

COOLON

DLK2S / TNR2S

60W LED Conveyor/Area Light

BRILLIANT • CONNECTED

Brilliant Connected Lights

Over many years of flawless performance on mine sites all over Australia, our DLK range has become synonymous with reliability, robustness and quality.

Featuring the superior quality of the preceding ranges, DLK2S offers more value and functionality than ever before. Once powered up, fittings automatically mesh together to form a wireless network across the whole site. Each luminaire continuously detects and reports on any surrounding activity or important environmental changes. The network enables services like hazard identification, real-life asset tracking and personnel locating and provides a digital backbone for invaluable sensor-based data insights. It opens unprecedented possibilities for operations management, providing key insights to boost site safety and productivity.

With a perfect balance between performance, functionality and reliability, the DLK2S is the ultimate luminaire of the future.

Wirepas

Designed for use in:

- Conveyors
- General Area Lighting
- Pedestrian Access Ways
- Stacker / Reclaimer
- Stairwells
- Tunnels
- Walkways

DESIGNED & MANUFACTURED IN AUSTRALIA



Lowest cost of installation

The DLK2S is so easy to install it can be done in minutes, without the need of any specialized tools. Simply open the hatch, connect the cable, tighten the gland, close the hatch.

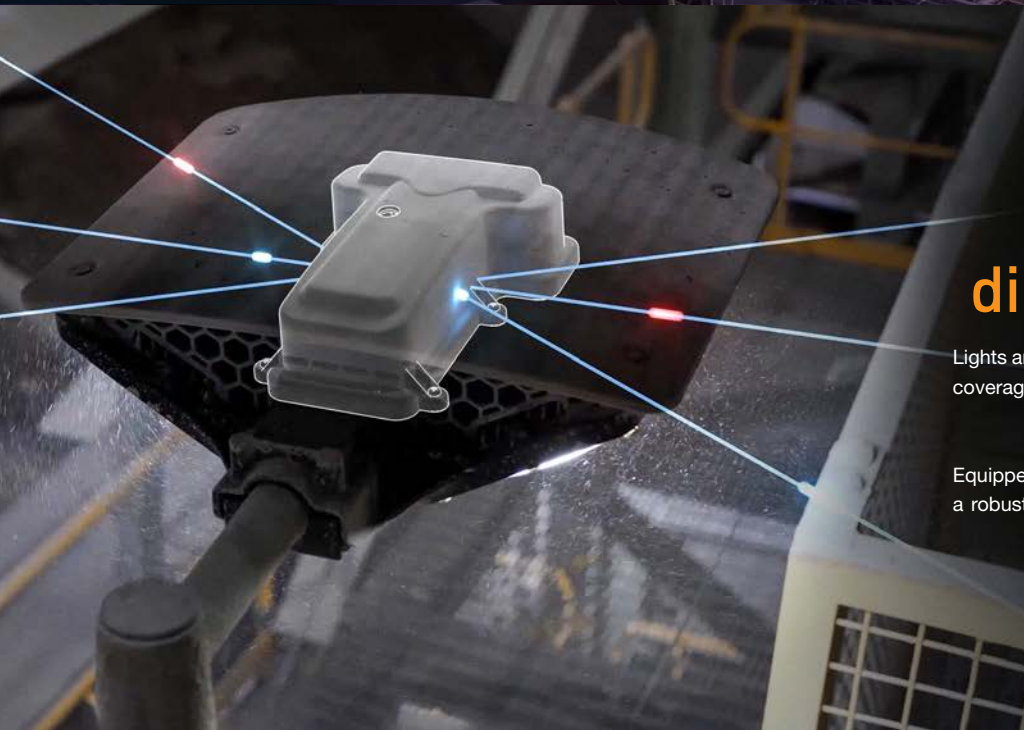
The DLK2S is made to cut costs; before it is ever turned on.

Enables digitisation

Lights automatically mesh together forming a site-wide wireless network enabling the effortless deployment of a wide range of IoT based sensors and services from third-party providers:

- Asset Tracking
- Personnel Locating
- Machine Condition Monitoring

... and many more!



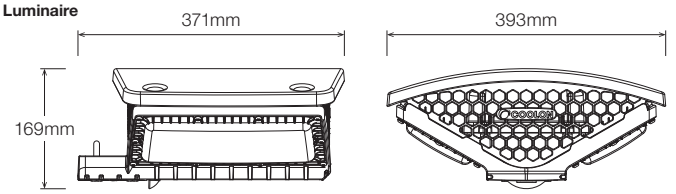
Lights as a digital backbone

Lights are naturally positioned to provide the best radio coverage - elevated, constantly powered, routinely inspected and present everywhere on site.

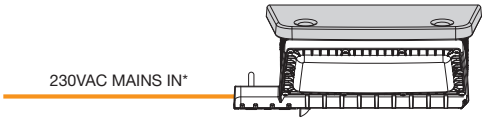
Equipped with a smart networking node, DLK2S creates a robust mesh network across the site, regardless of the size or complexity of the infrastructure.

DIMENSIONS / WIRING CONFIGURATION

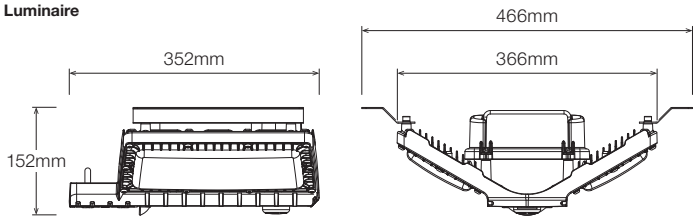
DLK2S Luminaire

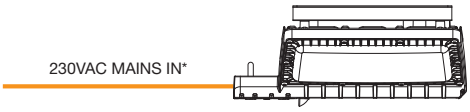


MP Mains Powered
* Cable not included



TNR2S Luminaire





TECHNICAL SPECIFICATIONS

Product	DLK2S / TNR2S LED Conveyor / Area Light
Model	DLK2S / TNR2S Mains Powered (MP)

Optical Characteristics [1]	
Luminous Flux (Photometered)	4,526 – 6,180 lm
CCT	CWT / WWT / AMB / GRN
CRI	>70 excluding amber and green
Dimming	10 – 100% Remote via BitCortex Cloud / Gateway API

Electrical Characteristics [1]	
Power Consumption	60W Typical
Nominal Voltage	230VAC
Rated Voltage	120 – 240VAC, 127 – 250VDC
Voltage Range	90 – 305VAC, 127 – 250VDC
Frequency Range	50 / 60Hz
Power Factor	>0.95 / 230VAC

Inrush and Leakage Currents [2 3]	
Peak Inrush Current (A) @230V	4.2
Duration - twitdth (ms)	0.2
I^2t (A^2S)	0
Leakage Current (mA)	<0.75mA @ 230V / 60Hz

Maximum number of luminaires per RCBO @ 230V	
B16	34
C16	40
D16	40

Wireless Communication	
Protocol	Wirepas
Operating Band	2.4 GHz, 40 Channels
Typical Range [4]	15 – 30 metres line of sight
Data Encryption	AES-128
Network Standby Time	> 24 hours during power outage

Sail Area	
Horizontal Orientation	0.048m^2

Environmental	
IP Rating	IP66
Impact Rating	IK09
Salt Spray Tested	Yes
Operating Temp. Range	0 to +50°C
Thermal Management Type	Active / Continuous
Expected Lifespan	50,000 Hours to 70% Brightness
Material Composition (Body)	LM6 Aluminium Alloy (<0.1% copper content) Polyester powder coated
Material Composition (Optics)	Polycarbonate
Material Composition (Cover)	Polycarbonate
Max. Mounting Height	<8m above ground level
Mounting/Bracket Type	Spigot Mount OD 32 – 44 mm (NB25 – NB32)
Cable Gland	M20 x 1.5 SS316
Cable Ø Entry Range	7 – 13mm

Battery	
Charge Time	≤16 hours
Battery Type	$LiFePO_4$
Battery Lifetime	2,000 cycles to 70% SOC

Storage	
Temperature	0 to +45°C
Shelf Life [5]	Up to 12 months @ 20±5°C

Weight/Packaging	
Luminaire Weight	7kg
Packaging Dimensions (DLK2S)	560 x 470 x 230mm
Packaged Weight	9.4kg

Compliance (Safety Standards)	
AS/NZS 60598.1	Luminaires - General Requirements and Tests
AS/NZS 60598.2.3	Luminaires - Particular requirements - For road and street lighting

Compliance (EMC)	
AS/NZS CISPR15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
AS/NZS 4268	Radio equipment and systems - Short range devices - Limits and methods of measurement

Warranty	
Warranty	5 years warranty as standard

[1] Optical and electrical characteristics are measured using Cool White LEDs (CWT).

Reading taken while test unit operating in steady state. Ambient temperature during testing is typically 25°C. Individual unit behaviour may differ due to electronic component tolerance and ambient conditions. Product parameters and application suitability shall be checked by the user prior to commissioning.

[2] Note: At 230VAC input, 25°C cold start, 10%Ipk-10%Ipk.

[3] Number of Luminaires is subject to relative RCBO properties, assuming a 30mA leakage current limit and RCBO steady state current load not exceeding 60%, 70% and 80% for the B, C, D type RCBO respectfully.

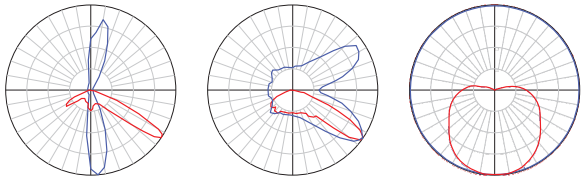
[4] Wireless range might significantly vary depending on the type of antennas used, elevation above the ground, presence of metal obstacles and environmental conditions. Wireless coverage could be optimised with increased amount of devices forming mesh network.

[5] Shelf life time with Battery Switch in OFF position is defined as time since product dispatch from Coolon, or since last charge cycle.

The light source of this luminaire is not replaceable, when the light source reaches its end of life the whole luminaire shall be replaced.

POLAR DISTRIBUTION

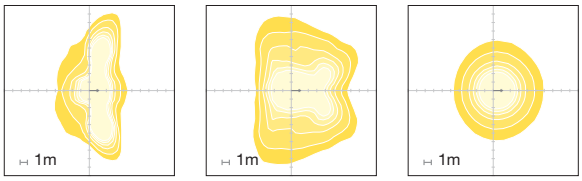
Cool White - BW1 | Cool White - BW3 | Cool White - SY1



Max Vertical Plane — Max Horizontal Cone

ISOLUX PLOTS

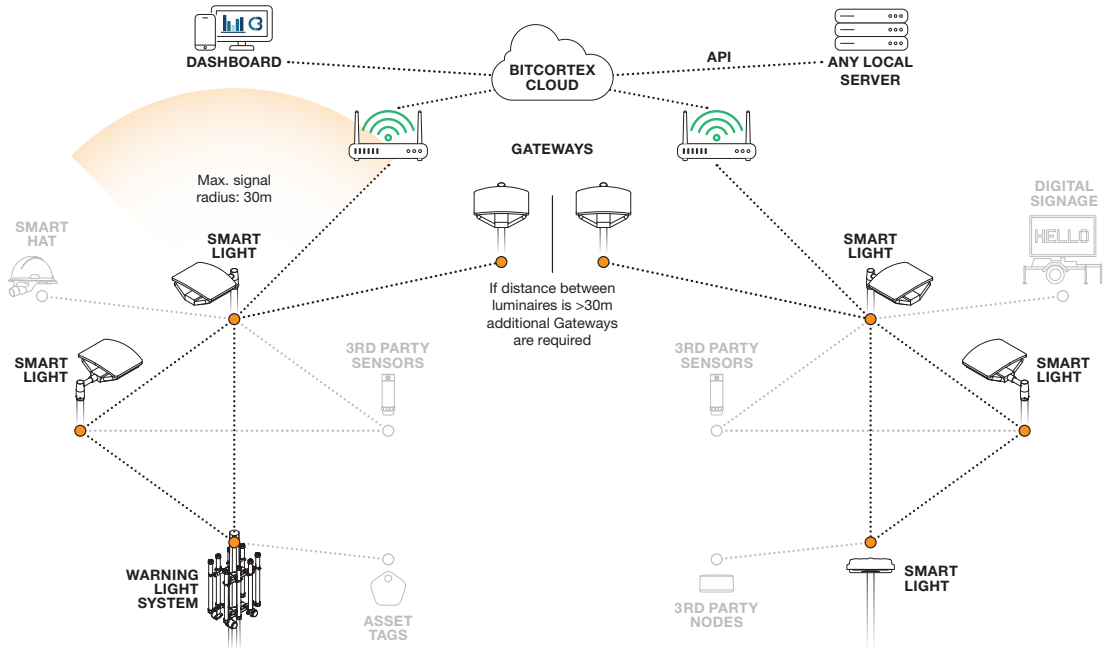
Cool White - BW1 | Cool White - BW3 | Cool White - SY1



Lux	1	5	10	20	30	40	50

Mounting Height= 2.7m **Arm Length=** 0.2m **Tilt=** 5° **LLF=** 0.75

MESH NETWORK



BitCortex

A web based platform to manage and control smart wireless devices.
Accessible anywhere through an internet connected browser.
For more information on Coolon smart lighting range please visit: www.bitcortex.net

Wirepas

WIREPAS MASSIVE ENABLED

Wirepas is a leading IoT company on mission to democratise enterprise IoT. The Wirepas Massive self-healing network optimises itself by local decision-making to reach unlimited scalability, coverage and density while using the available radio spectrum as efficiently as possible.

TURTLE FRIENDLY OPTION

In many coastal areas, white light is discouraged as it may disrupt the breeding cycles of sea turtles. The DLK2S is available in turtle friendly Amber (595 nm).

AVAILABLE IN DARK SKY

Lighting pollution is a negative of today's technology, disturbing nocturnal animals, affecting human circadian rhythms and severely impacting astronomy observatories. The DLK2S is available in Dark Sky in a bid to reduce light pollution.

ORDERING EXAMPLE

DLK2S - 60 - CWT - BW3 - MP

PRODUCT | TYPE | COLOUR TEMP | OPTICS | SUPPLY OPTION

PRODUCT	TYPE		COLOUR TEMP		OPTICS		SUPPLY OPTION		HOOD OPTION	
DLK2S	60	60W	CWT	Cool White	BW1	Batwing Type 1	MP	Mains Powered	DS	Dark Sky Hood [1]
TNR2S			WWT	Warm White	BW3	Batwing Type 3				
			AMB	Amber	SY1	Symmetrical / Diffuser				
			GRN	Green						

[1] Dark Sky Hood (DS) only available for Warm White LEDs (WWT)