Test Report issued under the responsibility of:
Ukrainian Scientific and Technical Institute for Certification and Testing of Electrical Equipment
UkrTEST of SE "Ukrmetrteststandart"

2H635
ДСТУ ISO/IEC 17025

TEST REPORT
EN 60598-2-3
Luminaires
Part 2: Particular requirements
Section 3: Luminaires for road and street lighting

Report Number.....:	1833-1-2019
Date of issue.....:	12.02.2020
Total number of pages	70
Name of Testing Laboratory preparing the Report .....:	UkrTEST of SE "Ukrmetrteststandart"
Applicant's name .....:	TELECOMMUNICATION TECHNOLOGIES, LLC
Address .....:	1, Mytna Sq., Odesa, 65026, Ukraine
Test specification:	
Standard .....:	EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015
Test procedure.....:	UkrTEST
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC60598_2_3J modified by UkrTEST
Test Report Form(s) Originator ....:	Intertek Semko AB
Master TRF .....:	2014-09

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

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Test item description.....:	luminaires		
Trade Mark.....:	JOOBY		
Manufacturer.....:	TELECOMMUNICATION TECHNOLOGIES, LLC 1, Mytna Sq., Odesa, 65026, Ukraine		
Model/Type reference.....:	see the General product information section		
Ratings.....:	230 V ~ ; 50 Hz ; t_a 50°C ; IP66 ; class I. See also the General product information section		
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒ **CB Testing Laboratory:**			
Testing location/ address.....:	UkrTEST of SE "Ukrmetrteststandart" 4, Metrologichna Str., Kyiv, 03143, Ukraine		
☐ **Associated CB Testing Laboratory:**			
Testing location/ address.....:			
Tested by (name, signature).....:	Viacheslav Butuzov		
Approved by (name, signature).....:	Anatoliy Gindikin		
☐ **Testing procedure: TMP/CTF Stage 1:**			
Testing location/ address.....:			
Tested by (name, signature).....:			
Approved by (name, signature).....:			
☐ **Testing procedure: WMT/CTF Stage 2:**			
Testing location/ address.....:			
Tested by (name, signature).....:			
Witnessed by (name, signature).....:			
Approved by (name, signature).....:			
☐ **Testing procedure: SMT/CTF Stage 3 or 4:**			
Testing location/ address.....:			
Tested by (name, signature).....:			
Witnessed by (name, signature).....:			
Approved by (name, signature).....:			
Supervised by (name, signature).....:			

List of Attachments (including a total number of pages in each attachment):

Pictures of the luminaire Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 (12 pages).

Pictures of the luminaire Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC (7 pages).

Pictures of the luminaire Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2 (2 pages).

Pictures of the luminaire Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1 (3 pages).

Pictures of the luminaire Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2 (2 pages).

Pictures of the Fw and F1 mounting devices (1 page).

Summary of testing: tests were conducted on the luminaire Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 for compliance EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015 except Annex ZB clause (3.3) for Denmark.

Tests performed (name of test and test clause):	**Testing location:**
Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 – EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015. Partial tests were done on models: Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC – EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015: clauses 3.4 (-) ; 3.5 (-) a), d), h) ; 3.6 (4.12.1) for fastening elements of the bracket ; 3.6 (4.13.1) ; 3.6 (4.15) ; 3.6.3 (-) ; 3.6.3.1 (-) ; 3.10 (5.2.10) ; 3.10 (5.2.10.2) ; 3.10 (5.2.10.3) ; 3.10.1 (-) ; 3.15 (13.3.2). Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2 – EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015: clauses 3.4 (-) ; 3.5 (-) h) ; 3.6 (4.12.1) for fastening elements of the brackets ; 3.6 (4.14.1) ; 3.6.3 (-). Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1 – EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015: clauses 3.4 (-) ; 3.5 (-) e), h) ; 3.6 (4.12.1) for fastening elements of the brackets ; 3.6.2 (-) ; 3.6.3 (-). Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2 – EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015: clauses 3.4 (-) ; 3.5 (-) e) ; 3.6 (4.14.1) ; 3.6.3 (-).	All tests were performed at UkrTEST of SE "Ukrmetrteststandart", 4, Metrologichna Str., Kyiv, 03143, Ukraine

Summary of compliance with National Differences:

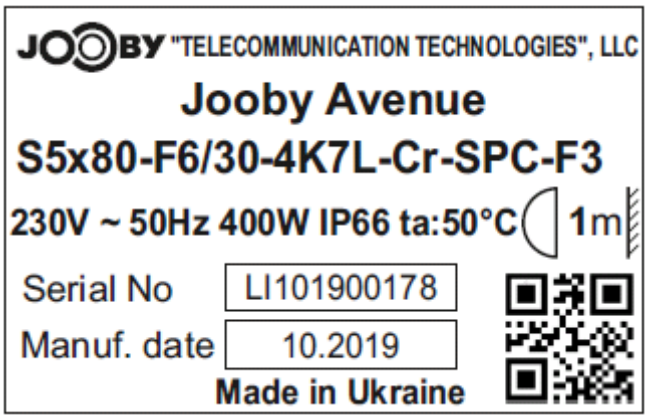
List of countries addressed

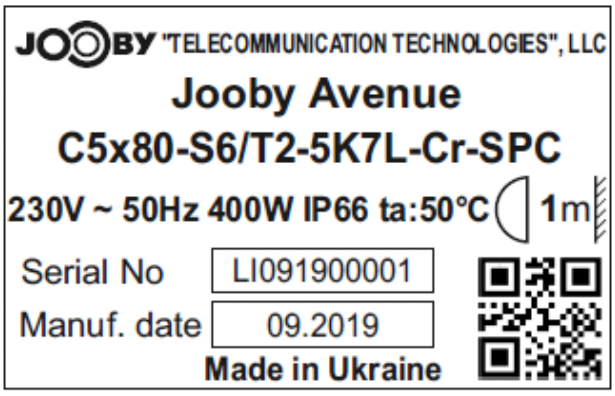
EU countries except Denmark (see Annex ZB).

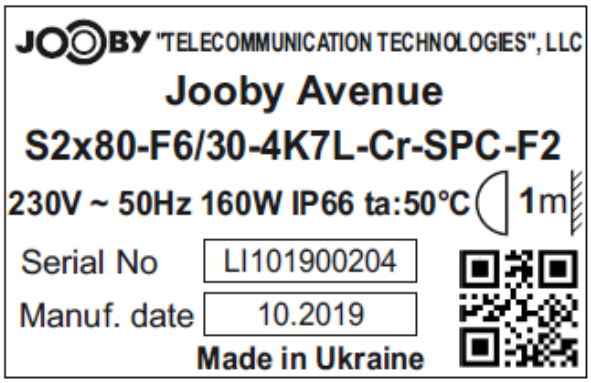
☒ The product fulfils the requirements of EN 60598-2-3:2003 + A1:2011 used in conjunction with EN 60598-1:2015.

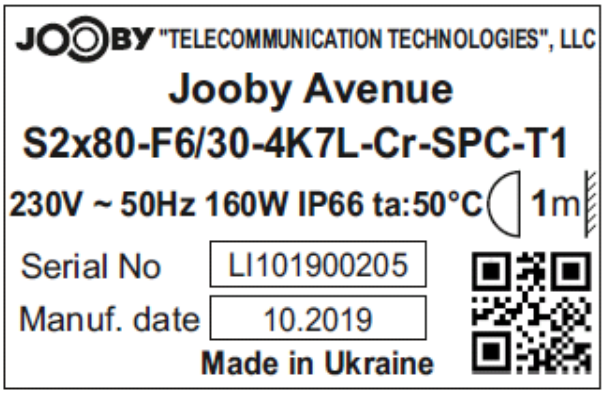
Copy of marking plate:

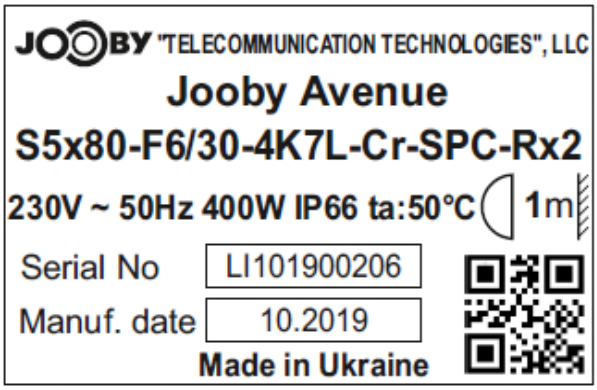
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.











Test item particulars ..... :	
Classification of installation and use ..... :	The luminaires are designed for outdoor and indoor use. Class I. See also the General product information section
Supply Connection ..... :	Permanent connection to the fixed wiring, connecting leads
Possible test case verdicts:	
- test case does not apply to the test object .....:	N/A
- test object does meet the requirement .....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing .....:	
Date of receipt of test item .....:	30.10.2019
Date (s) of performance of tests.....:	30.10.2019 – 12.02.2020
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. **Throughout this report a ☒ comma / ☐ point is used as the decimal separator.** Clause numbers between brackets refer to clauses in EN 60598-1	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies).....:	TELECOMMUNICATION TECHNOLOGIES, LLC 1, Mytna Sq., Odesa, 65026, Ukraine

General product information:

The luminaires are designed for outdoor and indoor use. The connection to the fixed wiring is permanent.

The luminaires have the same class of protection against electric shock (I), IP classification (IP66), LEDs manufacturer (Cree, Inc.).

The luminaires are manufactured by identical technology with the application of the same type of materials, parts and components (power flexible cable, capacitors, connectors, cable gland, etc.).

The luminaires are not equipped with means for external control.

Differences between the models:

Jooby Avenue abxcc-dddddd-eeeKfg-hh-iii-jjj

a (luminaire design type) = :

C – console type;
S – suspended;

b = 1, 2, 3, 4, 5 (light modules quantity) ;

cc (rated power of each light module, W) = :

40 (LED driver ALD2-40D-470);
60 (LED driver ALD2-60D-690);
80 (LED driver ALD2-80D-900);

dddddd (optical system type) = :

S6/T1* – asymmetrical group plastic lens 28 LEDs, type I;
S6/T2* – asymmetrical group plastic lens 28 LEDs, type II;
S6/T3* – asymmetrical group plastic lens 28 LEDs, type III;
S6/T5S – symmetrical group plastic lens 28 LEDs, type V;
S6/Sc* – asymmetrical group plastic lens 28 LEDs, type II/III (long);
F6/30* – symmetrical group plastic lens 28 LEDs 30°x30°;
F6/65* – symmetrical group plastic lens 28 LEDs 65°x65°;
F6/90* – symmetrical group plastic lens 28 LEDs 90°x90°

(* – blank) ;

eee (correlated colour temperature, K) = :

3** – 3000;
4** – 4000;
5** – 5000;
5.7 – 5700;
6.5 – 6500

(* – blank) ;

f (colour rendering index) = :

7 – 70-79;
8 – 80-89;

g (luminous efficacy category) = :

S – ≥ 111 lm/W (small);
M – ≥ 121 lm/W (medium);
L – ≥ 131 lm/W (large);
H – ≥ 141-150 lm/W (high);

hh (LEDs manufacturer) = :

Cr – Cree, Inc.;

iii = SPC or blank

SPC – surge protective device is present;
blank – surge protective device is not present;

jjj (mounting device type) or blank = :

T1* – for mount on steel span wire;
F1*, F2*, F3*, Fw* – for mount on ceiling or wall;
Rx2 – for mount on ceiling by steel suspension wires
(* – blank).

Model Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 was chosen for the full tests.

Models Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC, Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2, Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1, Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2 were chosen for the partial tests (see page 3).

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

3.2 (0)	**GENERAL TEST REQUIREMENTS**		
3.2 (0.1)	Information for luminaire design considered..... :	Standard Yes ☐ No ☒	—
3.2 (0.3)	More sections applicable ..... :	Yes ☐ No ☒	—

3.4 (2)	**CLASSIFICATION**		
3.4 (2.2)	Type of protection ..... :	Class I	—
3.4 (2.3)	Degree of protection..... :	IP66	—
3.4 (2.4)	Luminaire suitable for direct mounting on normally flammable surfaces ..... :	Yes ☒ No ☐	—
3.4 (2.5)	Luminaire for normal use ..... :	Yes ☒ No ☐	—
	Luminaire for rough service ..... :	Yes ☐ No ☒	—
3.4 (-)	Modes of installation of road or street lighting		—
	a) on a pipe	Yes ☒ No ☐ (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	—
	b) on a mast arm	Yes ☐ No ☒	—
	c) on a post top	Yes ☒ No ☐ (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	—
	d) on span or suspension wires	Yes ☒ No ☐ on span wire (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1 ; on suspension wires Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2)	—
	e) on a wall	Yes ☒ No ☐ on a wall (ceiling) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2)	—

3.5 (3)	**MARKING**		
3.5 (3.2)	Mandatory markings	See Copy of marking plate	P
	Position of the marking		P
	Format of symbols / text		P
3.5 (3.3)	Additional information		P

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict

	Language of instructions	English	P
3.5 (3.3.1)	Combination luminaires		N/A
3.5 (3.3.2)	Nominal frequency in Hz	50 Hz	P
3.5 (3.3.3)	Operating temperature	t_c: 110°C (LED driver)	P
3.5 (3.3.4)	Symbol or warning notice		N/A
3.5 (3.3.5)	Wiring diagram		N/A
3.5 (3.3.6)	Special conditions		N/A
3.5 (3.3.7)	Metal halide lamp luminaire – warning		N/A
3.5 (3.3.8)	Limitation for semi-luminaires		N/A
3.5 (3.3.9)	Power factor and supply current	Power factor: ≥ 0,95	P
3.5 (3.3.10)	Suitability for use indoors		P
3.5 (3.3.11)	Luminaires with remote control		N/A
3.5 (3.3.12)	Clip-mounted luminaire – warning		N/A
3.5 (3.3.13)	Specifications of protective shields		N/A
3.5 (3.3.14)	Symbol for nature of supply	~	P
3.5 (3.3.15)	Rated current of socket outlet		N/A
3.5 (3.3.16)	Rough service luminaire		N/A
3.5 (3.3.17)	Mounting instruction for type Y, type Z and some type X attachments	(type Y)	P
3.5 (3.3.18)	Non-ordinary luminaires with PVC cable		N/A
3.5 (3.3.19)	Protective conductor current in instruction if applicable		N/A
3.5 (3.3.20)	Provided with information if not intended to be mounted within arm's reach		N/A
3.5 (3.3.21)	Non-replaceable and non-user replaceable light sources information provided		P
	Cautionary symbol		N/A
3.5 (3.3.22)	Controllable luminaires, classification of insulation provided		N/A
3.5 (3.3.101)	For luminaires not supplied with terminal block: Adequate warning on the package		P
3.5 (3.4)	Test with water		P
	Test with hexane		P
	Legible after test		P
	Label attached		N/A
3.5 (-)	Additional information in instruction leaflet		

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Design attitude	(Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
	b) Weight	14,7 kg	P
	c) Overall dimensions	800 mm × 250 mm × 195 mm	P
	d) Maximum projected area if applicable	0,188 m^2 (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3). 0,2 m^2 (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
	e) Cross-sectional area of wires if applicable	Not less than 13 mm^2 (diameter not less than 4 mm) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2). 29 mm^2 (diameter 6 mm) (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1)	P
	f) Suitability for indoors use		P
	g) Dimensions of the compartment		N/A
	h) Torque setting to be applied to bolts or screws	Not less than: 5 Nm (Ø from 5 to 6 mm); 8 Nm (Ø from 6 to 6,5 mm) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2). For bolts – not less than 17 Nm (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC). For nuts M8 – not less than 8 Nm (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2 ; Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1). For screws (Ø = 6 mm) – not less than 6 Nm (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1)	P
	i) Maximum mounting height		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4)	**CONSTRUCTION**		
3.6 (4.2)	Components replaceable without difficulty		P
3.6 (4.3)	Wireways smooth and free from sharp edges		P
3.6 (4.4)	**Lampholders**		
3.6 (4.4.1)	Integral lampholder		N/A
3.6 (4.4.2)	Wiring connection		N/A
3.6 (4.4.3)	Lampholder for end-to-end mounting		N/A
3.6 (4.4.4)	Positioning		N/A
	- pressure test (N) ..... :		—
	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) ..... :		—
	After test the lampholder have not moved from its position and show no permanent deformation		N/A
3.6 (4.4.5)	Peak pulse voltage		N/A
3.6 (4.4.6)	Centre contact		N/A
3.6 (4.4.7)	Parts in rough service luminaires resistant to tracking		N/A
3.6 (4.4.8)	Lamp connectors		N/A
3.6 (4.4.9)	Caps and bases correctly used		N/A
3.6 (4.4.10)	Light source for lampholder or connection according IEC 60061 not connected another way		N/A
3.6 (4.5)	**Starter holders**		
	Starter holder in luminaires other than class II		N/A
	Starter holder class II construction		N/A
3.6 (4.6)	**Terminal blocks**		
	Tails		N/A
	Unsecured blocks		N/A
3.6 (4.7)	**Terminals and supply connections**		
3.6 (4.7.1)	Contact to metal parts		N/A
3.6 (4.7.2)	Test 8 mm live conductor		P
	Test 8 mm earth conductor		P
3.6 (4.7.3)	Terminals for supply conductors		P
3.6 (4.7.3.1)	Welded method and material		

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	- stranded or solid conductor		N/A
	- spot welding		N/A
	- welding between wires		N/A
	- type Z attachment		N/A
	- mechanical test according to 15.8.2		N/A
	- electrical test according to 15.9		N/A
	- heat test according to 15.9.2.3 and 15.9.2.4		N/A
3.6 (4.7.4)	Terminals other than supply connection	Screw earth terminal (see Annex 3)	P
3.6 (4.7.5)	Heat-resistant wiring / sleeves		N/A
3.6 (4.7.6)	Multi-pole plug		P
	- test at 30 N		P
3.6 (4.8)	**Switches**		
	- adequate rating		N/A
	- adequate fixing		N/A
	- polarized supply		N/A
	- compliance with IEC 61058-1 for electronic switches		N/A
3.6 (4.9)	**Insulating lining and sleeves**		
3.6 (4.9.1)	Retainment		P
	Method of fixing ..... :	—	—
3.6 (4.9.2)	Insulated linings and sleeves:		P
	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
3.6 (4.10)	**Double or reinforced insulation**		
3.6 (4.10.1)	No contact, mounting surface – accessible metal parts – wiring of basic insulation		N/A
	Safe installation fixed luminaires		N/A
	Capacitors and switches		N/A
	Interference suppression capacitors according to IEC 60384-14		N/A
3.6 (4.10.2)	Assembly gaps:		
	- not coincidental		N/A
	- no straight access with test probe		P

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.10.3)	Retainment of insulation:		
	- fixed		P
	- unable to be replaced; luminaire inoperative		P
	- sleeves retained in position		N/A
	- lining in lampholder		N/A
3.6 (4.11)	**Electrical connections and current-carrying parts**		
3.6 (4.11.1)	Contact pressure		P
3.6 (4.11.2)	Screws:		
	- self-tapping screws		N/A
	- thread-cutting screws		N/A
3.6 (4.11.3)	Screw locking:		
	- spring washer		P
	- rivets		N/A
3.6 (4.11.4)	Material of current-carrying parts		P
3.6 (4.11.5)	No contact to wood or mounting surface		P
3.6 (4.11.6)	Electro-mechanical contact systems		N/A
3.6 (4.12)	**Screws and connections (mechanical) and glands**		
3.6 (4.12.1)	Screws not made of soft metal		P
	Screws of insulating material		N/A
	Torque test: torque (Nm); part ..... :	1,2 Nm (Ø = 4,0 mm) – earth terminal (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3)	P
	Torque test: torque (Nm); part ..... :	2,0 Nm (Ø = 5,0 mm) – other screws transmitting contact pressure (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3)	P
	Torque test: torque (Nm); part ..... :	Fastening elements of the bracket: 2,5 Nm (Ø = 6,0 mm) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3)	P
	Torque test: torque (Nm); part ..... :	Fastening elements of the bracket: 17,0 Nm (Ø = 10,0 mm) (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	Torque test: torque (Nm); part ..... :	Fastening elements of the brackets: 2,5 Nm (Ø = 6,0 mm); 8,0 Nm (Ø = 8,0 mm) (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2)	P
	Torque test: torque (Nm); part ..... :	Fastening elements of the bracket: 8,0 Nm (Ø = 8,0 mm) (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1)	P
	Torque test: torque (Nm); part ..... :	Fastening elements of the span wire: 2,5 Nm (Ø = 6,0 mm) (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1)	P
3.6 (4.12.2)	Screws with diameter < 3 mm screwed into metal		P
3.6 (4.12.4)	Locked connections:		
	- fixed arms; torque (Nm)..... :		N/A
	- lampholder; torque (Nm) ..... :		N/A
	- push-button switches; torque 0,8 Nm ..... :		N/A
3.6 (4.12.5)	Screwed glands; force (Nm) ..... :	2,5	P
3.6 (4.13)	**Mechanical strength**		
3.6 (4.13.1)	Impact tests: (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)		
	- fragile parts; energy (Nm)..... :	0,5	P
	- other parts; energy (Nm) ..... :	0,7	P
	1) live parts		P
	2) linings		P
	3) protection		P
	4) covers		P
3.6 (4.13.3)	Straight test finger		P
3.6 (4.13.4)	Rough service luminaires		
	- IP54 or higher		N/A
	a) fixed		N/A
	b) hand-held		N/A
	c) delivered with a stand		N/A

EN 60598-2-3			
Clause	Requirement + Test	Result - Remark	Verdict
	d) for temporary installations and suitable for mounting on a stand		N/A
3.6 (4.13.6)	Tumbling barrel		N/A
3.6 (4.14)	**Suspensions, fixings and means of adjusting**		
3.6 (4.14.1)	Mechanical load:		
	A) four times the weight	4 × 14,7 kg = 58,8 kg (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3). 4 × 6,7 kg = 26,8 kg ; fastening elements of the luminaire to the bracket: 4 × 6,2 kg (without brackets) = 24,8 kg (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2). 4 × 14,3 kg = 57,2 kg (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2)	P
	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		P
3.6 (4.14.2)	Load to flexible cables		
	Mass (kg) ..... :		—
	Stress in conductors (N/mm^2) ..... :		N/A
	Mass (kg) of semi-luminaire ..... :		—
	Bending moment (Nm) of semi-luminaire ..... :		N/A
3.6 (4.14.3)	Adjusting devices:		
	- flexing test; number of cycles ..... :		N/A
	- strands broken ..... :		N/A
	- electric strength test afterwards		N/A
3.6 (4.14.4)	Telescopic tubes: cords not fixed to tube; no strain on conductors		N/A
3.6 (4.14.5)	Guide pulleys		N/A
3.6 (4.14.6)	Strain on socket-outlets		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.15)	**Flammable materials**		
	- glow-wire test 650°C ..... :	Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 – see Test Table 3.15 (13.3.2): - LED driver case; - plastic lens F6/30. Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC – see Test Table 3.15 (13.3.2): - LED driver case; - plastic lens S6/T2	P
	- spacing ≥ 30 mm		N/A
	- screen withstanding test of 13.3.1		N/A
	- screen dimensions		N/A
	- no fiercely burning material	(Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
	- thermal protection		N/A
	- electronic circuits exempted		N/A
3.6 (4.15.2)	Luminaires made of thermoplastic material with lamp control gear		
	a) construction		N/A
	b) temperature sensing control		N/A
	c) surface temperature		N/A
3.6 (4.16)	**Luminaires for mounting on normally flammable surfaces**		
	No lamp control gear ..... :	(compliance with Section 12)	N/A
3.6 (4.16.1)	Lamp control gear spacing:		
	- spacing 35 mm		N/A
	- spacing 10 mm		N/A
3.6 (4.16.2)	Thermal protection:		
	- in lamp control gear		N/A
	- external		N/A
	- fixed position		N/A
	- temperature marked lamp control gear		N/A
3.6 (4.16.3)	Design to satisfy the test of 12.6	(see clause 12.6)	N/A
3.6 (4.17)	**Drain holes**		P
	Clearance at least 5 mm		N/A
3.6 (4.18)	**Resistance to corrosion**		

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Clause	Requirement + Test	Result - Remark	Verdict
3.6 (4.18.1)	- rust-resistance		P
3.6 (4.18.2)	- season cracking in copper		P
3.6 (4.18.3)	- corrosion of aluminium		P
3.6 (4.19)	Igniters compatible with ballast		N/A
3.6 (4.20)	Rough service vibration		N/A
3.6 (4.21)	**Protective shield**		
3.6 (4.21.1)	Shield fitted if tungsten halogen lamps or metal halide lamps		N/A
	Shield of glass if tungsten halogen lamps		N/A
3.6 (4.21.2)	Particles from a shattering lamp not impair safety		N/A
3.6 (4.21.3)	No direct path		N/A
3.6 (4.21.4)	Impact test on shield		N/A
	Glow-wire test on lamp compartment ..... :	See Test Table 3.15 (13.3.2)	N/A
3.6 (4.22)	Attachments to lamps not cause overheating or damage		N/A
3.6 (4.23)	Semi-luminaires comply Class II		N/A
3.6 (4.24)	**Photobiological hazards**		
3.6 (4.24.1)	No excessive UV radiation if tungsten halogen lamps and metal halide lamps (Annex P)		N/A
3.6 (4.24.2)	Retinal blue light hazard	LED: RG2 (distance 200 mm) – see Annex 1	P
	Luminaires with E_{thr} :		
	a) Fixed luminaires		P
	- distance x (m), borderline between RG1 and RG2 :	0,5 m	P
	- marking and instruction according 3.2.23		P
	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
3.6 (4.25)	**Mechanical hazard**		
	No sharp point or edges		P
3.6 (4.26)	**Short-circuit protection**		
3.6 (4.26.1)	Adequate means of uninsulated accessible SELV parts		N/A
3.6 (4.26.2)	Short-circuit test with test chain according 4.26.3		

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Clause	Requirement + Test	Result - Remark	Verdict
	Test chain not melt through		N/A
	Test sample not exceed values of Table 12.1 and 12.2		N/A
3.6 (4.27)	**Terminal blocks with integrated screwless earthing contacts**		
	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
3.6 (4.28)	**Fixing of thermal sensing control**		
	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:		
	Max. temperature on adhesive material (°C)..... :		—
	100 cycles between t min and t max		N/A
	Temperature sensing control still in position		N/A
3.6 (4.29)	**Luminaires with non-replaceable light source**		
	Not possible to replace light source		N/A
	Live part not accessible after parts have been opened by hand or tools		N/A
3.6 (4.30)	**Luminaires with non-user replaceable light source**		
	If protective cover provide protection against electric shock and marked with “caution, electric shock risk” symbol:		
	Minimum two fixing means		N/A
3.6 (4.31)	**Insulation between circuits**		
	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
3.6 (4.31.1)	SELV circuits		
	Used SELV source		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Voltage ≤ ELV	85 V ⎓	P
	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		P
	SELV circuits insulated from accessible parts according Table X.1		P
	Plugs not able to enter socket-outlets of other voltage systems		P
	Socket outlets does not admit plugs of other voltage systems		P
	Plugs and socket-outlets does not have protective conductor contact		P
3.6 (4.31.2)	FELV circuits		
	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 admit plugs of other voltage systems		N/A
	Socket-outlets does not have protective conductor contact		N/A
3.6 (4.31.3)	Other circuits		
	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 of above		N/A
	- conductive part not cause an electric shock in case of an insulation fault		N/A
	- 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

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Clause	Requirement + Test	Result - Remark	Verdict

3.6 (4.32)	**Overvoltage protective devices**		
	Comply with IEC 61643-11		P
	External to controlgear and connected to earth:		
	- only in fixed luminaires		P
	- only connected to protective earth		P
3.6.1 (-)	At least IP X3 or X5 respectively. IP .....:	IP66	P
	Column-integrated luminaires:		
	- parts below 2,5 m. IP .....:		N/A
	- parts above 2,5 m. IP .....:		N/A
3.6.2 (-)	Suspension on span wires	See 3.5 (-) e) (Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1)	P
3.6.3 (-)	Means for attaching the luminaire or external parts to its support appropriate to the weight	(Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC ; Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2 ; Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1 ; Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2)	P
3.6.3.1 (-)	Static load test (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)		
	- drag coefficient.....:	1,2	P
	- loaded area (m^2).....:	0,2	P
	- used load (N).....:	477,6	P
	- measured deformation (cm/m) .....:	1,6	P
	- no rotation		P
3.6.4 (-)	Adjustable lampholders		N/A
3.6.5 (-)	Luminaires installed above 5 m, glass covers shall be:		
	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) protected by any means to retain glass fragments		N/A
	Method of protection declared by the manufacturer		N/A
3.6.5.1 (-)	Protection by the use of glass that fractures into small pieces		
	- number of particles is more than 40		N/A
3.6.5.2 (-)	Protection by the use of high impact resistant glass		

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Clause	Requirement + Test	Result - Remark	Verdict
3.6.5.2.1 (-)	Glass covers have high mechanical strength		N/A
	Test according IEC 62262 with test apparatus according IEC 60068-2-75 with impact energy of 5J on preconditioned sample		N/A
3.6.5.2.2 (-)	Glass covers not break into large pieces		N/A
	- test according 3.6.5.1, number of particles is more than 20		N/A
3.6.6 (-)	Connection compartment of column-integrated luminaire		
	- provides adequate space		N/A
	- means for attachment		N/A
	- means for attachment of metal corrosion-resistant		N/A
3.6.7 (-)	Compliance with ISO standard or other.....:		N/A
3.6.8 (-)	Doors of column-integrated luminaires:		
	- 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
3.6.9 (-)	Column-integrated luminaire:		
	- 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

3.7 (11)	**CREEPAGE DISTANCES AND CLEARANCES**		
3.7 (11.2)	Creepage distances and clearances ..... :	See Table 3.7 (11.2)	P
	Working voltage (V)..... :	230	—
	Rated pulse voltage (kV)..... :	—	—
	Voltage form..... :	Sinusoidal ☒ Non-sinusoidal ☐	—
	PTI..... :	< 600 ☐ ≥ 600 ☒	—
	Impulse withstand category (Normal category II) (Category III Annex U)	Category II ☒ Category III ☐	—

3.8 (7)	**PROVISION FOR EARTHING**		
3.8 (7.2.1 + 7.2.3)	Accessible metal parts		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Metal parts in contact with supporting surface		N/A
	Resistance < 0,5 Ω..... :	0,07 Ω	P
	Self-tapping screws used		N/A
	Thread-forming screws		N/A
	Thread-forming screw used in a groove		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		P
3.8 (7.2.2 + 7.2.3)	Earth continuity in joints, etc.		N/A
3.8 (7.2.4)	Locking of clamping means		P
	Compliance with 4.7.3		P
	Terminal blocks with integrated screwless earthing contacts tested according Annex V		N/A
3.8 (7.2.5)	Earth terminal integral part of connector socket		N/A
3.8 (7.2.6)	Earth terminal adjacent to mains terminals		P
3.8 (7.2.7)	Electrolytic corrosion of the earth terminal		P
3.8 (7.2.8)	Material of earth terminal		P
	Contact surface bare metal		P
3.8 (7.2.10)	Class II luminaire for looping-in		N/A
	Double or reinforced insulation to functional earth		N/A
3.8 (7.2.11)	Earthing core coloured green-yellow		P
	Length of earth conductor		P
3.8.1 (-)	Attachment prevented from rotation		N/A

3.9 (14)	**SCREW TERMINALS**		
	Separately approved; component list ..... :	(see Annex 1)	N/A
	Part of the luminaire ..... :	(see Annex 3)	P

3.9 (15)	**SCREWLESS TERMINALS AND ELECTRICAL CONNECTIONS**		
	Separately approved; component list ..... :	(see Annex 1)	P
	Part of the luminaire ..... :	(see Annex 4)	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.10 (5)	**EXTERNAL AND INTERNAL WIRING**		
3.10 (5.2)	**Supply connection and external wiring**		
3.10 (5.2.1)	Means of connection ..... :	Connecting leads	P
	Connecting leads		P
	- without a means for connection to the supply		P
	- terminal block specified		N/A
	- relevant information provided		P
	- compliance with 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 of Part 1		N/A
	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
3.10 (5.2.2)	Type of cable..... :	H05RN-F	P
	Nominal cross-sectional area (mm^2)..... :	1,0 (≥ 1,0)	P
	Cables equal to EN 50525		P
3.10 (5.2.3)	Type of attachment, X, Y or Z	Y	P
3.10 (5.2.5)	Type Z not connected to screws		N/A
3.10 (5.2.6)	Cable entries:		
	- suitable for introduction		P
	- adequate degree of protection		P
3.10 (5.2.7)	Cable entries through rigid material have rounded edges		N/A
3.10 (5.2.8)	Insulating bushings:		
	- suitably fixed		P
	- material in bushings		P
	- material not likely to deteriorate		P
	- tubes or guards made of insulating material		N/A
3.10 (5.2.9)	Locking of screwed bushings		P
3.10 (5.2.10)	Cord anchorage: (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)		
	- covering protected from abrasion		P
	- clear how to be effective		P
	- no mechanical or thermal stress		P
	- no tying of cables into knots etc.		P
	- insulating material or lining		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.10 (5.2.10.1)	Cord anchorage for type X attachment:		
	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
3.10 (5.2.10.2)	Adequate cord anchorage for type Y and type Z attachment	(type Y) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
3.10 (5.2.10.3)	Tests: (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)		
	- impossible to push cable; unsafe		P
	- pull test: 25 times; pull (N)..... :	See 3.10.1 (-)	N/A
	- torque test: torque (Nm) ..... :	See 3.10.1 (-)	N/A
	- displacement ≤ 2 mm	Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3: 1,3 mm Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC: 1,7 mm	P
	- no movement of conductors		P
	- no damage of cable or cord		P
	- function independent of electrical connection		P
3.10 (5.2.11)	External wiring passing into luminaire		P
3.10 (5.2.12)	Looping-in terminals		N/A
3.10 (5.2.13)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		N/A
3.10 (5.2.14)	Mains plug same protection		N/A
	Class III luminaire plug		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	No unsafe compatibility		N/A
3.10 (5.2.16)	Appliance inlets (IEC 60320)		N/A
	Installation couplers (IEC 61535)		N/A
	Other appliance inlet or connector according relevant IEC standard		N/A
3.10 (5.2.17)	No standardized interconnecting cables properly assembled		N/A
3.10 (5.2.18)	Used plug in accordance with		
	- IEC 60083		N/A
	- other standard		N/A
3.10 (5.3)	**Internal wiring**		
3.10 (5.3.1)	Internal wiring of suitable size and type		P
	Through wiring		
	- not delivered / mounting instruction		N/A
	- factory assembled		N/A
	- socket outlet loaded (A)..... :		N/A
	- temperatures ..... :	(see Annex 2)	N/A
	Green-yellow for earth only		P
3.10 (5.3.1.1)	Internal wiring connected directly to fixed wiring		
	Cross-sectional area (mm^2) ..... :	1,0 mm^2 (≥ 0,4 mm^2)	P
	Insulation thickness	0,53 mm (≥ 0,5 mm)	P
	Extra insulation added where necessary		N/A
3.10 (5.3.1.2)	Internal wiring connected to fixed wiring via internal current-limiting device		
	Adequate cross-sectional area and insulation thickness		N/A
3.10 (5.3.1.3)	Double or reinforced insulation for class II		N/A
3.10 (5.3.1.4)	Conductors without insulation		N/A
3.10 (5.3.1.5)	SELV current-carrying parts		P
3.10 (5.3.1.6)	Insulation thickness other than PVC or rubber		N/A
3.10 (5.3.2)	Sharp edges etc.		P

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Clause	Requirement + Test	Result - Remark	Verdict
	No moving parts of switches etc.		N/A
	Joints, raising / lowering devices		P
	Telescopic tubes etc.		N/A
	No twisting over 360°		N/A
3.10 (5.3.3)	Insulating bushings:		
	- suitable fixed		N/A
	- material in bushings		N/A
	- material not likely to deteriorate		N/A
	- cables with protective sheath		N/A
3.10 (5.3.4)	Joints and junctions effectively insulated		N/A
3.10 (5.3.5)	Strain on internal wiring		N/A
3.10 (5.3.6)	Wire carriers		N/A
3.10 (5.3.7)	Wire ends not tinned		P
	Wire ends tinned: no cold flow		P
3.10.1 (-)	Cord anchorage if applicable	(Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
	- pull test: 25 times; pull (N).....:	60 (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3) ; 100 (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
	- torque test: torque (Nm) .....:	0,25 (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3) ; 0,35 (Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P

3.11 (8)	**PROTECTION AGAINST ELECTRIC SHOCK**		
3.11 (8.2.1)	Live parts not accessible		P
	Basic insulated parts not used on the outer surface without appropriate protection		N/A
	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		N/A
	Lamp and starterholders in portable and adjustable luminaires comply with double or reinforced insulation requirements		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
3.11 (8.2.2)	Portable luminaire adjusted in most unfavourable position		N/A
3.11 (8.2.3.a)	Class II luminaire:		
	- 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		N/A
3.11 (8.2.3.b)	BC lampholder of metal in class I luminaires shall be earthed		N/A
3.11 (8.2.3.c)	SELV circuits with exposed current carrying parts:		
	Ordinary luminaire:		
	- touch current ..... :		N/A
	- no-load voltage..... :		N/A
	Other than ordinary luminaire:		
	- nominal voltage ..... :		N/A
3.11 (8.2.4)	Portable luminaire have protection independent of supporting surface		N/A
3.11 (8.2.5)	Compliance with the standard test finger or relevant probe		P
3.11 (8.2.6)	Covers reliably secured		P
3.11 (8.2.7)	Discharging of capacitors ≥ 0,5 μF		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

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Clause	Requirement + Test	Result - Remark	Verdict
3.12 (12)	**ENDURANCE TEST AND THERMAL TEST**		
3.12.2 (-)	If IP > IP 20 relevant test of (12.4), (12.5) and (12.6) after (9.2) before (9.3) specified in 3.13		—
3.12 (12.3)	Endurance test:		
	- mounting-position ..... :	Fixed in accordance with the instruction	—
	- test temperature (°C)..... :	60	—
	- total duration (h) ..... :	168	—
	- supply voltage: Un factor; calculated voltage (V) .. :	1,1 × 230 V = 253 V	—
	- lamp used..... :	Integrated LEDs	—
3.12 (12.3.2)	After endurance test:		
	- no part unserviceable		P
	- luminaire not unsafe		P
	- no damage to track system		N/A
	- marking legible		P
	- no cracks, deformation etc.		P
3.12 (12.4)	Thermal test (normal operation)	(see Annex 2)	P
3.12 (12.4.2c)	Thermal test (normal operation) see footnote c to table 12.2 relating to unsleeved fixed wiring		N/A
3.12 (12.5)	Thermal test (abnormal operation)	(see Annex 2)	P
3.12 (12.6)	Thermal test (failed lamp control gear condition):		
3.12 (12.6.1)	Through wiring or looping-in wiring loaded by a current of (A) ..... :		—
	- case of abnormal conditions..... :		—
	- electronic lamp control gear		N/A
	- measured winding temperature (°C): at 1,1 Un .... :		—
	- measured mounting surface temperature (°C) at 1,1 Un..... :		N/A
	- calculated mounting surface temperature (°C) ..... :		N/A
	- track-mounted luminaires		N/A
3.12 (12.6.2)	Temperature sensing control		
	- case of abnormal conditions..... :		—
	- thermal link		N/A
	- manual reset cut-out		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- auto reset cut-out		N/A
	- measured mounting surface temperature (°C) ..... :		N/A
	- track-mounted luminaires		N/A
3.12 (12.7)	Thermal test (failed lamp control gear in plastic luminaires):		
3.12 (12.7.1)	Luminaire without temperature sensing control		
3.12 (12.7.1.1)	Luminaire with fluorescent lamp ≤ 70 W		
	Test method 12.7.1.1 or Annex W ..... :		—
	Test according to 12.7.1.1:		
	- case of abnormal conditions..... :		—
	- Ballast failure at supply voltage (V) ..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A
	Test according to Annex W:		
	- case of abnormal conditions..... :		—
	- measured winding temperature (°C): at 1,1 Un ..... :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un ..... :		—
	- calculated temperature of fixing point/exposed part (°C)..... :		—
	Ball-pressure test .....:	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.2)	Luminaire with discharge lamp, fluorescent lamp > 70 W, transformer > 10 VA		
	- case of abnormal conditions..... :		—
	- measured winding temperature (°C): at 1,1 Un ..... :		—
	- measured temperature of fixing point/exposed part (°C): at 1,1 Un ..... :		—
	- calculated temperature of fixing point/exposed part (°C)..... :		—
	Ball-pressure test ..... :	See Table 3.15 (13.2.1)	N/A
3.12 (12.7.1.3)	Luminaire with short circuit proof transformers ≤ 10 VA		N/A
	- case of abnormal conditions..... :		—
	- Components retained in place after the test		N/A
	- Test with standard test finger after the test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.12 (12.7.2)	Luminaire with temperature sensing control		
	- thermal link..... :	Yes ☐ No ☐	—
	- manual reset cut-out..... :	Yes ☐ No ☐	—
	- auto reset cut-out ..... :	Yes ☐ No ☐	—
	- case of abnormal conditions..... :		—
	- highest measured temperature of fixing point/ exposed part (°C): ..... :		—
	Ball-pressure test: ..... :	See Table 3.15 (13.2.1)	N/A
3.12.1 (-)	Temperature reduction if for outdoor use only	See 3.5 (-) f)	N/A
3.12.2 (-)	(See above)		—
3.12.3 (-)	Glass covers used within the thermal limits declared by the glass manufacturer		N/A
3.13 (9)	**RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE**		
3.13.1 (-)	If IP > IP 20 the order of tests as specified in clause 3.12		
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		—
	- classification according to IP ..... :	IP66	—
	- mounting position during test ..... :	Fixed in accordance with the instruction	—
	- fixing screws tightened; torque (Nm) ..... :	0,3; 0,8; 1,3	—
	- tests according to clauses..... :	9.2.2; 9.2.7	—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	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		N/A
	c) 2) for luminaires with drain holes – no hazardous water entry		P
	d) no water in watertight luminaire		N/A
	e) no contact with live parts (IP2X)		N/A
	e) no entry into enclosure (IP3X and IP4X)		N/A
	e) no contact with live parts (IP3X and IP4X)		N/A
	f) no trace of water on part of lamp requiring protection from splashing water		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	g) no damage of protective shield or glass envelope		N/A
3.13 (9.3)	Humidity test 48 h		P
3.14 (10)	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		
3.14 (10.2.1)	Insulation resistance test		
	Cable or cord covered by metal foil or replaced by a metal rod of mm Ø ..... :	6 mm	—
	Insulation resistance (MΩ):		
	SELV		
	- between current-carrying parts of different polarity :		N/A
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :	> 5 MΩ (≥ 1 MΩ)	P
	- 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..... :	> 20 MΩ (≥ 2 MΩ)	P
	- between live parts and mounting surface..... :		N/A
	- between live parts and metal parts..... :	> 20 MΩ (≥ 2 MΩ)	P
	- 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..... :	> 50 MΩ (≥ 2 MΩ)	P
	- insulation bushings as described in Section 5 ..... :	> 50 MΩ (≥ 2 MΩ)	P
3.14 (10.2.2)	Electric strength test		
	Dummy lamp		N/A
	Luminaires with ignitors after 24 h test		N/A
	Luminaires with manual ignitors		N/A
	Test voltage (V) ..... :		N/A
	SELV		
	- between current-carrying parts of different polarity :		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- between current-carrying parts and mounting surface..... :		N/A
	- between current-carrying parts and metal parts of the luminaire..... :	500 V	P
	- 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..... :	1460 V	P
	- between live parts and mounting surface..... :		N/A
	- between live parts and metal parts..... :	1460 V	P
	- 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..... :	1460 V	P
	- insulation bushings as described in Section 5 ..... :	1460 V	P
3.14 (10.3)	Touch current or protective conductor current (mA) :	Protective conductor current: 0,74 (≤ 3,5)	P

3.15 (13)	**RESISTANCE TO HEAT, FIRE AND TRACKING**		
3.15 (13.2.1)	Ball-pressure test ..... :	See Test Table 3.15 (13.2.1)	P
3.15 (13.3.1)	Needle-flame test (10 s) ..... :	See Test Table 3.15 (13.3.1)	P
3.15 (13.3.2)	Glow-wire test (650°C) ..... :	See Test Table 3.15 (13.3.2) (Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3 ; Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC)	P
3.15 (13.4)	Proof tracking test (IEC 60112) ..... :	See Test Table 3.15 (13.4)	N/A

ZB	**ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)**		
(3.3)	DK: power supply cords of class I luminaires with label		—
(4.5.1)	DK: socket-outlets		N/A
(5.2.1)	CY, DK, FI, GB: type of plug		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ZC	**ANNEX ZC, NATIONAL DEVIATIONS (EN)**		
(4 & 5)	FR: Shuttered socket-outlets 10/16A		N/A
	FR: Safety requirements for high buildings (Arrêté du 30 décembre 2011 portant règlement de sécurité pour la construction des immeubles de grande hauteur et leur protection contre les risques d'incendie et de panique; Section VIII; Article GH 48, Eclairage) Glow-wire test for outer parts of luminaires:		
	- 850°C for luminaires in stairways and horizontal travel paths		N/A
	- 650°C for indoor luminaires		N/A
	GB: Requirements according to United Kingdom Building Regulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

3.7 (11.2)	**TABLES: Creepage distances and clearances**	P
Table 11.1	**Minimum distances (mm) for a.c. (50/60 Hz) sinusoidal voltages**	P

RMS working voltage (V) not exceeding	50	150	250	500	750	1000
Creepage distances						
Required basic insulation, PTI ≥ 600	0,6	0,8	1,5	3	4	5,5
Measured			1,7			
Required basic insulation, PTI < 600	1,2	1,6	2,5	5	8	10
Measured						
Required supplementary insulation PTI ≥ 600	-	0,8	1,5	3	4	5,5
Measured						
Required supplementary insulation PTI < 600	-	1,6	2,5	5	8	10
Measured						
Required reinforced insulation	-	3,2	5	6	8	11
Measured			> 6,5			
Clearances						
Required basic insulation	0,2	0,8	1,5	3	4	5,5
Measured			1,7			
Required supplementary insulation	-	0,8	1,5	3	4	5,5
Measured						
Required reinforced insulation	-	1,6	3	6	8	11
Measured			> 3,9			

Table 11.2	**Minimum distances (mm) for non-sinusoidal pulse voltages**	N/A

Rated pulse voltage (peak kV)	2,0	2,5	3,0	4,0	5,0	6,0	8,0
Required clearances	1,0	1,5	2	3	4	5,5	8
Measured							
Rated pulse voltage (peak kV)	10	12	15	20	25	30	40
Required clearances	11	14	18	25	33	40	60
Measured							
Rated pulse voltage (peak kV)	50	60	80	100	-	-	-
Required clearances	75	90	130	170	-	-	-
Measured							

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Clause	Requirement + Test	Result - Remark	Verdict

3.15 (13.2.1)	**TABLE: Ball Pressure Test of Thermoplastics**		P
Allowed impression diameter (mm) .....:		2,0	—

Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)
Splicing wire connector	WAGO	125	See Annex 1
Connector 42404	MOLEX LLC	125	1,1
Connector 42385	MOLEX LLC	125	See Annex 1
Connector 43645	MOLEX LLC	125	See Annex 1
External side cover	—	95 (70 + 25)	0,7
Internal side cover	—	97 (72 + 25)	0,7
Plastic lens F6/30	LEDiL	127 (102 + 25)	1,2

Supplementary information:

3.15 (13.3.1)	**TABLE: Needle-flame test (IEC 60695-11-5)**		P

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
Splicing wire connector	WAGO	10	No	—	P
PCB	FINEST PRINTED CIRCUIT BOARD LTD	10	No	—	P
Connector 42385	MOLEX LLC	10	No	—	P
Connector 42404	MOLEX LLC	10	No	—	P

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

3.15 (13.3.2)	**TABLE: Glow-wire test (IEC 60695-2-11)**				P
Glow wire temperature .....:		650°C			—
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
Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3					
External side cover	—	30	No	—	P
Internal side cover	—	30	No	—	P
LED driver case	—	30	No	—	P
Plastic lens F6/30	LEDiL	30	No	—	P
Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC					
External side cover	—	30	No	—	P
Internal side cover	—	30	No	—	P
LED driver case	—	30	No	—	P
Plastic lens S6/T2	LEDiL	30	No	—	P
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:					

3.15 (13.4)	**TABLE: Proof tracking test (IEC 60112)**				N/A
Test voltage PTI .....:		175 V			—
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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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 1	TABLE: Critical components information					
Object / part No.	**Code**	**Manufacturer /trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity**
Power flexible cable	A	PECSO MN	H05RN-F	3G 1	EN 50525-2-21	IMQ A2316 DAT95001250
Splicing wire connector	A	WAGO	221	450 V ; 32 A 0,2-4 □	 EN 60998-1 EN 60998-2-2 IEC 60998-2-2 EN 60998-2-2	DEKRA Certification B.V. Certificate number: 71-104798 Test report No. 2224732.50
LED driver	A	TELECOMMU-NICATION TECHNOLO-GIES, LLC JOOBY	ALD2-80D-900	INPUT: 120-250 V AC 0,73 A 50 Hz OUTPUT: + 85 V ⎓ 0,9 A 80 W t_c : 110°C ; t_a : 50°C SELV	EN 61347-1 EN 61347-2-13	UkrTEST of SE "Ukrmetr-teststandart" Test report No.: 1832-1-2019
Capacitor	A	VISHAY	VY2	Y2 300 ~ X1 440 ~ 101K -40...+125 °C	EN 60384-14 IEC 60384-14 IEC 60384-14 UL 60384-14	VDE 40009669 UL US-26163-UL UL E183844
Surge protective device	A	Littelfuse Inc.	LSP05277PM	277 V 50/60 Hz IP66 ; I_n : 5 kA I_{max} : 10 kA	IEC 61643-11 UL 1449	CE UL E320116
PCB	A	FINEST PRINTED CIRCUIT BOARD LTD	LDT-D	94 V-0	UL 796	UL E337137
Connector	A	MOLEX LLC	42385	---	UL 1977	UL E29179
Connector	A	MOLEX LLC	42404	---	UL 1977	UL E29179
Connector	A	MOLEX LLC	43645	---	UL 1977	UL E29179

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Clause	Requirement + Test	Result - Remark	Verdict

Cable gland	A	U. I. Lapp GmbH	SKINTOP	M12 × 1,5	EN 62444	VDE 40010604
PCB with LEDs	A	FINEST PRINTED CIRCUIT BOARD LTD	LDT-AL	94 V-0	UL 796	UL E337137
LED	A	Cree, Inc.	XPGDWT-B1-0000-00L5E	4000 K CRI: min. 70	IEC TR 62778	DEKRA Testing and Certification (Shanghai) Ltd. Test report No. 3189124.50P
Internal wire	C	---	---	---	---	Tested with the luminaire

Supplementary information:

The codes above have the following meaning:

A - The component is replaceable with another one, also certified, with equivalent characteristics

B - The component is replaceable if authorised by the test house

C - Integrated component tested together with the appliance

D - Alternative component

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 2	TABLE: Temperature measurements, thermal tests of Section 12		
	Type reference ..... :	Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3	—
	Lamp used..... :	Integrated LEDs	—
	Lamp control gear used..... :	LED driver JOOBY ALD2-80D-900	—
	Mounting position of luminaire..... :	On the ceiling; on the wall	—
	Supply wattage (W) ..... :	—	—
	Supply current (A)..... :	—	—
	Calculated power factor..... :	—	—
	Table: measured temperatures corrected for ta = 25°C:		
	- abnormal operating mode..... :	Short-circuit of output	—
	- test 1: rated voltage..... :	230 V	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1,06 × 230 V = 244 V	—
	- test 3: load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage..... :	—	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage..... :	1,1 × 230 V = 253 V	—
	Through wiring or looping-in wiring loaded by a current of A during the test ..... :	—	—

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Clause	Requirement + Test	Result - Remark	Verdict

Temperature measurements, (°C)										
Part	Ambient	Clause 12.4 – normal						Clause 12.5 – abnormal		
		test 1		test 2		test 3	limit	test 4		limit
		On the ceiling	On the wall	On the ceiling	On the wall			On the ceiling	On the wall	
LED driver case	50	98	99	—	—	—	110	—	—	—
Flexible cable (near gland)	50	—	—	75	73	—	75 (90-15)	—	—	—
Flexible cable (inside the luminaire)	50	—	—	81	82	—	90	—	—	—
Internal wire (230 V)	50	—	—	73	73	—	180	—	—	—
Internal wire (SELV)	50	—	—	94	97	—	205	—	—	—
Internal wire (surge protective device)	50	—	—	71	69	—	125	—	—	—
Mounting surface	50	—	—	70	64	—	90	66	59	130
Object lighted by luminaire (1m)	50	—	—	60	60	—	90	—	—	—
Capacitor	50	—	—	85	87	—	125	—	—	—
Plastic lens (polycarbonate)	50	—	—	102	100	—	130	—	—	—
Connector 42404	50	—	—	73	68	—	for 3.15 (13.2.1)	—	—	—
External side cover	50	—	—	70	65	—	for 3.15 (13.2.1)	—	—	—
Internal side cover	50	—	—	72	68	—	for 3.15 (13.2.1)	—	—	—

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 3	**Screw terminals (part of the luminaire)**		
(14)	**SCREW TERMINALS**		
(14.2)	Type of terminal ..... :	Lug terminal (earth terminal)	—
	Rated current (A) ..... :	—	—
(14.3.2.1)	One or more conductors	One	P
(14.3.2.2)	Special preparation	Lug	P
(14.3.2.3)	Terminal size	0	P
	Cross-sectional area (mm^2) ..... :	0,5 - 1,0	—
(14.3.3)	Conductor space (mm) ..... :		N/A
(14.4)	Mechanical tests		
(14.4.1)	Minimum distance		N/A
(14.4.2)	Cannot slip out		N/A
(14.4.3)	Special preparation		N/A
(14.4.4)	Nominal diameter of thread (metric ISO thread) ..... :	M4	P
	External wiring		N/A
	No soft metal		P
(14.4.5)	Corrosion		P
(14.4.6)	Nominal diameter of thread (mm) ..... :	4,0	P
	Torque (Nm) ..... :	1,2	P
(14.4.7)	Between metal surfaces		P
	Lug terminal		P
	Mantle terminal		N/A
	Pull test; pull (N) ..... :		N/A
(14.4.8)	Without undue damage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

ANNEX 4	**Screwless terminals (part of the luminaire)**		
(15)	**SCREWLESS TERMINALS**		
(15.2)	Type of terminal..... :		—
	Rated current (A)..... :		—
(15.3.1)	Material		N/A
(15.3.2)	Clamping		N/A
(15.3.3)	Stop		N/A
(15.3.4)	Unprepared conductors		N/A
(15.3.5)	Pressure on insulating material		N/A
(15.3.6)	Clear connection method		N/A
(15.3.7)	Clamping independently		N/A
(15.3.8)	Fixed in position		N/A
(15.3.10)	Conductor size		N/A
	Type of conductor		N/A
(15.5.1)	Terminals internal wiring		N/A
(15.5.1.1)	Pull test spring-type terminals (4 N, 4 samples) ..... :		N/A
(15.5.1.2)	Pull test pin or tab terminals (4 N, 4 samples)..... :		N/A
	Insertion force not exceeding 50 N		N/A
(15.5.1.2)	Permanent connections: pull-off test (20 N)		N/A
(15.5.2)	Electrical tests		
	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. 25th cycle (4 samples)..... :		N/A
	After ageing, voltage drop (mV) after 50th alt. 100th cycle (4 samples)..... :		N/A
(15.6)	Terminals external wiring		N/A
	Terminal size and rating		N/A
(15.6.2.1)	Pull test spring-type terminals or welded connections (4 samples); pull (N) ..... :		N/A

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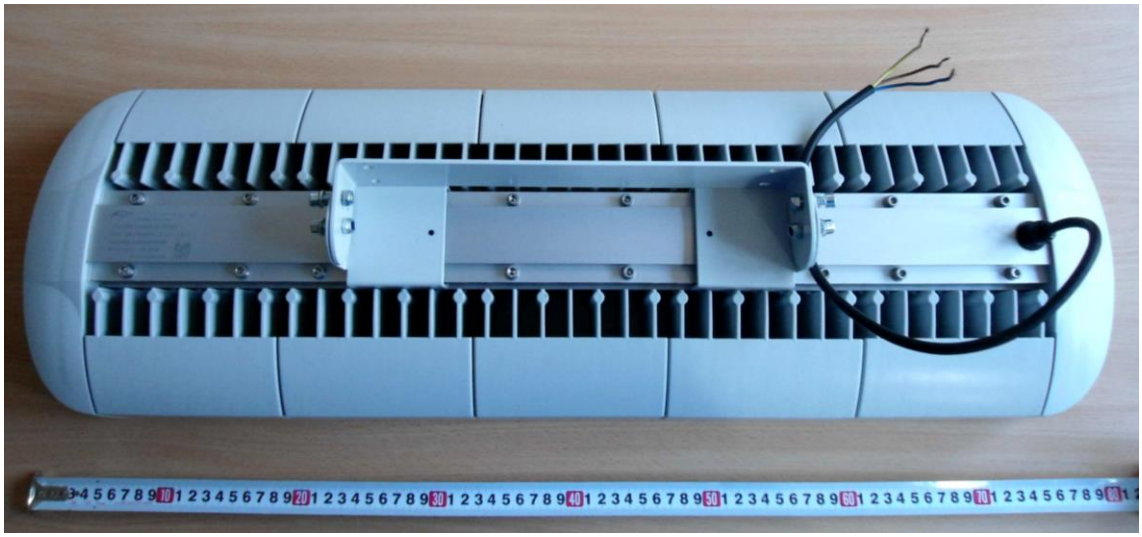
Clause	Requirement + Test	Result - Remark	Verdict
	Pull test pin or tab terminals (4 samples); pull (N) .....:		N/A

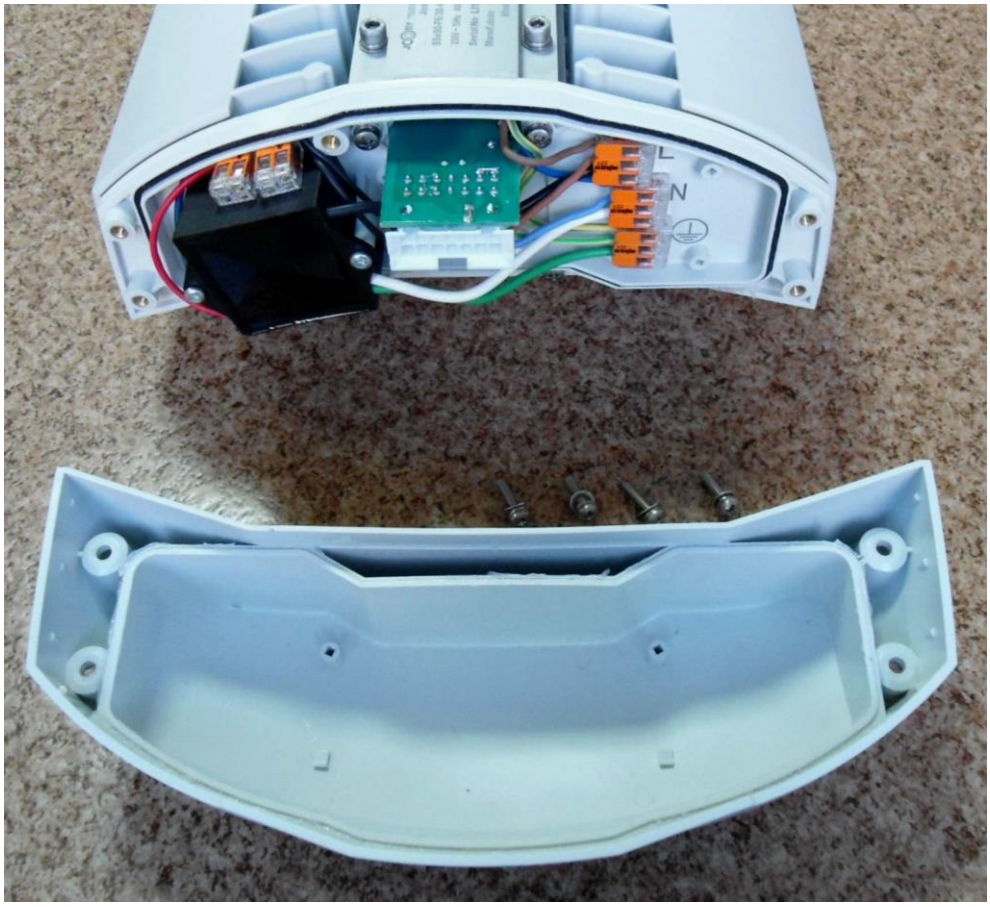
(15.6.3.1)	**TABLE: Contact resistance test**									N/A
	Voltage drop (mV) after 1 h									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop of two inseparable joints									N/A
	Voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 10th alt. 25th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
	Continued ageing: voltage drop after 50th alt. 100th cycle									N/A
	Max. allowed voltage drop (mV).....:									—
terminal	1	2	3	4	5	6	7	8	9	10
voltage drop (mV)										
Supplementary information:										

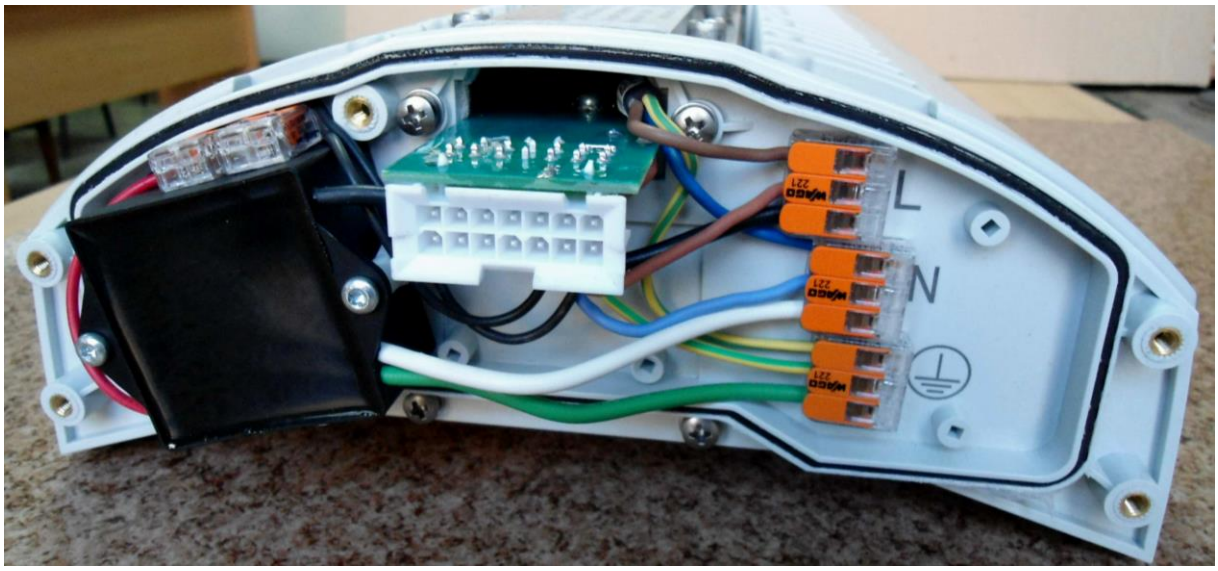
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**



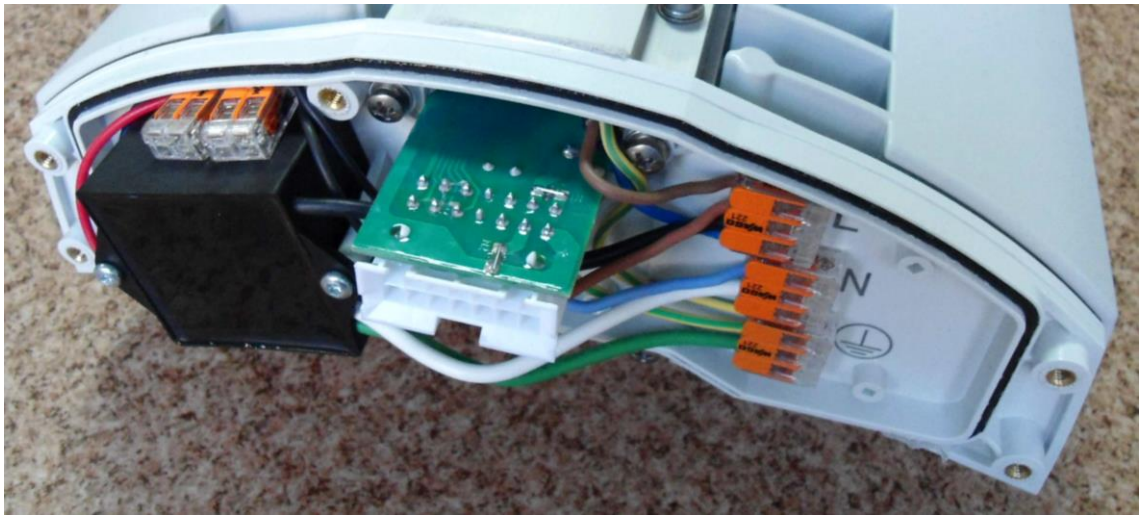
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

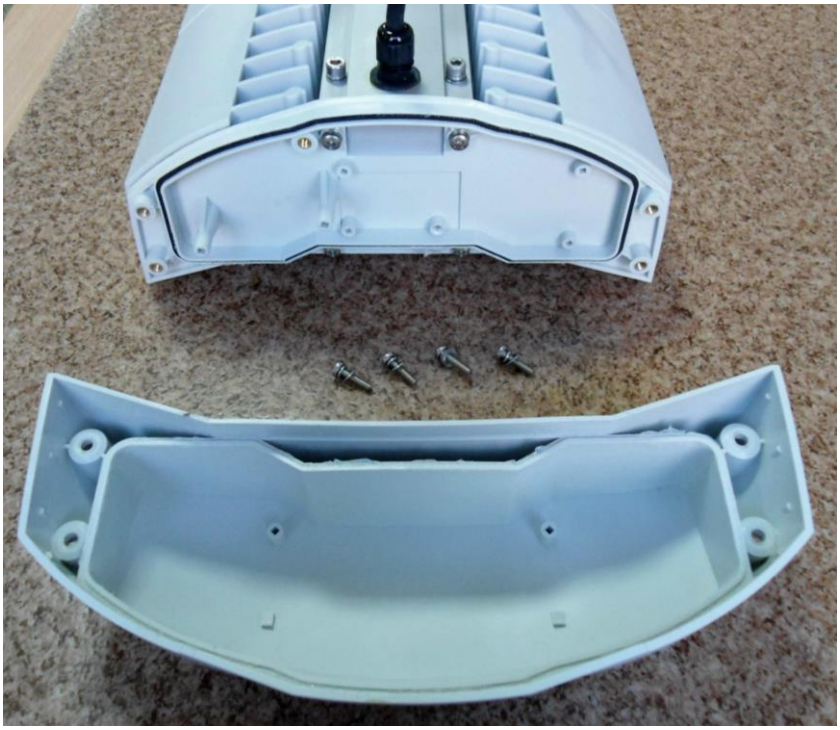
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**



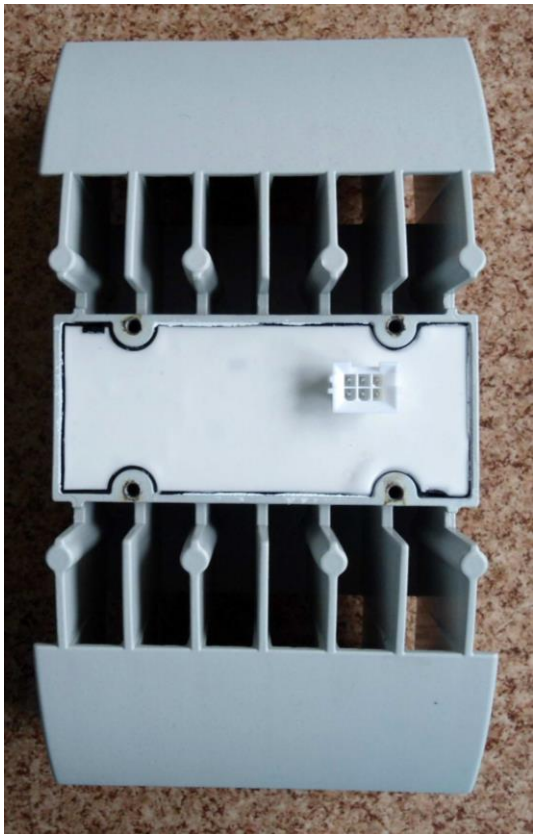


Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

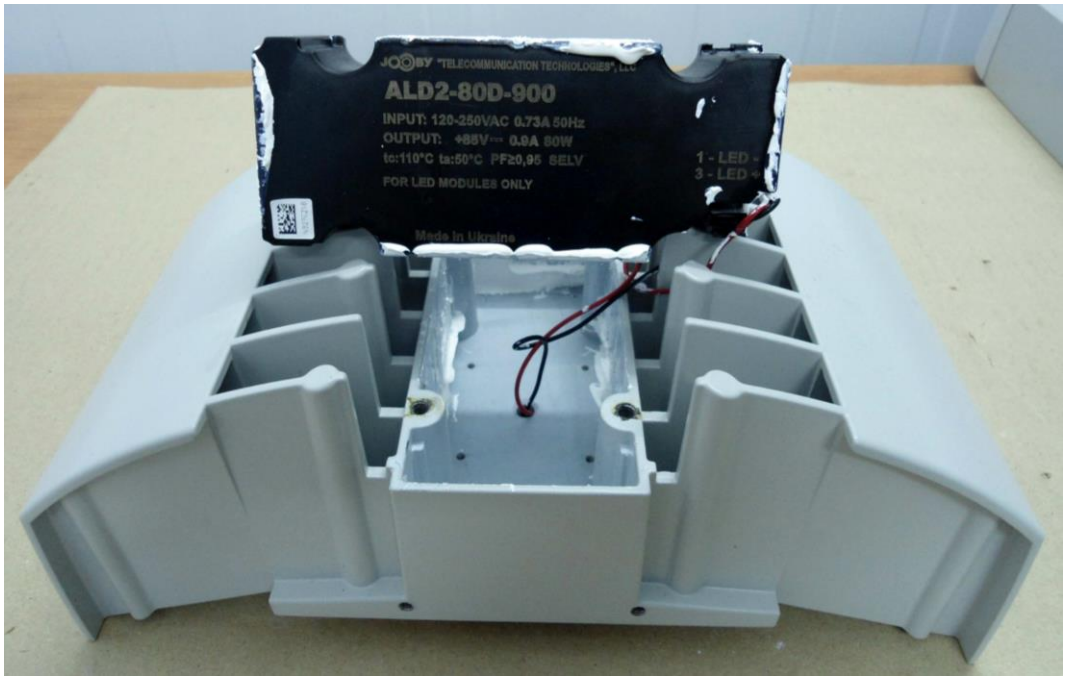




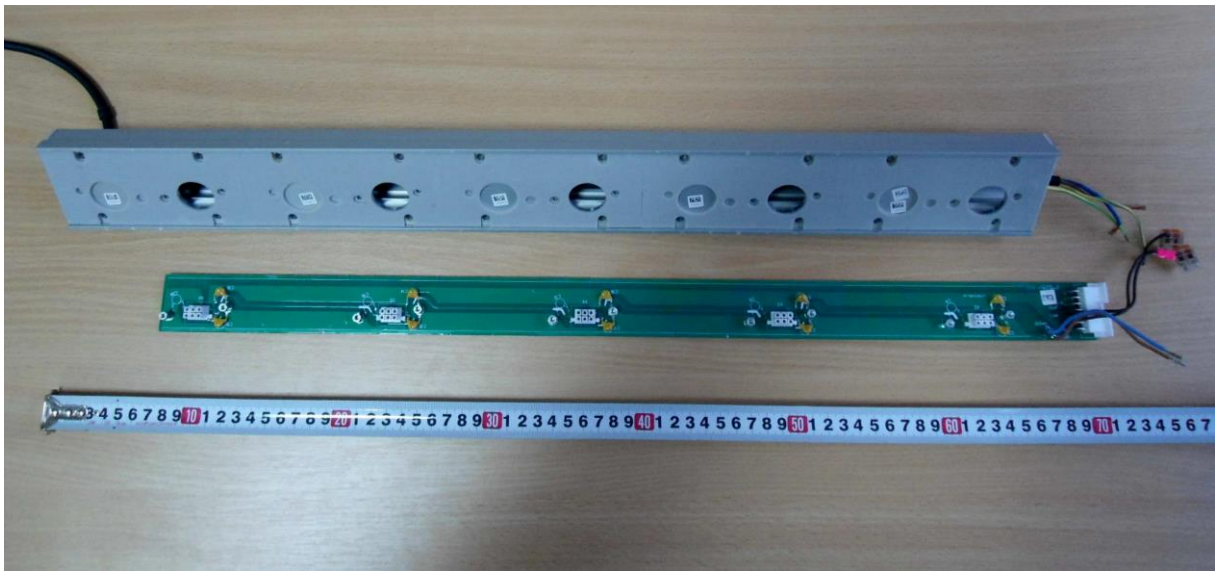
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

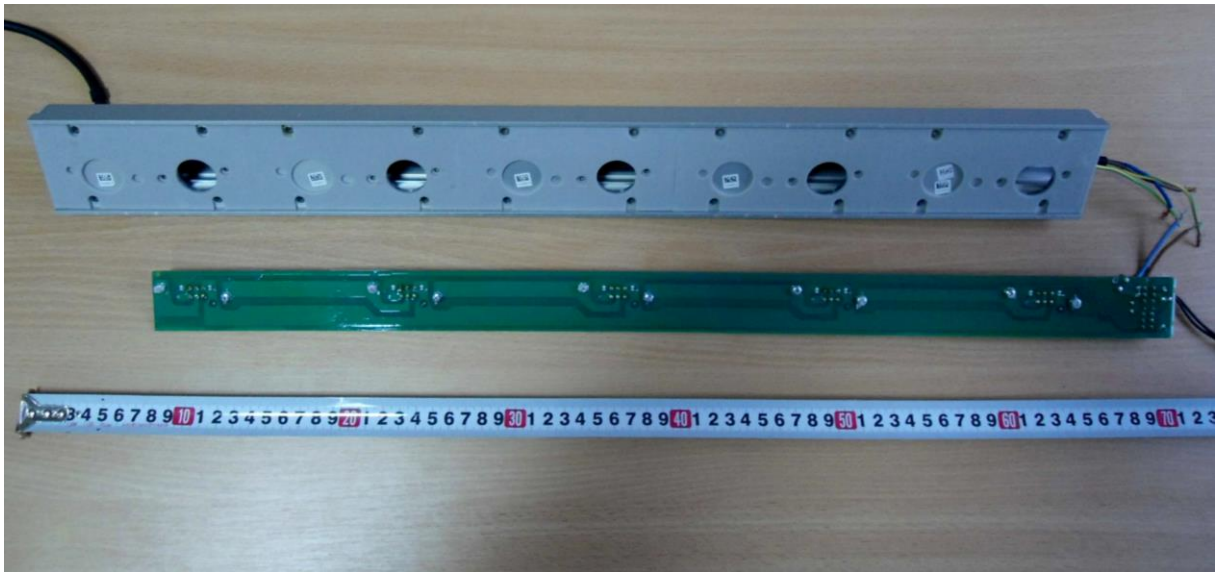


Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

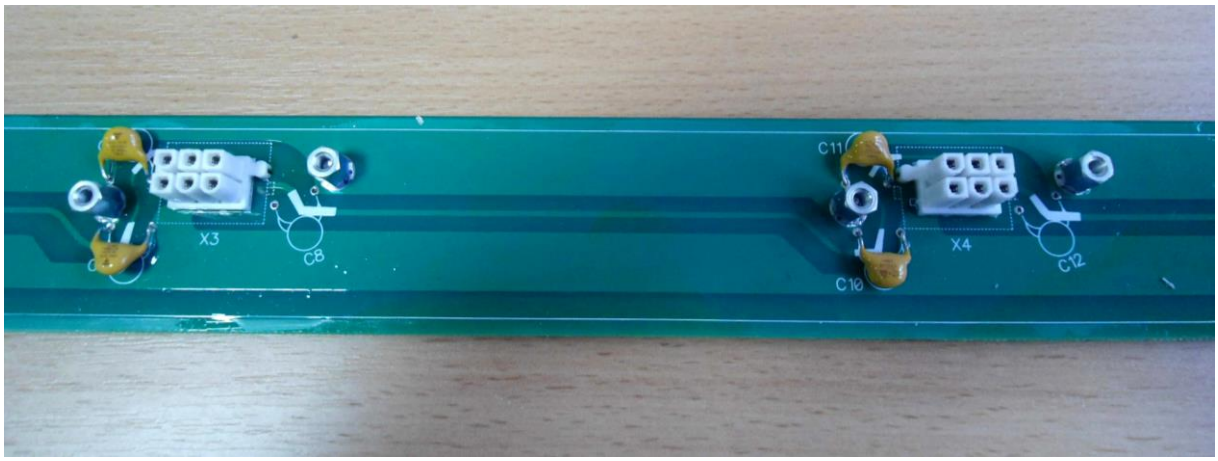


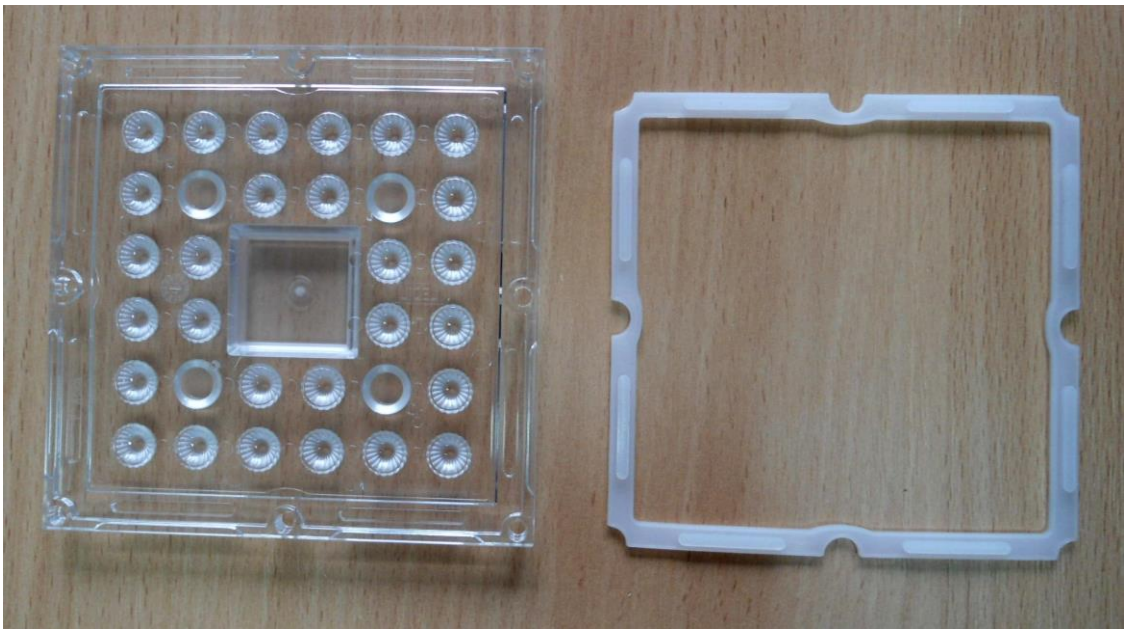
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**



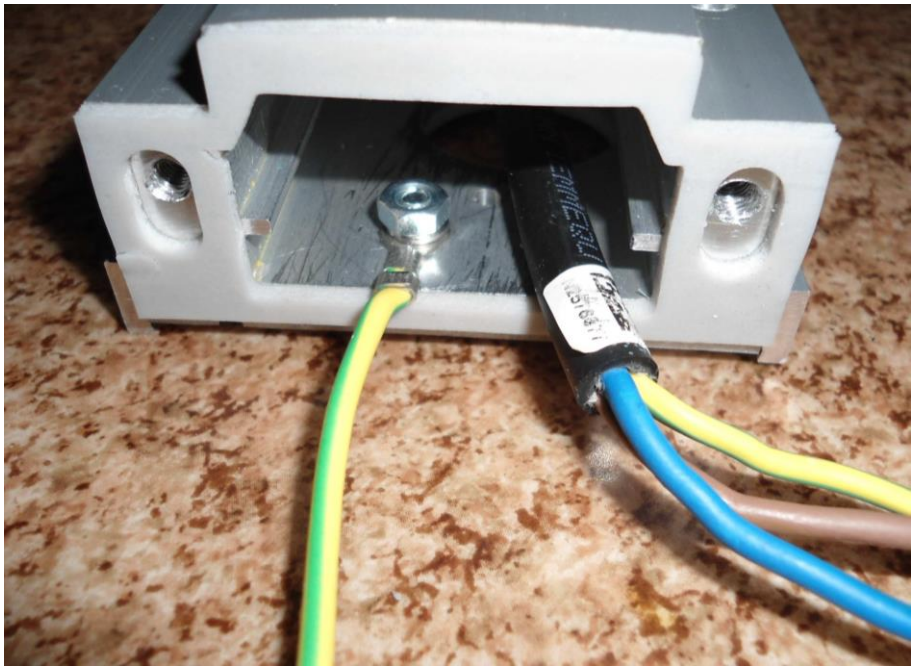


Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

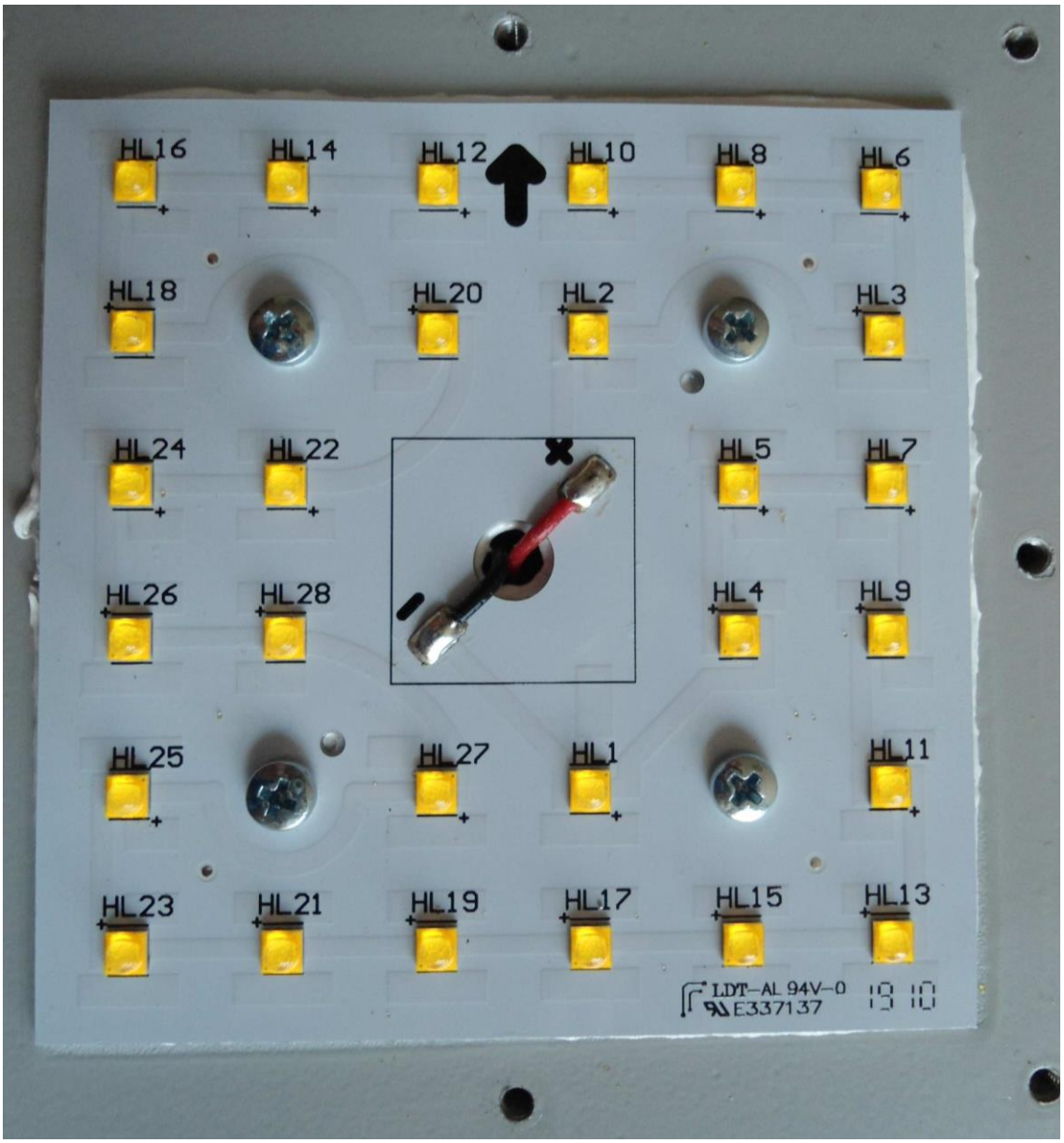




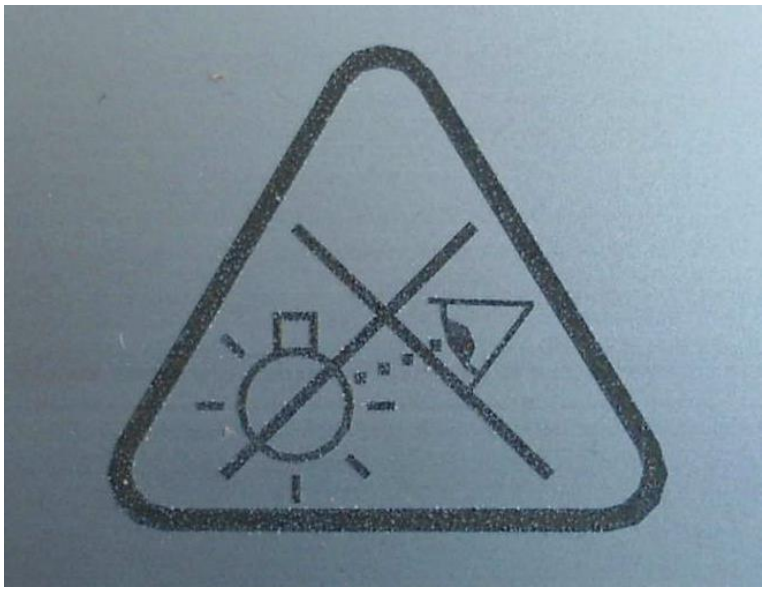
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

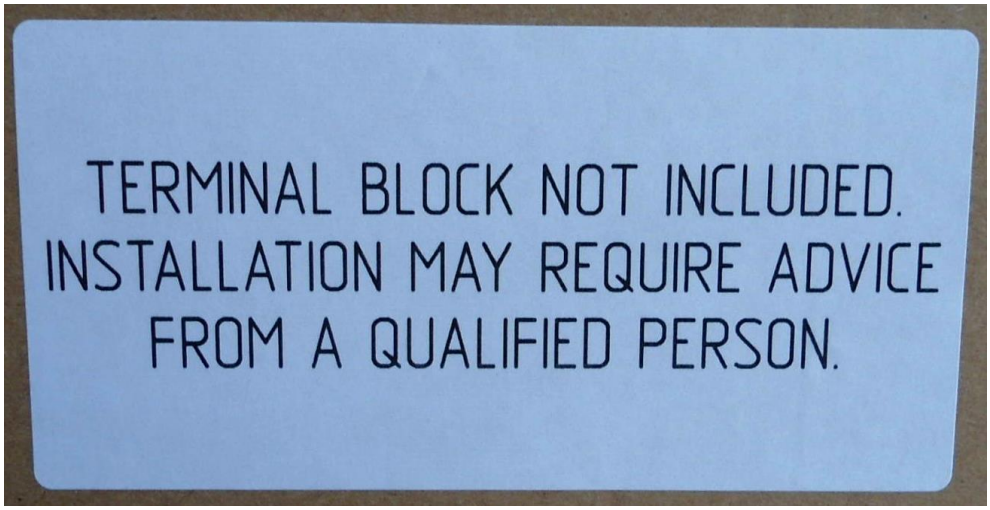


Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

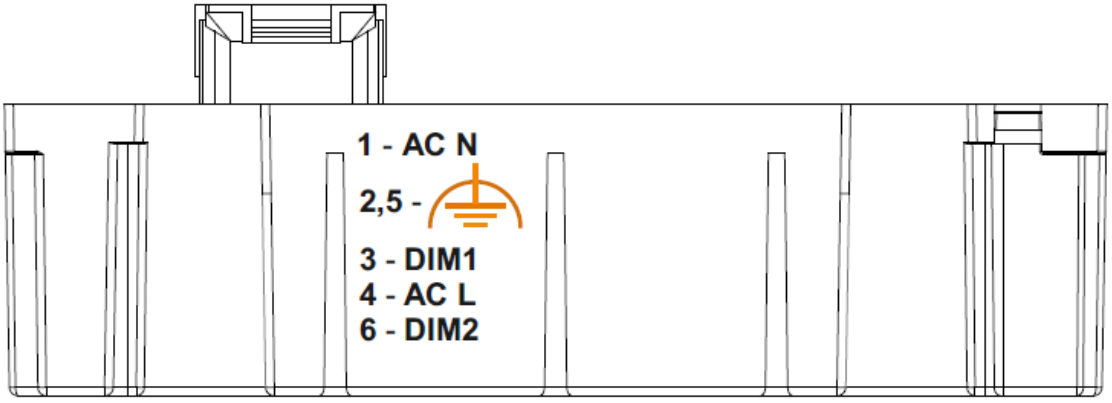


Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

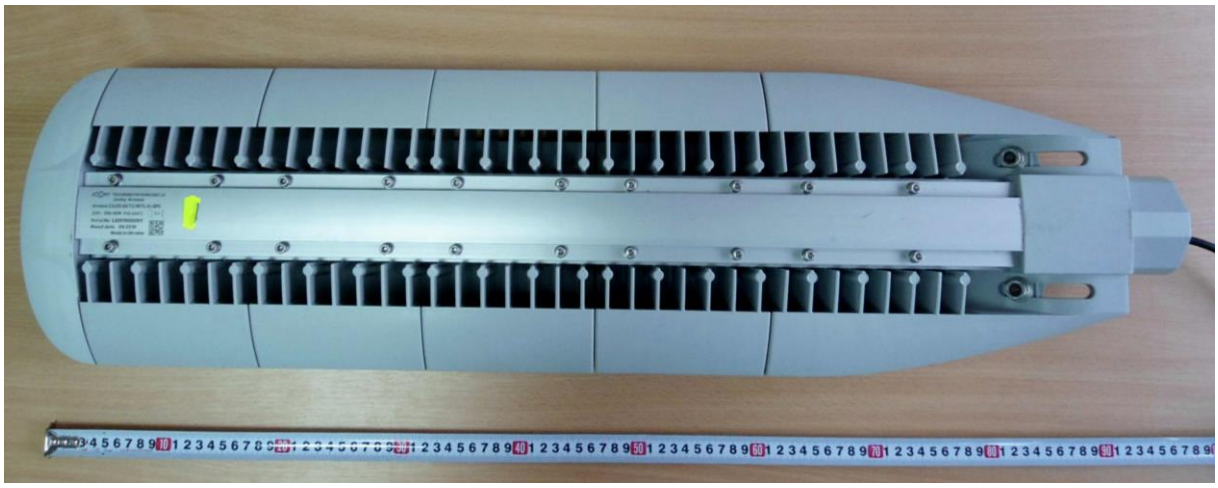




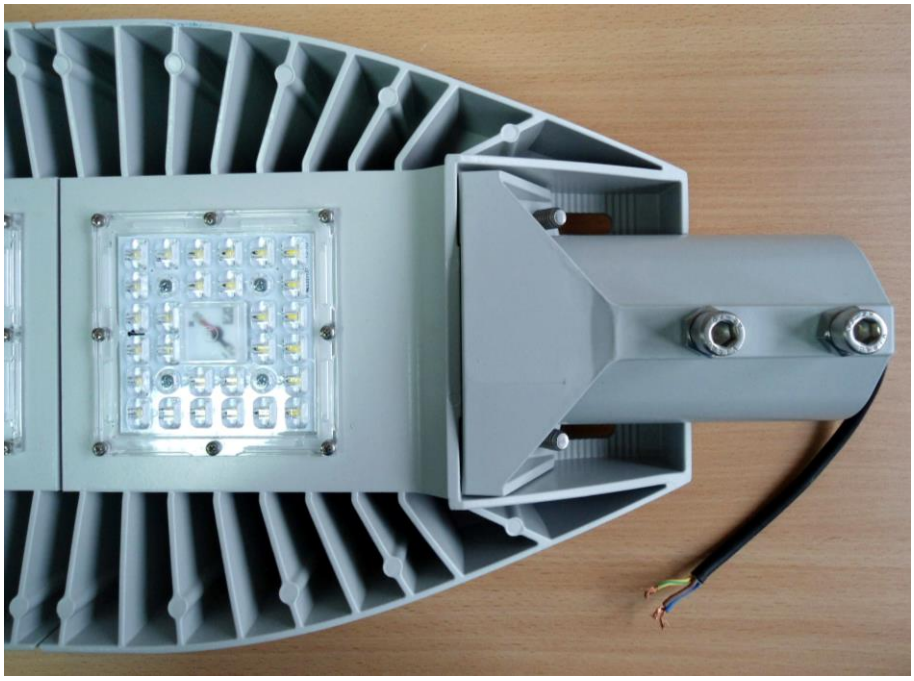
Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-F3**

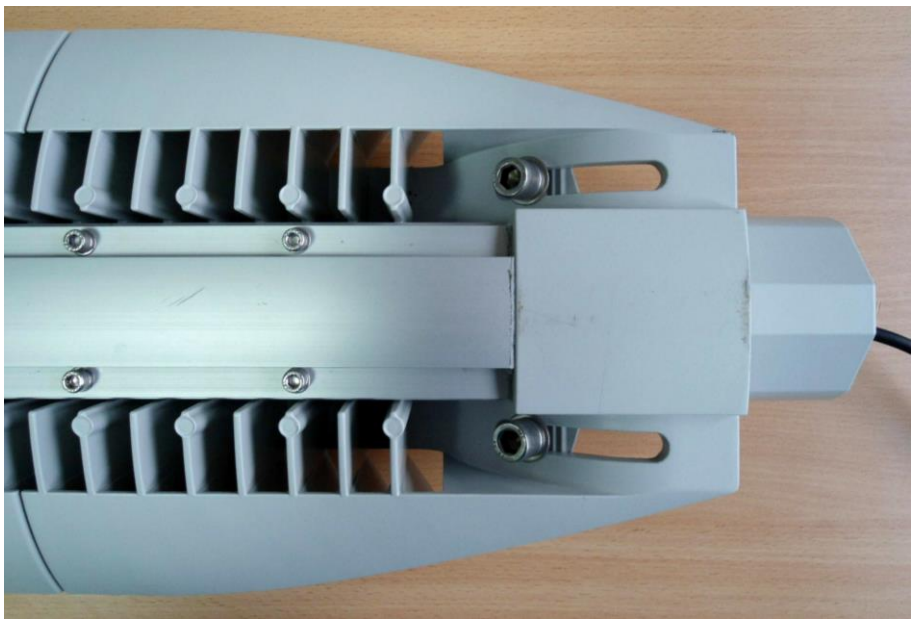


Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**



Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

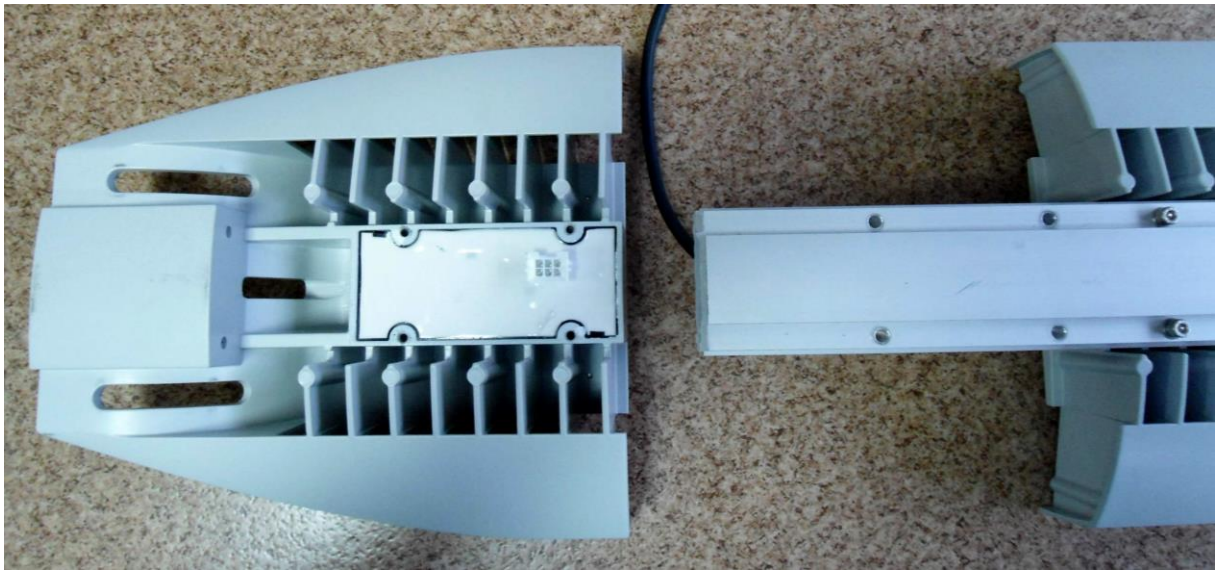




Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

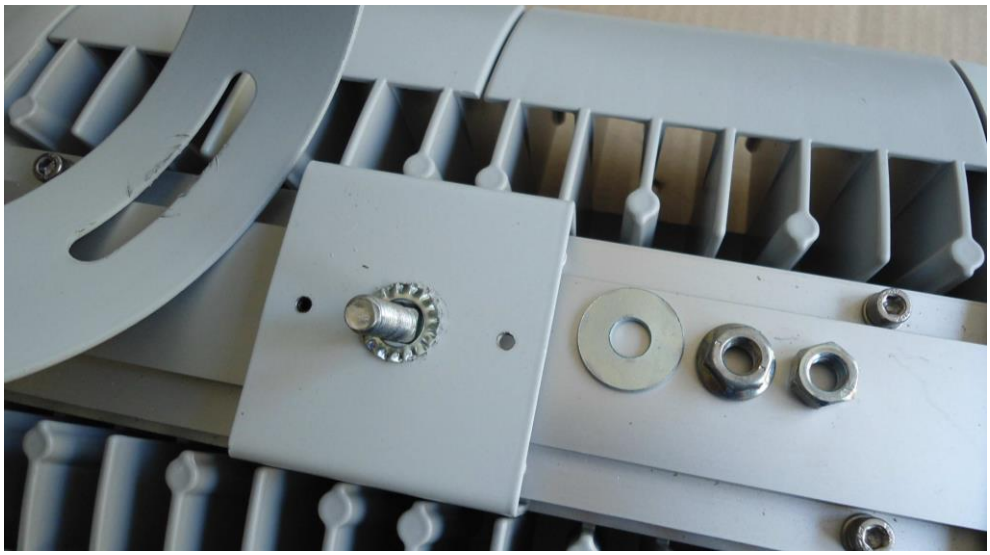


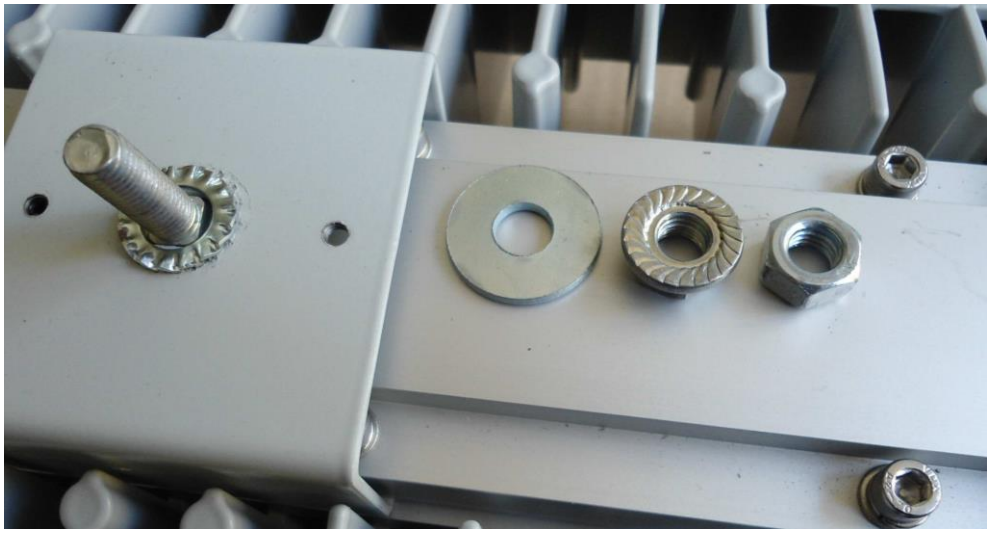
Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

Pictures of the luminaire **Jooby Avenue C5x80-S6/T2-5K7L-Cr-SPC**

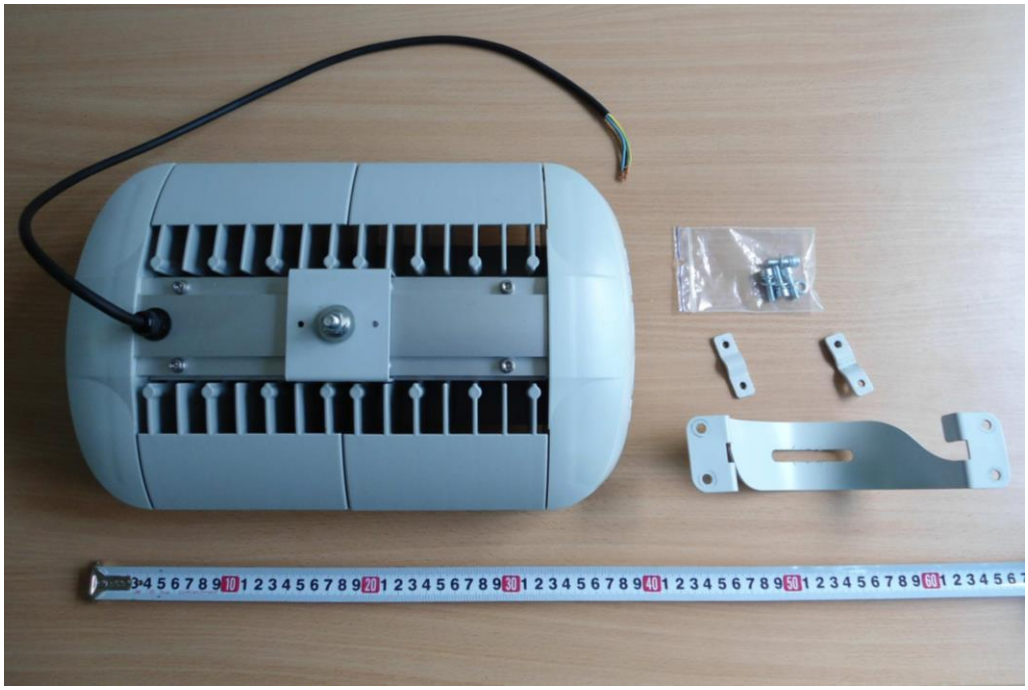
Pictures of the luminaire **Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2**

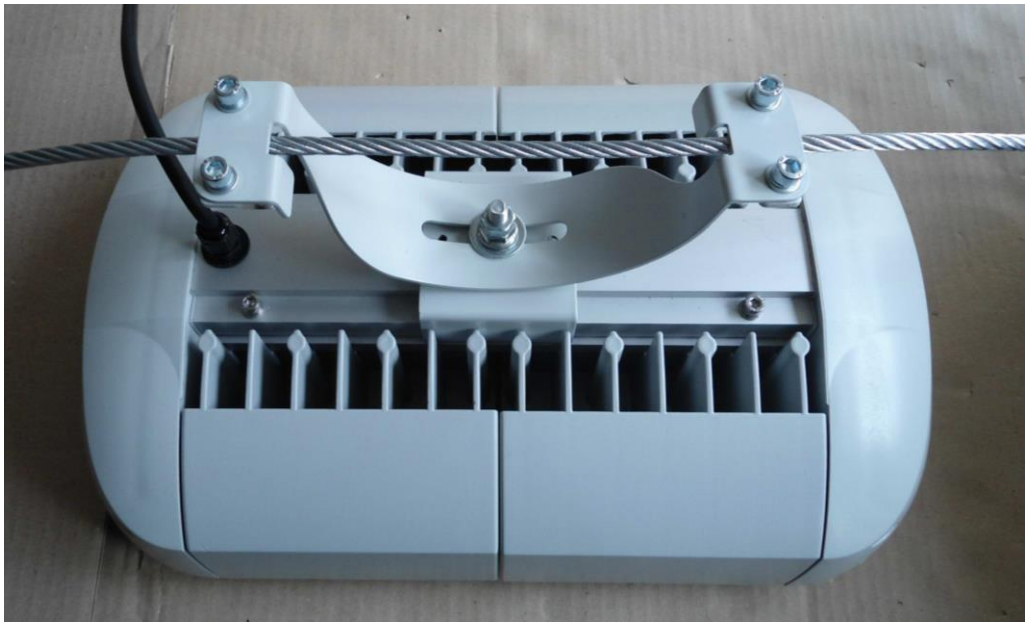
Pictures of the luminaire **Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-F2**



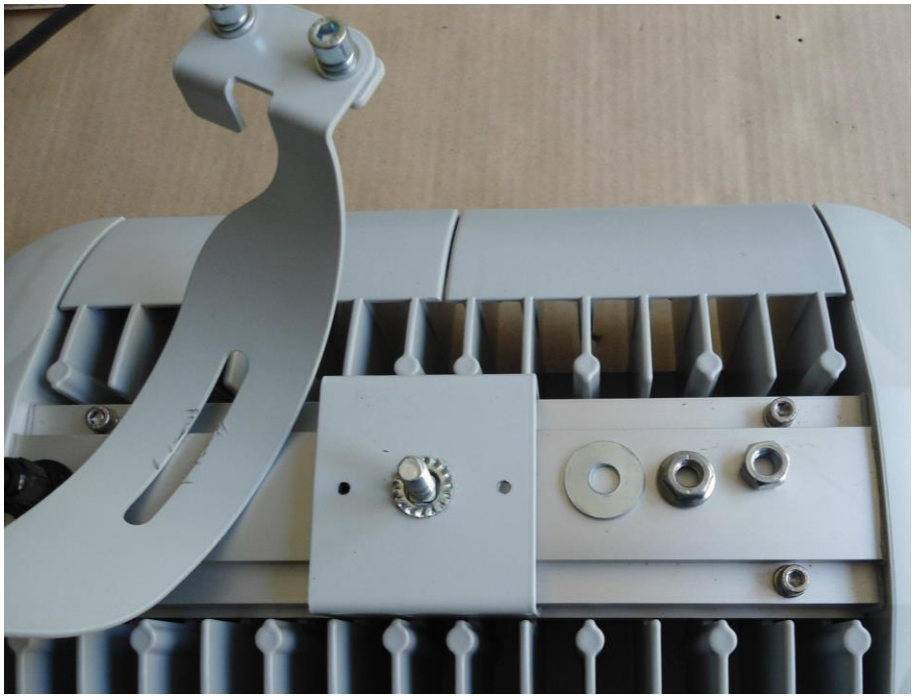


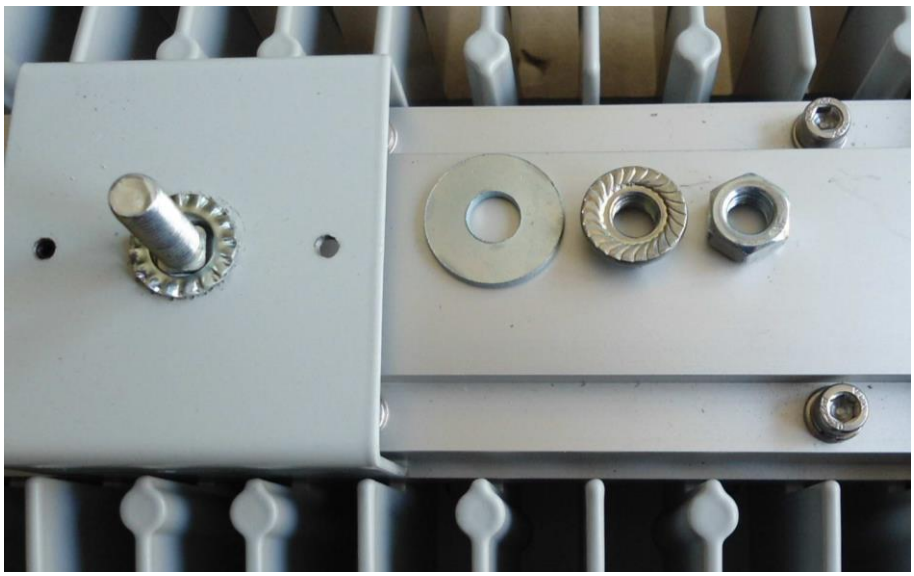
Pictures of the luminaire **Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1**





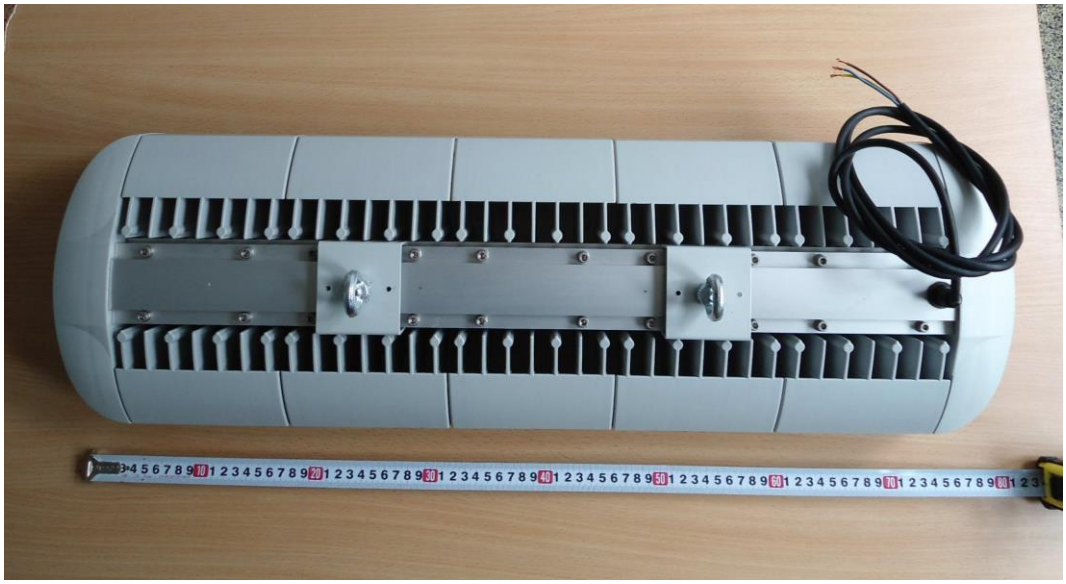
Pictures of the luminaire **Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1**



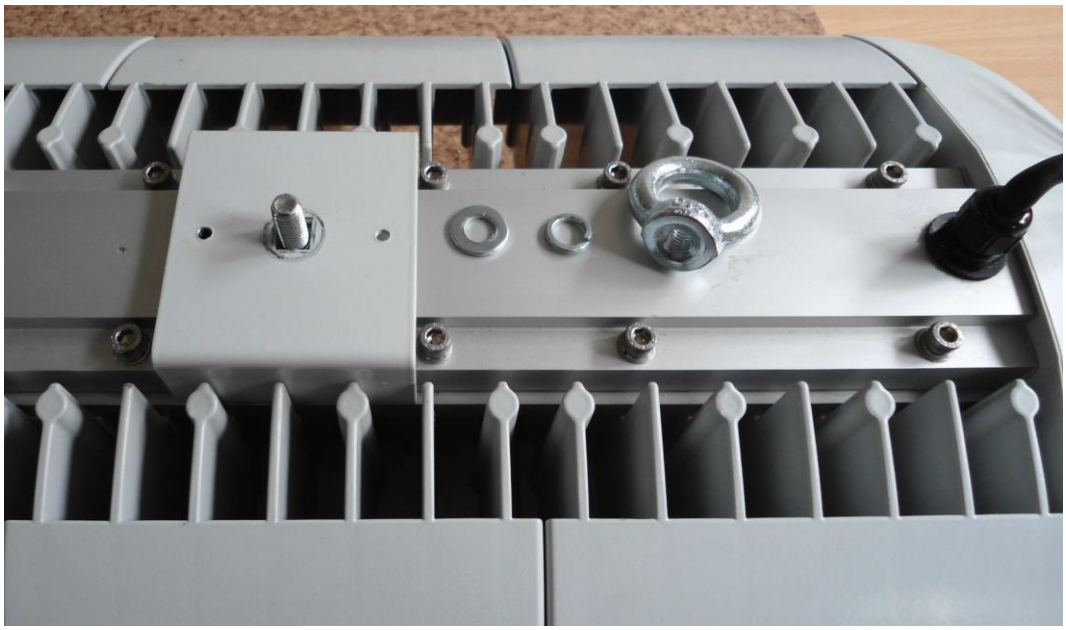


Pictures of the luminaire **Jooby Avenue S2x80-F6/30-4K7L-Cr-SPC-T1**

Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2**



Pictures of the luminaire **Jooby Avenue S5x80-F6/30-4K7L-Cr-SPC-Rx2**



Pictures of the Fw and F1 mounting devices

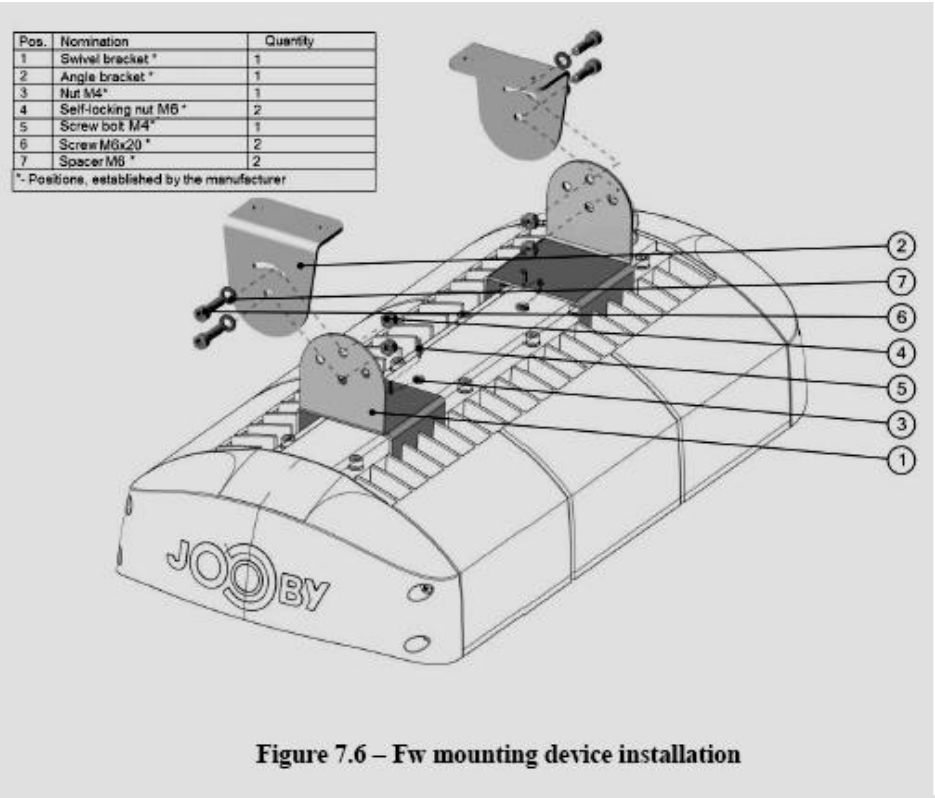


Figure 7.6 – Fw mounting device installation

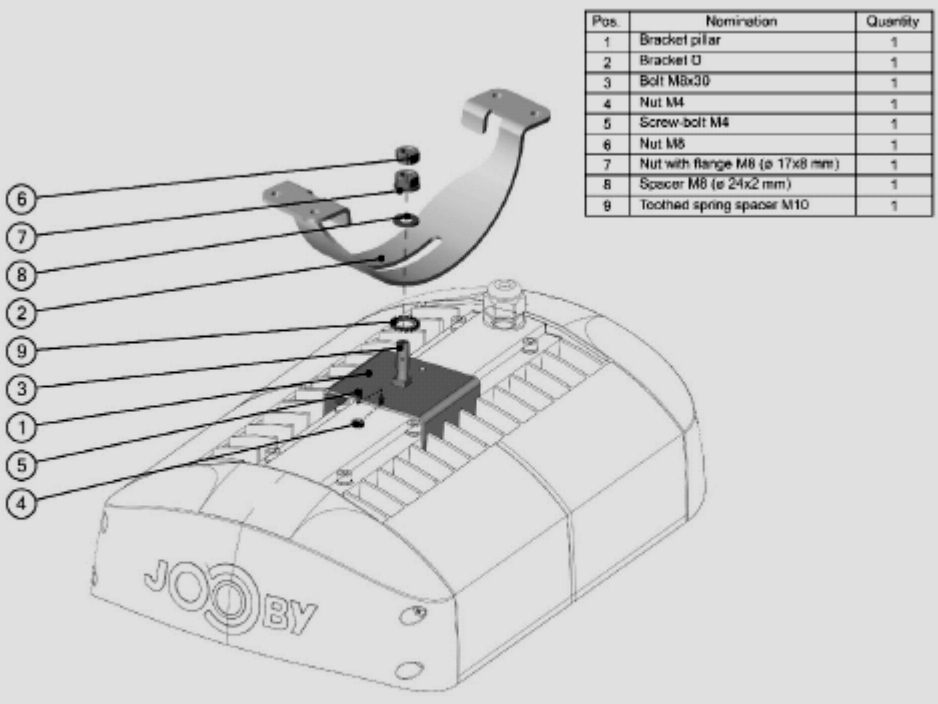


Figure 7.3 – F1 mounting device installation