

Skyline

Sleek & Elegant- An innovative LED Street light



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Lighting needs are transforming

I want to feel safe and comfortable



Urbanization

We are increasingly urban and global. Today, 50% of the world's population lives in cities. This is expected to rise to 70% by 2050, presenting new challenges



The people's city

Better experiences and better lives

I need to think about the future



Resourcefulness & Economic uncertainty

Surging demand for raw materials/energy means prices and availability are a concern. Impact on the environment too. Tighter budgets are encouraging cities to outsource operations more and more too



Sustainability

Doing more to help people use less

I want to inspire



Branding

The public's enhanced sense of personal identity is today matched by their cities. Inter-city competition aimed at attracting people, tourists and businesses is growing



Urban development, Iconic landmarks

Enhanced experiences, in and around landmarks, and regeneration of old districts

I want to be in control



Connectivity

There are huge new opportunities to improve urban life through connected intelligence, using highly efficient solutions enabled by ICT



Connected city

Intelligent and connected city infrastructure to improve mobility and community life

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Trends in Road Lighting

An increasing level of social and environmental responsibility

- Stronger interest in 'Energy Saving Solutions'
- Need for recyclable 'green products'
- Govt. recyclable subsidies & legislation at municipal level for energy saving & CO2 reduction

Improving 'quality of life' and 'well being' considerations

- Enhanced comfort, safety and security
- Not just light on the road but better uniformity and aesthetic lighting solutions
- Feeling of civic pride, belonging

Rapid urbanization; Economic expansion; GDP Growth; Increasing Wealth

- More roads as a result of rapid infrastructure development
- Upgrading city centers, residential areas, parks & squares

Introducing ...Skyline



*"Maximize energy savings,
Simple & Economical"*

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Skyline - Efficient lighting leads to a brighter future



Features & Benefits:

- **Best in class energy-efficiency** : System efficacy of **110 lm/W (Nominal)**, 1:1 replacement of 280W SON Luminaire
- **Ease of Maintenance**: Top Openable & easy access to the Gear Compartment
- **Impact Resistant (IK 08)** : Protection against vandalism .
- **Ingress Protection (IP 66)** : Higher protection against intrusion of foreign bodies and moisture.
- **Integrated optics** : For better uniformity and low glare
- **Multiple Lumen Packs** : Available in 3 Lumen Packs for varied street applications & suited for ambient temperature up to 35 deg C.
- **Excellent Thermal Management** : Enhanced life of 50K Hrs. – L70B50@50K

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Features & Benefits



1. Maximize energy savings

Up to 50% Energy Saving.

with full compliance to road lighting safety standards.

More Light on the Road.

Superior watts per square meter (W/m²) performance – Using less energy to light each m² on the road.



2. Reliability

Unparalleled strength and durability.

Solid die-cast housing with high ingress protection ensures long life.

Excellent thermal management.

significantly reduces failures.

World class components.

Approbated, high quality LEDs, drivers etc.

Surge Protection.

Fitted with Surge Protection Device up to 10KV ensures reliability



3. Serviceable

Class B Serviceability

TOP opening

Easy opening of housing

Easy Driver /SPD replacement

Maximized Energy Savings

True Energy Savings vs Competitors

Philips Skyline delivers true energy saving with the lowest W/m².













LED Efficacy
Light out of the chip



System Efficacy
Light out of the fixture



Light falling on
the road

System	LED efficiency	System efficacy	Light on the road meeting safety	Safety	Energy Saving
Competitor LED system				 poor optics resulting in poor light distribution on the ground	 More lighting poles needed and thus higher energy consumption
Philips Skyline				 enough illuminance, perfect uniformity and minimized glare	 Reduce the no. of LED units, reduce pole numbers; Optimized energy saving

Philips takes care of all the steps from LED efficiency, system efficacy and road lighting optical design to achieve the best W/m² performance

Maximize Energy Savings

Up to 50% Energy Saving

- Skyline delivers a system efficiency of 110lm/W resulting in up to 50% energy savings against conventional SON systems.
- Skyline uses High efficacy driver and LED platform to ensure higher energy saving and reliable operation over committed lifetime.

High Efficiency Drivers minimizes energy loss



High Efficiency LED Platform
& Integrated Optics



Features

- **BIS Approved Driver**
- **440V Stress Voltage protection for 8 Hrs.**
- **High Cut off : 325V(+/- 15V)**
- **Auto Restart**
- 8 • **Fully Potted & Encapsulated**

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Optimized Road Lighting Performance

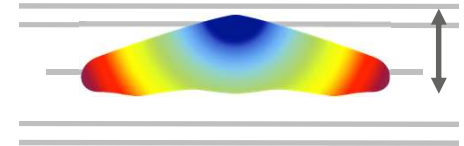
1. Maximized Energy Savings

- Optimized Road Lighting Performance

Selection of unique dedicated optical lens with flexible lumen packages to suit different applications.

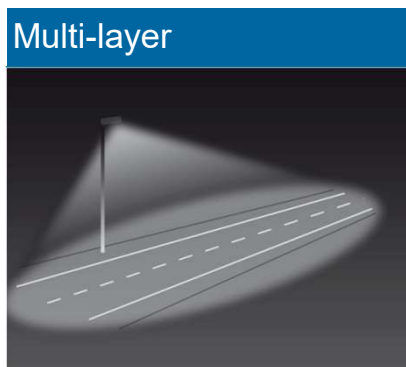
- More Light on the Road

Superior watts per square meter (W/m²) performance – Using less energy to light per m² on the road.

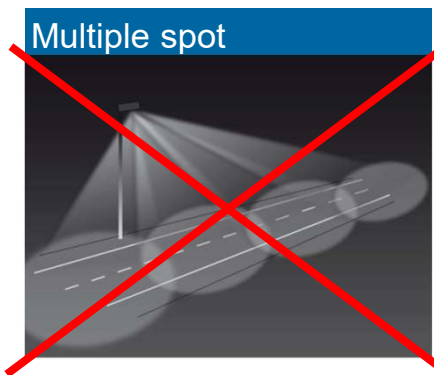


Philips Skyline out-performs other Road Lightings:-

Integrated PC optic design guarantees light uniformity. The innovative Led PCB design ensures road safety in the unlikely event of individual LED failure



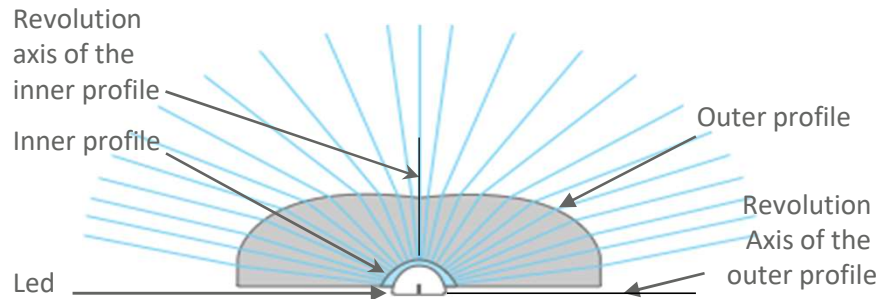
Internal



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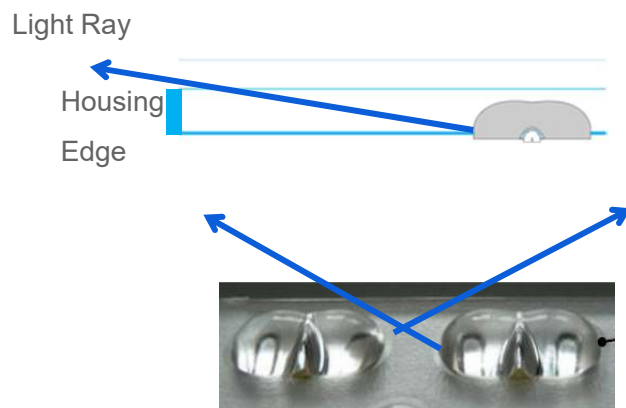
Best-in-class Lens Design & Optics Integration

Best-in-class lens design to direct maximum light onto the road:



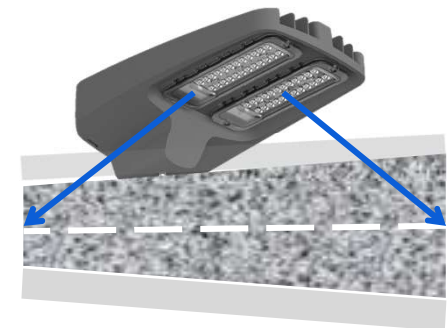
- Inner profile curve for maximum spacing between poles
- Outer profile curve to cover higher road widths

Optics integration: Light and energy loss is minimized with Integrated light source arrangement inside the housing.



The distance between the lens and the housing is calculated to ensure no light is blocked by the housing itself.

The distance between each lens is precisely calculated so the lenses do not block each other's light rays.



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Unparalleled Strength & Durability

Full Die-Cast Aluminum Housing: IK 08 rating

Philips Skyline LED Luminaire is a solid LM 6 alloy Pressure die-cast IK 08 rated housing, ensuring high strength and safety on the pole. The solid die-cast aluminum also has excellent heat dissipation, extending the life of the components inside.

Full IP 66 Ingress Protection Against Water & Dust (without glue)

The double-wall construction, high-quality silicone gasket deliver reliable IP66 performance over the unit's lifetime. No glue is used in the construction to prevent any breakdown of the water and dust proof seal. Full IP66 protection ensures best lighting performance and reduces maintenance cycles, saving time and money.

Internal



BRP 340



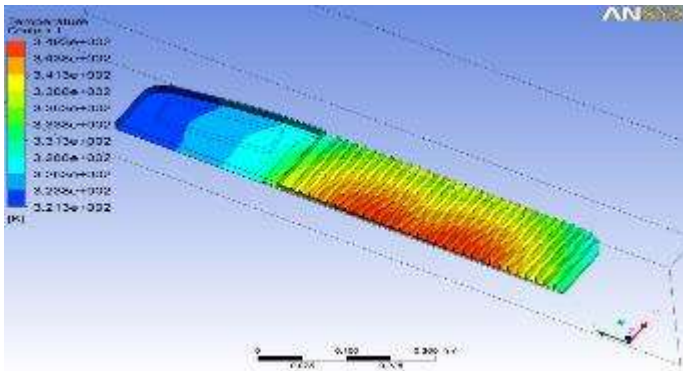
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Reliability :Excellent Thermal Management

Philips Skyline has been analyzed to optimize heat behavior and deliver excellent system performance.

Luminaire Housing Thermal Distribution

Thermal simulation



A **MC Printed Circuit Board** is used to efficiently remove heat from the LED's & transfer it to the housing thereby lowering as much as possible LED's operating temperature.

The MC PCB is mounted on the housing using a highly efficient Thermal Interface Material. The TIM ensures an efficient & robust thermal contact.



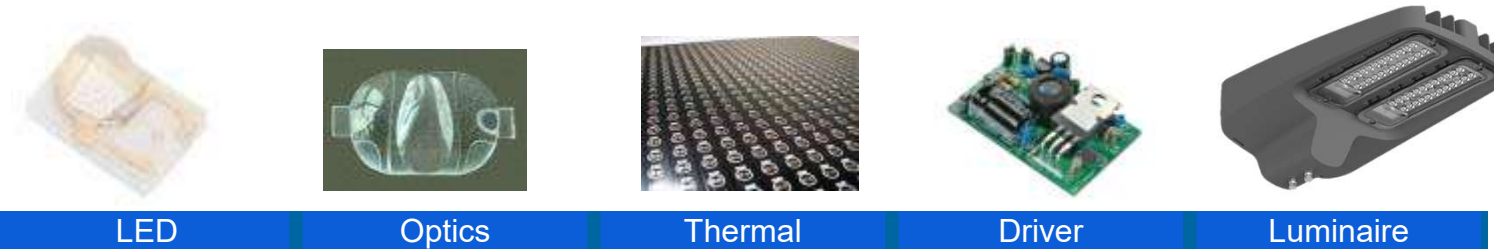
The housing shell under the circuit board was designed to enhance heat transfer & ensure perfect contact b/w the LED board & housing to maximize heat dissipation.



Painted housing which can enhance radiation by increasing emissivity from 0.2 to 0.8, effectively dissipating an additional heat.

Reliability :Best in Class Components

Philips Skyline is made with fully reliable components and comes with complete approbation of the driver and the Luminaire.



Features

- BIS Approved Driver
- 440V Stress Voltage protection for 8 Hrs.
- High Cut off : 325V(+/- 15V)
- Auto Restart
- Fully Potted & Encapsulated

Reliability: Surge Protection

Philips Skyline range is protected with 10KV Series Surge Protection Devices to ensure the driver and LED modules are not damaged.



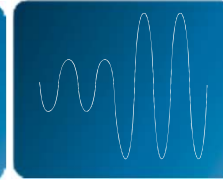
SPD to protect
driver & LED
Module



Driver



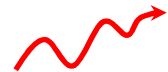
LED
Module



- **Surge > 10KV** may break the SPD, but protect the luminaire since the circuit will be cut-out.



- **Driver** internal surge protection will clamp surge voltage.



LED Module

- **Surge < 10KV**, SPD will clamp voltage down to driver safe level.

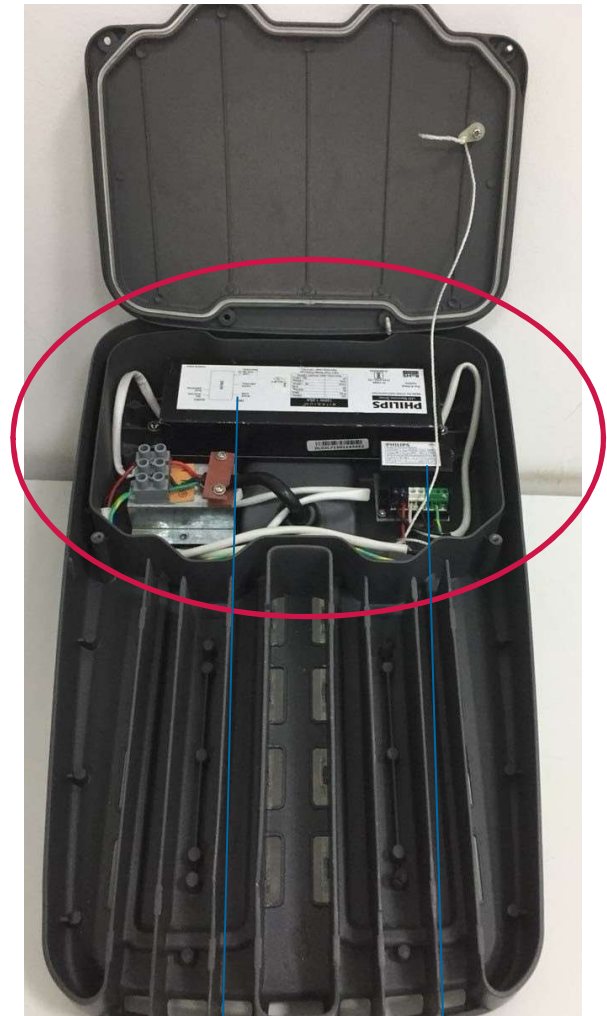


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Ease of Serviceability



Open 4 Screws

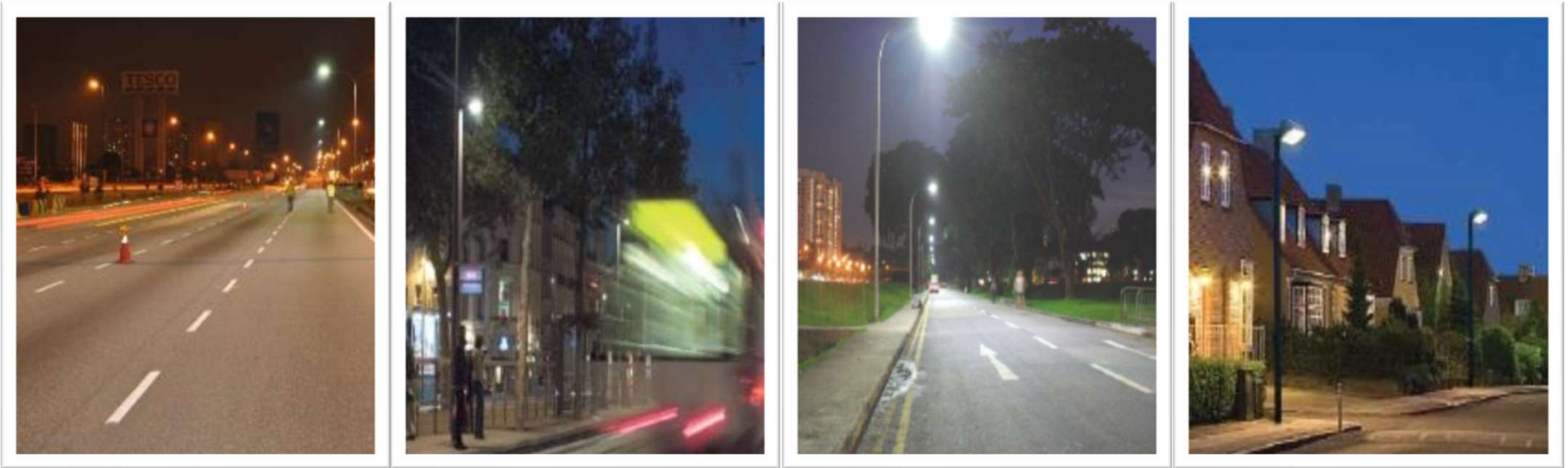


Access to Driver

Access to SPD

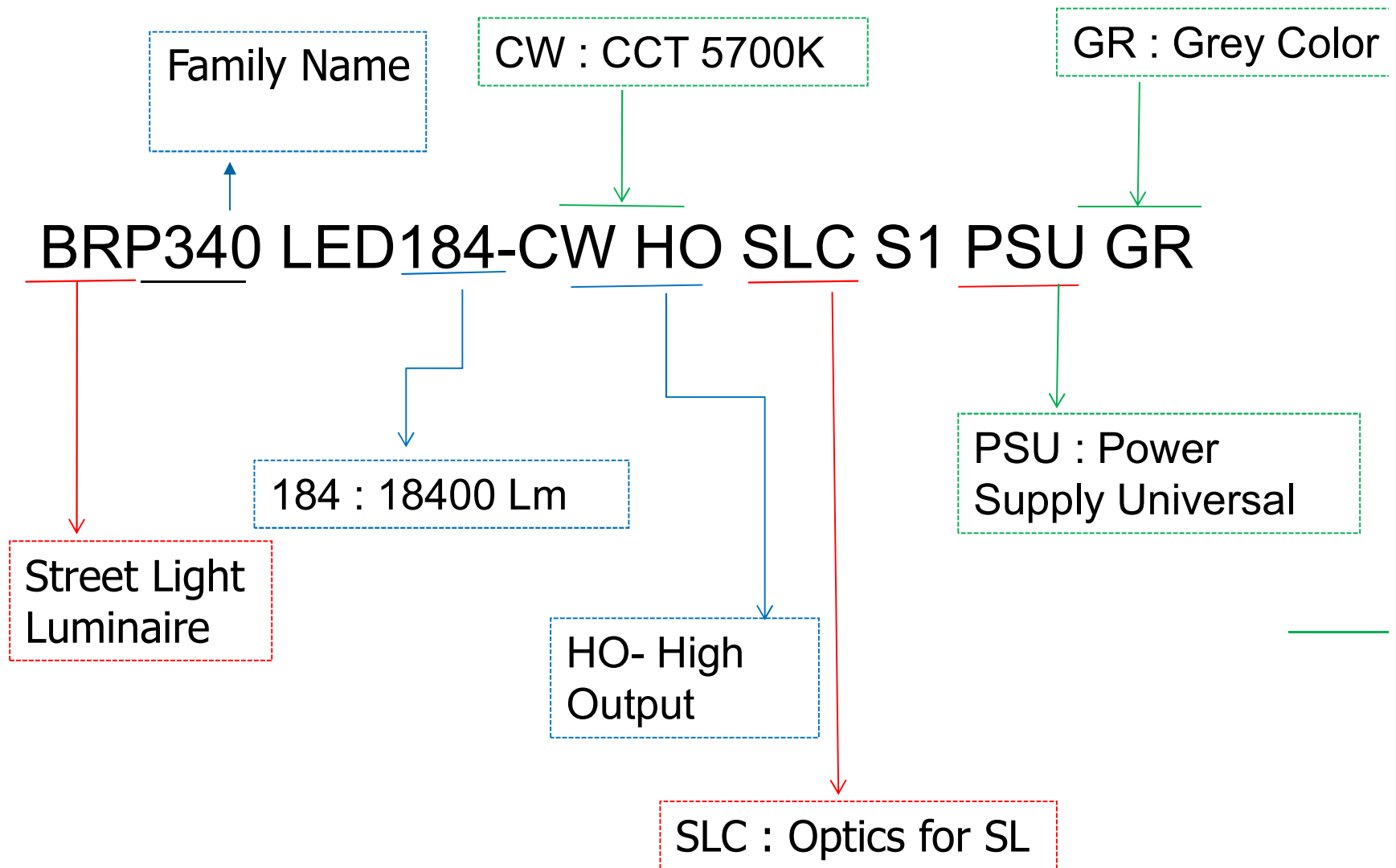
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Overview / Applications



- Highways & Expressways
- City main traffic roads
- City shopping & commercial roads
- Industrial roads
- Residential streets





How to read the Cat ref

Internal

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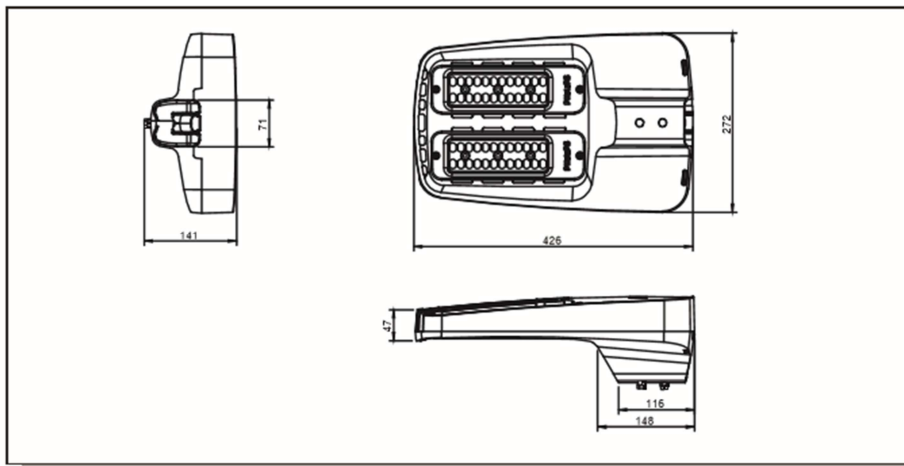
SPECIFICATION SHEET

*All the electrical and photometry parameters will have a variation of +/-10% as per IS

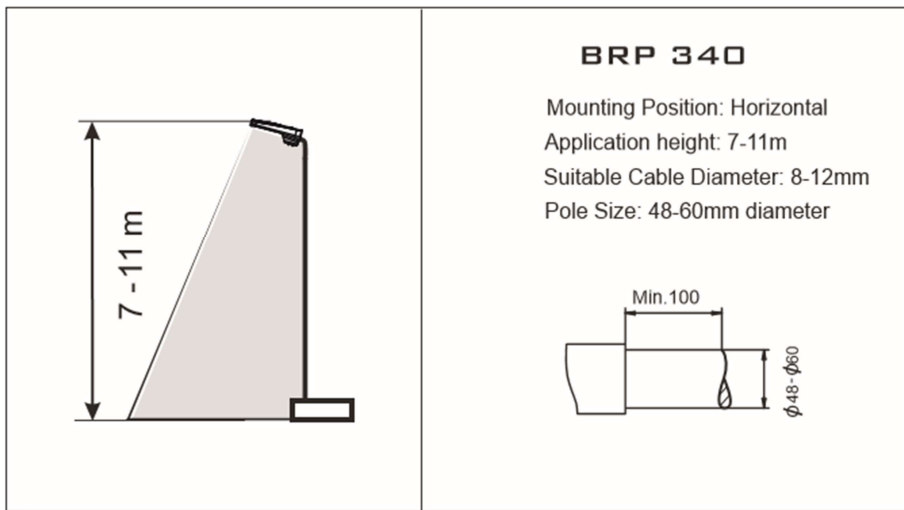
S No.	Description	BRP 340
1	System Lumen	18000 Lm , 16000 Lm 14000 Lm (Nominal)
2	CCT	5700K
3	CRI/ SDCM	70 , <5
4	Electrical Insulation	Class -1
5	IP/ IK	66 / 08
6	Serviceability	Class B
7	Mounting	Pole Dia. : 48mm to 60mm
8	Efficacy	>110 Lm/W
9	Surge	4KV Internal and 10KV External
11	Driver	Fixed output
12	LED	High Power
13	Housing Material / Finishing	Pressure Die Cast Housing LM 6 Alloy/ Anti Dust Exposed Lens
14	THD	≤10% (At Full Load)
15	Serviceability	Class B
16	Optical Covers	Polycarbonate (Integrated)
17	Wattage	160W , 140W , 120W (Nominal)
20	Optics	Street Light Distribution
21	Operating Voltage Range	140-270V
22	Dimensions/Weight	L-426mm , W-272mm , H-141mm , 4Kg(Nominal)

Mounting Instructions

Dimensions

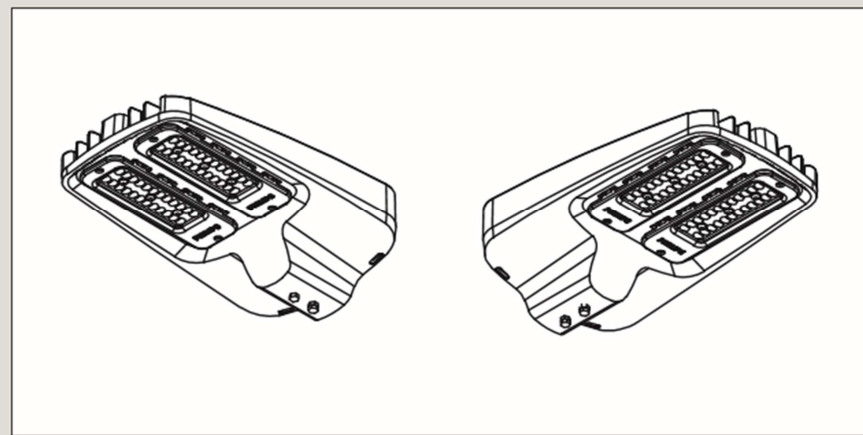


Installation



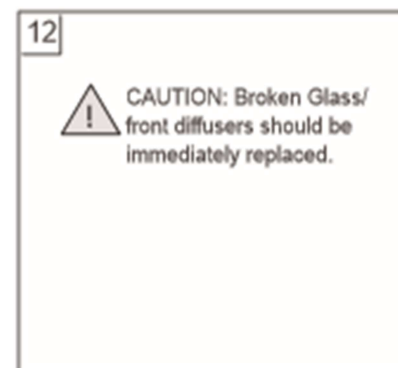
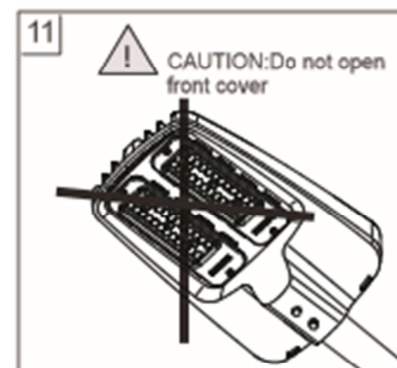
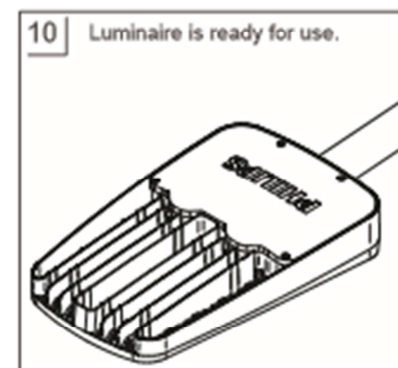
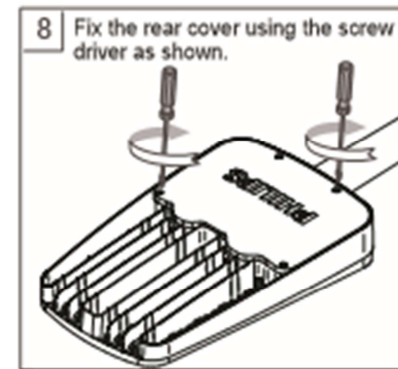
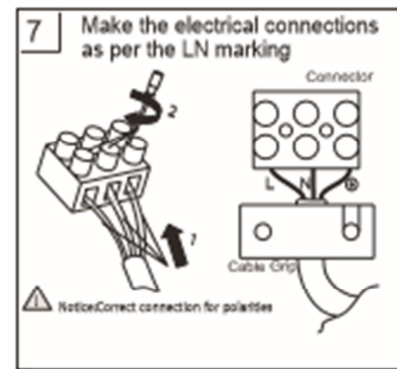
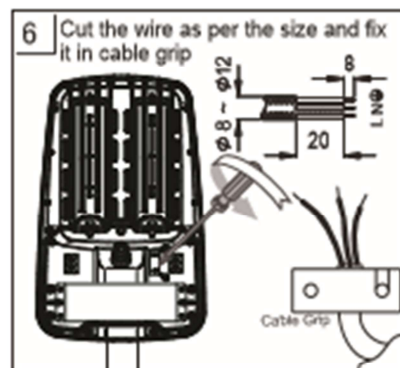
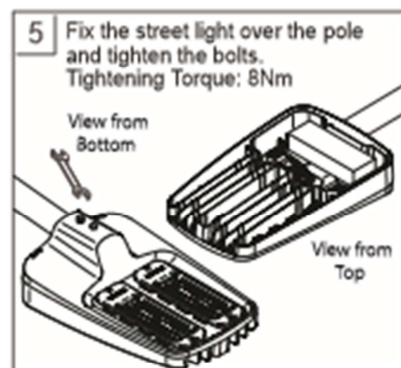
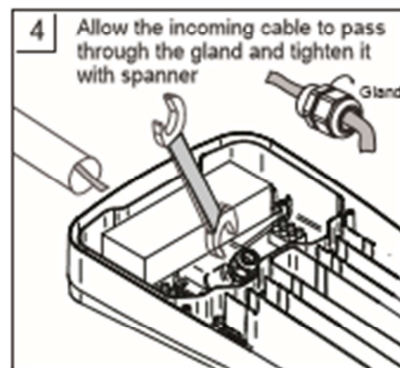
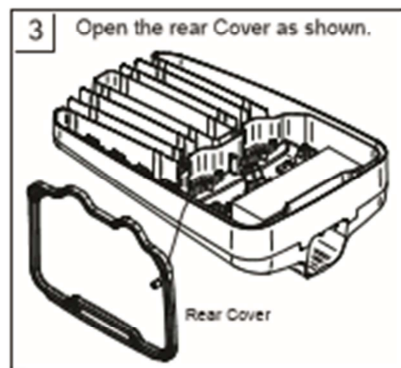
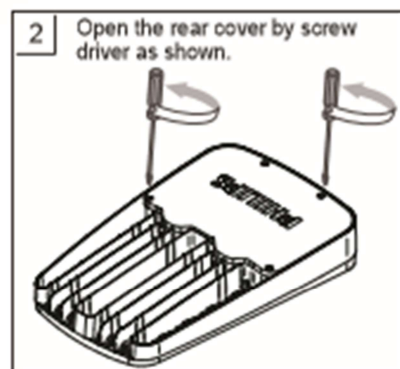
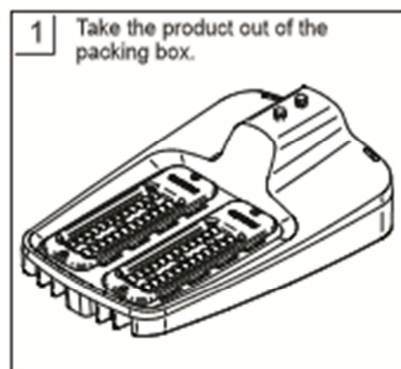
BRP 340

Street Lighting Luminaire



Type	:	BRP 340
Lamp	:	LED
Voltage	:	240 V, 50 Hz
IP Classification	:	IP 66
Net Weight	:	4 kgs
Max. Projected Area	:	0.106 m ²
Application	:	Outdoor use only

Mounting Instructions

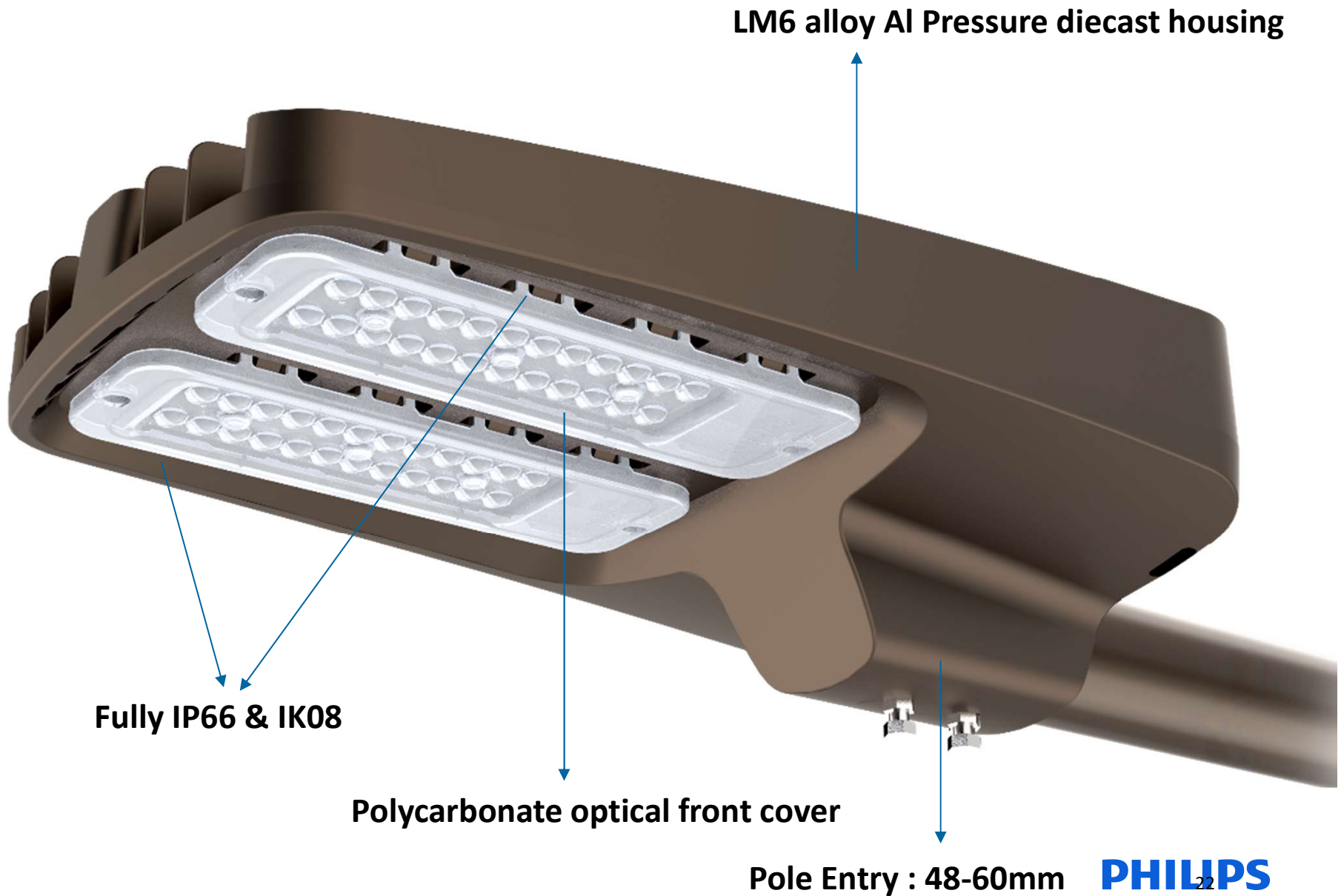


Ordering Codes



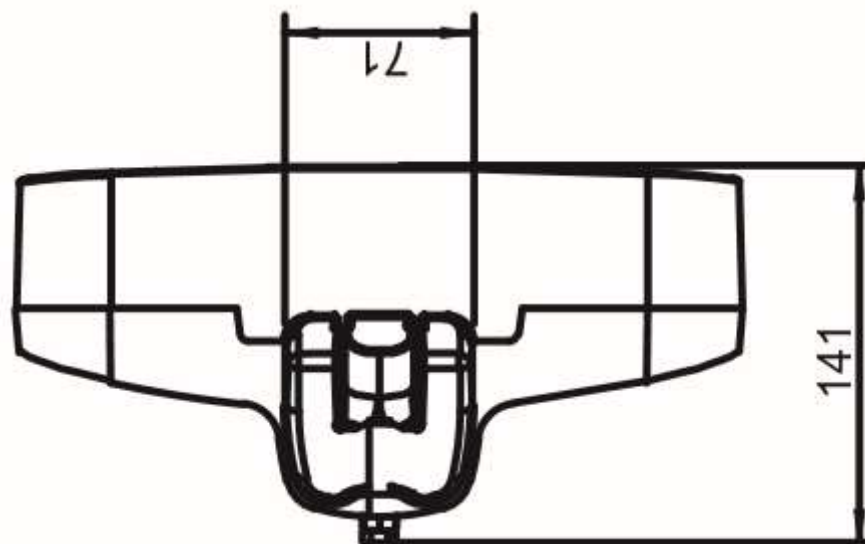
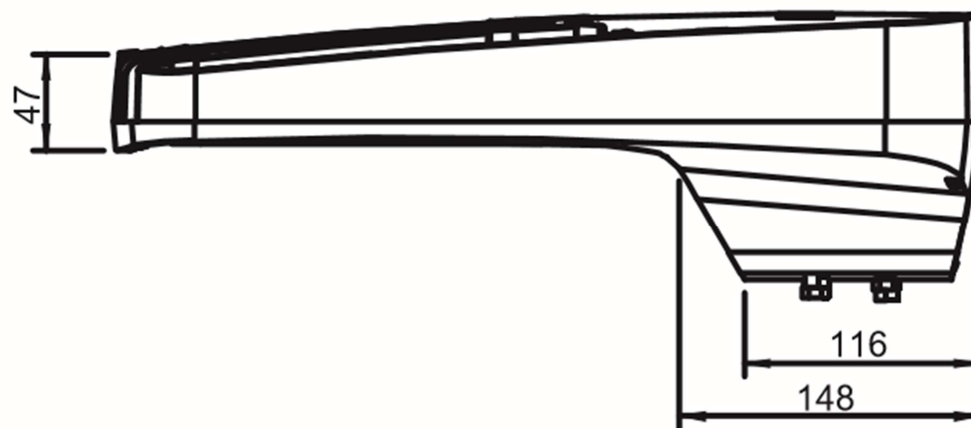
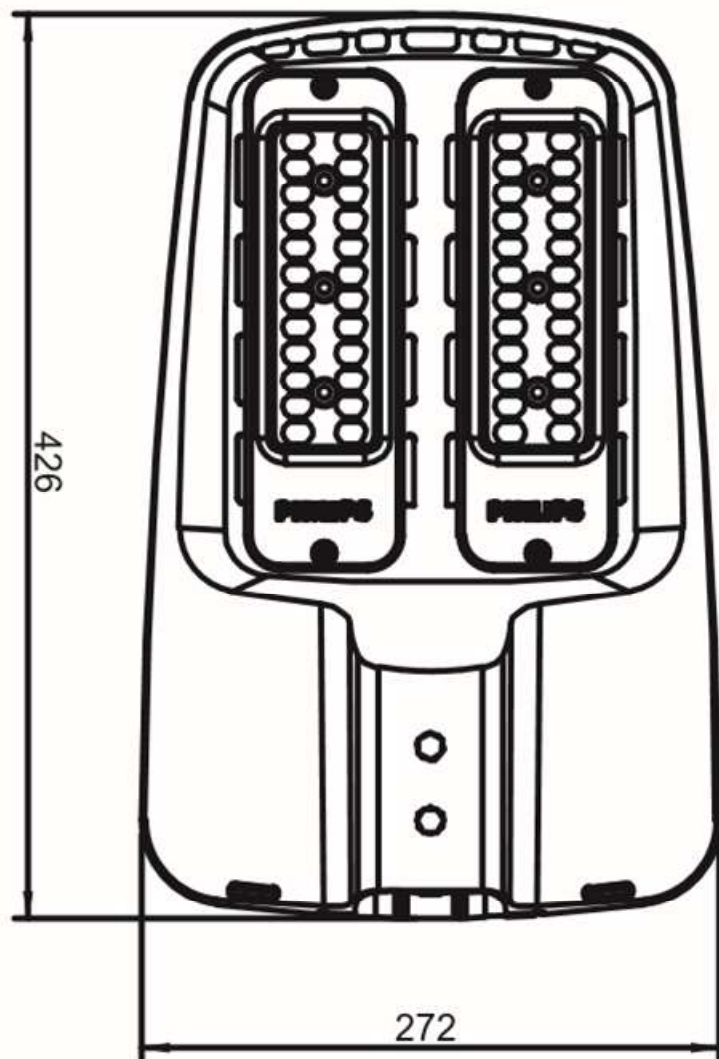
S No.	12 NC	Description	Qty per Box	Spare Driver 12 NC
1	919515812535	BRP 340 LED 138 CW HO SLC S1 PSU GR	1	929001467306
2	919515812537	BRP 340 LED 161 CW HO SLC S1 PSU GR	1	929001467306
3	919515812407	BRP 340 LED 184 CW HO SLC S1 PSU GR	1	929001467306
4	919515812539	BRP 340 LED 138 CW HO SLC S1 PSU GR SPD	1	929001467306
5	919515812541	BRP 340 LED 161 CW HO SLC S1 PSU GR SPD	1	929001467306
6	919515812543	BRP 340 LED 184 CW HO SLC S1 PSU GR SPD	1	929001467306

Slim, Sleek, Elegant, Aesthetically appealing and Light weight Design



Dimensions

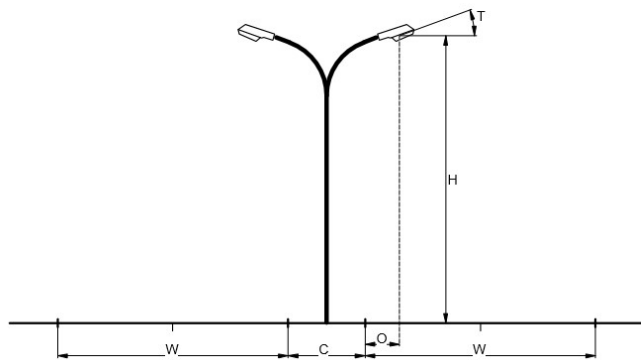
Type	Luminaire Dimension(mm)	Weight(kg)
BRP340	L426xB272xW141	4 Kg



Street Light Simulation A1 Category Road- Twin Central

3.1 Main Road

Luminaire Type : BRP340 LED 184 CW HO SLC S1 PS
 Lamp Type : 1 * LED
 Lamp Flux : 17870 lumen
 Tilt90 (T) : 10.0 deg
 Grid Method : CEN Luminance
 Project Maintenance Factor : 0.80

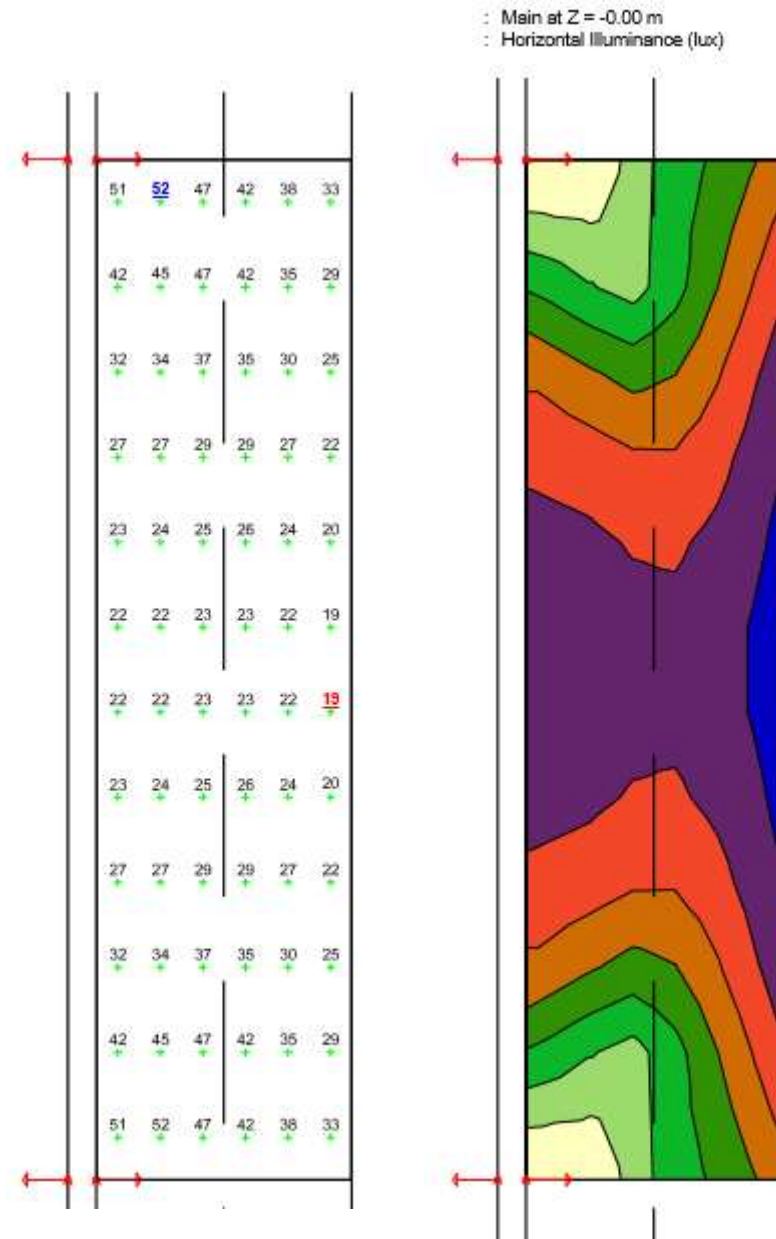


Carriageway : Dual Carriageway
 Central Reserve (C) : 1.00 m
 Road Width (W) : 9.00 m
 Number of Lanes : 2
 Reflection Table : CIE C1
 Q0 of Table : 0.100
 Maintenance Factor : 0.80
 Installation : Twin Central
 Height (H) : 9.00 m
 Spacing (S) : 36.00 m
 Overhang (O) : 0.00 m

Overall quality figures for the above road scheme.

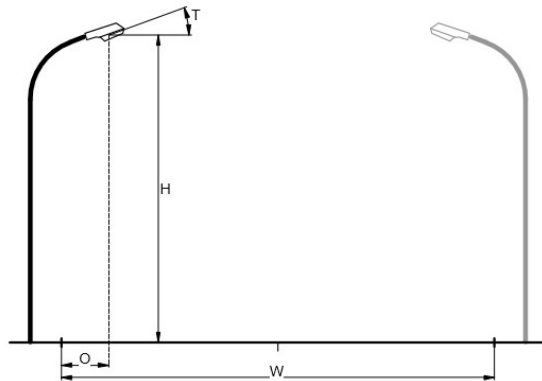
Horizontal Illuminance

Average = 31.4 lux
 Minimum/Maximum = 0.37
 Minimum/Average = 0.61



Street Light Simulation A1 Category Road- Staggered

Luminaire Type : BRP340 LED 184 CW HO SLC S1 PS
 Lamp Type : 1 * LED
 Lamp Flux : 17870 lumen
 Tilt90 (T) : 0.0 deg
 Grid Method : CEN Luminance
 Project Maintenance Factor : 0.80

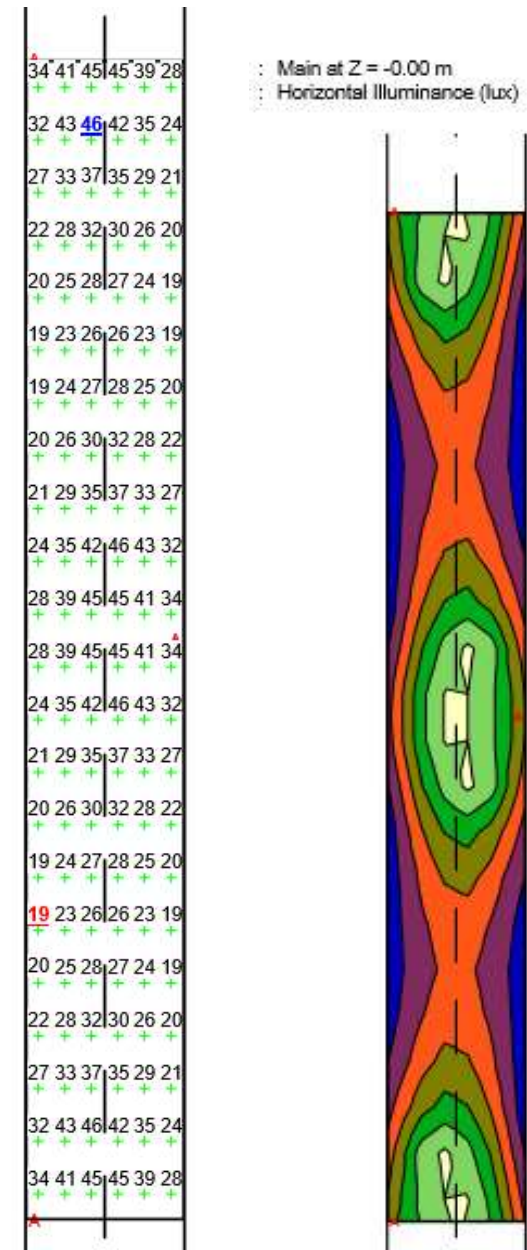


Carriageway : Single Carriageway
 Road Width (W) : 9.00 m
 Number of Lanes : 2
 Reflection Table : CIE C1
 Q0 of Table : 0.100
 Maintenance Factor : 0.80
 Installation : Staggered
 Height (H) : 9.00 m
 Spacing (S) : 33.00 m
 Overhang (O) : 0.50 m

Overall quality figures for the above road scheme.

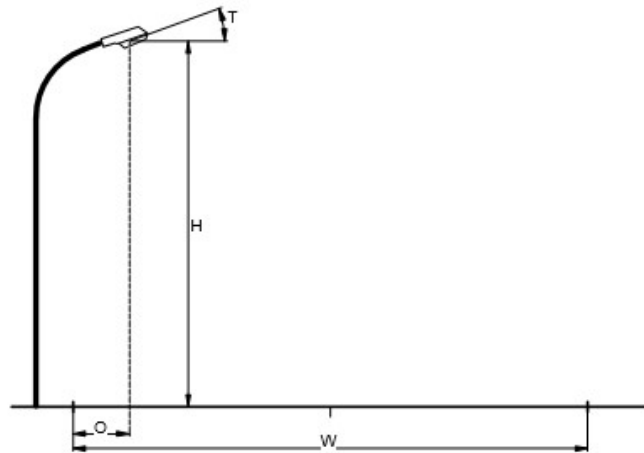
Horizontal Illuminance

Average	=	30.5	lux
Minimum/Maximum	=	0.42	
Minimum/Average	=	0.63	



Street Light Simulation A1 Category Road- Single Sided

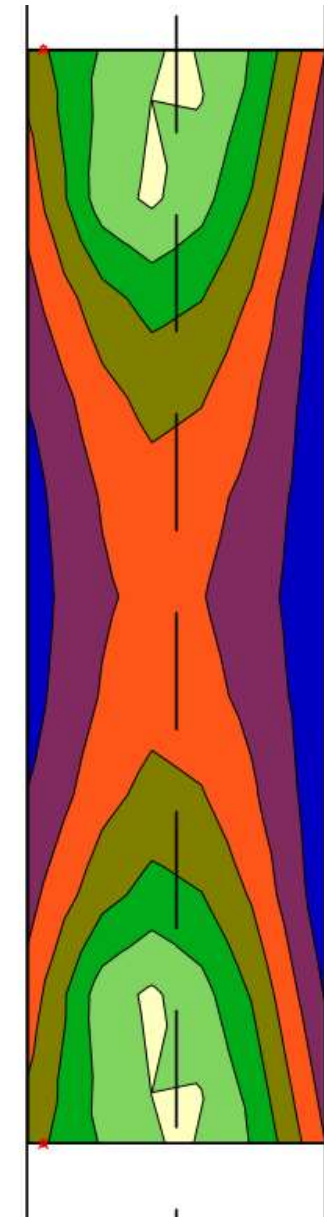
Luminaire Type : BRP340 LED 184 CW HO SLC S1 PS
 Lamp Type : 1 * LED
 Lamp Flux : 17870 lumen
 Tilt90 (T) : 0.0 deg
 Grid Method : CEN Luminance
 Project Maintenance Factor : 0.80



Carriageway : Single Carriageway
 Road Width (W) : 9.00 m
 Number of Lanes : 2
 Reflection Table : CIE C1
 Q0 of Table : 0.100
 Maintenance Factor : 0.80
 Installation : Single Sided Left
 Height (H) : 9.00 m
 Spacing (S) : 33.00 m
 Overhang (O) : 0.50 m

Overall quality figures for the above road scheme.

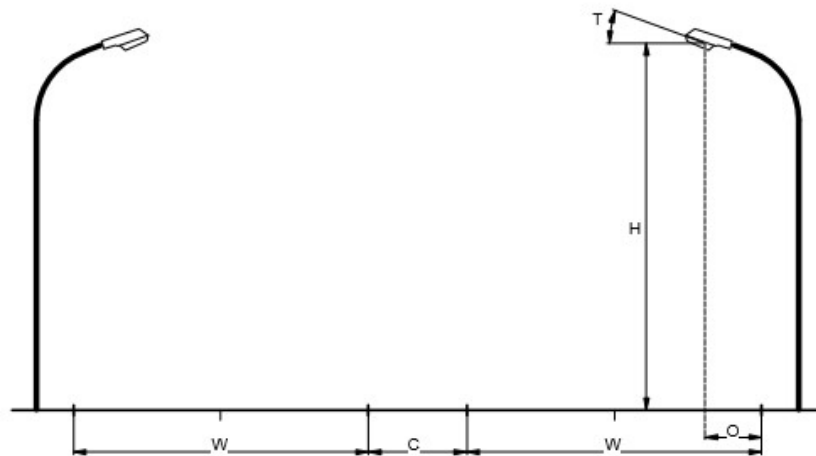
Horizontal Illuminance
 Average = 30.5 lux
 Minimum/Maximum = 0.40
 Minimum/Average = 0.60



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Street Light Simulation A1 Category Road- Opposite

Luminaire Type : BRP340 LED 184 CW HO SLC S1 PS
 Lamp Type : 1 * LED
 Lamp Flux : 17870 lumen
 Tilt90 (T) : 0.0 deg
 Grid Method : CEN Luminance
 Project Maintenance Factor : 0.80

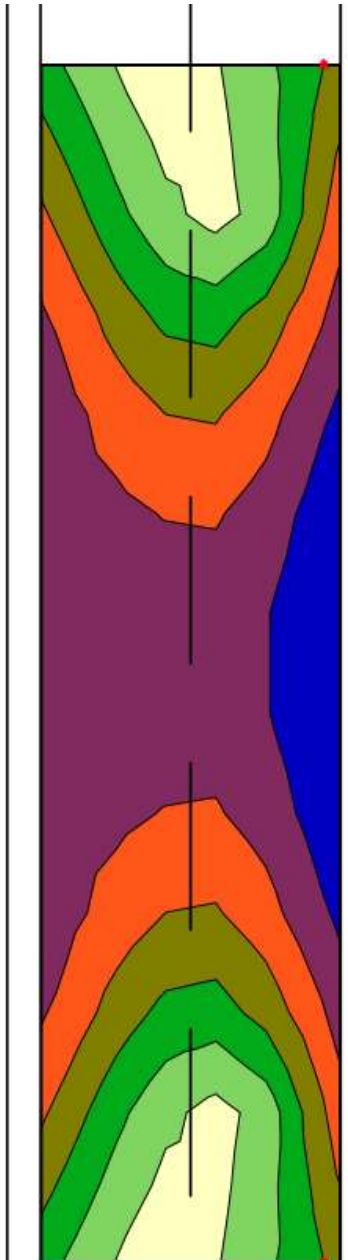


Carriageway : Dual Carriageway
 Central Reserve (C) : 1.00 m
 Road Width (W) : 9.00 m
 Number of Lanes : 2
 Reflection Table : CIE C1
 Q0 of Table : 0.100
 Maintenance Factor : 0.80
 Installation : Opposite
 Height (H) : 9.00 m
 Spacing (S) : 36.00 m
 Overhang (O) : 0.50 m

Overall quality figures for the above road scheme.

Horizontal Illuminance

Average = 30.6 lux
 Minimum/Maximum = 0.35
 Minimum/Average = 0.55



We listen to and understand your needs



Global presence
and local experience
delivering multi-tiered
support



One-stop shop:
solutions and services
across the lighting value
chain



World-class innovation
capabilities and deep
application and system
expertise



Proven record of
quality and reliability –
no unpleasant surprises

