

TEST REPORT

- ☒ Conformity inspection acc.to Low Voltage Directive **2014/35/UE**
- ☒ Marking durability
- ☒ Construction durability
- ☒ Mechanical strenght test (IK)
- ☒ Provision for Earthing (PE)
- ☒ Protection against electric shock
- ☒ Resistance to dust, solid objects and moisture tests (IP)
- ☒ Insulation electric strength and insulation resistance
- ☒ Insulation spacings
- ☒ Thermal tests
- ☐ Resistance to fire (GWT)
- ☒ Power and the electrical parameters measurements
- ☒ Photobiological hazards



Nr. TSP-17025-LB-001.00

LUG Light Factory Ltd ul. Gorzowska 11 65-127 Zielona Góra, POLAND KRS 0000290498 REGON 080212116 NIP PL 929-17-85-452		LUG Testing Laboratory address: ul. Nowa 7 66-002 Nowy Kisielin, POLAND		TEST SPECIFICATION – STANDARDS: PN – EN 60598-1:2015 PN – EN 60598-2-3: 2006/A1:2012	
Test Report No.: BT_13_087_20		Tested by: Robert Tracz & Michał Mazurek			
Sample No.: 209/1/18		Compiled by: Robert Tracz			
Applicant name: G.Plasun R&D LUG LIGHT FACTORY		Approved by: Robert Tracz			
Tested from: 15.10.2020		Product type:	LUMINAIRE		
Through: 02.11.2020		Model name:	URBINO LED version PLUS		
		Index:	130222.5L241.421 130222.5L631.531		
		Power [W]:	205W		
		IP Degree:	66		
		Ratings:	220-240V /50/60Hz		
		Type of protection:	CL I CL II		
		Group:	STREET LIGHTING - OUTSIDE		
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2. COMPONENT LIST

No.	Component	Producer/Model/Type	Parameters	Standard/Mark
1.	LED DRIVER	OSRAM OPTOTRONIC OT 165/170-240/1A0 4DIMLT2 E	Ta=55°C; Tc=85°C set on 1050mA	ENEC10
	LED DRIVER	OSRAM OPTOTRONIC OT 110/170-240/1A0 1DIMLT2 G1 CE	Ta=-40÷55°C; Tc=85°C set on 700mA	ENEC10
2.	LED DRIVER	TRIDONIC LCO 200/200-1050/355 o4a NFC EXC3	Ta=-40÷60°C; Tc=95°C set on 700mA	ENEC11
3.	LED MODULE	LUG PCBL2027202.01.01 PR-EL-30-20 01-272-09	Tc=105°C; XPG3	CE
4.	LED MODULE	LUG PCBL2027200.01.01 PR-EL-30-20 01-272-03	Tc=85°C; DIURIS S8 5050	CE
5.	LED MODULE	LUG PCBL2027201.01.01 PR-EL-30-20 01-272-06	Tc=85°C; DIURIS S8 5050	CE
6.	LED MODULE	LUG PCBL2027203.01.01 PR-EL-30-20 01-272-12	Tc=105°C; XPG3	CE
7.	TERMINAL BLOCK	BJB 46.412	16A; 2 x 0.5 - 2.5 mm ²	ENEC10
8.	TERMINAL BLOCK	BJB 46.413	16A; 3 x 0.5 - 2.5 mm ²	ENEC10

3. COPY OF MARKING PLATE

 130222.5L241.421 URBINO LED ED 27950lm/740 O66 szary I klasa	 130222.5L631.531 URBINO LED ED 30050lm/740 O77 szary I klasa
LED 220-240V 50/60Hz Ix max 205 W IP66 ta 50°C MADE IN POLAND ZM-41047077 / 721919 UL GORZOWSKA II 65-117 ZIELONA GORA	LED 220-240V 50/60Hz Ix max 205 W IP66 ta 50°C MADE IN POLAND ZM-41047078 / 721920 UL GORZOWSKA II 65-117 ZIELONA GORA

4. POSSIBLE TEST CASE VERDITS:

Test case does not apply to the test object: N/A (Not Applicable)
Test object does meet the requirement: P (Pass)
Test object does not meet the requirement: F (Fail)

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5. TEST RESULTS ARE ALSO VALID FOR

Code	Luminaire power [W]	Lumen luminaire [lm]	Efficacy [lm/W]	Colour temperature [K]	CRI/Ra	Operating temperature range [°C]
Type: 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083 optics						
13022X.XL78X.XX1	101	15500	153	4000	>70	-40 ... +50
13022X.XL83X.XX1	101	15100	150	3000	>70	-40 ... +50
13022X.XL47X.XX1	101	13550	134	2700	>70	-40 ... +50
13022X.XL48X.XX1	101	12700	126	2200	>70	-40 ... +50
13022X.XL49X.XX1	158	22100	140	4000	>70	-40 ... +50
13022X.XL56X.XX1	158	21550	136	3000	>70	-40 ... +50
13022X.XL59X.XX1	158	19350	122	2700	>70	-40 ... +50
13022X.XL60X.XX1	158	18100	115	2200	>70	-40 ... +50
13022X.XL63X.XX1	204	30300	149	4000	>70	-40 ... +50
13022X.XL64X.XX1	204	29600	145	3000	>70	-40 ... +50
13022X.XL65X.XX1	204	26550	130	2700	>70	-40 ... +50
13022X.XL66X.XX1	204	24800	122	2200	>70	-40 ... +50
Type: 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072 optics						
13022X.XL10X.XX1	103	14150	137	4000	>70	-40 ... +50
13022X.XL46X.XX1	103	13500	131	3000	>70	-40 ... +50
13022X.XL03X.XX1	103	12750	124	2700	>70	-40 ... +50
13022X.XL06X.XX1	103	11100	108	2200	>70	-40 ... +50
13022X.XL15X.XX1	160	19750	123	4000	>70	-40 ... +50
13022X.XL16X.XX1	160	18900	118	3000	>70	-40 ... +50
13022X.XL18X.XX1	160	17800	111	2700	>70	-40 ... +50
13022X.XL19X.XX1	160	15500	97	2200	>70	-40 ... +50
13022X.XL24X.XX1	205	27650	135	4000	>70	-40 ... +50
13022X.XL27X.XX1	205	26400	129	3000	>70	-40 ... +50
13022X.XL37X.XX1	205	24900	121	2700	>70	-40 ... +50
13022X.XL38X.XX1	205	21700	106	2200	>70	-40 ... +50

13 022 - L10 - 1.

Type of luminaires

985 Luminaire with an additional anti-corrosion protection on request

825 Access to the driver chamber without the use of tools on request

829 Luminaire with holder for mounting on a Ø76mm pillar on request

Type of optic

38 O62 - for express roads

39 O63 - for local roads

40 O64 - for town roads

41 O65 - for residential area roads

42 O66 - for pedestrian crossings, left side traffic

43 O67 - for pedestrian crossings, right side traffic

44 O68 - for area lighting

45 O69 - for town and local roads

46 O70 - for wet surfaces

47 O71 - for road lighting

49 O73 - for express roads

50 O74 - for local roads

51 O75 - for town roads

52 O76 - for residential area roads

53 O77 - for pedestrian crossings, left side traffic

54 O78 - for pedestrian crossings, right side traffic

55 O79 - for area lighting

56 O80 - for town and local roads

57 O81 - for wet surfaces

58 O82 - for road lighting

Protection Class

1 I

2 II

Type of equipment

3 DALI

5 ED

Colour

2 gray

5 graphite

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6. TEST PROGRAM

Name of test	Standards and tests according to		Verdict
	Result	PN – EN 60598 – 2-3	
1	2	3	4
GENERAL TEST REQUIREMENTS			
Information for luminaire design considered	Yes ☒ No ☐	3.2 (0.1)	
More sections applicable	Yes ☐ No ☒ Section/s:	3.2 (0.3)	
CLASSIFICATION OF LUMINAIRES			
Type of protection	Class I Class II	2.5(2.2)	
Degree of protection	IP 66	2.5(2.3)	
Luminaire suitable for direct mounting on normally flammable surfaces	Yes ☒ No ☐	2.5(2.4)	
Luminaire for normal use	Yes ☒ No ☐	2.5(2.5)	
Luminaire for rough service	Yes ☐ No ☒		
Modes of installation of road or street lighting		3.4(-)	
a) On a pipe	Yes ☒ No ☐		
b) On a mast arm	Yes ☒ No ☐		
c) On a post top	Yes ☒ No ☐		
d) On span or suspension wires	Yes ☐ No ☒		
e) On a wall	Yes ☐ No ☒		
MARKING			
Mandatory markings		3.5(3.2)	P
Position of the markings			P
Format of symbols/text			P
Additional information		3.5(3.3)	P
Combination luminaires			N/A
Nominal frequency in Hz		3.5(3.3.2)	P
Operating temperature		3.5(3.3.3)	P
Symbol or warning notice		3.5(3.3.4)	N/A
Wiring diagram		3.5(3.3.5)	P
Special conditions		3.5(3.3.6)	N/A
Metal halide lamp luminaire - warning		3.5(3.3.7)	N/A
Limitation for semi-luminaires		3.5(3.3.8)	N/A
Power factor and supply current		3.5(3.3.9)	P
Suitability for use indoors		3.5(3.3.10)	N/A
Luminaires with remote control		3.5(3.3.11)	N/A
Clip-mounted luminaire-warning		3.5(3.3.12)	N/A
Specifications of protective shields		3.5(3.3.13)	N/A
Symbol for nature of supply		3.5(3.3.14)	N/A
Rated current of socket outlet		3.5(3.3.15)	N/A
Rough service luminaire		3.5(3.3.16)	N/A
Mounting instructions for type Y, type Z and some type X attachments		3.5(3.3.17)	N/A
Non-ordinary luminaires with PCV cable		3.5(3.3.18)	N/A
Protective conductor current in instruction if applicable		3.5(3.3.19)	N/A
Provided with information if not intended to be mounted with arm's reach		3.5(3.3.20)	N/A
Non replaceable and non-user replaceable light sources information provided		2.6(3.3.21)	P
Cautionary symbol			P
Controllable luminaires, classification of insulation provided		3.5(3.3.22)	N/A
Test with water		3.5(3.4)	P

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Test with hexane			P
Legible after test			P
Label attached			P
Additional information in instruction leaflet		3.5(-)	
a) Design attitude			P
b) Weight			P
c) Overall dimensions			P
d) Maximum projected area if applicable			N/A
e) Cross-sectional area of wires if applicable			N/A
f) Suitability for indoors use			N/A
g) Dimensions of the compartment			N/A
h) Torque setting to be applied to bolts or screws			P
i) Maximum mounting height			P
CONSTRUCTION			
Components replaceable without difficulty		3.6(4.2)	N/A
Wireways smooth and free from sharp edges		3.6(4.3)	N/A
COMPONENT PARTS:			
Lampholders		3.6(4.4)	
Integral lampholder		3.6(4.4.1)	N/A
Wiring connection		3.6(4.4.2)	N/A
Lampholder for end-to-end mounting		3.6(4.4.3)	N/A
Positioning		3.6(4.4.4)	N/A
- pressure test (N):			N/A
After test the lampholder comply with relevant standard sheets and show no damage			N/A
After test on single-capped lampholder the lampholder have not moved from its position and show no permanent deformation			N/A
- bending test (N):			N/A
After test the lampholder have not moved from its position and show no permanent deformation			N/A
Peak pulse voltage		3.6(4.4.5)	N/A
Centre contact		3.6(4.4.6)	N/A
Parts in rough service luminaires resistant to tracking		3.6(4.4.7)	N/A
Lamp connectors		3.6(4.4.8)	N/A
Caps and bases correctly used		3.6(4.4.9)	N/A
Light source for lampholder or connection according IEC 60061 not connected another way		3.6(4.4.10)	N/A
Starter holders		3.6(4.5)	
Starter holder in luminaires other than class II			N/A
Starter holder class II construction			N/A
Terminal blocks		3.6(4.6)	
Tails			N/A
Unsecured blocks			N/A
Terminals and supply connections		3.6(4.7)	
Contact to metal parts		3.6(4.7.1)	N/A
Test 8 mm live conductor		3.6(4.7.2)	N/A
Test 8 mm earth conductor			N/A
Terminals for supply conductors		3.6(4.7.3)	N/A
Welded method and material		3.6(4.7.3.1)	
- stranded or solid conductor			N/A
- spot welding			N/A
- welding between wires			N/A
- Type Z attachment			N/A
- mechanical test according to 15.6.2			N/A
- electrical test according to 15.6.3			N/A
- heat test according to 15.6.3.2.3 and 15.6.3.2.4			N/A
Terminals other than supply connection		3.6(4.7.4)	N/A

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Heat-resistant wiring/sleeves		3.6(4.7.5)	N/A
Multi-pole plug		3.6(4.7.6)	N/A
- test at 30 N			N/A
Switches		3.6(4.8)	
- adequate rating			N/A
- adequate fixing			N/A
- polarized supply			N/A
- compliance with IEC 61058-1 for electronic switches			N/A
Insulating lining and sleeves		3.6(4.9)	
Retainment		3.6(4.9.1)	N/A
Method of fixing:			N/A
Insulated linings and sleeves:		3.6(4.9.2)	N/A
Resistant to a temperature > 20°C to the wire temperature or			N/A
a) & c) Insulation resistance and electric strength			N/A
b) Ageing test. Temperature (°C):			N/A
Double or reinforced insulation		3.6(4.10)	
No contact, mounting surface – accessible metal parts – wiring of basic insulation	applies to class II	3.6(4.10.1)	P
Safe installation fixed luminaires	applies to class II		P
Capacitors and switches			N/A
Interference suppression capacitors according to IEC 60384-14			N/A
Assembly gaps:		3.6(4.10.2)	
- not coincidental	applies to class II		P
- no straight access with test probe	applies to class II		P
Retainment of insulation:		3.6(4.10.3)	
- fixed	applies to class II		P
- unable to be replaced; luminaire inoperative			N/A
- sleeves retained in position			N/A
- lining in lampholder			N/A
Protective impedance device		3.6(4.10.4)	
Double or reinforced insulation bridged by appropriate and at least two resistors or two Y2 capacitors or one Y1 capacitor			N/A
Y1 or Y2 capacitors comply with IEC 60384-14			N/A
Resistors comply with test (a) in 14.1 of IEC 60065			N/A
Electrical connections and current-carrying parts			
Contact pressure		3.6(4.11.1)	N/A
Screws:			
- self-tapping screws		3.6(4.11.2)	P
- thread-cutting screws			P
Screw locking:		3.6(4.11.3)	
- spring washer			N/A
- rivets			N/A
Material of current-carrying parts		3.6(4.11.4)	P
No contact to wood or mounting surface		3.6(4.11.5)	P
Electro-mechanical contact systems		3.6(4.11.6)	N/A
Screws and connections (mechanical) and glands		3.6(4.12)	
Screws not made of soft metal		3.6(4.12.1)	P
Screws of insulating material			N/A
Torque test: torque (Nm); part:	1,2 Nm M5	GEAR BOX COVER	
Screws with diameter < 3 mm screwed into metal		3.6(4.12.2)	N/A
Locked connections:		3.6(4.12.4)	P
- fixed arms; torque (Nm):	20 Nm M10	LUMINAIRE -POLE	
- lampholder; torque (Nm):			
- push-button switches; torque (Nm):	0,8		
Screwed glands; force (Nm):		3.6(4.12.5)	—

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Mechanical strength		3.6(4.13)	
Impact tests:		3.6(4.13.1)	
- fragile parts; energy (Nm):	0,5		P
- other parts; energy (Nm):	0,7		P
1) live parts			P
2) linings			N/A
3) protection			P
4) covers			P
Straight test finger		3.6(4.13.3)	P
Rough service luminaires		3.6(4.13.4)	
- IP54 or higher			N/A
a) fixed			N/A
b) hand-held			N/A
c) delivered with a stand			N/A
d) for temporary installations and suitable for mounting on a stand			N/A
Tumbling barrel		3.6(4.13.6)	N/A
Suspensions, fixings and means of adjusting		3.6(4.14)	
Mechanical load:		3.6(4.14.1)	
A) four times the weight			N/A
B) torque 2,5 Nm			N/A
C) bracket arm; bending moment (Nm):	20 Nm		P
D) load track-mounted luminaires			N/A
E) clip-mounted luminaires, glass-shelve. Thickness (mm):			N/A
Metal rod. diameter (mm):			N/A
Fixed luminaire or independent control gear without fixing devices			N/A
Load to flexible cables		3.6(4.14.2)	
Mass (kg):			N/A
Stress in conductors (N/mm ²):			N/A
Mass (kg) of semi-luminaire:			N/A
Bending moment (Nm) of semi-luminaire:			N/A
Adjusting devices:		3.6(4.14.3)	
- flexing test; number of cycles:			N/A
- strands broken:			N/A
- electric strength test afterwards			N/A
Telescopic tubes: cords not fixed to tube; no strain on conductors		3.6(4.14.4)	N/A
Guide pulleys		3.6(4.14.5)	N/A
Strain on socket-outlets		3.6(4.14.6)	N/A
Flammable materials		3.6(4.15)	
- glow-wire test 650°C:		(13.3.2)	N/A
- spacing ≥30 mm			N/A
- screen withstanding test of 13.3.1			N/A
- screen dimensions			N/A
- no fiercely burning material			N/A
- thermal protection			N/A
- electronic circuits exempted			N/A
Luminaires made of thermoplastic material with lamp control gear		3.6(4.15.2)	
a) construction			N/A
b) temperature sensing control			N/A
c) surface temperature			N/A
Luminaires for mounting on normally flammable surfaces		3.6(4.16)	
No lamp control gear:		(compliance with Section 12)	N/A
Lamp control gear spacing:		3.6(4.16.1)	
- spacing 95 mm			N/A

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- spacing 10 mm			N/A
Thermal protection:		3.6(4.16.2)	
- in lamp control gear			P
- external			N/A
- fixed position			N/A
- temperature marked lamp control gear	T130		P
Design to satisfy the test of 12.6	(see clause 12.6)	3.6(4.16.3)	N/A
Drain holes		3.6(4.17)	
Clearance at least 5 mm			N/A
Resistance to corrosion		3.6(4.18)	
- rust-resistance		3.6(4.18.1)	N/A
- season cracking in copper		3.6(4.18.2)	P
- corrosion of aluminium		3.6(4.18.3)	P
Igniters compatible with ballast		3.6(4.19)	N/A
Rough service vibration		3.6(4.20)	N/A
Protective shield		3.6(4.21)	
Shield fitted if tungsten halogen lamps or metal halide lamps		3.6(4.21.1)	N/A
Shield of glass if tungsten halogen lamps			N/A
Particles from a shattering lamp not impair safety		3.6(4.21.2)	N/A
No direct path		3.6(4.21.3)	N/A
Impact test on shield		3.6(4.21.4)	
Glow-wire test on lamp compartment:		(13.3.2)	N/A
Attachments to lamps not cause overheating or damage		3.6(4.22)	N/A
Semi-luminaires comply Class II		3.6(4.23)	N/A
Photobiological hazards		3.6(4.24)	
No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		3.6(4.24.1)	P
Retinal blue light hazard		3.6(4.24.2)	P
Class of risk group assessed according to IEC/TR 62778:	RG1		P
Luminaires with E_{thr} :			
a) Fixed luminaires			
- distance x m, borderline between RG1 and RG2:			N/A
- marking and instruction according 3.2.23			N/A
b) Portable and handheld luminaires			N/A
- marking according 3.2.23 if RG1 exceeded at 200 mm according to IEC/TR 62778			N/A
Portable luminaires for children IEC 60598-2-10 and Mains socket outlet nightlights IEC 60598-2-12 not exceed RG1 at 200 mm according to IEC/62778			N/A
Mechanical hazard		3.6(4.25)	
No sharp point or edges			N/A
Short-circuit protection		3.6(4.26)	
Adequate means of uninsulated accessible SELV parts		3.6(4.26.1)	P
Short-circuit test with test chain according 4.26.3		3.6(4.26.2)	N/A
Test chain not melt through			N/A
Test sample not exceed values of Table 12.1 and 12.2			N/A
Terminal blocks with integrated screwless earthing contacts		3.6(4.27)	
Test according Annex V			P
Pull test of terminal fixing (20 N)			N/A
After test, resistance < 0,05 Ω			N/A
Pull test of mechanical connection (50 N)			N/A
After test, resistance < 0,05 Ω			N/A
Voltage drop test, resistance < 0,05 Ω			N/A
Fixing of thermal sensing control		3.6(4.28)	
Not plug-in or easily replaceable type			N/A

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Reliably kept in position			N/A
No adhesive fixing if UV radiations from a lamp can degrade the fixing			N/A
Not outside the luminaire enclosure			N/A
Test of adhesive fixing:			
Max. temperature on adhesive material (°C):			N/A
100 cycles between t min and t max			N/A
Temperature sensing control still in position			N/A
Luminaires with non-replaceable light source		3.6(4.29)	
Not possible to replace light source			N/A
Live part not accessible after parts have been opened by hand or tools			N/A
Luminaires with non-user replaceable light source		3.6(4.30)	
If protective cover provide protection against electric shock and marked with "caution, electric shock risk" symbol:	 Caution, risk of electric shock		P
Minimum two fixing means			P
Insulation between circuits		3.6(4.31)	
Circuits insulated from LV supply fulfil requirements according 4.31.1 – 4.31.3			P
Controllable luminaires requiring same level of insulation for all components, the insulation between control terminals and LV supply fulfil requirements according 4.31.1 – 4.31.3			N/A
SELV circuits		3.6(4.31.1)	P
Used SELV source			P
Voltage ≤ ELV			N/A
Insulating of SELV circuits from LV supply			N/A
Insulating of SELV circuits from other non SELV circuits			N/A
Insulating of SELV circuits from FELV			N/A
Insulating of SELV circuits from other SELV circuits			N/A
SELV circuits insulated from accessible parts according Table X.1			N/A
Plugs not able to enter socket-outlets of other voltage systems			N/A
Socket outlets does not admit plugs of other voltage systems			N/A
Plugs and socket-outlets does not have protective conductor contact			N/A
FELV circuits		3.6(4.31.2)	N/A
Used FELV source			N/A
Voltage ≤ ELV			N/A
Insulating of FELV circuits from LV supply			N/A
FELV circuits insulated from accessible parts according Table X.1			N/A
Plugs not able to enter socket-outlets of other voltage systems			N/A
Socket-outlets does not have protective conductor contact			N/A
Other circuits		3.6(4.31.3)	
Other circuits insulated from accessible parts according Table X.1			N/A
Class II construction with equipotential bonding for protection against indirect contacts with live parts:			
- conductive parts are connected together			N/A
- test according 7.2.3			N/A
- conductive part not cause an electric shock in case of an insulation fault			N/A

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- equipotential bonding in master/slave applications			N/A
- master luminaire provided with terminal for accessible conductive parts of slave luminaires			N/A
- slave luminaire constructed as class I			N/A
Overvoltage protective devices		3.6(4.32)	
Comply with IEC 61643-11			N/A
External to controlgear and connected to earth:			
- only in fixed luminaires			N/A
- only connected to protective earth			N/A
At least IP X3 or X5 respectively. IP:	66	3.6.1(-)	P
Column-integrated luminaires:			
- Parts below 2,5 m. IP:			N/A
- Parts below 2,5 m. IP:			N/A
Suspension on span wires		3.6.2(-)	N/A
Means for attaching the luminaire or external parts its support appropriate to the weight		3.6.3(-)	P
Static load test		3.6.3.1(-)	
- Drag coefficient:	1,2kg/m3		
- Loaded area (m²):	0,2		
- Used load (N):	477,6		
- Measured deformation (cm/m):			P
- No rotation:			P
Adjustable lampholders		3.6.4(-)	N/A
Luminaires installed above 5 m, glass covers shall be:		3.6.5(-)	
a) Glass that fractures into small pieces (test according to 3.6.5.1), or			P
b) Glass having a high impact shock resistance (test according to 3.6.5.2), or			P
c) Protect by any means to retain glass fragments			N/A
For tunnel luminaires 3.6.5.1 apply			N/A
Method of protection declared by the manufacturer			N/A
Protection by the use of glass that fractures into small pieces		3.6.5.1(-)	
- Number of particles is more than 40:			N/A
Protection by the use of high impact resistant glass		3.6.5.2(-)	
Glass covers have high mechanical strength		3.6.5.2.1(-)	P
Test according IEC 62262 with test apparatus according IEC 60068-2-75 with impact energy of 5J on preconditioned sample			P
Glass covers not break into large pieces		3.6.5.2.2(-)	N/A
- Test according 3.6.5.1, number of particles is more than 20:			N/A
Connection compartment of column- integrated luminaire		3.6.6(-)	
- Provides adequate space			N/A
- Means for attachment			N/A
- Means for attachment of metal corrosion-resistant			N/A
Compliance with ISO standard or other:		3.6.7(-)	N/A
Doors of column-integrated luminaires:		3.6.8(-)	
- Corrosion-resistant			N/A
- Opening only possible for an authorized person			N/A
- Impact test 5 Nm			N/A
Sample show no damage			N/A
Column-integrated luminaire:		3.6.9(-)	
- Dimension of the cable entry slot (mm):			N/A

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- Cable path from the slot to the connection compartment (mm):			N/A
- Cable path free from obstruction that might cause abrasion of the cable			N/A
CREEPAGE DISTANCES AND CLEARANCES			
Creepage distances and clearances:	See Table 2.8 (11.2)	3.7 (11.2)	P
Working voltage (V):	230V		-----
Voltage form		Sinusoidal ☒ Non-sinusoidal ☐	-----
PTI		<600 ☒ ≥600 ☐	-----
Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)		Category II ☒ Category III ☐	
Rated pulse voltage (kV):			-----
(1) Current-carrying parts of different polarity: cr (mm); cl (mm):			N/A
(2) Current-carrying parts and accessible parts and accessible parts: cr (mm); cl (mm):			N/A
(3) Parts becoming live due to breakdown of basic insulation and metal parts: cr (mm); cl (mm):			N/A
(4) Outer surface of cable where it is clamped and metal: cr (mm); cl (mm):			N/A
(6) Current-carrying parts and supporting surface: cr (mm); cl (mm):			N/A
PROVISION FOR EARTHING			
Accessible metal parts	applies to class I	3.8 (7.2.1 + 7.2.3)	P
Metal parts in contact with supporting surface			P
Resistance < 0,5 Ω:	Body 0,012Ω Cover 0,023Ω Mounting plate 0,006Ω		P
Self-tapping screws used			P
Thread-forming screws			N/A
Thread-forming screw used in a groove			N/A
Earth makes contact first			P
Terminal blocks with integrated screwless earthing contacts tested according Annex V			P
Protective earthing of the luminaire not via built-in control gear			P
Earth continuity in joints, etc.		3.8 (7.2.2 + 7.2.3)	N/A
Locking of clamping means		3.8 (7.2.4)	N/A
Compliance with 4.7.3			N/A
Terminal blocks with integrated screwless earthing contacts tested according Annex V			N/A
Earth terminal integral part of connector socket		3.8 (7.2.5)	N/A
Earth terminal adjacent to mains terminals		3.8 (7.2.6)	N/A
Electrolytic corrosion of the earth terminal		3.8 (7.2.7)	N/A
Material of earth terminal		3.8 (7.2.8)	N/A
Contact surface bare metal			N/A
Class II luminaire for looping-in		2.9 (7.2.10)	N/A
Double or reinforced insulation to functional earth			N/A
Earthing core coloured green-yellow		3.8 (7.2.11)	N/A
Length of earth conductor			N/A
SCREW TERMINALS			
Separately approved; component list		3.9 (14)	N/A
Part of the luminaire	(see Annex 1)	3.9 (14)	N/A
SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS			
Separately approved; component list:		3.9 (15)	P
Part of the luminaire:	(see Annex 2)	3.9 (15)	P
EXTERNAL AND INTERNAL WIRING			

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Supply connection and external wiring		3.10 (5.2)	
Means of connection:	Connector	3.10 (5.2.1)	P
Outdoor luminaire has not PVC insulated external wiring if not class III or SELV ≤ 25 V a.c./60 V d.c. or protected from outdoor environment			N/A
Type of cable:		3.10 (5.2.2)	N/A
Nominal cross-sectional area (mm ²):			N/A
Cables equal to IEC 60227 or IEC 60245			N/A
Type of attachment, X, Y or Z		3.10 (5.2.3)	N/A
Type Z not connected to screws		3.10 (5.2.5)	N/A
Cable entries:		3.10 (5.2.6)	N/A
- suitable for introduction			N/A
- adequate degree of protection			N/A
Cable entries through rigid material have rounded edges		3.10 (5.2.7)	N/A
Insulating bushings:		3.10 (5.2.8)	
- suitably fixed			N/A
- material in bushings			N/A
- material not likely to deteriorate			N/A
- tubes or guards made of insulating material			N/A
Locking of screwed bushings		3.10 (5.2.9)	N/A
Cord anchorage:		3.10 (5.2.10)	
- covering protected from abrasion			N/A
- clear how to be effective			N/A
- no mechanical or thermal stress			N/A
- no tying of cables into knots etc.			N/A
- insulating material or lining			N/A
Cord anchorage for type X attachment:		3.10 (5.2.10.1)	
a) at least one part fixed			N/A
b) types of cable			N/A
c) no damaging of the cable			N/A
d) whole cable can be mounted			N/A
e) no touching of clamping screws			N/A
f) metal screw not directly on cable			N/A
g) replacement without special tool			N/A
Glands not used as anchorage			N/A
Labyrinth type anchorages			N/A
Adequate cord anchorage for type Y and type Z attachment		3.10 (5.2.10.2)	N/A
Tests:		3.10 (5.2.10.3)	
- impossible to push cable; unsafe			P
- pull test: 25 times; pull (N):	80		P
- torque test: torque (Nm):	0,35		P
- displacement ≤ 2 mm			P
- no movement of conductors			P
- no damage of cable or cord			P
- function independent of electrical connection			P
External wiring passing into luminaire		3.10 (5.2.11)	P
Looping-in terminals		3.10 (5.2.12)	N/A
Wire ends not tinned		3.10 (5.2.13)	P
Wire ends tinned: no cold flow			P
Mains plug same protection		3.10 (5.2.14)	N/A
Class III luminaire plug			N/A
No unsafe compatibility			
Appliance inlets (IEC 60320)		3.10 (5.2.16)	N/A
Installation couplers (IEC 61535)			N/A
Other appliance inlet or connector according relevant IEC standard			N/A

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No standardized interconnecting cables properly assembled		3.10 (5.2.17)	N/A
Used plug in accordance with		3.10 (5.2.18)	N/A
- IEC 60083			N/A
- other standard			N/A
Internal wiring		3.10 (5.3)	
Internal wiring of suitable size and type	DYCYC 0,5 750V	3.10 (5.3.1)	P
Through wiring			P
- not delivered/ mounting instruction			N/A
- factory assembled			P
- socket outlet loaded (A):			N/A
- temperatures:	(see Annex 3)		P
Green-yellow for earth only	applies to class I		P
Internal wiring connected directly to fixed wiring	DYCYC 0,5 750V	3.10 (5.3.1.1)	P
Cross-sectional area (mm ²):	0,5		P
Insulation thickness			P
Extra insulation added where necessary			P
Internal wiring connected to fixed wiring via internal current-limiting device		3.10 (5.3.1.2)	
Adequate cross-sectional area and insulation thickness			N/A
Double or reinforced insulation for class II		3.10 (5.3.1.3)	P
Conductors without insulation		3.10 (5.3.1.4)	N/A
SELV current-carrying parts		3.10 (5.3.1.5)	N/A
Insulation thickness other than PVC or rubber		3.10 (5.3.1.6)	N/A
Sharp edges etc.		3.10 (5.3.2)	
No moving parts of switches etc.			P
Joints, raising/lowering devices			P
Telescopic tubes etc.			N/A
No twisting over 360°			P
Insulating bushings:		3.10 (5.3.3)	
- suitable fixed			N/A
- material in bushings			N/A
- material not likely to deteriorate			N/A
- cables with protective sheath			N/A
Joints and junctions effectively insulated		3.10 (5.3.4)	P
Strain on internal wiring		3.10 (5.3.5)	N/A
Wire carriers		3.10 (5.3.6)	N/A
Wire ends not tinned		3.10 (5.3.7)	P
Wire ends tinned: no cold flow			P
PROTECTION AGAINST ELECTRIC SHOCK			
Live parts not accessible		3.11 (8.2.1)	P
Basic insulated parts not used on the outer surface without appropriate protection, includes ceiling void.			P
Basic insulated parts not accessible with Ø 50 mm probe from outside, other types of luminaires			P
Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements			N/A
Basic insulation only accessible under lamp or starter replacement			N/A
Protection in any position			P
Double-ended tungsten filament lamp			N/A
Insulation lacquer not reliable			P
Double-ended high pressure discharge lamp			N/A
Relevant warning according to 3.2.18 fitted to the luminaire			N/A
Portable luminaire adjusted in most unfavourable position			N/A

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Class II luminaire:		3.11 (8.2.2)		
- basic insulated metal parts not accessible during starter or lamp replacement		3.11 (8.2.3.a)		N/A
- basic insulation not accessible other than during starter or lamp replacement				N/A
- glass protective shields not used as supplementary insulation				P
BC lampholder of metal in class I luminaires shall be earthed				N/A
SELV circuits with exposed current carrying parts:		3.11 (8.2.3.b)		
Ordinary luminaire:		3.11 (8.2.3.c)		
- voltage under load (V):				N/A
- no-load voltage (V):				N/A
- touch current if applicable (mA):				N/A
One conductive part insulated if required				
Other than ordinary luminaire:				
- nominal voltage (V):		3.11 (8.2.4)		N/A
Class III luminaire only for connection to SELV		3.11 (8.2.5)		N/A
Portable luminaire have protection independent of supporting surface		3.11 (8.2.6)		N/A
Compliance with the standard test finger or relevant probe		3.11 (8.2.7)		N/A
Covers reliably secured				N/A
Luminaire other than below with capacitor > 0,5 µF not exceed 50 V 1 min after disconnection				N/A
Portable luminaire with capacitor > 0,1 µF (0.25) not exceed 34 V 1 s after disconnection				N/A
Other luminaires with capacitor > 0,1 µF (0.25) with plug and track adaptors not exceed 60 V 5 s after disconnection				N/A
ENDURANCE TEST AND THERMAL TEST				
If IP > IP 20 relevant test of (12.4), (12.5), (12.6) & (12.7) after (9.2) before (9.3) specified in 2.14		3.12.2 (-)		P
Endurance test:		3.12 (12.3)		P
- mounting-position:	ON THE POLE			
- test temperature (°C):	60			
- total duration (h):	240			
- supply voltage: Un factor; calculated voltage (V):	264			
- lamp used:	PCBL2027201.01.01 PR-EL-30-20 01-272-06 PCBL2027203.01.01 PR-EL-30-20 01-272-12			
After endurance test:		3.12 (12.3.2)		
- no part unserviceable				P
- luminaire not unsafe				P
- no damage to track system				N/A
- marking legible				P
- no cracks, deformation etc.				P
Thermal test (normal operation)	(see Annex 3)	3.12 (12.4)		P
Thermal test (abnormal operation)	(see Annex 3)	3.12 (12.5)		N/A
Thermal test (failed lamp control gear condition):		3.12 (12.6)		N/A
Through wiring or looping-in wiring loaded by a current of (A):		3.12 (12.6.1)		N/A
- case of abnormal conditions:				N/A
- electronic lamp control gear				N/A
- measured winding temperature (°C): at 1,1 Un:				N/A
- measured mounting surface temperature (°C) at 1,1 Un:				N/A
- calculated mounting surface temperature (°C):				N/A

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- track-mounted luminaires				N/A
Temperature sensing control		3.12 (12.6.2)		
- case of abnormal conditions:				N/A
- thermal link				N/A
- manual reset cut-out				N/A
- auto reset cut-out				N/A
- measured mounting surface temperature (°C):				N/A
- track-mounted luminaires				N/A
Thermal test (failed lamp control gear in plastic luminaires):		3.12 (12.7)		N/A
Luminaire without temperature sensing control		3.12 (12.7.1)		N/A
Luminaire with fluorescent lamp ≤ 70W		3.12 (12.7.1.1)		N/A
Test method 12.7.1.1 or Annex W:				N/A
Test according to 12.7.1.1:				N/A
- case of abnormal conditions:				N/A
- Ballast failure at supply voltage (V):				N/A
- Components retained in place after the test				N/A
- Test with standard test finger after the test				N/A
Test according to Annex W:				N/A
- case of abnormal conditions:				N/A
- measured winding temperature (°C): at 1,1 Un:				N/A
- measured temperature of fixing point/exposed part (°C): at 1,1 Un:				N/A
- calculated temperature of fixing point/exposed part (°C):				N/A
Ball-pressure test:	See Table 2.16 (13.2.1)			N/A
Luminaire with discharge lamp, fluorescent lamp > 70W, transformer > 10 VA		3.12 (12.7.1.2)		N/A
- case of abnormal conditions:				N/A
- measured winding temperature (°C): at 1,1 Un:				N/A
- measured temperature of fixing point/exposed part (°C): at 1,1 Un:				N/A
- calculated temperature of fixing point/exposed part (°C):				N/A
Ball-pressure test:	See Table 2.16 (13.2.1)			N/A
Luminaire with short circuit proof transformers ≤ 10 VA		3.12 (12.7.1.3)		N/A
- case of abnormal conditions:				N/A
- Components retained in place after the test				N/A
- Test with standard test finger after the test				N/A
Luminaire with temperature sensing control		3.12 (12.7.2)		N/A
- thermal link:		Yes ☐ No ☐		
- manual reset cut-out:		Yes ☐ No ☐		
- auto reset cut-out:		Yes ☐ No ☐		
- case of abnormal conditions:				N/A
- measured temperature of fixing point/exposed part (°C): at 1,1 Un:				N/A
Ball-pressure test:	See Table 2.16 (13.2.1)			N/A
Wiring, for connection to the supply, not reach unsafe temperature		3.12.1(-)		P
- measured temperature of the cable (°C):	55	3.12.2(-)		P
RESISTANCE TO DUST AND MOISTURE				
If IP > IP 20 the order of tests as specified in clause 2.14		3.13.1 (-)		
Tests for ingress of dust, solid objects and moisture:		3.13 (9.2)		P
- classification according to IP:	66			-----
- mounting position during test:	ON THE POLE			-----
- fixing screws tightened; torque (Nm):				-----
- tests according to clauses:	9.2.2,9.2.6			-----
- electric strength test afterwards				P
a) no deposit in dust-proof luminaire				P

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b) no talcum in dust-tight luminaire			N/A
c) no trace of water on current-carrying parts or on insulation where it could become a hazard			P
c.1) For luminaires without drain holes – no water entry			P
c.2) For luminaires with drain holes – no hazardous water entry			N/A
d) no water in watertight or pressure watertight luminaire			P
e) no contact with live parts (IP 2X)			N/A
e) no entry into enclosure (IP 3X and IP 4X)			N/A
e) no contact with live parts through drain holes and ventilation slots (IP3X and IP4X)			N/A
f) no trace of water on part of lamp requiring protection from splashing water			N/A
g) no damage of protective shield or glass envelope			P
Humidity test 48 h		3.13 (9.3)	P
INSULATION RESISTANCE AND ELECTRIC STRENGTH			
Insulation resistance test		3.14 (10.2.1)	
Cable or cord covered by metal foil or replaced by a metal rod of mm Ø:			—
Insulation resistance (MΩ):	1GΩ		P
SELV			
- between current-carrying parts of different polarity :	>110MΩ		N/A
- between current-carrying parts and mounting surface:	>110MΩ		—
- between current-carrying parts and metal parts of the luminaire:	>110MΩ		N/A
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts:			N/A
- Insulation bushings as described in Section 5:			N/A
Other than SELV			
- between live parts of different polarity:	>550MΩ		P
- between live parts and mounting surface:	>550MΩ		P
- between live parts and metal parts:	>550MΩ		N/A
- between live parts of different polarity through action of a switch:			N/A
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts:			N/A
- Insulation bushings as described in Section 5:			
Electric strength test		3.14 (10.2.2)	
Dummy lamp			P
Luminaires with ignitors after 24 h test			N/A
Luminaires with manual ignitors			N/A
Test voltage (V):	CL I 1480V CL II 2960V		P
SELV			
- between current-carrying parts of different polarity :	500V		N/A
- between current-carrying parts and mounting surface:	500V		—
- between current-carrying parts and metal parts of the luminaire:	500V		N/A
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts:			N/A
- Insulation bushings as described in Section 5:			N/A
Other than SELV			

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- between live parts of different polarity:	CL I 1480V CL II 2960V		P
- between live parts and mounting surface:	CL I 1480V CL II 2960V		—
- between live parts and metal parts:	CL I 1480V CL II 2960V		P
- between live parts of different polarity through action of a switch:			—
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts:			—
- Insulation bushings as described in Section 5:			—
Touch current or protective conductor current (mA):	0,169	3.14 (10.3)	P
RESISTANCE TO HEAT, FIRE AND TRACKING			
Ball-pressure test:	See Test Table 2.16 (13.2.1)	(13.2.1)	N/A
Needle-flame test (10 s):	See Test Table 2.16 (13.3.1)	(13.3.1)	N/A
Glow-wire test (650°C):	See Test Table 2.16 (13.3.2)	(13.3.2)	P
Proof tracking test (IEC 60112):	See Test Table 2.16 (13.4)	(13.4)	N/A
ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)			
DK: power supply cord with label		(3.3)	N/A
IT: Warning label on class 0 luminaire			N/A
DK: Socket - outlets		(4.5.1)	N/A
CY, DK, FI, SE, GB: type plug		(4.2.1)	N/A
ANNEX ZC, NATIONAL DEVIATIONS (EN)			
FR: Socket outlets		(4 & 5)	N/A
FR: Glow wire test 850°C alt. 750°C for luminaires in premises open to public or 960°C for luminaires in emergency exits		(13.3)	N/A
GB: Requirements according to United Kingdom Building Regulation		(13.3)	N/A

2.8 (11.2)	TABLE: Creepage distances and clearances Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages Applicable part of IEC 60598-1 Table 11.1* and 11.2*						
	Insulation type **	Measured clearance	Required		Measured creepage	Required	
			clearance	*Table		creepage	*Table
Distance 1:	B	>2,5	2,5	2,5	>2,5	2,5	2,5
Working voltage (V):					250V		-----
PTI:					< 600 ☒ > 600 ☐		-----
Pulse voltage if applicable (kV):							-----
Supplementary information:							
Distance 2:							
Working voltage (V):					250V		-----
PTI:					< 600 ☐ > 600 ☐		-----
Pulse voltage if applicable (kV):							-----
Supplementary information:							
Distance 3:							
Working voltage (V):					250V		-----
PTI:					< 600 ☐ > 600 ☐		-----
Pulse voltage if applicable (kV):							-----
Supplementary information:							

** Insulation type: B – Basic; S – Supplementary; R – Reinforced. See also IEC 60598-1 Annex M.

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2.16 (13.2.1)	TABLE: Ball Pressure Test of Thermoplastics		
Allowed impression diameter (mm):			-----
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Supplementary information:			

2.16 (13.3.1)	TABLE: Needle-flame test (IEC 60695-11-5)				
Object/ Part No./ Material	Manufacturer/ trademark	Duration of application of test flame (ta) (s)	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict

Supplementary information:					

2.16 (13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)			
Glow wire temperature:		°C		-----
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict

Any flame or glowing of the sample extinguished within 30 s of withdrawing the glow-wire, and any burning or molten drop did not ignite the underlying parts (Yes/No):				
Supplementary information:				

2.16 (13.4)	TABLE: Proof tracking test (IEC 60112)				
Test voltage PTI:	175V				-----
Object/ Part No./ Material	Manufacturer/ trademark	Withstand 50 drops without failure on three places or on three specimens			Verdict

Supplementary information:					

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ANNEX 1: SCREW TERMINALS (PART OF THE LUMINAIRE)

Name of test	Standards and tests according to		Verdict
	Result	PN – EN 60598 – 2-2	
1	2	3	4
SCREW TERMINALS		(14)	
Type of terminal:		(14.2)	-----
Rated current (A):			-----
One or more conductors		(14.3.2.1)	N/A
Special preparation		(14.3.2.2)	N/A
Terminal size		(14.3.2.3)	N/A
Cross-sectional area (mm ²):			-----
Conductor space (mm):		(14.3.3)	N/A
Mechanical tests		(14.4)	N/A
Minimum distance		(14.4.1)	N/A
Cannot slip out		(14.4.2)	N/A
Special preparation		(14.4.3)	N/A
Nominal diameter of thread (metric ISO thread):	M	(14.4.4)	N/A
External wiring			N/A
No soft metal			N/A
Corrosion		(14.4.5)	N/A
Nominal diameter of thread (mm):		(14.4.6)	N/A
Torque (Nm):			N/A
Between metal surfaces		(14.4.7)	N/A
Lug terminal			N/A
Mantle terminal			N/A
Pull test; pull (N):			N/A
Without undue damage		(14.4.8)	N/A

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ANNEX 2: SCREWLESS TERMINALS (PART OF THE LUMINAIRE)

Name of test	Standards and tests according to		Verdict
	Result	PN – EN 60598 – 2-2	
1	2	3	4
SCREWLESS TERMINALS		(15)	
Type of terminal:	BJB 46.412 BJB 46.413	(15.2)	-----
Rated current (A):	16A		-----
Material		(15.3.1)	N/A
Clamping		(15.3.2)	N/A
Stop		(15.3.3)	N/A
Unprepared conductors		(15.3.4)	-----
Pressure on insulating material		(15.3.5)	N/A
Clear connection method		(15.3.6)	N/A
Clamping independently		(15.3.7)	N/A
Fixed in position		(15.3.8)	N/A
Conductor size		(15.3.10)	N/A
Type of conductor			N/A
Terminals and connections for internal wiring		(15.5)	N/A
Mechanical tests		(15.5.1)	N/A
Pull test spring-type terminals (4 N, 4 samples):		(15.5.1.1.1)	N/A
Pull test pin or tab terminals (4 N, 4 samples):		(15.5.1.1.2)	N/A
Insertion force not exceeding 50 N			N/A
Permanent connections: pull-off test (20 N)		(15.5.1.2)	N/A
Electrical tests		(15.5.2)	N/A
Voltage drop (mV) after 1 h (4 samples):			N/A
Voltage drop of two inseparable joints			N/A
Number of cycles:			-----
Voltage drop (mV) after 10th alt. 25th cycle (4 samples):			N/A
Voltage drop (mV) after 50th alt. 100th cycle (4 samples):			N/A
After ageing, voltage drop (mV) after 10th alt. 25 th cycle (4 samples):			N/A
After ageing, voltage drop (mV) after 50th alt. 100 th cycle (4 samples):			N/A
Terminals and connections for external wiring		(15.6)	N/A
Conductors		(15.6.1)	N/A
Terminal size and rating			N/A
Mechanical tests		15.6.2	N/A
Pull test spring-type terminals or welded connections (4 samples); pull (N):		(15.6.2.1)	N/A
Pull test pin or tab terminals (4 samples); pull (N):		(15.6.2.2)	N/A
Electrical tests		(15.6.3)	N/A
Tests according 15.6.3.1 + 15.6.3.2 in IEC 60598-1			N/A

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ANNEX 3: TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12
DIURIS S8 @700mA 204W

Name of test	Result
1	2
Type of reference:	
Lamp used:	LUG PCBL2027201.01.01 PR-EL-30-20 01-272-06
Lamp control gear used:	TRIDONIC LCO 200/200-1050/355 o4a NFC EXC3
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	203,7
Supply current (A):	0,861
Power factor:	0,986
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	78,9			95		
LED MODULE	70,9			85		
WIRE	55,7			90		
TERMINAL	56,3			85		
Supplementary information : test results meets requirements, T_a in side = $-40\div 40^\circ\text{C}$; T_a out side = $-40\div 50^\circ\text{C}$;						

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XPG-3 @700mA 205W

Name of test 1	Result 2
Type of reference:	
Lamp used:	LUG PCBL2027203.01.01 PR-EL-30-20 01-272-12
Lamp control gear used:	TRIDONIC LCO 200/200-1050/355 o4a NFC EXC3
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	204,8
Supply current (A):	0,865
Power factor:	0,986
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	79,0			95		
LED MODULE	73,5			105		
WIRE	55,4			90		
TERMINAL	56,5			85		
Supplementary information : test results meets requirements, T_a in side = $-40 \div 40^\circ\text{C}$; T_a out side = $-40 \div 50^\circ\text{C}$;						

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XPG-3 @700mA 205W 40°C

Name of test	Result
1	2
Type of reference:	
Lamp used:	LUG PCBL2027203.01.01 PR-EL-30-20 01-272-12
Lamp control gear used:	TRIDONIC LCO 200/200-1050/355 o4a NFC EXC3
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	203,9
Supply current (A):	0,862
Power factor:	0,986
Table: measured temperatures corrected for $t_a = 40^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	93,3			95		
LED MODULE	86,7			105		
Supplementary information : test results meets requirements,						

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XPG-3 @1050mA 160W

Name of test 1	Result 2
Type of reference:	
Lamp used:	LUG PCBL2027202.01.01 PR-EL-30-20 01-272-09
Lamp control gear used:	OSRAM OPTOTRONIC OT 165/170-240/1A0 4DIMLT2 E
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	160,2
Supply current (A):	0,675
Power factor:	0,988
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	69,5			85		
LED MODULE	75,6			105		
Supplementary information : test results meets requirements, T_a in side = $-40 \div 40^\circ\text{C}$; T_a out side = $-40 \div 50^\circ\text{C}$;						

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XPG-3 @700mA 103W

Name of test	Result
1	2
Type of reference:	
Lamp used:	LUG PCBL2027202.01.01 PR-EL-30-20 01-272-09
Lamp control gear used:	OSRAM OPTOTRONIC OT 110/170-240/1A0 1DIMLT2 G1 CE
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	102,9
Supply current (A):	0,435
Power factor:	0,984
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	58,0			85		
LED MODULE	56,4			105		
Supplementary information : test results meets requirements, T_a in side = $-40 \div 50^\circ\text{C}$; T_a out side = $-40 \div 55^\circ\text{C}$;						

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DIURIS @1050mA 158W

Name of test	Result
1	2
Type of reference:	
Lamp used:	LUG PCBL2027200.01.01 PR-EL-30-20 01-272-03
Lamp control gear used:	OSRAM OPTOTRONIC OT 165/170-240/1A0 4DIMLT2 E
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	158,1
Supply current (A):	0,670
Power factor:	0,984
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	68,3			85		
LED MODULE	68,9			85		
Supplementary information : test results meets requirements, T_a in side = $-40 \div 40^\circ\text{C}$; T_a out side = $-40 \div 50^\circ\text{C}$;						

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DIURIS @700mA 101W

Name of test 1	Result 2
Type of reference:	
Lamp used:	LUG PCBL2027200.01.01 PR-EL-30-20 01-272-03
Lamp control gear used:	OSRAM OPTOTRONIC OT 110/170-240/1A0 1DIMLT2 G1 CE
Mounting position of luminaire:	ON THE POLE
Supply wattage (W):	101,1
Supply current (A):	0,431
Power factor:	0,978
Table: measured temperatures corrected for $t_a = 25^\circ\text{C}$	
- abnormal operating mode	N/A
- test 1: rated voltage:	240V
- test 2: 1,06 times rated voltage or 1,05 times rated wattage:	
- test 3: Load on wiring to socket-outlet, 1,06 voltage or 1,05 times wattage:	
- test 4: 1,1 times rated voltage or 1,05 times rated wattage:	
Through wiring or looping-in wiring loaded by a current of A during the test:	

Temperature measurements, ($^\circ\text{C}$)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED DRIVER	56,5			85		
LED MODULE	54,3			85		
Supplementary information : test results meets requirements, T_a in side = $-40 \div 50^\circ\text{C}$; T_a out side = $-40 \div 55^\circ\text{C}$;						

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ANNEX 4: IK TESTS

IK	m [kg]	h [m]	PART TESTED			
			No.	GLASS DIFFUSER 5mm	ALU BODY	LED DRIVER COVER
02	0,23	0.087	1.	—	—	—
			2.	—	—	—
			3.	—	—	—
03	0,23	0.150	1.	—	—	—
			2.	—	—	—
			3.	—	—	—
04	0,23	0.21	1.	—	—	—
			2.	—	—	—
			3.	—	—	—
05	0,23	0.30	1.	—	—	—
			2.	—	—	—
			3.	—	—	—
06	0,23	0.43	1.	—	—	—
			2.	—	—	—
			3.	—	—	—
07	0,51	0.39	1.	P	P	P
			2.	P	P	P
			3.	P	P	P
08	1,69	0.30	1.	P	P	P
			2.	P	P	P
			3.	P	P	P
09	5,04	0.2	1.	P	P	P
			2.	P	P	P
			3.	P	P	P
10	5,04	0.4	1.	P	P	N
			2.	P	P	N
			3.	P	P	N

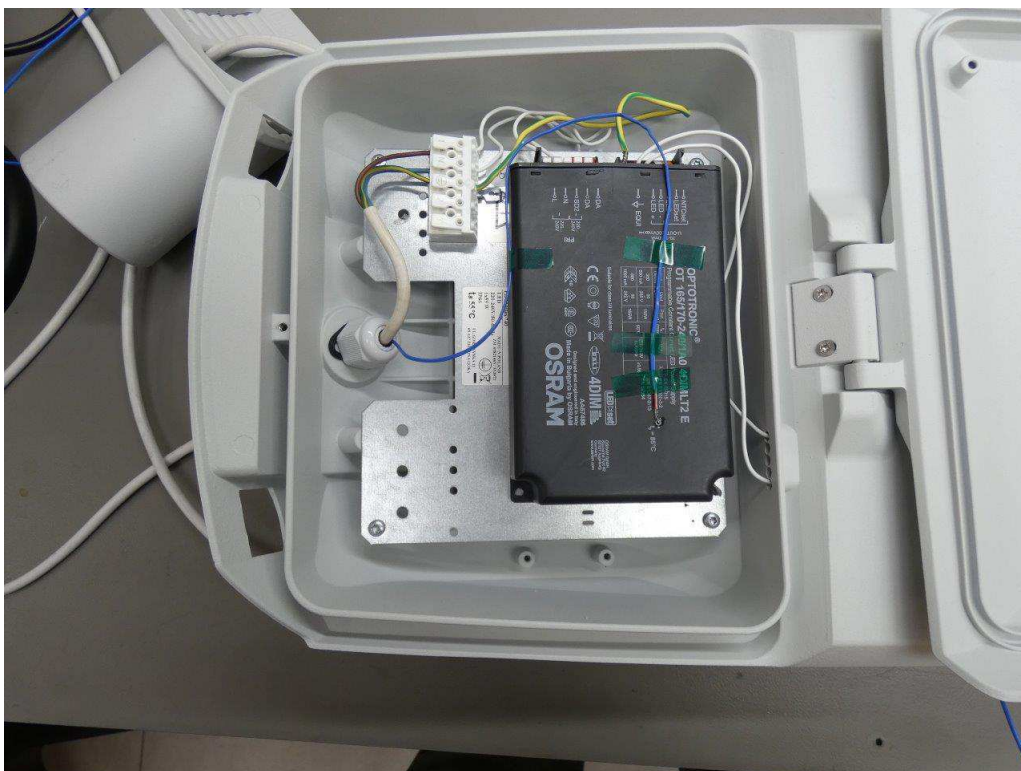
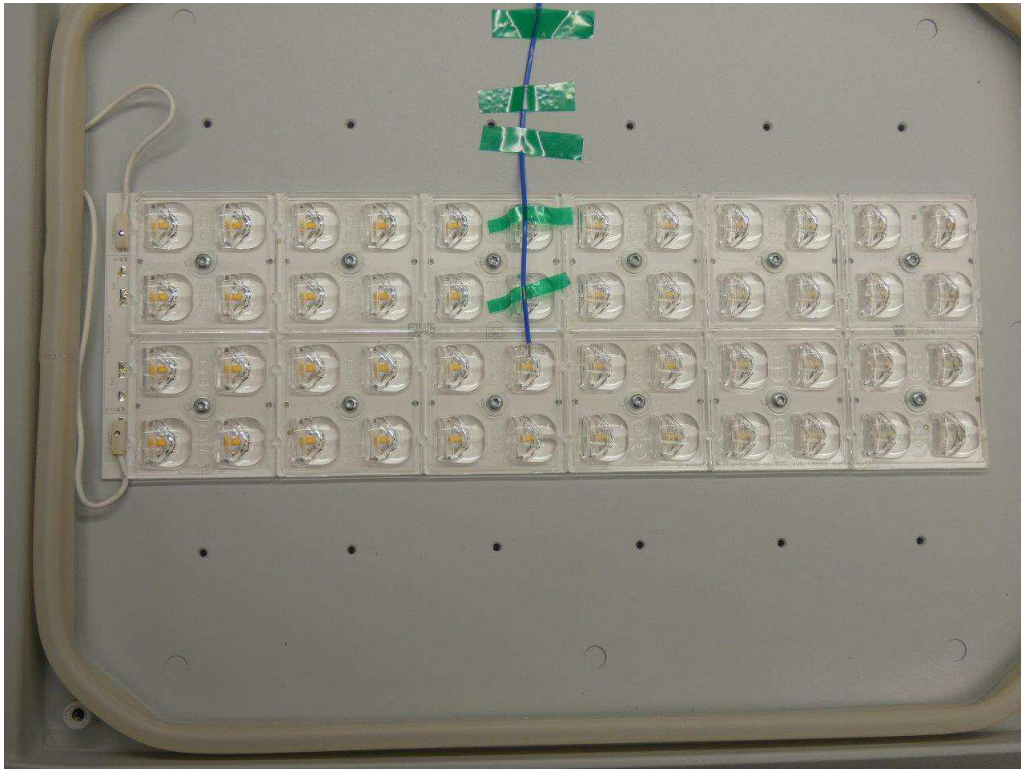
TEST RESULT IK: 09
COMMENTS:

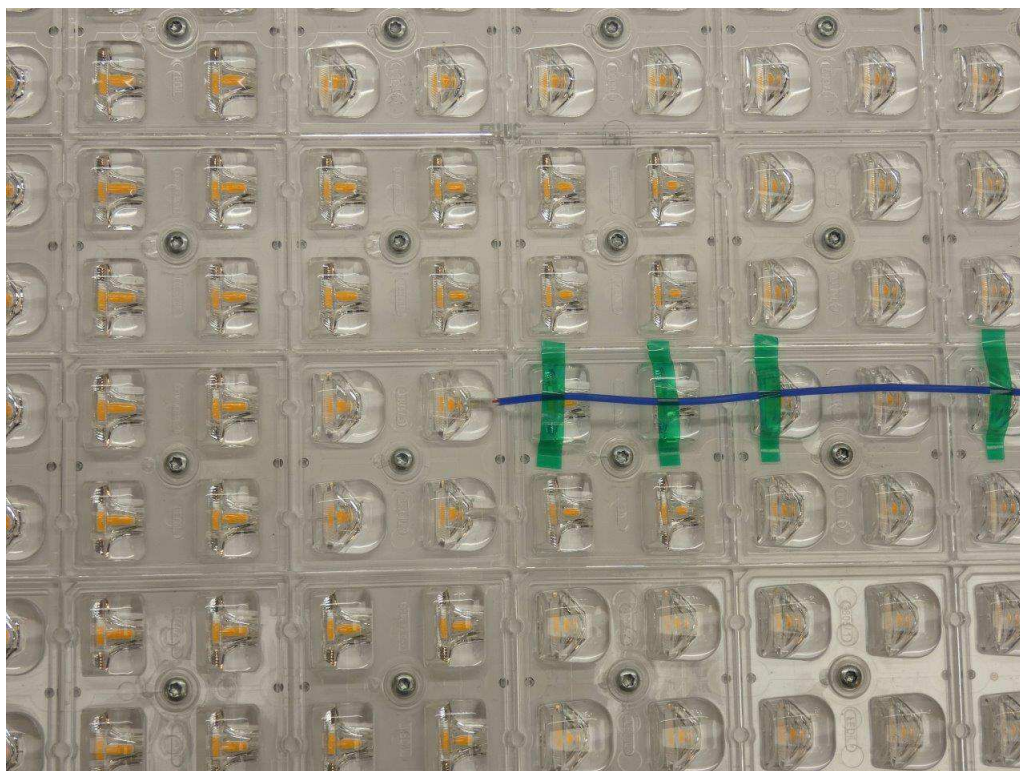
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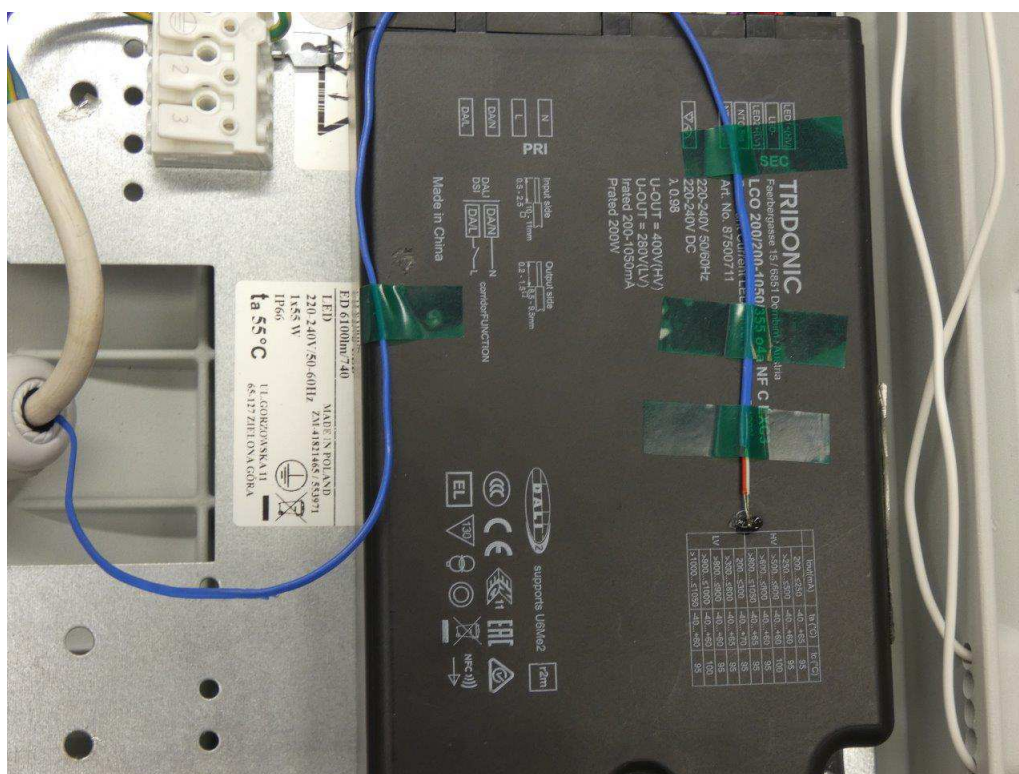
ANNEX 5: LIST OF MEASURING APPARATUS USED IN TESTS

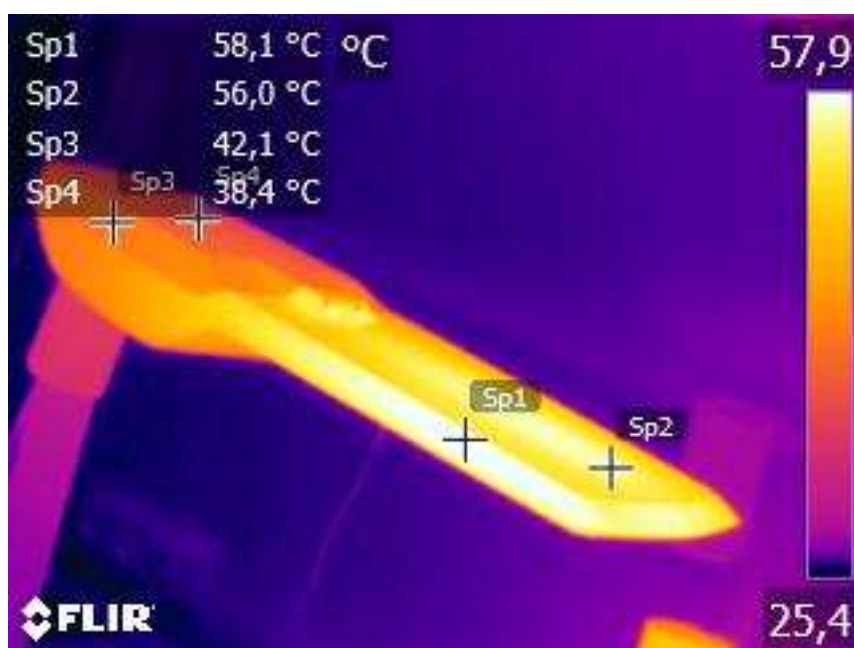
NO.	EQUIPMENT	PRODUCER/ TYPE	SERIES	MARK	USED
ENDURANCE AND THERMAL TEST					
1.	MULTIMETER	BRYMEN/ BM807	061101049	LAB/PP/17	☐
2.	DIGITAL THERMOMETER 1	LUTON/ TM-947SD	288855	LAB/PP/05	☐
3.	DIGITAL THERMOMETER 2	LUTON/ TM-947SD	1416488	LAB/PP/06	☐
4.	DIGITAL MULTIMETER	TEKTRONIX/ DMM4020	2475006	LAB/PP/03	☐
5.	DIGITAL MULTIMETER	TEKTRONIX/ DMM4020	2566126	LAB/PP/04	☐
6.	SYSTEM ENERGY MULTIMETER	EVERFINE/ PF 9811	G118829CD1351123	LAB/PP/25	☒
7.	MULTIMETER	GOSSEN METRAWATT/ METRA HIT ENERGY	UF0593	LAB/PP/18	☒
8.	DATA ACQUISITION	KEYSIGHT/ 34972A	MY57003984	LAB/PP/23	☒
9.	THERMAL IMAGING CAMERA	FLIR/ E50	49037600	LAB/UP/05	☒
10.	DRAUGH-PROOF CHAMBER	LUG/ -	-	LAB/UP/21	☒
11.	LABORATORY FREEZER	LIEBHERR/ K 561732	7084 679-01	LAB/UP/20	☐
12.	COOLING INCUBATOR	BINDER/ KB 720 E6	201700000016392	LAB/UP/25	☒
13.	THERMAL CHAMBER	WAMED/ KBC-65GP	311/KBC65GPO82008	LAB/UP/24	☐
14.	AC PROGRAMMABLE POWER	ITECH/ IT7322	602130010726850004	LAB/UP/36	☐
MECHANICAL STRENGTH					
15.	BALANCE	RADWAG/ WLC30/C1/R	226036/08	LAB/PP/07	☐
16.	DYNAMOMETER	TOHNICHI/ 0,7-7Nm	319859Y	LAB/PP/13	☐
17.	DYNAMOMETER	TOHNICHI/ 5-50Nm	331663E	LAB/PP/12	☐
18.	SPRING HAMMER	LISUN GROUP/ IK02	T201707001	LAB/UP/30	☐
19.	SPRING HAMMER	LISUN GROUP/ IK03	T201707002	LAB/UP/31	☐
20.	SPRING HAMMER	LISUN GROUP/ IK04	T201707003	LAB/UP/32	☐
21.	SPRING HAMMER	LISUN GROUP/ IK05	T201707004	LAB/UP/33	☐
22.	SPRING HAMMER	LISUN GROUP/ IK06	T201707005	LAB/UP/34	☐
23.	PENDULUM HAMMER IK07-10	LUG/ IK07-10+	-	LAB/UP/35	☒
FLAMMABLE MATERIALS					
24.	GWT TESTER	LISUN GROUP/ ZRS-3HS	T201509001	LAB/PP/24	☐
25.	BALL PRESSURE TEST DEVICE	LISUN GROUP/ ZBP-T	T201407004	LAB/UP/14	☐
ELECTRICAL TESTS					
26.	ELECTRICAL SAFETY TESTER	GW INSTEK/ GPT-9804	GEQ120173	LAB/PP/20	☒
27.	LEAKAGE CURRENT TESTER	GW INSTEK/ GLC-9000	GER835099	LAB/PP/21	☒
28.	POWER QUALITY ANALYZER	A-EBERLE/ PQ-BOX 150 STD	1726-001	LAB/PP/19	☒
29.	AC VOLTAGE STABILIZER	ZAL MED/ ESN-2000	07/100/09	LAB/UP/06	☒
RESISTANCE TO DUST , SOLID OBJECTS AND MOISTURE					
30.	TEST FINGER	LISUN GROUP/ SMT-1	T201407005	LAB/UP/15	☐
31.	STANDARD TEST WIRE	LISUN GROUP/ IP3X	T201707007	LAB/UP/16	☐
32.	STANDARD TEST WIRE	LISUN GROUP/ IP4X	T201707008	LAB/UP/17	☐
33.	DUST CHAMBER	ITS/ SK2000-10	01419-01	LAB/UP/29	☒
34.	IP TEST EQUIPMENT IPX5/6	LISUN GROUP/ JL-56	T201401004-2	LAB/UP/18	☒
35.	IP TEST EQUIPMENT IPX3/4	LISUN GROUP/ JL-34	T201401004-1	LAB/UP/19	☒

ANNEX 6: DETAILS IMAGES (PHOTOS)

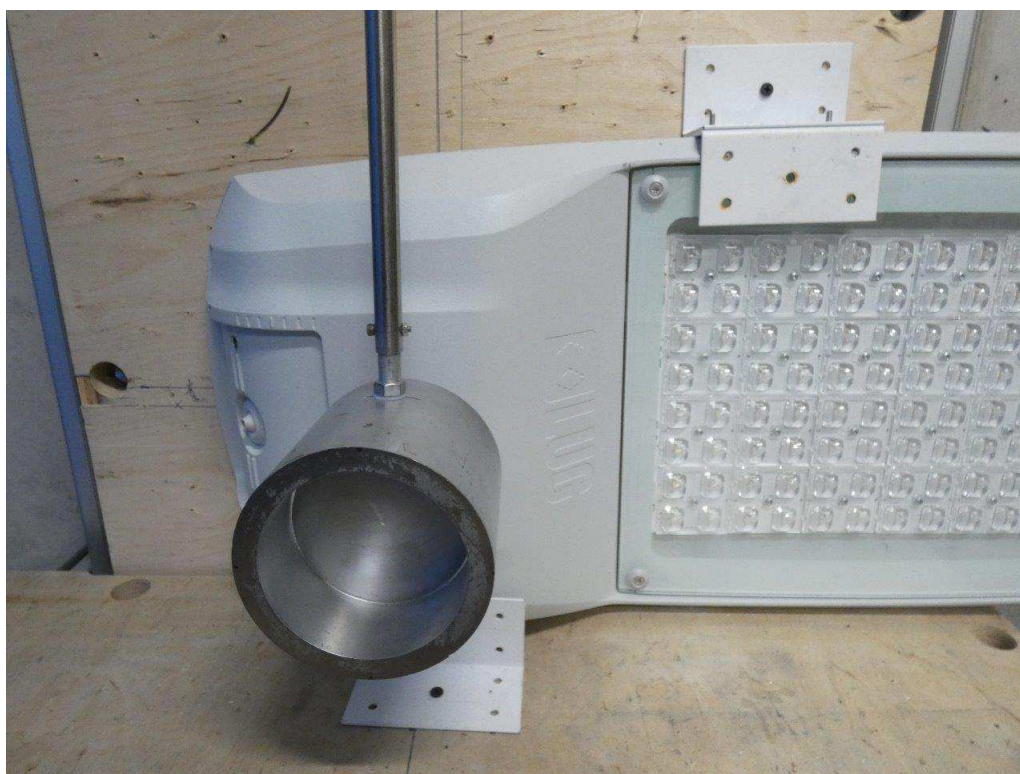










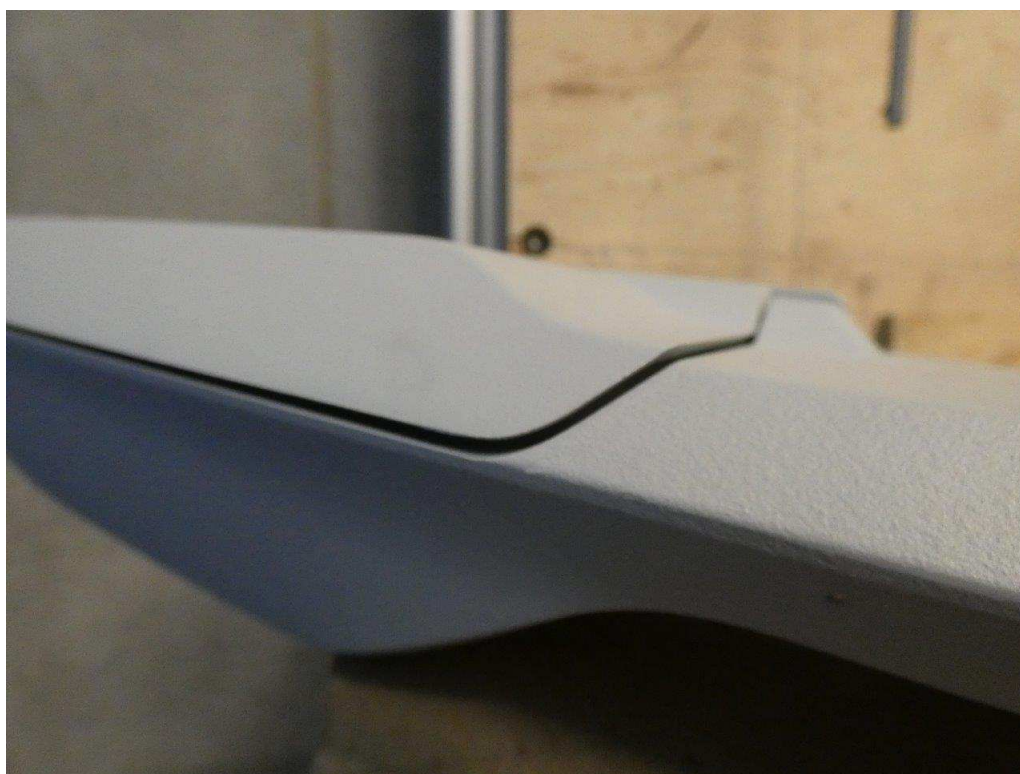


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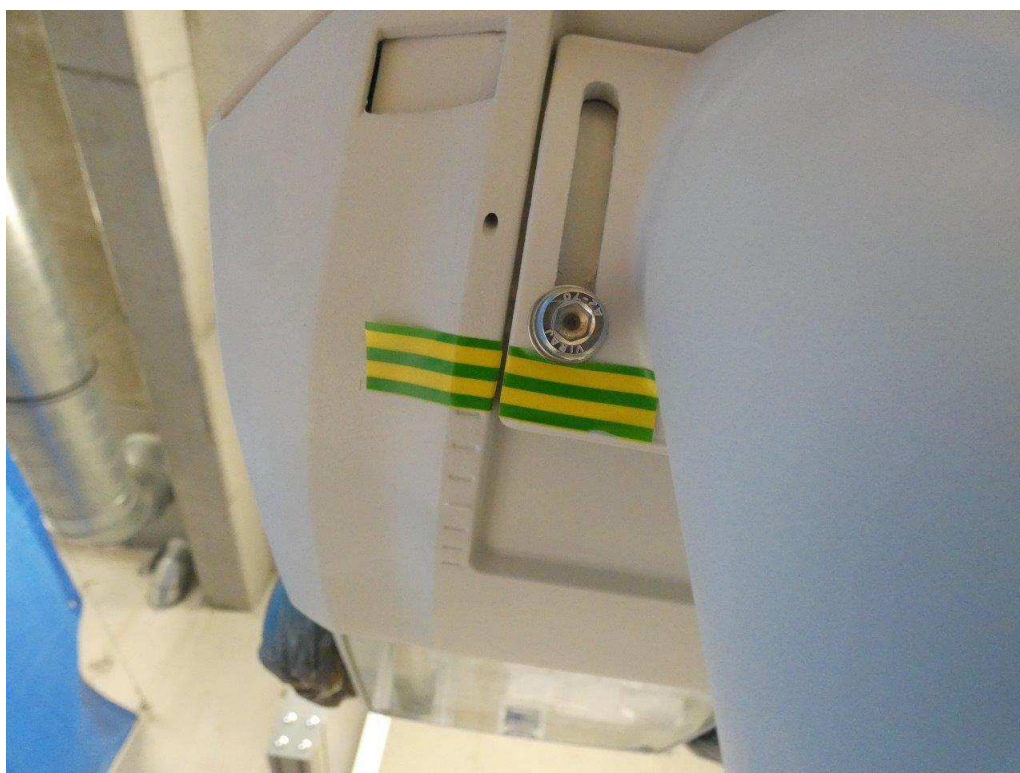


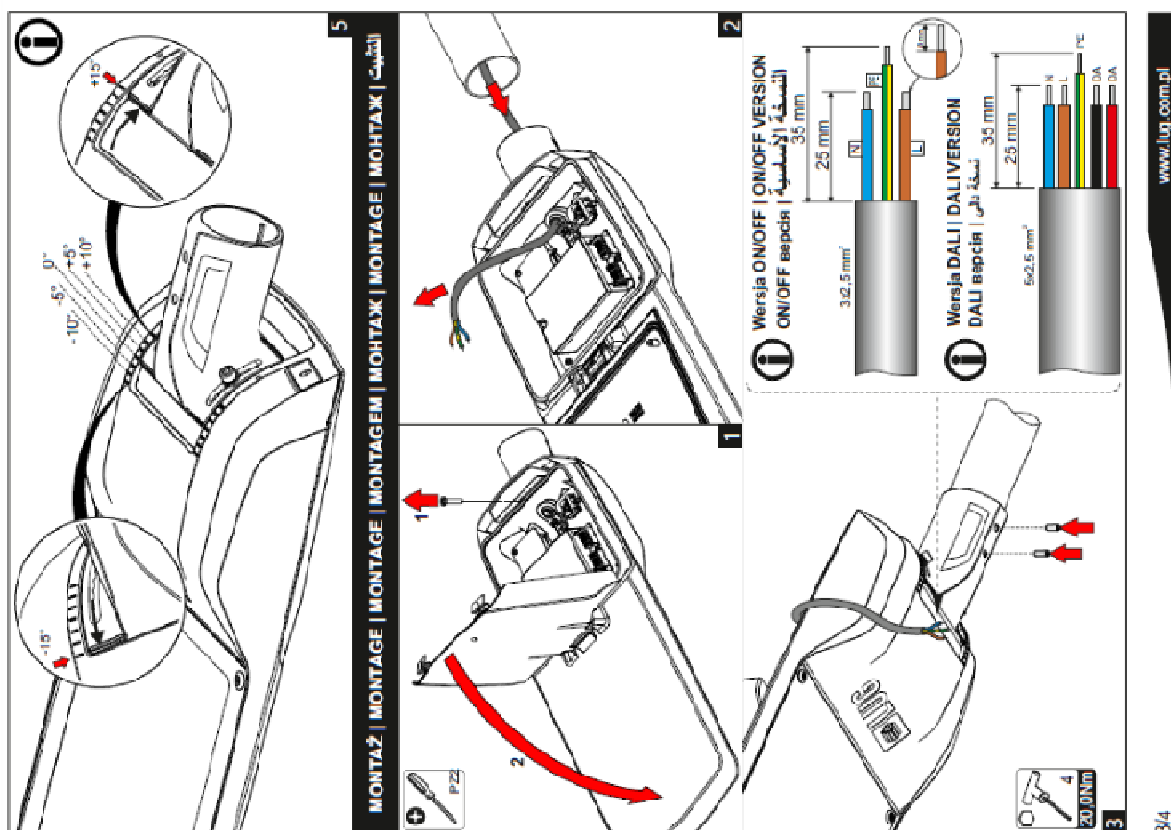
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Nr wydania: 04

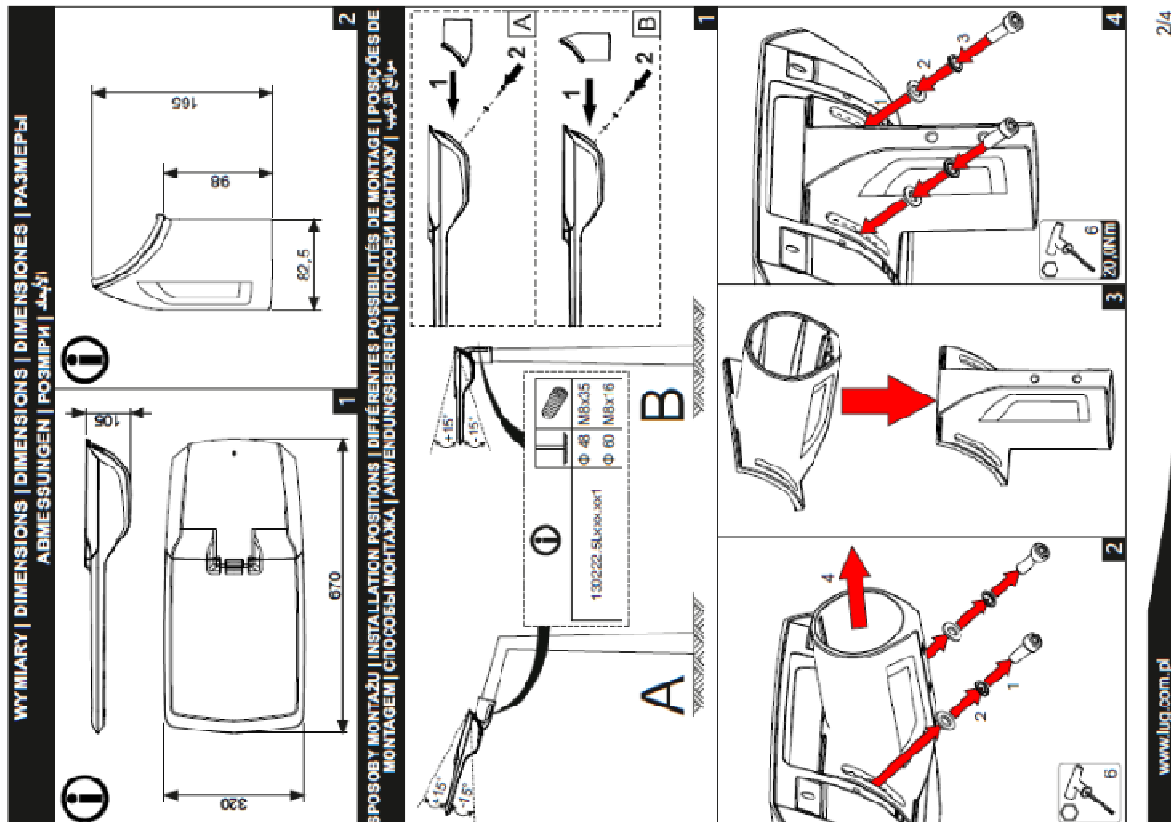
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