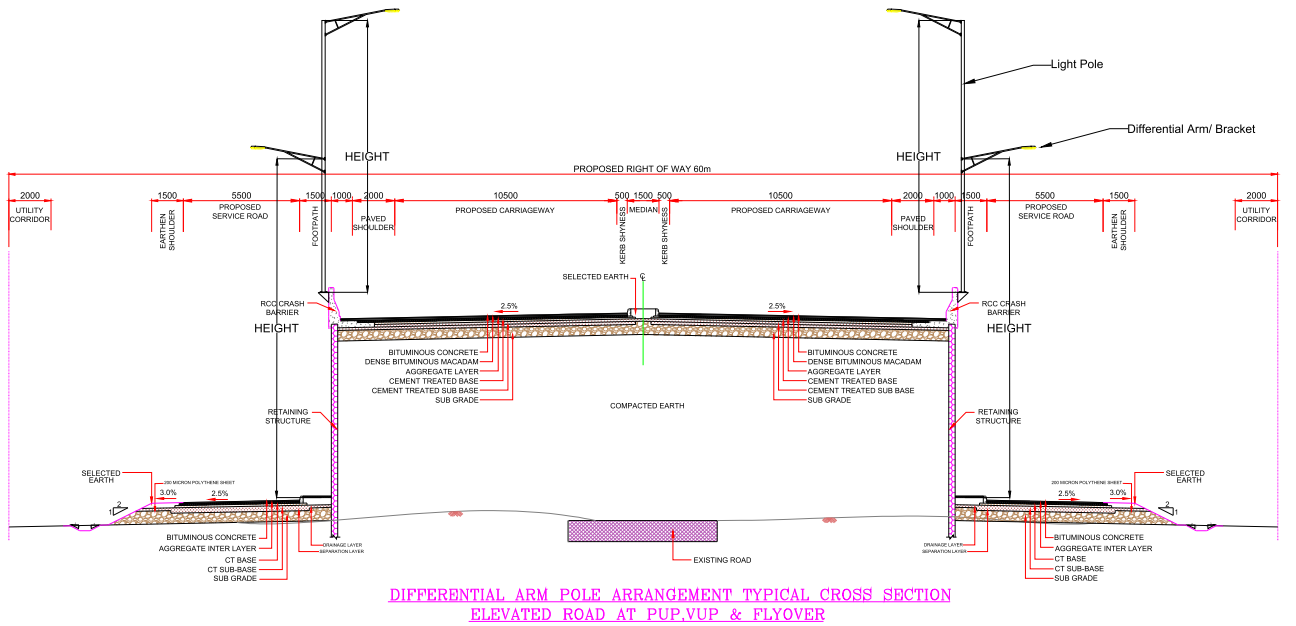
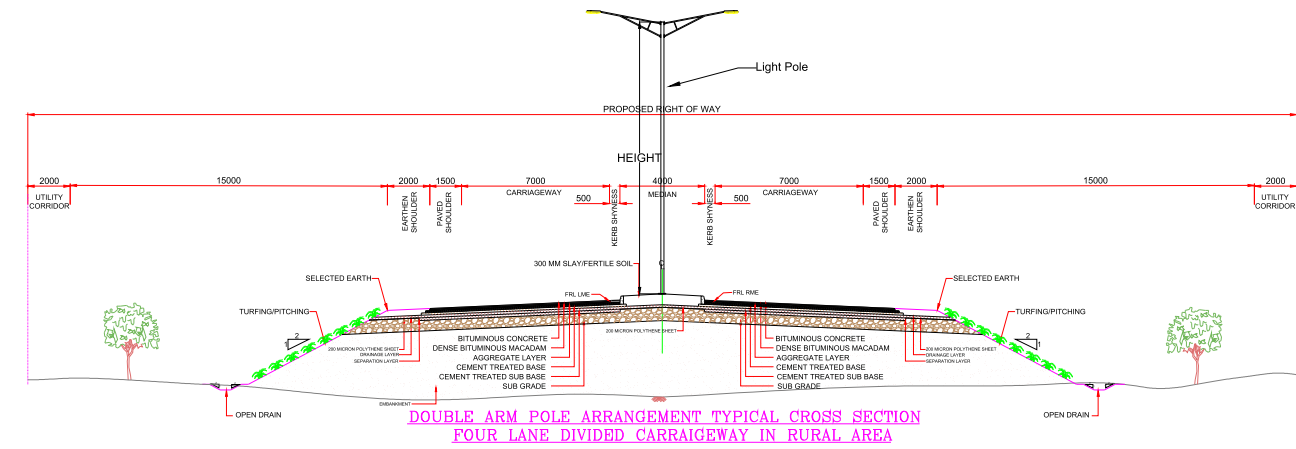
Stretches/Built-up areas	Grade Separated Structures	Toll Plaza
Way Side Amenities	At-Grade Intersections	Grade Separated Intersections and Interchanges
Underpasses/Overpasses	Truck Lay Bye/ Bus Bay/ Bus Shelter	



LIGHTING SCOPE

- The lighting requirement in every Contract Agreement of Highways and Expressways project differs, but it shall comply as per particular Indian Road Congress (IRC) standards.
- Lighting scope varies from Highways to Highways as per client/AE observations.
- Generally highway lighting scope covers built up area sections, toll plazas, truck lay bay, bus bay, way side amenities underpasses / overpasses, grade separated structure, ROB's, major junctions, intersection, interchange and bridges Including underpass lights.
- Whereas expressways covers lighting scope at Interchanges and Underpasses.
- Moving with advances in technologies, some clients and PIU's are also welcoming smart lighting solutions, to optimize energy consumption, with dimming & energy monitoring solutions.

Understanding of Typical cross Section (TCS) and Major parts of Highway/Expressway



TOLL PLAZA

It is a place where a driver stops to pay money before going onto a highway.



UNDERPASS

Crossing one highway and another (such as a road or railroad) at different levels.



TRUCK LAY-BY

It is a short strip of road by the side of a main road, where trucks can stop for a while.



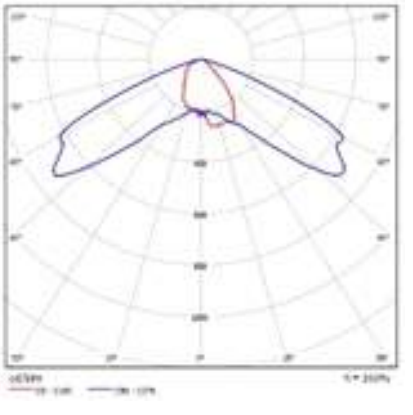
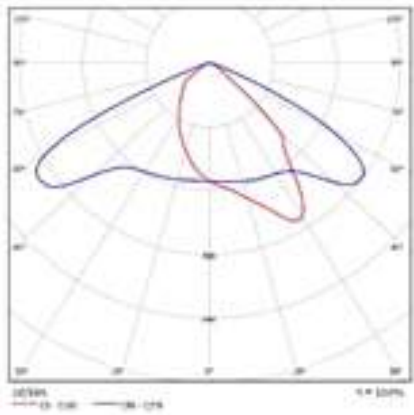
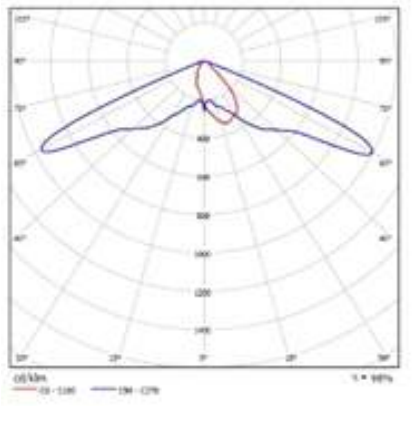
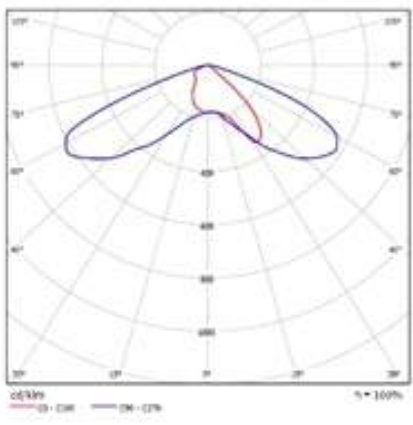
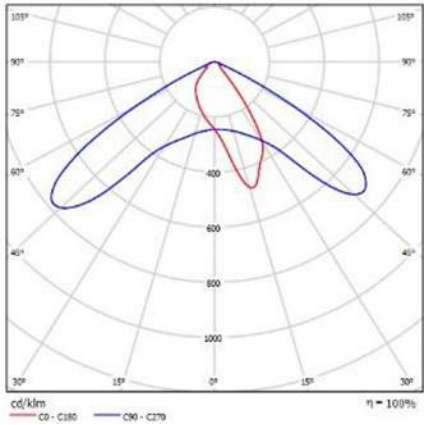
BUS BAY

It is a portion of the highway which is designed and constructed outside of the roadway adjacent to it for the purpose of stopping buses while in the act of picking up or discharging passengers.



STREET LIGHTING

Halonix's LED Street Lighting for Highway / Expressway solution equipped with specialized optics to get required lighting distribution which fulfil requirement of all parameters as per IRC standard as applicable, major parameters like as Minimum/ Average lux level, uniformity, Transverse uniformity etc. Selection of applicable street light is applicable over TCS for which illumination design required and installation types, the majorly applicable LED Street light consider as below with technical specifications:-



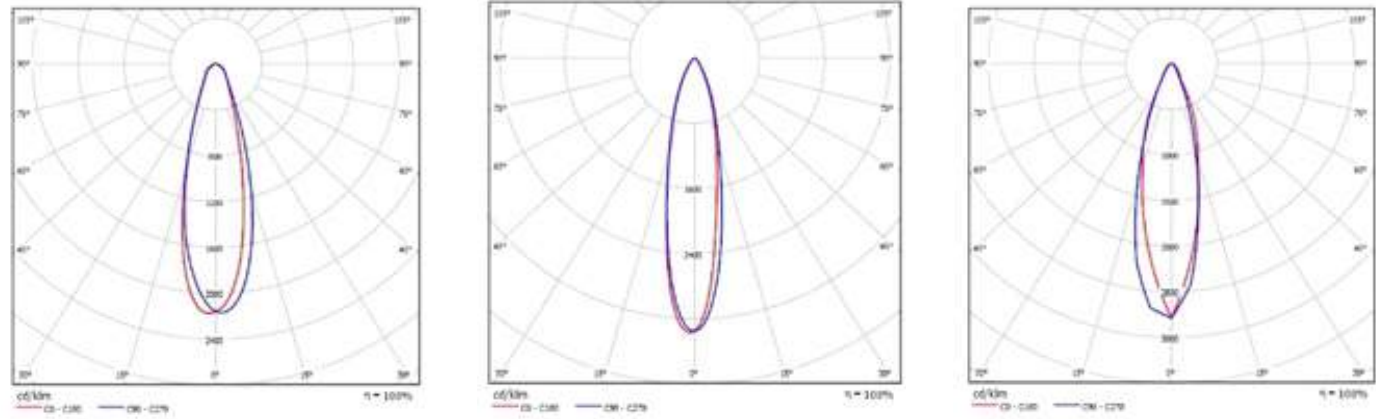
TECHNICAL SPECIFICATIONS

PARAMETER	LED Street Light
Wattage	100W/120W/150W/190W/210/220W/250W/300W
System Lumen Efficacy	≥ 100lm/w to 140 lm/w at rated operating wattage
LED Lumen Efficacy	≥ 135lm/w to 175 lm/w at STC
Smart Technology	Available on Request
Auto ON/OFF	NA
Installation height	7 meter to 12 Meter
LED Used	High power high brightness LM80 certified LED
Housing	Aluminium PDC with embossed/engraved of Brand
Front Cover	Clear toughened glass
Lense	Suitable high efficient secondary lens
Lumen Maintenance	50,000 hours @ L70
Control Gear	Isolated Electronic CC driver
Protection	Over voltage, under voltage, surge protection
Hardware	SS & MS Zinc plated and passivated
Ingress Protection	IP66
Rated Voltage	230V AC 50 Hz
Operating Temperature	-10°C~ 50°C
Power Factor	>0.9 at rated operating wattage
THD(at rated power)	≤ 10% at rated operating wattage
CCT	5700K to 6500 K
CRI	≥70
Mounting Bracket	Suitable for 40-60mm mounting
Surge Protection Device	10KV inbuilt on demand
Standard	IS10322, LM79
Application	Street / Roadways Lighting

* Customization in specification can be done on specific requirements.
** Solar Street Lighting & Smart Street Lighting solution for NHAI also available on request.

HIGH-MAST LIGHTING

High-Mast lighting design done considering using of LED Flood light of suitable rating with distribution & lumen efficacy to be installed at height of 25 to 30 meter high-mast to get uniform lighting distribution at Major Junctions', Interchange, Toll plaza, Way side amenities and other as per requirement by client.

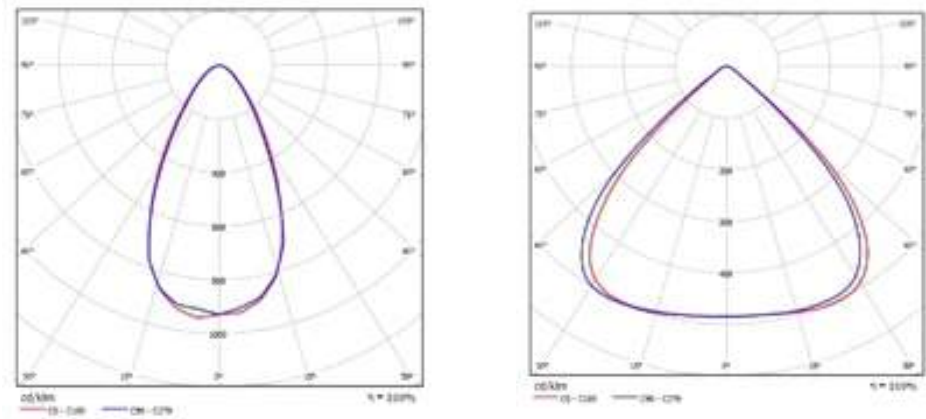


TECHNICAL SPECIFICATIONS

PARAMETER	LED Flood Light
Wattage	250W/300W/350W/400W/450W/500W/900W
Lumen Efficacy	≥ 100lm/w to 120 lm/w at rated operating wattage
Smart Technology	Available on Request
Auto ON/OFF	NA
Installation height	16 meter to 30 Meter
LED Used	High power high brightness LM80 certified LED
Housing	Aluminium PDC with embossed/engraved of Brand
Front Cover	Clear toughened glass
Lense	Suitable high efficient secondary lens
Lumen Maintenance	50,000 hours @ L70
Control Gear	Isolated Electronic CC driver
Protection	Over voltage, under voltage, surge protection
Hardware	SS & MS Zinc plated and passivated
Ingress Protection	IP66
Rated Voltage	230V AC 50 Hz
Operating Temperature	-10°C~ 50°C
Power Factor	>0.9 at rated operating wattage
THD(at rated power)	≤ 10% at rated operating wattage
CCT	5700K to 6500 K
CRI	≥70
Mounting Bracket	'U' clamp mounting bracket
Surge Protection Device	10KV inbuilt on demand
Standard	IS10322, LM79
Application	Toll plaze and Area lighting

TOLL PLAZA CANOPY/UNDERPASS LIGHTING

Canopy Light used at each toll plaza to maintain uniform lighting distribution across the toll plaza area and majorly 50W & 80W canopy lights used to achieved desire illumination lever as per IRC.



TECHNICAL SPECIFICATIONS

PARAMETER	LED CANOPY LIGHT
Wattage	30W/50W/60W/80W/90W/100W
Lumen Efficacy	≥ 100lm/w to 120 lm/w at rated operating wattage
Smart Technology	Available on Request
Auto ON/OFF	NA
Installation height	5-7 meter Height
LED Used	High power high brightness LM80 certified LED
Housing	Aluminium PDC with embossed/engraved of Brand
Front Cover	Clear toughened glass
Lense	Suitable high efficient secondary lens
Lumen Maintenance	50,000 hours @ L70
Control Gear	Isolated Electronic CC driver
Protection	Over voltage, under voltage, surge protection
Hardware	SS & MS Zinc plated and passivated
Ingress Protection	IP66
Rated Voltage	230V AC 50 Hz
Operating Temperature	-10°C~ 50°C
Power Factor	>0.9 at rated operating wattage
THD(at rated power)	≤ 10% at rated operating wattage
CCT	5700K to 6500 K
CRI	≥70
Mounting Bracket	Clamp Type
Surge Protection Device	10KV on demand
Standard	IS10322, LM79
Application	Under pass and Canopy area lighting

GLOSSARY

- Alternating Current(AC): Electrical current in which the flow of electric charge continually reverses direction.
- Ambient Lighting: Lighting that is designed to provide uniform light levels throughout an area.
- Beam Angle: Size of the cone of light produced by lighting source measured in degrees.
- CCT (Color correlated temperature): The absolute temperature of a blackbody whose chromaticity most nearly resembles that of the light source. Usually specified in Kelvin (K). The lower the Kelvin temperature, the warmer the light feels, or appears. CW: 5500-7000K; NW: 4000-5500K; WW: 2700-3200K
- CRCA: Cold rolled cold annealed
- CRI: Color rendering international system to rate lighting device ability to render object colors. CRI range (0-100) Natural outdoor light has a CRI of 100.
- Diffuser: Optical element used to mix light ray to improve uniformity of light.
- Direct Current(DC): Electrical current in which the flow of electric charge moves in one direction only.
- Efficacy: The light output of a light source divided by the total electrical power input to that source, expressed in lumens per watt (lm/W).
- Goniophotometer: A photometric device for testing the luminous intensity distribution, efficiency and luminous flux of luminaires.
- Glare: Glare is caused by brightness of any objects within the visual field which is brighter than the adaptation level of eye.
- Heat Dissipation: This is the transition of thermal energy form a hotter object to a cooler object. In case of LED products heat sinks made from high quality aluminium and other alloys accomplish this.
- Illuminance: The intensity of light falling on a surface area. Its unit is lux (lx).
- Infrared: Electromagnetic radiation with wavelength range from 700 nm – 3000 nm.
- IP: Ingress Protection, Degree of protection against dust and water.
- LED: Light emitting diode solid state semiconductor device that converts electrical energy directly into light.
- Luminaires: Lighting fixture complete with lamp, housing, power supply and optical components used to direct light.
- Luminous Efficacy: Measurement of how effective the light source is converting electrical energy to lumens of visible light. Usually expressed in lumens per watt (lm/W).
- Light Intensity: It is the measure of light output in specified direction. Its unit is Candela(cd).
- Luminance: Luminance is the measure of the brightness of a surface upon the eye. It is the ratio of luminous intensity to the area.
- MS: Mild Steel, A material that is used in housing of luminaires.
- Power Factor: The active power divided by the apparent power (i.e., product of the rms input voltage and rms input current of a driver).
- Ultraviolet (UV): Invisible radiation that is shorter in wavelength and higher in frequency than visible violet light. UV rays are light waves that are similar to the light from the sun. UV radiation can cause oxidation, fading of colors of furniture, carpet, draperies and art work.
- Uniformity: It is the ratio of minimum to average illuminance.
- Watt: The unit of electrical power as used by an electrical device during its operation. Many lamps come with rating in watt to indicate their power consumption.

CORPORATE OFFICE
Halonix Technologies Pvt. Ltd.
B - 31, Phase-2, Noida, (U.P.) - 201305. Tel: +91 - 120 - 4756100, Fax: +91 - 120 - 4756101

REGIONAL OFFICES
EAST
Halonix Technologies Pvt. Ltd.
67B Ballygunge Circular Road, Ballygunge Park Tower, 9th Floor, Kolkata - 700019,
Tel: +91 - 033 - 40081849

WEST
Halonix Technologies Pvt. Ltd.
The Affairs Office No.1402, 14th Floor, Plot No. 9, Sector 17, Sanpada, Navi Mumbai, Thane - 400705
Tel: +91 - 022 - 35120050

SOUTH
Halonix Technologies Pvt. Ltd.
No.6, "Legacy" 1st Floor, Convent Road, Richmond Town, Bengaluru - 560025,
Tel: +91 - 080 - 41125296

MANUFACTURING UNIT
Halonix Technologies Pvt. Ltd.
Plot No.5, Sector 12, IIE SIDCUL, Haridwar, Uttarakhand - 249403

- NOTES:**
- All dimensions are in 'mm'
 - Tolerance-Dimensions ± 10 mm; Beam angle ± 10 degree
 - The image depicted in the catalogue may vary from the actual product
 - ØB: cut out dimension
 - HALONIX TECHNOLOGIES PVT. LTD. reserves the right to make any changes in the design and data without any prior notice



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