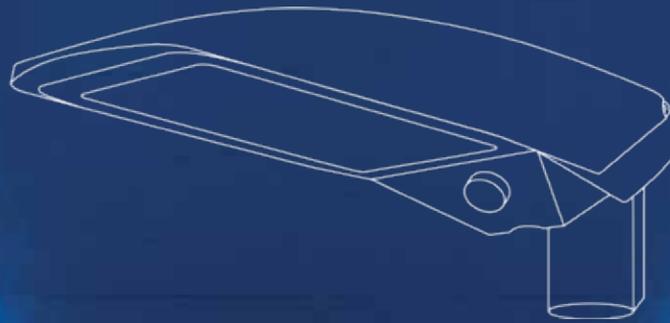


WELCOME TO THE FAMILY



BURAN

БУРАН



member of

FW THORPE PLC

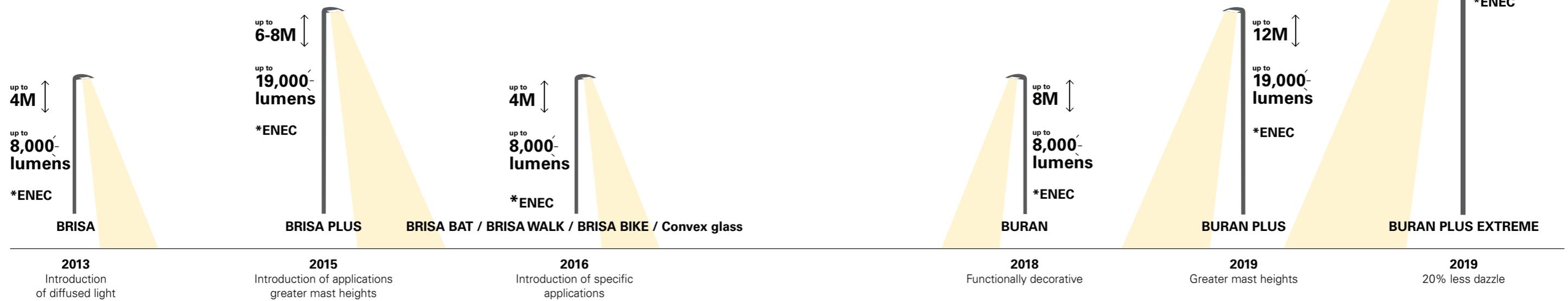
A uniform light profile with the latest energy-efficient lighting technology, reduced light disturbance, an unchanged streetscape and a carbon footprint reduction. These are the five factors which are vitally important in today's public lighting. Lightronics now brings all this together in one series.

# LIGHT EVOLUTION

## 2019



The BRISA series has been expanded with the BURAN. This expansion combines functionality with a decorative character: functional light which is distinctive both day and night. The design translates the wishes of urban planners, municipalities, provinces and central government into public lighting that guarantees low carbon emissions without compromising on comfort and safety. We provide an up-to-date and efficient lighting solution focusing on lighting comfort. The expansion lets you choose between the BRISA, functionally innovative, and the BURAN with a more architectural, rounder form, fitting into any streetscape. New models include the BURAN PLUS EXTREME – for motorways, 20% less dazzling than a similar luminaire. The BURAN, equipped with convex glass, can also be used as an orientation light. The BURAN and BRISA let you achieve the desired streetscape of today and tomorrow.



FUNCTIONAL

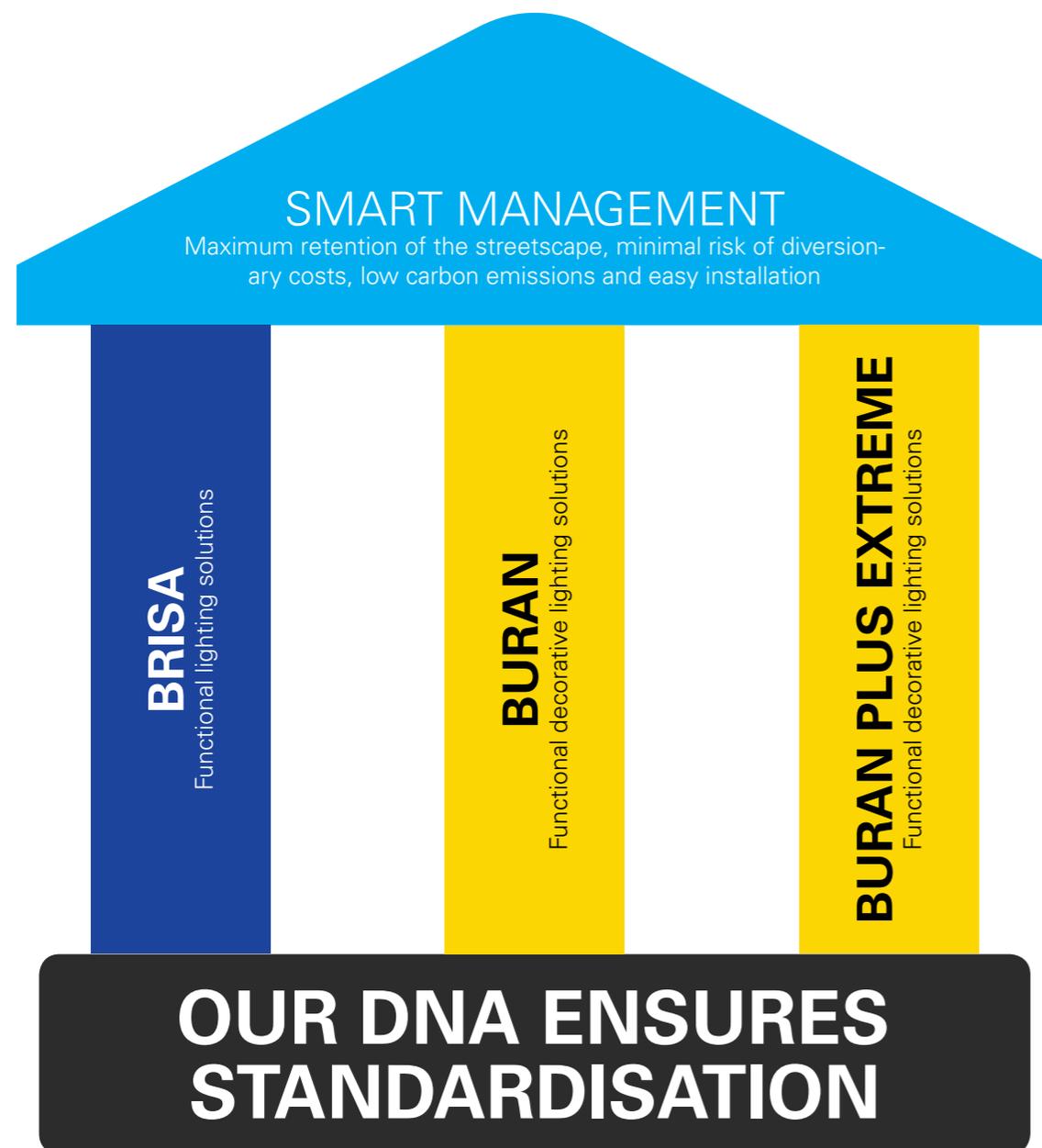
FUNCTIONALLY DECORATIVE

\* Request pending

# DISTINCTIVE DAY AND NIGHT

The BURAN is designed for the future. The BURAN has the characteristics of modern architecture, and is organic while still being highly recognisable through its rounded shapes. That makes the BURAN functional with a decorative design. It's the best of both worlds for districts, towns and cities, but also for the provincial roads and highways of today and tomorrow.





# TOTAL LIGHTING SOLUTION

Both the BRISA and the BURAN enable easier and smarter area management. The BRISA and BRISA PLUS are used as part of functional management and policy, while the BURAN, BURAN PLUS and BURAN PLUS EXTREME are applied in an environment designed to be functionally decorative.

Smart management becomes possible because you can easily standardise with the BRISA and BURAN. You are assured of:

- a luminaire which can be resupplied
- standardisation with light profiles
- standardisation in shape
- conservation of the streetscape
- 20% less light disturbance
- visual guidance capability
- reduction of the carbon footprint

Most importantly, should there be any mishaps or damage, Lightronics holds these luminaires in stock.



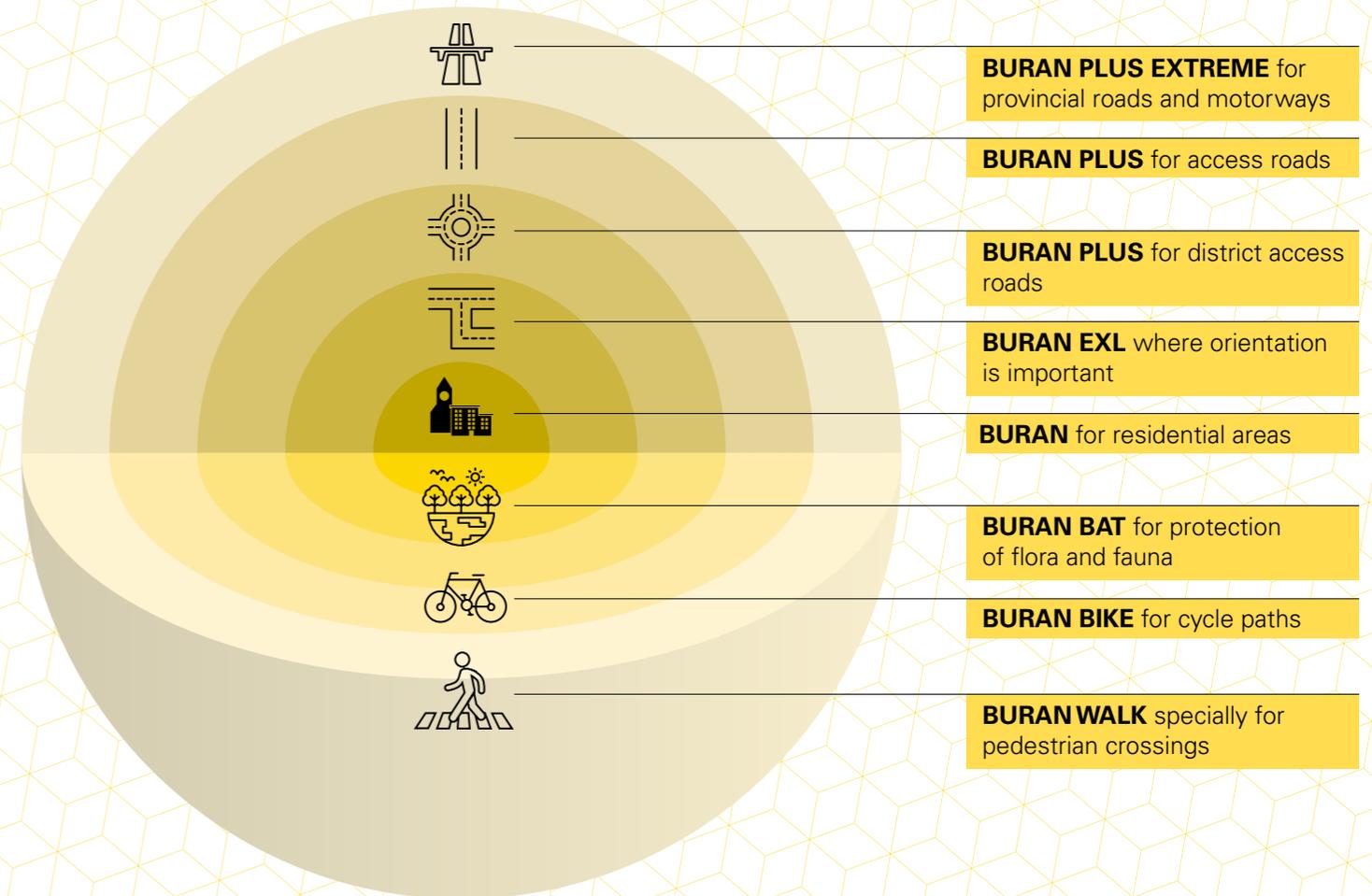
# EXCEPTIONALLY VERSATILE

## Area standardisation

The BURAN can be used in the entire area, from a mast height of 3.5 metres to around 20 metres, thus meeting the need for standardisation. This is how the BURAN PLUS Extreme can illuminate 80% of Dutch motorways with just three light distributions.

## Also for special applications

The very large lumen package (800 to 30,000 lumens) and the different models make the BURAN ideal from residential areas through to motorways. The various lens configurations and light colour temperatures also enable the BURAN to be used for special applications such as crossing points and for the protection of flora and fauna, for instance.



# FUNCTIONALLY VERSATILE

**BRISA PLUS** for access roads

**BRISA PLUS** for district access roads

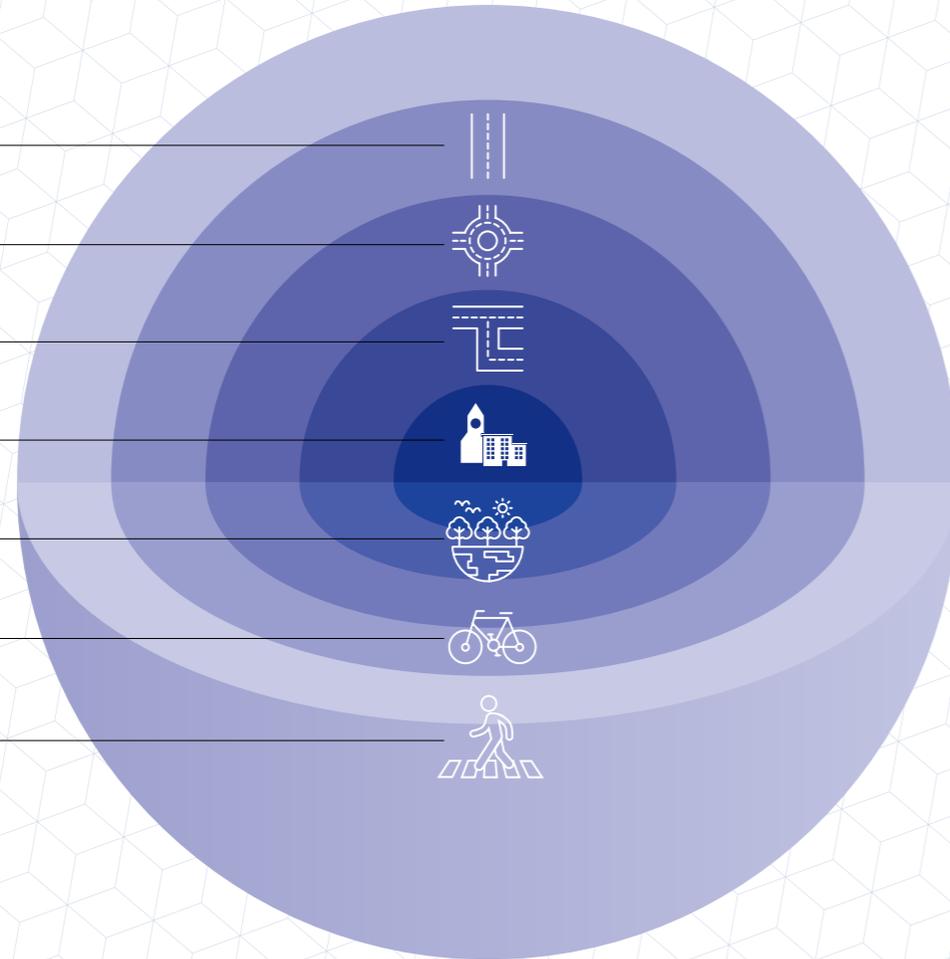
**BRISA EXL** where orientation is important

**BRISA** for residential areas

**BRISA BAT** for protection of flora and fauna

**BRISA BIKE** for cycle paths

**BRISA WALK** specially for pedestrian crossings



## **Modular design**

The BRISA series is a modularly-designed functional family of luminaires. Its application diversity makes the BRISA the functional lighting solution for both inside and outside the built-up area. For example, we introduced diffused light with the BRISA luminaires, and the BRISA PLUS created standardisation in residential areas and district access roads, as well as connecting with provincial roads.

## **Light to order**

The BRISA can fulfil many light profiles, including asymmetrical, deep-beam or wide-beam, for instance. This enables made-to-measure lighting.

## **CO<sub>2</sub>-optimisation**

The BRISA is equipped with CLO (Constant Lumen Output) and/or five standard dimming regimes (1A, 2A, 3A, 4A and 5A). Other dimming regimes are also possible.



# OUR DNA ENSURES STANDARDISATION

## LONG AVAILABILITY MAINTAINING THE STREETScape

Lightronics is committed to a long availability of its luminaires. Lightronics is not dependent on third parties for its moulds.



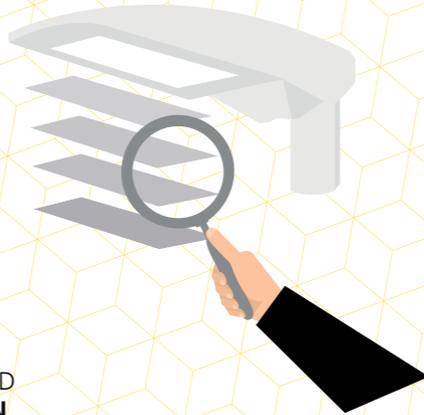
## ADJUSTABLE TILT ANGLE ALWAYS LIGHT IN THE RIGHT PLACE

The BRISA and BURAN have an adjustable tilt angle, so that light is provided to order under all circumstances, without needing extra parts or different versions of the luminaire.



## DELIVERED WITH YOUR DESIRED OPTIC LIGHT TO ORDER

You get a luminaire which is suited to its task: wide-beam, deep-beam, omnidirectional or diffused. The BRISA and BURAN can also be supplied with convex glass for orientation.



## DOUBLE-COATED LONG LIFESPAN

The BRISA and BURAN are provided with a lacquer quality label (tested in accordance with the Qualicoat standard and ISO12944). The luminaires are double-coated by default with a special epoxy, and are resistant to our maritime climate or heavy industry. Look for information about the corrosion class on [coatingadvies.nl](http://coatingadvies.nl).



## EASY TO MAINTAIN TOOL-FREE

Maintenance of the BURAN PLUS and BURAN PLUS EXTREME is easy. The luminaire can be opened with a simple click system.



## ZHAGA COMPLIANT SMARTER MANAGEMENT

The luminaire can be fitted with the standardised Zhaga Book 18 connector and screw cap (waterproof, IP66).



## DIMMING REGIME OF YOUR CHOICE LOWER CARBON EMISSIONS

By default the BRISA is equipped with CLO (Constant Lumen Output) and/or five standard dimming regimes (1A, 2A, 3A, 4A and 5A). This ensures low energy consumption. Other possible dimming regimes are optional.



## CONVEX GLASS ORIENTATION LIGHTING

For visual guidance outdoors, seeing at a distance whether the lighting is on, but also for diffused light on facades so that a gradual decrease in light is perceived.



## SUPPLIED WITH A PRE-ATTACHED CABLE INSTALLATION-FRIENDLY

By default the BURAN is supplied with a pre-attached cable, type H05BQ-F (3x1 mm<sup>2</sup>). This makes the BURAN installation-friendly.



## FIVE-YEAR WARRANTY WITHOUT CONCERNS

By default, Lightronics issues a five-year warranty on its LED luminaires.



# THE SOLUTION FOR COMPLYING WITH THE CLIMATE AGREEMENT IS CLOSER THAN YOU THINK

The main objective of using LEDs and making public lighting smarter is saving energy. By applying LED lighting as a light source and developing LED-only luminaires like the BRISA and the BURAN, significant savings are made on the power required for lighting. There are also enhanced possibilities in terms of reducing light disturbance, bringing light to those places where it is needed and the possibility of dimming or even turning off lights.



The BURAN luminaires have CLO (Constant Lumen Output) and/or five standard dimming regimes (1A, 2A, 3A, 4A and 5A). Other dimming regimes are also possible.



Lightronics offers the possibilities of system integration with Controlled Solutions. Thus communication modules from CityTouch, Luminext, Remoticom or Tvilight, among others, can be incorporated. Lightronics motion detection with local communication through RF is also possible and can be used for flexible lighting on cycle paths. In the case of system integration, the warranty provisions will continue to apply. Projects in a Controlled Solutions implementation are made to order.



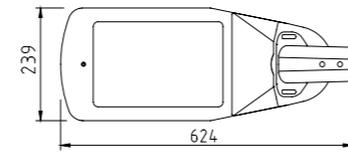
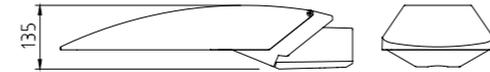


# BURAN

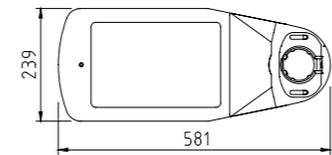
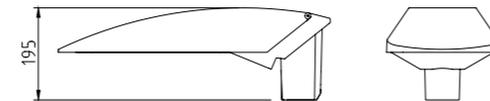
The elegant, convex and architectural design makes the BURAN a high-class luminaire. The luminaire can be used in a wide range of applications: from business parks to cycle paths and from roundabouts to industrial parks.



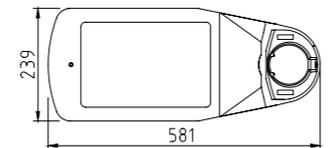
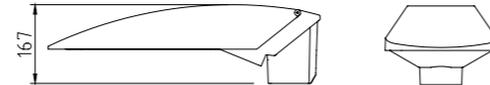
mast section 48/60 (side entry mounting)



mast section 48/60 (post-top mounting)



mast section 76 (post-top mounting)

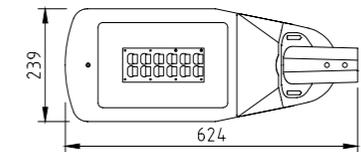
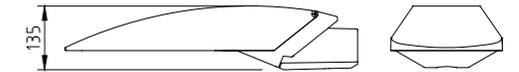


# BURAN EXL

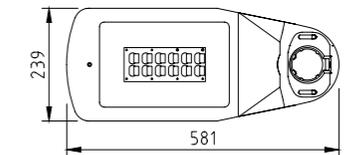
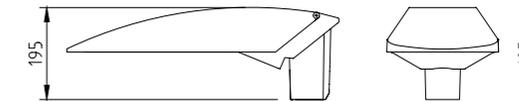
The BURAN EXL is an ideal lighting solution for (long) cycle paths in rural areas, among others. Thanks to its external lenses (EXL), the luminaire also offers orientation lighting alongside efficient lighting.



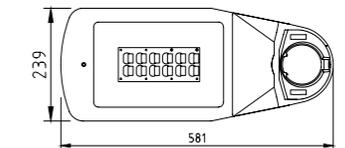
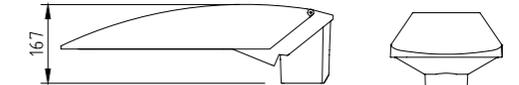
mast section 48/60 (side entry mounting)



mast section 48/60 (post-top mounting)



mast section 76 (post-top mounting)





# BURAN BAT

Some bats in the Netherlands are protected by law. Research shows that bats are sensitive to light disturbance. The BURAN BAT with amber-coloured LEDs is a solution which does not disturb bats.



Ecological zones



Holiday parks



Footpaths



Cycle paths



# BURAN BIKE

BURAN BIKE is a luminaire with a modified lens code for narrow light profiles. The lenses used make the BURAN BIKE extremely suitable for cycle paths, but also for alleyways, footpaths and narrow road profiles.



Cycle paths



Footpaths



Alleyways



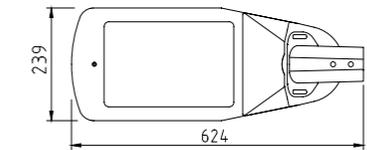
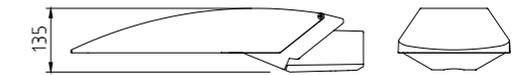
# BURAN WALK

The optic of the BURAN WALK has been specially designed for pedestrian crossings and promotes traffic safety. The optic increases the contrast with the surroundings, making pedestrians more visible.

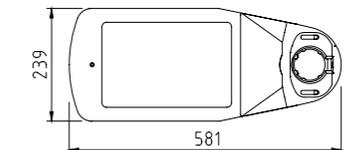
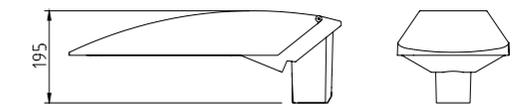


Pedestrian crossings

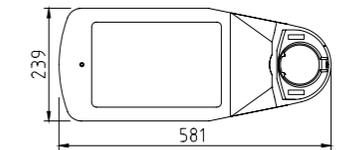
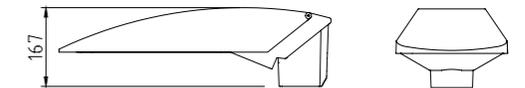
mast section 48/60 (side entry mounting)



mast section 48/60 (post-top mounting)



mast section 76 (post-top mounting)



\* Request pending



# BURAN PLUS

The BURAN PLUS is suitable for through roads, roundabouts and provincial roads. The luminaire is equipped with a lens optic that has been specially designed to illuminate the road while maintaining viewing comfort and preventing light disturbance. An additional advantage is that the luminaire can be opened without tools.



Parking spaces



District access roads



Access roads

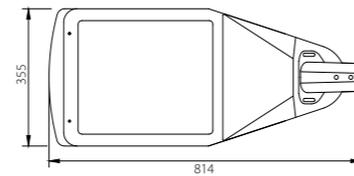


Ring roads

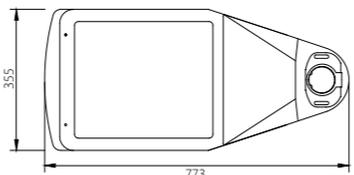


Industrial parks

mast section 48/60 (side entry mounting)



mast section 76 (post-top mounting)



# BURAN PLUS EXTREME

The BURAN PLUS EXTREME is suitable for provincial roads and motorways. With just three light distributions, 80% of the profiles can be obtained. The BURAN PLUS EXTREME is 20% less dazzling than a similar luminaire.

This version can also be opened without tools.

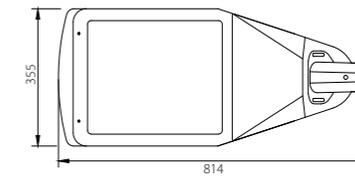


Provincial roads

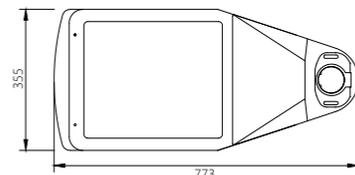


Motorways

mast section 48/60 (side entry mounting)

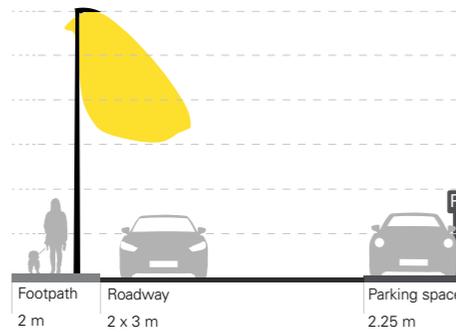


mast section 76 (post-top mounting)

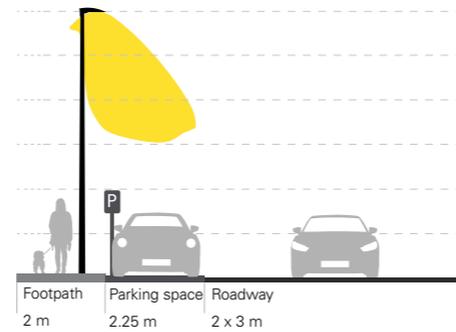


\* Request pending

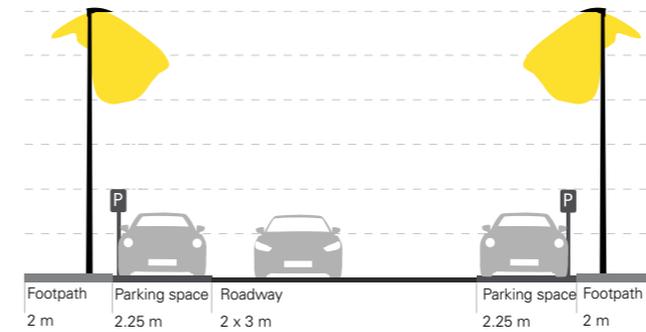
# THE MOST COMMON LIGHTING SOLUTIONS<sup>1</sup>



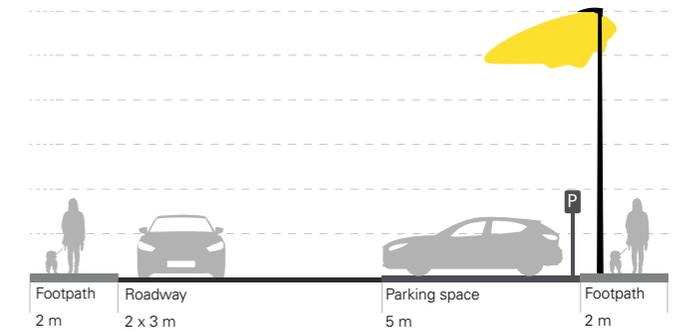
**Asymmetrical, average road (LC-N)**



**Asymmetrical, average road (LC-N)**



**Asymmetrical, average road (LC-R)**



**Asymmetrical, wide road (LC-O3)**

Luminaire	Footpath 1			Roadway			CO <sub>2</sub> emission kg/yr (based on grey energy) <sup>3</sup>
	Eavg	Emin	Uh <sup>2</sup>	Eavg	Emin	Uh <sup>2</sup>	
<b>NPR 13201-P5</b>							
BURAN / 16LED / LC-N / 1500 LM (4K <sup>4</sup> )	3.07	0.79	0.25	3.28	1.02	0.31	3.47
<b>NPR 13201-P6</b>							
BURAN / 16LED / LC-N / 1050 LM (4K <sup>4</sup> )	2.14	0.55	0.25	2.29	0.71	0.31	2.65

Luminaire	Footpath 1			Roadway			CO <sub>2</sub> emission kg / yr (based on grey energy) <sup>3</sup>
	Eavg	Emin	Uh <sup>2</sup>	Eavg	Emin	Uh <sup>2</sup>	
<b>NPR 13201-P5</b>							
BURAN / 16LED / LC-N / 2000 LM (4K <sup>4</sup> )	3.81	1.02	0.27	3.09	1.36	0.44	4.42
<b>NPR 13201-P6</b>							
BURAN / 16LED / LC-N / 1350 LM (4K <sup>4</sup> )	2.57	0.69	0.27	2.09	0.92	0.44	3.15

Luminaire	Footpath 1			Roadway						CO <sub>2</sub> emission kg / yr (based on grey energy) <sup>3</sup>
	Eavg	Emin	Uh <sup>2</sup>	Eavg	Emin	Uh <sup>2</sup>	Eavg	Emin	Uh <sup>2</sup>	
<b>NPR 13201-P5</b>										
BURAN / 16LED / LC-R / 3240 LM (4K <sup>4</sup> )	3.24	0.60	0.185	4.42	2.53	0.57	3.24	0.60	0.185	6.74
<b>NPR 13201-P6</b>										
BURAN / 16LED / LC-N / 1350 LM (4K <sup>4</sup> )	2.19	0.41	0.185	2.98	1.71	0.57	2.19	0.41	0.185	3.15

Luminaire	Footpath 1			Roadway			Ti	Footpath 2			CO <sub>2</sub> emission kg / yr (based on grey energy) <sup>3</sup>
	Eavg	Emin	Uh <sup>2</sup>	Eavg	Emin	Uh <sup>2</sup>	<30	Eavg	Emin	Uh <sup>2</sup>	
<b>NPR 13201-P5</b>											
BURAN / 16LED / LC-O3 / 3500 LM (4K <sup>4</sup> )	4.09	1.20	0.293	3.40	1.85	0.544	8	2.26	1.92	0.850	7.2
<b>NPR 13201-P6</b>											
BURAN / 16LED / LC-N / 1350 LM (4K <sup>4</sup> )	2.51	0.73	0.291	2.08	1.13	0.543	7	1.38	1.17	0.848	3.15

With our LED vs. System output calculation you are comparing apples with apples. This gives you a better insight into the total energy savings you can achieve.

Model	LEDs	LED Lumens	LED (W) Power	LED Lumens (W)	System (W)	Lumens System	System Lumens (W)
Asymmetric LC-N	16	1,050	78	134.6	8.8	911	103.5
Asymmetric LC-N	16	1,350	79	170.9	10	1,171	117.1
Asymmetric LC-N	16	1,500	8.8	170.5	11	1,301	118.3
Asymmetric LC-N	16	2,000	11.9	168.1	14	1,734	123.9
Asymmetric LC-R	16	3,240	19	170.5	21.4	2,715	126.8
Asymmetric LC-O3	16	3,500	20.5	170.7	23.1	3,195	138.3

<sup>1</sup> These profiles can solve 80% of the lighting requirements. But there are many other possibilities; please go to [lightronics.nl](http://lightronics.nl) or ask your account manager for a flash drive.

<sup>2</sup> The NPR13201 no longer uses a Uh calculation; it is based on a maximum average and a minimum value. Parking lanes are not included in the NPR201.

<sup>3</sup> For calculating the emissions, a colour temperature of 4,000K is assumed when using 4,100 hours/year. Grey energy has a footprint of 77 gr. CO<sub>2</sub> / kWh.

<sup>4</sup> By default, the luminaires are supplied with 3,000 or 4,000K; other light temperatures are optional.

**SMART LIGHTING / BRIGHT FUTURE**

Revision date: 25-07-2019