



FOR A LIVEABLE  
TOMORROW

SETGA

Urban Lighting  
& Mobility





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## URBAN LIGHTING

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LED SERIES

### 1.1. LED LUMINAIRES

AMSTERDAM XXI CENTURY	15
TABLET	25
LINED	35
ROUND	49
SQUARE	61
QUANTUM	73
ESSENZE	83
PRUDENZA	93
TALO	101
PONTE	109
ADM	117
TSD	123
DÓRIKA	131
HR	139

### 1.2. LED LANTERNS

CHP	145
CHP COMPACT	155
CHV	161
EMPATHY	167
LAMP SHADE	179
LOWLANDER	183

### 1.3. LED RETROFIT MODULE

MLD	191
-----	-----

### 1.4. LED PROJECTORS

HL	197
HR	205
INFINITUM	213
DIVERSITY	219
TNL	225
ESSENZE - P	233

### 1.5. LED BEACONS

ADM	243
PDS	247
DFT	253
HR	255
K-TRO	259
OCEANIC	263

### 1.6. LIMITED EDITIONS

A CORUÑA	271
AMS	273

### 1.7. LIGHT MANAGEMENT SYSTEM

URBAN PULSE	277
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# URBAN LIGHTING

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COLUMN EN  
ANCHORS-  
SYSTEMEN

## 2.1. STEEL COLUMNS

PDS	285
XUNCO	389
SCL	293
SPL	297
SFL	301
SVT	305
BICILÍNDRICA	311
ILLA	313
SR	317

## 2.2. WOODEN COLUMNS

VAGALUME	321
----------	-----

## 2.3. ANODIZED ALLUMINIUM COLUMNS

ADM	329
DÓRIKA	333

## 2.4. COLUMNS WITH FOUNDRY BASE

SYMBOL	339
VIGO	343
ZARAGOZA	347
SANXENXO	351



---

## URBAN MOBILITY

---

SIGNALISERING EN  
STEDELIJK COMFORT

### 3.1. SIGNALLING

SX	355
NX	359
SX BAKEN	365
K-TRO	369
HL	373

### 3.2. BOLLARDS

DINAMIC	379
IDENTIDADE	381

### 3.3. BICYCLE PARKING

ANEL	389
------	-----

### 3.4. BENCHES

CABRIOLET	395
OMEGA	401
COROLA	405

### 3.5. LITTER BINS

ONDA	409
DISCRETION	415



A U T H E N T I C I T Y | S M A R T



**1.1.** LED LUMINARIES  
*URBAN LIGHTING*



## AMSTERDAM XXI CENTURY

WHERE MODERNISM  
MEETS URBAN TRADITION

Balance, proportionality and dynamism. For the 21st Century Project, the City of Amsterdam incorporated a technical luminaire that was in keeping with its urban heritage, in a bid for efficiency and cutting-edge LED technology. In 2015, Amsterdam 21st Century began illuminating the most emblematic areas of the Dutch capital.

**-IP66-**  
Watertightness

**IK08 - IK10**  
Glass closure or High Impact PMMA

Up to **153**  
Lm./w (\*)

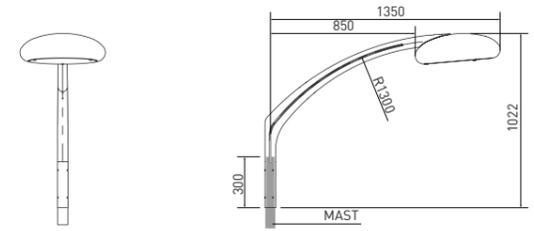
**+100.000**  
Hours of lifetime (\*)

**AL** Aluminium  
EN-AC-44100  
Excellence in thermal management

**CLASS II**

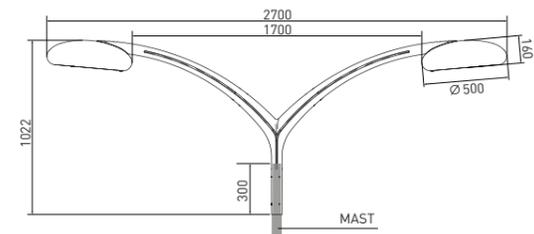
**CLEANTech®**  
Technology to prevent external dirt  
accumulation.

(\*) Tq 25°C



Harmony in every line, for overall balance

AMSTERDAM XXI CENTURY



#### ORIGIN AND CONCEPT

The Amsterdam 21st Century series was designed by Sjoerd Hoogma (Handle with Care) and Simon Sprietsma (Simon Sprietsma architecture, public space and urban planning). The outcome is the harmonious interaction of luminaire, bracket and column. The balance between the proportions of all three elements was determined by the Golden Ratio, a measure applied in many timeless historical buildings and works of art.

The lighting fixture, arm and column are visually merged into a single element of clean lines, giving a smooth and dynamic shape. Finally, the casting process lends fluidity to the luminaire and elegance to the whole.

#### SUSTAINABLE DESIGN

The design strategy applied to the Amsterdam 21st Century series is characterized by the use of highly sustainable materials. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process. The first European glass processing line powered by solar technology has substantially reduced the carbon footprint of this series. The aluminium body EN-AC-44100 has a higher degree of purity than any aluminium injection alloy, facilitating reuse by other industrial processes in the future. Finally, following the latest revision of ISO 14001, and the implementation of the master sustainability plan, SETGA has driven the design of a long-term recycling system for each component of the Amsterdam 21st Century series.

#### DESIGNERS



**Sjoerd Hoogma**

Product Designer of the Amsterdam 21st Century Luminaire



**Simon Sprietsma**

Architect en Designer van armatuur + uithouder 21e eeuw



#

Compact heat dissipation system.

**AL** Aluminium Casting EN-AC-44100

The Amsterdam 21st Century luminaire body is a single, compact piece of cast aluminium, EN AC-44100. Continuous thermal dissipation between the PCB and the exterior improves the conductivity of the system, compared with architectures composed of different components and materials.

The Amsterdam 21st Century luminaire has additional features to enhance its thermal architecture and reduce semiconductor diodes junction temperature (Tj), thereby maximizing system efficiency (lm/W) and preserving its lifetime:

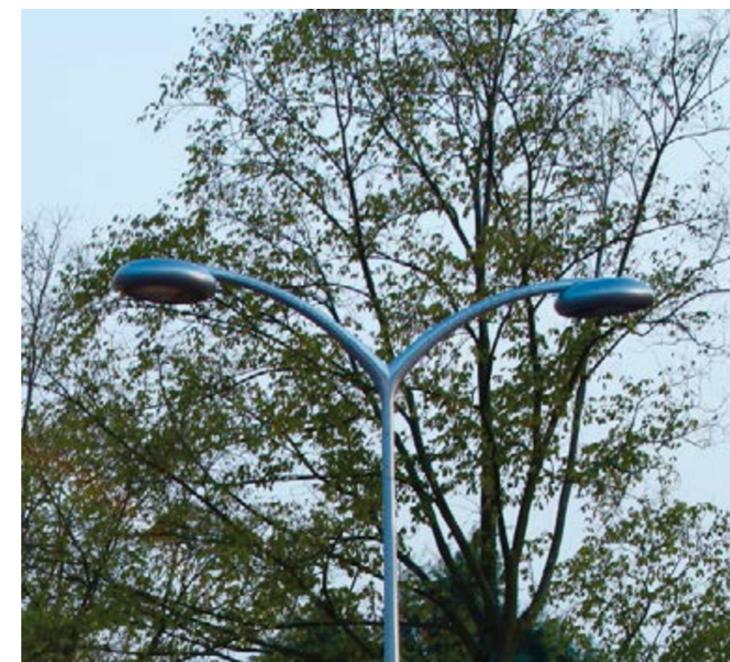
1 | **1. Maximizing the thickness of the thermal pipes.**

To further optimize the evacuation of heat flow, the dissipation body incorporates a thermal pipes system, 130 x 18 mm in its central section.

The inclusion of such conduits inside the compact aluminium body connects the critical thermal area and the upper surface of the luminaire, maximizing the body sink area, in order to minimize the concentration of internal heat.

2 | **Incorporating a graphite thermal pad to the critical thermal**

The complete elimination of air gaps between the PCB and the dissipation body enhances thermal contact between both elements. To achieve this, the body is initially machined and straightened, for a flat, rough surface. A thermal graphite pad of graphite completes the union.



PARAMETERS

Model	Diameter (mm)	Height (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
21C-24S	500	160	20	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
21C-24M	500	160	20	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
21C-24L	500	160	20	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
21C-48S	500	160	20.2	48	2700-4500	80%-90%	160-193	55	8198	150	>100.000
21C-48M	500	160	20.2	48	2700-4500	80%-90%	160-193	79	12045	153	>100.000
21C-48L	500	160	20.2	48	2700-4500	80%-90%	160-193	110	15489	141	>100.000

\* (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

#

Technology to prevent external dirt accumulation.

**CLEAN Tech®**

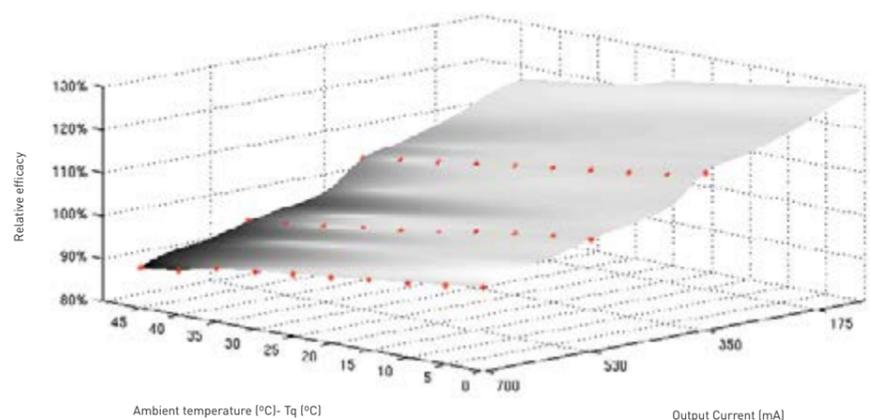
According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Amsterdam 21st Century luminaire heat sink with a completely uniform and curved upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.

Finally, baffles located on the lower front and rear surface of the optical area prevent dirty liquid flowing from the upper area of the body to the lenses, thereby preserving optical system efficiency (lm/W).



RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

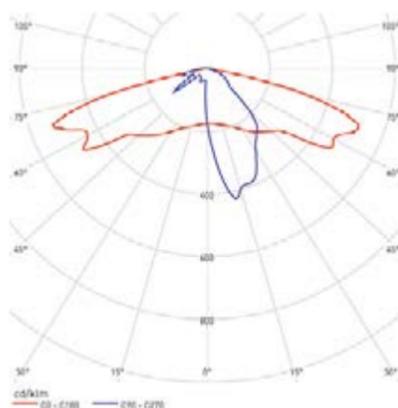
**HTS** High Transparency System® **+8%** Optical performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

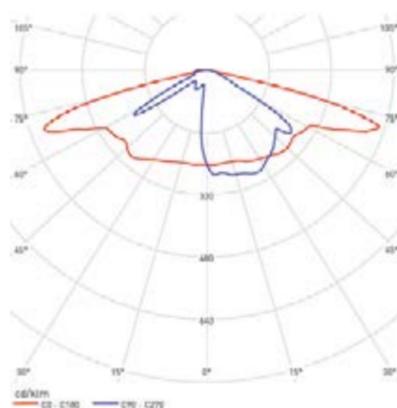


PHOTOMETRIC CURVES

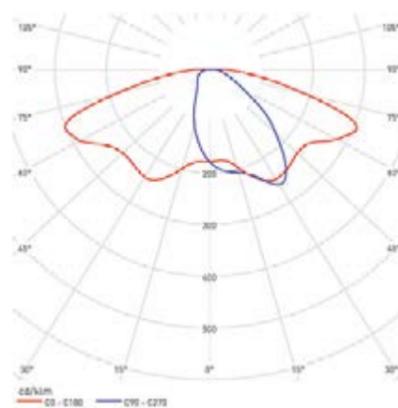
T2-21



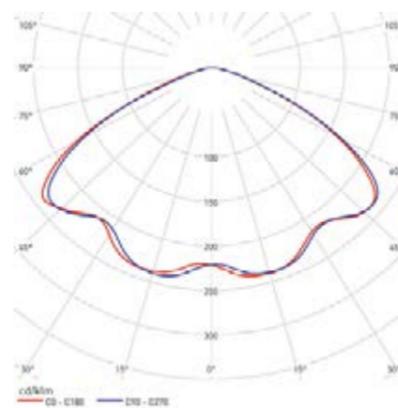
T3-21



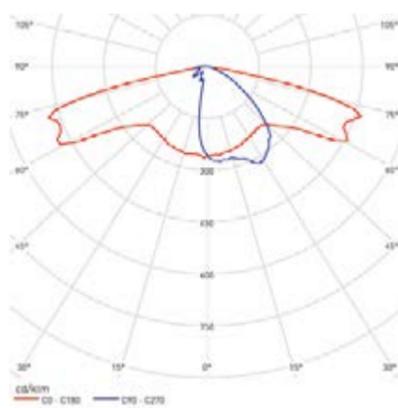
DNW-21



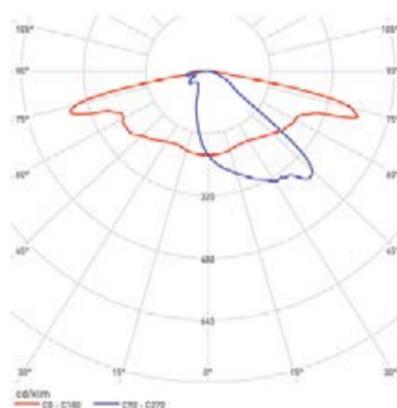
CY-21



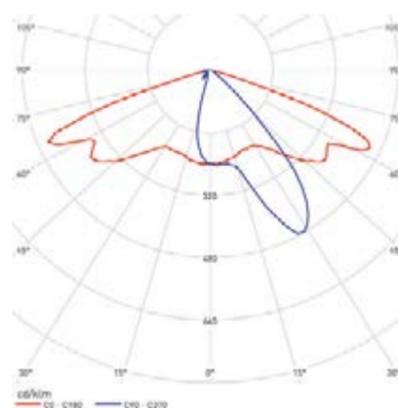
DWC-21



ME-21



AT-21



Standard curves  
SETGA's optical department can study additional configurations adapted to each project.



1. CATENARY SYSTEMS



SINGLE CATENARY



DOUBLE CATENARY

3. BRACKET



BRACKET TO FAÇADE

2. COLUMNS



ASYMMETRIC DOUBLE COLUMN



DOUBLE COLUMN



SIMPLE COLUMN



## TABLET

### URBAN SYNTHESIS

A new aesthetic synthesis in public spaces, integrating the simplicity of the Bauhaus with the timelessness of the Gute Form. The architectural diversity of the Atlantic urban space and its atmospheric aggressiveness as a starting point.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

Up to **156**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

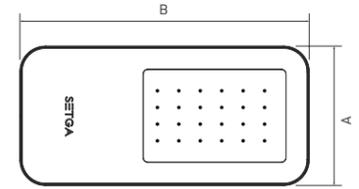
**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation

**CLEANTech**®  
Technology to prevent external dirt accumulation

(\*) Tq 25°C



A: 290 mm / 360 mm B: 610 mm / 750 mm

Aesthetic  
vanguard  
from multiple  
perspectives

TABLET



#### ORIGIN AND EVOLUTION

Since the first edition of the Tablet series in 2009, the performance of its electronics and optics has evolved significantly, while its slim lines have remained unchanged.

During these 40,000 hours, many cities have experienced the Tablet's ability to maximize thermal conductivity and neutralize the corrosive effects of moisture in the LED optical module.

We continue to strike a balance between form and functionality in this SETGA brand icon.

#### MATERIALS AND STRUCTURE

The upper body Tablet luminaire consists of a machined and anodized aluminium chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The underside of the luminaire is characterized by the application of a tempered glass cover onto which a city logo can be vitrified. Both upper and lower elements are encased in an anodized aluminium AL6063-T5 frame. The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

#### SUSTAINABLE DESIGN

The design strategy of the Tablet series is characterized by the combination of highly sustainable materials. Compared to injected aluminium, high purity aluminium Al 5754 facilitates reuse by other industries in the future. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process. The first European glass processing line powered by solar technology has substantially reduced the carbon footprint of this series. Finally, after the latest revision of the ISO 14001, and implementation of a sustainability master plan, SETGA has driven the design of a long-term recycling system for each component in the Tablet series.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® Tablet series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

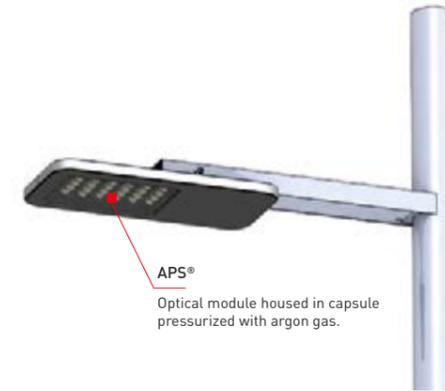
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module..

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.

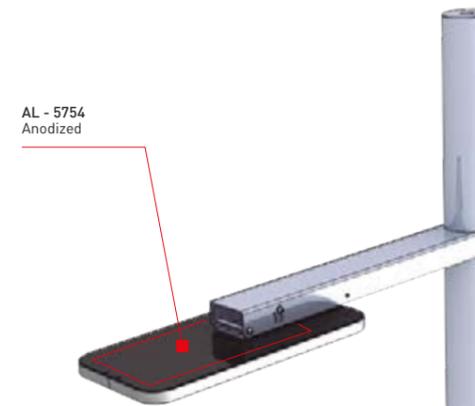


#

Advanced heat dissipation system

# AL Anodized AL 5754 Aluminium

The Tablet luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

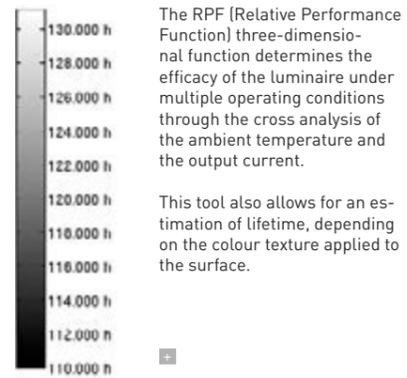
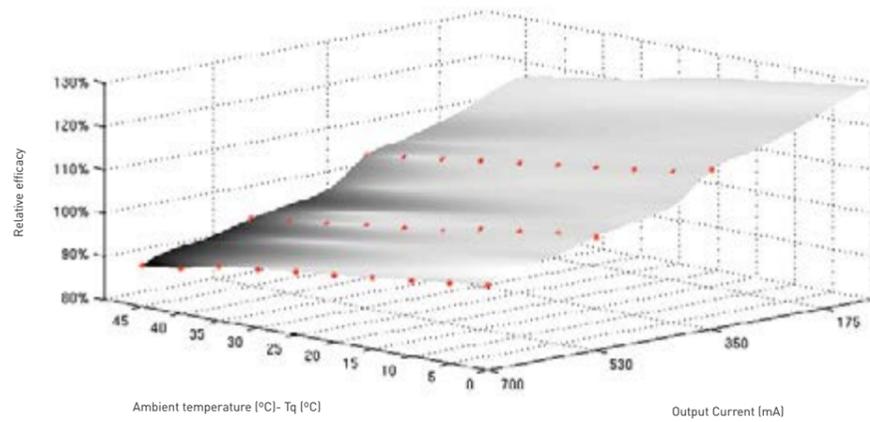


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire's Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
T-12S	610	290	6,8	12	2700-4500	80%-90%	160-193	15	2049	135	>100.000
T-12M	610	290	6,8	12	2700-4500	80%-90%	160-193	22	3011	134	>100.000
T-12L	610	290	6,8	12	2700-4500	80%-90%	160-193	30	3872	131	>100.000
T-24S	610	290	6,8	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
T-24M	610	290	6,8	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
T-24L	610	290	6,8	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
T-36S	610	290	6,8	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
T-36M	610	290	6,8	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
T-36L	610	290	6,8	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000
T-48S	755	360	10,5	48	2700-4500	80%-90%	160-193	55	8198	150	>100.000
T-48M	755	360	10,5	48	2700-4500	80%-90%	160-193	79	12045	153	>100.000
T-48L	755	360	10,5	48	2700-4500	80%-90%	160-193	110	15489	141	>100.000
T-60S	755	360	10,5	60	2700-4500	80%-90%	160-193	68	10346	152	>100.000
T-60M	755	360	10,5	60	2700-4500	80%-90%	160-193	97	15200	156	>100.000
T-60L	755	360	10,5	60	2700-4500	80%-90%	160-193	139	19547	141	>100.000

[\*] Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF).



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

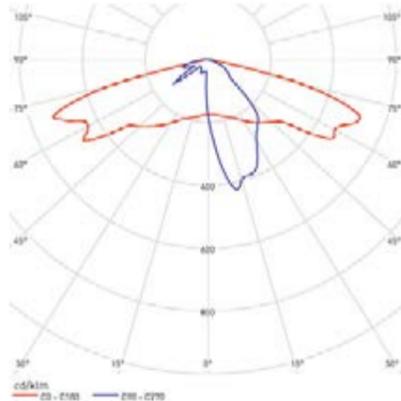
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The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

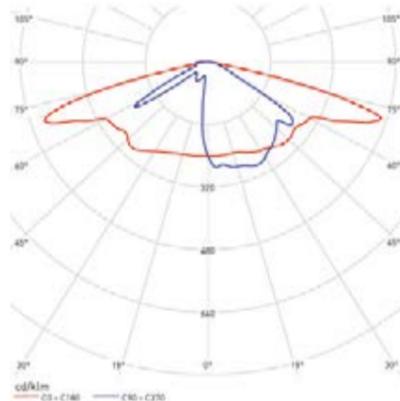


PHOTOMETRIC CURVES

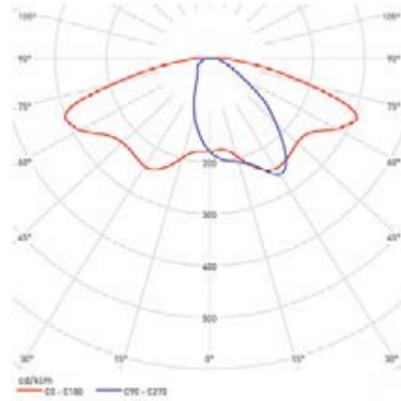
T2-T



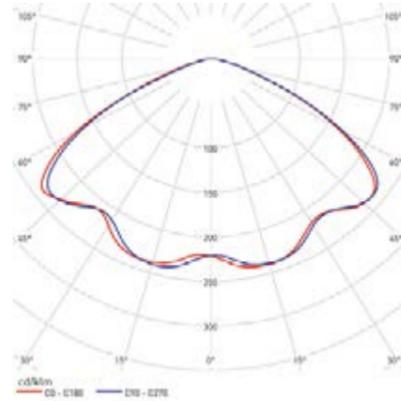
T3-T



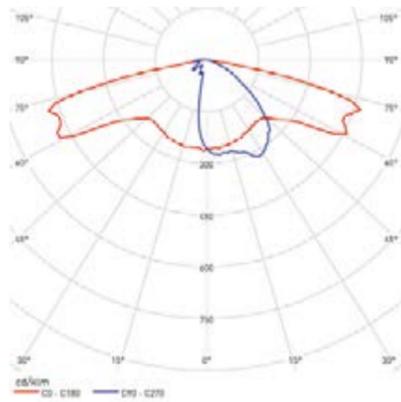
DNW-T



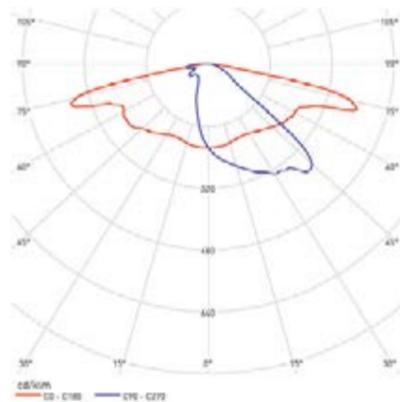
CY-T



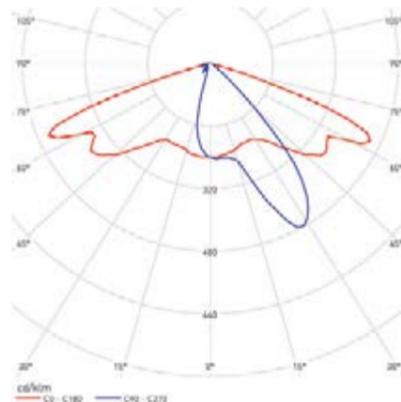
DWC-T



ME-T

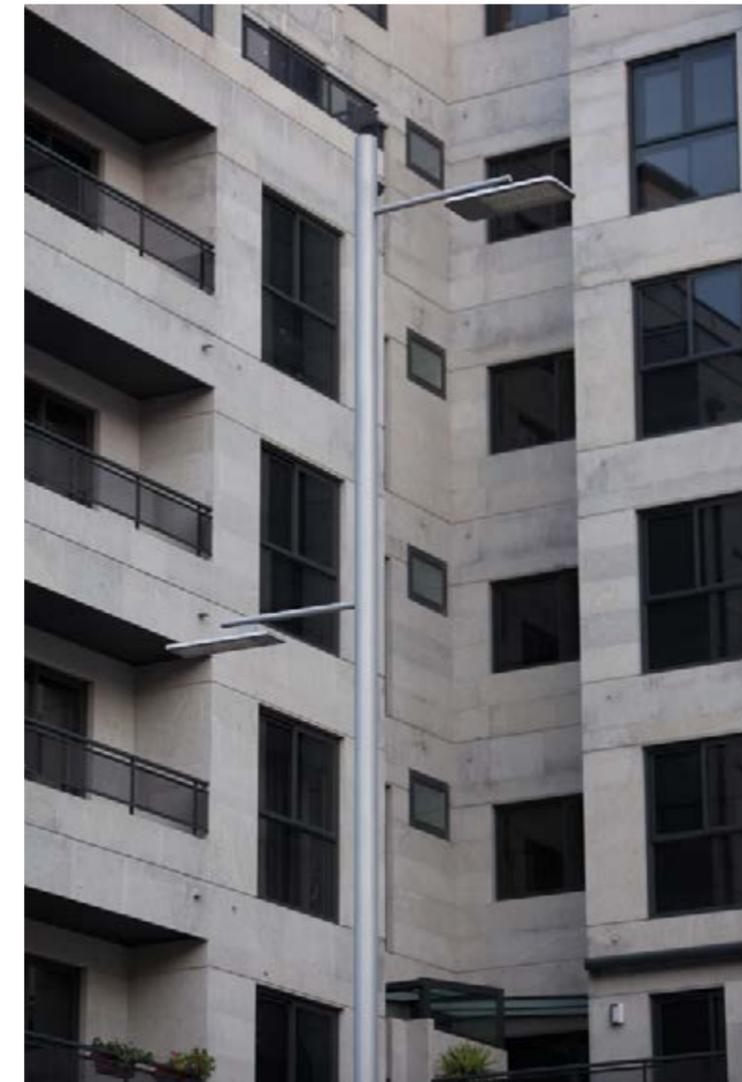


AT-T



Standard curves

SETGA's optical department can study additional configurations adapted to each project.



1. COLUMNS



PDS COLUMN



SVT COLUMN



SFL COLUMN

2. BRACKETS AND ADAPTATIONS



SCL COLUMN



SPL COLUMN



SFL BRACKET



SBT BRACKET



## LINED

### ELEMENTAL FREEDOM

Form, in its most elemental state, is capable of feeding the conceptual freedom of any urban evolution process, by integrating simplicity, slenderness and timelessness in every detail. This is why the Lined series has the ability to transform geometric synthesis into the embryo of infinite realities.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**156**  
Lm /w (\*)

**+100.000**  
hours of lifetime (\*)

**AL**<sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Technology to prevent external dirt accumulation.

**CLEANTech**®  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



Conceptual  
Infinity

LINED



#### ORIGIN AND EVOLUTION

The Lined Series champions the continuity of the design philosophy that inspired the birth of the Tablet series. Once again the simplicity of the Bauhaus design school merges with the timelessness of the current Die gute Form, taking the architectural diversity of the Atlantic urban space and its atmospheric aggressiveness as a starting point.

Since its first pilots in 2010, the Lined series has experienced multiple integration formulas. After more than 30,000 hours of technological evolution, today this state-of-the-art LED series is an icon, illuminating the environs of the 2015 Arnhem Central Station, the Netherlands most avant-garde train station.

#### MATERIALS AND STRUCTURE

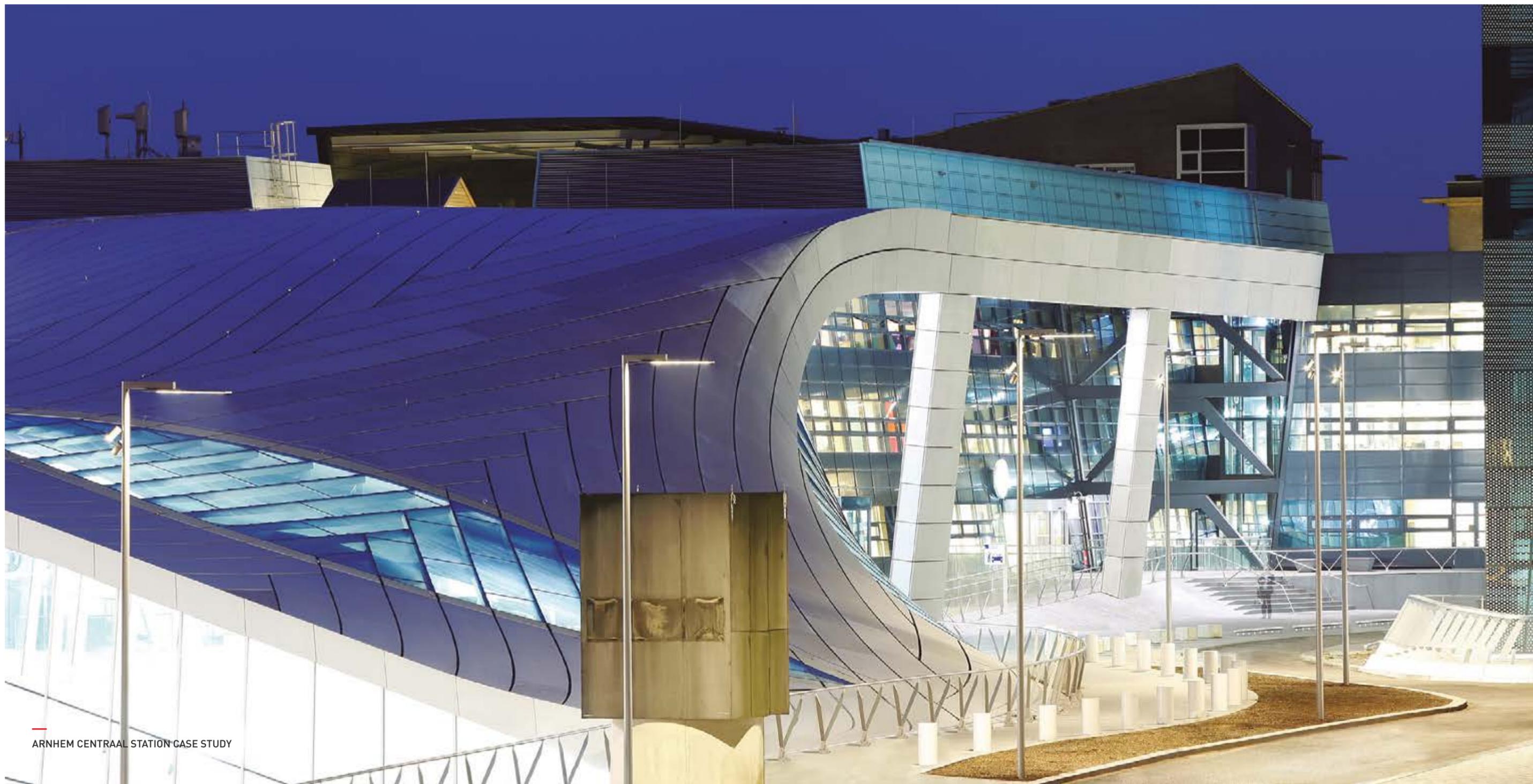
The upper body of the Lined luminaire consists of a machined and anodized aluminium chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The underside of the luminaire is characterized by the application of a tempered glass cover onto which a city logo can be vitrified. Both upper and lower elements are encased in an anodized aluminium AL6063-T5 frame.

The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

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ARNHEM CENTRAAL STATION CASE STUDY

The light design for the environs of Arnhem central station is an ambitious project which has been implemented without compromise, the result of close cooperation between the municipality of Arnhem, UN Studio, B+B landscape architects, Atelier LEK and the implementation team. The station was officially opened on 19 November 2015, ending a process of 19 years from design up to realization. Atelier LEK became involved in 2007, initially by creating a vision for the station area and subsequently by transforming that vision into a technically enforceable lighting plan.

SETGA's Lined luminaires were chosen for the Nieuwe Stationsstraat. Atelier LEK requested that the bracket be adapted to make the luminaire suitable for different locations, thereby creating uniformity in the traffic route around the area. In order to become a supplier of the municipality of Arnhem, SETGA agreed to submit a Product Service System (PSS), designed especially for this project. The PSS demands high quality for LED systems, in terms of lifetime, maintenance and after-sales. SETGA has delivered a perfectly tailored product to the desired image quality, and has set new standards in light quality and manageability.



Iris Dijkstra MSc

Lighting Designer  
 Founder Atelier LEK  
[www.Atelierlek.nl](http://www.Atelierlek.nl)



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The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components.

This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

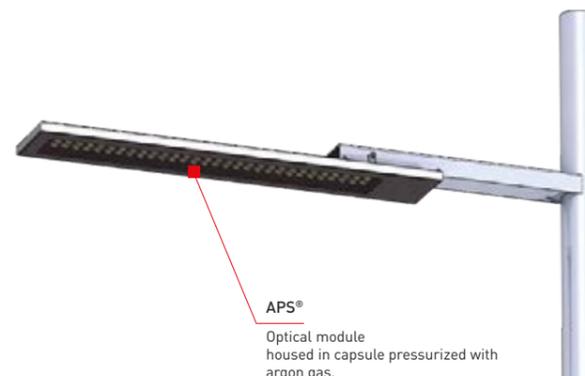
Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation. As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.

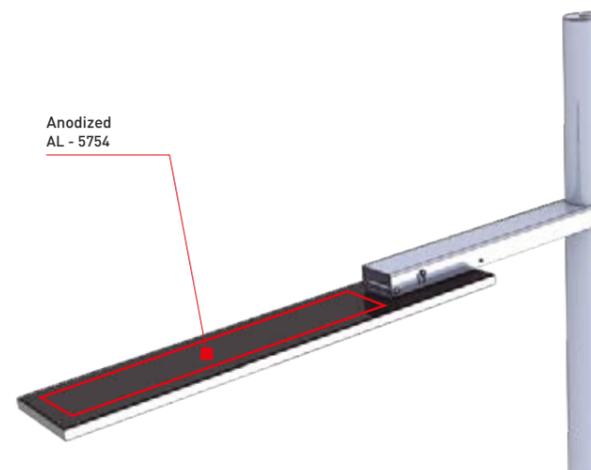


#

Advanced heat dissipation system

# AL Anodized AL 5754 Aluminium

The Lined luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

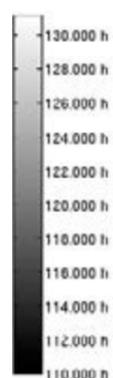
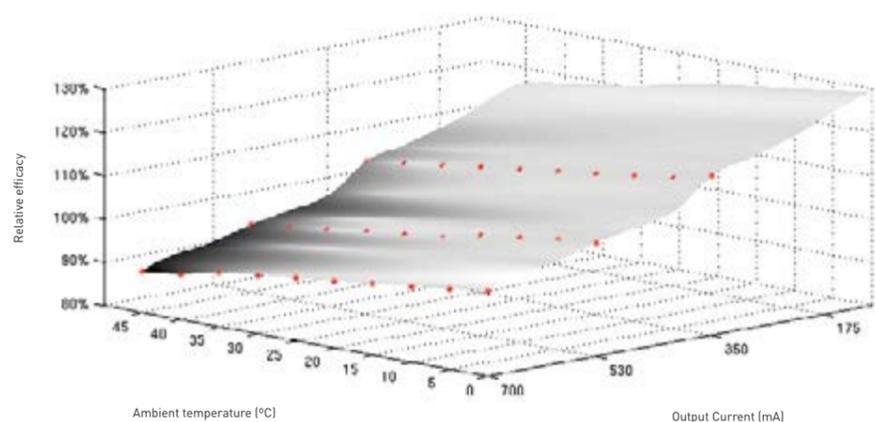


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N°LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
LND-12S	722	222	6.8	12	2700-4500	80%-90%	160-193	15	2049	135	>100.000
LND-12M	722	222	6.8	12	2700-4500	80%-90%	160-193	22	3011	134	>100.000
LND-12L	722	222	6.8	12	2700-4500	80%-90%	160-193	30	3872	131	>100.000
LND-24S	722	222	7.2	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
LND-24M	722	222	7.2	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
LND-24L	722	222	7.2	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
LND-30S	722	222	7.4	30	2700-4500	80%-90%	160-193	35	5173	149	>100.000
LND-30M	722	222	7.4	30	2700-4500	80%-90%	160-193	50	7600	152	>100.000
LND-30L	722	222	7.4	30	2700-4500	80%-90%	160-193	71	9773	138	>100.000
LND-48S	1027	222	12.6	48	2700-4500	80%-90%	160-193	55	8198	150	>100.000
LND-48M	1027	222	12.6	48	2700-4500	80%-90%	160-193	79	12045	153	>100.000
LND-48L	1027	222	12.6	48	2700-4500	80%-90%	160-193	110	15489	141	>100.000
LND-60S	1027	222	13	60	2700-4500	80%-90%	160-193	68	10346	152	>100.000
LND-60M	1027	222	13	60	2700-4500	80%-90%	160-193	97	15200	156	>100.000
LND-60L	1027	222	13	60	2700-4500	80%-90%	160-193	139	19547	141	>100.000

[\*] Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. [\*\*] [\*\*] L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

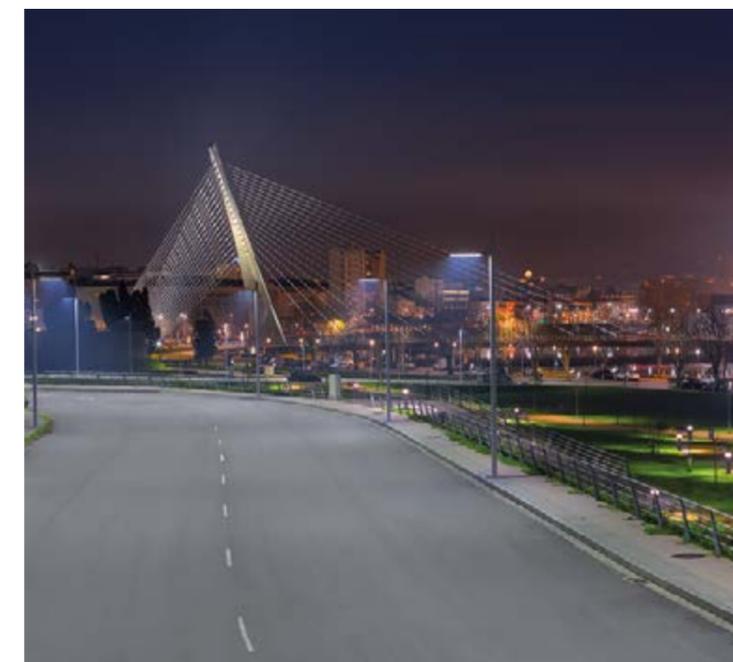
This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

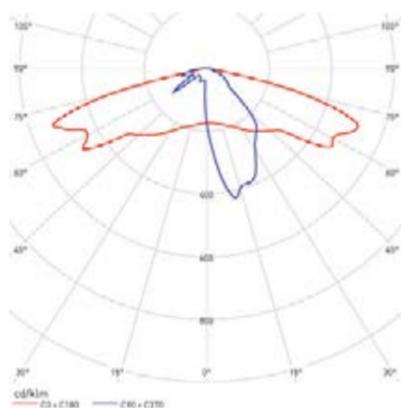
**HTS** High Transparency System® **+8%** Optical Performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

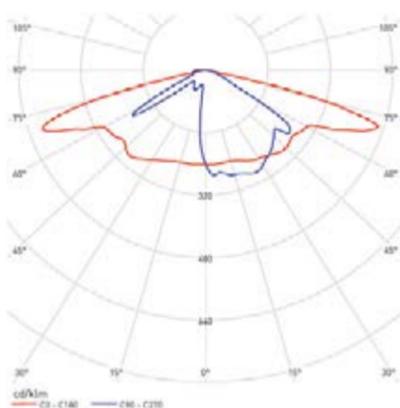


PHOTOMETRIC CURVES

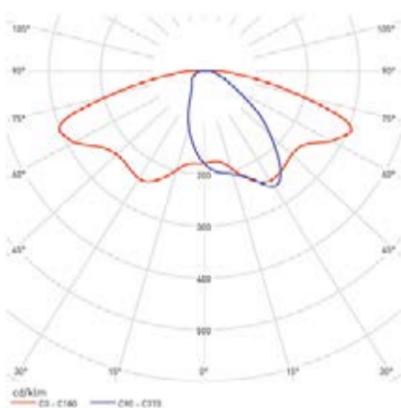
T2-LND



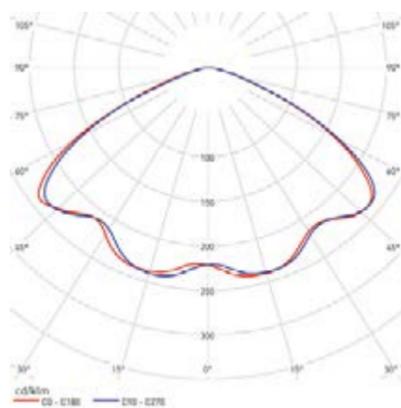
T3-LND



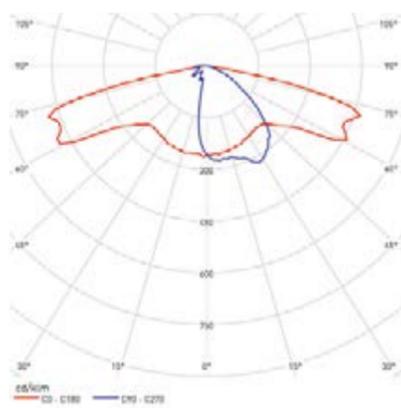
DNW-LND



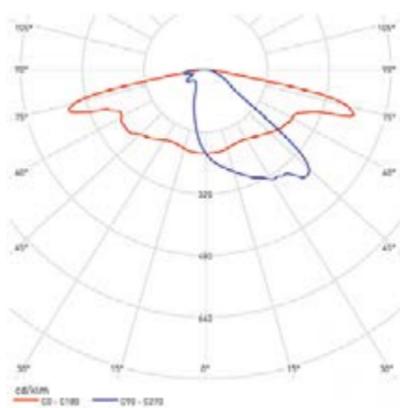
CY-LND



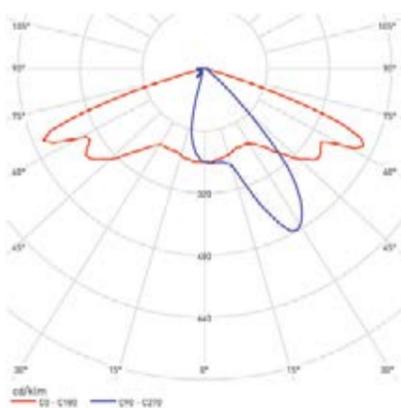
DWC-LND



ME-LND

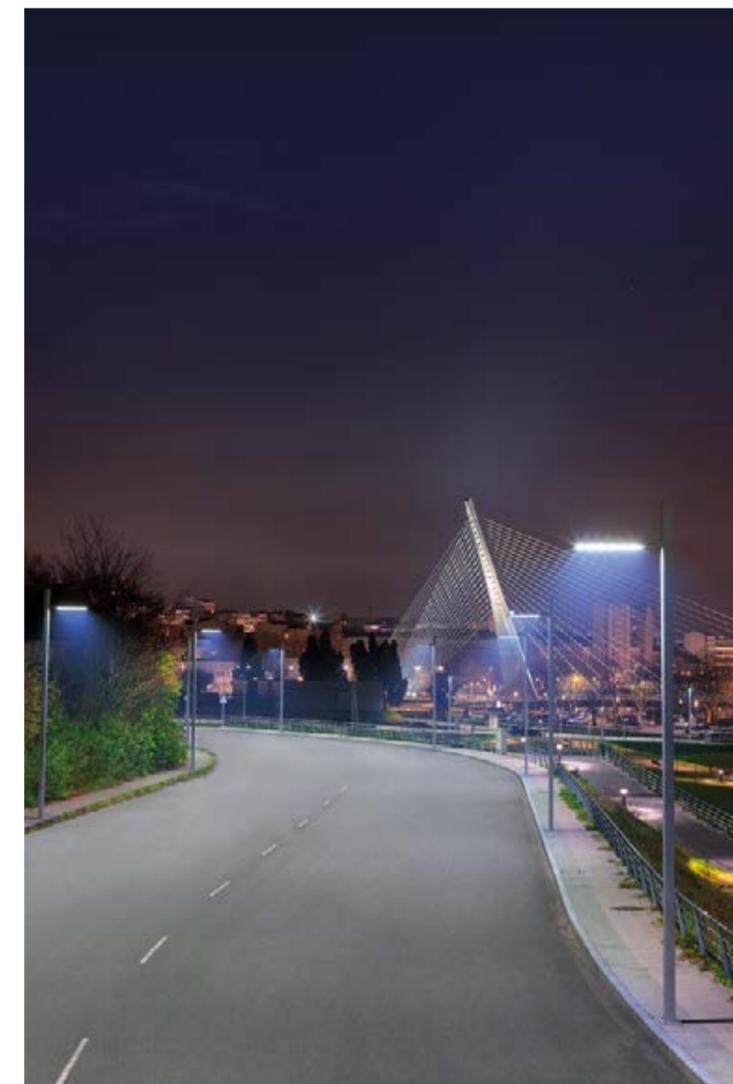


AT-LND



Standard curves

SETGA's optical department can study additional configurations adapted to each project.



1. COLUMNS



ADM SINGLE COLUMN



ADM COLUMN - DOUBLE



ADM COLUMN - TRIPLE



DÓRIKA SINGLE COLUMN



DÓRIKA COLUMN - DOUBLE



DÓRIKA COLUMN - TRIPLE

1.2 COLUMNS



PDS COLUMN



SVT COLUMN



SFL COLUMN



SCL COLUMN

2. BRACKETS AND ADAPTATIONS



SPL COLUMN



ARNHEM BRACKET



SFL BRACKET



SBT BRACKET



## ROUND

### URBAN MAGNETISM

Slenderness and dynamism to redefine the role of light in daily life. The Round series triggers new forms of aesthetic magnetism in the urban space through balanced proportions, simplicity of stroke and the visual cleanliness of the whole.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**152**  
Lm /w (\*)

**+100.000**  
Hours of Lifetime(\*)

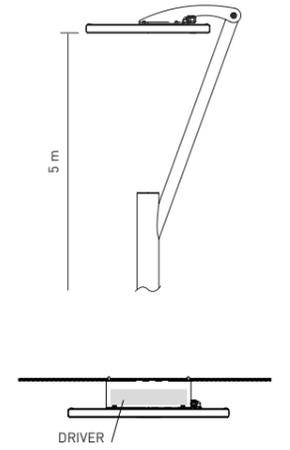
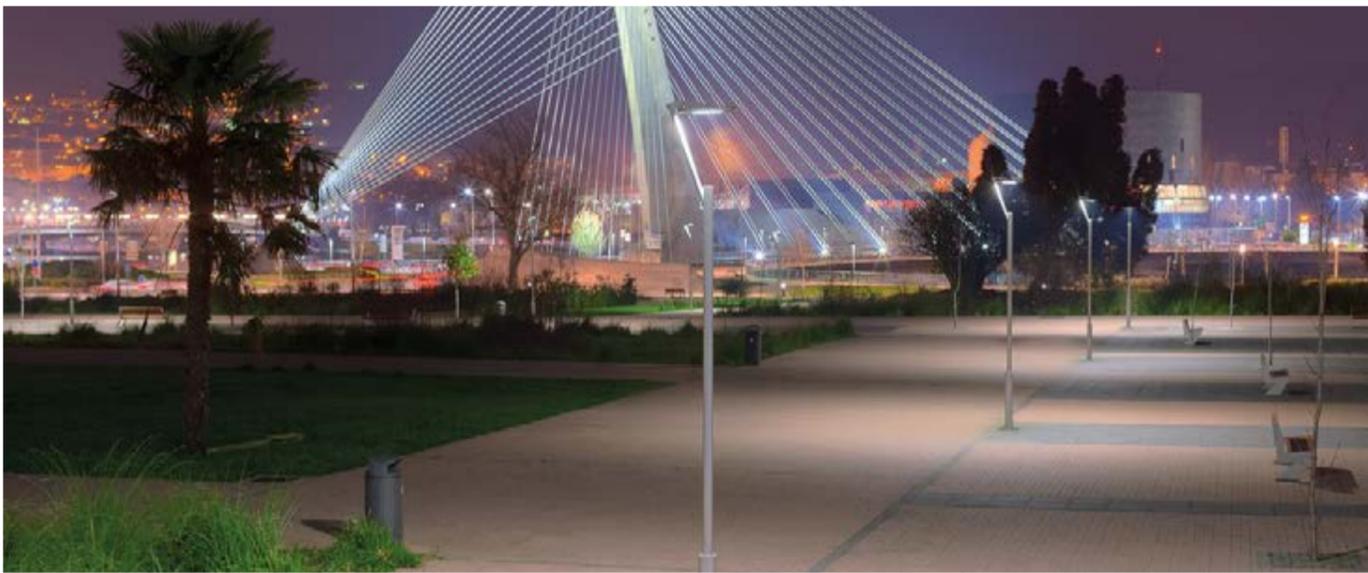
**AL**<sup>5754</sup>  
Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation.

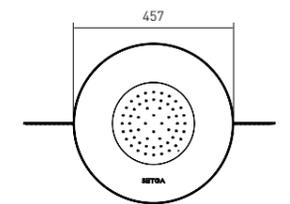
**CLEANTech**®  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



Intimacy  
versus  
fascination

ROUND



#### ORIGIN AND EVOLUTION

The Round series represents a new response based on elementary geometric lines that blends timelessness and simplicity with slenderness and dynamism through a flat design concept. Its mission is to create a universe of sensations adapted to the soul of each space, generating a sense of intimacy and warmth through positional photometric distributions, or a sense of fascination and security through directional photometric distributions.

Since the Round series was launched, many cities have experienced its ability to maximize thermal conductivity and neutralize the corrosive effects of moisture in the LED optical module. We continue to strike a balance between form and functionality with this icon of the SETGA brand.

#### MATERIALS AND STRUCTURE

The upper body Round luminaire consists of a machined and anodized aluminium chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The underside of the luminaire is characterized by the application of a tempered glass cover onto which a city logo can be vitrified. Both upper and lower elements are encased in an anodized aluminium AL6063-T5 frame.

The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

#### SUSTAINABLE DESIGN

The design strategy of the Round series is characterized by the combination of highly sustainable materials. Compared to injected aluminium, high purity aluminium Al 5754 facilitates reuse by other industries in the future. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process.

The support of the first European glass processing line powered by solar technology has substantially reduced the carbon footprint of this series. Finally, after the latest revision of the ISO 14001, and implementation of a sustainability master plan, SETGA has driven the design of a long-term recycling system for each component in the Lined series.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® Round series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

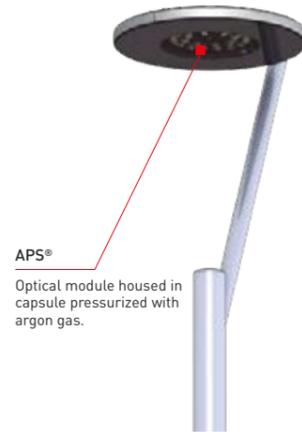
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



### PARAMETERS

Model	Diameter (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminary Efficacy (Lm/w)	Lifetime (hours)**
R-24S	457	7,1	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
R-24M	457	7,1	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
R-24L	457	7,1	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
R-36S	457	7,2	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
R-36M	457	7,2	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
R-36L	457	7,2	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000

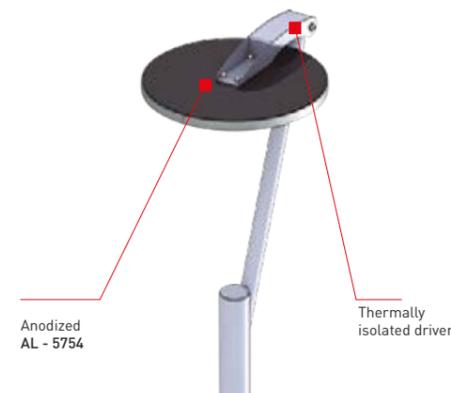
\* (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

#

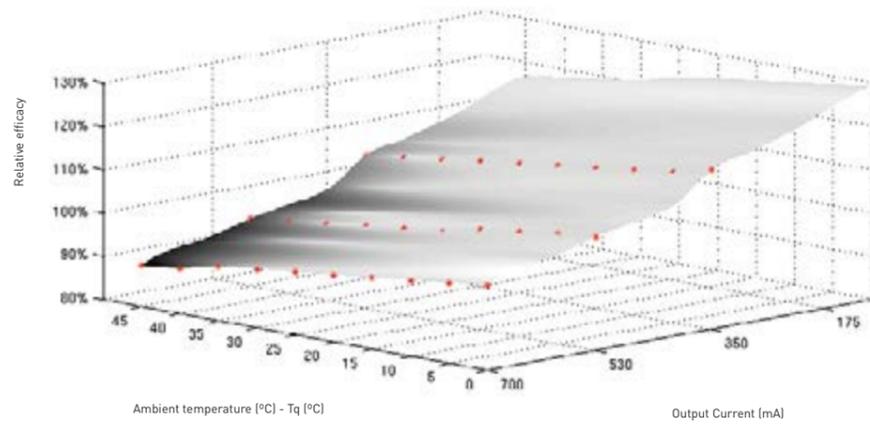
Advanced heat dissipation system

# AL Anodized AL 5754 Aluminium

The Round luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

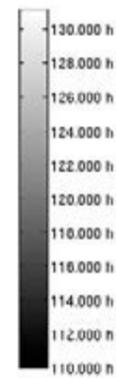


RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.



#

Innovation in the optical system enhances final product performance.

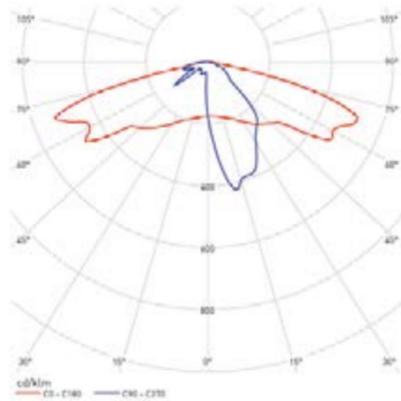
**HTS** High Transparency System® **+8%** Optical Performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

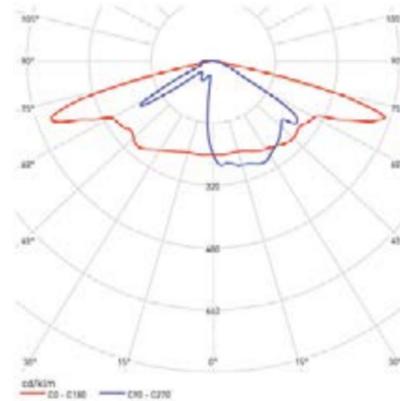


PHOTOMETRIC CURVES

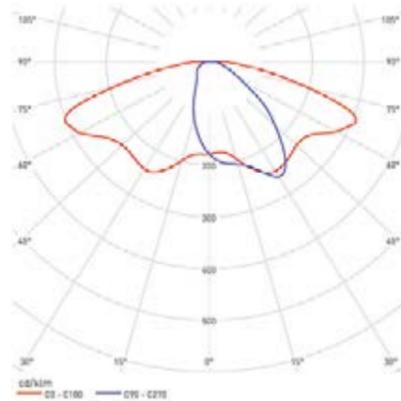
T2-R



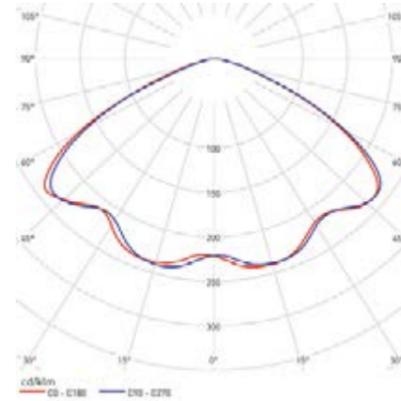
T3-R



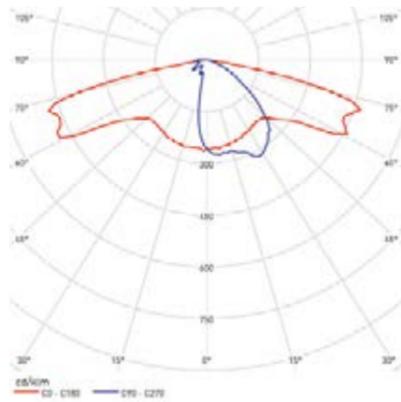
DNW-R



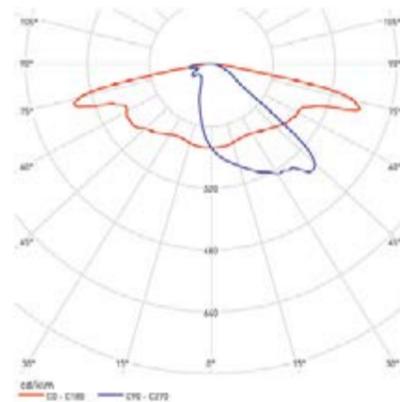
CY-R



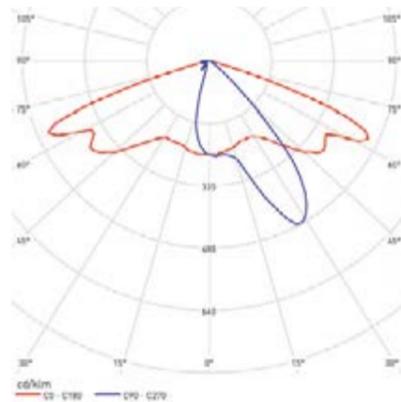
DWC-R



ME-R

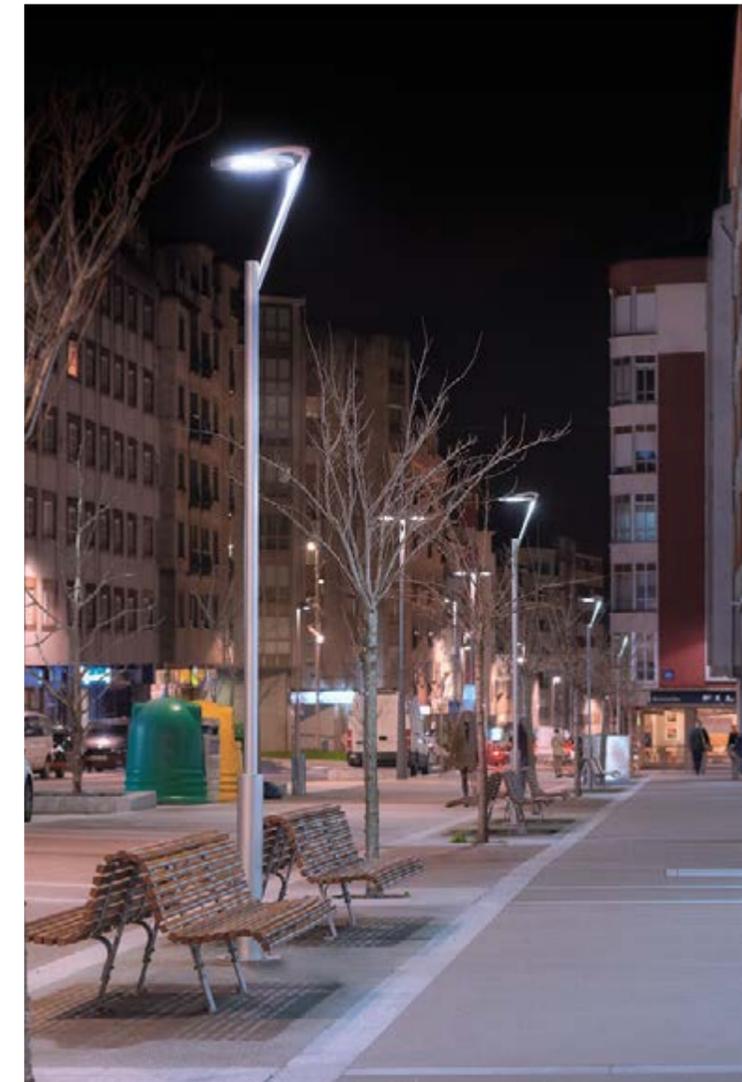


AT-R



Standard curves

SETGA's optical department can study additional configurations adapted to each project.



1. CATENARY SYSTEMS



SINGLE CATENARY



DOUBLE CATENARY

Page 383

2. COLUMNS



VAGALUME COLUMN



NOBLE COLUMN



SR2 COLUMN AND BRACKET



SR1 COLUMN AND BRACKET



ALMERE ROUND II



ALMERE ROUND III



## SQUARE

MIMETIC GEOMETRY

Lighting design is transformed into urban edge when the perception of every detail reinforces the character of the environment without altering its essence. The soft symmetrical lines of the Square series enable the luminaire to blend in with the space, bestowing slenderness and harmony on the whole.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**152**  
Lm /w (\*)

**+100.000**  
Hours of Lifetime(\*)

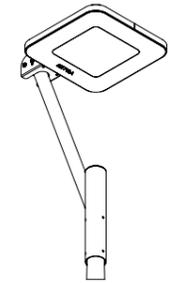
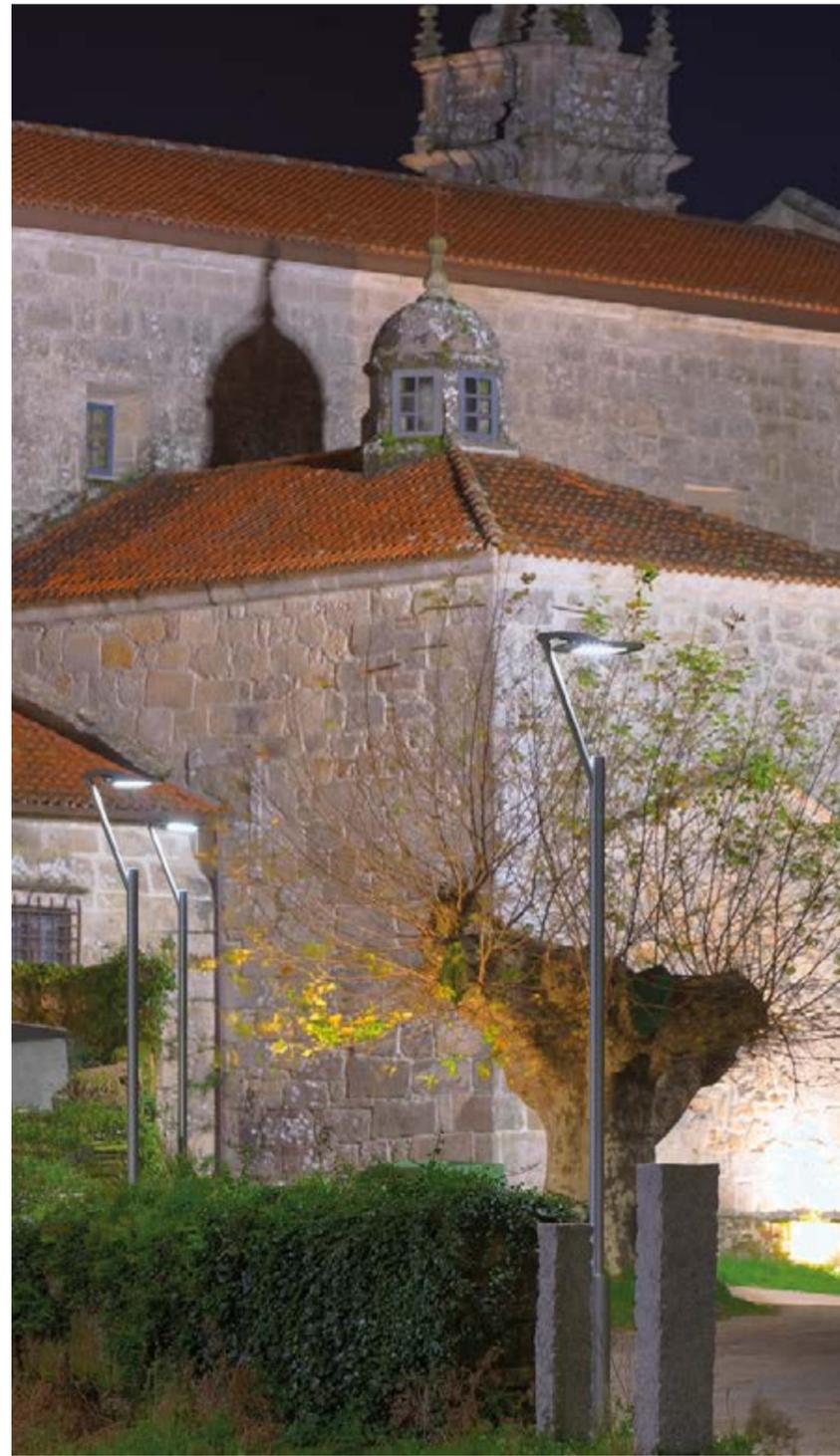
**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation.

**CLEANTech**®  
Technology to prevent external dirt accumulation.

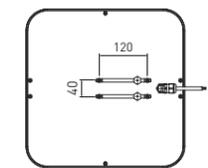
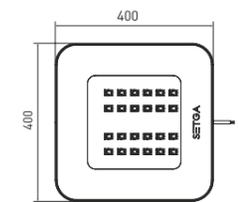
(\*) Tq 25°C



## Elemental balance



### SQUARE



#### ORIGIN AND EVOLUTION

The Square series is the culmination of the path first begun by the Tablet family of luminaires. This geometric exercise reveals the essence of avant-garde design in its most fundamental form, creating infinite horizons of aesthetic balance. Many cities have already been exposed to the Square's ability to maximize thermal conductivity and neutralize the corrosive effects of moisture in the LED optical module. However, its full potential still remains to be explored. Shared research will therefore continue to be the main source of inspiration on this journey towards the soul of each urban space.

#### MATERIALS AND STRUCTURE

The upper body Square luminaire consists of a machined and anodized aluminium chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The underside of the luminaire is characterized by the application of a tempered glass cover onto which a city logo can be vitrified. Both upper and lower elements are encased in an anodized aluminium AL6063-T5 frame.

The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

#### SUSTAINABLE DESIGN

The design strategy of the Square series is characterized by the combination of highly sustainable materials. Compared to injected aluminium, high purity aluminium Al 5754 facilitates reuse by other industries in the future. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process.

The support of the first European glass processing line powered by solar technology has substantially reduced the carbon footprint of this series. Finally, after the latest revision of the ISO 14001, and implementation of a sustainability master plan, SETGA has driven the design of a long-term recycling system for each component in the Lined series.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

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Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

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## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



APS®  
Optical module housed in capsule pressurized with argon gas.



#

Advanced heat dissipation system

# AL Anodized AL 5754 Aluminium

The Square luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



Anodized AL - 5754

Thermally isolated driver

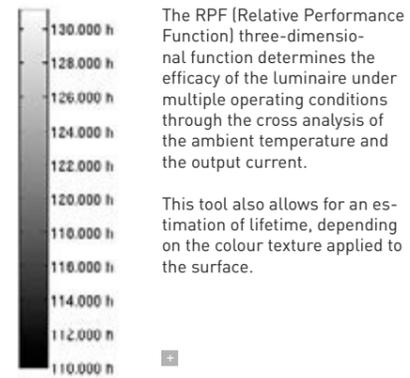
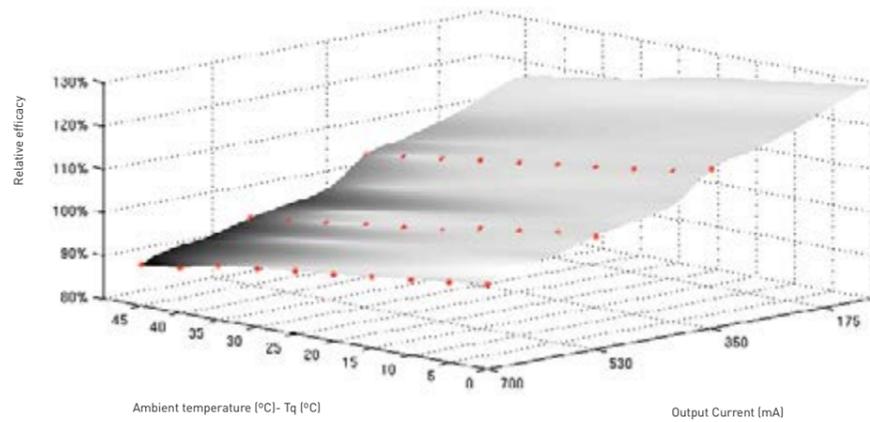


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
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SQ-24M	397	397	7,2	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
SQ-24L	397	397	7,2	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
SQ-36S	397	397	7,3	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
SQ-36M	397	397	7,3	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
SQ-36L	397	397	7,3	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000

[\*] Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

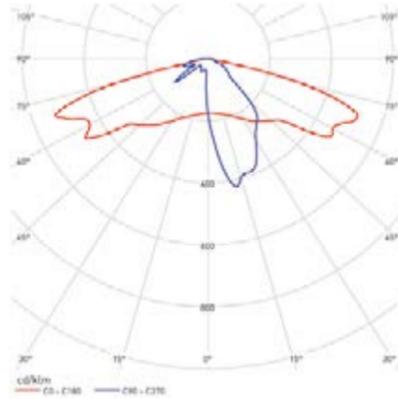
**HTS** High Transparency System® **+8%** Optical Performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

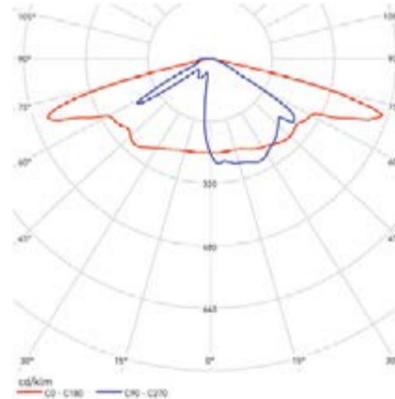


PHOTOMETRIC CURVES

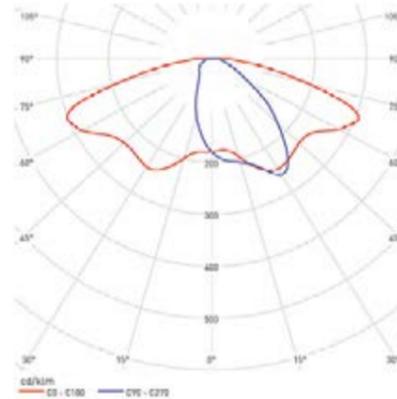
T2-SQ



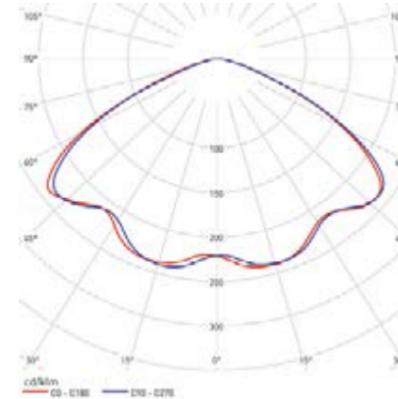
T3-SQ



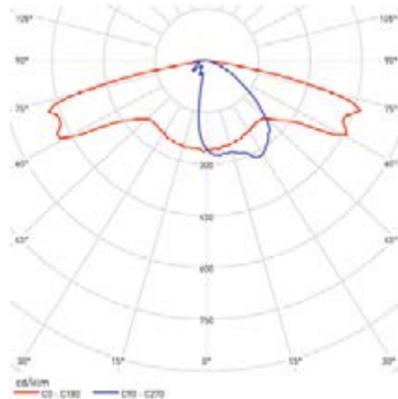
DNW-SQ



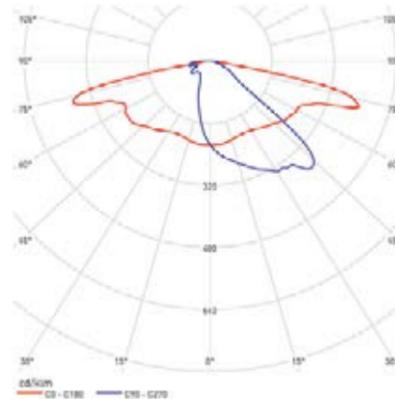
CY-SQ



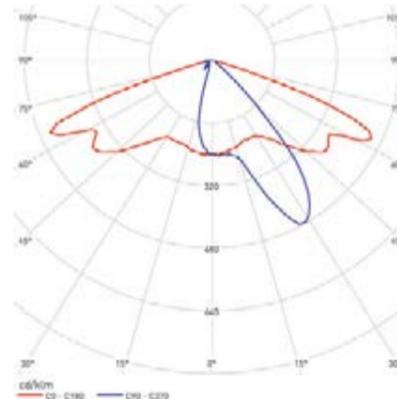
DWC-SQ



ME-SQ



AT-SQ



Standard curves

SETGA's optical department can study additional configurations adapted to each project.



1. CATENARY SYSTEMS



SINGLE CATENARY

DOUBLE CATENARY

2. COLUMNS



VAGALUME COLUMN

SR2 COLUMN AND BRACKET

SR1 COLUMN AND BRACKET

3. COLUMNS > 5 m



SCL SIMPLE COLUMN



SPL SIMPLE COLUMN



SCL DOUBLE COLUMN



SPL DOUBLE COLUMN



## QUANTUM

TOWARDS A  
NEW GENERATION

—

Fluidity and dynamism bring to life to a new generation of LED lights set to redefine functional public lighting through the application of technological vanguard and biomimetic design, combining reliability, high performance and visual comfort without sacrificing the modular essence of the elements.

---

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

Up to **156**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation

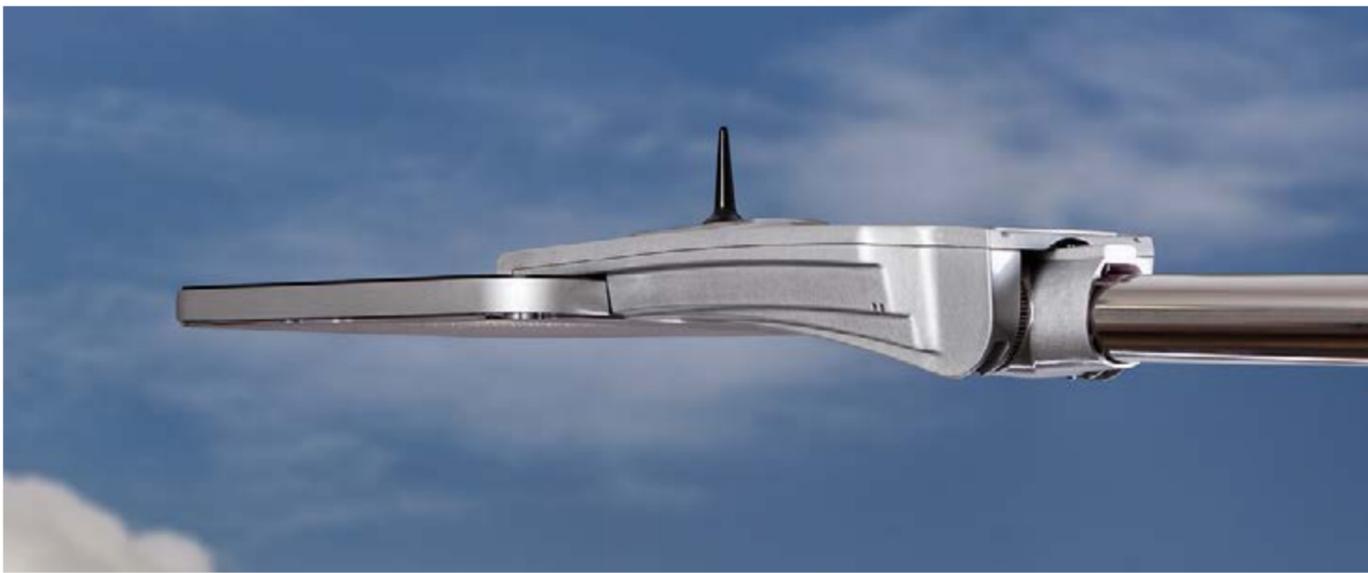
**CLEANTech**®  
Technology to prevent external dirt accumulation.

**LLD**® Low Luminous Density  
Anti-glare-technologie

**MODULAR**  
Design

(\*) Tq 25°C

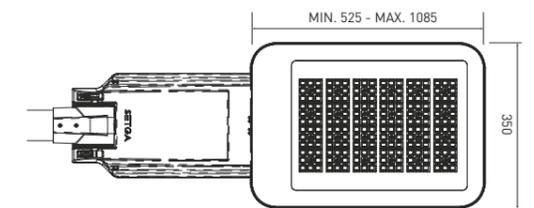
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Technological transformation



QUANTUM



#### ORIGIN AND EVOLUTION

Very much in keeping with SETGA's DNA, Quantum's subtle lines combine an innovative mix of curved and straight forms that transform the irregularities of nature into aesthetic fluidity and continuity. This exercise in biomimetic design brings harmony and dynamism to the whole, while bestowing a compact and sober appearance on the element modularly structured into two separate bodies: the optoelectronic LED module pressurized with APS® argon gas and a rear high capacity airlock conceived to house a wide variety of auxiliary electronic equipment. In Quantum, the technological reliability of the APS® system proven over the last eight years is as important as the accessibility and agility of future maintenance processes. The LED module extraction time is therefore reduced by 90%, from 30 to 3 minutes, and only involves acting on two anchors.

#### MATERIALS AND STRUCTURE

The rear compartment of the structure is composed of an EN AC-44100 injected aluminium body. The material is free of copper alloy, thereby increasing resistance to corrosion compared to most existing market injections. In highly aggressive environments, optional anodizing substantially extends the life cycle of the body. The upper body of the optoelectronic module consists of anodized AL 5754 aluminium, which acts as a direct heat dissipation mechanism and is noted for high resistance to corrosion. An R43 closure of tempered glass is applied to the lower surface. Structural strength and minimal exposure of the side surface along the entire luminaire enable Quantum to withstand winds of 180 km/h, exceeding the resistance of 150 N/m<sup>2</sup> established by the standard.

#### SUSTAINABLE DESIGN

The sustainable design strategy of the Quantum series is part of SETGA's upgrade program and responds to a circular public infrastructure management model, whereby the life cycle of mechanical components exceeds the obsolescence curve of LED technology. When the future upgrade of the optical module becomes profitable through the evolution of efficiency, the rear body will remain in the public space while SETGA updates the optoelectronic module in optimal and controlled atmospheric conditions, ensuring immediate replacement. 100% natural glass makes this material fully recyclable, thereby minimizing the environmental impact of its transformation process. Finally, with the support of the first European glass processing line powered by solar technology, the carbon footprint of this series has been substantially reduced.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® Quantum series, optical and electronic components are encapsulated in a pressurized atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

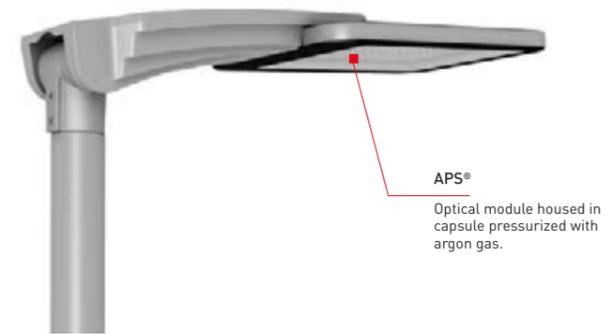
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



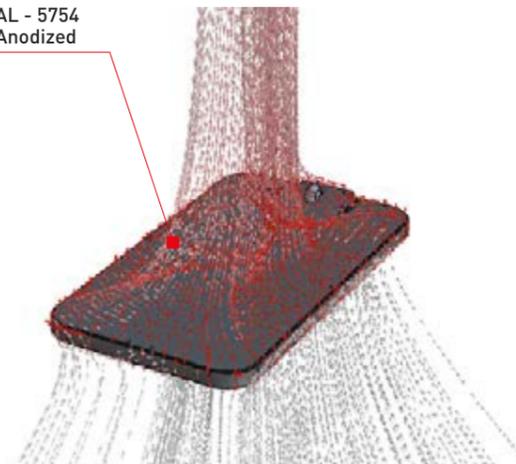
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Advanced heat dissipation system

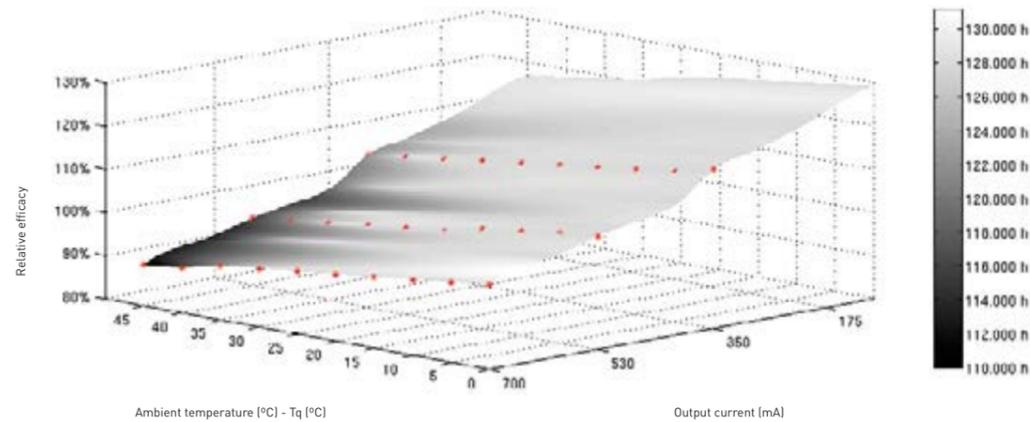
# AL Anodized AL 5754 Aluminium

The Quantum luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of AL 5754 anodized aluminium, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

AL - 5754 Anodized



### RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.

PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (lm/w)	Power (W)	Luminaire Luminous Flux (lm)*	Luminaire Efficacy (lm/w)	Lifetime (hours)**
QT-12S	525	350	9.6	12	2700 - 4500	80% -90%	160-193	15	2049	135	>100.000
QT-12M	525	350	9.6	12	2700 - 4500	80% -90%	160-193	22	3011	134	>100.000
QT-12L	525	350	9.6	12	2700 - 4500	80% -90%	160-193	30	3872	131	>100.000
QT-24S	525	350	9.6	24	2700 - 4500	80% -90%	160-193	28	4099	146	>100.000
QT-24M	525	350	9.6	24	2700 - 4500	80% -90%	160-193	43	6023	141	>100.000
QT-24L	525	350	9.6	24	2700 - 4500	80% -90%	160-193	56	7745	137	>100.000
QT-36S	785	350	12	36	2700 - 4500	80% -90%	160-193	41	6148	149	>100.000
QT-36M	785	350	12	36	2700 - 4500	80% -90%	160-193	59	9034	152	>100.000
QT-36L	785	350	12	36	2700 - 4500	80% -90%	160-193	84	11617	138	>100.000
QT-48S	785	350	12	48	2700 - 4500	80% -90%	160-193	55	8198	150	>100.000
QT-48M	785	350	12	48	2700 - 4500	80% -90%	160-193	79	12045	153	>100.000
QT-48L	785	350	12	48	2700 - 4500	80% -90%	160-193	110	15489	141	>100.000
QT-60S	785	350	12	60	2700 - 4500	80% -90%	160-193	68	10346	152	>100.000
QT-60M	785	350	12	60	2700 - 4500	80% -90%	160-193	97	15200	156	>100.000
QT-60L	785	350	12	60	2700 - 4500	80% -90%	160-193	139	19547	141	>100.000
QT-72S	935	350	14.5	72	2700 - 4500	80% -90%	160-193	81	12297	152	>100.000
QT-72M	935	350	14.5	72	2700 - 4500	80% -90%	160-193	116	18068	155	>100.000
QT-72L	935	350	14.5	72	2700 - 4500	80% -90%	160-193	165	23234	141	>100.000
QT-84S	935	350	14.5	84	2700 - 4500	80% -90%	160-193	93	14345	154	>100.000
QT-84M	935	350	14.5	84	2700 - 4500	80% -90%	160-193	135	21079	156	>100.000
QT-84L	935	350	14.5	84	2700 - 4500	80% -90%	160-193	190	27044	142	>100.000
QT-96S	935	350	14.5	96	2700 - 4500	80% -90%	160-193	106	16396	154	>100.000
QT-96M	935	350	14.5	96	2700 - 4500	80% -90%	160-193	154	24090	156	>100.000
QT-96L	935	350	14.5	96	2700 - 4500	80% -90%	160-193	223	30979	139	>100.000
QT-108S	1085	350	15,8	108	2700 - 4500	80% -90%	160-193	120	18445	153	>100.000
QT-108M	1085	350	15,8	108	2700 - 4500	80% -90%	160-193	172	25693	149	>100.000
QT-108L	1085	350	15,8	108	2700 - 4500	80% -90%	160-193	254	34851	137	>100.000
QT-120S	1085	350	15,8	120	2700 - 4500	80% -90%	160-193	131	20495	156	>100.000
QT-120M	1085	350	15,8	120	2700 - 4500	80% -90%	160-193	192	28547	149	>100.000
QT-120L	1085	350	15,8	120	2700 - 4500	80% -90%	160-193	282	38724	137	>100.000

⚡ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

#

Reducing light density in the solid angle to create new visual comfort standards.

**LLD** | Low Luminous Density®

LLD technology improves the glare index (GR) without the need for optical systems characterized by reflection or refraction processes whose efficiency levels (lm/W) experience significant losses. Quantum distributes low power LED diodes below 1 W along the optical module, increasing the light emitting surface size to reduce luminous density in all solid angles of observation.

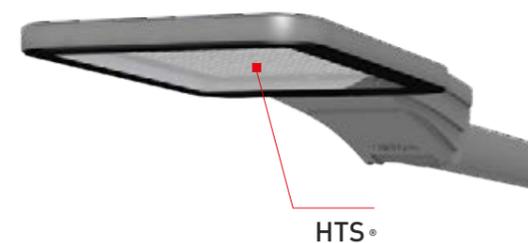


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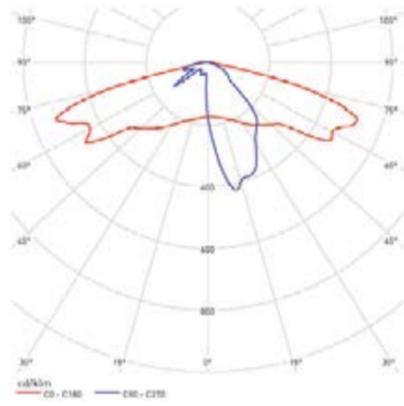
Innovation in the optical system enhances final product performance.

**HTS** | High Transparency System® +8% | Optical Performance

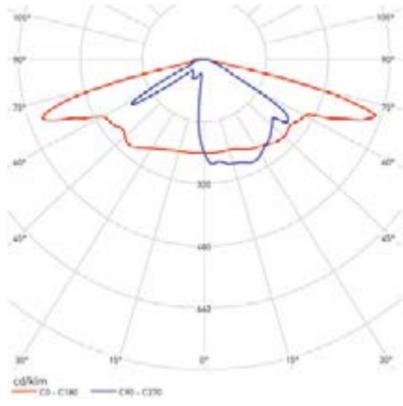
The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.



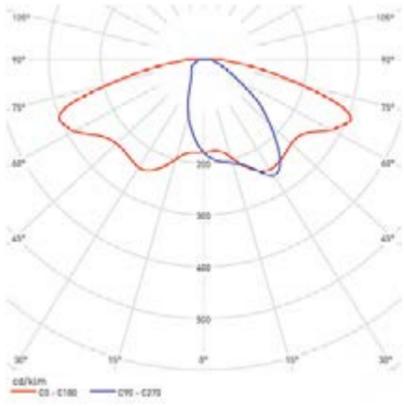
T2-QT



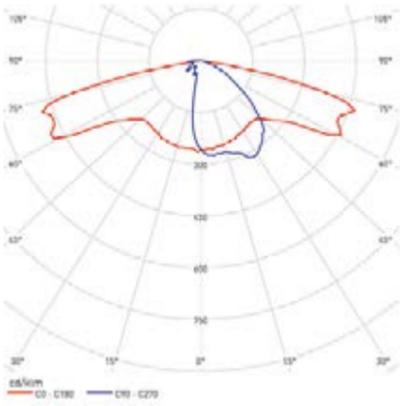
T3-QT



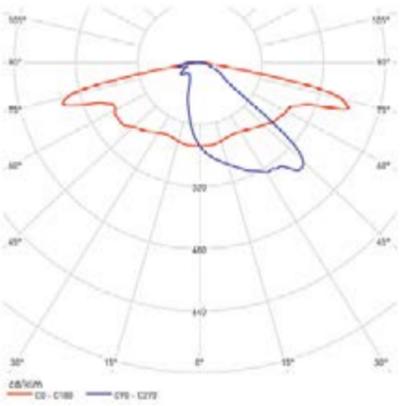
DNW-QT



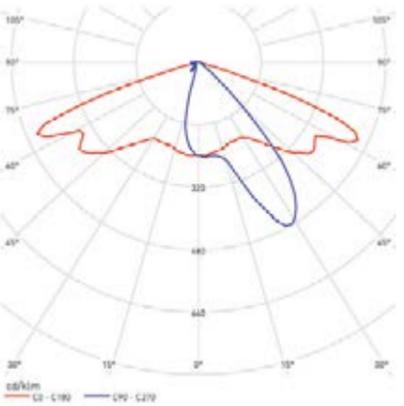
DWC-QT



ME-QT



AT-QT



Standard curves

SETGA's optical department can study additional configurations adapted to each project.



## ESSENZE

A DIALOGUE BETWEEN  
SOBRIETY AND EFFICACY

The design integrity inherent to the EsSENZE series has triggered a new rationalist language, where form follows function, preserving the honesty of advanced materials and the contrast of every detail, with the aim of expanding performance boundaries.

**-IP66-**  
Watertightness

Up to **160**  
Lm /w (\*)

**AL** <sup>6063-T6</sup>  
Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

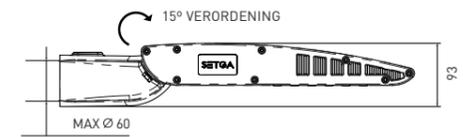
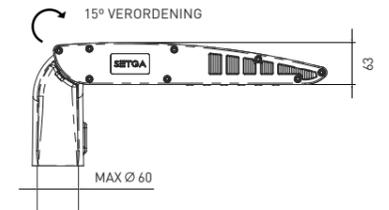
(\*) Tq 25°C

**IK10 - IK08**  
High Impact PMMA

**+100.000**  
Hours of lifetime (\*)

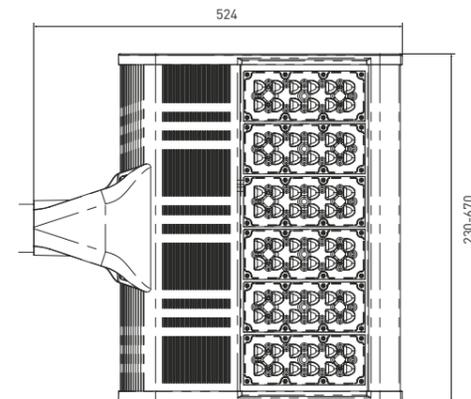
**LAFS**® Lateral Air Flow  
System

**CLEANTech**®  
Technology to prevent  
external dirt accumulation



Technical  
precision in  
every detail

ESSENZE



#### ORIGIN AND EVOLUTION

The intelligent integration of various aesthetic and industrial trends has transformed the technological status quo, creating a new relationship between light and urban space.

SETGA has merged contemporary trends in the automotive industry with the aesthetic of Central European watchmaking to create a compact format, harmonizing the dynamic nature of the unit with the contrast and robustness inspired by each mechanical component.

#### MATERIALS AND STRUCTURE

The compact aluminium AL 6063-T6 extruded and anodized body minimizes the degrading effect of aggressive environments. The column anchoring system is characterized by high structural reliability. A robust locking mechanism, close to the centre of gravity of the luminaire, eliminates the front tilting risk inherent to any large format. Finally, the set of injected aluminium end caps and Stainless Steel screws through which the sliding driver system is accessed has been designed to prevent fasteners from loosening during the extraction process, speeding up maintenance and preserving thread effectiveness over the lifetime of the luminaire.

#### SUSTAINABLE DESIGN

Each new luminaire in the Essenze series is the result of a highly sustainable industrial process, distinguished by its recycling capacity and optimization of applied materials. When compared to other processed aluminium, aluminium 6063-T6's high purity ensures full reuse by other industries in future. Additionally, the high thermal conductivity of this material allows for component size adjustment, resulting in advanced thermal performance with lower material density than bodies manufactured from other aluminium. Following the latest ISO 14001 audit, and the implementation of the master plan for sustainability, SETGA has driven the design of a long-term recycling system for each Essenze component.

#

Advanced thermal management system

**AL** Extruded and anodized AL 6063-T6 **LAFS** Lateral Air Flow System

In order to optimize the heat dissipation process, enhance efficacy (lm/W) and increase luminaire lifetime, SETGA has developed a pioneering system by integrating an internal structure of heat pipes and a lateral cooling

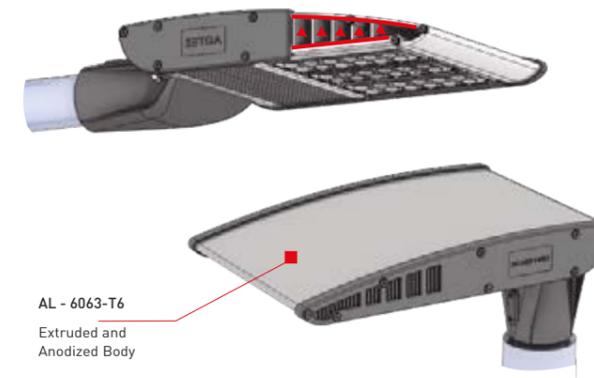
mechanism (LAFS®) within a single compact body sink made of extruded and anodized aluminium AL 6063-T6. The Eszenze luminaire is equipped with continuous, accelerated and self-refrigerated thermal architecture capable of reducing LED junction temperature between 5° C (350mA) and 15° C (700mA) in relation to standard systems manufactured in die cast aluminium.

**1** Extruded and anodized AL 6063-T6 compact body.

The materials technology applied to this series allows for a substantial acceleration in the heat dissipation process, reaching conductivity levels greater than 200 W/metre Kelvin—an increase in the dissipation rate of between 50% and 53%, compared to standard aluminium injection systems with conductivity levels lower than 130-140 W/metre Kelvin.

**2** Integration of multiple and continuous heat pipes.

Including multiple and continuous heat pipes into the compact aluminium body connects the critical thermal area to the upper surface of the luminaire, thereby maximizing its dissipation capacity. The slotted bottom surface of the luminaire multiplies the sinking body, further increasing conductive potential.

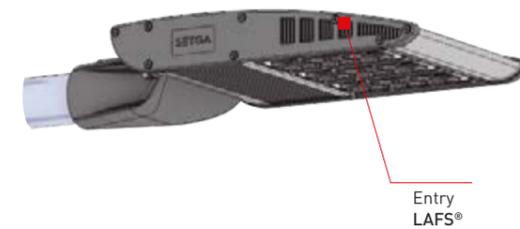


**3** Lateral self-cooling system (LAFS®).

The LAFS® (Lateral Air Flow System) side cooling system generates an internal convection process to reduce the temperature of thermal critical areas, where the luminaire body comes into direct contact with the PCB.

The Eszenze luminaire incorporates an IP66-rated double-barrier system for an adequate level of sealing between the cooling area over which LAFS® acts and the compartments housing the electronic components and connections.

Finally, filters designed to neutralize dirt intrusion in the thermal critical area are located in the sides entrances of the cooling system.



**4** Graphite thermal pad included within the joint area between the PCB and the anodized aluminium body.

The low porosity of the anodized aluminium and the use of a graphite thermal pad in the area between the PCB and dissipation body contribute to thermal contact optimization between both elements, eliminating air gaps and improving the dissipation process in the early stages.

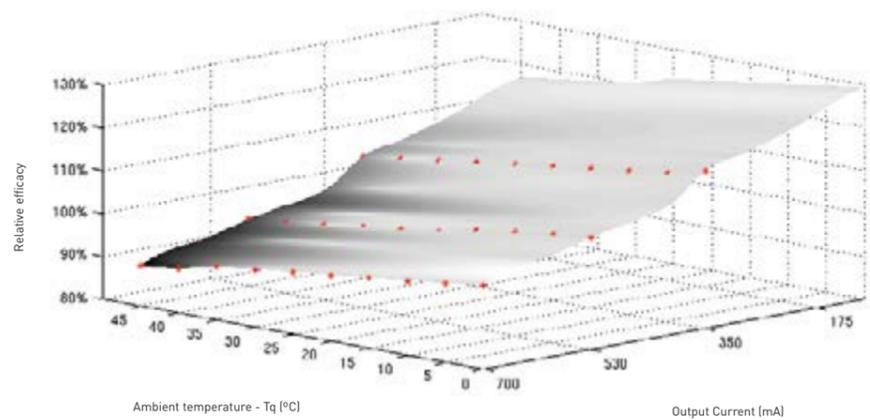


PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
EZ-12S	524	230	5.3	12	2700-4500	80%-90%	160-193	15	2091	138	>100.000
EZ-12M	524	230	5.3	12	2700-4500	80%-90%	160-193	22	3073	137	>100.000
EZ-12L	524	230	5.3	12	2700-4500	80%-90%	160-193	30	3951	134	>100.000
EZ-24S	524	230	5.4	24	2700-4500	80%-90%	160-193	28	4183	149	>100.000
EZ-24M	524	230	5.4	24	2700-4500	80%-90%	160-193	43	6145	144	>100.000
EZ-24L	524	230	5.4	24	2700-4500	80%-90%	160-193	56	7903	140	>100.000
EZ-36S	524	280	6.5	36	2700-4500	80%-90%	160-193	41	6274	152	>100.000
EZ-36M	524	280	6.5	36	2700-4500	80%-90%	160-193	59	9218	155	>100.000
EZ-36L	524	280	6.5	36	2700-4500	80%-90%	160-193	84	11854	141	>100.000
EZ-48S	524	360	7.4	48	2700-4500	80%-90%	160-193	55	8365	153	>100.000
EZ-48M	524	360	7.4	48	2700-4500	80%-90%	160-193	79	12291	156	>100.000
EZ-48L	524	360	7.4	48	2700-4500	80%-90%	160-193	110	15806	144	>100.000
EZ-60S	524	420	8.5	60	2700-4500	80%-90%	160-193	68	10456	154	>100.000
EZ-60M	524	420	8.5	60	2700-4500	80%-90%	160-193	97	15364	159	>100.000
EZ-60L	524	420	8.5	60	2700-4500	80%-90%	160-193	137	19757	144	>100.000
EZ-72S	524	520	9.6	72	2700-4500	80%-90%	160-193	81	12548	155	>100.000
EZ-72M	524	520	9.6	72	2700-4500	80%-90%	160-193	116	18436	159	>100.000
EZ-72L	524	520	9.6	72	2700-4500	80%-90%	160-193	165	23708	144	>100.000
EZ-84S	524	600	11.3	84	2700-4500	80%-90%	160-193	93	14638	157	>100.000
EZ-84M	524	600	11.3	84	2700-4500	80%-90%	160-193	135	21509	159	>100.000
EZ-84L	524	600	11.3	84	2700-4500	80%-90%	160-193	190	27596	145	>100.000
EZ-96S	524	670	12.5	96	2700-4500	80%-90%	160-193	106	16730	157	>100.000
EZ-96M	524	670	12.5	96	2700-4500	80%-90%	160-193	154	24582	160	>100.000
EZ-96L	524	670	12.5	96	2700-4500	80%-90%	160-193	223	31611	142	>100.000

\* Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF)

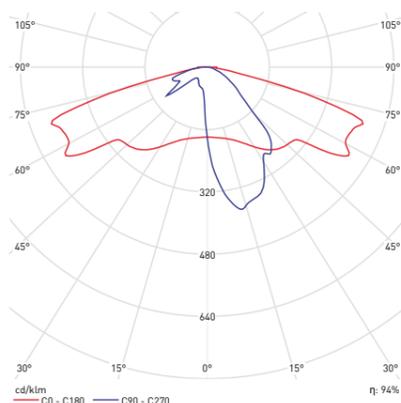


The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

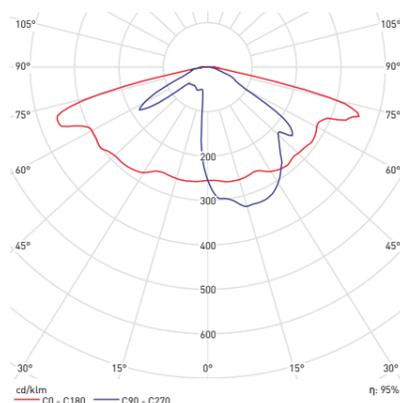
This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.

PHOTOMETRIC CURVES

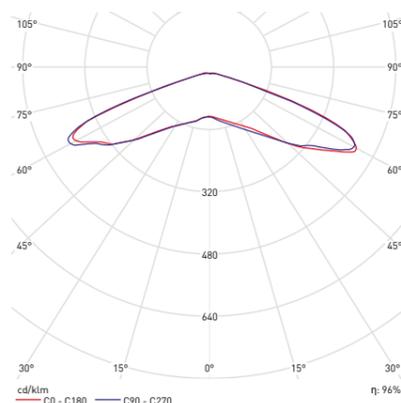
T2-EZ



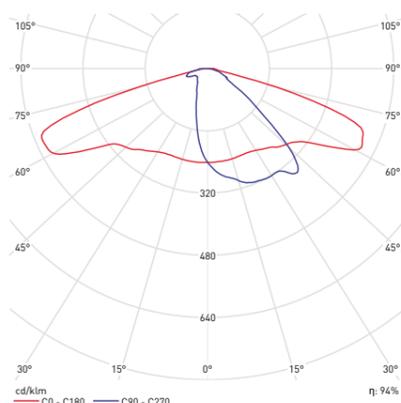
T3-EZ



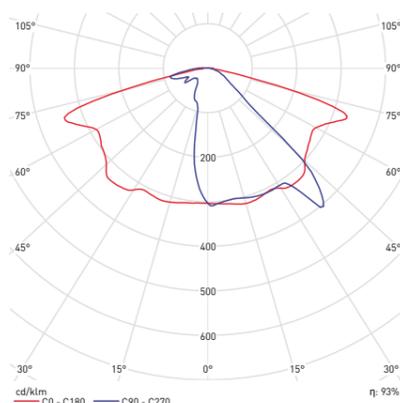
RV-EZ



DWC-EZ



ME-EZ



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

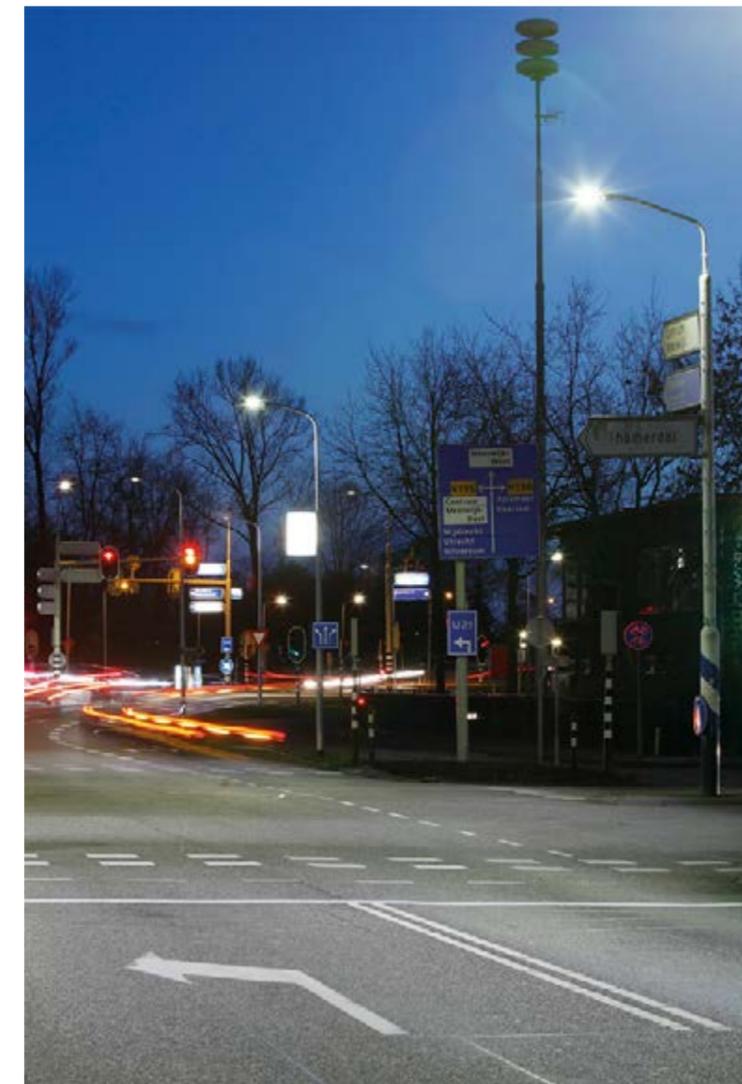
Technology to prevent external dirt accumulation.

# CLEAN Tech®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Eszenze luminaire heat sink with a completely uniform and curved upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.

Finally, baffles located on the lower front and rear surface of the optical area prevent dirty liquid flowing from the upper area of the body to the lenses, thereby preserving optical system efficiency (lm/W).



1. BRACKETS AND SUPPORTS



SANXENXO BRACKET



AERO BRACKET

2. COLUMNS



SYMBOL COLUMN



BICILINDRICA COLUMN

Page 359

Page 329



## PRUDENZA

### LIGHTING REINFORCEMENT FOR CROSSWALKS

Inadequate vertical illuminance levels at crosswalks, with regard to most existing regulations, together with high driver distraction levels hinder pedestrian identification, increasing the risk of accident. To overcome this challenge, the Prudenza system integrates an intermittent beacon aimed at drivers and an interactive light with high incidence over pedestrian vertical planes.

**-IP68-**

Watertightness

**APS**® Argon Pressurised System

**SST** | Stainless steel body

**ALERT** | intermittent beacon

Up to **152**

Lm /w [\*]

**+100.000**

Hours of lifetime [\*]

**AL** <sup>6063-T6</sup> Anodized  
Advanced Thermal Management

**IK08 - IK10**  
Glass closure or High Impact PMMA

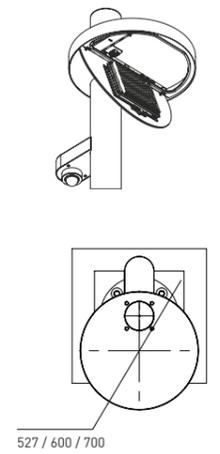
**CLASS II**

Electrical insulation

**CLEANTech**®

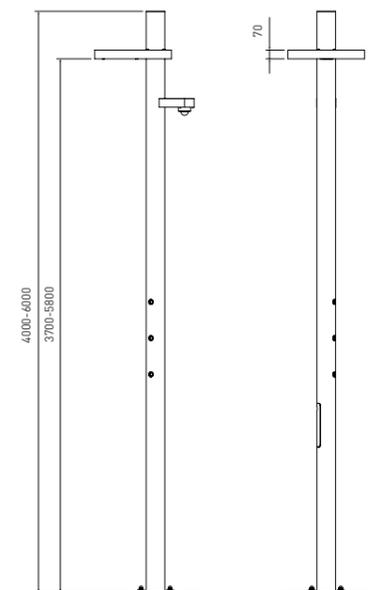
Technology to prevent external dirt accumulation.

[\*] Tq 25°C



Interactive  
light to protect  
lives

PRUDENZA



#### SYSTEM DESCRIPTION

By detecting pedestrian presence in a close spatial environment, the Prudenza series intensifies the vertical plane luminance level, facilitating anticipated driver recognition of pedestrians. An adapted photometry and optical system (MRLS® – Micro refractive light surface) guarantees a full visual comfort level for drivers, with no glare.

The flashing beacon system aimed at vehicles reinforces the message, increasing driver alertness and visual focus on the crosswalk. The Prudenza series is also known for its connectivity with other complementary traffic light reinforcement series.

#### STRUCTURE AND MATERIALS

The Prudenza system comprises a cylindrical column of AISI314 or AISI316 Stainless Steel (standard height and diameter: 4 or 6 m and 129 mm, respectively), irrespective of the adaptability requirements of each project. This element integrates a beaconing system with amber LED optics, a presence detector, and a Stainless Steel LED luminaire equipped with an optical LED module immersed in an argon gas atmosphere. The finish of this set is obtained by a thermal coating process or through the application of two-component polyurethane. The vocation of these materials is to avoid the degrading action of highly aggressive environments, such as coastal areas.

#### SUSTAINABLE DESIGN

The Prudenza luminaire incorporates one of the world's most long-lasting and recycled materials—steel. Reintroducing steel to the production cycle of other industries at end-of-useable life will produce significant energy savings compared with other metals. Glass is 100% natural and fully recyclable, thereby minimizing the environmental impact of its transformation process. With the support of the first European glass processing line powered by solar technology, the carbon footprint of this series has been substantially reduced. Following the implementation of ISO 14001 and the development of the sustainability master plan, SETGA has striven to reduce the carbon footprint of all its components, by designing a long-term recycling system for each one.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® Prudenza series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

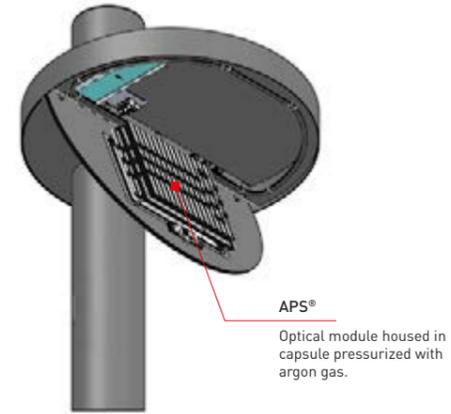
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



### PARAMETERS

Model	Diameter (mm)	Height (mm)	Weight (kg)	N° LEDs	Colour T*	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
PZ-12S	527	60	11,2	12	2700-4500	80%-90%	160-193	15	2049	135	>100.000
PZ-12M	527	60	11,2	12	2700-4500	80%-90%	160-193	22	3011	134	>100.000
PZ-12L	527	60	11,2	12	2700-4500	80%-90%	160-193	30	3872	131	>100.000
PZ-24S	600	60	11,4	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
PZ-24M	600	60	11,4	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
PZ-24L	600	60	11,4	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
PZ-36S	700	60	11,6	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
PZ-36M	700	60	11,6	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
PZ-36L	700	60	11,6	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000

[\*] Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. [\*\*] L80B10 - L96B10 (IES LM-80 / TM-21).

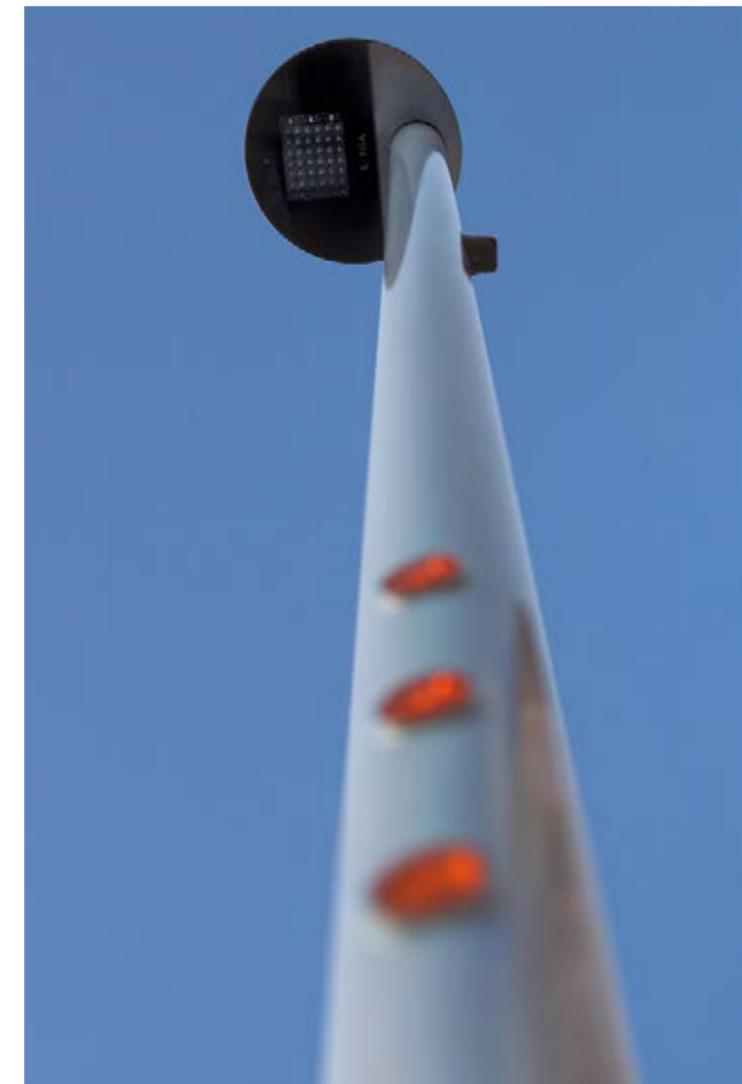
#

Accelerated heat dissipation system.

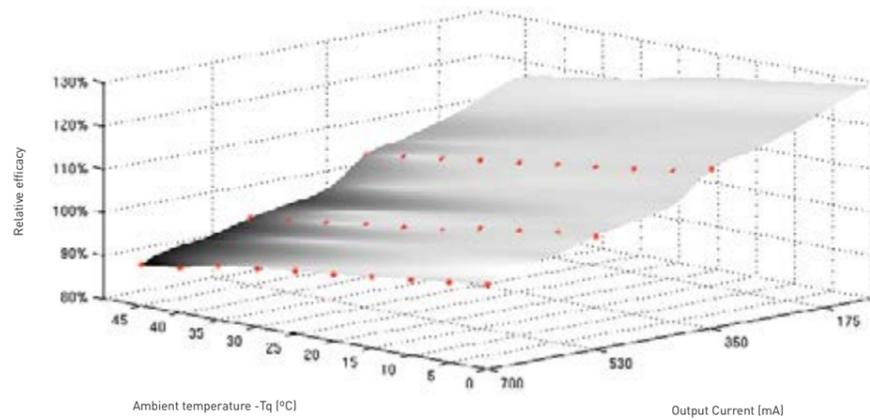
# AL AL 6063-T6 Extruded and Anodized

The Prudenza luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection.

The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

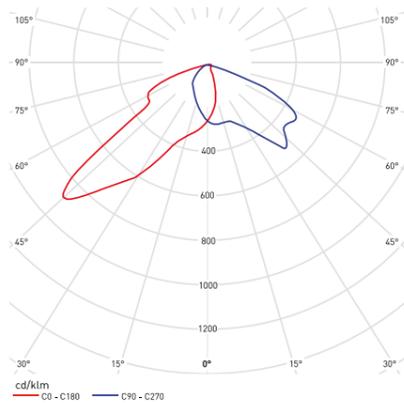
**HTS** High Transparency System® **+8%** Optical Performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

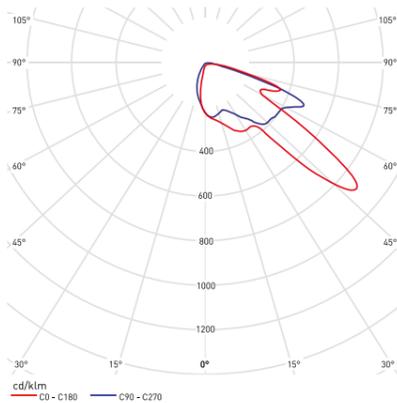


PHOTOMETRIC CURVES

02-PZ

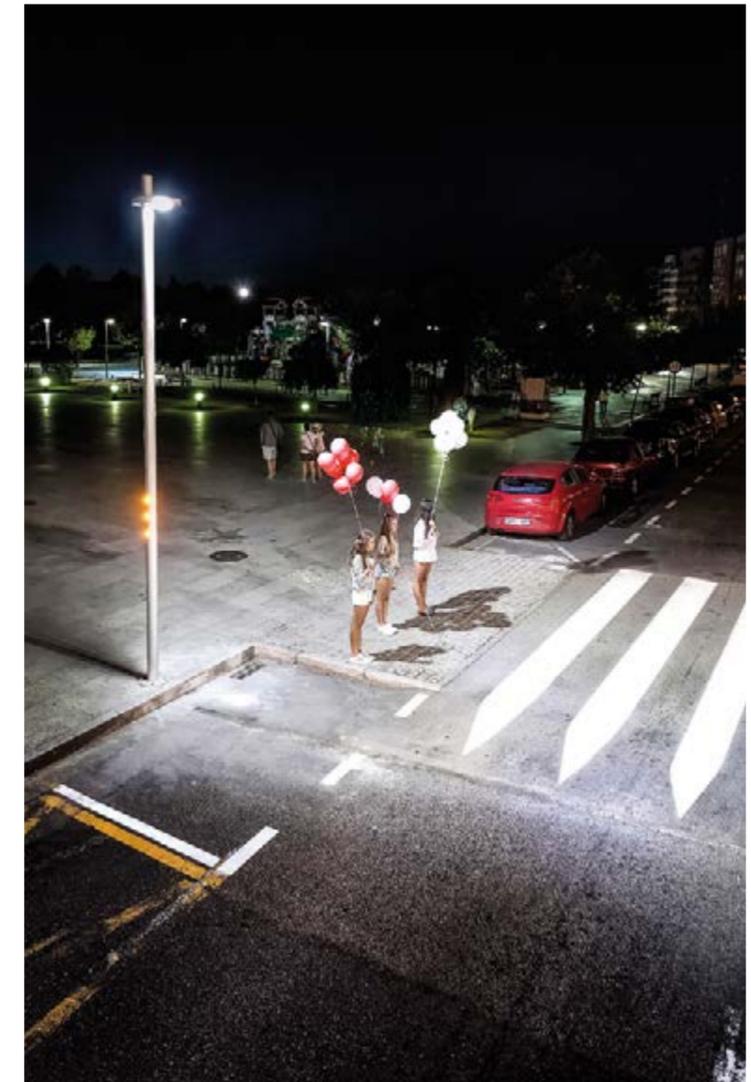
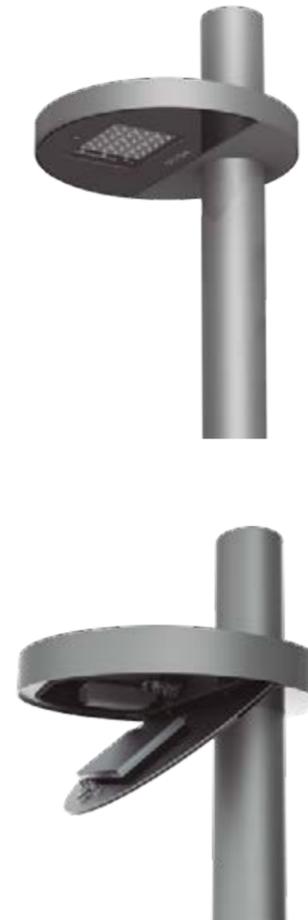


03-PZ



Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## TALO

HIDDEN  
TECHNOLOGY

No one would initially recognise Talo as source of light during the day, but every one would appreciate its lighting atmosphere during the night. Talo acts as an urban sculpture based on aesthetical sophistication and urban integration, exploring a new design boundary driven by simplicity and interactivity.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**SST** | Stainless Steel

**ALERT** | waarschuwing -LEDs

Up to **152**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

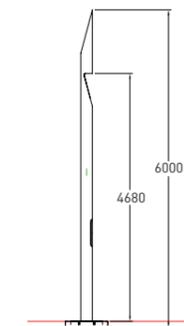
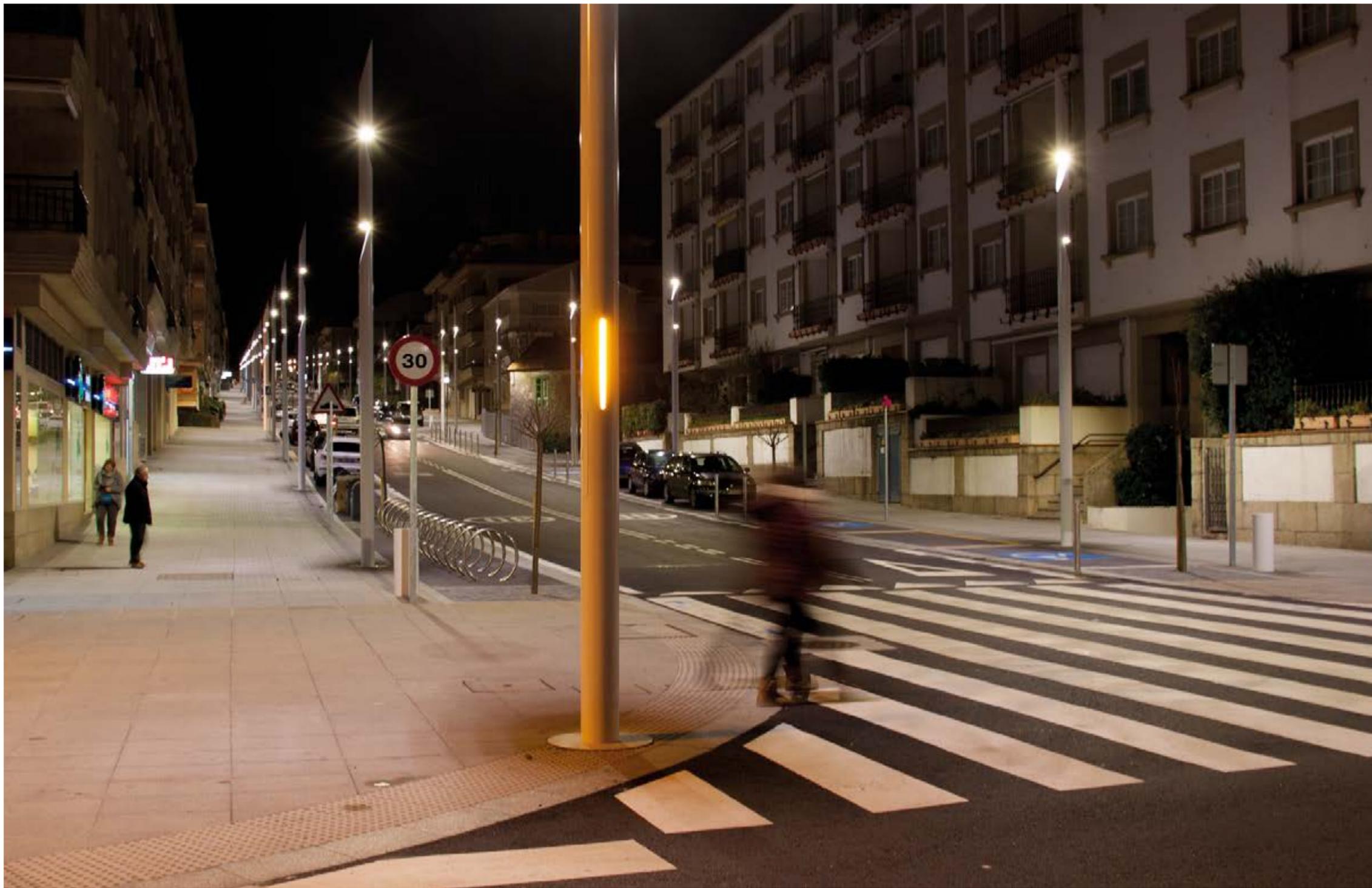
**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**BESCHERM CLASS II**

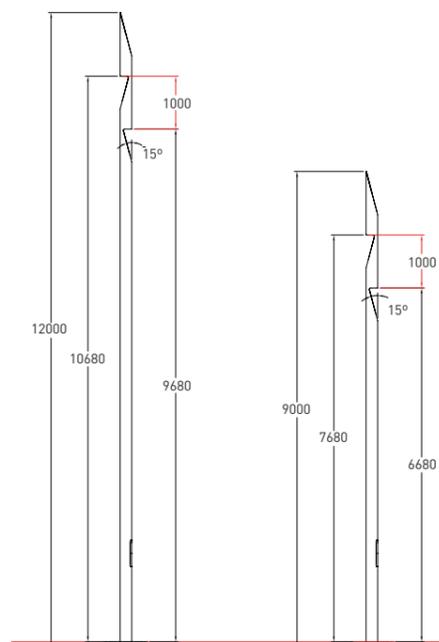
**CLEANTech**®  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



New horizons

TALO



#### ORIGIN AND EVOLUTION

Its designer, Jesús Fole, was inspired by the genuineness of a sail-boat's mast. In this direction, slenderness, continuity and balance were merged together in a cylindrical compact shape partially sectioned in symmetrical and refined planes with the aim of representing the two sails of a boat. In both sails an IP68 LED modules is integrated and its elliptical shape creates an indirect light shape.

During day light, Talo resembles a contemporary sculpture within public spaces, while its technological potential is accentuated when the night comes. Its compact architecture enables lighting designers and urban planners to integrate and camouflage any sensor IoT system or additional lighting element without altering its uninterrupted and clean appearance.

#### Structure and materials

The TALO system comprises a cylindrical column of AISI314 or AISI316 stainless steel (standard height and diameter: 6 or 9 m and 230 mm, respectively), irrespective of the adaptability requirements of each project. This element subtly integrates a continuous OLED - effect beaconing system with amber LED system, a presence detector, surveillance cameras, and any IoT device together with two optical LED modules immersed in an argon gas atmosphere.

The standard finish of this set is obtained by a thermal coating process or through the application of two-component polyurethane. The vocation of these materials is to avoid the degrading action of highly aggressive environments such as coastal areas.

#### DESIGNER



**Jesús Fole**  
Architect and Product Designer  
of TALO (Pontevedra - Spain).



#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® Talo series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

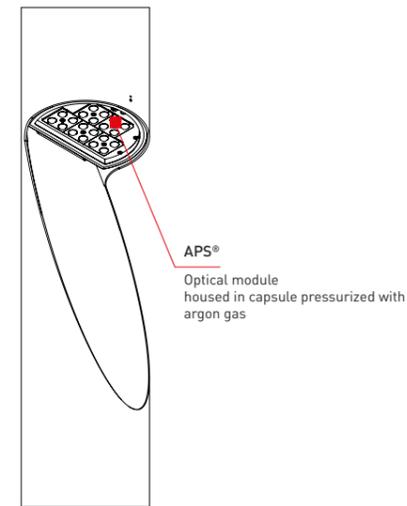
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



### PARAMETERS

Model	Radio (mm)	Height (mm)	Weight (kg)	N° LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
TL-20S	180	60	11,2	20	2700-4500	80%-90%	180-193	20	3175	156	>100.000
TL-20M	180	60	11,2	20	2700-4500	80%-90%	180-193	30	4434	149	>100.000
TL-20L	180	60	11,2	20	2700-4500	80%-90%	180-193	42	6014	142	>100.000
TL-20LL	180	60	11,4	20	2700-4500	80%-90%	180-193	47	6669	142	>100.000

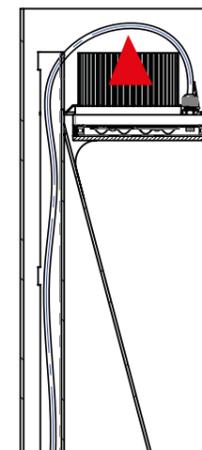
⚠ (\*) Luminous flux at T<sub>j</sub>25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

#

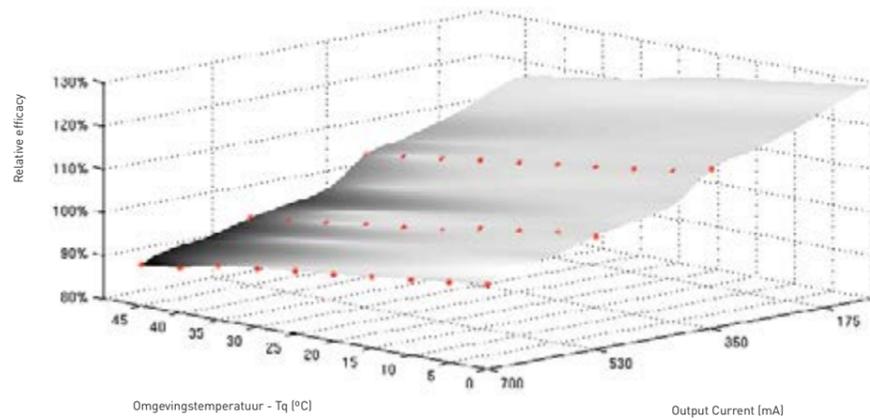
Accelerated heat dissipation system

# AL Al 5754 Anodized

The Talo luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.



#

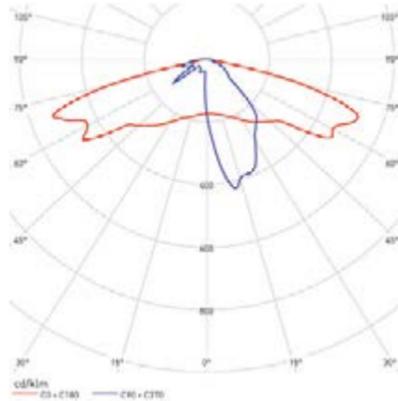
Innovation in the optical system enhances final product performance.

**HTS** High Transparency System® **+8%** Optical performance

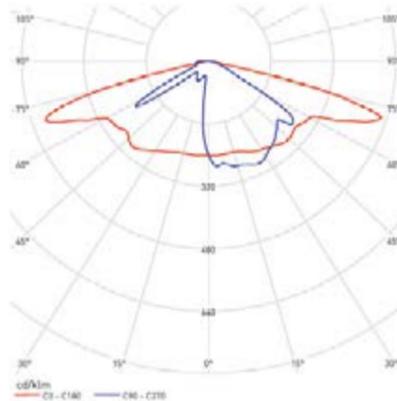
The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

PHOTOMETRIC CURVES

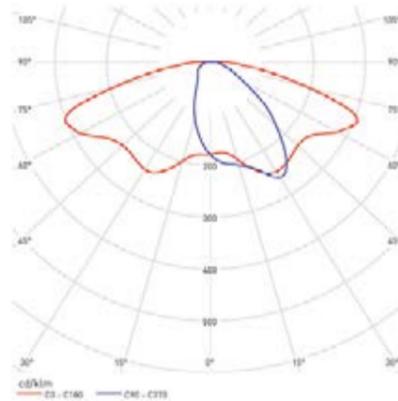
T2-TL



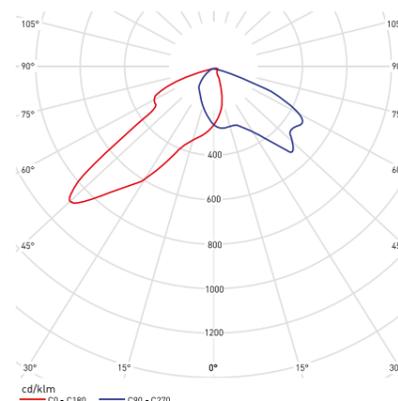
T3-TL



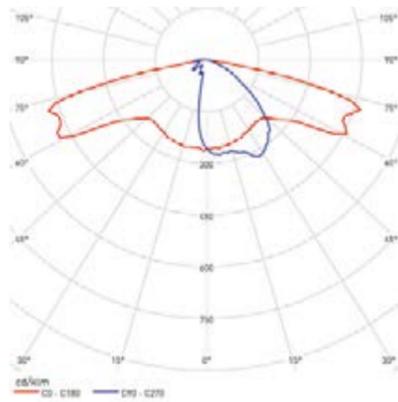
DNW-TL



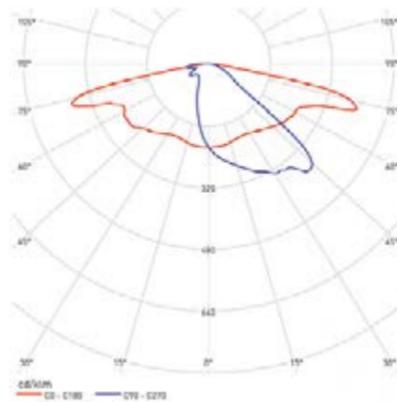
O2-TL



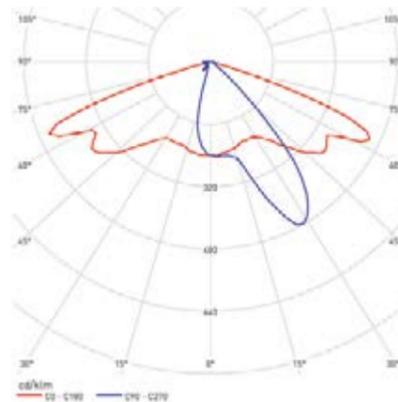
DWC-TL



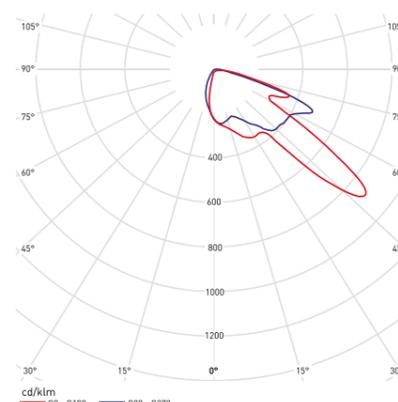
ME-TL



AT-TL



O3-TL



Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## PONTE

### SIGNALLING GEOMETRY

When public space lacks clear reference axes and alignments, introducing triangular shapes triggers a new framework for mobility. Acting as a visual bridge between the limits of urban space, the vocation of the Ponte series.

**-IP66-**  
Watertightness

Up to **149**  
Lm /w (\*)

**AL** 6063-T6  
Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

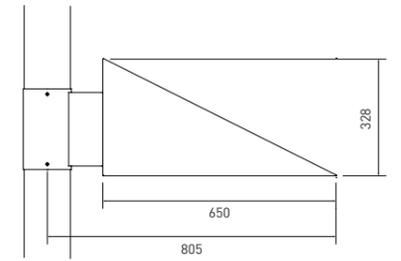
**SST** | Stainless  
Steel Body

**+100.000**  
Hours of lifetime (\*)

**IK08 - IK10**  
High Impact PMMA or glass.

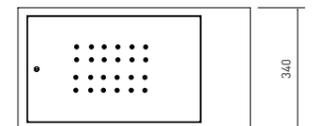
**CLEANTech**<sup>®</sup>  
Technology to prevent external dirt  
accumulation.

(\*) Tq 25°C



Redefining  
urban space  
boundaries

PONTE



#### ORIGIN AND EVOLUTION

Since emerging on the banks of the River Lézé more than a decade ago, the Ponte series has transformed the visual framework of multiple urban spaces, co-starring in urban regeneration processes in such iconic locations as Dubai city centre.

The development of this iconic series has been distinguished by a capacity for innovation—it was one of the first luminaires in the world to incorporate metal halide technology. Now the Ponte series features the latest generation of LED optical engines developed by SETGA, according to the highest standards of colour rendering, efficiency and lifetime.

#### MATERIALS AND STRUCTURE

The Ponte luminaire body is characterized by a structure of AISI304 or AISI316 Stainless

Steel to prevent the degrading action of highly aggressive environments, such as coastal areas. Inside the luminaire, an extruded, anodized aluminium 6063-T6 chassis acts as a thermal sink.

The Ponte luminaire can be integrated with cylindrical columns, such as Symbol or Ponte, manufactured from AISI304 or AISI316 Stainless

Steel. Whatever the combination, the two elements accentuate their aesthetic lightness.

#### SUSTAINABLE DESIGN

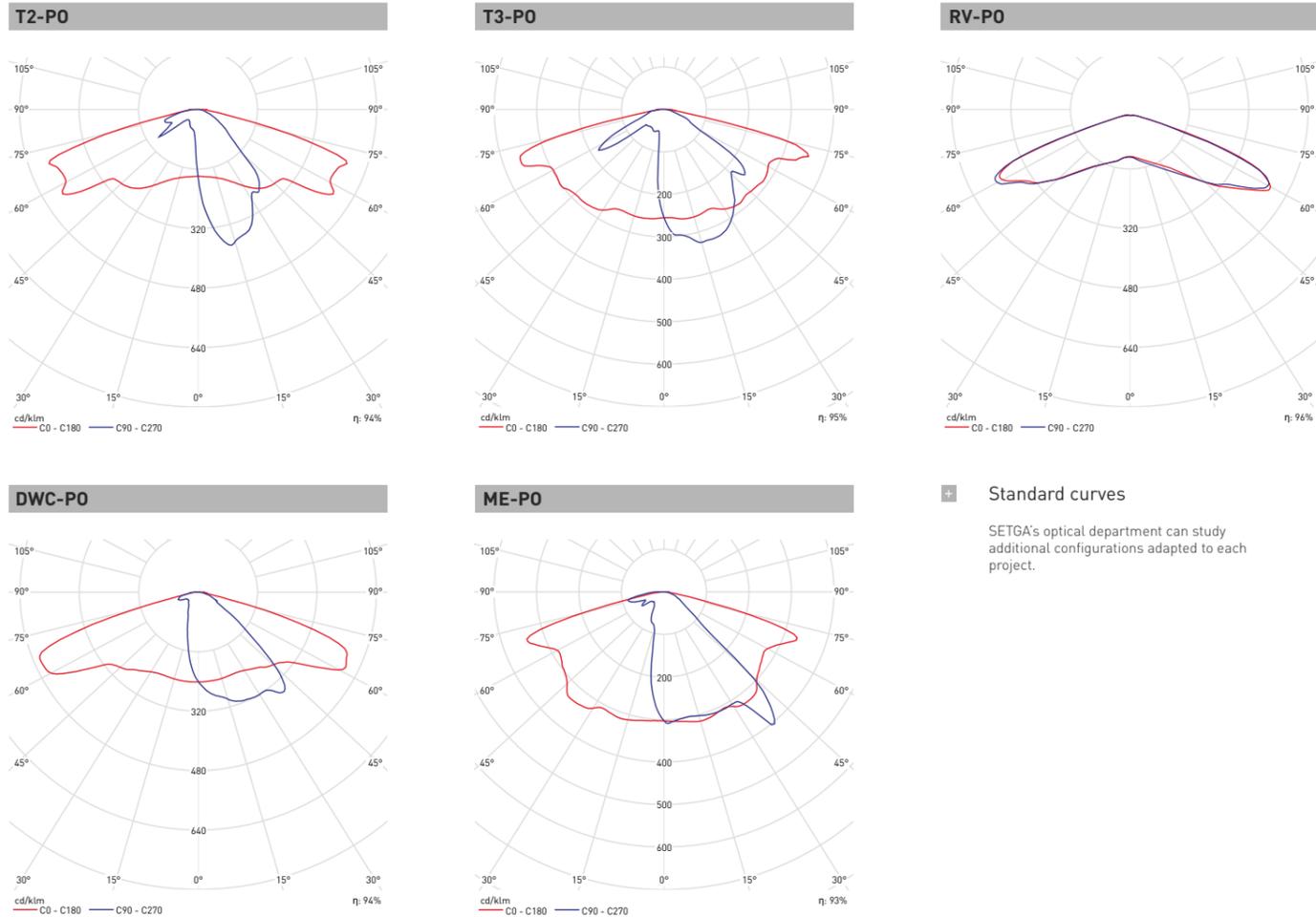
The Ponte luminaire incorporates one of the world's most recycled materials—steel. Planned reintroduction in the production cycle of other industries after lifetime completion will produce significant energy savings, compared to the use of other metals. Unlike aluminium injection, for example, the use of extruded aluminium in the manufacture of the chassis sink facilitates reuse in other product categories. Following the implementation of ISO 14001 and the development of a sustainability master plan, SETGA has reduced the carbon footprint of all its components, which are designed for recycling in the long term.

PARAMETERS

Model	Lenght (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
PO-12S	650	340	13.8	12	2700-4500	80%-90%	160-193	15	2091	138	>100.000
PO-12M	650	340	13.8	12	2700-4500	80%-90%	160-193	22	3073	137	>100.000
PO-12L	650	340	13.8	12	2700-4500	80%-90%	160-193	30	3951	134	>100.000
PO-24S	650	340	15.2	24	2700-4500	80%-90%	160-193	28	4183	149	>100.000
PO-24M	650	340	15.2	24	2700-4500	80%-90%	160-193	43	6145	144	>100.000
PO-24L	650	340	15.2	24	2700-4500	80%-90%	160-193	56	7903	140	>100.000

⚡ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



Standard curves

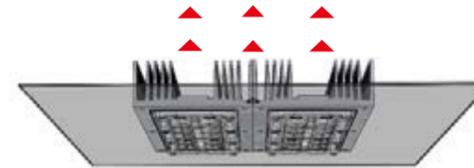
SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system.

**AL** AL 6063-T6  
Extruded and Anodized

The Ponte luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Ponte luminaire with a completely uniform and sloped upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.



1. COLUMNS



PONTE COLUMN



SYMBOL COLUMN



## ADM

THE POWER OF CONTRAST

Enhancing city diversity calls for the application of elements capable of generating shades and contrasts in line with the desired atmosphere. A genuine fusion of materials is the ADM series' response to the contemporary challenges of urban regeneration.

**-IP66-**  
Watertightness

**Up to 156**  
Lm /w (\*)

**AL** 6063-T6 Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

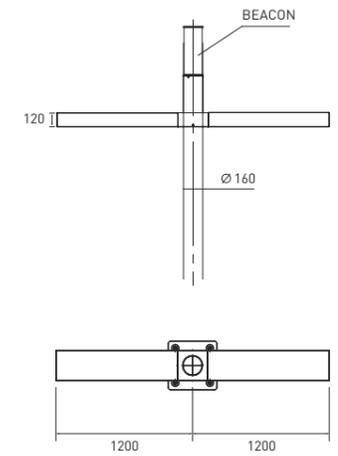
**SST** | Stainless Steel Body

**+100.000**  
Hours of lifetime (\*)

**IK08 - IK10**  
Glass closure or High Impact PMMA

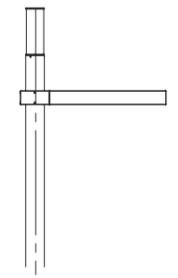
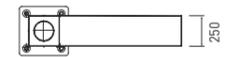
**CLEANTech®**  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



A smart  
welcome to  
every city

ADM



#### ORIGIN AND EVOLUTION

The ADM series was initially conceived to enhance the urban welcome experience, providing main access avenues with a range of contrasts based on the integration of an upper body in the shape of a light beacon and the combination of a polished Stainless Steel fixture, with an extruded aluminium column.

The incorporation of the latest LED technology has underscored the capacity of the ADM series design line to further enhance the identity of the most avant-garde environments in the era of smart cities.

#### MATERIALS AND STRUCTURE

The ADM luminaire body is made of AISI304 or AISI316 Stainless Steel to prevent the degrading action of highly aggressive environments, such as coastal areas. The interior houses an extruded, anodized aluminium 6063-T6 chassis, acting as a thermal sink.

The luminaire is integrated into the ADM extruded and anodized aluminium, cylindrical section column (9 m, standard height), and is adaptable to the requirements of each project. An innovative anchoring system provides flexibility to vary luminaire height at any time.

#### SUSTAINABLE DESIGN

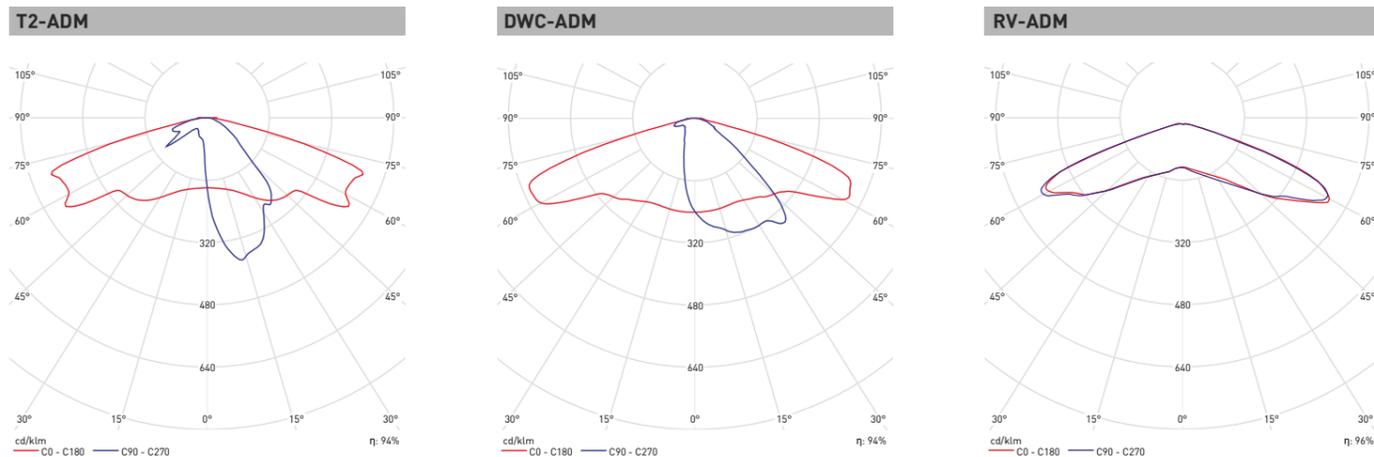
The ADM luminaire incorporates one of the world's most recycled materials—steel. Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals. Unlike aluminium injection, for example, extruded aluminium used for manufacturing the chassis sink facilitates reuse in other product categories. Following the implementation of ISO 14001 and the development of the sustainability master plan, SETGA has striven to reduce the carbon footprint of all its components, by designing a long-term recycling system for each one.

PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode efficacy (Lm/w)	Power (W)	Luminary Luminous Flux (Lm)*	Luminary Efficacy (Lm/w)	Lifetime (hours)**
ADM-12S	1200	250	15,5	12	2700-4500	80%-90%	160-193	15	2091	138	>100.000
ADM-12M	1200	250	15,5	12	2700-4500	80%-90%	160-193	22	3073	137	>100.000
ADM-12L	1200	250	15,5	12	2700-4500	80%-90%	160-193	30	3951	134	>100.000
ADM-24S	1200	250	15,6	24	2700-4500	80%-90%	160-193	28	4183	149	>100.000
ADM-24M	1200	250	15,6	24	2700-4500	80%-90%	160-193	43	6145	144	>100.000
ADM-24L	1200	250	15,6	24	2700-4500	80%-90%	160-193	56	7903	140	>100.000
ADM-36S	1200	250	16	36	2700-4500	80%-90%	160-193	41	6274	152	>100.000
ADM-36M	1200	250	16	36	2700-4500	80%-90%	160-193	59	9218	155	>100.000
ADM-36L	1200	250	16	36	2700-4500	80%-90%	160-193	84	11854	141	>100.000
ADM-48S	1200	250	16,1	48	2700-4500	80%-90%	160-193	55	8365	153	>100.000
ADM-48M	1200	250	16,1	48	2700-4500	80%-90%	160-193	79	12291	156	>100.000
ADM-48L	1200	250	16,1	48	2700-4500	80%-90%	160-193	110	15806	144	>100.000

⚡ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



⚡ Standard curves

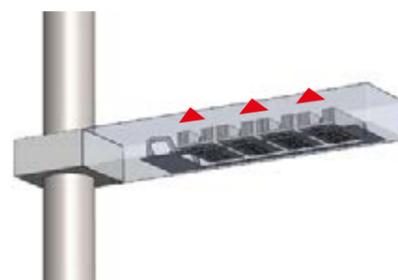
SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system.

**AL** | AL 6063-T6  
Extruded and Anodized

The ADM luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the ADM luminaire with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## TSD

### BALANCE AS ASPIRATION

Erectness inspires and surprises. It is the geometric means to achieving perfect urban balance, evoking continuity and symmetry, while integrating simplicity and modernity. Bringing to life a new aesthetic dimension created in the Netherlands.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**SST** | Stainless Steel Body

**MODULAR**  
Design

**152**  
Lm /w [\*]

**+100.000**  
Hours of lifetime [\*]

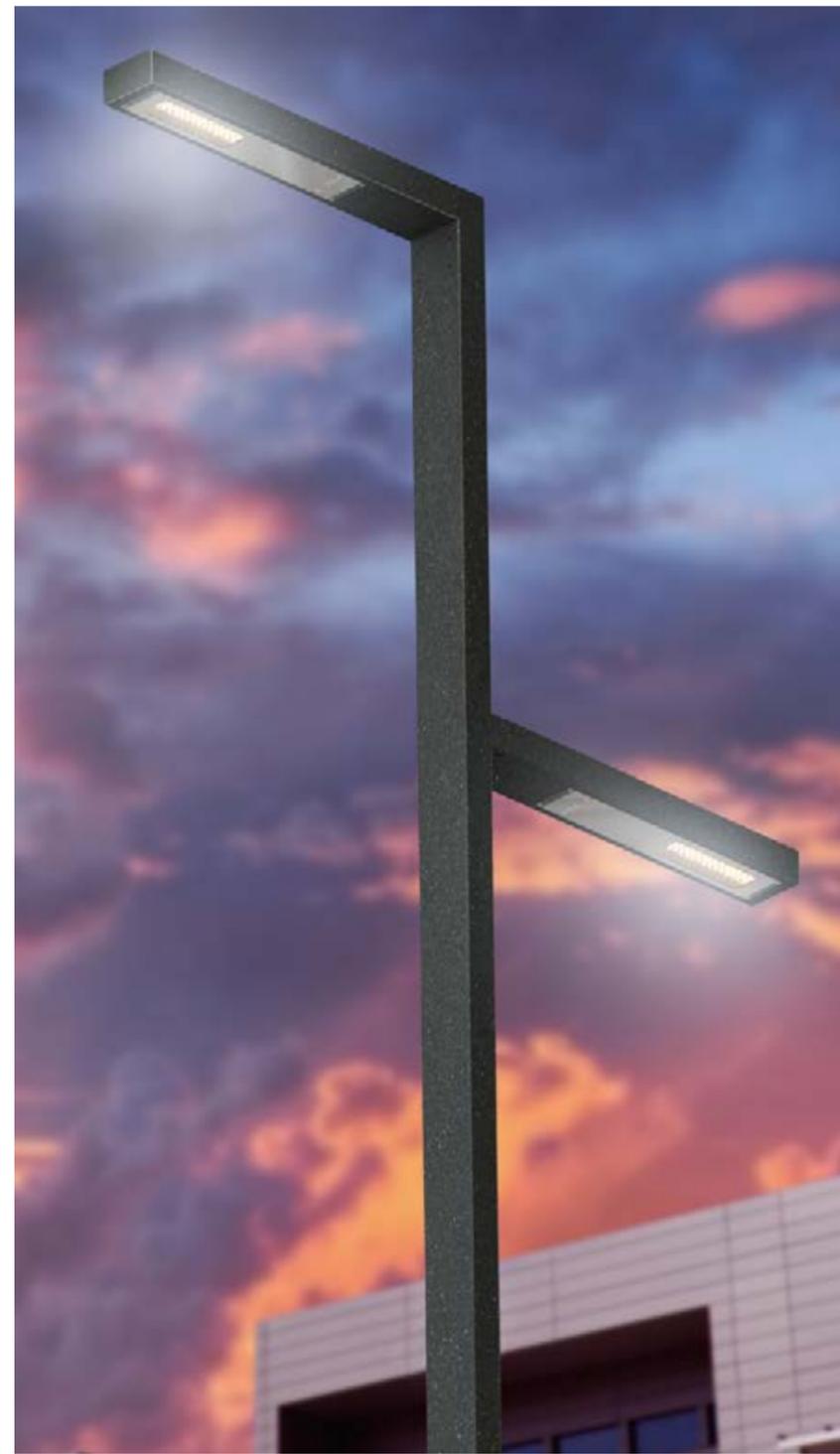
**AL** 6063-T6 Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation

**CLEANTech**®  
Technology to prevent external dirt accumulation.

[\*] Tq 25°C



The beginning  
of an experience



TSD



#### ORIGIN AND EVOLUTION

Enhancing the urban welcome through design reinforces expectations and transforms our last visual contact with public space into a memorable experience. The TSD series has been designed from and for modern environments where the power of the entire setting is the product of the sobriety of each component.

The multi-configurable and modularly designed optoelectronic compartment pressurized with argon gas (APS®) combines technological edge and advanced aesthetics.

#### MATERIALS AND STRUCTURE

The TSD luminaire body is made of AISI 304 or AISI 316 Stainless Steel to prevent the degrading action of highly aggressive environments, such as coastal areas.

The interior houses a removable optoelectronic module of APS® argon gas, consisting of an AL 5754 anodized aluminium chassis and a vitrified tempered glass cover. The LED module extraction time is reduced by 90%, from 30 to 3 minutes, and only involves acting on two anchors.

#### DESIGNERS



**Francisco Paz**  
Engineer - Thermodynamics  
(SETGA).



**Ronald Vredenburg**  
Technical Manager en CEO  
(Modernista).

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® TSD series, optical and electronic components are encapsulated in a pressurized atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Up toal Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation.

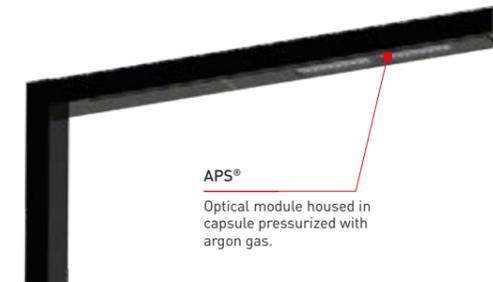
As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.

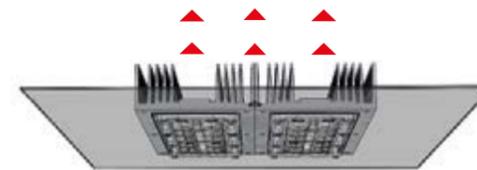


#

## Advanced heat dissipation system

# AL Anodized Aluminium AL6063-T6

The TSD luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of AL 6063-T6 anodized aluminium, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduces the diode's junction temperature.

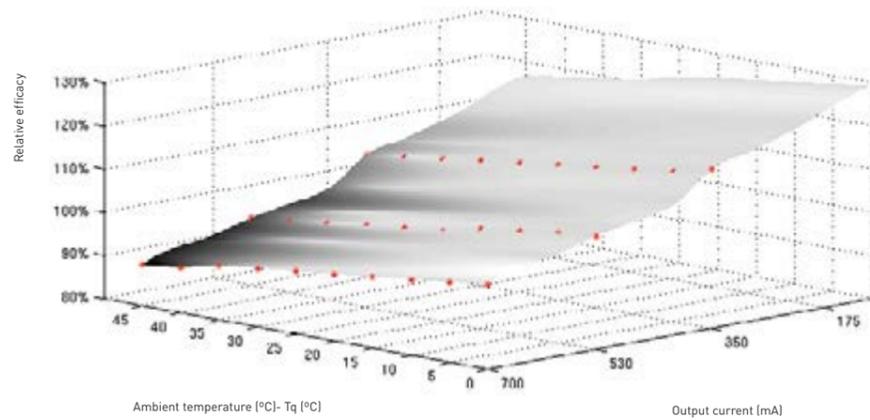


PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
TD-12S	900	140	2.8	12	2700-4500	80%-90%	160-193	15	2049	135	>100.000
TD-12M	900	140	2.8	12	2700-4500	80%-90%	160-193	22	3011	134	>100.000
TD-12L	900	140	2.8	12	2700-4500	80%-90%	160-193	30	3872	131	>100.000
TD-24S	900	140	2.9	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
TD-24M	900	140	2.9	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
TD-24L	900	140	2.9	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
TD-36S	1400	140	5.6	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
TD-36M	1400	140	5.6	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
TD-36L	1400	140	5.6	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000
TD-48S	1400	140	5.7	48	2700-4500	80%-90%	160-193	55	8198	150	>100.000
TD-48M	1400	140	5.7	48	2700-4500	80%-90%	160-193	79	12045	153	>100.000
TD-48L	1400	140	5.7	48	2700-4500	80%-90%	160-193	110	15489	141	>100.000

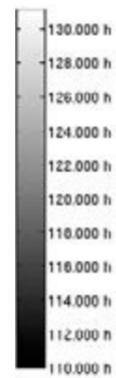
⊕ (\*) Luminous flux at T<sub>j</sub>25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool also allows for an estimation of lifetime, depending on the colour texture applied to the surface.



#

Innovation in the optical system enhances final product performance.

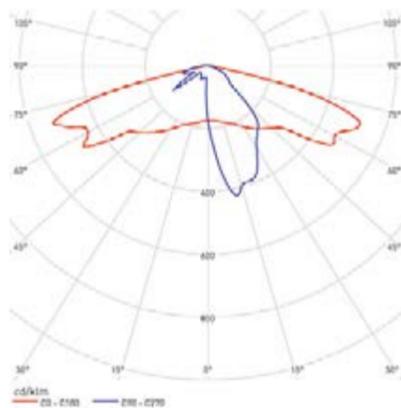
**HTS** High Transparency System® **+8%** Optical Performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

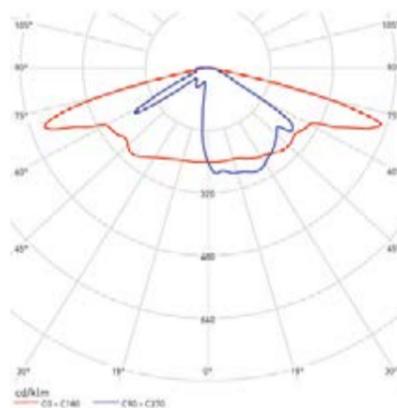


PHOTOMETRIC CURVES

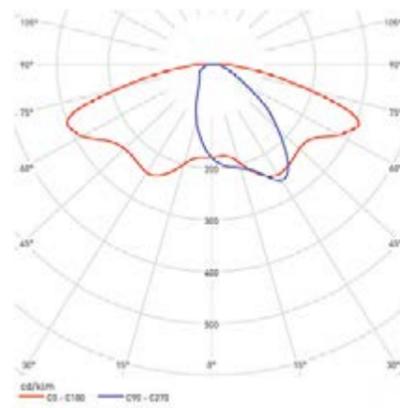
T2-TS



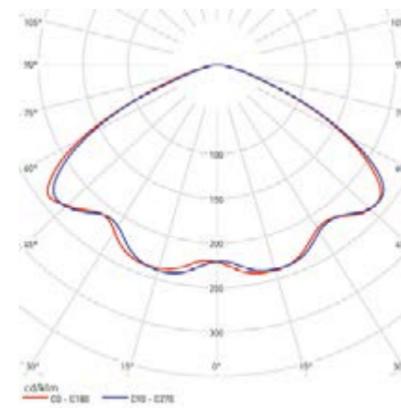
T3-TS



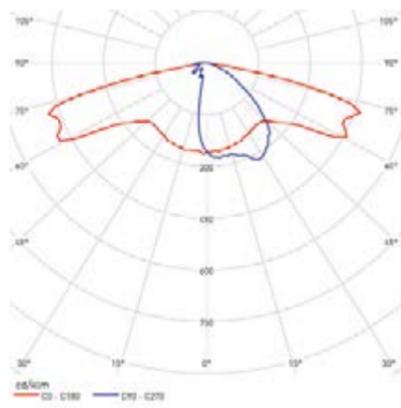
DNW-TS



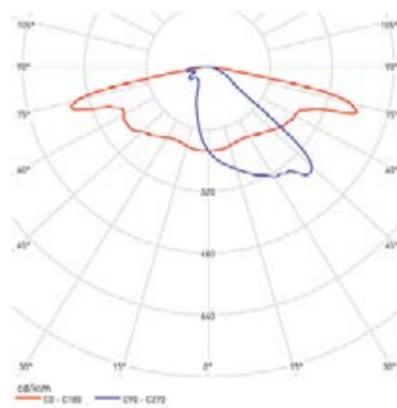
CY-TS



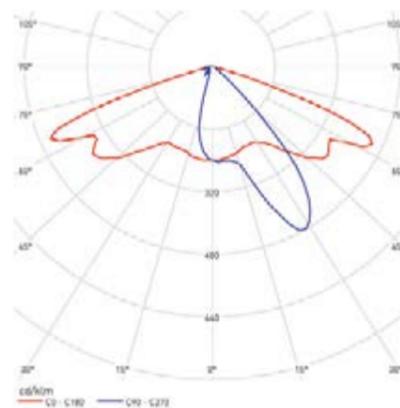
DWC-TS



ME-TS



AT-TS



Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## DÓRIKA

### CONCEPTUAL RENAISSANCE

The conceptual aim behind the Dorika series is the representation of proportionality and slenderness, reflecting the parameters of classical art. The symbolism of its lines and modular adaptability characterize the identity of this avant-garde unit.

**-IP66-**  
Watertightness

Up to **155**  
Lm /w (\*)

**AL** <sup>6063-T6</sup>  
Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

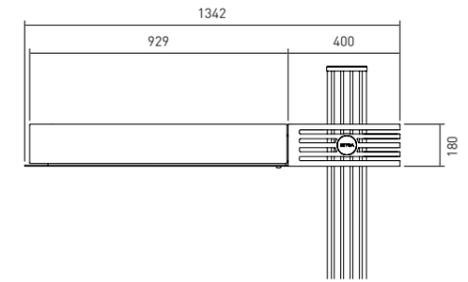
(\*) Tq 25°C

**SST** | Stainless  
Steel Body

**+100.000**  
Hours of lifetime (\*)

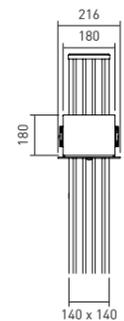
**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLEANTech**<sup>®</sup>  
Technology to prevent external dirt  
accumulation.



From  
visual lightness  
to aesthetic  
purity

DÓRIKA



#### ORIGIN AND EVOLUTION

The union of the column's vertical grooves and the horizontal lines on the luminaire holder provides visual lightness to the whole, emphasizing the harmony between both elements. Thanks to classically inspired symbolism and the timelessness of the design line, the Dorika series can be integrated into historical and modern spaces alike.

The Dorika series design lines have remained unchanged since it first appeared. However, its lighting technology has evolved to incorporate the latest generation of LED optical engines developed by SETGA, according to the highest standards of colour rendering, efficacy and lifetime.

#### MATERIALS AND STRUCTURE

The Dorika luminaire body is characterized by a structure of AISI304 or AISI316 Stainless Steel to prevent the degrading action of highly aggressive environments, such as coastal areas. Inside the luminaire is an extruded, anodized aluminium 6063-T6 chassis, which acts as a thermal sink.

The luminaire is integrated into the Dorika extruded, anodized aluminium, squared section column (8.6 m, standard height), and is adaptable to the requirements of each project.

An innovative anchoring system provides flexibility to vary luminaire height at any time.

#### SUSTAINABLE DESIGN

The Dorika luminaire incorporates one of the world's most recycled materials—steel. Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals. Unlike aluminium injection, for example, extruded aluminium used for manufacturing the chassis sink facilitates reuse in other product categories.

Following the implementation of ISO 14001 and the development of the sustainability master plan, SETGA has striven to reduce the carbon footprint of all its components, by designing a long-term recycling system for each one.

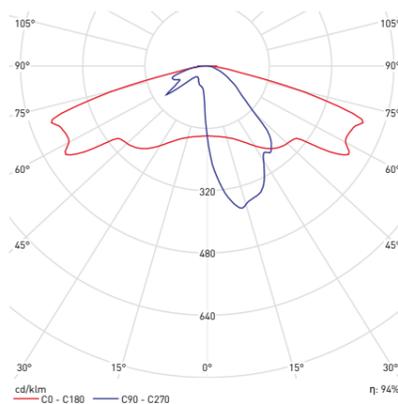
PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	N° LEDs	Colour T°	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
DK-12S	942	200	14.2	12	2700-4500	80%-90%	160-193	15	2091	138	>100.000
DK-12M	942	200	14.2	12	2700-4500	80%-90%	160-193	22	3073	137	>100.000
DK-12L	942	200	14.2	12	2700-4500	80%-90%	160-193	30	3951	134	>100.000
DK-24S	942	200	14.4	24	2700-4500	80%-90%	160-193	28	4183	149	>100.000
DK-24M	942	200	14.4	24	2700-4500	80%-90%	160-193	43	6145	144	>100.000
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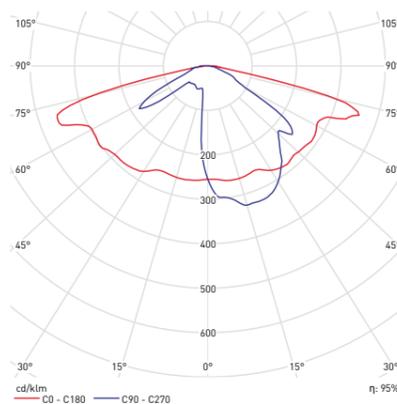
⚠ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES

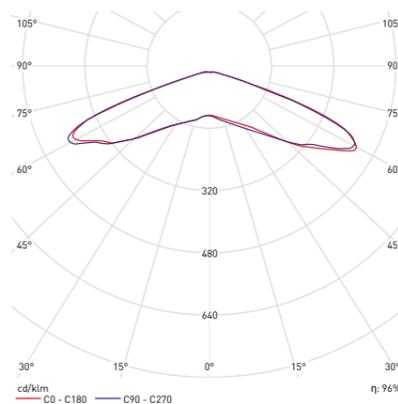
T2-DK



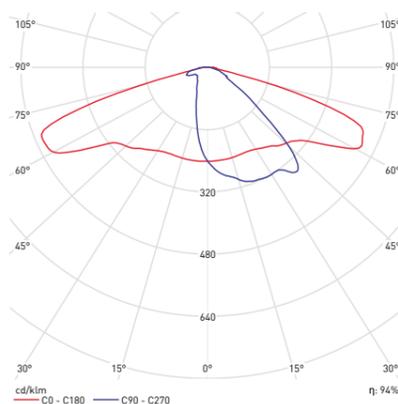
T3-DK



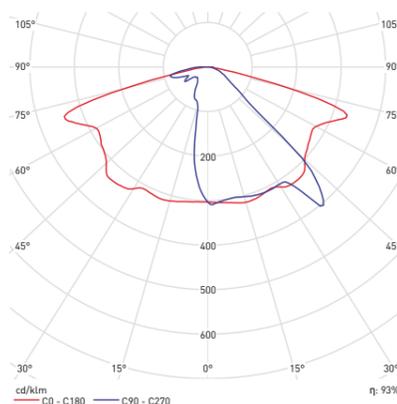
RV-DK



DWC-DK



ME-DK



Standard curves

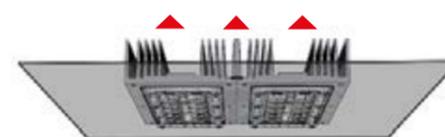
SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system.

**AL** AL 6063-T6  
Extruded and Anodized

The Dórika luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Dórika luminaire with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## HR

### INTERPRETING A PAST TIME

The HR fixture is the outcome of an exercise of interpretation and a tribute to the gas lanterns and modernist columns of nineteenth-century towns and cities—revitalizing a legacy, by merging their light, slender lines with cutting-edge technology.

**-IP66-**  
Watertightness

Up to **146**  
Lm /w [\*]

**AL** 6063-T6  
Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

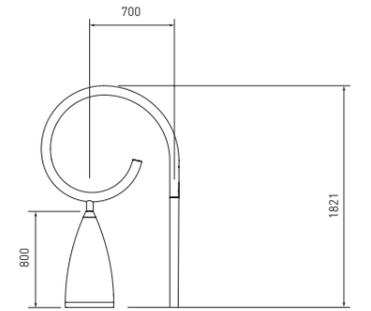
[\*] Tq 25°C

**FG** Fibreglass  
Body

**+100.000**  
Hours of lifetime [\*]

**IK08 - IK10**  
Glass closure or High Impact PMMA

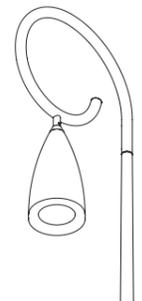
**CLEANTech®**  
Technology to prevent external dirt  
accumulation



Authenticity  
and nostalgia



HR



ORIGIN AND EVOLUTION



Since the first model appeared more than a decade ago, the HR series has helped restore the authenticity of urban space, reviving a time when the democratization of beauty and socialization of art were the aspirations of the generation of their creators.

After the incorporation of the latest LED technology, in 2015, the conceptual leadership of the aesthetic design line of this series was endorsed when it was named the best lighting concept in Spain by prestigious lighting magazine, Iluminet.

MATERIALS AND STRUCTURE



The HR luminaire body is made of fibreglass, a material commonly used in the naval industry to prevent the degrading effect caused by aggressive environments, such as the marine. Inside the luminaire, an extruded, anodized aluminium 6063-T6 chassis acts as a thermal sink.

The luminaire is integrated into a cylindrical section column, in the form of a truncated cone made of extruded, anodized aluminium.

DESIGNERS



**Ángel Velando**  
Architect and Product Designer  
(Pontevedra).



**Alfred Sa**  
Lighting Designer  
(Barcelona).



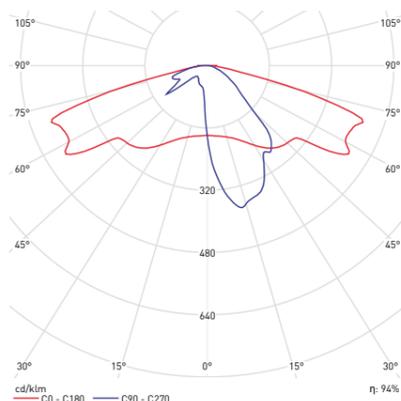
PARAMETERS

Model	Height (mm)	Diameter (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
HR-24S	800	400	9.1	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
HR-24M	800	400	9.1	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
HR-24L	800	400	9.1	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000

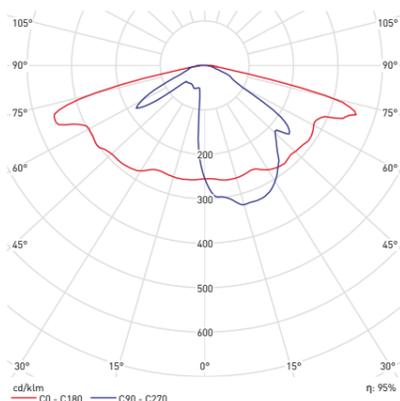
⚠ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES

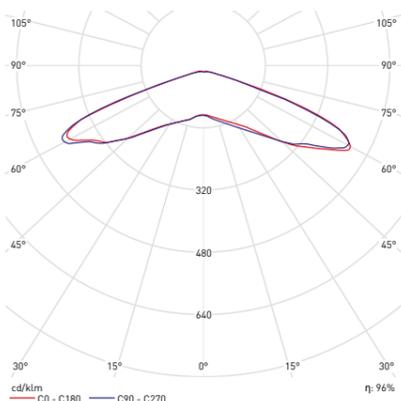
T2-HR



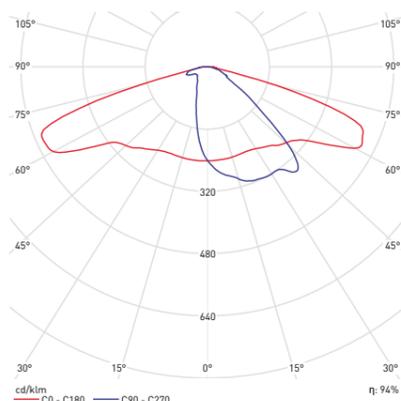
T3-HR



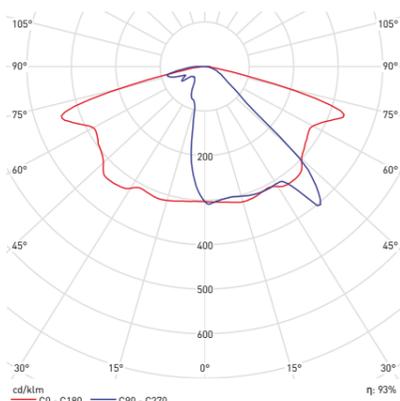
RV-HR



DWC-HR



ME-HR



Standard curves

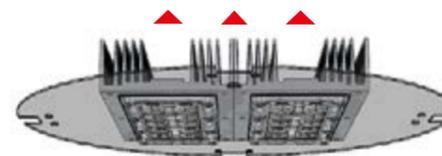
SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system

**AL** AL 6063-T6 Extruded and Anodized

The HR luminaire is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the HR luminaire with a completely uniform and sloped upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





1.2. LANTERNS  
*URBAN LIGHTING*



## CHP

A TRIBUTE TO THE ORIGINS

The Argand lamp was a revolutionary design of the late eighteenth and early nineteenth centuries, which triggered a lighting and aesthetic paradigm change with the integration of a cylindrical light body. The CHP series reinterprets this concept, blending tradition and modernity.

**-IP66-**  
Watertightness

**152**  
Lm /w [\*]

**AL** 6063-T6  
Anodized  
Advanced Thermal management

**CLASS II**  
Electrical insulation

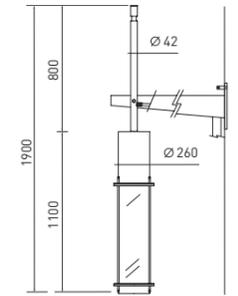
**SST** | Stainless  
Steel Body

**+100.000**  
Hours of lifetime [\*]

**IK08 - IK10**  
Glass closure or High Impact PMMA

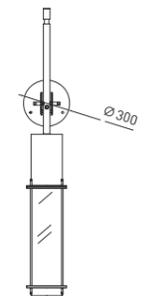
**CLEANTech®**  
Technology to prevent external dirt  
accumulation.

[\*] Tq 25°C



Authenticity  
and nostalgia

CHP



#### ORIGIN AND EVOLUTION

By retrieving the essence of historical cylindrical light bodies such as the Argand lamp, the CHP series humanizes the night scene, evoking nostalgia of a bygone era reborn as urban authenticity. A purity of lines and proportions balances the whole, enhancing the real character of historic environments, without interfering with architectural value.

The design was conceived by renowned Spanish architect, Jesús Fole, and was named as part of the best technical lighting concept in Spain by prestigious magazine, Iluminet.

#### MATERIALS AND STRUCTURE

The CHP lantern body consists of an AISI304 or AISI316 Stainless Steel structure to prevent the degrading action of highly aggressive environments, such as coastal areas.

A circular frame of anodized, extruded aluminium 6063-T5 is incorporated as a LED module heat sink.

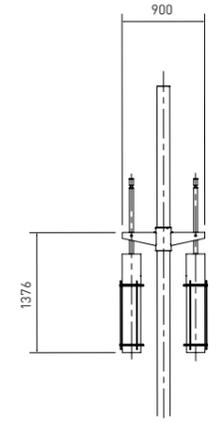
This series is characterized by a water tightness rating of IP66, and its light body comprises a LED beacon made of high impact PMMA, highly resistant to UV radiation.

#### DESIGNERS



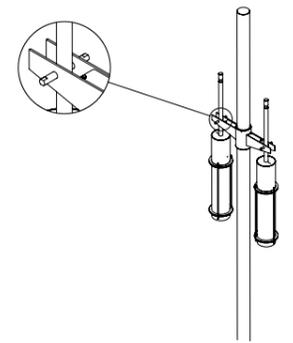
**Jesús Fole**  
Architect and Product Designer  
(Pontevedra- Spain).





Urban evolution

CHP



#### APPLICATIONS

The CHP series can be integrated in a single, double, triple or quadruple column, as well as in a bracket or catenary system.

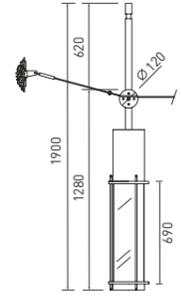
The photographs at top show a triple column and bracket application. Catenary applications are illustrated on page 384.

#### COLUMNS AND BRACKETS

The CHP column and arm are made of AISI 304 or AISI 316L Stainless steel alloys distinguished by their excellent performance against corrosion, providing the unit with an appropriate level of resistance against the degrading action of aggressive urban environments.

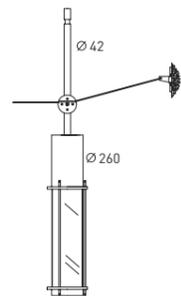
#### BERGEN CASE STUDY

The photographs at top are of the centre of the Dutch municipality of Bergen. The CHP series played a significant part in the development of the area's urban model, integrating and enhancing the character of the architectural environment.



Levitating  
light

CHP



SUSTAINABLE DESIGN

The CHP lamp incorporates one of the world's most long-lasting and recycled materials—steel.

Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals.

Unlike aluminium injection, for example, extruded aluminium used for manufacturing the chassis sink facilitates reuse in other product categories.

CASE STUDY: VISMARK IN PONTEVEDRA.

For the last 63 years, the Pontevedra Vismark has been one of the main architectural icons of the historic centre of the city.

In 2003, the prestigious architect based in Pontevedra, and national Spanish architectural award César Portela, addressed the reform of the building's reconstruction.

A project capable of looking to the future, without altering the original character of the whole, where the CHP lamp facilitated the reconciliation between tradition and modernity.

ARCHITECT



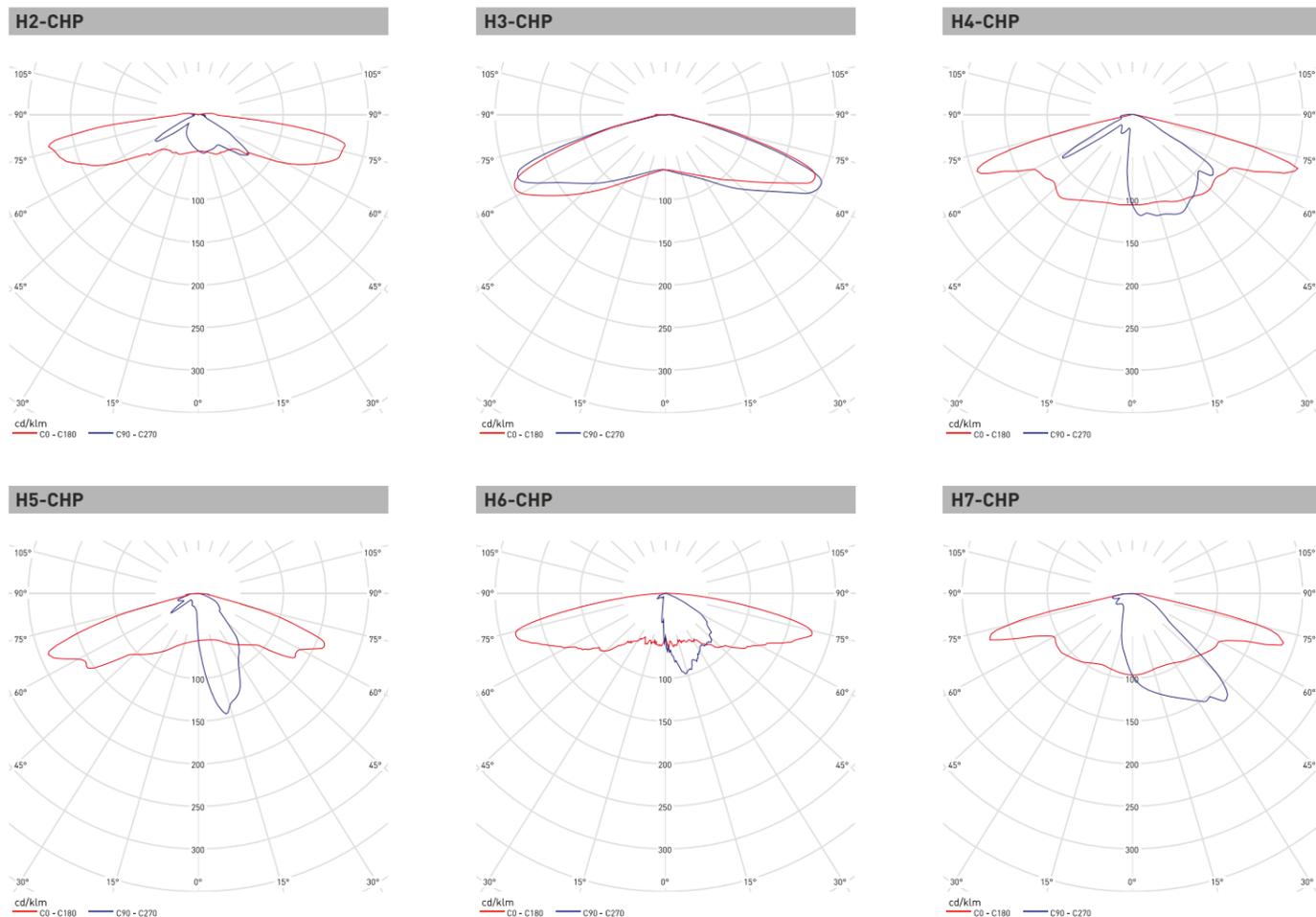
**César Portela**  
Architect (Pontevedra- Spain),  
National Architectural Prize.

PARAMETERS

Model	Diameter (mm)	Height (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
CHP-16S	260	1900	13.7	16	2700-4500	80%-90%	160-193	19	2759	142	>100.000
CHP-16M	260	1900	13.7	16	2700-4500	80%-90%	160-193	29	4053	139	>100.000
CHP-16L	260	1900	13.7	16	2700-4500	80%-90%	160-193	40	5212	130	>100.000
CHP-28S	260	1900	14	28	2700-4500	80%-90%	160-193	33	4828	148	>100.000
CHP-28M	260	1900	14	28	2700-4500	80%-90%	160-193	47	7093	152	>100.000
CHP-28L	260	1900	14	28	2700-4500	80%-90%	160-193	66	9122	138	>100.000

⚡ (\*) Luminous flux at T<sub>J</sub>25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system

**AL** | AL 6063-T6  
Extruded and Anodized

The CHP lamp is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the CHP lamp with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## CHP COMPACT

REINTERPRETING THE ORIGIN

The Argand lamp was a revolutionary design of the late eighteenth and early nineteenth centuries, triggering a lighting and aesthetic paradigm change with the integration of a cylindrical light body. The CHP COMPACT series reinterprets this concept, blending tradition and modernity in a new smaller version.

**-IP66-**  
Watertightness

Up to **152**  
Lm /w (\*)

**AL** <sup>6063-T6</sup>  
Anodized  
Advanced Thermal Management

**CLASS II**  
Electrical insulation

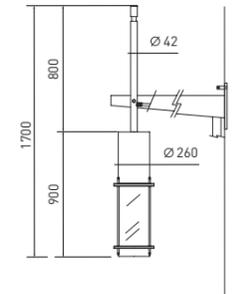
**SST** | Stainless  
Steel Body

**+100.000**  
Hours of lifetime (\*)

**IK08 - IK10**  
Glass closure or High Impact PMMA

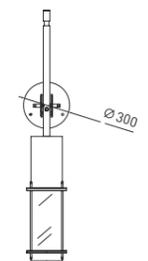
**CLEANTech®**  
Technology to prevent external dirt  
accumulation.

(\*) Tq 25°C



Toekomstwijdend  
door een historis-  
che referentie

CHP COMPACT



#### ORIGIN AND EVOLUTION

By retrieving the essence of historical cylindrical light bodies such as the Argand lamp, the CHP COMPACT series humanizes the night scene, evoking nostalgia of a bygone era reborn as urban authenticity. A purity of lines and proportions balance the whole, enhancing the real character of historic environments, without interfering with architectural value. Its design was conceived by renowned Spanish architect, Ángel Velando, and lighting designer, Alfred Sa, and was named as part of the best technical lighting concept in Spain by prestigious magazine, Iluminet.

#### MATERIALS AND STRUCTURE

The CHP lantern body consists of an AISI304 or AISI316 Stainless Steel structure to prevent the degrading action of highly aggressive environments, such as coastal areas. A circular frame of anodized, extruded aluminium 6063-T5 is incorporated as a LED module heat sink.

This series is characterized by a watertightness rating of IP66, and its light body comprises a LED beacon made of high impact PMMA, highly resistant to UV radiation.

#### DESIGNERS



**Ángel Velando**  
Architect and Product Designer  
(Pontevedra - Spain).



**Alfred Sa**  
Lighting Designer  
(Barcelona - Spain).

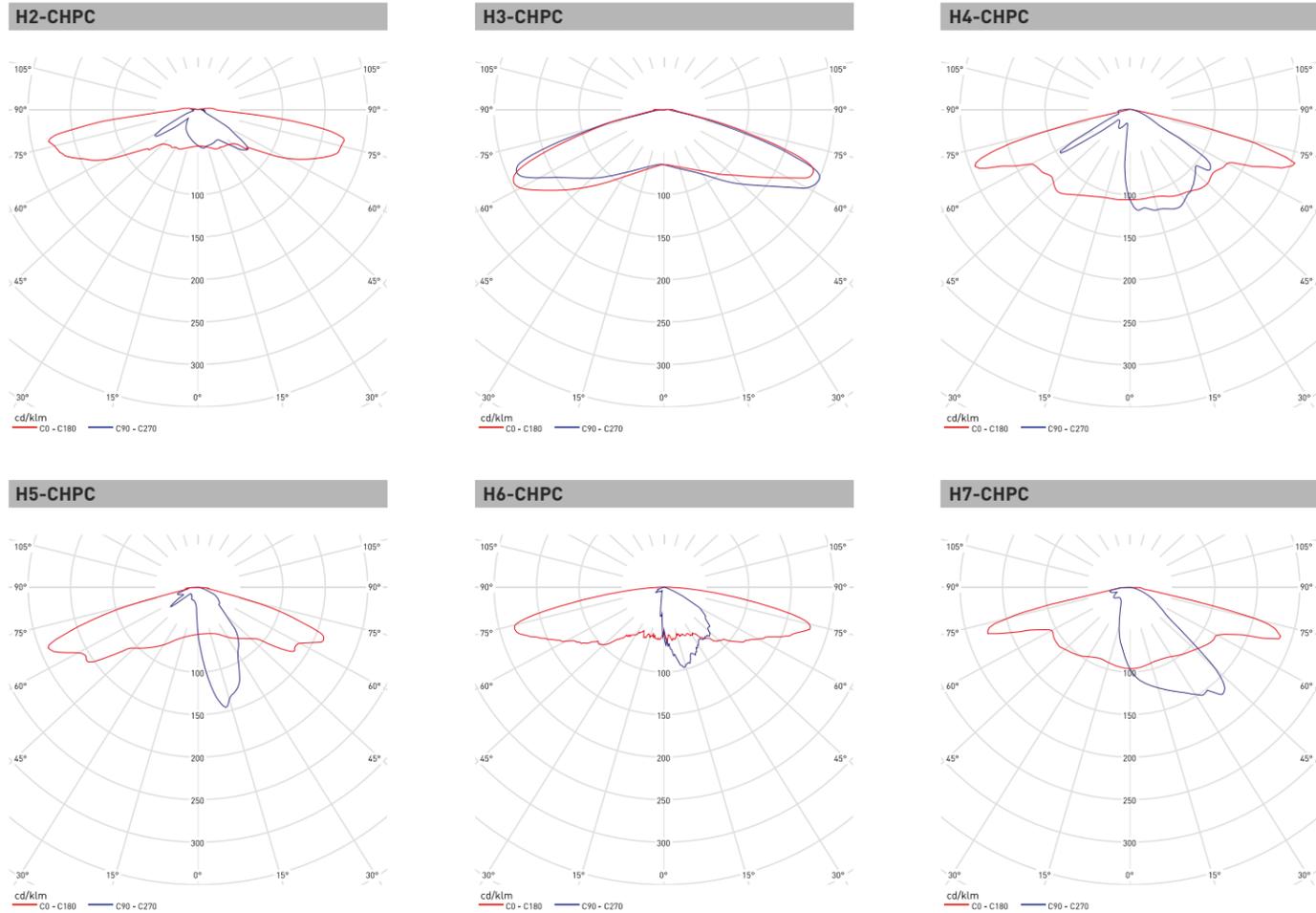


PARAMETERS

Model	Diameter (mm)	Height (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm) <sup>a</sup>	Luminaire Efficacy (Lm/w)	Lifetime (hours) <sup>**</sup>
CHPC-16S	260	1700	13.7	16	2700-4500	80%-90%	160-193	19	2759	142	>100.000
CHPC-16M	260	1700	13.7	16	2700-4500	80%-90%	160-193	29	4053	139	>100.000
CHPC-16L	260	1700	13.7	16	2700-4500	80%-90%	160-193	40	5212	130	>100.000
CHPC-28S	260	1700	14	28	2700-4500	80%-90%	160-193	33	4828	148	>100.000
CHPC-28M	260	1700	14	28	2700-4500	80%-90%	160-193	47	7093	152	>100.000
CHPC-28L	260	1700	14	28	2700-4500	80%-90%	160-193	66	9122	138	>100.000

**+** (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system.

**AL** | AL 6063-T6  
Extruded and Anodized

The CHP COMPACT lamp is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**<sup>®</sup>

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the CHP COMPACT lamp with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## CHV

A JOURNEY TO THE LATE  
NINETEENTH CENTURY

The past encounters modernity in a harmonious and stylish design, based on recognizable, pure geometric lines. The late-nineteenth century Pieler lamp was the inspirational reference for an innovative light product that fits respectfully into environments of high architectural value.

**-IP66-**

Watertightness

**SST** | Stainless  
Steel Body

**152**

Lm /w [\*]

**+100.000**

Hours of lifetime [\*]

**AL** 6063-T6  
Anodized

Advanced Thermal management

**IK08 - IK10**

Glass closure or High Impact PMMA

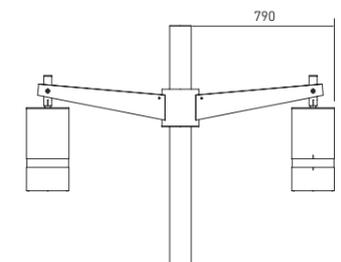
**CLASS II**

Electrical insulation

**CLEANTech®**

Technology to prevent external dirt accumulation.

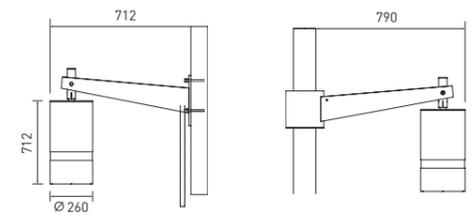
[\*] Tq 25°C



A dialogue  
between space  
and time



CHV



ORIGIN AND EVOLUTION

An historical lamp integrated into a cylindrical Stainless Steel body is the origin of the CHV series, which creates an urban night scene that evokes magic and nostalgia. The dialogue between space and time conceives an emotive lighting language for the unique personality of each space. The intimacy of positional lighting layouts applied over façades combines with the fascination and safety generated by directional lighting layouts applied across roads. The choice of finish and colour ensure the daytime integration of this series in historical surroundings.

MATERIALS AND STRUCTURE

The CHV lantern body consists of an AISI304 or AISI316 Stainless Steel structure to prevent the degrading action of highly aggressive environments, such as coastal areas. A circular frame of anodized, extruded aluminium 6063-T6 is incorporated as a LED module heat sink.

This lamp is characterized by a water tightness rating of IP66, and its light body comprises a LED beacon made of high impact PMMA, highly resistant to UV radiation.

DESIGNER



**Elena Maure**  
Architect and Urban Planner  
(Vigo-Spain).

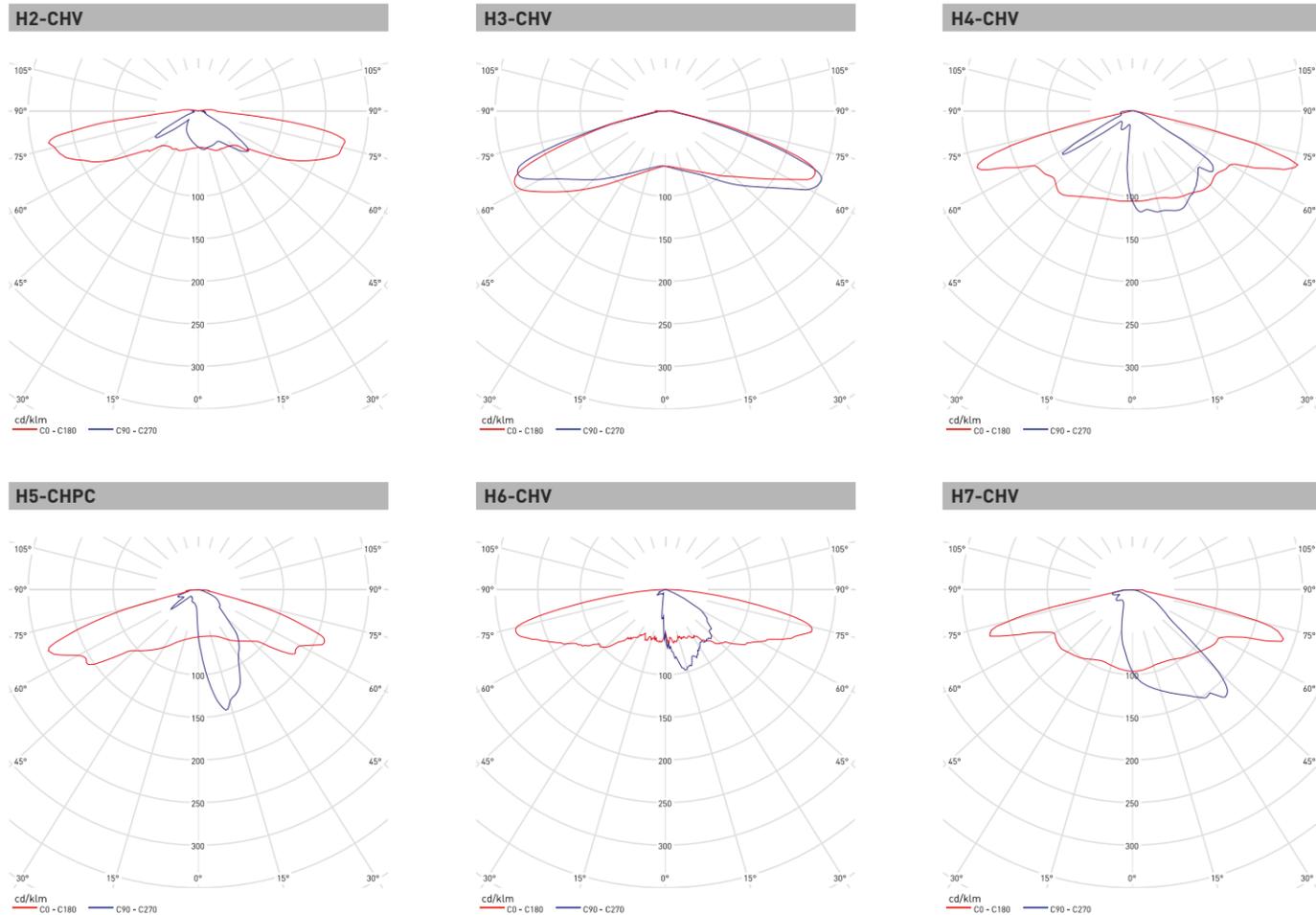


PARAMETERS

Model	Diameter (mm)	Height (mm)	Power (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
CHV-16S	260	712	11.8	16	2700-4500	80%-90%	160-193	19	2759	142	>100.000
CHV-16M	260	712	11.8	16	2700-4500	80%-90%	160-193	29	4053	139	>100.000
CHV-16L	260	712	11.8	16	2700-4500	80%-90%	160-193	40	5212	130	>100.000
CHV-28S	260	712	12	28	2700-4500	80%-90%	160-193	33	4828	148	>100.000
CHV-28M	260	712	12	28	2700-4500	80%-90%	160-193	47	7093	152	>100.000
CHV-28L	260	712	12	28	2700-4500	80%-90%	160-193	66	9122	138	>100.000

⚡ (\*) Luminous flux at T<sub>J25°</sub> based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system.

**AL** AL 6063-T6  
Extruded and Anodized

The CHV lamp is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



#

Technology to prevent external dirt accumulation.

**CLEAN Tech**<sup>®</sup>

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the CHV lamp with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## EMPATHY

### URBAN AFFINITY

Urban lighting is culture, social cohesion and revitalization. Technology that co-exists in everyday life, connecting space and emotion, and fusing with collective memory.

**-IP66-**  
Watertightness

**SST** | Stainless Steel Body

**122**  
Lm /w [\*]

**+100.000**  
Hours of lifetime [\*]

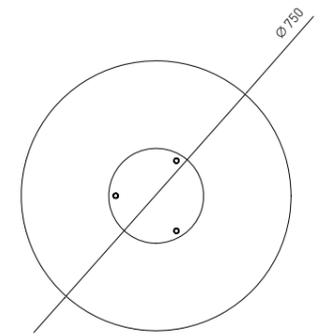
**AL** Aluminium  
EN-AC-44100  
Compact heat dissipation system

**IK08 - IK10**  
High Impact PMMA

**CLASS II**  
Electrical insulation

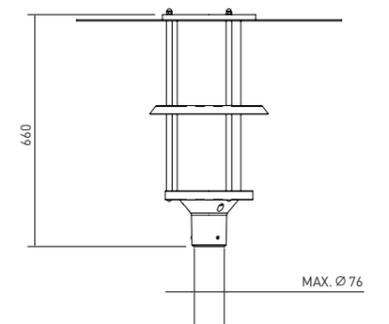
**CLEANTech®**  
Technology to prevent external dirt accumulation

[\*] Tq 25°C



A different atmosphere

EMPATHY



#### ORIGIN AND EVOLUTION

In many urban lighting applications, the fixture is placed in a post-top position at less than 4 metres height and becomes part of the observer's natural viewing angle. The Empathy is designed to enhance the way we look at public space, creating a light body based on the lower multi-LED system projecting over the upper body reflection system.

The outcome is an urban atmosphere where visual comfort is as important as the aesthetic affinity between luminaire and onlooker.

#### MATERIALS AND STRUCTURE

The Empathy series body consists of a main AISI 316 or AISI 314 Stainless Steel structure, a cylindrical PMMA diffuser with UV protection and a post-top arm made of L-2520 (EN 44100) cast aluminium.

The lower area of the assembly incorporates a separate and removable optical LED module, with a watertightness rating of IP67. This element is integrated over a heat sink chassis made of L-2520 (EN 44100) cast aluminium.

#### DESIGNERS



**Francisco Paz**

Engineer - Thermodynamics (SETGA).



**Jesús Saavedra**

Chief Innovation Officer (SETGA).

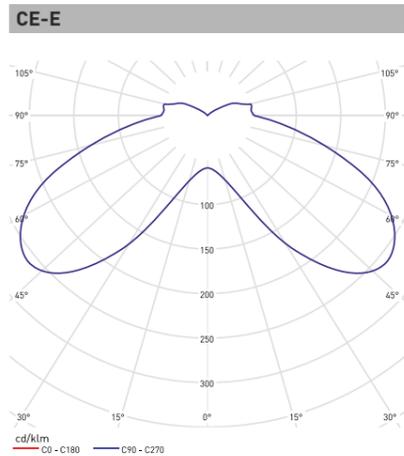


PARAMETERS

Model	Diameter (mm)	Height (mm)	Power (kg)	N° LEDs	Colour T <sup>9</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
EMP-12S	750	660	14.3	12	2700-4500	80%-90%	160-193	21	2508	122	>100.000
EMP-12L	750	660	14.3	12	2700-4500	80%-90%	160-193	41	4598	112	>100.000

⊕ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



⊕ Standard curves

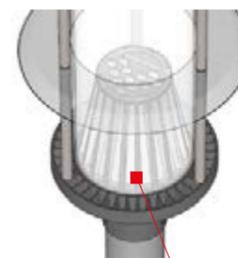
SETGA's optical department can study additional configurations adapted to each project.

#

Compact heat dissipation system.

**AL** Aluminium Casting EN-AC-44100

The Empathy heat dissipation system is a single, compact piece of EN AC-44100 cast aluminium. Continuous thermal dissipation between the PCB and the exterior improves the conductivity of the lamp, compared with architectures composed of different components and materials. The complete elimination of air gaps between the PCB and the dissipation body enhances thermal contact between both elements. To achieve this, the body is initially machined and straightened, for a flat, rough surface. A thermal graphite pad of graphite completes the union.



Aluminium Casting EN-AC-44100





## LAMP SHADE

THE WARMTH OF HOME  
IN A PUBLIC SPACE

—

Providing urban areas with warmth and conviviality by understanding public space as an extension of home—this is the conceptual origin of the Lamp Shade series. The transformation of the iconic indoor lamp, Twilight, into an outdoor luminaire made of robust materials to preserve lightness and clean lines.

**-IP66-**  
Watertightness

**122**  
Lm /w (\*)

**AL** Aluminium  
EN-AC-44100  
Compact heat dissipation system

**CLASS II**  
Electrical insulation

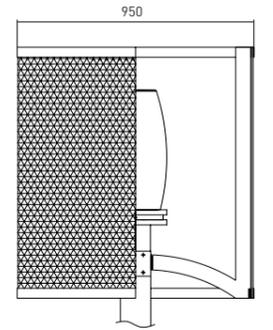
(\*) Tq 25°C

**SST** | Stainless  
Steel Body

**+100.000**  
Hours of lifetime (\*)

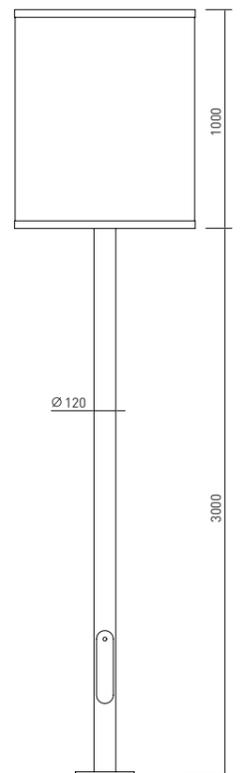
**IK08 - IK10**  
High Impact PMMA

**CLEANTech®**  
Technology to prevent external dirt  
accumulation



From Holland  
to everywhere

LAMP SHADE



#### ORIGIN AND EVOLUTION

The Lamp Shade was designed by prestigious Dutch studio ipv Delft. This model was originally conceived for the city of Zoetermeer, where there was a need to create a warm and welcoming atmosphere in a space of cold concrete pavements. Since then, many Dutch cities have undergone a similar transformation. Today the Lamp Shade series is present in cities like Amsterdam, Eindhoven, Emmen, Capelle aan den IJssel and Ede. Cooperation with Modernista and SETGA led to the development of the LED version of the Lamp Shade series, and this timeless design is now equipped with the latest lighting technology.

#### MATERIALS AND SUSTAINABILITY

The Lamp Shade series light body has been industrialized with braided RSV, providing a textured appearance, as well as soft and diffused lighting. Public space requires high standards of sustainability and resistance. RSV comprised of AISI316L Stainless Steel is the ideal to address both vandalism and the degrading impact of environments with a high salt load. And it is one of the most recycled materials in the world. The fixture's durability and planned reintroduction in the production cycle of other industries after lifetime completion will produce significant energy savings, compared to the use of other metals.

#### DESIGNERS



**Rob Kruizinga**  
Architect and Product Designer  
(Netherlands).



**Adriaan Kok**  
Product Designer  
(Netherlands).



**Gerhard Nijenhuis**  
Product Designer  
(Netherlands).

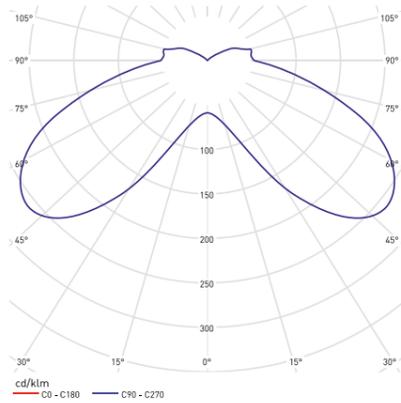
PARAMETERS

Model	Diameter (mm)	Height (mm)	Power (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
LS-12S	600-950	1000-1200	15.8	12	2700-4500	80%-90%	160-193	21	2508	122	>100.000
LS-12L	600-950	1000-1200	15.8	12	2700-4500	80%-90%	160-193	41	4598	112	>100.000

⊕ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

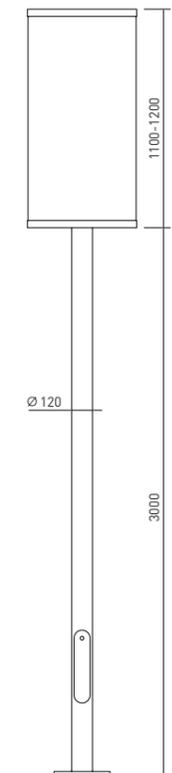
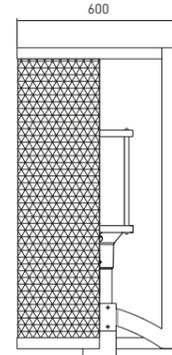
PHOTOMETRIC CURVES

CE-LS



⊕ Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## LOWLANDER

MADE BY NETHERLANDS

Modest and honest human design resulting from co-innovation and the cohesion of public space. This is the Dutch essence of Lowlander. Very much in keeping with the origin of ancestral light bodies, the cylindrical geometry creates a light atmosphere characterized by precision and optical control.

**-IP66-**  
Watertightness

**IK08 - IK10**  
High Impact PMMA

**135**  
Lm /w [\*]

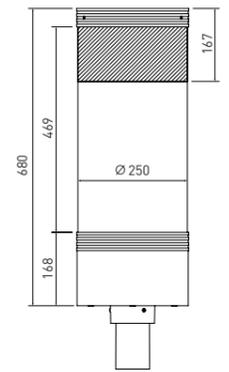
**+100.000**  
Hours of lifetime [\*]

**AL** Aluminium  
EN-AC-44100  
Compact heat dissipation system

**CLASS II**  
Electrical insulation

**CLEANTech®**  
Technology to prevent external dirt  
accumulation

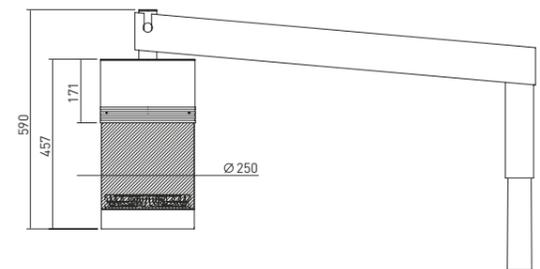
[\*] Tq 25°C



From clear  
design to  
living light



**LOWLANDER**



#### ORIGIN AND EVOLUTION

The Lowlander is the product of co-creation between Dutch light experts and professionals, the result of evolving the concept of urban lamp into a dynamic, versatile and living series. From post-top applications to catenary systems and arms equipped with upper anchorage, responding to the multiple challenges of the contemporary public space. In order to minimize light pollution, preserve the nostalgic effect of light body and speed up future maintenance processes, the Lowlander separates the lighting effect of the main LED module and the upper beaconing system, keeping both physical elements in a single compact and removable optical group. This modular architecture also enables the creation of different colour effects on the upper light body, accentuating the transition between different urban areas.

#### MATERIALS AND STRUCTURE

The Lowlander body consists of a main structure of AISI 316 or AISI 314 Stainless Steel, two cylindrical PMMA diffusers with UV protection and different optional fixation systems made of L-2520 (EN 44100) cast aluminium.

The dual, independent and removable LED optical group, whose watertightness rating is IP67, is integrated into an L-2520 (EN 44100) cast aluminium heat sink chassis.

Finally, incorporation of the driver into an insulated compartment generates an optimal thermal gap, preventing inefficient heat transfer to sensitive components.

#### SUSTAINABLE DESIGN

The sustainable design strategy of this series responds to a circular public infrastructure management model, whereby the life cycle of mechanical components exceeds the obsolescence curve of LED technology. The Lowlander lamp incorporates one of the world's most recycled and durable materials—steel. Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals. Following the implementation of ISO 14001 and the development of the sustainability master plan, SETGA has striven to reduce the carbon footprint of all its components, by designing a long-term recycling system for each one.

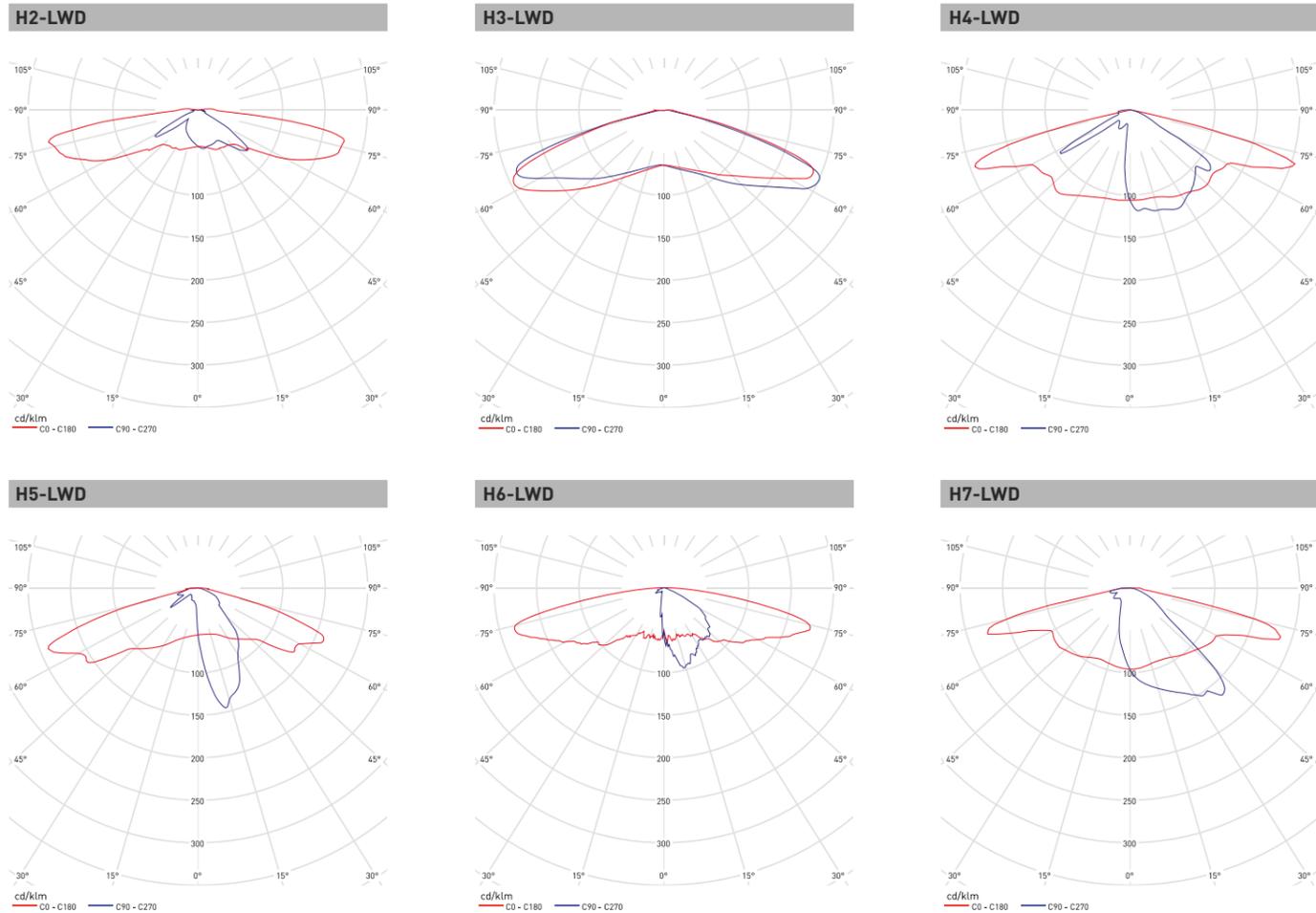


PARAMETERS

Model	Diameter (mm)	Height (mm)	Weight (kg)	N° LEDs	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
LWD-12S	250	457-680	13.7	12	2700-4500	80%-90%	160-193	15	1995	133	>100.000
LWD-12M	250	457-680	13.7	12	2700-4500	80%-90%	160-193	22	2784	128	>100.000
LWD-12L	250	457-680	13.7	12	2700-4500	80%-90%	160-193	30	3600	120	>100.000
LWD-24S	250	457-680	14	24	2700-4500	80%-90%	160-193	28	3752	134	>100.000
LWD-24M	250	457-680	14	24	2700-4500	80%-90%	160-193	43	5547	129	>100.000
LWD-24L	250	457-680	14	24	2700-4500	80%-90%	160-193	56	6776	121	>100.000
LWD-36S	250	457-680	13.7	36	2700-4500	80%-90%	160-193	41	5535	135	>100.000
LWD-36M	250	457-680	13.7	36	2700-4500	80%-90%	160-193	59	7670	130	>100.000
LWD-36L	250	457-680	13.7	36	2700-4500	80%-90%	160-193	84	10248	122	>100.000

⚡ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

PHOTOMETRIC CURVES



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

Compact heat dissipation system.

**AL** Aluminium Casting EN-AC-44100

The Lowlander heat dissipation system is made of a single, compact piece of EN AC-44100 cast aluminium. Continuous thermal dissipation between the PCB and the exterior improves the conductivity of the lamp. The perimeter arrangement of high power lower LEDs and the central position of the upper beaconing LEDs enables the integration of both systems into a single optical group, separating the opposing heat flows. The complete elimination of air gaps between the PCB and the dissipation body enhances thermal contact between both elements. To achieve this, the body is initially machined and straightened, for a flat, rough surface. A thermal graphite pad of graphite completes the union.





**1.3.** RETROFIT  
*URBAN LIGHTING*

## MLD

RELIABILITY AND FLEXIBILITY,  
COMPATIBLE AT LAST

In the MLD module, SETGA has merged the technological reliability of its most advanced LED luminaires with the mechanical flexibility of all its production processes, generating a retrofit alternative adaptable to any pre-existing conventional luminaire model.



**-IP67-**

Watertightness

Up to  
**155**

Lm /w (\*)

**AL** 6063-T6  
Anodized  
Advanced Thermal management

**CLASS II**

Electrical insulation

(\*) Tq 25°C

**IK10 - IK08**

High Impact PMMA

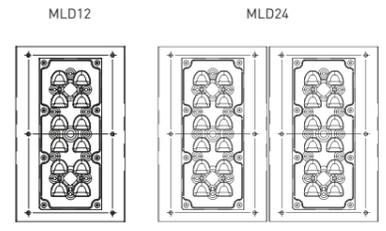
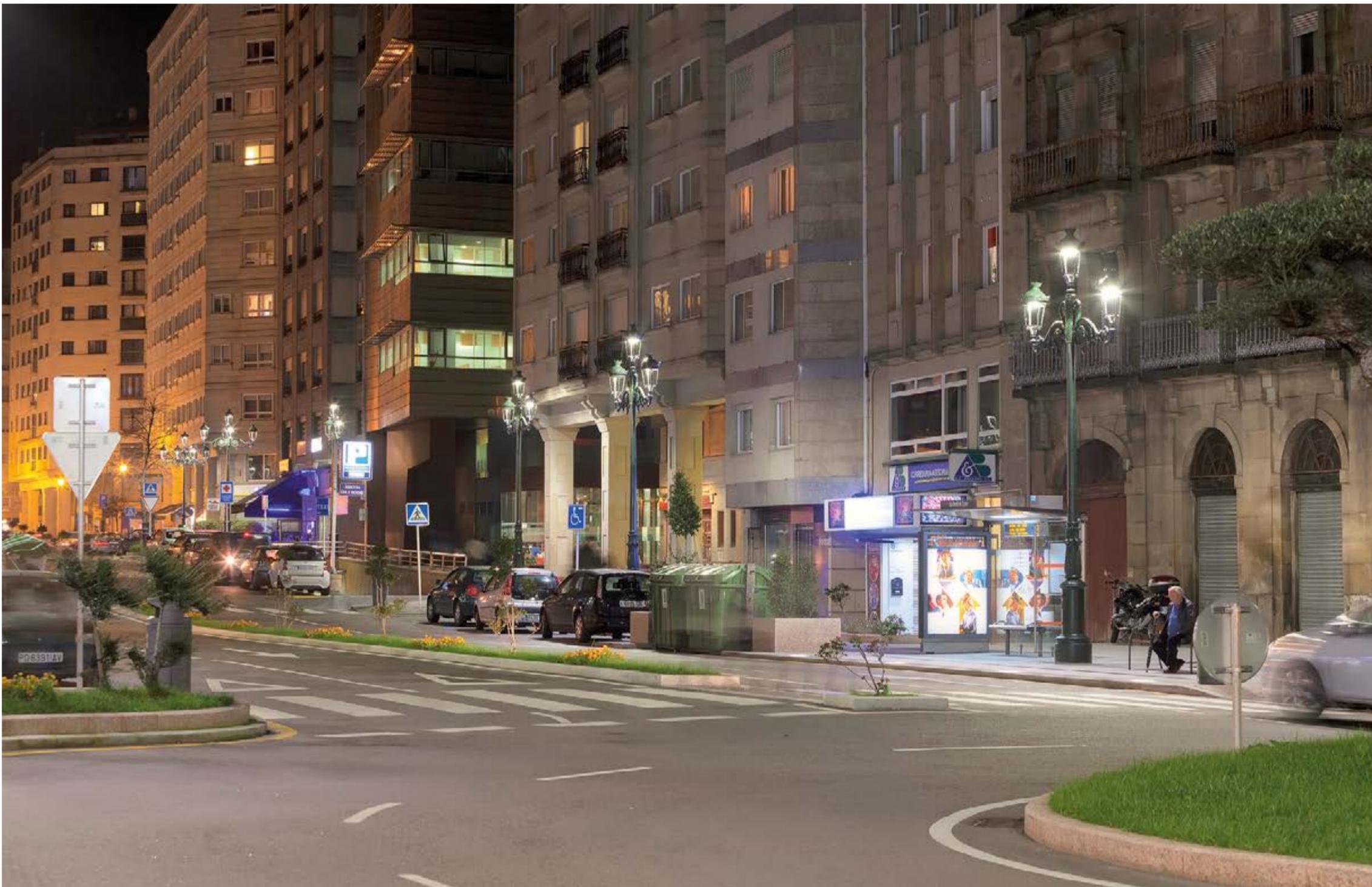
**+100.000**

Hours of lifetime (\*)

**APS** Argon Pressurised  
System (Optional).

**CLEANTech**

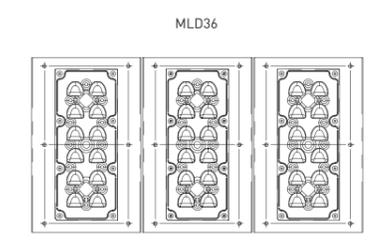
Technology to prevent  
external dirt accumulation



## Technological optimization



MLD



### ORIGIN AND EVOLUTION

The modular design concept inherent to the MLD series allows for flexible large- or small-scale industrialization.

By using anodized aluminium AL-5754 in the manufacturing process of the lower aluminium frame, the shape can be adapted to the individual needs of each project, an impossible challenge for standard aluminium injection frames.

Finally, the MLD module can be shifted both vertically and horizontally in ornamental lamps, optimizing photometric levels in highly complex lighting designs.

### MATERIALS AND STRUCTURE

The MLD module is formed by a machined aluminium and anodized body, acting as a direct heat dissipation mechanism and structural element, noted for its high resistance to corrosive environments.

A direct optical closure made of high impact PMMA, due to its high resistance to UV solar radiation, is applied to the lower surface of the module.

Finally, the unit is certified with class II electrical insulation and a watertightness rating of IP66.

### SUSTAINABLE DESIGN

Each new MLD is the result of a highly sustainable industrial process, distinguished by its recycling capacity and optimization of applied materials. When compared to other processed aluminium, aluminium AL-5754 and 6063-T6's high purity ensures full reuse by other industries in future. Additionally, the high thermal conductivity of this material allows for component size adjustment, resulting in advanced thermal performance with lower material density than bodies manufactured from other aluminium.

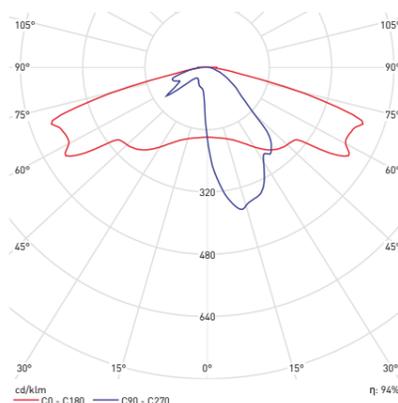
PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
MLD-12S	200	125	1,6	12	2700 - 4500	80%-90%	160-193	15	2091	138	>100.000
MLD-12M	200	125	2,1	12	2700 - 4500	80%-90%	160-193	22	3073	137	>100.000
MLD-12L	200	125	2,1	12	2700 - 4500	80%-90%	160-193	30	3951	134	>100.000
MLD-24S	200	250	3,4	24	2700 - 4500	80%-90%	160-193	28	4183	149	>100.000
MLD-24M	200	250	3,5	24	2700 - 4500	80%-90%	160-193	43	6145	144	>100.000
MLD-24L	200	250	3,5	24	2700 - 4500	80%-90%	160-193	56	7903	140	>100.000
MLD-36S	200	375	4,7	36	2700 - 4500	80%-90%	160-193	41	6274	152	>100.000
MLD-36M	200	375	4,8	36	2700 - 4500	80%-90%	160-193	59	9218	155	>100.000
MLD-36L	200	375	5,1	36	2700 - 4500	80%-90%	160-193	84	11854	141	>100.000

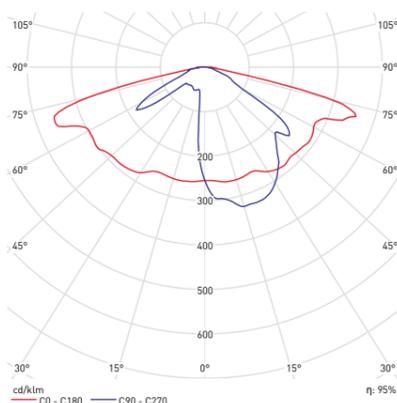
⚠ (\*) Luminous flux at T<sub>j</sub>25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

PHOTOMETRIC CURVES

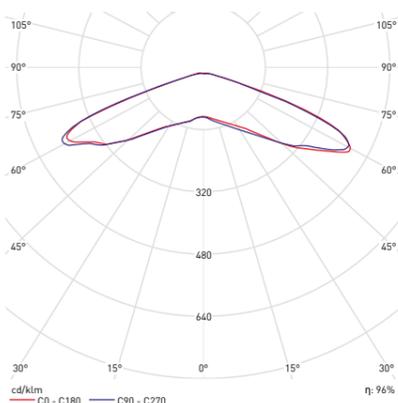
T2-MLD



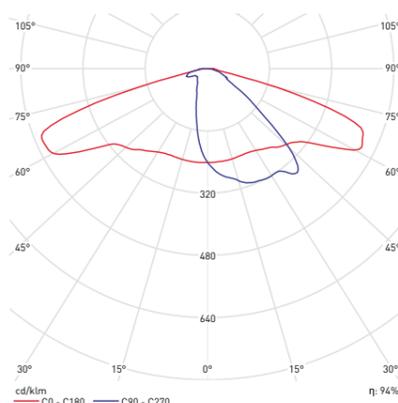
T3-MLD



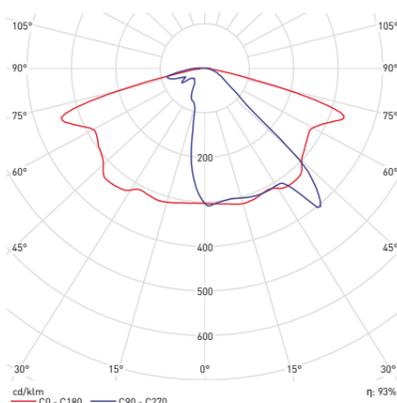
RV-MLD



DWC-MLD



ME-MLD



Standard curves

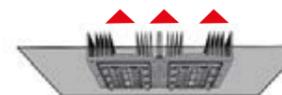
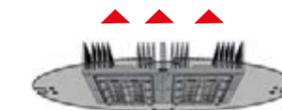
SETGA's optical department can study additional configurations adapted to each project.

#

Accelerated heat dissipation system

**AL** | Extruded and anodized AL6063-T6

The MLD lamp is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.





**1.4.** PROJECTORS  
*URBAN LIGHTING*



## HL

### URBAN INDIVIDUALITY

Noble materials are expressed through their encounter with light. The challenge of the HL projector is to facilitate and adapt them to the characteristics of each urban space. For this purpose, this series introduces a linear geometry that can be integrated into any constructive element.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**139**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

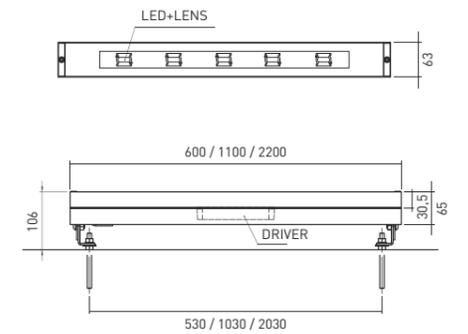
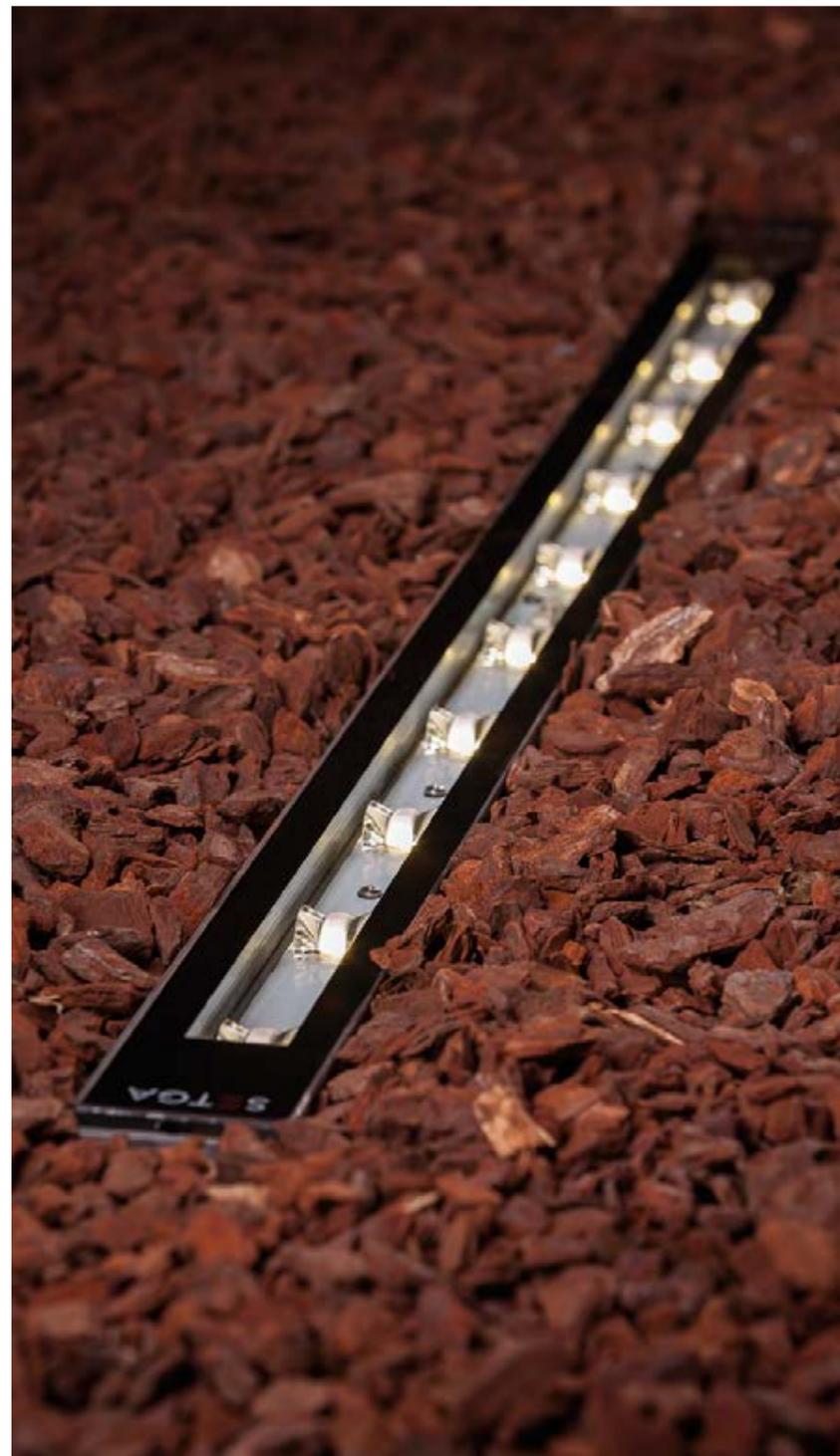
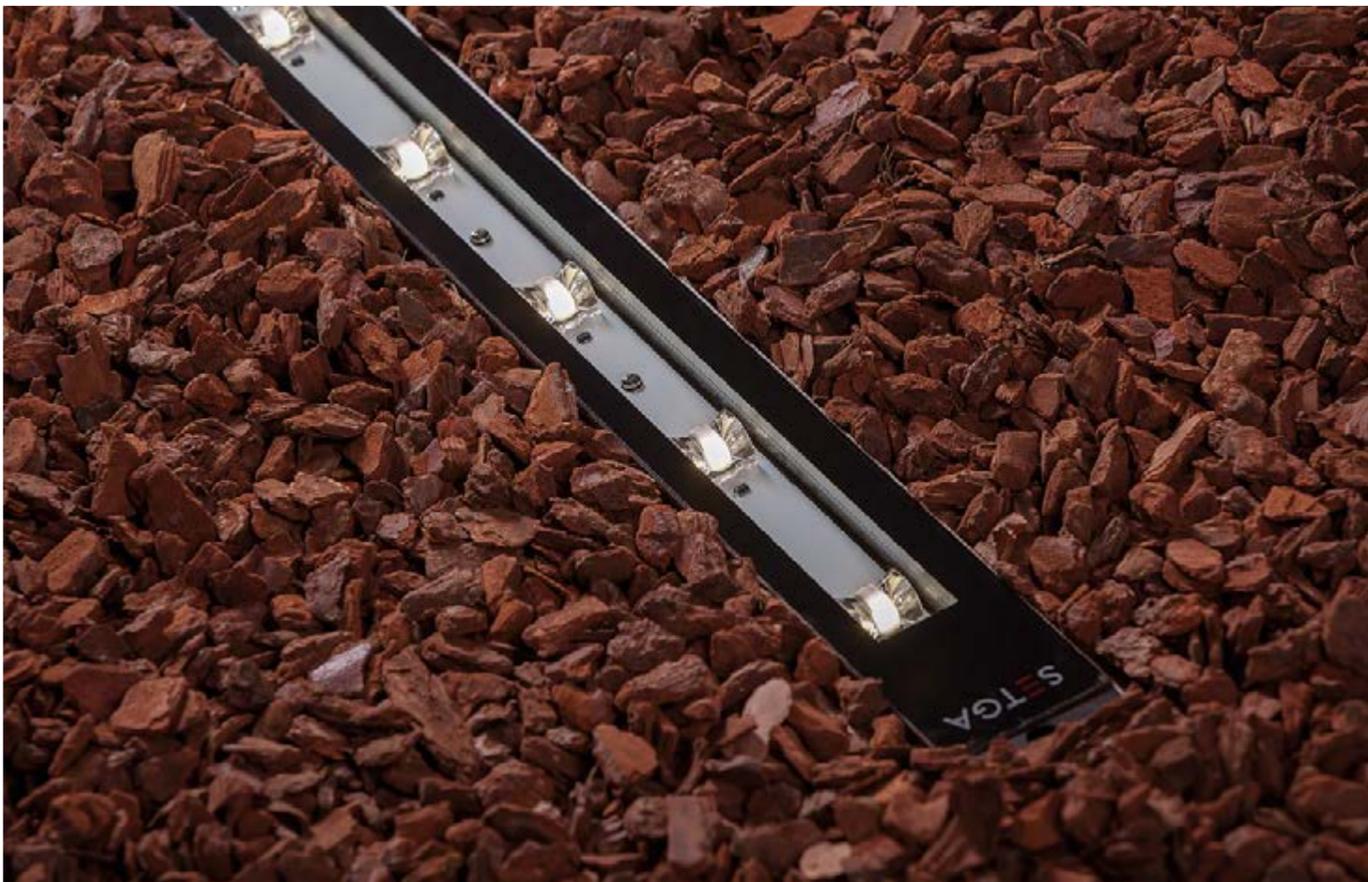
**AL**<sup>5754</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation

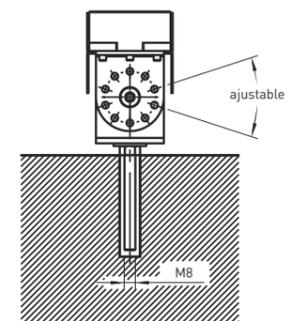
**CLEANTech**®  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



Reinterpreting  
the encounter  
between light  
and form

HL



#### ORIGIN AND EVOLUTION

Since the first edition of the HL series in 2009, the performance of its electronic and optical components has undergone a rapid evolution, while its technology argon gas APS® - IP68 has remained unchanged, proving its effectiveness in critical applications submitted to the impact of rain, moisture and salinity.

The HL series has been designed to be incorporated into ground applications orientated at light monuments or to generate accent scenes, as well as side applications features that are characteristic in walkways, bridges and roads, thus ensuring high levels of uniformity. Its multi-configurable optical system make this series adaptable to any lighting concept, responding precisely to the photometric requirements of any technical lighting project.

#### MATERIALS AND STRUCTURE

The underside of the HL projector consists of a machined and anodized aluminium Al 5754 chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The upper body HL projector is characterized by the application of a tempered glass cover onto which a city logo can be vitrified. Both upper and lower elements are encased in an anodized aluminium AL6063-T6 frame or AL6063-T6.

The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

#### SUSTAINABLE DESIGN

The design strategy of the HL series is characterized by the combination of highly sustainable materials.

Compared to injected aluminium, high purity aluminium Al 5754 facilitates reuse by other industries in the future. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process.

With the support of the first European glass processing line powered by solar technology, the carbon footprint of this series has been substantially reduced. Finally, after the latest revision of the ISO 14001, and implementation of a sustainability master plan, SETGA has driven the design of a long-term recycling system for each component in the HL series

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® HL series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Total Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

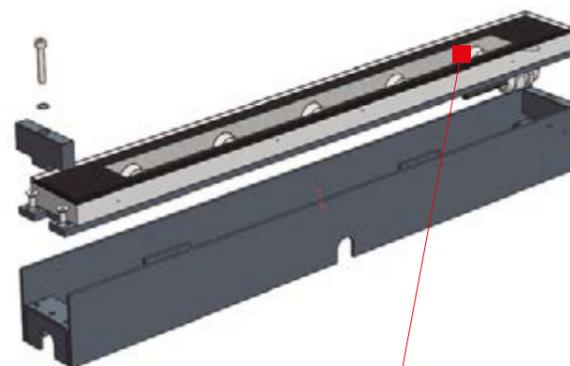
Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation. As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

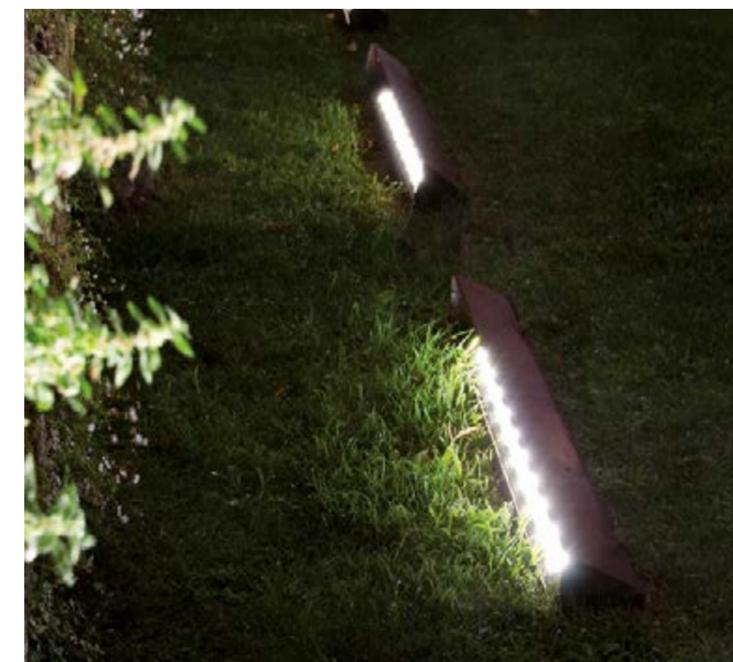
By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS® technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, pintrusion of dust particles and ensuing luminous flux degradation.



APS®  
Optical module housed in capsule pressurized with argon gas

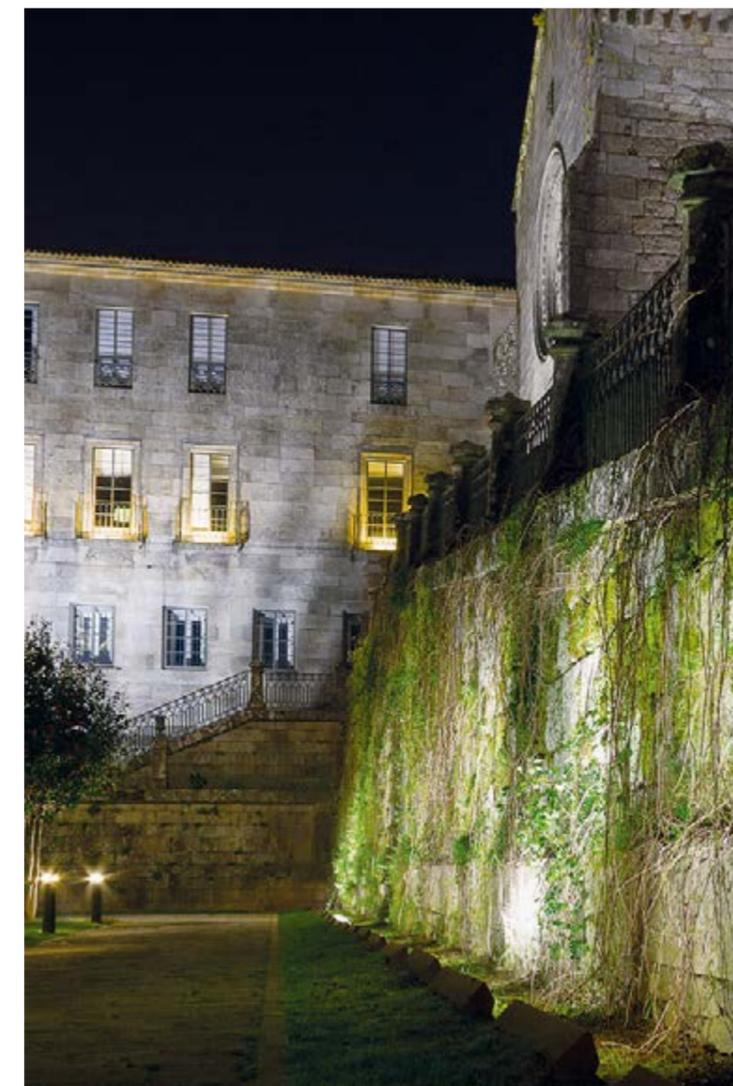


#

Advanced heat dissipation system.

# AL Anodized AL5754-T5 Aluminium.

The HL projector is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

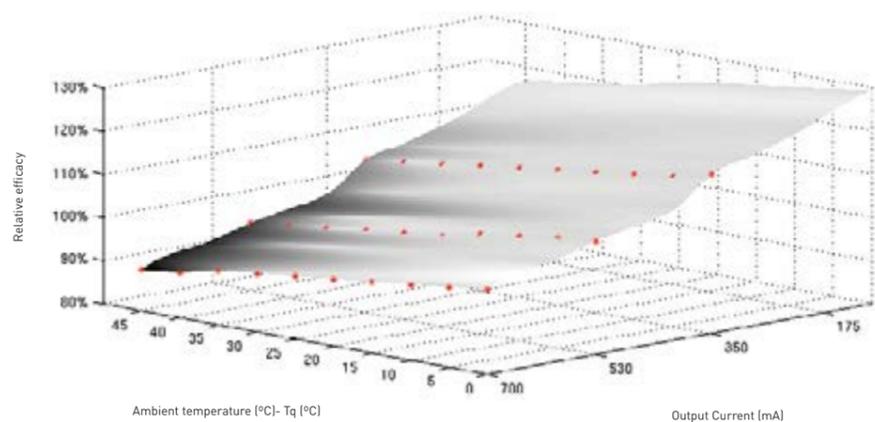


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm) <sup>*</sup>	Luminaire Efficacy (Lm/w)	Lifetime (hours) <sup>**</sup>
HL-5S	600	63	1.3	5	2700-4500	80%-90%	160-193	6	844	139	>100.000
HL-5M	600	63	1.3	5	2700-4500	80%-90%	160-193	9	1167	133	>100.000
HL-5L	600	63	1.3	5	2700-4500	80%-90%	160-193	13	1570	125	>100.000
HL-10S	1100	63	2.5	10	2700-4500	80%-90%	160-193	12	1688	139	>100.000
HL-10M	1100	63	2.5	10	2700-4500	80%-90%	160-193	18	2334	133	>100.000
HL-10L	1100	63	2.5	10	2700-4500	80%-90%	160-193	25	3139	125	>100.000

<sup>+</sup> (\*) Luminous flux at T<sub>j</sub>25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

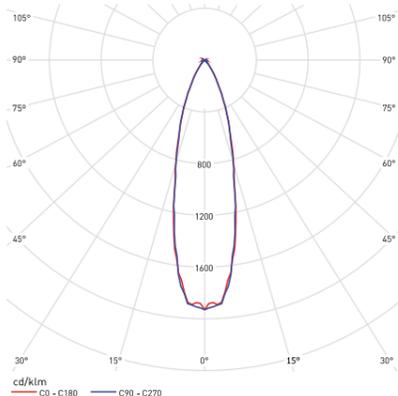
**HTS** High Transparency System® **+8%** Optical performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

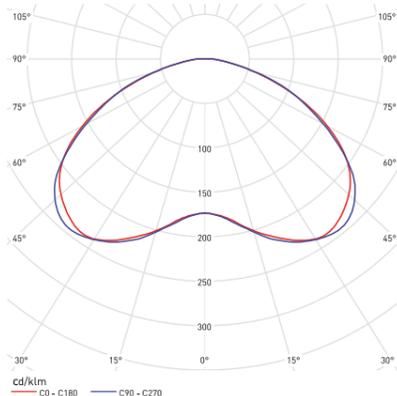


PHOTOMETRIC CURVES

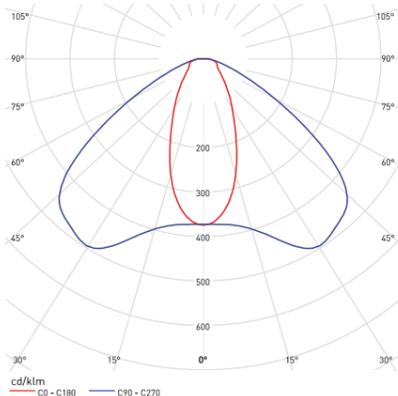
F-HL



C2-HL



VA-HL



+ Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## HR

### HARMONIZING ACCENT

When architectural details require emphasizing, the lighting elements must respect the identity of the entire environment. The aesthetic lightness inherent to HR projector facilitates its integration in buildings characterized by a high heritage value, avoiding its visual distortion.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

**SST** | Accelerated heat dissipation system

**HTS** | High Transparency System

**146**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

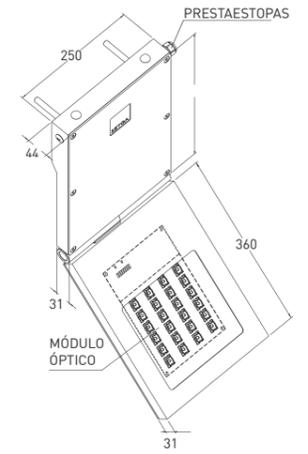
**AL** <sup>5754-T5</sup> Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**BESCHERM CLASS II**

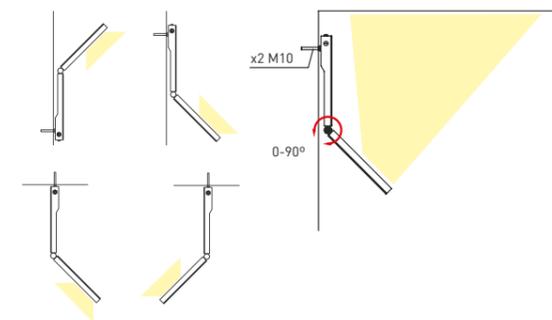
**CLEANTech**®  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



Simplicity that respects urban heritage

HR



#### ORIGIN AND EVOLUTION

The HR series has been designed to extol the authenticity of urban space, revitalizing its essence by the accented encounter of light and form. Installation in façades or ceilings can generate direct or indirect light, depending on the requirements of each space.

Since the first edition of the HR series in 2009, the performance of the electronic and optical components has experienced an exponential evolution, while its argon gas technology APS® - IP68 has remained unchanged, demonstrating its reliability in critical applications subjected to the impact of rain, moisture and salinity.

#### MATERIALS AND STRUCTURE

HR projector body consists of a front Stainless Steel AISI304 structure, and a rear chassis made of anodized aluminum AL 5754, acting as a direct heat dissipation mechanism and structural element. Both elements are characterized by high corrosion resistance.

This chassis features an LED - APS® module with tempered glass cover. The development of an optical system with HTS® technology has led to an 8% increase in ultimate luminaire efficacy, reducing reflection losses by 55%, compared to market standards that apply a secondary lens system covered with a tempered glass closure.

#### DESIGNERS



**Ángel Velando**  
Architect and Urban Planner  
(Pontevedra-Spain).



**Alfred Sa**  
Lighting Designer  
(Barcelona-Spain).



#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® HR series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Total Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation. As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS® technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, pintrusion of dust particles and ensuing luminous flux degradation.



#

Advanced heat dissipation system.

# AL Anodized AL5754-T5 Aluminium.

The HR projector is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of anodized aluminium AL-5754, which achieves thermal conductivity levels of 160 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection.

The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.

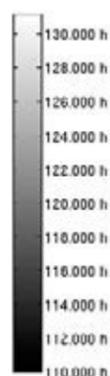
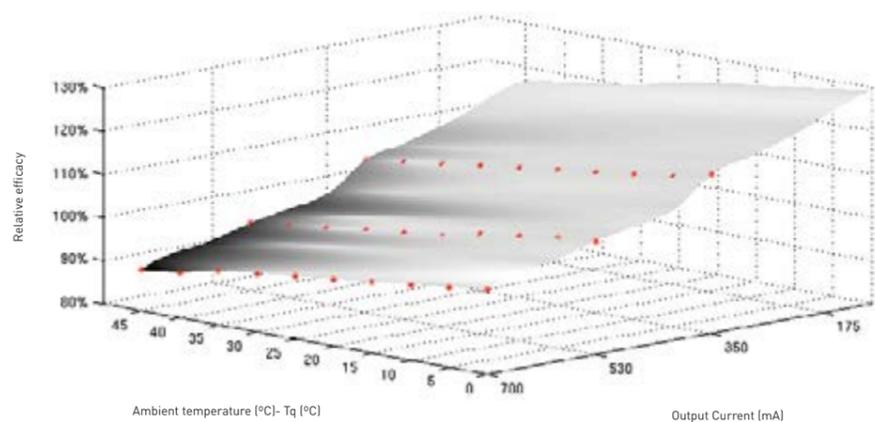


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
HR-24S	360	250	9	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
HR-24M	360	250	9	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
HR-24L	360	250	9	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000

\* Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

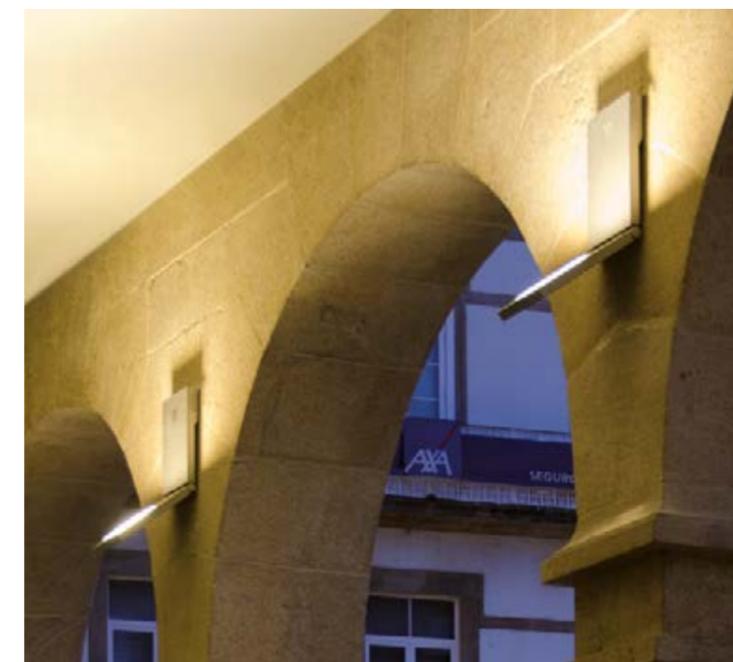
This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Innovation in the optical system enhances final product performance.

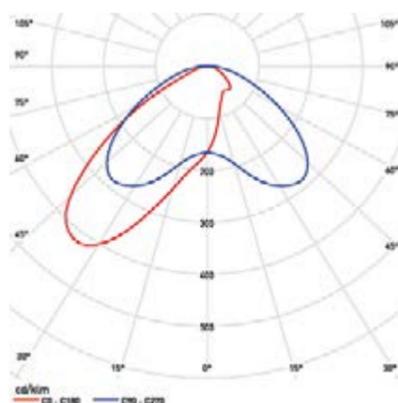
**HTS** High Transparency System® **+8%** Optical performance

The redefined composition of the optical system delivers a 55% reduction in reflection levels, a significant drop when compared with market standards that apply a secondary lens scheme and a tempered glass cover. HTS technology enables optical performance levels similar to those obtained with a direct lens system, increasing the overall efficacy of the luminaire (lm/W) by 8%.

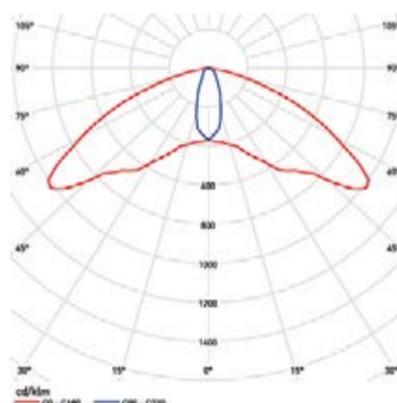


PHOTOMETRIC CURVES

F2-HR



C2-HR



Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## INFINITUM

BALANCE AND LIGHTNESS

Specific urban areas are defined by characteristic architectural perspectives and frames of reference. This is the reason why the Infinitum series releases space from unnecessary poles, providing flow and visual lightness to the environment. The proportionality of the whole and its photometric versatility enables the creation of multiple lighting scenes.

**-IP66-**  
Watertightness

**SST** | Stainless Steel

**152**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

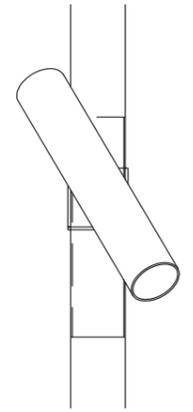
**AL** 6063-T6  
Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**BESCHERM  
CLASS II**

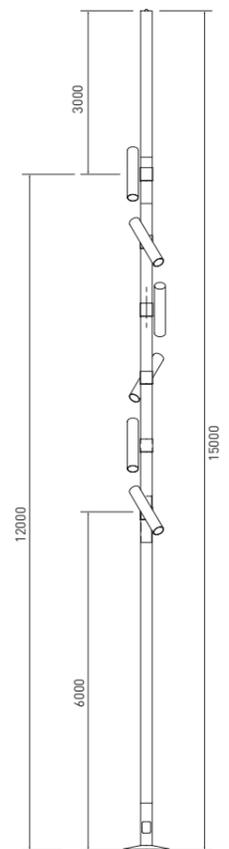
**CLEANTech®**  
Technology to prevent external dirt accumulation.

(\*) Tq 25°C



Elemental  
continuity

INFINITUM



#### ORIGIN AND EVOLUTION

Conjugating elementary forms generates a harmonic aesthetic language, providing an alternative to the visual imbalance produced by projectors arranged in geometrically dissimilar columns.

During the design process of the Infinitum series, the continuity of the cylindrical shape determined a new conceptual horizon, triggering an ideal symbiosis between column and projectors. Together with its avant-garde lines, this projector is characterized by its functionality and adaptability. Each projector can be shifted 360 degrees both vertically and horizontally, integrating a highly versatile LED module capable of generating both accent scenes through concentrated optics, as well as directional distributions through extensive optical systems.

#### MATERIALS AND STRUCTURE

The cylindrical body of the projector Infinitum is made of a main AISI304 or AISI316 stainless steel structure, polished and painted, whose aim is to avoid the corrosive action of highly aggressive environments such as coastal areas. In turn, the series integrates an internal extruded and anodized 6063-T6 chassis, which acts as a continuous thermal dissipation conduit. Depending on the specific needs of each project, it is possible to vary the length and width of the Infinitum projector, adapting it to new applications.

Finally, the Infinitum column and its adjustable fastening systems are available in stainless steel AISI304 or AISI316, either painted or polished, reaching a standard height of 15 m.

#### DESIGNER



**Jesús Fote**  
Architect and Product Designer  
van de CHP (Pontevedra- Spain).

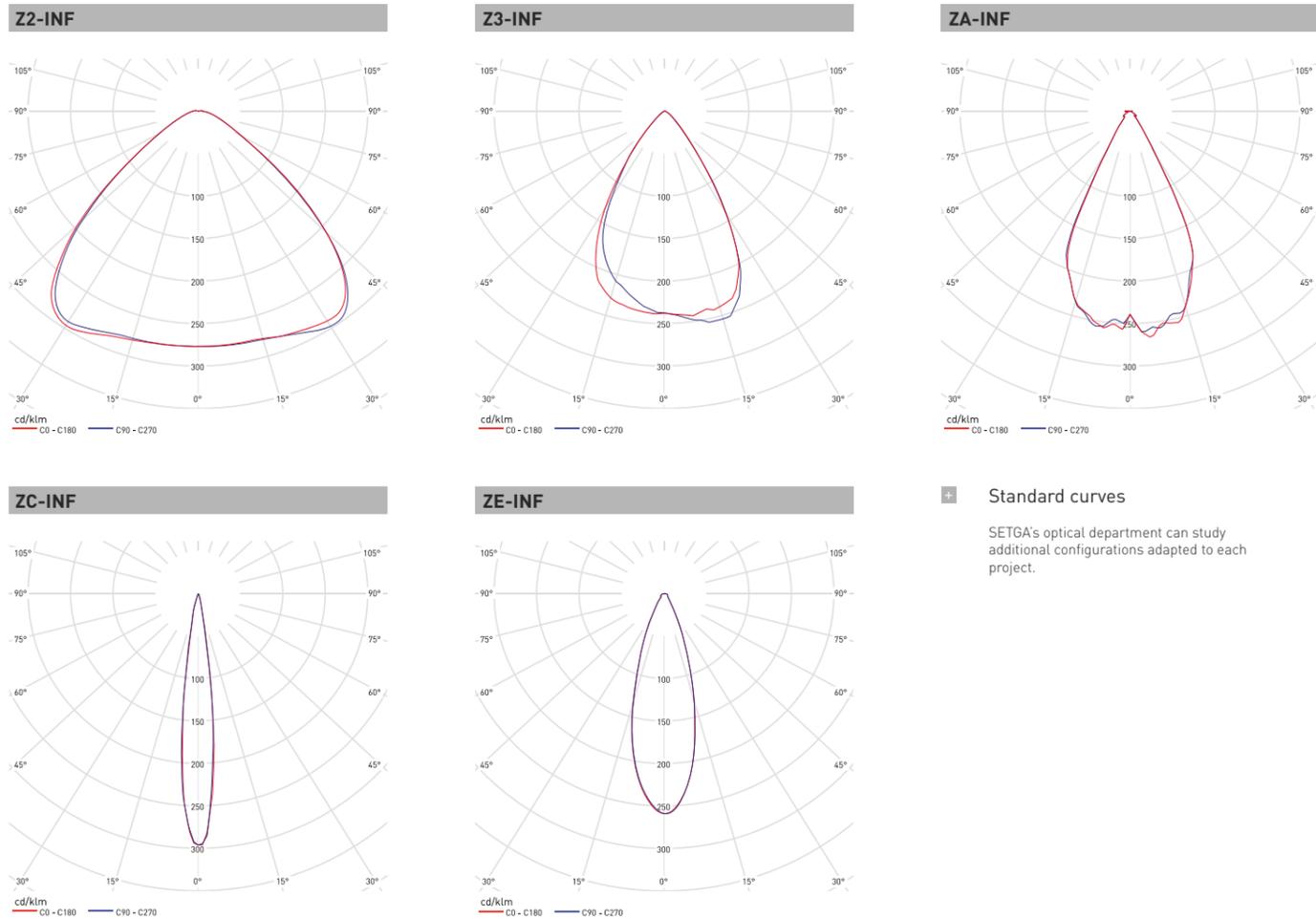


PARAMETERS

Model	Diameter (mm)	Length (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
INF-28S	204	648	16	28	2700-4500	80%-90%	160-193	33	4828	148	>100.000
INF-28M	204	648	16	28	2700-4500	80%-90%	160-193	47	7093	152	>100.000
INF-28L	204	648	16	28	2700-4500	80%-90%	160-193	66	9122	138	>100.000

\* (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

PHOTOMETRIC CURVES



Standard curves

SETGA's optical department can study additional configurations adapted to each project.

#

Advanced heat dissipation system.

**AL** | Anodized AL6063-T6 Aluminium

The Infinitem projector is based on the principle of direct thermal dissipation between the LED PCB and the compact aluminium chassis. The dissipation body comprises a continuous heat pipe of anodized aluminium 6063-T6, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduce the diode's junction temperature.



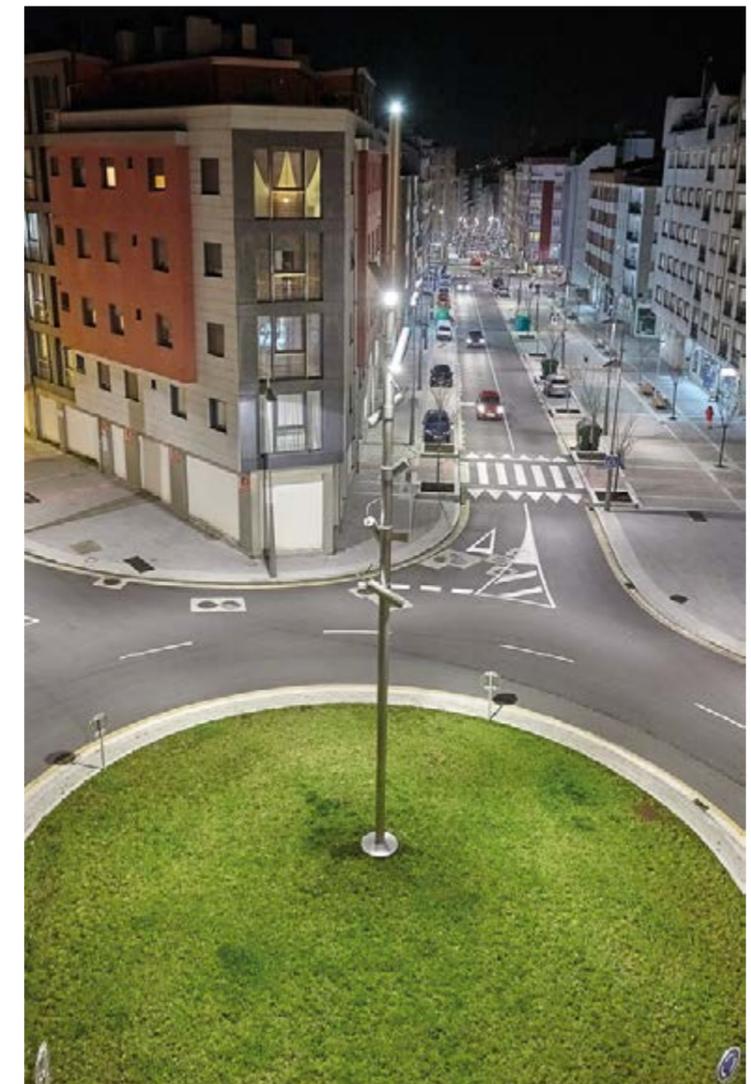
#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency [p.X], relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Infinitem projector with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## DIVERSITY

EVOLUTIONARY MODERNITY

—  
Functionality shaped by avant-garde at the service of urban comfort. This is the genesis of Diversity, the awakening of a LED generation where visual subtlety drives integration into a wide variety of outdoor applications.

---

**IP66**

Watertightness

**IK08 - IK10**

Impact PMMA or Glass

**159**

Lm/w (\*)

**+100.000**

Hours of lifetime (\*)

**AL** EN-AC-44100  
Die Cast

Gestión térmica compacta

**LAFS**® Lateral Air Flow  
System

**CLASS II**

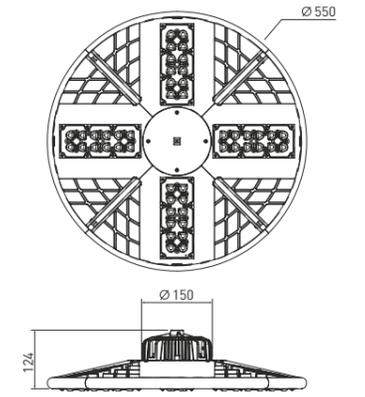
Electrical insulation

**CLEANTech**®

Technology to prevent external dirt  
accumulation

(\*) Tq 25°C

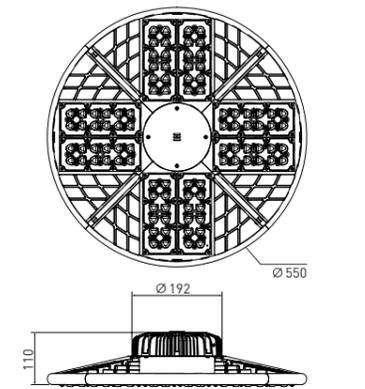
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Timeless  
genesis



DIVERSITY



#### ORIGIN AND EVOLUTION

The Diversity illustrates modularity and versatility, defining authentic spaces that transcend over time. Circular geometry and compact design evoke timeless values. The fusion between straight and curved lines connected through discrete intersections lend modernity to the whole set. In this aesthetic exercise, design also promotes effectiveness and efficiency, enhancing thermal self-cooling and dissipation, as well as optical customization capabilities.

The lenses are arranged in the form of a Greek cross, generating a wide variety of photometric possibilities and optimizing highly complex layouts.

#### MATERIALS AND STRUCTURE

The main structure is shaped by an EN AC-44100 injected aluminium body. The material is free of copper alloy, thereby increasing resistance to corrosion compared to most existing market injections. In highly aggressive environments, optional anodizing substantially extends the life cycle of the body.

The configuration of the mechanical structure creates a thermal bridge between the dissipation area of the LED module and the power supply, avoiding critical heat transmission, which characterizes a large number of standard architectures.

#### DESIGNER



**Francisco Paz**

Engineer - Thermodynamica (SETGA).



**Jesús Saavedra**

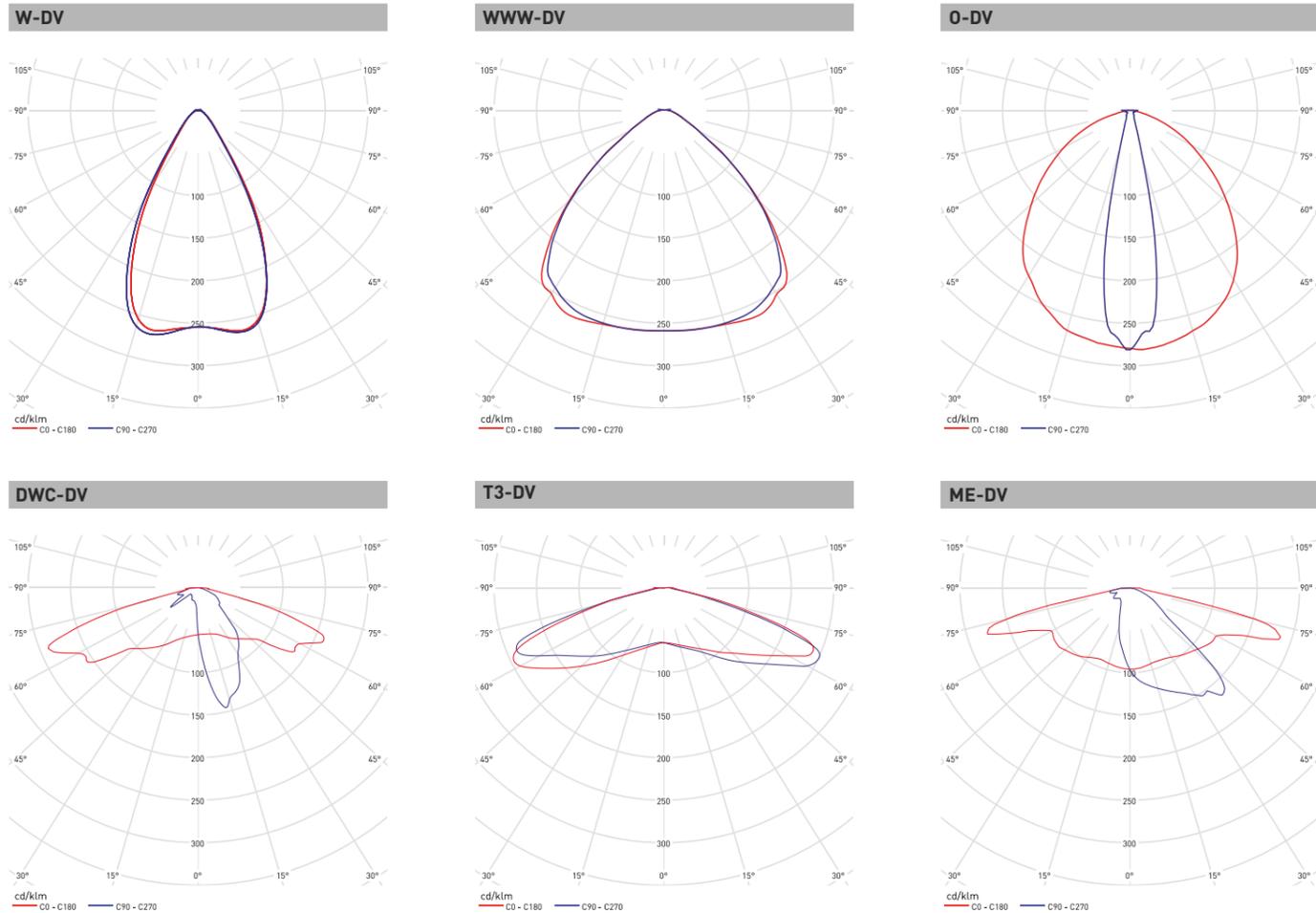
Chief Innovation Officer (SETGA).

PARAMETERS

Model	Diameter (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
DV-24S	550	9	24	2700 - 4500	80%-90%	160-193	28	4183	149	>100.000
DV-24M	550	9	24	2700 - 4500	80%-90%	160-193	43	6145	144	>100.000
DV-24L	550	9	24	2700 - 4500	80%-90%	160-193	56	7903	140	>100.000
DV-48S	550	9.5	48	2700 - 4500	80%-90%	160-193	68	10456	154	>100.000
DV-48M	550	9.5	48	2700 - 4500	80%-90%	160-193	97	15364	159	>100.000
DV-48L	550	10	48	2700 - 4500	80%-90%	160-193	137	19757	144	>100.000

⊕ (\*) Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaires the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

PHOTOMETRIC CURVES



⊕ Standard curves

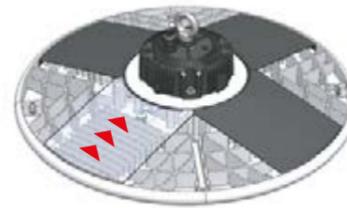
SETGA's optical department can study additional configurations adapted to each project.

#

Heat dissipation system

**GP** Graphite thermal pad **LAFS**® Lateral Air Flow System

The LAFS® (Lateral Air Flow System) side cooling system generates an internal convection process to reduce the temperature of thermal critical areas, where the luminaire body comes into direct contact with the PCB. Finally, the low porosity of the anodized aluminium and the use of a graphite thermal pad in the area between the PCB and dissipation body contribute to thermal contact optimization between both elements, eliminating air gaps and improving the dissipation process in the early stages.



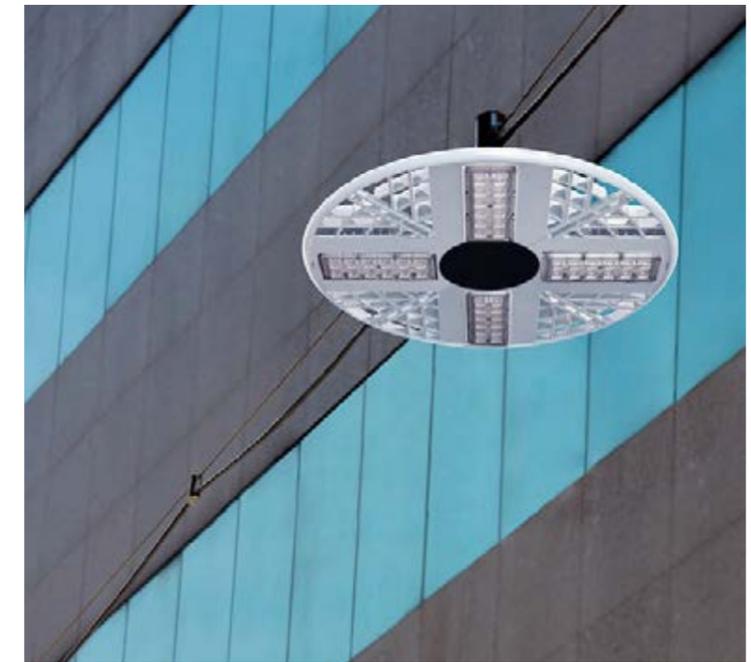
#

Technology to prevent external dirt accumulation.

**CLEAN Tech**®

According to the US Energy Agency [p.X], relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Diversity projector with a completely uniform upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.





## TNL

PRECISION  
BEYOND PERFORMANCE

Optical efficiency, precision and innovation to respond to complex lighting challenges, transforming public infrastructure where inadequate light levels and glare represent a risk factor for safety.

**-IP68-**  
Watertightness

Up to **152**  
Lm /w (\*)

**AL** <sup>6063-T6</sup> Anodized  
Advanced Heat Dissipation

**CLASS II**  
Electrical insulation

**LLD** <sup>Low Luminous Density</sup>  
Anti-glare-technologie

**APS** <sup>Argon Pressurised System</sup>

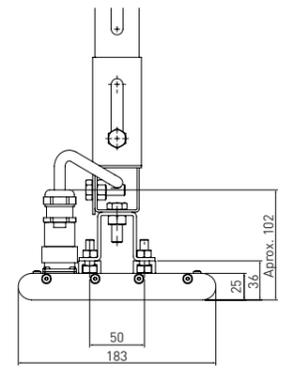
**+100.000**  
Hours of lifetime (\*)

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLEANTech**<sup>®</sup>  
Technology to prevent external dirt accumulation.

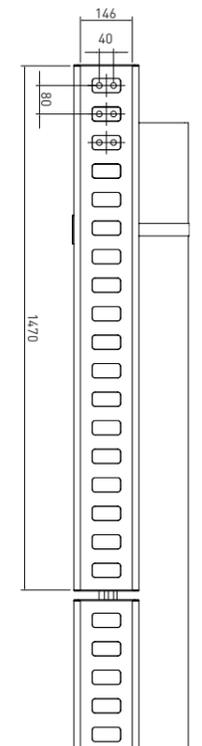
**MODULAIR**  
Design

(\*) Tq 25°C



A new horizon  
made of visual  
comfort

TNL



#### ORIGIN AND EVOLUTION

The TNL represents the evolution of an elemental design line characterized by slenderness, visual cleanliness and dynamism. Originally conceived for technical lighting in tunnel applications, the multi-configurable nature of this series facilitates integration into a wide range of urban infrastructures. Maximizing visual comfort is the result of combining three proprietary technologies: LLD® - Low Luminous Density, MRLS® - Micro light refractive surface derived from an opal glass treatment, and a discontinuous screen printing system based on the patented Leaving guard® - Anti-glare system. This combination removes disturbing glare, increasing well-being and safety from all observation angles, without sacrificing energy efficiency.

#### MATERIALS AND STRUCTURE

The TNL projector upper body consists of an AL6063-T6 machined and anodized aluminium chassis, which serves as a direct mechanism for heat dissipation, as well as a structural element known for high corrosion resistance. The underside of the luminaire is characterized by the application of a vitrified tempered glass, optionally treated with an opal finish. The modular nature of the system allows for continuous serial configurations with independent luminaires, of 1.47 metres.

Finally, LED optoelectronic modules are immersed in a pressurized atmosphere of argon gas Argon based on the Argon Pressurised System® APS technology.

#### SUSTAINABLE DESIGN

The design strategy of the TNL series is characterized by the combination of highly sustainable materials. Compared to injected aluminium, high purity AL6063-T6 aluminium facilitates reuse by other industries in future.

The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process.

The first European glass processing line powered by solar technology has substantially reduced the carbon footprint of this series.

#

Preventing the destructive effects of humidity and salinity in LED optical and electronic components.

# APS® Argon Pressurised System IP68

With the Argon Pressurised System (APS)® TNL series, optical and electronic components are encapsulated in a pressurised atmosphere of argon gas. A watertightness level of IP68 is ensured, making the system resistant to complete and continuous immersion far beyond the requirements of any regulation.

The inert atmosphere in the optical-electronic module guards against condensation, moisture and salinity intrusion, thereby preventing an accelerated ageing process of the system's sensitive components. This protective shield is essential in areas where air salinity is a critical lifetime factor for any optical and electronic component.

The ability of this system to preserve the lifetime, efficacy and chromatic quality of the luminaire reduces Total Cost of Ownership (TOC) and maintains high demanding visual comfort standards:

## 1 Preventing the premature degradation of luminous flux.

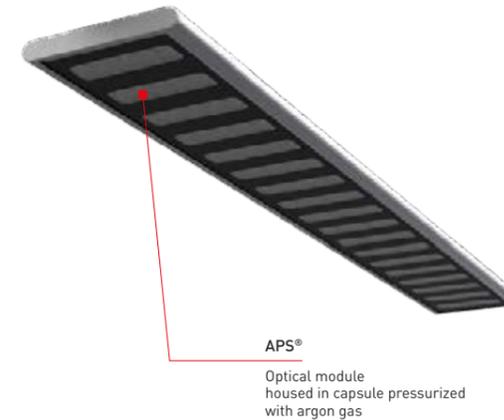
Preventing the premature ageing of optical and electronic components caused by humidity and salinity also guards against luminous flux degradation. As a result, future power increases to preserve the photometric parameters required by EN-13201 won't be necessary.

## 2 Ensuring chromatic stability.

By isolating the phosphor layer and primary optic from humidity and salinity, chromatic reproduction index and colour temperature deterioration is avoided throughout the lifetime of the luminaire.

## 3 Avoiding critical dilations within the optical module.

APS® technology maintains constant pressure and volume levels inside the luminaire, irrespective of external atmospheric pressure and temperature variations within. This prevents dilation and deformation of the materials that make up the optical module, intrusion of dust particles and ensuing luminous flux degradation.



#

Advanced heat dissipation system.

# AL Anodized AL5754 Aluminium

The TNL luminaire is based on the principle of direct thermal dissipation between the LED PCB, the compact aluminium chassis and the exterior. The luminaire body comprises a continuous heat pipe of AL6063-T6 anodized aluminium, which achieves thermal conductivity levels of 200 W/metre Kelvin, compared to 130 W/metre Kelvin of aluminium injection. The low porosity of anodized aluminium plus a thermal pad over the contact surface between the PCB and the dissipation body significantly reduces the diode's junction temperature.

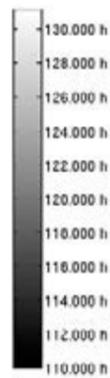
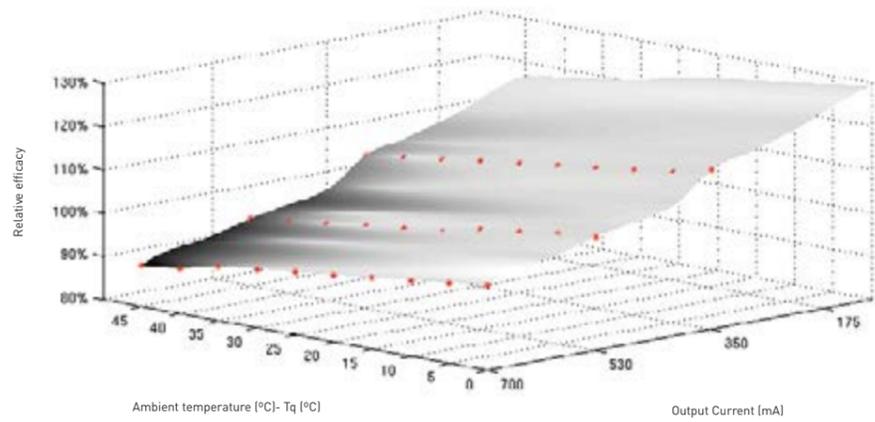


### PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LED	Colour T <sup>a</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
TNL-24S	1470	183	9,4	24	2700-4500	80%-90%	160-193	28	4099	146	>100.000
TNL-24M	1470	183	9,4	24	2700-4500	80%-90%	160-193	43	6023	141	>100.000
TNL-24L	1470	183	9,4	24	2700-4500	80%-90%	160-193	56	7745	137	>100.000
TNL-36S	1470	183	9,5	36	2700-4500	80%-90%	160-193	41	6148	149	>100.000
TNL-36M	1470	183	9,5	36	2700-4500	80%-90%	160-193	59	9034	152	>100.000
TNL-36L	1470	183	9,5	36	2700-4500	80%-90%	160-193	84	11617	138	>100.000

[\*] Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions.

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Reducing light density in the solidangle to create new visual comfort standards.

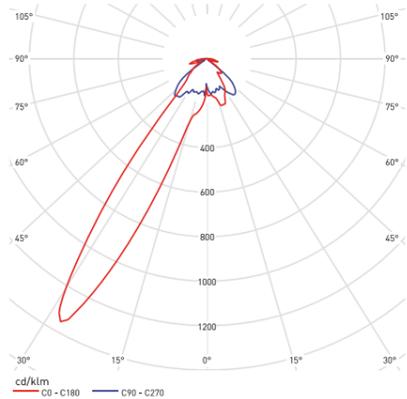
**LLD** Low Luminous Density®

LLD technology improves the glare index (GR) without the need for optical systems characterized by reflection or refraction processes whose efficiency levels (lm/W) experience significant losses. The TNL distributes low power LED diodes below 1 W along the optical module, increasing the light emitting surface size to reduce luminous density from all solid angles of observation.

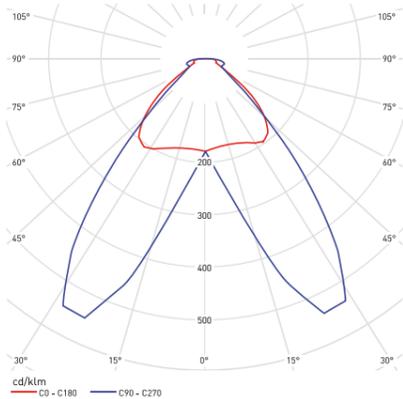


PHOTOMETRIC CURVES

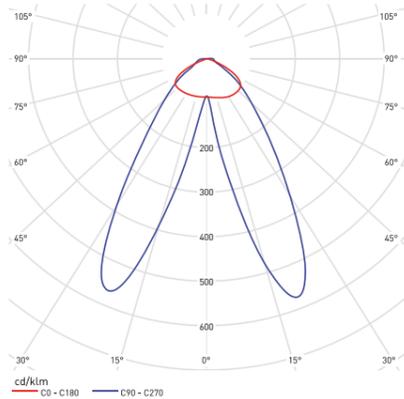
L1-TNL



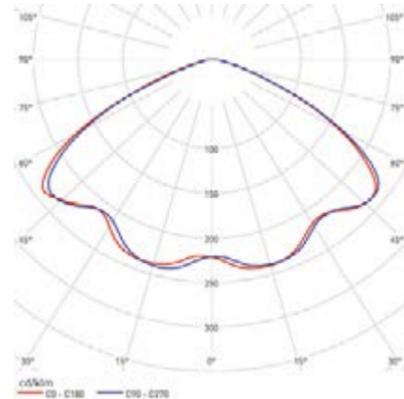
L2-TNL



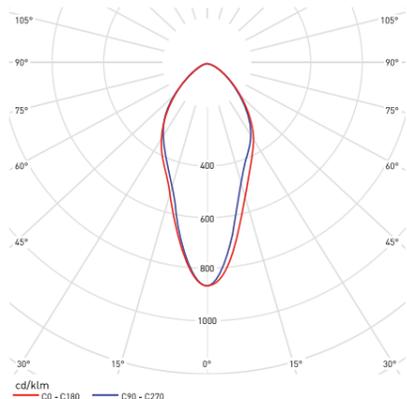
L3-TNL



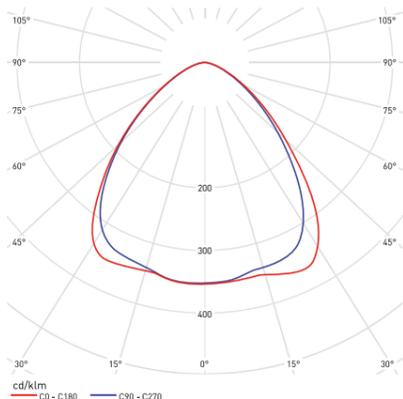
CY-TNL



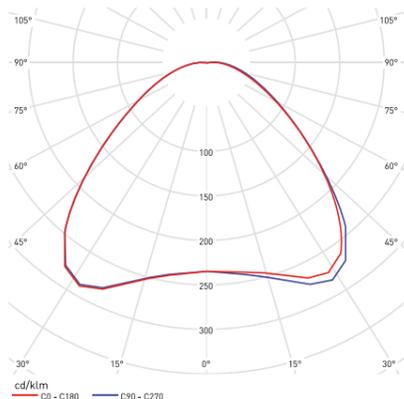
LC-TNL



LT-TNL



CX-TNL



# Standard curves

SETGA's optical department can study additional configurations adapted to each project.





## ESSENZE - P

### TECHNOLOGICAL ROBUSTNESS

The design integrity inherent to the Essenze series has triggered a new rationalist language, where form follows function, preserving the honesty of advanced materials and the contrast of every detail, expanding performance boundaries from reliability and technological robustness.

**-IP67-**  
Watertightness

**IK10 - IK08**  
Impact Resistance

**160**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

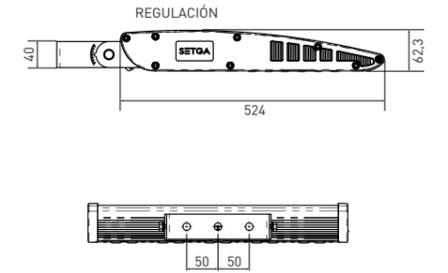
**AL** 6063-T6  
Anodized  
Advanced Heat Dissipation

**LAFS**® Lateral Air Flow  
System

**BESCHERM  
CLASS II**

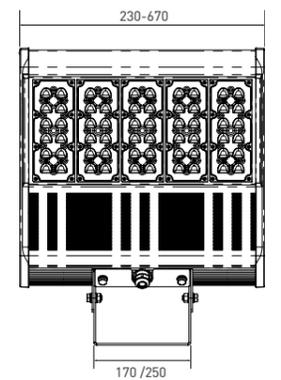
**CLEANTech**®  
Technology to prevent external dirt  
accumulation.

(\*) Tq 25°C



Complexity  
unlocking  
innovation  
potential

ESSENZE - P



#### ORIGIN AND EVOLUTION

The intelligent integration of various aesthetic and industrial trends has transformed the technological status quo, creating a new relationship between light and urban space.

SETGA has merged contemporary trends in the automotive industry with the aesthetic of Central European watchmaking to create a compact format, harmonizing the dynamic nature of the unit with the contrast and robustness inspired by each mechanical component.

#### MATERIALS AND STRUCTURE

The compact aluminium AL 6063-T6 extruded and anodized body minimizes the degrading effect of aggressive environments. The column anchoring system is characterized by high structural reliability. A robust locking mechanism, close to the centre of gravity of the luminaire, eliminates the front tilting risk inherent to any large format. Finally, the set of injected aluminium end caps and Stainless Steel screws through which the sliding driver system is accessed has been designed to prevent fasteners from loosening during the extraction process, speeding up maintenance and preserving thread effectiveness over the lifetime of the luminaire.

#### SUSTAINABLE DESIGN

Each new luminaire in the Essenze series is the result of a highly sustainable industrial process, distinguished by its recycling capacity and optimization of applied materials. When compared to other processed aluminium, aluminium 6063-T6's high purity ensures full reuse by other industries in future. Additionally, the high thermal conductivity of this material allows for component size adjustment, resulting in advanced thermal performance with lower material density than bodies manufactured from other aluminium. Following the latest ISO 14001 audit, and the implementation of the master plan for sustainability, SETGA has driven the design of a long-term recycling system for each Essenze component.

#

Advanced heat dissipation system.

**AL** Extruded and anodized AL6063-T6 **LAFS** Lateral Air Flow System

In order to optimize the heat dissipation process, enhance efficacy (lm/W) and increase luminaire lifetime, SETGA has developed a pioneering system by integrating an internal structure of heat pipes and a lateral cooling

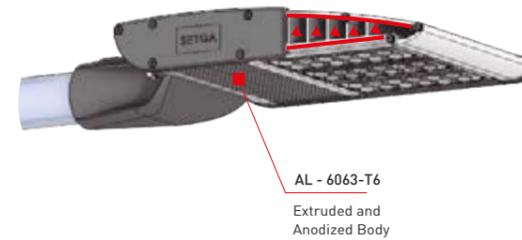
mechanism (LAFS®) within a single compact body sink made of extruded and anodized aluminium AL 6063-T6. The Eszenze luminaire is equipped with continuous, accelerated and self-refrigerated thermal architecture capable of reducing LED junction temperature between 5° C (350mA) and 15° C (700mA) in relation to standard systems manufactured in die cast aluminium.

**1** Extruded and anodized AL 6063-T6 compact body.

The materials technology applied to this series allows for a substantial acceleration in the heat dissipation process, reaching conductivity levels greater than 200 W/metre Kelvin—an increase in the dissipation rate of between 50% and 53%, compared to standard aluminium injection systems with conductivity levels lower than 130-140 W/metre Kelvin.

**2** Integration of multiple and continuous heat pipes.

Including multiple and continuous heat pipes into the compact aluminium body connects the critical thermal area to the upper surface of the luminaire, thereby maximizing its dissipation capacity. The slotted bottom surface of the luminaire multiplies the sinking body, further increasing conductive potential.

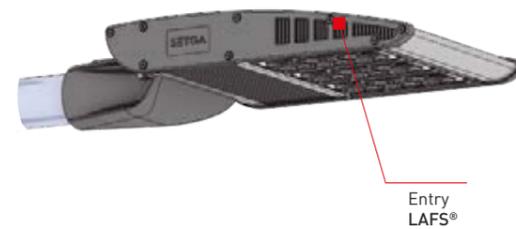


**3** Lateral self-cooling system (LAFS®).

The LAFS® (Lateral Air Flow System) side cooling system generates an internal convection process to reduce the temperature of thermal critical areas, where the luminaire body comes into direct contact with the PCB.

The Eszenze luminaire incorporates an IP66-rated double-barrier system for an adequate level of sealing between the cooling area over which LAFS® acts and the compartments housing the electronic components and connections.

Finally, filters designed to neutralize dirt intrusion in the thermal critical area are located in the sides entrances of the cooling system.



**4** Graphite thermal pad included within the joint area between the PCB and the anodized aluminium body.

The low porosity of the anodized aluminium and the use of a graphite thermal pad in the area between the PCB and dissipation body contribute to thermal contact optimization between both elements, eliminating air gaps and improving the dissipation process in the early stages.

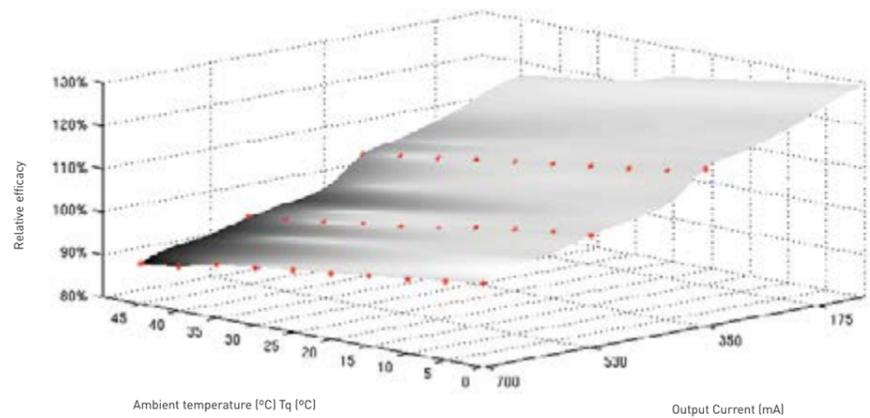


PARAMETERS

Model	Length (mm)	Width (mm)	Weight (kg)	No. LED	Colour T <sup>9</sup>	CRI	Diode Efficacy (Lm/w)	Power (W)	Luminaire Luminous Flux (Lm)*	Luminaire Efficacy (Lm/w)	Lifetime (hours)**
EZP-12S	524	230	5.3	12	2700-4500	80%-90%	160-193	15	2091	138	>100.000
EZP-12M	524	230	5.3	12	2700-4500	80%-90%	160-193	22	3073	137	>100.000
EZP-12L	524	230	5.3	12	2700-4500	80%-90%	160-193	30	3951	134	>100.000
EZP-24S	524	230	5.4	24	2700-4500	80%-90%	160-193	28	4183	149	>100.000
EZP-24M	524	230	5.4	24	2700-4500	80%-90%	160-193	43	6145	144	>100.000
EZP-24L	524	230	5.4	24	2700-4500	80%-90%	160-193	56	7903	140	>100.000
EZP-36S	524	280	6.5	36	2700-4500	80%-90%	160-193	41	6274	152	>100.000
EZP-36M	524	280	6.5	36	2700-4500	80%-90%	160-193	59	9218	155	>100.000
EZP-36L	524	280	6.5	36	2700-4500	80%-90%	160-193	84	11854	141	>100.000
EZP-48S	524	360	7.4	48	2700-4500	80%-90%	160-193	55	8365	153	>100.000
EZP-48M	524	360	7.4	48	2700-4500	80%-90%	160-193	79	12291	156	>100.000
EZP-48L	524	360	7.4	48	2700-4500	80%-90%	160-193	110	15806	144	>100.000
EZP-60S	524	420	8.5	60	2700-4500	80%-90%	160-193	68	10456	154	>100.000
EZP-60M	524	420	8.5	60	2700-4500	80%-90%	160-193	97	15364	159	>100.000
EZP-60L	524	420	8.5	60	2700-4500	80%-90%	160-193	137	19757	144	>100.000
EZP-72S	524	520	9.6	72	2700-4500	80%-90%	160-193	81	12548	155	>100.000
EZP-72M	524	520	9.6	72	2700-4500	80%-90%	160-193	116	18436	159	>100.000
EZP-72L	524	520	9.6	72	2700-4500	80%-90%	160-193	165	23708	144	>100.000
EZP-84S	524	600	11.3	84	2700-4500	80%-90%	160-193	93	14638	157	>100.000
EZP-84M	524	600	11.3	84	2700-4500	80%-90%	160-193	135	21509	159	>100.000
EZP-84L	524	600	11.3	84	2700-4500	80%-90%	160-193	190	27596	145	>100.000
EZP-96S	524	670	12.5	96	2700-4500	80%-90%	160-193	106	16730	157	>100.000
EZP-96M	524	670	12.5	96	2700-4500	80%-90%	160-193	154	24582	160	>100.000
EZP-96L	524	670	12.5	96	2700-4500	80%-90%	160-193	223	31611	142	>100.000

\* Luminous flux at Tj25° based on the data provided by the semiconductor manufacturer. SETGA applies to its luminaries the most advanced selection of LED binning obtained by leading diode manufacturers, in order to ensure the highest level of colour rendering (CRI), efficacy and lifetime at any given moment. The value may vary over time, depending on the continuous evolution of LED technology and ambient operating conditions. (\*\*) L80B10 - L96B10 (IES LM-80 / TM-21).

RELATIVE PERFORMANCE FUNCTION (RPF)



The RPF (Relative Performance Function) three-dimensional function determines the efficacy of the luminaire under multiple operating conditions through the cross analysis of the ambient temperature and the output current.

This tool allows for an estimation of lifetime, depending on the colour texture applied to the surface.

#

Technology to prevent external dirt accumulation.

# CLEAN Tech®

According to the US Energy Agency, relief on the upper surface of the fixture severely hinders the dissipation process that takes place by convection, becoming a critical element for performance and life.

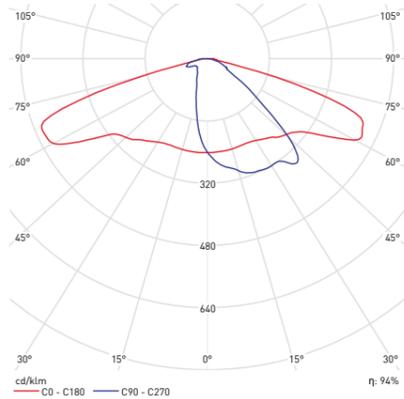
To overcome this challenge and to enhance the natural self-cleaning process, SETGA has equipped the Eszenze luminaire heat sink with a completely uniform and curved upper surface, thus preventing dirt accumulation, and the ensuing obstruction and inefficiency of the thermal dissipation system.

Finally, baffles located on the lower front and rear surface of the optical area prevent dirty liquid flowing from the upper area of the body to the lenses, thereby preserving optical system efficiency (lm/W).

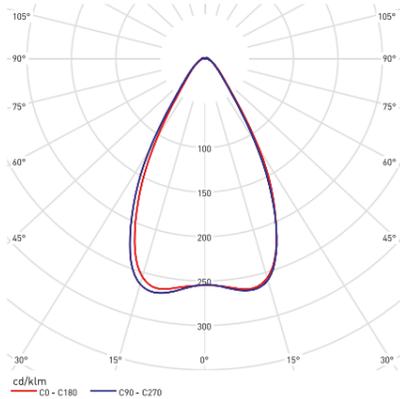


PHOTOMETRIC CURVES

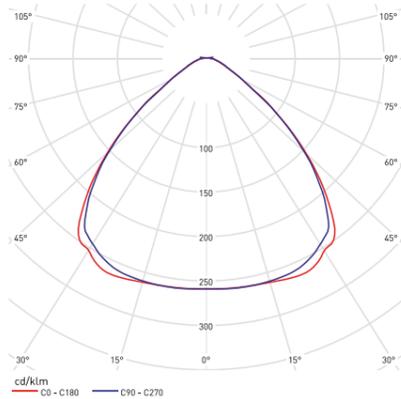
DWC-EZP



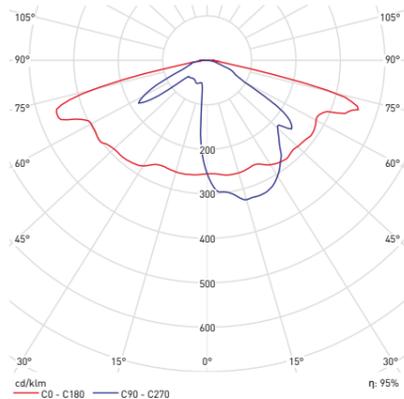
W-EZP



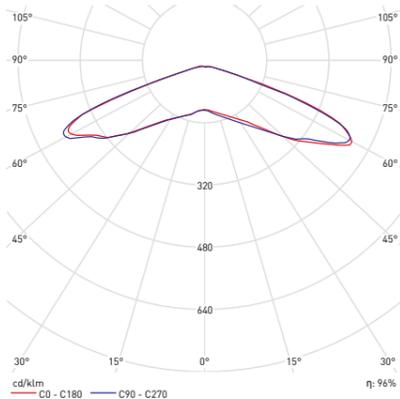
WWW-EZP



T3-EZP

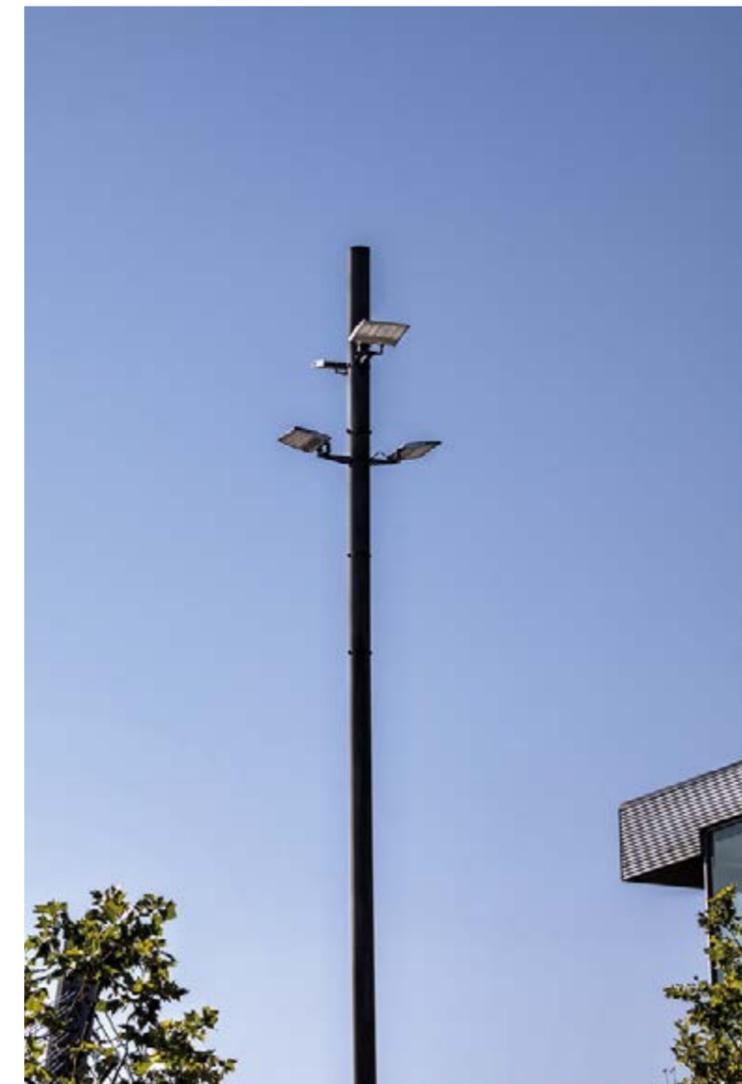


RV-EZP



# Standard curves

SETGA's optical department can study additional configurations adapted to each project.





**1.5.** BEACONS  
*URBAN LIGHTING*



## ADM

### REDEFINING THE URBAN ROUTE

Design and efficiency come together in an elegant and functional element destined to redefine urban routes. The purity of polished stainless steel is combined with a light body, the result of applying a methacrylate diffuser over the LED optical system.

**-IP67-**  
Watertightness

**IK10 - IK08**  
Impact Resistance

**111**  
Lm /w [\*]

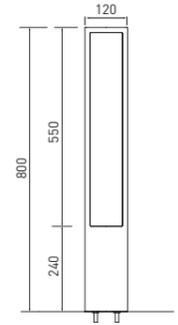
**+100.000**  
Hours of lifetime [\*]

**AL** <sup>5754</sup>  
Anodized  
Advanced Heat Dissipation

**SST** | Stainless Steel

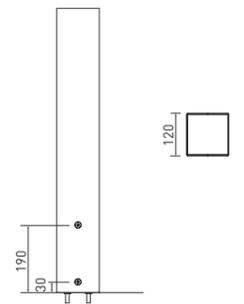
**BESCHERM  
CLASS II**

[\*] Tq 25°C



Expanding  
space's  
boundaries

ADM



#### ORIGIN AND EVOLUTION

The ADM series was initially conceived to reinforce the urban welcome experience, providing urban access routes with a range of contrasts based on a combination of polished stainless steel with a light body. Its mission, to create a universe of sensations adapted to the soul of each space, generating a feeling of warmth and welcome through positional light distributions, or of fascination and safety through directional light distributions. Following the incorporation of the latest LED technology, purity of its line and balanced proportions continue to accentuate the visual depth of urban space.

#### MATERIALS AND STRUCTURE

The ADM beacon body is shaped by a polished AISI316 stainless steel structure and a double methacrylate diffuser, which is particularly resistant to UV radiation. A high power optical LED module is integrated into the interior, with a watertightness level of IP67. The materials applied to this unit have been conceived to prevent the degrading action of aggressive environments, such as coastal areas. To facilitate the final assembly and installation process, ADM includes a separate frame restraint.

#### SUSTAINABLE DESIGN

The ADM luminaire incorporates one of the world's most recycled materials—steel. Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals. Unlike aluminium injection, for example, extruded aluminium used for manufacturing the chassis sink facilitates reuse in other product categories. Following the implementation of ISO 14001 and the development of the sustainability master plan, SETGA has striven to reduce the carbon footprint of all its components, by designing a long-term recycling system for each one.



## PDS

BRINGING NATURE CLOSER  
TO MODERN SPACE

The Celts believed that every tree had a wise spirit, whose face could be seen in the bark. Today, the mysterious power of nature continues to envelope our souls, exposing us to the energy released by the elements.

**-IP68-**  
Watertightness

**APS** Argon Pressurised System

**139**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

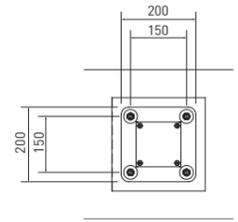
**AL** 5754 Anodized  
Advanced Heat Dissipation

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLASS II**  
Electrical insulation

**CST** Corten Steel

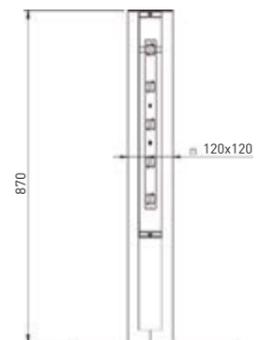
(\*) Tq 25°C



A forest of light



PDS



#### ORIGIN AND EVOLUTION

Mauro Lomba, Maria Pierres and Jorge Lameiro, the creators of the PDS beacon series, began with a slender design concept inspired by the natural world, adapting the form and finish to a small, thickly barked bush. The idea of a forest of light responded to the urban landscape challenges of the locations for where the series was originally conceived. The first PDS beacons were integrated into the Pousadas of Salnés, a series of projects designed by architect Mauro Lomba, based in Pontevedra (Spain), the results of which were published internationally by renowned architectural magazines, such as Stone Ideas.

#### STRUCTURE AND MATERIALS

The PDS beacon body consists of a steel structure characterized by a standard square section of 120 mm. This frame houses an optical LED module based on the HL's Argon Pressurised System (APS)<sup>®</sup> technology (pp.x), whose light distribution can be uni- or bi-directionally arranged. The weathering or Corten steel used in the PDS series is obtained by allowing the surface layer to rust through controlled activation and a chemical neutralization process. The accuracy of this process ensures protection against the corrosive action of the environment, equipping the finish with a high level of uniformity.

#### DESIGNERS



**Jorge Lameiro**  
Chief Design Officer [SETGA]



**Maria Pierres**  
Architect [Pontevedra-Spain]



**Mauro Lomba**  
Architect [Pontevedra-Spain]





## DFT

INTIMATE ACCENT

**-IP66-**  
Watertightness

Up to  
**111**  
Lm /w (\*)

**AL** 6063-T6  
Anodized  
Advanced Heat Dissipation

**BESCHERM  
CLASS II**

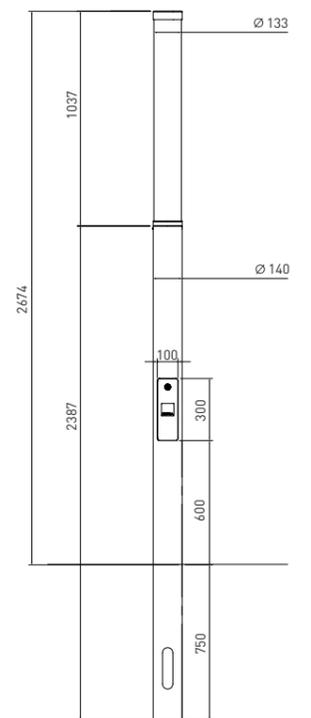
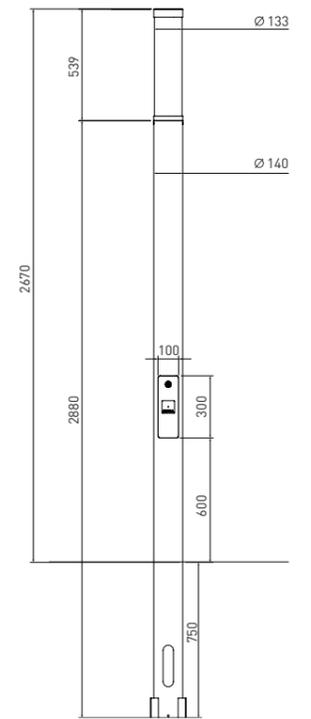
(\*) Tq 25°C

**SST** | Stainless  
Steel

**+100.000**  
Hours of lifetime (\*)

**MODULAIR**  
Ontwerp

**IK08-IK10**  
Impact Resistance





## HR

### INTEGRATION AND TRADITION

The HR beacon combines noble materials with an upper light body, equipping space with an aesthetic language that is both timeless and capable of integrating art and tradition to enhance the historical identity of different environments.

**-IP67-**  
Watertightness

**111**  
Lm /w [\*]

**AL** Aluminium  
EN-AC-44100  
Advanced Heat Dissipation

**BESCHERM  
CLASS II**

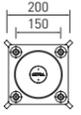
[\*] Tq 25°C

**SST** | Stainless  
Steel

**+100.000**  
Hours of lifetime [\*]

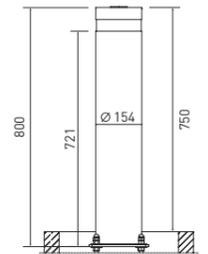
**MODULAIR**  
Design

**IK08-IK10**  
Impact Resistance



Elemental  
sobriety

HR



#### ORIGIN AND EVOLUTION

Since its inception more than a decade ago, the HR series has helped restore the authenticity of urban space, reviving a time when the democratization of beauty and socialization of art were the aspirations of the generation of their creators.

Following the incorporation of the latest LED technology, in 2015, the conceptual leadership of the aesthetic design line of this series was endorsed when it was acknowledged as part of the best lighting concept in Spain by prestigious lighting magazine, Iluminet.

#### MATERIALS AND STRUCTURE

The HR luminaire body is formed by a main cylindrical AISI316 or AISI314 stainless steel structure, whose standard height can vary from 250 mm to 1200 mm. The upper area of the unit incorporates a removable, independent optical LED module, with a watertightness level of IP67. This element consists of a cylindrical methacrylate diffuser highly resistant to UV radiation and a heat sink chassis made of casting aluminium L-2520 (EN44100) to which the LED system is attached. The light distribution of this module can be uni- or bi-directional.

#### DESIGNERS



**Ángel Velando**  
Architect and Urban Planner  
(Pontevedra-Spain).



**Alfred Sa**  
Lighting Designer  
(Barcelona-Spain).





## K-TRO

DYNAMIC DIVERSITY

Enhancing the diversity of cities requires the application of elements capable of generating nuances and contrasts in line with the desired atmosphere. The K-TRO series redefines night scenes, emphasizing the identity of each space.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

Up to **111**  
Lm /w (\*)

**+100.000**  
Hours of lifetime (\*)

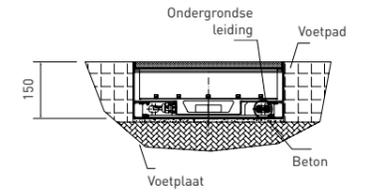
**SST** | Stainless Steel

**IK08 - IK10**  
Glass closure or High Impact PMMA

**BESCHERM CLASS II**

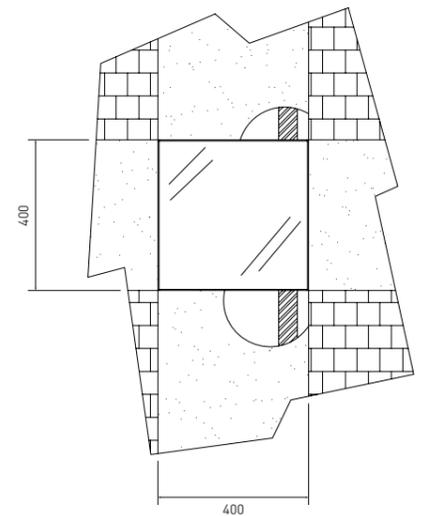
**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

(\*) Tq 25°C



Experiencing  
the power of  
colour

K-TRO



#### ORIGIN AND EVOLUTION

A play of colour can energize homogeneous environments, enriching people's experience of urban space.

The vocation of the K-TRO series is to generate coloured accents that dilute the visual prominence of unattractive buildings and urban elements. Following the incorporation of the latest LED technology, the design line inherent to the K-TRO series has proven its ability to continue redefining urban identity in the era of smart cities.

#### MATERIALS AND STRUCTURE

The traffic light tile K-TRO is composed of an anodized aluminium Al 5754 chassis and a structural tempered glass closure whose anti-slip level is Class 2-3. The standard dimensions of the ensemble are 530x530 mm or 1030x1030 mm, with housing for 5 or 10 LEDs, respectively.

The optoelectronic module comprising different colour LEDs is insulated in a pressurized atmosphere of argon gas, providing a watertightness level of IP68.

#### SUSTAINABLE DESIGN

The design strategy of K-TRO series is a combination of highly sustainable materials. Compared to injected aluminium, high purity aluminium Al 5754 facilitates reuse by other industries in future. The 100% glass natural origin makes this material fully recyclable and minimizes the environmental impact of its transformation process. With the support of the first European glass processing line powered by solar technology, the carbon footprint of this series has been substantially reduced.



## OCEANIC

EVOLUTIONARY LIGHTNESS

The lightness of elementary forms made of stainless steel helps evolve the identity of public space, stimulating the senses and transforming our perception of the environment. The mission of the Oceanic Series is to express the relationship between ocean and architecture.

**-IP66-**  
Watertightness

**105**  
Lm /w (\*)

**AL** Aluminium  
EN-AC-44100  
Advanced Heat Dissipation

**CLASS II**  
Electrical insulation

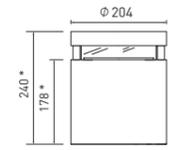
**SST** | Stainless Steel

**+100.000**  
Hours of lifetime (\*)

**MODULAIR**  
Ontwerp

**IK08-IK10**  
Impact Resistance

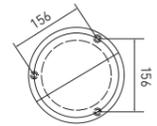
(\*) Tq 25°C



\* Altura variable

Transforming  
the ocean  
scene

OCEANIC



#### ORIGIN AND EVOLUTION

The Oceanic Series is the result of integrating the visual lightness of the ocean into urban space. A stainless steel finish AISI304 or AISI316 connects the unit with the environment, tracing an aesthetic link with aquatic life. At night, a path of light transforms the urban scene. Through positional light distribution, the upper light body creates a serene atmosphere, evoking a feeling of warmth and welcome.

#### MATERIALS AND STRUCTURE

The Oceanic beacon consists of a polished AISI316 or AISI304 stainless steel structure, suitable for aggressive environments characterized by a high degree of salinity or other corrosive agents. The upper body comprises a methacrylate cylindrical light diffuser highly resistant to solar radiation, and an LED optical module with a bi-directional light distribution and watertightness level of IP68.

#### SUSTAINABLE DESIGN

The Oceanic beacon incorporates one of the world's most recycled materials—steel. Reintroducing steel to the production cycle of other industries at end of useable life will produce significant energy savings compared with other metals. Unlike aluminium injection, for example, extruded aluminium used for manufacturing the chassis sink facilitates reuse in other product categories.



1.6. GELIMITEERDE EDITIES  
*URBAN LIGHTING*

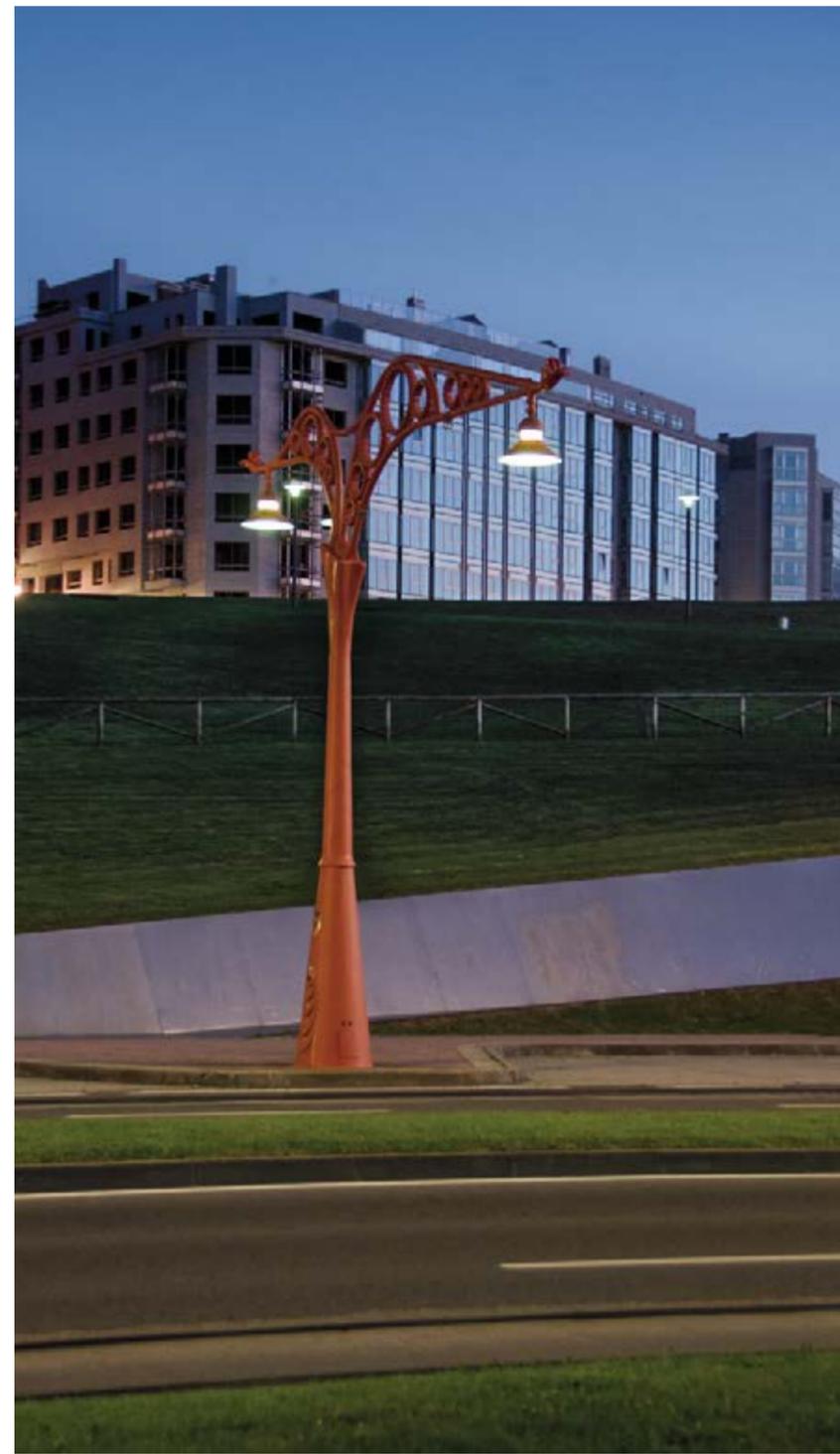


## A CORUÑA

*AN INSPIRING PAST*

—

Enormous, scarlet, modernist Herculean streetlights will one day light the seafront of A Coruña (El País, 1995). This headline published in 1995 by one of Spain's top newspapers signalled the beginning of the most ambitious public lighting project in Europe in the 1990s. A Coruña architect, Antonio Desmont, in collaboration with A Coruña City Hall and the Spanish Ministry of Public Infrastructure, commissioned an emerging street lighting company with creating a lighting icon that would strengthen the identity of this majestic Atlantic city.



Presence and continuity

A CORUÑA

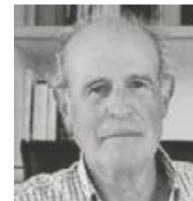
ORIGIN AND EVOLUTION

Lighting columns inspired by art nouveau currently occupy the seaside promenade, serving as a support for 1,200 enamel works. Created by artist Julia Ares, the enamels have received several awards, including the Chairman Award of the Ueno Royal Museum, in Tokyo. Each lamp has four enamels and is painted a deep red. Each alludes to key moments in the history of A Coruña and is related to the area in which the columns are located. Enamels placed in the vicinity of the Tower of Hercules, for example, are related to various aspects of this Roman lighthouse.

STRUCTURE AND MATERIALS

In the environs of the Royal Horse Society, the artistic motif is the horse; the area of the Casa de los Peces Aquarium features fish motifs; opposite the Fine Arts School, the allegorical drawings are related to Picasso, who studied at this school. After more than 21 years of continuous exposure to an aggressive marine environment, the A Coruña model is proof that quality and innovation safeguard the long-term continuity of public lighting infrastructure.

DESIGNERS



**Antonio Desmont**  
Gemeentearchitect  
A Coruña (1993-2014).



**Severiano González**  
Chief Design Officer  
(SETGA).



## AMS

*AN ICON FOR THE NETHERLANDS*

—

The AMS luminaire was exclusively designed to light the heart of Amsterdam. From the central station to Rokin, crossing the Red Carpet via Damrak and Damm Square. In this emblematic setting, AMS expresses the true essence of the Dutch capital, integrating dynamism and modernity in a unique lamp with an unmistakable form.



A journey to  
the authentic



AMS

#### ORIGIN AND EVOLUTION

The Amsterdam Red Carpet project was a complex industrial challenge, which involved designing a street lamp whose iconic lines and features would express the purity of form and elegance of the entire unit. Rediscovering a deeper and cleaner perspective of the heart of Amsterdam. Size represented a challenge to the conventional technique: a towering 1.3 metres and the need to reduce the number of joints to a minimum.

SETGA was the only lighting manufacturer capable of industrializing such a highly demanding design concept. The main body was developed in a single large format, the compact element was made of spun anodized aluminium, and the most advanced lighting and electronic technologies were incorporated, all according to a rigorous materials optimization process. Thanks to this joint effort, today the first units of this exclusive SETGA series are now lighting Amsterdam's most emblematic avenues.

#### DESIGNERS



**Simon Spritsma**

Architect en Designer van  
armatuur AMS





**1.7.** LIGHT MANAGEMENT  
*URBAN LIGHTING*



URBAN<sup>®</sup>  
PULSE 

*Interactive  
light driven by  
you*

SETGA



GPRS - 3G



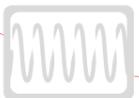
LPWA  
Wireless



PLC  
Power  
Line  
Communications



Zig Bee  
Wireless



MP  
Micro  
pulses





## A CUSTOMIZED LIGHT MANAGEMENT ECOSYSTEM

### DEPLOYING ALL THE POTENTIAL OF INTERACTIVE LIGHT

Heterogeneous cities, specific limitations, own digital solutions. This is the Urban Pulse® embryo, the SETGA hybrid remote management system, where interactive light and technological versatility coexist in a scalable, reliable and dynamic way. The possibility of deploying two-headed networks, both through Wireless ZigBee and LPWA (Low Power Wide Area) technology, allows to create tailored responses adapted to the essence and ambition of contemporary societies. From the center of large cities to rural areas characterized by radically opposed urban ergonomics.

Detect instantaneous and remote anomalies, such as surges and excesses of temperature, anticipating future critical and systemic breakdowns. Speed up the initial diagnosis to accelerate maintenance processes.

Facilitate verifying audits, guaranteeing the maximum luminous quality throughout the useful life of the infrastructure. All this, without interrupting the service, understanding the improvement of maintenance operations as a lever of the image projected by our city.

In Urban Pulse®, light not only interacts with the lighting infrastructure managers, it also relates to citizens, the traffic and even with atmospheric conditions. The information obtained allows the system to establish priorities for action, moving society toward a habitable future.

## UNLIMITED SCOPE

Unlimited capacity and scalability under a mesh topology, LPWA or Zig Bee, where all the luminaires act as repeater points, transmitting data packets between them and the central node.

New connectivity horizons to resize IoT networks to the nature of each city.

## RELIABILITY & ROBUSTNESS

Robustness and ability to guarantee an adequate and continuous data flow between the elements of the network, Without depending of the limitations of coverage specific to mobile technologies. The mesh topology LPWA or Zig Bee shows a high degree of tolerance to the fall of any element isolated from the system.



## SMART COST LOWER TCO

Operational independence, low consumption and reduction of the total cost of ownership rates of Urban Pulse® Wireless. The absence of annual maintenance fees together with its capacity to manage ignitions, dimming and regulation in a more intelligent way, allows to maximize operational savings. Finally, the low cost of hardware per luminaire helps to democratize light management and the integration of the IoT along the infrastructures of public lighting, approaching to more cities the possibility of offering an optimal and easily amortizable service.

## INTEGRATION & EVOLUTION

Urban Pulse redefines the relationship between light and people, providing the public space with new forms of interactivity to respond to unpredictable dynamic scenarios. Sensorization of presence, movement, atmospheric and photo electric, as well as video surveillance platforms and services adjacent to the Smart AuthenticCity infrastructure, integrated in a genuine way under a single connected ecosystem. The beginning of an era where the singular elements of public lighting are the means to make compatible digital and aesthetic harmonization.





**2.1.** STEEL COLUMNS  
*URBAN LIGHTING*



## PDS

### LIVING BARK

The Celts believed that every tree had a wise spirit, whose face could be seen in the bark. Today, the mysterious power of nature continues to envelope our souls, exposing us to the energy released by the elements.

Column height (\*)  
**≥ 7.0 m**

Light  
point height (\*)  
**≥ 6.3 m**

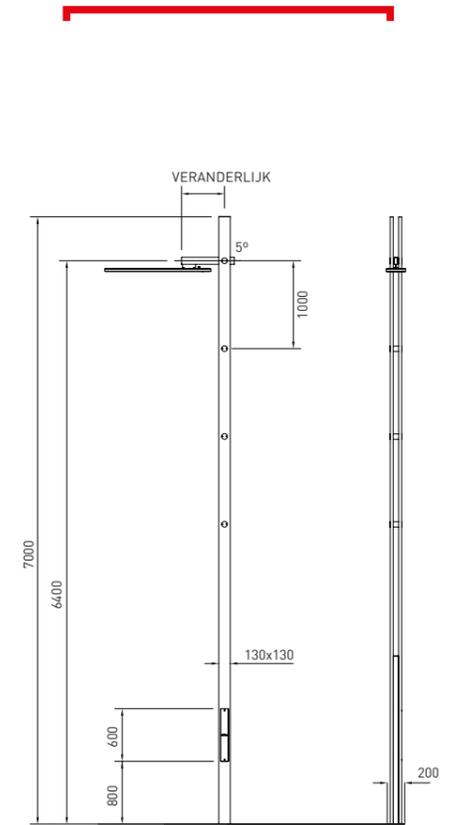
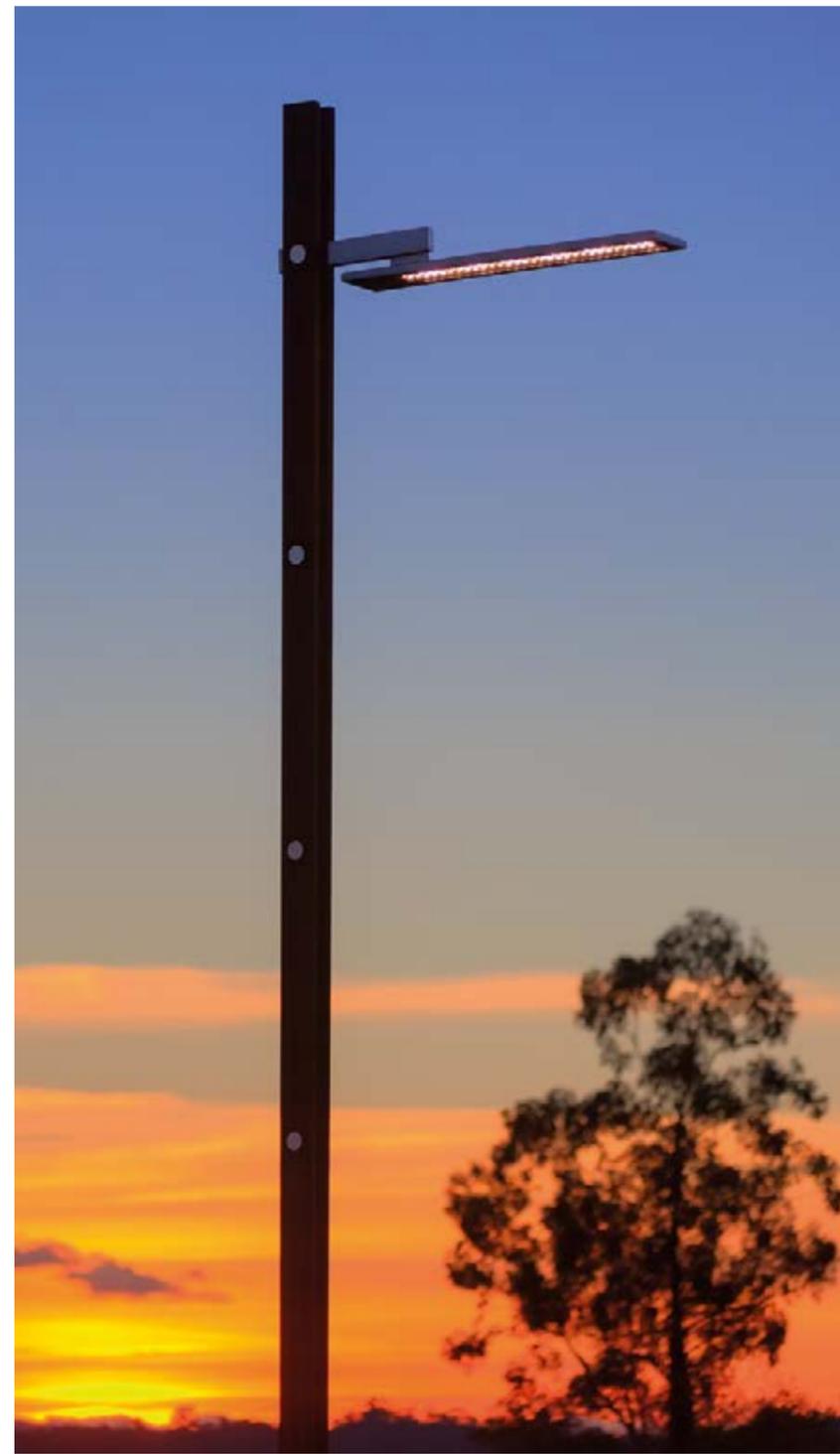
Shaft width (\*)  
**≥ 13 cm**

Regulation  
angle  
**0-5°**

Standard shaft of  
**CORTEN**  
STEEL

Optional shaft of  
**GALVANIZED**  
STEEL

(\*) Adaptable dimensions



PDS COLUMN

#### ORIGIN AND EVOLUTION

Mauro Lomba, Maria Pierres and Jorge Lameiro, the creators of the PDS column series, began with a slender design concept inspired by the natural world, adapting the form and finish to the bark of a tree. The idea of a forest of light responded to the urban landscape challenges of the locations for where the series was originally conceived. The first PDS units were integrated into the Pousadas of Salnés, a series of projects designed by architect Mauro Lomba, based in Pontevedra (Spain), the results of which were published internationally by renowned architectural magazines, such as Stone Ideas.

#### STRUCTURE AND MATERIALS

The body of the PDS column is formed by two structures made of Corten or galvanized steel, whose bases are joined by an element of wood, PVC or stone, and by several polished AISI 316L stainless steel cylindrical connectors along the shaft. This column serves as a support for the luminaire series based on the Argon Pressurised System (APS)<sup>®</sup> technology, such as Lined (pp.x) and Tablet (pp.x). The Corten steel used in the PDS column series is obtained by allowing the surface layer to rust through controlled activation and a chemical neutralization process. The accuracy of this process ensures protection against the corrosive action of the environment, equipping the finish with a high level of uniformity.

#### DESIGNERS



**Jorge Lameiro**  
Chief Design Officer (SETGA)



**Maria Pierres**  
Architect (Pontevedra-Spain)



**Mauro Lomba**  
Architect (Pontevedra-Spain)





## XUNCO

EMERGING NATURE

The development of the Xunco columns series is the culmination of a timeless aesthetic language inspired by the reeds of the Juncus plant—a new dialogue between urban space and natural world.

Column height (\*)  
**≥ 9.0 m**

Breedte basis (\*)  
**≥ 42x62 cm**

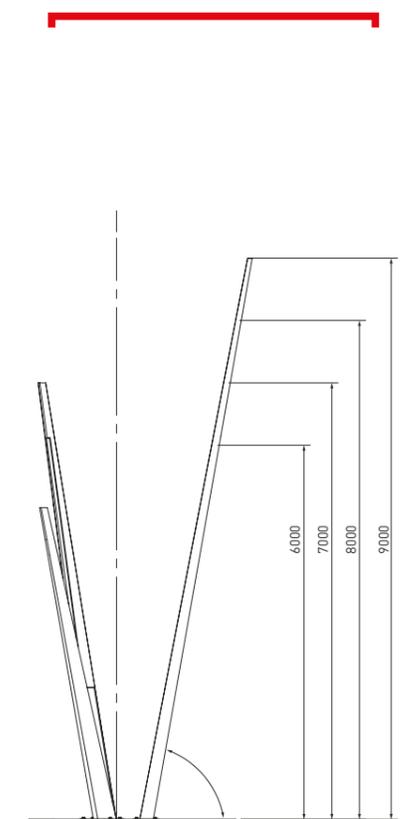
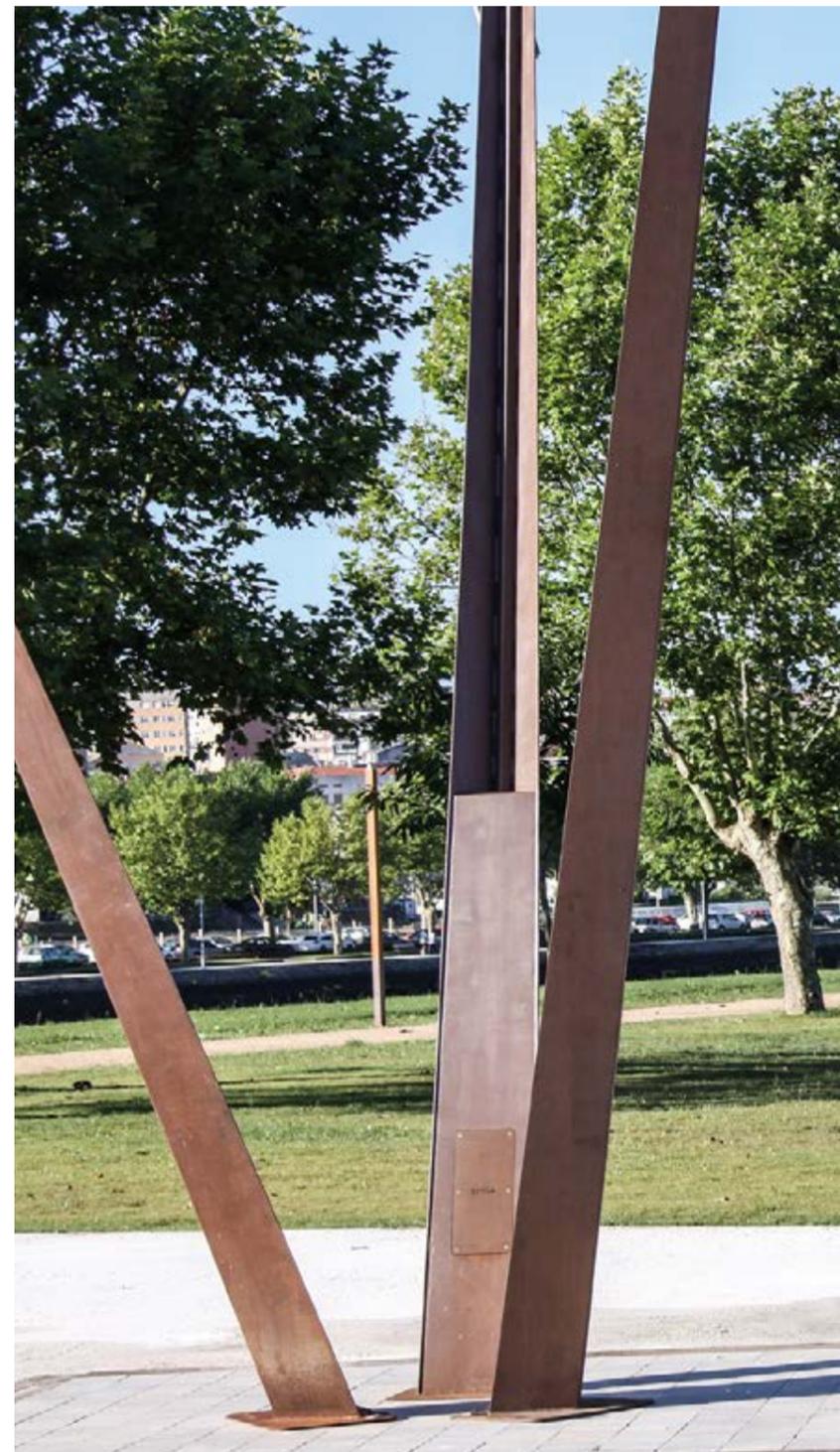
Standard shaft of  
**CORTEN**  
STEEL

Light point height (\*)  
**≥ 4.0 m**

Aantal graden  
**VARIABEL**

Standard shaft of  
**GALVANIZED**  
STEEL

(\*) Adaptable dimensions



XUNCO COLUMN

ORIGIN AND EVOLUTION

The Juncus lives in moist soil, riverbanks and marshes. The blade is long, straight and flexible, blooming from April to July. The Xunco series defines a lighted riverbank in a public space, and is ideal for parks, roundabouts or squares.

The first units of the Xunco series were positioned on the banks of the River Lérez as it flows through the Spanish city of Pontevedra. Today, the Xunco series is part of the landscape of Central European cities such as Tilburg, in the Netherlands.

STRUCTURE AND MATERIALS

Xunco consists of three independent structures made of Corten or galvanized steel, located at different heights. The Corten steel finish is obtained by allowing the surface layer to rust through controlled activation and a chemical neutralization process.

The accuracy of this process ensures protection against the corrosive action of the environment, equipping the finish with a high level of uniformity.

DESIGNER



**Jorge Lameiro**  
Chief Design Officer (CDO)  
SETGA.





## SCL

### STRUCTURAL SIMPLICITY

Column featuring sober lines created by incorporating cylindrical and linear forms. The integration with luminaries is based on elementary geometrical lines, which generate an aesthetic language based on structural simplicity and visual lightness.

Column height (\*)  
**≥ 9.0 m**

Basis  
Dimensions (\*)  
**≥ 11.4 cm**

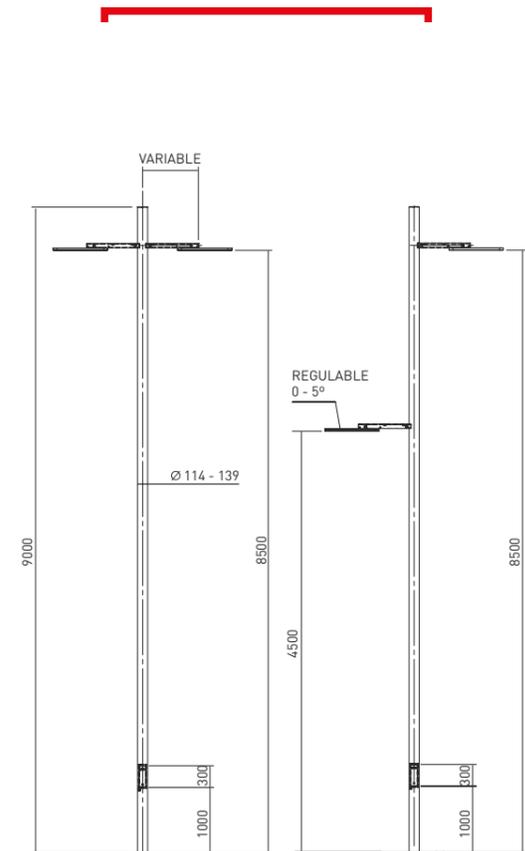
Standard shaft of  
**STAINLESS  
STEEL**

Light  
point height (\*)  
**≥ 8.5 m**

Regulation  
angle  
**0-5°**

Optional shaft of  
**GALVANIZED  
STEEL**

(\*) Adaptable dimensions



SCL COLUMN

#### STRUCTURE

De SCL-serie bestaat uit een cilindrische mast uit GALVANIZED STEEL met een a The SCL series consists of a main cylindrical structure of AISI 304 stainless steel, 114 or 139 millimetres in diameter and 9 metres standard height. This unit incorporates a stainless steel bracket with a compartment for housing the power supply. The series includes an adjustable anchoring system enabling the luminaire to tilt at an angle of 5°. diameter van 114m en een hoogte van 7,5 meter.

#### MATERIALS

The use of AISI 304 stainless steel in the SCL series prevents the degrading action of highly aggressive environments, such as coastal areas. The robust design and use of durable materials ensure a high degree of resistance to the passage of time and vandal actions. The SCL series surface can be polished to a glossy or satin finish, thermo-lacquered or sprayed in two tones of polyurethane in the RAL colour of choice.



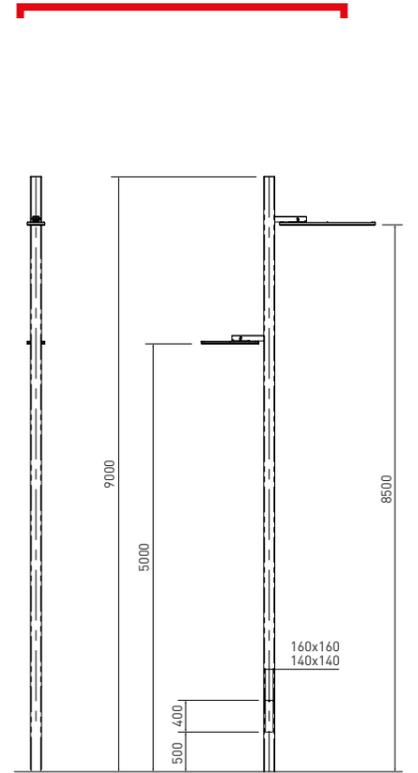
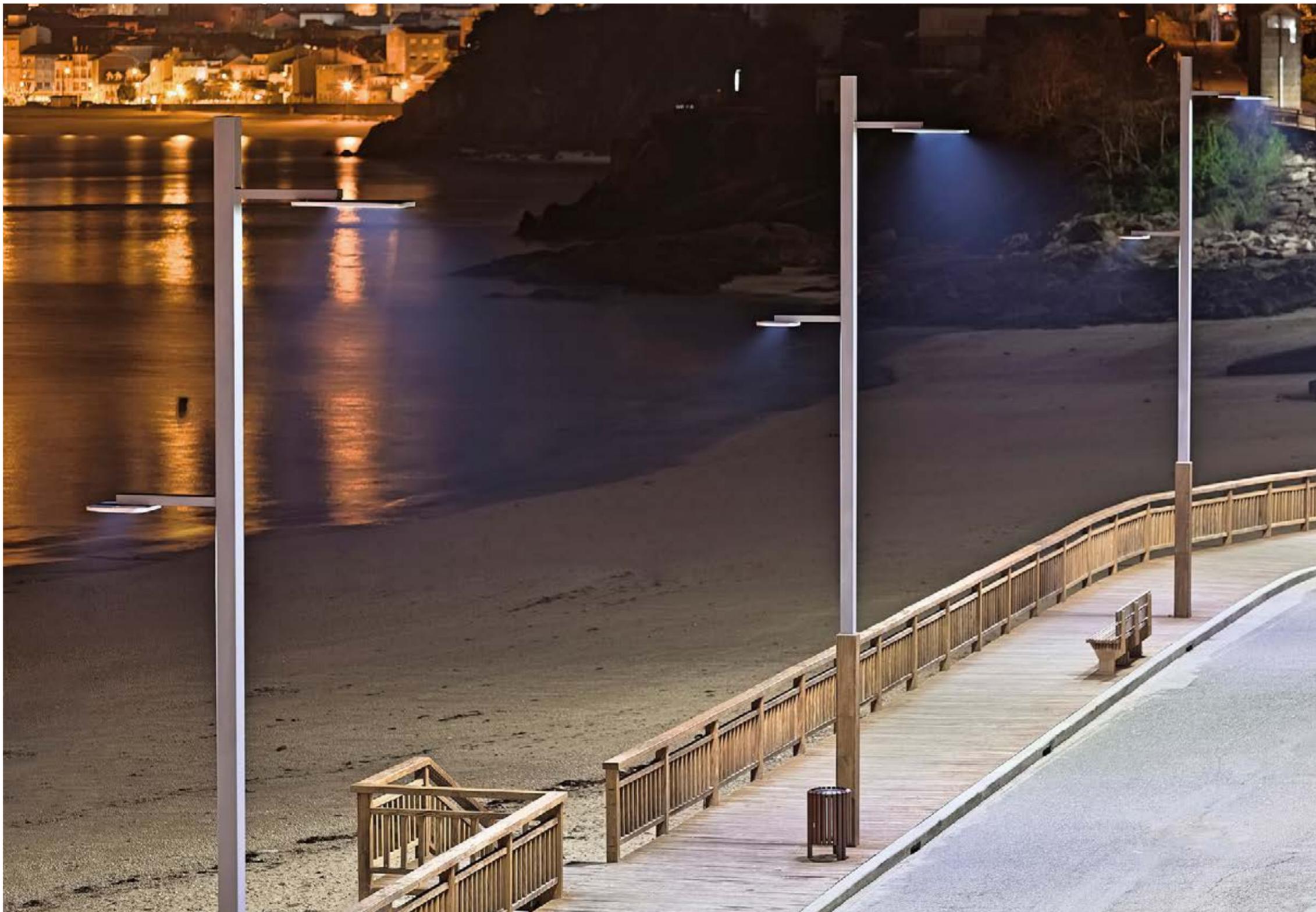
## SPL

### PRESENCE AND CONTINUITY

Erectness and robustness, proportionality and slenderness is the conceptual origin of the SPL series. These aesthetic criteria are behind the integration with luminaire bodies distinguished by their clean lines.

Column height (*)	Light point height (*)
≥ <b>9.0 m</b>	≥ <b>8.5 m</b>
Basis Dimensions (*)	Regulation angle
≥ <b>14 cm</b>	<b>0-5°</b>
Standard shaft of <b>GALVANIZED STEEL</b>	Optional shaft of <b>STAINLESS STEEL</b>

(\*) Adaptable dimensions



SPL COLUMN

#### STRUCTURE

The SCL series consists of a main cylindrical structure of carbon steel, 114 or 139 millimetres in diameter and 9 metres standard height. This unit incorporates a stainless steel bracket with a compartment for housing the power supply. The series includes an adjustable anchoring system enabling the luminaire to tilt at an angle of 5°.

#### MATERIALS

The mechanical strength of this element and the durable materials used make the SPL series highly resistant to aggressive environments and vandalism. The S-235/275-JR carbon steel used, together with the process of galvanizing by dipping and subsequent application of a two-component polyurethane finish confer excellent technological properties on the column in terms of resistance and durability.



## SFL

### EVOCATIVE IDENTITY

Column of distinct elongated lines designed to accentuate the visual slenderness of related luminaires. The SFL series champions the identity of modern spaces, evoking urban harmony and authenticity.

Column height (\*)  
**≥ 7.0 m**

Light point height (\*)  
**≥ 6.5 m**

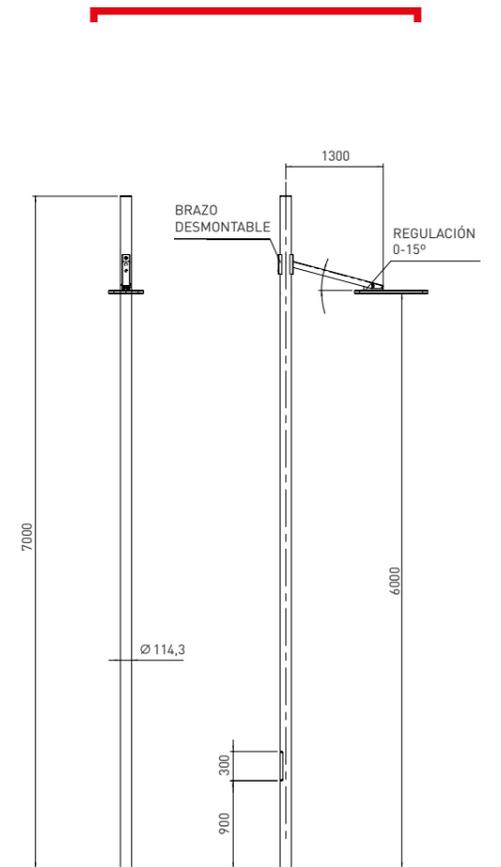
Basis Dimensions (\*)  
**≥ 11.4 cm**

Regulation angle  
**0-5°**

Standard shaft of  
**STAINLESS STEEL**

Optional shaft of  
**GALVANIZED STEEL**

(\*) Adaptable dimensions



SFL COLUMN

#### STRUCTURE

The SFL series consists of a main cylindrical structure of stainless steel AISI 304, 114 millimetres in diameter and 7 metres standard height.

This unit incorporates a stainless steel bracket with a compartment for housing the power supply.

This series includes an adjustable anchoring system enabling the luminaires to tilt at an angle of 5°.

#### MATERIALS

The use of stainless steel AISI 304 in the SFL series prevents the degrading action of highly aggressive environments, such as coastal areas. The robust design and use of durable materials ensure a high degree of resistance to the passage of time and vandal actions.

The SFL series surface can be polished to a glossy finish, thermo-lacquered or sprayed in two tones of polyurethane in the RAL colour of choice.



## SVT

### INSPIRATIONAL LIGHTNESS

The SVT series redefines the axes of space, inspiring clean, light lines. The arm extends the shaft's cylindrical form, which finally concludes in a rectangular line at the point of connection with the luminaire.

Column height (\*)  
**≥ 9.0 m**

Light  
point height (\*)  
**≥ 8.5 m**

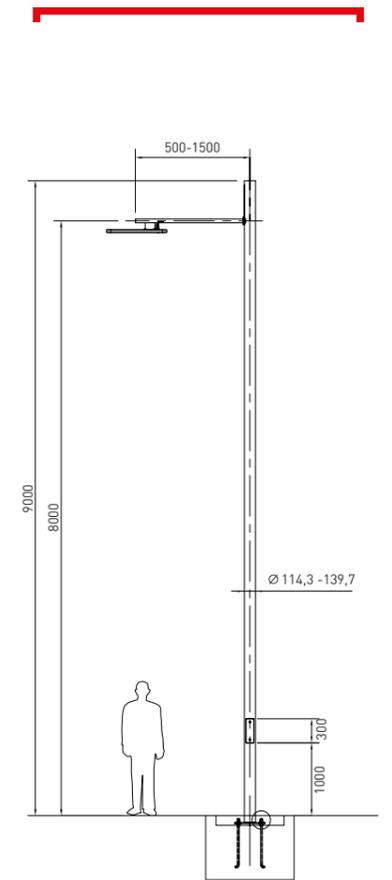
Basis  
Dimensions (\*)  
**≥ 11.4 cm**

Minimum  
hoogte (\*)  
**≥ 4.5 cm**

Optional shaft of  
**CARBON**  
STEEL

Standard shaft of  
**GALVANIZED**  
STEEL

(\*) Adaptable dimensions



SVT COLUMN

#### STRUCTURE

The SVT series consists of a cylindrical main structure made of carbon steel, 139.7 millimetres in diameter and 9 metres standard height. This unit incorporates a carbon steel bracket with a compartment for housing the power supply. This series includes an adjustable anchoring system enabling the luminaire to tilt at an angle of 5°.

#### MATERIALS

The mechanical strength of this element and the durable materials used make the SVT series highly resistant to aggressive environments and vandalism. The S-235/275-JR carbon steel used, together with the process of galvanizing by dipping and subsequent application of a two-component polyurethane finish confer excellent technological properties on the column in terms of resistance and durability.



## BICILINDRICA

SYMMETRICAL CHARACTER

The nature of public space must evolve without its identity being distorted, in accordance with functionality and efficiency criteria, and ensuring it remains in the urban vanguard. Without symmetrical responses to bi-directional challenges, reality would be bi-cylindrical no longer.

Column height (\*)  
**≥ 9.0 m**

Light  
point height (\*)  
**≥ 8.5 m**

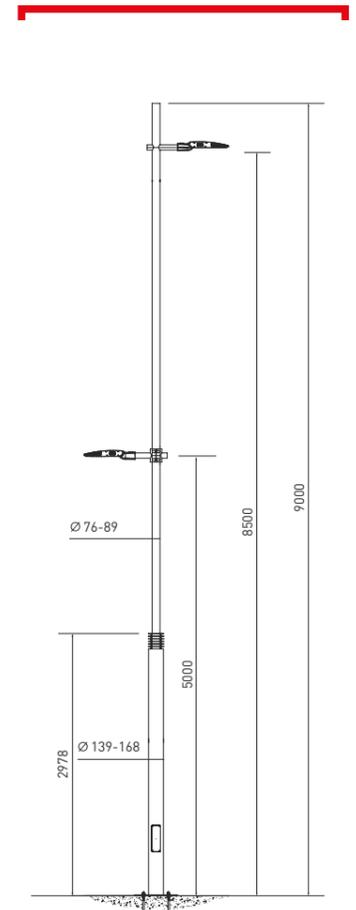
Shaft  
diameter (\*)  
**≥ 7.6 cm**

Base  
diameter (\*)  
**≥ 13.9 cm**

Optional shaft of  
**STAINLESS**  
STEEL

Standard shaft of  
**GALVANIZED**  
STEEL

(\*) Adaptable dimensions



**BICILÍNDRICA COLUMN**

#### STRUCTURE

The Bicilíndrica column is made up of a double carbon steel circular section, with base and shaft standard diameters of 168.3 mm and 88.9 mm, respectively, and standard height of 9 m.

A transition element is arranged in parallel at the intersection of both sections, smoothing out any variation in diameter. The Bicilíndrica series enables both horizontal and vertical layouts (Post - Top), with a double or single bracket.

#### MATERIALS

The mechanical strength of this element and the durable materials used make the Bicilíndrica series highly resistant to aggressive environments and vandalism.

The S-235/275-JR carbon steel used, together with the process of galvanizing by dipping and subsequent application of a two-component polyurethane finish confer excellent technological properties on the column in terms of resistance and durability.



## ILLA

GEOMETRIC  
REINTERPRETATION

—

Merging geometric innovation with the essence of the surrounding area. The Illa series illustrates the unfurled sail of a boat, connecting the shape of the column with the maritime past of the location for which it was originally conceived: Illa de Arousa Island (Spain).

Column height (\*)  
≥ **9.8 m**

Light  
point height (\*)  
≥ **8.8 m**

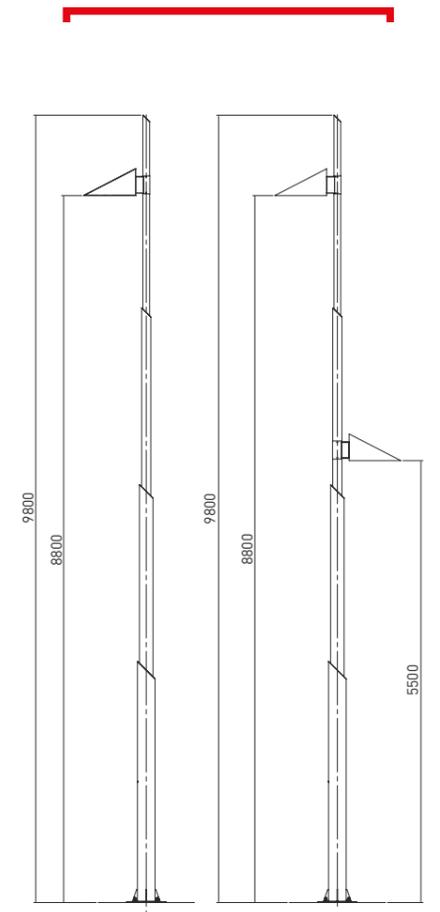
Shaft  
diameter (\*)  
≥ **8.9 cm**

Base  
diameter (\*)  
≥ **28.5 cm**

Standard shaft of  
**STAINLESS  
STEEL**

Optional shaft of  
**GALVANIZED  
STEEL**

(\*) Adaptable dimensions



ILLA COLUMN

#### STRUCTURE

The Illa series consists of a four-section telescopic structure of stainless steel, standard height: 10 metres.

The unit can include up to two Ponte luminaires, at a maximum height of 8.8 metres and 5.5 metres for an intermediate luminaire.

#### MATERIALS

The use of AISI 304 stainless steel in the Illa column series prevents the degrading action of highly aggressive environments, such as coastal areas.

The robust design and use of durable materials ensure a high degree of resistance to the passage of time and vandal actions.



## SR

### HUMANIZING SPACE

Refined and balanced column specially designed for residential areas, parks and pedestrian zones. Elegance and slender simplicity are combined in a series conceived to humanize public spaces and inspired social cohesion.

Column height (\*)  
≥ **3.9 m**

Shaft diameter (\*)  
≥ **7.6 cm**

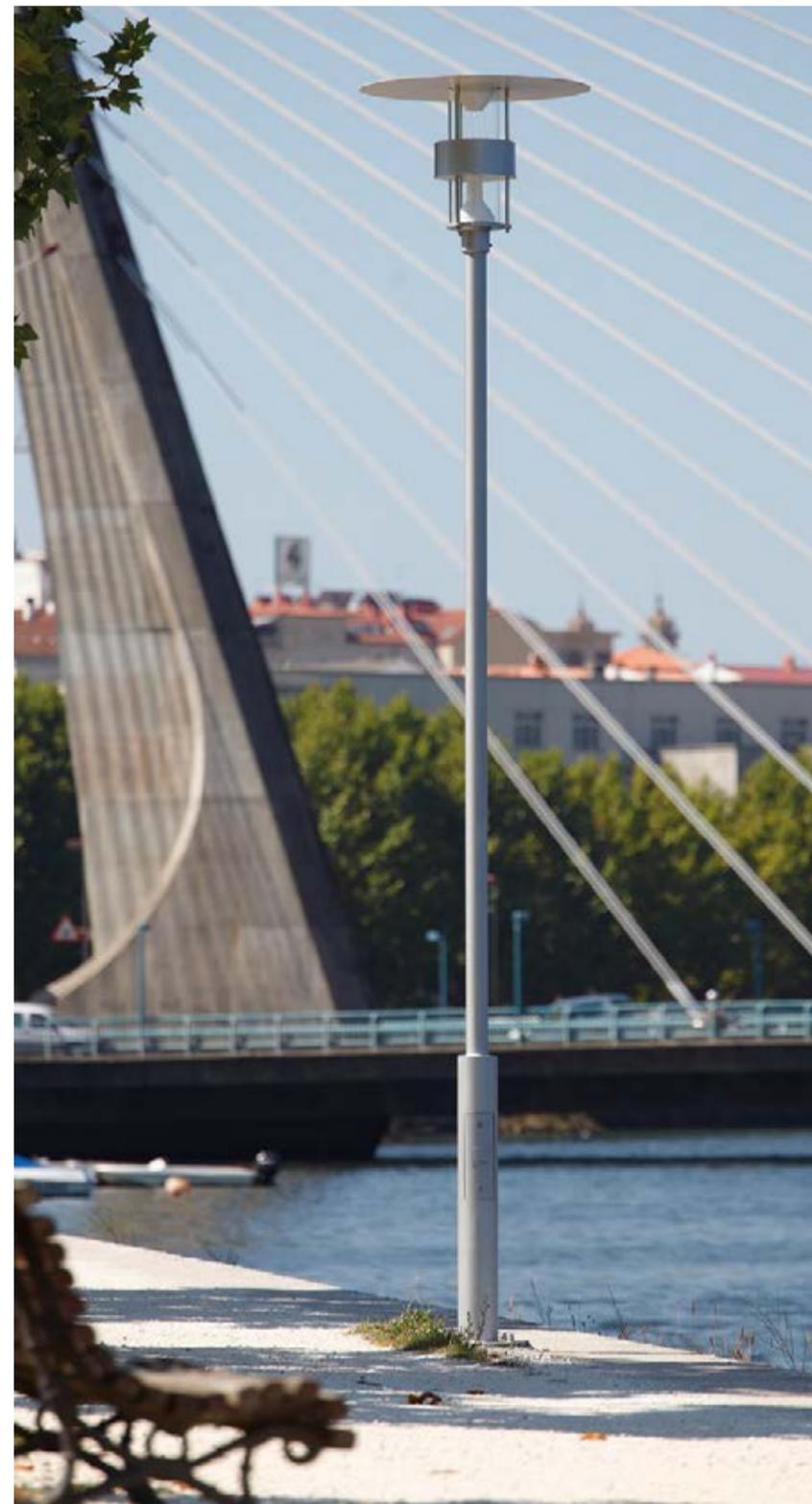
Optional shaft of  
**STAINLESS**  
STEEL

Light point height (\*)  
≥ **4.0 m**

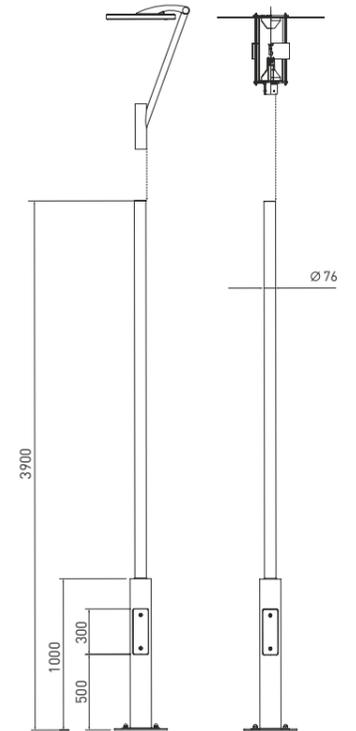
Base diameter (\*)  
≥ **15.4 cm**

Standard shaft of  
**GALVANIZED**  
STEEL

(\*) Adaptable dimensions



AANPASSING SR1  
ROUND / SQUARE



SR COLUMN



#### STRUCTURE

The SR1 series consists of a cylindrical main structure of carbon steel, with a standard height of 4.4 metres. Alternatively, the unit incorporates a lower compartment in the access door to house the power supply, thereby facilitating maintenance activities. The SR1 series comes in a vertical or horizontal (Post - Top) layout; an adaptation bracket is required for the Round and Square series, this enabling the luminaire to be tilted at an angle of 5°.

#### MATERIALS

The mechanical strength of this element and the durable materials used make the SR1 series highly resistant to aggressive environments and vandalism. The S-235/275-JR carbon steel used, together with the process of galvanizing by dipping and subsequent application of a two-component polyurethane finish confer excellent technological properties on the column in terms of resistance and durability.



**2.2.** WOODEN COLUMNS  
*ILUMINACIÓN URBANA*



## VAGALUME

NATURALLY FINE

From pure lines and symmetrical shapes emerges balance in the form of urban vanguard. The Vagalume series incorporates a genuine combination of superior materials for a new aesthetic language that expresses the natural essence of public spaces.

Column height (\*)

≥ **3.9 m**

Shaft diameter (\*)

≥ **13.6 cm**

Standard shaft of

**TALI WOOD**

Light point height (\*)

≥ **4.0 m**

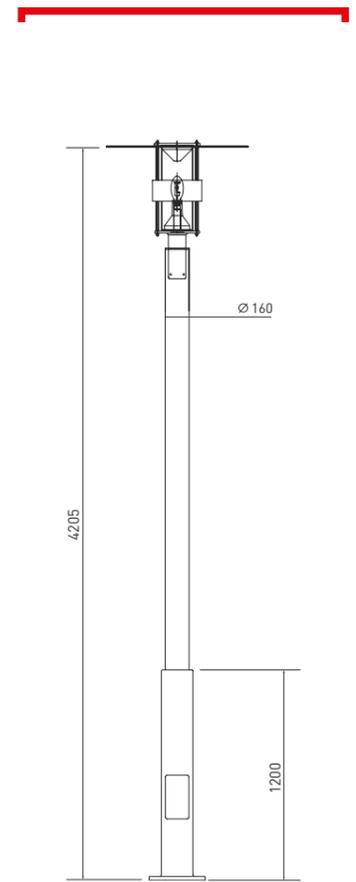
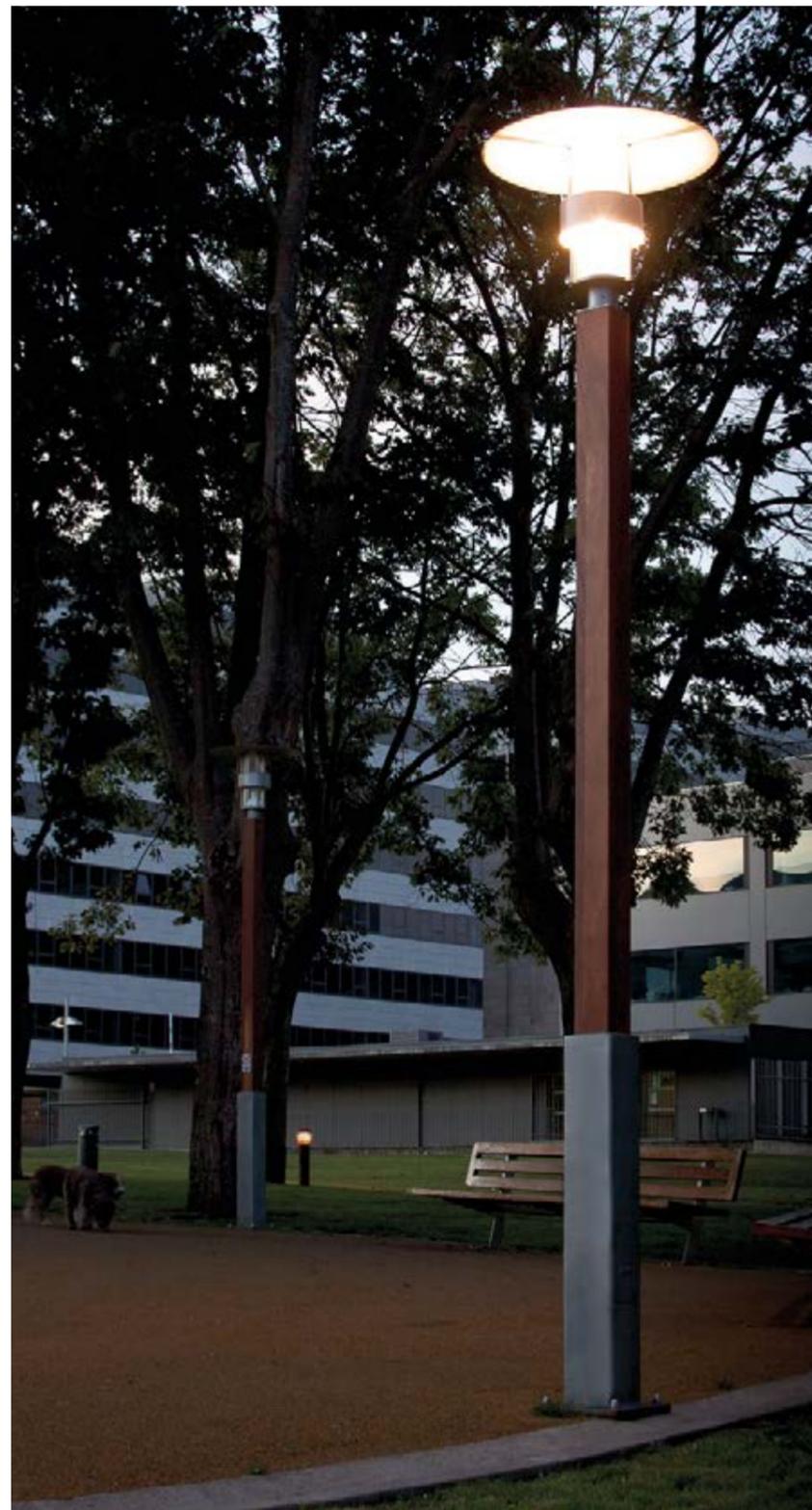
Base of

**CORTEN  
STEEL**

Optionele Base of

**GIETIJZER**

(\*) Adaptable dimensions



VAGALUME COLUMN

STRUCTURE

The double-square section structure of the Vagalume series is 4.2 meters high and consists of a lower base manufactured in Corten steel or EN-GJS-500-7 (EN-JS1050) spheroidal graphite cast iron, over which the main Tali wood shaft is placed.

Alternatively, other wood can be applied: autoclaved - Risk III red pine, tropical wood, such as Iroko, Cumaru, Ipe, or Massaranduba.

MATERIALS

The technological innovation of applying these treatments to the Vagalume series shaft contributes to the slow ageing of the timber in highly demanding outdoor environments.

Protective treatment consists of priming corrosion inhibitors such as anti-tannins and a double layer of bituminous waterproofing, which helps preserve the original colour.



**2.3.** ANODIZED ALUMINIUM  
COLUMNS  
*URBAN LIGHTING*



## ADM

UNIFYING ATMOSPHERE

Enhancing city diversity calls for elements that can create shades and contrasts in line with the desired atmosphere. A genuine fusion of materials in the ADM columns series is a response to the contemporary challenges of urban regeneration and cohesion.

Column height (\*)  
**≥ 9.8 m**

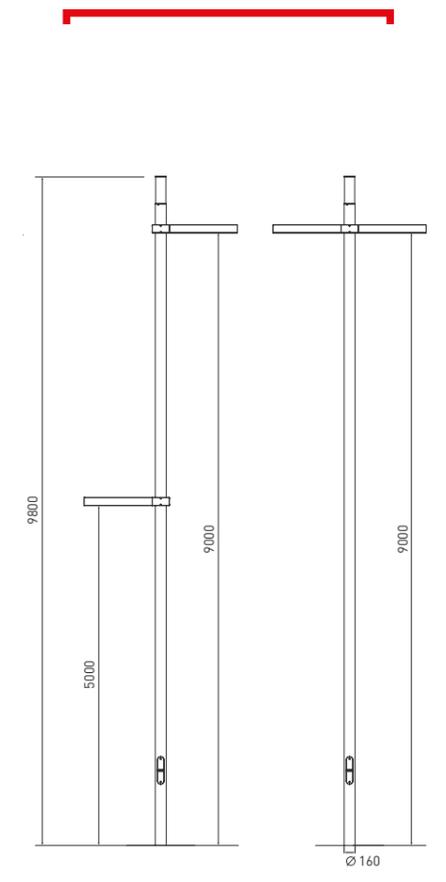
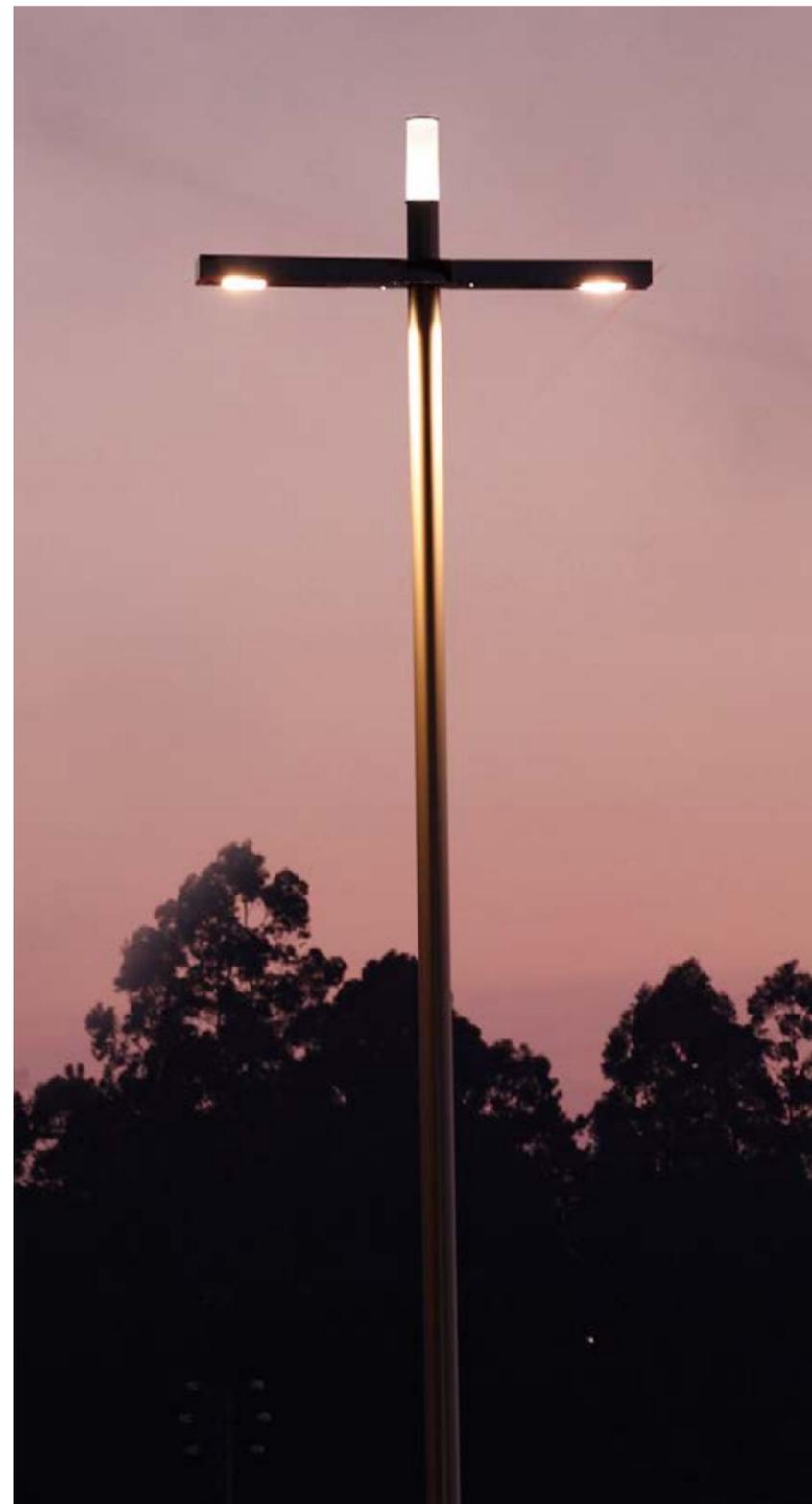
Light  
point height (\*)  
**≥ 9.0 m**

Shaft  
diameter (\*)  
**≥ 9 cm**

Standard shaft of  
**ANODIZED  
ALUMINIUM**

Standard shaft of  
**BEBAKENING**

(\*) Adaptable dimensions



ADM COLUMN

STRUCTURE

The ADM column is an anodized aluminium circular section, with a shaft of 168.3 mm or x standard diameter, topped by a beacon and reaching 9 metres standard height.

The ADM series can incorporate multiple horizontal luminaires, at the same or different levels, and is equipped with an innovative anchoring system for variations in luminaire height.

MATERIALS

The mechanical strength of this element and the durable materials used make the ADM series highly resistant to aggressive environments and vandalism. The AL 6063-T6 extruded aluminium confers excellent technological properties on the column in terms of resistance and durability.



## DÓRIKA

### CLASSIC REFLECTION

The conceptual aim behind the Dorika column series is the representation of proportionality and slenderness, reflecting the parameters of classical art. The symbolism of its lines and modular adaptability are the main features of this avant-garde unit.

Column height (\*)  
**≥ 9.0 m**

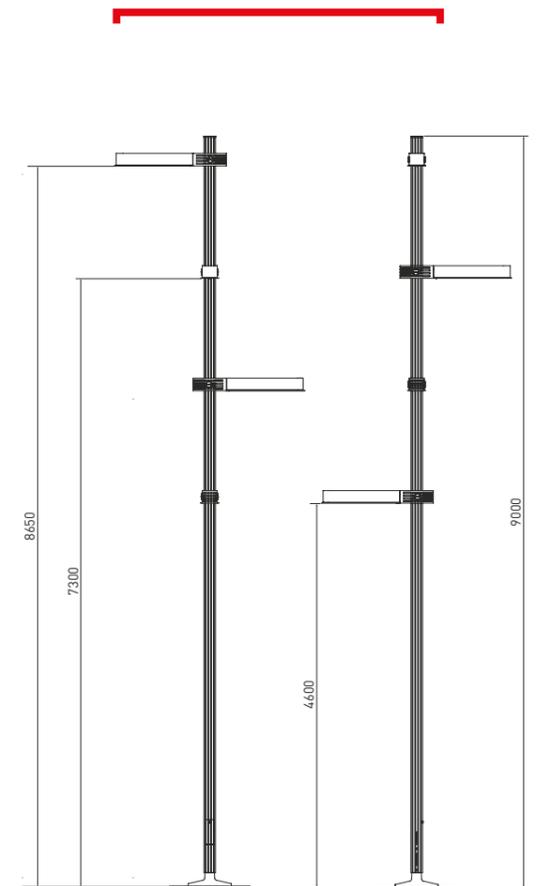
Light  
point height (\*)  
**≥ 8.6 m**

Shaft  
diameter (\*)  
**≥ 14 cm**

Standard shaft of  
**ANODIZED  
ALUMINIUM**

Standard shaft of  
**VARIABELE  
ANCHOR**

(\*) Adaptable dimensions



DORIKA COLUMN

#### STRUCTURE

The Dórica column is an anodized aluminium squared section, with a shaft of X mm standard diameter and 9 metres standard height.

The Dórica series can incorporate multiple horizontal luminaires, at the same or different levels, and is equipped with an innovative anchoring system for variations in luminaire height.

#### MATERIALS

The mechanical strength of this element and the durable materials used make the Dórica column series highly resistant to aggressive environments and vandalism. The AL 6063-T6 extruded aluminium confers excellent technological properties on the column in terms of resistance and durability.



**2.4.** COLUMNS WITH  
FOUNDRY BASE  
*URBAN LIGHTING*



## SYMBOL

### VOLUMETRIC SLENDERNESS

The base geometry of the Symbol series is defined by aggressive lines in the shape of a Greek cross, stylizing and lightening the whole unit from the bottom up. This design concept reconciles mechanical robustness and volumetric slenderness, providing modern environments with a revitalizing element.

Column height (\*)  
**≥ 9.0 m**

Light  
point height (\*)  
**≥ 8.5 m**

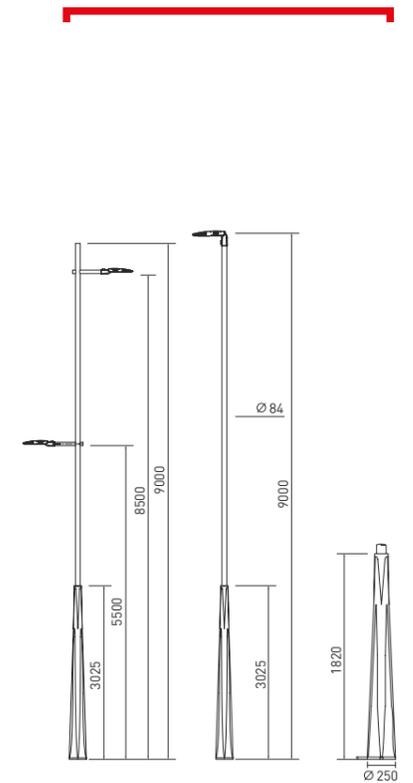
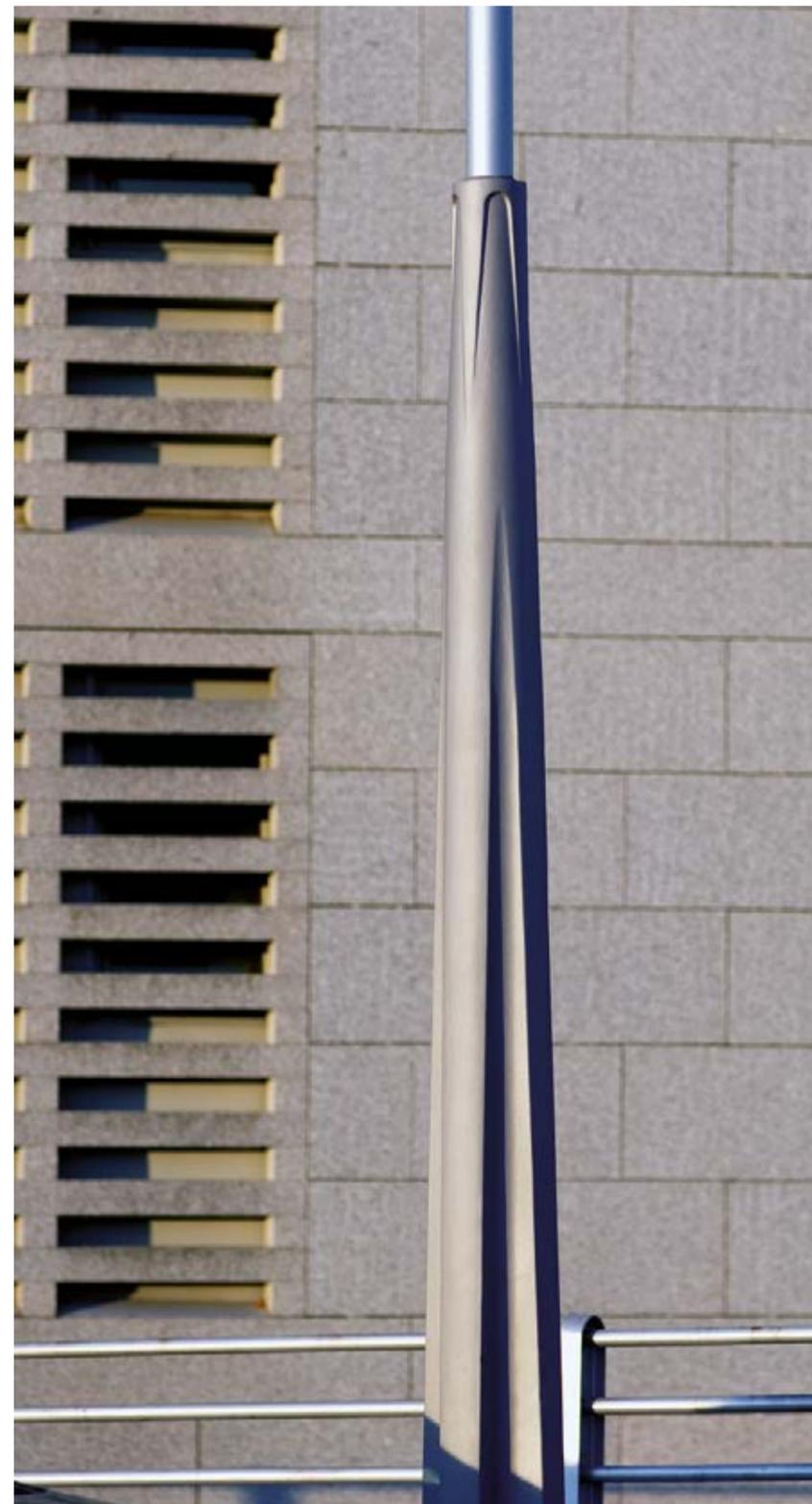
Standard shaft of  
**STAINLESS**  
STEEL

Base of  
**NODULAR**  
IRON CASTING

Shaft  
diameter (\*)  
**≥ 8.4 cm**

Base  
Dimensions (\*)  
**≥ 25.0 cm**

(\*) Adaptable dimensions



SYMBOL COLUMN

#### STRUCTURE

The structure consists of a spheroidal graphite cast iron base, up to 1.8 or 3 metres in height, and an upper shaft of AISI 304 or AISI 316 stainless steel, 120 mm standard diameter and 9 metres standard height.

The Symbol series enables horizontal and vertical (Post - Top) layouts, with a double or single bracket, at any height.

#### MATERIALS

EN-GJS-500-7(EN-JS1050) spheroidal graphite cast iron applied to the Symbol series base provides the whole set with a high degree of strength and durability compared to other market standard cast irons.

This casting technology enables in situ repair, thereby extending lifetime and reducing maintenance costs for public lighting infrastructure.

#### RELATED LUMINAIRES

Select the most suitable luminaire for each environment:

Essenze + pp.97    Quantum + pp.87    Round II + pp.73



## VIGO

### COLLECTIVE SELF-EXPRESSION

When urban elements are able to reflect the urban soul, space becomes more noble, honest and human. This is why public works should respond to a collective feeling. Local residents were involved in the project development of the Vigo series, bringing alive an own urban language developed by and for the people of Vigo.

Column  
height (\*)  
**≥ 8.9 m**

Light  
point height (\*)  
**≥ 8.0 m**

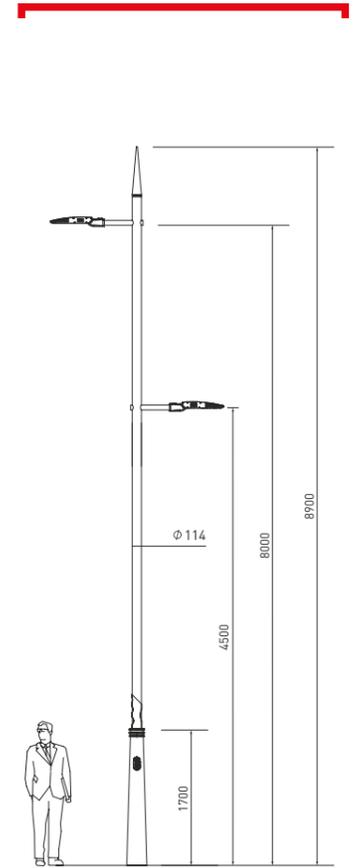
Standard shaft of  
**STAINLESS**  
STEEL

Base of  
**NODULAR**  
IRON CASTING

Shaft  
diameter (\*)  
**≥ 11.4 cm**

Inferior Base  
diameter(\*)  
**= 36 cm**

(\*) Adaptable dimensions



VIGO COLUMN

STRUCTURE

An 8.95 metre-high structure, with a spheroidal graphite cast iron base of 1.7 metres, an individualized shield, and upper shaft of AISI 304 or AISI 316 stainless steel, 114 mm standard diameter.

The casing element made of electro-welded carbon steel prolongs the finish of the base over the shaft, which is topped by an Al 1050 spun aluminium cone.

MATERIALS

AISI 304 or AISI 316 stainless steel, EN-GJS-500-7(EN-JS1050) spheroidal graphite cast iron applied to the Vigo series base provides the whole unit with a high degree of strength and durability compared to other market standard cast irons.

This casting technology enables in situ repair, thereby extending lifetime and reducing maintenance costs for public lighting infrastructure.

DESIGNER



**Ángel Colsa**  
Public Works Engineering  
(Vigo).





## ZARAGOZA

### HISTORIC FUSION

For more than two thousand years, this ancient city has been witness to all the civilizations established in the Iberian Peninsula. The marked lines of the Zaragoza series project its historical diversity in the form of urban vanguard.

Column height (\*)  
**≥ 7.5 m**

Standard shaft of  
**STAINLESS**  
STEEL

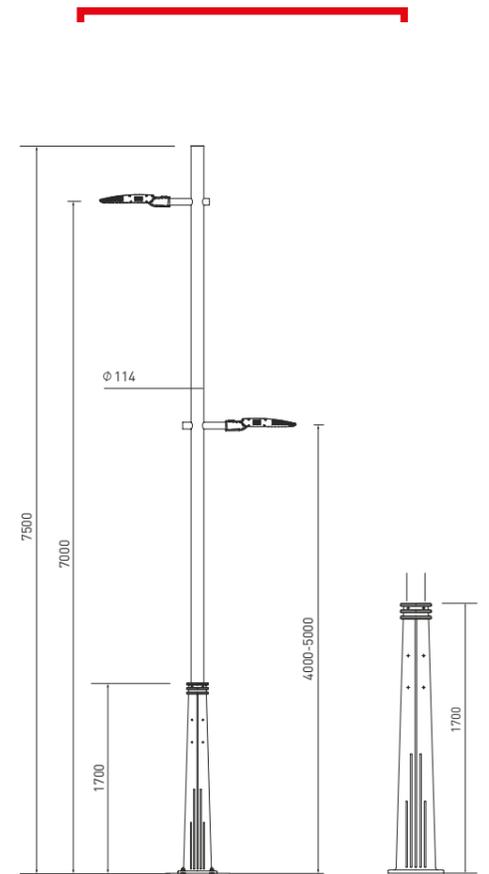
Shaft  
diameter (\*)  
**≥ 11.4 cm**

(\*) Adaptable dimensions

Light  
point height (\*)  
**≥ 7.0 m**

Base of  
**NODULAR**  
IRON CASTING

Basis  
Dimensions (\*)  
**= 36 cm**



ZARAGOZA COLUMN

#### STRUCTURE

A 6.5 or 7.5 metre-high structure, with a spheroidal graphite cast iron base of 1.7 metres and upper shaft of AISI 304 or AISI 316 stainless steel, 114 mm standard diameter.

The Zaragoza series allows for horizontal layouts, with a double or single bracket, at any height.

#### MATERIALS

AISI 304 or AISI 316 stainless steel, EN-GJS-500-7(EN-JS1050) spheroidal graphite cast iron applied to the Zaragoza series base provides the whole unit with a high degree of strength and durability compared to other market standard cast irons. This casting technology enables in situ repair, thereby extending lifetime and reducing maintenance costs for public lighting infrastructure.



## SANXENXO

### ATLANTIC CHARACTER

The maritime origins of Sanxenxo and current importance for tourism were the inspiration of a noble and robust column series, where past and present find a new way of expression.

Column height (\*)  
≥ **8.1 m**

Light  
point height (\*)  
≥ **7.0 m**

Standard shaft of  
**STAINLESS**  
STEEL

Base of  
**NODULAR**  
IRON CASTING

Shaft  
diameter (\*)  
≥ **11.4 cm**

Basis  
Dimensions (\*)  
= **36 cm**

(\*) Adaptable dimensions



**3.1.** SIGNALING  
*URBAN MOBILITY*



## SX

### CHARACTER AND IDENTITY

A far cry from conventional stoplight standards, the avant-garde character of the SX series feeds the identity of each space. The slenderness and symmetry of its cylindrical lines breathe life into this innovative unit of stainless steel, enhancing the urban experience in terms of comfort, safety and personality.

Column height (\*)

≥ **3.5 m**

Diameter

mast (\*)

≥ **12.9 cm**

Structure of

**STAINLESS**  
STEEL

Watertightness

≥ **IP65**

Optic

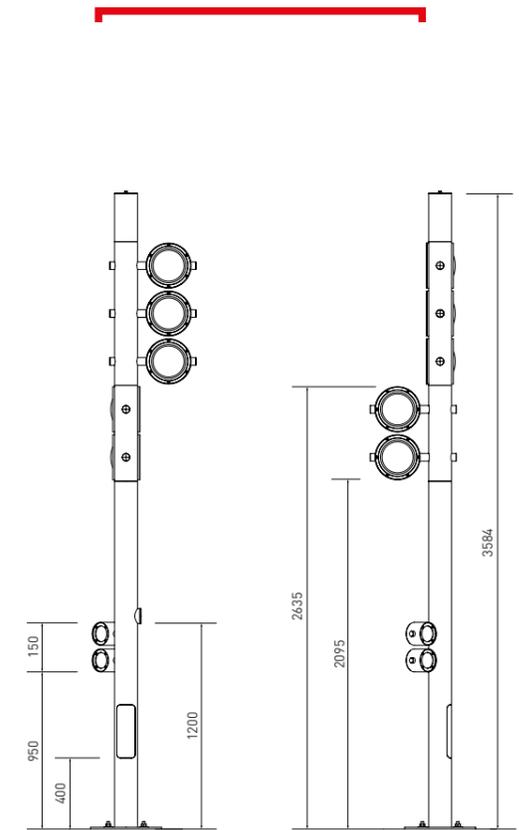
diameter

= **25 cm**

**LED**

ADJUSTABLE  
OPTICS

(\*) Adaptable dimensions



SEMAPHORE SX

#### STRUCTURE

The SX main structure consists of a cylindrical section of stainless steel, 3.58 metre in height and 129 mm in diameter. The stainless steel circular optics, 250 mm in diameter, incorporate LED technology protected with a watertightness rating of IP65. An internal positioning system ensures easy optics installation. A stainless steel cylindrical element connects each optical unit with the main structure.

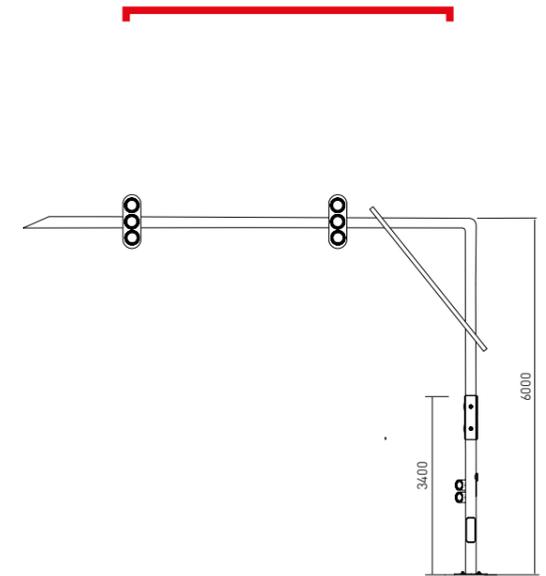
#### MATERIALS AND FEATURES

AISI 304 or AISI 316 stainless steel and associated transformation processes make the SX stoplight series resistant to the degrading action of aggressive urban environments. This series is outstanding for its ability to integrate repeaters for vehicles, electronic switches for actuation by pedestrians and multiple connectivity options with street lighting or other traffic light reinforcement series. A strategic element for an intelligent, safer city.

#### TRAJECTORY

In 2011, the SX series was awarded the Living Labs Global Awards in Stockholm.





SEMAPHORE SX LARGE

STRUCTURE

The SX main structure consists of a cylindrical section of stainless steel, 3.58 metre in height and 129 mm in diameter. The stainless steel circular optics, 250 mm in diameter, incorporate LED technology protected with a watertightness rating of IP65. An internal positioning system ensures easy optics installation. A stainless steel cylindrical element connects each optical unit with the main structure.

MATERIALS AND FEATURES

AISI 304 or AISI 316 stainless steel and associated transformation processes make the SX stoplight series resistant to the degrading action of aggressive urban environments. This series is outstanding for its ability to integrate repeaters for vehicles, electronic switches for actuation by pedestrians and multiple connectivity options with street lighting or other traffic light reinforcement series. A strategic element for an intelligent, safer city.

TRAJECTORY

In 2011, the SX series was awarded the Living Labs Global Awards in Stockholm.





## NX

### CHALLENGING CONVENTIONAL FORMS

Traffic light manufactured entirely of stainless steel, integrating squared optics with LED technology above a cylindrical shaft. The unit's innovative shape distances it from conventional traffic light standards, conferring genuine personality on public space.

Column height (\*)  
≥ **3.85 m**

Watertightness (\*)  
≥ **IP65**

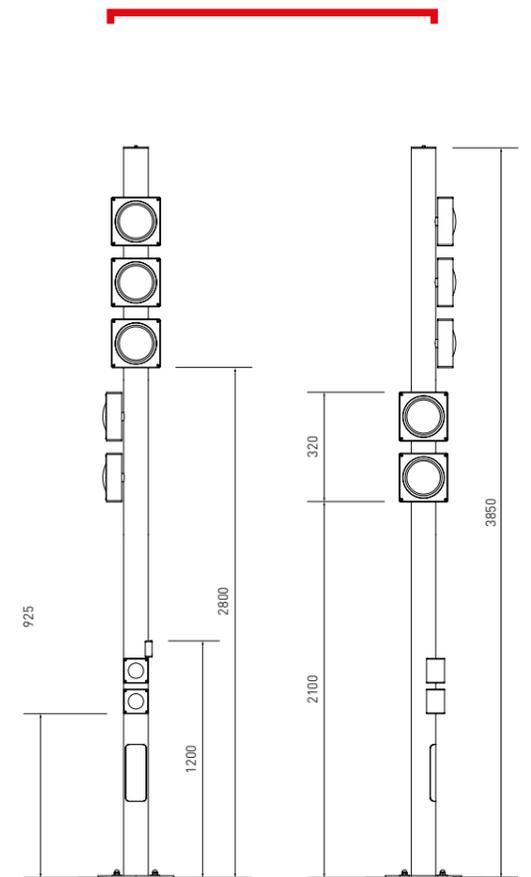
Diameter  
mast (\*)  
≥ **12.9 cm**

Sectie  
lantaarn  
= **25 cm**

Structure of  
**STAINLESS  
STEEL**

**LED**  
ADJUSTABLE  
OPTICS

(\*) Adaptable dimensions



NX



## SX

### INTELLIGENT ACCESSIBILITY

Intersections between pedestrianized streets and traffic lanes cause conflicts in pedestrian and vehicle flow regulation because of a higher likelihood of pedestrian distraction. In order to respond to the challenges inherent to this type of crossing, the SX traffic light beacon delimits and physically protects the pedestrian zone, removing critical slopes, while reinforcing traffic lights, thereby ensuring order, safety and accessibility.

Column height (\*)

≥ **1.0 m**

Watertightness

≥ **IP65**

Diameter  
mast (\*)

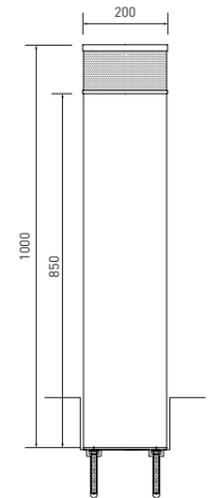
≥ **20 cm**

**BESCHERM  
CLASS II**

Structure of  
**GALVANIZED  
STEEL**

**LED  
OPTICS**

(\*) Adaptable dimensions



SX BAKEN

STRUCTURE

The SX traffic light beacon consists of a compact structure of cylindrical section, 849 mm in height and 200 mm in diameter. Visual stimulation is enhanced by an upper luminous cylinder operated by a dual LED signal (red-green), protected by a high impact PMMA closure, noted for its high resistance to UV radiation.

MATERIALS AND FEATURES

Electrolytic galvanized steel, with two-component epoxy anti-corrosive primer and subsequent aerographic colour application of two-component polyurethane makes the SX traffic light beacon resistant to the degrading action of outdoor environments. This series is outstanding for its ability to integrate multiple connectivity options with street lighting or other traffic lighting series, contributing to accessibility and urban safety in the era of liveability.

TRAJECTORY

In 2011, the SX series was awarded the Living Labs Global Awards in Stockholm





## K-TRO

### CAPACITIVE PAVEMENT

Pedestrians crowding at critical intersections increase accident risk. The K-TRO in-ground traffic light visually demarcates pedestrian waiting areas, generates intelligent visual alerts and complements conventional traffic signals, contributing to the consolidation of safer urban mobility models.

**-IP68-**  
Watertightness

**APS**® Argon Pressurised System

Dimensions (\*)  
**40X40 cm**

**LED**  
OPTICS

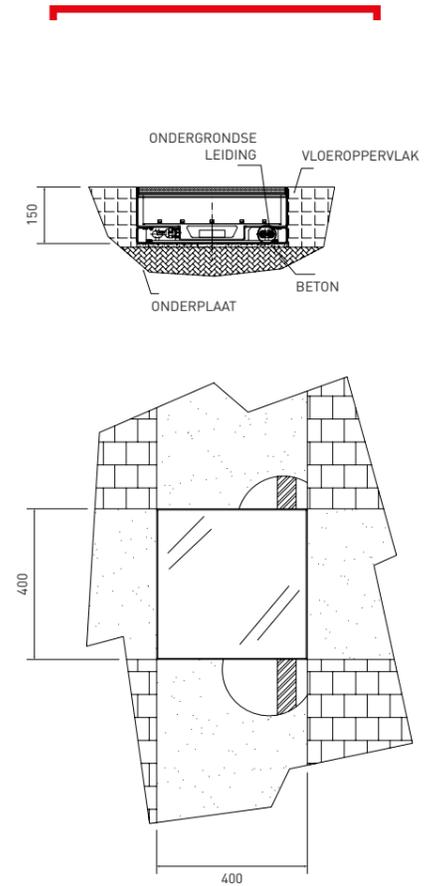
**SST** | Stainless Steel

**IK08 - IK10**  
Glass closure or High Impact PMMA

**BESCHERM CLASS II**

**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

(\*) Adaptable dimensions



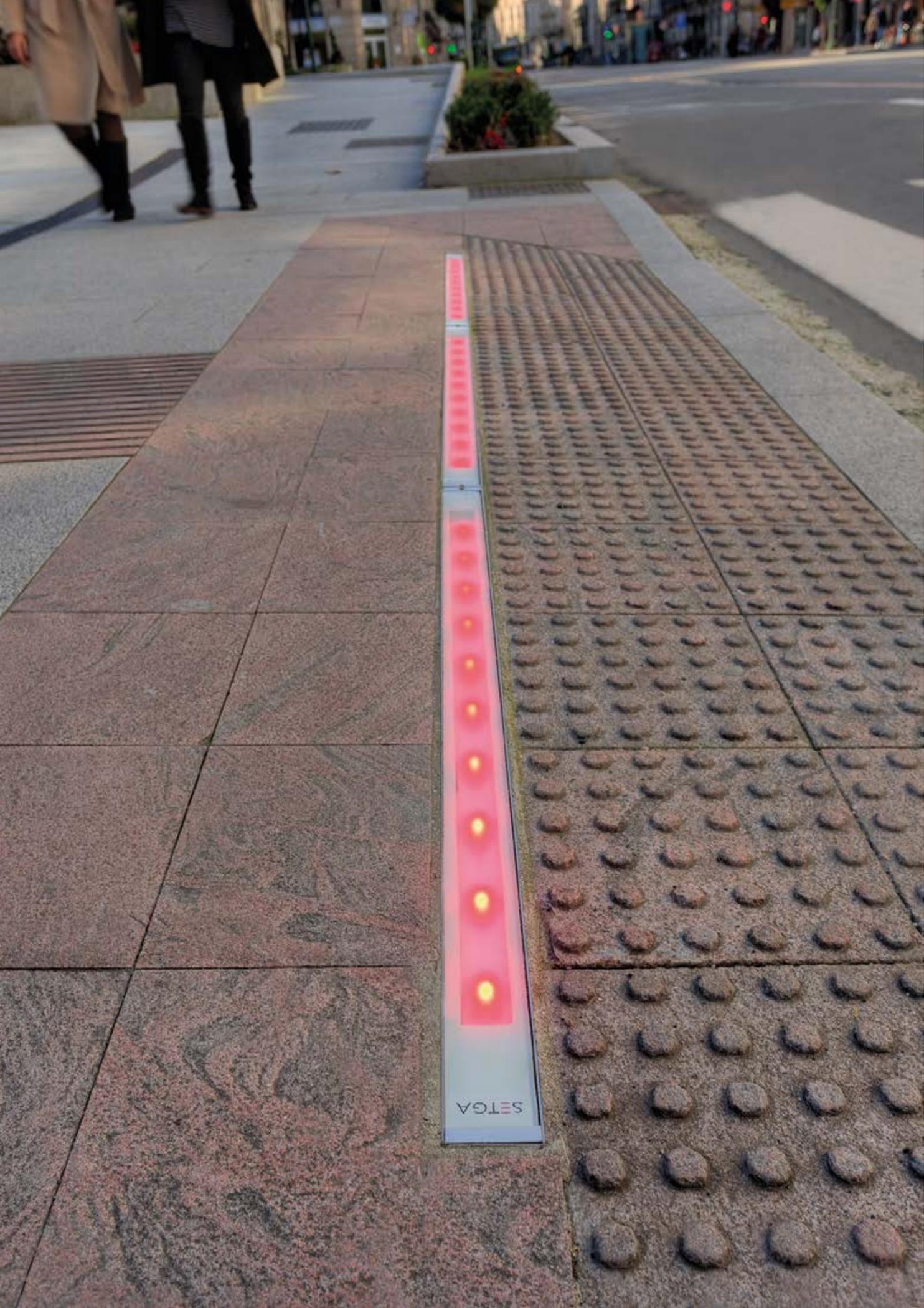
K-TRO Traffic Light

#### STRUCTURE

The K-TRO tile consists of an Al 5754 anodized aluminium chassis and a laminated tempered glass closure with an anti-slip finish and impact resistance level of up to IK08-IK10; alternatively, high impact PMMA can be applied. This unit is part of an in-ground support system made of AISI 304 or AISI 316 stainless steel (standard dimensions 400 x 400 mm).

#### MATERIALS AND FEATURES

The optical-electronic module of red-green LEDs is contained within a pressurized atmosphere of argon gas (APS®), with a watertightness rating of IP68 (higher than required by current standards), in order to withstand total and continuous immersion. This series is outstanding for its ability to integrate multiple connectivity options with capacitive sensors.



## HL

### INTERACTIVE PAVEMENT

Pedestrians crowding at critical intersections between pavements and traffic lines, plus smartphone usage, increase accident risk at most conventional crosswalks. The HL in-ground traffic light visually demarcates pedestrian waiting areas, generates intelligent visual alerts and complements conventional traffic signals, contributing to the consolidation of safer urban mobility models.

**-IP68-**  
Watertightness

Dimensions  
**60-120 cm**

**AL** <sup>5754</sup> Anodized  
Advanced Heat Dissipation

**BESCHERM**  
**CLASS II**

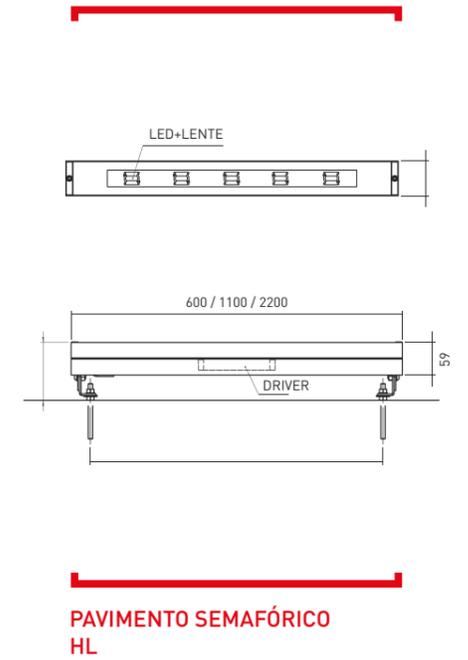
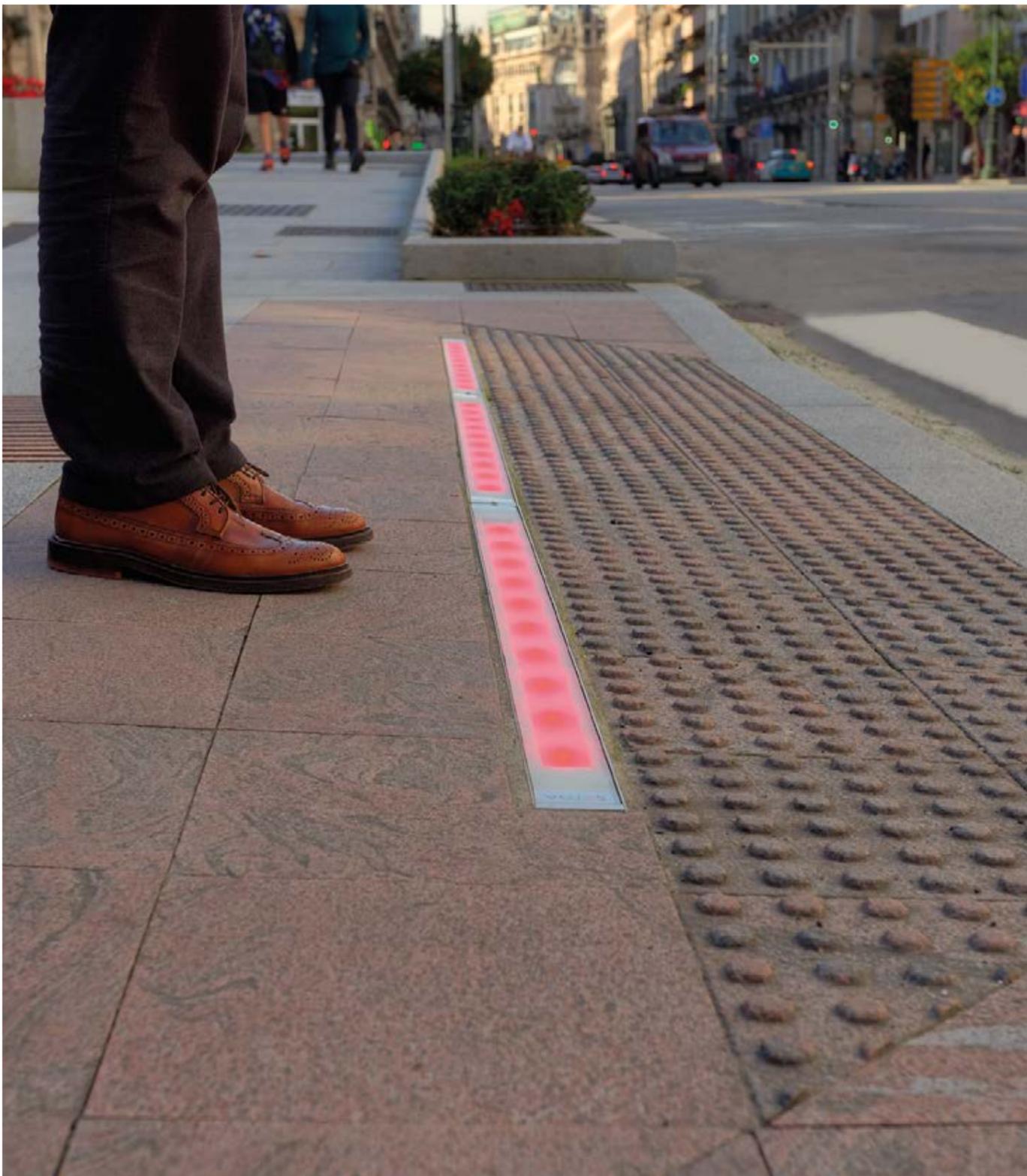
(\*) Adaptable dimensions

**APS** <sup>®</sup> Argon Pressurised System

**LED**  
OPTICS

**IK08 - IK10**  
Glass closure or High Impact PMMA

**CLEANTech** <sup>®</sup>  
Technology to prevent external dirt accumulation.



#### STRUCTURE AND MATERIALS

The HL traffic light series consists of an anodized aluminium Al5754 chassis and a laminated tempered glass closure with an anti-slip finish, whose impact resistance level can reach an IK08–IK10; alternatively, high impact PMMA can be applied. Its standard length is 530 mm or 1030 mm, with 5 or 10 LEDs respectively. This set is integrated into an in-ground support system made of stainless steel AISI304 or AISI316.

#### FEATURES

The optical-electronic module of red-green LEDs is contained within a pressurized atmosphere of argon gas (APS®), with a watertightness rating of IP68 (higher than required by current standards), in order to withstand total and continuous immersion. This series is outstanding for its ability to integrate multiple connectivity options with capacitive sensors.



**3.2.** BOLDERS  
*URBAN MOBILITY*



## DINAMIC

### VERSATILE PROTECTION

The cylindrical structure of the bollard delimits and energizes mobility networks, promoting pedestrian safety and enabling periodic traffic accessibility by means of an intelligent extraction system. Bollard dimensions and the incorporation of a reflective strip facilitate visibility, while the stainless steel structure enhances mimicry with the architectural style of each city; individual identities can be engraved on the upper surface.

Bollard height (\*)  
**≥ 1.0 m**

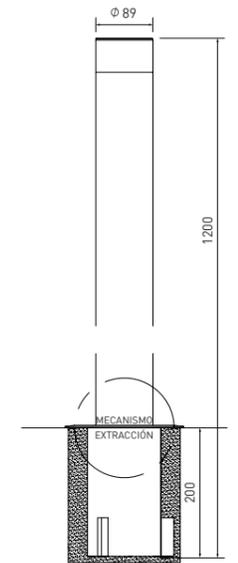
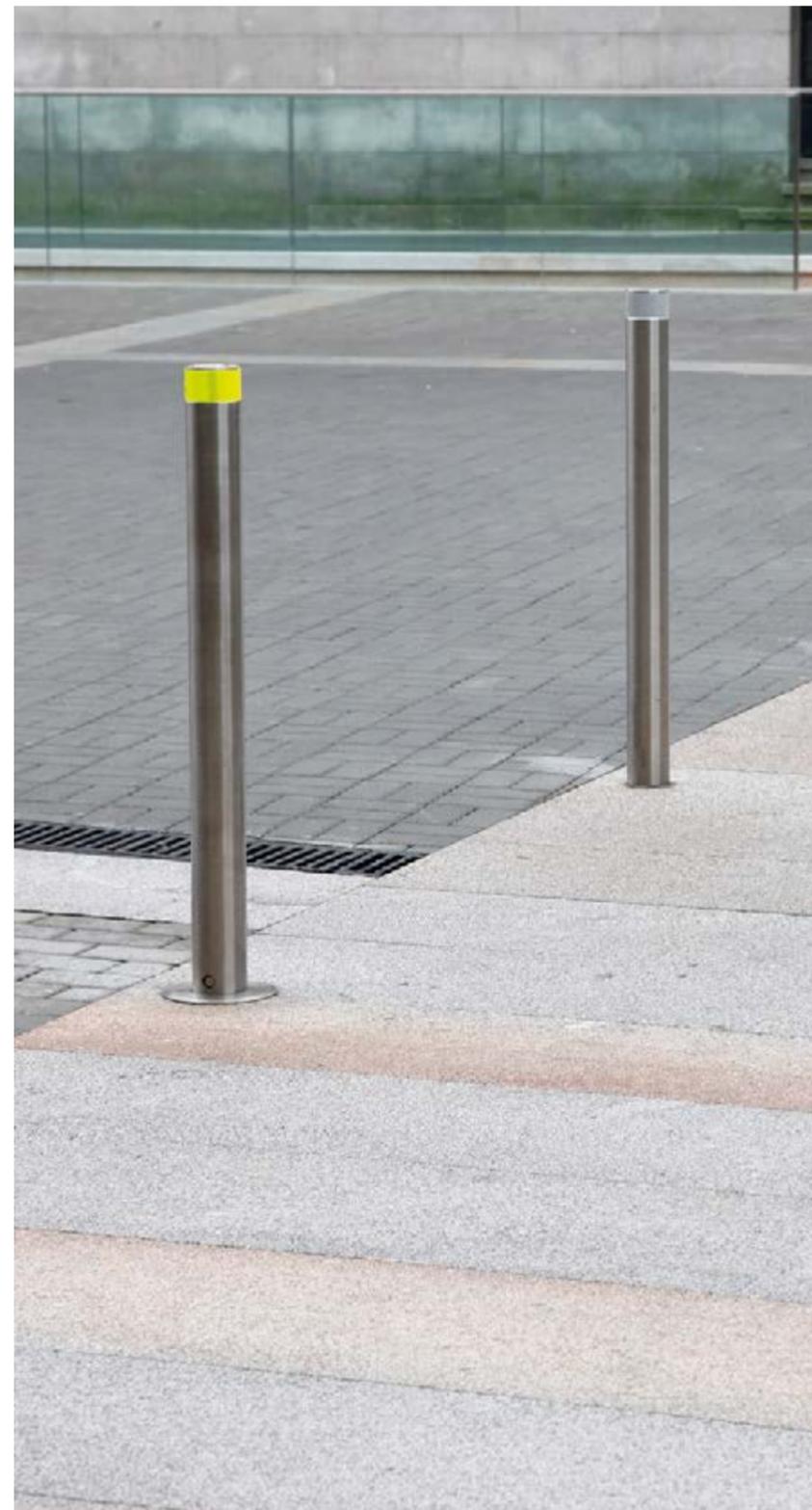
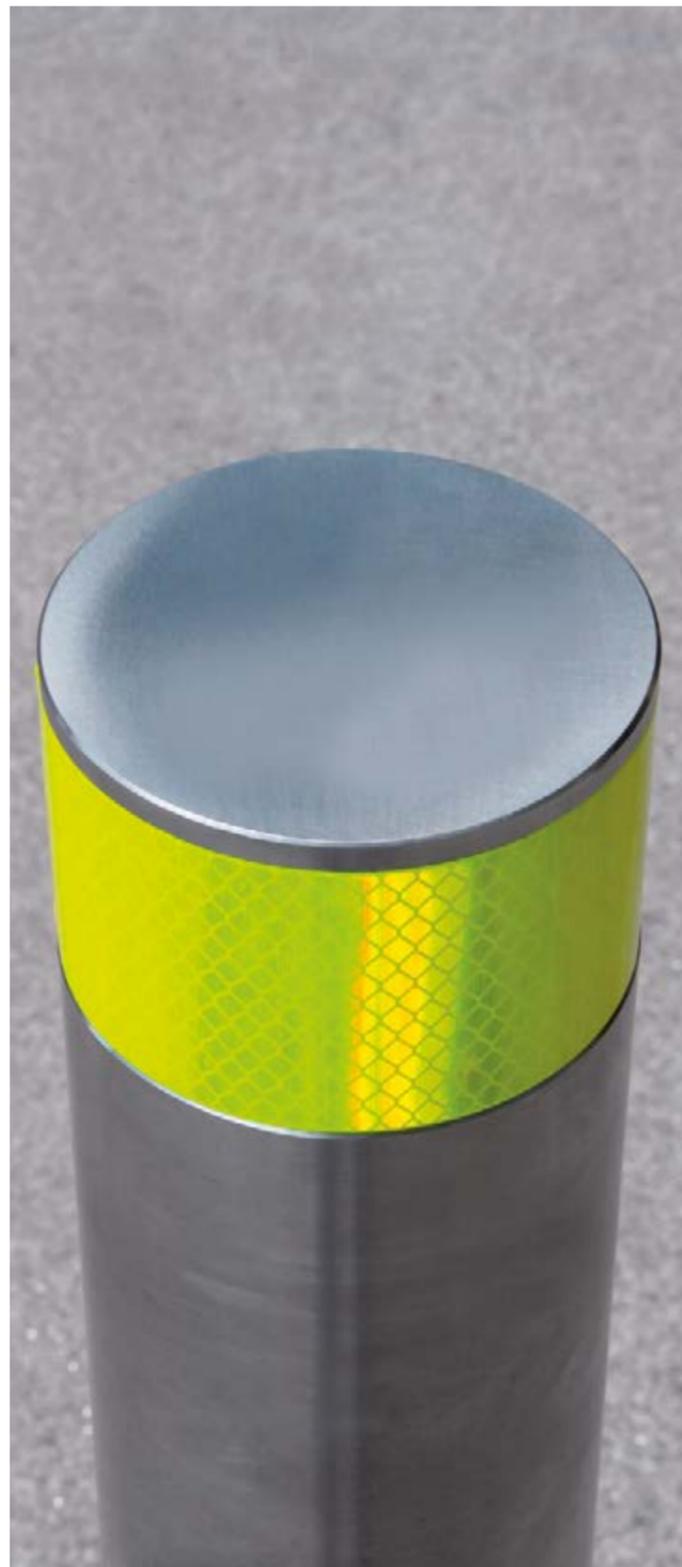
Diameter (\*)  
**≥ 8.9 cm**

Base diameter (\*)  
**≥ 20 cm**

Structure of  
**STAINLESS  
STEEL**

System met  
**AUTOMATIC**  
extraction

(\*) Adaptable dimensions



DINAMIC

#### STRUCTURE

The Dinamic series consists of a satin or frosted stainless steel cylindrical frame, 89 mm in diameter and 1.2 m in height. The upper section of the bollard incorporates a reflective band, topped by an engraved or screen-printed steel lid, with an identifying feature. The base of the unit is decorated by a ring, 185 mm in diameter, indicating the junction with the pavement; the model can be fixed or removable. The second option incorporates a patented automatic coupling system, which facilitates extraction with a special key.

#### MATERIALS

The Dinamic series is manufactured in AISI 304 or AISI 316 stainless steel alloys known for their excellent performance against corrosion, providing the unit with good resistance against the degrading action of aggressive urban environments. The robust design and durable materials contribute to a high degree of resistance to the passage of time, vandalism or vehicle impact. Frosted or satin finishes confer a modern look, preserving the aesthetic balance and clean lines.



## IDENTIDADE

URBAN WELCOME

The Identidade series redefines the concept of conventional bollards. Typographical sculptures enhance authenticity and express the identity of each city, while demarcating space and emphasizing the transition between urban areas, providing a welcoming experience based on cohesion and urban diversity.

Bollard  
height (\*)  
**≥ 90 cm**

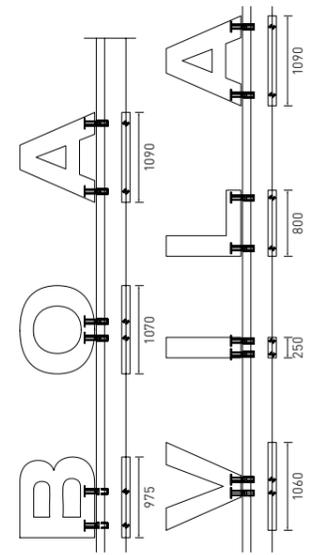
**RONDE**  
RAND

Structure of  
**STAINLESS**  
STEEL

**ADJUSTABLE**  
ANCHOR

**UITNEEMBAAR**

(\*) Adaptable dimensions



IDENTIDADE

#### STRUCTURE

The stainless steel Identidade series has a standard height of 900 mm, while the length of each typographical element or letter is adaptable to project requirements. This series incorporates an adjustable anchor for easy and speedy letter extraction. Protecting citizens is a key design aspect, hence the rounded finish of all edges ensuring tactile safety and aesthetics.

#### MATERIALS

The Identidade series is manufactured entirely in AISI 304 or AISI 316 stainless steel alloys known for their excellent performance against corrosion, making the unit resistant to the degrading action of aggressive urban environments. The robust design and durable materials contribute to high resistance to the passage of time and vandalism. Frosted or satin finishes confer a modern look, preserving the aesthetic balance and clean lines. The standard surface of the Identidade bollard is a satin finish, but other finishes can be applied, such as polished, matt and lacquered.



**3.3.** BICYCLE PARKING  
URBAN MOBILITY



## ANEL

INTEGRATING A  
SUSTAINABLE FUTURE

Sustainable mobility networks lead the evolution process towards more liveable urban models, where the intensive use of bicycles and their harmonious integration into public spaces enhance the character of each city. The Anel series is a dynamic and clean aesthetic line defined by high functional value.

---

Bicycle stand  
diameter (\*)  
**≥ 75 cm**

**ANTI**  
-THEFT

Structure of

**STAINLESS  
STEEL**

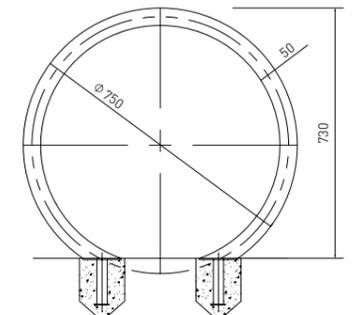
**ADJUSTABLE  
ANCHOR**

MODULAIR

**ONTWERP**

(\*) Adaptable dimensions .

---



ANEL

#### STRUCTUREEN FEATURES

The frame and the wheel of any conventional or electric bicycle can be simultaneously secured to the Anel series, thereby minimizing theft risk. The modular layout of the stainless steel Anel series (750 mm in diameter) enables various arrangements, facilitating the optimization of each urban space. An adjustable anchoring system is subtly integrated in the pavement, ensuring speedy removal.

#### MATERIALS

The Anel series is manufactured entirely in AISI 304 or AISI 316 stainless steel alloys known for their excellent performance against corrosion, making the unit resistant to the degrading action of aggressive urban environments. The robust design and durable materials contribute to high resistance to the passage of time and vandalism. The standard surface of the Anel unit is a polished finish, but other finishes can be applied, such as satin, matt and lacquered.

#### MILAAN CITY LIFE PARK

After years of pilot projects in Spanish cities, such as A Coruña and Pontevedra, the Anel series bicycle stand was selected for the sustainable mobility network in Milan's CityLife Park. This most ambitious urban project promoted by Milan is an architectural icon developed by Zaha Hadid and landscape studio Park Nouveau. Currently, the series has been incorporated throughout the 170,000 m<sup>2</sup> of the park and its surroundings, redefining the urban experience in such iconic locations as Allianz Tower.



**3.4.** BENCHES  
*STEDELIJK COMFORT*



## CABRIOLET

WHERE COMFORT REMAINS

The search for highly ergonomic concepts defines new urban comfort horizons. Refined form and accurate detail bring to life to a new generation of urban benches, combining a robust support structure with hidden fastening systems and warm contact.

Bench  
height (\*)  
**= 82.5 cm**

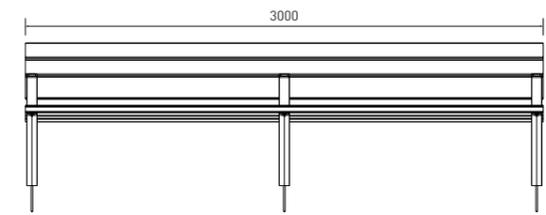
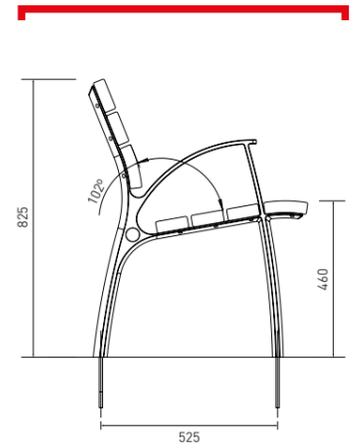
**102°**  
TERUG

**GEGOTEN**  
ALUMINIUM

Zetel van  
**TROPICAL**  
WOOD

HIDDEN  
**ANCHOR**

(\*) Adaptable dimensions .



CABRIOLET

STRUCTURE

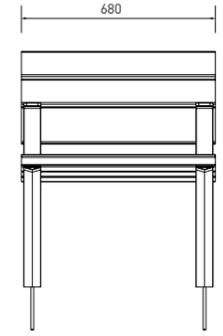
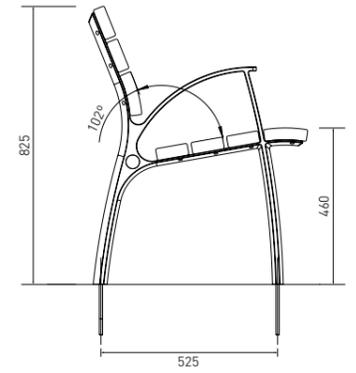
The seat and backrest are made of slats of tropical wood anchored to two aluminium legs, which double up as armrests and support the whole unit. Stainless steel anchoring screws increase the reliability of the hidden fastening system. Different lengths are available, according to project requirement: 680 mm/1750 mm/3000 mm. Stainless steel threaded rods and a chemical anchor made of epoxy resin fix the aluminium leg structure to the ground.

MATERIALS

The metal legs are made by melting Al 2520 aluminium in a metal chill mould, machining the surface and providing the unit with a protective treatment and finish based on two layers of epoxy primer and two coats of two-component polyurethane varnish, in standard gray (RAL9007).

The wooden slats are subjected to a protective treatment consisting of priming corrosion inhibitors such as anti-tannins and a double layer of bituminous waterproofing, which helps preserve the origi-

nal colour. The materials, applied protection and finishing processes guarantee the durability of the whole unit.



CABRIOLET

STRUCTURE

The seat and backrest are made of slats of tropical wood anchored to two aluminium legs, which double up as armrests and support the whole unit. Stainless steel anchoring screws increase the reliability of the hidden fastening system. Different lengths are available, according to project requirement: 680 mm/1750 mm/3000 mm. Stainless steel threaded rods and a chemical anchor made of epoxy resin fix the aluminium leg structure to the ground.

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The wooden slats are subjected to a protective treatment consisting of priming corrosion inhibitors such as anti-tannins and a double layer of bituminous waterproofing, which helps preserve the origi-

nal colour. The materials, applied protection and finishing processes guarantee the durability of the whole unit.



## OMEGA

ECO COMFORT

Comfort characterized by visual lightness and material strength. Two benches linked by a radius of curvature form a continuous undulating surface. The aesthetic line and shape evoke natural formations, creating a sense of calm and tranquillity.

Bench  
height (\*)  
**= 73 cm**

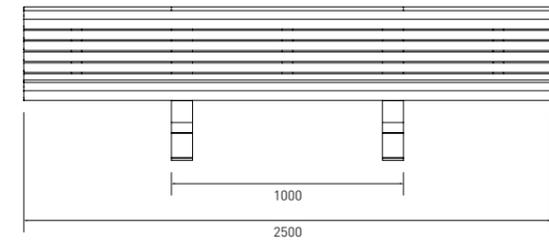
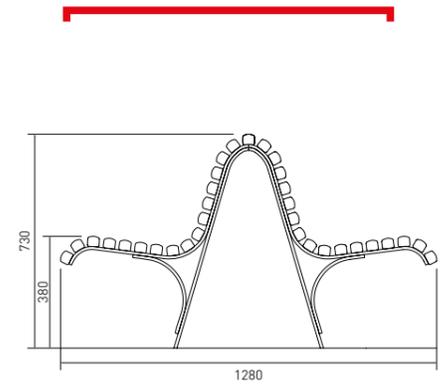
Structure of  
**GALVANIZED  
STEEL**

**HIDDEN**  
FASTENING SYSTEM

**ERGO**  
NOMIE

Zetel van  
**TROPICAL  
WOOD**

(\*) Adaptable dimensions .



OMEGA

STRUCTURE

Double-seated bench, 2500 mm in length, consisting of two steel structures, which have been machined and sandblasted. An anticorrosive treatment based on hot-dip or electrolytic galvanizing is applied, followed by a powder coating process, in standard gray (RAL 9006). Slats of elegant and refined tropical wood are fixed over these structures with stainless steel screws. The secure and visually discreet anchoring mechanism consists of a stainless steel rod and epoxy resin.

MATERIALS

The materials and protection treatments applied to each component of the Omega series guarantee the durability of the whole unit. S235-JR carbon steel supporting structures are highly resistant to the degrading action of aggressive urban environments. The wooden slats are subjected to a protective treatment consisting of priming corrosion inhibitors and a double layer of bituminous waterproofing, which helps preserve the original colour.



## COROLA

NATURAL BALANCE

Bench designed for comfort in areas where nature accompanies moments of relaxation, slowing the pace of city life and creating a sense of calm. A steel planter atop a stone provides a decorative element and balances the unit.

Bench  
height (\*)  
**= 45 cm**

Afmeting  
van de basis(\*)  
**= 80x80 cm**

Planter structure of  
**CARBON**  
STEEL

Zetel van  
**GRANITE**  
SEAT

**HIDDEN**  
FASTENING SYSTEM

(\*) Adaptable dimensions .



**3.5.** LITTER BINS  
*URBAN CONFORT*



## ONDA

### GEOMETRICAL SINUOSITY

Refined design element of sinuous lines. The upper body incorporates a stainless steel ashtray for greater functionality. Designed to be robust and practical, while discreet and elegant, the smooth waveform geometry facilitates integration into multiple environments, creating warm co-existence with pedestrians and users.

Wastepaper  
Height (\*)  
**= 79.2 cm**

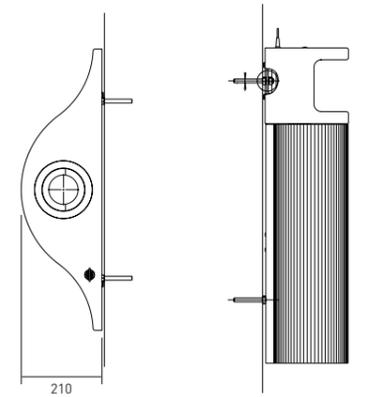
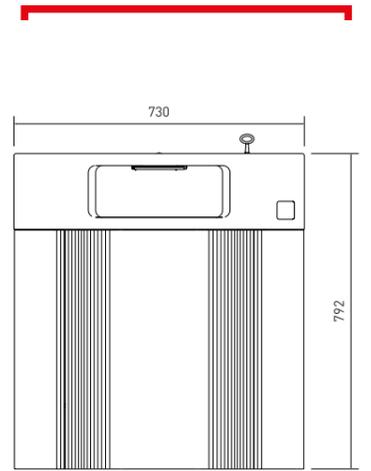
Capacity  
**40 l**

Upper body of  
**CAST**  
ALUMINIUM

Doors made of  
**EXTRUDED**  
ALUMINIUM

**STAINLESS**  
steel top ashtray

(\*) Adaptable dimensions .



ONDA

#### STRUCTURE

A galvanized steel and powder coated frame supports the entire ensemble. The upper body made of the Onda series is made of powder coated cast aluminium. The wastepaper bin consists of two striated side pieces and an access door to the back. Both separate components are made of powder coated extruded aluminium. Inside, the container is made of powder coated galvanized steel. A stainless steel opening mechanism, fully integrated into the upper body, enables door opening.

#### MATERIALS

Quality materials ensure excellent performance and make the Onda series easily customizable with shields or other identity signs. The different materials used include galvanized steel for the supporting structure, Al 2520 cast aluminium in the upper body and Al 6063 extruded aluminium for the front elements. All components are finished using a powder coating process. The remaining components and mechanisms are made of stainless steel: ashtray, hinges, opening and closing system.

#### COMPLEMENTARY SERIES

Selecteer de meest geschikte complementaire serie:

Omega bank ■ pp.437

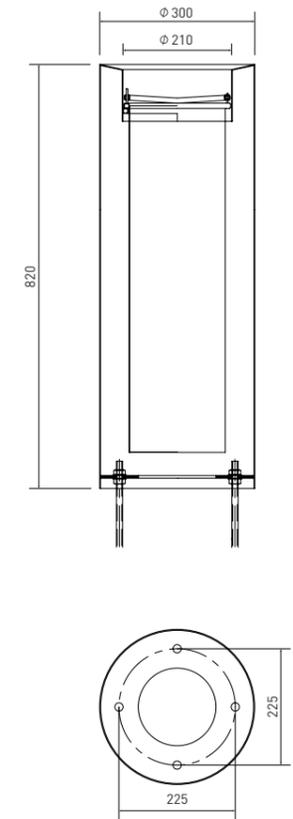


## DISCRETION

*ELEMENTARY HARMONY*

-

The Discretion series simulates a cylinder levitating over the pavement. Elementary geometry and a polished or lacquered stainless steel finish facilitate urban integration, contributing to the harmonization and cohesion of public space.



DISCRETION

#### STRUCTURE

Wastepaper basket, 80 cm high and 30 cm in diameter. The series incorporates a safety lock and removable stainless steel container with a capacity of up to 27 litres. The design combines functionality and robustness in an element of discreet lines.

#### MATERIAAL

The Discretion series is made of AISI 304 or AISI 316 stainless steel alloys known for optimum performance against corrosion, providing the ensemble with good resistance to the degrading action of aggressive urban environments.

