

livin' in a new light



 **DETAS**
DLEDs.



livin' in a new light

Detas Spa

The Detas group relies on the experience passed down from generation to generation **since 1896** when in Pola (Istria), the first company was founded, manufacturing electrical components and systems.

As the years passed, the production of power supplies started and Detas specialized in **industrial automation**, a branch still active and growing today.

In 1998 the **D-POWER** division was founded, active in the **road safety** field and pioneer in developing **LED signaling devices**. D-POWER is nowadays an European reference in its market thanks to continuing product innovation, patented optics, certified flashers and a range of well-known quality.

In 2008 we extended the road safety mission to **lighting of tunnels, canopies and streets** with the **DLEDS** division. The cross experience between power supplies-LEDs-optics allowed us to offer since the beginning high performing and reliable products. As the years passed, we extended the range of products to **industrial, urban lighting** and luminaires designed to meet specific functional lighting needs.



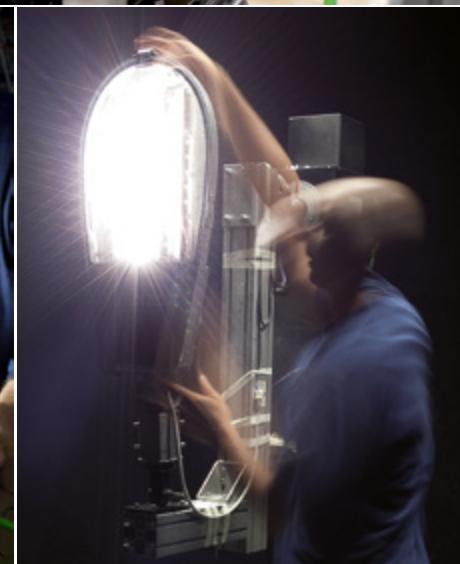
The DLEDS brand is a synonym of quality and reliability for our customers, with a sales network and positive references throughout the world.

In our factory in Rezzato (Brescia), our lights are engineered, manufactured and tested. Our technical department relies on years of experience and specific instruments such as an in-house **goniophotometer** to develop optics and photometric files, an **IP and salt spray corrosion test chamber**, electrical parameters meters, **surge testers** and chromameters.

Detas factory is under strict surveillance from the **ENEC, TÜV and NRTL** inspectors to maintain our quality approvals.

The final quality control is completed individually after a 48 hours burn in and guarantees the maximum constancy of the delivered products.

Detas invests in reliability, performance and service, offering always the most effective solutions to meet your needs and the shortest payback time.



Approvals



The products marked with this logo comply with the electrical safety regulations of the North American market. The products are tested according to UL 1598 3rd Edition 09.2009 and CAN/CSA C22.2 No. 250.0-08.



(European Norms Electrical Certification)
The products marked with this logo are certified according to the European electrical and photobiological safety quality standards.



All our products are manufactured in compliance with the EU directives concerning electrical devices.



All our products are manufactured in compliance with the EU norms restricting the use of hazardous materials in electrical and electronic equipment.



The products marked with this logo are available in an ATEX compliant version for installations in explosive atmosphere. Not all Classes and Zones may be available for the specific product, consult our technical department for additional information.



Our manufacturing and quality control processes are monitored and certified according to ISO 9001:2008.



Detas is an awarded valued partner from Lumileds. The products marked with this logo use diodes from Lumileds.



Detas Dleds is Philips and Lumileds system integrator.

STREET

THE OPTICS
p. **8**

GLOSSARY
p. **10**

PROJECTS
p. **11**

SUPERCASE
ALUMINUM ALLOY
p. **14**



STRATOS N
p. **20**



STRATOS T
p. **22**

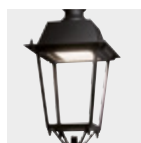


STRATOS P/G
p. **24**



AKRON
p. **26**

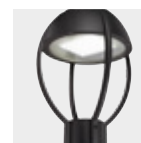
URBAN



QUINCY
Retrofit kit
p. **30**



MINI CITY
p. **32**



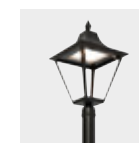
CONVOY
p. **34**



KOR
p. **36**



MAYA 3/4
p. **38**



MINI QUINCY
p. **40**

TUNNELS INDUSTRIAL



RADIANT 2
p. **44**



RADIANT 4
p. **46**

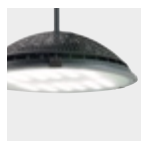


RADIANT 5
p. **48**



RADIANT 7
p. **50**

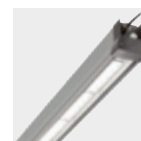
INDUSTRIAL



PAD
p. **56**



CRAFT
p. **58**



TRILOGY N
p. **60**



JANUS
p. **62**



KES STRIP
KES T5
p. **64**



KES N
p. **66**

CANOPIES



ATLAS PE
p. **70**



ATLAS 14
p. **72**

LIGHTING
CONTROLS
p. **74**

PEDESTRIAN
CROSSING
p. **78**

PHOTOVOLTAIC
LIGHTING
p. **82**



The Optics

In the heart of the light

more than **30 unique optics**, internally developed,
are the key to the success of our products.

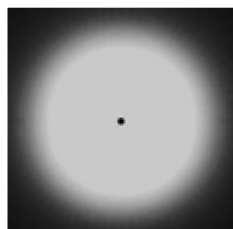
An unmatched offer, directly from our experience
on world's roads.

A powerful instrument in your hands.

The Optics

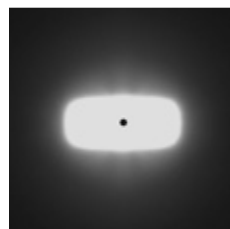
R series

The optical solutions illustrated are only the most frequently used and representative of our offer. In the lighting design process, our technical department benefits of a wider range of solutions, sometimes specifically created for a project's requirements.



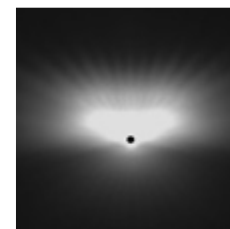
3S - Industrial / Canopies / Tunnels

The 3S is one of our rotosymmetric optics, designed for low mounting height industrial and canopies applications. Sometimes used for tunnel lighting in cases of single centered line of lights.



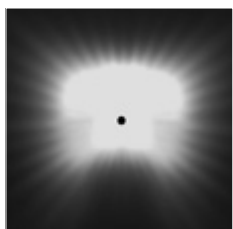
13S - Canopies / Industrial

The 13S is a versatile optics designed for the lighting of very high ceiling warehouses, aisles, toll station canopies and smaller objects like a business sign or a workstation, thanks to the concentrated light beam.



18A - 19A - Street

18A and 19A are very performing optics in the streetlighting design, thanks to the improved luminance and longitudinal uniformity compared to the 14A. Maximum performance is achieved when the fixtures are installed with a short arm.



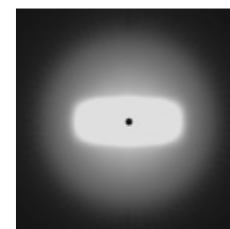
6A - Parking lots

The 6A is an optics mainly used for parking lots lighting, featuring a medium/wide beam also behind the fixture. Suitable for light towers applications if installed in the center of the area to be lit.



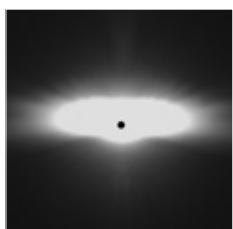
14A - Street

The 14A optics is the standard choice for streetlighting of the R family. It provides a very high uniformity level, low glare and works brilliantly also in low mounting heights.



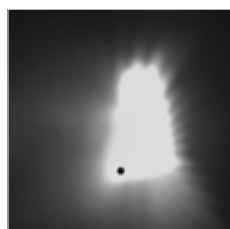
21S - Industrial

The 21S is used for industrial lighting at mounting heights greater than 8m. Provides an high illumination level on the visual task areas. Also suitable for warehouse shelving, highlighting the products on the shelves while illuminating well the floor.



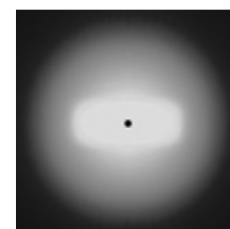
8A - Street (junctions)

The 8A is an optics mainly used for narrow roads lighting such as motorway junctions ramps, narrow urban roads and cycle lanes. Unbeatable performance in case of poles with a long arm.



16A2 DX-SX Pedestrian crossings

The 16A2 optics is our dedicated solution for pedestrian crossings lighting, designed to resolve the common visibility issues of traditional crosswalks with an unmatched level of vertical and horizontal illuminance. For additional information visit [page 78](#) of this catalog.

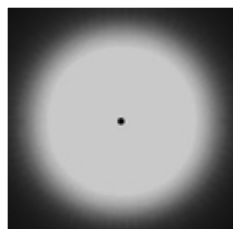


27S - Industrial

The 27S is used for industrial lighting at mounting heights greater than 6m. Provides an higher illumination level on the visual task areas compared to the 3S. Also suitable for warehouse shelving, highlighting the products on the shelves while illuminating well the floor.

The Optics

M /MZ /TX series



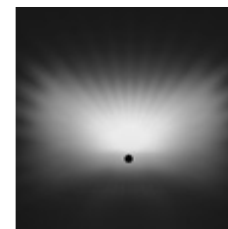
15S - Industrial / Canopies / Tunnels

The 15S is one of our rotosymmetric optics for the M/MZ series, designed for low mounting height in industrial and canopies applications. Like the 3S, it can be used for tunnel lighting as well.



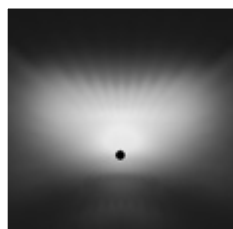
29A - Tunnels / Light towers

The 29A optics is mainly used for tunnel entrances and light towers, featuring a concentrated beam, suitable to provide the high illuminance levels usually required from the typical applications.



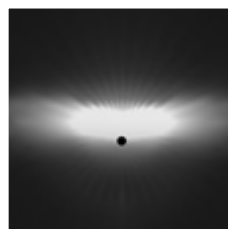
36A - Street / Parking lots

The 36A is the first optics to be developed for the TX series, covers streetlighting applications especially at low mounting heights. A very high efficiency level is achieved.



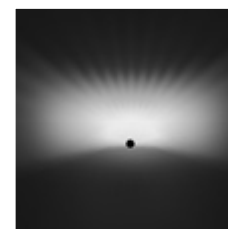
23A - Street / Parking lots

The 23A is a streetlighting optics for the Luxeon M series, developing a wide beam, thus sacrificing some ground illuminance. Works well at low mounting heights.



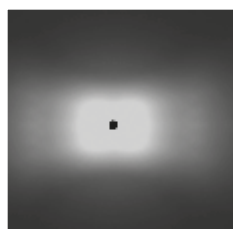
31A - Street (junctions)

The 31A optics is the solution for narrow roads or long arms poles applications of the Luxeon MZ series, typically used for motorway junctions or where an high illuminance on the ground is required.



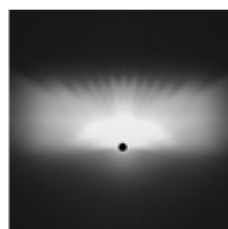
37A - Street

The 37A optics extends the streetlighting choice for the TX series to installations with standard mounting height lights.



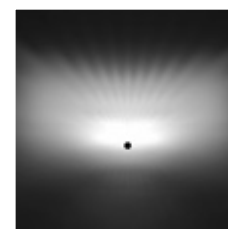
28S - Industrial / Canopies / Tunnels

The 28S is an optics used for industrial, canopies and tunnels lighting where an elongated pattern can improve the performance and efficiency.



35A - Street

The 35A is the standard choice for streetlighting of the M/MZ series, flexible and suitable for a multitude of streetlighting scenarios. Improves the ground illuminance and efficiency of the 14A.



40A - Street

The 40A is a streetlighting optics equivalent to 35A in terms of longitudinal performance, while improving the front beam making it suitable for lighting wider roads.

Glossary of Lighting Terms

Luminous flux [lumen]

The luminous flux is the amount of light generated from a luminaire. This value is only relatively representing the performance of a product, as it is up to the optics to use this light in an efficient way. Distributing the lumens (light) only where needed provides extra energy savings. We strictly declares the lumens of broadly available products, not theoretical values as many competitors do.

Illuminance [Em, lux]

The illuminance is the quantity of light hitting a specific surface, like a road or a warehouse floor. Illuminance is the measuring parameter to consider for sidewalks, pedestrian crossings, roundabouts and all the industrial lighting.

Luminance [L, cd/m²]

The luminance is the quantity of light that the observer's eyes (usually a driver) see, reflected from an area of 1m² of the road surface seen from distance. It is the measuring parameter for streetlighting and tunnel lighting, as it represents a model of the real world driving conditions, where obstacles must be identified in time to permit a reaction.

Longitudinal uniformity [UI]

Longitudinal uniformity is calculated from the ratio between minimum luminance [Lmin] and maximum luminance [Lmax], measured on the axis of the lane. The measurement is repeated for every lane.

It's a primary importance value in street and tunnel lighting design. An uniformity level below the minimum requirement is clearly visible when dark and bright stripes are evident on the pavement.

Overall uniformity [Uo]

The overall uniformity is calculated from the ratio between minimum luminance [Lmin] and average luminance [Lav], measured in all the points of the matrix drawn in the norm.

Transversal uniformity [Ut]

The transversal uniformity is the worst ratio between Lmin and Lmax between all transversal lines perpendicular to the centerline. This value applies only for tunnel lighting calculations.

Glare [TI, %]

The TI index measures the debilitating glare, caused from the presence of light sources in the sight of an observer. The percent value measures the increment of luminance that should be applied to the road to compensate the presence of the said light source, keeping the same visibility of obstacles. TI applies only for street and tunnel lighting.

Glare [UGR]

The UGR is a grid of values used to classify the glare produced from luminaires in indoor environments. It's not a number that can be assigned to a luminaire but it can be obtained only running a lighting simulation of the room, defining an observer point (like a workstation) and including in the calculation parameters such as the light emitting surfaces and the surrounding illuminance.

PRODUCT NOMENCLATURE

Example: PAD OP 80R700-W3S-230

| Model | Lens type | LED quantity | LED type | LED drive [mA] | Light colour | Optics | Voltage |
|-------|--|--------------|-----------------|----------------|----------------------|-------------------------|-------------------------------|
| Pad | (omit): transparent OP: anti-glare glass PL: unbreakable polycarbonate lens | 80 100 | R (Luxeon R) | 550 700 | W: 5000K N: 4000K | 3S 13S 21S 27S | 230 V AC ± 10% 50/60 Hz |

From design to reality: our pledge

The lighting of streets, industries and tunnels is a particular functional lighting application, as the delivered performance has to meet well defined targets, set from the applicable norms, different from every area of the world. The European standards are the following:

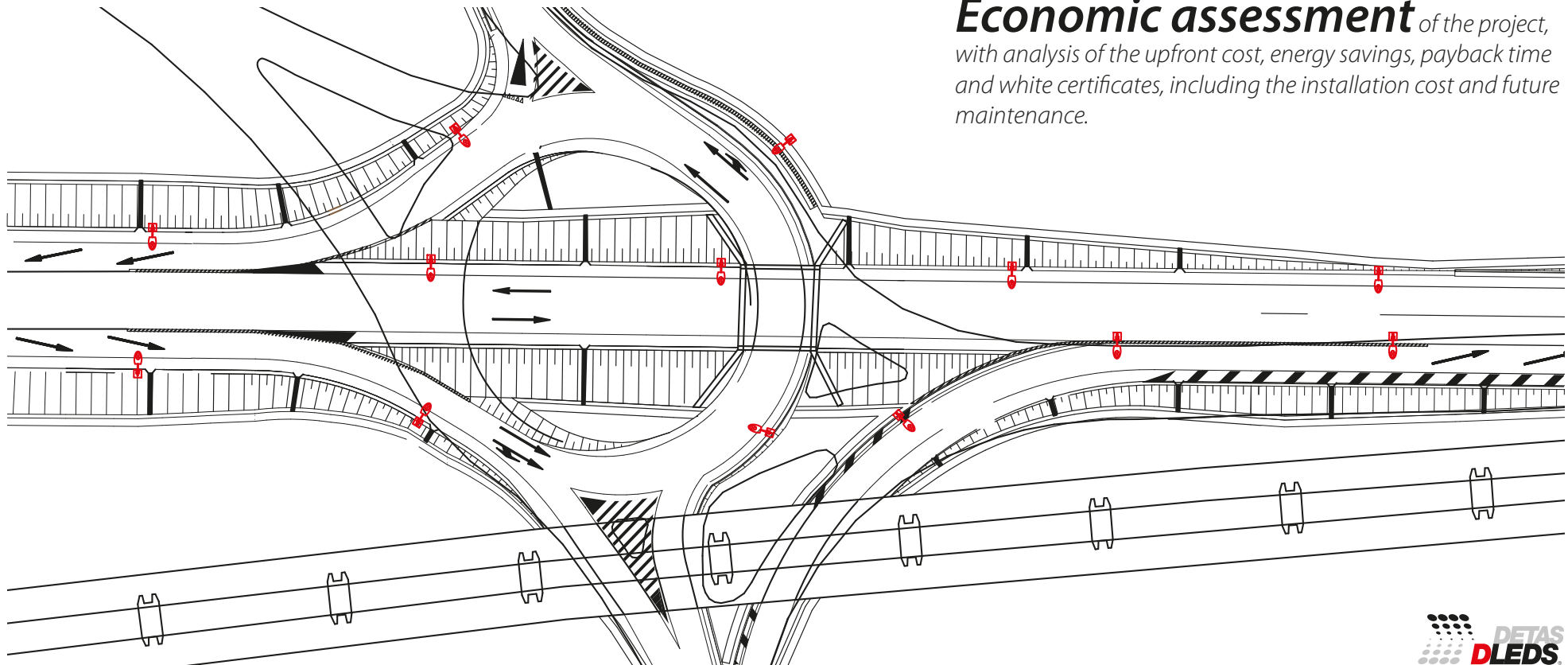
EN 13201: streetlighting

EN 12464: illumination of working places

Support to lighting designers, offering one of the widest and most unique photometric portfolio, allowing simulation of the performance of our products for industrial, street and tunnel applications

Projects developed according to the standards and maximizing the energy saving: even a small reduction of Watt per luminaire makes a difference in the long run. On request we provide a complete lighting evaluation, including a 3D model.

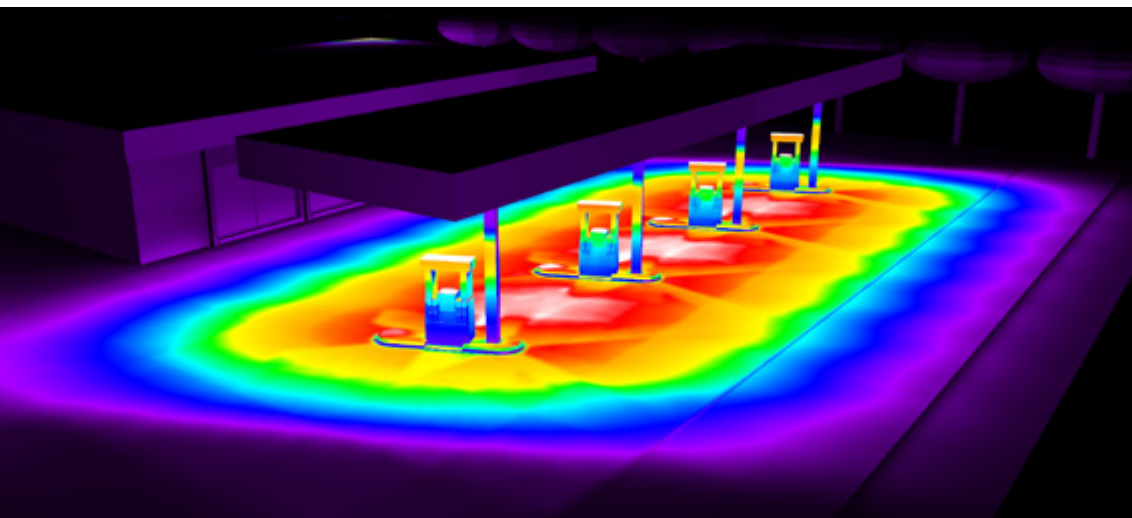
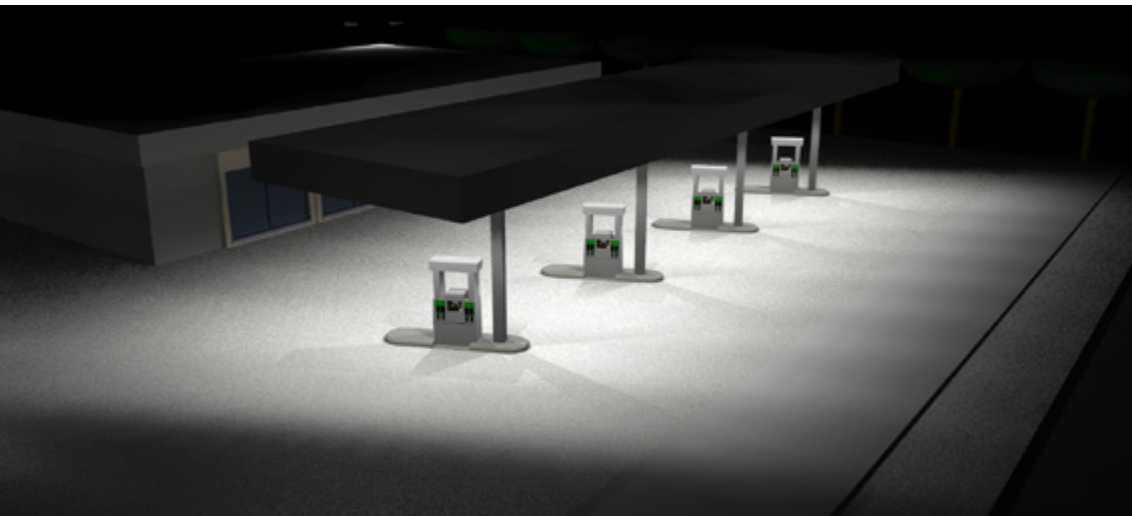
Economic assessment of the project, with analysis of the upfront cost, energy savings, payback time and white certificates, including the installation cost and future maintenance.



CANOPIES

Example of gas station lighting.

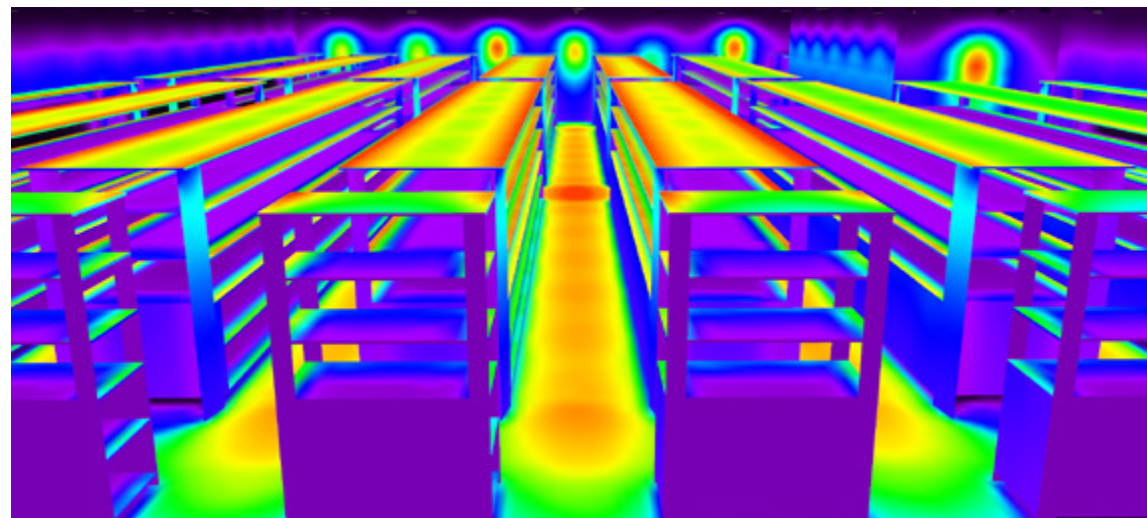
The areas surrounding the fuel pumps and ATM columns have to maintain an average of 150 lux (EN 12464-2).



INDUSTRIAL

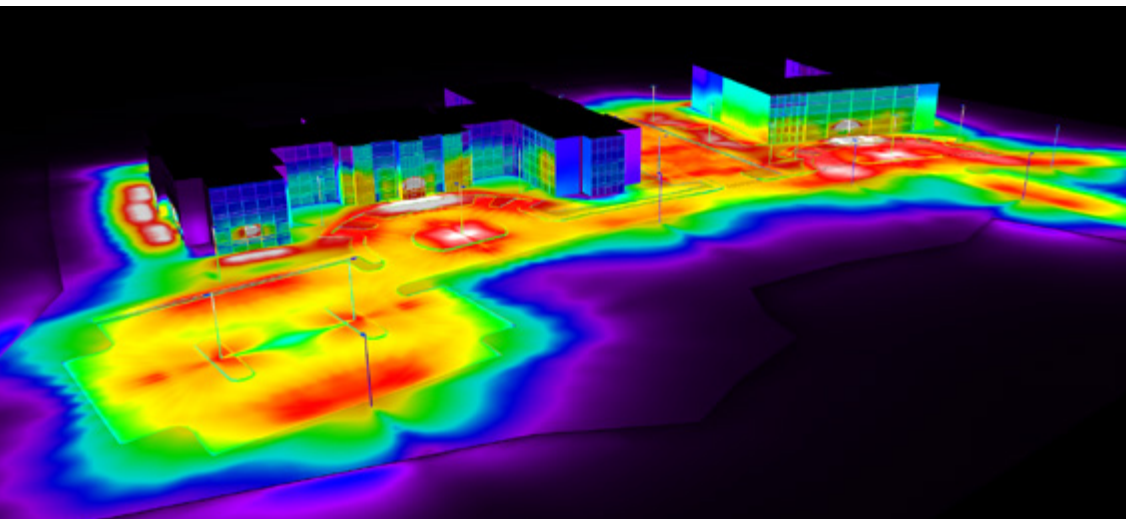
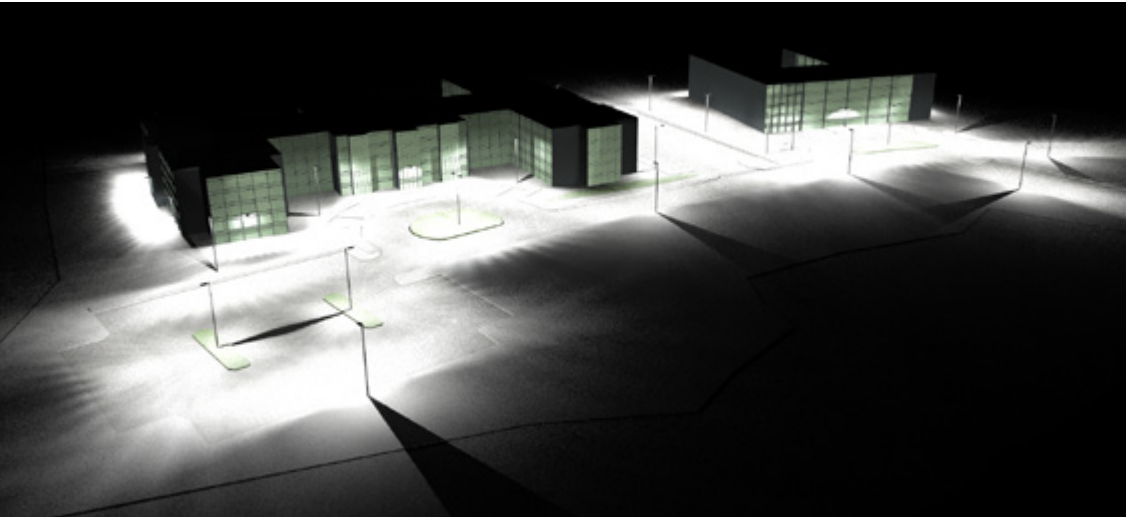
Shelving warehouse lighting.

It is visible how the outer part of each shelf is well illuminated to ease the view of products and reading labels.



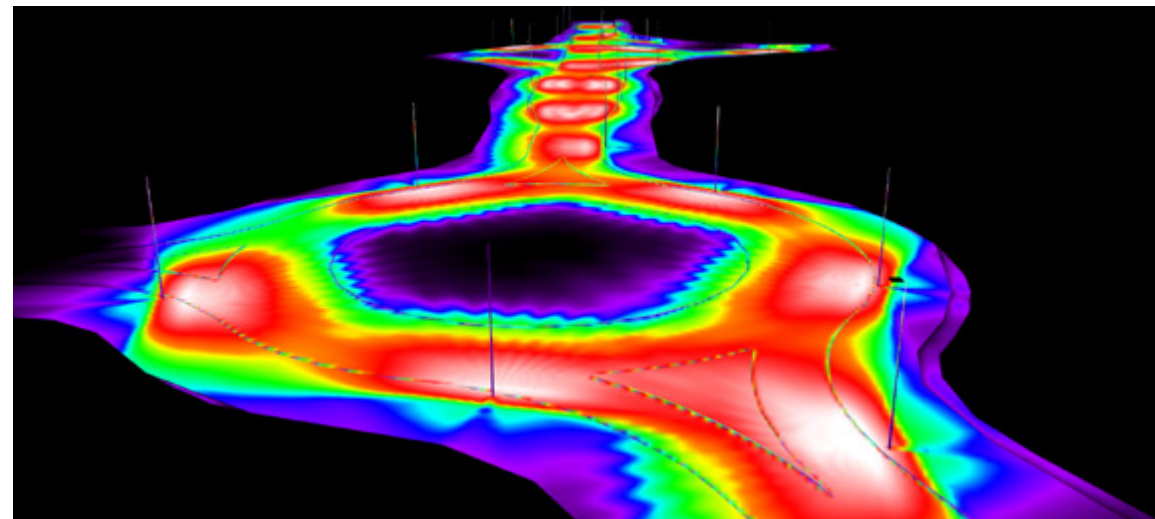
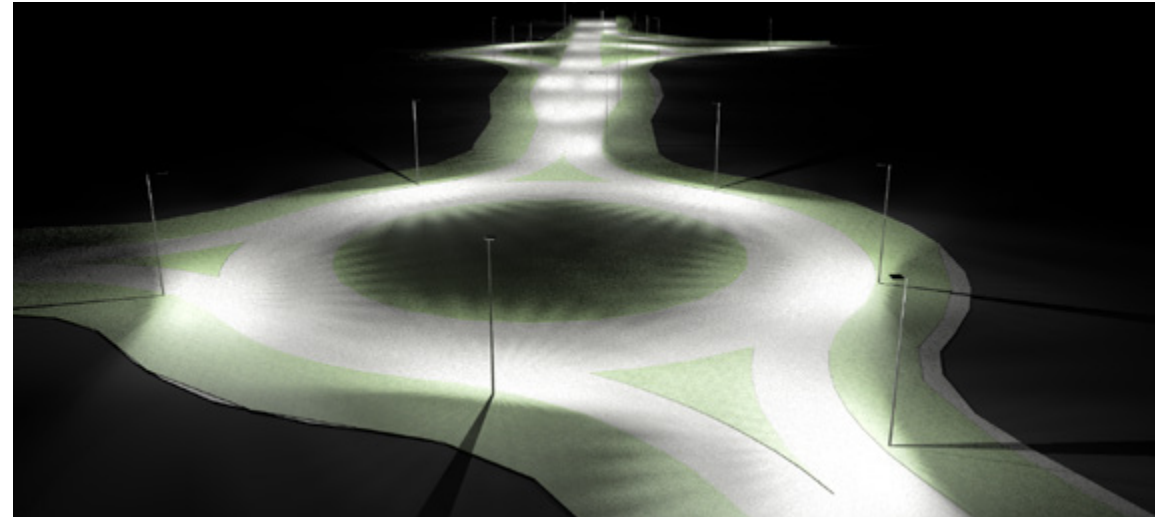
PARKING LOTS

Lighting of a parking lot, where a very high level of uniformity is achieved and the lighting pollution towards adjacent properties must be zero.



STREET

Example of a streetlighting project, specifically a suburban junction between two traffic arteries.



Our lights are die casted using a
patented aluminum alloy
with a copper content lower than 0,09%.

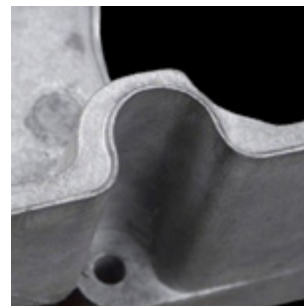
They are **completely corrosion resistant**, tested longer than 3000 hours in a salt spray chamber.

Ideal for installations by the marine environment and in close contact with corrosive agents.

Improves heat dissipation by 15% compared to other common alloys.

Comparison between aluminum alloys after 30 days in saline test:

SUPERCAST®



A360

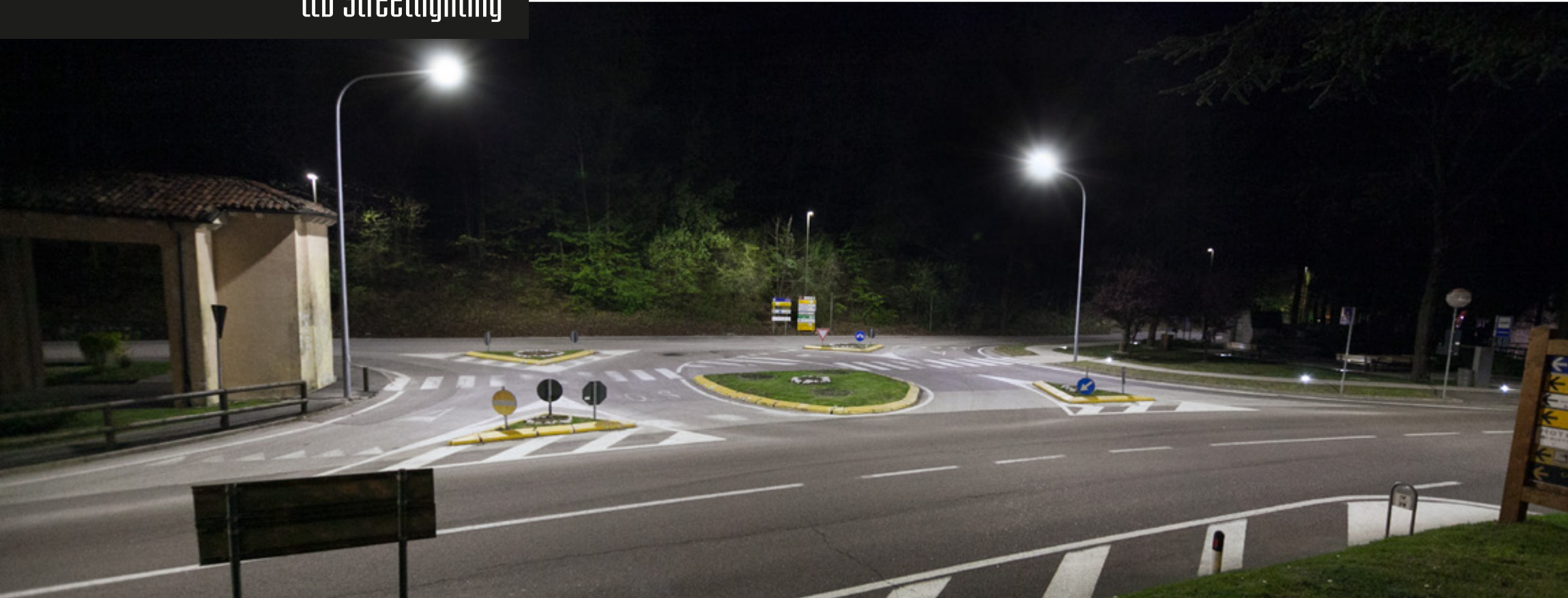




LED Streetlighting



LED Streetlighting





LED Streetlighting





LED Streetlighting





LED Streetlighting



STRATOS N

Stratos N is our solution for low-medium power streetlighting needs. It is the best ally of municipalities to meet energy saving targets.

APPROVALS



TECHNICAL DATA



230 VAC

SUPERCAST® aluminum die cast body

5 mm tempered glass

IP66

L70 >100.000 hrs

4100 K - 5500 K / CRI >70/75

Insulation Class I or II

Operating temperature -40...+50°C

Weight 5.5 kg

- Best price/performance ratio.
- Worldwide quality approvals:
 - -ENEC (Europe)
 - TÜV NRTL (North America).
- Tempered glass protecting LEDs and optics.
- Photobiological safety risk exempt certified.
- Proprietary full cutoff optics:
 - High visual comfort for road users thanks to the low glare level
 - No light pollution
 - Maximum energy efficiency thanks to the targeted optics.
- Photovoltaic version available [\[see page 82\]](#).
- Modern design, available in different colors.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Remote wireless control
 - Photocell / motion sensor
 - Power-line communication
 - Lineswitch.

MODELS

| | Power [W] | | Power [W] |
|--------|-----------|---------|-----------|
| 10R550 | 18 | 16TX700 | 37 |
| 10R700 | 23 | 32TX700 | 75 |
| 15R550 | 26 | 3M700 | 25 |
| 15R700 | 33 | 6M400 | 29 |
| 20R550 | 35 | 6M550 | 39 |
| 20R700 | 44 | 6M700 | 52 |
| 25R550 | 44 | 9M400 | 44 |
| 25R700 | 55 | 9M550 | 58 |
| | | 9M700 | 73 |

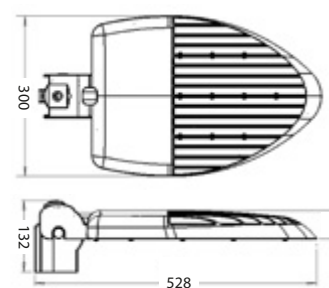
OPTICS

| Series R | Series M-MZ-TX |
|----------|----------------|
| 6A | 23A |
| 8A | 31A |
| 12A | 32A |
| 14A | 33A |
| 16A2 | 36A |
| 18A | 37A |
| 19A | |



DIMENSIONS

[mm]



STRATOS N



S T R A T O S

21



[BACK TO INDEX](#)

STRATOS T

Stratos T is our most versatile solution for medium power needs in streetlighting.

- The protecting glass can be easily opened on the field for future upgrades or extraordinary maintenance.
- Worldwide quality approvals
 - ENEC (Europe)
 - TÜV NRTL (North America).
- Innovative heat dissipation design, allows an higher power concentration and a lower cost per Watt.
- Tempered glass protecting LEDs and optics.
- Photobiological safety risk exempt certified.
- Proprietary full cutoff optics:
 - High visual comfort for road users thanks to the low glare level
 - No light pollution
 - Maximum energy efficiency thanks to the targeted optics.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Remote wireless control
 - Photocell / motion sensor
 - Power-line communication
 - Lineswitch.

APPROVALS



TECHNICAL DATA



230 VAC
SUPERCAST® aluminum die cast body
 5 mm tempered glass
 IP66
 L70 >100.000 hrs
 4100 K - 5500 K / CRI >70/75
 Insulation Class I or II
 Operating temperature -40...+50°C
 Weight 7.5 kg

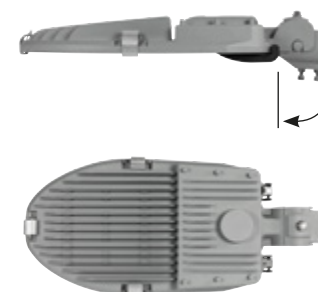
MODELS

| | Power [W] | | Power [W] |
|--------|-----------|----------|-----------|
| 25R700 | 55 | 4M850 | 42 |
| 35R700 | 77 | 8M850 | 84 |
| | | 12M850 | 120 |
| | | 16TX1000 | 52 |
| | | 32TX1000 | 104 |

OPTICS

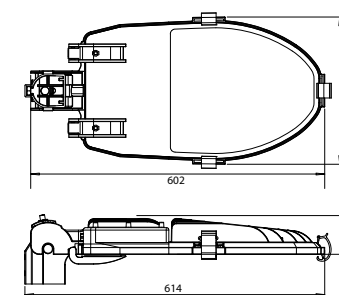
| Series R | Series M-MZ-TX |
|----------|----------------|
| 6A | 23A |
| 8A | 31A |
| 12A | 32A |
| 14A | 33A |
| 16A2 | 36A |
| 18A | 37A |
| 19A | |

Models with lower LED driving current are available



DIMENSIONS

[mm]



STRATOS T



S T R A T O S T



[BACK TO INDEX](#)

STRATOS P-G

Stratos P and G are our solutions for medium/high power (P) and high power (G) streetlighting needs.

- Maximum energy saving (up to 30% compared to other LED lights) thanks to the concentrated optics when installed at medium/high mounting heights.
- Worldwide quality approvals:
 - ENEC (Europe)
 - TÜV NRTL (North America).
- Tempered glass protecting LEDs and optics.
- Modern design, available in different colors.
- Photobiological safety risk exempt certified.
- Proprietary full cutoff optics:
 - High visual comfort for road users thanks to the low glare level
 - No light pollution
 - Maximum energy efficiency thanks to the targeted optics.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Remote wireless control
 - Photocell / motion sensor
 - Power-line communication
 - Lineswitch.

APPROVALS



TECHNICAL DATA



230 VAC
SUPERCAST® aluminum die cast body
 5 mm tempered glass
 IP66
 L70 >100,000 hrs
 4100 K - 5500 K / CRI >70/75
 Insulation Class I or II
 Operating temperature -40...+45/50°C
 Weight 10 kg (Stratos P) - 16 kg (Stratos G)

MODELS

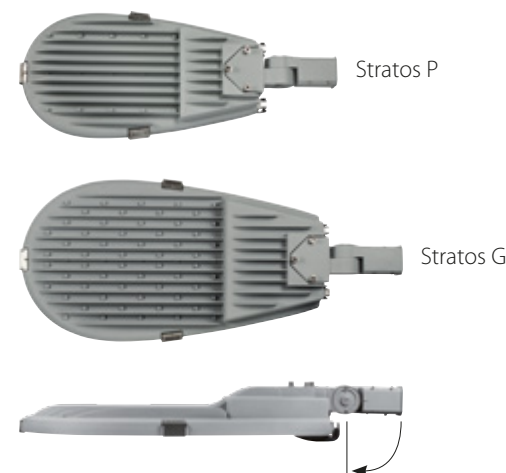
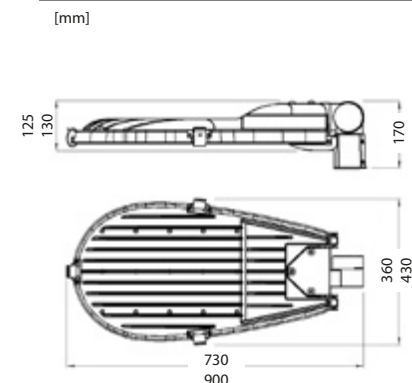
| Power [W] | | Power [W] | | Power [W] | | Power [W] | |
|-----------|-----|-----------|-----|-----------|-----|-----------|-----|
| STRATOS P | | STRATOS G | | STRATOS P | | STRATOS G | |
| 30R550 | 53 | 60R550 | 100 | 12M700 | 92 | 20M700 | 166 |
| 30R700 | 65 | 60R700 | 125 | 15M700 | 125 | 22M700 | 181 |
| 40R550 | 68 | 70R550 | 124 | 18M700 | 148 | 24M700 | 195 |
| 40R700 | 85 | 70R700 | 154 | | | 26M700 | 210 |
| 50R550 | 84 | 80R550 | 135 | | | 28M700 | 225 |
| 50R700 | 105 | 80R700 | 175 | | | | |
| | | 90R550 | 155 | | | | |
| | | 90R700 | 195 | | | | |

Models with lower LED driving current are available.

OPTICS

| Series R | Series M-MZ-TX |
|----------|----------------|
| 6A | 23A |
| 8A | 31A |
| 12A | 32A |
| 14A | 33A |
| 16A2 | |
| 18A | |
| 19A | |

DIMENSIONS



STRATOS P-G



AKRON

Akron is a versatile solution alternative to Stratos T/P for lighting of parking lots and commercial outdoor areas. Frequently used in the APL system. [\[additional information at page 78\]](#)

APPROVALS



TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP65
L70 >100.000 hrs
4100 K - 5500 K / CRI >75
Insulation Class I or II
Operating temperature -40...+50°C
Weight 8.6 kg

- Modern and thin design, positive aesthetical impact.
- Tempered glass protecting LEDs and optics.
- Special optics dedicated to pedestrian crossings, providing vertical and horizontal illuminance.
- Proprietary full cutoff optics:
 - High visual comfort for road users thanks to the low glare level
 - No light pollution
 - Maximum energy efficiency thanks to the targeted optics.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Remote wireless control
 - Photocell / motion sensor
 - Power-line communication
 - Lineswitch.

MODELS

| | Power [W] |
|--------|--------------|
| 25R550 | 44 |
| 25R700 | 55 |
| 30R550 | 53 |
| 30R700 | 65 |
| 40R550 | 68 |
| 40R700 | 85 |
| 50R550 | 84 |
| 50R700 | 105 |

OPTICS

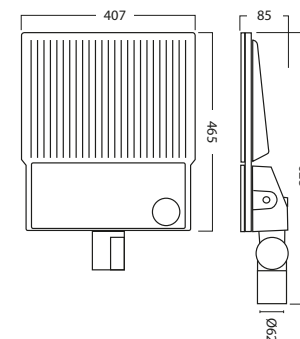
Series R

6A
8A
12A
14A
16A2
18A
19A



DIMENSIONS

[mm]



AKRON



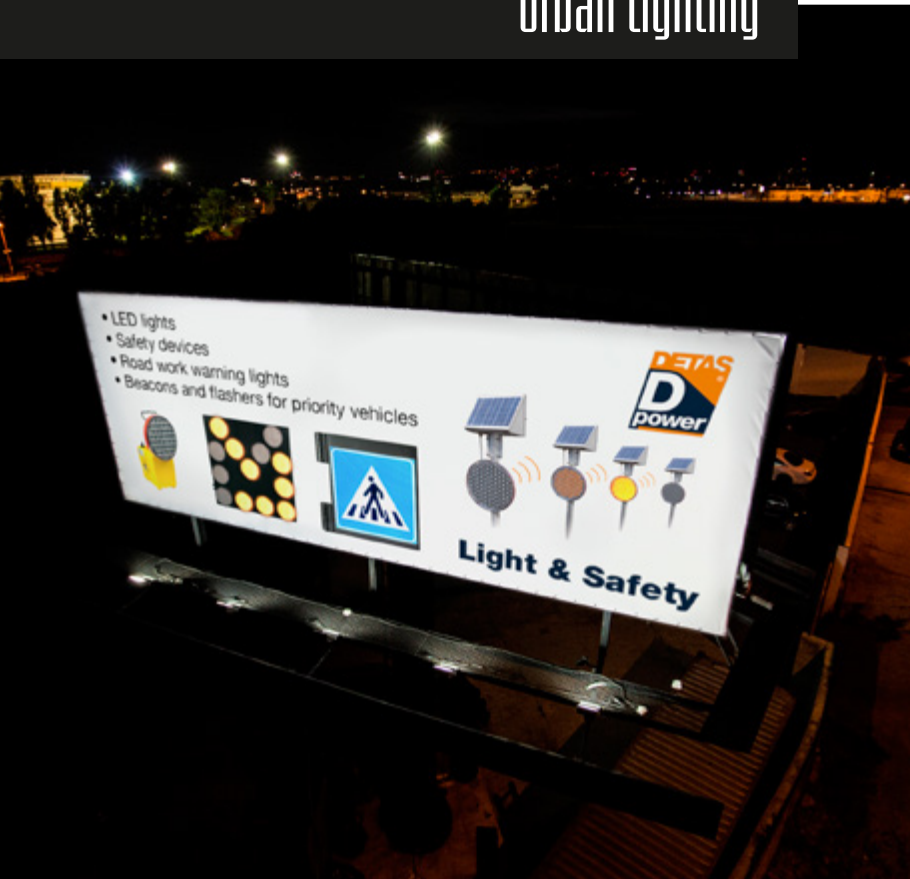
S T R E E T



BACK TO INDEX



Urban Lighting





Urban Lighting



QUINCY 400 - 300

Quincy is one of our urban design fixtures in cases of post top mounting, used to illuminate streets and other public areas. Available in two different sizes.

- Unique combination between traditional/ decorative look and high performing roadway optics.
- Proprietary full cutoff optics allow to fight the sky glow effect, eliminating the light emission towards the sky and private properties.
- Improved safety level of municipalities thanks to:
 - Higher uniformity level provided from the optics
 - White light, improved visibility
 - Higher Chromaticity Index (CRI).
- Tempered glass protecting LEDs and optics, available in a frosted version.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Power-line communication
 - Lineswitch.

TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP65
L70 >100.000 hrs
4000 K - 5000 K / CRI >75 (on request >80 / >90)
Insulation Class I or II
Operating temperature -40...+50°C
Weight 8 kg

MODELS

| | Power [W] | | Power [W] |
|---------|-----------|--------|-----------|
| 10R550 | 18 | 3M700 | 25 |
| 10R700 | 23 | 3M850 | 30 |
| 20R550 | 33 | 4M700 | 35 |
| 20R700 | 44 | 4M850 | 42 |
| *30R550 | 53 | 6M700 | 52 |
| *30R700 | 65 | 6M850 | 60 |
| | | *8M700 | 70 |

OPTICS

| Series R | Series M-MZ-TX |
|----------|----------------|
| 3S | 15S |
| 6A | 23A |
| 12A | 33A |
| 14A | 35A |
| 16A2 | |
| 18A | |
| 19A | |

Kit Retrofit



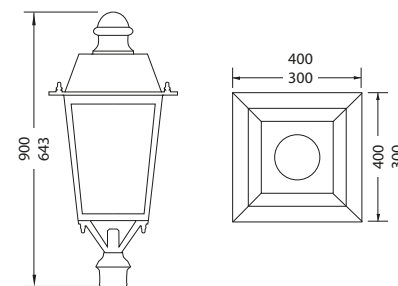
We design on request LED retrofit kits for existing luminaire, supplying a board engineered around your fixture for an easy and quick installation.

- Fully IP65
- 230V power supply, >50.000 hrs lifetime
- Optics available 23A, 31A, 33A, 35A, 40A.



DIMENSIONS

[mm]



Models with lower LED driving current are available.

*Only Quincy 400

QUINCY 400 - 300



MINI CITY

Mini City is one of our urban design fixtures engineered to replace the old globe lights and other luminaires in case of arm mounting.

- Maximizes the energy savings by eliminating the wasted, unfocused light.
- Proprietary full cutoff optics allow to fight the sky glow effect, eliminating the light emission towards the sky and private properties.
- Improved safety level of municipalities thanks to:
 - Higher uniformity level provided from the optics
 - White light, improved visibility
 - Higher Chromaticity Index (CRI).
- Tempered glass protecting LEDs and optics, available in a frosted version.
- Streetlighting optics available.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Power-line communication
 - Lineswitch.



TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP65
L70 >100.000 hrs
4000 K - 5000 K / CRI >75 (on request >80 / >90)
Insulation Class I or II
Operating temperature -40...+50°C
Weight 6.5 kg

MODELS

| | Power [W] | | Power [W] |
|--------|-----------|-------|-----------|
| 10R550 | 18 | 3M700 | 25 |
| 10R700 | 23 | 3M850 | 30 |
| 20R550 | 33 | 4M700 | 35 |
| 20R700 | 44 | 4M850 | 42 |
| 30R550 | 53 | 6M700 | 52 |
| 30R700 | 65 | 6M850 | 60 |
| | | 8M700 | 70 |

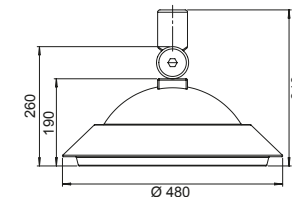
Models with lower LED driving current are available.

OPTICS

| Series R | Series M-MZ-TX |
|----------|----------------|
| 3S | 15S |
| 6A | 23A |
| 12A | 33A |
| 14A | 35A |
| 16A2 | |
| 18A | |
| 19A | |

DIMENSIONS

[mm]



MINI CITY

U
R
B
A
N



CONVOY

Convoy is one of our urban design fixtures in cases of post top mounting, used to illuminate streets and public areas.

- Unique combination between modern/decorative look and high performing roadway optics.
- Proprietary full cutoff optics allow to fight the sky glow effect, eliminating the light emission towards the sky and private properties.
- Improved safety level of municipalities thanks to:
 - Higher uniformity level provided from the optics
 - White light, improved visibility
 - Higher Chromaticity Index (CRI).
- Tempered glass protecting LEDs and optics, available in a frosted version.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Power-line communication
 - Lineswitch.



TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP65
L70 >100.000 hrs
4000 K - 5000 K / CRI >75 (on request >80 / >90)
Insulation Class I or II
Operating temperature -40...+50°C
Weight 8 kg

MODELS

| | Power [W] | | Power [W] |
|--------|-----------|-------|-----------|
| 10R550 | 18 | 3M700 | 25 |
| 10R700 | 23 | 3M850 | 30 |
| 20R550 | 33 | 4M700 | 35 |
| 20R700 | 44 | 4M850 | 42 |
| 30R550 | 53 | 6M700 | 52 |
| 30R700 | 65 | 6M850 | 60 |
| | | 8M700 | 70 |

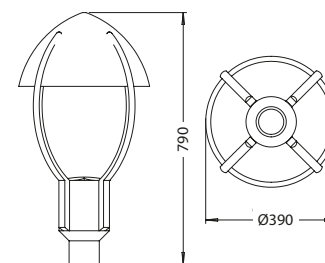
Models with lower LED driving current are available.

OPTICS

| Series R | Series M-MZ-TX |
|----------|----------------|
| 3S | 15S |
| 6A | 23A |
| 12A | 33A |
| 14A | 35A |
| 16A2 | |
| 18A | |
| 19A | |

DIMENSIONS

[mm]



CONVOY



U
R
B
A
N



35

[BACK TO INDEX](#)

Kor is one of our lighting solutions dedicated to public green areas and general purpose outdoor illumination.

- Modern look for an aesthetic improvement in design applications, different colors available on request.
- Improved safety level of municipalities thanks to:
 - Wide omnidirectional light beam
 - White light, improved visibility
 - Higher Chromaticity Index (CRI).
- No light emission towards the sky and private properties, dark sky friendly.



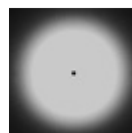
TECHNICAL DATA

230VAC
 Die cast aluminum body
 3.5 mm polycarbonate lens
 IP65
 L70 >50.000 hrs
 3000K – 4000K / CRI >80
 Insulation Class II
 Operating temperature -25...+50C
 Weight 7 kg

MODELS

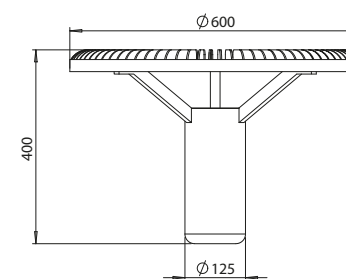
| | Power [W] |
|------|--------------|
| VS36 | 36 |
| VS72 | 72 |

OPTICS



DIMENSIONS

[mm]



KOR



U
R
B
A
N



MAYA 2-3-4

Maya is a family of high performance flood lights.

The several optics available make it a versatile solution, suitable for sign and architectural lighting achieving incredible results.

- Unparalleled quality compared to common LED floodlights.
- Proprietary optics for the highest lighting control precision, maximizing energy saving and eliminating light pollution.
- Streetlighting optics available for parking lot and outdoor perimeter lighting.
- Special optics 20S (8° light beam) and 8A for spot and architectural lighting.
- Pole mounting adapter available.
- Tempered glass protecting LEDs and optics.
- Optional control systems:
 - 1-10V / DALI
 - Virtual midnight
 - Lineswitch.



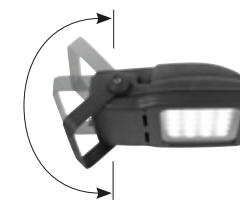
MAYA 2



MAYA 3



MAYA 4



TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP66
L70 >100.000 hrs
3000 K - 4100 K - 5500 K
CRI >75 (on request >80 / >90)
Insulation Class I or II
Operating temperature -40...+50°C
Weight: 11 kg - 5.9 kg - 4.8 kg

MODELS

| | | Power [W] |
|--------|--------|--------------|
| MAYA 2 | 50R700 | 105 |
| | 60R700 | 125 |
| MAYA 3 | 30R700 | 65 |
| | 35R700 | 75 |
| | 40R700 | 85 |
| MAYA 4 | 10R700 | 23 |
| | 15R700 | 34 |
| | 20R700 | 44 |

Models with lower LED driving current are available.

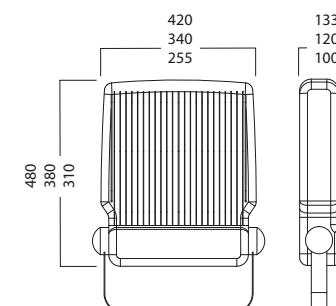
OPTICS

Series R

3S
6A
8A
13S
14A
16A2

DIMENSIONS

[mm]



MAYA 2-3-4



U
R
B
A
N

MINI QUINCY

- Classic design updated with LED technology.
- Tempered glass protecting LEDs.
- LED array and power unit IP68 rated.
- Integrated surge protection device.
- Frosted glass available.

Mini Quincy is a cost effective solution for urban decorative lighting in green areas, walkways and other ornamental applications.

- **For other urban and decorative lighting solutions ask to our sales department the DLEDS outdoor catalog.**



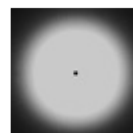
TECHNICAL DATA

230 VAC
Die cast aluminum body
4 mm tempered glass
IP66
L70 >50.000 hrs
4000 K - 5000 K / CRI >80
Insulation Class II
Operating temperature -25...+50°C
Weight 1.7 kg

MODELS

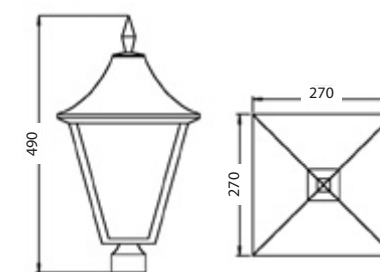
| | Power [W] |
|------|--------------|
| VS13 | 13 |
| VS26 | 26 |

OPTICS



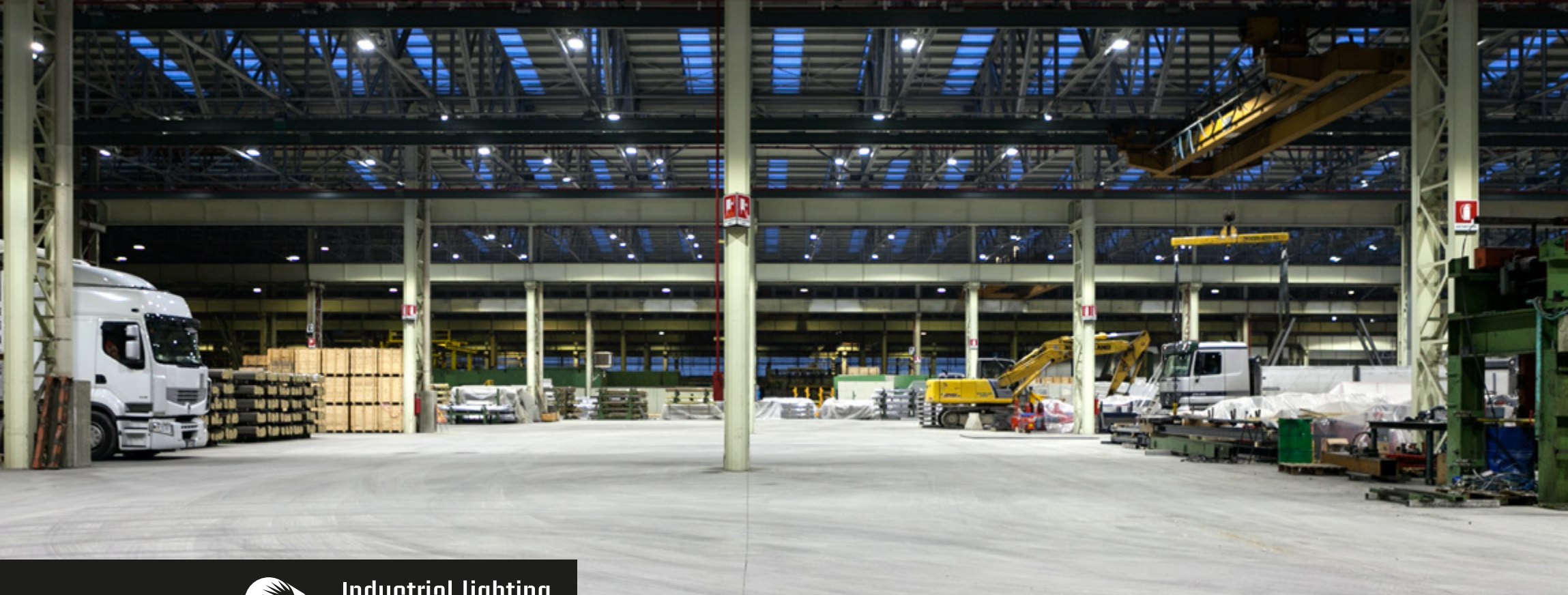
DIMENSIONS

[mm]



MINI QUINCY





Industrial lighting





Tunnel Lighting



RADIANT 2

Radiant 2 is one of our solutions designed for tunnel entrances and other high power lighting applications such as high bays and light masts.

- Power supply unit separated from the LED array for an higher reliability.
- Available light masts optics for very high mounting height.
- Extensive use of anti-corrosion materials and toughness.
- Tempered glass protecting LEDs and optics.
- Optional control systems:
 - 1-10V / DALI
 - Remote wireless control
 - Power-line communication
 - Luminance sensor.

TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP65
L70 >50.000/90.000 hrs
4100 K - 5500 K / CRI >70/75
Insulation Class I or II
Operating temperature -40...+50°C
Weight 13 kg

MODELS

| | Power [W] | | Power [W] |
|---------|--------------|--------|--------------|
| 102R700 | 220 | 26M700 | 215 |
| | | 36M700 | 320 |
| | | 68M700 | 600 |

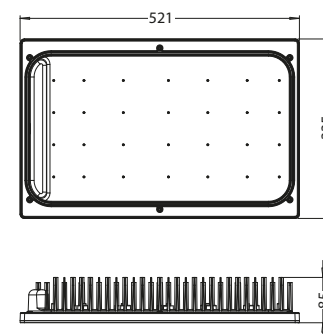
OPTICS

| Series R | Series M-MZ-TX |
|----------|-------------------|
| 1A | 15S |
| 3S | 28S |
| | 29A |



DIMENSIONS

[mm]



RADIANT 2

TUNNELS - INDUSTRIAL



RADIANT 4

Radiant 4 is one of our solutions dedicated to tunnel internal lighting.

The high performance optics allow achieving the minimum lighting requirements using less power compared to the other products on the market and flexibility according to the existing lighting layout.

- Best price/quality ratio.
- Patented proprietary optics developed through years of experience on world's tunnels.
- Openable protective glass for future upgrades or maintenance.
- Supercast® aluminum alloy housing [\[see page 14\]](#).
- Tempered glass protecting LEDs and optics.
- Optional control systems:
 - -1-10V / DALI
 - -Power-line communication.

TECHNICAL DATA



230 VAC

SUPERCAST® aluminum die cast body

4 mm tempered glass

IP65

L70 >90.000 hrs

4100 K - 5500 K / CRI >70/75

Insulation Class I or II

Operating temperature -40...+50°C

Weight 8.5 kg

MODELS

| | Power [W] | | Power [W] |
|--------|--------------|-------|--------------|
| 40R350 | 45 | 4M700 | 30 |
| 40R530 | 70 | 8M700 | 60 |

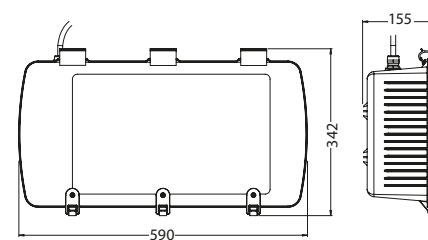
OPTICS

| Series R | Series M-MZ-TX |
|----------|-------------------|
| 3S | 28S |
| 6A | 29A |
| 13S | |



DIMENSIONS

[mm]



RADIANT 4



RADIANT 5

Radiant 5 is one of our solutions dedicated to tunnel lighting.

The higher power compared to the Radiant 4 allows reaching higher luminance values when required.

It is frequently used in industrial lighting applications, suitable for both suspension and ceiling mount.

- Best investment on warehouses and factories, average payback 2.5 years.
- Selection of proprietary optics based on type of working area and mounting height.
- Tempered glass protecting LEDs and optics.
- IP65 protection for harsh environments.
- Emergency backup kit available.
- Optional control systems:
 - 1-10V / DALI
 - Remote wireless control
 - Power-line communication
 - Motion sensor
 - Illuminance sensor.

APPROVALS



TECHNICAL DATA



230 VAC

SUPERCASE® aluminum die cast body

4 mm tempered glass

IP65

L70 >70.000 hrs

4100 K - 5500 K / CRI >75

Insulation Class I or II

Operating temperature -40...+50°C

Weight 12 kg

MODELS

Power
[W]

| | |
|--------|-----|
| 40R700 | 85 |
| 50R550 | 84 |
| 50R700 | 105 |
| 60R700 | 125 |

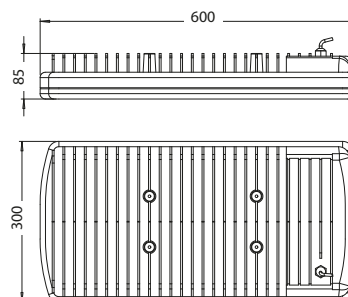
OPTICS

| |
|-----|
| 3S |
| 6A |
| 8A |
| 13S |



DIMENSIONS

[mm]



RADIANT 5



RADIANT 7A - 7B - 7C

The Radiant 7 is a family of products designed for industrial lighting, suitable for suspension and ceiling mount, with models ranging between 35W and 204W.

- Best investment on warehouses and factories, average payback 2.5 years.
- Selection of proprietary optics based on type of working area and mounting height.
- Tempered glass protecting LEDs and optics.
- IP65 protection for harsh environments.
- Emergency backup kit available.
- Optional control systems:
 - 1-10V / DALI
 - Motion sensor
 - Illuminance sensor.

TECHNICAL DATA



230 VAC

Die cast aluminum body

5 mm tempered glass

IP65

L70 >50.000/90.000 hrs

4100 K - 5500 K / CRI >70/75

Insulation Class I or II

Operating temperature -40...+50°C

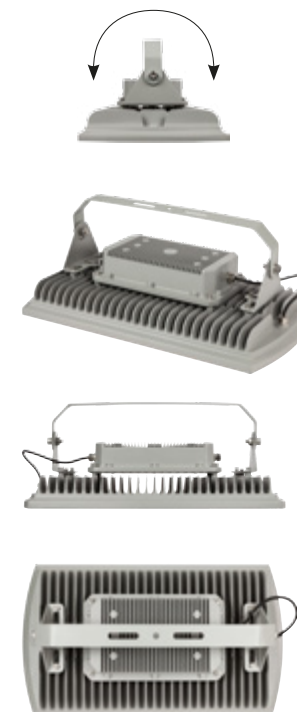
MODELS

| | | Power [W] | Power [W] |
|----|---------|--------------|--------------|
| 7A | 20R550 | 35 | 4M850 42 |
| | 20R700 | 44 | |
| 7B | 40R700 | 85 | 8M700 70 |
| | 50R700 | 105 | 12M700 100 |
| 7C | 60R700 | 125 | 18M700 148 |
| | 80R700 | 175 | 26M600 199 |
| | 102R600 | 204 | |

OPTICS

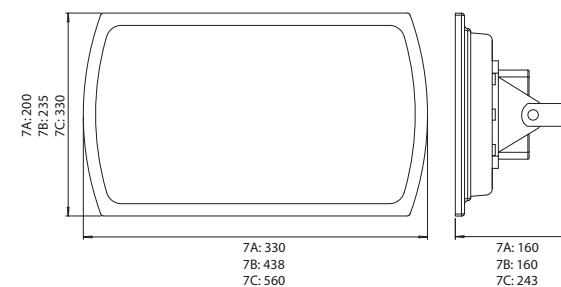
| Series R | Series M-MZ-TX |
|----------|-------------------|
| 3S | 15S |
| 13S | 28S |
| | 29A |

Models with lower LED driving current are available.



DIMENSIONS

[mm]



RADIANT 7A - 7B - 7C



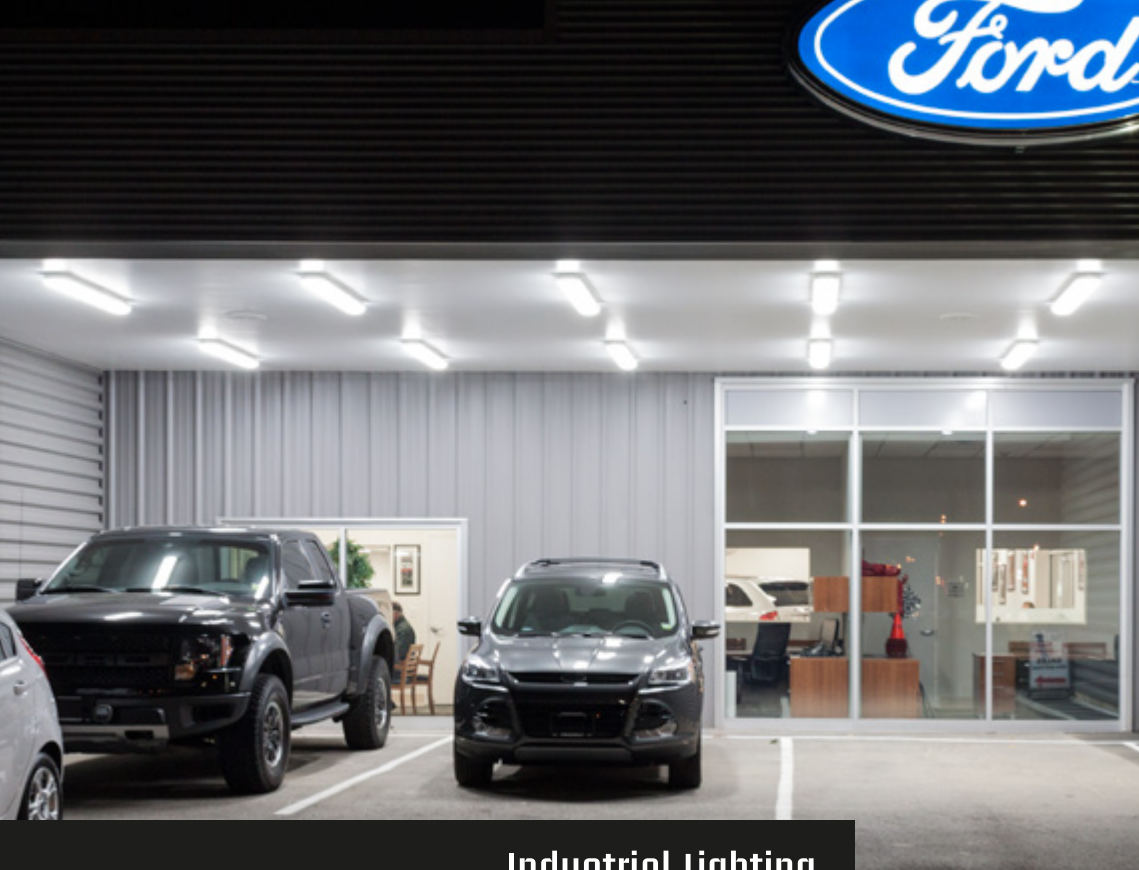


Industrial Lighting

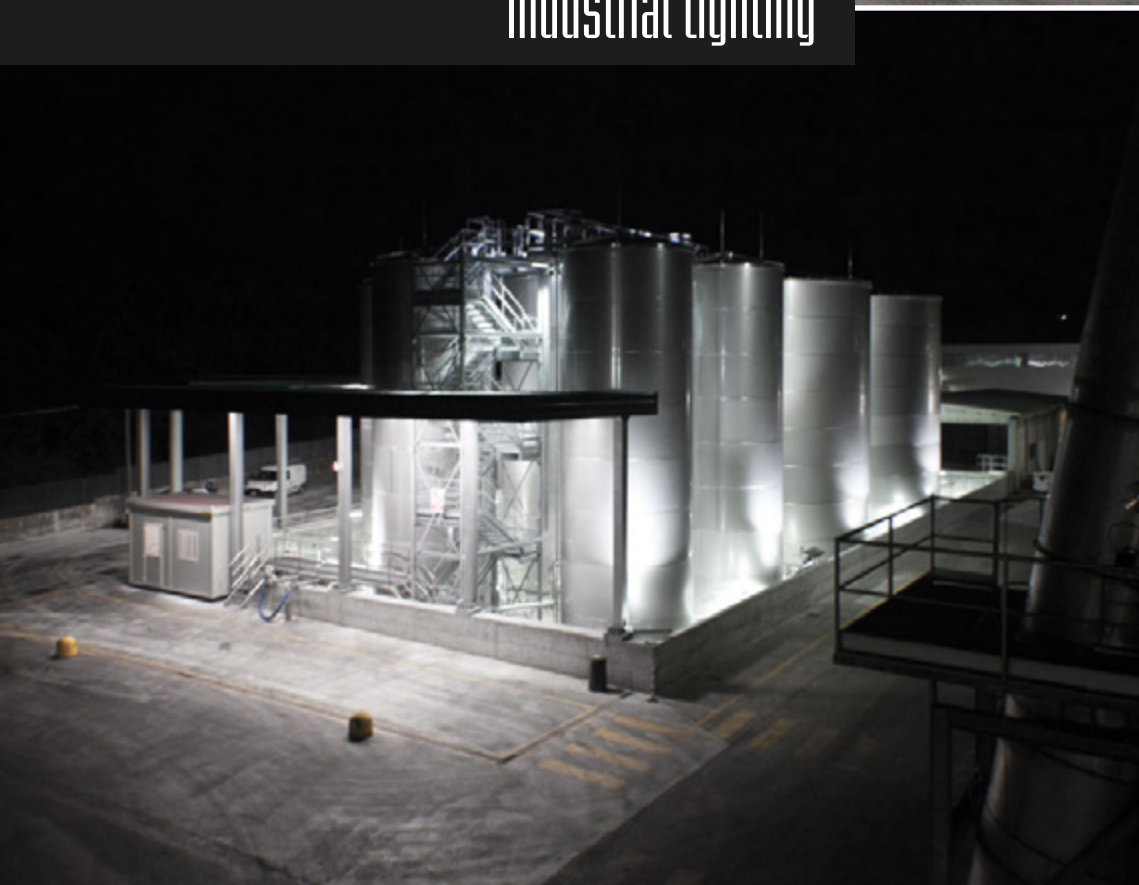




Industrial lighting



Industrial Lighting





Industrial Lighting



PAD

Pad is a very performing solution designed for medium/high light level needs and high suspension heights.

Thanks to the optics, the light is distributed only where necessary, maximizing the energy saving and the ROI.

APPROVALS



TECHNICAL DATA



230 VAC
Die cast aluminum body
5 mm tempered glass
IP54
L70 >100.000 hrs
4000 K - 5000 K / CRI >75
Insulation Class I or II
Operating temperature -40...+50°C
Weight 12 kg

- Best investment on warehouses and factories, average payback 2.5 years.
- Selection of proprietary optics based on type of working area and mounting height.
- Photobiological safety risk exempt certified.
- Tempered glass protecting LEDs and optics.
- Available on request with shatterproof polycarbonate lens for gymnasiums or other particular applications.
- Emergency backup kit available.
- Optional control systems:
 - 1-10V / DALI
 - Motion sensor
 - Illuminance sensor.

MODELS

| | Power [W] |
|---------|--------------|
| 80R550 | 135 |
| 80R700 | 175 |
| 100R550 | 173 |
| 100R700 | 215 |

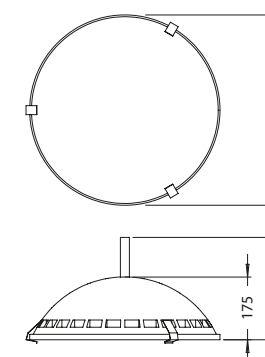
OPTICS

3S
13S
21S
27S



DIMENSIONS

[mm]



PAD



I N D U S T R I A L

CRAFT

Craft is a cost effective solution for general industrial lighting, designed for suspension or surface mounting.

Thanks to the IP66 rating, it is well suited for any dusty and wet location.

- Best investment on warehouses and factories, average payback 2.5 years.
- Tempered glass protecting LEDs and optics.
- IP66, suitable for power washing in cases of daily exposure to heavy dirt.
- Optional control systems:
 - 1-10V / DALI.

TECHNICAL DATA



230 VAC
Die cast aluminum body
4 mm tempered glass
IP66
L70>100.000 hrs
4100 K – 5500 K / CRI >70
Insulation Class I or II
Operating temperature -40...+40C
Weight 7.5 kg

MODELS

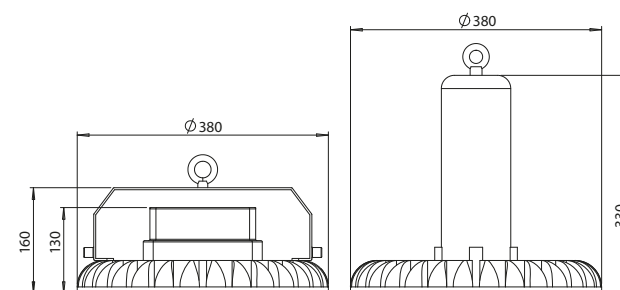
| | Power [W] |
|--------|--------------|
| 3M700 | 25 |
| 3M850 | 30 |
| 6M700 | 52 |
| 6M850 | 60 |
| 9M700 | 73 |
| 9M850 | 90 |
| 12M850 | |

OPTICS

15S
80° symmetric



DIMENSIONS



CRAFT

I N D U S T R I A L



TRILOGY N

Trilogy N is a versatile fixture, mainly used for:

- **Streetlighting**, for toll station canopies and retrofitting crosswalk portals [\[additional information at page 78\]](#).
- **Industrial lighting**, for shelving warehouses or other productive areas.
- **Urban lighting**, for architectural and commercial sign lighting.

- Linear profile for an easy aesthetical integration and installation.
- Tempered glass protecting the LEDs and optics, to achieve the maximum protection from corrosion agents in industrial applications.
- Special optics 20S (8° light beam) for spot and architectural lighting.
- Photovoltaic version available [\[see page 82\]](#).
- Optional control systems:
 - 1-10V / DALI.

TECHNICAL DATA



230 VAC
Aluminum body
4 mm tempered glass
IP66
L70 >70.000 hrs
4100 K - 5500 K / CRI >75
Insulation Class I or II
Operating temperature -40... +50°C
Weight 1.5 - 2.5 - 4.0 kg

MODELS

| | | Power [W] |
|-------------|----------|--------------|
| N30 | 5R700 | 12 |
| N60 | 15R700 | 33 |
| N100 | 20R700 | 40 |
| N100 | 25R700 * | 55 |

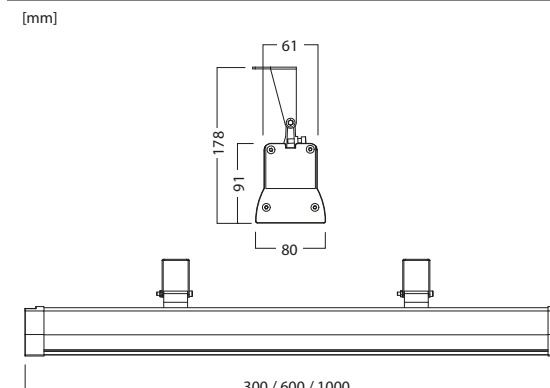
* available only with external driver

OPTICS

1A
3S
13S



DIMENSIONS



TRILOGY N



I N D U S T R I A L



JANUS

Janus is one of our solutions of linear industrial lighting, in case of mounting heights up to 8m. Aesthetically pleasing, it can be used in design applications as well.

- 50% minimum energy saving compared to an equivalent fluorescent troffer.
- Improved color quality and no flickering, instant on (CRI >80, no flickering).
- Extruded aluminum body, polycarbonate lens.
- No hazardous materials, safe also in case of breakage.
- Integrated surge protection up to 6 kV.
- Non visible LED light source, highest visual comfort.
- Photobiological safety risk exempt certified.
- Suspension or surface mounting kit available.
- Optional control systems:
 - 1-10V / DALI
 - Motion sensor
 - Illuminance sensor.

TECHNICAL DATA



230 VAC
Aluminum body
Polycarbonate lens
IP54
L70 >50.000 hrs
4100 K / CRI ≥80
Insulation Class I or II
Operating temperature -25...+50°C
Weight 6.9 kg

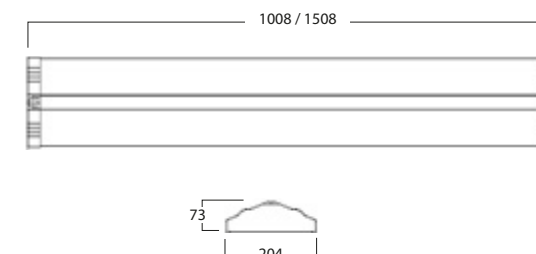
MODELS

| | Power [W] |
|-----------|--------------|
| Janus 100 | 100 |
| Janus 150 | 150 |



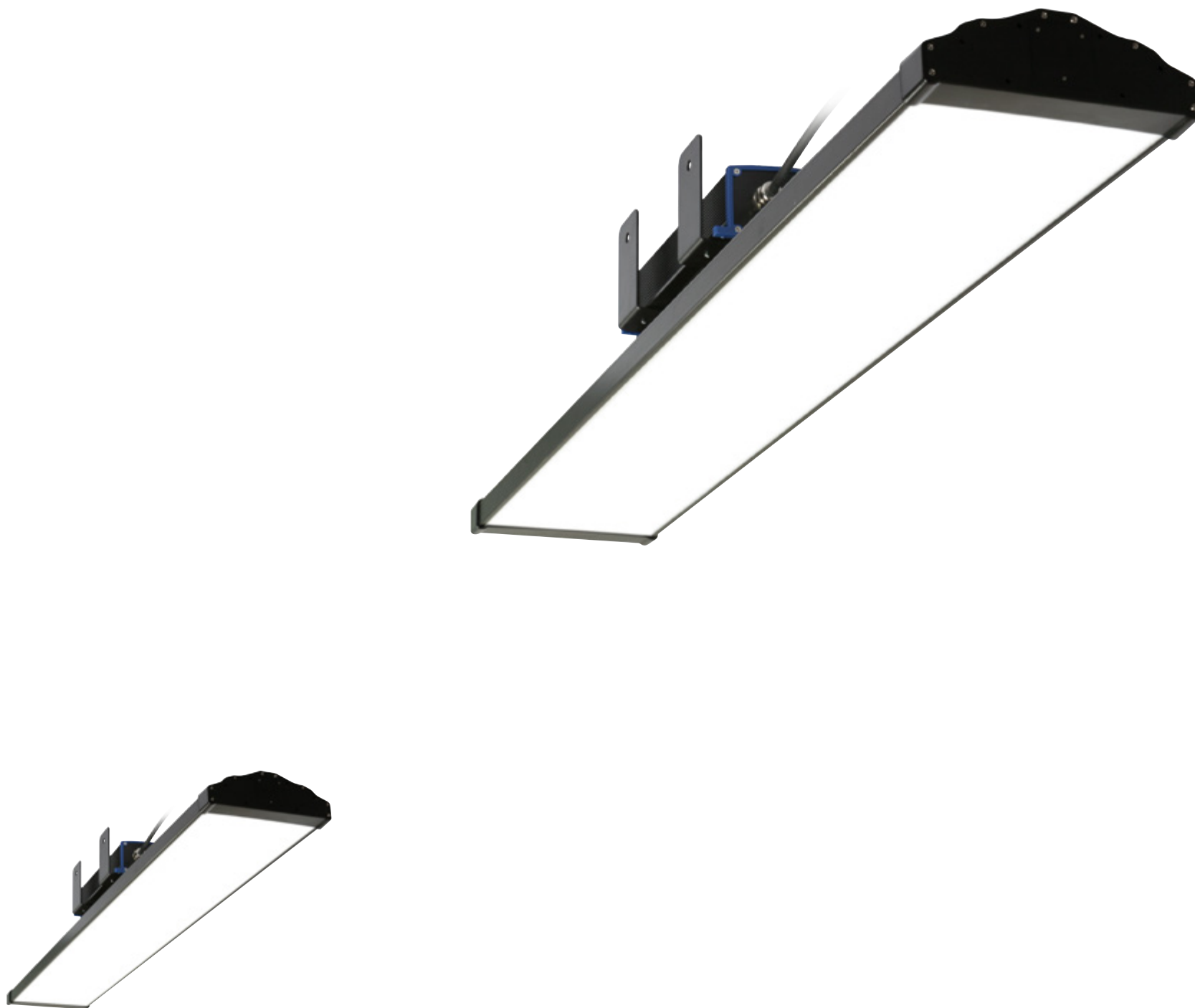
DIMENSIONS

[mm]



JANUS

INDUSTRIAL



KES STRIP

Kes Strip is a very cost effective solution to replace fluorescent linear lighting.

The LED light source is not visible, providing a comfortable light.

The power steps are designed to replace at least 1:1 equivalent size fluorescent fixtures.

- 50% minimum energy saving compared to an equivalent fluorescent troffer.
- Photobiological safety risk exempt certified.
- Improved color quality and no flickering, instant on (CRI >80).
- Polycarbonate body and lens. No hazardous materials, safe also in case of breakage.
- Internal emergency backup kit available.
- Integrated surge protection up to 6 kV.
- Surface mounting, suspension kit available.
- Optional control systems:
 - 1-10V
 - Integrated motion sensor (on/off or one step dimming).

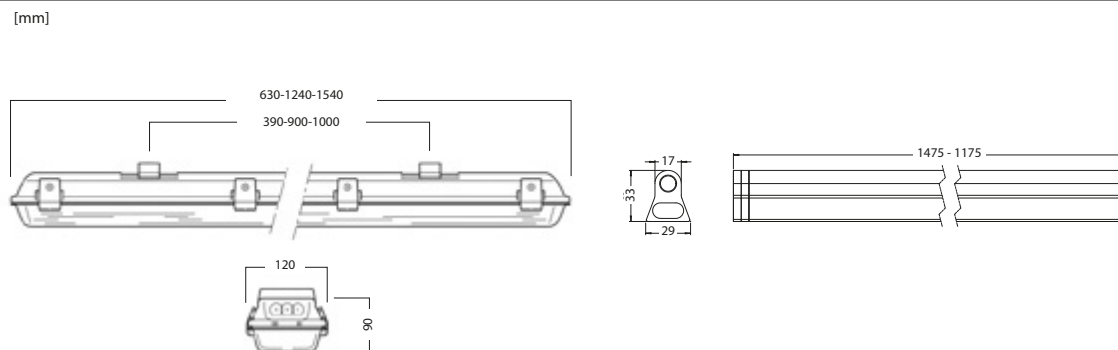
TECHNICAL DATA

| |
|-----------------------------------|
| KES STRIP |
| 230 VAC |
| Polycarbonate body |
| Polycarbonate lens |
| IP65 |
| L70 >50.000 hrs |
| 4100 K / CRI ≥80 |
| Insulation Class II |
| Operating temperature -25...+40°C |
| Weight: 1.2 kg - 2.3 kg - 3.2 kg |

MODELS

| | Power [W] |
|---------------|-----------|
| Kes Strip 60 | 22 |
| Kes Strip 120 | 43 |
| Kes Strip 150 | 59 |
| Kes T5 120 | 20 |
| Kes T5 150 | 24 |

DIMENSIONS



KES T5

Kes T5 is also available, designed to update existing fixtures using T5 fluorescent tubes with LED.



It can be used in new installations as well, featuring also a suspension mount.



KES STRIP



I N D U S T R I A L

KES N

Kes N is one of our solutions for industrial linear lighting.

With a power up to 120W, it can be installed up to 8m, suspended or surface mounted.

The LED light source is not visible, providing a comfortable light.

- 50% minimum energy saving compared to an equivalent fluorescent troffer.
- Photobiological safety risk exempt certified.
- Improved color quality and no flickering, instant on (CRI >80).
- Extruded aluminum body, polycarbonate lens.
- No hazardous materials, safe also in case of breakage.
- Integrated surge protection up to 6 kV.
- Optional control systems:
 - 1-10V
 - Integrated motion sensor (on/off or one step dimming)
 - Illuminance sensor.

TECHNICAL DATA

230 VAC
 Aluminum body
 Polycarbonate lens
 IP65
 L70 >50.000 hrs
 4100 K / CRI ≥80
 Insulation Class I
 Operating temperature -25...+40°C
 Weight 3 kg

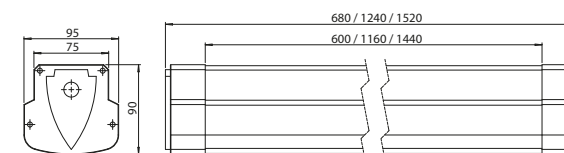
MODELS

| | Power [W] |
|-----------|--------------|
| Kes N 60 | 40 |
| Kes N 120 | 70 |
| Kes N 150 | 120 |



DIMENSIONS

[mm]



KES N



I N D U S T R I A L



Canopy Lighting





Canopy Lighting



ATLAS PE

Atlas PE is one of our solutions for gas and toll station canopies, in case of recessed mounting.

It has been constantly improved with more performing optics and offering a better price/quality ratio.

APPROVALS



TECHNICAL DATA



230 VAC
Aluminum body
5 mm tempered glass
IP55
L70 >70.000 hrs
3000 K - 4100 K - 5500 K / CRI >75
Insulation Class I or II
Operating temperature -25...+50°C
Weight 4.8 kg

- Dedicated optics for toll stations corridors and gas stations.
- Anti-glare tempered glass protecting the LEDs and optics.
- Highest visual comfort for drivers and gas station customers.
- Photobiological safety risk exempt certified.
- ATEX version available.
- Optional control systems:
 - 1-10V / DALI
 - External motion sensor.

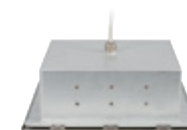
MODELS

| | Power [W] |
|--------|--------------|
| 20R700 | 44 |
| 30R700 | 70 |
| 40R530 | 70 |

OPTICS

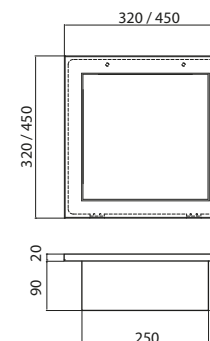
3S

13S



DIMENSIONS

[mm]



ATLAS PE



CANOPIES



71

BACK TO INDEX

ATLAS 14

Atlas 14 is a very cost effective solution for canopy lighting, suitable for both gas and toll stations thanks to the optics.

- Best price/performance ratio.
- Customizable external frame according to the existing canopy.
- Photobiological safety risk exempt certified.
- Surface mounting kit available.
- Optional control systems:
 - 1-10V / DALI
 - Motion sensor.

APPROVALS



TECHNICAL DATA

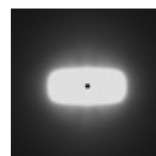
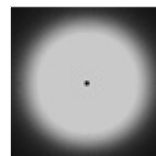


230 VAC
Aluminum body
Polycarbonate lens
IP65
L70 >70.000 hrs
4100 K - 5500 K / CRI >70
Insulation Class I or II
Operating temperature -25...+50°C
Variable weight depending on the configuration

MODELS

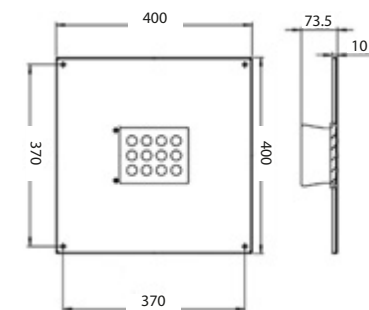
| | Power [W] |
|--------|-----------|
| 15T820 | 42 |
| 30T820 | 80 |
| 45T820 | 120 |
| 60T820 | 160 |

OPTICS



DIMENSIONS

[mm]



External frame customized on request.

ATLAS 14



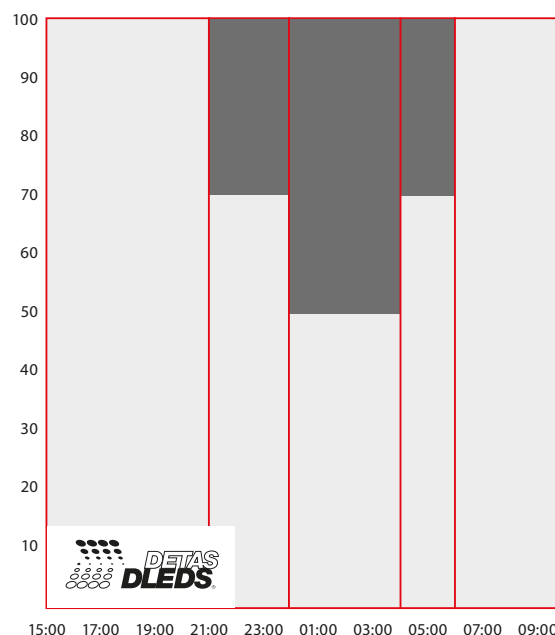
Lighting controls

LED lighting offers much more controlling possibilities than traditional systems, applicable to new installations or updating an existing systems.

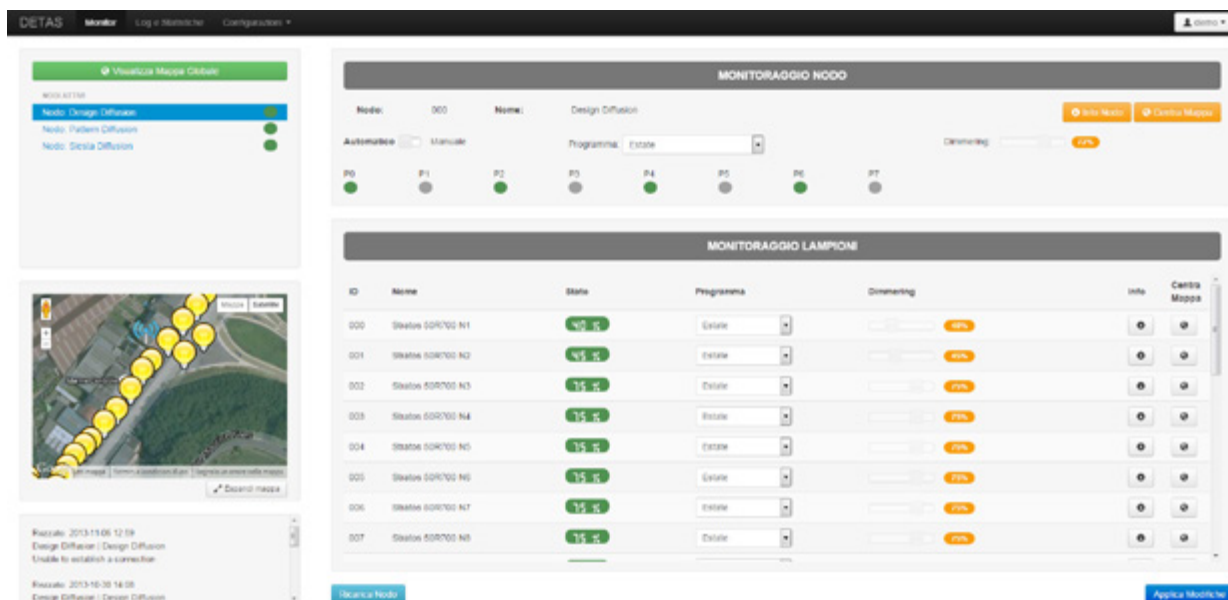
In addition to the energy saved by the new technology, integrating LEDs with a control system can offer an additional 20-30% saving. The objective of controlling the light is to reduce the light output when the need is lower or absent.

In the following pages we are presenting the control systems available with most of our products, from controlling few fixtures to entire industries and cities.

Example of virtual midnight pre-set program.



Example of wireless control interface.



STREETLIGHTING controls

- Virtual midnight
- Lineswitch
- Power-line communication
- Remote wireless control
- Motion sensor
- Photocell

TUNNEL LIGHTING controls

- Power-line communication
- Remote wireless control

INDUSTRIAL LIGHTING controls

- 1-10V / DALI
- Motion sensor
- Illuminance sensor
- Zigbee

Virtual Midnight



It's an automatic system, completely integrated in the light fixtures that does not require any additional wiring or external hardware.

It reduces the luminous flux according to a pre-set program (up to 5 dimming and time steps), adjustable like the picture shown in the left page.

For three days after the installation, the lights will work at full power, reading the on/off time, starting to reduce the luminous flux from the fourth day.

The operation is based on calculating a virtual midnight (average on-off moment) used as reference to apply the pre-set program.

The calculation of the virtual midnight is automatic and keeps updating during the year, adjusting to the daylight hours. The system is mostly used for parking lot lighting and streetlighting.

1-10V / DALI



These are wired lighting controlled systems, both require the installation of additional wiring besides the power supply ones.

1-10V is an analog control system, based on sending a signal to the lights between 1V (10% luminous intensity) and 10V (100% luminous intensity).

One or more lights can be controlled using this system with a motion or illuminance sensor.

The polarity of the controlling cables must be followed during the installation.

DALI is a digital control system, based on creating a network where an unique address is assigned to every light fixture, allowing an individual control and a communication with the lights to verify the status. Using the DALI network it is possible to create control groups, managing the lighting of entire buildings.

Lineswitch



Lineswitch is a cost effective one step dimming system and easy to integrate with installations where the control wire is present, where a 230V signal is distributed.

When the light drivers receive the signal, they reduce the power to the pre-set step.

The signal can be controlled from a variety of sources such as timers or motion sensors.

The possible applications of the Lineswitch vary according to the type of signal generation system, mostly used for streetlighting, parking lots, gas stations and perimetric industrial lighting.

Lighting controls

Motion and illuminance sensors



We offer a range of motion and illuminance sensor to control our lights.

The **motion sensors** can control a simple on/off of the lights or reduce the intensity down to a pre-set step when motion is not detected, keeping a safety level.

The **illuminance sensors** can operate as a photocell or vary in real time the luminous intensity according to the ambient lighting level, keeping a constant light level in the room.

Internal sensors are available with the streetlights for a standalone control; external sensors working with 1-10V / DALI or Lineswitch are available to control groups of lights

Zigbee



It's a control system that allows controlling lights directly from a smartphone or tablet using a dedicate app.

The gateway and the lights communicate using a local wireless network. No active internet connection is required for the operation.

Power-line communication



This is a system that uses the existing power cables to control the lights. A central unit sends high frequency signals through the cables, much higher than 50/60Hz, that the units mounted in the lights read as instructions to vary the luminous intensity. The system can be used with all our streetlights and tunnel lights

Luminance sensor



Our remote wireless control system and the power-line communication can be completed with a luminance sensor mounted outside the tunnel that adjusts in real time the level of the entrance lights according to the outer natural light, avoiding the black hole and glare effect.

Remote wireless control



Our street and tunnel lights are available with a proprietary remote wireless control to manage the dimming, monitor power consumption and failures.

The adjustment of the luminous intensity is done individually or by group of lights, creating up to 6 fully automatic dimming profiles.

The interface is completely online and can be used from any device including smartphones and tablets. It includes a Google Maps window for an immediate localization of the lights/group.

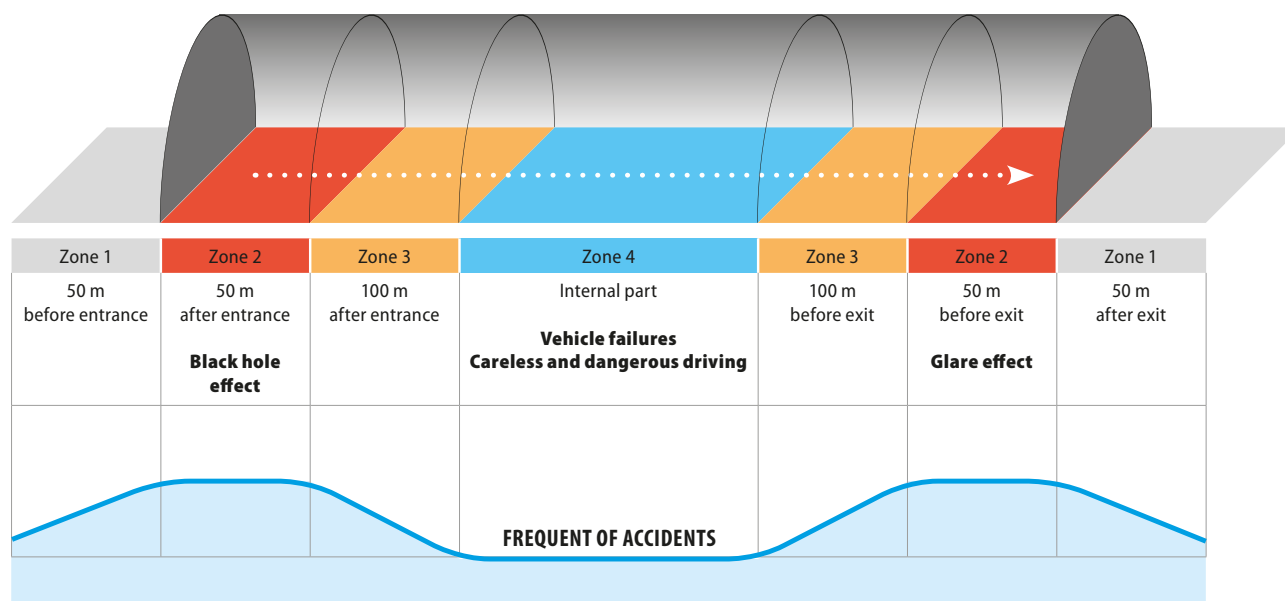
The communication between the interface and the wireless coordinator is totally safe and encrypted using an HTTPS protocol.

The system is composed by:

- A wireless coordinator, responsible for the information exchange with the lamps (dimming commands and status check) that needs an active connection to Internet. Available in a less expensive Ethernet version or with 3G GPRS capability. Every coordinator can control up to 150 lights and the maximum distance between the it and the first light should not exceed 50m.
- Radio controllers mounted inside the light fixtures, operating at 868MHz. To achieve a better operating reliability and distance, the lights create a mesh network, where every fixture replicates the signal coming from the coordinator. Consequently, not every light has to be in the range of the coordinator.

The system is mainly used to control the lighting of streets, parking lots and tunnel entrances.

Tunnel lighting controls



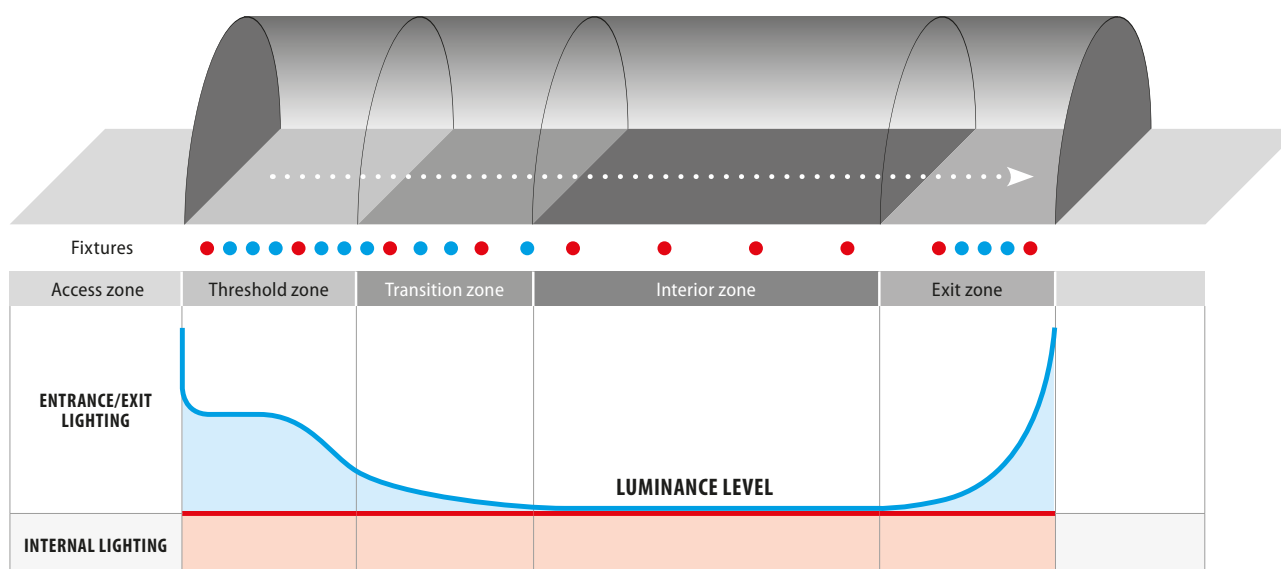
Roadway statistics demonstrate that generally, accidents in tunnels happen less frequently than on equivalent open air roads. The main reasons are that traffic in tunnels is not exposed to weather, there are no intersections, headlight glare is limited and there is no pedestrian conflict.

Entrance and exit areas however, if not illuminated properly, can be dangerous traps for road users. The glare and the black hole effect, can make a driver unable to identify obstacles such as a line of stopped vehicles or others, inhibiting a reaction in a timely manner.

The levels of luminance, illuminance and uniformities are determined from the norms according to the type of traffic, pavement quality and speed limit.

The graphic to the right shows a typical layout of the tunnel luminaires according to the light levels required in each tunnel zone.

Entrance and exit lighting have to be adjusted throughout the day to make entering and exiting the tunnel as safe as possible. At nighttime, the entrance/exit system is turned off and the internal lighting may be dimmed according to the project. The best control can be achieved controlling entrance/exit lighting with a luminance photometer, for a real time adjustment of the luminous flux according to the outside lighting level.





Born from the union of our D-Power and DLEDS divisions, the APL system is designed to achieve the complete safety of pedestrian crossings

Signaling: using flashers and backlit signs for a quick and clear identification of the crossing.

Lighting: using luminaires with dedicated optics to achieve an unparalleled performance on:

The **LED Box** modules use flashers certified according to **EN 12352**.



The **LED backlit** signs are double sided, featuring an high luminosity and uniformity. Certified according to **EN 12899**.



horizontal plane, highlighting the crossing so that road users recognize immediately its presence.

vertical plane, lighting perfectly the body of pedestrians starting from the waiting area, to make them highly visible to drivers.



Stratos P [refer to page 24]



Akron [refer to page 26]



Stratos N [refer to page 20]



Trilogy N [refer to page 60]

WITHOUT APL



WITH APL





APL LED pedestrian crossing



APL classic

APL Classic is the first and entry-level solution dedicated to pedestrian crossing lighting, engineered to achieve the highest safety for pedestrians using the latest technology.

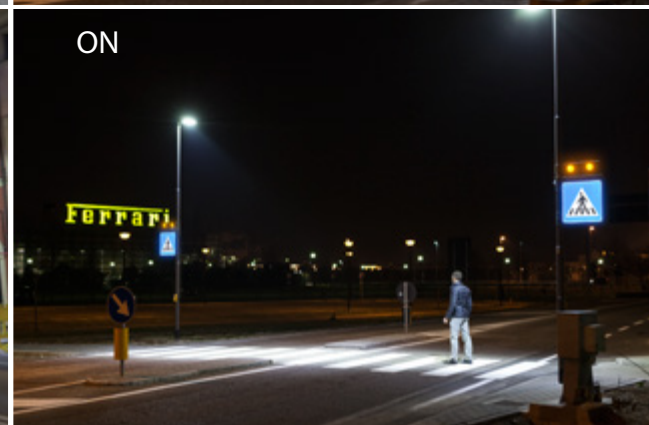
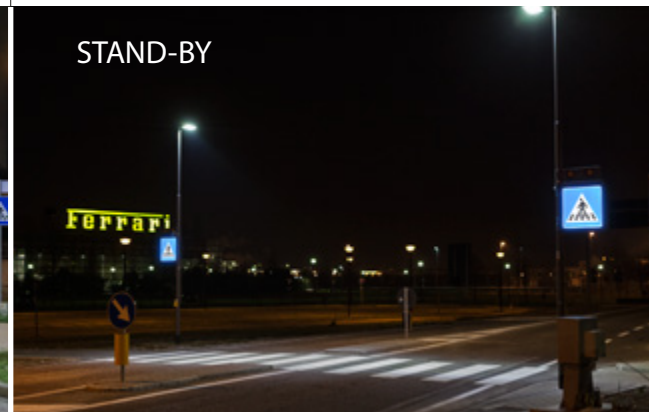
An high percentage of accidents involving pedestrians occurs at nighttime. It is therefore a priority to signal and illuminate appropriately the crossings to encourage people to use them.



APL smart

APL Smart is the latest evolution of the pedestrian crossing safety devices, engineered to make the crossings interactive and safer.

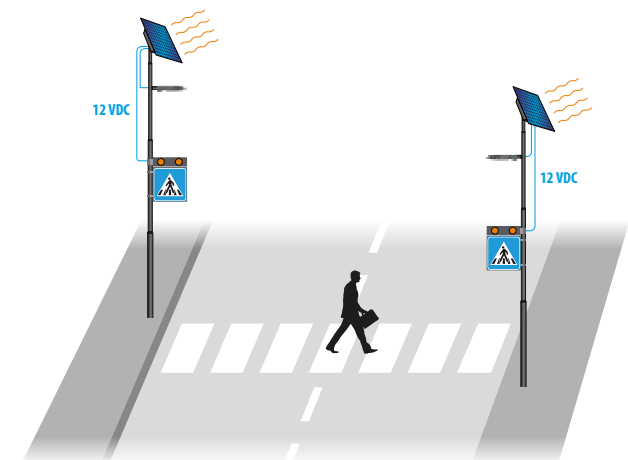
- The system is activated by push button or motion sensor.
- The lighting level on the crosswalk increases from **40% (standby)** to **100% (on)** thanks to the **intelligent dimming**.
- The signaling flashers start to work.



APL solar

APL Solar has been developed to meet the increasing request of lighting crosswalks not reached by the power grid, on roads with any type of lighting.

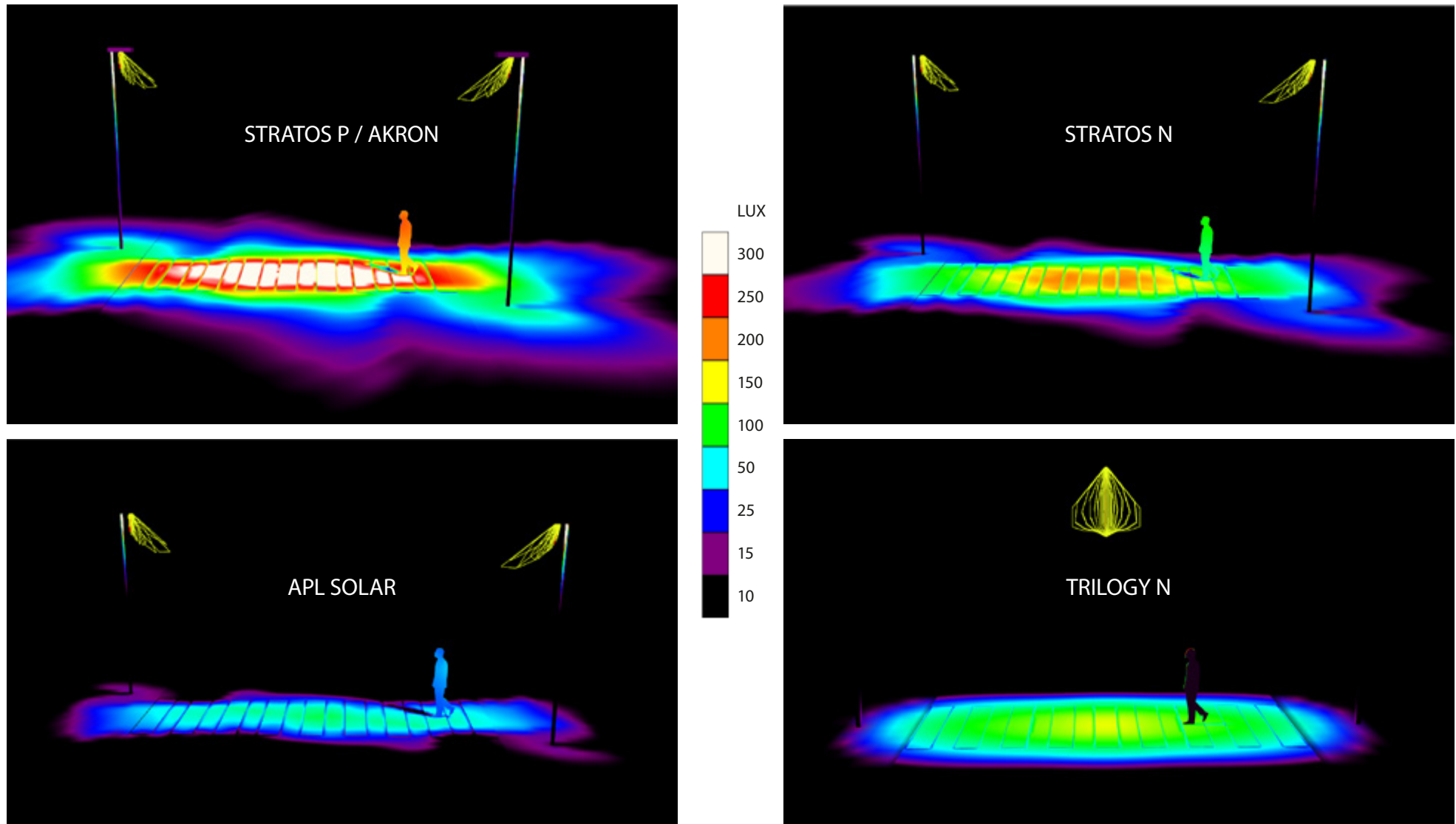
Even having a lower power compared to the regular power versions (APL Classic and APL Smart), the APL Solar, featuring a Stratos N 18W, meets the minimum lighting requirements of **EN13201** and a great signaling of the crosswalk thanks to the flashers **certified according to EN12352**.



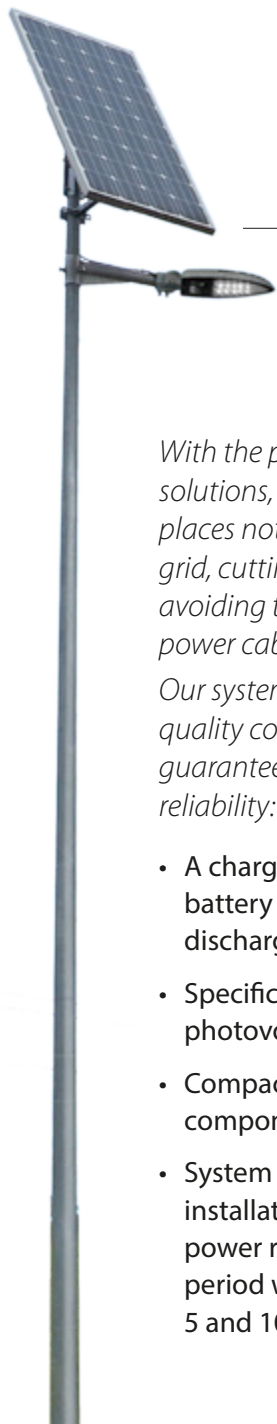
Compact photovoltaic kit

The battery and the solar charge regulator are integrated in the PV kit, eliminating the need of an external cabinet.
PV peak power **140W**.

Some reference calculations of vertical and horizontal illuminance.



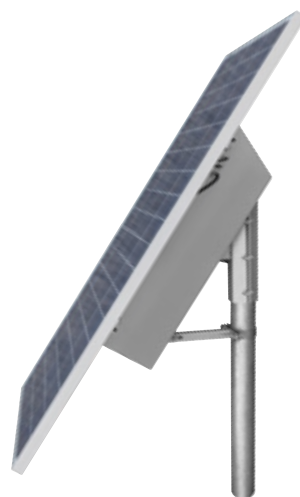
Photovoltaic lighting



With the photovoltaic lighting solutions, it is possible to illuminate places not reached from the power grid, cutting down installation costs avoiding the expensive laying of new power cables.

Our systems use only the highest quality components, oversized to guarantee the best and long term reliability:

- A charging regulator preserves the battery from overcharging and deep discharge conditions.
- Specific AGM batteries for photovoltaic applications.
- Compact PV kits including all the components.
- System sized according to the installation's latitude and lighting power request, offering a working period without sun ranging between 5 and 10 days.



Stratos N

It's our solution for street and parking lighting. Available with all LED R proprietary optics of Stratos N [\[refer to page 20\]](#).



Trilogy Bust

All-around kit designed for bus shelters lighting and also used for small panels, signboards and garden decorative lighting using all Trilogy N proprietary optics [\[refer to page 60\]](#).

Available on demand with oversize photovoltaic kit and USB port to charge mobile smartphones at bus stop.

notes

www.dleds.com

LED LIGHTING

STREET

URBAN

TUNNELS

INDUSTRIAL

CANOPIES



DETAS SpA - Dleds division
Via Treponti, 29
25086 Rezzato (BS) - Italy

Tel. +39 030 2594120
Fax +39 030 2792864
info@dleds.com

ISO 9001 certified company

