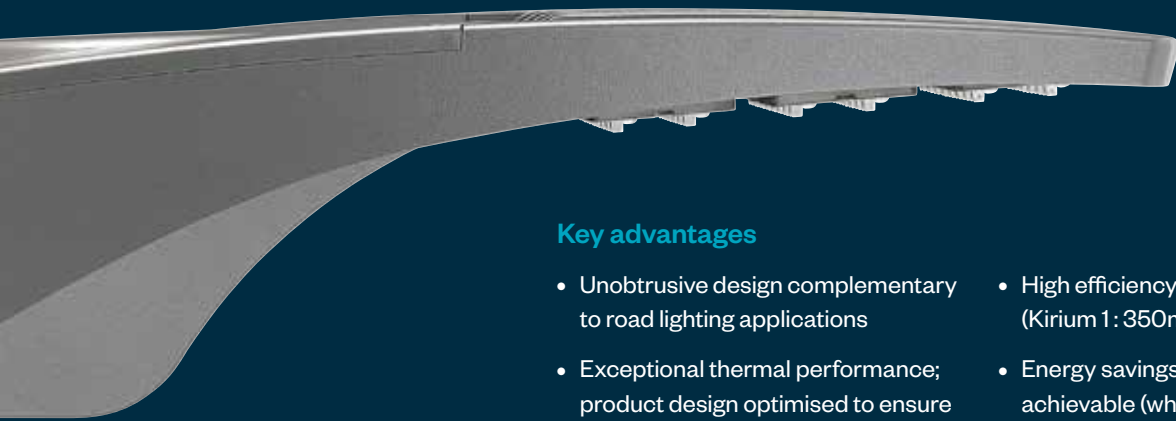




Kirium

Kirium

Utilising next generation LUXEON TX LEDs, offering superior efficacy and light output, Kirium's unique design and range of options enables tailored LED and drive current specifications to perfectly match project requirements. Providing optimal energy efficiency.



Key advantages

- Unobtrusive design complementary to road lighting applications
- Exceptional thermal performance; product design optimised to ensure cool running of LEDs
- LED modules and temperature sensitive electronics are thermally separated; optimising efficiency for maximum driver life
- Class-leading optical performance; wider column spacings, better uniformity, more efficient schemes
- LED modules with no secondary glazing; minimising optical losses
- High efficiency, up to 121 lm/W (Kirium 1: 350mA)
- Energy savings of up to 71% achievable (when compared to HID light sources)
- Choice of control options for further energy savings
- Tool-less quick-release driver tray for ease of maintenance

Applications

 Road

 Residential

 Car parks



Kirium 1

Kirium 2

Kirium 3

Case Study

Project:

Colwyn Bay, Wales

Brief:

Kirium 3 (4000K), 1000mA, mounted at 10m to road,
Kirium 1, 350mA, at 6m to pathway

Client:

Conwy County Borough Council

Landscape Architect:

BCA Landscape

“changing our street lighting from SON to Kirium LED lanterns has provided Conwy County Borough Council with an energy saving of circa 62%. We are impressed with the light output and uniformity to both the road and promenade”

**Street Lighting Engineer,
Conwy County Borough Council**

Energy Saving:

For detailed case studies please visit: dwwindsor.com



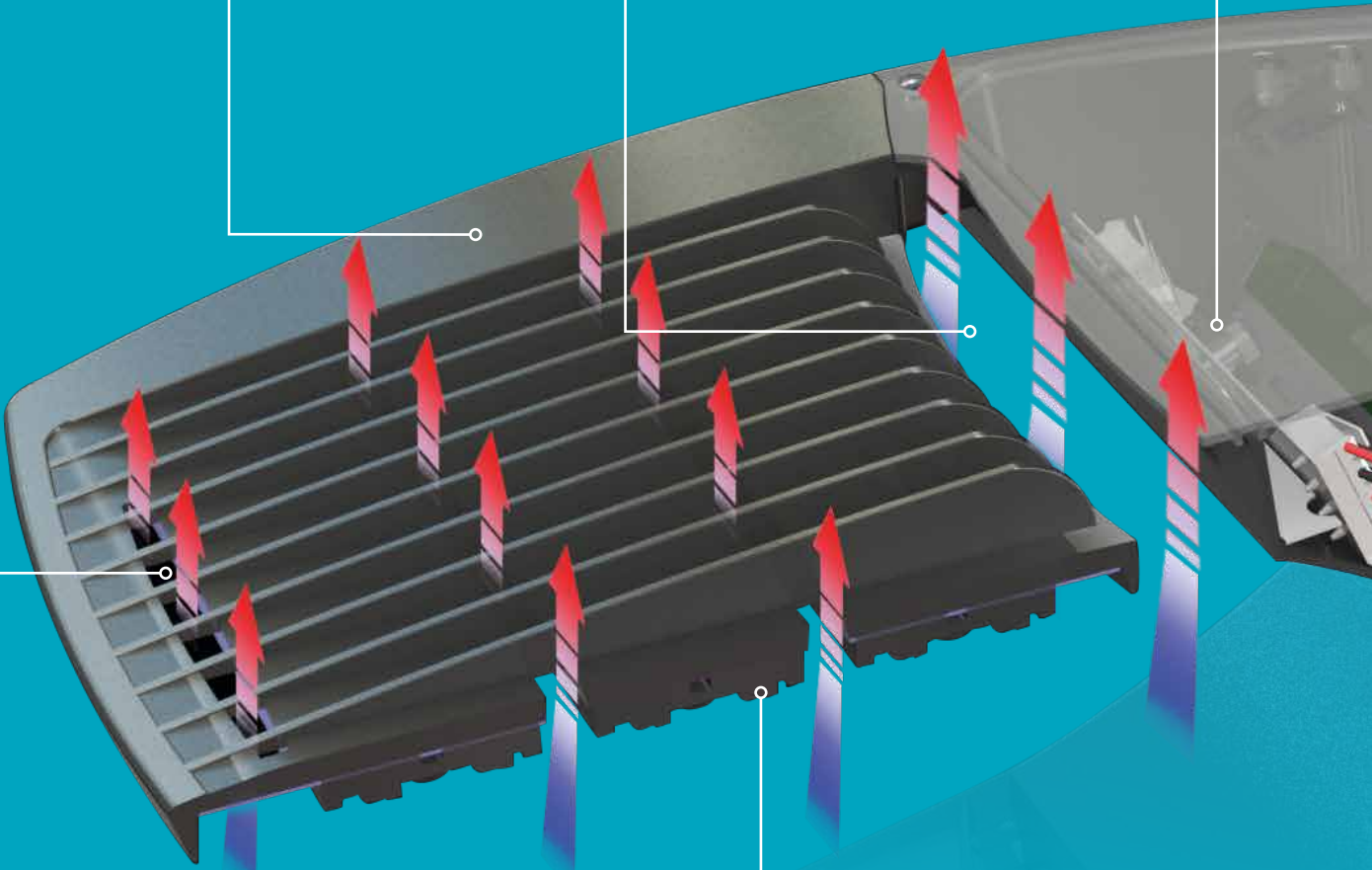


Air vents

High pressure die cast aluminium body

Exceptional thermal performance
Air void and thermal barrier

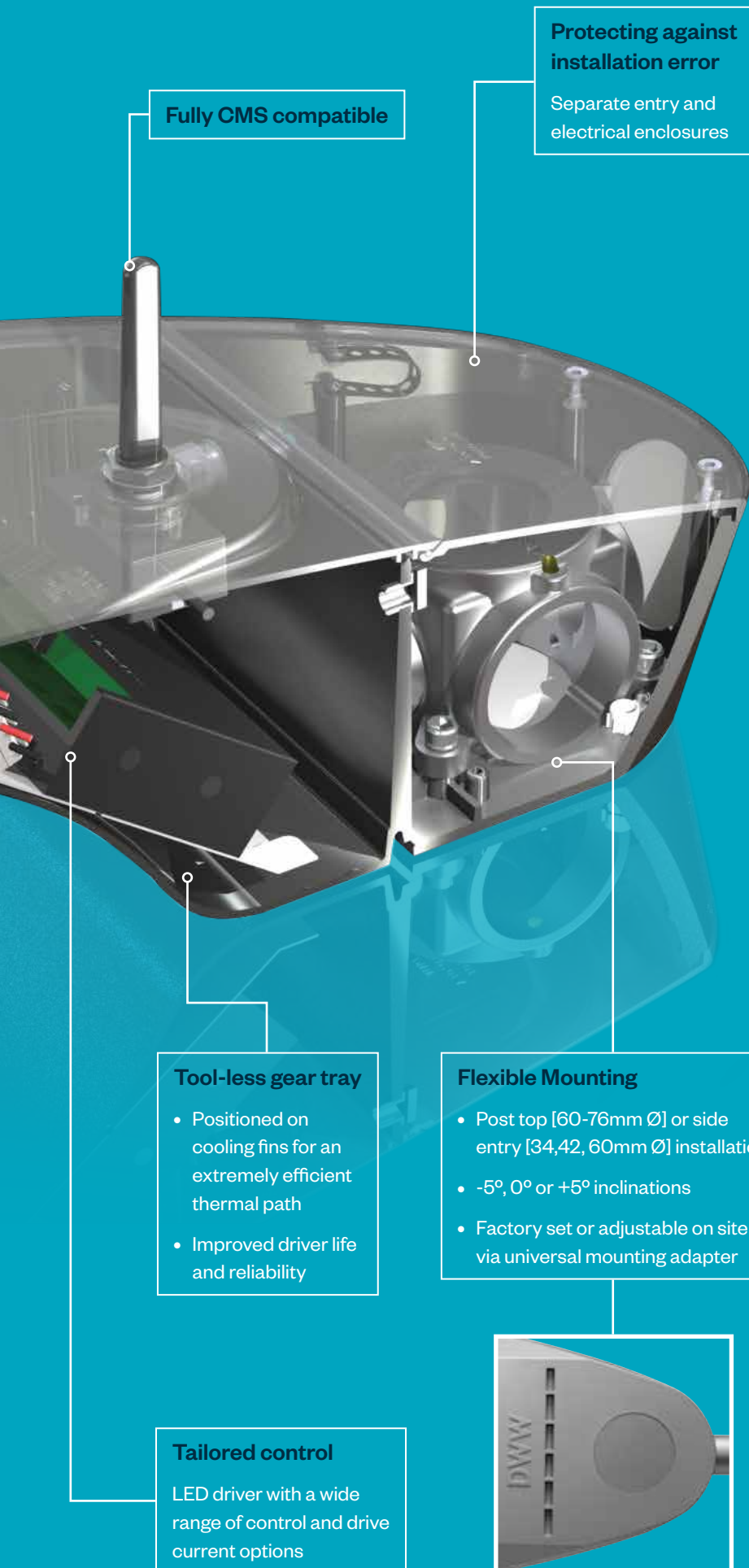
Cool-Zone™ housing control gear, photocell and remote monitoring



Performance lighting

- LUXEON TX LEDs (5, 10, 15, 30 or 45 LED options)
- No secondary glazing; minimises optical losses
- Zero upward light





Fully CMS compatible

Protecting against installation error
Separate entry and electrical enclosures

Tool-less gear tray

- Positioned on cooling fins for an extremely efficient thermal path
- Improved driver life and reliability

Flexible Mounting

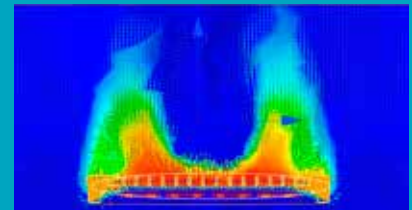
- Post top [60-76mm Ø] or side entry [34,42, 60mm Ø] installation
- -5°, 0° or +5° inclinations
- Factory set or adjustable on site via universal mounting adapter

Tailored control
LED driver with a wide range of control and drive current options

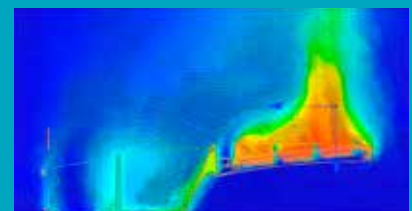


Thermal Management

Kirium has been engineered from its conception to provide exceptional thermal performance. Its superior thermal capabilities have been developed using advanced thermal simulation (CFD software) and validated through extensive testing. Kirium features air vents between the LED modules to facilitate air flow and aid heat dissipation.



CFD generated image (front-view)



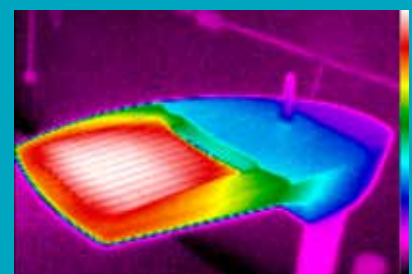
CFD generated image (side-view)

Cool-Zone™ thermal isolation

An air void between the LEDs and gear enclosure acts as an extremely effective thermal barrier, protecting the temperature-sensitive electronics which are isolated within the Cool-Zone™.

Separated from the heat source (LEDs) the electronic components operate significantly below permitted temperatures resulting in improved long-term performance and increased life expectancy of the driver.

It is widely regarded that a 10°C reduction in the temperature of the driver can increase service life by approximately 50%.



Thermal image demonstrating the Cool-Zone™ effectiveness

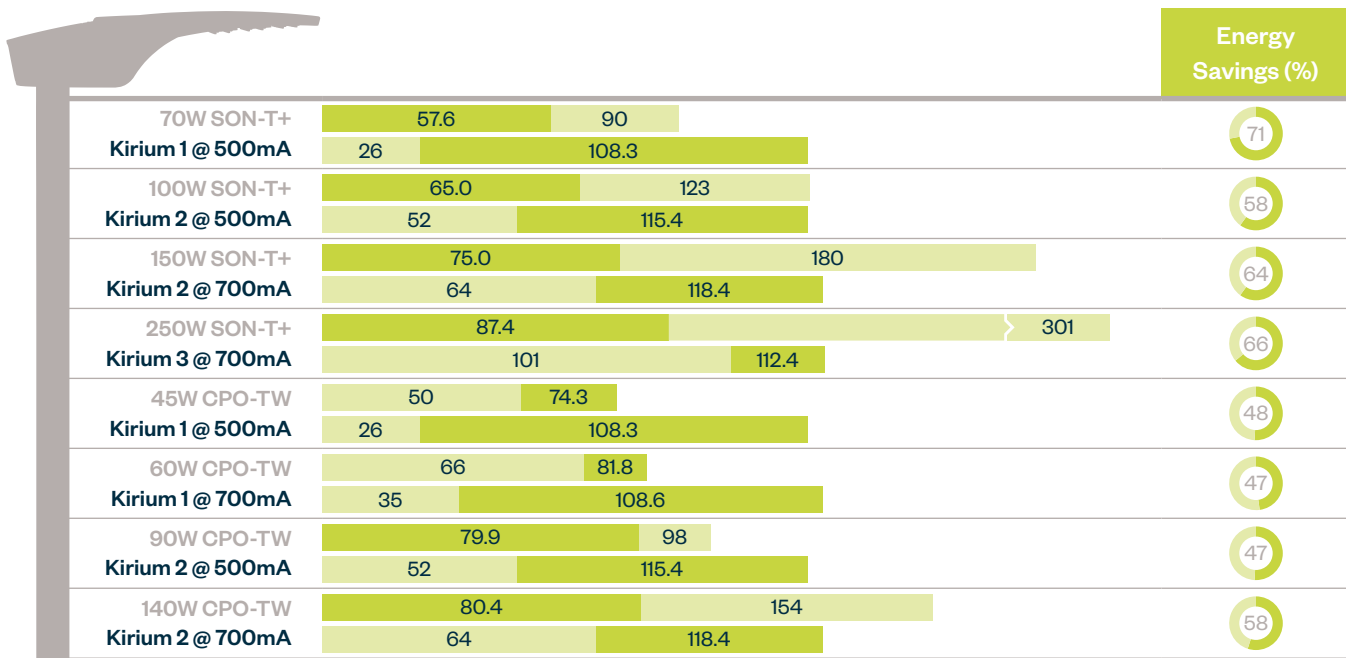
Performance

Total Luminaire Lumen Output Range

	Drive Currents	Total Luminaire Wattage	3000K	4000K
Kirium 1 15 LEDs	350, 500, 750, 1000mA	17W – 54W	1700 – 4300lm	2000 – 5300lm
Kirium 2 30 LEDs	350, 500, 750, 1000mA	35W – 100W	3400 – 8200lm	4200 – 10000lm
Kirium 3 45 LEDs	350, 500, 750, 1000mA	52W – 144W	5200 – 12250lm	6300 – 15000lm

Note: The data shown in this table provides the range of options available for each product type. Due to constant design and development improvements to our product range, this data is subject to change. For the full details of options available, please refer to the photometric data available at dwindsor.com

Energy efficiency – HID Lamp¹ vs typical Kirium replacement (4000K CCT)*



* Based on magnetic control gear / ¹ Assumed HID Luminaire LOR of 75% / ² Reference: ELEXON Unmetered Supplies Operational Charge Codes V17

Scotopic / Photopic (S/P) Ratio to BS 5489-1:2013

What is an S/P Ratio?

Our eyes respond differently at daytime and night-time lighting levels. These are commonly referred to as Photopic (day) and Scotopic (night) responses. For any artificial light source the ratio between these outputs is fixed and independent of the intensity of that source.

When utilising LED light sources for street lighting applications, new lighting standards allow for a reduction in the illumination levels required to meet the same perceived light level. The level of illumination required on subsidiary roads and paths may be reduced if the light source has a colour rendering index of 60Ra or higher.

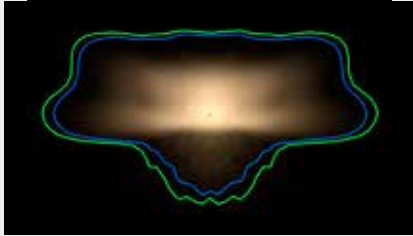
For the Kirium range utilising the 4000K colour temperature, this equates to an S/P ratio of 1.5 with an average reduction of 20%.

Lighting Class	Benchmark Levels based on Ra <60		S/P ratio of 1.50 based on Kirium 4000K LED	
	E	E _{min}	E	E _{min}
P1	15.0	3.0	13.19	2.66
P2	10.0	2.0	8.43	1.66
P3	7.5	1.5	6.15	1.26
P4	5.0	1.0	3.89	0.78
P5	3.0	0.6	2.12	0.40
P6	2.0	0.4	1.34	0.40

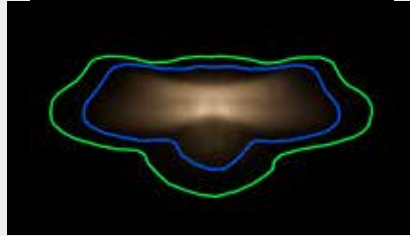
Options

Optical distribution

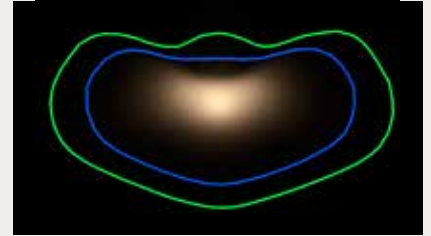
Road



Residential



M Class



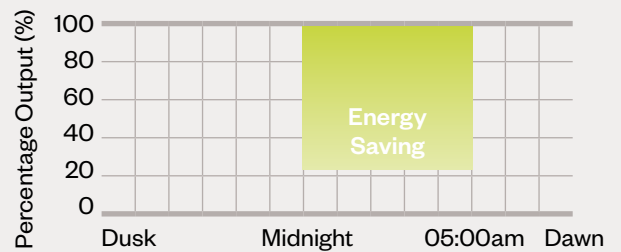
Control

Intelligent Energy Management

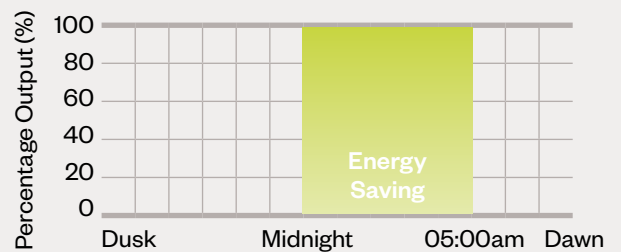
Through the use of intelligent control systems, additional energy and cost savings and carbon reduction can be achieved. For energy saving calculations and advice please contact +44 (0)1992 474600.

Control type	Description	Potential saving
Photocell	Standard control option, switching light on/off at predetermined light levels. Further reductions achievable through trimming (reducing lux switch/off levels)	0
Part Night Switching	Using intelligent controls and control gear. Luminaires are switched off during hours of low traffic	Up to 50%
Part Night Switching	Using intelligent controls and control gear. Luminaires are dimmed during hours of low traffic. Dimmed levels can change through the night to minimise the effect	Up to 40%
Full CMS	A number of luminaires can be controlled from a central system. Dimming and switching regimes can be designed to suit individual situations. Luminaires can also feedback information on power consumption, operating conditions and life expectancy	Up to 50%

Part Night Dim



Part Night Switch



Kirium with miniature photocell

Kirium with Nema photocell

Kirium with CMS antenna

Full CMS/remote monitoring functionality; suitable for use with Harvard LeafNut, Mayflower, Philips Starsense, Telensa PLANet and Zodian Vizion systems



IP66 | IK09 | CLASS I / CLASS II

Features:

- Modular future-proof design
- Flexible optical, drive and control options for tailored performance
- Universal mounting adapter, for easy post top or side entry installation

Options:

Kirium 3 (three light engines) For mounting at 8-12 metres

Kirium 2 (two light engines) For mounting at 6-10 metres

Kirium 1 (one light engine) For mounting at 4-6 metres

Optical control:

Road

Residential

M Class

Optional obtrusive light shield(s)

Light Source:

LEDs: LUXEON TX

Number of LEDs: 5, 10, 15, 30 or 45

L70 lifetime prediction:

In excess of 100,000 hours (Kirium 3 : 700mA)

Total circuit watts:

See table on page 6

Colour temperature:

4000K (neutral white) or 3000K (warm white)

Colour rendering index:

>70Ra (4000K) >80Ra (3000K)

Luminaire efficacy:

Up to 121 lm/W

Drive current:

350, 500, 700 & 1000mA options available

Glare rating:

G3-G4

Mounting:

Universal mounting adapter, for easy post top [60-76mm Ø] or side entry [34, 42, 60mm Ø] installation

Post top/side entry inclination: -5°, 0°, +5°

Gear, switching and control:

Switch: On/off through conventional PEC; miniature or Nema

Dim: Factory set dimmed / customer specified dimming

CMS: Compatible with all available CMS systems

Colours:

RAL 9005 Black

RAL 7046 Grey

RAL 7035 Light Grey

Other RAL colours available on special request

Materials:

Body: High pressure die cast aluminium

Seals: Silicone

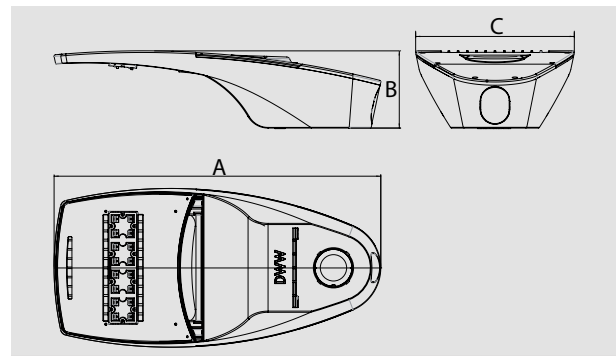
Finish: Fine texture polyester powder coat

Installation and maintenance:

Operational temperature range: -45°C to +50°C

Tool-less quick-release gear tray

UMSUG codes available on our website



	Dimensions (mm)			Weight (kg)	Windage m ²
	A	B	C		
Kirium 1	706	167	343	8.9	0.054
Kirium 2	706	167	343	9.5	0.054
Kirium 3	706	167	343	10.2	0.054

Kirium® is a registered design

Due to continuous product development the details within this brochure are subject to change at any time, please contact us for the most up-to-date information or visit: www.dwindsor.com

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