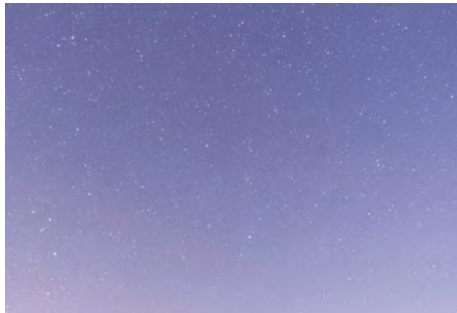


 **abel**

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Creator of light

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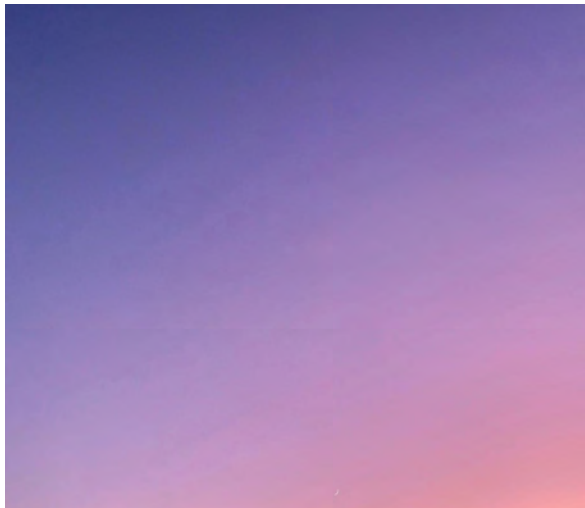
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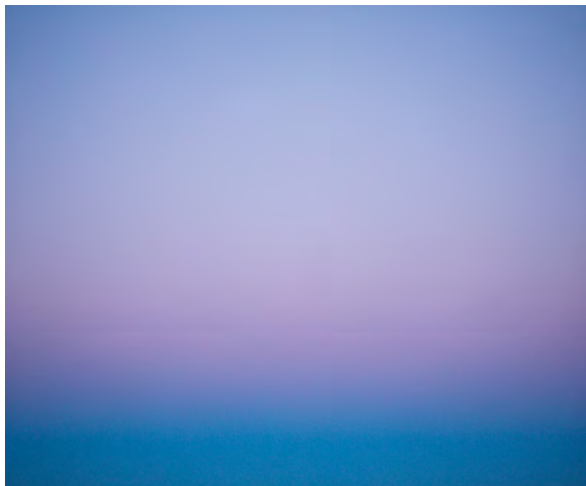
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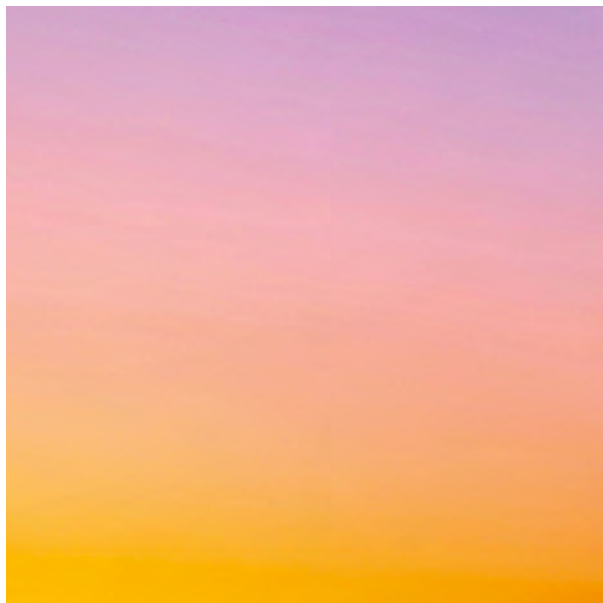
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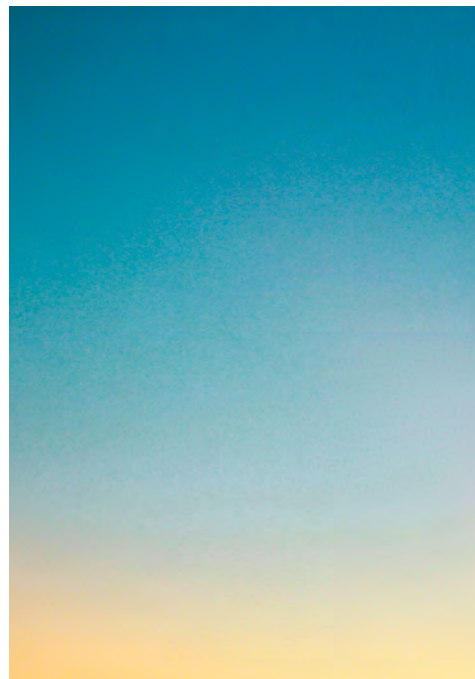
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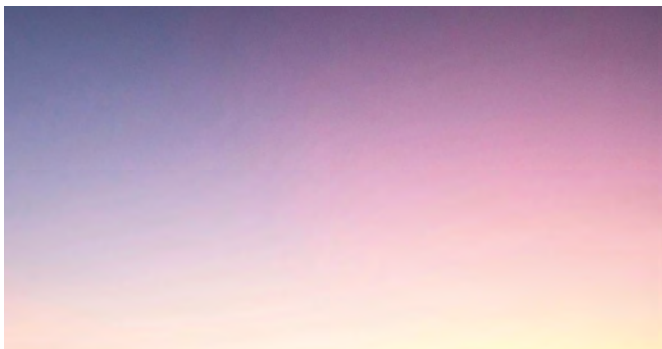
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Can you imagine a city without its lights?
They contribute to its identity, structure its
landscape, animate its spaces and enhance
its heritage.

Essential to public safety, they guide us, let us
find our bearings and reassure us. Lighting must
therefore be in harmony with its environment
and our lifestyles... Lighting to be invented, light
to be created.

Creator of light

abel develops,
manufactures and
markets sustainable,
functional and
customisable lighting
solutions.

French design and
production in our
Brive-la-Gaillarde
workshops.



the birth of abel

1953

a site covering

13 000 m²

10

countries in which
abel operates

15

independent
agencies in France
and French
overseas territories

A key partner

For 70 years, we have supported
local authorities and public lighting
professionals in their quest for
innovating solutions.

We believe in tailored products

Our approach? Personalised design
and tailored support for every project.

Our roots are close to craftsmanship

Our independent family business has
kept its (first) love for a job well done!
As well as a keen eye for detail and a
high capacity to adapt.

Understanding cities to better light them by placing their needs at the heart of the innovation process.

"abel is a human-sized business that can be proud to take part in the refurbishment of assets by fully controlling its production locally. It has always known how to innovate to propose next generation solutions Today, the lighting market has almost 11 million lighting points, over 40% of which were installed over 25 years ago, and almost 70% of which are considered obsolete or not fit for purpose. It's time to speed up the transition to new, more modern and sustainable equipment! "

Sébastien, North Sector Sales Manager

Innovating for cities

Designed to adapt to cities' needs, our solutions combine design, functionality, and sustainability.

The goal ? To make cities city pleasant, comfortable, hospitable... and to support their transition.

Thinking to the future

What are today's stakes and those for the future? Designing solutions that reconcile performance and sobriety, functionality and respect for nature, design and integration.

Our mission

To modernise lighting installations and make them sustainable through innovation; To meet the needs of towns and cities and public lighting players.

Our strengths

The flexibility of our human-scale business; Our proximity to our suppliers and partners; Our trusted relationship with our customers.

For reasoned efficiency

Abel's innovation means efficient lighting and full control of energy and environmental costs.

Committing long-term

This will result in the strong commitments we make and put at the heart of our business model.

Our certifications

ISO 9001, obtained in 1999

We guarantee French manufacturing quality compliant with international and European standards.

ISO 14001, obtained in 2012

By implementing this environmental certification, we commit to an eco-design approach to optimise our product life cycles, and increase product repairability, reuse and recyclability..

Our priority?

To improve public lighting performance to meet the needs of towns and cities while addressing energy and environmental stakes.

The European ErP Directive 2009/125/EC*

When we design our luminaires, we systematically build in environmental considerations: choice of materials, design optimisation, recycling (recyclability rate > 90%), etc.

* ErP : Energy-related Products

"abel spends over 5% of its turnover on R&D to develop current and future lighting solutions.

Our objectives are reflected in our environmental and quality commitments: mastering technology to eco-design our products and guarantee their performance and durability, and favour short supply chains. Choosing abel, means benefiting from its 70 years of experience and being able to count on a manufacturer that is resolutely focused on the future of public lighting"

Project support

Definition of needs, consultancy, planning

Design

Lighting, energy savings, feasibility, solar

3D modeling**Photographic inclusions****Technical support**

On-site and assembly support, quality control, after-sales



Meeting every need

We constantly strive to improve the quality of our services. We believe that is how we can create strong, long-term trusting relationships with our customers.

Our expertise

We have developed our own R&D, Study, Design and Quality departments: an essential in-house organisation to control the creative process on every project from start to finish. So we have to be fully attentive to our customers' wishes!

Abel support

Our love of tailored solutions also applies to our services! Our teams are involved in every stage of a project: landscaping, lighting studies, technical feasibility, quality control, on-site after-sales...

Personalised services

Building one-to-one relationships with our customers is one of our priorities. In France and around the world, our partner agencies guarantee a quality relationship based on trust and proximity.

" Product developments mean constantly questioning our skills, our know-how, our environments, and our work conditions. Manufacturing such technically advanced products is a challenge that we meet by motivating our teams. Our success is measured by our responsiveness and our commitment to customer satisfaction. "

Yorick, Production Director



40 %

savings on consumables thanks to the robotisation of our paint shop while improving workstation ergonomics (exposure to heat and risk of muscular-skeletal disorders)

60 %

of abel's energy needs are provided by solar energy from panels installed on the company's roof



Putting people first

Creation of long-term jobs, supporting associations and non profits, inclusive policies...
As a local player, abel acts responsibly at the service of people.

A true societal commitment

To turn its commitments into acts, abel takes real action alongside local organisations such as the Foire du livre, as an official sponsor. abel also financially supports associations such as Les Fées Corrèze which work to bring a little mirth to nursing home residents and children in hospital.

a sustainable

employment policy

Priority to stable contracts, and creation of a long-term trusting relationship with our employees

Average seniority (permanent contracts) in 2024: 13 years

88 employees in 2024, including 82 on permanent contracts and 10 former interns/ work study program students

Low employee churn rate: < 6% over the last three years

Close collaboration with adapted businesses in our employment area

Number of partner companies: 7

Employment of disabled people (direct employment, subcontracting or service providers)

Our disabled employment rate exceeds our obligations every year

action

at the heart of communities

Deployment of workplace immersion programs for secondary school students to promote the industry and financial support for cultural and social associations

Participation in local sporting events and metallurgy sector juries

Collaboration with organisations working to get people back onto the labour market

Because our employees are our most valuable asset, we act to assure their well-being and development... Essential conditions for company agility and performance

Training

Number of hours of training in 2023
→ 2,128 hours

Every year, we draw up a training plan in line with our teams' needs and the company's growth strategy.

Operator versatility rate in 2024
→ 29 %

We encourage our employees to obtain professional qualifications and promote career development.

Number of in-house promotions over the last 4 years
→ 9 promotions

We are committed to training young people and to getting people back onto the labour market.

People trained in 2023–2024
→ 29 people

Apprentices, school interns and people in retraining programs.

Well-being at work

Leave to take children to school on the first day of the school year is not counted as an absence
We have working hours that let employees have time for their lives outside work.

We have interviews with our employees to prepare for their return from family leave and work on their career plans.

Teleworking and a day's paid leave for constraints caused by families that are a long way away
We set up special provisions to make everyday life easier for our employees and their families (teleworking, for example).

Health and safety

We invest in new equipment to limit MSD* risks (robotisation and use of exoskeletons).

25% of the training plan was spent on safety in 2023

We train our staff in ergonomics and occupational risk prevention.

Investments since 2023
→ over 1.7% of turnover

We have redesigned the work and social areas to enhance employee safety and well-being.

* Muscular-skeletal disorders

"Proximity, loyalty, progress... Three words that define our human and social action."

Fanny, Human Ressources



Choosing sustainable solutions

abel is recognised as a reasoned lighting precursor. A reputation in line with its ambition to continue deploying innovating solutions to support the essential transition of towns and cities towards models adapted to the environmental challenges.

Harmonising light and environment

The influence of public lighting on ecosystems is universally accepted.

For us, lighting right also protects biodiversity. A priority action for Abel through innovation.

Lighting to needs

Many species are nocturnal, while others need the dark to be able rest. Today, public lighting adapts to the needs of ecosystems and the species they shelter. The challenge? Protecting biodiversity!

Supporting local authorities

Light pollution has become a crucial issue for nocturnal biodiversity. Town and city halls also have legal obligations regarding the timing and distribution of light*. For these towns and cities, Abel is an invaluable partner in guaranteeing biodiversity-friendly lighting.

Our lighting innovation

Our scalable solutions are designed to respect circadian rhythms (see opposite). They adapt to the needs of users and respect ecosystems. Our innovation creates a nocturnal landscape conducive to interaction between people, flora and fauna.

Towards smart lighting

Lighting depending on the number of people passing or only when necessary, remote control to meet actual needs... Abel innovation also means luminaires connected to each other, sensors and embedded applications for tailored remote lighting management!

* French Order of 27 December 2018 on the fight against light pollution creating a duty for local authorities to adjust the duration, intensity and quality of artificial nocturnal lighting.



The precious circadian rhythm

The biological rhythm of many species is synchronised with the circadian rhythm. It lasts around 24 hours, a full day, alternating between day and night.

This has governed life on earth since the dawn of time. The starry sky, for example, is a vital reference for migratory birds and flying insects. For diurnal birds, amphibians and certain land mammals, the absence of darkness disrupts their breeding cycles, fragments their habitat, and reduces their access to food and their movements...

For people, the succession of day and night also gives the brain information and creates a sort of routine on which our internal clock is based. For example, melatonin (the sleep hormone) is produced at night.

Using dark sky

An area of partial or temporary darkness. Designation of the darkened area of the night sky where artificial light is adjusted.



Our dark sky concept

Privileges contrast and colour transitions: permanent amber with white added on detection (with mandatory DALI and MID sensor).

When there is no human activity, the use of amber lighting contributes to respecting nature and the well-being of the species that live in the area.

Tunable white

The colour temperature is set to adapt the lighting and allow eco-responsible light cycles.



Scalable LED lighting with white dimming

Warm or cool white balances can be used to create lighting moods synchronised with users' lifestyles.



Scalable LED lighting with white-amber transition

Combines functional lighting (white tones) and soft lighting (amber tones). The first favours clarity and safety, while the second adapts to the circadian rhythm (see page opposite).

Dark sky:

the case of the petrels

As part of the Puy des Anglais project in Saint-Philippe on Reunion Island, abel proposed Dark sky to protect the petrel. Thanks to the LED amber colour temperature, the chicks are no longer attracted by the lighting when they first fledge and thereby avoid being exhausted when trying to reach the sea. This endemic bird, in danger of extinction, is thus protected.

"abel worked with its Australian partner to have our range of luminaires approved by the International Dark-Sky Association. Founded by two astronomers, its mission is "to preserve and protect the nocturnal environment and dark sky heritage using quality outdoor lighting".

Obtaining the approval means that our luminaires meet the ADSA (Australian Dark Sky Association) criteria and can be installed knowing that they will not adversely effect nocturnal darkness."

Lighting

For exemplary lighting performance

Our experience and know-how mean we can develop new generations of luminaires with innovating, energy-efficient designs.

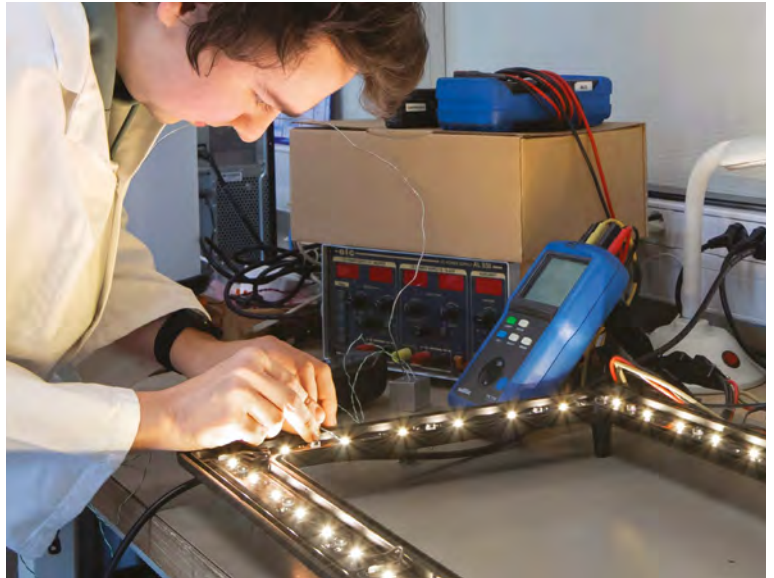
Building in the circular economy

As with all consumer goods, the public lighting lifecycle can be optimised. Putting our products into circular logic is our core environmental approach.

Benefits for users

This circularity is intended to use energy and resources rationally. But that's not all! For users, it means solutions that can be improved or reused, or repaired or recycled easily.

right



The ZHAGA standard

Zhaga is a consortium of almost 200 lighting players. The international standard bearing the same name allows interchangeability between the drivers and LED modules designed by different manufacturers. Abel luminaires are compatible with components compliant with this standard.

the abel

method

Rationalising the flows of goods and transport

Optimising the use of natural resources

Controlling our energy consumption

Reducing and recycling waste

Increasing our teams' skills and assuring a safe working environment

Maintaining a healthy, ethical and long-term relationship with our partners

1

Sustainable sourcing

We carefully select our French and European partners to favour short supply circuits.

2

Eco-designed products

Environmental protection is built into the design of our solutions from the outset.

3

Industrial and regional ecology

We work with local players to pool our resources and participate in setting up product end-of-life management sectors (see p. 22).

4

A function economy

Our products have technical functions to make them easier to manage, maintain and repair.

5

Responsible consumption

We develop lighting solutions that are cost effective and sustainable that can adapt to users' needs and are respectful of biodiversity.

6

Long service life

Our luminaire ranges include high-performance LED modules and optics that comply with the Zhaga standard (see opposite).

7

A managed end-of-life

End-of-life products and components are collected and recovered or recycled. A large part of our waste is thus re-injected into the production cycle as raw materials.

Our circular approach

Think lifecycle

For abel, manufacturing quality means eco-design! Environmental protection is built into the design of all our products.

The goal to minimise their environmental impact throughout their lifecycle, while guaranteeing their performance and quality of use.

"This eco-design approach is totally in line with our sustainable development policy. It has always been a commitment for abel, and is part and parcel of the company culture. The purpose is to guarantee the continuity and growth of our business by putting sustainability at the centre of our strategy.

For abel, this approach means making the most of its human assets, taking into account its socio-economic environment with a strong local presence, and constantly reducing its environmental impact."

Charlotte, Development Director

Our eco-design prerogatives

Our luminaires meet precise criteria (specifications) including: a recyclability rate of at least 90%, optimised design, the use of recyclable materials, and components chosen in compliance with European standards and regulations*.

Design and energy performance

Our solutions meet all photometric and environmental requirements. Their specificities? Adjustable, cost effective LED light sources, optics defined according to the area to be lit, and easy maintenance thanks to compliance with the Zhaga standard.

Packaging and transport

Our cardboard packaging is designed to the size of the product, to the right dimensions. A formula to optimise the number of parts per pallet and limit the need to add chocking. The goal To reduce our waste and transport-related carbon footprint.

Our tools

Lifecycle Analyses are carried out to identify areas for improvement and implement action plans. For each luminaire, we also publish a PEP (Product Environmental Profile) detailing its environmental impact.

* European WEEE Directive for the selective collection, reuse, recycling and recovery of electric and electronic equipment waste. European RoHS Directive (Restriction of Hazardous Substances) to limit the use of hazardous substances in electric and electronic equipment

**EcoVadis
Silver Medal**

Definition of needs,
consultancy, planning

12 years

ISO 14001
certification

**Founding member
of Recylum-Ecosystem**

For the recycling of
end-of-life products

94 points/100

On the 2022 gender
equality index

**3 % of
turnover**

Invested in the energy
renovation of our site

800 km

Average distance
travelled by our luminaire
supplies

**85 % of
French
suppliers**

96% European

**abel favours short
supply circuits**

Out of all the components used
in the 6000R luminaire, over 87 % are
sourced from French suppliers of
which over 50 % are in the Corrèze area

from end to end

The "lifecycle" view is
fundamental to eco-design.
And eco-design is a key
component of the circular
economy.

Which is why we design every
stage in the life of our products,
including end-of-life. That means
limiting waste and recycling as
much as possible... In other words:
coming full circle!

What about our other waste?

*With our glassmaker, for example, we have
developed a process to repair screen-printed glass.
With Agri Compost Environnement, our transport
pallets are recycled to repair or produce wood
mulch. We also recover our suppliers' packing boxes
for our own shipments.*

All partnerships and actions to limit our waste.

ECOSYSTEM

abel is a founding member of this eco-organisation
for the collection, decontamination and recycling of
lighting at the end of its life. And yes, over 80% of the
weight of lighting equipment can be recycled!

> ecosystem.eco

What does that mean in practical terms?

Aluminium, steel and stainless steel are remelted,
while glass and plastics are recycled. And they can all
be reused as raw materials! The small components
are processed for energy recovery. And the wires,
connectors, power supplies and LED modules are
crushed and re-injected into their own channels.

Public lighting accounts for an average of 40% of local authorities' electricity bills*, at a time when they are facing up to the energy transition challenge. To achieve the transition, many local authorities rely on technology. On the path to smart cities!

* Source: ADEME (French Environment and Energy Management Agency)

Smart city player

Smart management deployment



Smart lighting

By equipping them with technology such as communication nodes, cameras and sensors, luminaires become «smart». They can now adapt to the context! Smart lighting automatically adjusts its intensity depending on a range of variables such as the number of people passing through the area and the ambient light levels.

Remote management

The principle? To monitor and control the entire lighting network remotely from a software platform. The benefits? Data feedback! Using it, you can monitor the power consumption of each lighting point in real time or be notified of faults with the exact location of the luminaire..

What are the benefits

of connected solutions?

Remote programming and viewing

Integration into smart city and data collection

Knowledge of failures, and optimised maintenance

Protected biodiversity

Reduced costs and electricity consumption (up to 70%)

Precise lighting control and lighting time optimisation

Light when lighting is needed

Why light when no one is there?

A motion detection system switches on the lighting or adjusts its power depending on the activity in the location.

What if luminaires could also be switched on to follow the movement of a person or a vehicle?

That is now possible by connecting them together to create a light wave! Smart lighting is lighting that adapts to users, to their presence, to their needs and to their movements.

Optimised maintenance

Remote management allows for more anticipation and responsiveness in terms of maintenance. That also means lower maintenance costs (up to 40%), better quality of service for users, and longer luminaire service life!

Beyond lighting

Smart lighting is a vector for new uses and services. By collecting miscellaneous data (traffic, weather, pollution, etc.), it can contribute to other public policies covering safety, ecology, mobility and town planning. A multi-faceted asset for towns and cities!

“Electronics have made it possible to make lighting increasingly efficient, less energy-consuming and increasingly smart. Abel is one of a number of pioneering companies that propose innovating solutions designed to provide the best possible lighting while saving energy without having to switch off the networks.

A step forward was made with the addition of communication modules to connect the luminaires and their peripherals with the possibility of ‘connecting’ them to a server or cloud for remote management or monitoring. New applications such as dynamic light waves are also emerging.”

To get the right amount of light to the right place at the right time, each luminaire needs to be controlled separately. And it's all possible with light point management!

Combine efficiency and connectivity

" Smart public lighting, as designed by abel, answers local planning by digitising lighting controls and promoting tailored precision operation. 62% of the French population believe that street lighting quality is a sign of the local authority's dynamism.

With LED innovation, our luminaire ranges combine efficiency and connectivity, embedding smart applications that structure and dynamise towns and cities."

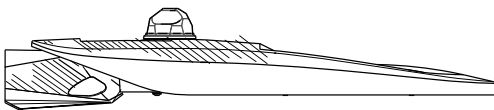
Juliette, South Sector Sales Manager



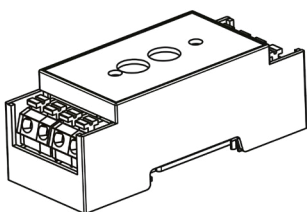
Our solutions give control of the installation and provide direct leverage on energy savings.

Helping towns and cities to be smart

In addition to the Zhaga standard for equipment interchangeability, there is the DALI standard for the interoperability of lighting systems. It guarantees that devices from different manufacturers work together and are compatible. There is also the TALQ protocol for software interfaces used to control, command and monitor smart city equipment, in particular lighting controllers. Every management software becomes compatible if it has TALQ!



Communication node



MID

Rational use of light

A network of light points means better service and a greater sense of safety for users! The mere presence of a pedestrian, cyclist or vehicle triggers the switch from standby to active mode. Custom programming, controllable remotely, luminaire by luminaire.

Remote control communication node

Our communication node solution makes it possible for groups of luminaires to be controlled, a lighting schedule to be programmed, and its intensity to be varied, depending on needs and zones.

But that's not all! It also makes maintenance easier and saves energy: real-time monitoring of the state of installations and breakdowns, troubleshooting, consumption feedback, etc.

Our RSM* management module

Using it, lighting becomes adaptable to demand! Placed at the foot of the pole, it centralises light point and festoon controls. The lighting can be adjusted at all times: dimming, definition of lighting times, motion detection, constant flux, etc.

* Remote smart module

"The design approach for accessories such as communication nodes involves studying a shape that serves both the integration of electronic engineering and the need to be positioned at the top of the luminaire. With that in mind, ergonomic shapes are preferred."

The antenna module has facets to minimise its size and is shaped like a geodesic dome to fit the luminaire without altering its appearance."

Innovate and refurbish

The French State encourages the ecological transition and subsidises refurbishment projects intended to improve energy efficiency. Currently, infrastructure that supports urban services plays a major role in the attractiveness of regions.

For local authorities, sobriety means reducing energy consumption. Modernising public lighting is the quickest and easiest way for them to make the transition. And that's what LED technology is all about! Lower electricity bills, less light pollution, reduced greenhouse gas emissions... But where do these many virtues come from?

Choosing energy efficiency and sustainability

"LED luminaires have become more efficient due to their adapted design. Amongst other things, this has allowed designers to fit them with more advanced features. At the same time, the Zhaga standard provides interoperability between different LED manufacturers, making it easier to build them into luminaires. The performances of LED luminaires are remarkable, and their use benefits both the environment and energy efficiency. Technological progress in LED design and manufacture has also provided more flexibility and adaptability of luminaires in different types of project. "

LED technology, queen of the lights.

Long-lasting effectiveness

LED technology gives luminaires a service life of up to 120,000 hours, which is around 25 years of service! Durability means less maintenance costs. LEDs also have a very high light output: they produce much more light for the same amount of consumed energy.

Fine tuned control and light levels

LED technology and the electronics that support it (radars, sensors, smart management) make it possible to adjust the light flux from each luminaire in real time according to requirements, timetables, locations, etc. For controlled energy consumption! Connected LED lighting saves between 50% and 90% of energy consumption.

Optics and optimisation

The light beam of a LED luminaire is created by the optics located on the diodes. The benefits are twofold: a wide variety of photometrics for any one luminaire; more distance possible between each lighting point... and therefore an optimised number of luminaires!

Integrating environmental issues: a key performance parameter

Because they contain little mercury and generate no UV radiation, LEDs are more environmentally friendly than other light sources. They use less energy and generate fewer emissions while providing an appropriate response to the challenges of biodiversity and dark skies.

How can a LED luminaire deliver significant energy savings compared to a conventional installation while meeting environmental challenges at the same time?

By combining four factors: more efficient and sustainable light sources, easily controllable and scalable luminaires, more efficient optics and an eco-design approach.



Invest in modern lighting



All artificial light burns up energy and impacts ecosystems. But thanks to the eco-design approach it implies, LED technology can be a major asset in reducing energy requirements and light pollution... provided it is used properly. A quick look at the criteria to use for high-performance modern lighting.

for modern

high-performance lighting

Light flow (in lumens)

Amount of light emitted by the light source.

Light efficiency (en lm/W)

Ratio between light flow and electric power used. LED light efficiency can be up to 230 lm/W.

Service life (L80B50)

Phase before the amount of light emitted by the luminaire is insufficient. 50% of LEDs emit less than 80% of their initial luminous flux after 120,000 hours of operation.

Colour temperature (in Kelvins)

Mood lighting qualification LED lighting offers predominantly yellow «warm» colours (2,200 K) and bluish white «cold» colours (4,000 K).

The colour rendering index (CRI)

The capacity of a light source to render the different colours of the visible spectrum of an illuminated object without loss or colouring. For public lighting, the CRI is 70 or 80.

The lighting level (en Lux lm/m²)

Total number of lumens lighting a given area. Public lighting levels vary between 10 and 15 Lux for main roads and 6 to 10 Lux for secondary roads.

"LED luminaires have an advantageous Product Environmental Profile (PEP) because of their energy efficiency and longer service life compared to conventional light sources. They consume less and reduce greenhouse gas emissions

Their energy saving certificates (CEE) contribute to the transition to a more sustainable society by giving users financial incentives. Their repairability index encourages the maintenance and reuse of products. When well designed, LED luminaires have repair options and reduce the amount of waste produced. Thanks to French government subsidies, LED luminaires are affordable and are a responsible choice for asset renovation. "

Jean-Philippe, Technical Director

The three principles of efficient public lighting*

Meeting needs

How lighting is implemented must meet users' visibility and safety requirements (pedestrians, cyclists or drivers), depending on the area in question.

And they can be very different! For example, a public square surrounded by housing, a country lane, or a road with cycle paths, will not need the same lighting levels.

Minimising overall costs

It covers the investment required to install the public lighting system and the operating costs (maintenance and energy consumption).

Reducing the environmental impact

To limit light pollution and avoid wasting energy, lighting should only be directed at the area to be lit. A simple solution is to choose luminaires that emit little or no vertical light.

* European EN 13 201 standard for public lighting performance.

As a mood creator, light can be reinvented to suit different needs. In town and city centres, it enhances architecture and optimises visual comfort. Coupled to the environment, it can be modulated and harmonised through design and innovation.

Luminaires

The shape and light signature of this luminaire is an innovation. It is available in **Ambiance**, **Urbain** and **Trame noire** (Dark sky) versions depending on the lighting application. The tone of the light changes from white to amber, creating a different light effect depending on the need.

In every location, the urban CadreLed gives a unique design touch, making it lighter and more transparent without sacrificing performance.

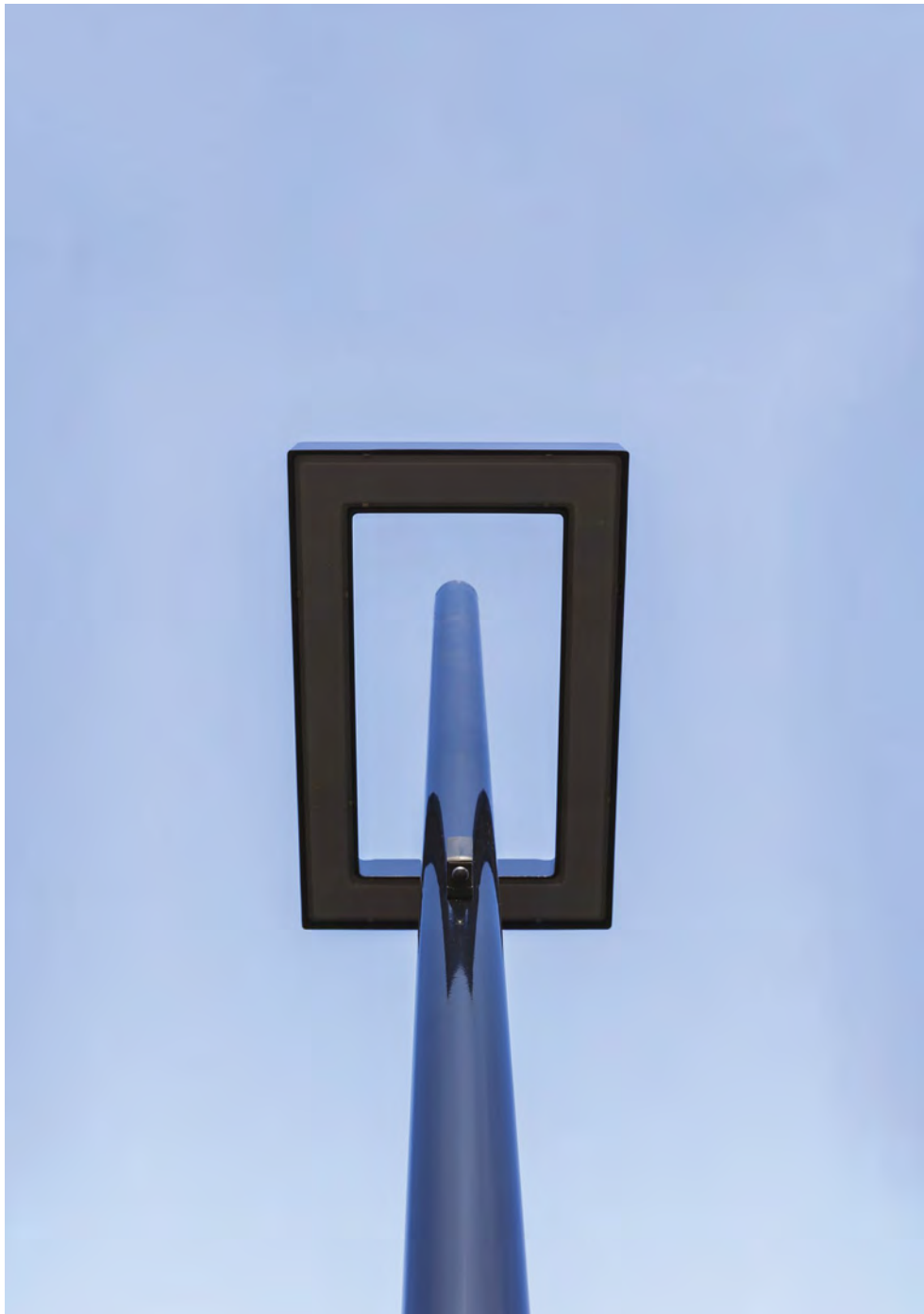
The light pole can be have a lateral or cross fixing.



Cadre

Led

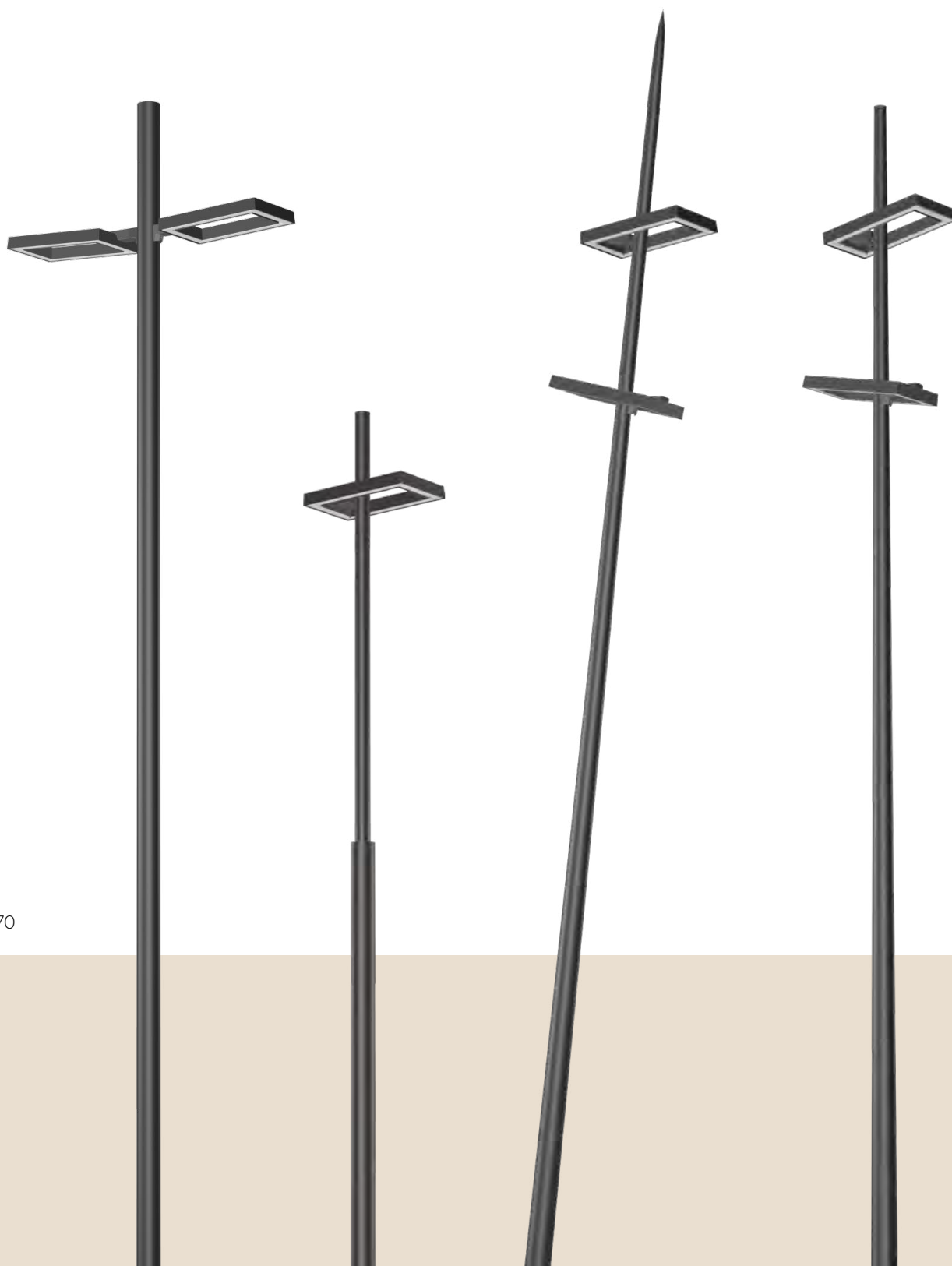




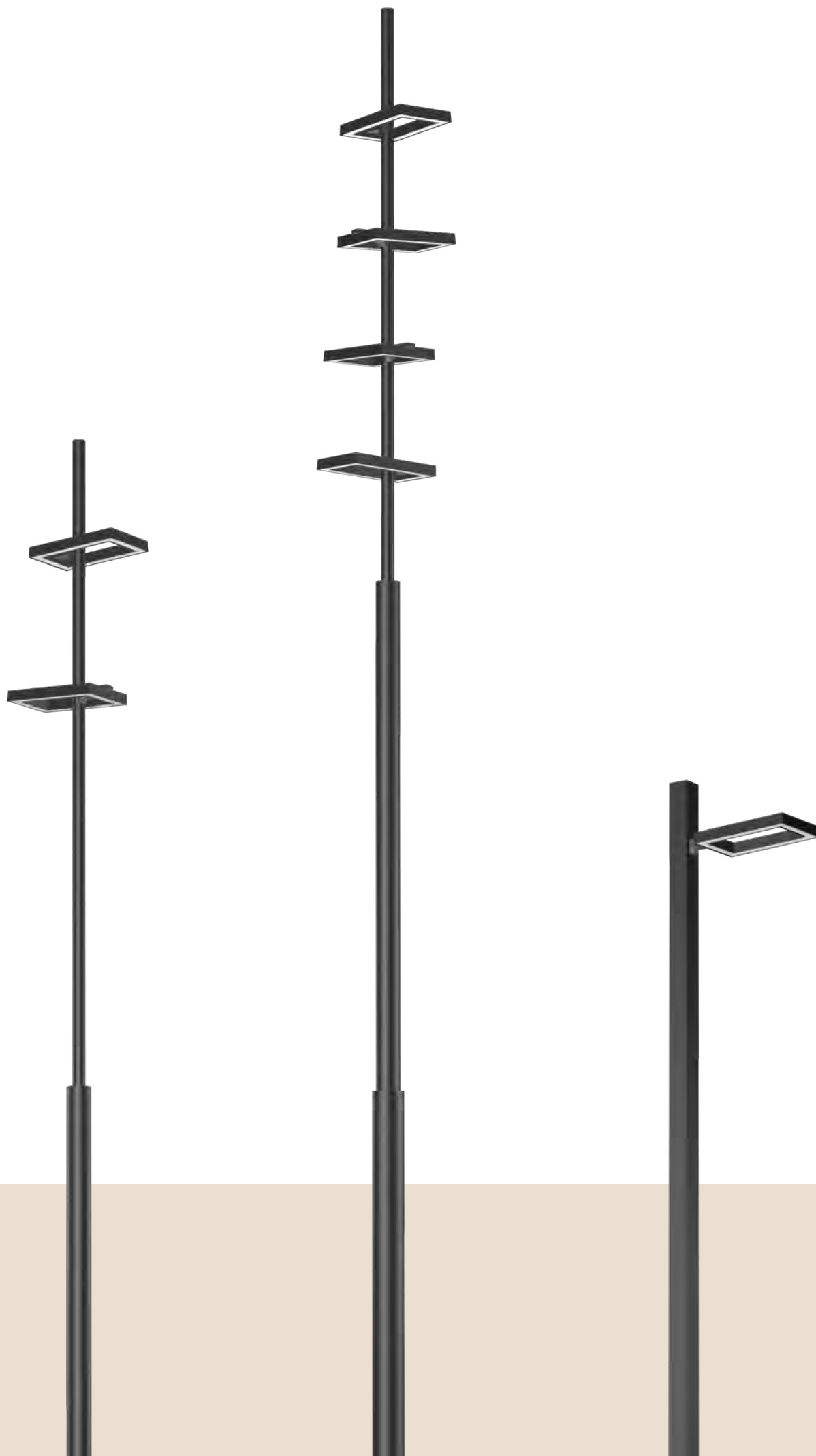


To make the object in its environment seem lighter and more aerial.

To compose original CadreLed assemblies a range of lighting poles is available to specifiers



1m 70





"Lighting design is an exciting speciality that is recognised by urban planning, architecture and town and city professions.

To maintain the balance between nocturnal activities and respect for the environment, we are add Dark sky notions to lighting master plans. Our work is based on defining 'friendly' lighting, understanding the respective roles of lighting and darkness in towns and cities, and weaving light and shade together to respect plant and animal species.

The amber and white lighting of the CadreLED Dark Sky concept builds in this need to preserve and adapt darkness to different times of the night and nocturnal activities. It nuances the moods and meets the needs of towns and cities that want to develop living spaces that are adapted to their uses and attentive to biodiversity.

The CadreLed has a sleek design by day and creates patterns of light by night. The hollowed-out shape makes the object lighter. It has a good aerial perception of space because it combines simplicity and lighting control. "

" As development moved forwards, the Montauban technical department asked us to convert the initial product by building the RGBW system into the luminaire. This technology makes it possible to offer shades other than those of traditional lighting. The overall response to the contract includes a lighting plan for the town centre. The idea is to create a path through the town centre to guide pedestrians.

The question was whether we could use the luminaires for this lighting plan? We needed to modify the white LED board and replace it with an RGBW board.

RGBW LEDs have come a long way in the last two years, and thanks to this change we have been able to build in this new RGBW LED board.

With the help of a group of installers, ideas from the town of Montauban, and above all development work in our mechanical and electronic design offices, we were able to fulfil the request and thereby improve our product.

We have now added a facade CadreLed model with its built-in box and the possibility of RGBW lighting to our catalogue. "

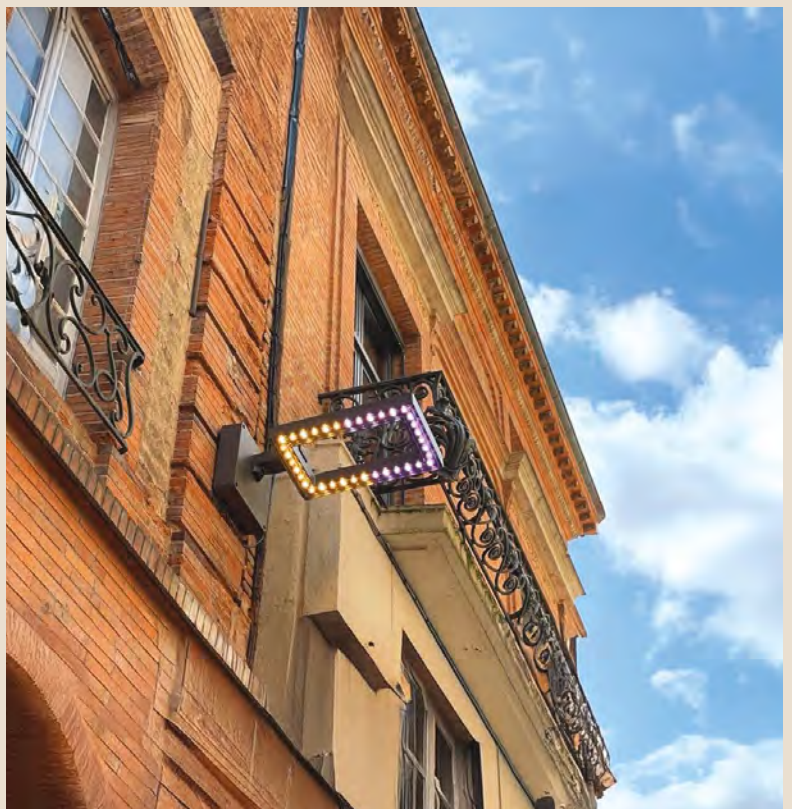
The CadreLed is a specific product designed by our design office alongside lighting designer Roger Narboni. Our luminaire was proposed by a group of installers for the Montauban town centre in response to their energy performance contract.

The town centre is in the final phase of the light replacement contract.

CadreLeds can be used to enhance the architectural heritage by installing them on facades. We received several requests to adapt the product, including the creation of a box linked to the CadreLed to include the lighting management system.

We responded favourably to that request. We designed and manufactured a cast aluminium box that includes both the luminaire control gear and the management module the town selected.

Montauban project



The entire Pacéo
range qualifies for
Tunable white, Dark
sky and RGBW.

Pacéo range

The Pacéo units
compose, harmonise
and complement
each other.



" With the Pacéo range, we meet towns' needs not only with a luminaire but with a lighting range. With its original design, we have studied the development of versions that adapt to top, side and suspended installations. This variety of fixing methods means that the Pacéo luminaire can be reinvented to suit every layout.

Round and flat, the Pacéo design allows for complementary luminaires that differ in terms of mounting and orientation. The challenge is to balance the lines and achieve harmony between the different models. "

Nathan, Product Development Manager

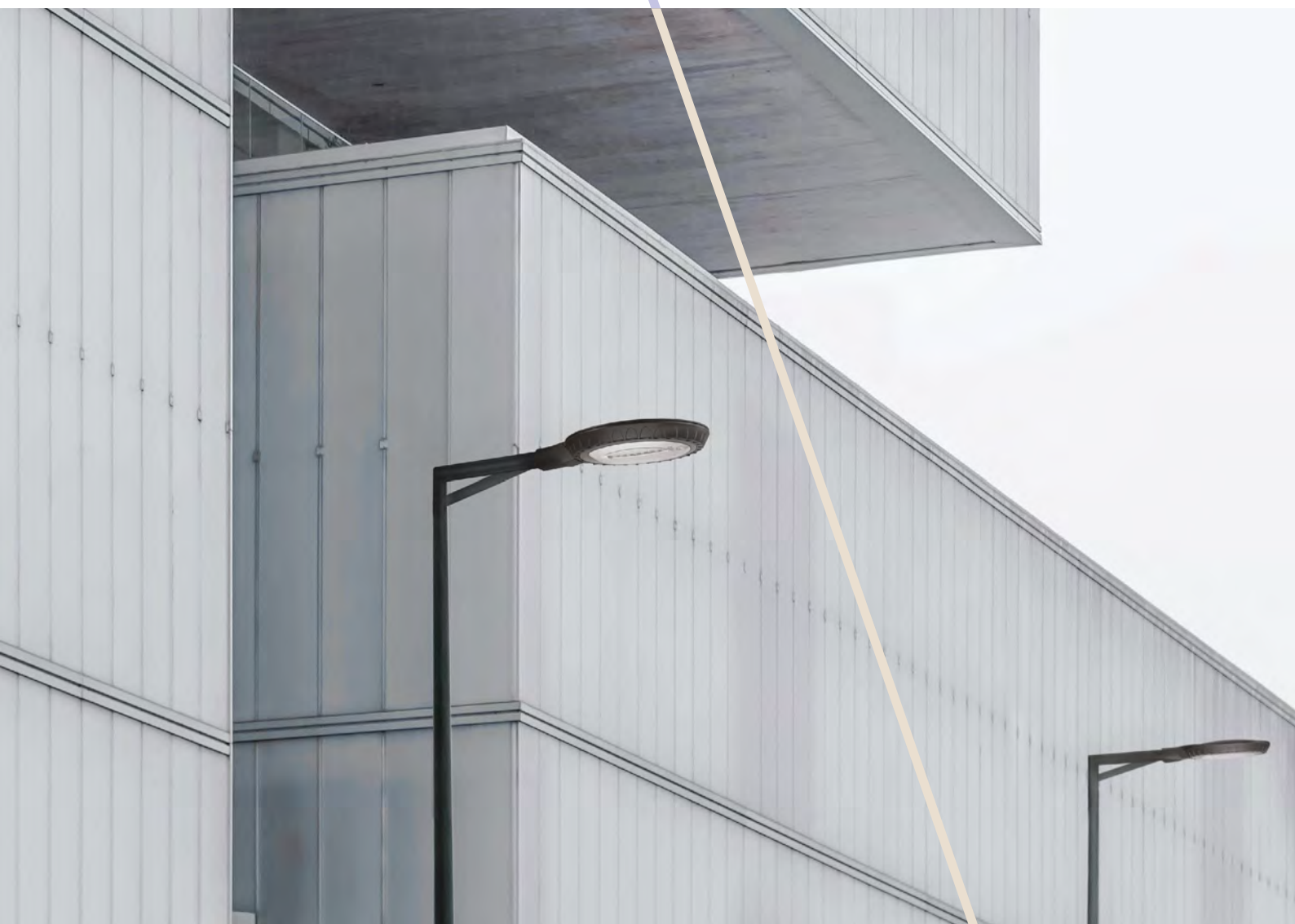
Pacéo duo aligns
with and modernises
living spaces.

Pacéo duo optimises the
lighting and stands out by its
two fixing modes.

51

Mounted directly at the
top of a pole or in line with
a decorative bracket, the
same luminaire can be used
for every lighting scheme.

Pacéo duo







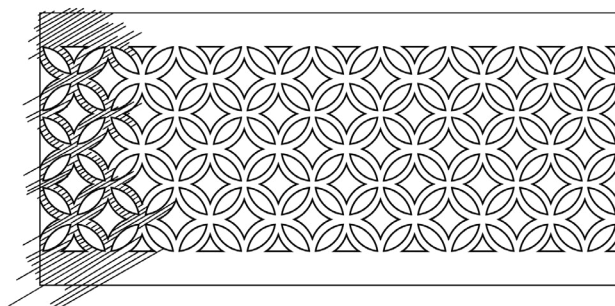




A unique signature emerges from the urban landscape.

Pacéo luminaires can be fitted with a customisable decorative cut-out to add graphics and visual identity.

The cut-out is a design in its own right that diffuses the light through an interplay of light and shadow.



Finish

deco

Customisable

Pacéo



air

Pacéo air creates an aerial line thanks to the purity of its high design.

The luminaire, which features an arm, can be attached to a bracket, making it ideal for use in urban or suburban environments.

This product is also suitable for replacing energy-guzzling luminaires.









Pacéo

top



In urban, residential or landscaped living spaces, Pacéo top meets the balance and timelessness challenge.

The luminaire's centred design creates an elegant, balanced pool of light.

Pacéo top can be mounted on a bracket or directly on the pole head. The luminaire's head position creates a fluid, rational beam of light.

The light distribution can be adjusted laterally as required.







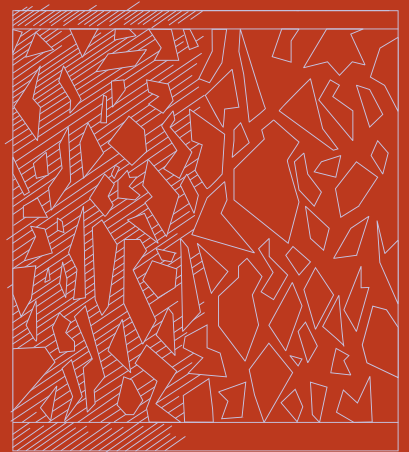




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deco

Customisable

Finition



Power and light are controlled. The 6000-R delivers uncompromising efficiency in line with its design.

Sized to renew the urban experience, the 6000-R creates a singular and original silhouette, offering the city remarkable street furniture in terms of both its appearance and its lighting.

To create complete, attractive lighting assemblies, a range of specific brackets in customisable materials is available to complement the luminaires. These assemblies are available in single-light, double-light, wall-mounted and offset versions.

The 6000-R has a host of options: Zhaga module bases, variable LED colour temperature, Dark sky, motion sensor, GPS, etc.

6000-R

Fitted with the most effective performance source possible, it combines style and service.





The Zone d'Activité de la Plane project is located in Bressols in France, a town with which abel has worked for several years.

The sleek lines of the 6000-R luminaire are ideal for installations in both town centres and suburban areas.

The project was set up by a design office, but the local authority wanted the prescribed abel equipment because it will be in charge of managing the lighting at the end of the project.

La Plane project



"The design office recommended the 6000-R luminaire with amber LED lighting for ecological and environmentally-friendly reasons. Following several meetings with the installer, we carried out an in-house photometric study to ensure that our requirements were as accurate as possible. This led us to recommend 21 6000-R 72W amber LED luminaires with functional asymmetric optics.

It was the first full amber installation by abel. Amber lighting is warm lighting with no blue light which protects the development of biodiversity"

Juliette, Cheffe des ventes Secteur Sud











Dare colours

RGBW... Red, Green, Blue and White. Four colours, an infinite range of possibilities, complete customisation. With RGBW lighting, towns and cities can embrace the rhythm of a world in perpetual motion, combining flexibility, aesthetics and safety.

The RGBW function enhances the customisable cut-outs of our columns. It can be adapted to our entire range of luminaires.

Unlimited creativity

RGBW technology offers a rich range of colours that can be used to create a wide range of colour moods and unique lighting signatures. Innovating lighting that reflects the city's dynamism!

Controlled lighting

RGBW lighting also comes with options for more customisation: programming, cycle definition, motion sensors, etc. Smart systems guarantee dynamic and responsible lighting management (energy savings, real-time adaptation to user needs).



Cities becomes a living canvas

A trio of blue, white and red to symbolise France? A touch of fuchsia for Pink October? A subdued atmosphere for moments of tranquillity? RGBW technology delivers every nuance of colour, from the softest to the brightest. That guarantees the safety of users, while creating a play of light that enhances our urban spaces, whatever the occasion.



The light is set off with style in functional and aesthetic street furniture, creating personalised urban signatures. Linear and sleek, the columns sketch out elegant, contrasting designs and contours.

Columns

Urban décor, sculptural creation or streamlined light – these are the hallmarks of the Quadro column. Lighting or directing, they light or contrast in a refined way.

The interior LED lighting highlights the chiselled lines of the cut out pattern. Quadricurve in shape, Quadro is a bold, sober and stylish statement.

Quadro





1 m 70









A truly original creation, this luminaire has a host of possibilities: Zhaga connectivity, remote management, WiFi access point, charging point, video cameras, marking, loudspeakers, etc.

The Absolut range has two types of lighting: mood or directional. The first, with its circular LED module, provides uniform space lighting.

The second, which lends itself to playing with light and shade, strictly complies with the constraints applicable to the flow coming out of the luminaire.

This lighting option creates a light distribution without haloes or pollution for optimum environmental protection.

Absolut

The art of combining design,
innovation, creativity
and multi-functionality



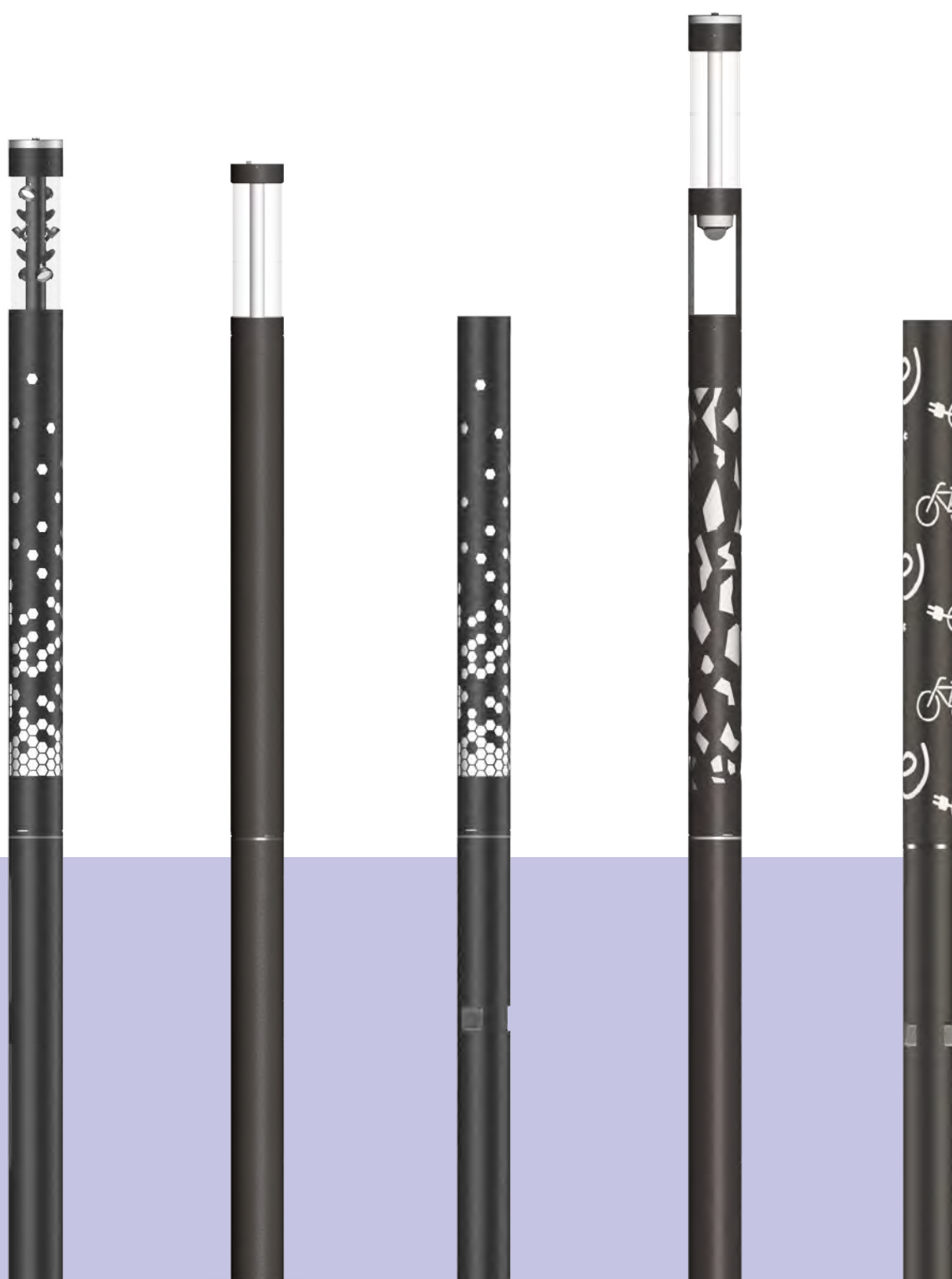


Aligning design and creativity on functionality, and offering a range of possibilities.

Adapted to the needs of urban life, Absolut comes in a range of multifunctional columns that combine lighting, services and customisation.

1 m 70









Suresnes chose our
Absolut column to light
the forecourt of its media
library and cinema.

We worked together to
showcase these cultural venues
by personalising the columns
with a pattern based on
the town's coat of arms
and the typography of its logo.

With its different modules,
the Absolut column is the adaptable
product par excellence.

Focus Suresnes



"I had to rework the pattern to make it «cuttable» while retaining the detail and finesse of the design without altering it.

It's a real partnership with the customer when it comes to customisation, but also a challenge, because you have to succeed in bringing out the customer's wishes by being creative and remaining technically viable.

It's the richness of these exchanges that makes each personalised column a unique project "

Aurélie, graphic designer



Absolut, the elegance of a design and customisable lighting column.

In the Absolut Déco line, the mid-column structural module has an openwork Eclats pattern. The module pattern can be redesigned following a study.

The creation of an exclusive design unique to the installation brings style and authenticity. For a signature and optimum contrast, the pattern lights using programmable LED back-lighting.

Design multiple





The special feature of the S-Pass+ system is the blue column lighting which is activated when a pedestrian uses the crossing, and the creation of blue lighting to mark the edges of the pedestrian crossing.

During the day, the S-Pass+ system lighting encourages compliance with the Highway Code: pedestrian priority, adapted speed, safety distance.

S-Pass+ column

S-Pass+ is an illuminated column with curved sides with a prevention message combined with a high-visibility pedestrian LED bollard.













S-Pass is a high-visibility LED bollard that can be installed in urban, suburban or rural areas.

The specificity of the S-Pass bollard is the creation of a blue luminous marking running along the edges of the pedestrian crossing.

The visual marking created on the pedestrian crossing by S-Pass draws the attention of drivers and encourages them to slow down. Pedestrian crossings are safer because they are easier to see.

During the day, the contrasting colours make it easier to identify the street furniture: white head on grey body

S-Pass bollard

Pedestrian crossings are safer because they are easier to see.











Villa Harris

" Once a residence for international meetings, leisure activities and holidays, the Villa Harris has been reinvented as a place of exchange and culture, home to two centuries of Moroccan history of art.

In this lush green setting overlooking the Bay of Malabata to the east of Tangier, over 300 S-Pass illuminated bollards have been installed over an area of almost 9 hectares.

For the light signature, an amber shade was chosen for the bases of the bollards. Arranged in a staggered pattern, the S-Pass bollards mark the pathways of the landscaped park with warm, waving light.

A golden oak look was chosen for the bollard bodies, applied using a sublimation process. This design blends in with the greenery and respects the character of one of the city's best-loved gardens. "

Solar lighting energy has the remarkable ability to allow self-consumption for light points. Creating efficient solutions capable of providing lighting throughout the night using natural, renewable energy is an innovation that is fit for the environmental challenges.

Photolight®

Solar

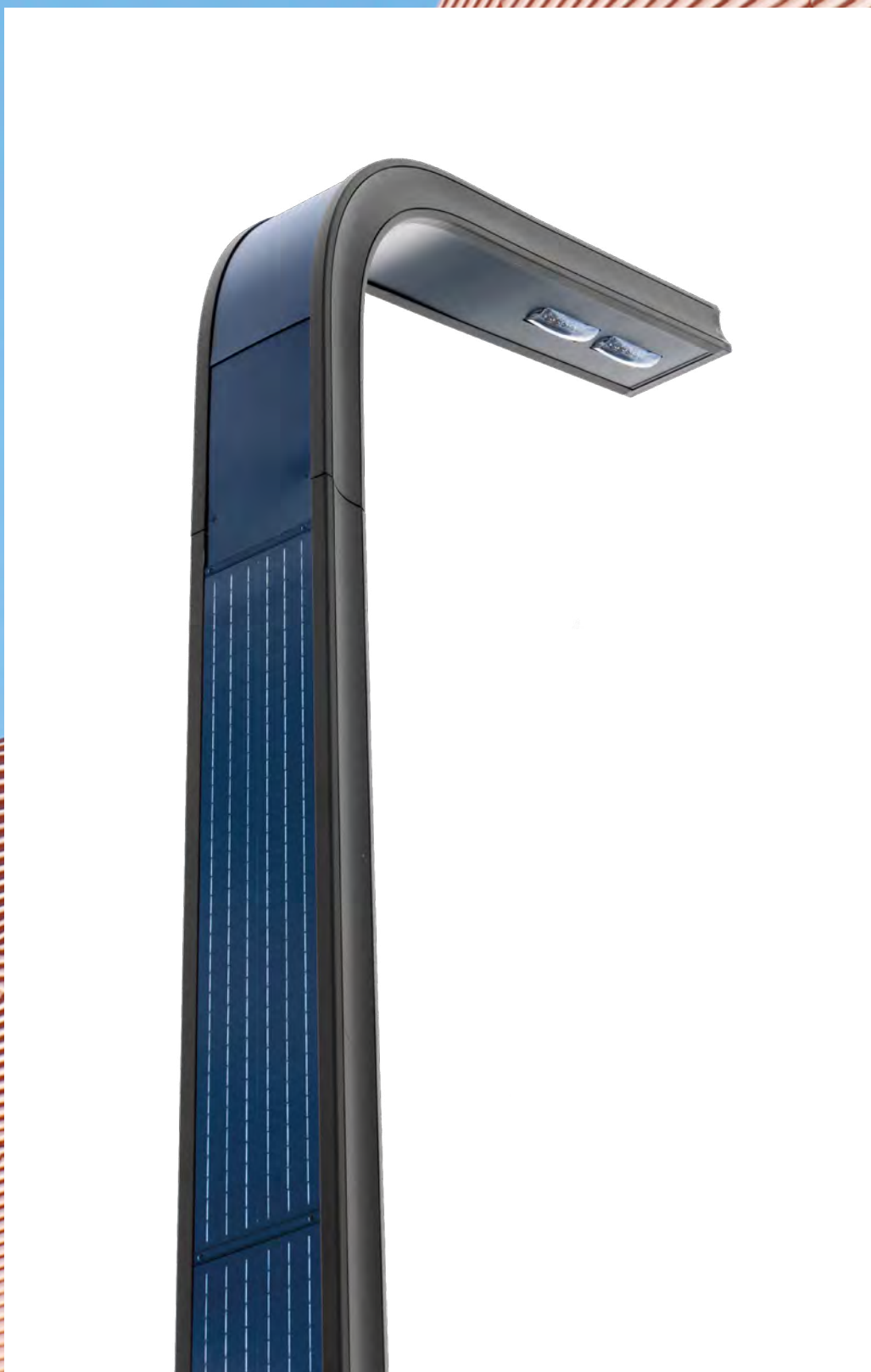
This solar-powered unit provides stand-alone, smart lighting, and stands out by its design. Slim and elongated, it has sober, elegant lines with a modern edge.

Taking advantage of its verticality, the profile has built-in photovoltaic cells on panels arranged on its front and rear faces.

The cells capture solar energy during the day, store it in the batteries and gradually release the energy at night.

Curve







"abel proposes a cost effective and ecological lighting concept based on photovoltaic innovation: the Curve from the Photolight® range.

Curve is best installed on sites with good exposure to sunlight. Which is why the design was chosen for the lighting of prominent addresses, such as the area around the presidential palace in Abu Dhabi.

Curve is the solution of choice for its energy efficiency and refinement. It respects the environment and is equally at home in modern and traditional buildings."

Charlotte, Development Director



Isolis proposes a sustainable, alternative outdoor lighting solution. It provides comfort and safety at night while preserving resources.

Isolis can be installed on sites with sufficient exposure to sunlight to optimise the lighting scenario (determination of sunshine hours, autonomy, power variation, motion sensor, etc.).

The range offers the possibility of creating five different solar units based on the same pole combined with a luminaire of your choice.

Depending on where it is installed, Isolix can be tilted at a standard angle of 20°. The 360° panel rotation is independent of the luminaire.

Isolis

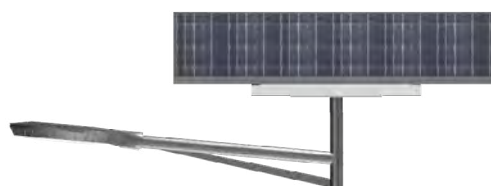
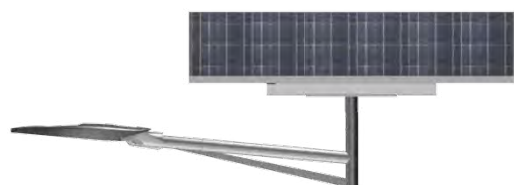
The successful formula for an easy-to-operate solar unit.



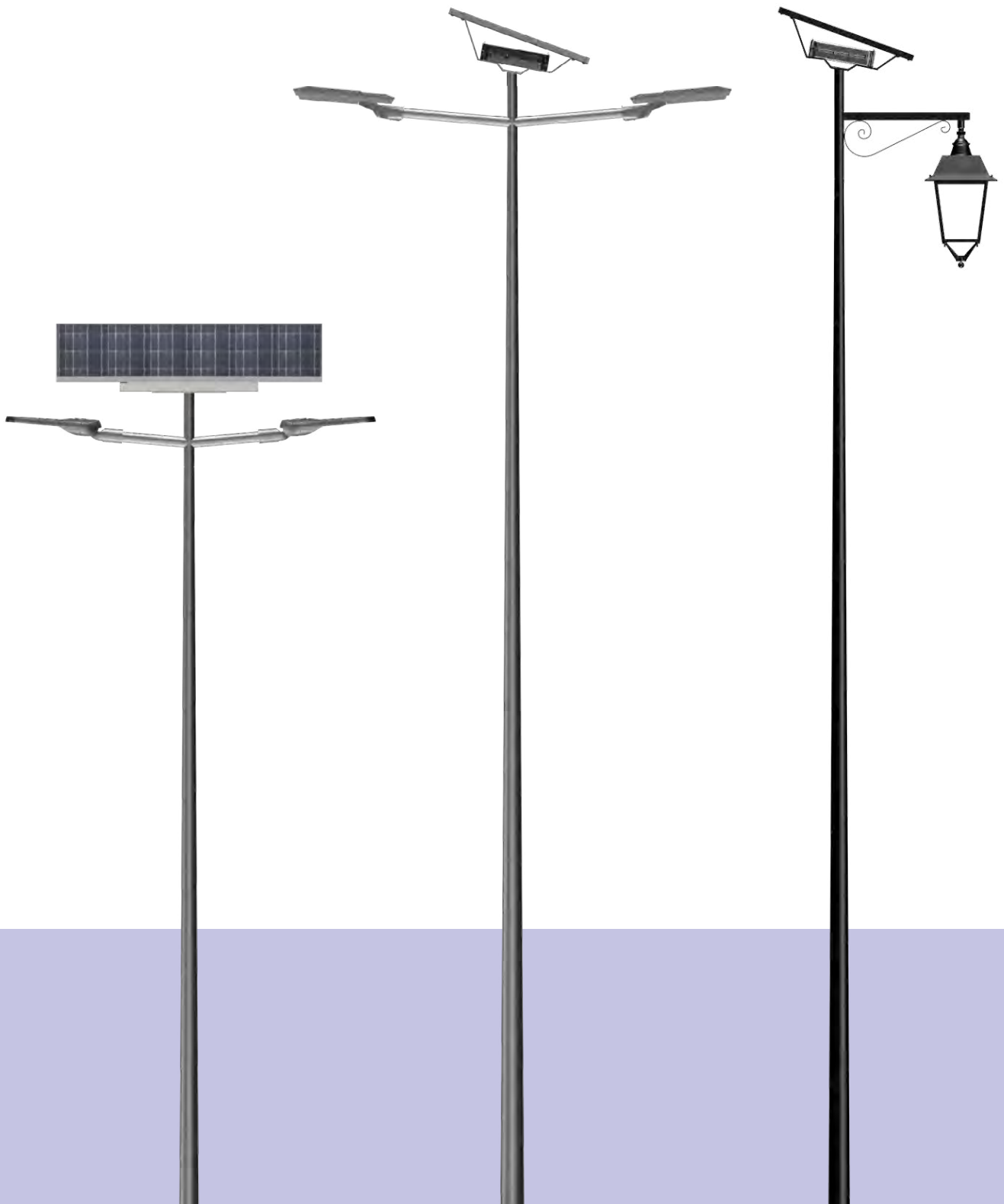


**Isolis 3 was designed
to meet a wide range
of uses and needs.**

Placed above the luminaire,
the solar panel can be
rotated through 360° to
capture and convert the
sun's energy.



1 m 70







Taking advantage of its verticality, the profile has built-in photovoltaic cells on panels arranged on its front and rear faces.

The Straight range gives the possibility of creating different lighting units based on the Straight pole combined with a luminaire positioned laterally at the top of the pole.

The Straight pole can be fitted with photovoltaic panels for solar power or with panels painted in the RAL colour of your choice for standard power supply.

Straight

This solar-unit provides autonomous, smart lighting, and stands out by its design. Slim and elongated, it has sober, elegant lines with a modern edge.







**The Straight design
makes it possible to create
original solar units.**



The luminaire is mounted
on the side of the solar pole,
so that the lighting is points
directly onto the ground.

The solar pole supplies power
to the luminaire positioned
laterally at its summit.



With Smartlum Dialog, Photolight® products can easily be programmed from smartphones, tablets or computers without the need for a specific application.

Smartlum Dialog allows connectivity between light points. Lighting data is configured using local WiFi by accessing a Photolight® web server.

From one luminaire, all the parameters are sent by radio (Zigbee) to the other luminaires in the same group.

Smartlum

Dialog



Twilight sensor
GPS date and time

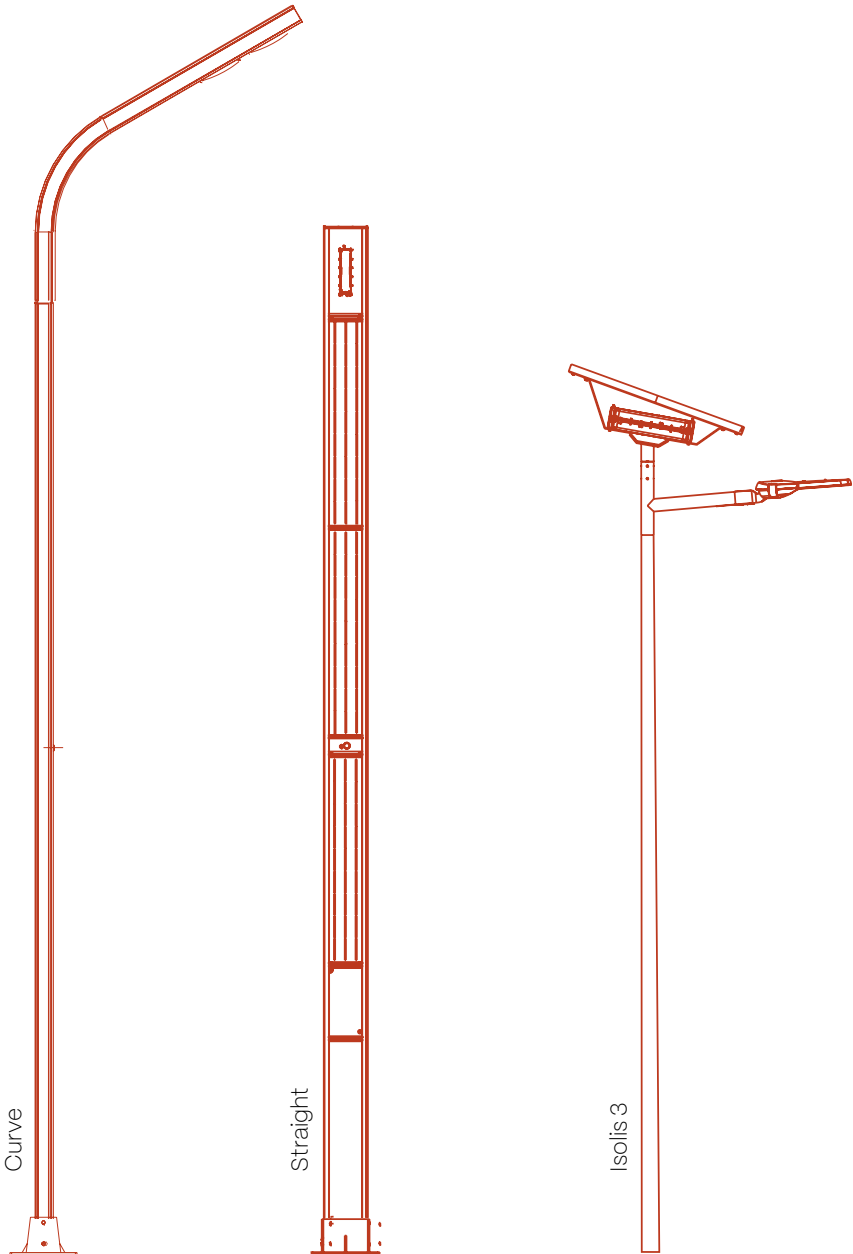
Synchronised
luminaire group on-off
switching

Hybrid mode
for Straight
and Curve

Detect
Detect + lightwave
Detect + group

Stand-alone mode
Smart365 weekday calendar
Mode Weekend calendar
Mode Lights out

Available as an option
on Isolix 3. Included on
Straight and Curve.



Stand-alone operation is possible on suburban sites or areas not on the grid.

By combining an Isolix solar-headed pole near an S-Pass 2 or 4 bollard installation, pedestrian crossings can have stand-alone, durable safety lighting.

Solar power guarantees users the same service and safety levels.

Solar



S-Pass

Pedestrian crossings are safer because they are easier to see.



Notes

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