LIGHTING & EMERGENCY LIGHTING TECHNICAL SUBMISSION

TS-E-008
REV 02

Highgate Newtown Community Centre

PROJECT NAME	Highgate Newtown Community Centre	
PROJECT NO	01/1104 – 02/1418	
SUBMISSION No	TS-ME-008	
DESCRIPTION	Lighting & Emergency Lighting Technical Submittal	
MAIN CONTRACTOR	Farrans	
CONSULTING ENGINEER	FLOH	
HARVEY GROUP SUBMITTED BY:	Jason Black	Date: 27.06.22
CLIENT APPROVAL SECTION BELOW		
DATE COMMENTS DUE		
CONSULTANTS COMMENTS		

Indicate appropriate box below:	Date:

A	B	C

Technical submission

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1.0 <u>Luminaire Schedule</u>

<u>**The details contained with document are to be read in conjunction with the layout drawings.**</u>

Reference	Image	Location
Internal Lighting		
A		Apartment Areas
A1		Apartments Block A (Low ceiling void areas)
B	Kitchen Pelmet & Bathroom/ Ensuite Vanity Lighting- Supplied and Installed by kitchen provider	Kitchens & Bathrooms (Connection Point by HG only)
C & CE (E denotes emergency versions)		Landlord Corridors
D & DE (E denotes emergency versions)		Landlord Staircases (Wall Mounted)

E		Throughout (Standalone) Key switch control
F (E denotes emergency versions)		External Perimeter areas
H (E denotes emergency versions)		Risers and Small stores
J (E denotes emergency versions)		Activity Rooms
K (E denotes emergency versions)		Main Hall
L & LE (E denotes emergency versions)		Plant rooms and Stores

M (E denotes emergency versions)		External Perimeter areas
N (E denotes emergency versions)		Office areas
P		External Column mounted
Q		Central landscaped Area
R		Balcony Areas
PD 1		Landlord Apartment corridors

PD2		Landlord Ground floor Areas Block B spaces
PD3		Large Halls

2.0 <u>Manufacturers Information</u>

     a)   Reference A

Chalice 74

96631503 CHAL 74 LED550-830 WFL IP65 WHM

THORN

| LED 7W LED_CHAL74_600_830 | RoHS | T$_a$ $^0_{+40}$ | IP$^{20}_{65}$ | IK04 | □ | CE | | | 650°C | |

Chalice 74

A ceiling recessed, fire-rated, LED downlight. Integral LED driver, suitable for use with leading edge dimmer switches. IP65 (IP20 from above), IK04, Class II electrical. Supplied with wide flood (48°) PMMA lens and matt white die-cast aluminium bezel. Body: steel with aluminium heatsink. Spring clips make the product suitable for tool-free mounting in ceiling thicknesses of 1-25mm in a Ø74-80mm cutout. Tool-free wiring with a fully detachable connector and push-fit terminal block enabling loop-in/loop-out. Complete with 3000K LED. Fully fire rated for 30, 60 and 90 minute ceilings.

Adaptable light distribution by exchanging the WFL (48°) lens with either FL (31°) or WW (wallwash optic) - available as accessories.
Adaptable aesthetics by exchanging the WHM (matt white) bezel with either WH (gloss white), BKM (matt black), CR (chrome) or AL (brushed aluminium) - available as accessories.
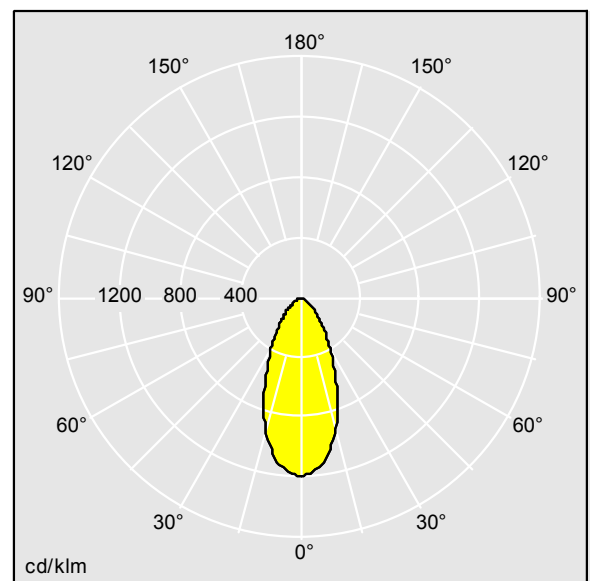
Dimensions: Ø87 x 77 mm
Luminaire input power: 6.6 W
Luminaire luminous flux: 600 lm
Luminaire efficacy: 91 lm/W
Weight: 0.3 kg

TLG_CHLC_F_74PDB.jpg
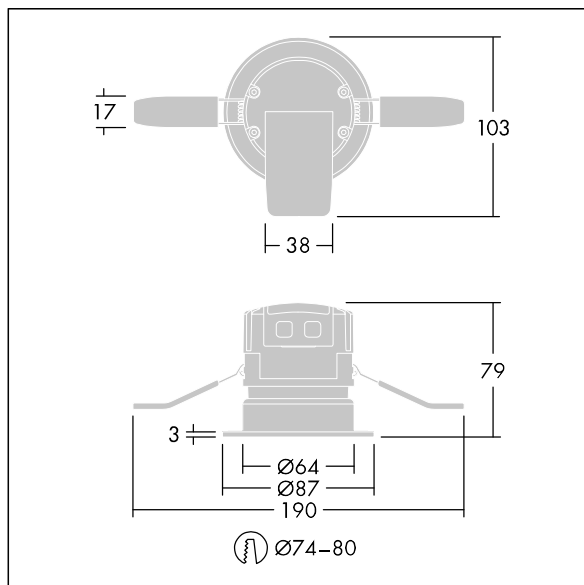
TLG_CH74_M_LDLO.wmf

TLG_LE_1210.ldt

Lamp position: STD - standard
Light Source: LED
Luminaire luminous flux*: 600 lm
Luminaire efficacy*: 91 lm/W
Lamp efficacy: 90 lm/W
Colour Rendering Index min.: 80

Chromaticity tolerance (initial MacAdam): 3
Rated median useful life*:
L70 50000h at 25°C
Ballast: 1x LED_DRV
Luminaire input power*: 6.6 W Power factor = 0.9
Maintenance category: C - Closed Top Reflector
LOR: 1,00 ULOR: 0,00 DLOR: 1,00

b) Reference A1

APRILEDP/WW

Features

220-240V IP65 dimmable LED fire rated performance downlight

Remote driver with 2x1.5mm² + CPC loop-in, loop-out colour coded push fit piano terminals provide an easy and efficient installation

Detachable LED driver for fast fix install

Low profile design and remote driver allow installation into shallow ceiling voids

Fully tested for 30, 60 and 90 minute ceiling types to meet Part B of building regulations

Fully tested to meet Part C (moisture), Part E (acoustic) and Part L (energy) of Building Regulations

Wide 60° beam angle for increased light distribution

LED lifespan L70 60,000 hours

General Information

Lamp Type	LED
Colour / Finish	Matt white
Dimmable	Yes
Fire Rated	Yes
OCTO Compatibility	Smart Indoor controller
IP Rating	IP65
Class Protection	1
Internal / External	Internal
Surface / Recessed / Suspended	Recessed
Warranty (Years)	5
CE Mark	Yes
Diameter (mm)	90
Height (mm)	55
Accessories	APRILEDPBZ/CH, APRILEDPBZ/SC, APRILEDPBZ/BLK, AORBLED/DIMMER

Technical Information

Wattage	6W
Lumens Delivered	532lm
Lm/W	89lm
Beam Angle	60
CRI	Ra 80
CCT	3000K
Input	230V
Hertz	50/60Hz
Operating Temp	-5°C to 25°C

Technical Data - ETIM - Downlight/spot/floodlight (EC001744)

Suitable for surface mounting	No
Suitable for built-in mounting	Yes
Suitable for wall mounting	No
Suitable for suspended mounting	No
Suitable for ceiling mounting	Yes
Suitable for traverse mounting	No
Suitable for pedestal/floor mounting	No
Suitable for light-track mounting	No
Adjustability	Not adjustable
With movement sensor	No
With light sensor	No
With light source	Yes
Suitable for number of lamps	1
Colour housing	White
Nominal voltage	230-230 V
Control gear included	Yes
Beam angle	Wide beam 41-80°
Degree of protection (IP)	IP65
Protection class	I
Max. system power	6 W
Colour of light	White
Colour temperature	3000-3000 K
Colour rendering index CRI	80-89
Rated luminous flux acc. IEC 62722-2-1	532 lm
Lamp efficacy	89 lm/W

Height/depth	55 mm
Length	57 mm
Outer diameter	90 mm
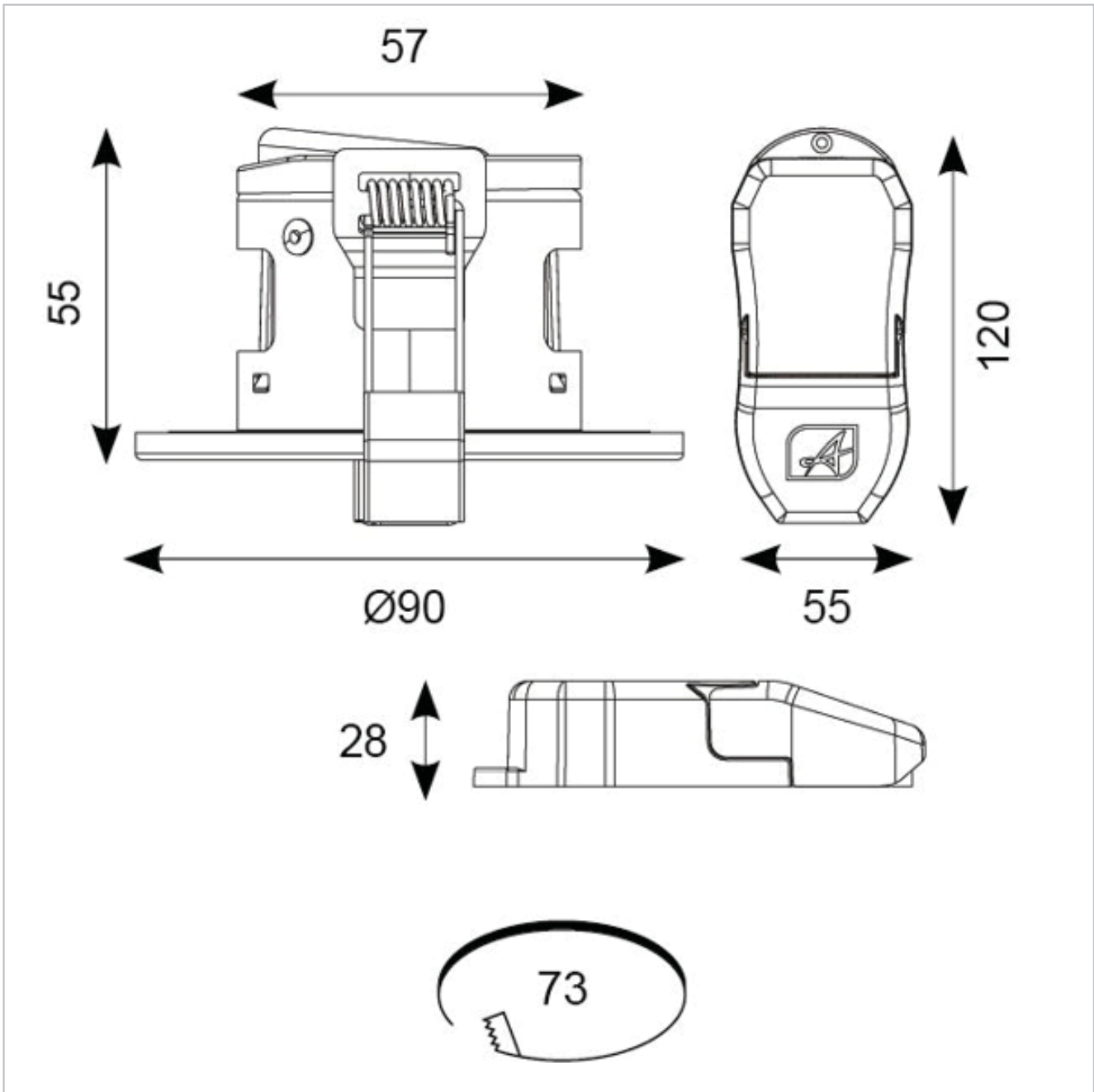
c) Reference B

Kitchen under cupboard lighting and bathroom LED strip to be supplied and installed by others.

d) Reference C

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ACTUAL SIZE

CIRCULAR LED RECESSED DOWNLIGHTERS

| IP20 | ABOVE CEILING | IP40 | BELOW CEILING |

| IP65 | BELOW CEILING (IP65 version only) | UKCA | CE | LED | 🛡 |

SPECIFICATION

- High pressure die-cast ring finished full polyester non-yellowing satin white (RAL 9016)
- Injection moulded reflector finished white
- Toughened/safety drop glass attachments provide a measure of light on the ceiling
- Optional reinforcing board with centre cut aperture
- SmartScan Radar versions with sensor discretely hidden behind the cover
- Emergency and AutoTest versions
- Supplied with remote gear unit fitted with 2m supply lead
- SmartScan Radar versions fitted with TEE connector for LCM wiring
- CRI 90 option available to special order
- Fitted with 3000K/4000K LEDs

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	/4000K
RATED LIFE (HOURS)	100K - L80/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>85%
REPLACEABLE	YES
POWER FACTOR	>0.9
LL/CW	121.5

For LED characteristics explanation see
www.thorlux.com/led-guide

SmartScan Radar Configuration

Find out more at **www.thorlux.com/smartscan**
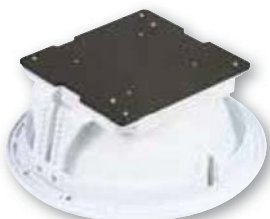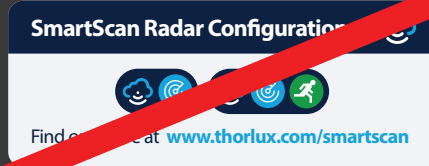
Body and heat sink

1 Remote Driver for standard versions

2 Downlighter Power Unit for Emergency and AutoTest versions.

3 SmartScan Radar Power Unit for SmartScan Radar and SmartScan Radar Emergency versions (Emergency version shown).

Presence Detection Guide - **www.thorlux.com/files/presence-detection.pdf**

G3

RANGE

	LED	3000K	4000K	APPROX. kg	CIRCUIT
OPEN	8W	GT 18387	GT 15070	0.8	L/A/R
	16W	GT 18388	GT 15071	0.8	L/A/R
	21W	GT 18389	GT 18371	0.8	L/A/R
FROSTED OUTER DROP GLASS	8W	GT 18392	GT 15073	1.2	L/A/R
	16W	GT 18393	GT 15074	1.2	L/A/R
	21W	GT 18394	GT 18373	1.2	L/A/R
FROSTED INNER DROP GLASS	8W	GT 18397	GT 15076	1.3	L/A/R
	16W	GT 18398	GT 15077	1.3	L/A/R
	21W	GT 18399	GT 18375	1.3	L/A/R
LIGHT GREEN TINTED HALO	8W	GT 18402	GT 15079	0.9	L/A/R
	16W	GT 18403	GT 15080	0.9	L/A/R
	21W	GT 18404	GT 18377	0.9	L/A/R
IK10 POLYCARBONATE	8W	GT 18405	GT 15082	1.0	L/A/R
	16W	GT 18406	GT 15083	1.0	L/A/R
	21W	GT 18407	GT 18378	1.0	L/A/R
IP65 GLASS OR IK10 POLYCARBONATE	**Clear glass versions**				
	8W	GT 18411	GT 15085	1.2	L/A/R
	16W	GT 18412	GT 15086	1.2	L/A/R
	21W	GT 18413	GT 18382	1.2	L/A/R
	Frosted glass versions				
	8W	GT 18414	GT 15088	1.2	L/A/R
	16W	GT 18415	GT 15089	1.2	L/A/R
	21W	GT 18416	GT 18383	1.2	L/A/R
	Clear polycarbonate versions				
	8W	GT 18417	GT 15091	1.2	L/A/R
	16W	GT 18418	GT 15092	1.2	L/A/R
	21W	GT 18419	GT 18384	1.2	L/A/R

CIRCUIT TYPE - suffix catalogue number with:
L - non-dimming (LED) / **A - dimming (DALI)** / **R - SmartScan Radar**   e.g. **GT 18387L** etc.
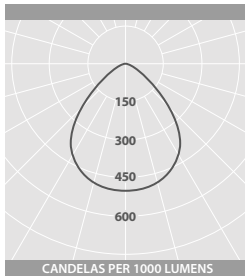SmartScan Radar add 0.1kg to weights listed.

EMERGENCY VERSION - prefix catalogue number with:

EGT - Emergency
TGT - AutoTest ⎤ (Not available when selecting the **'R'** suffix)

WGT - SmartScan (Not available when selecting the **'A'** suffix)
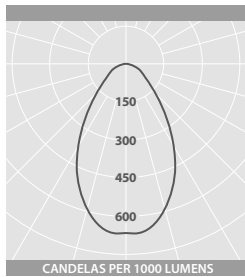e.g. **WGT 18387L** etc.
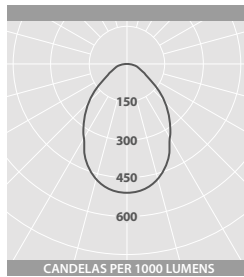Add 0.9kg to weights listed.

PHOTOMETRIC GUIDE

OPEN

LED	3000K (lm)	4000K (lm)
8W	1140	1215
16W	2075	2210
21W	2620	2790

CANDELAS PER 1000 LUMENS

FROSTED OUTER

LED	3000K (lm)	4000K (lm)
8W	985	1050
16W	1790	1905
21W	2260	2410

CANDELAS PER 1000 LUMENS

FROSTED INNER

LED	3000K (lm)	4000K (lm)
8W	940	1000
16W	1715	1825
21W	2165	2305

CANDELAS PER 1000 LUMENS
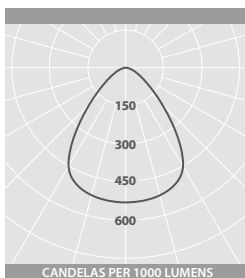
HALO

LED	3000K (lm)	4000K (lm)
8W	1095	1165
16W	1985	2115
21W	2505	2670

CANDELAS PER 1000 LUMENS
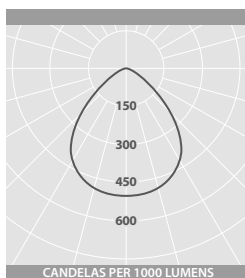
IK10

LED	3000K (lm)	4000K (lm)
8W	1030	1095
16W	1870	1990
21W	2360	2515

CANDELAS PER 1000 LUMENS
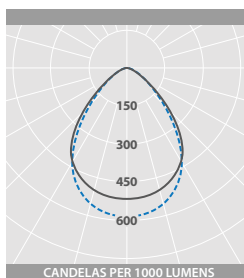
IP65

LED	3000K (lm)	4000K (lm)
8W Clear Glass	1050	1120
16W Clear Glass	1910	2035
21W Clear Glass	2410	2565
8W Polycarbonate	925	985
16W Polycarbonate	1685	1795
21W Polycarbonate	2125	2265
8W Frosted Glass	1000	1065
16W Frosted Glass	1820	1940
21W Frosted Glass	2300	2450

CANDELAS PER 1000 LUMENS

DIMENSIONS

Suitable for ceilings up to 20mm in thickness

76

206 dia.

5
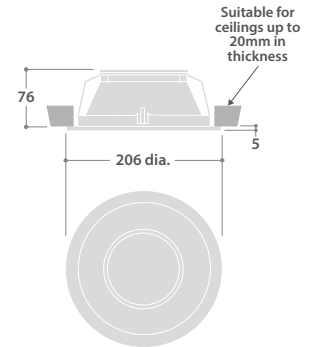
Cut-out - 180 dia.
Minimum void depth - 110

Standard Remote Driver

30

102   51
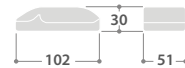
Downlighter Power Unit
for SmartScan Radar, SmartScan Radar Emergency, Emergency and AutoTest versions

59

291   120

ACCESSORIES

DESCRIPTION	CAT. No.	APPROX. kg
Retro-fit fixing kit *(for fitting drop glass attachments only to undrilled bezels)*	**GT 11643**	0.01
Matt chrome cone head screw - 3 off *(for drop glass versions)*	**GT 11866**	0.02
Matt chrome slotted head screw - 3 off *(for drop glass versions)*	**GT 11867**	0.02
Matt chrome knurled head screw - 3 off *(for drop glass versions)*	**GT 11868**	0.02
597 x 597mm ceiling reinforcing board *(3mm thick plywood with 185mm diameter central cut-out)*	**GT 11970**	0.55

Cone Head

Slotted Head

Knurled Head

WEB LINK >
"PLUG AND PLAY" LIGHTING CABLE MANAGEMENT

e) **Reference D**

Janus - Circular

Reference D & DE Alternative

CE IP20

Body Colour Options - White / Brushed Silver

Specifications

- White Aluminium base (standard) with Twist-on PMMA diffuser

- Two Sizes 330 & 400

- Available with mains only or Maintained emergency operation

- Dali option available

- IP20

- CRI 80

- 5 Year Warranty

Version 330 - Diameter: 326mm, Height: 98mm

Version 400 - Diameter: 395mm, Height: 113mm

Dali Option to be installed.
DE- Denotes Emergency Version

JANUS — Emergency Lighting Spacings

	Mounting height Hm (m)	Fitting to Wall	Fitting to Fitting	
/330 Small luminaire in emergency mode	2.5	4.2	10.6	1 Lux min at centre
	4.0	4.6	12.3	
	2.5	5.1	11.5	0.5 Lux min (open)
	4.0	5.3	12.9	
/400 Large luminaire in emergency mode	2.5	4.2	10.7	1 Lux min at centre
	4.0	4.8	12.5	
	2.5	5.2	11.6	0.5 Lux min (open)
	4.0	5.4	13.0	

Technical Data

Code	Watt	Lumen	lm/W	CRI	Weight (kg)	Kelvin
Janus 330	19	1560	82+	80	1.0	4000
Janus 330 /EM	19	1560	82+	80	3.1	4000
Janus 400	23	1920	83+	80	1.3	4000
Janues 400 /EM	23	1920	83+	80	3.4	4000

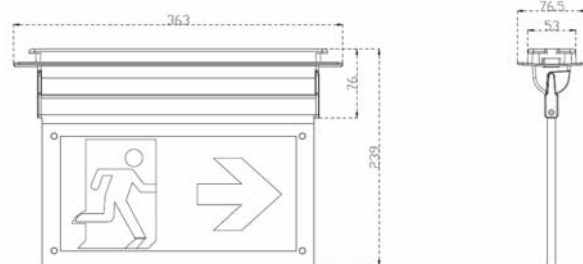**f)   Reference E**

KABALIGHT
PROJECT LIGHTING SPECIALISTS

AQUARIUS

WALL/CEILING MOUNTED LED EMERGENCY EXIT SIGN

Specifications

- For use in corridors, exits and escape routes
- The exit sign is suitable for wall/ceiling mounted
- Polycarbonate housing, PMMA legend
- Maintained,Non-maintained & standard mode (mains only)
- Supplied complete with arrow up, down and left/right legends
- 3 hours non-maintained operation on battery power after mains power failure
- 3.6V 900mAh Ni-Cd batteries pack
- 16pcs SMD2835 LED lamp
- 5 Year warranty

CODE	DIMENSIONS L x W x H (mm)	WATTAGE	LUMEN OUTPUT	LUMEN PER WATT	COLOUR TEMPERATURE	IP RATING
AQUARIUS-4W	360 x 76.5 x 239 mm	4W	180LM	45	6000K	IP20

g) Reference F

Plain

Hood

Plain & Grill

Hood & Grill

IP66 CIRCULAR LUMINAIRES

IP66 IK10 UK CA CE LED

SPECIFICATION

- Strong high-pressure die-cast LM2 aluminium body and cover frame. Graphite, full polyester powder finish as standard
- Silver or white finish options
- High efficiency fire-retardant satin polycarbonate diffuser
- Choice of cover styles
- Complies with M.O.D. JSP482 Chapter 8 Document for 'Category C' areas
- Photocell option
- Microwave presence detector option with stand-by light level feature
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- SmartScan Radar versions with sensor discretely hidden behind the cover
- Fitted with 4000K LEDs

11W/16W LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L80/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>80%
REPLACEABLE	YES
POWER FACTOR	>0.95
LL/CW	106.4

15W HOOD LED CHARACTERISTICS

CRI	80
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L80/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>90%
REPLACEABLE	YES
POWER FACTOR	>0.95
LL/CW	56.7

For LED characteristics explanation see
www.thorlux.com/led-guide

RANGE

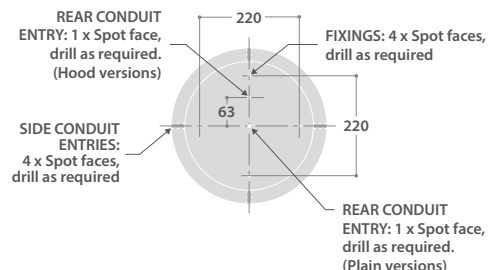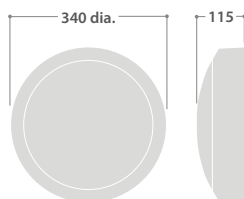| LED	PLAIN	HOOD	CIRCUIT	APPROX. kg	PLAIN & GRILL	HOOD & GRILL	CIRCUIT	APPROX. kg
11W	CT 19516		R/L	3.0	CT 19518		L	3.2
15W		CT 19015	L	3.0		CT 19016	L	3.2
16W	CT 19517		R/L	3.0	CT 19519		L	3.2

COLOUR OPTIONS - add suffix: **SV3** - Silver / **W9** - White   e.g. **CT 19516RSV3** etc.

CIRCUIT TYPE - suffix catalogue number with:
R - SmartScan Radar / **L - non-dimming**   e.g. **CT 19516R** etc.
SmartScan Radar add 0.1kg to weights listed.

EMERGENCY VERSION - prefix catalogue number with:
ECT - Emergency ⎤ (Not available when selecting the **'R'** suffix)
TCT - AutoTest
WCT - SmartScan (11W and 16W versions only)
e.g. **ECT 19516L** etc.
Add 0.3kg to weights listed

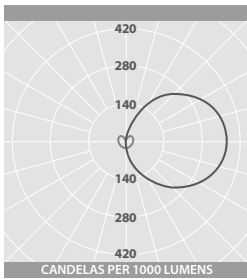Emergency locations denoted on layout drawings

DIMENSIONS

340 dia.   115

REAR CONDUIT ENTRY: 1 x Spot face, drill as required. (Hood versions)

220

FIXINGS: 4 x Spot faces, drill as required

SIDE CONDUIT ENTRIES: 4 x Spot faces, drill as required

63

220

REAR CONDUIT ENTRY: 1 x Spot face, drill as required. (Plain versions)

SmartScan Configurations

Find out more at **www.thorlux.com/smartscan**

COBALT
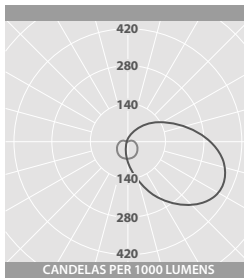

PHOTOMETRIC GUIDE

CANDELAS PER 1000 LUMENS

11/16W - PLAIN
Luminaire Lumen Output:
11W = 1490lm
16W = 2070lm

11/16W - PLAIN & GRILL
Luminaire Lumen Output:
11W = 1285lm
16W = 1795lm

CANDELAS PER 1000 LUMENS

15W - HOOD
Luminaire Lumen Output:
15W = 1020lm

15W - HOOD & GRILL
Luminaire Lumen Output:
15W = 855lm

OPTIONS

DESCRIPTION	SUFFIX	EXAMPLE
Photocell ●	PC	CT 19516LPC
Microwave presence detector ●	MD	CT 19516MD

● Not available with SmartScan Radar versions

ACCESSORIES

DESCRIPTION	CAT. No.
Tamper-resistant screw set including key	CT 11699

Thorlux Lighting

h) Reference H

KABALIGHT
PROJECT LIGHTING SPECIALISTS

BAMBURGH - bulkhead

IP65 CE

Colour Options - White/Black

Specifications

- Can be used indoors and out with three trim levels
- Emergency & Microwave options available
- Colour selectable
- IP65
- IK10
- CRI 80+
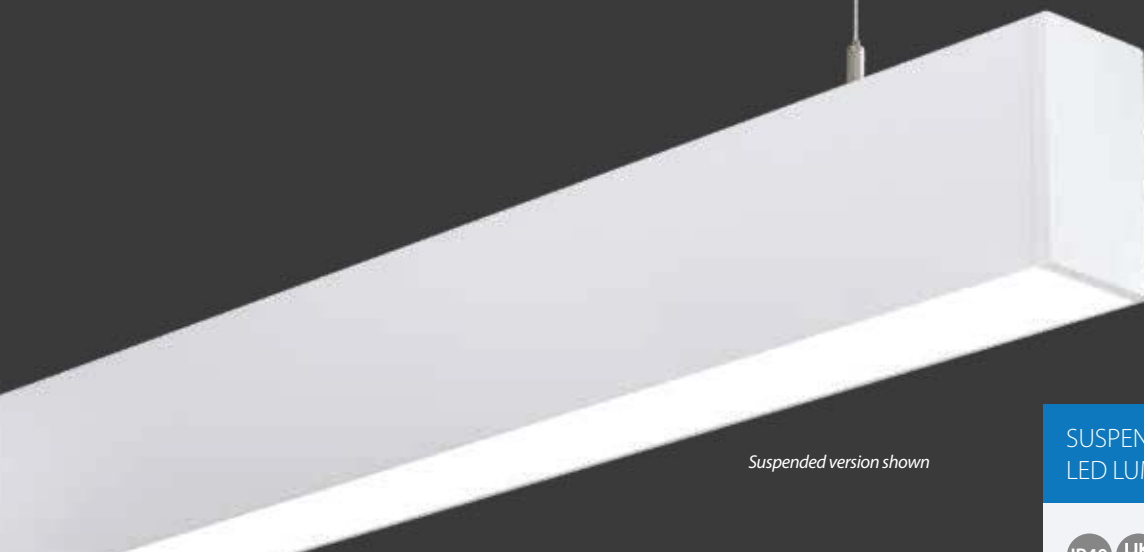- 5 Year Warranty

Emergency locations denoted on layout drawings
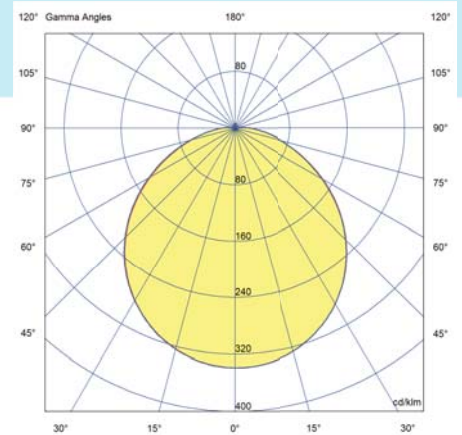
Technical data

CODE	DIMENSIONS Ø x H (mm)	WATT	LUMEN	LUMEN PER WATT	CRI	COLOUR TEMPERATURE
Bamburgh-12W White	350 x 90 mm	12	1470	105	80+	3000/4000/6000K
Bamburgh-12W Black	350 x 90 mm	12	1330	95	80+	3000/4000/6000K
Bamburgh-12W Black Eyelid	350 x 90 mm	12	870	62	80+	3000/4000/6000K
Bamburgh-18W White	350 x 90 mm	18	2100	105	80+	3000/4000/6000K
Bamburgh-18W Black	350 x 90 mm	18	1900	95	80+	3000/4000/6000K
Bamburgh-18W Black Eyelid	350 x 90 mm	18	1240	62	80+	3000/4000/6000K

www.kabalight.com

i) Reference J

HI-BAR
SUSPENDED/SURFACE INDIVIDUAL

Suspended version shown

SUSPENDED INDIVIDUAL LINEAR LED LUMINAIRES

IP40 UKCA CE LED

SPECIFICATION

- Extruded aluminium body and die-cast ends finished satin white (RAL 9016)
- Supplied with polycarbonate TP(a) fire-retardant diffuser. Opal or low glare options
- Plug and socket, fast fit and release gear trays
- Uplight option (suspended versions only)
- Supplied with easily adjustable 3m wire suspensions, surface mounting kit and fitted with 3m lead
- SmartScan wireless technology removes the need for control cabling between groups of luminaires
- Fitted with 4000K LEDs

RANGE

	NOMINAL SIZE (mm)	LED	OPAL	LOW GLARE	LENGTH (mm)	APPROX. kg	CIRCUIT
SMARTSCAN	1500	17W	HB 18683SS	HB 18686SS		6.8	
		30W	HB 18684SS	HB 18687SS	1516	6.8	
		45W	HB 18685SS	HB 18688SS		6.8	
STANDARD	1500	17W	HB 18689	HB 18692		6.7	L/A
		30W	HB 18690	HB 18693	1516	6.7	L/A
		45W	HB 18691	HB 18694		6.7	L/A

CIRCUIT TYPE - suffix catalogue number with:

SMARTSCAN   SmartScan versions use wireless technology and are always suffixed **SS**

STANDARD   **L - non-dimming (LED)** / **A - dimming (DALI)**   e.g. **HB 18683SS** etc.

EMERGENCY VERSION - prefix catalogue number with:

EHB - Emergency (Not available when selecting the '**SS**' suffix)
WHB - SmartScan (Only available when selecting the '**SS**' suffix)
e.g. **WHB 18683SS** etc.
Add 0.4kg to weights listed.

UPLIGHT OPTION - suffix catalogue number with '**UL'**   e.g. **HB 18683SSUL**

Emergency locations denoted on layout drawings

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L80/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>85%
REPLACEABLE	YES
POWER FACTOR	>0.9
LL/CW	109.5

For LED characteristics explanation see
www.thorlux.com/led-guide

SmartScan Configurations

Find out more at **www.thorlux.com/smartscan**

SmartScan version

The SmartScan sensor is located centrally along the length of the luminaire.

SmartScan enables wireless grouping if required (see page 6).
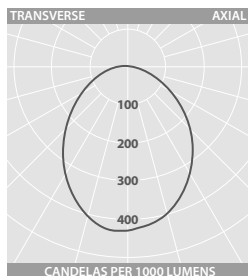
Dimensions, Photometrics and Mounting Options - pages **4-5**

WIRING TIDY

Suitable for use with suspended versions the Wiring Tidy is a surface mounted, easy connect, wiring box for use in solid ceilings.

34
83   155
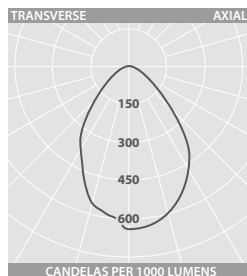
Surface mounting

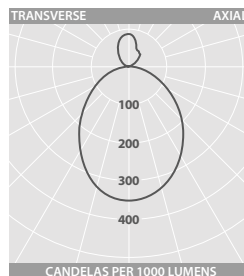*Wire suspension mounting*
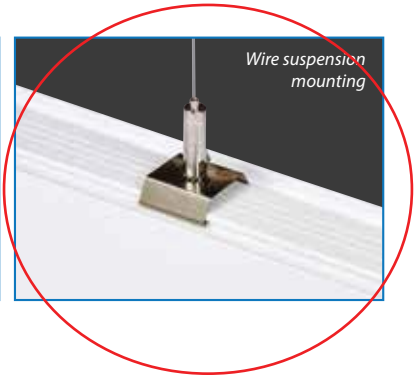
PHOTOMETRIC GUIDE

OPAL

Luminaire Lumen Output:
17W = 2190lm
30W = 3775lm
45W = 5455lm
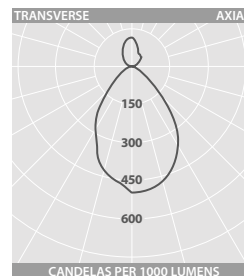34W = 4380lm
60W = 7550lm
90W = 10910lm

LOW GLARE

Luminaire Lumen Output:
17W = 1725lm
30W = 2975lm•
45W = 4300lm•
34W = 3450lm
60W = 5950lm•
90W = 8600lm•

• Exceeds EN12464-1 / LG7 3000 cd/m² limit

OPAL WITH UPLIGHT

Luminaire Lumen Output:
17W = 1735lm
30W = 3015lm
45W = 4085lm
34W = 3470lm
60W = 6030lm
90W = 8170lm

LOW GLARE WITH UPLIGHT

Luminaire Lumen Output:
17W = 1500lm
30W = 2600lm
45W = 3520lm•
34W = 3000lm
60W = 5200lm
90W = 7040lm•

• Exceeds EN12464-1 / LG7 3000 cd/m² limit
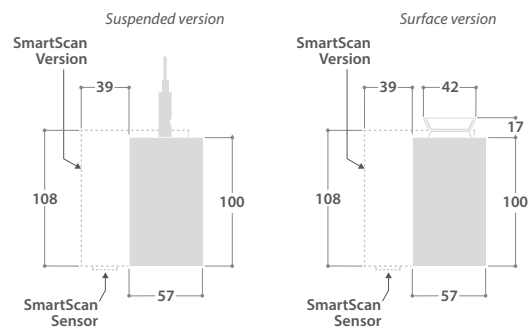
FINISHING COMPONENTS

DESCRIPTION	CAT. No.	APPROX. kg
Opal cover (3500mm length)	HB 18667	0.60
Low glare diffuser (3000mm length)	HB 18668	0.60
Wire suspension kit (3m length, 1 mounting point per kit)*	ZP 16415	0.05
Surface mounting kit (1 mounting point per kit)*	ZP 16689	0.04
Suspended/surface end kit (2 ends per kit)	HB 18670	0.20
Surface wiring tidy	LL 13361W9	0.40

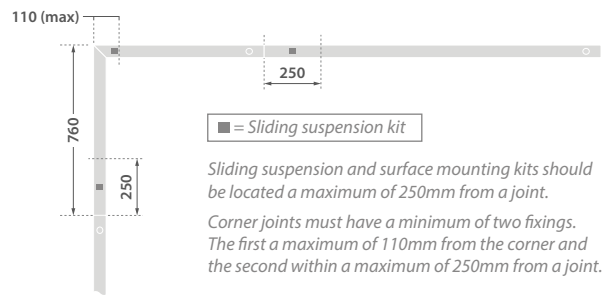* See suspension spacing graphics on page 5 for required quantities
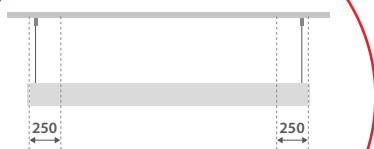
HI-BAR
SUSPENDED/SURFACE

DIMENSIONS

Suspended version

SmartScan
Version

39

108   100

57

SmartScan
Sensor

Surface version

SmartScan
Version

39   42

17

108   100

57

SmartScan
Sensor

CORNER JOINT SLIDING SUSPENSION

110 (max)

760

250

250

■ = *Sliding suspension kit*

*Sliding suspension and surface mounting kits should
be located a maximum of 250mm from a joint.*

*Corner joints must have a minimum of two fixings.
The first a maximum of 110mm from the corner and
the second within a maximum of 250mm from a joint.*

INDIVIDUAL LUMINAIRE SLIDING SUSPENSION

250   250

*Sliding suspensions should be located
a maximum of 250mm from either end.*

CONTINUOUS ROWS USING SLIDING SUSPENSION

250   250   250   250

3000   3000   1500
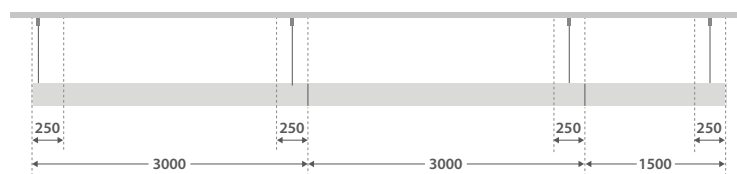
*Sliding suspension kits should be located a maximum
of 250mm either side of joints or from ends.*

Thorlux
Lighting

j) **Reference K**

HIGH PERFORMANCE LED LOW BAY LUMINAIRES

IP64 IK10++ UKCA CE ▽

LED 🌿 🛡️

⚽ Ball impact resistant option to DIN EN 18032 Part 3 VDE 0710 Part 13 *(Excluding High Level Smart versions)*

SPECIFICATION

- Silver extruded aluminium body - fins aid cooling
- High quality control gear and LEDs designed to achieve 100,000 hour life expectancy
- Polycarbonate injection moulded end caps
- Narrow and broad distribution
- Clip fit stainless steel mounting brackets for fast installation (supplied)
- Smooth wipe clean surfaces, no dust traps
- Fitted with 2m flying lead
- Complies with food production standards IFS, HACCP and BRC
- Smart versions, suitable for use up to 8m mounting height or high level versions to 18m
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Separate non-maintained emergency versions available
- Fitted with 4000K LEDs

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L70/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>90%
REPLACEABLE	YES
POWER FACTOR	>0.90
LL/CW	**146.8**

For LED characteristics explanation see **www.thorlux.com/led-guide**

SmartScan Configurations

😊🌿 😊🏃 😊🌿🏃

Find out more at **www.thorlux.com/smartscan**

RANGE

	LENGTH (mm)	LED	BROAD DISTRIBUTION	NARROW DISTRIBUTION	APPROX. kg	CIRCUIT
SMART	1115	126W	SWL 17363	SWL 17366	6.6	D/SS
	1616	189W	SWL 17364	SWL 17367	9.9	D/SS
	2117	252W	SWL 17365	SWL 17368	12.9	D/SS
HIGH LEVEL SMART	1207	126W	SWL 17369	SWL 17372	6.9	D/SS
	1708	189W	SWL 17370	SWL 17373	10.2	D/SS
	2209	252W	SWL 17371	SWL 17374	13.2	D/SS
STANDARD	1115	126W	SWL 17375	SWL 17378	6.5	L/A
	1616	189W	SWL 17376	SWL 17379	9.8	L/A
	2117	252W	SWL 17377	SWL 17380	12.8	L/A
EMERGENCY	470	8W	EWL 17381 ▲	EWL 17382 ▲	3.2	
	470	8W	TWL 17381 ■	TWL 17382 ■	3.2	
	470	8W	WWL 17381 +	WWL 17382 +	3.2	

CIRCUIT TYPE - suffix catalogue number with:

SMART **D** - Smart / **SS** - SmartScan

STANDARD **L** - non dimming (LED) / **A - dimming (DALI)** e.g. **SWL 17363SS** etc.

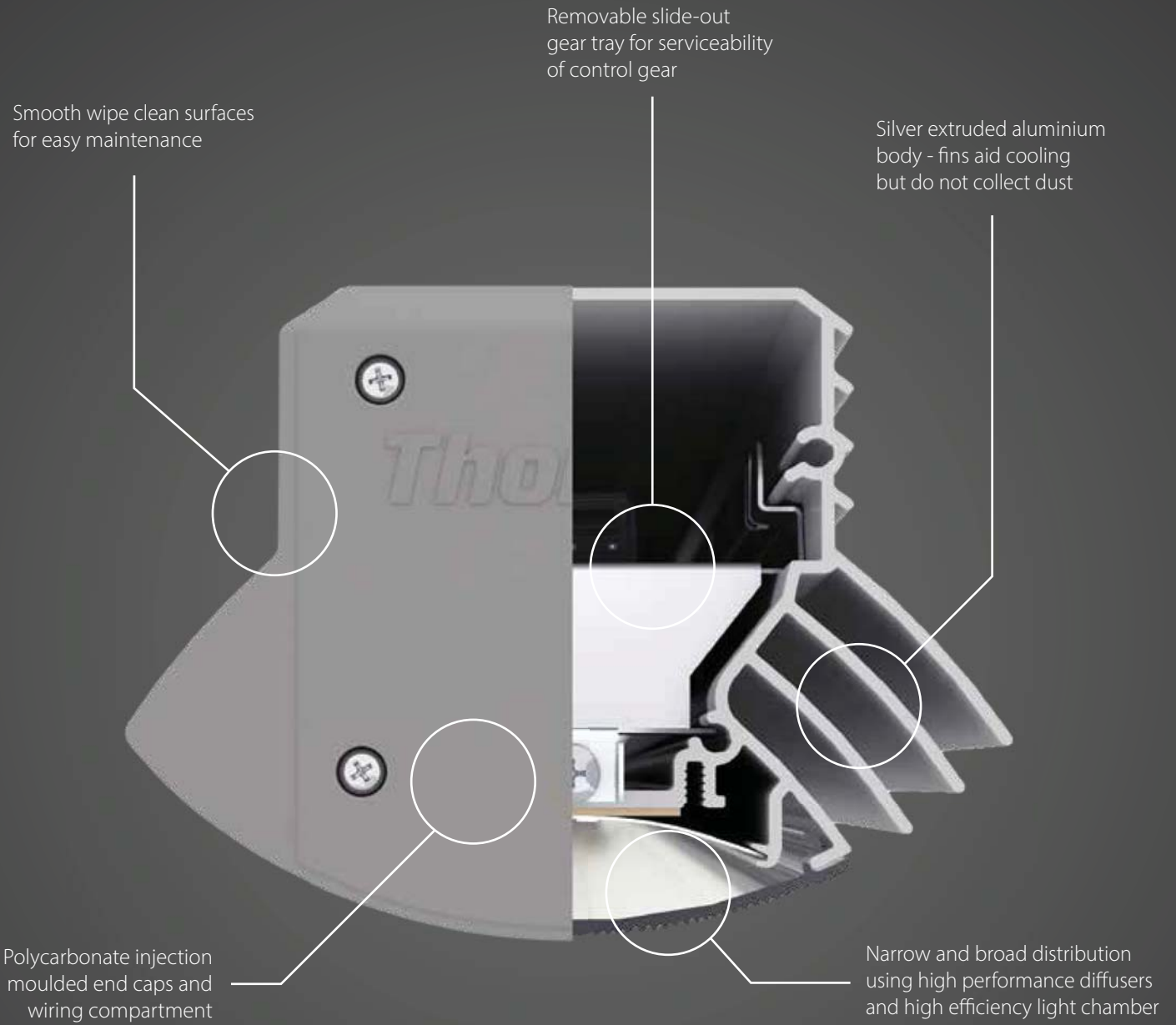**EMERGENCY VERSION:** ▲ **EWL** - Emergency / ■ **TWL** - AutoTest / + **WWL** - SmartScan

NOTE: High Level Smart versions do not comply with DIN EN 18032 Part 3 VDE 0710 Part 13 or IK10++ impact standards

AMBIENT OPERATING TEMPERATURES

LED	STANDARD/SMART			EMERGENCY	
	MINIMUM	MAXIMUM 100K HOUR LIFE	MAXIMUM 50K HOUR LIFE	MINIMUM	MAXIMUM
126W	-20°C	40°C	50°C	-	-
189W	-20°C	35°C	45°C	-	-
252W	-20°C	35°C	45°C	-	-
8W	-	-	-	5°C	40°C

For ambient temperatures below the stated minimum contact the Thorlux Technical department

SOLOW LED

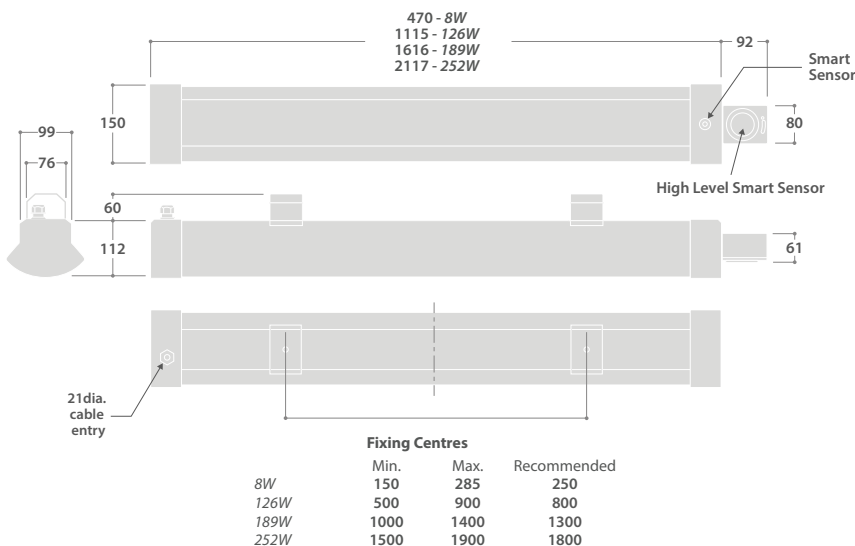Removable slide-out
gear tray for serviceability
of control gear

Smooth wipe clean surfaces
for easy maintenance

Silver extruded aluminium
body - fins aid cooling
but do not collect dust

Polycarbonate injection
moulded end caps and
wiring compartment

Narrow and broad distribution
using high performance diffusers
and high efficiency light chamber

INSTALLATION
3 SIMPLE STEPS

1 INSTALL MOUNTING BRACKETS

2 LUMINAIRE CLIPS IN

3 CONNECT TO SUPPLY

ACCESSORIES

DESCRIPTION	CAT. No.
Mounting bracket locking kit to comply with DIN EN 18032 Part 3 VDE 0710 Part 13 *(One kit required per luminaire)*	**SWL 15376**

DIMENSIONS

470 - *8W*
1115 - *126W*
1616 - *189W*
2117 - *252W*

92

150

99

76

80

Smart Sensor

High Level Smart Sensor

60

112

61

21dia. cable entry

Fixing Centres

	Min.	Max.	Recommended
8W	**150**	**285**	250
126W	**500**	**900**	800
189W	**1000**	**1400**	1300
252W	**1500**	**1900**	1800

PHOTOMETRIC GUIDE

AXIAL
100
200
300
400
TRANSVERSE

CANDELAS PER 1000 LUMENS
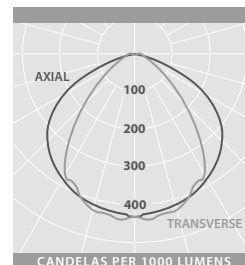
BROAD DISTRIBUTION

Luminaire Lumen Output:
126W = 19770lm
189W = 29655lm
252W = 39540lm

AXIAL
200
400
600
800
TRANSVERSE

CANDELAS PER 1000 LUMENS
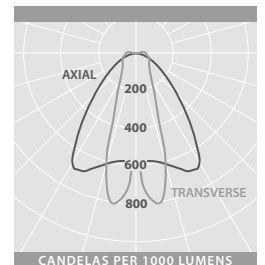
NARROW DISTRIBUTION

Luminaire Lumen Output:
126W = 18830lm
189W = 28245lm
252W = 37660lm

k) Reference L

FORTE

IP66 LED LINEAR CORROSION PROOF

Specifications

- Used in Warehouses, Shops, Schools and Hospitals
- PC opal diffuser, PC Base
- Stainless steel clips
- Input Voltage: 220-240V, 50-60 Hz
- IP66
- CRI 80
- 5 Year warranty

Options

- **/EM3** for *3 Hour Emergency*
- **/DALI** for *Dali dimming gear*
- **/MWS** for *Microwave sensor*
- **/COR** for *Corridor function*

CODE	DIMENSIONS LxWxH mm	WATTAGE	LUMEN OUTPUT	LUMEN PER WATT	COLOUR TEMP	IP RATING
FORTE1X4	1200 x 65 x 72 mm	24W	2715LM	113	4000k	IP66
FORTE2X4	1200 x 100 x 72 mm	40W	4400LM	110	4000K	IP66
FORTE1X5	1500 x 65 x 72 mm	35W	3875LM	110	4000k	IP66
FORTE2X5	1500 x 100 x 72 mm	60W	6600LM	110	4000K	IP66

www.kabalight.com

l) Reference M

MERCIAN

PERFORMANCE GUIDE

Photometric Performance -
26W LED

SPACING	AVERAGE ILLUMINANCE	UNIFORMITY (min/av)
3m mounting height - 5m forward throw		
12m ctrs	22 lux	0.46
15m ctrs	15 lux	0.28
18m ctrs	15 lux	0.19
4m mounting height - 6m forward throw		
12m ctrs	20 lux	0.35
16m ctrs	13 lux	0.50
20m ctrs	10 lux	0.37
24m ctrs	9 lux	0.27
5m mounting height - 7m forward throw		
15m ctrs	11 lux	0.51
20m ctrs	8 lux	0.51
25m ctrs	7 lux	0.36
30m ctrs	6 lux	0.26

FIGURES ARE BASED ON INITIAL LUMENS
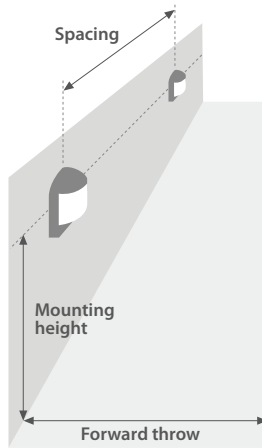
e.g. At 3m mounting height and 12m centres: 22 lux average horizontal illuminance at ground level over an area of 12m (centres) x 5m (forward throw)

PHOTOMETRIC GUIDE

CANDELAS PER 1000 LUMENS
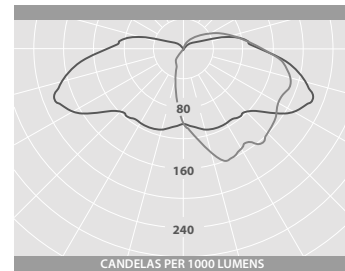
Luminaire Lumen Output:
26W = 3330lm

DIMENSIONS

- Position of mounting bracket screw
- 2 - 6.5mm dia. holes for use with mounting bracket
- BESA box fixing spot face, drill if required
- Alternative fixings 3 - spot faces, drill if required

TL Thorlux Lighting
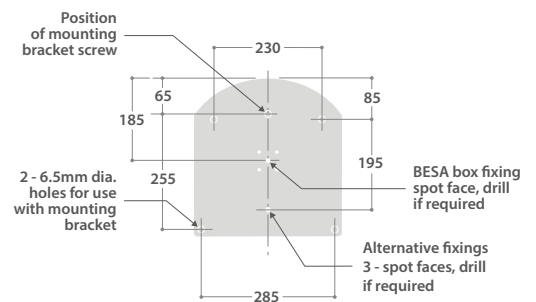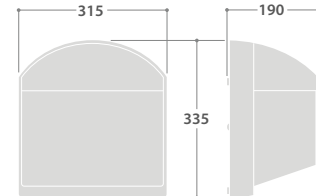
Smart External version

HIGH PERFORMANCE WALL MOUNTED LUMINAIRES

IP65 IK10 UKCA CE LED ⛊

SPECIFICATION

- Strong pressure die-cast LM2 aluminium body prevents distortion when fixing and preserves IP rating. Textured black full polyester powder finish
- Impact-resistant, flame-retardant UV stabilised prismatic polycarbonate cover
- Spacings up to six times mounting height
- Optional photocell control
- Tamper-resistant cover screws available
- Simple to fix using external stainless-steel brackets and two lower points, all external to gasket line to preserve IP rating
- Complies with M.O.D. JSP482 Chapter 8 Document for 'Category C' areas
- Smart External versions with intelligent lighting control for use up to 6 metres mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Fitted with 4000K or 5700K LEDs

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	4000K/5700K
RATED LIFE (HOURS)	100K - L70/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>85%
REPLACEABLE	YES
POWER FACTOR	>0.9
LL/CW	111.0

For LED characteristics explanation see
www.thorlux.com/led-guide

Emergency locations Denoted on layout drawings.

RANGE

	LED	CAT. No.	APPROX. kg
SMART EXTERNAL	26W - 4000K	MER 19102SS	4.4
	26W - 5700K	MER 19103SS	4.4
MAINS	26W - 4000K	MER 19104L	4.3
	26W - 5700K	MER 19105L	4.3

CIRCUIT TYPE -

SMART EXTERNAL	SS - SmartScan
STANDARD	L - non-dimming (LED)

EMERGENCY VERSION - prefix catalogue number with:
EMR - Emergency
TMR - AutoTest ⎤ (Not available when selecting the 'SS' suffix)
WMR - SmartScan (Only available when selecting the 'SS' suffix)
e.g. WMR 19102SS etc.
Add 0.3kg to weights listed

OPTIONS

DESCRIPTION	SUFFIX	EXAMPLE
Photocell		MER 19104LPC
Tamper resistant screws	T	MER 19104LT

◆ To fasten tamper resistant screws order screwdriver KEY 10008

SmartScan Configurations

Find out more at www.thorlux.com/smartscan

m) Reference N

KABALIGHT
PROJECT LIGHTING SPECIALISTS

ZIP

LED MODULAR PANELS

DALI	switch DIM	1-10V	EMERGENCY	SENSOR	RoHS	CE
	LED	IP20	IP54	TUNABLE WHITE		

Colour Options

White   Grey   Black

All RAL colors available upon request

RECESSED PANEL

SURFACE MOUNTED PANEL
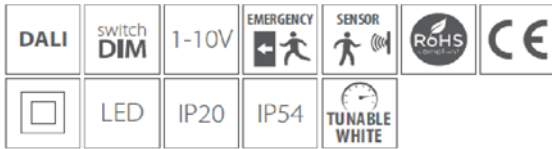
Specifications

- Used in offices, Schools, Shops and Hospitals
- Sheet metal body with electrostatic powder coating
- Hexaprism TP(a) centre optic
- Input Voltage: 220-240V, 50-60 Hz
- Operating temperature: -20° /+45°
- CRI>80
- 5 Year warranty

Options

- **/EM3** *3 Hour Remote Emergency Pack*
- **/DA** *for Dali Dimming*
- **/SUR** *for Surface Mounted*
- **/IP20**
- **/IP54**

Emergency Locations denoted on layout drawings
4000k colour

Ceiling Cut Q1xQ2

Type	Q1	Q2	L1	L2	H
60x60cm	575	575	595	595	65
30x120cm	275	1175	295	1195	65
60x120cm	575	1175	595	1195	65

— C0 - C180   — C90 - C270
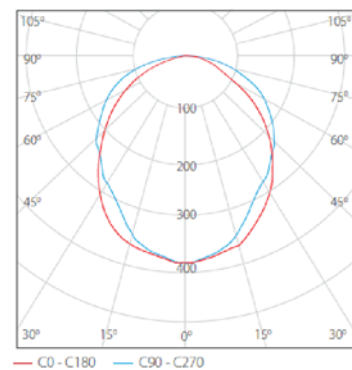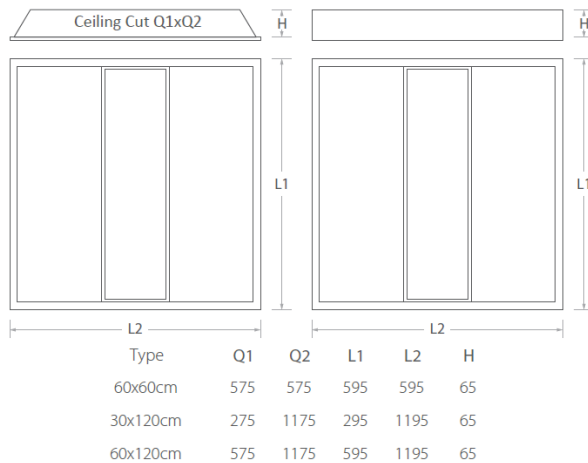
CODE	DESCRIPTION	WATTAGE	LUMEN OUTPUT	LUMEN PER WATT	COLOUR TEMP	IP RATING
ZIP-66-25W	600X600 LED PANEL	25W	2996LM	120+	3000K-6000K	IP20/IP54
ZIP-66-32W	600X600 LED PANEL	32W	3765LM	118+	3000K-6000K	IP20/IP54
ZIP-66-38W	600X600 LED PANEL	38W	4346LM	115+	3000K-6000K	IP20/IP54
ZIP-66-52W	600X600 LED PANEL	52W	5616LM	108+	3000K-6000K	IP20/IP54
ZIP-123-38W	1200X300 LED PANEL	38W	4346LM	115+	3000K-6000K	IP20/IP54
ZIP-126-76W	1200X600 LED PANEL	76W	8692LM	115+	3000K-6000K	IP20/IP54

n) Reference P

STARBEAM

The Starbeam range of precision engineered LED area floodlights and streetlights takes external lighting to a new dimension in terms of efficiency (up to 148.2 luminaire lumens per circuit watt) and longevity (up to 100,000 hours). This is achieved through significant investment in high quality die-cast heat sinks and in house manufactured printed circuit boards positioning the very latest top brand LEDs within precise acrylic lenses. A range of power levels, two optical distribution types and two body sizes provides every option necessary for car park, general amenity and road lighting applications.

CONFIGURATOR

EMERGENCY TYPE ◆		PRODUCT CODE		WATTAGE		DISTRIBUTION		PHOTOCELL		CONTROL TYPE	
Small version											
W	SmartScan *	**SB**	Starbeam	**031**	31W	**A2**	Area	**X**	Without photocell	**S**	SmartScan
				062	62W	**R5**	Roadway	**P**	With photocell ***	**L**	Non-dimming
				088	88W						
				161	161W						
Large version											
		SB	Starbeam	**197**	197W	**A2**	Area	**X**	Without photocell	**S**	SmartScan
						R5	Roadway	**P**	With photocell ***	**L**	Non-dimming

E.g. WSB031A2XS

W	SmartScan	**SB**	Starbeam	**031**	31W	**A2**	Area	**X**	Without photocell	**S**	SmartScan

◆ Optional, leave blank if emergency is not required

* **Only** available with **S** Control Type on 31W, 62W & 88W versions   *** **Only** available with **L** Control Type

NOTE: - **Emergency versions not suitable for high ambient temperatures**
         - **Glass version available to special order**

Zero Upward Light ✓

Help reduce light pollution and protect the night sky by selecting zero upward light luminaires

(SMALL VERSION ONLY, LARGE VERSION <1% UPWARD LIGHT)

WEIGHTS

VERSION	APPROX. kg
Small	8.0
Large	9.2

SMARTSCAN
Add 0.2kg to weight listed.

SMARTSCAN EMERGENCY
Add 0.3kg to weight listed.

ACCESSORIES

See page 5

TL Thorlux Lighting

LED AREA FLOODLIGHTS AND STREET LIGHTS

IP66 | IP65 SMART VERSION | IK10 | UK CA | CE

LED | WINDAGE - small: **0.06m²** large: **0.07m²**
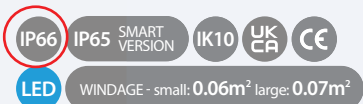
SPECIFICATION

- Die-cast aluminium body and gear compartment finished polyester silver RAL9006
- Die-cast aluminium, fast release gear compartment lid finished polyester graphite
- Polycarbonate cover and acrylic high efficiency LED lenses
- Area or roadway optical distributions
- Integral high efficiency driver
- Extremely efficient and long system life up to 100,000 hours
- Suitable for ambient temperatures up to 50ºC
- Smart External versions with intelligent lighting control for use up to 12 metres mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Pole top 76mm as standard, adjustable through 90º
- Wall mounting bracket accessory
- Wide range of mounting options (see page 5 for details)
- Photocell option
- Fitted with 4000K LEDs

1. "Free draining" curved heat sink eliminates ponding of fluids
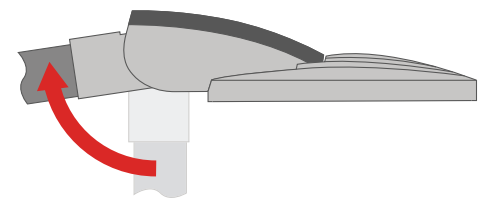
2. Integral adjustable mounting spigot allows easy retrofit on to a wide range of columns and brackets whilst maintaining 0° elevation
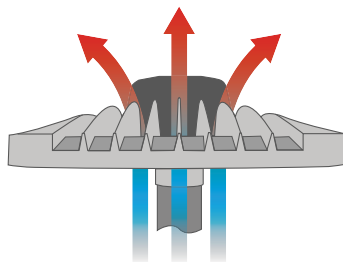
3. Heat dissipation fins combined with air flow between heat sink and gear compartment extends control gear lifetime

LED CHARACTERISTICS

CRI	70+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L90/B10
PROTECTION	LED PROTECT
DRIVER EFFICIENCY	>90%
REPLACEABLE	YES
POWER FACTOR	>0.9
LL/CW	148.2

For LED characteristics explanation see
www.thorlux.com/led-guide

Smart External version

SmartScan Configurations

Find out more at **www.thorlux.com/smartscan**

STARBEAM

AREA DISTRIBUTION
62W LED / 6m mounting height / 25 x 25m spacing - Average illuminance = 24 lux / Uniformity = 0.525
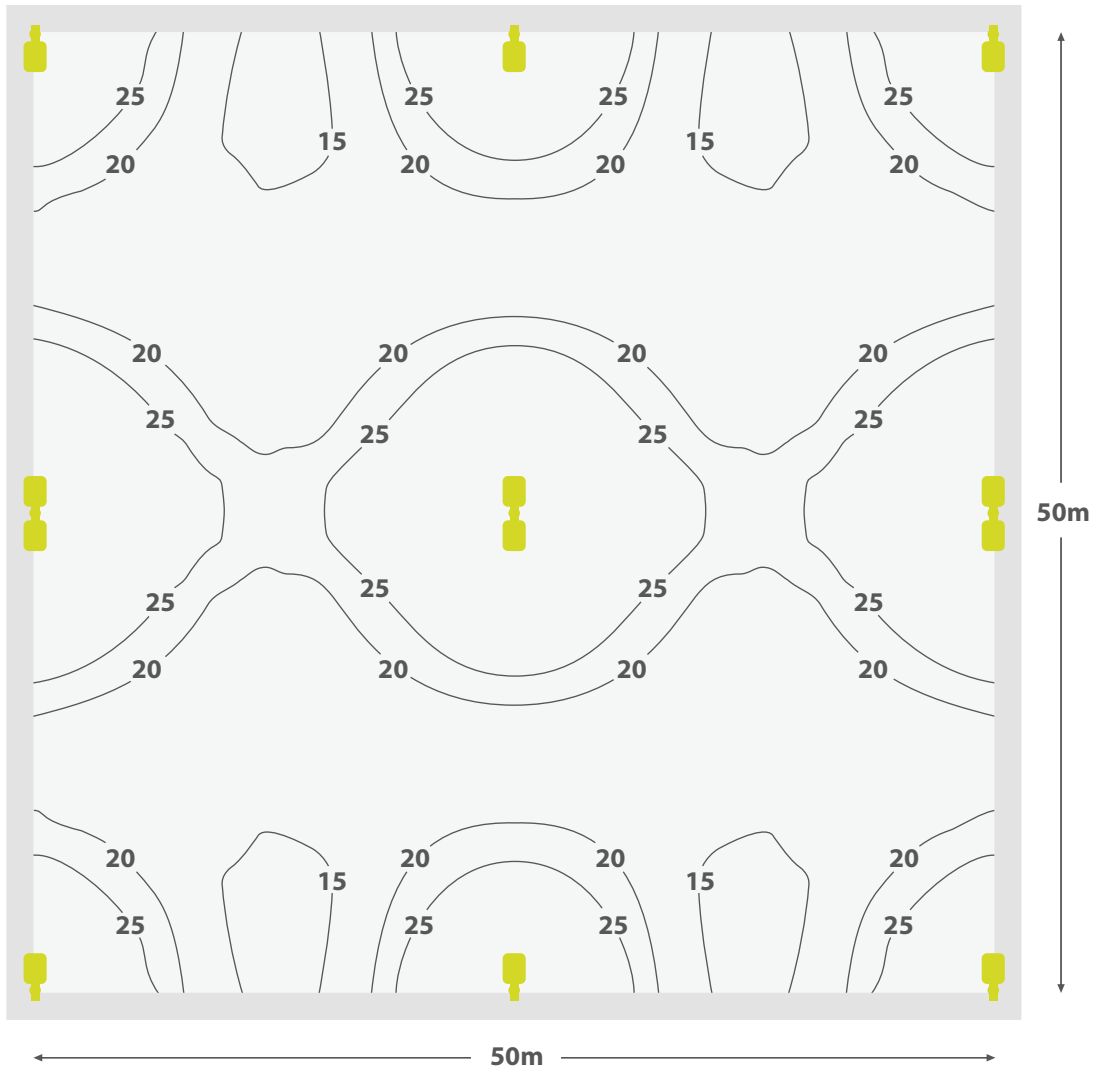
ROADWAY DISTRIBUTION
31W LED / 6m mounting height / 25m spacing - Average illuminance = 11 lux / Uniformity = 0.44

DIMENSIONS

159
Large - 156
Small - 146
203
351

76 dia.
(60mm or
42mm dia.
when using
a reducer)

Small - 413
Large - 540

Small - 618
Large - 745

Small - 539
Large - 666

62
(SmartScan
External
version
only)

PHOTOMETRIC GUIDE

150
300
450
CANDELAS PER 1000 LUMENS

200
400
600
CANDELAS PER 1000 LUMENS
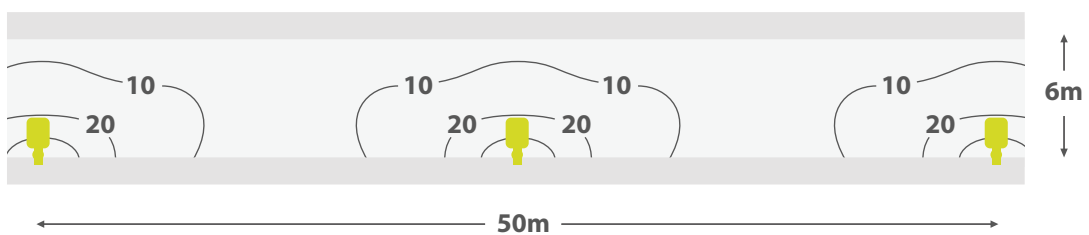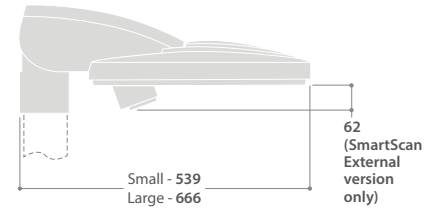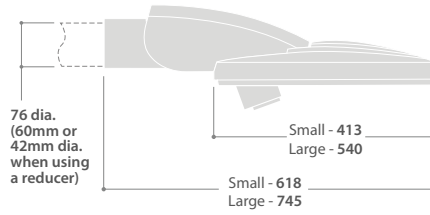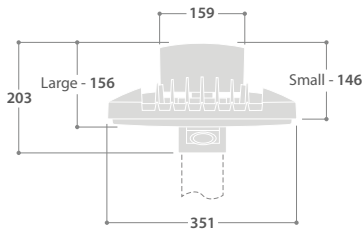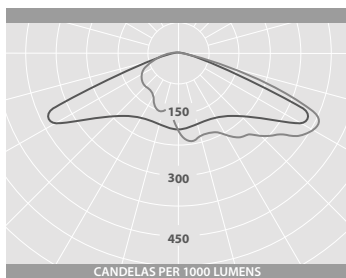
AREA DISTRIBUTION
Luminaire Lumen Output:
31W = 3225lm
62W = 8830lm
88W = 12570lm
123W = 17435lm
161W = 21860lm
197W = 27470lm
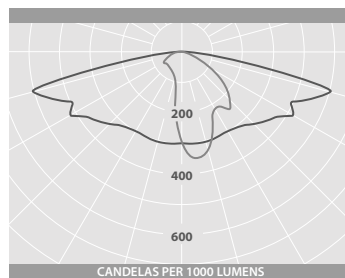
ROADWAY DISTRIBUTION
Luminaire Lumen Output:
31W = 3340lm
62W = 9640lm
88W = 13725lm
123W = 19035lm
161W = 23865lm
197W = 29995lm

STARBEAM

COLUMN MOUNTING OPTIONS

Single Outreach Arm

300

76 dia.

10°

500

Internal stop bar

8 x stainless steel grub screws

SB 15863 to fit on to 76 dia.
SB 17788 to fit on to 89 dia.
SB 15865 to fit on to 101 dia.
SB 17180 to fit on to 114 dia.

Twin Outreach Arm 180°

500

76 dia.

10°

500

Internal stop bar

8 x stainless steel grub screws

SB 15864 to fit on to 76 dia.
SB 17789 to fit on to 89 dia.
SB 15866 to fit on to 101 dia.
SB 17181 to fit on to 114 dia.

Twin Outreach Arm 90°

300

60 dia.

10°

500

Internal stop bar

8 x stainless steel grub screws

SB 15890K to fit on to 76 dia.
SB 19695K to fit on to 89 dia.
SB 15893K to fit on to 101 dia.

Supplied with 2 x 76mm to 60mm reducer kits (**SB 15809**)

Triple Outreach Arm 120°

430

60 dia.

10°

500

Internal stop bar

8 x stainless steel grub screws

SB 15896K to fit on to 89 dia.
SB 15894K to fit on to 101 dia.

Supplied with 3 x 76mm to 60mm reducer kits (**SB 15809**)

Quad Outreach Arm N-S-E-W

500

60 dia.

10°

500

Internal stop bar

8 x stainless steel grub screws

SB 15897K to fit on to 89 dia.
SB 15895K to fit on to 101 dia.

Supplied with 4 x 76mm to 60mm reducer kits (**SB 15809**)

COLUMN ADAPTORS

76 dia.

100

265

4 x stainless steel grub screws

POT 89-76 to fit on to 89 dia.
POT 101-76 to fit on to 101 dia.
POT 114-76 to fit on to 114 dia.

BRACKET ARM REDUCERS

86   89 dia.

76 dia.

76-60mm Reducer - SB 15809
To suit 60mm bracket arm

86   89 dia.

76 dia.

76-42mm Reducer - SB 15810
To suit 42mm bracket arm

WALL MOUNTING BRACKET

200

140

20

110

140   200

76

5

4 x 10 dia. holes

1 x 16 dia. hole

SB 15808

For further mounting and bracket options please contact our Technical Department

TL Thorlux Lighting

COLUMNS SPECIFICATION

- Stepped tubular galvanised steel columns, to BS EN 40-2:2004
- Mounting accessories are hot dip galvanised to BS EN ISO 1461:2009
- Supplied with wooden baseboard for mounting cable connection accessories
- Accessories are easily fixed with stainless steel grub screws and have an internal stop to ensure cable exit

UK DELIVERY

Columns are delivered to site at a pre-arranged time. An off-loading service is not included and it is the responsibility of the client (or client's agent) for the safe undertaking of this requirement. A fork lift truck is recommended to minimise manual handling.

COLUMN RANGE

NOMINAL HEIGHT	CAT. No.	PLANTING DEPTH	BASE HEIGHT	DOOR HEIGHT	DOOR DIMENSIONS		BASE DIAMETER	SHAFT DIAMETER	APPROX. kg	BASEBOARD SIZE
A		B	C	D	E	F	G	H		
Single and Twin Starbeam Standard Columns										
4m	**FC4**	800	925	300	500	100	140	76	33	89 (w) x 500 (h)
5m	**FC5**	800	925	300	500	100	140	76	40	89 (w) x 500 (h)
6m	**FC6**	1000	925	300	500	100	140	76	44	89 (w) x 500 (h)
8m	**FC8**	1200	1200	400	600	115	168	114 ■	100	89 (w) x 600 (h)
10m	**FC10**	1500	1300	500	600	115	168	114 ■	142	89 (w) x 600 (h)
Triple and Quad Starbeam Medium Duty Columns										
4m	**FC4/89**	800	1280	300	600	115	168	89	60	89 (w) x 500 (h)
5m	**FC5/89**	800	1280	300	600	115	168	89	64	89 (w) x 500 (h)
6m	**FC6/89**	1000	1280	300	600	115	168	89	68	89 (w) x 500 (h)
8m	**FC8**	1200	1200	400	600	115	168	114 ■	100	89 (w) x 600 (h)
10m	**FC10**	1500	1300	500	600	115	168	114 ■	142	89 (w) x 600 (h)

■ Reduced at top to 101mm to accept accessories
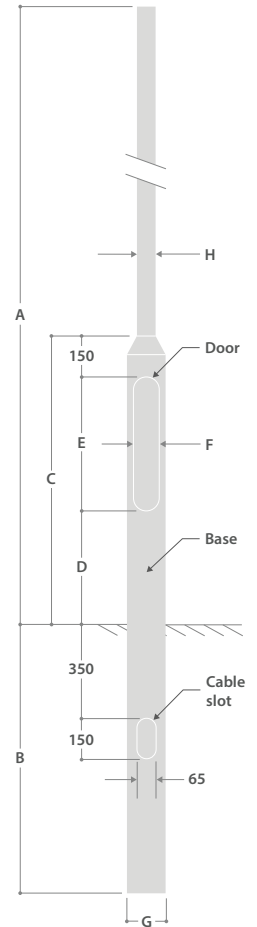
ORDERING INFORMATION

Mounting Height	SINGLE COLUMN MOUNT	SINGLE OUTREACH ARM	TWIN OUTREACH ARM 180°	TWIN OUTREACH ARM 90°	TRIPLE OUTREACH ARM 120°	QUAD OUTREACH ARM N-S-E-W
	Column Adaptor	Column Bracket	Column Bracket	Column Bracket	Column Bracket	Column Bracket
4m	FC4	FC4 SB 15863	FC4 SB 15864	FC4 SB 15890K	FC4/89 SB 15896K	FC4/89 SB 15897K
5m	FC5	FC5 SB 15863	FC5 SB 15864	FC5 SB 15890K	FC5/89 SB 15896K	FC5/89 SB 15897K
6m	FC6	FC6 SB 15863	FC6 SB 15864	FC6 SB 15890K	FC6/89 SB 15896K	FC6/89 SB 15897K
8m	FC8 POT 101-76	FC8 SB 15865	FC8 SB 15866	FC8 SB 15893K	FC8 SB 15894K	FC8 SB 15895K
10m	FC10 POT 101-76	FC10 SB 15865	FC10 SB 15866	FC10 SB 15893K	FC10 SB 15894K	FC10 SB 15895K

o) **Reference Q**

Tesis round – The benchmark in the outdoor area

An innovative archetype in out-door lighting
Tesis has long been a regular feature in the outdoor range. In a completely upgraded version, it now delivers an entirely new level of performance. Innovative photometrics ensure maximum brilliance and efficiency. A considerably flatter housing thanks to LED technology ensures exceptionally straightforward installation – in both round and square version. The robust polymer housing is fully corrosion-resistant and designed to ensure long life and ease of use. Be it directional luminaire, uplight or wallwasher, Tesis sets the benchmark in outdoor lighting.

ERCO

Technical Region: 220-240V 50/60Hz
We reserve the right to make technical and design changes.
Edition: 17.05.2021

Current version under
www.erco.com/tesis-round

Tesis round In-ground luminaires

Structure and characteristics
The features described here are typical of products in this range. Special versions may offer additional or varying features. A comprehensive description of the features of individual products can be found on our website.

1 ERCO Spherolit lens
– Directional spotlight light distributions: narrow spot, spot, flood or oval flood
– Uplight light distribution: wide flood

or

Lens wallwasher
– Optical cut-off 40°
– ERCO lens system: wallwash
– Wallwasher reflector: Metal or polymer, aluminised, silver, textured, partially coated black, with diffuser on lower side

2 ERCO LED-module
– High-power LEDs: warm white (3000K) or neutral white (4000K)
– Collimating lens made of optical polymer
– Directional spotlight pivotable through 0°-30°

3 Cover ring
– Covered or flush mounting detail
– Stainless steel
– Safety glass: 15mm, transparent

4 Housing
– Polymer, black
– Longitudinally watertight cable 3x1.5mm^2
– Installation with separate connection sleeve
– Mounting is possible without mounting enclosure
– Installation in mounting enclosure: driveable, can be driven over by vehicles with air-filled tyres. Load 20kN or 50kN
– Hollow floor installation only with overlapping installation detail: Fixing set to be ordered separately

5 Control gear
– Switchable, phase dimmable or DALI dimmable
– Phase dimmable version: Dimming with external dimmers possible (trailing edge)

Protection mode IP68
Protection against the ingress of dust, protection against the consequences of continuous immersion in water to a depth of max. 3m.

Variants on request
– High-power LEDs: 3000K CRI 97 or 2700K, 3500K, 4000K with CRI 92
– Cover ring: V4A stainless steel
– Anti-slip safety glass
Please contact your ERCO consultant.

Design and application:
www.erco.com/tesis-round

Tesis round In-ground luminaires

Improved visual comfort
ERCO has developed luminaires with special housing designs and highquality optical components specifically for demanding visual tasks to provide enhanced visual comfort.

Available in round or square
The ERCO system design includes round and square versions to provide luminaires suited to the architecture and surroundings.

Large luminaire spacing
For some wallwashers, the luminaire spacing may be up to 1.5 times the offset from the wall. Corresponding details are provided in the wallwasher tables in the catalogue or the product data sheets. Computerised beam calculations are recommended to check potential intersections with side walls.

Special characteristics

Improved visual comfort

Available in round or square

Wide luminaire spacing with wallwashing

ERCO high-power LEDs

Efficient Spherolit technology

Optical cut-off 40°

Different light distributions

Different light colours

Excellent thermal management

EMC-optimised

Various construction sizes

Flush or covered mounting detail

Protection mode IP68

Safety class II

Switchable

Phase dimmable

DALI dimmable

Tesis round In-ground luminaires – Luminaire arrangement

Lens wallwashers
Wallwash
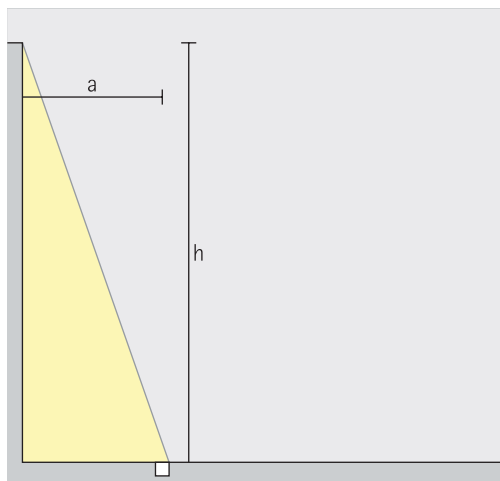
Wallwashing
Uniform vertical illuminance in the outdoor area defines spatial borders. Here, the distance (a) of Tesis lens wallwashers from the wall should be around one third of the room height (h).

Arrangement: a = 1/3 x h
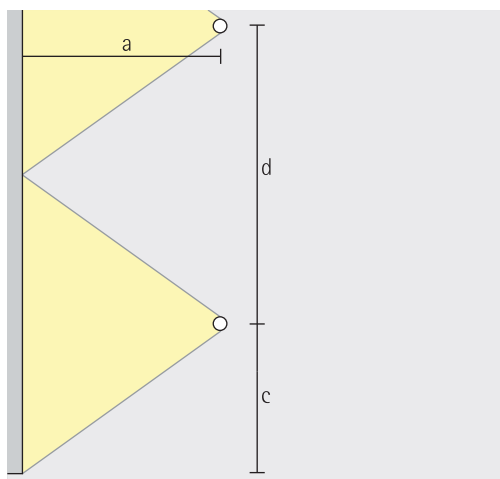
For good longitudinal uniformity, the spacing (d) of round Tesis lens wallwashers may be up to 1.3 times the offset from the wall (a).

Arrangement: d ≤ 1.3 x a

The optimal wall offset and luminaire spacing for each product are indicated in the wallwasher tables in the catalogue and the product data sheets.

Uplights
Wide flood
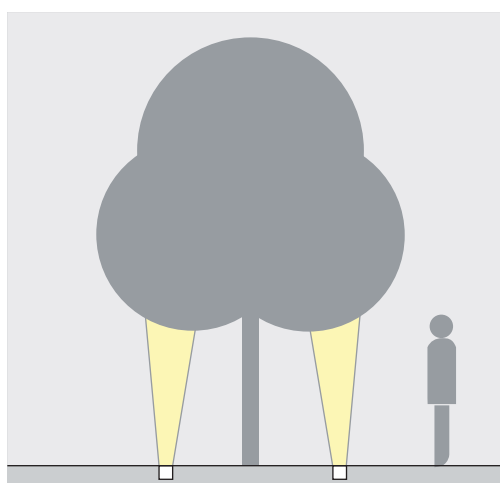
Accentuation
Tesis uplights used for the accentuation of objects such as treetops or cantilever roofs need to be accurately positioned and aligned to ensure that the light arrives precisely and only on the target surface to avoid light pollution.

Directional luminaires
Narrow spot, Spot, Flood, Oval flood
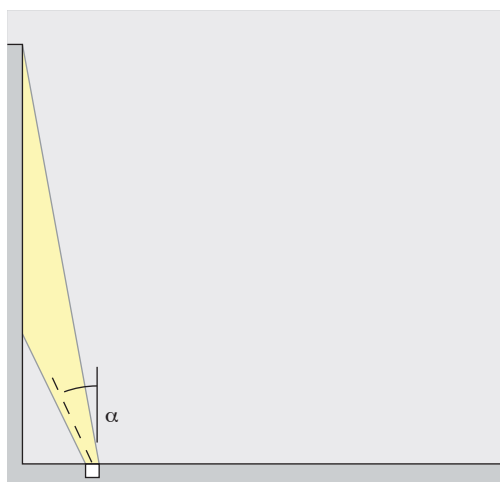
Accentuation
Experience has shown the ideal angle of tilt (a) for accent lighting with Tesis directional luminaires to be 25°. This ensures good modelling without excessive grazing light.

Arrangement: α = 25°

Facade of Brandsende office building, Hamburg. Architecture: Akyol Kamps, Hamburg. Lighting design: Akyol Kamps, Hamburg. Photography: Frieder Blickle, Hamburg.

Tesis round In-ground luminaires

Construction size

 Size 3

Ø180 159

 Size 4

Ø209 169
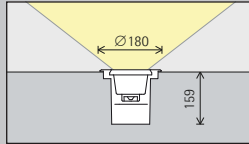
LED module
Maximum value
at 4000K CRI 82

8W/1100lm

16W/2200lm	2W/275lm (Narrow spot)

Light colour

	2700K CRI 92 *		3500K CRI 92 *
	3000K CRI 92		4000K CRI 82
	3000K CRI 97 *		4000K CRI 92 *

	2700K CRI 92 *		3500K CRI 92 *
	3000K CRI 92		4000K CRI 82
	3000K CRI 97 *		4000K CRI 92 *

Light distribution

Lens wallwasher
Wallwash
Uplight
Wide Flood

Lens wallwasher	Directional luminaire
Wallwash	Narrow spot
Uplights	Spot
Wide Flood	Flood
	Oval flood

Control

Switchable

Switchable
DALI

Accessories

	Connection sleeve		Recessed housing
	Branching sleeve		Mounting kit

Belmont Forum,
Cloverdale.
Lighting design:
Lighting Options
Australia, Perth.
Photography:
Matt Devlin, Perth.

Kosmos restaurant
at the Humboldt
Villa, Lüdenscheid.
Architecture:
MTT Architekten,
Lüdenscheid.
Interior design:
Kitzig Interior
Design, Bochum.

p) Reference R

FLYNN

IP54 UP/DOWN GU10 WALL LIGHT

Specifications

- For use in residential and commercial applications
- Anthracite circular tube
- GU10 lamp holders (x2)
- Lamps supplied separately (x2)
- Available to order in White and Grey
- IP54
- 5 Year Warranty

| 80mm |

173mm
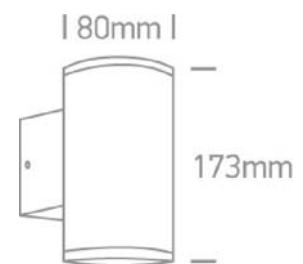
CODE	DESCRIPTION	IP RATING
FLYNN-A	UP/ DOWN GU10 WALL LIGHT ANTHRACITE	IP54
FLYNN-W	UP/ DOWN GU10 WALL LIGHT WHITE	IP54
FLYNN-G	UP/ DOWN GU10 WALL LIGHT GREY	IP54

q) Reference PD1

GEFL-IP | Low profile, flush mounted, ceiling, PIR, occupancy sensor

GEFL-HS – Sold separately

A low profile, flush mounted presence detector that is easy to set up via an infrared handset (GEFL-HS – sold separately), that provides auto on/auto off switching.

Key Product Features:

- Presence detection
- Lux level sensing
- Adjustable via IR handset
- Adjustable lux and timer
- Switches any type of load
- Works with any type of lamp
- IP55 rated.

Detection pattern

high ❬ sensitivity ❭ low

Dimensions (mm)

A brand of **legrand**
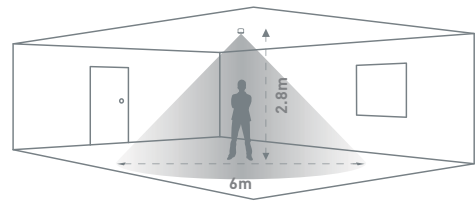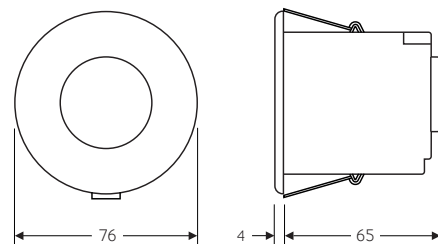
Technical Data

Part Code	GEFL-IP
Weight	0.150kg
Supply voltage AC	230 VAC +/- 10%
Supply Frequency	50Hz
Terminal capacity	2.5mm²
Max switched L-out load:	
Incandescent lighting	8A
Fluorescent lighting	4A
Compact fluorescent lighting	3A
LED lighting	3A
Resistive heaters	8A
Purpose	Sensing control
Construction	Independent flush mounted, electronic control
Type of action	Type 1.B action (micro disconnection)
Pollution	Degree 2
Software	Class A
Time out range	10s–30m
Rated impulse voltage	2500V
Operational temperature	-10 to 35ºC
Material (casing)	Flame retardant ABS
Insulation class	Class 2
IP rating	55
Compliance C E	EMC-2014/30/EU, LVD-2014/35/EU

19877

r) Reference PD2

EBDSPIR-DD | DALI/DSI digital dimming, compact, IP40, ceiling, flush mounted, PIR, presence/absence detector

Key Product Features:

- Low profile design
- Self contained unit
- Pluggable
- Range up to 7m at 2.8m mounting height
- Infrared programmable
- Programmable via our UHS5 or UNLCDHS infrared handsets
- User handset available to control on/off, lux levels and preset scenes
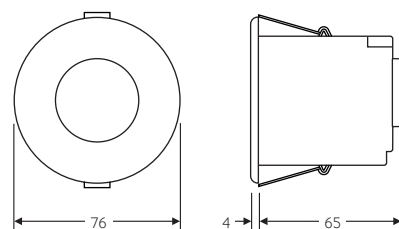- Flush or surface mounted with DBB accessory
- 5 year warranty

Key Functions:

- Switching/Dimming with Lux Level Sensing
- Programmable via our programming handset
- Absence detection functionality
- Step-down illuminance
- Maintained Illuminance (daylight linking or daylight harvesting)
- Suitable for all lighting types
- Two channel flexibility
- Scene setting and recall
- Lamp burn-in

Detection pattern

high < sensitivity > low

Dimensions (mm)

76 4 65

A brand of **legrand**
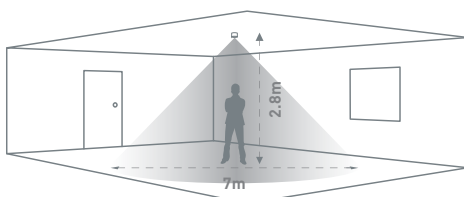
Technical Data

Part Code	EBDSPIR-DD
Control method	DALI/DSI digital dimming
Weight	0.150kg
Supply voltage AC	230 VAC +/- 10%
Supply frequency	50Hz
Power consumption parasitic	807mW
Terminal capacity	2.5mm²
Maximum loads	
Incandescent lighting	10A
Fluorescent lighting	10A
Compact fluorescent lighting	10A
LED lighting	10A
Resistive heaters	10A
Number of drivers/ballasts	Up to 10, or 20 with relay disabled
Working temperature range	-10 to 35°C
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant ABS and PC/ABS
Insulation class	2
IP rating	40
Compliance $\quad$ CE	EMC-2014/30/EU LVD-2014/35/EU

Accessories and Associated Products

Part Number	Description
UHS5	Compact, programming/ commissioning handset
UHS7	Compact, user handset
UNLCDHS	Professional, programming/ commissioning LCD handset
EBD-ENCIP1	Pre-drilled 64mm hole detector adapter enclosure
EXD-HSC	Extended wiring housing
EBDSPIR-MS	Masking shields for EBDSPIR range
DBB	Surface mount back box for 76mm diameter detectors and light level controls
DBB-EXT	Surface mount back box extender for 76mm diameter detectors and light level controls

Important notice:

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and the applicable Building Regulations.

Due to our policy of continual product improvement CP Electronics reserves the right to alter the specification of this product without prior notice.
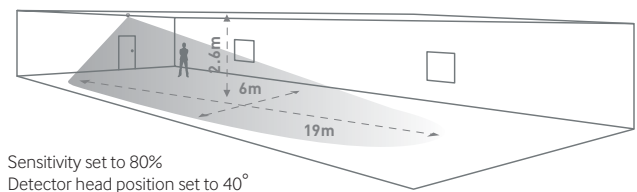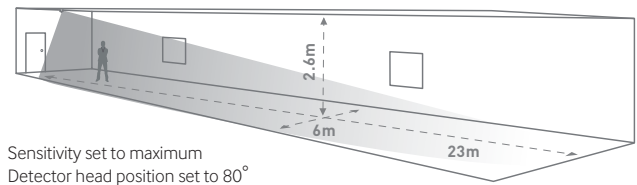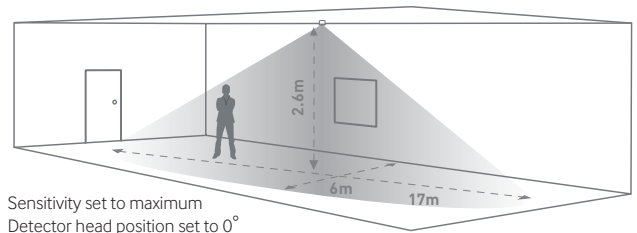
ESTA
energy services and technology association

A brand of **L**legrand®

18696

s) **Reference PD3**

MWS3A | Adjustable head, flush mounted, ceiling, microwave presence/absence detectors

Head can be adjusted to suit the detection pattern required

Detection head position set to 0°

Detection head position set to 40°

Detection head position set to 80°

Detection pattern

high ‹ sensitivity › low

Sensitivity set to maximum
Detector head position set to 0°

2.6m / 6m / 17m

Sensitivity set to maximum
Detector head position set to 80°

2.6m / 6m / 23m

Sensitivity set to 80%
Detector head position set to 40°

2.6m / 6m / 19m

Unlike fixed head microwave detectors the MWS3A offers a unique presence/absence detection capability by using an adjustable head.

Key Product Features:

- Unique adjustable head design to achieve the required detection pattern
- Locking mechanism to prevent tampering
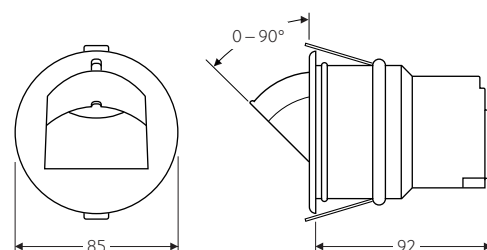- Can be flush or surface mounted
- IP40 rated.

Available control methods

- PRM – Switching
- DD – DALI/DSI dimming
- AD – Analogue dimming
- KNX

Available options

- LV – Low voltage
- VFC – Voltage free contact
- 2CH – 2 channel
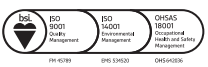- 2CH-NC – 2 channel normally closed for fail safe applications

Dimensions (mm)

0 – 90°

85

92

A brand of legrand

Technical Data

Part Code	MWS3A-PRM	MWS3A-DD	MWS3A-AD
Control method	PRM Switching	DALI/DSI Digital Dimming	1–10V Analogue Dimming
IP rating	40	40	40
Device/ballast control	–	up to 20 drivers/ballasts	up to 10 drivers/ballasts
Weight (kg)	0.15	0.15	0.15
Supply voltage (AC)	230 VAC +/- 10%	230 VAC +/- 10%	230 VAC +/- 10%
Supply frequency (Hz)	–	–	50
Power consumption parasitic (mW)	910mW	961mW	959mW
Terminal capacity	2.5mm²	2.5mm²	2.5mm²
Maximum loads			
Incandescent lighting (INC)	10A	10A	10A
Fluorescent lighting (F)	10A	10A	10A
Compact fluorescent lighting (CF)	10A	10A	10A
LED lighting (LED)	10A	10A	10A
Resistive heaters (RH)	10A	10A	10A
Fans & ventilation equipment (F&V)	10A	10A	10A
Working temperature range (°C)	-10 to 50	-10 to 50	-10 to 50
Humidity	5 to 95% non-condensing	5 to 95% non-condensing	5 to 95% non-condensing
Material (casing)	Flame retardant ABS and PC/ABS	Flame retardant ABS and PC/ABS	Flame retardant ABS and PC/ABS
Insulation class	Class 2	Class 2	Class 2
Compliance	EMC-2014/30/EU, LVD-2014/35/EU	EMC-2014/30/EU, LVD-2014/35/EU	EMC-2014/30/EU, LVD-2014/35/EU
Time out range	10s–99m	10s–99m	10s–99m
Cutout diameter	74mm	74mm	74mm
Purpose	Sensing control	Sensing control	Sensing control
Installation	Independent flush mounted, electronic control	Independent flush mounted, electronic control	Independent flush mounted, electronic control

Important notice:

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and the applicable Building Regulations.

Due to our policy of continual product improvement CP Electronics reserves the right to alter the specification of this product without prior notice.

ESTA
energy services and technology association

A brand of **Lⁱlegrand**

17894