

**THORN**  
LIGHTING



**R2L2**

A complete road and street family  
for multiple applications

# ROAD LIGHTING THAT EXCELS

## FLEXIBLE AND ADAPTIVE LIGHTING, EASY TO MAINTAIN AND CONTROL

R2L2 comprises of a family of three sizes with an extensive choice of lumen outputs and light distributions, making it suitable for all kinds of road lighting applications.

Efficient (up to 174 lm/W) R-PEC® optics offering precision light distributions, achieving wide column spacing, excellent uniformity with no waste or obtrusive light. Compatible with Zhaga for smart control and NightTune to protect the nocturnal ecosystem.



Motorways,  
High speed roads,  
Major roads



Minor roads and  
Residential roads



Intersections



Parking



## DARKSKY ACCREDITATION

'DarkSky' is recognised as the global authority on light pollution and is the leading organisation combating this issue worldwide.

The DarkSky Approved seal 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.



# A COMPLETE ROAD LANTERN FAMILY

## R2L2 DELIVERS EXCELLENT LIGHTING PERFORMANCE AND HAS THE ABILITY TO COVER ALL ROAD AND STREET APPLICATIONS

The comprehensive range is available in three sizes with extensive optical, lumen and light distribution choices for all road applications up to ME1.

The R2L2 family features an efficient (up to 174 lm/W) R-PEC<sup>®</sup> optic offering 19 types of light distribution for precise light placement with no wasted light. Energy savings can be maximised through the use of Thorn's intelligent lighting control solutions, from standalone dimming to smart remote control via Thorn's UrbaSens range.

An attractive, universal and integrated spigot offers flexibility through top and side entry as well as tilt adjustment and easy to fit louvres which can be fitted retrospectively for extra light control and comfort.

Sleek, modern and consistent, R2L2 is easy to integrate into the landscape and has a balanced design from all angles. Simply choose the luminaire size and quantity and type of light distribution.



### R2L2 EXTRA SMALL

- Up to 164 lm/W
- Up to 16 000 lm
- For residential areas, small roads, roundabouts, cycle paths, pedestrian crossings and car parks



#### **R2L2 MEDIUM**

- Up to 172 lm/W
- Up to 38 000 lm
- For motorways and main roads



#### **R2L2 SMALL**

- Up to 174 lm/W
- Up to 17 000 lm
- For minor roads, roundabouts, residential roads, cycle lanes, pedestrian crossings and car parks

# EXTENSIVE LIGHT DISTRIBUTION CHOICE

Use Thorn's R2L2 family to efficiently and effectively light all road applications, from high-speed motorways and highways to local roads and pedestrian crossings. Comfort road and street optics are available for a sharper upward light cut-off to meet higher G-class requirements.



Ultra-durable, reinforced flat glass optical cover is resistant to unsightly ageing and discolouration

# ADVANCED LIGHTING CONTROL

R2L2 offers a wide range of optional control solutions to meet all needs and environments. As well as maximising energy savings by reducing waste energy, R2L2's lighting controls will extend the LED lifetime and in turn, reduce maintenance requirements.

Solutions include controls at lighting point level: integrated mini photocell, single Bi-Power dimming, fine-tunable to the needs in lumen reduction level and hours.

Local group of lighting points or fully remote via a central monitoring system (CMS): wired with DALI 2 or wireless with options for Nema 7 and Zhaga sockets and nodes.



## READY TO CONNECT

All sizes of R2L2 can be configured with a NEMA or Zhaga interface, Zhaga-D4i certified.



Motion detection of people and vehicles



Photocell:  
NEMA socket, Minicell



# FULL FLEXIBILITY

R2L2 benefits from a universal and integrated spigot offering full flexibility through top and side entry, as well as tilt adjustment and tool-free top opening.

The spigot design makes R2L2 ideal for cost-effectively upgrading older installations, fitting to any type of column without the need for additional accessories or unexpected reworks.



- Integrated for aesthetic appeal
- Flexible top and side entry
- Multi-position rotational tilt adjustment from -15° (side) to +10° (top) to maximise LED performance
- Universal T76/T60/S60/S48/S42/S34 mm

## CONTRACTOR FRIENDLY

R2L2 is easy to specify, install, maintain and control. Simple yet effective design features eliminate complexity to provide a quick, easy and low-cost installation.

01

Easy maintenance thanks to opening and gear tray removal without tools.

02

Safe maintenance and installation thanks to automatic disconnection and spacing lever.

03

Universal and integrated spigot offering flexibility through top and side entry as well as tilt adjustment.

04

Easy to dismantle for recycling at the end of the product lifetime.





# NIGHTTUNE

NightTune creates the perfect balance in lighting at night. It gives a sense of security and wellbeing for people, whilst conserving energy and protecting ecosystems. NightTune automatically adjusts the level of light emitted from a light fitting, mixing dimmable light from warm and cool LEDs.

Cooler LEDs are dimmed when night falls and there are less people and vehicles in the area, leaving warmer LEDs on throughout the night. This will maintain safety during the night, while preserving

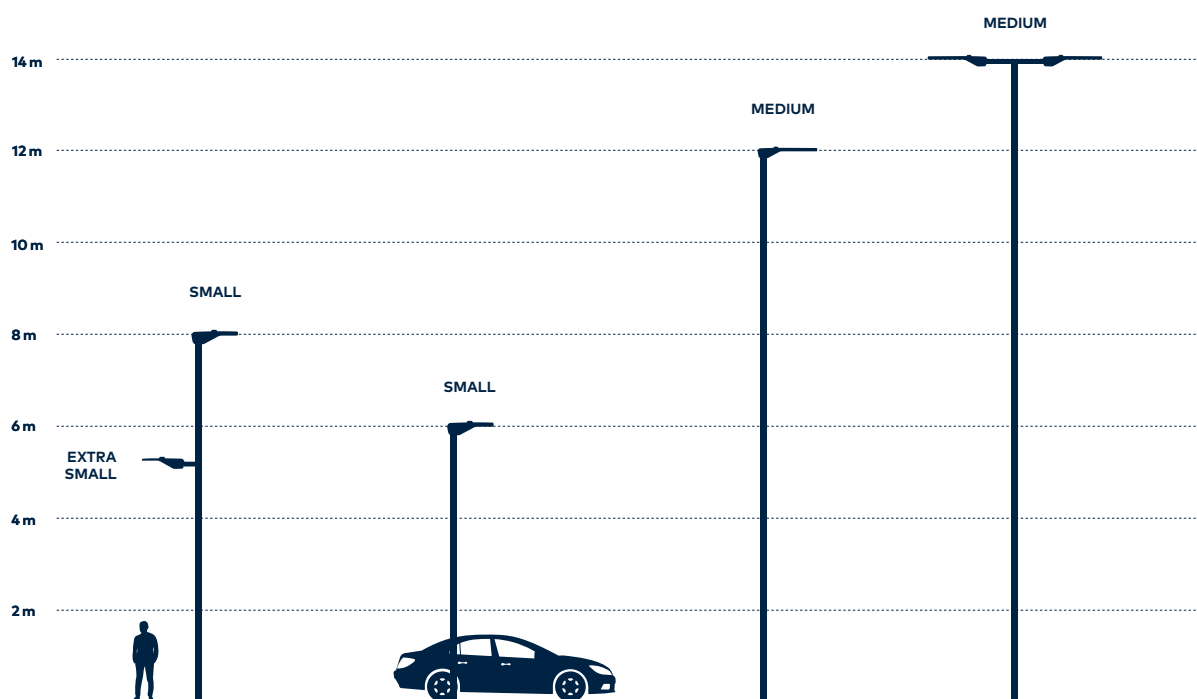
biodiversity including nocturnal fauna and flora, insects and animals, which can all suffer from high light intensity and react adversely to blue and green colour spectrum found in cooler LEDs. The tailored NightTune colour spectrum significantly reduces disturbance.

As daytime hours return, resulting in an increase in traffic levels, the cooler LEDs are dimmed up and a brighter lumen output is restored.

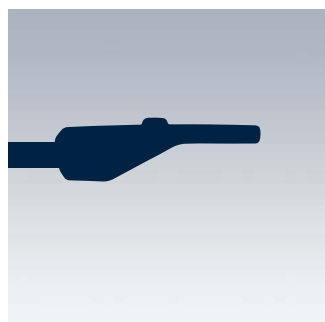


# INSTALLATION POSSIBILITIES

- Post-top mounting:  $\varnothing$  60-76 mm
- Side-entry mounting:  $\varnothing$  48-60 mm or  $\varnothing$  34-42-48-60 mm
- Suitable for use up to 50 °C through the use of a heat regulation system
- Recommended mounting height: 4 m to 14 m
- Adjustable tilt angle side: 0°, -5°, -10°, -15°
- Adjustable tilt angle top: 0°, +5°, +10°



## MOUNTING OPTIONS



SIDE



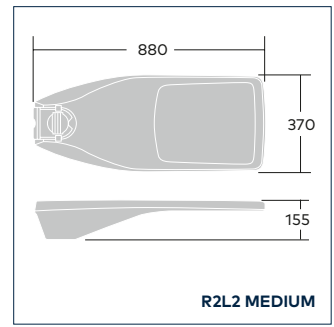
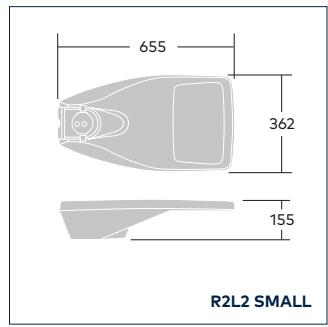
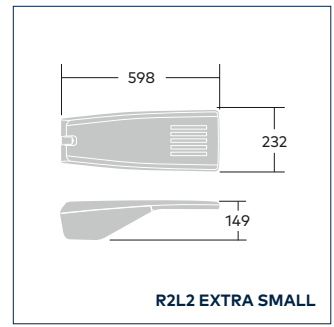
TOP



TILT ADJUSTMENTS

# CONFIGURATION GUIDE

| R2L2       | 24L                                 | 700                          | 730  | NR                                     | CLO                              | BP850  | HFX              | ZU                                      | SPD  | LV                        | CL2    | MTP    | W3   | GY  |
|------------|-------------------------------------|------------------------------|--|--|----------------------------------|--|------------------|---|--|---------------------------|--------|--------|--|---|
| Range      | LED                                 | mA                           | CCT/CRI                                      | Optic                                  | CLO                              | Dimming  | DALI             | CMS                                     | Fuse   | Louvre                    | Safety | Spigot | Wiring   | Colour  |
|            |                                     |                              |  |  |                                  |  |                  |   |  |                           |        |        |  | <b>GY</b> Light Grey 150 Sanded<br><b>ANT</b> Anthracite 900 Sanded<br><b>BK</b> Black Sanded<br><b>RALxxxx</b> 50 RAL options<br><b>Wx</b> Pre-wired, 1.5-2.5 mm <sup>2</sup> HO7RNF type<br><b>Ux</b> Pre-wired, 1.5-2.5 mm <sup>2</sup> Blue HO5VVF<br><b>Dx</b> Pre-wired, 1.5 mm <sup>2</sup> Prepared DACH type |
|            |                                     |                              |  |  |                                  |  |                  |   |  |                           |        |        | <b>MTP</b> Post Top Mounting                     |   |
|            |                                     |                              |  |  |                                  |  |                  |   |  |                           |        |        | <b>MLE</b> Side Entry Mounting                   |   |
|            |                                     |                              |  |  |                                  |  |                  |   |  |                           |        |        | <b>CL1</b> Electrical Class 1 (earthed)          |   |
|            |                                     |                              |  |  |                                  |  |                  |   |  |                           |        |        | <b>CL2</b> Electrical Class 2 (double insulated) |   |
|            |                                     |                              |  |  |                                  |  |                  |   |  | <b>LV</b> Internal louvre |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  |   | <b>SPD</b> 10 kV multi pulse surge protection device |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  | <b>ZU</b> Zhaga socket up               |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  | <b>ZD</b> Zhaga socket down             |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  | <b>ZUD</b> Zhaga socket up and down     |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  | <b>N7</b> Integral NEMA 7-pin photocell |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  |                  | <b>PM</b> Mini photocell                |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  |  | <b>HFX</b> DALI2 |   |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  | <b>BP</b> Bi-Power (selectable dimming curve: number of hours, reduction level)            |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  | <b>BS</b> Bi-Power switchable (selectable dimming curve: number of hours, reduction level) |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  | <b>BPL</b> Bi-Power Line switch  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  |  |                                  | <b>LRT</b> Light Reduction Twin Phases   |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  |  | <b>CLO</b> Constant Light Output |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>NR</b> Narrow Road                  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>MR</b> Medium Road                  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>WR</b> Wide Road                    |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>EWR</b> Extra Wide Road             |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>RC</b> Highway Wide                 |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>WS</b> Wide Street                  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>EWS</b> Extra Wide Street           |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>WSC</b> Wide Street Comfort         |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>EWC</b> Extra Wide Comfort Street   |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>RWT</b> Wet Road                    |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>ES</b> Extensive Street             |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>ENR</b> Extra Narrow Road           |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>SC</b> Street Comfort               |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>NR2</b> Narrow Road 2               |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>TSR</b> Tight Staggered Road        |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>SES</b> Super Extensive Street      |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>SR</b> Staggered Road               |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>IVS</b> Pedestrian Crossing - Right |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              |  | <b>ZC</b> Pedestrian Crossing - Left   |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>840</b> CRI80 4000 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>827</b> CRI80 2700 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>830</b> CRI80 3000 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>730</b> CRI70 3000 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>740</b> CRI70 3000 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>757</b> CRI70 5700 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>722</b> CRI70 2200 K                      |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     |                              | <b>722-740</b> CRI70 NightTune 2200 - 3000 K |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     | <b>35</b> 350mA              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     | <b>50</b> 500mA              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     | <b>70</b> 700mA              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     | <b>105</b> 1050mA            |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
|            |                                     | <b>xx</b> xxmA drive current |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>12L</b> | 12 LEDs (extra small or small body) |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>24L</b> | 24 LEDs (extra small or small body) |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>36L</b> | 36 LEDs (extra small or small body) |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>48L</b> | 48 LEDs (small body)                |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>60L</b> | 60 LEDs (medium body)               |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>72L</b> | 72 LEDs (medium body)               |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>84L</b> | 84 LEDs (medium body)               |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>96L</b> | 96 LEDs (medium body)               |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>RX</b>  | <b>R2L2 XS</b> Extra Small body     |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>RX</b>  | <b>R2L2 S</b> Small body            |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |
| <b>RX</b>  | <b>R2L2 M</b> Medium body           |                              |  |  |                                  |  |                  |   |  |                           |        |        |  |   |



Configure the ideal product solution with myProduct. The myProduct configurator allows you to easily configure a luminaire according to your needs. Try it now at [www.thornlighting.com/myproduct](http://www.thornlighting.com/myproduct)

DISCOVER

\*IDA Fixture Seal of Approval relates to <= 3000K only, clear enclosures, +/- 10° maximum tilt only. Luminaires must be mounted as photometered.

# R2L2



EXTRA SMALL



SMALL



MEDIUM

|  |  |                 |                 |
|--|--|-----------------|-----------------|
|  | 12 - 36 LEDs   | 12 - 48 LEDs    | 60 - 96 LEDs    |
|  | 2200 K / 2700 K / 3000 K / 4000 K / 5700 K / NightTune (2200 - 3000 K)   |                 |                 |
|  | Up to 16 000 lm (4000 K)   | Up to 17 000 lm | Up to 38 000 lm |
|  | Up to 164 lm/W   | Up to 174 lm/W  | Up to 172 lm/W  |
|  | 70 / 80  |                 |                 |
|  | <1 %   |                 |                 |
|  | IP66   |                 |                 |
|  | -25 °C up to 50 °C   |                 |                 |
|  | IK08   |                 |                 |
|  | Die-cast aluminium EN AC 44300. Corrosion protection Class C5 - coastal & tropical application (ISO 9223)            |                 |                 |
|  | UV Resistant   |                 |                 |
|  | 100 000 h B10L90@25 °C   |                 |                 |
|  | R-PEC®   |                 |                 |
|  | Post-top mounting: Ø 60-76 mm / Side-entry mounting: Ø 48-60 mm or Ø 34-42-48-60 mm                                  |                 |                 |
|  | Texturised anthracite, light grey, black and 50 additional RAL colours   |                 |                 |
|  | 10 kV (Driver) - Option for 10 kV multi pulse / 20 kV single pulse   |                 |                 |
|  | DALI2, Bi-Power, Constant Light Output, Light Reduction Twin Phases, Zhaga interface, Nema Photocell, Mini Photocell |                 |                 |



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](http://thornlighting.com/guarantee)

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**WE  
MAKE  
LIGHT  
WORK**