

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



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_015_18	Tested by: Robert Tracz	
Sample No. 094/1/18	Compiled by: Robert Tracz	
Applicant name: G.Plasun R&D DEPARTMENT LUG LIGHT FACTORY	Approved by: Robert Tracz	
Tested from: 06.04.2018	Product type:	LUMINAIRE
Through: 08.06.2018	Model name:	AVENIDA LENS
Index:	130272.5L012.011	
Power [W]:	49W	
IP Degree:	66	
Ratings:	230V/50Hz	
Type of protection:	CL II	
Group:	STREET AND AREA LIGHTING	
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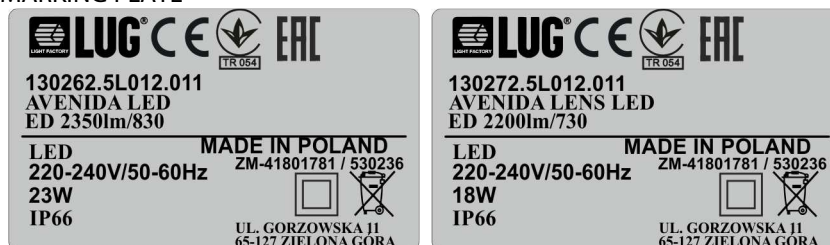
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2. COMPONENT LIST

No.	Component	Producer/Model/Type	Parameters	Standard/Mark
1.	LED DRIVER	TRIDONIC LCA 75W 250-750mA one4all C PRE OTD	Ta=-40÷60°C; Tc=85°C	ENEC
2.	LED DRIVER	PHILIPS XITANIUM Xi LP 40W 0,3-1,0A SI 230V C123 sXt	Ta=-40÷55°C; Tc=85°C	ENEC
3.	LED MODULE	LUG PCBL 1700411.01.01	Tc=85°C	CE
4.	LED MODULE	LUG PCBL 1700410.01.01	Tc=85°C	CE

3. COPY OF MARKING PLATE

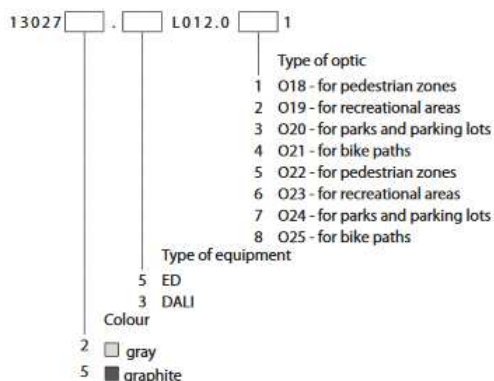


4. POSSIBLE TEST CASE VERDITS:

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)

5. TEST RESULTS ARE ALSO VALID FOR

Code	Power LED [W]	Luminaire power [W]	Lumen LED [lm]	Lumen luminaire [lm]	Efficacy [lm/W]	Colour temperature [K]	CRI/Ra	Operating temperature range [°C]
Type: O18, O19, O20, O21 optics								
13027X.XL012.0X1	15	18	2500	2200	122	3000	>70	-40 ... +55
13027X.XL022.0X1	15	18	2650	2300	128	4000	>70	-40 ... +55
13027X.XL042.0X1	21	25	3400	3000	120	3000	>70	-40 ... +55
13027X.XL052.0X1	21	25	3600	3200	128	4000	>70	-40 ... +55
13027X.XL072.0X1	31	35	4500	4000	114	3000	>70	-40 ... +50
13027X.XL082.0X1	31	35	4750	4200	120	4000	>70	-40 ... +50
Type: O22, O23, O24, O25 optics								
13027X.XL102.0X1	30	35	4950	4450	127	3000	>70	-40 ... +50
13027X.XL112.0X1	30	35	5200	4600	131	4000	>70	-40 ... +50
13027X.XL132.0X1	44	49	6750	6050	123	3000	>70	-40 ... +45
13027X.XL142.0X1	44	49	7100	6350	130	4000	>70	-40 ... +45



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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	3.2 (0.1)	
More sections applicable	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	3.2 (0.3)	
CLASSIFICATION OF LUMINAIRES			
Type of protection	Class II	3.4(2.2)	
Degree of protection	IP 66	3.4(2.3)	
Luminaire suitable for direct mounting on normally flammable surfaces	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	3.4(2.4)	
Luminaire for normal use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	3.4(2.5)	
Luminaire for rough service	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Modes of installation of road or street lighting		3.4(-)	
a) On a the pole	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
b) On a mast arm	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
c) On a post top	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
d) On span or suspension wires	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

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e) On a wall	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
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
Language of instructions			P
Combination luminaires		3.5(3.3.1)	N/A
Nominal frequency in Hz		3.5(3.3.2)	P
Operating temperature		3.5(3.3.3)	N/A
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		3.5(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
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)	

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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 15.9			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
Heat-resistant wiring/sleeves		3.6(4.7.5)	P
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

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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		3.6(4.10.1)	P
Safe installation fixed luminaires			P
Capacitors and switches			P
Interference suppression capacitors according to IEC 60384-14			N/A
Assembly gaps:		3.6(4.10.2)	
- not coincidental			P
- no straight access with test probe			P
Retention of insulation:		3.6(4.10.3)	
- fixed			P
- unable to be replaced; luminaire inoperative			P
- sleeves retained in position			P
- lining in lampholder			N/A
Electrical connections and current-carrying parts		3.6(4.11)	
Contact pressure		3.6(4.11.1)	N/A
Screws:		3.6(4.11.2)	
- self-tapping screws			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	7 Nm M6x10	LUMINAIRE -POLE	
Torque test: torque (Nm); part.....	7 Nm M6x16	LUMINAIRE -POLE	
Torque test: torque (Nm); part	7 Nm M6x25	LUMINAIRE -POLE	
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)			
- lampholder; torque (Nm)			
- push-button switches; torque 0,8 Nm. :			
Screwed glands; force (Nm).....		3.6(4.12.5)	—
Mechanical strength		3.6(4.13)	
Impact tests:		3.6(4.13.1)	
- fragile parts; energy (Nm) : 0,5	Optical part : 5Nm		P
- other parts; energy (Nm) : 0,7	Body: 5Nm		P
1) live parts			P
2) linings			N/A
3) protection			P
4) covers			P
Straight test finger		3.6(4.13.1)	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


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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)..... :			N/A
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	DIFFUSER	(13.3.2)	P
- spacing ≥30 mm			P
- screen withstanding test of 13.3.1			N/A
- screen dimensions			N/A
- no fiercely burning material			P
- thermal protection			P
- electronic circuits exempted			N/A
Luminaires made of thermoplastic material with lamp control gear		3.6(4.15.2)	
a) construction			P
b) temperature sensing control			P
c) surface temperature			P
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 35 mm			N/A
- 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

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- season cracking in copper		3.6(4.18.2)	P
- corrosion of aluminium		3.6(4.18.3)	P
Ignitors 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)	P
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)	N/A
Retinal blue light hazard		3.6(4.24.2)	P
Class of risk group assessed according to IEC/TR 62778	RG1	BLUE LIGHT $L_B=7123,33 \text{ W}^* \text{m}^{-2} * \text{sr}^{-1}$ LIMIT FOR RG1 $10000 \text{ W}^* \text{m}^{-2} * \text{sr}^{-1}$	
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			N/A
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
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:			

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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			P
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.....:	IP66	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(-)	N/A
Static load test		3.6.3.1(-)	
- Drag coefficient.....:	1,2		
- Loaded area (m ²).....:	0,088		
- Used load (N).....:	131		
- Measured deformation (cm/m).....:	0,5		
- 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			N/A
b) Glass having a high impact shock resistance (test according to 3.6.5.2), or			N/A
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(-)	N/A
Test according IEC 62262 with test apparatus according IEC 60068-2-75 with impact energy of 5J on preconditioned sample			N/A
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(-)	

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- Dimension of the cable entry slot (mm) ...:			N/A
- 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	(11.2)	3.7 (11.2)	P
Working voltage (V).....:	230V		
Rated pulse voltage (kV).....:			
Voltage from.....:		Sinusoidal <input checked="" type="checkbox"/> Non-sinusoidal <input type="checkbox"/>	
PTI.....:		<600 <input type="checkbox"/> ≥600 <input type="checkbox"/>	
Impulse withstand category (Normal category II) (Category III Annex U, Table U.1)		Category II <input checked="" type="checkbox"/> Category III <input type="checkbox"/>	
PROVISION FOR EARTHING			
Accessible metal parts		3.8 (7.2.1 + 7.2.3)	N/A
Metal parts in contact with supporting surface			N/A
Resistance < 0,5 Ω .....	.....		N/A
Self-tapping screws used			N/A
Thread-forming screws			N/A
Thread-forming screw used in a grove			N/A
Earth makes contact first			N/A
Terminal blocks with integrated screwless earthing contacts tested according Annex V			N/A
Protective earthing of the luminaire not via built-in control gear			N/A
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
Attachment prevented from rotation		3.8.1(-)	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)	—
EXTERNAL AND INTERNAL WIRING			
Supply connection and external wiring		3.10 (5.2)	
Means of connection	Connecting leads (tails)	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			P
Type of cable	2x1,5 OWY	3.10 (5.2.2)	P
Nominal cross-sectional area (mm ²)	2x1,5		P

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			N/A
- pull test: 25 times; pull (N) ..... :	.....		N/A
- torque test: torque (Nm) ..... :	.....		N/A
- displacement ≤ 2 mm			N/A
- no movement of conductors			N/A
- no damage of cable or cord			N/A
- function independent of electrical connection			N/A
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
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

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- 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			N/A
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			N/A
Internal wiring connected to fixed wiring via internal current-limiting device		3.10 (5.3.1.2)	
Adequate cross-sectional area and insulation thickness			P
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)	P
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			P
- material not likely to deteriorate			P
- cables with protective sheath			P
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)	N/A
Wire ends tinned: no cold flow			N/A
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			P
Basic insulated parts not accessible with standard test finger on portable, settable and adjustable luminaires			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

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Portable luminaire adjusted in most unfavourable position		3.11 (8.2.2)	N/A
Class II luminaire:		3.11 (8.2.3.a)	
- basic insulated metal parts not accessible during starter or lamp replacement			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		3.11 (8.2.3.b)	N/A
SELV circuits with exposed current carrying parts:		3.11 (8.2.3.c)	
Ordinary luminaire:			
- touch current			N/A
- no-load voltage			N/A
Other than ordinary luminaire:			
- nominal voltage			N/A
Portable luminaire have protection independent of supporting surface		3.11 (8.2.4)	N/A
Compliance with the standard test finger or relevant probe		3.11 (8.2.5)	P
Covers reliably secured		3.11 (8.2.6)	P
Discharging of capacitors > 0,5 µF		3.11 (8.2.7)	N/A
Portable plug connected luminaire with capacitor			N/A
Other plug connected luminaire with capacitor			N/A
Discharge device on or within capacitor			N/A
Discharge device mounted separately			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)	25		
- total duration (h)	168		
- supply voltage: Un factor; calculated voltage (V) ... :	230		
- lamp used	LED module PCBL1700411.01.01 PCBL1700410.01.01		
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
- track-mounted luminaires			N/A

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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 (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 (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 <input type="checkbox"/> No <input type="checkbox"/>	
- manual reset cut-out		Yes <input type="checkbox"/> No <input type="checkbox"/>	
- auto reset cut-out		Yes <input type="checkbox"/> No <input type="checkbox"/>	
- 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 (13.2.1)		N/A
Temperature reduction if for outdoor use only (see above)		3.12.1(-)	N/A
		3.12.2(-)	
Glass covers used within the thermal limits declared by the glass manufacturer		3.12.3(-)	N/A
- measured temperature of the cable (°C)	35		N/A
RESISTANCE TO DUST AND MOISTURE			
If IP > IP 20 the order of tests as specified in clause 3.12		3.13.1 (-)	
Tests for ingress of dust, solid objects and moisture:		3.13 (9.2)	P
- classification according to IP	IP66		-----
- mounting position during test	On the pole		-----

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- fixing screws tightened; torque (Nm).. :			-----
- tests according to clauses :	9.2.2,9.2.7		-----
- electric strength test afterwards			P
a) no deposit in dust-proof luminaire			P
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			N/A
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			N/A
Humidity test 48 h		3.13 (9.3)	—
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) ..... :	....		—
SELV			
- between current-carrying parts of different polarity :	>110MΩ		P
- between current-carrying parts and mounting surface :	>110MΩ		—
- between current-carrying parts and metal parts of the luminaire :	>110MΩ		P
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts :			P
- Insulation bushings as described in Section 5 :			P
Other than SELV			
- between live parts of different polarity :	>550MΩ		P
- between live parts and mounting surface :	>550MΩ		—
- between live parts and metal parts :	>550MΩ		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 :			P
- Insulation bushings as described in Section 5 :			
Electric strength test		3.14 (10.2.2)	
Dummy lamp			N/A
Luminaires with ignitors after 24 h test			N/A
Luminaires with manual ignitors			N/A
Test voltage (V) :			P
SELV			

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- between current-carrying parts of different polarity :	500V		P
- between current-carrying parts and mounting surface	500V		—
- between current-carrying parts and metal parts of the luminaire	500V		P
- between the outer surface of a flexible cord or cable where it is clamped in a cord anchorage and accessible metal parts			P
- Insulation bushings as described in Section 5			P
Other than SELV			
- between live parts of different polarity	1500V		P
- between live parts and mounting surface	1500V		—
- between live parts and metal parts	1500V		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			P
- Insulation bushings as described in Section 5			—
Touch current or protective conductor current (mA):	0,005	3.14 (10.3)	—
RESISTANCE TO HEAT, FIRE AND TRACKING			
Ball-pressure test	(13.2.1)	(13.2.1)	N/A
Needle-flame test (10 s)	(13.3.1)	(13.3.1)	N/A
Glow-wire test (650°C)	(13.3.2)	(13.3.2)	P
Proof tracking test (IEC 60112)	(13.4)	(13.4)	—
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 <input checked="" type="checkbox"/>	> 600 <input type="checkbox"/>	-----
Pulse voltage if applicable (kV)							-----
Supplementary information:							
Distance 2:							
Working voltage (V)					250V		-----
PTI					< 600 <input type="checkbox"/>	> 600 <input type="checkbox"/>	-----
Pulse voltage if applicable (kV)							-----
Supplementary information:							
Distance 3:							
Working voltage (V)					250V		-----
PTI					< 600 <input type="checkbox"/>	> 600 <input type="checkbox"/>	-----
Pulse voltage if applicable (kV)							-----
Supplementary information:							

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

(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:			

(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:					

(13.3.2)	TABLE: Glow-wire test (IEC 60695-2-11)			
Glow wire temperature		850°C		-----
Object/ Part No./ Material	Manufacturer/ trademark	Ignition of specified layer Yes/No	Duration of burning (tb) (s)	Verdict
PC Diffusor		No	--	Pass
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)				
..... : No				
Supplementary information:				

(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:				

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

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

8 in 1 @500mA Ta=25°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700411.01.01				
	Lamp control gear used	TRIDONIC LCA 75W 250-750mA one4all C PRE OTD				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	48,6				
	Supply current (A).....	0,219				
	Power factor.....	0,962				
	Table: measured temperatures corrected for ta = 25°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	70,1			85		
LED MODULE	71,9			85		
LED DRIVER	54,0			85		
TERMINAL	50,9			90		
Supplementary information : test results meets requirements, Ta in side = -40÷40°C; Ta out side = -40÷50°C efficiency 92,2%						

8 in 1 @500mA Ta=40°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700411.01.01				
	Lamp control gear used	TRIDONIC LCA 75W 250-750mA one4all C PRE OTD				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	48,0				
	Supply current (A).....	0,217				
	Power factor.....	0,961				
	Table: measured temperatures corrected for ta = 40°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	82,1			85		
LED MODULE	83,9			85		
LED DRIVER	66,5			85		
Supplementary information : test results meets requirements,						

8 in 1 @350mA Ta=25°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700411.01.01				
	Lamp control gear used	TRIDONIC LCA 75W 250-750mA one4all C PRE OTD				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	34,4				
	Supply current (A).....	0,160				
	Power factor.....	0,935				
	Table: measured temperatures corrected for ta = 25°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	58,8			85		
LED MODULE	57,5			85		
LED DRIVER	48,4			85		
TERMINAL	43,2			90		
Supplementary information : test results meets requirements, Ta in side = -40÷50°C; Ta out side = -40÷60°C efficiency 90,1%						

4 in 1 @700mA Ta=25°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700410.01.01				
	Lamp control gear used	PHILIPS XITANIUM Xi LP 40W 0,3-1,0A SI 230V C123 sXt				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	35,1				
	Supply current (A).....	0,157				
	Power factor.....	0,971				
	Table: measured temperatures corrected for ta = 25°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	62,0			85		
LED MODULE	56,5			85		
LED DRIVER	65,6			85		
Supplementary information : test results meets requirements, Ta in side = -40÷45°C; Ta out side = -40÷55°C efficiency 92,0%						

4 in 1 @700mA Ta=45°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700410.01.01				
	Lamp control gear used	PHILIPS XITANIUM Xi LP 40W 0,3-1,0A SI 230V C123 sXt				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	35,1				
	Supply current (A).....	0,156				
	Power factor.....	0,980				
	Table: measured temperatures corrected for ta = 45°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	78,8			85		
LED MODULE	73,9			85		
LED DRIVER	81,1			85		
Supplementary information : test results meets requirements						

4 in 1 @500mA Ta=25°C

ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700410.01.01				
	Lamp control gear used	PHILIPS XITANIUM Xi LP 40W 0,3-1,0A SI 230V C123 sXt				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	25,2				
	Supply current (A).....	0,114				
	Power factor.....	0,957				
	Table: measured temperatures corrected for ta = 25°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	51,5			85		
LED MODULE	47,6			85		
LED DRIVER	59,2			85		
Supplementary information : test results meets requirements, Ta in side = -40÷50°C; Ta out side = -40÷60°C efficiency 89,5%						

4 in 1 @500mA Ta=25°C

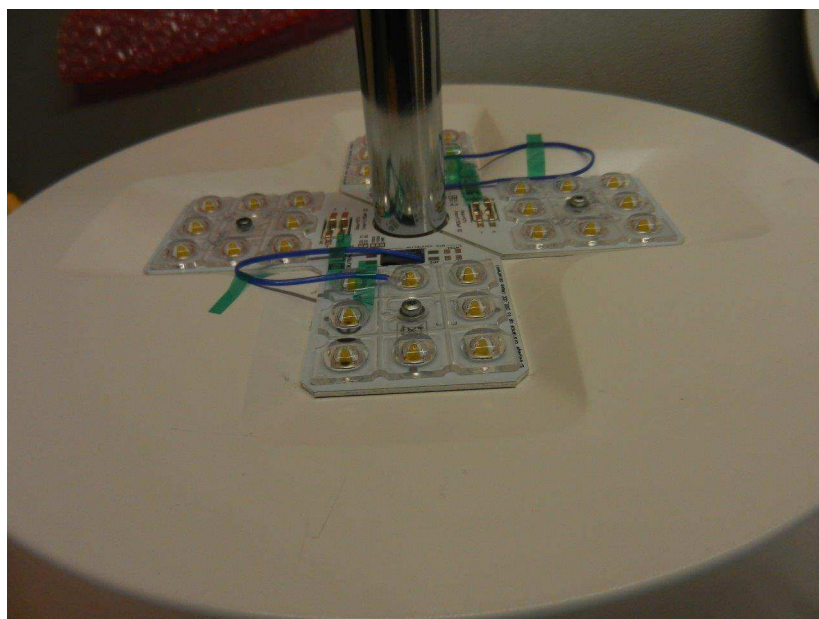
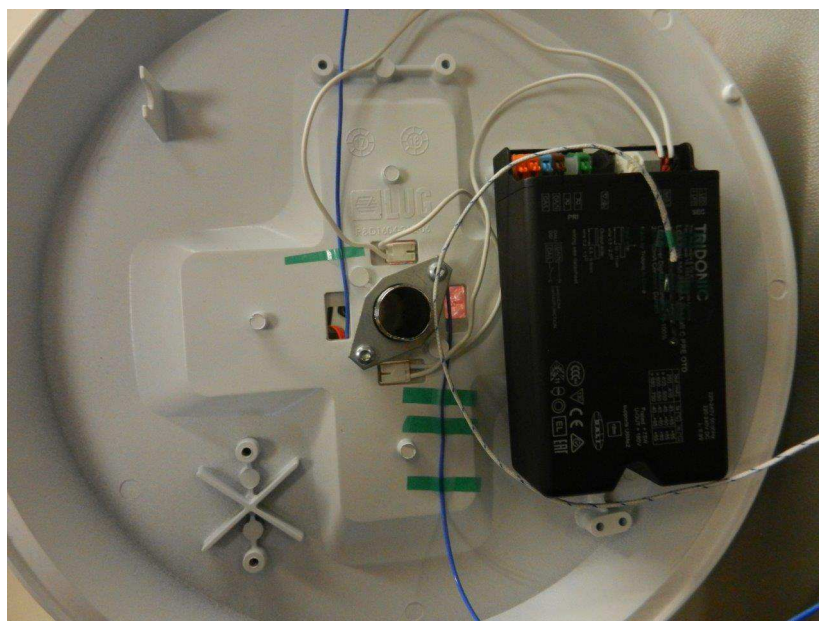
ANNEX 3:TABLE: TEMPERATURE MEASUREMENTS, THERMAL TEST OF SECTION 12						
	Type of reference					
	Lamp used	LUG PCBL 1700410.01.01				
	Lamp control gear used	PHILIPS XITANIUM Xi LP 40W 0,3-1,0A SI 230V C123 sXt				
	Mounting position of luminaire.....	On the pole				
	Supply wattage (W).....	18,0				
	Supply current (A).....	0,084				
	Power factor.....	0,932				
	Table: measured temperatures corrected for ta = 25°C					
	- abnormal operating mode	n/a				
	- test 1: rated voltage.....	230V				
	- 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, (°C)						
Part	Clause 12.4 - normal				Clause 12.5 - abnormal	
	Test 1	Test 2	Test 3	Limit	Test 4	Limit
LED MODULE	44,4			85		
LED MODULE	41,2			85		
LED DRIVER	55,1			85		
Supplementary information : test results meets requirements, Ta in side = -40÷55°C; Ta out side = -40÷65°C efficiency 86,2%						

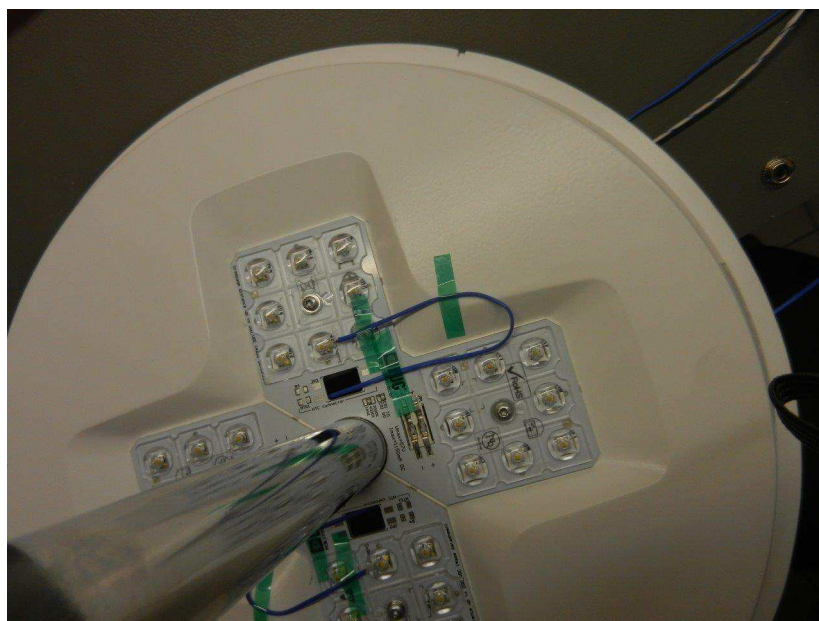
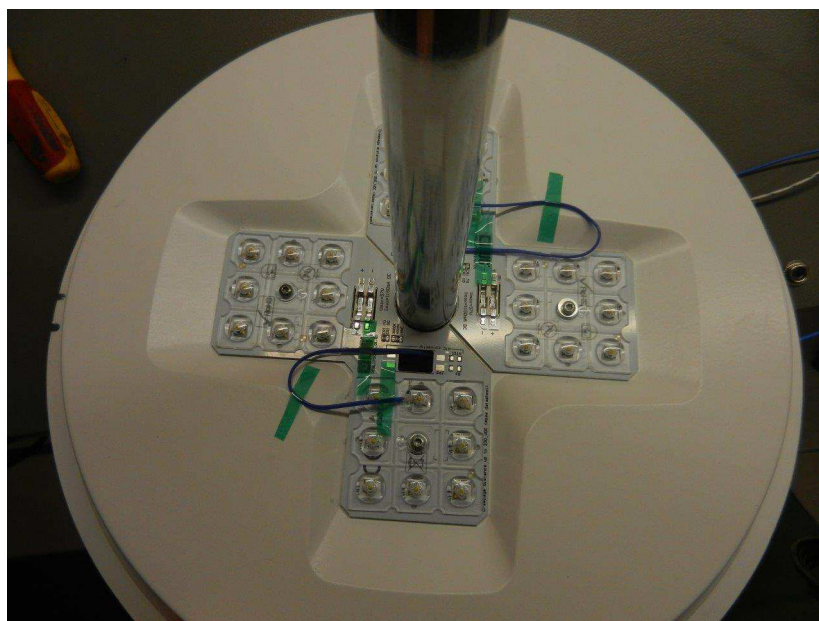
ANNEX 4: IK TESTS PN-EN 62262:2003							
IK	m[kg]	h[m]	PART TESTED				
			No.	PC BODY			
02	0,23kg	0.087	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
03	0,23kg	0.150	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
04	0,23g	0.21	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
05	0,23kg	0.30	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
06	0,23kg	0.43	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
07	0,51kg	0.39	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
08	1,69kg	0.30	1.	P	—	—	—
			2.	P	—	—	—
			3.	P	—	—	—
09	5,04kg	0.2	1.	N	—	—	—
			2.	N	—	—	—
			3.	N	—	—	—
10	5,04kg	0.4	1.	—	—	—	—
			2.	—	—	—	—
			3.	—	—	—	—

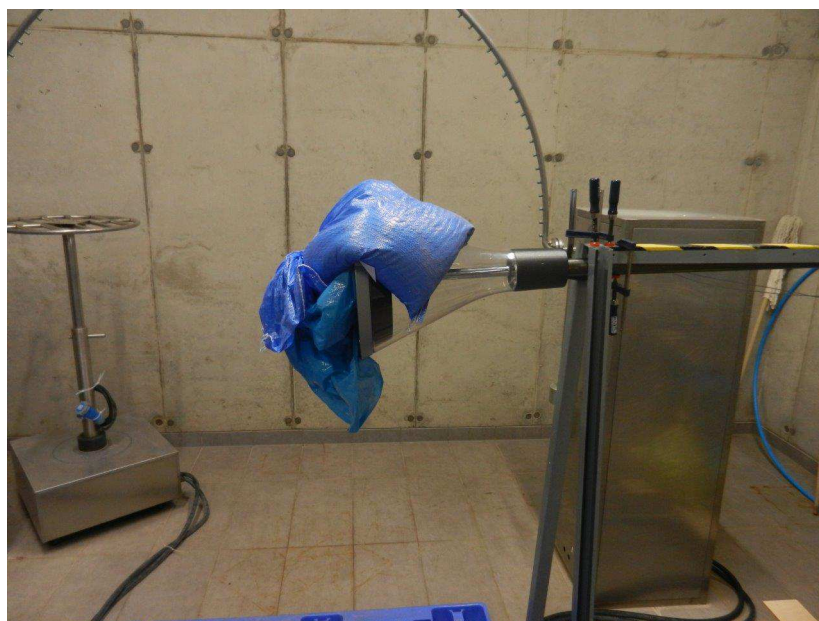
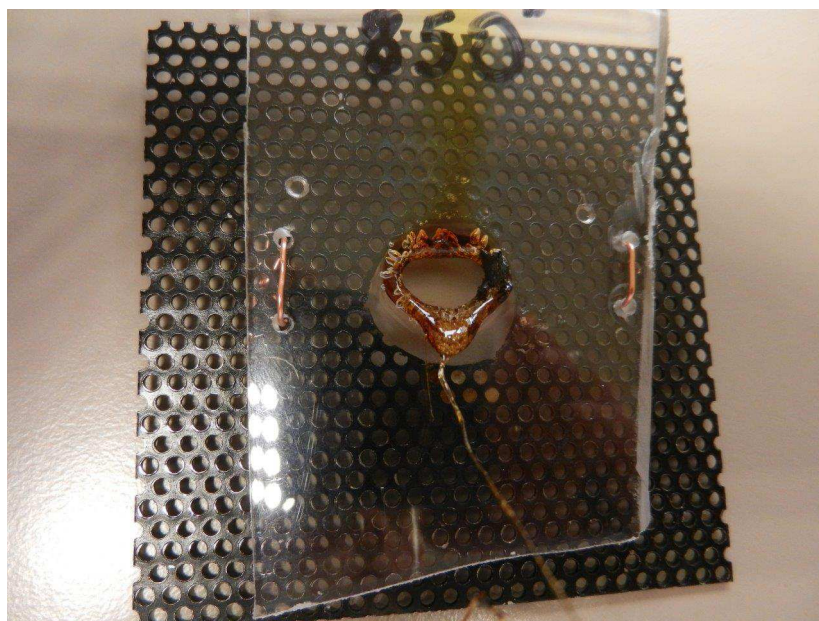
TEST RESULT IK: 08
COMMENTS:

ANNEX 5: SPECIFICATION OF MEASURING APPARATUS USED IN TESTS					
No.	EQUIPMENT	PRODUCER/TYPE	SERIES	MARK	USED
1.	AC PROGRAMMABLE POWER	ITECH ELECTRONIC IT73	602130010726850004	47/LAB/ZL	<input checked="" type="checkbox"/>
2.	MULTIMETER	BRYMEN BM807	061101049	WAR/026/MK	<input type="checkbox"/>
3.	DIGITAL THERMOMETER 1	LUTON	288855	44/LAB/TM	<input checked="" type="checkbox"/>
4.	DIGITAL THERMOMETER 2	LUTON	1.416488	49/LAB/TM	<input type="checkbox"/>
5.	DIGITAL MULTIMETER	TEKTRONIX	2475006	42/LAB/DM	<input type="checkbox"/>
6.	DIGITAL MULTIMETER	TEKTRONIX	2566126	43/LAB/DM	<input checked="" type="checkbox"/>
7.	MOBILE POWER QUALITY ANALYZER	A-EBERLE	1726-001	50/LAB/APS	<input type="checkbox"/>
8.	DYNAMOMETER	TOHNICHI	319859Y	18/LAB/KL	<input type="checkbox"/>
9.	DYNAMOMETER	TOHNICHI	705343W	46/LAB/KL	<input type="checkbox"/>
10.	GWT TESTER 60695	ZRS-3HS	T201509001	22/LAB/TS	<input checked="" type="checkbox"/>
11.	BALL PRESSURE TEST DEVICE	ZBP-T	T201407004	43/LAB/BPT	<input type="checkbox"/>
12.	TEST FINGER	SMT-1	T201407005	42/LAB/PPR	<input type="checkbox"/>
13.	BALANCE	RADWAG WLC30/C1/R	226036/08	23/LAB/WG	<input type="checkbox"/>
14.	ELECTRICAL SAFETY TESTER	GW INSTEK GPT-9804	GEQ120173	48/LAB/EST	<input checked="" type="checkbox"/>
15.	SYSTEM ENERGY MULTIMETER	METRA HIT ENERGY		25/LAB/MK	<input type="checkbox"/>
16.	SYSTEM ENERGY MULTIMETER	EVERFINE	G118829CD1351123	53/LAB/DPM	<input type="checkbox"/>
17.	THERMAL IMAGING CAMERA	FLIR E50	49037600	41/LAB/KTW	<input type="checkbox"/>
18.	IP TEST EQUIPMENT	LUG			<input type="checkbox"/>
19.	VERTICAL HAMMER	STEEL POLYAMIDE	0,23kg	0,23	<input checked="" type="checkbox"/>
20.	VERTICAL HAMMER	STEEL	0,51kg	0,51	<input checked="" type="checkbox"/>
21.	VERTICAL HAMMER	STEEL	1,69kg	1,69	<input checked="" type="checkbox"/>
22.	VERTICAL HAMMER	STEEL	5,04kg	5,04	<input checked="" type="checkbox"/>

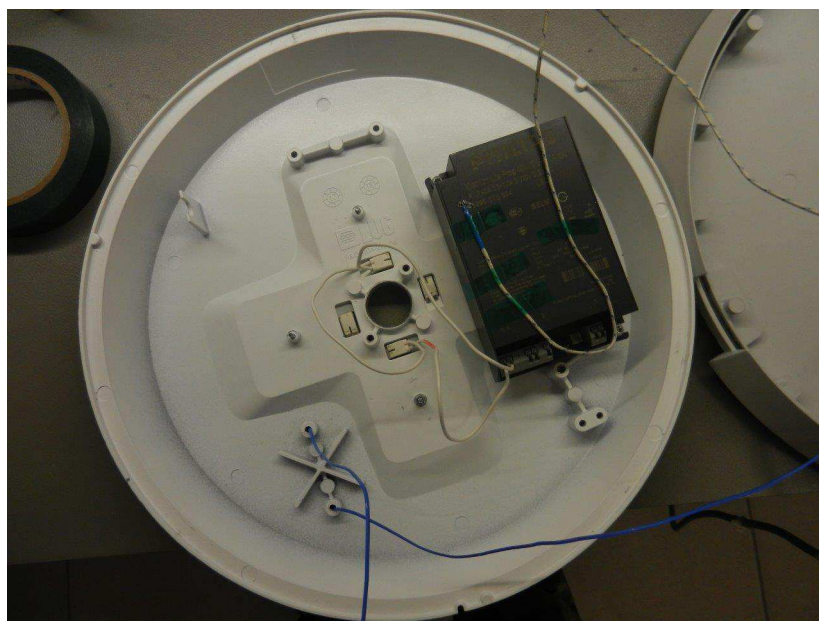
ANNEX 6: DETAILS IMAGES (PHOTOS)

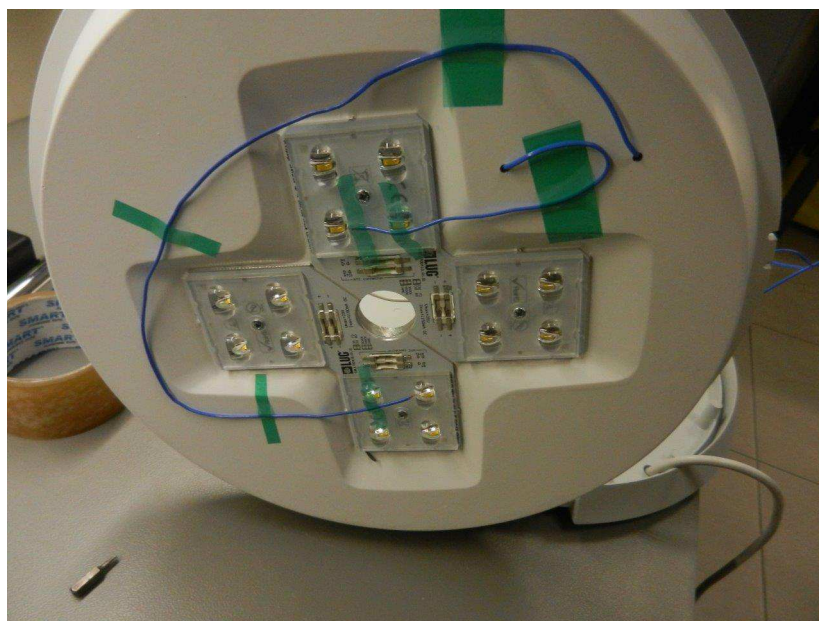












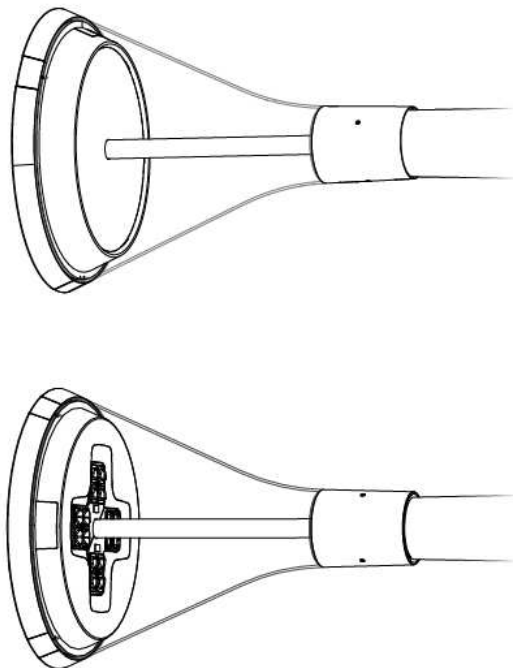
INSTALLATION INSTRUCTION
Version 05/2018/001



AVENIDA LED/AVENIDA LENS LED

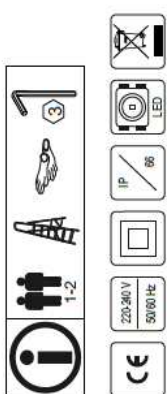
INSTRUKCJA MONTAŻU | INSTRUKCIJA ПО МОНТАЖУ | MONTAGEANLEITUNG | INSTRUCCIONES DE MONTAJE | SZERELÉS UTÁSTÁSK
MONTEINGVELEIDNING | INSTRUÇÕES DE MONTAGEM | MONTEINGSVELEIDNING | INSTRUCCIONES DE MONTAJE | MONDOPANO - JA KINNTIJSOHEET
MONTAGE INSTRUCTIE | INSTRUZIONI DI MONTAGGIO | ИСТРУКЦІЯ З МОНТАЖУ | MONTAJU YÖNERGİSİ | JA KINNTIJSOHEET

- 1. MONTAŻU POWINNA DOKONAĆ OSOBA POSIADAJĄCA ODPOWIEDNIE UPRAWNIENIA.
- 2. A INSTALAÇÃO TEM QUE SER FEITA POR UM TÉCNICO AUTORIZADO.
- 3. LA MONTAGE DOIT FAIRE UNE PERSONNE QUI POSSÈDE LES EXPÉRIENCES COMPÉTENTES.
- 4. DIE MONTAGE MUSS VON EINER EINER MIT ERFODERLICHEN KENNNTNISSEN DURCHFÜHRT WERDEN.
- 5. MONTAJU DOLŽEN BÝTY VÝKONNÝH KVALIFIKOVANÝM ŠPECIÁLISTOM.
- 6. МОНТАЖ ДОЛЖЕН БЫТЬ ВЫПОЛНЕН КВАЛИФИЦИРОВАННЫМ СПЕЦИАЛИСТОМ.



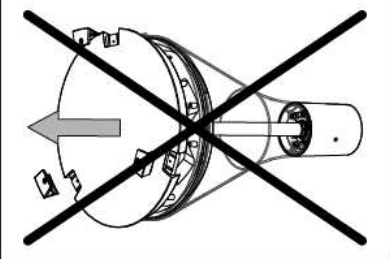
AVENIDA LED

AVENIDA LENS LED



! NIE OTWIERAĆ OPRAWY ! | DON'T OPEN ! | NE PAS OUVRIR LE CADRE ! | NÃO ABRIR ! | НЕ ОТКРЫВАТЬ СВЕТИЛЬНИКА ! | LEUCHTE NICHT ÖFFNEN ! | فتح !

PL Naruszenie powyższych zasad, oraz innych wymienionych w niniejszym dokumencie, powoduje utratę uprawnień płynących z gwarancji.
EN Not adhering to the above-mentioned rules or any other rules and conditions described in this document voids the warranty.
FR Une violation des règles ci-dessus et des autres règles de cette pièce entraîne une annulation des droits résultant de cette garantie.
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عمم الالتزام بالقرارد المذكورة أعلاه أو أي قواعد و شروط موصوفة بالمنتد بالنبي الضمان



INFORMACJA KGO
W sprawie odbioru zużytych opraw prosimy kontaktować się z Organizacją Oczyszczalni Sprzątu Elektrycznego i Termicznego BOSTRIB (ul. Żwirki i Wigury 133A, 30-558 Kraków, ul. No 65A, tel. 012 29 666 314, KRS 0000255584 nr NRE EDO000285 www.bostrib.org.pl, www.bostrib.pl, Biuro@bostrib.org.pl

LUG
LUG Light Factory Sp. z o.o.
65-127 Zielona Góra, ul. Gorzowska 11
e-mail: handlowy@lug.pl
tel. +48 68 411 72 68 | 69 | 70 | 71 | 79 |
fax +48 68 411 72 88 | 89



PODŁĄCZENIE ZASILANIA | POWER CONNECTION | BRANCHEMENT D'ALIMENTATION
CONEXÃO DA ALIMENTAÇÃO | ПОДКЛЮЧЕНИЕ ПИТАНИЯ | STROMVERSORGUNG

Ważne informacje:
 - N - NIEBIESKI / BLUE / 零
 - L - BRĄZY / BROWN / 棕色
 - PE - CZERWONY / RED / 红色
 - DA - CZARNY / BLACK / 黑色
 - N - NIEBIESKI / BLUE / 零
 - PE - CZERWONY / RED / 红色
 - DA - CZARNY / BLACK / 黑色

ON/OFF | التثبيت | 安装

DAI | 注意

min. IP66
حد الأدنى IP66

WAŻNE INFORMACJE | IMPORTANT INFORMATIONS | IMPORTANTES
INFORMAÇÕES ÚTEIS | ВАЖНАЯ ИНФОРМАЦИЯ | WICHTIGE INFORMATIONEN

Podczas montażu oprawy oraz czynnikiem koniecznych zaleca się stosowanie rękawic ochronnych.
 Use protective gloves during the montage.
 Durant l'installation et l'entretien du luminaire il est recommandé de mettre les gants de protection.
 Use luvas de proteção durante a montagem.
 При монтаже и обслуживании прибора рекомендуется использовать защитные перчатки.
 Bei der Montage bitte die mitgelieferten Schutzhandschuhe verwenden.
 استخدم قفازات واقية أثناء التركيب.

Kurz lub inne zabrudzenia należy usuwać za pomocą ściereczek z mikrofibry.
 Remove the dirt & dust with microfiber wipes.
 La poussière et les autres saletés il faut enlever en utilisant un tissu en microfibre.
 Remova a sujaria e poeira com microfibras limpa.
 Если при работе появляются пятна пыли, жира, используйте микрофибру для мытья.
 Staub und Schmutz bitte mit einem mitgelieferten Mikrofasertuch entfernen.

Nie dotykaj komponentów elektrycznych, wrażliwe na uszkodzenia eod.
 Do not touch electrical appliances. Electrostatic sensitive device (esd).
 Il est interdit de toucher les composants électriques, ils sont sensibles aux décharges électrostatiques.
 Não toque os aparelhos elétricos. Dispositivo sensível eletrostático (ese).
 Nie dotykać elementów elektrycznych, wrażliwe na uszkodzenia eod.
 Die elektronischen Komponenten wegen einer möglichen elektrostatischen aufladung nicht anfassen.
 لا تلمس الاجزاء الكهربائية. جهاز حساس للكهرباء الكونية.

Unikat bezpoledniego patrzenia na zrodla led.
 Avoid direct looking at led source light.
 Il faut éviter un regard direct sur les sources led.
 Evite other directo para a fonte de luz led.
 Nie direktem augenkontakt mit die led vermeidern.
 تجنب النظر المباشر في مصدر ضوء الled.

Wymlinac stuzonka szyby.
 Replace broken glass.
 Remplacement du vitre cassé.
 Substituir o vidro quebrado.
 Saewena pezdrowo czeenne.
 Austausch zerbrochenes Glas.
 استبدال الزجاج المكسور.

Niniejsza instrukcja nalezy zachowac do przyszlego wykorzystania.
 Keep this instruction leaflet for any further reference.
 Conservez cette notice jusqu'à un emploi prochain.
 Este manual deve ser mantido para futuro uso.
 Diese Anweisung sollte für zukünftige Bedarf aufbewahren.
 Da a volgende Beleidungsanleitung für zukünftige Bedarf aufbewahren.
 انظر بتمعن الى التعليمات هذه لأي مرجع مستقبلي.

WYMIARY | DIMENSIONS | DIMENSIONS
DIMENSIONES | РАЗМЕРЫ | ABMESSUNGEN

SPÓSÓBY MONTAŻU | INSTALLATION POSITIONS | DIFFÉRENTES POSSIBILITÉS DE MONTAGE
POSICIONES DE MONTAGEM | СПОСОБЫ МОНТАЖА | ANWENDUNGSBEREICH

Typ oprawy.
 Back of the luminaire.
 خلفية وحدة الأتار.

Prawidłowa pozycja uchwyty oprawy.
 Correct position of luminaire holder.
 موقع التصحيح للتحمل الأتارية.

MONTAŻ | MONTAGE | MONTAGE | MONTAX | MONTAGE | MONTAGE

1a

2a

3

C 7 Nm

WATERPROOF INCLUDED
مستعمل

