

espica ✨



CARINA

Simplicity in light.

espica 



CARINA

**is your new lighting tool for
outdoor applications.**



Carina 4

from 200 up to 250 W
from 21000 up to 35000 lm
pipe holder diameter Ø 48-60 mm



Carina 3

from 120 up to 150 W
from 13000 up to 21000 lm
pipe holder diameter Ø 48-60 mm

Carina family.

the new lighting tools

The complete range of products for your urban lighting projects.

Carina is a studied mix of design, visual comfort and maximum **flexibility of use**.

Thanks to its adjustable inclination joint it can be installed both at the top of the pole on supports with a diameter from 33mm up to 60mm and on a lateral arm.

The uniform and glare-free light distribution is combined with **excellent luminous efficacy** and lifetime performance, making Carina the **best solution for urban lighting**.



Carina 2

from 60 up to 100W
from 6200 up to 13000 lm
pipe holder diameter Ø 42-48 mm



Carina 1

from 20 up to 50W
from 2500 up to 6310 lm
pipe holder diameter Ø 33-42 mm

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THE CARINA FAMILY OVERVIEW

Thanks to its functionality and **excellent lighting performance**, Carina is the ideal product family for any type of outdoor installation, both on streets and walkways as well as squares and large areas.

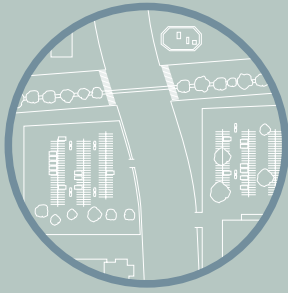
The Carina range features an essential and timeless design, colour temperatures from 3000K up to 6500K and a high luminous efficacy.

Available in different finishes, equipped with an extensive range of optical solutions and designed for **integration with smart city systems**, Carina is the perfect product to satisfy the requests of any lighting designer.



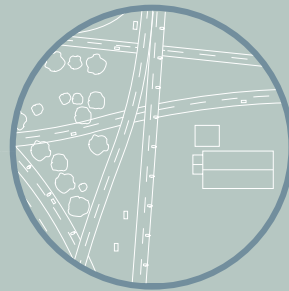
The family overview.

Four dimensions, infinite possibilities



PARK AREAS

Wide areas, parking lots, roundabouts and residual spaces. In this case light must guarantee extreme visibility and great safety in compliance with regulations



VEHICULAR STREETS

Suburban and urban vehicular traffic streets, pedestrian urban streets. Light is uniform, evenly distributed and completely glare-free

9000



6000

3000



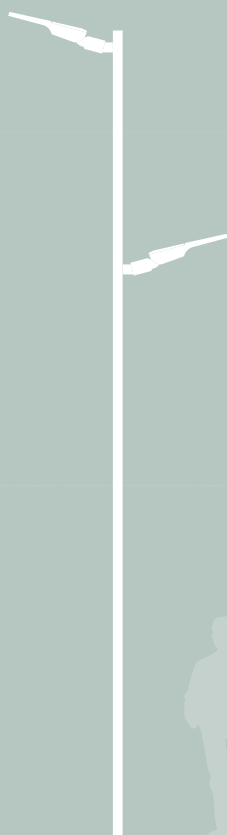
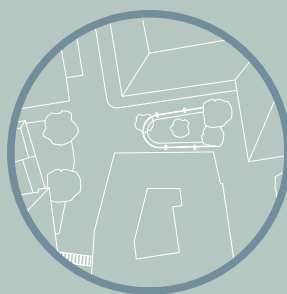


BIKE & PEDESTRIAN PATHS

Suburban and urban paths for both pedestrians and bicycles. Light is brought in a softer way, concentrated where it is needed and harmonized with the urban context

SQUARE

Pedestrian areas, squares and urban walkways. Light is brought in a functional and efficient way according to the irregular shapes of the areas



this graph represents some possible installations that the Carina range offers, the measurements are expressed in mm



**Simplicity
in lighting**

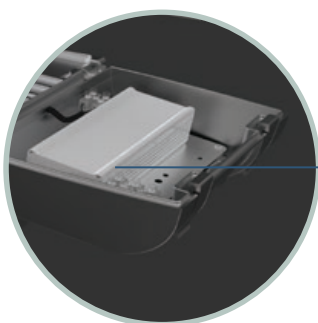


Easiness and versatility.

Carina is designed to offer different installation solutions and ease of use

Wiring and maintenance activities

Each outdoor installation requires different power and luminous flux values. This is why Carina offers an extraordinarily **simple maintenance and management system** for the technical compartment. Door opens with **a simple click** and swings up to reveal the technical compartment. A practical and functional design grants the possibility to easily remove and replace driver and cables.



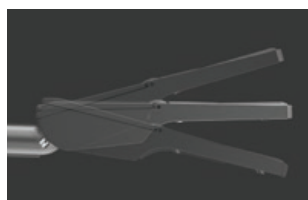
Ease of use

The lock handle with **self-locking springs** is simple and immediate.

To uncover Carina all you have to do is unlock the two handles on the back of the product.



When product is closed high levels of Ingress Protection are safed together with a waterproofing system on top and a strong resistance to corrosion.

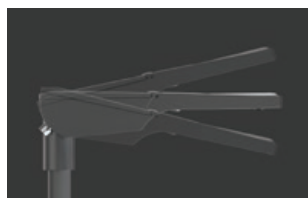


Tiltability

Thanks to a **practical assembly system**, the Carina system allows the lamp body to be oriented according to project requirements.

In the version with horizontal arm the post-top can turn from -15° up to $+15^{\circ}$, in the version with vertical arm the post-top can turn from $+75^{\circ}$ up to 105° .

Furthermore, Carina can be installed on different pole sizes, from 33mm up to 60mm.



Optic comfort and performances.

Carina uses the best technologies to provide the ideal light beam for each project



Lens system and Led modules

The key to the luminous efficacy of Carina family is undoubtedly the use of a combined system of LED modules and lenses that allow **uniform distribution** of the light beam, **visual comfort** and **chromatic stability**.

High Module is the last generation of the Espica led modules based on High-power LEDs to provide the technical requirements of road and urban applications with high efficiency.

Mid Module has been designed for those looking for a mid-power LED to have a more economical alternative with the same luminaire footprint.

LED modules mounted on a rigid and thermally conductive substrate



Integrated polycarbonate high-tech lenses



Heating dissipation

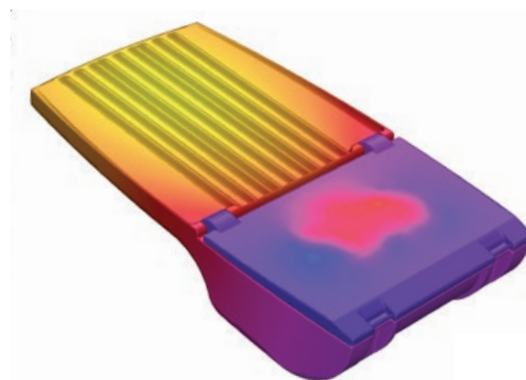
The thermal behavior of a product is essential to guarantee a **long life** and **perfect functioning**.

The modified system of temperature control of Carina consists of **thermal blades** which dissipate the heat in the compartment.

Plus, our lighting fixture is equipped with a heat dissipation system able to maintain the junction temperature low, extending in this way the life of the light source.

Of course we tested the worst-case condition.

Thanks to thermographic and fluid-dynamic simulations, we are able to define the best geometry for our products in order to maintain a constant LED operating temperature.

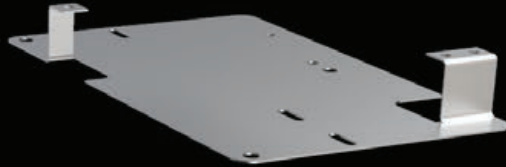
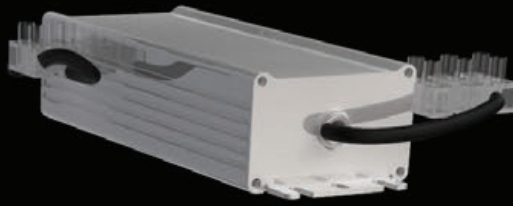


- 66.5 ■
- 62.1 ■
- 57.8 ■
- 53.5 ■
- 49.3 ■
- 45.1 ■
- 41.0 ■
- 36.9 ■
- 32.9 ■
- 28.9 ■
- 25.0 ■
- C

Door



Driver

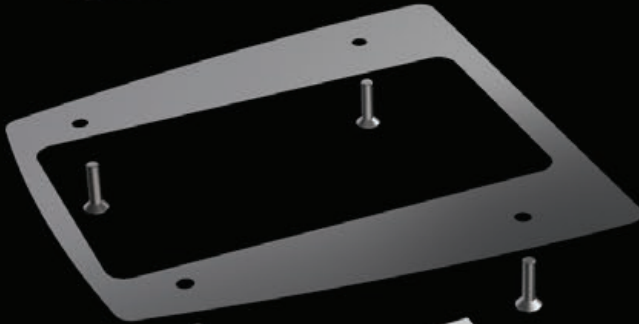


Body



Handles

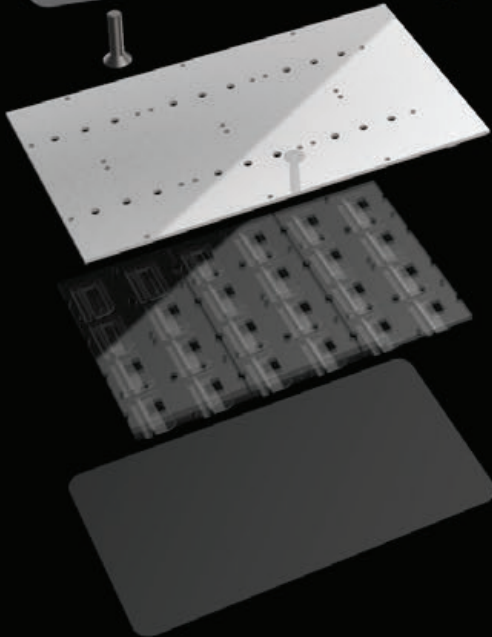
Screen



Pipe holder



Led and lens module



Pole



Smart city.

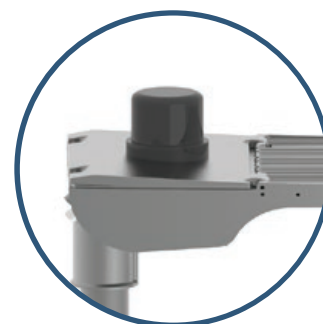
Carina offers different control possibilities, oriented to the energy saving



Smart accessories

Carina offers a full range of light control possibilities. Managing the flux, power and switch-on time of luminaires is a fundamental requirement for modern urban spaces, increasingly conditioned by the issue of **sustainability** and **energy saving**.

Radio device with socket connection



Carina family can be equipped with remote control devices. Thanks to this system, it's possible to create a communication network and integrate lighting fixtures in a **smart city** system and save significantly on electricity costs.



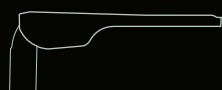


Management platform

Ideal representation
of a wireless outdoor
lighting control
system using Carina
products

A quick recap.

Four dimensions, infinite possibilities



vertical mounting



horizontal mounting



full cut-off



pole diameter
from 33 up to 60 mm

A quick recap





- **IP66 / IK09**
High ingress protection and good resistance to corrosion and mechanical stress.
- **-20°C / +50°C**
Operative in a wide range of ambient temperatures and climates.
- **Waterproofing on top.**
- **Class I**
Protection against electric shock 230V.



- Body in **die-cast aluminium** with electrostatic powder painting.
- **Impact resistant** window film.
- **4 different finishes:**
01 - RAL7037
02 - RAL9005
03 - RAL9016
04 - RAL7024
- Designed according to the **highest quality standards** and in compliance with European regulations.



- **High quality LED**
- 2 different types of LED modules: High Module and Mid Module
- **7 different types of optics:**
2 symmetric beams + 5 asymmetric beams
- High luminous efficiency up to **125 lm/W**
- **CRI 75**
- Available in all colour temperatures **from 3000 up to 6500K**

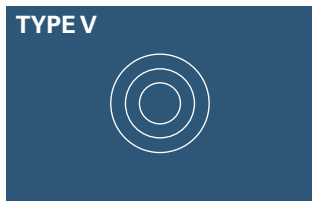




A bunch of applications

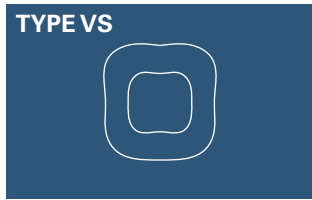
Optic solutions

Seven different beam options specifically conceived for outdoor lighting



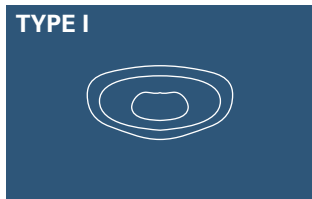
- .Center of roadways
- .Center islands of parkway
- .Intersections

A circular 360° distribution that has equal light distribution at all positions. This distribution has a circular symmetry of foot candles that is essentially the same at all viewing angles. Type V distribution is great for parking areas or flooding large areas of light directly in front of the fixture.



- .Center of roadways
- .Center islands of parkway
- .Intersections
- .Large commercial parking lot

A square 360° distribution that has the same intensity at all angles. This distribution has a square symmetry of candlepower that is essentially the same at all lateral angles. Type VS is used where the light pattern needs a more defined edge.



- .Walkways
- .Paths
- .Sidewalks

This type of lighting is meant to be placed near the center of the pathway. This provides adequate lighting for smaller pathways. The two principal light concentrations are in opposite directions along a roadway. And this type is generally applicable to a luminaire location near the center of a roadway where the mounting height is approximately equal to the roadway width.



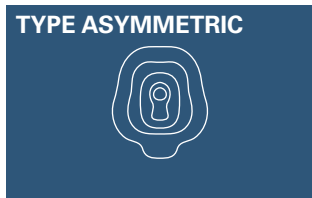
- .Wide walkways
- .Ramps
- .Entrance roadways
- .Jogging paths

This type is meant for lighting larger areas and usually is located near the roadside. Type II light distributions have a preferred lateral width of 25 degrees. They are generally applicable to luminaires located at or near the side of relatively narrow roadways, where the width of the roadway does not exceed 1.75 times the designed mounting height.



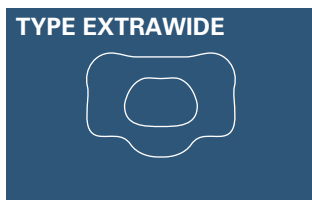
- .General roadway
- .Parking areas
- .Entrance roadways
- .Jogging paths

This type of lighting needs to be placed to the side of the area, allowing the light to project outward and fill the area. Type III light distributions have a preferred lateral width of 40 degrees. This distribution is intended for luminaires mounted at or near the side of medium width roadways or areas, where the width of the roadway or area does not exceed 2.75 times the mounting height.



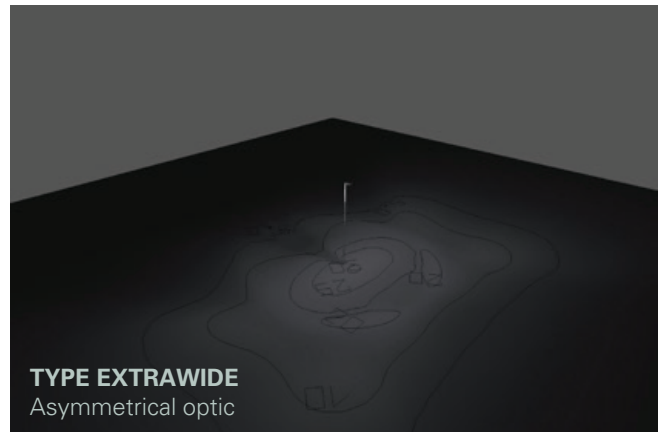
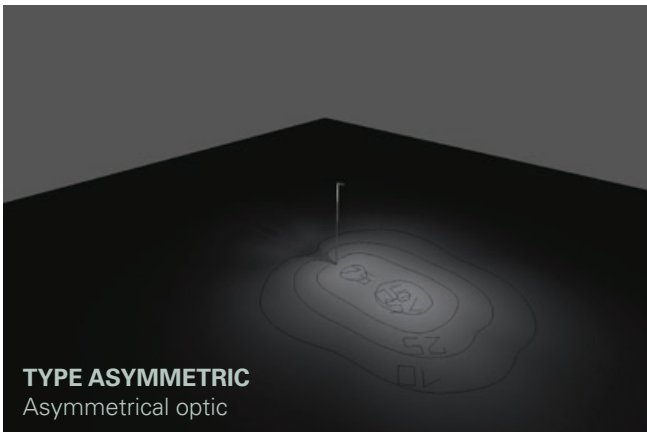
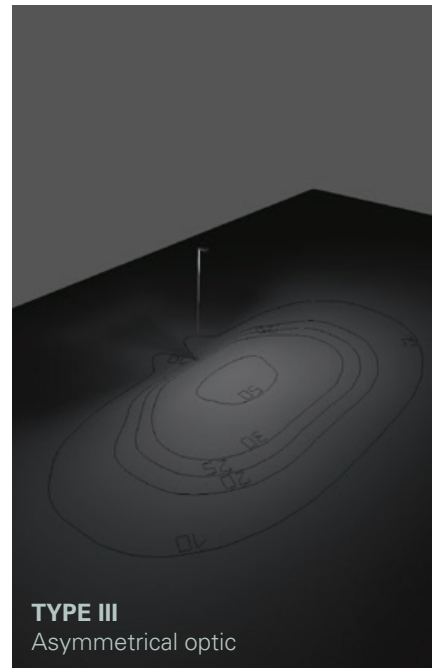
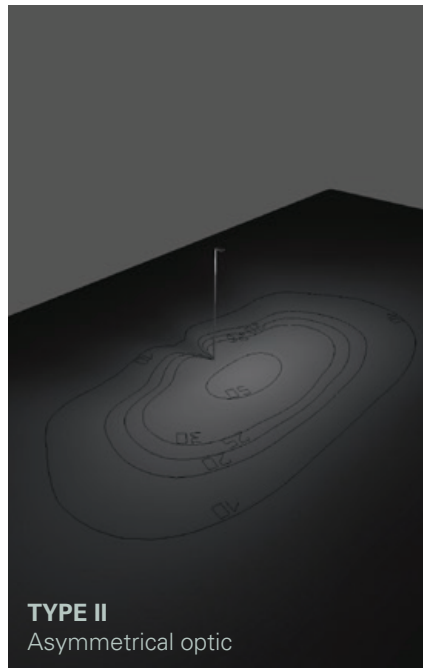
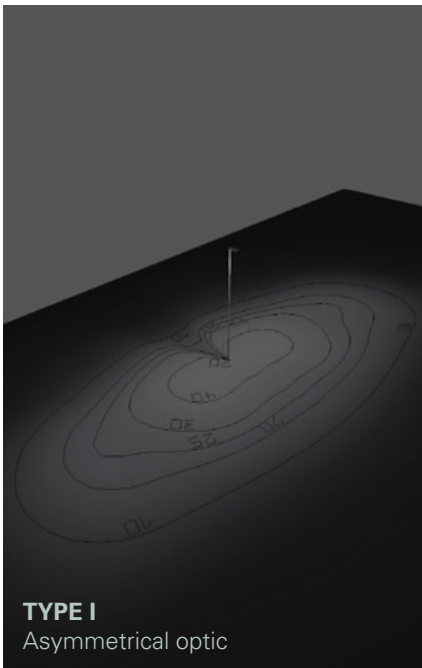
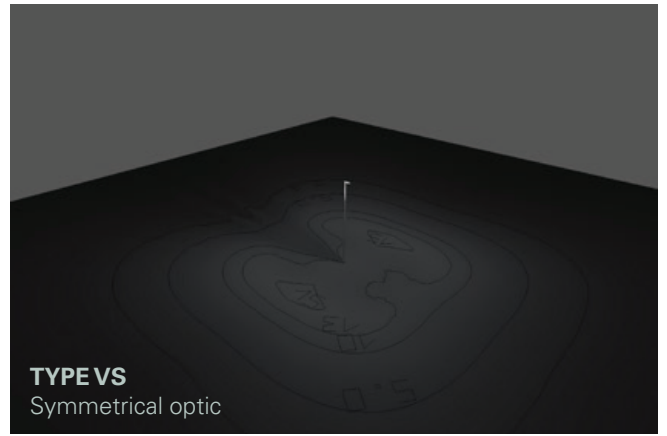
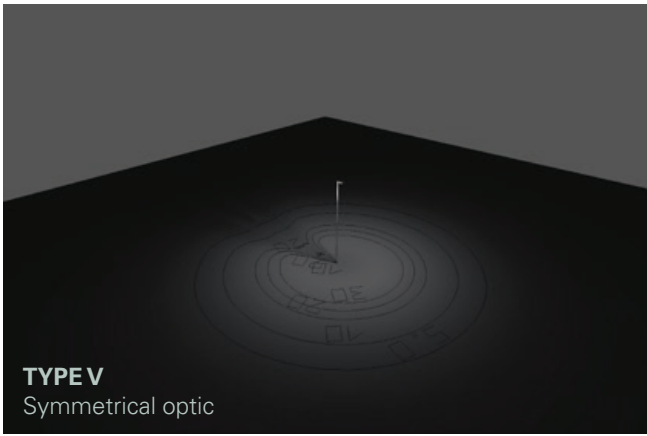
- .General roadway
- .Parking areas
- .Entrance roadways
- .Jogging paths

Narrow forward throw beam for area lighting. Ideal for large areas such as parking lots, parks and green spaces. Perfect for places where there is no access to install poles on both sides of the space.



- .Wide Areas

Extra wide for wide area security lighting



Street lighting.

The quintessential application for Carina family

Correct LED street lighting must guarantee **maximum visual quality, safety** and **energy efficiency**. This is the main reason that dwells in Carina's family design. The goal of street lighting is therefore to allow citizens to move in safety with excellent visibility conditions and allow administrations to save on energy costs. The renewed optical system of Carina guarantees excellent lighting performance, an infallible **anti-glare system** and a light cutoff equal to zero. Carina is the best solution in order to ensure **visual perception for the driver** and maximum visual comfort for pedestrians on all types of roads. Plus, the optics of our products also **reduce light pollution**, illuminating efficiently only where necessary.



POSSIBLE APPLICATIONS

Suburban and urban vehicular traffic streets

Pedestrian urban streets

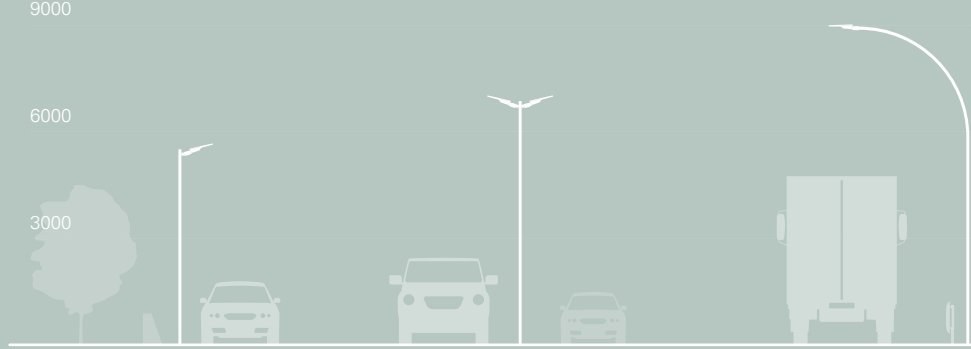
Highways

9000

6000

3000

this graph represents some possible installations that the Carina range offers, the measurements are expressed in mm



LESS GLARING

No reduction in visual performance. The perfect combination between led modules and lenses allows to **reduce the contrast** in luminance between the surroundings and the glare light source.

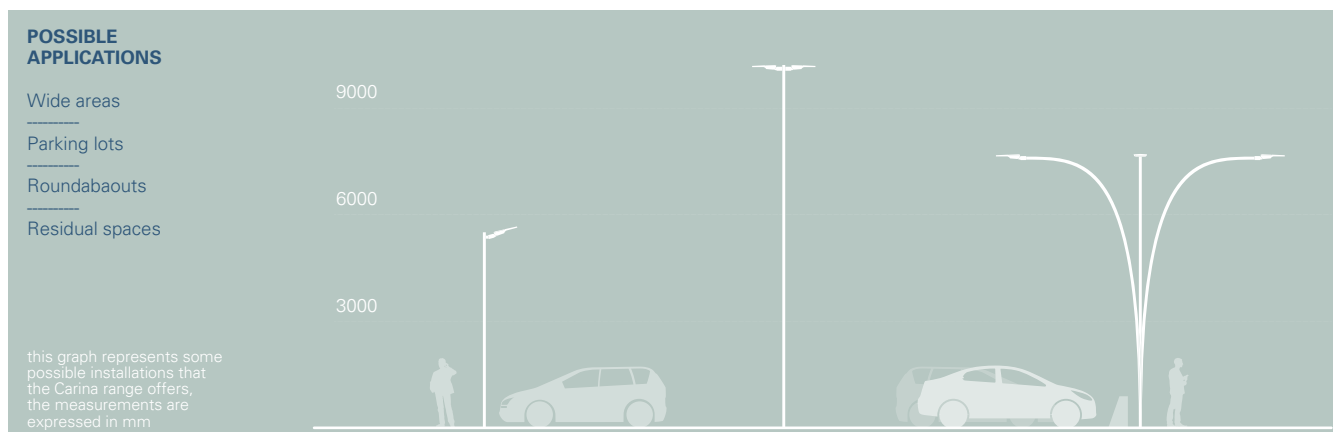


Parking lots & wide areas.

A solution for big spaces

Parking areas lighting must be correctly designed to allow the movement of the cars and pedestrians at all hours of the day and night. Parking areas and residual spaces in cities are often uncrowded, for this reason the primary function of light is **safety**.

Carina has a complex variety of optics capable of offering many solutions, all based on the most **correct distribution of light**. Furthermore, the combination of **easy installation** and **simple maintenance** makes Carina ideal for this type of application allowing to **reduce operating costs**. Thanks to the possibility of remotely controlling the appliances, Carina is an excellent option for **reducing consumption** and doing **energy savings**.





DOUBLE INSTALLATION

Thanks to its adjustable pipe holder, Carina lends itself to different installation combinations

Bike and pedestrian paths.

Light on a human scale

Illuminating pedestrian paths, walkways and bike paths is one of the major challenges of outdoor lighting.

Carina integrates within it the **perfect mix** of features necessary for this purpose. Thanks to the **high IP degree**, it can be applied to all types of walkways.

From an optical point of view all the products in the range are **cut-off** this means that no light is emitted above the horizon line and light pollution is prevented. Generally, the luminaires that illuminate the paths are arranged along the path, Carina, in this sense, can be integrated into any type of pole thanks to the great variety of pipe holders.



POSSIBLE APPLICATIONS

Bike paths

Pedestrian paths

Paths inside parks





MAXIMUM VERSATILITY

4 different product sizes, endless application possibilities.
The diameter of the pipe holder ranges from 33 up to 60 mm and is compatible with any type of pole

Squares and pedestrian areas.

Lighting comfort, safety and beam control

Thanks to its functional design, the Carina product also adapts to urban scenarios, squares and pedestrian areas.

The innovative **Mid Module LED technology** makes it possible to contain the luminous fluxes and - together with the different optics available - to shape the light on urban areas even with complex geometries. The enormous versatility of light distribution, the excellent color rendering, the cut-off system and - last but not least - the great resistance of the products to outdoor environments allow you to create intriguing light scenarios.



POSSIBLE APPLICATIONS

Squares

Urban roads

9000

6000

3000

this graph represents some possible installations that the Carina range offers, the measurements are expressed in mm

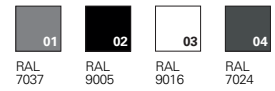


ESSENTIAL DESIGN

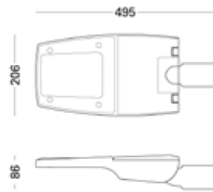
Thanks to its LED technology, Carina allows you to save significantly compared to older generation fittings



CARINA 1



Pole head



CARINA 1 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- CA1	HP High Power	020 20W	30 3000K	04 StreetTypeV	01 RAL 7037
		025 25W	40 4000K	05 StreetTypeVS	02 RAL 9005
		030 30W	50 5000K	06 Asymmetric	03 RAL 9016
		035 35W	65 6500K	07 ExtraWide	04 RAL 7024
		040 40W			
		050 50W			

Code example:
ES-CA1 HP 025 30 01 02

20W

8 LED- 0.09 A | values calculated with beam angle StreetType VS

Colour T (K)	Delivered lumen (lm)
3000K	2697
4000K	2803
5000K	2803
6500K	2727

30W

16 LED- 0.13 A | values calculated with beam angle StreetType VS

Colour T (K)	Delivered lumen (lm)
3000K	4045
4000K	4204
5000K	4204
6500K	4090

40W

16 LED- 0.18 A | values calculated with beam angle StreetType VS

Colour T (K)	Delivered lumen (lm)
3000K	5394
4000K	5606
5000K	5606
6500K	5454

25W

16 LED- 0.11 A | values calculated with beam angle StreetType VS

Colour T (K)	Delivered lumen (lm)
3000K	3370
4000K	3503
5000K	3503
6500K	3408

35W

16 LED- 0.16 A | values calculated with beam angle StreetType VS

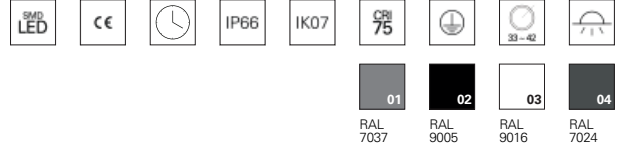
Colour T (K)	Delivered lumen (lm)
3000K	4719
4000K	4905
5000K	4905
6500K	4772

50W

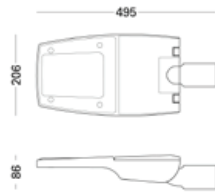
24 LED- 0.22 A | values calculated with beam angle StreetType VS

Colour T (K)	Delivered lumen (lm)
3000K	6702
4000K	6966
5000K	6966
6500K	6777

CARINA 1



Pole head



CARINA 1 Mid Module

Code base	LED module	Power (W)	ColourT (K)	Beam angle	Finishes
ES- CA1	MP Mid Power	020 20W	30 3000K	01 Street Type 1	01 RAL 7037
		025 25W	40 4000K	02 Street Type 2	02 RAL 9005
		030 30W	50 5000K	03 Street Type 3	03 RAL 9016
		035 35W	65 6500K		04 RAL 7024
		040 40W			
		050 50W			

Code example:
ES-CA1 MP 025 30 01 02

20W

32 LED- 0.09 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	2350
4000K	2523
5000K	2523
6500K	2500

30W

64 LED- 0.13 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	3525
4000K	3785
5000K	3785
6500K	3750

40W

64 LED- 0.18 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	4700
4000K	5047
5000K	5047
6500K	5000

25W

64 LED- 0.11 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	2938
4000K	3155
5000K	3155
6500K	3126

35W

64 LED- 0.16 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	4113
4000K	4417
5000K	4417
6500K	4376

50W

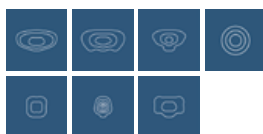
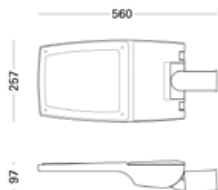
96 LED- 0.22 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	5876
4000K	6310
5000K	6310
6500K	6252

CARINA 2



Pole head



CARINA 2 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES-CA2	HP High Power	060 60W	30 3000K	01 StreetType 1	01 RAL 7037
		080 80W	40 4000K	02 Street Type 2	02 RAL 9005
		100 100W	50 5000K	03 StreetType 3	03 RAL 9016
			65 6500K	23 Street Type 2/3	04 RAL 7024
			04 StreetTypeV		
			05 Street TypeVS		
			06 Asymmetric		
			07 ExtraWide		

Code example:
ES-CA2 HP 100 30 01 02

60W

24 LED- 0.27 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	6798
4000K	6995
5000K	6995
6500K	6873

80W

32 LED- 0.36 A | values calculated with beam angle Street Type 1

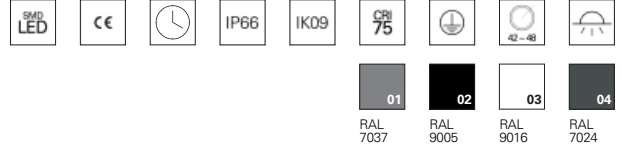
Colour T (K)	Delivered lumen (lm)
3000K	9064
4000K	9327
5000K	9327
6500K	9164

100W

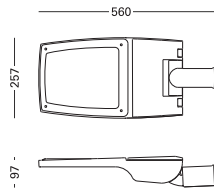
40 LED- 0.45 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	11331
4000K	11660
5000K	11660
6500K	11456

CARINA 2



Pole head



CARINA 2 Mid Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES-CA2	MP Mid Power	060 60W	30 3000K	01 Street Type 1	01 RAL 7037
		080 80W	40 4000K	02 Street Type 2	02 RAL 9005
		100 100W	50 5000K	03 Street Type 3	03 RAL 9016
			65 6500K		04 RAL 7024

Code example:
ES-CA2 MP 060 30 01 02

60W

96 LED - 0.27 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	7221
4000K	7755
5000K	7755
6500K	7683

80W

128 LED - 0.36 A | values calculated with beam angle Street Type 1

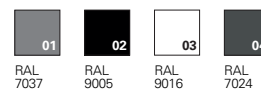
Colour T (K)	Delivered lumen (lm)
3000K	9628
4000K	10340
5000K	10340
6500K	10244

100W

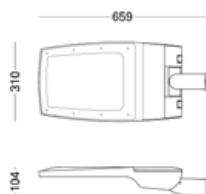
160 LED - 0.45 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	12034
4000K	12925
5000K	12925
6500K	12804

CARINA 3



Pole head



CARINA 3 High Module



Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES-CA3	HP High Power	120 120W	30 3000K	01 StreetType 1	01 RAL 7037
		150 150W	40 4000K	02 StreetType 2	02 RAL 9005
			50 5000K	03 StreetType 3	03 RAL 9016
			65 6500K	23 StreetType 2/3	04 RAL 7024
				04 StreetType V	
			05 StreetType VS		
			06 Asymmetric		
			07 ExtraWide		

Code example:
ES-CA3 HP 120 30 01 02

120W

48 LED- 0.54 A | values calculated with beam angle Street Type 2 & 3

Colour T (K)	Delivered lumen (lm)
3000K	14065
4000K	14473
5000K	14473
6500K	14220

150W

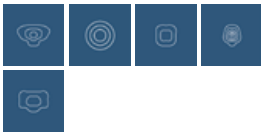
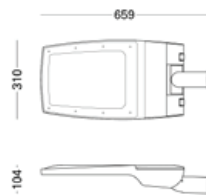
40 LED- 0.68 A | values calculated with beam angle Street Type 2 & 3

Colour T (K)	Delivered lumen (lm)
3000K	17594
4000K	18104
5000K	18104
6500K	17788

CARINA 3

01 02 03 04
 RAL 7037 RAL 9005 RAL 9016 RAL 7024

Pole head



CARINA 3 Mid Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES-CA3	MP Mid Power	120 120W	30 3000K	03 Street Type 3	01 RAL 7037
		150 150W	40 4000K	23 Street Type 2/3	02 RAL 9005
			50 5000K	04 Street Type V	03 RAL 9016
			65 6500K	05 Street Type VS	04 RAL 7024
				06 Asymmetric	
			07 ExtraWide		

Code example:
ES-CA3 MP 150 30 01 02

120W

192 LED - 0.54 A | values calculated with beam angle Street Type 1

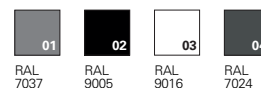
Colour T (K)	Delivered lumen (lm)
3000K	15184
4000K	16308
5000K	16308
6500K	16156

150W

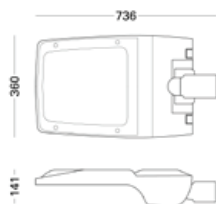
240 LED - 0.68 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	18980
4000K	20250
5000K	20385
6500K	20195

CARINA 4



Pole head



CARINA 4 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES-CA4	HP High Power	200 200W	30 3000K	01 StreetType 1	01 RAL 7037
		250 250W	40 4000K	02 Street Type 2	02 RAL 9005
			50 5000K	03 Street Type 3	03 RAL 9016
			65 6500K	23 Street Type 2/3	04 RAL 7024
				04 Street Type V	
			05 Street Type VS		
			06 Asymmetric		
			07 ExtraWide		

Code example:

ES-CA4 HP 200 30 01 02

200W

80 LED- 0.91 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	21729
4000K	22359
5000K	22359
6500K	22359

250W

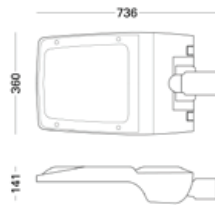
96 LED- 1.14 A | values calculated with beam angle Street Type 1

Colour T (K)	Delivered lumen (lm)
3000K	27161
4000K	27949
5000K	27949
6500K	27949

CARINA 4

01 RAL 7037 02 RAL 9005 03 RAL 9016 04 RAL 7024

Pole head



CARINA 4 Mid Module

Code base	LED module	Power (W)	ColourT (K)	Beam angle	Finishes
ES- CA4	MP Mid Power	200 200W	30 3000K	01 Street Type 1	01 RAL 7037
		250 250W	40 4000K	02 Street Type 2	02 RAL 9005
			50 5000K	03 Street Type 3	03 RAL 9016
			65 6500K		04 RAL 7024

Code example:
ES-CA4 MP 250 30 01 02

200W

320 LED- 0.91 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	22417
4000K	24076
5000K	24076
6500K	23852

250W

384 LED- 1.14 A | values calculated with beam angle Street Type 1

ColourT (K)	Delivered lumen (lm)
3000K	28021
4000K	30095
5000K	30095
6500K	29814

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