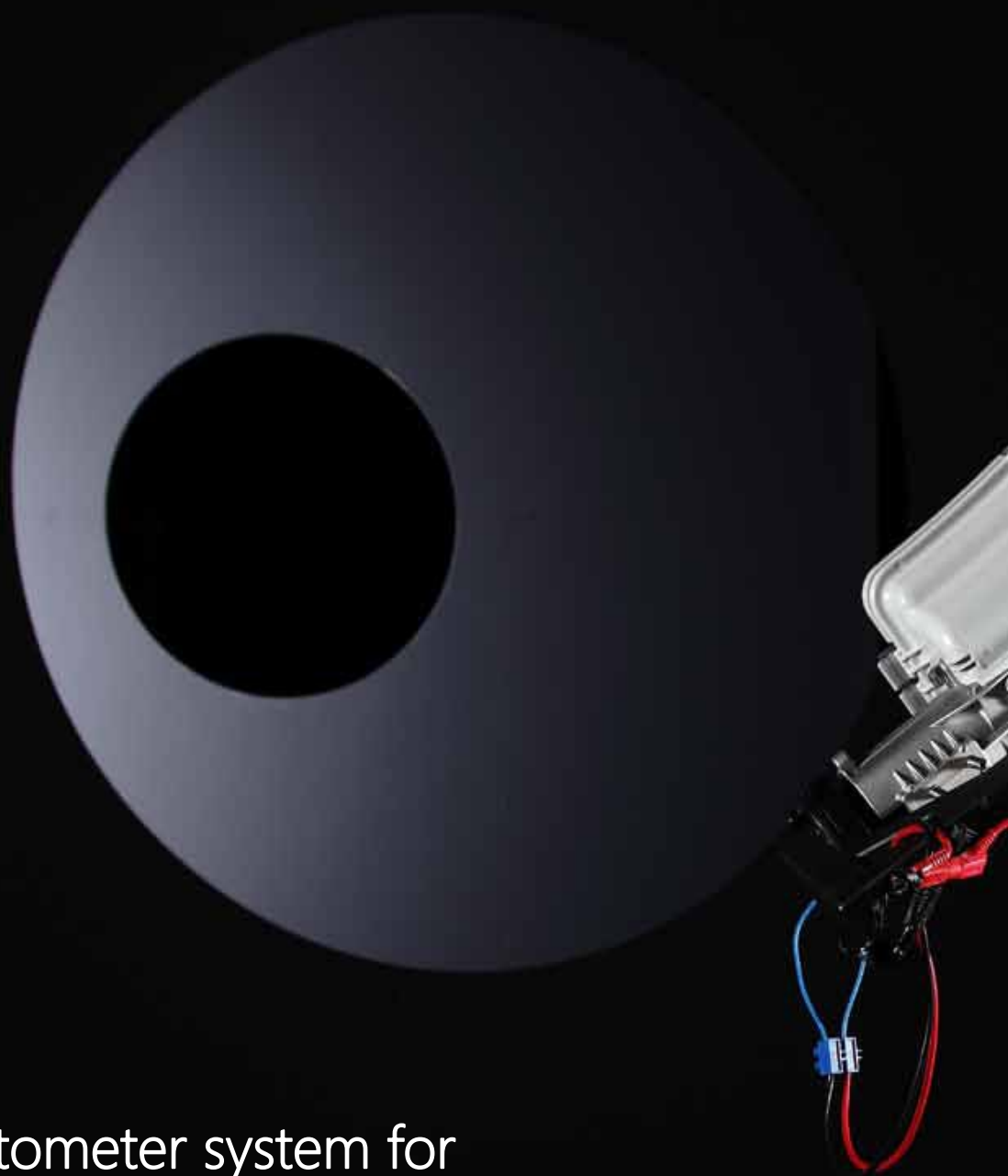


Optik



A large, dark, circular goniophotometer system is shown, with a smaller circular opening in the center. To the right, a white electronic device is connected to the system via a black cable and a blue connector. Red and blue wires are also visible.

Goniophotometer system for
Measurement and calculations of lighting
parameters on the road.



CONTENT

- ⇒ LED ROAD LIGHTING FIXTURES
- ⇒ LED FLOODLIGHTS (INDOOR&OUTDOOR)
- ⇒ SODIUM LIGHTING FIXTURES
- ⇒ FLOODLIGHTS
- ⇒ LIGHTING POLES
- ⇒ ENERGY TRANSMISSION AND DISTRIBUTION POLES
- ⇒ HIGH MASTS
- ⇒ DECORATIVE & ARCHITECTURAL LIGHTING
- ⇒ LED INDOOR LIGHTING
- ⇒ ELECTRIC BOARDS AND PANNELS

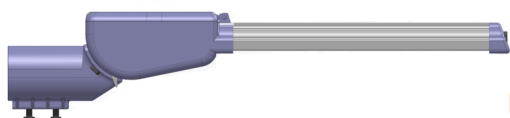
SAKA



LED ROAD LIGHTING FIXTURES



SAKA (8 MODULS)



Key Features

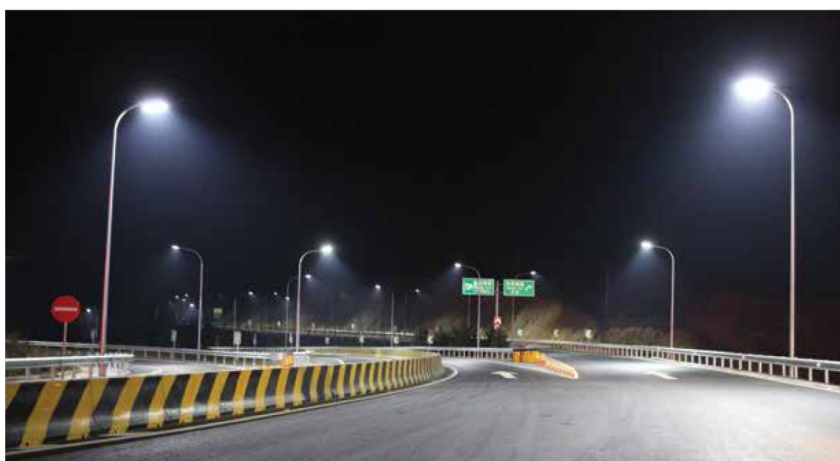
- ⇒ From 105—220 W
- ⇒ 8 Moduls/96 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 140 x 60 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
8M	775	279	128	9

Street Lighting



Road Lighting



Solar Lighting



Car Park Lighting





SAKA (6 MODULS)



Key Features

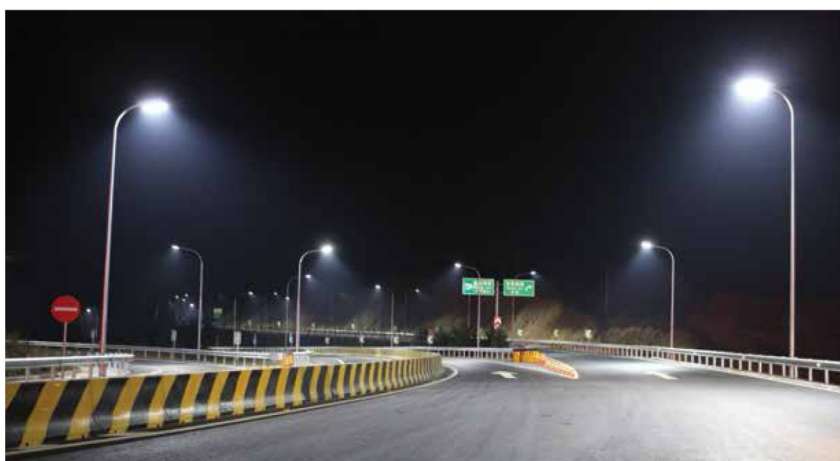
- ⇒ From 80—160 W
- ⇒ 6 Moduls/72 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Eaisly Adjustable fixture angles
- ⇒ Beam Angle 140 x 60 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
6M	678	279	128	8

Street Lighting



Road Lighting



Solar Lighting

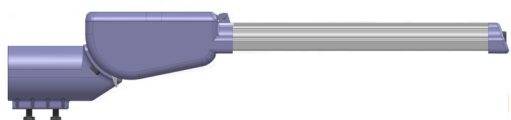


Car Park Lighting





SAKA (4 MODULS)



Key Features

- ⇒ From 50—110 W
- ⇒ 4 Moduls/48 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Eaisly Adjustable fixture angles
- ⇒ Beam Angle 140 x 60 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
4M	591	279	128	7

Street Lighting



Road Lighting



Solar Lighting



Car Park Lighting





SAKA (2 MODULS)



Key Features

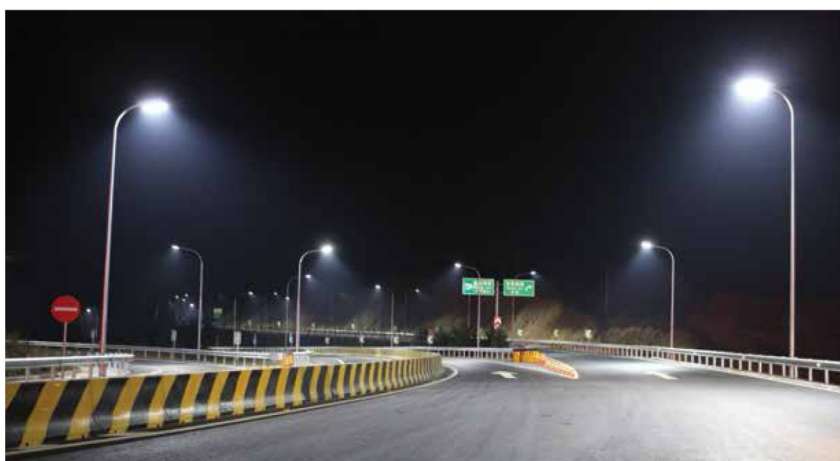
- ⇒ From 25-55 W
- ⇒ 2 Moduls/24 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 140 x 60 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
2M	504	279	128	6

Street Lighting



Road Lighting



Solar Lighting



Car Park Lighting



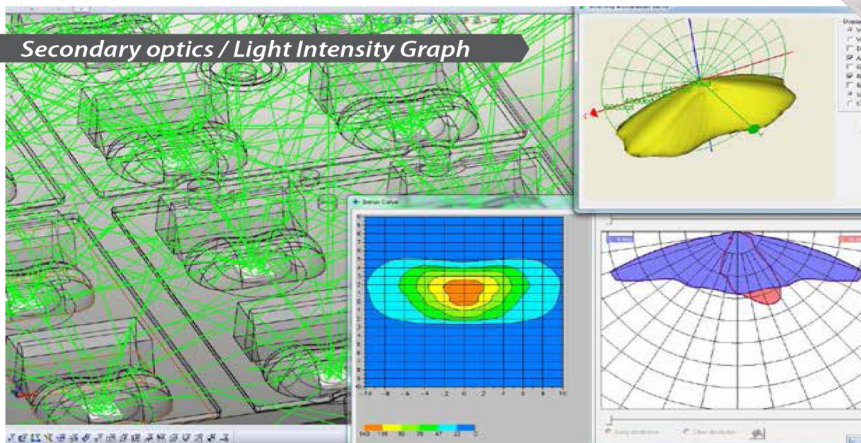


Thermal Management Operative Cooling

MODEL	ANKA 2M	ANKA 4M	ANKA 6M	ANKA 8M	ANKA 10M
POWER (W)	25 - 55	50 - 110	80 - 160	105 - 210	130-275
INPUT VOLTAGE (V)	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz
POWER FACTOR	≥ 0,95	≥ 0,95	≥ 0,95	≥ 0,95	≥ 0,95
MODUL QUANTITY (pcs)	2	4	6	8	10
LED QUANTITY (pcs)	24	48	72	96	120
POWER LED	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG
TOTAL FLUX (lumen)	2900-5500	5750-11000	9200-16500	12150-21250	14850-27150
LUMINOUS EFFICIENCY (lm/W)	115-100	115-100	115-100	115-100	115-100
SECONDARY OPTICS	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL
BEAM ANGLE (degree)	80°	80°	80°	80°	80°
OPERATING TEMPERATURE (°C)	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C
DIMENSIONS (mm)	279 X 260	279 X 347	279 X 434	279 X 531	279 X 636
NET WEIGHT (kg)	6	7,25	8,5	9,85	11,25

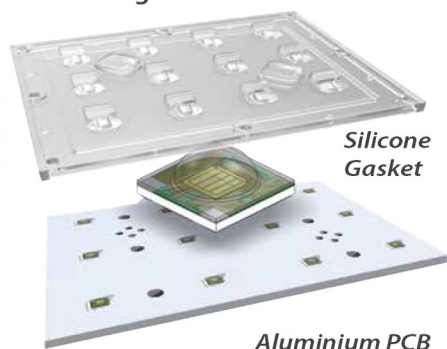
Photometrical Features

Secondary optics / Light Intensity Graph



Product - Model	SAKA 2M	SAKA 4M	SAKA 6M	SAKA 8M
POWER (W)	25- 55	50- 110	80- 160	105- 220
TOTAL FLUX (lumen)	2900- 5500	5750- 11000	9200- 16500	12150- 21250
LUMINOUS EFFICIENCY (lm/ W)	115- 100	115- 100	115- 100	115- 100
CCT (*K)	4000- 4500	4000- 4500	4000- 4500	4000- 4500
ILLUMINANCE CLASS	ME4	ME3-ME2	ME2-ME1	ME1

**Optical grade
PC LENS modul**
% 90 optical efficiency
Beam Angle 145° X 60°



Silicone
Gasket

Aluminium PCB

Benefit of LED Lighting

High performance luminous flux

More brightness than traditional lights.

Tremendous Energy Efficient

%40- 70 energy saving when compared to traditional bulbs.

Long Life Time

Life- span up to 12 years which equivalent 50, 000 hours. Unlike traditional light bulbs, LED is not fragile to breakage or vandalism.

Environment Friendly

Ultra- Violet (UV) % InfraRed (IR) free, no hazardous materials and a less disposal waste.

CO2 Discharge Reduction

Potentially reduce 50% less of CO2 discharged.

Improved visibility

No glare or strobe effects.

Revolutionary photometric design

Excellent uniformity beam pattern.

High color index

Unique color index providing a bright and true colors during night time hours.

Instant start

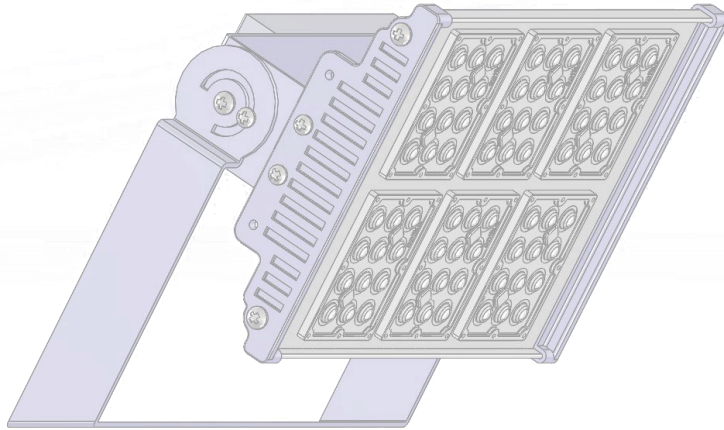
Unlike sodium light, LED do not require a time delay to reach optimum brightness levels.

Easy to automation control

Thermal Management Operative Cooling



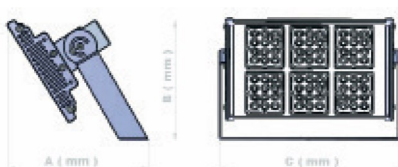
ANKA



LED FLOODLIGHTS

ANKA

(10 MODULES)



Key Features

- ⇒ From 130-275W
- ⇒ 10 Modules/120 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 80 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
10M	341	288	636	11,25

Factory Lighting



Gas Station Lighting



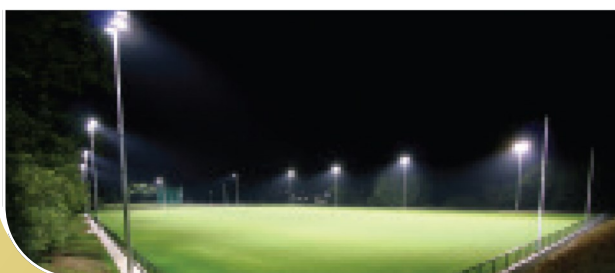
Warehouse Lighting



Facade Lighting



Sports Area Lighting

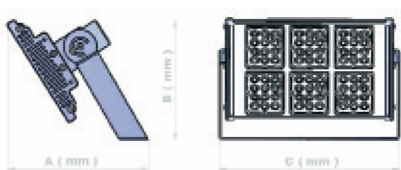


Car Park Lighting





ANKA (8 MODULS)



Key Features

- ⇒ From 105-220W
- ⇒ 8 Moduls/96 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 80 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
8M	341	288	531	9,85

Factory Lighting



Gas Station Lighting



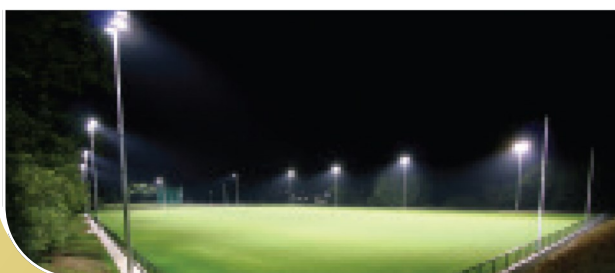
Warehouse Lighting



Facade Lighting



Sports Area Lighting

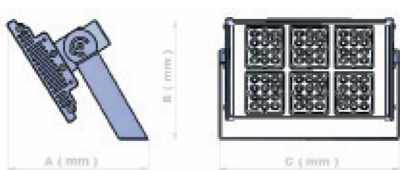


Car Park Lighting



ANKA

(6 MODULS)

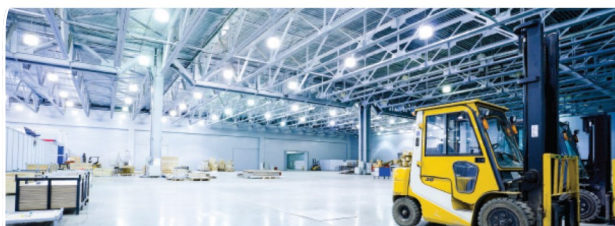


Key Features

- ⇒ From 105-220W
- ⇒ 6 Moduls/72 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 80 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
6M	341	288	434	8,50

Factory Lighting



Gas Station Lighting



Warehouse Lighting



Facade Lighting



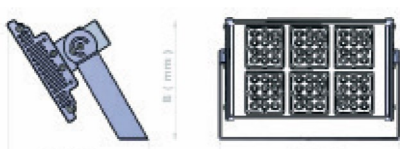
Sports Area Lighting



Car Park Lighting



ANKA (4 MODULS)



Key Features

- ⇒ From 50-110W
- ⇒ 4 Moduls/48 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 80 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
4M	341	288	347	7,25

Factory Lighting



Gas Station Lighting



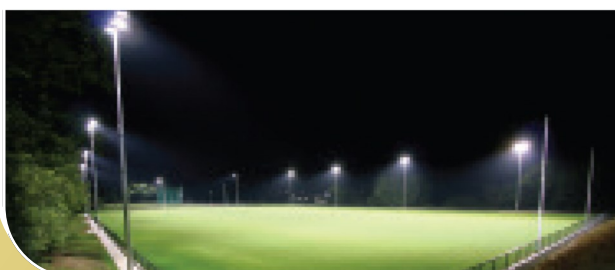
Warehouse Lighting



Facade Lighting



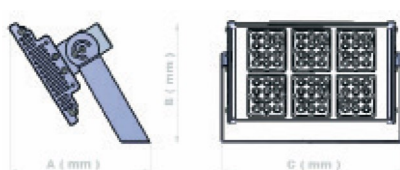
Sports Area Lighting



Car Park Lighting



ANKA (2 MODULS)



Key Features

- ⇒ From 25-55W
- ⇒ 2 Moduls/24 LED's
- ⇒ IP 66
- ⇒ Electric Protection: Class 1
- ⇒ Easily Adjustable fixture angles
- ⇒ Beam Angle 80 degree
- ⇒ %90 Optical Efficiency
- ⇒ Mechanical Endurance IK09

Model	A (mm)	B (mm)	C (mm)	WEIGHT (kg)
2M	341	288	260	6

Factory Lighting



Gas Station Lighting



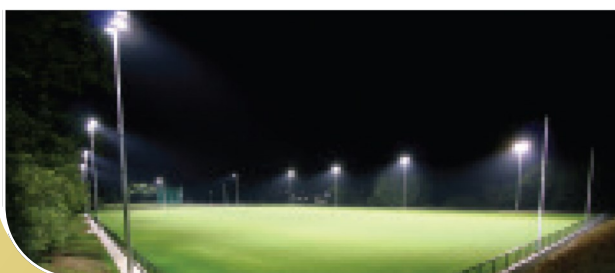
Warehouse Lighting



Facade Lighting



Sports Area Lighting



Car Park Lighting





Thermal Management Operative Cooling

MODEL	ANKA 2M	ANKA 4M	ANKA 6M	ANKA 8M	ANKA 10M
POWER (W)	25 - 55	50 - 110	80 - 160	105 - 210	130-275
INPUT VOLTAGE (V)	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz
POWER FACTOR	≥ 0,95	≥ 0,95	≥ 0,95	≥ 0,95	≥ 0,95
MODUL QUANTITY (pcs)	2	4	6	8	10
LED QUANTITY (pcs)	24	48	72	96	120
POWER LED	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG	CREE, NICHIA, OSRAM, SAMSUNG
TOTAL FLUX (lumen)	2900-5500	5750-11000	9200-16500	12150-21250	14850-27150
LUMINOUS EFFICIENCY (lm/W)	115-100	115-100	115-100	115-100	115-100
SECONDARY OPTICS	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL	Optic Grade PC LENS MODUL
BEAM ANGLE (degree)	80°	80°	80°	80°	80°
OPERATING TEMPERATURE (°C)	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C	- 40 C / + 50 C
DIMENSIONS (mm)	279 X 260	279 X 347	279 X 434	279 X 531	279 X 636
NET WEIGHT (kg)	6	7,25	8,5	9,85	11,25
IP	66	66	66	66	66
IMPACT	IK 09	IK 09	IK 09	IK 09	IK 09
EARTH CONNECTION	CLASS I	CLASS I	CLASS I	CLASS I	CLASS I

Benefit of LED Lighting

High performance luminous flux

More brightness than traditional lights.

Tremendous Energy Efficient

940- 70 energy saving when compared to traditional bulbs.

Long Life Time

Life- span up to 12 years which equivalent 50, 000 hours. Unlike traditional light bulbs, LED is not fragile to breakage or vandalism.

Enviroment Friendly

Ultra- Violet (UV) 96 InfraRed (IR) free, no hazardous materials and a less disposal waste.

CO2 Discharge Reduction

Potentially reduce 50% less of CO2 discharged.

Improved visibility

No glare or strobe effects.

Revolutionary photometric design

Excellent uniformity beam pattern.

High color index

Unique color index providing a bright and true colors during night time hours.

Instant start

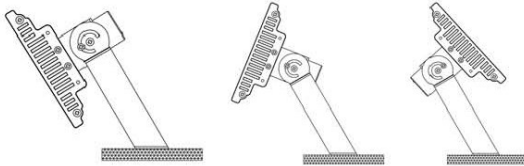
Unlike sodium light, LED do not require a time delay to reach optimum brightness levels.

Easy to automation control



Fixation Forms

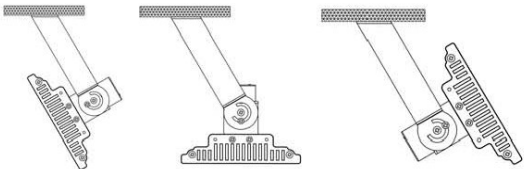
Pole Mount



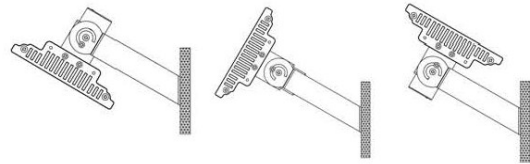
Easily adjustable
fixation angles



Ceiling

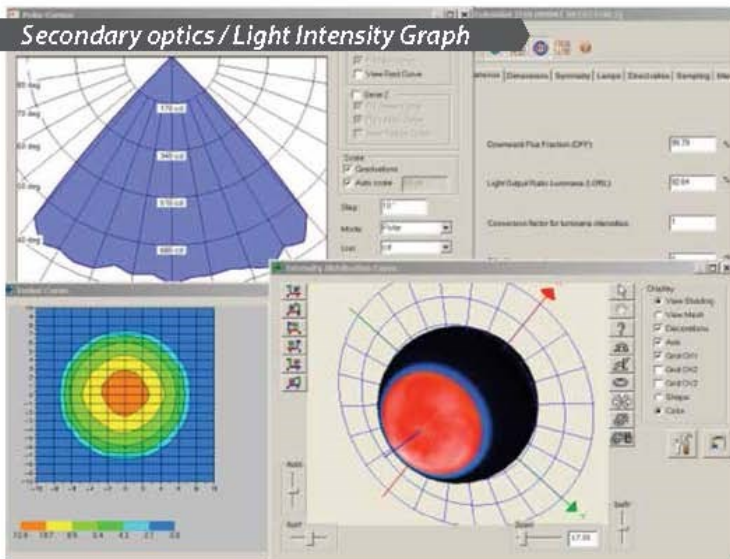


Wall

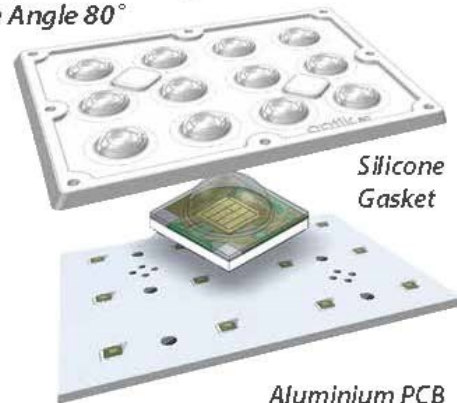


Photometrical Features

Secondary optics / Light Intensity Graph



Optical grade
PC LENS modul
% 90 optical efficiency
Beam Angle 80°

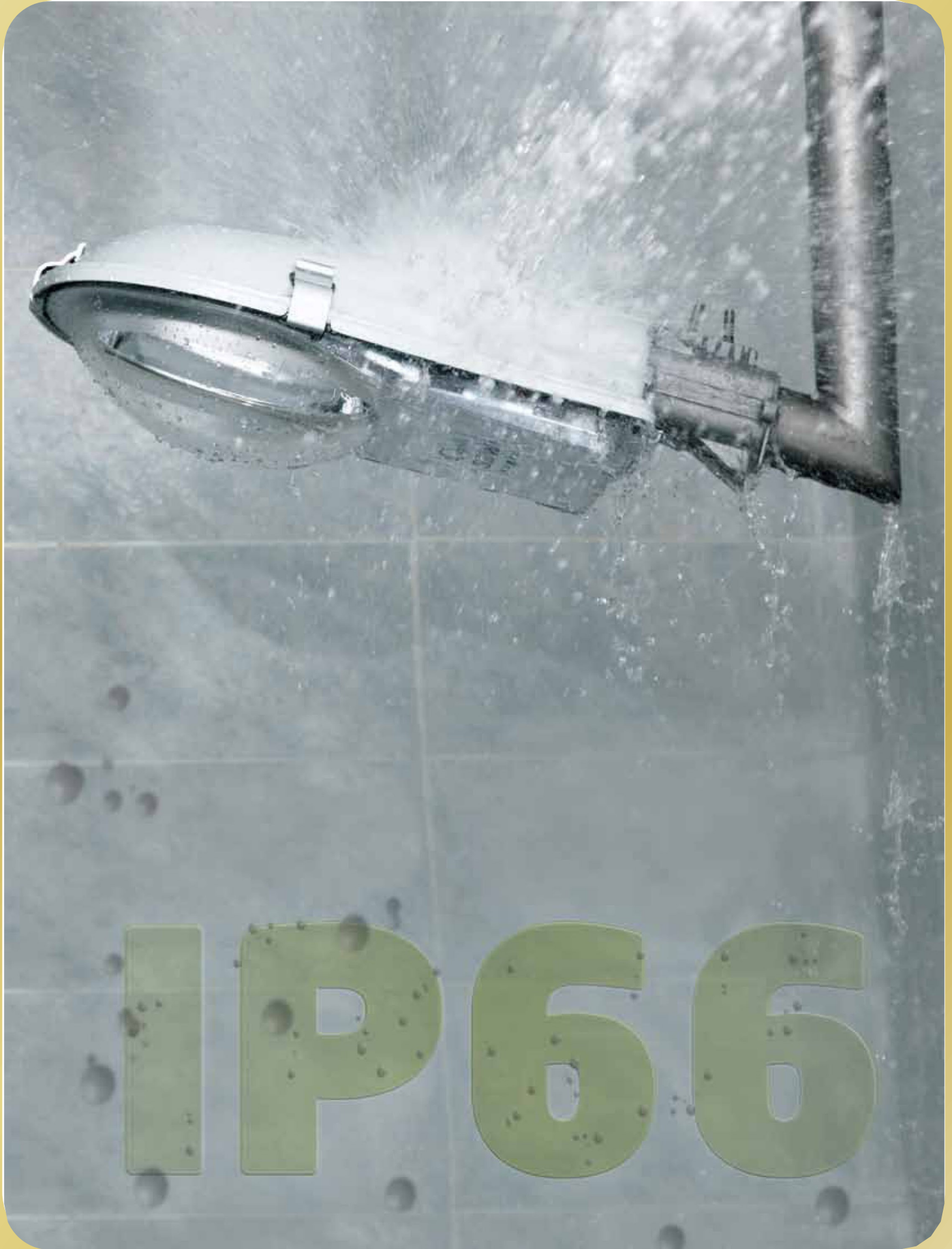


Product - Model	ANKA 2M	ANKA 4M	ANKA 6M	ANKA 8M	ANKA 10M
POWER (W)	25- 55	50- 110	80- 160	105- 220	130- 275
TOTAL FLUX (lumen)	2900- 5500	5750- 11000	9200- 16500	12150- 21250	14850- 27150
LUMINOUS EFFICIENCY (lm / W)	115- 100	115- 100	115- 100	115- 100	115- 100

KUMRU



SODIUM FIXTURES



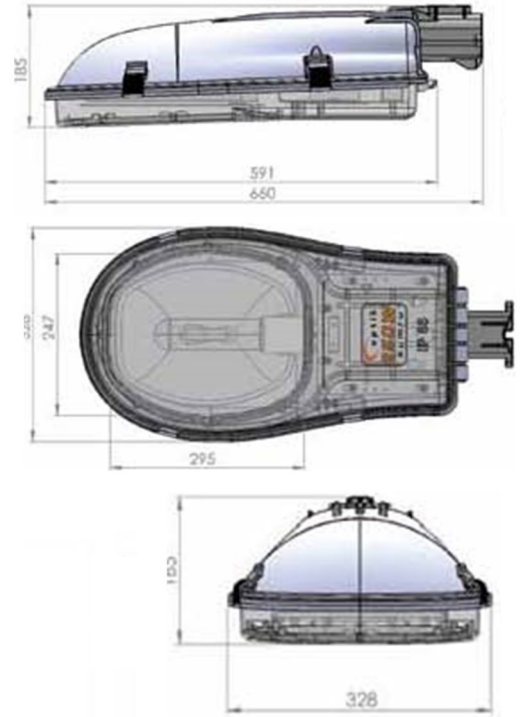
KUMRU SODIUM VAPOUR FIXTURES

KEY FEATURES

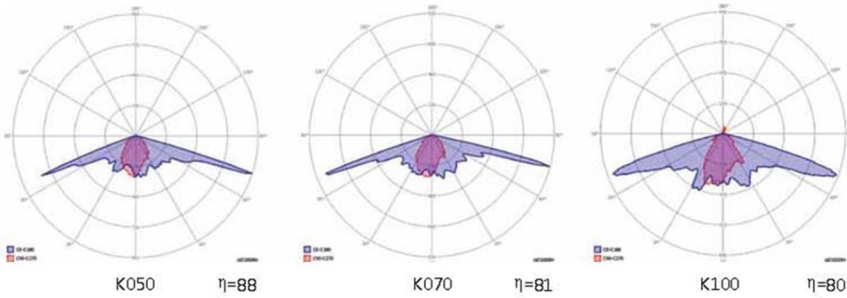
- Open-down model by easy opening clips.
- Lightweight housing is made of UV Reinforced
- Polycarbonate resist well against weather conditions, flame, heat and corrosion.
- Halogen free
- IP66
- Flat tempered glass or PC Bowl reflector option
- Standart Colour Grey RAL 7035
- Electric Protection: "CLASS 1"
- Fixing components stainless steel.
- Pole Mounting Console, die cast aluminium. Dimensions 60mm or 76mm.
- 4 different adjustable optics with deep-drawn / one piece and high purity metallizing
- Flat Tempered or Convex Glass (Optional)



POLYCARBONATE ENCLOSURE



LUMINOUS INTENSITY GRAPH



Gövde Housing	Model Model	Lamba Tipi Lamp Type	Lamba Gücü Lamp Power	Gerilim ve Frekans Voltage & Frequency	Lamba Düyü Lamp Holder	Balast Ballast	Kapasitör (uF) Capacitor (uF)	İgnitör Ignitor	Kalı Ölçüleri (mm) Box Size (mm)	Brüt Ağırlık Gross Weight (kg)
Maxi	K150 / K150T	Y.B. Sodyum H.P. Sodium	150W	220-230VAC & 50Hz	E40	PH150HPS-C	P20EP / A20EP	A3W / P3W20T	340x675x230 340x675x190	6,4
Maxi	K250 / K250T	Y.B. Sodyum H.P. Sodium	250W	220-230VAC & 50Hz	E40	PH250HPS-C	P35EP / A35EP	A3W / P3W20T	340x675x230 340x675x190	7,3

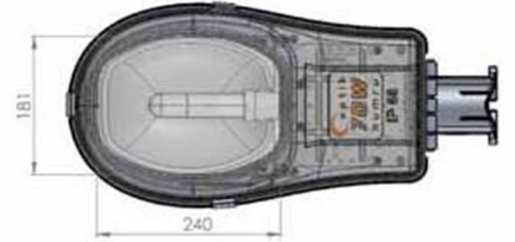
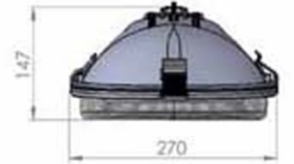
KUMRU SODIUM VAPOUR FIXTURES

KEY FEATURES

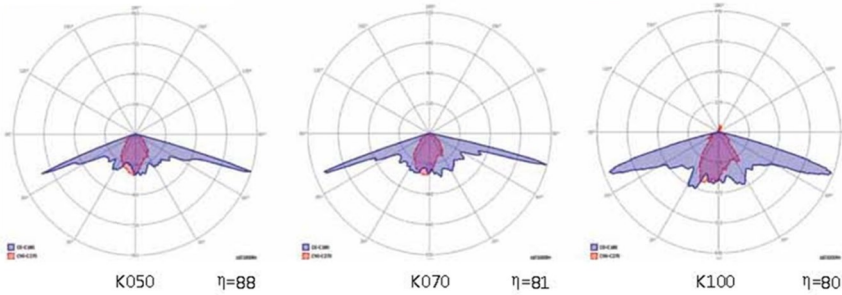
- Open-down model by easy opening clips.
- Lightweight housing is made of UV Reinforced
- Polycarbonate resist well against weather conditions, flame, heat and corrosion.
- Halogen free
- IP66
- Flat tempered glass or PC Bowl reflector option
- Standart Colour Grey RAL 7035
- Electric Protection: "CLASS 1"
- Fixing components stainless steel.
- Pole Mounting Console, die cast aluminium. Dimensions 60mm or 76mm.
- 4 different adjustable optics with deep-drawn / one piece and high purity metallizing
- Flat Tempered or Convex Glass (Optional)



POLYCARBONATE ENCLOSURE



LUMINOUS INTENSITY GRAPH



Gövde Housing	Model Model	Lamba Tipi Lamp Type	Lamba Gücü Lamp Power	Gerilim ve Frekans Voltage & Frequency	Lamba Duvu Lamp Holder	Balast Ballast	Kapasitör (uF) Capacitor (uF)	İgnitör Ignitor	Koli Ölçüleri (mm) Box Size (mm)		Brüt Ağırlık Gross Weight (kg)
									Bombeli Camlı Convex Reflector	Düz Camlı Flat Reflector	
Mini	K050 / K050T	Y.B. Sodyum H.P. Sodium	50 W	220-230VAC & 50Hz	E27	PH050HPS-C	P10EP / A10EP	A3W / P3W20T	270x580x200	270x580x165	3,8
Mini	K070 / K070T	Y.B. Sodyum H.P. Sodium	70 W	220-230VAC & 50Hz	E27	PH070HPS-C	P12EP / A12EP	A3W / P3W20T	270x580x200	270x580x165	3,9
Mini	K100 / K100T	Y.B. Sodyum H.P. Sodium	100 W	220-230VAC & 50Hz	E40	PH100HPS-C	P14EP / A14EP	A3W / P3W20T	270x580x200	270x580x165	4,3

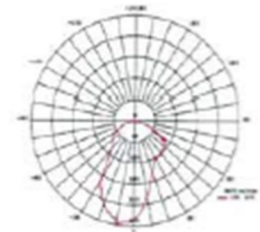
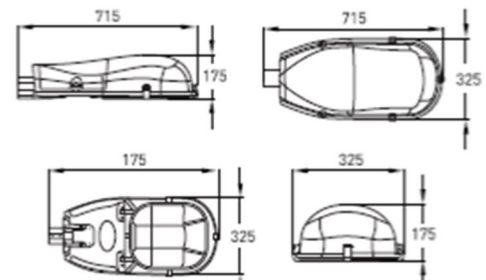
KUMRU 400

KEY FEATURES

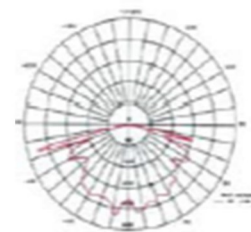
- Open-down model by easy opening clips.
- Lightweight housing is made of UV Reinforced
- Polycarbonate resist well against weather conditions, flame, heat and corrosion.
- Halogen free
- IP66
- Flat tempered glass or PC Bowl reflector option
- Standart Colour Grey RAL 7035
- Electric Protection: "CLASS 1"
- Fixing components stainless steel.
- Pole Mounting Console, die cast aluminium. Dimensions 60mm or 76mm.
- 4 different adjustable optics with deep-drawn / one piece and high purity metallizing



POLYCARBONATE ENCLOSURE



400 W HPI



400 W NAV



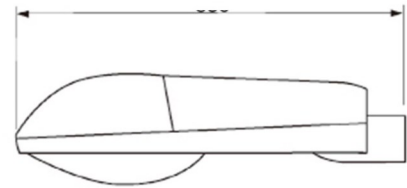
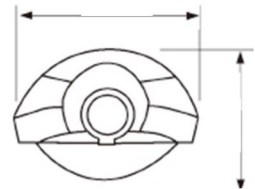


ALUMINIUM LIGHTING FIXTURES

OPT 85A

KEY FEATURES

- Open-down model by easy opening clips.
- Halogen free
- IP66
- Flat tempered glass or PC Bowl reflector option
- Standard Colour Grey RAL 7035
- Electric Protection: "CLASS 1"
- Fixing components stainless steel.
- Pole Mounting Console, die cast aluminium. Dimensions 60mm or 76mm.
- 4 different adjustable optics with deep-drawn / one piece and high purity metallizing



Power	KG	Light	Dimensions (LxWxH)
250W 400W	6,2	Sodium Metal / Sodium	730x350x220mm



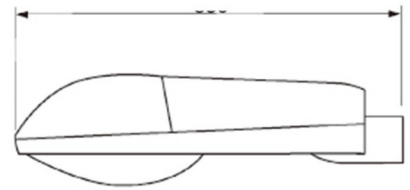
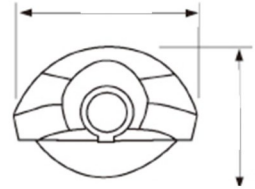


ALUMINIUM LIGHTING FIXTURES

OPT 85.B

KEY FEATURES

- Open-down model by easy opening clips.
- Halogen free
- IP66
- Flat tempered glass or PC Bowl reflector option
- Standart Colour Grey RAL 7035
- Electric Protection: "CLASS 1"
- Fixing components stainless steel.
- Pole Mounting Console, die cast aluminium. Dimensions 60mm or 76mm.
- 4 different adjustable optics with deep-drawn / one piece and high purity metallizing



Power	KG	Light	Dimensions (LxWxH)
50W-150W	4,2	Sodium	660x310x190mm



FLOODLIGHTS

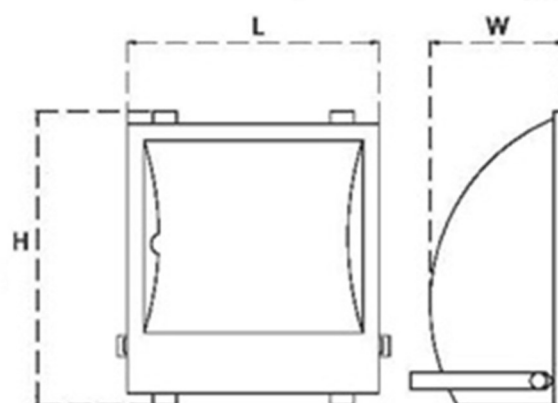




ASYMMETRICAL FLOODLIGHT OPT332B

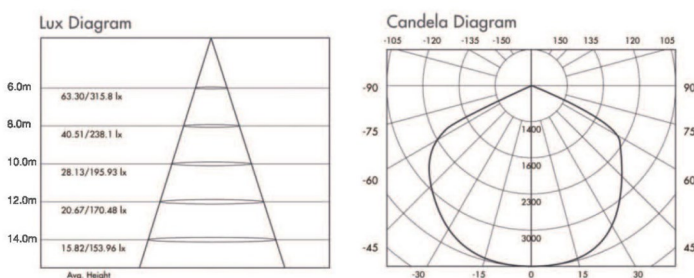
KEY FEATURES:

- Die-Cast Aluminium Body, tempered, heat resistant glass
- Aluminium reflector provides %99,9 purity provides asymmetrical light output
- IP 65 Class
- Electrical Protection Class 1



Power KG Light Dimensions (LxWxH)

1000W	16,5	Metal	550x675x210
1000W	16,5	Sodium	550x675x210

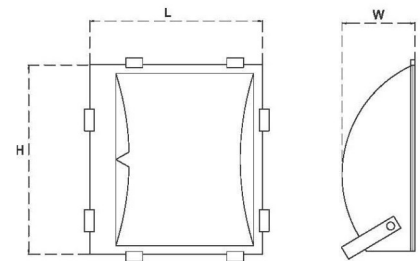




SYMMETRICAL FLOODLIGHT OPT336C

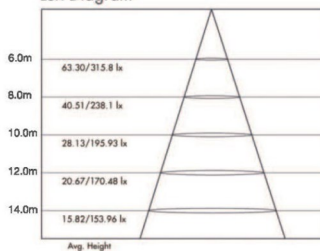
KEY FEATURES:

- Die-Cast Aluminium Body, tempered, heat resistant glass
- Aluminium reflector provides %99,9 purity provides symmetrical light output
- IP 65 Class
- Electrical Protection Class 1

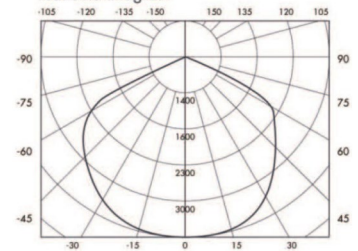


Power	KG	Light	Dimensions (LxWxH)
1000W	13,4	Metal	620x440x425
1000W	13,4	Sodium	620x440x425

Lux Diagram



Candela Diagram





FLOODLIGHT

OPT.331

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

1000W

Light

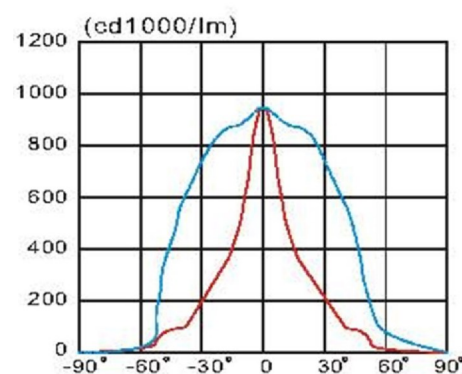
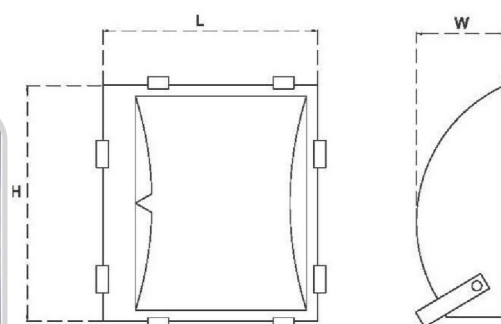
Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

580x580x235mm





FLOODLIGHT

OPT.330

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

1000W

Light

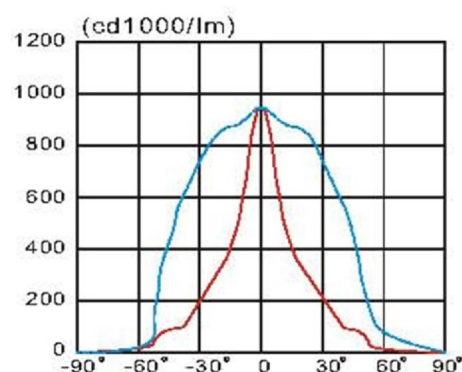
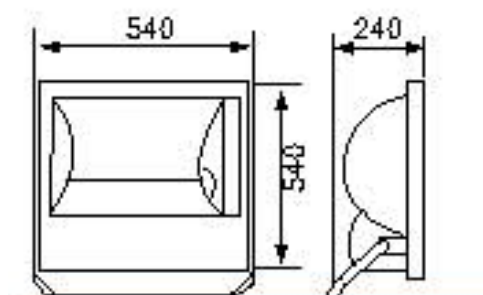
Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

540x540x240mm





FLOODLIGHT

OPT.75

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

1000W

Light

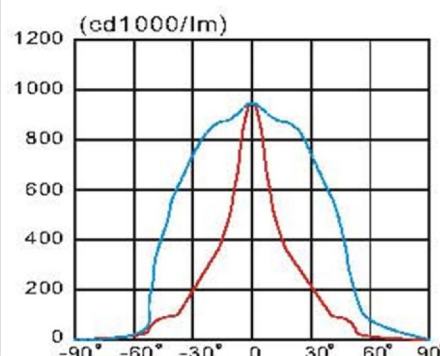
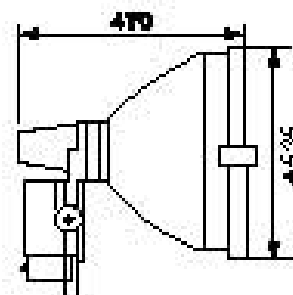
Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

580x580x470mm



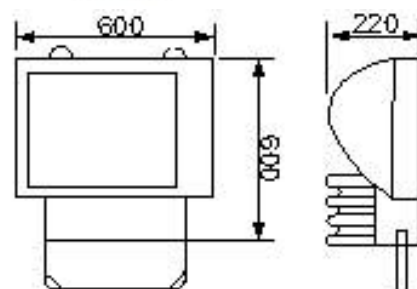


FLOODLIGHT

OPT.129

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

1000W

Light

Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

600x600x220mm



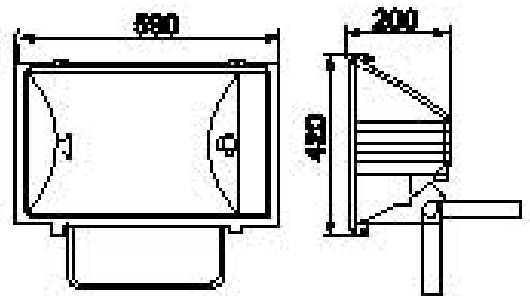


FLOODLIGHT

OPT.127

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

1000W

Light

Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

590x420x210mm



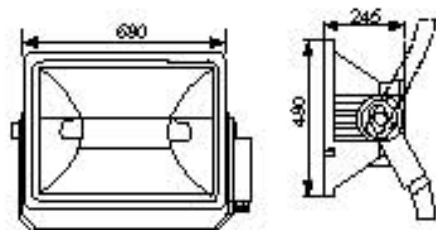
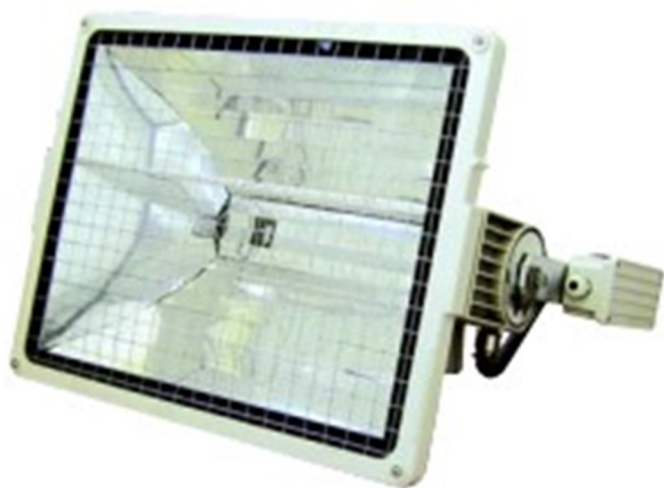


FLOODLIGHT

OPT 24

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



<u>Power</u>	<u>Light</u>	<u>Lamp Base</u>	<u>Dimensions (LxWxH)</u>
1000W	Metal Halide	E40	720x270x620mm



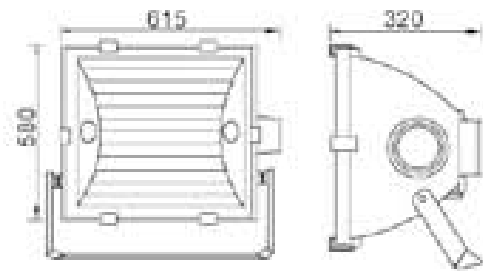


FLOODLIGHT

OPT.203

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides %99,9 Purity



Power

2000w

Light

Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

615x580x300mm



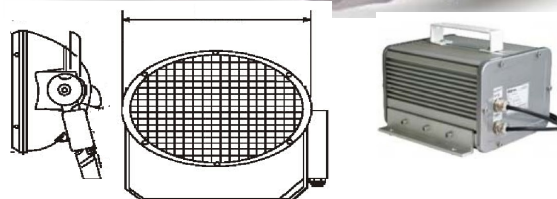


PROFESSIONAL FLOODLIGHT

OPT.403

Key Features

- ⇒ High Pressure die-casting aluminium shape, stainless steel protective screening.
- ⇒ The newly design elliptical reflector is more efficient as it is smaller and lighter with drag of the air.
- ⇒ The Build-in shading plate, is designed for narrow and mids light beam and effectively prevents glare and light pollution.
- ⇒ Electrostatic Powder Coated.
- ⇒ Light Buls can be easily replaced from back.
- ⇒ High waterproof and dust-proof co efficient.



Power

Light

Lamp Base

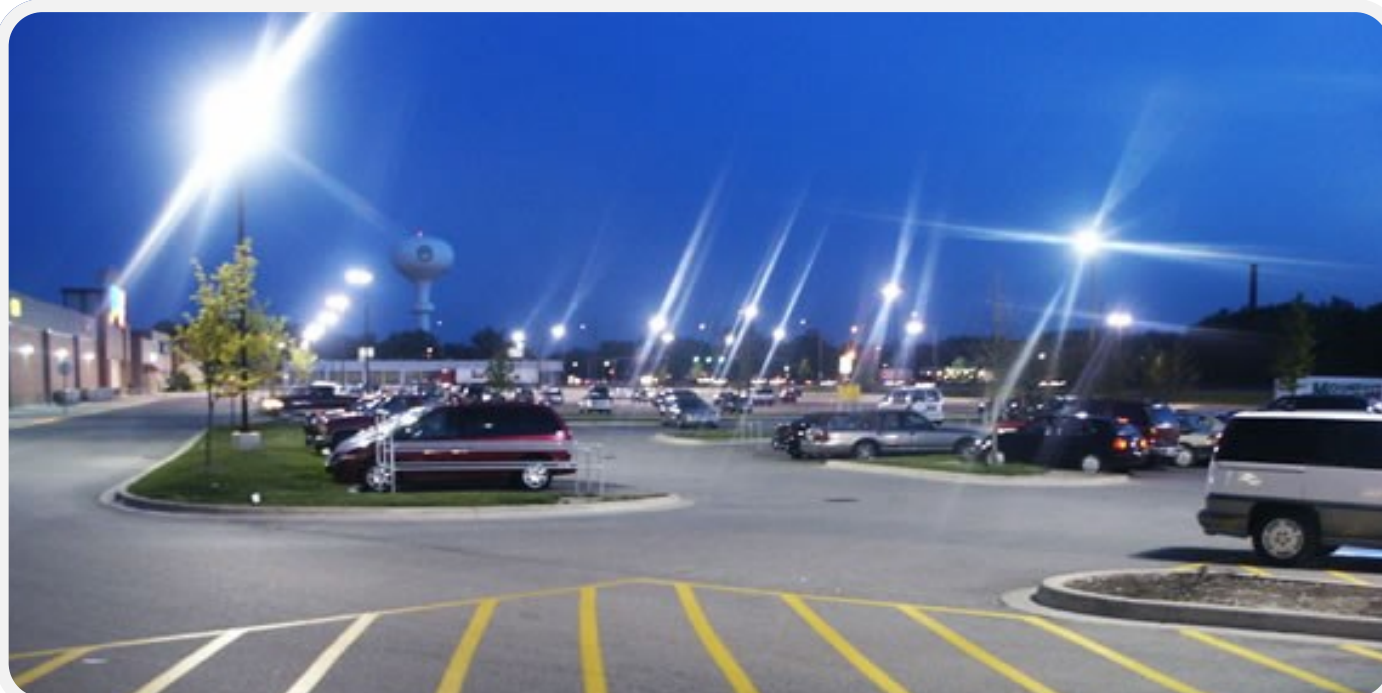
Dimensions (LxWxH)

1000w

Metal Halide

X830

533x470x250mm





PROFESSIONAL FLOODLIGHT

OPT.403

Key Features

- ⇒ High Pressure die-casting aluminium shape, stainless steel protective screening.
- ⇒ The newly design elliptical reflector is more efficient as it is smaller and lighter with drag of the air.
- ⇒ The Build-in shading plate, is designed for narrow and mids light beam and effectively prevents glare and light pollution.
- ⇒ Electrostatic Powder Coated.
- ⇒ Light Bulbs can be easily replaced from back.
- ⇒ High waterproof and dust-proof co efficient.



Power

Light

Lamp Base

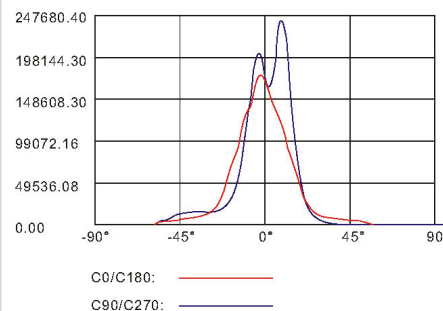
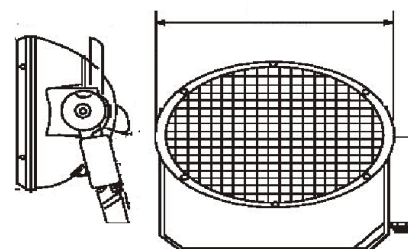
Dimensions (LxWxH)

2000w

Metal Halide

PsFC20/X528

533x470x250mm





FLOODLIGHT

OPT.207

Key Features

- ⇒ Aluminium Die Casting Body.
- ⇒ Electrostatic Powder Coated.
- ⇒ 4mm Tempered Safety Glass.
- ⇒ IP65
- ⇒ Lamp Base: E40
- ⇒ Aluminium Reflector Provides % 99,9 Purity



Power

2000w

Light

Metal Halide

Lamp Base

E40

Dimensions (LxWxH)

660x660x765mm



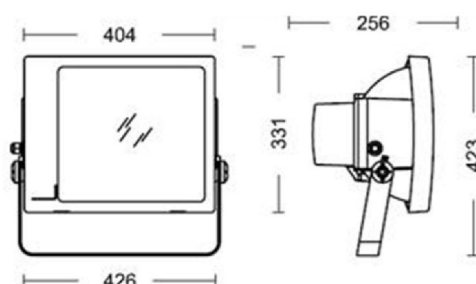


FLOODLIGHT

OPT.350

Key Features

- ⇒ Housing constructed of corrosion resistance die-casting aluminium.
- ⇒ The Front opening works with 4 stainless steel hooks.
- ⇒ Easy installation and maintenance.
- ⇒ Cover made of clear single-pane tempered safety glass.
- ⇒ Symmetrical, asymmetrical optics.
- ⇒ Excellent heat management.
- ⇒ No tools required for opening.
- ⇒ Supplied with control gear kit.
- ⇒ Protection rate Class1.
- ⇒ Ingress protection IP66.
- ⇒ Electrostatic Painted Housing (Graphite Gray Standart)



Power

150/250/400W

Light

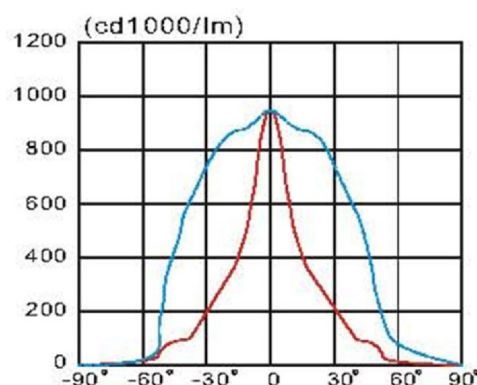
Metal

Lamp Base

E40

Dimensions (LxWxH)

426x423x256mm



LIGHTING POLES





POLYGONAL AND ROUND CONICAL POLES

Lighting Poles be able to manufactured polygonal and round conical.

Lighting Poles have arms between 1-4.

Products are hot dip galvanized in accordance with international standarts (EN 1461)

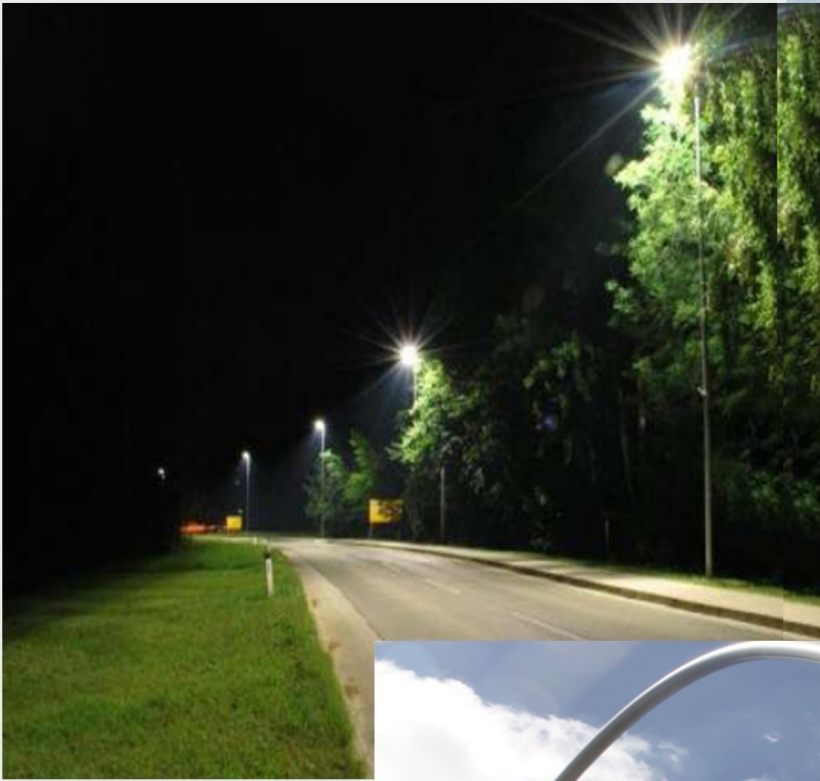
Electrostatic powder painting available use on galvanized surface.



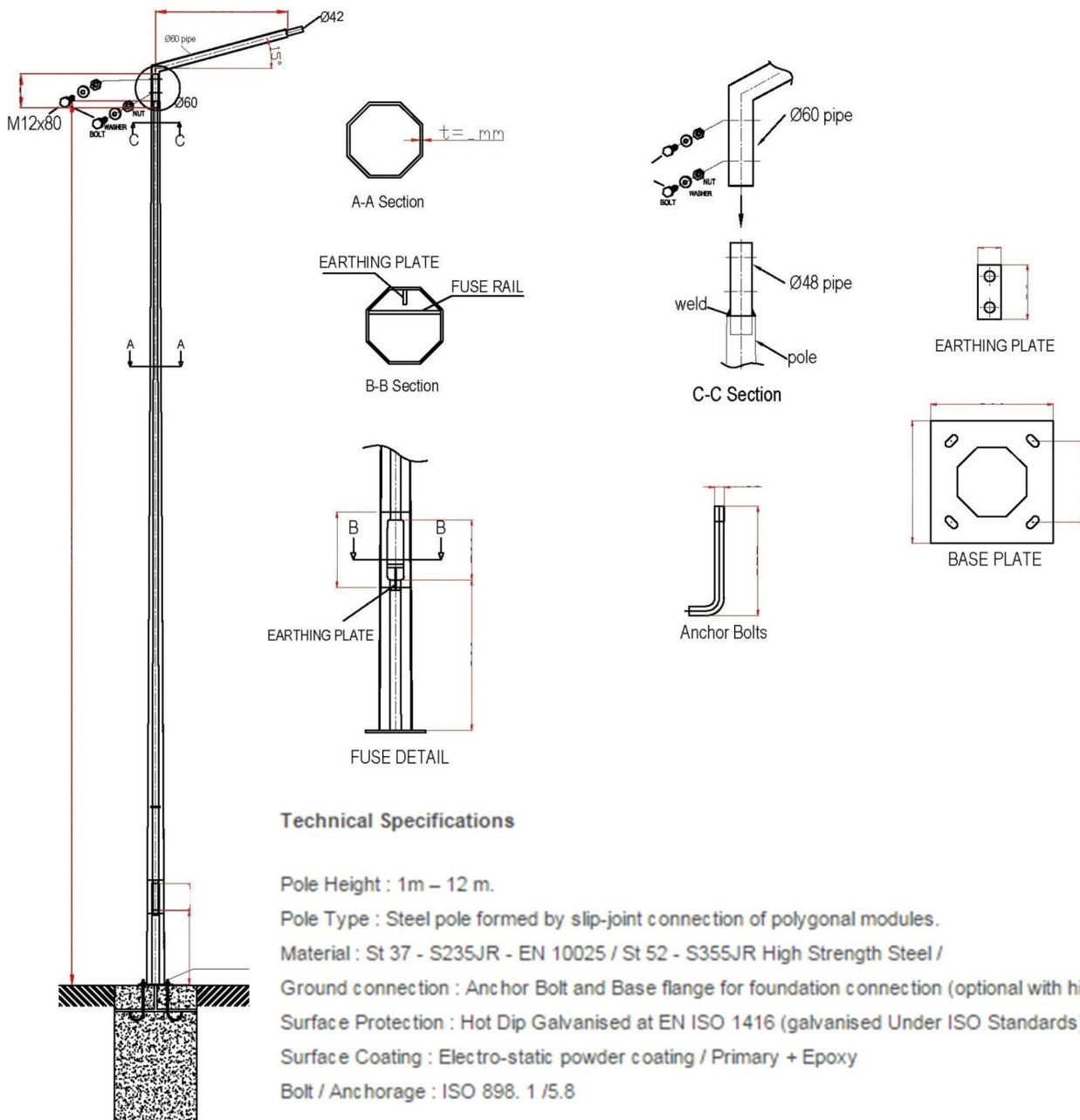
Different Type of arms can be produced.



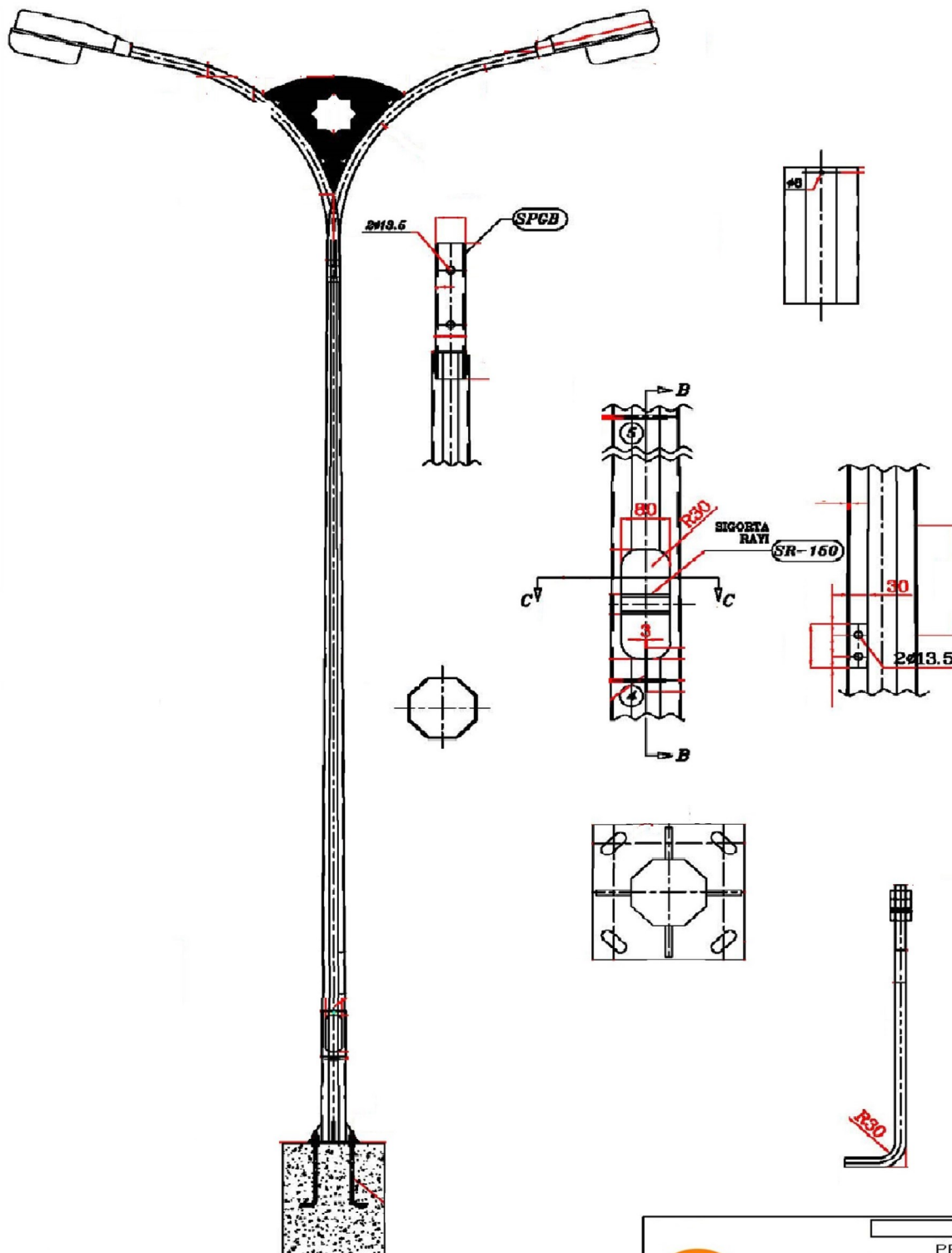
Optik Lighting Poles are designed according to customers demands




Pole Design is made according to customers specification.







	PROJECT NAME
	AD1 80/10
	P.Nr : 14.09.19.23
	Rev : 0
	Special Notes :

Wind Speed :

ALPINE TYPE 1

KEY FEATURES

- Corrosion resistant cast aluminium body & base
- Galvanized and Electrostatic powder painting
- Stainless Steel Screws
- Weather proof and durable silicone caps
- Compatible 250W-400W or LED Lighting
- IP 54



ALPINE TYPE 2

KEY FEATURES

- Corrosion resistant cast aluminium body & base
- Galvanized and Electrostatic powder painting
- Stainless Steel Screws
- Weather proof and durable silicone caps
- Compatible 250W-400W or LED Lighting
- IP 54



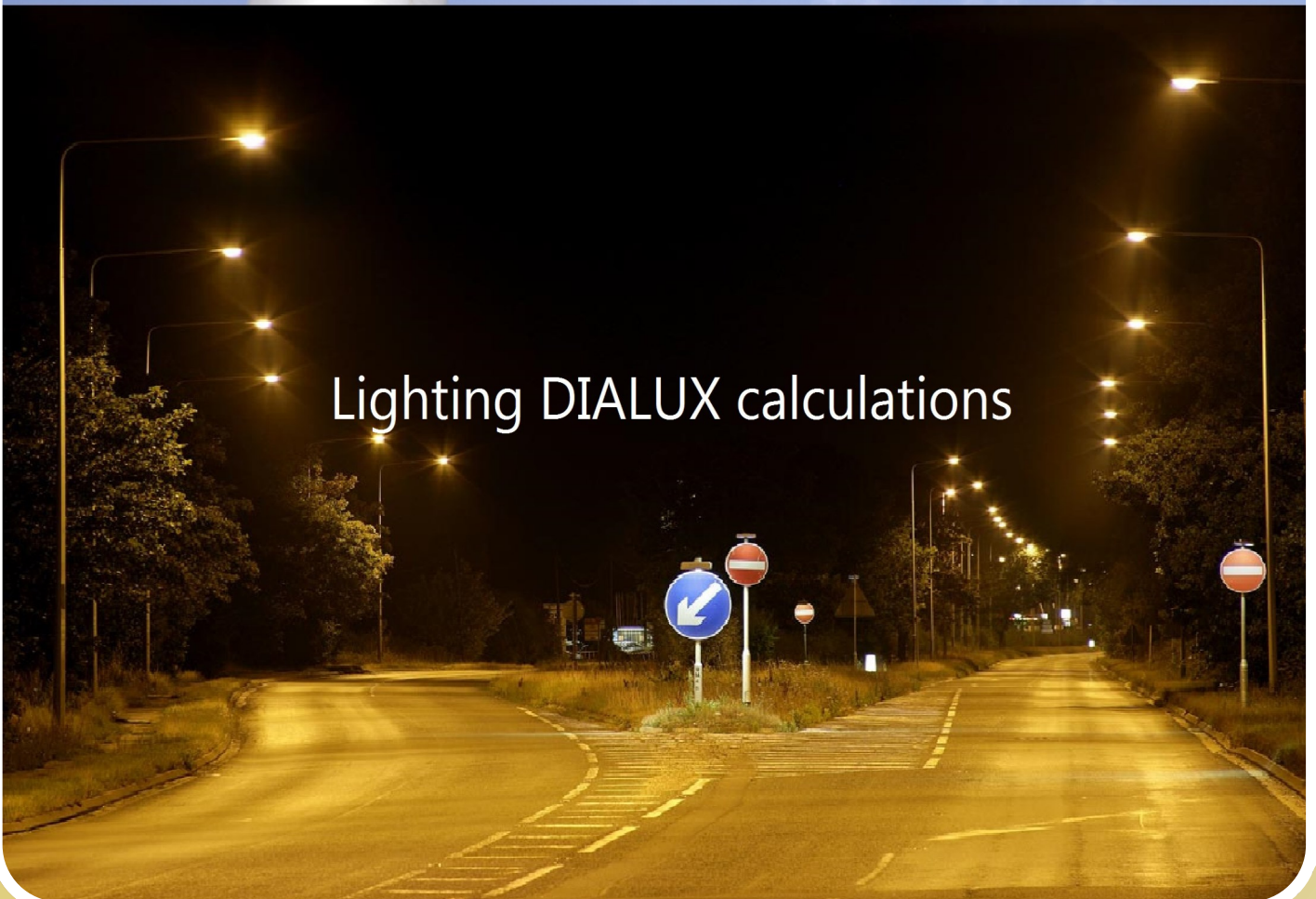


Lighting Poles with curved from body

Polygonal and round arm solutions



Lighting DIALUX calculations





3D Modelling

Foundations reports for concrete

Lighting Poles with no arm





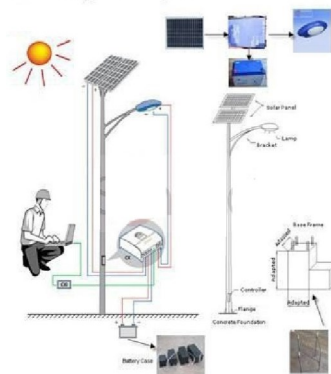
SOLAR SYSTEM POLES

KEY FEATURES

- Energy saving up to %80
- No electricity consumption
- Maximum safety from electricity shock
- No excavation
- No power line maintenance
- No electric distribution networks
- No black out problems
- Very low installation cost comparing the conventional system.
- No CO2 emission
- Availability to reconfigure to pole position
- Availability to use 3 days energy
- High Quality Gel Batteries
- 10 years Battery life time
- 20 years Solar Panel life time
- High quality Control Box with electro galvanize with electro static painting.

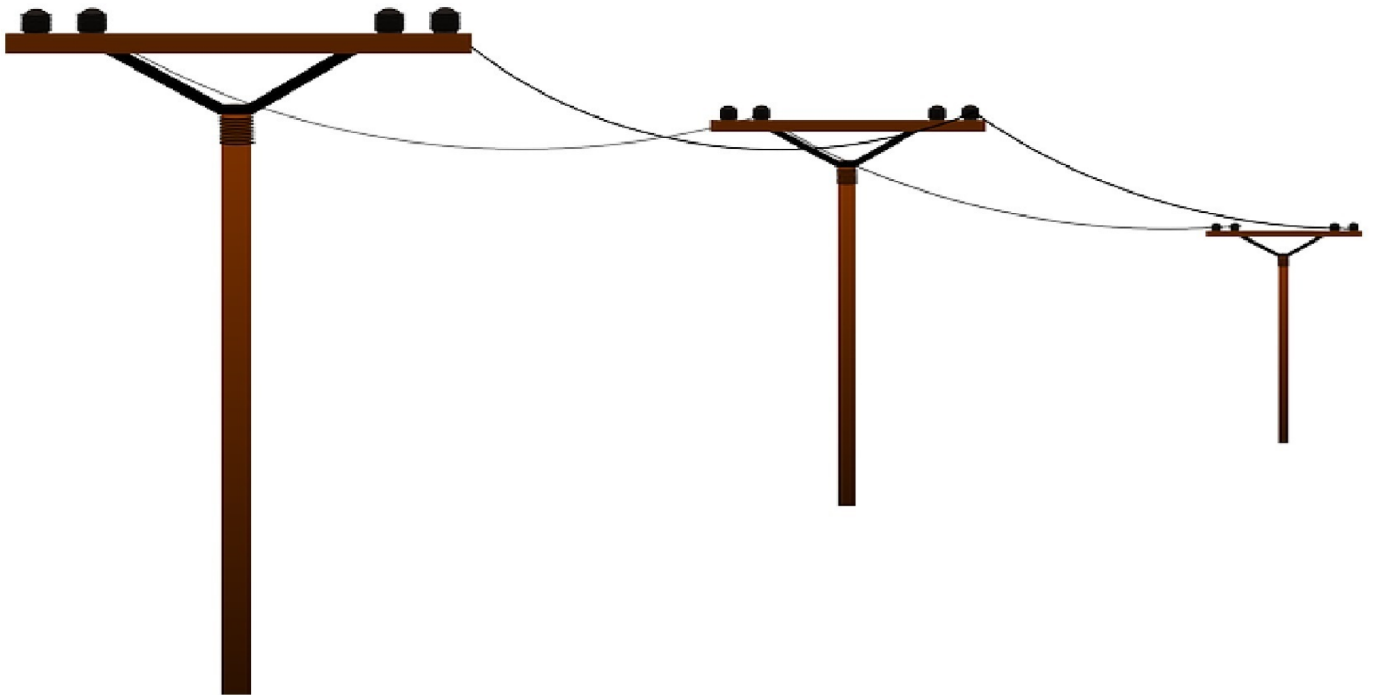


Working Principle:





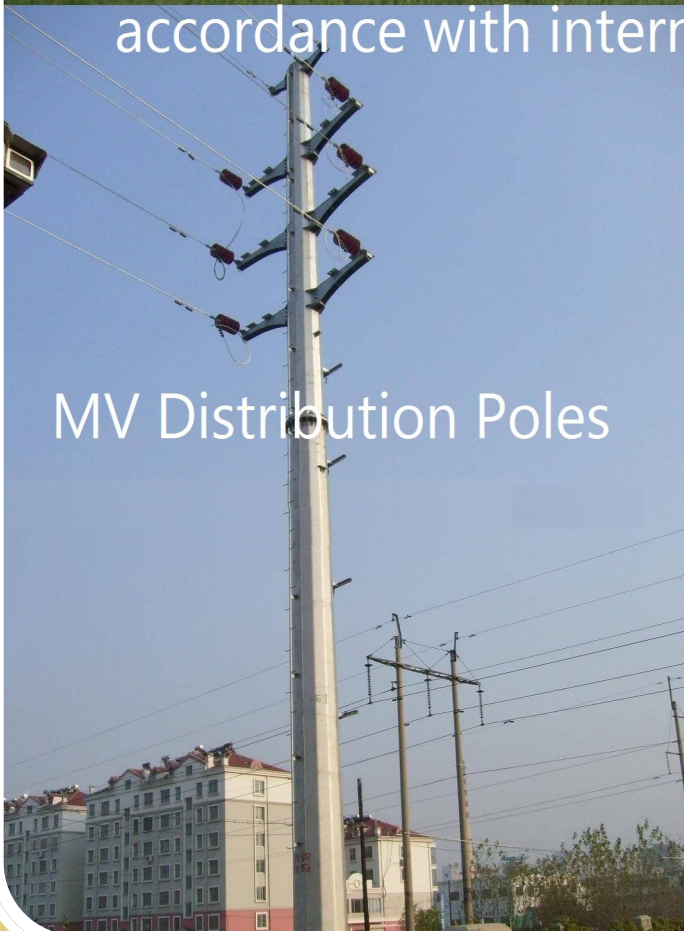
ENERGY TRANSMISSION & DISTRIBUTION POLES



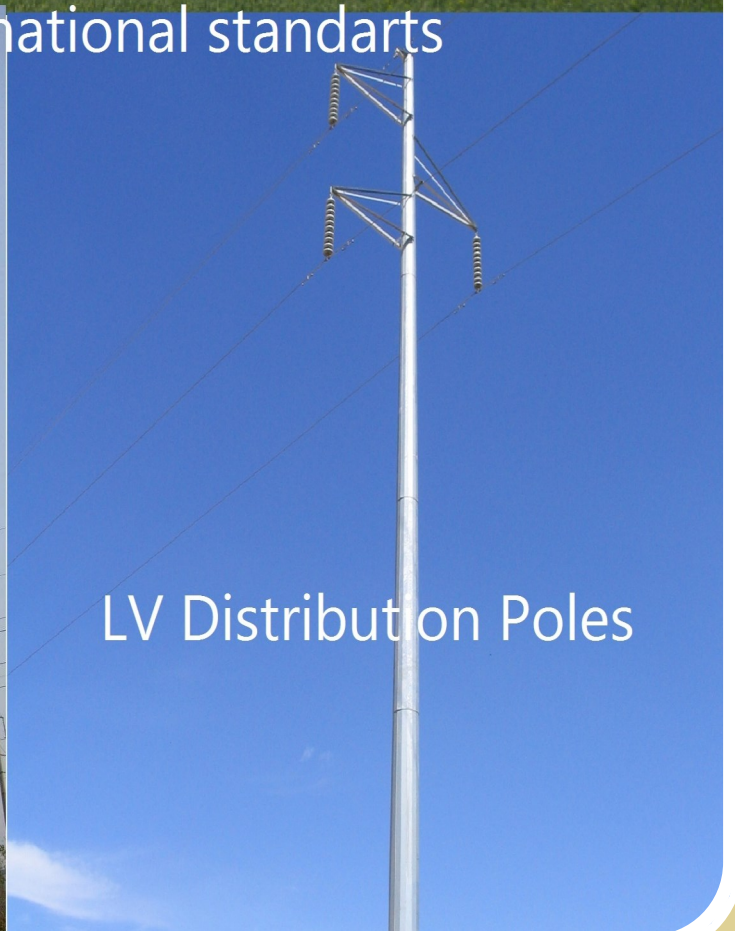


Energy Transmission Poles are designed in accordance with the customers specification

Galvanize and Bitumen Painting in accordance with international standards



MV Distribution Poles



LV Distribution Poles

HIGH MAST



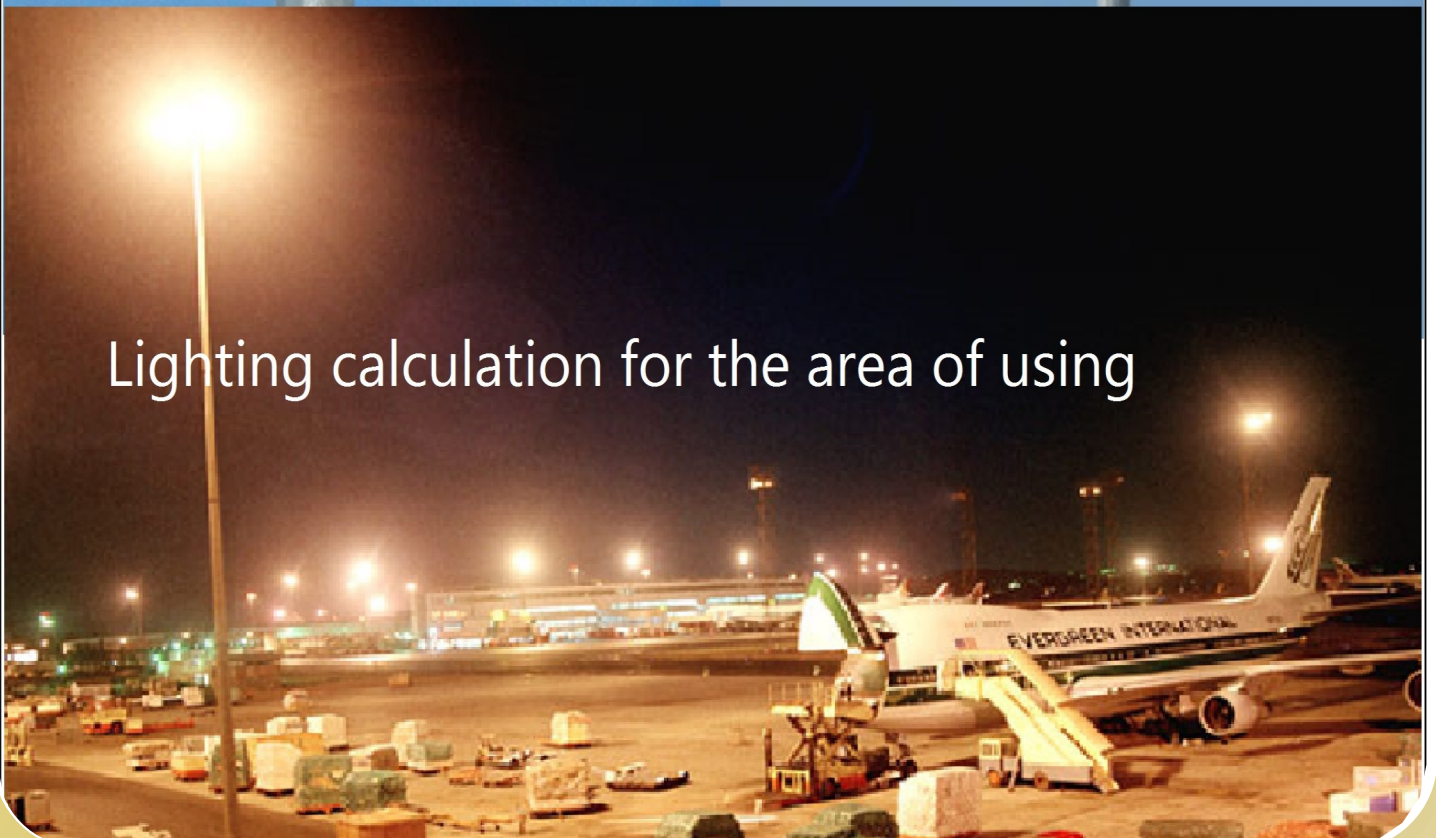


High Masts are designed in accordance with international standards

Raising and Lowering System

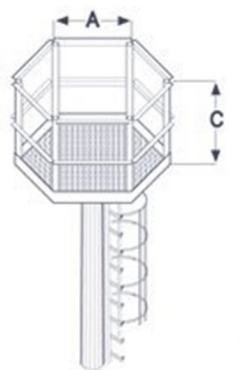
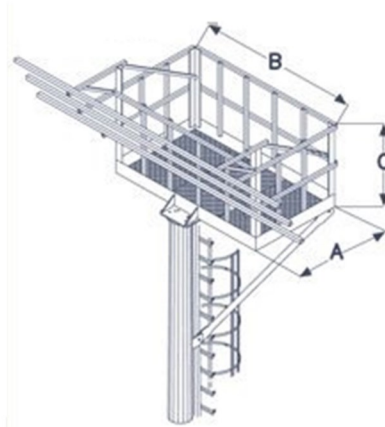
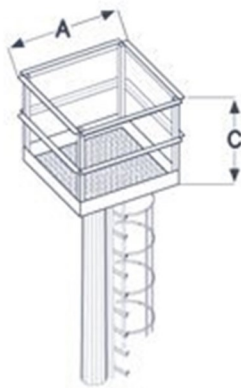
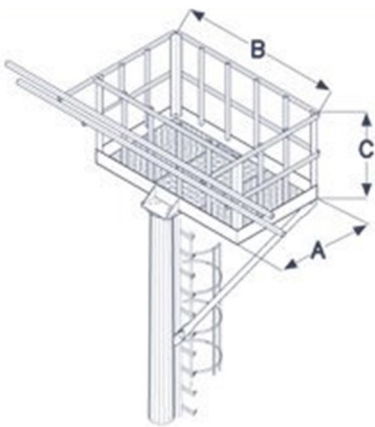
High mast with platform and safety ladder

Lighting calculation for the area of using





High Mast with Top Head Frame and Safety Ladder
Safety Ladder in accordance with IEC Standards





High Mast with LED Floodlights

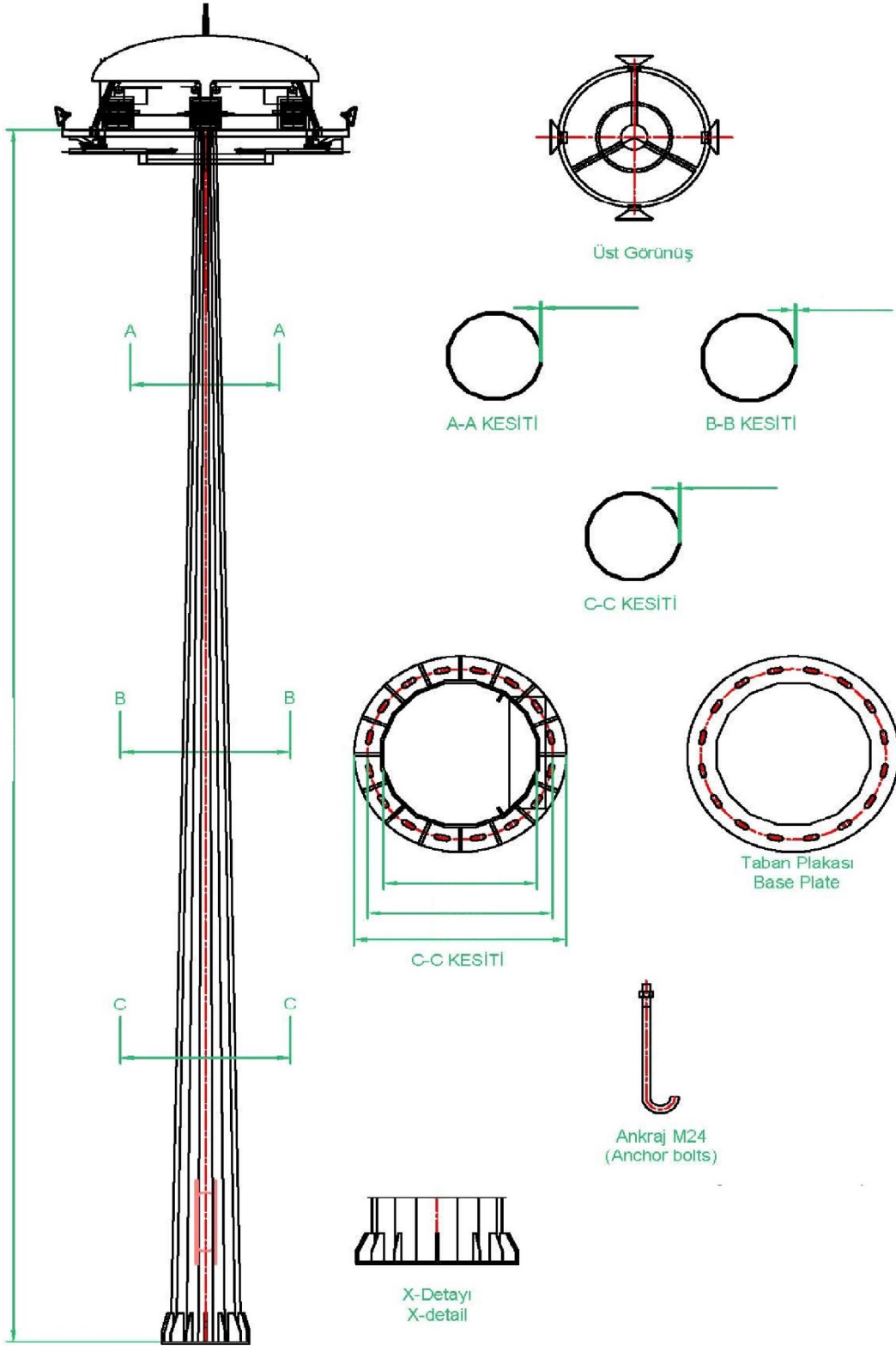
LED Floods Compatible for raising and lowering system

High Mast

- Floodlights,
- Aircraft Warning Light,
- Control Box
- Fuse (For Each Floodlight)
- Inside Cabling



Lighting calculations in accordance of road importance class



ELECTRICAL COMPONENTS



-Fuse: 1x25A
(For Each Floodlight)



TECHNICAL SPECS:

- Smc , Produced from Glass Fiber and ve Polyester mixture.
- Noncorrosive and Incompactible
- Resistant to atmospheric conditions.
- Non Electrical Conducting
- Resistance from dust and water by using rubber.
- Colourable to any.
- Easy to install due to lightness
- Resistance of heat and impact
- Resistance to acid
- Pannel: 250x300x150mm
- Pannel Weight: 10,6 kg

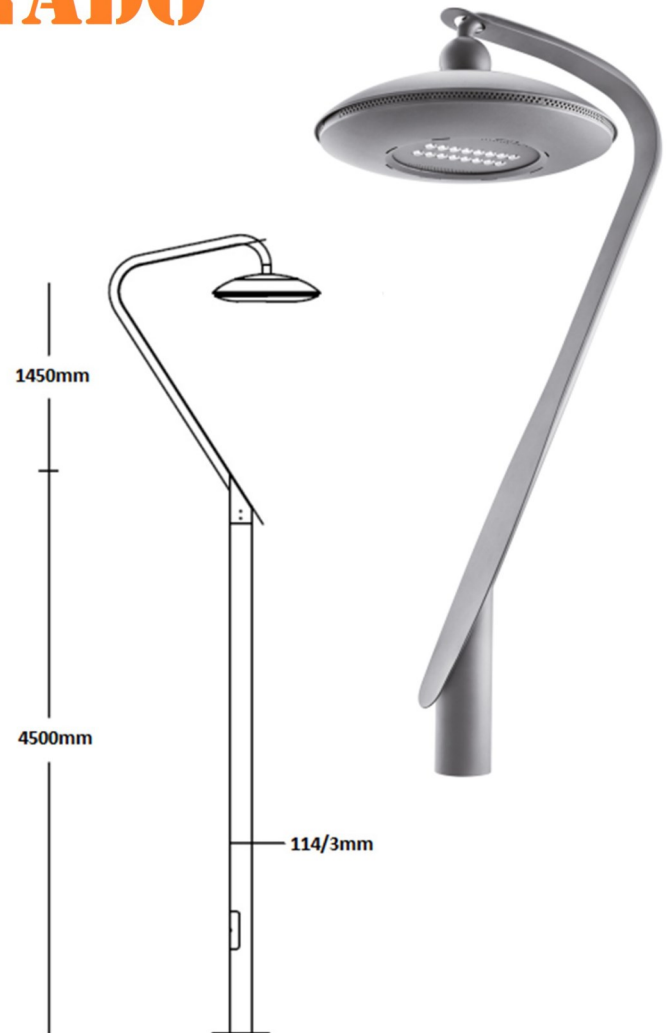
DECORATIVE & ARCHITECTURAL LIGHTING



TORNADO

KEY FEATURES

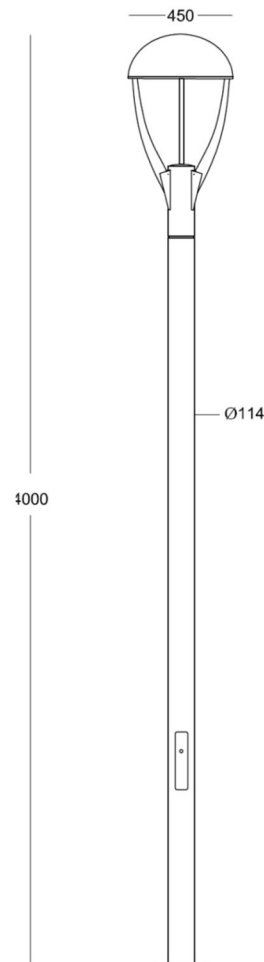
- Aluminium Injection Body
- Stainless steel bolts. Long lasting silicone rubber.
- Light weight body design.
- Special air passages to distribute heat in harmonic. Natural ventilation.
- High energy saving, low maintenance costs.
- 1-10V Dim/Stand Alone or BI-POWER technology working system, 220/240V - 50-60Hz
- Modular LED System
- 3500 and 4000 Kelvin light option.
- Optionel convantional to use HID bulbs, 45-60-90W.
- Electric Protection Class: "CLASS II"
- IP Class: IP66
- ENEC Certificate.
- Pole Height: 4500mm – 6000mm



NEPTUN

KEY FEATURES

- Aluminium Body.
- Stainless Steel Bolts.
- Long life silicone rubber.
- Internal connections provided by silicone armed cables having resistant to heat.
- IP 68 Stainless Sleeve inside of fixture to resist corrosion by leaktightness.
- Easy to maintenance by gate with locked and hinged.
- All componenets have CE, VDE, ENEC certificates.
- Tempered glass resist heat and impacts.
- Homogenous light distribution by high efficient light and special designed reflector.
- 70-150W Metal Halide and Sodium and **24-36 Power LED can be use.** G12 ve E40 lamp holder.
- Electric Protection: "CLASS I"

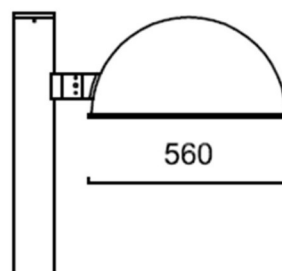
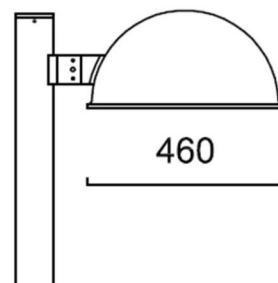
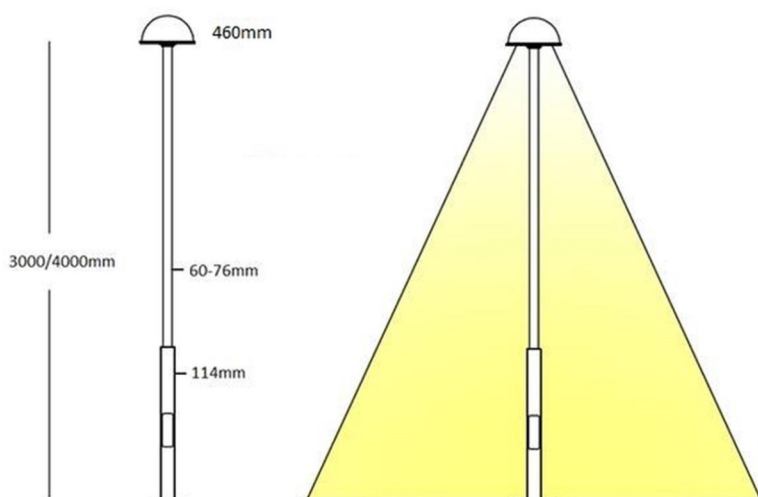


SIUS



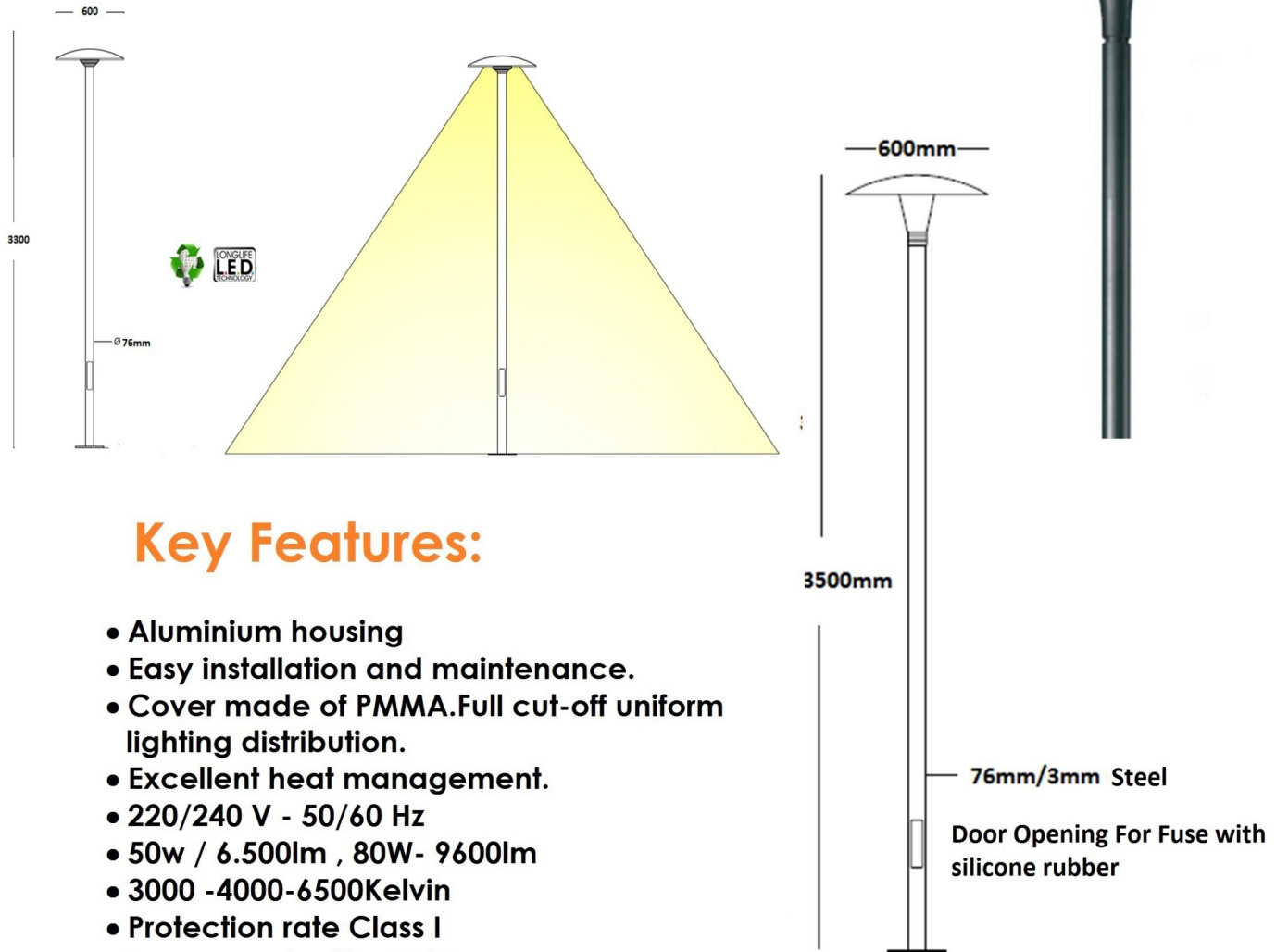
Key Features:

- Housing constructed of corrosion resistant aluminum.
- Easy installation and maintenance.
- Cover made of clear single-pane tempered safety glass.
- Reflector made from pure anodized aluminum.
- Full cut-off uniform lighting distribution.
- Excellent heat management.
- HID fixtures up to 250W and Lumicro 24-36-48pcs Led module.
- Protection rate Class I
- Ingress protection IP65
- Electrostatic painted housing.(Grey and Dark Grey colors standart) RAL colors upon request.
- Poles : 3000mm – 8000mm / Steel or Aluminium





LINEA



Key Features:

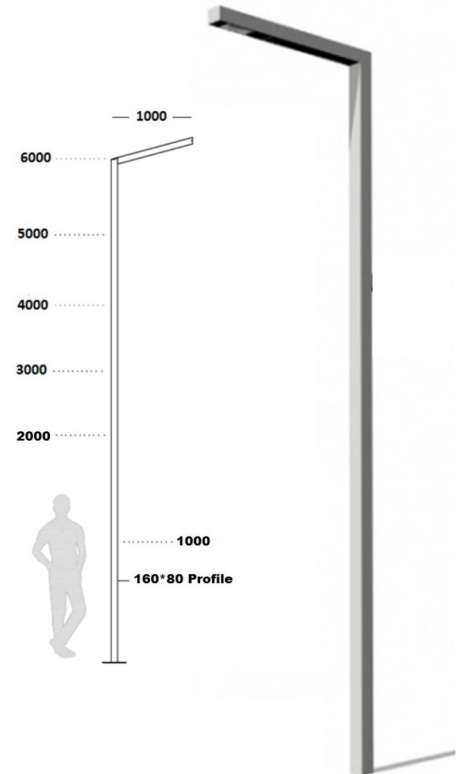
- Aluminium housing
- Easy installation and maintenance.
- Cover made of PMMA. Full cut-off uniform lighting distribution.
- Excellent heat management.
- 220/240 V - 50/60 Hz
- 50w / 6.500lm , 80W- 9600lm
- 3000 -4000-6500Kelvin
- Protection rate Class I
- Ingress protection IP65
- Electrostatic painted housing.(Grey and Dark Grey colors standart) RAL colors upon request.
- Poles : 3000mm – 6000mm / Steel or Aluminium



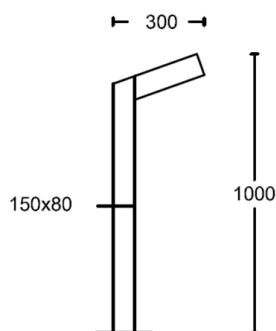
HUMA

KEY FEATURES

- 160x80 Steel Profile, Electro or Hot Dip Galvanize and Painted with electrostatic paint. (RAL Colours)
- Anchor Bolts included. Bottom Cover is optional.
- Power LED including driver and switch.
- Polycarbonate LENS (Provides No Light Losses)
- Fuse Door with allen screw.
- Electric Protection: Class I
- Lifetime: 50.000 hours.
- IP66



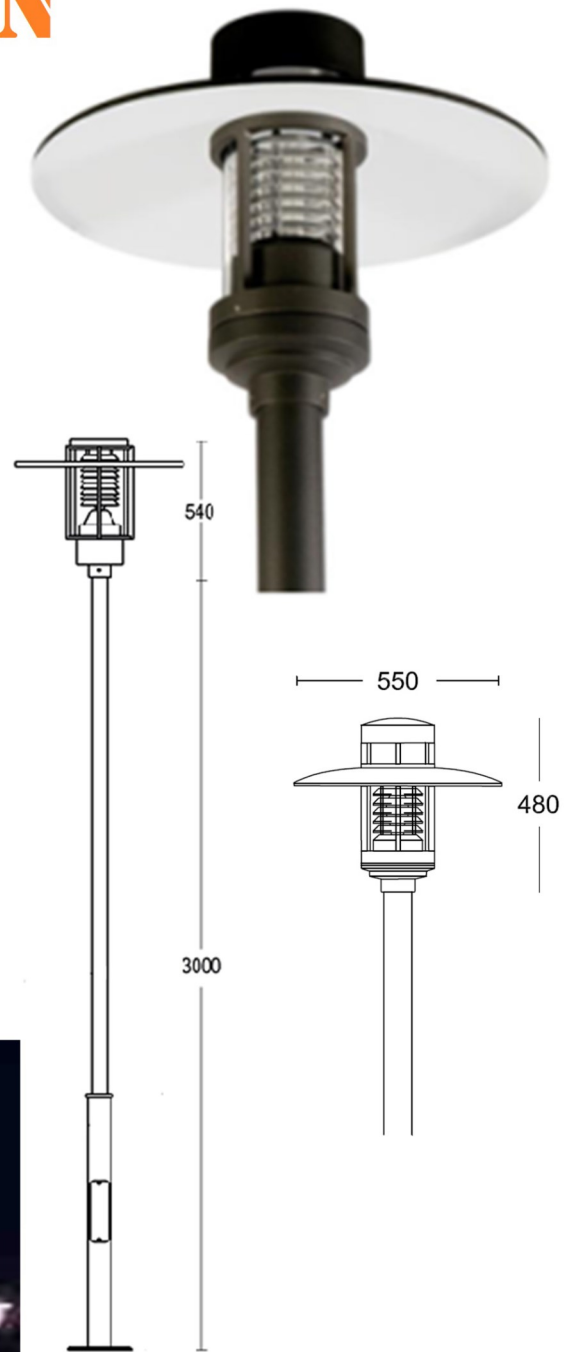
MODEL	1m	2m	3m	4m	5m	6m
POWER (W)	12	25-50	25-50	50-75	50-75	75-110
INPUT VOLTAGE (V)	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz	100-240 VAC, 50Hz
MODUL QTY (pcs)	1	2	2	3	3	4
LED QUANTITY (pcs)	12	24	24	36	36	48
TOTAL FLUX (lumen)	1400	2900-5750	2900-5750	5750-9000	5750-9000	9000-12600
ARM ANGLE (deg.)	30°	30°	30°	30°	30°	30°
OPERATE TEMP. (°C)	-40 C / +50 C	-40 C / +50 C	-40 C / +50 C	-40 C / +50 C	-40 C / +50 C	-40 C / +50 C
ARM LENGTH (cm)	25	50	50	75	75	100
NET WEIGHT (kg)	16	30	42	57	70	85
IP	66	66	66	66	66	66



SATURN

KEY FEATURES:

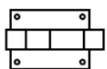
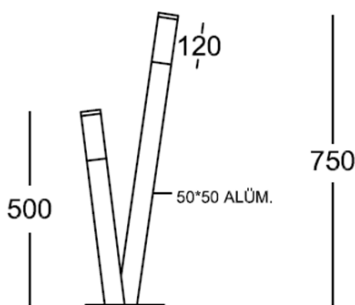
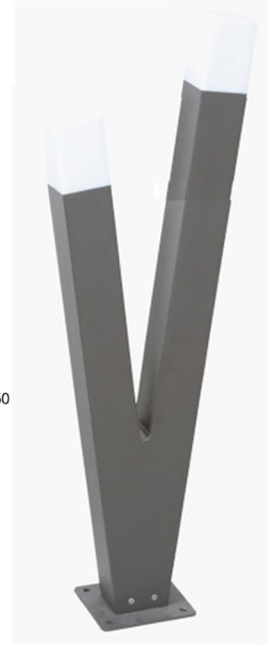
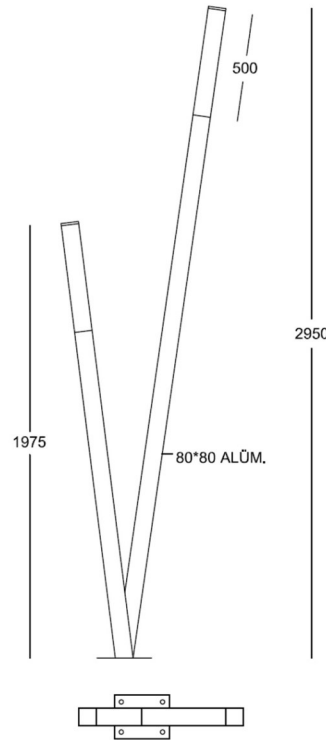
- Aluminium Body.
- Bolts are stainless steel.
- Long Life silicone rubber.
- Special Louvre System in the fixture, prevents glare and provides efficiency increasing.
- Electrical internal connection is provided by silicone cable witch has resistance to heat.
- IP68 Stainless Sleeve provides leaktightness.
- All components have CE, VDE, ENEC certificates.
- Using special design diffuser provide to resist heat and impact.
- Compact florescent lamps compatible 35-70W metal halide lights.
- Lamp Holder E27 and G12
- Electrical Protection: "CLASS I"
- IP 65.
- Using from lamp holder to fuse 3x1,5mm² TTR cable and earthing line.
- Pole 3-4 meter stepped and round sectional.
- Elektrostatic polyester paint. (RAL Colours)
- Pole hot dip galvanize.



TERRA DUO TYPE 1

KEY FEATURES

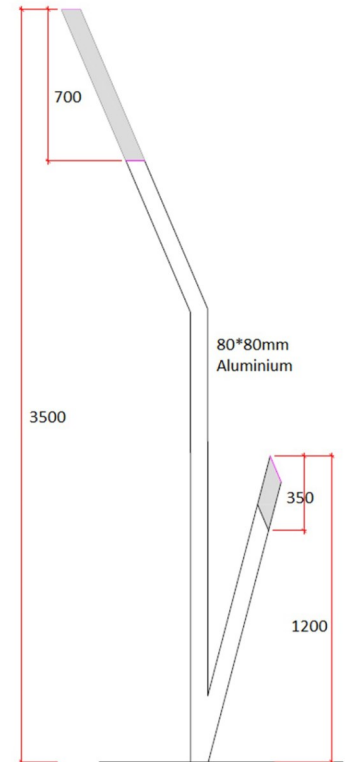
- 80x80mm Aluminium Profile Body.
- Opal or satine diffuser maximum light transmittance.
- All bolts are stainless steel. Long Life silicone rubber.
- IP 68 Sleeve.
- Welded but no welding view on the body.
- Easy to manage of control unit.
Compact florescent lamp (2*36W–2G11) or compatible of Led technology.
- Produce variant height.
- Electric Protection: "CLASS I"
- IP 55.
- From Holder to fuse 3x1,5mm² TTR cable and earthing system.
- All electrical components have CE, VDE, ENEC certificates.
- Electrostatic Painting (RAL Colours)



TERRA DUO TYPE 2

KEY FEATURES

- 80x80mm Aluminium Profile Body.
- Opal or satine diffuser maximum light transmittance.
- All bolts are stainless steel. Long Life silicone rubber.
- IP 68 Sleeve.
- Welded but no welding view on the body.
- Easy to manage of control unit.
- Compact florescent lamp (2*36W–2G11) or compatible of Led technology.
- Produce variant height.
- Electric Protection: "CLASS I"
- IP 55.
- From Holder to fuse 3x1,5mm² TTR cable and earthing system.
- All electrical components have CE, VDE, ENEC certificates.
- Electrostatic Painting (RAL Colours)



BOLLARDS

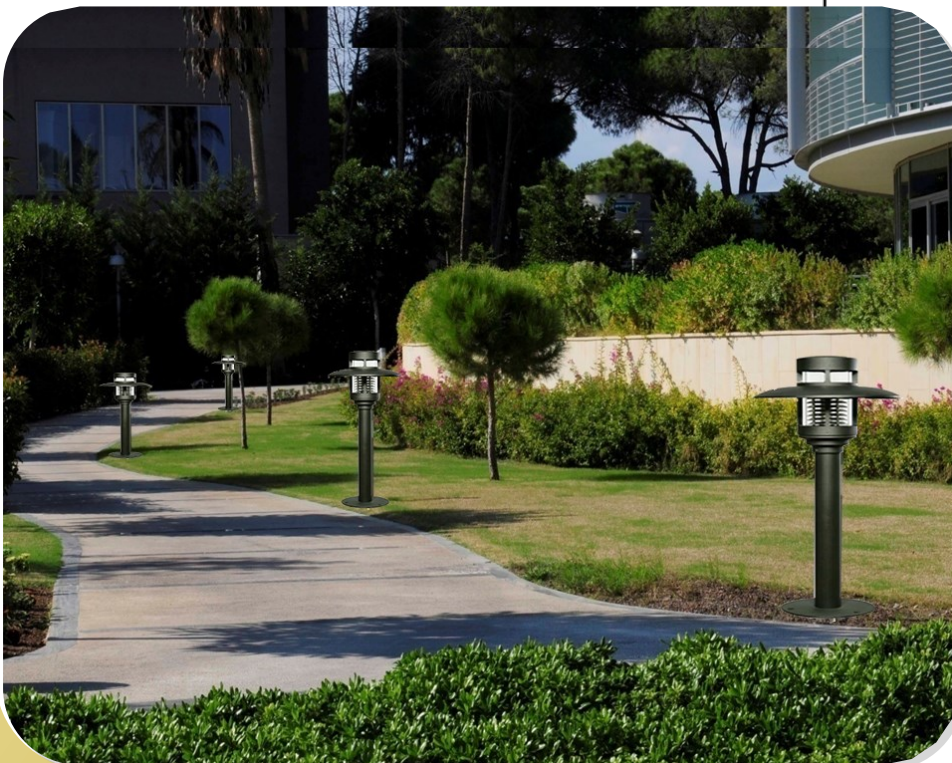
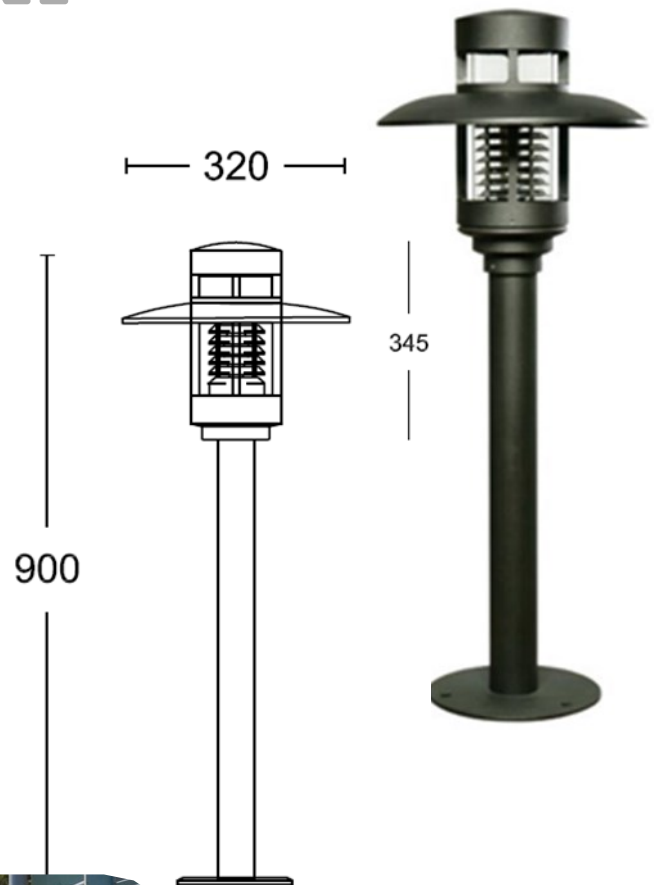


SATURN

MINI

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffiuser.
- ⇒ Louvre System prevents glare inside of fixture and provides homogenous light distribution.
- ⇒ E27 Lamp Holder.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Earthing System from Lamp holder to fuse.



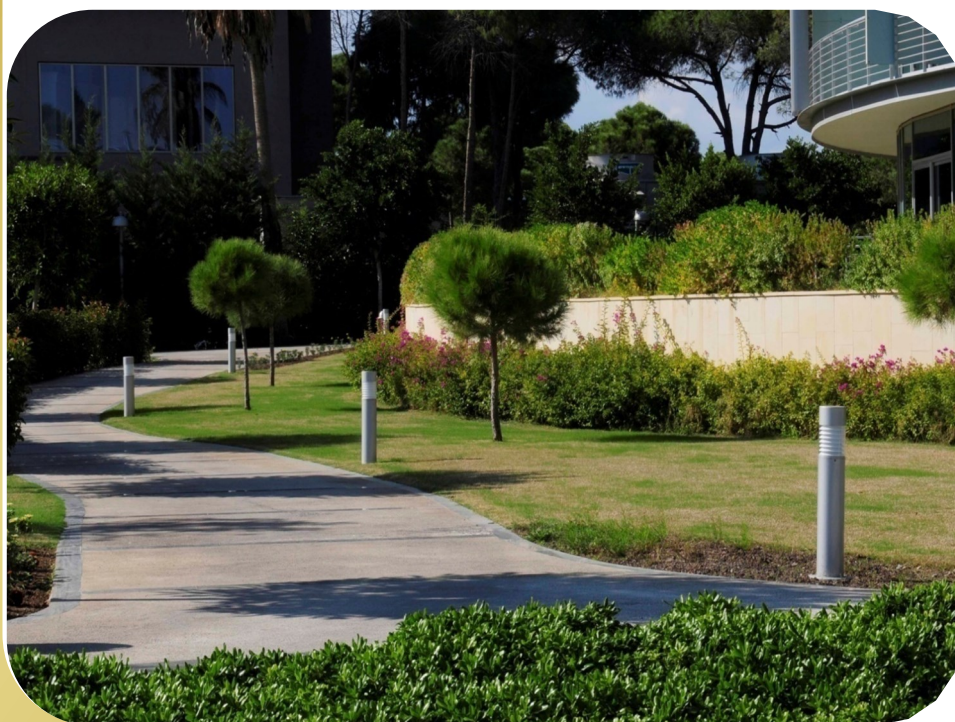
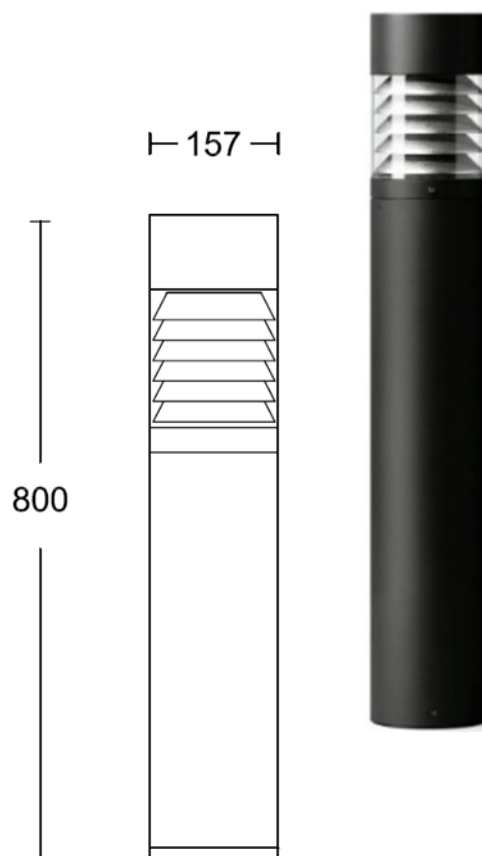
IP55



NERO

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffuser.
- ⇒ Louvre System prevents glare inside of fixture and provides homogenous light distribution.
- ⇒ E27 or G24 Lamp Holder.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Earthing System from Lamp holder to fuse.
- ⇒ CE, VDE, ENEC.



IP55





TUBE

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ All Inside electrical connections with silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffuser.
- ⇒ 360 degree light distribution.
- ⇒ Suitable for LED, Florescence light bulb.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Bollard height between 80cm and 4m.
- ⇒ Bollard diameter 150mm and 200mm optional.
- ⇒ CE, VDE, ENEC.



IP55



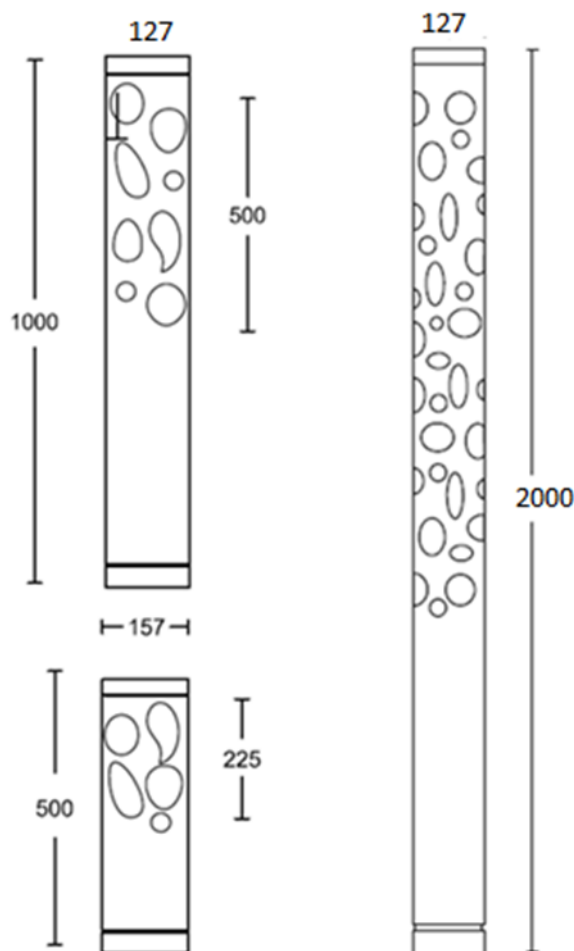
HERMES

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ All Inside electrical connections with silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffiuser.
- ⇒ 360 degree light distribution.
- ⇒ Suitable for LED, Florescence light bulb.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Bollard height between 80cm and 4m.
- ⇒ Bollard diameter 150mm and 200mm optional.



IP55



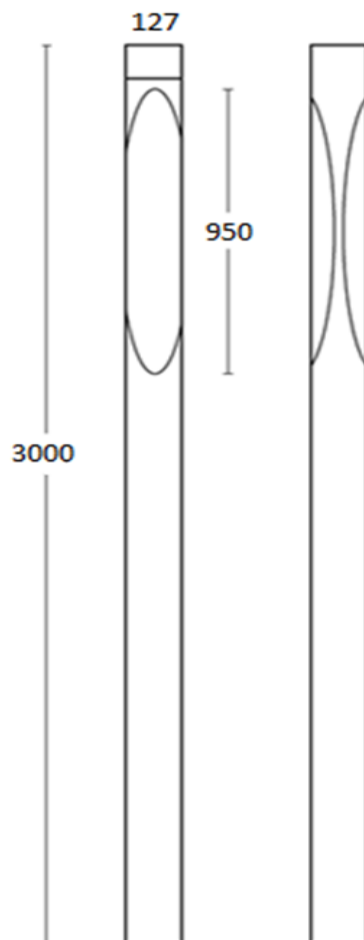
ALBA

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ All Inside electrical connections with silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffiuser.
- ⇒ 360 degree light distribution.
- ⇒ Suitable for LED, Florescence light bulb.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Bollard height between 80cm and 4m.
- ⇒ Bollard diameter 150mm and 200mm optional.
- ⇒ CE, VDE, ENEC.



IP55



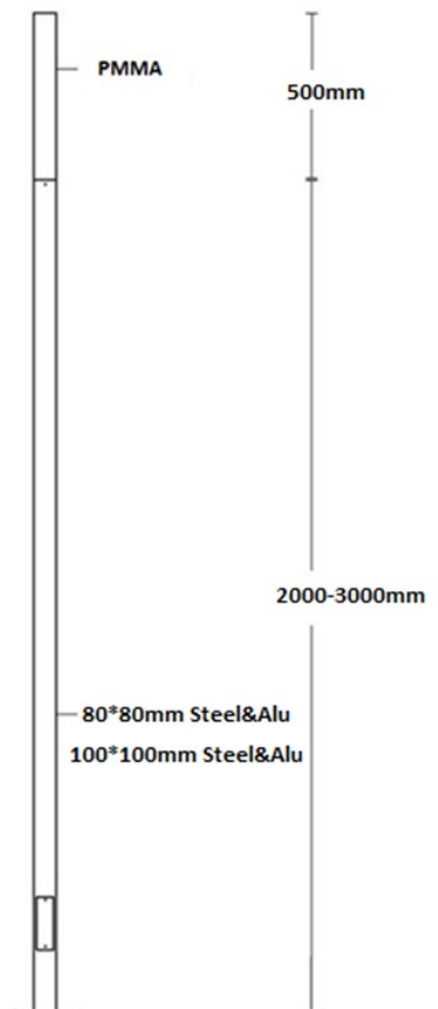
TERRA

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ All Inside electrical connections with silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffuser.
- ⇒ 360 degree light distribution.
- ⇒ Suitable for LED, Florescence light bulb.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Bollard height between 80cm and 4m.
- ⇒ Bollard diameter 150mm and 200mm optional.
- ⇒ CE, VDE, ENEC.



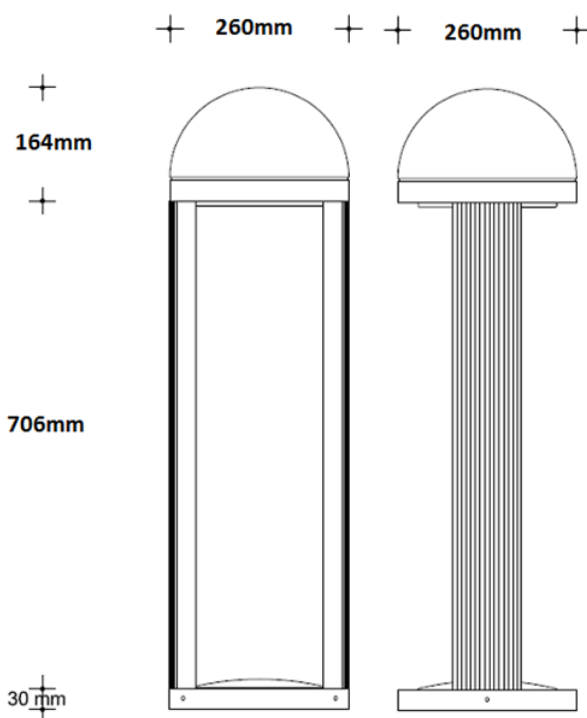
IP55



DUO

Key Features

- ⇒ Aluminium body.
- ⇒ Fixture head aluminium coating.
- ⇒ All fasteners stainless.
- ⇒ Long life silicone rubber.
- ⇒ All Inside electrical connections with silicone rubber.
- ⇒ IP68 Sleeve.
- ⇒ PMMA transparent diffuser.
- ⇒ 120 degree light distribution.
- ⇒ Suitable for LED, Florescence light bulb.
- ⇒ Electric Protection Class: "CLASS 1"
- ⇒ IP 55.
- ⇒ Bollard height between 80cm and 4m.
- ⇒ Bollard diameter 150mm and 200mm optional.



ELECTRIC



BOARDS & PANNELS

tedař tipi panolar

tedas type panels

dahili tip panolar_

Standartlar ve řartnamelerde belirtilen tm zelliklere uygun olarak imal edilen bu tip panolar bina ierisinde, kapalı blgelerde tercih edilirler. Fabrikamızda IP 43 koruma sınıfında imal edilirler.

indoor type panels _

These types of panels which are manufactured in line with all the properties mentioned in the standard and specifications are preferred within buildings and closed areas. They are manufactured in IP 43 protection class in our factory.

— 26



saha dađıtım kutuları_

Alak gerilim dađıtım řebekelerini beslemek iin kullanılırlar. řartnamesinde ve eklerinde belirtilen tm zelliklere uygun olarak imal edilir ve imalat srecinden sonra gerekli tm deneyleri yapılarak fabrikamızdan sahaya gnderilirler.

cable distrubition cabinets (cdc)_

They are used so as to feed low voltage distribution networks. They are manufactured in compliance with all the properties mentioned in their specification and annexes; all necessary tests are conducted after the manufacturing process and they are sent from our factory to the site.



harici tip panolar_

Standartlar ve şartnamelerde belirtilen tüm özelliklere uygun olarak imal edilen bu tip panolar üzerine yağış alan bölgelerde, dış ortamlarda kullanılır. Çatıları yağmur ve kar sularının birikmesini engelleyecek yapıdadır. IP koruma sınıfları yüksektir, fabrikamızda IP 54 koruma sınıfında imal edilirler.

outdoor type panels _

These types of panels, which are manufactured in compliance with all properties mentioned in the standards and specifications, are used outdoors, in regions which receive rain. They have roofs which prevent accumulation of rain and snow water. They have high IP protection classes. They are manufactured in IP 54 protection class in our company.



özel tip panolar

customized panels

şebeke-jeneratör panoları_

Şebekelerde enerji kesildiğinde jeneratörü devreye sokarak enerji sürekliliğini sağlamak amacıyla kurulan sistemlerde kullanılırlar. Şebeke ve jeneratör giriş TMS'si arasında bir elektriksel ve mekaniksel kilit kurularak şebeke ve jeneratör arasındaki geçiş sistemi kurulmuş olur.

network-generator panels_

They are used in systems established so as to ensure energy continuity by activating the generator when energy is cut off in networks. A transition system is established by creating an electrical and mechanical lock between the network and generator incoming thermal magnetic circuit breaker.

— 28



plc panoları_

Kontrol sistemleri, seri imalat sistemleri, montaj sistemleri gibi otomasyon gerektiren tüm sistemlerde kullanılırlar.

plc panels_

They are used in all systems that require automation such as control systems, serial manufacture systems and assembly systems.



motor kumanda panoları(mcc)_

Açılımı; Motion Control Chart , hareket kontrol sistemleri programlama tekniğidir.. 3 faz motorlara direk, yıldız-üçgen veya soft starter kumanda devresiyle yol vermek amacıyla imal edilen panolardır..

engine control panels _

In other words, it can be expressed as Motion Control Chart, which is a programming technique for motion control systems. They are panels which are manufactured so as to give way to 3-phase engines with direct, star-triangle or soft starter control circuit.



sulama panoları_

Tarımsal sulama yapılmak amacıyla kurulan sistemlerde tüm arazi şartlarına uygun olarak üretilen panolardır.

irrigation panels _

They are panels that are produced in line with all outdoor conditions in systems established for agricultural irrigation purposes.



— 30

sac köşkler_

Beton köşklerle kıyaslandıklarında daha hafif olması, montaj ve nakliye kolaylığı sağlaması nedeniyle tercih edilirler. İçerisinde kullanılacak ürünlere göre imal edildikleri için ölçüleri oldukça farklılık gösterebilir.

sheet metal kiosks _

They are preferred for being lighter compared to concrete kiosks and as they offer ease of assembly and shipment. As they are manufactured in line with the products in which they will be used, their dimensions can vary considerably.



kompanzasyon panoları_

İndüktif ve kapasitif etkiler nedeniyle voltaj ve akım sinyalleri arasındaki faz kaymasını düzelterek ideale yakın (0 derecede) sabit tutmaya yarayan sistemlerde kullanılmak üzere imal edilirler.

compensation panels _

They are manufactured to be used in systems that enable fixation at the ideal degree (0 degrees) by correcting the phase shifting between voltage and current signals due to inductive and capacitive effects.



cam elyaf takviyeli polyester panolar_

Panoların karkaslarının cam elyaf takviyeli polyester olması öncelikle panonun tüm dış kısmının izole olması demektir. Bu özelliği ile can güvenliği açısından metal muhafazalı panolara göre avantajlıdır. Estetik görüntüsü, modüler tasarımı ve kullanım rahatlığı da tercih sebeplerindendir. Paslanma yapmadığından nemli bölgelerde daha fazla tercih edilir.

glass fiber-reinforced polyester panels _

Glass fiber-reinforced polyester panel framework means isolation of the whole surface of the panel in the first place. This property makes it more advantageous in terms of life safety compared to metal-enclosed panels. Its aesthetic appearance and ease of use are also reasons for preference.

— 32



og sekonder koruma panosu_

Prensibi OG'nin sekonder kısmında aşırı akım koruması, toprak aşırı akım koruması, dengesizlik koruması vb. olan panolardır.

mv secondary protection panel _

These are panels the principle of which is excessive current protection in secondary part of MV, earth excessive current protection and imbalance protection etc.



sıva altı ve sıva üstü tablolar_

*flush-mounted and
surface-mounted tables_*



LED



INDOOR

LIGHTING

COB LED DOWNLIGHT

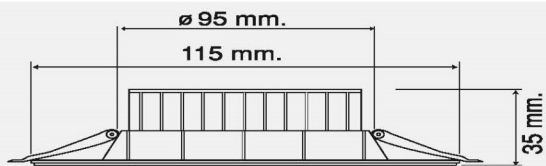


Code	Body Color	Volt	Watt	Kelvin	Lumen	Deg.	Lifetime
PER LDW 3	White	220V	8W	3000-4000-6500K	930-960 LM	160°	50.000
PER LDW 4 W	White	220V	10W	3000-4000-6500K	1170-1200 LM	160°	50.000
PER LDW 4 C	Chrome	220V	10W	3000-4000-6500K	1170-1200 LM	160°	50.000
PER LDW 4 SN	Satin Nickel	220V	10W	3000-4000-6500K	1170-1200 LM	160°	50.000
PER LDW 6 W	White	220V	20W	3000-4000-6500K	2400-2800 LM	160°	50.000
PER LDW 6 C	Chrome	220V	20W	3000-4000-6500K	2400-2800 LM	160°	50.000
PER LDW 6 SN	Satin Nickel	220V	20W	3000-4000-6500K	2400-2800 LM	160°	50.000
PER LDW 8 W	White	220V	30W	3000-4000-6500K	3400-3800 LM	160°	50.000
PER LDW 8 C	Chrome	220V	30W	3000-4000-6500K	3400-3800 LM	160°	50.000
PER LDW 8 SN	Satin Nickel	220V	30W	3000-4000-6500K	3400-3800 LM	160°	50.000



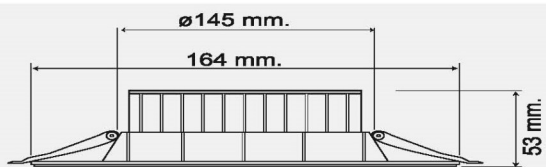


3"

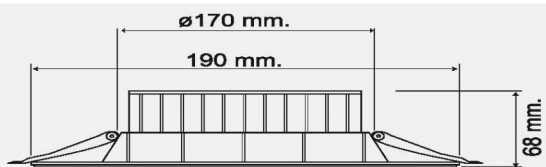


TURKISH MADE

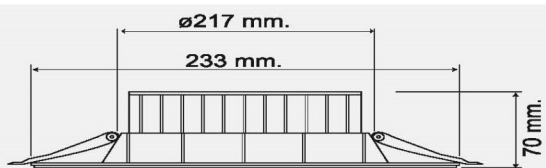
4"



6"



8"



COB LED DOWNLIGHT





60x60 LED PANEL



*Flush Mounted
*Surface Mounted

VOLT	LUMEN	WATT	COLOR
220 V	4.800LM	60W	WHITE-DAYLIGHT



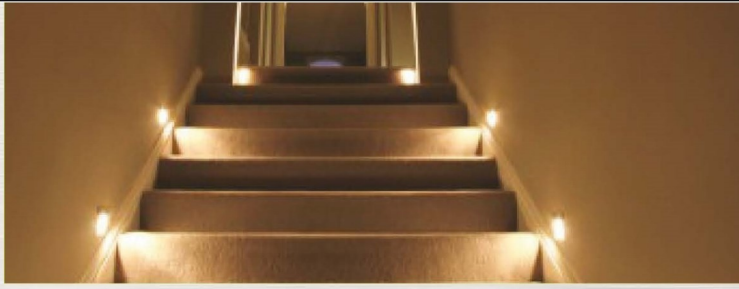
30x60 LED PANEL



*Flush Mounted
*Surface Mounted

VOLT	LUMEN	WATT	COLOR
220 V	2.400LM	30W	WHITE-DAYLIGHT





K3L 8059 L



	VOLT	WATT	COLOR
	220V	1.5W	
BODY COLOR SATIN-NICKEL			

K3L 8060 L



	VOLT	WATT	COLOR
	220V	1.5W	
BODY COLOR SATIN-NICKEL			

K3L 8059 M

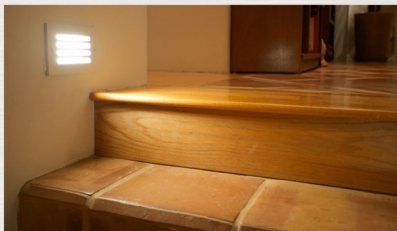


	VOLT	WATT	COLOR
	220V	1.5W	
BODY COLOR SATIN-NICKEL			

K3L 8060 M



	VOLT	WATT	COLOR
	220V	1.5W	
BODY COLOR SATIN-NICKEL			





	VOLT	WATT	COLOR
	220V	1.5W	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
BODY COLOR Saten-Nikel			



	VOLT	WATT	COLOR
	220V	1.5W	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
BODY COLOR Saten-Nikel			



	VOLT	WATT	COLOR
	220V	1.5W	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
BODY COLOR 100 Saten-Nikel 28.00 ₺			



	VOLT	WATT	COLOR
	220V	1.5W	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
BODY COLOR 100 Saten-Nikel 28.00 ₺			

