

THORN
LIGHTING



FLOW

Style within the urban space

DESIGNED FOR THE CITIES OF THE FUTURE

As people flow through the city by car, bike or on foot, Flow creates light that flows with them, adapting and providing safety and high visual performance, while creating a pleasant and welcoming ambience. Flow fits in everywhere, providing the most efficient distribution for all kinds of urban activities – whether it's jogging, driving, shopping or socializing. The timeless, understated design language of this brand new luminaire makes it easy to picture in setting.

To achieve this, we collaborated with DO, innovative design partner.

DO-DESIGN

Founded in 1989 by Joseph Mazoyer, DO is a product design and urban solutions agency.

DO's multidisciplinary team takes a pragmatic and realistic look at projects with an "innovation input", that make design a real driver of success and development for brands and communities. DO creates designs for industry, the home, sports and the medical field. DO's approach to light puts humans at the heart of research, with the vision of aesthetic and sensory experiences contributing to personal and social wellbeing.



Minor roads &
Residential roads



Urban &
residential
streets



Building
surrounds



Parks,
promenades
& pathways



Parking



DARK SKY ACCREDITATION

The International Dark Sky Association is recognised as the global authority on light pollution and is the leading organisation combating this issue worldwide.

The IDA Fixture Seal of Approval is a highly regarded accreditation for manufacturers. The process to achieve this accreditation reviews key features and benefits of a luminaire, its fundamental design and deep dive analysis of photometric data to ensure the product meets strict requirements to limit light pollution.



STYLE WITHIN THE URBAN SPACE

Our most versatile outdoor solution yet, Flow integrates seamlessly into any urban setting, allowing designers to create a unified look.

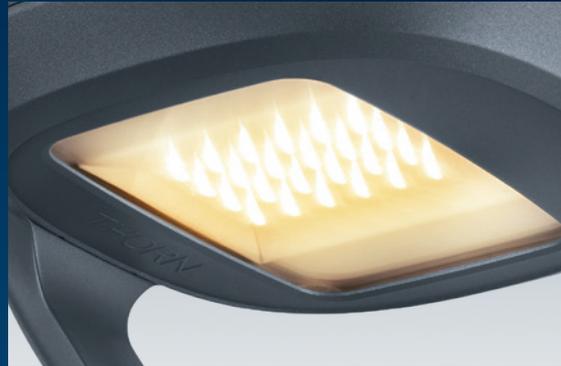


CONSISTENT DESIGN

Flow creates a unique identity for the urban space. Its flexibility makes it easy to use the same design for all kinds of urban spaces, and for new or retrofit projects, empowering designers to achieve the best in consistency and visual harmony.

VISUAL COMFORT

Lighting urban areas is about balancing safety, comfort and style. Light must not only illuminate, but also be pleasant and welcoming. This requires good quality lighting with the right colour properties, and careful control of glare. Benefitting from Thorn's R-PEC and Area optics, Flow achieves excellent glare control. It is available in colour temperatures ranging from 4000 K all the way to a warm 2700 K, lending a homely ambience to any city.

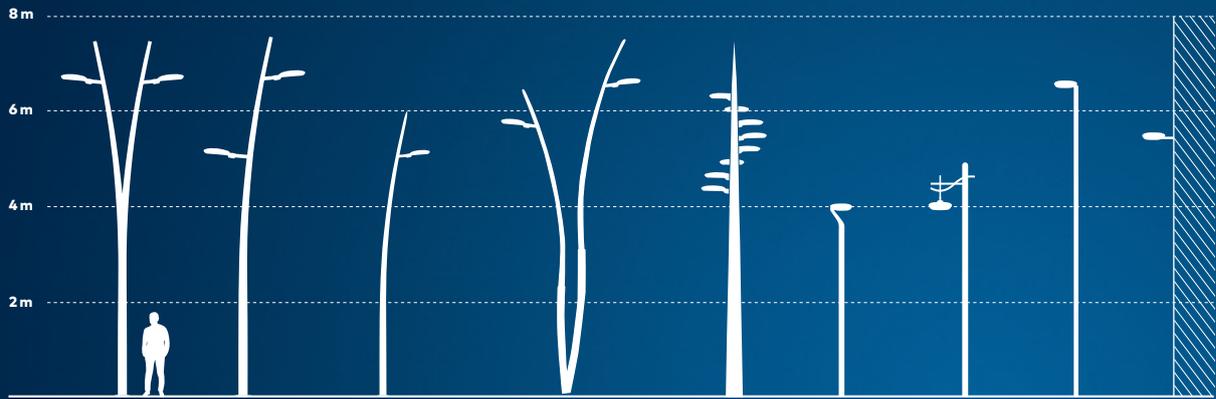


SMART LIGHTING

Flow incorporates UrbaSens smart control solution to save energy, to provide light only when and where it is required and to adapt to people's movements in the city. Cities and communities are in a state of constant change – a state depending on the time of day, the number of people present and the volume of traffic. Urban life is also shaped by the weather, while special occasions and events can change the picture completely. Flow is the perfect solution to meet the daily challenges of cities by combining a raft of intelligent functions.

THE FLOW PRODUCT RANGE

It's not only Flow's appearance that makes it so flexible. The luminaire has a number of possible mast configurations and styles, mountings and heights. It features a choice of tilting (negative and positive) and dimming options to contribute to comfort and wellbeing in large and small roads, residential areas, city centres, car parks, footpaths, train/tram platforms, education and sports institutions, industrial buildings and open areas.



FLOW OF LIGHT The right colour temperature for various urban environments



2700 K
PEOPLE AND NATURE

3000 K
STREETS/PEDESTRIAN AREA

4000 K
MODERN URBAN AREA

MOUNTING FLEXIBILITY

Flow features different mounting variants with a unified look for different usages in the city life, from post top to lateral mounting and from an amenity version to a suspended mounting option. Flexibility in choice is key when shaping the outdoor environment.



LATERAL MOUNTED



POST TOP



AMENITY



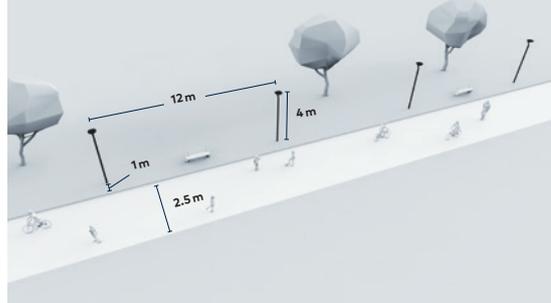
SUSPENDED



CATENARY

APPLICATION EXAMPLES

PARK



Luminaire: Flow Amenity
(FW MTPA 12L35-740 EWS)

Light Distribution:
Extra Wide Street Optic – Amenity

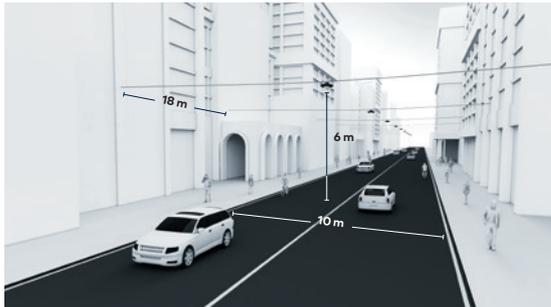
Luminous Flux: 1765 lm

Road Class Definition: P2

Em [lx]	Emin [lx]	Escmin [lx]	Evmin [lx]
≥ 10.00 ≤ 15.00	≥ 2.00	≥ 2.00	≥ 3.00
13	9	4	3

Gentle, controlled light to promote safety and relaxation while protecting the environment. The standard EN13201 includes recommendations for maintained average illuminance on the surface, as well as vertical illuminance if facial recognition is important. If vehicles are able to use the area, light levels will need to be higher.

CITY CENTRE



Luminaire: Flow Catenary
(FW 24L35-740 WR-S)

Light Distribution:
Wide Road Symmetrical

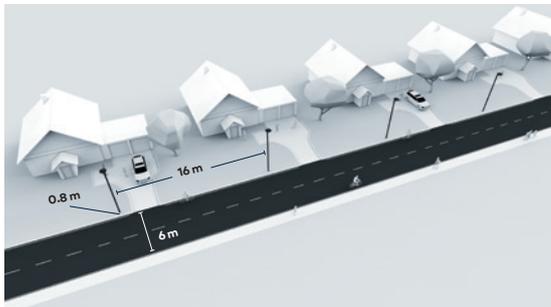
Luminous Flux: 3519 lm

Road Class Definition: C4

Em [lx]	Uo
≥ 10.00	≥ 0.40
11	0.7

Making cities safe for pedestrians, cyclists and drivers, while adding to the night-time character of urban spaces. EN13201 recommends different light levels depending on the type of traffic using the area. It's also important to consider if there are residential buildings around, and if any areas are privately owned.

RESIDENTIAL STREET



Luminaire: Flow Post Top
(FW 12L35-740 NR MTP)

Light Distribution:
Narrow Road Optic

Luminous Flux: 1796 lm

Road Class Definition: ME5

L_{av} [cd/m ²]	U0	UI	TI [%]	SR
≥ 0.50	≥ 0.35	≥ 0.40	≤ 15	≥ 0.50
0.53	0.40	0.72	10	0.54

Light that strikes a balance between safety and sensitivity - providing clarity for traffic and reassurance for residents while ensuring light is only put where needed. EN13201 gives recommendations depending on the size and type of road in question.

Lighting design based on Norms:

- CEN/TR 13201-1
Road lighting. Guidelines on selection of lighting classes
- EN13201-2 Road lighting -
Performance requirements

Terminology Legend:

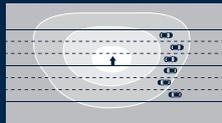
- Em [lx]** - Average Illuminance
- Escmin [lx]** - Semi-cylindrical illuminance
- Evmin [lx]** - Vertical plane illuminance
- Uo** - Uniformity
- Lav** - Average Luminance
- UI** - Longitudinal uniformity
- TI** - Threshold Increment
- SR** - Surround ratio

BEST-IN-CLASS STREET, ROAD AND AREA OPTICS

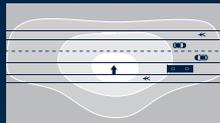
Flow offers high-performance photometry optimised for each specific application. Its efficacy reaches 145 lm/W, enabling it to save significant amounts of

energy compared to conventional solutions. Lumen packages ranging from 1700 lm to 14394 lm are available.

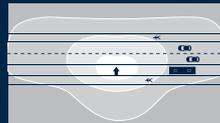
STREET-ORIENTED DISTRIBUTION



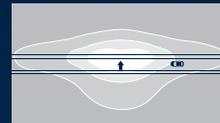
STREET COMFORT (SC)



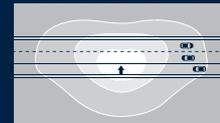
WIDE STREET (WS)



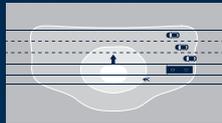
WIDE STREET COMFORT (WSC)



EXTRA NARROW ROAD (ENR)



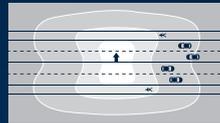
NARROW ROAD (NR)



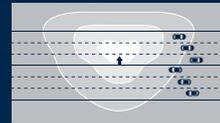
EXTRA WIDE STREET COMFORT (EWC)



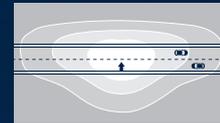
EXTRA WIDE STREET (EWS)



AXIAL EXTRA STREET COMFORT (AESC)

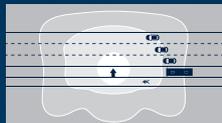


WET ROAD (RWT)



WIDE ROAD (WR)

PEDESTRIAN CROSSING

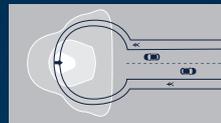


EXTRA WIDE ROAD (EWR)

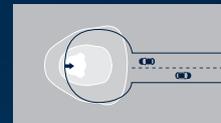


PEDESTRIAN CROSSING (IVS)

AREA-ORIENTED DISTRIBUTION



ASYMMETRIC AREA (A5 OPTIC)



ASYMMETRIC AREA (A6 OPTIC)

A STANDARD, COMFORT AND LOUVRE OPTIC



01 STANDARD OPTIC

Flow's standard optic is specially designed for applications such as roads, streets and larger areas, where the luminaire is mainly positioned at higher heights, contributing for a better uniformity.



02 COMFORT OPTIC (OLO®)

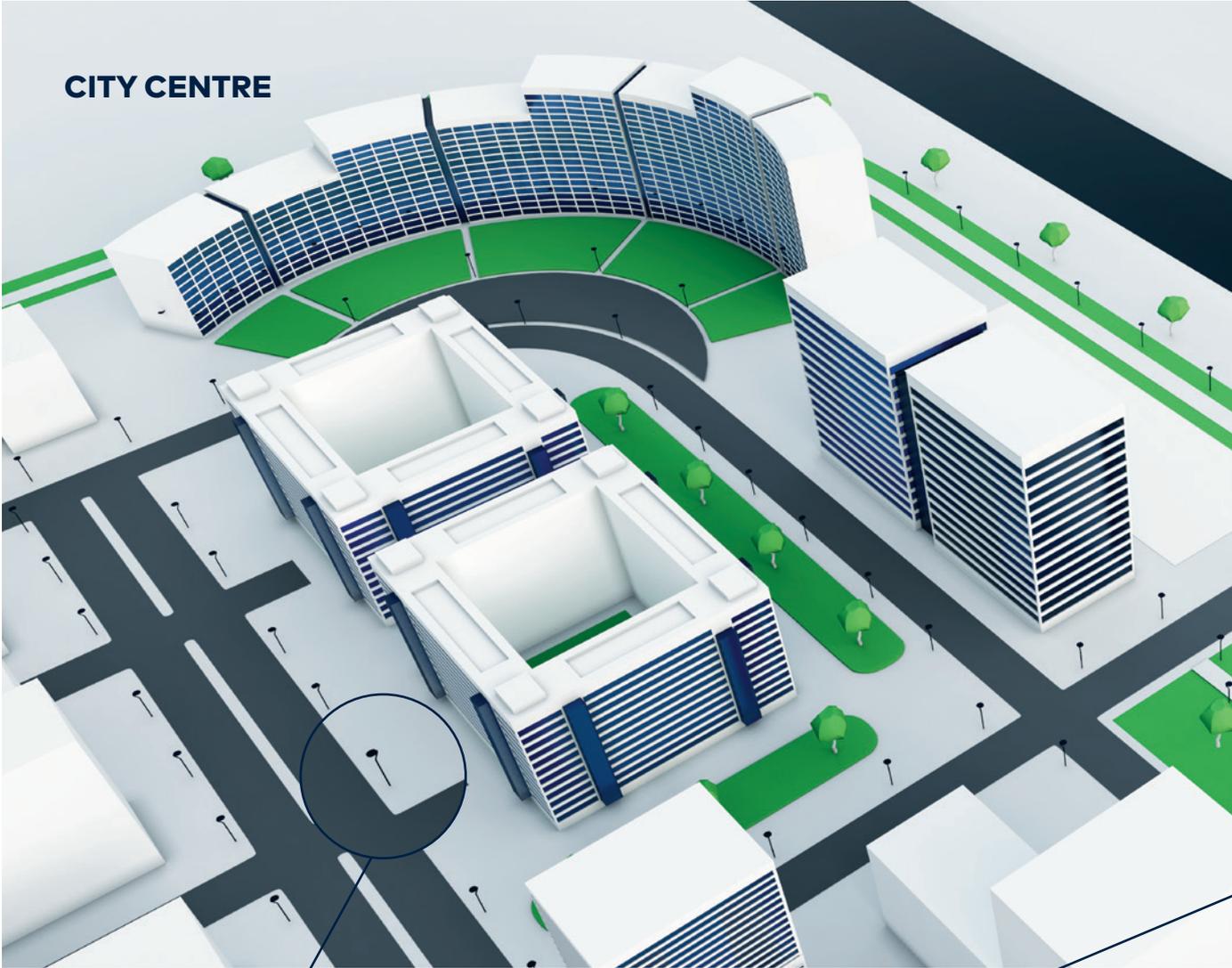
With the OLO® Optic from Thorn, Flow guarantees better visual comfort in different spaces of the city by a diffuser that is easily integrated into the luminaire, giving a scattered effect with no visible impression of LED dots. Ideal for lower heights areas such as parks and plazas.



03 LOUVRE OPTIC

When having the R-PEC optic combined with a louvre, the back lighting effect of the luminaire is cut by up to 20%. This feature minimizes spill light and avoids obtrusive light towards buildings for a better quality of life of residents at night, with no impact on the design of the luminaire.

INTELLIGENT CONTROL OPTIONS



Our solutions for group and remote controls:



UrbaSens

Our solutions for single luminaire controls:



MovU PIR Lateral



MovU PIR Post Top



MovU Vehicle Radar



Integrated sensor in the luminaire

Compatible with all radio frequency systems on the market, Flow also brings intelligence to urban spaces through a wide choice of control options, including DALI, bi-power, power-line or wireless control through UrbaSens – Thorns intelligent outdoor lighting system.

Presence detection is also available. This enables energy savings while improving safety and contributing to a sense of wellbeing by adapting to the movement of pedestrians, cyclists and cars.

From single luminaire and group to remote controls, our flexible lighting management system can control small, medium and large spaces.



2700 K / 3000 K
4000 K



UP TO 13700 lm



UP TO
139 lm/W



THORN
R-PEC & A-PEC
OPTICS



70 & 80



0%



-30 °C
+50 °C



100 000 h
L90B10 Ta 25 °C



UP TO 10 kV SINGLE
PULSE AS STANDARD



IK10



IP66



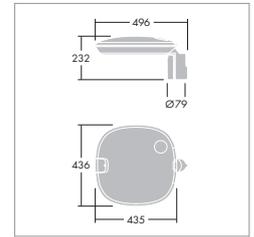
COMFORT OPTIC
(OLO®)



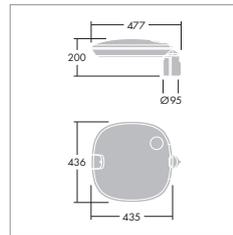
*IDA fixture seal of approval relates to <= 3000K only, clear enclosures, +/- 10° maximum tilt only. Luminaires must be mounted as photometered.

CONFIGURATION GUIDE

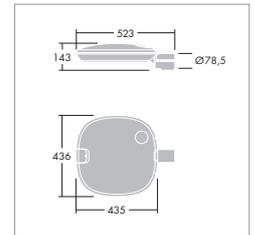
FW	24L	35	L740	NR	BPS	CL2		HFX	T60F	MT	W6	ANT	
Range	LED	mA	CCT / CRI	Optic	Controls	Safety	Louvre / Diffuser	DALI	Mounting	Temperature	Wiring	Colour	Enclosure
													TE Tough Environment 0-5km from the coast ANT Texturised dark grey body included spigot and body Rxxxx RALxxxx - Not pre-wired W6 6m pre-wired ... XXm wiring ... Up to Ta 25°C MT Up to Ta 35°C HT Up to Ta 50°C T60F D60 Street post top mounting +5° tilt L60E D60 Street lateral mounting 0° tilt MTPA D60 Amenity post top mounting T76F D76 Street post top mounting +5° tilt L76E D76 Street lateral mounting 0° tilt MSU Suspended mounting - 34 G MCA Catenary mounting HFX DALI dimmable ** Clear glass LV Internal louvers PR Additional comfort foil (glare control) CL1 Electrical class 1 CL2 Electrical class 2 BPS BP switch (On/Off) CLO Constant Light Output L90 LRT Light Reduction Twin phases PM Mini photocell N7 Control PN7 socket for Radio Frequency sensors PL Power Line controllable RF Radio Frequency controllable SP Additional Surge Protection Device MD Motion detection, integrated module NR Narrow Road WR Wide Road WS Wide Street EWS Extra Wide Street WSC Wide Street Comfort EWC Extra Wide Street Comfort SC Street Comfort EWR Extra Wide Road IVS Pedestrian Crossing ENR Extra Narrow Road AESC Axial Extra Street Comfort RWT Wet Road A5 Area Asym. 50° A6 Area Asym. 60° L740 4000 K - CRI 70 L730 3000 K - CRI 70 L827 2700 K - CRI 80 35 350 mA 50 500 mA 70 700 mA 85 850 mA 105 1050 mA 12L 12 LEDs 24L 24 LEDs 36L 36 LEDs FW FLOW



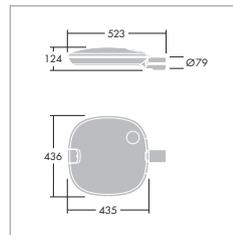
STREET POST TOP MOUNTING D60 (T60F)



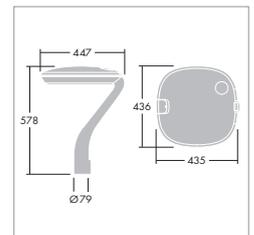
STREET POST TOP MOUNTING D76 (T76F)



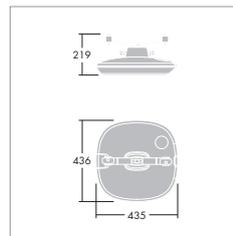
LATERAL MOUNTING D76 (L76E)



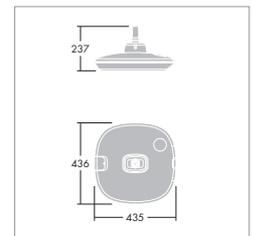
LATERAL MOUNTING D60 (L60E)



AMENITY POST TOP MOUNTING (MTPA)



CATENARY MOUNTING (MCA)



SUSPENDED MOUNTING 34G (MSU)

Configure a lighting solution with myProduct.

The myProduct configurator allows you to quickly and easily configure a lighting solution.

Try it now at www.thornlighting.com/myproduct



As a globally leading luminaire manufacturer, Thorn Lighting provides a five-year warranty for its complete product range within all European Countries.
thornlighting.com/guarantee

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04/2022 (INT)

**WE
MAKE
LIGHT
WORK**