EDITION FOUR

RA RED ARROW

Technical

Technical Information

Our Technical section provides clear guidance to help you select the right products with confidence. From colour temperature and rating explanations to a full glossary and icon guide, all key details are covered. Designed as a quick reference, these pages make technical information simple, accessible and easy to understand.

Icon Guide

Product Feature Icons

DIMMABLE	**IP20**	**8-13 WATT**	**PLUG & PLAY 3 HOUR EMERGENCY**	**PLUG & PLAY MICROWAVE SENSOR**
Dimmable Option	IP Protection Levels	Wattage or Wattage Range	Tool Free Emergency	Tool Free Detection

IK10	**5 YRS WARRANTY**	**3000K 4000K 6500K**	**110 - 240V**	**130 lm/W**
Impact / Durability Rating	Warranty Coverage	Colour Temperature	Voltage Range	Lumen Efficiency
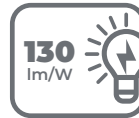
UGR <19	**CONNECTABLE TO 150M**	**HIGH BRIGHTNESS 84000 LUMENS**
Glare Rating	Connectable Range	Maximum Brightness

bsi	**LiFePO4 BATTERIES INSIDE**	**ECO MOTION RANGE**
BSI Certified	Lithium Iron Phosphate Battery	Motion Detection (Microwave Sensor)
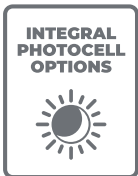
INTEGRAL PHOTOCELL OPTIONS	**HIGH EFFICACY 140LM/W**	**WATTAGE & CCT SELECTABLE**
Dusk-to-Dawn Option	Highly Efficient	Adjustable Power & Colour

THERMAL RESET	**NOW WITH SELECTABLE SELF TEST/MANUAL TEST**	**2 YEARS ON-SITE WARRANTY**
Overheat Protection	Self-Test Switchable	Warranty Coverage on site

Product Highlight Icons

NEW PRODUCT
Newly Launched

REPLACEABLE LEDs
Replaceable LED Strips

Smart
Smart Control

CONNECTED BY tuya
Tuya App Control

BEST SELLER
Best Selling Product

CERTIFIED FOR I-JOIST
I-Joist Tested

FIRE RATED
Fire Protected

TAILORMADE
Custom Options

Ø 106mm CUTOUT
Fitting Cutout Size

ULTRA SLIM
Ultra Slim Profile

Regulatory Icons
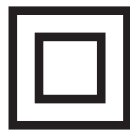
UKCA
UKCA Marked

Domestic Use

WEEE Directive

F
F Mark

Class I Luminaires
with Earth Connection

Class II Luminaires
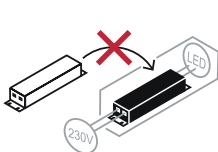with Double Insulation

Class III Luminaires
with Safety Extra-Low
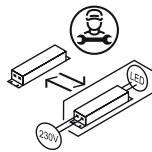Voltage Supply

CE
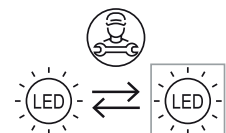CE Marking

Safe To Cover
With Insulation

Non replaceable driver

Replaceable driver done
by a professional

LED is built-in and
cannot be replaced.

LED can be replaced
by a professional

Colour Temperature

When choosing lighting, colour temperature is one of the most important factors to consider. It affects not only how a space looks but also how it feels and functions.

Colour temperature is measured in Kelvins (K) and describes the appearance of the light source – whether it looks warm, neutral, or cool. Lower Kelvin values produce a warmer, softer glow, while higher values create a cooler, brighter light.

Warm White   **Cool** White   **Daylight** White

| 2000 | 3000 | 4000 | 5000 | 6000 | 7000 |
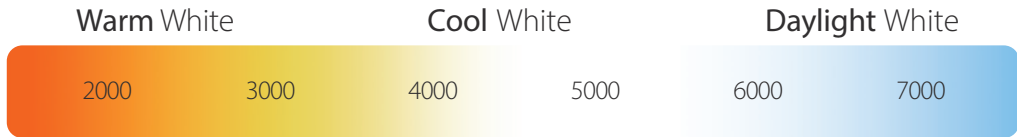
Warm White (<3000K)

Soft, cosy glow for a relaxed atmosphere. Ideal for living rooms, bedrooms, dining areas, hotels, and restaurants.

Cool White (4000K)

Clear, clean light that balances warm and daylight tones, supporting focus and concentration. Ideal for offices, bathrooms, and retail spaces.

Daylight White (>5900K)

Crisp daylight-style light for visibility, reduced eye strain, and vivid colours. Ideal for workshops, hospitals, schools, industry, and security.

Find your LED equivalent...

LED	3W	5W	7W	9W	12W
INCANDESCENT	25W	40W	60W	75W	100W
HALOGEN	18W	28W	42W	55W	70W
LUMENS	200 - 300 lm	400 - 500 lm	600 - 700lm	800 - 900lm	1000 - 1200lm
CFL	5W	8W	12W	15W	20W

Technical Glossary

COLOUR APPEARANCE (CORRELATED COLOUR TEMPERATURE-CCT)

A term used to describe how 'white' a light source appears to be. Expressed using the Kelvin temperature scale. Examples are warm white (2700-3000K), cool white (4000K) and daylight (6000-6500K).

COLOUR RENDERING INDEX (CRI)

A scale from 0-100 that describes the ability of a light source to make objects appear their natural colour, as compared to a reference light source. Expressed as Ra value.

DIMMER, DIMMING CONTROL

A device used to lower the light output of a source, usually by reducing the wattage it is being operated at. Dimming controls are popular as energy saving devices. Dimming can be achieved by various methods.

DRIVER

For light emitting diodes, a device that regulates the voltage and current powering the source. Can be constant current or constant voltage DC.

EFFICACY (lm/W)

A ratio expressing the luminous efficacy of a light source or luminaire. Expressed in lumens/Watt.

EMERGENCY LIGHTING

Lighting provided for use when the supply to the normal lighting fails, usually to allow for safe evacuation.

FIRE RATED

Downlights that are recessed into a ceiling with a fire rating, must have the same fire rating as the ceiling. In domestic installations the ratings under BS 476 are 30, 60 and 90 mins. Each rating must be tested as the ceiling construction is different. Therefore, a 90min rated product does not automatically comply with 30 or 60 mins.

LIGHT EMITTING DIODE (LED)

A semiconductor that when energised emits blue light. LEDs usually incorporate a phosphor layer to change the colour characteristics to white light at various colour temperatures (CCT).

UGR (Unified Glare Rating)

A numerical scale that defines the level of discomfort glare produced by a lighting installation. The UGR value ranges from 10 (very low glare) to 30 (high glare). Office and workplace lighting should typically have a UGR of 19 or lower to meet standards for visual comfort.

LUMEN MAINTENANCE

The amount of luminous flux (lumens) still being emitted at a given time (in hours) during the life of LEDs. This varies with different type and quality of LEDs and the characteristics of the luminaire, particularly the temperature at which the LEDs are operated. Expressed as L and B percentages at a specific number of running hours. E.g. L80B50 50,000h means that after 50,000 hours of operation the LEDs are on average emitting 80% of their initial lumens (L80), of which 50% of LEDs are emitting less than 80% (B50).

LUMENS (lm)

The unit of luminous flux which expresses the total light emitted by a light source.

LUMINANCE

The unit of surface brightness of an object, expressed in candelas/m ^{2} (cd/m^2).

LUX (lx)

The SI (International) unit of illuminance or light falling onto a surface. One lux is equal to one lumen per square metre.

PC - POLYCARBONATE

Strong diffuser polymer used outdoors and indoors. Good resistance to yellowing and high fire-rated and impact resistant properties. Medium light transmission when used in diffusers.

PMMA - ACRYLIC

Popular diffuser material due to high light transmission and UV stable for anti-yellowing. Very good optical properties.

POWER FACTOR

The ratio of working (true) power (W) to the total (apparent) power (VA), measuring efficiency in an AC power system.

WATTAGE

The unit for measuring electrical power.

Maintained/Non-Maintained (M/NM)

Maintained emergency lighting operates as a normal light fitting and continues to provide illumination during a power failure. Non-maintained emergency lighting remains off during normal operation and only activates when the mains power supply fails.

IP Rating

IP (Ingress Protection) ratings show how well a product is protected against dust and water. Use this guide to choose the right rating for your installation.

IP65

FIRST NUMBER
Level of protection against solid particles

SECOND NUMBER
Level of protection against liquids

First Number		Second Number	
No protection at all	**0**	**0**	No protection at all
Protection against large solid objects diameter <50mm e.g. a hand	**1**	**1**	Protection against vertically dripping water
Protection against medium-sized solid objects diameter <12.5mm e.g. a finger	**2**	**2**	Protection against dripping water when tilted up to 15°
Protection against small solid objects, diameter <2.5mm e.g. wire or small tools	**3**	**3**	Protection against spraying water at any angle up to 60° from vertical
Protection against small solid objects, diameter <1.0mm e.g. thin objects and wires	**4**	**4**	Protection against water splashing against the enclosure from any direction
Limited protection against dust	**5**	**5**	Protection against water jets projected by a nozzle (6.3mm) against enclosure from any direction
Total protection against dust	**6**	**6**	Protection against water projected in powerful jets (12.5mm nozzle) against the enclosure from any direction
		7	Protection against restricted immersion up to 1m for 30 minutes
		8	Protection against immersion in water for long periods, at a given depth, specified by the manufacturer

IP65 RATED

IP20 RATED

IP68 RATED

IK Rating

IK Rating (or impact protection rating) is the international standard classification system that indicates the degree of protection provided by an electrical enclosure against external mechanical impacts, in accordance with EN 62262.

The code has a number between 00 and 10. The higher the number, the higher the level of impact protection.

	Impact Energy Joules	Equivalent Mass & Drop Height
IK00	Not protected	Not protected
IK01	0.14	0.25kg from 56mm above
IK02	0.2	0.25kg from 80mm above
IK03	0.35	0.25kg from 140mm above
IK04	0.5	0.25kg from 200mm above
IK05	0.7	0.25kg from 280mm above
IK06	1	0.25kg from 400mm above
IK07	2	0.5kg from 400mm above
IK08	5	1.7kg from 300mm above
IK09	10	5.0kg from 200mm above
IK10	20	5.0kg from 400mm above

* Based upon 'Charpy pendulum' impact tester

What is DALI?

DALI stands for Digital Addressable Lighting Interface. It is an international standard for digital communication between lighting equipment such as ballasts, drivers, sensors, and control devices. Unlike traditional analogue systems, DALI allows two-way communication, meaning devices can both receive instructions and send feedback.

This enables a fully integrated lighting system where every luminaire or component can be individually addressed, monitored, and controlled from a central point.

Full Compatibility

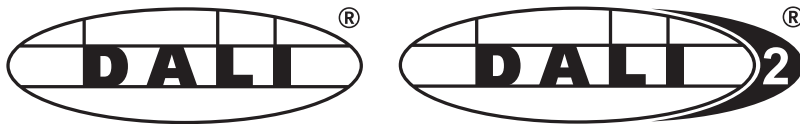All certified DALI-2 devices work reliably together.

Stricter Testing

Ensures products from different brands meet the same standards.

Extended Features

Support for sensors, switches, and advanced control devices.

Improved Reliability

Eliminates communication issues seen in early DALI systems.

In Summary

DALI has transformed how lighting is controlled, moving from simple on/off switching to fully programmable, feedback-driven systems. With DALI-2, you get an open, reliable, and scalable platform that supports the smart buildings of today and tomorrow.

TP(a) Vs TP(b) Diffusers in Lighting

In lighting TP(a) & TP(b) is commonly used to distinguish between the type of diffuser used in recessed panel lights.

The diffuser is only referred to as part of the ceiling structure if the luminaire is recessed into the ceiling (for example: Installed into an aperture cut into the ceiling, example suspended grid ceiling).

Where Would You Use Each?

TP Rating	Typical Application	Usage Notes
TP(a)	Offices, schools, hospitals, corridors.	Use where fire safety is critical or unrestricted use is needed. A TP(a) diffuser will self extinguish in around 5 seconds.
TP(b)	General areas with minimal fire risk.	Subject to size and spacing limits under regulations. A TP(b) diffuser will self extinguish within or less than 50mm per minute.

Pros & Cons

TP(a) – Flame-Resistant

Pros:

• No limits on placement (except protected stairwells)
• Ideal for high-occupancy or escape route areas
• Highest fire safety classification for thermoplastics

Cons:

• May have slightly lower light transmission

TP(b) – Slow-Burning

Pros:

• Allows for good light output and efficiency
• Suitable for low-risk areas

Cons:

• Restricted use - limited total area and spacing rules apply
• Will burn at a slow rate if exposed to fire

LiFePO4 Batteries

Lithium Iron Phosphate (LiFePO4) Battery Cells are the most sophisticated Battery Cells available for Emergency Lighting on the market. As one of the most critical elements of an Emergency Lighting System, LiFePO4 batteries offer significant advancements in battery technology.

Improved Energy Density

Lithium Iron Phosphate offers more energy storage within a smaller battery cell than NiCd Battery Cells.

Lower Self-Discharge

Resulting in more energy storage over a longer period of time without losing charge.

Increased Cycle Life

Superior performance over multiple charges and discharges during the battery life, providing peace of mind for up to 5 years service life.

Environmentally Friendly

Lithium Iron Phosphate batteries do not contain any hazardous waste materials.

Safety

LiFePO4 Batteries are manufactured with protection against over charging, short circuit and thermal run away.

Environmental Responsibility & Compliance

At Red Arrow Electrical Ltd, we are committed to reducing environmental impact and ensuring responsible waste management. As a responsible waste producer, we are fully compliant with the **Waste Batteries and Accumulators Regulations 2009**.

Our batteries producer registration number is **NPWD360653**, and we are registered as a member of the government-approved batteries compliance scheme, BatteryBack.

This scheme helps ensure used batteries are collected and recycled in a safe and environmentally responsible way.

What is Self Test Emergency?

Self Test Emergency is an emergency luminaire that automatically performs the tests as required by BS 5266-1 at the required intervals negating the need for manual testing by way of key switch or mains isolation. This is automatically performed to check the battery and light source health and reports this back by way of visible bi-coloured LED within the fixture.

- Green LED indicates the luminaire is fully operational without any fault.
- Green flashing LED Indicates the luminaire is performing test.
- Red LED indicates there is a fault with either the battery or light source. Maintenance is required.

Cost Saving

As the test is automatically performed, the designated person is only required to complete a visual walk around inspection to identify any faulty fixtures by way of checking the LED Colour.

Time Saving

Depending on the failure, the Red LED will flash in a specific sequence highlighting that the failure is either with the light source or battery, resulting in a much easier rectification.

Compliance

As the tests are automatically performed there is no risk of a scheduled monthly test or annual drain down test being missed.

Self Test Switchable

A self-test switchable emergency light automatically checks its battery, lamp, and charging circuit, showing a visual warning if a fault occurs. This reduces maintenance and ensures reliable operation during a power failure.

Air Sterilisation

Breathe Cleaner, Safer Air with So Pure KT2 & KT3 Air Purification Units

Creating a safer, healthier environment has never been more important. The So Pure KT2 and KT3 Air Sterilisation Units are purpose-built to deliver high-grade air purification in everyday spaces, reducing risks and improving air quality where people live, work, and gather. The KT2 range covers larger areas up to 150m², with the option of an integrated CO_2 monitor (KT2 PRO) or smart Tuya control (KT2 PLUS). For medium-sized spaces, the KT3 range provides the same dual-technology purification for up to 90m², with the option of a Tuya-controlled PLUS model. Together, these units offer a versatile and reliable solution for businesses, schools, and healthcare environments looking to safeguard air quality.

Rental, Lease and Purchase options available.

Grading System

BS5839-6:2019 Alarms

GRADE D1

A system of one or more mains powered detectors, each with a tamper-proof standby supply consisting of a battery or batteries.

SHC-WIR-SM-10YR   SHC-WIR-HE-10YR

GRADE D2

A system of one or more mains powered detectors, each with an integrated standby supply consisting of a user-replaceable battery or batteries.

SHC-WIR-SM   SHC-WIR-HE

GRADE F1

A system of one or more battery powered detectors, powered by a tamper-proof primary battery or batteries.

X-SENSE®

SHC-BAT-HE

XH02-M

SHC-BAT-SM

XS01

GRADE F2

A system of one or more battery powered detectors, powered by a user replaceable primary battery or batteries.

X-SENSE®

XS01-M

PROTECTION LEVELS

LD1 - High Protection (All areas where a fire could start)
Hallways, Landings, Living Rooms, Bedrooms and Kitchen

LD2 - Medium Protection (Escape routes and high risk areas)
Hallways, Landings, Kitchen and living room

LD3 - Minimum Protection
(Escape routes) Hallways and Landings

ACCESSORIES

SBS50 Base Station
XC01-M Carbon Monoxide Alarm

SHC-RC Alarm Remote Control
SHC-PAT Smoke / Heat Pattress
SHC-BAT-CA Standalone Carbon Monoxide Alarm

Downlights

BA/	148	SR/ECO	158
COB	168	SR/T/	152
HP/	174	SSM/	154
HS/	176	SSM/T/	156
IGP/	170	VEN	164
IGS/	172		
ORB	162		
ORB...CCT	160		
SLP	166		
SR/	150		

Accessories

CLIP	243	PIR	246
FS	245	PLUG/MSCF	249
HLBDS	243	PP/BULKIT/MSCF	248
HLBMS	243	PP/KIT/MS	248
ICCAP	243	PP/KIT/MSCF	248
LGU10	241	QO12	245
LGU4.5	242	Q240	245
LH	245	RSJB	246
PC10	244	T8LED	240
PC15	244	TFBX	246
PC25	244	UC01/	243

Emergency Lighting

ANA/	188	TITAN/COMKIT/	200
ART/	186	TITANX/	198
JUN/	192	VAN/	180
JUN65/	190	VANMX/	184
PLUG/BUL/EMST	203		
PLUG/LIN/EMST	203		
PP/BULKKIT/EMST	202		
PP/KIT/EMST	202		
SNP/R	194		
SNP/SS	196		

Electrical

KT2/	264
KT3/	266
SHC	252
XS/XH/XC/SBS	254
ZB	262
ZC	256,258,260
ZCBO	262
ZM	256
ZR	262
ZSPD	262

Outdoor Lighting

CA	212	RBR/RBS/RBMR	236
CMT	206	TA05/	230
DBR	228	WPS	226
E27/	216	ZENA	224
GRD	222		
GRX/	218		
JUPS	214		
LF13	234		
MET	210		
OFK/	216		
ORN	220		
PK15	232		

Acoustic Lighting

RA07	272
RA127	270
RA25	278
RA26	274
RA33	280
RA37	276
RA41	282
RA77	284
RA77-NIL-	284
RA79	284
RA-LG80-OP-DIM-30	270

Red Arrow Pro

In Partenership with Traxon

OSRAM

Outstanding Quality & Service, Guaranteed

Authorised to sell OSRAM Professional General Lighting Luminaires and is the epitome of premium LED lighting, catering exclusively to wholesale lighting suppliers, architects, and specifiers. Our collaboration with Traxon to sell OSRAM Professional General Lighting Luminaires, a global leader in lighting technology, ensures that our offerings are at the forefront of innovation and performance. We pride ourselves on delivering superior lighting solutions that not only meet but exceed industry standards, setting new benchmarks for quality and efficiency. With a steadfast commitment to sustainability, we provide eco-conscious products that harmoniously balance energy efficiency and environmental responsibility. Our extensive product range combines cutting-edge technology with timeless design, enabling us to illuminate commercial and residential projects with unmatched aesthetics and performance.

Choose RA-Pro, your trusted partner for sustainable and innovative lighting solutions!

Red Arrow
Information

Next Day Delivery
for Orders Placed before 6pm
(UK Mainland)

Dedicated Internal
& External Sales Team

Carriage Paid
on ANY Order over £195
(UK Mainland)

Lighting Scheme
Design Service

Dedicated Customer Services
for After Sales Care

Technical Support
for Advice and Problem
Solving

OPEN

OPEN FOR BUSINESS
7AM-7PM MONDAY – THURSDAY
7AM-5PM FRIDAY
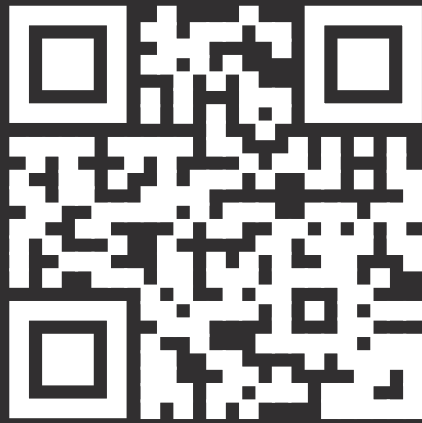
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