

Test report

Number: T211-0301/17
Project file: C20170767
Date: 2017-04-26
Pages: 12

Product: Fixed general purpose LED luminaire

Type reference: LA-FL/G-xxW-xxxxK-Rxxx/xxx-(D10kGy)
(see page 2 - Range of luminaires)

Ratings: 230 V; 50 Hz; Ta=50°C; 40-65 W LED; IP65;
Protection class I

Trademark: Luminos ambiente

Applicant: Nanocut d.o.o.
Cesta 3. julija 7, SI-1430 Hrastnik, Slovenia

Manufacturer: Nanocut d.o.o.
Cesta 3. julija 7, SI-1430 Hrastnik, Slovenia

Place of manufacture: Nanocut d.o.o.
Cesta 3. julija 7, SI-1430 Hrastnik, Slovenia

Summary of testing

Testing method: Partial type testing
(see page 2)

Testing location: SIQ Ljubljana, Tržaška cesta 2, SI-1000 Ljubljana, Slovenia

Remarks: Date of receipt of test items: 2017-03-10; 2017-04-18
Number of items tested: 2
Date of performance of tests: from 2017-03-10 to 2017-04-26
The test results presented in this report relate only to the items tested.
The product complies with the requirements of the testing methods.

Tested by: Igor Smrke

Approved by: Matej Žontar

The report shall not be reproduced except in full.



1. Summary of testing

Compliance according to following standards and clauses has been verified:

Standards: IEC 60598-2-1:1979+A1:1987 used in conjunction with IEC 60598-1:2014,
EN 60598-2-1:1989 used in conjunction with EN 60598-1:2015.

Clauses: cl. 3; 4.11; 4.13; 4.30; 4.31; 5.2.1; 7; 8.2.1; 9.2; 10.2; 11; 12.3; 12.4; 13.3

Standards: IEC 61347-2-13:2014 + A1:2016 used in conjunction with IEC 61347-1:2015
EN 61347-2-13:2014 used in conjunction with EN 61347-1:2015.

Clauses: cl. 6; 10; 10.4; 12; 15.2; 16; Annex A

Standards: IEC 62031:2008 +A1:2012
EN 62031:2008 + A1:2013

Clauses: cl. 11; 12; 13.1; 16

2. Range of luminaires

- LA-FL/G-40W-xxxxK-Rxxx/xxx-(D10kGy),
- LA-FL/G-45W-xxxxK-Rxxx/xxx-(D10kGy),
- LA-FL/G-50W-xxxxK-Rxxx/xxx-(D10kGy),
- LA-FL/G-55W-xxxxK-Rxxx/xxx-(D10kGy),
- LA-FL/G-60W-xxxxK-Rxxx/xxx-(D10kGy),
- LA-FL/G-65W-xxxxK-Rxxx/xxx-(D10kGy).

Type designation (e.g. LA-FL/G-65W-4000K-R120-(10KGY)):

LA - LUMINOS ambiente - trade mark

FL/G - Flat line model with increased resistance on Gamma radiation

65 W - rated power

4000K - correlated colour temperature (CCT)

R120 - angle of radiation of luminous flux (other options is R120/60 where 120 is the angle in horizontal and 60 in vertical)

(D10KGY) - resistant to Gamma doze of 10 KGy.

5. Summary of test results

Possible test case verdicts:	
- test object does meet the requirement:	P
- test object does not meet the requirement:	F

EN 60598-2-1			
Cl.	Requirement – Test	Result	Verdict

1.5 (3)	Marking		P
1.5 (3.2)	Marking on luminaire	marking plate	P
1.5 (3.3)	Additional information	mounting instruction	P
1.5 (3.4)	Test of marking	marking legible	P

1.6 (4)	Construction		P
1.6 (4.13.1)	Impact hammer	0,2 Nm / 0,35 Nm	P
1.6 (4.30)	Luminaires with non-user replaceable light source	End cover fixed with two fixing means	P

1.7 (11)	Creepage distances and clearances		P
1.7 (11.2)	Different polarity	> 2,5 mm	P
1.7 (11.2)	Live parts to accessible parts	> 2,5 mm	P

1.10 (5)	External and internal wiring		P
1.10 (5.2.10.3)	Cord anchorage	60 N, 25x	P

1.11 (8)	Protection against electric shock		P
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1.12 (12)	Endurance test and thermal test		P
1.12 (12.3)	Endurance test:	U = 253 V; T _a = 60°C; t = 240 h	P
1.12 (12.4)	Thermal test	see Table 1	P

1.13 (9)	Resistance to dust and moisture		P
1.13 (9.2.2)	Dust-tight luminaire	IP6x	P
1.13 (9.2.5)	Jet-proof luminaire	IPx5	P

1.14 (10)	Insulation resistance and electric strength		P
1.14 (10.2)	Basic insulation (between live parts and metal housing)	R = 0,3x 10 ⁵ MΩ; HV = 1460 V	P

1.17 (13)	Resistance to heat, fire and tracking		P
1.17 (13.3)	Needle flame	supply terminal	P



EN 61347-2-13			
Cl.	Requirement – Test	Result	Verdict
cl. 6 (6)	Classification		P
cl. 6 (6)	Built-in	SELV controlgear	P
cl. 8 (10.4)	Protection against accidental contact with live parts		P
cl. 12 (12)	Electric strength		P
cl. 12 (12)	Between primary and secondary	3000 V	P
cl. 15.2 (L.6)	Transformer heating		P
cl. 15.2 (L.6)	Thermal test according EN 60598-1 and Annex L.6 of EN 61347-1	see Table 1	P
cl. 16 (15)	Construction		P
Annex A	Touch current		P

EN 62031			
Cl.	Requirement – Test	Result	Verdict
cl. 13.1	Fault condition	according to EN 61347-1, cl.14	P
cl. 11	Moisture resistance and insulation	according to EN 61347-1, cl.11	P
cl. 11	Between active parts and metal housing	> 5 MΩ	P
cl. 12	Electric strength		P
cl. 12	Between active parts and metal housing	500 V	P
cl. 16	Creepage distances and clearances		P

	Table 1: temperature measurements, thermal tests of Section 12	P
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Thermocouple Locations	Measured temperatures (°C)			
Test voltage:	254,5 Vac 50 Hz	216,8 Vac 50 Hz	206,8 Vac 50 Hz	Limits
Ambient temperature (°C):	50	50	50	
Input terminal CON 1.2	57	62	63	105
PCB bellow fuse VAR 2	59	63	65	130
Capacitor C2.2	60	64	65	110
Inductor TR 1.2 winding	63	67	68	105
Capacitor C1.2	61	66	67	100
Capacitor C11.2	65	69	71	110
Inductor L5 winding	70	76	77	105
PCB bellow diode bridge	76	83	84	130
Inductor L7 winding	76	81	83	105
Capacitor C8	72	73	74	110
Transformer TR2 winding (top)	78	78	78	110
Transformer TR2 winding (bellow)	76	78	78	110
Capacitor EL10	73	75	76	105
Capacitor EL18	64	67	68	105
Inductor L3 winding	61	65	66	105
PCB bellow R23 (top side)	84	86	87	130
output terminal CON-3	58	62	63	105
Output terminal CON-4	56	61	62	105
Input wire (blue)	56	61	62	90
LED module (PCB)	56	62	63	130
LED diode	60	67	68	-
Glass (cover)	56	60	61	-
Isolation plastic (white)	55	60	60	-

6. Photo of the product

Luminaire



LED module



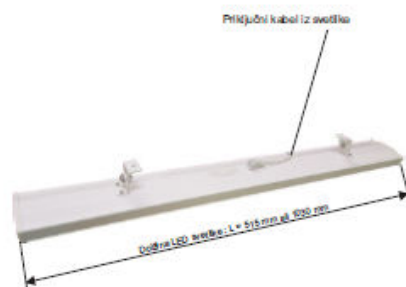
7. Mounting instruction

NAVODILA ZA UPORABO

Luminos ambiente®

FLAT LINE
FLAT LINE/GAMMA

1.) MONTAŽA SVETILKE



1.a.) Fiksna montažna direktno na strop ali nosilec

Montaža se izvaja s pritrditeljno vijaki skozi luknjo dia 6,5 mm. Na svetilki sta dva nosilca. Po pritržitvi se lahko svetilka nagiba po različni strani.



1.b.) Viseča montaža z verigo ali vrvico



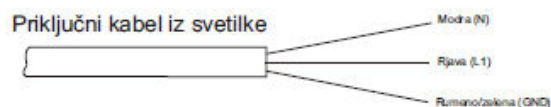
Luknja dia 6,5 mm na vertikalni strani fiksne nosilca

Zgornji pregibni nosilec se odčitani, tako da ostane na svetilki samo spodnji fiksni nosilec. Skoz luknjo dia 6,5 mm na vertikalni strani spodnjega nosilca se pritrdijo lančini ali kavelji, kateri se pritrdi na spuščeno verigo ali vrvico.

2.) PRIKLOP SVETILKE

Iz svetilke je kabel dolžine 1,5 m. Kabel iz svetilke se priključi na priključni omrežni kabel s hitrimi sponkami (0,75 mm²-2,5mm²) ali navadnimi priključnimi sponkami (0,75 mm²-2,5mm²).

V primeru, ko se svetilka uporablja v okolju IP65, mora biti zaščita priključne sponke vsaj IP65. V kolikor se kabel priključi v zaščitni dozi, mora imeti le ta zaščito vsaj IP65.



3.) SERVIS

Vsak poseg v LED svetilko je dovoljen s strani proizvajalca, njihovega pooblaščenega serviserja ali podobno kvalificirane osebe.

"The light source contained in the luminare shall only be replaced by the manufacturer or his service agent or a similar qualified person."