SIGNCOMPLEX LIMITED

CE LVD REPORT

Prepared For:	SIGNCOMPLEX LIMITED Yijia Industrial Park, Fuqian Road, Guanlan Town, Bao'An, Shenzhen, Guangdong, China
Product Name:	IP65 LINEAR HIGH BAY
Trade Name:	Signcomplex
Main Test Model:	LHBP-300-AW-30K-ZYYY
Additional Model:	LHBP-300-AW-XXK-ZYYY, LHBP-280-AW-XXK-ZYYY, LHBP-240-AW-XXK-ZYYY, LHBP-200-AW-XXK-ZYYY, LHBP-180-AW-XXK-ZYYY, LHBP-150-AW-XXK-ZYYY, LHBP-120-AW-XXK-ZYYY, LHBP-100-AW-XXK-ZYYY, LHBP-080-AW-XXK-ZYYY, LHBP-070-AW-XXK-ZYYY, LHBP-050-AW-XXK-ZYYY XX: represents the color 27/30/35/40/45/50/57/60/65; YYY: can be any number or character for commercial use; Z: denotes control function, can be blank, D or S, blank denotes no dimmable or sensor control, "D" denotes 0-10/PWM Dimmable and "S" denotes sensor control.
Prepared By:	BST Testing (Shenzhen) Co., Ltd. No.7,New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China
Test Date:	Nov. 29, 2019 – Dec. 08, 2019
Date of Report:	Dec. 09, 2019
Report No.:	BSTXD191214622001SR

TEST REPORT

EN 60598-2-1

Luminaires

Part 2: Particular requirements
Section One – Fixed general purpose luminaires

Testing Laboratory Name ……:	BST Testing (Shenzhen) Co., Ltd.
Address ……..:	No.7,New Era Industrial Zone, Guantian, Bao'an District, Shenzhen, Guangdong, China
Testing location ……..:	BST Testing (Shenzhen) Co., Ltd.
Applicant's Name ……..:	SIGNCOMPLEX LIMITED
Address ……..:	Yijia Industrial Park, Fuqian Road, Guanlan Town, Bao'An, Shenzhen, Guangdong, China
Manufacturer …… ……:	SIGNCOMPLEX LIMITED
Address …… ……:	Yijia Industrial Park, Fuqian Road, Guanlan Town, Bao'an, Shenzhen, Guangdong, China
Test specification	
Standard……..:	EN 60598-2-1:1989 EN 60598-1:2018
Procedure deviation ……:	N/A
Non-standard test method …..:	N/A
Description:	
Trademark……..:	Signcomplex
Test item description ……:	IP65 LINEAR HIGH BAY
Model and/or type reference...:	See page 1 for details
Rating(s)……..:	AC100-240V, 50/60Hz, 300W
Test case verdicts	
Test case does not apply to the test object ...:	N/A
Test item does meet the requirement .....:	P(ass)
Test item does not meet the requirement .....:	F(ail)

General remarks：

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

”(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Clause numbers between brackets refer to clauses in EN 60598-1.

Throughout this report a comma is used as the decimal separator.

General product information:

1. All models are similar, including schematic, PCB layout and the configuration, except tube length, LED quantity and some components rating are different;
2. All models cap type is G13 and all models use the same LED chip, the length between models are different.
3. Due to the similarity between models, full test is performed on model LHBP-300-AW-30K-ZYYY in order to represents all other models.

Artwork of Marking Label:

IP65 LINEAR HIGH BAY
Model: LHBP-300-AW-30K-ZYYY
Rated: AC100-240V, 50/60Hz, 300W

SIGNCOMPLEX LIMITED

Note: Other models have the similar labels, only model name and ratings are different

Prepared by : Jacky Zhang
Engineer

Reviewer :
Supervisor

Approved & Authorized Signer : APPROVED
Manager

EN 60598-2-1			
Cl.	Requirement – Test	Result	Verdict
1.2 (0)	**GENERAL TEST REQUIREMENTS**		P
1.2 (0.1)	Information for luminaire design considered	Yes ☒ No ☐	—
1.2 (0.3)	More sections applicable .	Yes ☐ No ☒	—
1.4 (2)	CLASSIFICATION		P
1.4 (2.2)	Type of protection.....:	Class I	P
1.4 (2.3)	Degree of protection.....:	IP65	P
1.4 (2.4)	Luminaire only suitable for non-combustible materials .....:	Yes ☐ No ☒	—
	Luminaire suitable for normally flammable surfaces.....:	Yes ☒ No ☐	—
1.4 (2.5)	Luminaire for normal use .....:	Yes ☒ No ☐	—
	Luminaire for rough service .....:	Yes ☐ No ☒	—
1.5 (3)	**MARKING**		P
1.5 (3.2)	Marking on luminaires		P
	Position of the marking	Markings on the enclosure	P
	Format of symbols/text		P
1.5 (3.3)	Additional information		P
	Language of instructions	English	P
1.5 (3.3.1)	Combination luminaires		N
1.5 (3.3.2)	Nominal frequency in Hz	50/60Hz	P
1.5 (3.3.3)	Operating temperature	25DegC	P
1.5 (3.3.4)	Symbol or warning notice		P
1.5 (3.3.5)	Wiring diagram		N
1.5 (3.3.6)	Special conditions		N
1.5 (3.3.7)	Metal halid lamp luminaire – warning		N
1.5 (3.3.8)	Limitation for semi-luminaires	Not semi-luminaires	N
1.5 (3.3.9)	Power factor and supply current		N
1.5 (3.3.10)	Suitability for use indoors		P
1.5 (3.3.11)	Luminaires with remote control	No remote control	N
1.5 (3.3.12)	Clip-mounted luminaire – warning	Not clip-mounted luminaire	N

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Cl.	Requirement – Test	Result	Verdict
1.5 (3.3.13)	Specifications of protective shields		N
1.5 (3.3.14)	Symbol for nature of supply	~	P
1.5 (3.3.15)	Rated current of socket outlet	No socket outlet	N
1.5 (3.3.16)	Rough service luminaire		N
1.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	Type Y	P
1.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N
1.5(3.3.19)	Protective conductor current in instruction if applicable		N
1.5(3.3.20)	Provided with information if not intended to be mounted within arms reach		N
1.5 (3.3.101)	Terminal block is not supplied with luminaire		N
1.5 (3.4)	Test with water	15s with water	P
	Test with hexane	15s with hexane	P
	Legible after test	Markings Legible	P
	Label attached	Not be easily removable and no curling.	P

1.6 (4)	**CONSTRUCTION**		P
1.6 (4.2)	Components replaceable without difficulty		N
1.6 (4.3)	Wireways smooth and free from sharp edges		P
1.6 (4.4)	Lampholders		N
1.6 (4.4.1)	Integral lampholder		N
1.6 (4.4.2)	Wiring connection		N
1.6 (4.4.3)	Lampholder for end-to-end mounting		N
1.6 (4.4.4)	Positioning		N
1.6 (4.4.5)	Peak pulse voltage		N
1.6 (4.4.6)	Centre contact		N
1.6 (4.4.7)	Rough service luminaires	Luminaires for normal use	N
1.6 (4.4.8)	Lamp connectors		N
1.6 (4.4.9)	Caps and bases correctly used		N
1.6 (4.5)	Starter holders	No starter holder	N
	Starter holder in luminaires other than Class I		N

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Cl.	Requirement – Test	Result	Verdict
	Starter holder Class I construction		N
1.6 (4.6)	Terminal blocks		P
	Tails		P
	Unsecured blocks		N
1.6 (4.7)	Terminals and supply connections		P
1.6 (4.7.1)	Contact to metal parts		N
1.6 (4.7.2)	Test 8 mm live conductor		N
	Test 8 mm earth conductor		N
1.6 (4.7.3)	Terminals for supply conductors		N
1.6 (4.7.4)	Terminals other than supply connection		N
1.6 (4.7.5)	Heat-resistant wiring/sleeves		N
1.6 (4.7.6)	Multi-pole plug		N
1.6 (4.8)	Switches:		N
	- adequate rating	No switch	N
	- adequate fixing		N
	- polarized supply		N
1.6 (4.9)	Insulating lining and sleeves		P
1.6 (4.9.1)	Retainment		P
	Method of fixing .....:	Form a part of luminaire.	P
1.6 (4.9.2)	Insulated linings and sleeves		P
	a) & c) Insulation resistance and electric strength		N
	b) Ageing test. Temperature (°C) .....:		N
1.6 (4.10)	Insulation of Class I luminaires		N
1.6 (4.10.1)	No contact, mounting surface - accessible metal parts - wiring of basic insulation		N
	Safe installation fixed luminaires		N
	Capacitors and switches		N
	Interference suppression capacitors according to IEC 60384-14		N
1.6 (4.10.2)	Assembly gaps:		N
	- not coincidental		N
	- no straight access with test probe		N
1.6 (4.10.3)	Retainment of insulation:		N
	- fixed	Cannot remove easily	N
	- unable to be replaced; luminaire inoperative		N

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Cl.	Requirement – Test	Result	Verdict
	- sleeves retained in position		N
	- lining in lampholder		N
1.6 (4.11)	Electrical connections		P
1.6 (4.11.1)	Contact pressure	Contact pressure is not transmitted through insulating material.	P
1.6 (4.11.2)	Screws:		P
	- self-tapping screws		P
	- thread-cutting screws		N
	- at least two self-tapping screws		N
1.6 (4.11.3)	Screw locking:		N
	- spring washer		N
	- rivets		N
1.6 (4.11.4)	Material of current-carrying parts		P
1.6 (4.11.5)	No contact to wood	No wood material in the luminaires	P
1.6 (4.11.6)	Electro-mechanical contact systems	No electro-mechanical contact systems	N
1.6 (4.12)	Mechanical connections and glands		P
1.6 (4.12.1)	Screws not made of soft metal	Visual inspection	P
	Screws of insulating material		P
	Torque test: torque (Nm); part.....:	Screw for fixing enclosure: Φ1.8mm, 0.4Nm	P
	Torque test: torque (Nm); part.....:		N
1.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
1.6 (4.12.4)	Locked connections:		N
	- fixed arms; torque (Nm) .....:		N
	- lampholder; torque (Nm) .....:		N
	- push-button switches; torque 0,8 Nm .....:		N
1.6 (4.12.5)	Screwed glands; force (N).....:		N
1.6 (4.13)	Mechanical strength		P
1.6 (4.13.1)	Impact tests:		P

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Cl.	Requirement – Test	Result	Verdict
	- fragile parts; energy (Nm) .....:	0.2 Nm	P
	- other parts; energy (Nm) .....:	Enclosure: 0.35 Nm	P
	1) live parts	Not access	P
	2) linings		P
	3) protection	Continue to afford the degree of protection against ingress of dust, solid objects and moisture	P
	4) covers	No break	P
1.6 (4.13.3)	Straight test finger		P
1.6 (4.13.4)	Rough service luminaires	Not for rough service use.	N
	a) fixed		N
	b) hand-held		N
	c) delivered with a stand		N
	d) for temporary installations and suitable for mounting on a stand		N
1.6 (4.13.6)	Tumbling barrel		N
1.6 (4.14)	Suspensions and adjusting devices		P
1.6 (4.14.1)	Mechanical load:		P
	A) four times the weight		P
	B) torque 2,5 Nm		N
	C) bracket arm; bending moment (Nm).....:		N
	D) load track-mounted luminaires		N
	E) clip-mounted luminaires, glass-shelve. Thickness (mm) .....:		N
	metal rod. Diameter (mm) .....:		N
1.6 (4.14.2)	Load to flexible cables		N
	Mass (kg).....:		N
	Stress in conductors (N/mm²).....:		N
	Semi-luminaires – mass (kg) .....:		N
	Semi-luminaires – bending moment (Nm).....:		N
1.6 (4.14.3)	Adjusting devices:	No adjusting devices	N
	- flexing test; number of cycles.....:		N
	- strands broken		N

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Cl.	Requirement – Test	Result	Verdict
	- electric strength test afterwards		N
1.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N
1.6 (4.14.5)	Guide pulleys		N
1.6 (4.14.6)	Strain on socket-outlets		N
1.6 (4.15)	Flammable materials:		P
	- glow-wire test 650 °C		P
	- spacing ≥ 30 mm		N
	- screen withstanding test of 13.3.1		N
	- screen dimensions		N
	- no fiercely burning material		P
	- thermal protection		N
	- electronic circuits exempted		N
1.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		N
	a) construction		N
	b) temperature sensing control		N
	c) surface temperature		N
1.6 (4.16)	Luminaires for mounting on normally flammable surfaces		P
	No lamp control gear		N
1.6 (4.16.1)	Electronic lamp control gear		N
	Lamp control gear spacing:		N
	- spacing 35 mm		N
	- spacing 10 mm		N
1.6 (4.16.2)	Thermal protection:		N
	- in lamp control gear		N
	- external		N
	- fixed position		N
	- temperature marked lamp control gear		N
1.6 (4.16.3)	The test of 12.6.		N
1.6 (4.17)	Drain holes		N
	Clearance at least 5 mm		N
1.6 (4.18)	Resistance to corrosion:		P

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Cl.	Requirement – Test	Result	Verdict
1.6 (4.18.1)	- rust-resistance		P
1.6 (4.18.2)	- season cracking in copper		P
1.6 (4.18.3)	- corrosion of aluminium		P
1.6 (4.19)	Ignitors compatible with ballast		N
1.6 (4.20)	Rough service vibration.....:		N
1.6 (4.21)	Protective shield:		N
1.6 (4.21.1)	Shield fitted		N
1.6 (4.21.2)	Particles from a shattering lamp not impair safety		N
1.6 (4.21.3)	No direct path		N
1.6 (4.21.4)	Impact test on shield		N
	Glow-wire test on lamp compartment		N
1.6 (4.22)	Attachments to lamps	Not attachments to lamps	N
1.6 (4.23)	Semi-luminaires comply Class I		N
1.6 (4.24)	UV radiation		N
1.6 (4.25)	No sharp point or edges	No sharp points or edges	P
1.6 (4.26)	Short-circuit protection:		N
1.6 (4.26.1)	Uninsulated accessible SELV parts		N
1.6 (4.26.2)	Short-circuit test		N
1.6 (4.26.3)	Test chain according to Figure 29		N

1.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		P
	Working voltage (V).....:	240V~	P
	Voltage form	Sinusoidal ☒ Non-sinusoidal ☐	P
	PTI	< 600 ☒ ≥ 600 ☐	P
	Rated pulse voltage (kV) .....:	2.5KV	P
	(1) Current-carrying parts of different polarity: Cr (mm); Cl (mm) .....:	Between L and N: Cr >2.5mm, Cl>1.5mm	P
	(2) Current-carrying parts and accessible parts: Cr (mm); Cl (mm).....:	Cr >6.0mm, Cl>5.0mm	P

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Cl.	Requirement – Test	Result	Verdict
	(3) Parts becoming live due to breakdown of basic insulation and metal parts: Cr (mm); Cl (mm).....:	Class I	N
	(4) Outer surface of cable where it is clamped and metal parts: Cr (mm); Cl (mm).....:		N
	(5) Not used :		N
	(6) Current-carrying parts and supporting surface: Cr (mm); Cl (mm).....:	Cr >6.0mm, Cl>5.0mm	P

1.8 (7)	**PROVISION FOR EARTHING**		N
1.8 (7.2.1 + 7.2.3)	Accessible metal parts	Class I equipment.	N
	Metal parts in contact with supporting surface		N
	Resistance < 0,5 Ω	Between earth terminal and metal enclosure: Max. 0,013 Ω < 0,5 Ω	N
	Self-tapping screws used		N
	Thread-forming screws		N
	Connector earthing first		N
1.8 (7.2.2 + 7.2.3)	Earth continuity in joints etc.		N
1.8 (7.2.4)	Locking of clamping means		N
	Compliance with 4.7.3		N
1.8 (7.2.5)	Earth terminal integral part of connector socket		N
1.8 (7.2.6)	Earth terminal adjacent to mains terminals		N
1.8 (7.2.7)	Electrolytic corrosion of the earth terminal		N
1.8 (7.2.8)	Material of earth terminal		N
	Contact surface bare metal		N
1.8 (7.2.10)	Class I luminaire for looping-in		N
1.8 (7.2.11)	Earthing core coloured green-yellow		N
	Length of earth conductor		N

1.9 (14)	**SCREW TERMINALS**		P
	Separately approved; component list		P
	Part of the luminaire		N

1.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**	P

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Cl.	Requirement – Test	Result	Verdict
	Separately approved; component list		P
	Part of the luminaire		N

1.10 (5)	**EXTERNAL AND INTERNAL WIRING**		P
1.10 (5.2)	Supply connection and external wiring		P
1.10 (5.2.1)	Means of connection .....:	Trails of supply cord	P
1.10 (5.2.2)	Type of cable .....:	Jacketed cord model SJTW	P
	Nominal cross-sectional area (mm²) .....:	3 × 0,75 mm²	P
	Cables equal to IEC 60227 or IEC 60245	IEC 60227	P
1.10 (5.2.3)	Type of attachment, X, Y or Z	Type Y	P
1.10 (5.2.5)	Type Z not connected to screws		N
1.10 (5.2.6)	Cable entries:		N
	- suitable for introduction		N
	- adequate degree of protection		N
1.10 (5.2.7)	Cable entries through rigid material have rounded edges		N
1.10 (5.2.8)	Insulating bushings:		N
	- suitably fixed		N
	- material in bushings		N
	- tubes or guards made of insulating material		N
1.10 (5.2.9)	Locking of screwed bushings		N
1.10 (5.2.10)	Cord anchorage:		N
	- covering protected from abrasion		N
	- clear how to be effective		N
	- no mechanical or thermal stress		N
	- no tying of cables into knots etc.		N
	- insulating material or lining		N
1.10 (5.2.10.1)	Cord anchorage for type X attachment:		N
	a) at least one part fixed		N
	b) types of cable		N

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Cl.	Requirement – Test	Result	Verdict
	c) no damaging of the cable		N
	d) whole cable can be mounted		N
	e) no touching of clamping screws		N
	f) metal screw not directly on cable		N
	g) replacement without special tool		N
	Glands not used as anchorage		N
	Labyrinth type anchorages		N
1.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	Type Y	P
1.10 (5.2.10.3)	Tests:		N
	- impossible to push cable; unsafe		N
	- pull test: 25 times; pull (N).....:	60N	N
	- torque test: torque (Nm) .....:	0.25Nm	N
	- displacement ≤ 2 mm	0.3mm ≤ 2mm	N
	- no movement of conductors		N
	- no damage of cable or cord		N
1.10 (5.2.11)	External wiring passing into luminaire		N
1.10 (5.2.12)	Looping-in terminals		N
1.10 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N
1.10 (5.2.14)	Mains plug same protection		N
	Class II luminaire plug		N
1.10 (5.2.16)	Appliance inlets (IEC 60320)		N
	Appliance couplers of Class I type		N
1.10 (5.2.17)	No standardized interconnecting cables properly assembled		N
1.10 (5.2.18)	Used plug in accordance with		N
	-IEC 60083		N
	-Other standard		N
1.10 (5.3)	Internal wiring		P
1.10 (5.3.1)	Internal wiring of suitable size and type	1007, 22AWG used with input of LED module.	N

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Cl.	Requirement – Test	Result	Verdict
	Through wiring		N
	- not delivered/ mounting instruction		N
	- factory assembled		N
	- socket outlet loaded (A) .....:		N
	- temperatures .....:		N
	Green-yellow for earth only		P
1.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		N
	Cross-sectional area (mm²).....:		N
	Insulation thickness		N
	Extra insulation added where necessary		N
1.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		P
	Adequate cross-sectional area and insulation thickness		P
1.10 (5.3.1.3)	Double or reinforced insulation for Class I		N
1.10 (5.3.1.4)	Conductors without insulation		N
1.10 (5.3.1.5)	SELV current-carrying parts		N
1.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N
1.10 (5.3.2)	Sharp edges etc.		P
	No moving parts of switches etc.		N
	Joints, raising/lowering devices		P
	Telescopic tubes etc.		N
	No twisting over 360°		P
1.10 (5.3.3)	Insulating bushings:		P
	- suitable fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- cables with protective sheath		P
1.10 (5.3.4)	Joints and junctions effectively insulated		P
1.10 (5.3.5)	Strain on internal wiring		N

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Cl.	Requirement – Test	Result	Verdict
1.10 (5.3.6)	Wire carriers		N
1.10 (5.3.7)	Wire ends may be tinned		P
	Wire ends tinned: no cold flow		N

1.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		P
1.11 (8.2.1)	Live parts not accessible with standard test finger		P
	Basic insulated parts not used on the outer surface without appropriate protection		N
	Basic insulated parts not accessible with standard test finger on portable and adjustable luminaires		P
	Basic insulated parts not accessible with Ø 50 mm probe from outside, within arms reach, on wall-mounted luminaires		P
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N
	Basic insulation only accessible under lamp or starter replacement		N
	Protection in any position		P
	Double-ended tungsten filament lamp		N
	Insulation lacquer not reliable		P
	Double-ended high pressure discharge lamp		N
	Relevant warning according to 3.2.18 fitted to the luminaire		N
1.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N
1.11 (8.2.3a)	Class I luminaire:		N
	- basic insulated metal parts not accessible during starter or lamp replacement		N
	- basic insulation not accessible other than during starter or lamp replacement		N
	- glass protective shields not used as supplementary insulation		N
1.11 (8.2.3b)	BC lampholder of metal in class I luminaires shall be earthed		N
1.11 (8.2.3c)	Class II luminaires with exposed SELV parts:		N
	Ordinary luminaire:		N
	- touch current .....:		N

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Cl.	Requirement – Test	Result	Verdict
	- no-load voltage .....:		N
	Other than ordinary luminaire:		N
	- nominal voltage .....:		N
1.11 (8.2.4)	Portable luminaire:		N
	- protection independent of supporting surface		N
	- terminal block completely covered		N
1.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
1.11 (8.2.6)	Covers reliably secured		N
1.11 (8.2.7)	Discharging of capacitors ≥ 0,5 μF	<0,5 μF	N
	Portable plug connected luminaire with capacitor		N
	Other plug connected luminaire with capacitor		N
	Discharge device on or within capacitor		N
	Discharge device mounted separately		N

1.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		P
1.12 (12.3)	Endurance test:		P
	- mounting-position.....:	On the black testing ceiling	—
	- test temperature (°C).....:	35℃	—
	- total duration (h) .....:	240h	—
	- supply voltage: Un factor; calculated voltage (V) .....:	240V~	—
	- lamp used.....:	Integrated LED module	—
1.12 (12.3.2)	After endurance test:		P
	- no part unserviceable		P
	- luminaire not unsafe	Visual inspection	P
	- no damage to track system		N
	- marking legible	Marking legible	P
	- no cracks, deformation etc.	No cracks, deformation etc.	P
1.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
1.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	N
1.12 (12.6)	Thermal test (failed lamp control gear condition):		N
1.12 (12.6.1)	- case of abnormal conditions .....:		—

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Cl.	Requirement – Test	Result	Verdict
	- electronic lamp control gear		N
	- measured winding temperature (°C) at 1,1 Un .:		—
	- measured mounting surface temperature (°C) at 1,1 Un .....:		N
	- calculated mounting surface temperature (°C) .:		N
	- track-mounted luminaires		N
1.12 (12.6.2)	Temperature sensing control		N
	- case of abnormal conditions .....:		—
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured mounting surface temperature (°C) :		N
	- track-mounted luminaires		N
1.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		N
	- case of abnormal conditions .....:		—
1.12 (12.7.1)	- measured winding temperature (°C) at 1,1 Un .:		—
	- measured temperature of fixing point/ exposed part (°C) at 1,1 Un .....:		N
	- calculated temperature of fixing point/ exposed part (°C).....:		N
1.12 (12.7.2)	Temperature sensing control		N
	- thermal link		N
	- manual reset cut-out		N
	- auto reset cut-out		N
	- measured temperature of fixing point/ exposed part (°C) ..... :		N

1.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		P
1.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP.....:	IP65	P
	- mounting position during test .....:	On the black testing wall	—
	- fixing screws tightened; torque (Nm) .....:		—
	- tests according to clauses.....:	Cl.9.2.0	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N

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Cl.	Requirement – Test	Result	Verdict
	b) no talcum in dust-tight luminaire		N
	c) no trace of water on current-carrying parts or where it could become a hazard		N
	d) i) For luminaires without drain holes – no water entry		N
	d) ii) For luminaires with drain holes – no hazardous water entry		N
	e) no water in watertight luminaire		N
	f) no contact with live parts (IP 2X)		P
	f) no entry into enclosure (IP 3X and IP 4X)		N
	f) no contact with live parts (IP 3X and IP 4X)		N
1.13 (9.3)	Humidity test 48 h	R.H.: 93% T: 25℃, 48h	P
1.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		P
1.14 (10.2.1)	Insulation resistance test		P
	Insulation resistance (MΩ):		P
	SELV:		N
	- between current-carrying parts of different polarity.....:		N
	- between current-carrying parts and mounting surface.....:		N
	- between current-carrying parts and metal parts of the luminaire.....:		N
	Other than SELV:		P
	- between live parts of different polarity .....:	Min.199,9 MΩ>2MΩ	P
	- between live parts and mounting surface .....:	Min.199,9 MΩ>4MΩ	P
	- between live parts and enclosure .....:	Min.199,9 MΩ>4MΩ	P
	- between live parts of different polarity through action of a switch.....:	No switch	N
1.14 (10.2.2)	Electric strength test		P
	Dummy lamp		N
	Luminaires with ignitors after 24 h test		N
	Luminaires with manual ignitors		N
	Test voltage (V):		N
	SELV:		N

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Cl.	Requirement – Test	Result	Verdict
	- between current-carrying parts of different polarity.....:		N
	- between current-carrying parts and mounting surface.....:		N
	- between current-carrying parts and metal parts of the luminaire.....:		N
	Other than SELV:		P
	- between live parts of different polarity .....:	AC1500V, no broken	P
	- between live parts and mounting surface .....:	AC1500V, no broken	P
	- between live parts and enclosure .....:	AC1500V, no broken	P
	- between live parts of different polarity through action of a switch.....:		N
1.14 (10.3.1)	Touch current (mA) .....:	Max. 0,12mA < limit: 0,7 mA	P

1.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		P
1.15 (13.2.1)	Ball-pressure test:		P
	- part tested; temperature (°C) .....:	Lens: 80°C, 1.0mm<2mm	P
	- part tested; temperature (°C) .....:	Bobbin of transformer: 125°C, 0.8mm<2mm	P
	- part tested; temperature (°C) .....:	PCB of driver: 125°C, 0.8mm<2mm	P
1.15 (13.3.1)	Needle flame test (10 s):		P
	- part tested .....:	Bobbin of transformer: No flame, no drop	P
	- part tested	PCB of driver: No flame, no drop	P
1.15 (13.3.2)	Glow wire test (650°C):		P
	- part tested .....:	Lens: no flame, no drop	P
	- part tested .....:		N
1.15 (13.4.1)	Tracking test: part tested.....:		N

	COMMON MODIFICATIONS		N
(3.3.101 + 5.2.1)	For luminaires connected by tails, information about terminal block		N
(5.2.2)	Cables equal to HD 21 S2 or HD 22 S2		N

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Cl.	Requirement – Test	Result	Verdict
(5.2.15)	Colour code low voltage		N

ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS		N
(2.2)	Class 0 not accepted		N
(3.3)	DK: power supply cord with label		N
	IT: warning label on Class 0 luminaire		N
(4.5.1)	DK: socket-outlets		N
(4.5.1)	FR: socket-outlets		N
(5.2.1)	DK, FI, SE, GB: type of plug		N

ZC	ANNEX ZC, NATIONAL DEVIATIONS		N
(13.3)	DK: Needle flame test or glow-wire test 750°C for luminaires in access routes		N
(13.3)	GB: Requirements according to United Kingdom Building Regulation		N
(13.3.2)	FR: Glow-wire test 850°C alt. 750°C for luminaires in premises open to public and workers		N

	ANNEX 2: temperature measurements, thermal tests of Section 12		P
	Type reference .....:	See page 1	—
	Lamp used.....:	Integrated LED module	—
	Lamp control gear used.....:	Integrated LED driver	—
	Mounting position of luminaire.....:	Normal position	—
	Supply wattage (W) .....:	300W	—
	Supply current (A) .....:		—
	Calculated power factor.....:		—
	Table: measured temperatures corrected for ta = 25 °C:		P
	- abnormal operating mode .....:	1. Double load; 2. Adjust to the most unfavourable position.	—
	- test 1: rated voltage.....:	--	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage.....:	240*1.06=254.4V~	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage.....:	--	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage.....:	240*1.1=264V~	—

temperature (°C) of part	clause 12.4 – normal				clause 12.5 – abnormal	
	test 1	test 2	test 3	limits	test 4	limit
Lamps outside	--	44.2	--	110	--	--
Lamps inside		42.5		120		
wire	--	35.8	--	135	38.3	135
LED		47.4		120		
Ambient	--	25.3	--	--	25.4	--

	ANNEX 3: screw terminals (part of the luminaire)		N
(14)	SCREW TERMINALS		N
(14.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(14.3.2.1)	One or more conductors		N
(14.3.2.2)	Special preparation		N
(14.3.2.3)	Terminal size		N
	Cross-sectional area (mm²).....:		N
(14.3.3)	Conductor space (mm).....:		N
(14.4)	Mechanical tests		N
(14.4.1)	Minimum distance		N
(14.4.2)	Cannot slip out		N
(14.4.3)	Special preparation		N
(14.4.4)	Nominal diameter of thread (metric ISO thread) .:		N
	External wiring		N
	No soft metal		N
(14.4.5)	Corrosion		N
(14.4.6)	Nominal diameter of thread (mm).....:		N
	Torque (Nm) .....:		N
(14.4.7)	Between metal surfaces		N
	Lug terminal		N
	Mantle terminal		N
	Pull test; pull (N) .....:		N
(14.4.8)	Without undue damage		N

	ANNEX 4: SCREWLESS TERMINALS (PART OF THE LUMINAIRE)		N
(15)	SCREWLESS TERMINALS		N
(15.2)	Type of terminal.....:		—
	Rated current (A).....:		—
(15.3.1)	Material		N
(15.3.2)	Clamping		N
(15.3.3)	Stop		N
(15.3.4)	Unprepared conductors		N
(15.3.5)	Pressure on insulating material		N
(15.3.6)	Clear connection method		N
(15.3.7)	Clamping independently		N
(15.3.8)	Fixed in position		N
(15.3.10)	Conductor size		N

	Type of conductor		N
(15.5.1)	Terminals internal wiring		N
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples)		N
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)		N
	Insertion force not exceeding 50 N		N
(15.5.2)	Permanent connections: pull-off test (20 N)		N
(15.6)	Electrical tests		N
	Voltage drop (mV) after 1 h (4 samples).....:		N
	Voltage drop of two inseparable joints		N
	Number of cycles.....:		—
	Voltage drop (mV) after 10th alt. 25th cycle (4 samples).....:		N
	Voltage drop (mV) after 50th alt. 100th cycle (4 samples).....:		N
	After ageing, voltage drop (mV) after 10th alt. 25th cycle (4 samples) .....:		N
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples) .....:		N
(15.7)	Terminals external wiring		N
	Terminal size and rating		N
(15.8.1)	Pull test spring-type terminals (4 samples); pull (N)		N
	Pull test pin or tab terminals (4 samples); pull (N)		N
(15.9)	Contact resistance test		N
	Voltage drop (mV) after 1 h		N

terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop of two inseparable joints									
	Voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									
	Max. allowed voltage drop (mV)..... :									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										

ANNEX A:

Photo-documentation

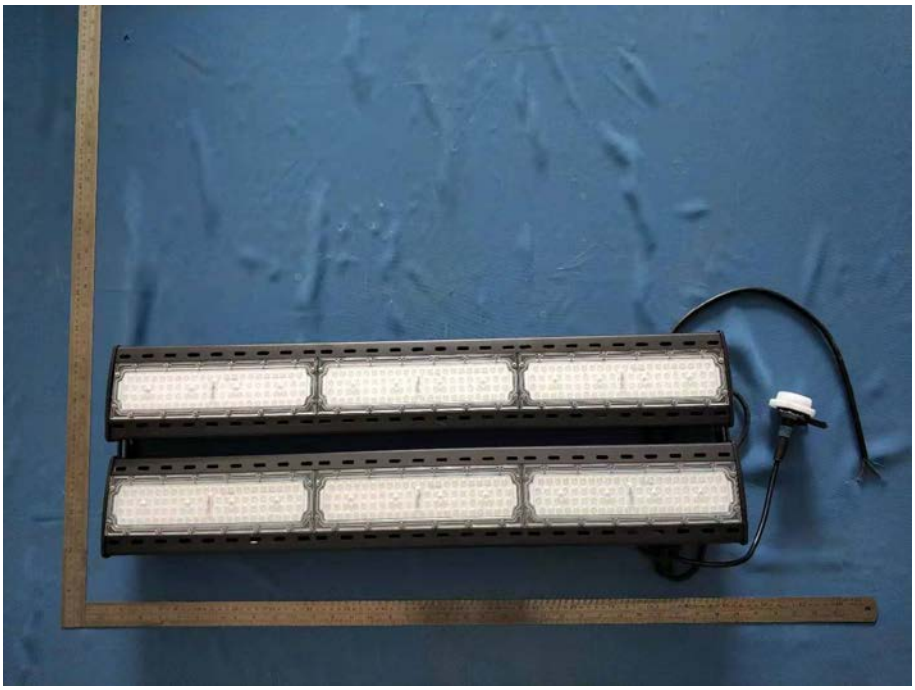

Figure 1 General Appearance of the EUT

Figure 2 General Appearance of the EUT

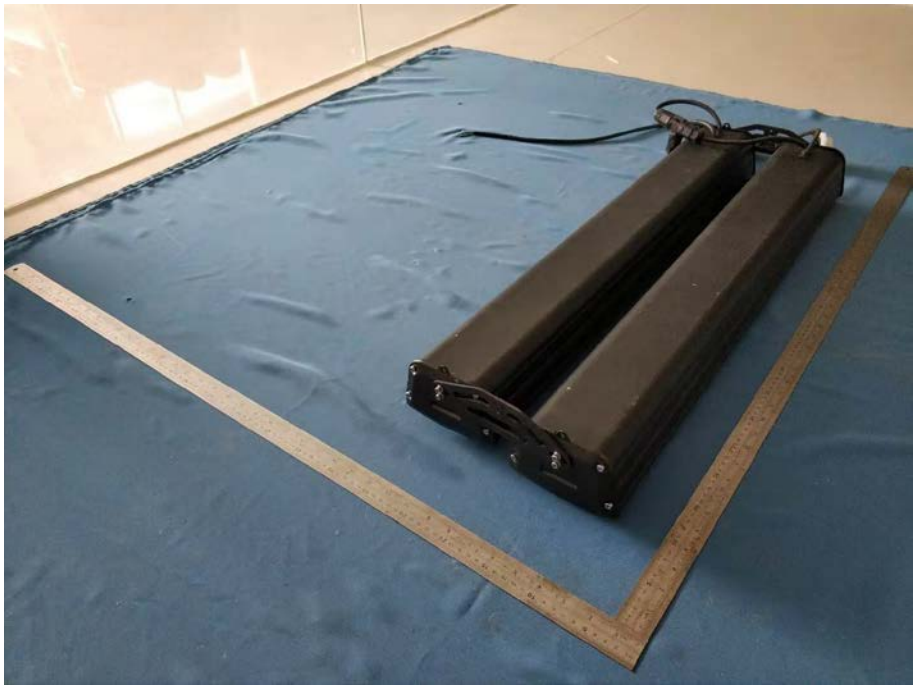

Figure 3 General Appearance of the EUT

----End of the report----