

North Manchester General Hospital - MSCP

Equipment:	Ref:	Date:
MSCP - Lighting	20200-IES-MSCP-XX-TS-E-0003 (P01 S3 Internal Review & Comment)	22/11/2021
Drawing Ref:	Specification Ref:	
See Enclosed Documents	NMGH-ARP-MC-XX-SP-N-00002 P01 15 January 2021	

The Information Enclosed Within This Technical Submission Is Issued for:

Tender	Information	Comment	Procurement	Construction
☐	☐	☒	☐	☒

Issued to (where applicable):

Main Contractor	BMS Specialist	Drawing Coordinator	O&M Technical Author	Other.....	Other.....
☒	☐	☒	☐	☐	☐

Information provided encompasses the following elements (where applicable)

Building Work Requirements	Drainage Requirements	Electrical Requirements	Mechanical Requirements	BMS Requirements	Asset Register / Maintenance Required
☐	☐	☒	☐	☐	☐
Sample	Install Info	Co-ordination Info	O&M Info	Acoustic Info	Other.....
☒	☐	☐	☐	☐	☐

Technical Submission:

Introduction:

This Technical Submittal is for the proposed lighting fixtures with integral emergency function, inline with the proposed VE option

Proposed product list:

See Document Enclosed

Documents 'Enclosed':

Thorlux Luminare Schedule

Compliance/VE statement(s):

The equipment 'detailed' above is proposed as a Change from the ER's/Original Design and is submitted as a VE proposal. For details of the associated cost adjustment please refer to our separate VE correspondence ref:21.6424-012 Value Engineering Schedule - Options, dated the 02/11/21.

Notes:

- Please be advised that in the absence of a response by the 'due date' stated below, it is our intention to proceed with the ordering/installation of the materials/equipment/systems in accordance with the enclosed technical details/quotation(s)/drawings/catalogue pages/sample(s).
- We believe that we have provided sufficient information for you to fully appraise our proposal(s), however, should you require anything further or would like to meet to discuss/review the enclosed details then please contact us.

Response required by: 06/12/2021

Raised By: J.Self

Response: (Please Feel Free To Mark Up Drawings With Any Comments)

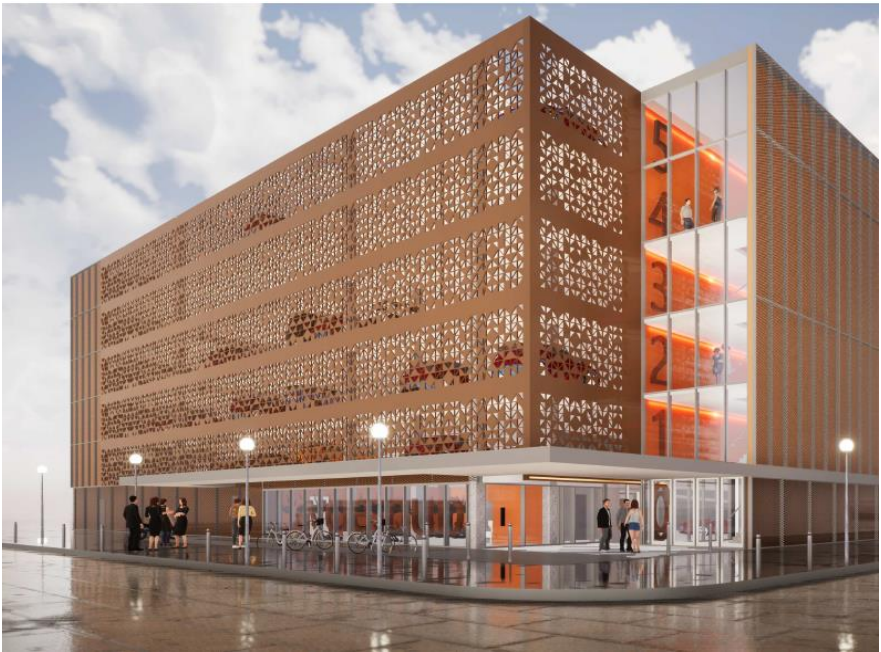
A) No Comments	B) Minor Comments	C) Major Comments	D) Rejected
☐	☐	☐	☐

Response Date:

Completed By:

Signed:

NMGH-MSCP Luminaire Schedule

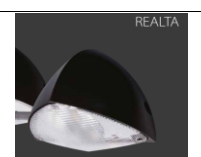


Revision History		
P01	Initial Issue	10.08.21
P02	Updated to reflect VE	19.11.21

NMGH-MSCP Luminaire Schedule

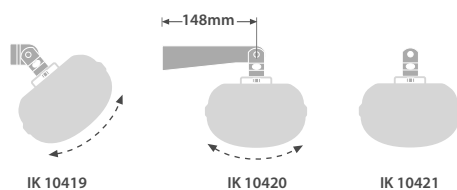
Revision - P1

Reference	Part Number	Description	Additional Information	Image
A	TP19775SS	Thoroproof Eco:Sealed LED,23W 840, Smartscan (Add 'SS' suffix when selecting the integrated emergency version)	Narrow body, fixing direct or pendant mounted	
A1	TP19776SS	Thoroproof Eco:Sealed LED,46W 840, Smartscan (Add 'SS' suffix when selecting the integrated emergency version)	Wide body, fixing direct or pendant mounted	
A2 (Stairs)	TP19776	Thoroproof Eco:Sealed LED,46W 840	Wide body, fixing direct or pendant mounted	
B	TP19774SS	Thoroproof Eco:Sealed LED,60W 840, Smartscan	Wide body, fixing direct or pendant mounted	
C	HI19722SS	HI-Style:LED Recessed,34W 840, Smartscan, Open 600x600mm (Add 'SS' suffix when selecting the integrated emergency version)	Low Glare, recessed mounting	
D	GT15072SS	G3: LED Downlighter, 16W 840, Smartscan, Open, 1.5kg (Add 'SS' suffix when selecting the integrated emergency version)	Recessed mounting	
D1	GT18370SS	G3: LED Downlighter, 21W 840, Smartscan, Open (Add 'SS' suffix when selecting the integrated emergency version)	Recessed mounting	
E1	WFF17490ZF	Firefly:SS; EM Downlighter, 3W, Non-maintained, Recessed Area, 0.6kg	Recessed mounting	
E2	WFB19790ZF	Mini-8, 1W LED, Non-Maintain Luminaire-Type removed as part of VE proposal to change to the use of luminaires with integral emergency backup	Surface-mounting	
E3	WPS17608ZZ515	11w LED emergency Prismalette vandal-resistant luminaire, IP65, comprising diecast aluminium body finished black, with electronic driver and maintained emergency control module and batteries (3hr). Fitted with prismatic polycarbonate cover retained by tamper-resistant screws. SmartScan, Non-Maintained Luminaire. 2.8kg-Type removed as part of VE proposal to change to the use of luminaires with integral emergency backup	Surface-mounting	
EE	WLX17696LF	Lexi-65:SS,LED Exit Sign, 2W 840, Maintained, IP65	Surface mounting	

EX1	WLX17696LF	Lexi-65:SS,LED Exit Sign, 2W 840, Maintained, IP65		
EX1	LXP17613	Lexi-65:Legend Kit, ISO 7010		
EX2	WLX17465LF	Lexi:SS:LED Exit Sign, 840, Maintained, ISO 7010, UP	Surface mouting	
F	GT15092LX	G3: LED Downlighter, 16W 840, Non-Dim, IP65 Poly, 1.2kg (Add 'SS' suffix when selecting the integrated emergency version)	Recessed mounting	
RL1	RL19110SS	REALTA:AMENITY,20W 740,SMARTSCAN,,AREA (Add 'SS' suffix when selecting the integrated emergency version)	Surface mouting	
RL2	RL19111SS	REALTA:AMENITY,34W 740,SMARTSCAN,,AREA, (Add 'SS' suffix when selecting the integrated emergency version)	Surface mouting	
RL3	RL19069SS	REALTA:AMENITY,8W 840,SMARTSCAN,,WIDE-POLY, (Add 'SS' suffix when selecting the integrated emergency version)	Surface mouting	
X1	S8062A2XS	Starbeam: Area 2, 62W 740, SSCAN, Poly	Column/Wall mounted	
Thorlux	Smartscan	SMARTSCAN PLATFORM 2	Web enabled	



ACCESSORIES



DESCRIPTION

IP65 20mm weatherproof compression gland kit with sealing washers
Stainless steel adjustable bracket (Short) - two per pack
Stainless steel adjustable bracket (148mm long) - two per pack
Stainless steel adjustable hook - two per pack
Stainless steel cover clip - ten required per luminaire

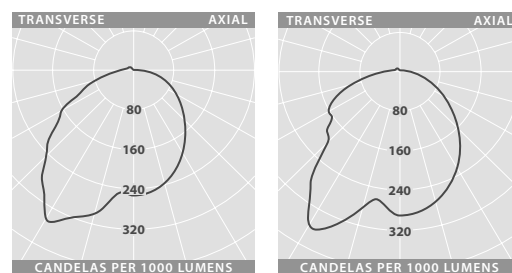
CAT. No.

APPROX.
kg

IK 6389 0.02
IK 10419 0.13
IK 10420 0.24
IK 10421 0.05
TP 10541



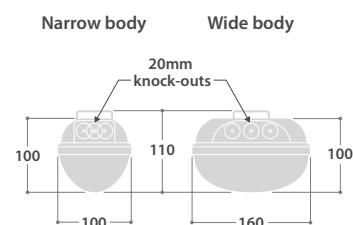
PHOTOMETRIC GUIDE



Luminaire Lumen Output:
23W = 3700 lm
30W = 4900 lm

Luminaire Lumen Output:
46W = 6625 lm
60W = 9535 lm

DIMENSIONS



AMBIENT OPERATING TEMPERATURES

LED	STANDARD/SMART		EMERGENCY	
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
23W / 30W	-20°C	50°C	0°C	25°C
46W / 60W	-20°C	40°C	0°C	25°C

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

CORROSION-RESISTANT POLYCARBONATE LUMINAIRES



SPECIFICATION

- High-impact and corrosion-resistant light grey, injection moulded polycarbonate body
- Frosted prismatic polycarbonate cover
- Fire-retardant body and cover
- Smooth easy-clean lines
- Snug-fit polycarbonate cover clips (stainless steel option)
- Fast installation via external stainless-steel brackets preserves IP rating
- Factory fitted 4-core through wiring option (alternative configurations to special order)
- Complies with M.O.D. JSP482 Chapter 8 Document for 'Category C' areas
- Complies with food production standards IFS and HACCP
- Smart versions with intelligent lighting control for use up to 8 metres mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Fitted with 4000K LEDs

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L70/B10
PROTECTION	-
DRIVER EFFICIENCY	>88%
REPLACEABLE	YES
POWER FACTOR	>0.95

LL/CW 132.4

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

Wide body

Narrow body

RANGE

LENGTH (mm)	LED	CAT. No.	CIRCUIT	FIXINGS	APPROX. kg
1570	23W ■	TP 19775	SS/D/L/A	1150mm centres	2.4
	30W ■	TP 19773	SS/D/L/A		2.6
	46W ▲	TP 19776	SS/D/L/A		3.2
	60W ▲	TP 19774	SS/D/L/A		3.6

FACTORY FITTED 4-CORE THROUGH WIRING - add 'TW' after catalogue number eg. **TP 19775LTW**

CIRCUIT TYPE - suffix catalogue number with:

SS - SmartScan / **D** - Smart / **L** - non-dimming (LED) / **A** - dimming (DALI) e.g. **TP 19775SS** etc.
SmartScan and Smart add 0.1kg to weights listed.

EMERGENCY VERSION - prefix catalogue number with:

ETP - Emergency
TTP - AutoTest (Not available when selecting the 'SS' suffix)

WTP - SmartScan (Only available when selecting the 'SS' suffix)

e.g. **WTP 19775SS** etc.

Add 0.3kg to weights listed.

■ Narrow body

▲ Wide body



DIRECT

Pair of stainless steel brackets supplied.
Provides clearance for thermal expansion and fixing.



PENDANT

Pair of steel spring loops supplied

SmartScan Configurations

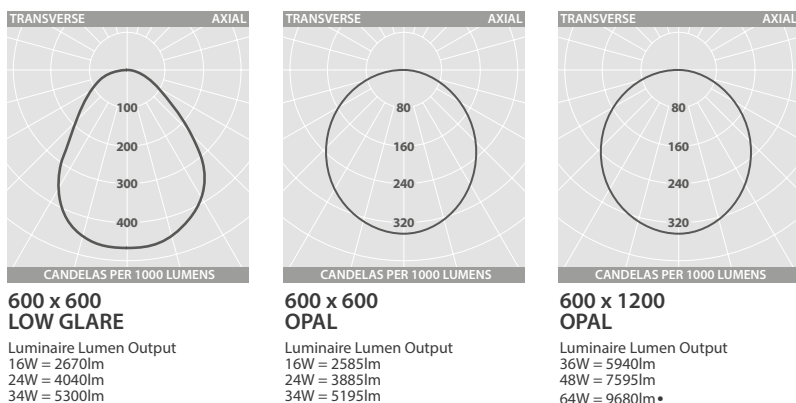


Find out more at www.thorlux.com/smartscan

HI-STYLE LED

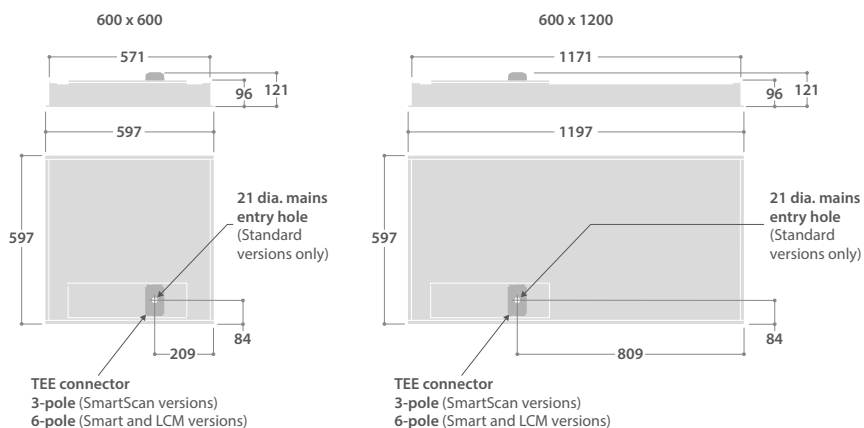
LOW GLARE VERSION
OFFERS BALANCED GLARE
CONTROL, WHILST STILL
PROVIDING EXCELLENT
WALL ILLUMINATION

PHOTOMETRIC GUIDE



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

DIMENSIONS



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

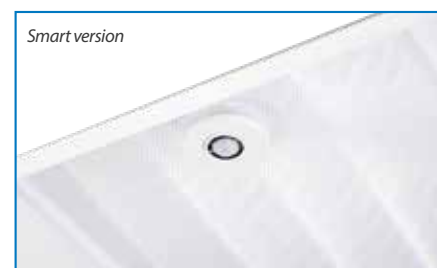
LL/CW 144.9

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

ACCESSORIES

DESCRIPTION	CAT. No.
Optional side arm suspension kit ▲	HI 19654

▲ 4 arms per kit - not required for lay-in mounting



WEB LINK >
"PLUG AND PLAY"
LIGHTING CABLE
MANAGEMENT



Low glare version

HIGH PERFORMANCE RECESSED LED LUMINAIRES

IP40 BELOW CEILING IP20 ABOVE CEILING UK CA CE

TP(a) LED

SPECIFICATION

- Steel body finished full polyester non-yellowing satin white (RAL 9016)
- Supplied with polycarbonate TP(a) fire-retardant diffuser. Low glare optics for EN12464-1 / LG7 (<3000 cd/m² @ 65°) compliance or opal options
- Excellent wall illumination at high angles
- Balanced direct/indirect luminance control above 65°
- Suitable for most ceiling types; lay-in or pull up with optional side arm suspensions
- Extruded side diffusers give vibrant yet low glare aesthetics
- Body depth 96mm
- Designed to exclude dust, dirt and flies. All control gear is outside the LED enclosure
- 500 x 500mm and air-handling versions available to special order
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Fitted with 4000K LEDs

SmartScan Configurations



Find out more at www.thorlux.com/smartsan

RANGE

	NOMINAL SIZE (mm)	LED	LOW GLARE	OPAL	APPROX. kg	CIRCUIT
SMART	600 x 600	16W	HI 19720	HI 19726	5.9	D/SS
		24W	HI 19721	HI 19727	5.9	D/SS
		34W	HI 19722	HI 19728	5.9	D/SS
	600 x 1200	36W		HI 19826	9.2	D/SS
		48W		HI 19827	9.2	D/SS
		64W		HI 19828	9.2	D/SS
STANDARD	600 x 600	16W	HI 19723	HI 19729	5.8	L/A
		24W	HI 19724	HI 19730	5.8	L/A
		34W	HI 19725	HI 19731	5.8	L/A
	600 x 1200	36W		HI 19829	9.1	L/A
		48W		HI 19830	9.1	L/A
		64W		HI 19831	9.1	L/A

CIRCUIT TYPE - suffix catalogue number with:

SMART D - Smart / SS - SmartScan

STANDARD L - non-dimming (LED) / A - dimming (DALI) e.g. **HI 19720SS** etc.

EMERGENCY VERSION - prefix catalogue number with:

EHI - Emergency (Not available when selecting the 'SS' suffix)

THI - AutoTest

WHI - SmartScan (Only available when selecting the 'SS' suffix)

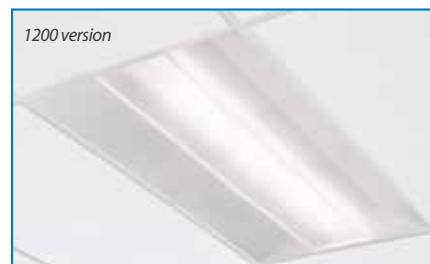
e.g. **WHI 19720SS** etc.

Add 0.3kg to weights listed

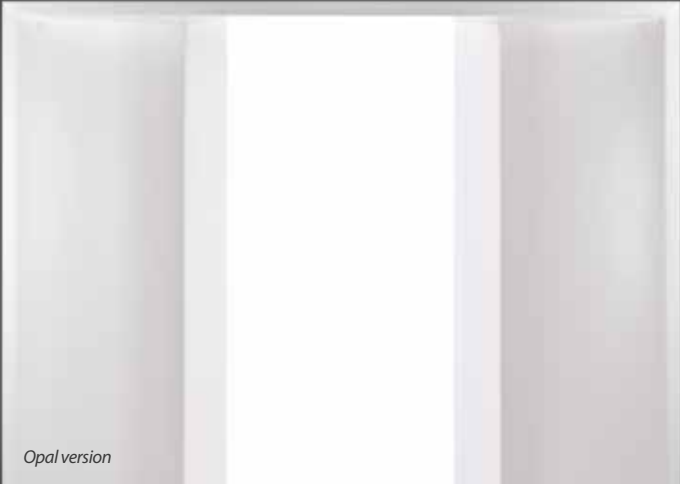
Opal version



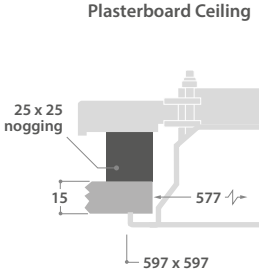
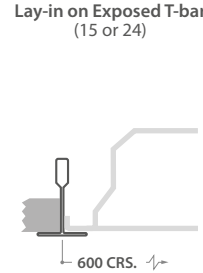
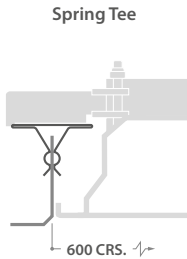
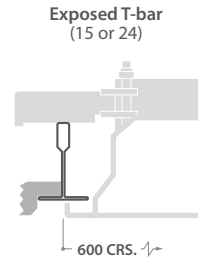
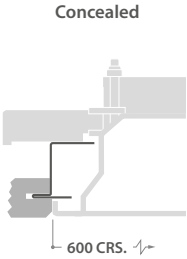
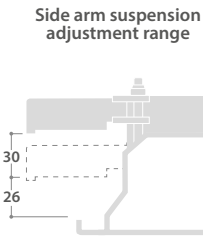
1200 version



HI-STYLE LED



MOUNTING ARRANGEMENTS



PERFORMANCE GUIDE

Typical task area illuminance assuming an open area with good reflection factors, 0.85 maintenance factor and a 2.65 metre ceiling height.

	LOW GLARE	SPACING (Metres)	LUX AVERAGE 70/50/20	LUX AVERAGE 80/60/30
OPEN PLAN	16W	3.0 x 2.4	315	350
		2.4 x 2.4	405	450
	24W	3.0 x 2.4	480	530
		2.4 x 2.4	615	685
	34W	3.0 x 2.4	625	695
		2.4 x 2.4	800	895

	OPAL	SPACING (Metres)	LUX AVERAGE 70/50/20	LUX AVERAGE 80/60/30
OPEN PLAN	16W	3.0 x 2.4	290	320
		2.4 x 2.4	370	420
	24W	3.0 x 2.4	430	485
		2.4 x 2.4	555	625
	34W	3.0 x 2.4	575	650
		2.4 x 2.4	740	840

G3



ACTUAL SIZE





CIRCULAR LED RECESSED DOWNLIGHTERS

IP20 ABOVE CEILING

IP40 BELOW CEILING

IP65 BELOW CEILING
(IP65 version only)

UK
CA

CE



SPECIFICATION

- High pressure die-cast ring finished full polyester non-yellowing satin white (RAL 9016)
- Aluminium heat sink
- 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
- Smart versions with intelligent lighting control
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Emergency and AutoTest versions
- Supplied with remote gear unit fitted with 2m lead
- Smart/SmartScan versions fitted with TEE connector for LCM wiring
- CRI 90 option available to special order
- Fitted with 3000K/4000K LEDs



SmartScan Configurations



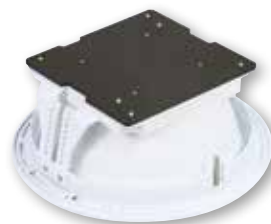
Find out more at www.thorlux.com/smartsan

LED CHARACTERISTICS

CRI	80+
COLOUR TEMPERATURE	3000K/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



Body and heat sink



1 LED Downlighter Power Unit for SmartScan, Smart, Emergency and AutoTest versions.

2 Remote Driver for standard versions

RANGE

		LED	3000K	4000K	APPROX. kg	CIRCUIT
	SMART	16W	GT 18385	GT 15072	1.5	D/SS
		21W	GT 18386	GT 18370	1.5	D/SS
	STANDARD	8W	GT 18387	GT 15070	0.8	L/A
		16W	GT 18388	GT 15071	0.8	L/A
		21W	GT 18389	GT 18371	0.8	L/A
	SMART	16W	GT 18390	GT 15075	1.9	D/SS
		21W	GT 18391	GT 18372	1.9	D/SS
	STANDARD	8W	GT 18392	GT 15073	1.2	L/A
		16W	GT 18393	GT 15074	1.2	L/A
		21W	GT 18394	GT 18373	1.2	L/A
	SMART	16W	GT 18395	GT 15078	2.0	D/SS
		21W	GT 18396	GT 18374	2.0	D/SS
	STANDARD	8W	GT 18397	GT 15076	1.3	L/A
		16W	GT 18398	GT 15077	1.3	L/A
		21W	GT 18399	GT 18375	1.3	L/A
	SMART	16W	GT 18400	GT 15081	1.6	D/SS
		21W	GT 18401	GT 18376	1.6	D/SS
	STANDARD	8W	GT 18402	GT 15079	0.9	L/A
		16W	GT 18403	GT 15080	0.9	L/A
		21W	GT 18404	GT 18377	0.9	L/A
	STANDARD	8W	GT 18405	GT 15082	1.0	L/A
		16W	GT 18406	GT 15083	1.0	L/A
		21W	GT 18407	GT 18378	1.0	L/A
	STANDARD	Clear glass versions				
		8W	GT 18411	GT 15085	1.2	L/A
		16W	GT 18412	GT 15086	1.2	L/A
		21W	GT 18413	GT 18382	1.2	L/A
		Frosted glass versions				
		8W	GT 18414	GT 15088	1.2	L/A
		16W	GT 18415	GT 15089	1.2	L/A
		21W	GT 18416	GT 18383	1.2	L/A
		Clear polycarbonate versions				
		8W	GT 18417	GT 15091	1.2	L/A
		16W	GT 18418	GT 15092	1.2	L/A
		21W	GT 18419	GT 18384	1.2	L/A

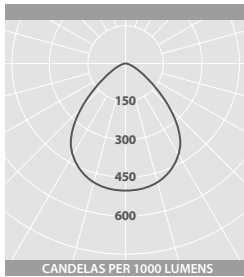
CIRCUIT TYPE - suffix catalogue number with:

SMART D - Smart / SS - SmartScan
 STANDARD L - non-dimming (LED) / A - dimming (DALI)
 e.g. GT 18385SS etc.

EMERGENCY VERSION - prefix catalogue number with:

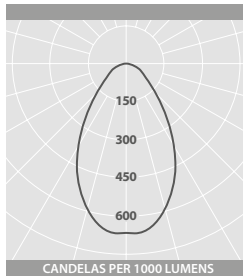
EGT - Emergency
 TGT - AutoTest
 WGT - SmartScan (Only available when selecting the 'SS' suffix)
 e.g. WGT 18385SS etc.
 Add 0.9kg to weights listed or add 0.3kg for Smart versions.

PHOTOMETRIC GUIDE



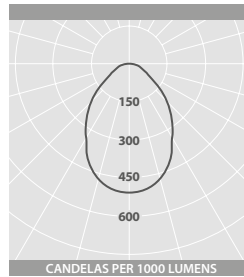
OPEN

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



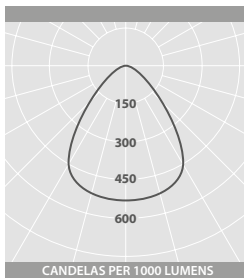
FROSTED OUTER

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



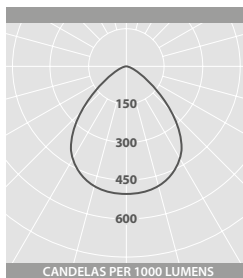
FROSTED INNER

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



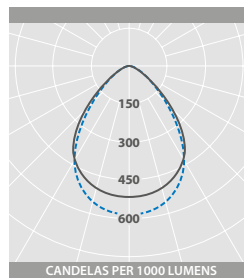
HALO

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



IK10

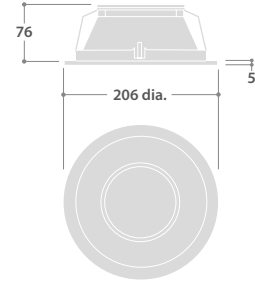
LED	3000K (lm)	4000K (lm)
8W	1030	1095
16W	1870	1990
21W	2360	2515



IP65

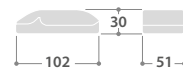
LED	3000K (lm)	4000K (lm)
8W Clear Glass	1050	1120
16W Clear Glass	1910	2035
21W Clear Glass	2410	2565
8W Polycarbonate	925	985
16W Polycarbonate	1685	1795
21W Polycarbonate	2125	2265
8W Frosted Glass	1000	1065
16W Frosted Glass	1820	1940
21W Frosted Glass	2300	2450

DIMENSIONS



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

Standard Remote Driver



LED Downlighter Power Unit



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

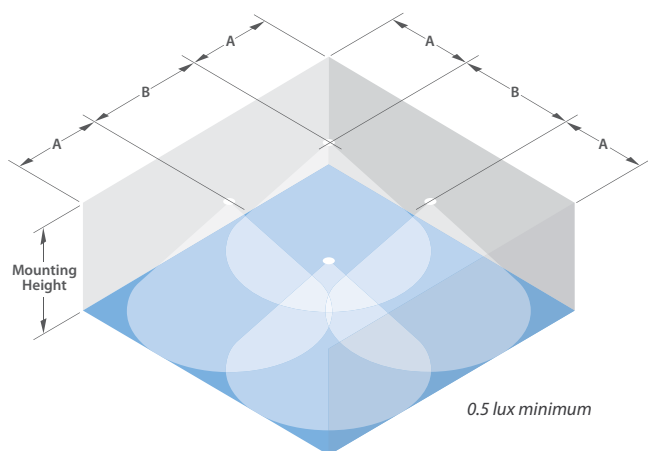


FIREFLY

STANDARD, AREA & CORRIDOR VERSIONS

EMERGENCY LIGHTING PERFORMANCE GUIDE

TYPICAL SPACING FOR OPEN AREAS (STANDARD VERSION)

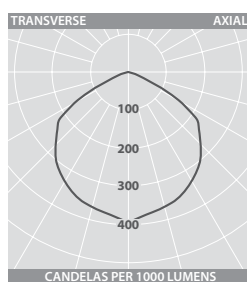


SPACING TABLE

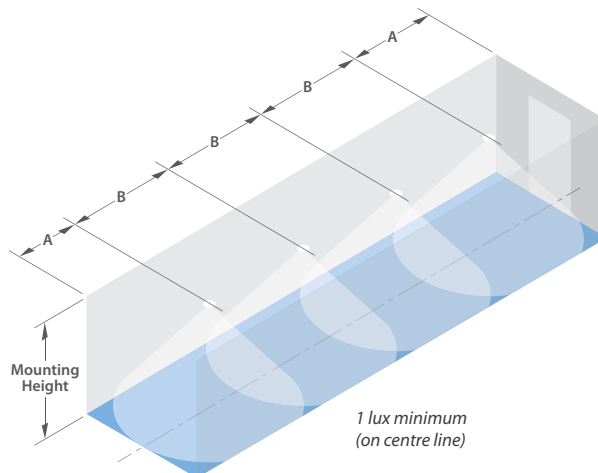
MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	3.5	6.9
2.5	4.0	8.0
3.0	4.6	9.0
3.5	4.9	10.0
4.0	5.0	10.9

Maintenance factor 0.90

PHOTOMETRIC GUIDE



TYPICAL SPACING FOR CORRIDORS (STANDARD VERSION)

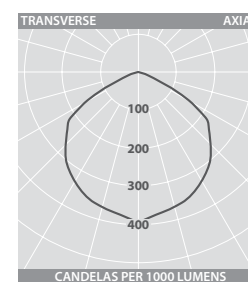


SPACING TABLE

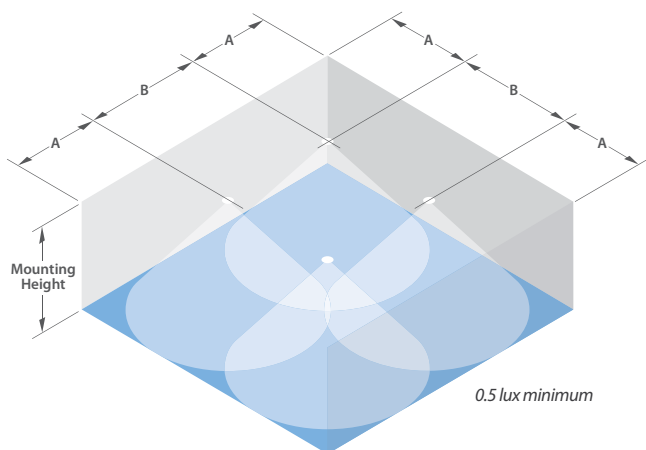
MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	2.6	6.0
2.5	3.0	7.0
3.0	3.2	7.8
3.5	3.5	8.5
4.0	3.6	9.1

Maintenance factor 0.90

PHOTOMETRIC GUIDE



TYPICAL SPACING FOR AREA LENS

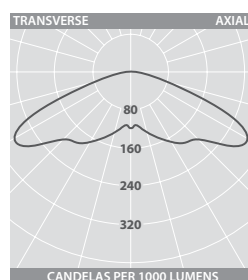


SPACING TABLE

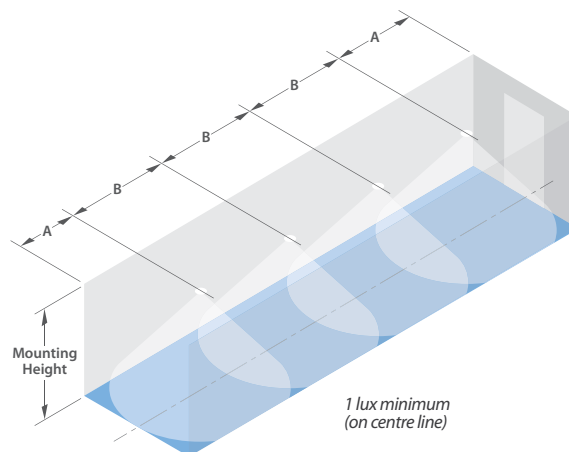
MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	3.8	8.5
2.5	4.2	9.8
3.0	4.6	11.0
3.5	4.9	12.0
4.0	5.0	12.8

Maintenance factor 0.90

PHOTOMETRIC GUIDE



TYPICAL SPACING FOR CORRIDOR (ESCAPE ROUTE) LENS

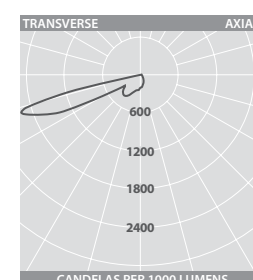


SPACING TABLE

MOUNTING HEIGHT (m)	A (m)	B (m)
2.0	7.5	17.9
2.5	8.7	20.8
3.0	9.2	23.3
3.5	4.8	21.9
4.0	4.9	21.5

Maintenance factor 0.90

PHOTOMETRIC GUIDE





FIREFLY STANDARD, AREA & CORRIDOR VERSIONS



Corridor version



Standard version



Area Version - supplied
complete with Control Module
and ECO-Power Pack

Control Module and
ECO-Power Pack

EMERGENCY LUMINAIRES FOR RECESSED MOUNTING WITH SMARTSCAN WIRELESS COMMUNICATION

IP65 DOWNLIGHTER
(BELOW CEILING)

IP40 DOWNLIGHTER
(ABOVE CEILING)

IP20 CONTROL
MODULE

CE

LED



SPECIFICATION

- Thermally conductive nylon body, polycarbonate bezel finished white (RAL9016)
- Small size - unobtrusive
- Three hour, non-maintained emergency operation
- Stand-alone self-test and full SmartScan wireless communication compatible
- May be positioned for maximum effect
- Reliable LED technology
- Low standby power consumption (1.7W total)
- Status indicator shows operational condition
- Superb photometric performance
- Easily replaceable Nickel Metal Hydride (NiMH) ECO-Power Pack battery

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

SmartScan Wireless Standards Compliance:

Europe: EN 300 220-1 V2.4.1
/ EN 301 489-3 V1.6.1

Australasia: ACMA 2014 Radio
Communication Standard 2014

Thorlux Patented Wireless
Technology - GB2575724

RANGE

DISTRIBUTION	CAT. No.	APPROX. kg	TYPE
Area	WFF 17490	0.6	Non-maintained
Corridor	WFF 17491	0.6	Non-maintained
Standard	WFF 17492	0.6	Non-maintained

Add suffix 'TEE' for pre-fitted plug & socket connections and flying lead (3m) for use with Thorlux LCM Modular Wiring Systems (SMART & SMART LCM) e.g. **WFF 17490 TEE**. See Fig. 1.



Fig. 1

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
ECO-Power Pack battery	PP 17402	0.33

ACCESSORY

DESCRIPTION	CAT. No.
T-bar mounting bracket for Control Module and ECO-Power Pack	SLA 13101

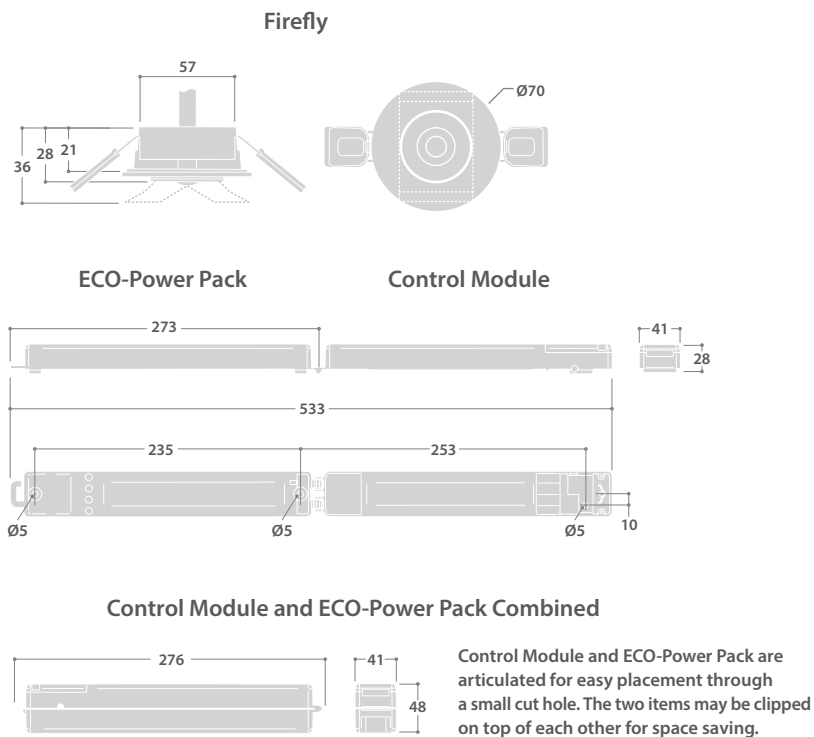
FIREFLY STANDARD, AREA & CORRIDOR VERSIONS



FIREFLY

STANDARD, AREA & CORRIDOR VERSIONS

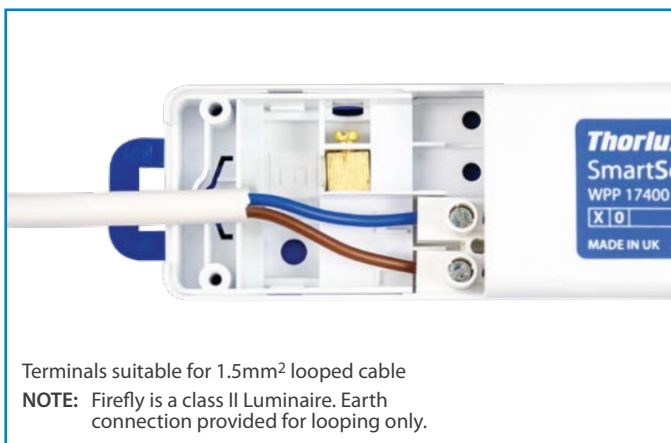
DIMENSIONS



Hole size cut-out = 60 dia

Minimum void depth (when passing Control Module and ECO-Power Pack through cut-out) = 145mm

CONNECTIONS AND STRAIN RELIEF





With downlight

LEGEND KITS

ISO 7010 Self Adhesive Legend Kit - Cat. No. LXP 17613*

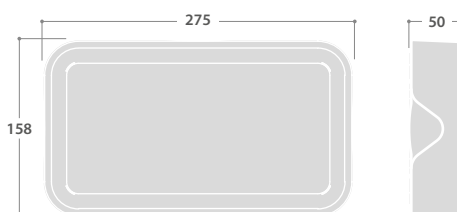


EURO Self Adhesive Legend Kit - Cat. No. LXP 17612*



* Order separately from luminaire

DIMENSIONS





With legend



LED EMERGENCY LUMINAIRES WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS



SPECIFICATION

- Polycarbonate body finished white (RAL9016)
- Clear polycarbonate cover
- Extremely long LED lifetime, up to 100,000 hours
- Three hour, maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Low power consumption (3.5W total)
- Integral downlight option for exit illumination
- Optional self-adhesive legend kit
- Status indicator shows operational condition
- Reliable Nickel Metal Hydride (NiMH) battery technology

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).

RANGE

LED	CAT. No.	DESCRIPTION	APPROX. kg	TYPE
SmartScan				
2W	WLX 17696	Standard	1.0	Maintained ▲
2W	WLX 17697	With integral downlight	1.0	Maintained ▲
AutoTest				
2W	TLX 17696	Standard	1.0	Maintained ▲
2W	TLX 17697	With integral downlight	1.0	Maintained ▲
Emergency				
2W	ELX 17696	Standard	1.0	Maintained ▲
2W	ELX 17697	With integral downlight	1.0	Maintained ▲

▲ Wire link may be removed to enable non-maintained operation

SmartScan Wireless Standards Compliance:

Europe: EN 300 220-1 V2.4.1
/ EN 301 489-3 V1.6.1

Australasia: ACMA 2014 Radio
Communication Standard 2014

Thorlux Patented Wireless
Technology - GB2575724

SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	EMB 848	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.

**5
YEAR**

**BATTERY
WARRANTY***

* SmartScan
versions only

SmartScan Configurations



Find out more at www.thorlux.com/smartscan



Ceiling Mounted



Wall Mounted



Suspension Mounted



Cantilever Mounted

LEGEND OPTIONS

ISO 7010 Double Sided *



A

EURO Double Sided *



D

ISO 7010 Single Sided



B

C

EURO Single Sided

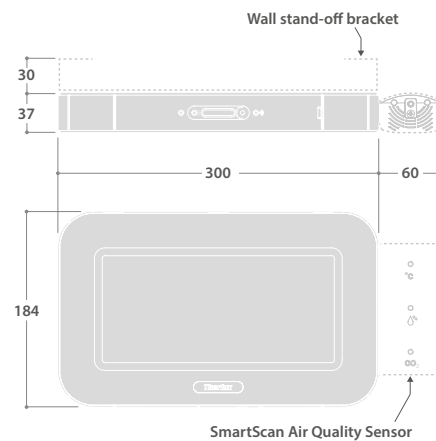


E

F

* Suitable for wall mount applications. Legend can be inserted as arrow left or arrow right.

DIMENSIONS



OPTIONAL MOUNTING KITS

All other methods (as shown) supplied as standard

DESCRIPTION	CAT. No.	APPROX. kg
Suspension mounting kit	LX 17421	0.2
Cantilever mounting bracket	LX 19448	0.1
Wall stand-off bracket	LX 20019	0.4
Back plate kit (to mask wall when retrofitting)	LX 19691	0.2

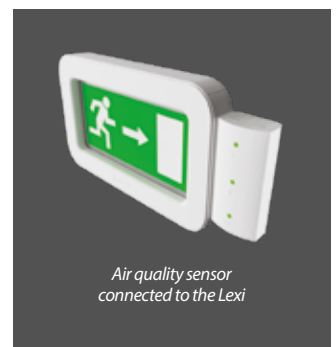
SPARES

DESCRIPTION	CAT. No.	APPROX. kg
Nickel Metal Hydride (NiMH) battery	EMB 617	0.15

End of life SmartScan batteries can be returned to Thorlux for recycling.



Wall stand-off bracket



Air quality sensor connected to the Lexi



EMERGENCY EXIT SIGNS WITH DEDICATED SMARTSCAN WIRELESS TECHNOLOGY VERSIONS



SPECIFICATION

- Polycarbonate body finished white (RAL9016) with acrylic legend panel
- Silver bezel option
- Extremely long LED lifetime, up to 100,000 hours
- 20m maximum viewing distance in accordance with BS EN 1838
- Three hour, maintained emergency operation
- Simple to install, full status reporting SmartScan wireless communication versions
- Low power consumption (1.7W total)
- Ceiling or wall mounted
- Optional 3m wire suspension kit or cantilever mounting bracket
- Integral downlight for exit illumination
- Choice of legends
- Status indicator shows operational condition
- Hinged battery compartment (requires tool access) provides fast battery replacement
- Reliable Nickel Metal Hydride (NiMH) battery technology
- Available with a factory-fitted SmartScan Air Quality Sensor. (See Air Quality Sensor datasheet for more details)

At Platform 1 SmartScan emergency luminaires may self-test at any time. Consequently, caution should be exercised in situations where this may be inconvenient (such as hotel rooms or hospital wards). At Platform 2 specific testing times can be set via the SmartScan website (SmartScan Gateway required).



RANGE

ISO 7010 LEGEND	CAT. No	EURO LEGEND	CAT. No	APPROX. kg	TYPE
SmartScan					
A	WLX 17463	D	WLX 17460	1.0	Maintained ▲
B	WLX 17464	E	WLX 17461	1.0	Maintained ▲
C	WLX 17465	F	WLX 17462	1.0	Maintained ▲
AutoTest					
A	TLX 17463	D	TLX 17460	1.0	Maintained ▲
B	TLX 17464	E	TLX 17461	1.0	Maintained ▲
C	TLX 17465	F	TLX 17462	1.0	Maintained ▲
Emergency					
A	ELX 17463	D	ELX 17460	1.0	Maintained ▲
B	ELX 17464	E	ELX 17461	1.0	Maintained ▲
C	ELX 17465	F	ELX 17462	1.0	Maintained ▲

▲ Wire link may be removed to enable non-maintained operation

FINISH OPTIONS - suffix catalogue number with: **SV3** - Silver e.g. **WLX 17463 SV3** etc.

NOTE - Available with a SmartScan Air Quality Sensor pre-fitted - suffix catalogue number with: **AQS** e.g. **WLX 17463AQS**

SmartScan Wireless Standards Compliance:

Europe: EN 300 220-1 V2.4.1 / EN 301 489-3 V1.6.1

Australasia: ACMA 2014 Radio Communication Standard 2014

Thorlux Patented Wireless Technology - GB2575724

SmartScan Configurations



Find out more at www.thorlux.com/smartscan

5
YEAR

BATTERY WARRANTY*

* SmartScan versions only



LEDbar



The patented LEDbar substitutes the conventional Realta lamp source with an 8W LED lamp package. The aluminium bar dissipates the heat generated by the LEDs for optimum performance.

< 2% Upward Light ✓

Help reduce light pollution and protect the night sky by selecting < 2% upward light luminaires

WIDE DISTRIBUTION LED CHARACTERISTICS

CRI	80
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	67K - L80/B10
PROTECTION	LUX GUARD
DRIVER EFFICIENCY	>80%
REPLACEABLE	YES
POWER FACTOR	>0.95
LL/CW	120.0

AREA DISTRIBUTION LED CHARACTERISTICS

CRI	70+
COLOUR TEMPERATURE	4000K
RATED LIFE (HOURS)	100K - L90/B10
PROTECTION	LED PROTECT
DRIVER EFFICIENCY	>85%
REPLACEABLE	YES
POWER FACTOR	>0.95
LL/CW	127.6

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



Smart External version



Area distribution

Wide distribution

Realta Design Registration Number 3024955

HIGH PERFORMANCE LUMINAIRES
DESIGNED TO MINIMISE LIGHT
POLLUTION AND ENERGY
CONSUMPTION

IP66 IK10++ / IK10 / IK06 UK CA CE

LED

SPECIFICATION

- Graphite full polyester powder finish. Silver option
- Strong high-pressure die-cast LM2 aluminium body
- High efficiency prismatic polycarbonate or borosilicate glass front refractor
- Wide distribution (8W) or area distribution (20W, 34W and 42W) options
- Highly specular, multi-faceted injection moulded vacuum metallised reflector on wide distribution versions
- Excellent distribution with less than 2% upward light component
- Optional photocell control
- Smart External versions with intelligent lighting control for use up to 10 metres mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retro-fit
- Fitted with 4000K LEDs

SmartScan Configurations



Find out more at www.thorlux.com/smartsan

RANGE

	LED	WIDE DISTRIBUTION	AREA DISTRIBUTION	APPROX. kg
SMART EXTERNAL	IK10 Polycarbonate Cover			
	8W	RL 19069SS		3.9
	20W		RL 19110SS	4.0
	34W		RL 19111SS	4.0
	42W		RL 19112SS	4.0
STANDARD	IK10++ Polycarbonate Cover			
	8W	RL 19071L		3.8
	20W		RL 19116L	3.9
	34W		RL 19117L	3.9
	42W		RL 19118L	3.9
	IK06 Glass Cover			
	8W	RL 19073L		4.6

CIRCUIT TYPE -

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

SILVER OPTION - add suffix **SV3** e.g. **RL 19069SSSV3** etc.

EMERGENCY VERSION - prefix catalogue number with:

ERL - Emergency / **TRL** - AutoTest (Not available when selecting the 'SS' suffix)

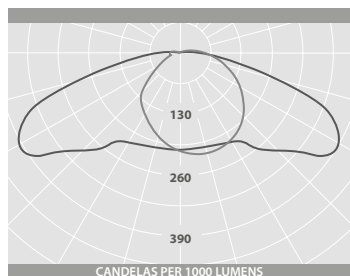
WRL - SmartScan

e.g. **WRL 19069SS** etc.

Add 0.4kg to weights listed

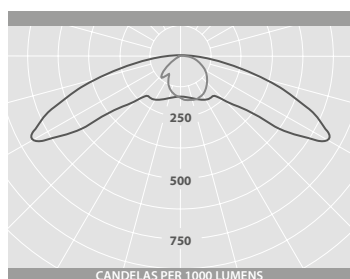
Photometrics, Accessories, Options and Dimensions pages 3 and 4

PHOTOMETRIC GUIDE



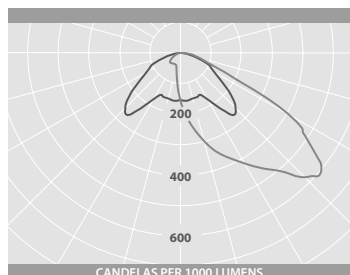
GLASS COVER (Wide Distribution)

Luminaire Lumen Output:
8W = 1175lm



POLYCARBONATE COVER (Wide Distribution)

Luminaire Lumen Output:
8W = 1320lm



POLYCARBONATE COVER (Area Distribution)

Luminaire Lumen Output:
20W = 2840lm
34W = 4850lm
42W = 5635lm



Single luminaire pole mounting attachment



Twin luminaire pole mounting attachment

ACCESSORIES

DESCRIPTION	CAT. No.	APPROX. kg
Single luminaire pole mounting attachment (for 60mm dia. poles)	RL 13759	1.6
Twin luminaire pole mounting attachment (for 60mm dia. poles)	RL 14175	2.6
76/60mm dia. spigot adaptor (for retro-fit on 76mm dia. columns)	RL 11184	0.8

OPTIONS

DESCRIPTION	SUFFIX	EXAMPLE
Photocell (standard versions only)	PC	RL 19071LPC
Tamper resistant screws ♦	T	RL 19071LT

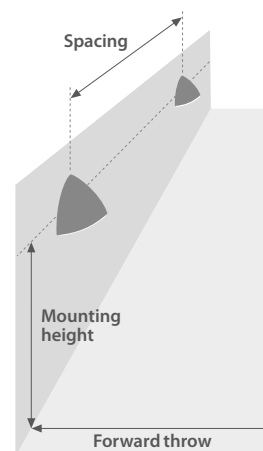
♦ To fasten tamper resistant screws order special screwdriver **KEY 10008**

PERFORMANCE GUIDE - Wide Distribution

Photometric Performance -
8W LED with polycarbonate cover

SPACING	AVERAGE ILLUMINANCE	UNIFORMITY (min/av)
3m mounting height - 3m forward throw		
10m ctrs	22 lux	0.48
15m ctrs	15 lux	0.47
20m ctrs	11 lux	0.22
4m mounting height - 4m forward throw		
10m ctrs	17 lux	0.48
15m ctrs	11 lux	0.45
20m ctrs	8 lux	0.47
5m mounting height - 5m forward throw		
10m ctrs	13 lux	0.42
15m ctrs	9 lux	0.48
20m ctrs	7 lux	0.45

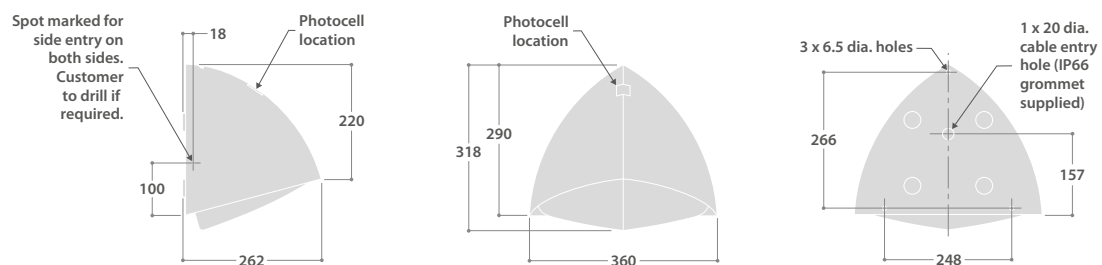
FIGURES ARE BASED ON INITIAL LUMENS



e.g. At 3m mounting height and 10m centres: 22 lux average horizontal illuminance at ground level



DIMENSIONS



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						
				123	123W						
				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	SMARTSCAN
Small	8.0	Add 0.2kg to weight listed.
Large	9.2	SMARTSCAN EMERGENCY Add 0.3kg to weight listed.

ACCESSORIES

See page 5



LED AREA FLOODLIGHTS AND STREET LIGHTS

IP66 IP65 SMART
VERSION IK10 UK
CA CE

LED WINDAGE - small: 0.06m² large: 0.07m²

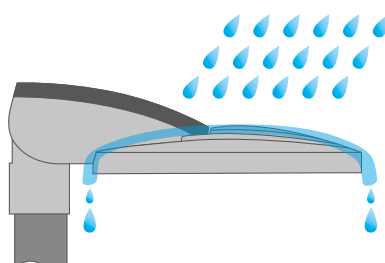
SPECIFICATION

- 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 50°C
- 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 90°
- Wall mounting bracket accessory
- Wide range of mounting options (see page 5 for details)
- Photocell option
- Fitted with 4000K LEDs

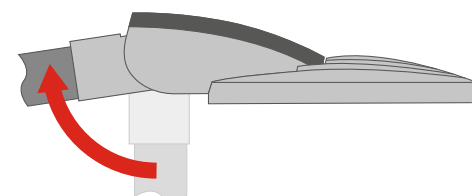
LED CHARACTERISTICS

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

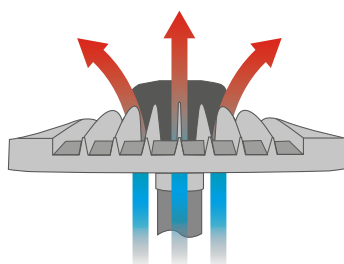
For LED characteristics explanation see
www.thorlux.com/led-guide



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



Smart External version

SmartScan Configurations

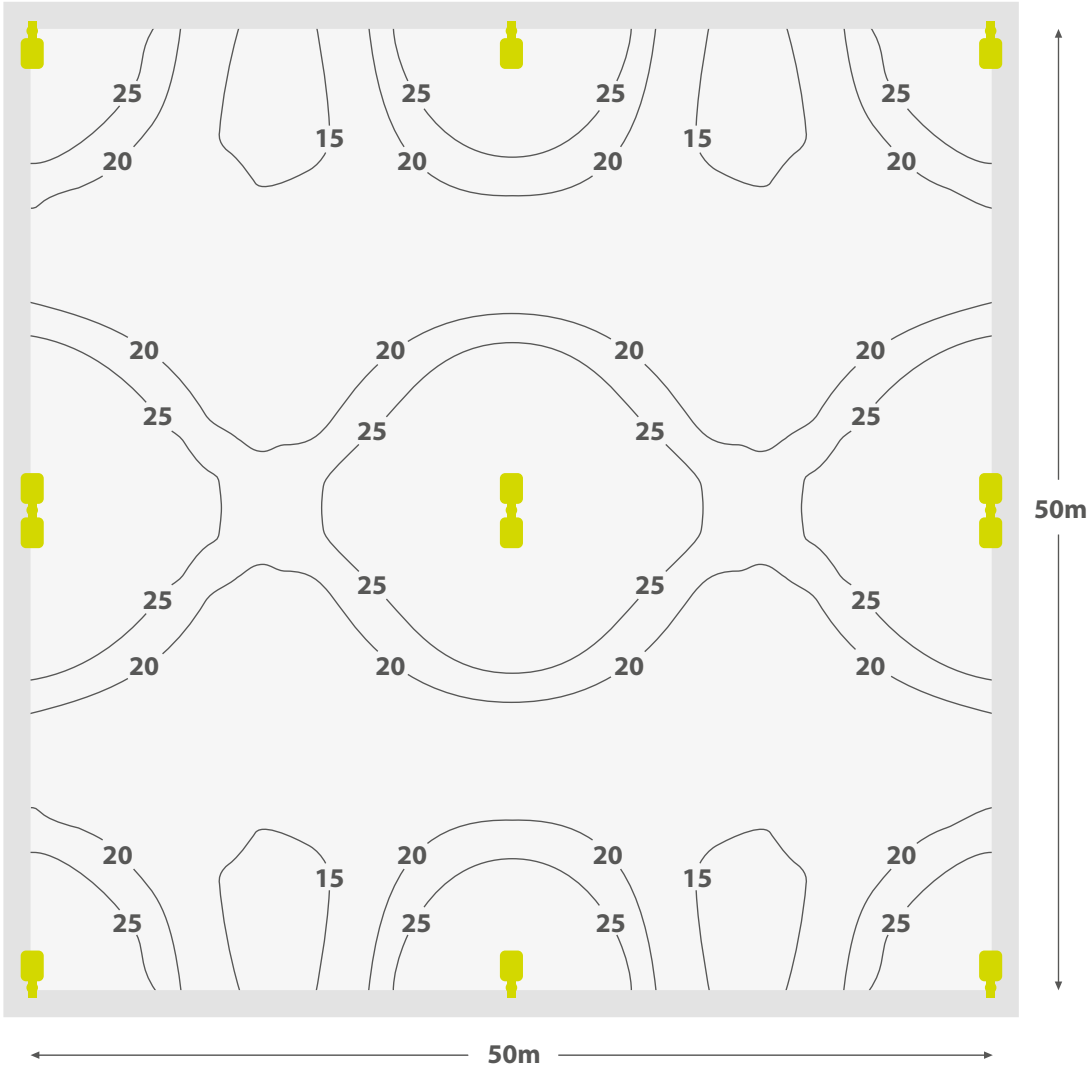


Find out more at www.thorlux.com/smartscan

TYPICAL SPACING GUIDE

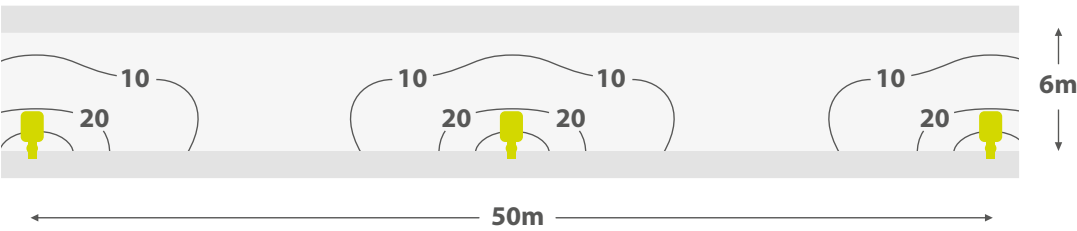
AREA DISTRIBUTION

62W LED / 6m mounting height / 25 x 25m spacing - Average illuminance = 24 lux / Uniformity = 0.525

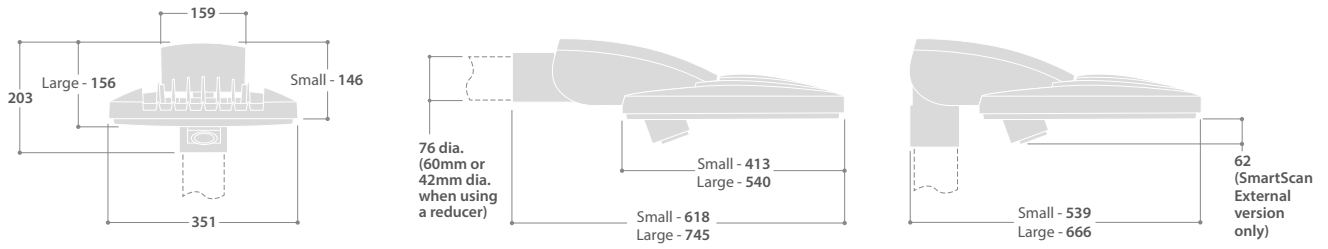


ROADWAY DISTRIBUTION

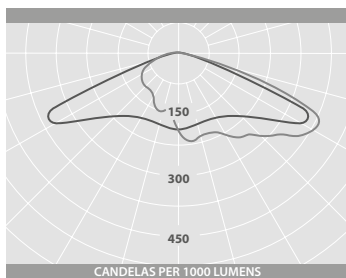
31W LED / 6m mounting height / 25m spacing - Average illuminance = 11 lux / Uniformity = 0.44



DIMENSIONS

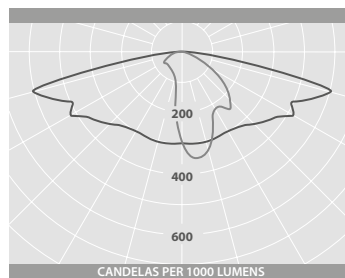


PHOTOMETRIC GUIDE



AREA DISTRIBUTION

Luminaire Lumen Output:
 31W = 3225lm
 62W = 8830lm
 88W = 12570lm
 123W = 17435lm
 161W = 21860lm
 197W = 27470lm

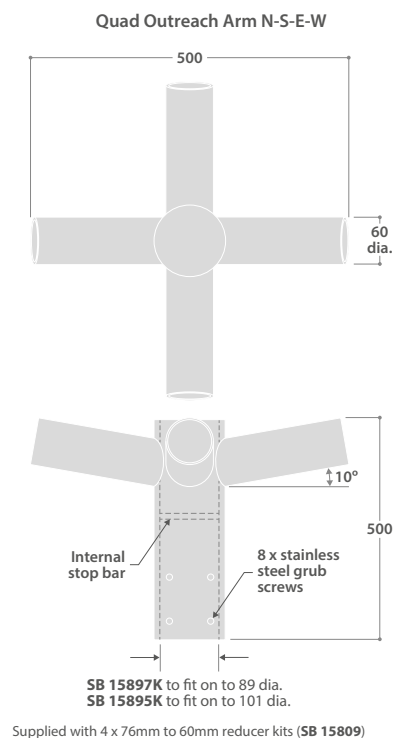
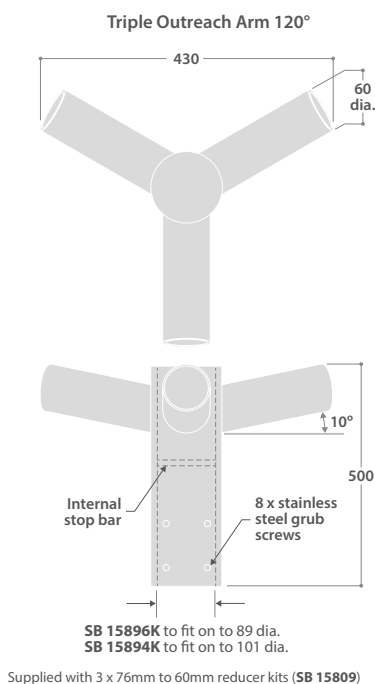
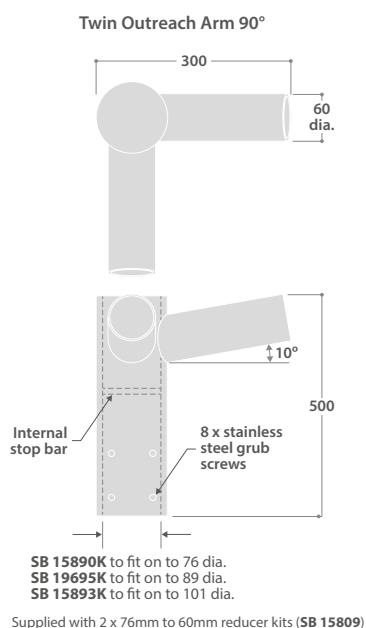
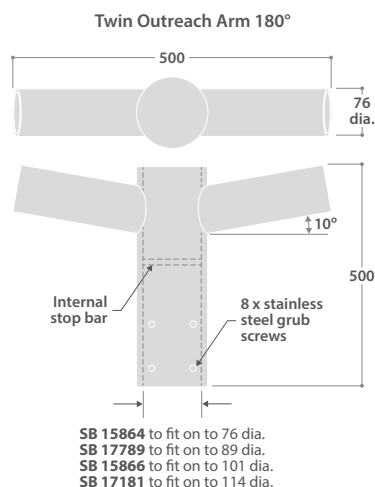
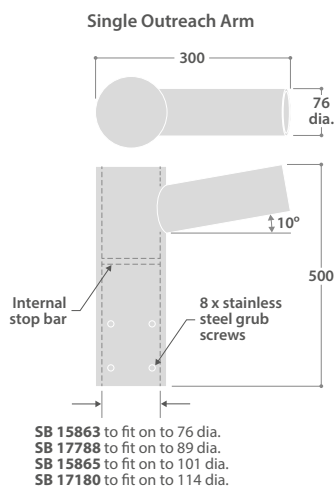


ROADWAY DISTRIBUTION

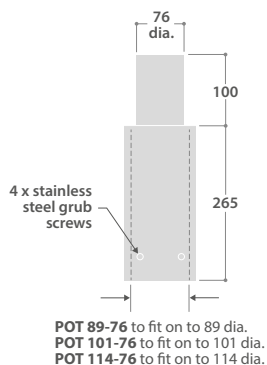
Luminaire Lumen Output:
 31W = 3340lm
 62W = 9640lm
 88W = 13725lm
 123W = 19035lm
 161W = 23865lm
 197W = 29995lm



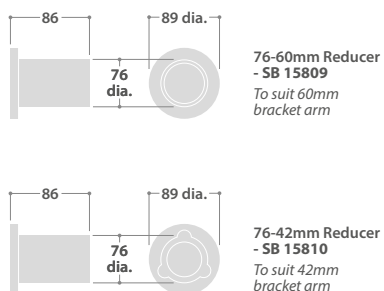
COLUMN MOUNTING OPTIONS



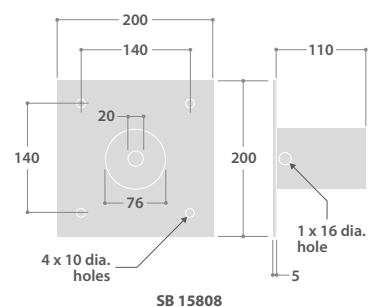
COLUMN ADAPTORS



BRACKET ARM REDUCERS



WALL MOUNTING BRACKET



For further mounting and bracket options please contact our Technical Department

STARBEAM COLUMNS

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

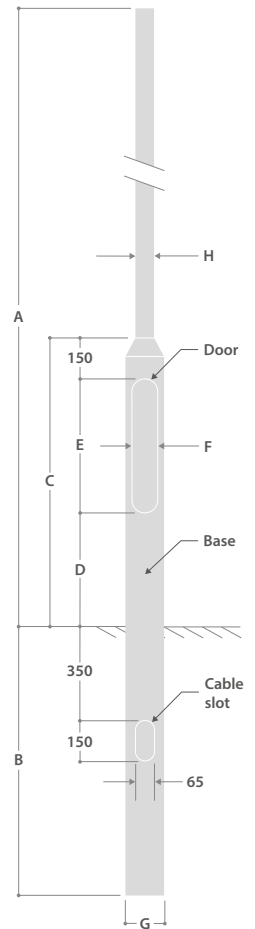
UK DELIVERY

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

	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
Mounting Height	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



INCLUDING NEW FEATURES



Lighting Management & Emergency Monitoring

SmartScan is a revolutionary wireless lighting management system that allows users to monitor their energy performance data and complete operational information for all SmartScan standard and emergency luminaires.

Information is displayed on the SmartScan website which can be accessed from anywhere using a computer, laptop, tablet or smartphone.

The clear graphical user interface provides an overview of the whole site, through to the performance and operation of an individual luminaire.



Her Majesty the Queen has selected Thorlux Lighting as a winner of the Queen's Award for Enterprise: Innovation, for the SmartScan lighting management system.



Internal

Intelligent lighting management for internal applications.

Page 14-31



External

Intelligent lighting management for external applications.

Page 32-41



Radar

High frequency sensor technology for impact resistant applications.

Page 42-47



Emergency

Self-testing emergency luminaires with integral battery for 3 hour emergency operation.

Page 48-53



ColourActive

Manual or automatic tuneable white control.

Page 54-59



SmartScan Website

Page 60-71



Product Ordering and Specification

Page 72-89



Additional Information

Page 90-91

Why Do We Need Light Controls?



The world's ever increasing demand for energy is rapidly changing our environment and the need for energy efficiency in every aspect of our daily lives has never been greater.

Lighting accounts for approximately one fifth of the world's total electricity consumption. In business, luminaires are regularly switched on at the start of the working day and remain switched on until the last person leaves regardless of how often that space has been occupied throughout the day or how much natural light is present.

Saving energy is easy:

- Design the lighting scheme in accordance with standards using the best available technology.
- Ensure the luminaires have precise optical control to deliver the illumination where it is needed.
- Optimise energy savings by fitting remotely mounted lighting controls, or selecting "SmartScan" luminaires with inbuilt energy saving technology.
- Thorlux energy saving lighting control systems make the most of maintained illuminance, daylight dimming and presence detection (explained further in this section) to ensure optimum energy savings, often measured in real applications to exceed 70%.

SAVE ENERGY, SAVE MONEY, SAVE THE ENVIRONMENT



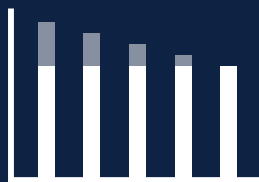
Energy Saving Controls

The Thorlux Smartscan System exploits the latest digital technology to provide a simple, effective method of lighting control which minimises energy consumption whilst retaining high levels of user comfort.



MOVEMENT DETECTION

Presence sensors in all luminaires ensure excellent detection coverage, so that SmartScan luminaires switch on when movement is detected and stay on whilst the space is being used.



MAINTAINED ILLUMINANCE

SmartScan luminaires maintain the desired lighting level throughout the maintenance cycle by automatically increasing LED output as the light source ages, avoiding over lighting new installations.



DAYLIGHT DIMMING

When daylight enters an area the SmartScan sensors will take this light into account and gradually dim the LEDs, saving energy whilst maintaining the required light level.



PHOTOCELL CONTROL

The SmartScan External and Radar Sensors incorporate an ambient light sensor which will enable at dusk and disable at dawn. The luminaire will remain off until movement is detected.

SAVINGS BY THE INSTALLATION OF AUTOMATIC LIGHTING CONTROL SYSTEMS OFTEN EXCEED 70%.



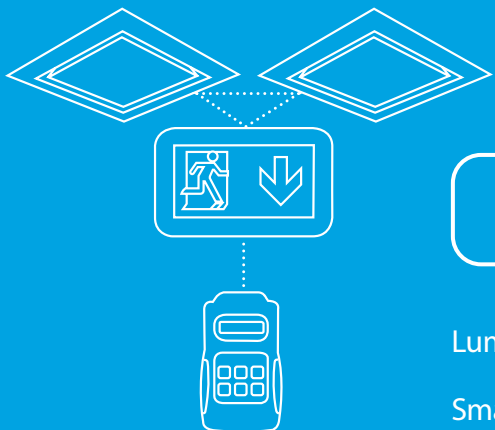
Overview
SmartScan



What is SmartScan?

SmartScan is available in two platforms:

Platform 1



Luminaires operate on a stand-alone basis: SmartScan luminaires link wirelessly in groups for presence detection and scene setting. Energy performance data and operational status information can be retrieved using the SmartScan Programmer.

Emergency luminaires are self-test with the addition that operational status and most recent emergency test information can be retrieved using the SmartScan Programmer.

Platform 2



The same luminaires are also very simply wirelessly linked into a Gateway which collects and transmits their energy performance data and complete operational information, for all SmartScan standard and emergency luminaires, to the SmartScan website for viewing using tablets, smartphones, laptops and computers.

Projects initially installed to Platform 1 can easily be upgraded later to Platform 2 by installing a SmartScan Gateway (see page 80).