



# Kirium Pro

SEPTEMBER 2019



# Think all street lights are made equal?

## think again

Our most comprehensive range of LED street lighting yet. Need performance? Minimal whole life cost? Precise lighting control? Think Kirium Pro. Available in five sizes and with 23 standard optical solutions, it's the most innovative, forward-thinking, and future-proof product we've ever developed.



### Whatever your requirements, we have the solution

From 320lm – suitable for residential roads and car parks – to 46109lm, ideal for larger roads and motorways.

#### Key advantages:

- 5 sizes for true flexibility
- 23 optical solutions to suit any project requirement
- With Diamond+ optic technology for the ultimate in precise lighting control
- Exceptional thermal management for optimised performance and product life
- Impressive energy efficiency delivering a minimal whole life cost solution
- Flexible drive current for tailored performance and accurate lighting levels
- Choice of control options for even greater energy savings
- Tool-free access via quick-release latches mean easy installation and maintenance
- Safety first; with automatic electrical disconnect
- 2700K / 3000K / 3500K / 4000K
- ENEC approved
- Suitable for international markets with operating temperature range -45°C to +50°C

#### Applications:

-  Footpaths
-  Cycleways
-  Residential
-  Car parks
-  Road
-  Rail
-  Motorway

## M1, Junctions 10-12

Full case study available on our website:  
[dwwindsor.com/m1](http://dwwindsor.com/m1)







## Design features

### Surge protection device

Maximises the lifetime value and prevents down-time due to storms, lightning strikes etc.

### Lift-off head\*



### Cooling fins

To dissipate heat and extend LED lifetime

### Cool Zone™ exceptional thermal management

Air void and thermal barrier that assists in delivering a long lifetime

### Hinged opening

### High-pressure die-cast aluminium body (LM6)

For corrosion resistance and added strength & durability

### Performance lighting

High power LEDs (from 4 to 128 LED options)

### Automatic electrical disconnection\*

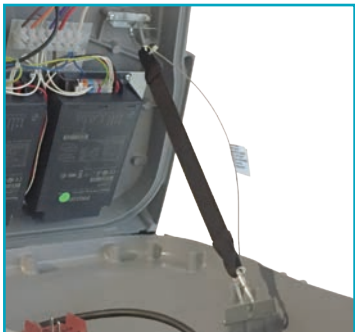
Safety feature; cuts power to the luminaire when opened

### Tool-less entry

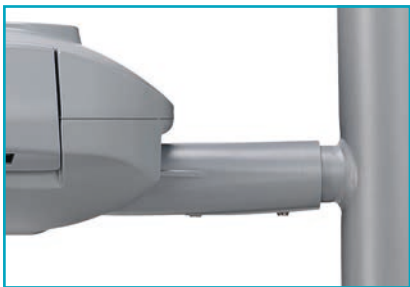
Quick-release latches for speedy installation and maintenance.

Kirium Pro Mini/Midi

**CLO: Constant Light Output**  
Fully programmable



**Safety tether**  
Supplied with an integral dampening safety tether, and an external fail-safe device as standard (Kirium Pro 3 only)



**Flexible mounting**  
Direct post [Ø60mm / Ø60-76mm]  
Side entry [Ø34-42mm / Ø60mm]  
Direct post/side entry inclination:  
-15° -10° -5° 0° +5° +10° +15°



# Optical control

## Featuring Diamond+

23 standard optical distributions for ultimate flexibility and precise lighting control.

An evolution of our award-winning and patented Diamond Optic® reflector technology, Diamond+ gives you the ability to create widely different lighting distributions from a single luminaire.

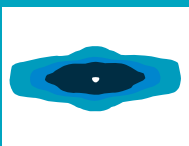
### Choose Diamond+ for refined lighting distribution

#### Diamond+ A Optic



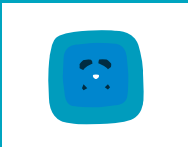
**Options:**  
A1, A2, A3, A4, A5  
**Typical applications:**  
Wide roads and dual carriageways (M classes)

#### Diamond+ B Optic



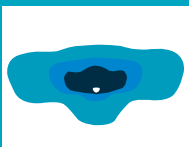
**Options:**  
B1, B2, B3, B4, B5  
**Typical applications:**  
Narrow roads and footpaths

#### Diamond+ C Optic



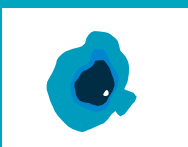
**Options:**  
C1, C2, C3, C4, C5  
**Typical applications:**  
Area applications

#### Diamond+ D Optic



**Options:**  
D1, D2, D3, D4, D5  
**Typical applications:**  
Standard roads and wide footpaths

#### Diamond+ Z Optic



**Options:**  
ZL, ZR or ZF  
**Typical applications:**  
Zebra and pedestrian crossings

\*available on Kirium Pro 1, 2 and 3 only

Please refer to [dwwindsor.com/diamond](http://dwwindsor.com/diamond) for full optical configurations



# Control options

From simple factory-set dimming to full CMS: enhance your luminaire through intelligent, connected sensors and control systems.

## Benefits of smart control

- Reduced energy consumption
- Reduced carbon footprint
- Longer luminaire life
- Lower capital, maintenance and energy costs
- Ability to collect data

### Bluetooth

For on/off switching, light control and dimming.



### Smart control

Integral CMS: connected (or Smart) assets which use wireless communications networks, offering optimal flexibility. Control a single luminaire or group switch remotely.



► Integral CMS

### Simple, stand-alone controls

Factory-set dimming, time switches, photocells and presence detectors. Control in its simplest form.



► Presence detector



# Installation and maintenance



Tool-less quick-release latches for speedy access



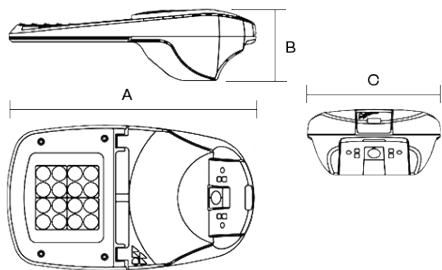
Hinged opening



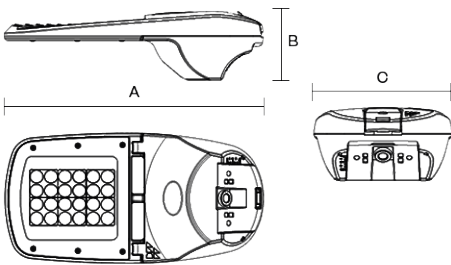
Lift-off head, with automatic electrical disconnect (available on Kirium Pro 1, 2 and 3 only)

## Dimensions

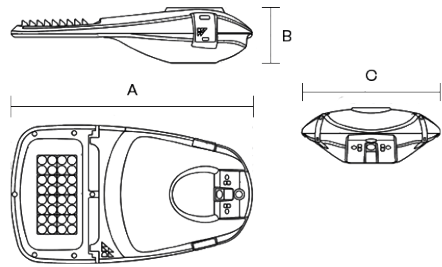
### Kirium Pro Mini



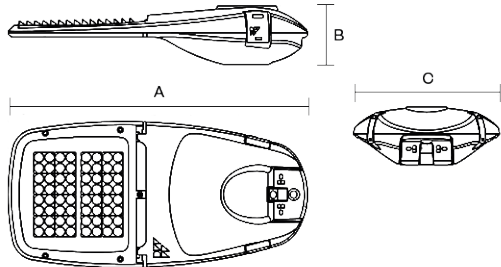
### Kirium Pro Midi



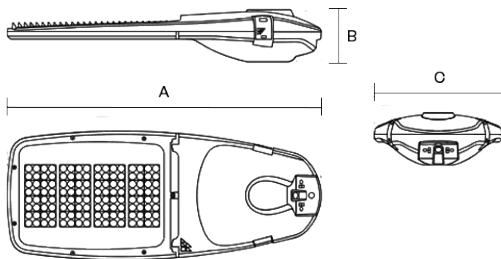
### Kirium Pro 1



### Kirium Pro 2



### Kirium Pro 3



	Dimensions (mm)			Weight (kg)	Windage (m²)
	A	B	C		
Kirium Pro Mini	390	110	227	3.6	0.032 (CxS = 0.021)
Kirium Pro Midi	451	119	227	5.0	0.034 (CxS = 0.026)
Kirium Pro 1	610	140	350	7.1	0.054 (CxS = 0.029)
Kirium Pro 2	720	140	350	9.5	0.059 (CxS = 0.034)
Kirium Pro 3	1010	167	415	17.5	0.094 (CxS = 0.056)




# Unequalled flexibility. Unequalled choice

Product

**Kirium Pro Mini**  
(16 LED)  
2,710lm @ 17W



Replaces

70W SON-T   
**80%** energy saving

Typical applications

Footpaths /  
cycleways /  
residential



Product

**Kirium Pro Midi**  
(24 LED)  
5,485lm @ 33W



Replaces

100W SON-T   
**73%** energy saving

Typical applications

Footpaths /  
cycleways /  
residential





## Product

### Kirium Pro 1

(32 LED)

5,185lm @ 31W



## Replaces

100W SON-T 

**75%** energy saving

## Typical applications

Road / car parks / rail



## Product

### Kirium Pro 2

(64 LED)

8,905lm @ 50W



## Replaces

150W SON-T 

**72%** energy saving

## Typical applications

Road / car parks / rail



For guidance on how-to light car parks visit:  
[dwwindsor.com/5-top-tips-for-great-car-park-lighting](http://dwwindsor.com/5-top-tips-for-great-car-park-lighting)

## Product

### Kirium Pro 3

(128 LED)

19,462lm @ 148W



## Replaces

250W SON-T 

**61%** energy saving

## Typical applications

Road / motorways



# Technical specification

## Product lumen packages and wattages matrix

The table below provides base lumen packages for the new Kirium Pro range. Calculations based on 4000K with no LOR applied. Due to continuous development of LEDs the figures within this table are subject to change at any time.

Model	Number of LEDs	Drive current (mA)																
		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Kirium Pro Mini	4	Im	385	484	578	669	759	844	930	1012	1095	1172	1249	1323	1399	1470	1540	1674
		W	3	4	5	5	6	7	7	8	9	9	10	11	11	12	13	15
Kirium Pro Mini Kirium Pro 1	8	Im	770	967	1156	1337	1517	1687	1858	2024	2189	2343	2497	2648	2798	2939	3080	3348
		W	6	7	8	9	10	11	12	14	15	16	18	19	20	22	23	26
Kirium Pro Mini Kirium Pro 1	16	Im	1516	1890	2263	2616	2969	3303	3637	3961	4285	4586	4887	5128	5477	5753	6028*	6554*
		W	10	12	14	17	19	21	23	26	28	30	33	35	37	40	42*	47*
Kirium Pro Midi Kirium Pro 1	24	Im	2314	2885	3455	3993	4531	5024	5217	5985	6475	6896	7338	7750	8160	8757	8944	9642
		W	14	17	20	23	27	30	33	36	39	42	46	49	53	56	60	67
Kirium Pro 1 Kirium Pro 2	32	Im	2901	3615	4330	5005	5680	6320	6958	7578	8198	8775	9351	9915	10480	11008	11535	12540
		W	19	23	27	31	35	39	43	48	52	56	61	65	70	75	79	89
Kirium Pro 2	48	Im	4382	5462	6541	7561	8581	9546	10511	11447	12383	13254	14125	14978	15830	16628	17424	18942
		W	27	33	39	45	51	57	64	70	76	82	89	95	102	109	116	131
Kirium Pro 2 Kirium Pro 3	64	Im	5793	7218	8645	9995	11343	12618	13893	15125	16369	17521	18671	19798	20925	21978	23031	25038
		W	35	42	50	58	66	74	82	91	99	108	116	125	134	142	151	168
Kirium Pro 3	80	Im	6977	8696	10414	12040	13664	15200	16735	18227	19719	21106	22493	23850	25208	26476	27744	30162
		W	45	55	65	75	86	96	106	117	127	138	149	160	171	182	193	216
	96	Im	8173	10186	12199	14102	16006	17806	19604	21351	23098	24724	26348	27938	29528	31015	32500	35332
		W	53	65	77	89	101	113	126	139	151	164	177	190	203	216	229	255
	128	Im	17841	22235	26629	27766	28903	30138	31372	32712	34052	35506	36960	38539	40117	41181	42911	46109
		W	70	85	101	116	132	148	164	181	197	214	231	248	265	282	300	335

\*only applies to Kirium Pro 1 (16LED)

## Colour temperature

CCT	Light output reduction factor	S/P ratio
2700K	0.76	1.2
3000K	0.84	1.3
3500K	0.9	1.4
4000K	1.0	1.5

## Comparable products for HID replacement schemes

Lamp and comparison	Power	Energy saving (%)
35W SOX	65	78
16LED @ 300mA	14	
55W SOX	77	66
16LED @ 550mA	26	
90W SOX	130	62
24LED @ 750mA	49	
135W SOX	190	60
48LED @ 500mA	76	
180W SOX	246	56
64LED @ 650mA	108	
50W SON-T+	69	75
16LED @ 350mA	17	
70W SON-T+/CDO-TT	90	71
16LED @ 550mA	26	
100W SON-T+/CDO-TT	123	60
24LED @ 750mA	49	
150W SON-T+/CDO-TT	180	61
48LED @ 550mA	70	
250W SON-T+/CDO-TT	301	55
64LED @ 800mA	134	
45W CPO-TW	50	58
16LED @ 450mA	21	
60W CPO-TW	66	55
16LED @ 650mA	30	
90W CPO-TW	96	58
24LED @ 650mA	42	
140W CPO-TW	153	54
32LED @ 800mA	70	



## Ordering details

You may find the following product codes helpful for ease of specification and ordering:

					Code	Example
<b>Model</b>						
Kirium Pro Mini					KPM	KP2
	Kirium Pro Midi				KPMD	
		Kirium Pro 1			KP1	
			Kirium Pro 2		KP2	
				Kirium Pro 3	KP3	
<b>LED quantity</b>						
4 LED					004	048
8 LED		8 LED			008	
16 LED		16 LED			016	
	24 LED	24 LED			024	
		32 LED	32 LED		032	
			48 LED		048	
			64 LED	64 LED	064	
				80 LED	080	
				96 LED	096	
				128 LED	128	
<b>Mounting</b>						
Ø34-42mm Side entry (not available on Kirium Pro 3)					S	D
Ø76mm Direct post					D	
Ø60mm Side entry / Direct post adapter					I	
<b>Colour temperature</b>						
2700K					27	30
3000K					30	
3500K					35	
4000K					40	
<b>Distribution</b>						
Wide road - Diamond+ A Optic (A1 / A2 / A3 / A4 / A5)					A1 / A2 / A3 / A4 / A5	D1
Footpath - Diamond+ B Optic (B1 / B2 / B3 / B4 / B5)					B1 / B2 / B3 / B4 / B5	
Area - Diamond+ C Optic (C1 / C2 / C3 / C4 / C5)					C1 / C2 / C3 / C4 / C5	
Standard road - Diamond+ D Optic (D1 / D2 / D3 / D4 / D5)					D1 / D2 / D3 / D4 / D5	
Pedestrian crossing - Diamond+ Z Optic (ZL / ZR / ZF)					ZL / ZR / ZF	
<b>Drive current</b>						
Drive currents from 200mA to 1000mA are available in 50mA increments. Insert drive current value in 4-digit format (eg 250mA = 0250).					0200 / 0250 / 0300 / 0350 / 0400 / 0450 0500 / 0550 / 0600 0650 / 0700 / 0750 / 0800 / 0850 / 0900 0950 / 1000	0550
<b>Glazing</b>						
Toughened glass					FG	FG
Polycarbonate (Kirium Pro Mini, Kirium Pro Midi & Kirium Pro 1 only)					RA	
<b>Product colours</b>						
RAL 7046 Mid grey					CF	29
RAL 7035 Light grey					29	
RAL 9005 Black					10	
<b>Control</b>						
No photocell					N	U
Photocell 35 lux (1:0.5)					U	
Part night switching Photocell 35 lux (1:0.5) (switch off midnight - 05:30) (Elxon regime 762)					A4	
Photocell 35 lux (1:0.5) + pre-programmed dimming (dimmed to 50% midnight - 05:30) (Elxon regime 531)					D8	
3 pin NEMA					E	
5 pin NEMA					C3	
7 pin NEMA					D2	
4 pin Zhaga socket					Z4	
Integral CMS - Urban Control					IUC	
Integral CMS - Telensa					ITE	
Integral CMS - Mayflower					IMA	
<i>Pre-programmed dimming*</i>						
<b>Example code = KP2 048 D 30 D1 0550 FG 29 U</b>						

\*Available as standard subject to further information being provided at time of order.

## IP66 | IK10 | CLASS I | CLASS II

### Key features

Our most comprehensive range of LED road lanterns, available in 5 sizes

Extensive optical solutions; introducing Diamond+ the ultimate in flexible, precise lighting control. 23 standard optical solutions available

Simple, speedy and safe installation and maintenance via tool-free, quick-release latches. Lift-off head and automatic electrical disconnect

Emergency option available (Kirium Pro 1, 2 and 3 only)

Environmentally tested to BS EN 60068-2-6 2008

New: Complementary bollard and wall luminaire available, visit [www.dwwindsor.com/kirium-pro](http://www.dwwindsor.com/kirium-pro)

### Options

**Kirium Pro Mini (4 / 8 / 16 LEDs)** for mounting at 4-6 metres

**Kirium Pro Midi (24 LEDs)** for mounting at 4-8 metres

**Kirium Pro 1 (8 / 16 / 24 / 32 LEDs)** for mounting at 5-8 metres

**Kirium Pro 2 (32 / 48 / 64 LEDs)** for mounting at 6-10 metres

**Kirium Pro 3 (64 / 80 / 96 / 128 LEDs)** for mounting at 8-15 metres

### Optical control

Wide road - Diamond+ A Optic (A1, A2, A3, A4, A5)

Footpath - Diamond+ B Optic (B1, B2, B3, B4, B5)

Area - Diamond+ C Optic (C1, C2, C3, C4, C5)

Standard road - Diamond+ D Optic (D1, D2, D3, D4, D5)

Pedestrian crossing - Diamond+ Z Optic (ZL, ZR, ZF)

Optional obtusive light shield(s) available and can be fitted post installation without opening the luminaire

### L90 lifetime prediction

In excess of 100,000 hours

### Total luminaire lumens

Kirium Pro Mini: 320-5734lm

Kirium Pro Midi: 2314-9642lm

Kirium Pro 1: 639-12284lm

Kirium Pro 2: 2372-24315lm

Kirium Pro 3: 4762-46109lm

### Colour temperature

2700K

3000K

3500K

4000K

### Colour rendering index

70Ra (4000K / 3500K / 3000K)

80Ra (3000K / 2700K)

### Total measured luminaire efficacy

Up to 174lm/W

### Drive current

200mA - 1000mA (in 50mA increments)

### Mounting

Direct post [Ø60mm / Ø60-76mm]

Side entry [Ø34-42mm / Ø60mm]

Direct post/side entry inclination: -15° -10° -5° 0° +5° +10° +15°

Adaptors available for various spigot diameters

### Control

CLO: Constant Light Output enabled - for energy savings and dependable light throughout the lifetime of the luminaire

Smart City ready: Able to support Smart City equipment and Zhaga compliant connectors

Switch: On/Off through conventional PEC, Miniature or NEMA

Dim: Factory set dimmed / customer specified dimming

CMS: Compatible with all available CMS systems

### Product colours

RAL 9005 Black

RAL 7046 Mid grey

RAL 7035 Light grey

Other RAL colours on request

### Materials

**Body:** High-pressure die-cast aluminium (LM6)

**Glazing:** Toughened glass / Polycarbonate for IK10

**Seals:** Silicone

**Finish:** Polyester powder coat

### Installation and maintenance

Available with various cable tail options prefitted

Short form UMSUG codes available on the website

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

Surge protection: 10kV

Kirium® Pro 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.dwwindsor.com](http://www.dwwindsor.com)

### DW Windsor

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