

espica ✦



MATRIX

High power for you projects.

espica 



MATRIX

**is the perfect range for
illuminating large outdoor
spaces.**

A complete family of projectors of all powers and dimensions.

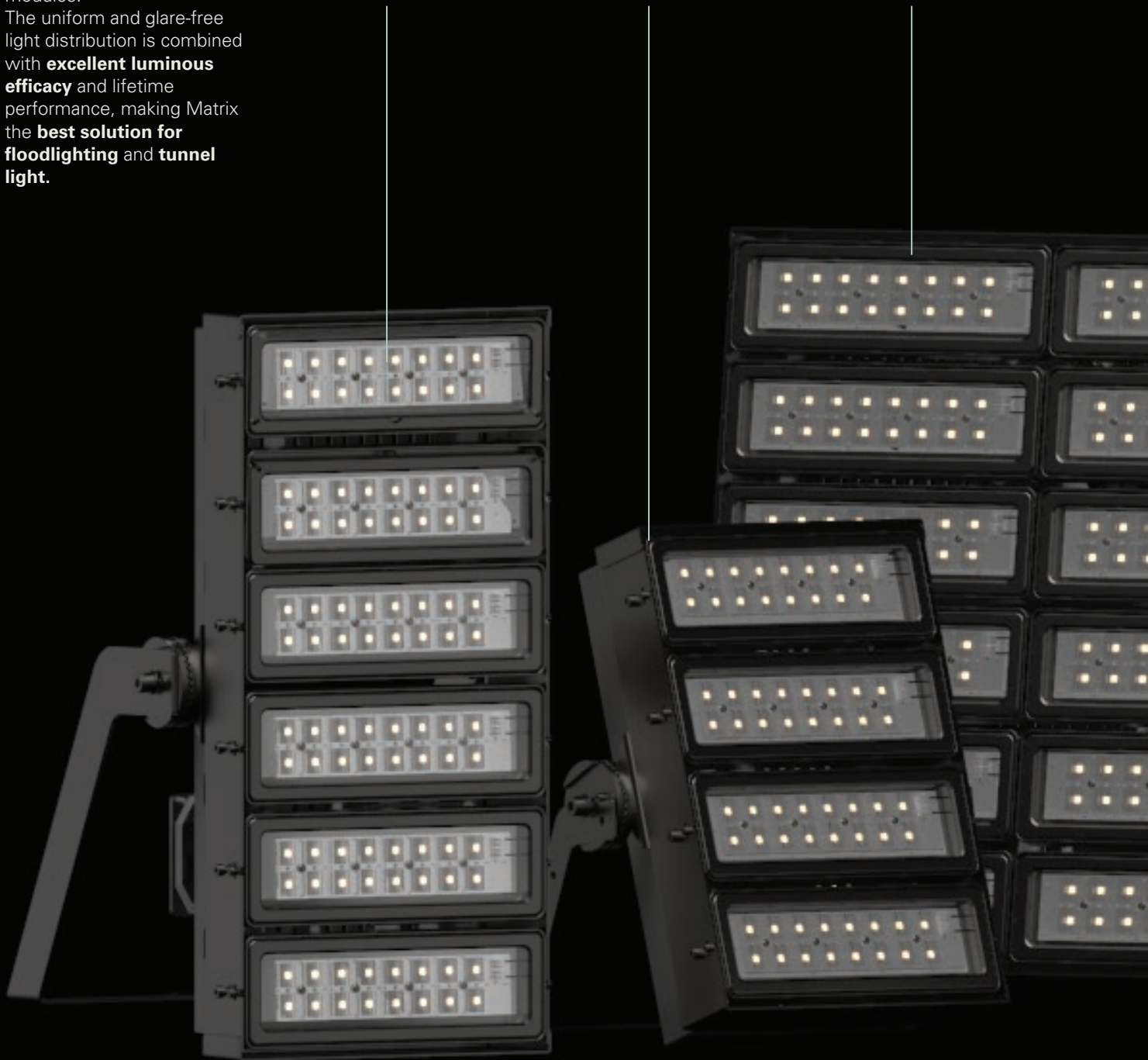
Matrix is a **compact, modular and carefully designed** product. Thanks to the modularity of the optical system, it is possible to combine up to 12 basic modules.

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

Matrix 360

Matrix 240

Matrix 720



Matrix family.

the new lighting tools

Matrix 180

Matrix 300



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THE MATRIX FAMILY OVERVIEW

With its modularity and **excellent lighting performance**, Matrix is the ideal product for various outdoor applications with particular performance in **tunnels** and on **high towers**.

The Matrix family features a compact and contemporary design, colour temperatures from 3000K up to 6500K and a high luminous efficiency. Equipped with standard power supply with precise current control, high power factor and low harmonic distortion, Matrix is available in different wattages and sizes, configuring itself as the perfect range for illuminating large outdoor spaces.



The family overview.

Composability, modularity and design in one product

SPORT AREAS

Large spaces, sports fields and airports where it is necessary to bring light from great heights

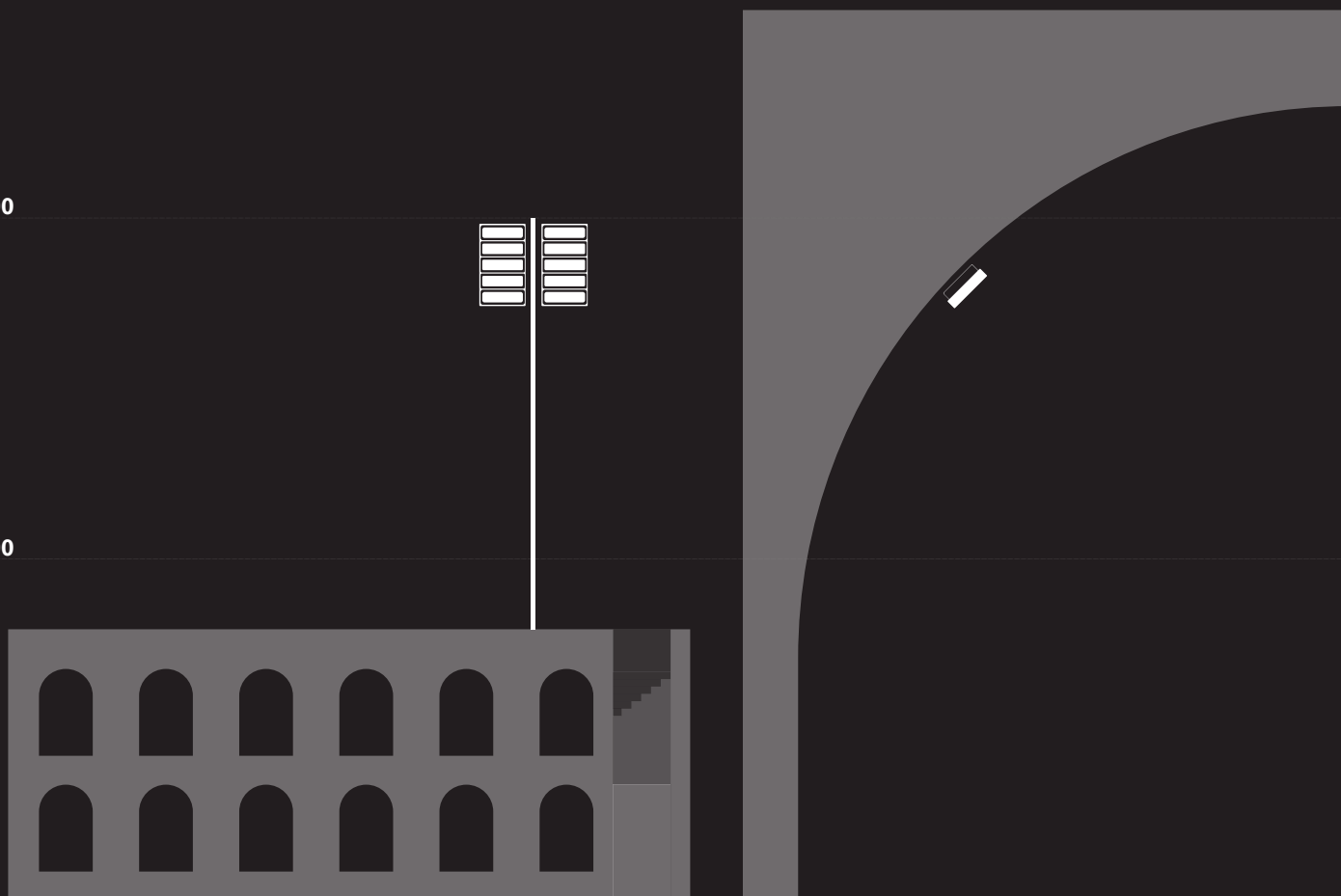
TUNNELS

Tunnels and road crossings where it is necessary to bring a precise and controlled light according to the regulations

9000

6000

3000

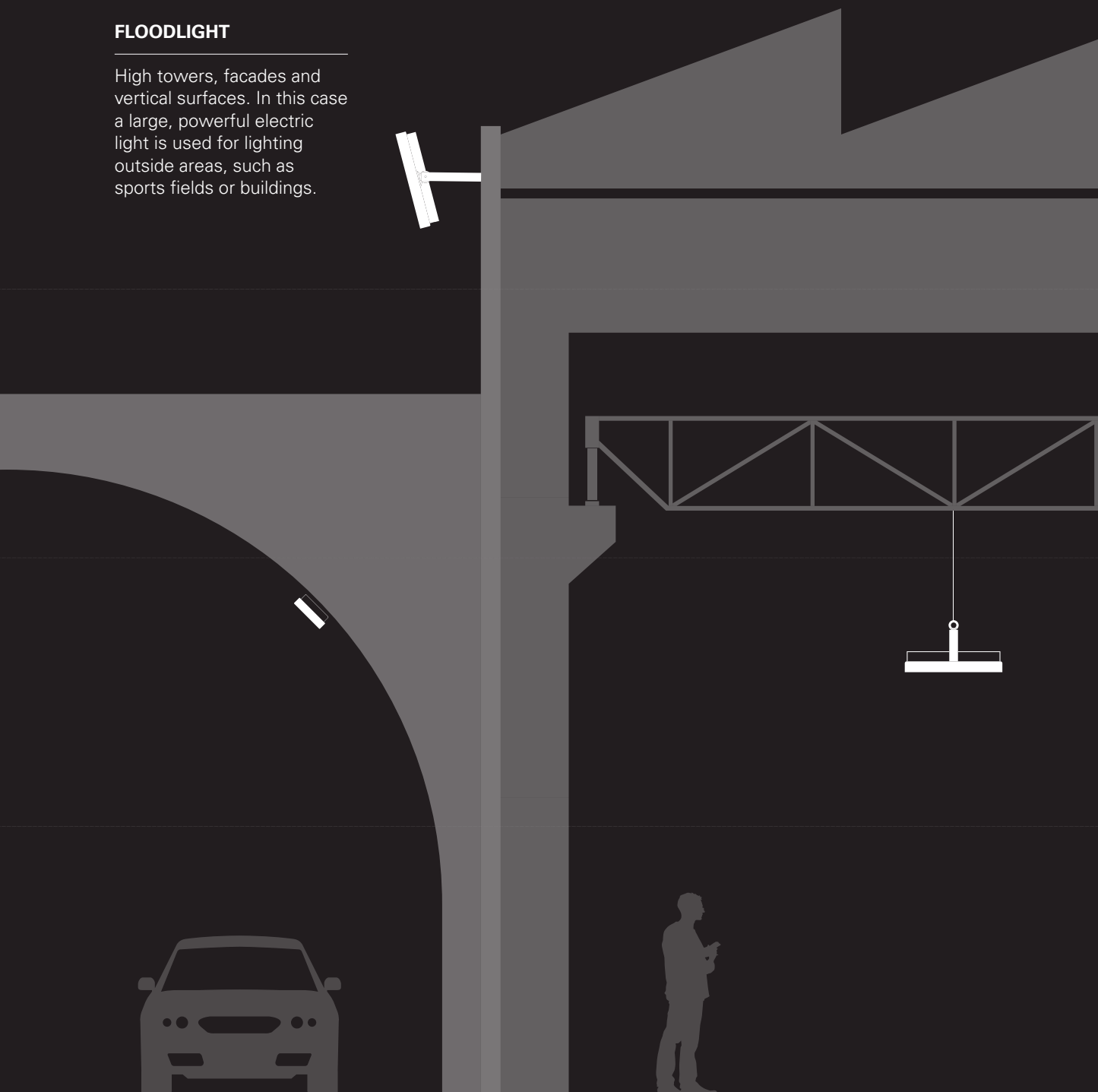


FLOODLIGHT

High towers, facades and vertical surfaces. In this case a large, powerful electric light is used for lighting outside areas, such as sports fields or buildings.

INDUSTRIAL AREAS

Industrial areas, large spans and beams. The light can be suspended and allows you to secure working spaces



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

Precision in lighting



±15 degree module rotation



Easiness and versatility.

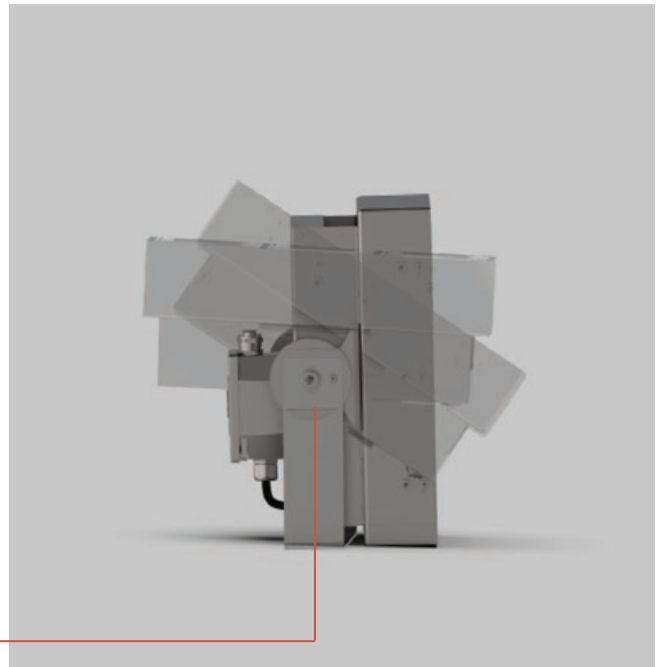
Matrix is designed to offer different installation solutions and ease of use

Tiltability

With its incredible **ease of assembly** and different types of installation arms, Matrix can be oriented and locked in place according to different project requirements.

A special **adjustment ring** allows for easy control of the degree of tilt, which ranges from a minimum of 90° to a maximum of 360°.

In addition, the individual modules can be oriented according to the horizontal axis by +15° or -15°, offering control over the light and its direction.



Mounting system

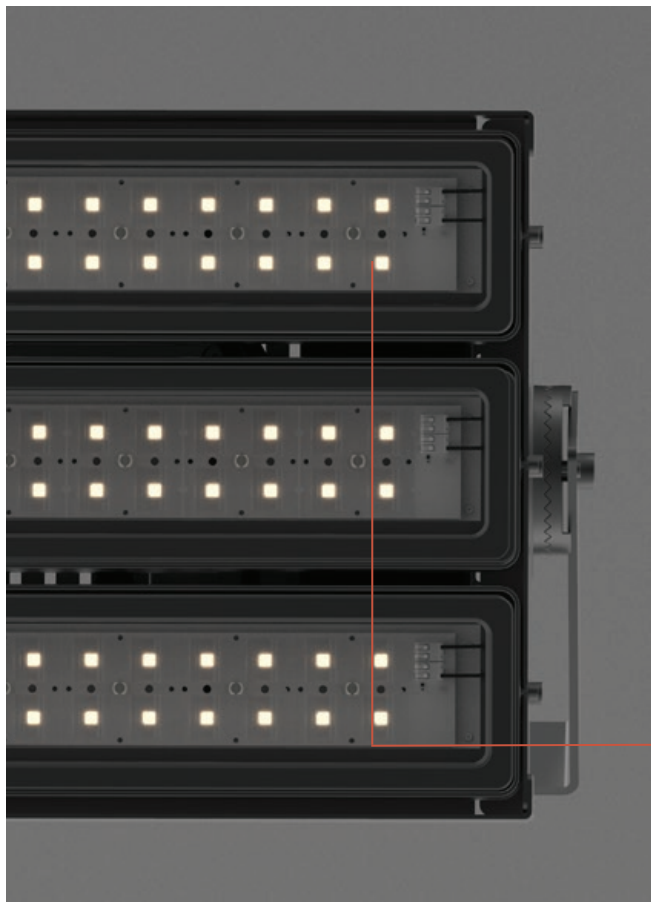
Different mounting systems means different applications and possibilities to cover different lighting needs.

Matrix modules can be installed on **different types of arms** or **suspended**. The oblique arm, for example, is one of the most versatile. It can be mounted on Matrix composed of 4,5,6 or 12 modules, authorizing the product to rotate pointing over 360°. What's more, this type of arm has **different modes of base connection**, to allow application in even the most difficult places.



Optic comfort and performances.

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

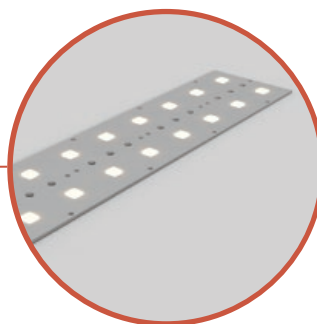


Lens system and Led modules

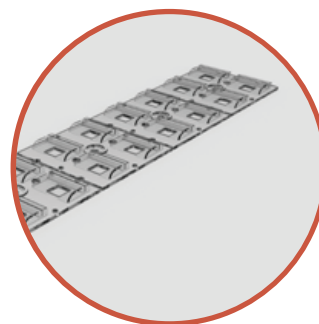
The key to the luminous efficacy of Matrix family is undoubtedly the use of a combined system of LED modules and lenses that allow **uniform distribution** of the light beam, **visual comfort** and **chromatic stability**.

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.

LED modules mounted on a rigid and thermally conductive substrate



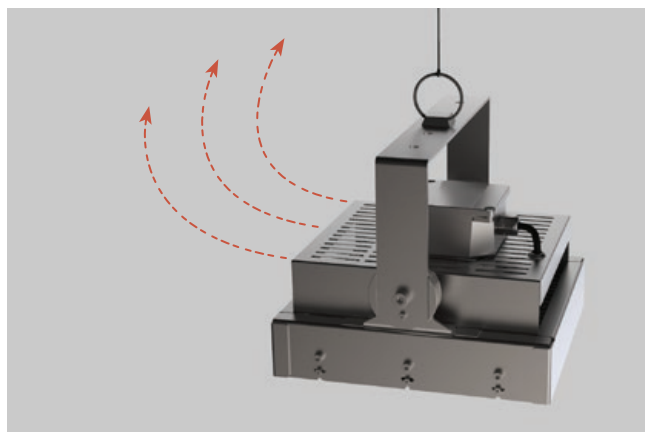
Integrated polycarbonate high-tech lenses

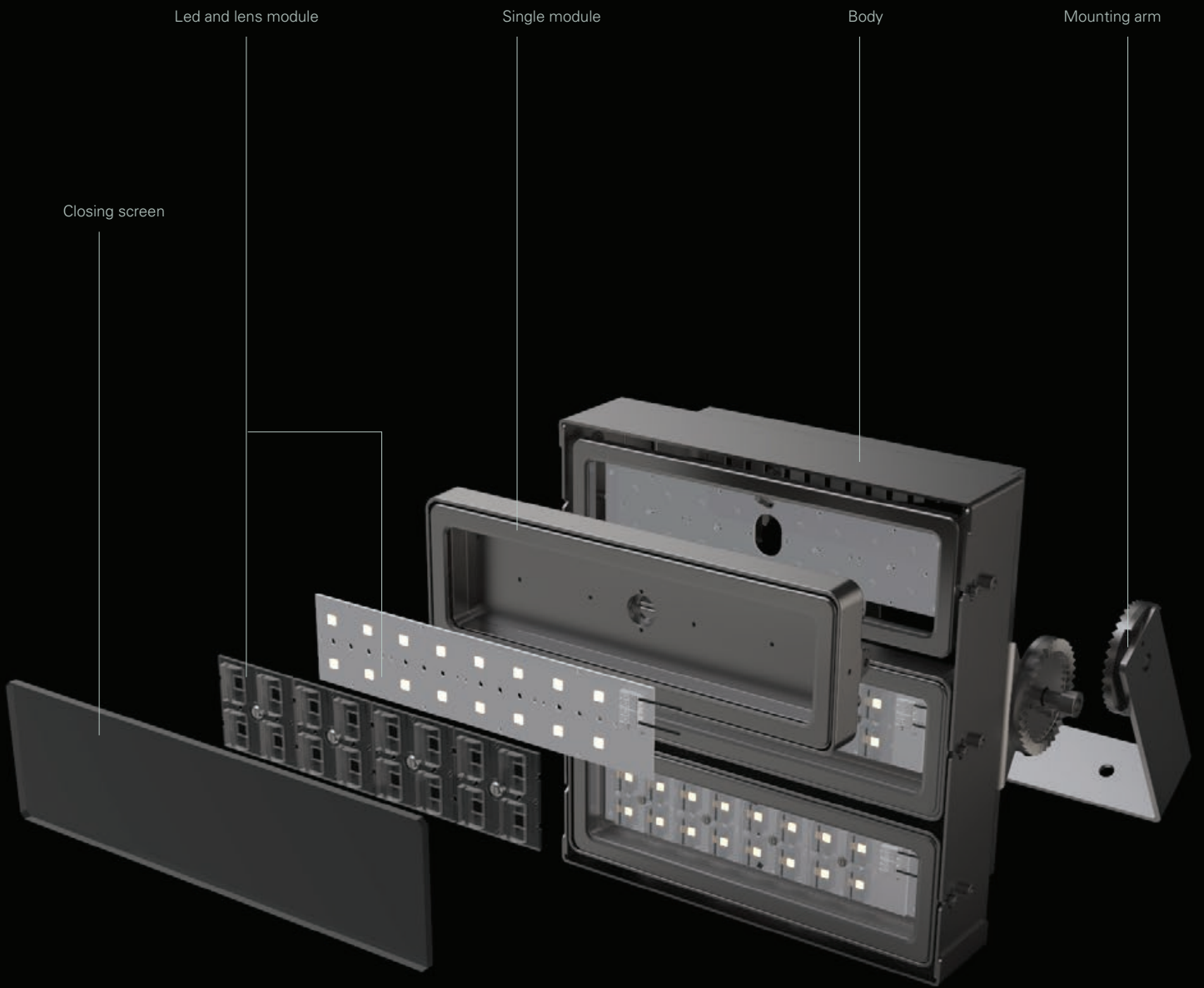


Heating dissipation

The lighting of large spaces requires high powers, which are often not compatible with the proper functioning of a luminaire.

Matrix is equipped with an **innovative ventilation system** arranged on the non-visible part of the product and capable of dispersing most of the heat produced. This allows Matrix to reach **high levels of lumen output** by keeping constant performance over time.





Led and lens module

Single module

Body

Mounting arm

Closing screen

A quick recap.

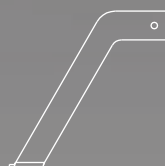
Five wattages, multiple installation options, infinite possibilities

- **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 the **highest quality standards** and in compliance with European regulations.
- **High quality LED**, High 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 2700 up to 6500K**

MOUNTING ARMS



Simple short arm
ideal for floodlighting, tunnel light,
high-bay luminaire



Oblique long arm
ideal for floodlighting



Simple short arm / Simple long arm
ideal for floodlighting, tunnel light,
high-bay luminaire

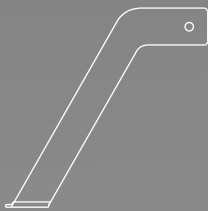
LED MODULES

MATRIX 180
n. 3 led modules

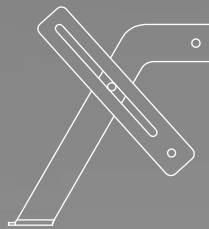
MATRIX 240
n. 4 led modules

MATRIX 300
n. 5 led modules



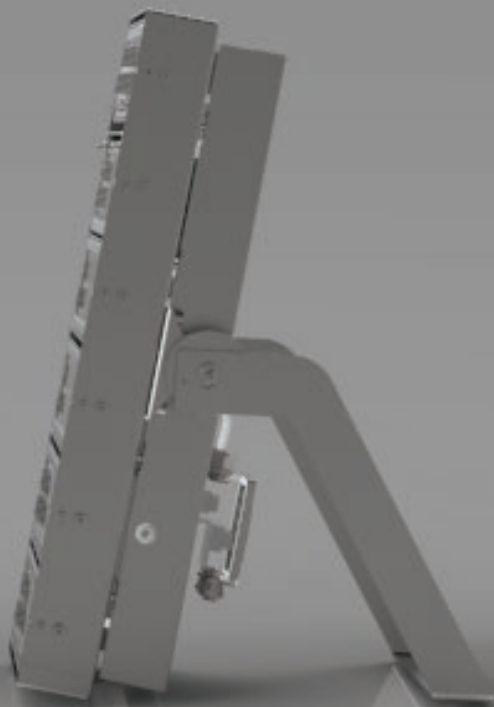


Oblique wide arm
ideal for floodlighting



Oblique wide arm + Reinforcing arm
ideal for floodlighting

MATRIX 360
n. 6 led modules



MATRIX 720
n. 12 led modules







A bunch of applications

Tunnel lighting.

The quintessential application for Matrix family

Each tunnel is different and it is for this reason that the Matrix product adapts well to any type of lighting solution for tunnels and underpasses. The **maximum flexibility** of the system made up of LED modules and the different types of applications guarantee a prompt solution for any type of tunnel. Continuous energy consumption resulting from tunnel lighting has a significant impact, the use of high module leds significantly helps the energy saving process. The **innovative control** of the luminous flux through **dedicated lenses** and thanks to the possibility of tilting the modules generates further savings potential. Thanks to these features, it is possible to install fewer light points in each gallery, significantly saving on any type of intervention.



POSSIBLE APPLICATIONS

Tunnel lighting

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



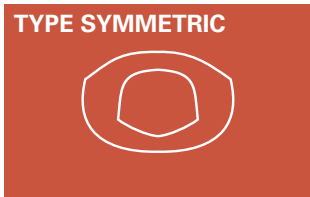
SUSPENDED VERSION

Available in 3, 4, 5 and 6 module versions, the accessory to suspend Matrix must be installed in the center line of the fixture.



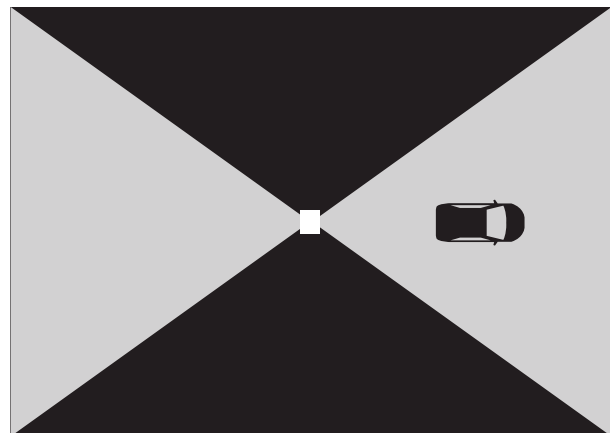
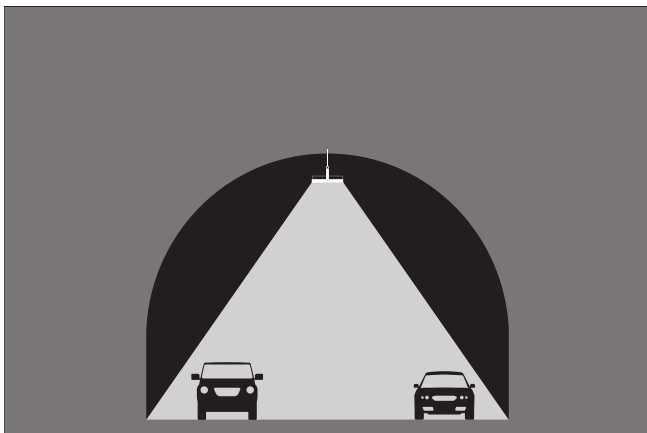
Tunnel lighting.

Three different beam options specifically conceived for tunnel and underpasses

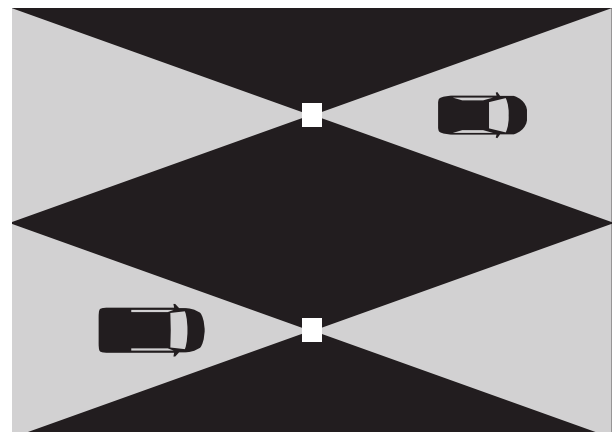


This tunnel lighting / ceiling lighting system with symmetric optic is used generally for transition and interior zones for long tunnels and in short tunnels or low speed tunnels for all zones.

Two-way tunnel simulation with single central light point



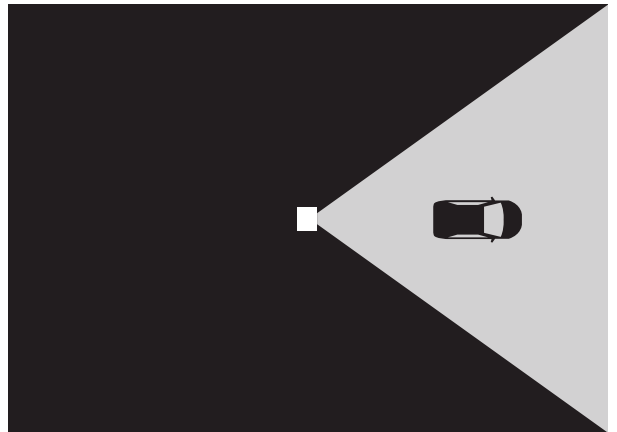
Two-way tunnel simulation with double light point, one for each carriageway



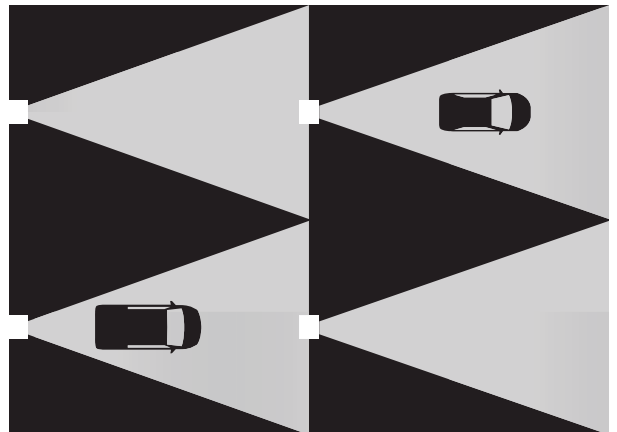


To reinforce the luminance level and at the same time accentuate the negative contrast of potential obstacles. Counter beam lighting is achieved with asymmetrical light distribution facing into the traffic flow, both in the direction of the on coming driver and in the run of the road. The beam stops sharply at the vertical plane passing through the luminaire. No light is directed with the flow of traffic. This generates negative contrast and enhances visual adaptation.

Two-way tunnel simulation with single central light point



Two-way tunnel simulation with double light point, one for each carriageway



TYPE UNILATERAL

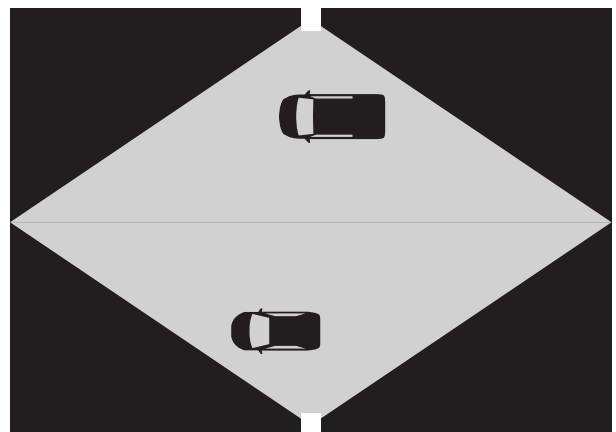
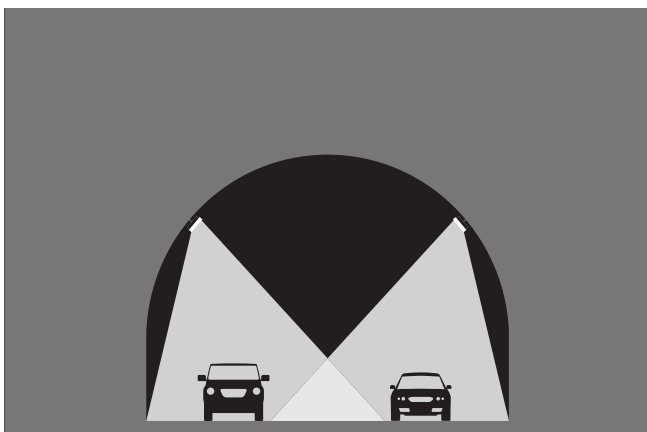


This two beams, tunnel lighting / counter beam lighting system and batwing symmetric tunnel lighting / ceiling lighting are used generally for transition and interior zones for long tunnels, and in short tunnels, or low speed tunnels for all zones. Asymmetrical lighting can also be a means of reinforcing the luminance level in one-way tunnels.

Two-way tunnel simulation with single light point



Two-way tunnel simulation with double light point, one for each carriageway

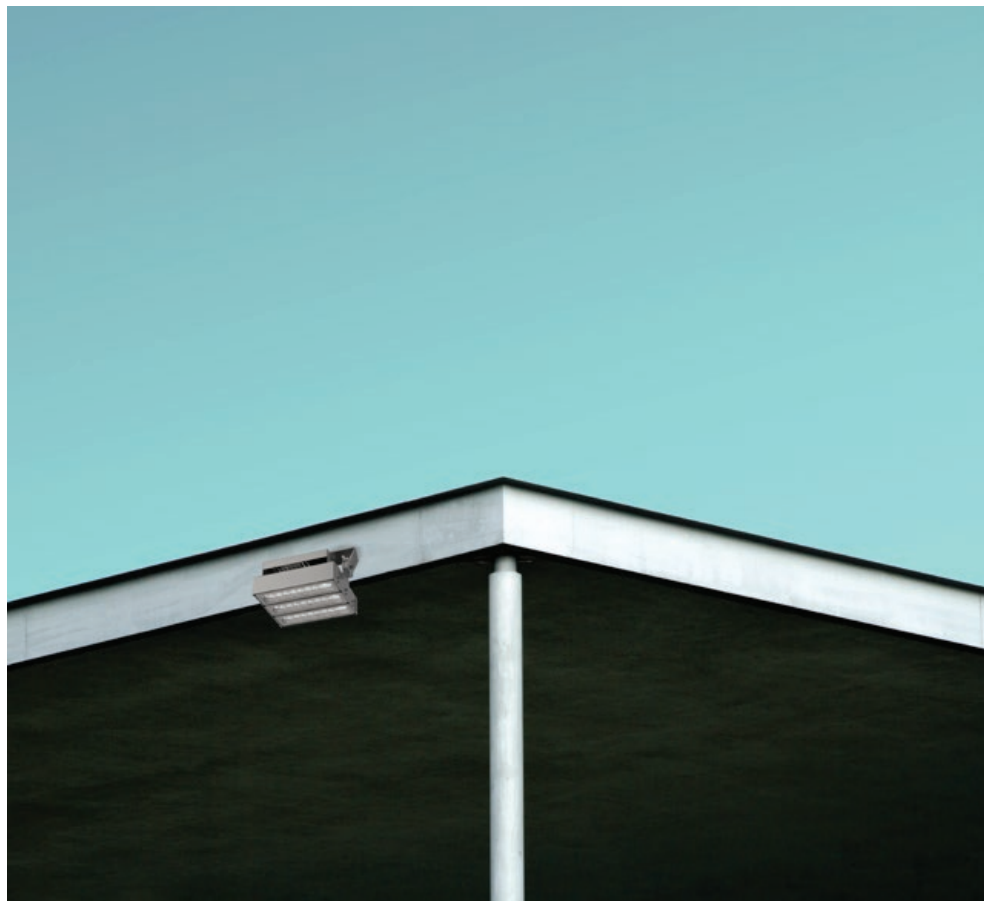




Floodlight.

Different powers for all applications

Regardless of whether you want to illuminate **facades**, **large spaces** or illuminate **high towers**, Matrix floodlights always offer the right light distribution for a contrast-rich staging. The outdoor spotlights create light of the same quality as indoor products, using High Module LED technology. It is possible to install Matrix even in the most complex contexts thanks to the **different mounting arms** that adapt to all applications. The simple short arm and the simple long arm are ideal for floodlighting, the first guarantees a rotation of 110°, the second rotates up to 360°. For more complex applications you can use the oblique long arm or the oblique wide arm.



POSSIBLE APPLICATIONS

- Floodlighting
- Facades
- High towers

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



FIXING SCREW

The connection ring between the body of the product and the mounting arm allows the projector to be oriented according to the desired pointing. Once the correct position has been found, it is necessary to fix the product.



Sport areas, airports and big spaces

A solution for wide areas

Suitable lighting provides the basis for better and safer sport, whether on small sports fields or on large stages.

The lighting of large sports venues, airports and large areas intended for social services must provide the **best possible performance** using the **least possible amount of energy**.

The Matrix range combines **innovative design** with a **wide range of optics** and a multiple choice of wattages. Minimize the environmental impact of lighting without compromising performance.



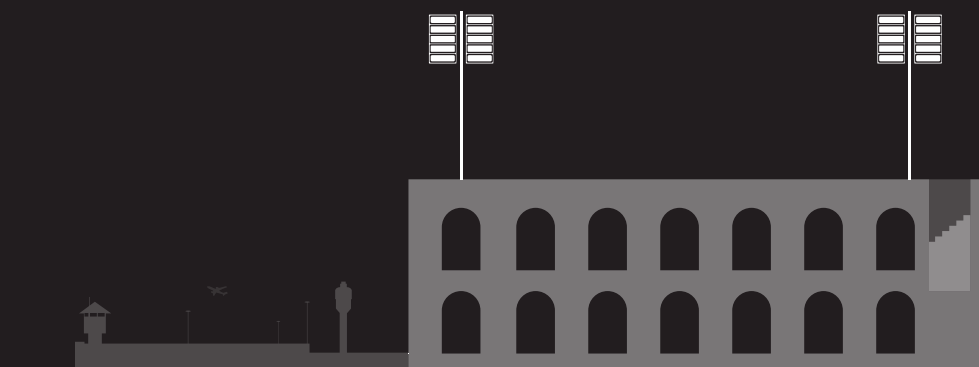
POSSIBLE APPLICATIONS

Sport areas

Airports

Wide areas

this graph represents some possible installations that the Matrix 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.



Industrial spaces.

Bring safety light, with an eye to attention to the environment

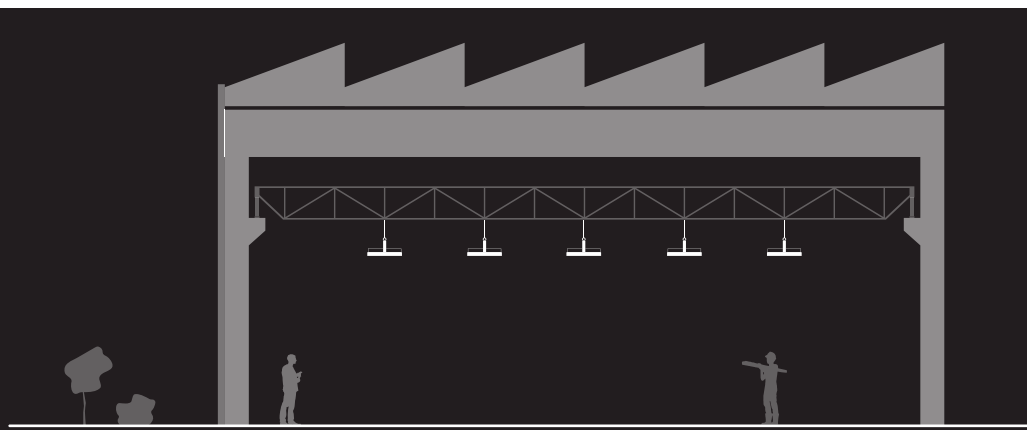
The Matrix range is also suitable for applications in **industrial areas** and **large work spaces**. Thanks to the quality materials, the high degree of heat dissipation and the predisposition for fixing to the ceiling, these luminaires guarantee an installation aimed at the needs of spaces with great heights, boasting **high resistance** and **durability** and allowing a level of lighting suitable for industrial spaces. Matrix is able to guarantee **high energy savings** and completely eliminate product maintenance. For adequate industrial lighting of work spaces, such as industrial warehouses, warehouses or logistics centres, it is necessary to guarantee excellent conditions: **homogeneous diffusion of the light beam, high visibility, visual comfort** and **absence of glare** phenomena.



POSSIBLE APPLICATIONS

- Industrial areas
- Warehouses
- Logistics centres

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

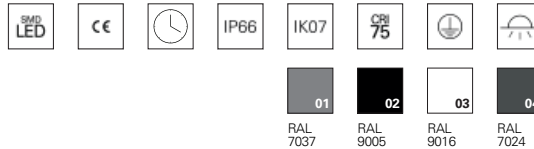


MAXIMUM VERSATILITY

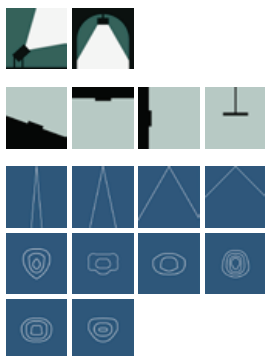
Different mounting arms guarantee the possibility of installing the product in multiple environments, obtaining all the desired types of applications



MATRIX 180



3 Modules



MATRIX 180 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- MX	HP High Power	180 180W	30 3000K 40 4000K 50 5000K 65 6500K	10 10° 25 25° 60 60° 90 90° 12 Sport lighting 07 ExtraWide 08 Tunnel Symmetric 09 Tunnel Counter 11 Tunnel Batwing 17 Tunnel Uni/Bilateral	01 RAL 7037 02 RAL 9005 03 RAL 9016 04 RAL 7024

Code example:
ES-MX HP 180 30 10 02

180W

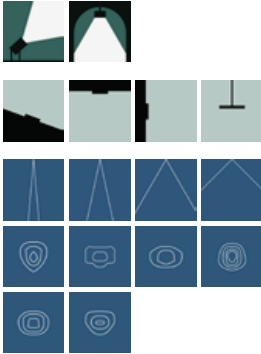
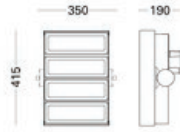
48 LED- 0.82 A | values calculated with beam angle 90°

Colour T (K)	Delivered lumen (lm)
3000K	20632
4000K	21447
5000K	21447
6500K	20954

MATRIX 240

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

4 Modules



MATRIX 240 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- MX	HP High Power	240 240W	30 3000K 40 4000K 50 5000K 65 6500K	10 10° 25 25° 60 60° 90 90° 12 Sport lighting 07 ExtraWide 08 Tunnel Symmetric 09 Tunnel Counter 11 Tunnel Batwing 17 Tunnel Uni/Bilateral	01 RAL 7037 02 RAL 9005 03 RAL 9016 04 RAL 7024

Code example:
ES-MX HP 240 30 25 04

240W

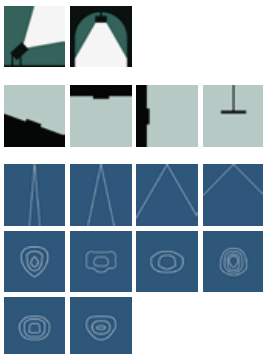
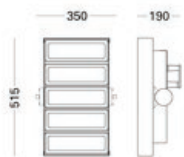
64 LED- 1.1 A | values calculated with beam angle 90°

Colour T (K)	Delivered lumen (lm)
3000K	26822
4000K	27881
5000K	27881
6500K	27240

MATRIX 300

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

5 Modules



MATRIX 300 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- MX	HP High Power	300 300W	30 3000K 40 4000K 50 5000K 65 6500K	10 10° 25 25° 60 60° 90 90° 12 Sport lighting 07 ExtraWide 08 Tunnel Symmetric 09 Tunnel Counter 11 Tunnel Batwing 17 Tunnel Uni/Bilateral	01 RAL 7037 02 RAL 9005 03 RAL 9016 04 RAL 7024

Code example:
ES-MX HP 300 40 10 02

300W

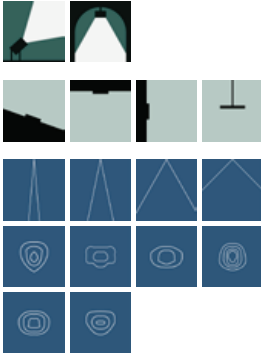
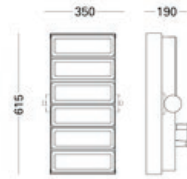
80 LED- 1.37 A | values calculated with beam angle 90°

Colour T (K)	Delivered lumen (lm)
3000K	33878
4000K	35216
5000K	35216
6500K	34406

MATRIX 360

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

6 Modules



MATRIX 360 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- MX	HP High Power	360 360W	30 3000K	10 10°	01 RAL 7037
			40 4000K	25 25°	02 RAL 9005
			50 5000K	60 60°	03 RAL 9016
			65 6500K	90 90°	04 RAL 7024
				12 Sport lighting	
				07 ExtraWide	
	08 Tunnel Symmetric				
	09 Tunnel Counter				
	11 Tunnel Batwing				
	17 Tunnel Uni/Bilateral				

Code example:

ES-MX HP 360 40 11 01

360W

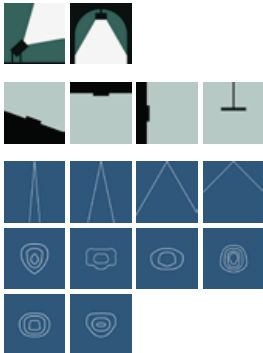
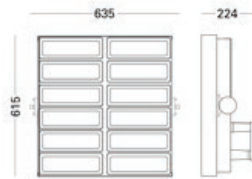
96 LED - 1.65 A | values calculated with beam angle 90°

Colour T (K)	Delivered lumen (lm)
3000K	38974
4000K	40513
5000K	40513
6500K	39581

MATRIX 720

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

12 Modules



MATRIX 720 High Module

Code base	LED module	Power (W)	Colour T (K)	Beam angle	Finishes
ES- MX	HP High Power	720 720W	30 3000K 40 4000K 50 5000K 65 6500K	10 10° 25 25° 60 60° 90 90° 12 Sport lighting 07 ExtraWide 08 Tunnel Symmetric 09 Tunnel Counter 11 Tunnel Batwing 17 Tunnel Uni/Bilateral	01 RAL 7037 02 RAL 9005 03 RAL 9016 04 RAL 7024

Code example:
ES-MX HP 720 65 10 03

720W

192 LED- 3.3 A | values calculated with beam angle 90°

Colour T (K)	Delivered lumen (lm)
3000K	77947
4000K	81026
5000K	81026
6500K	79162



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