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STREET LIGHTING

Outdoor spaces.

espica 

Street Lighting

Lighting tools for outdoor
spaces

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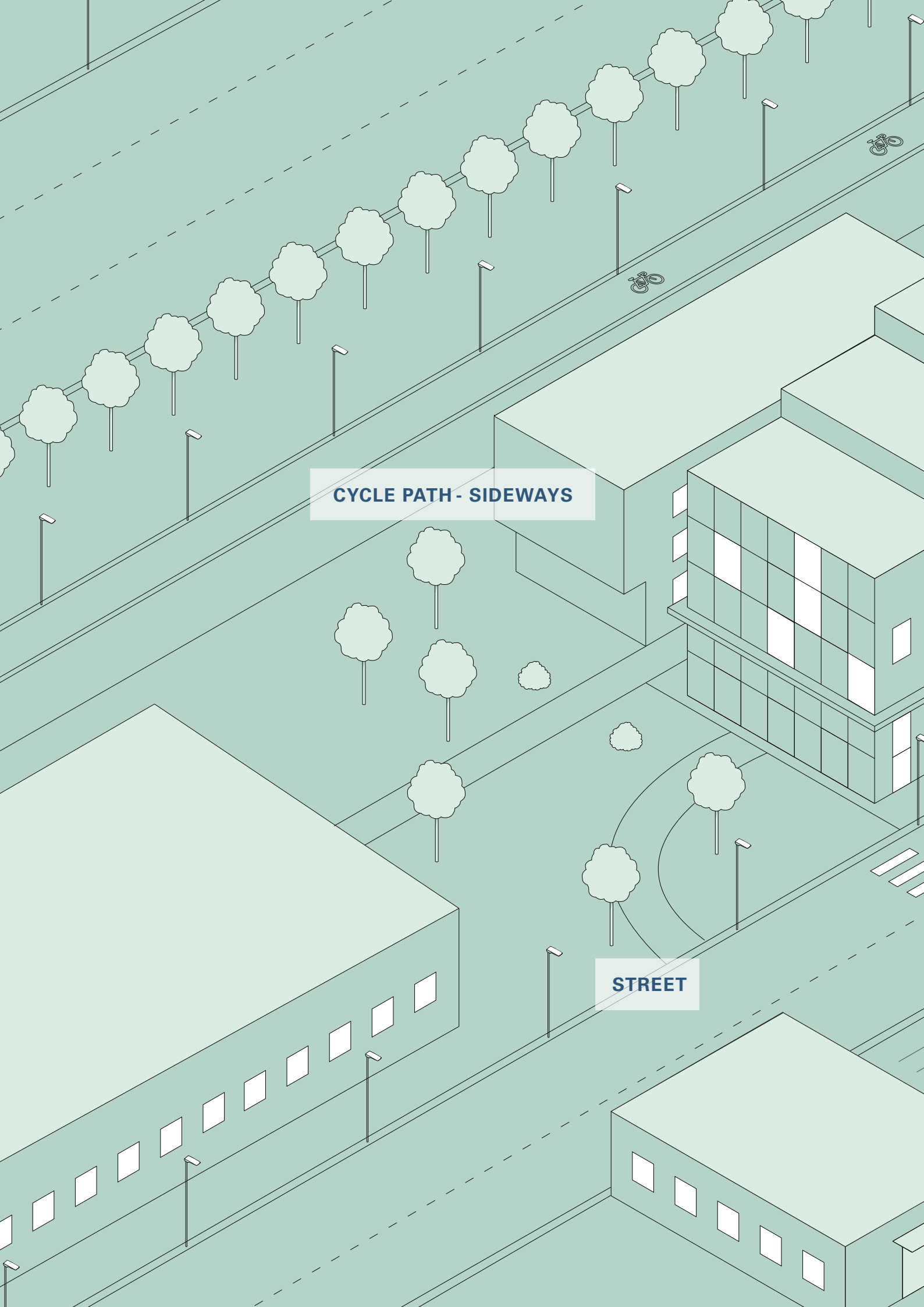


THE STREET LIGHTING OVERVIEW

Espica's speciality is **street lighting**, a crucial element in building safe, livable, and sustainable communities. In an ever-changing world, street lighting is no longer just about visibility: it is an innovation pillar driven by the quest for good, environmentally friendly light.

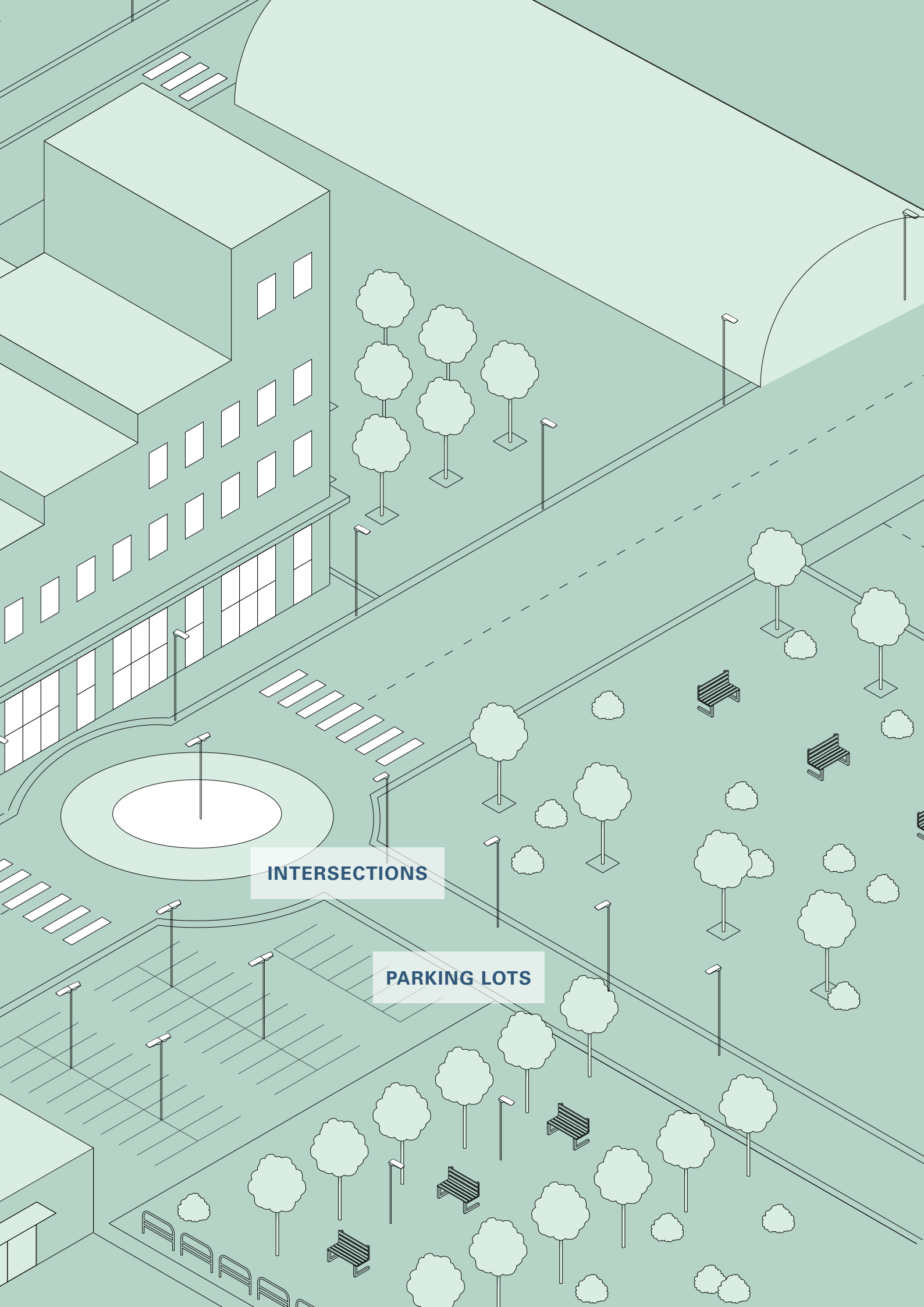
Discover how the latest lighting technologies and solutions, integrated with an ecological vision, are transforming our streets into **efficiently illuminated spaces**, promoting a brighter and more sustainable future for all.





CYCLE PATH - SIDEWAYS

STREET



INTERSECTIONS

PARKING LOTS

Themes

- **Visibility and safety**, the mandatory requirements
- **Smart lighting**, a new era is coming
- **Atmosphere light**, enlightening up an experience
- **Sustainability**, environmentally friendly light





Visibility and safety

Visibility and safety on the roads are top priorities in the realm of street lighting. An effective lighting system not only reduces the risk of **road accidents** but also significantly improves the **quality of life** for individuals and the environment they inhabit. Here's how street lighting contributes to these aspects:

01

Reduction of road accidents:

Properly lit streets provide greater visibility, drastically reducing the number of accidents. Lighting can highlight road signs, pedestrian crossings, and obstacles, creating a safer environment for motorists, cyclists, and pedestrians.

02

Aid in navigation and direction:

Street lighting guides people and vehicles, allowing for smoother and safer navigation, especially in conditions of reduced visibility, such as rain, fog, or darkness. This is crucial for reducing uncertainty and enhancing safety.

03

Sense of security: The presence of public lighting fosters a sense of security among residents and visitors. Well-lit streets promote the perception of a welcoming and peaceful environment, encouraging people to venture out and use the streets safely, even at night.

04

Crime reduction: Street lighting helps deter criminal activities, as well-lit spaces offer fewer hiding places and increase the likelihood of being discovered. This contributes to a reduction in crime and enhances the quality of life in communities.

In summary, street lighting is not just about visibility; it is an **investment in safety, orientation, and quality of life**. Properly illuminated streets are a crucial step toward creating safer, welcoming, and sustainable urban environments.

scenario n°1

100% dark
0 safety



scenario n°2

20% light
minimum safety
street visibility only
suitable for the middle of the
night



scenario n°3

60% light
medium safety
visibility of streets and
surroundings



scenario n°4

100% light
high safety
maximum visibility and
comfort



Smart lighting- IOT

Smart Lighting in street applications is a revolution in efficiency and urban lighting experience. Here's how **intelligently controlled street lighting systems** are transforming our environment:



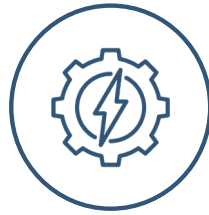
Data Analysis and Alarms: Data collection and analysis by Smart Lighting systems provide valuable insights into resource management, efficiency, and maintenance. Moreover, these systems can generate real-time alarms, enabling an immediate response to critical situations, such as malfunctions or accidents.



Integration with Sensors: Intelligent street lighting systems can interact with a wide range of sensors, such as surveillance cameras, traffic sensors, and weather sensors. This integration allows for the generation of detailed reports on road usage, detection of anomalies, such as accidents or adverse weather conditions, and enhancement of road safety.

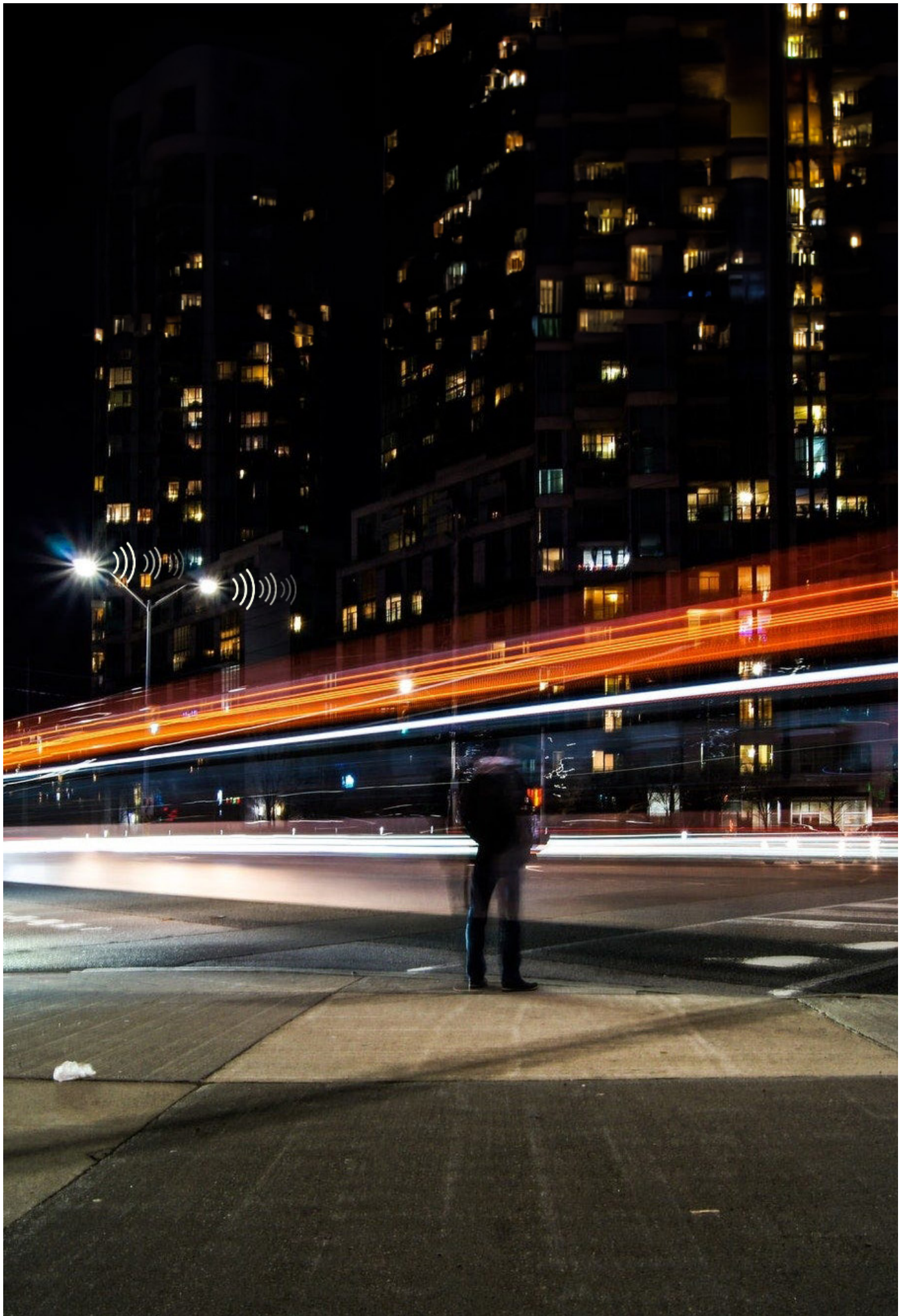


Predefined Scenarios: Smart Lighting allows the creation of predefined lighting scenarios. For example, streets can be brighter during peak hours and dimmer at night, promoting efficient use of lighting and improving the quality of life for citizens.



Energy Savings: Thanks to advanced sensors and control systems, Smart Lighting automatically adjusts the light intensity based on environmental conditions and traffic. This results in a significant reduction in energy consumption, leading to lower operating costs and a lighter environmental footprint.

Smart Lighting in street applications is not just about advanced lighting but a comprehensive strategy to optimize resource use, enhance safety, and ensure a better quality of life in modern cities. Its ability to **adapt to real-time needs and provide detailed data paves the way for a smarter and more sustainable future.**



Atmosphere light

Street lighting goes beyond its role as a mere light source. It has the power to shape and create **unique atmospheres** within our cities and streets. Here's how street lighting can influence the surrounding environment:

Welcoming and Inviting Environment: Warm and diffused lighting can transform an ordinary street into a welcoming and inviting space. This atmosphere is particularly valuable in commercial or residential areas, where proper lighting creates a sense of hospitality.

Telling a Story: Street lighting can be creatively designed to tell a story or emphasize a place's culture. The use of colored lights or thematic lighting projects can celebrate local events, cultural traditions, or special occasions.



Aligning with the Circadian Rhythm: Carefully designed lighting can align with the circadian rhythm, positively impacting people's well-being. Variation in light intensity and color temperature can help regulate our biological clock and improve sleep quality.

Flexibility: Modern lighting installations allow for adjustments in intensity, color temperature, and lighting patterns. This flexibility enables the adaptation of street atmospheres to specific needs, such as special events or holidays.

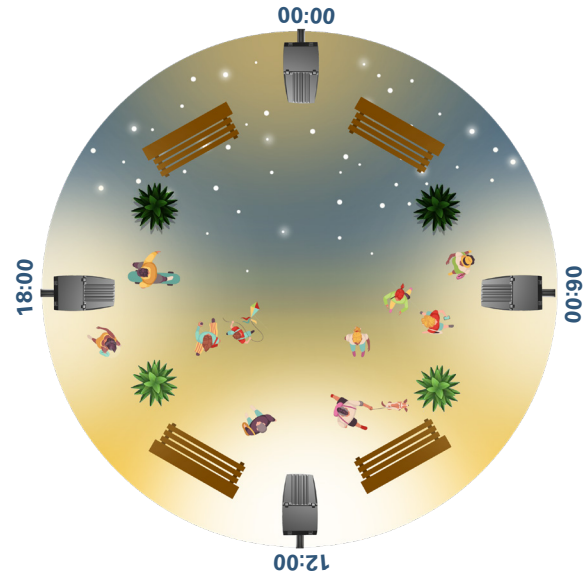
In essence, street lighting is more than a mere functional aspect; it is an art form capable of **transforming public spaces and influencing our mood**. Its versatility and potential to create unique atmospheres make street lighting an essential component in building vibrant and welcoming communities.

Circadian rhythm

Light plays a crucial role in the circadian rhythm: the cycle of light and darkness influences our sleep-wake patterns, hormone production, body temperature, and overall **well-being**.

ACTIVENESS AND AMBIANCE

- 00:00:** night- soft light
- 06:00:** early morning- stimulated atmosphere
- 12:00:** midjourney- support activity
- 18:00:** early evening- stimulated atmosphere

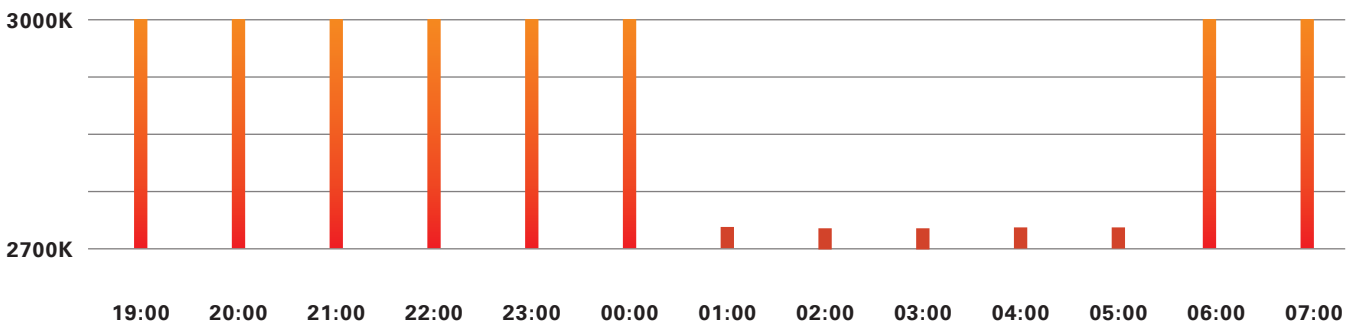


PRESERVATION AND MOBILITY



People detection - 3000K: maximised safety and comfort (high visibility) promotion of active mobility

Nature friendly - 2700K: nature-friendly, minimal safety lighting, nature preservation



Sustainability

Sustainability in street lighting represents a pivotal step towards a more harmonious and environmentally **respectful future**. Here's how the choice of sustainable technologies and practices is transforming our street lighting:

Reduced Light Emissions into the Atmosphere: Traditional street lights can generate a glare that spreads into the atmosphere, disturbing not only astronomical observers but also nocturnal ecosystems. Modern lighting technologies reduce these unwanted light emissions, preserving the night sky and enhancing the quality of the nighttime environment.

Full Cut-Off Technology: The adoption of full cut-off technology lamps marks a breakthrough in reducing light pollution. These lamps are designed to direct light downward, minimizing the dispersion of excess light that contributes to atmospheric pollution.

Respect for Flora and Fauna: Street lighting can have a significant impact on nearby plant and animal life. Accurate light placement, the use of directional lenses, and the adjustment of light intensity can reduce disturbance to nighttime flora and fauna, allowing them to thrive in a less invasive environment.



Sustainability in street lighting isn't just about energy efficiency but also about respecting the surrounding environment. Innovative solutions and advanced technologies enable us to create a **more harmonious urban environment** where street lighting not only guides our way but also contributes to preserving the **beauty of the night** and the **well-being of the surrounding ecosystems**.

This transition to sustainable lighting is a testament to our commitment to a more environmentally respectful future for generations to come.



Wildlife conservation plays a crucial role in the design of street lighting. It is of utmost importance to prioritize the protection of wild animals in urban areas through **responsible illumination planning**.

Street lighting is implemented to enhance visibility and ensure the safety of pedestrians and drivers. However, poorly designed lighting can have negative impacts on wildlife, disrupting their natural patterns and behaviors.

Many animals are **sensitive to light** and rely on natural darkness for hunting, foraging, mating, and migration. Excessive artificial lighting can interfere with these essential activities, leading to population decline and habitat fragmentation.

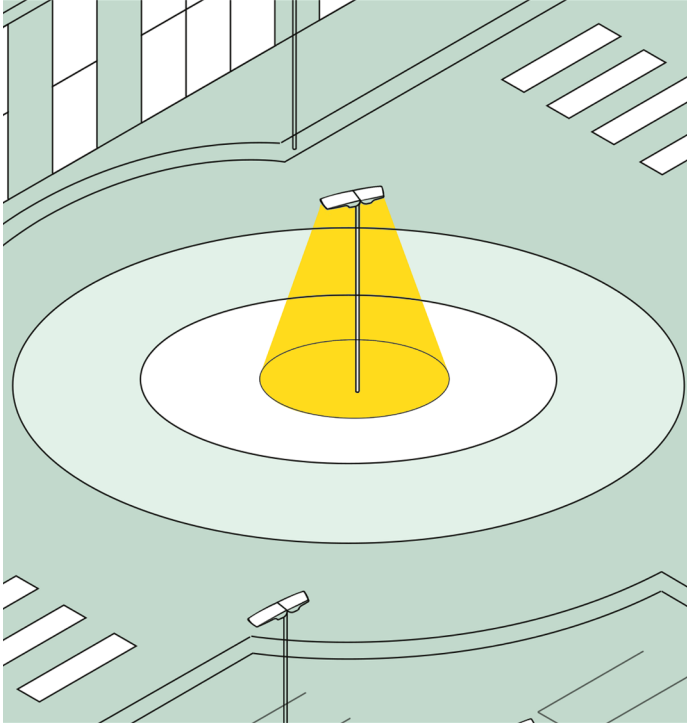
To mitigate these issues, it is essential to consider the needs of wildlife in lighting design. By **minimizing artificial light during certain periods**, we can ensure that nocturnal animals can carry

out their natural activities undisturbed. By incorporating innovative solutions, we can minimize the negative impacts on wildlife while ensuring human safety. Encouraging responsible outdoor lighting practices can make a significant difference in reducing **light pollution and safeguarding wildlife habitats**.

In conclusion, making choices also based on the nature that surrounds us is fundamental for our well-being and that of the **ecosystem**.



Solution 1



Where:

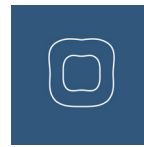
- roadways
- intersections

How to install it:

- provide equal distribution at any position

A circular 360° distribution that has equal light distribution at all positions. This distribution has a circular symmetry of foot candles that is essentially the same at all viewing angles.

Beam:



TYPE V

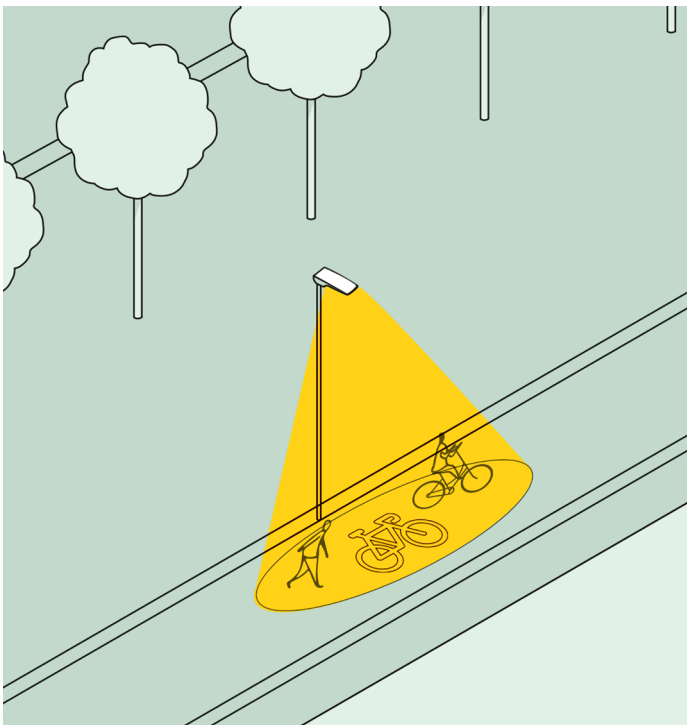


TYPE VS

Type V distribution is great for intersections, where the space is easily reachable with just a circle.

Type VS is used where the light pattern needs a more defined edge.

Solution 2



Where:

- walkways
- paths
- sidewalks

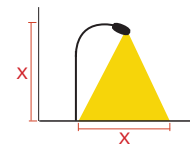
How to install it:

- place the light near the center of the pathway
- mounting height is approximately equal to the roadway width

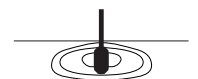
Beam:



TYPE I



mounting height

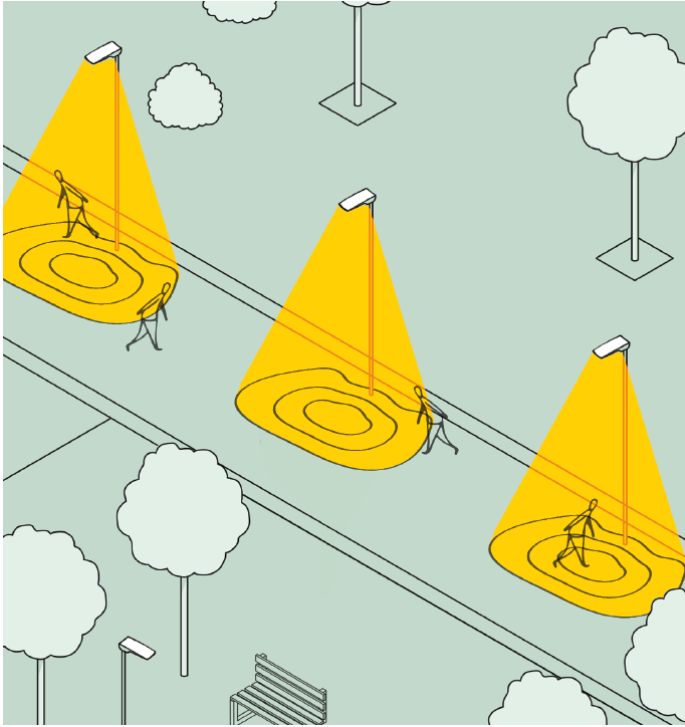


light near the center

This type of lighting is meant to be placed near the center of the pathway. This provides adequate lighting for smaller pathways.

And this type is generally applicable to a luminaire location near the center of a roadway where the mounting height is approximately equal to the roadway width.

Solution 3



Where:

- wider walkways
- ramps
- entrance roadways

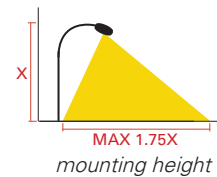
How to install it:

- place near the roadside

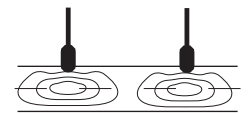
Beam:



TYPE II



mounting height



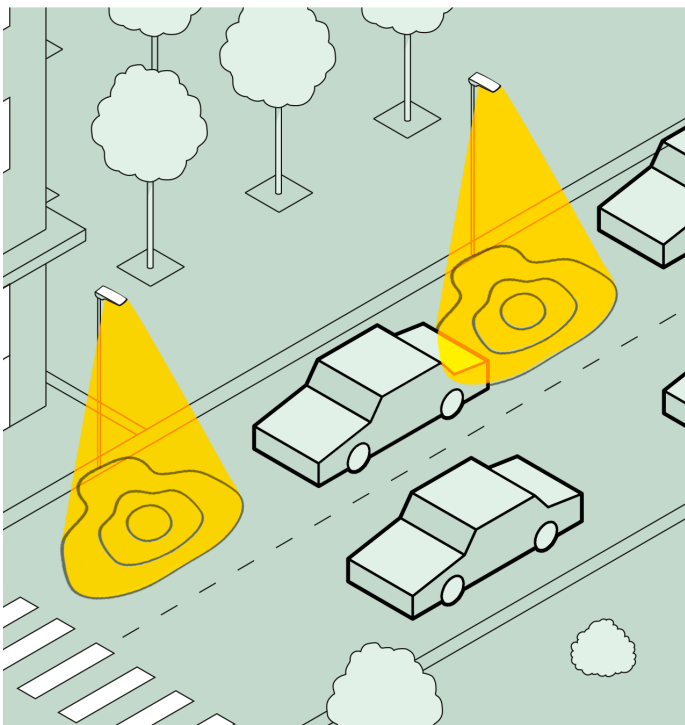
near to the roadside

This type is meant for lighting larger areas and usually is located near the roadside.

Type II light distributions have a preferred lateral width of 25 degrees.

They are generally applicable to luminaires located at or near the side of relatively narrow roadways, where the width of the roadway does not exceed 1.75 times the designed mounting height.

Solution 4



Where:

- general roadways
- parking areas

How to install it:

- place near the roadside

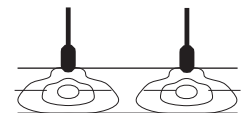
Beam:



TYPE III



mounting height



near to the roadside

This type of lighting needs to be placed to the side of the area, allowing the light to project outward and fill the area.

Type III light distributions have a preferred lateral width of 40 degrees.

This distribution is intended for luminaires mounted at or near the side of medium width roadways or areas, where the width of the roadway or area does not exceed 2.75 times the mounting height.

Solution 5



Where:

- parking areas

How to install it:

- use it when there is no access to install poles on both sides of the space

Beam:



TYPE ASIMMETRIC

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

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