

PTC
ÜRÜN TEST VE BELGELENDİRME
SAN. TİC. LTD. ŞTİ

TEST REPORT

Customer name / address

ANADOLU LED AYDINLATMA ÜRÜNLERİ MUSTAFA ONUR YELEKİN
Osmangazi, 567/1. Sokak No:7/K, Bayraklı/İzmir, Türkiye

Order No.

171801 –4602 – 3

Name and identity of test item

LED Bulb

The date of receipt of test item

12.01.2025

Remarks

The product passes related tests, see report below. This report may not be copied or reproduced in part without the written permission of the Laboratory. Signed and unsealed reports are invalid

Date of Test

13.01.2025 - 22.05.2025

Number of pages of the Report

19

Seal

Date

Person in Performing the Test

Person in Charge of Test

Laboratory Technical
Manager



27.05.2025

TEST REPORT

Ecodesign Requirements for light sources and separate control gears

Report number : 171801 –4602-3

Date of issue : 27.05.2025

Total number of pages : 19

Testing Laboratory : PTC ÜRÜN TEST VE BELGELENDİRME

Address : Örnek Mahallesi Udi Hasanbey Sokak Reis Plaza No:31/A
Ataşehir/İstanbul - Türkiye

Applicant's name : ANADOLU LED AYDINLATMA ÜRÜNLERİ MUSTAFA ONUR YELEKİN

Address : Osmangazi, 567/1. Sokak No:7/K, Bayraklı/İzmir, Türkiye

Test Specifications

Implementing Measure of Energy-related Product

This Communiqué has been prepared within the framework of harmonization with EU legislation based on Commission Regulation (EU) 2019/2020 of 11/3/2019 laying down the requirements for the environmentally sound design of light sources and separate control equipment issued pursuant to Regulation (EC) 2009/125 of the European Parliament and of the Council and Commission Regulation (EU) 2021/341 of 17/12/2020 amending this Regulation.

Test report form no : -

Test report form(s) originator : PTC

Master TRF : -

The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report. This report was prepared according to test results of specimens sent to laboratory. It doesn't contain other specimens belonging to customer.

Test item description : LED BULB

Trade Mark : ANADOLU LED

Manufacturer : ANADOLU LED

Model /Type reference : ANDL-20-65-C

Ratings : 220/240V AC

Summary of testing:

This is an initial report, only initial items and additional 6000h lumen maintenance requested by applicant were performed, and all performed items fulfill (EU) 2019/2020 relevant requirements.

Standard Reference:

- ☒ EU 2019/2015
- ☒ EN 13032-1: 2004+ A1:2012
- ☒ EN 13032-4
- ☒ EN 60598-1: 2015

Possible test case verdicts:

- test case does not apply to the test object.....: N/A
- test object does meet the requirement of the regulation: P (Pass)
- test object does not meet the requirement of the regulation: F (Fail)

The test results shown in this report relate only to the tests performed according to the test program. The test object has not been submitted to a full test program.

General product information :

This is a LED module with constant current input, according to the declaration from applicant, the LED module is considered as a light source.

General remarks:

Throughout this report a ☒ comma or point is used as the decimal separator. The test results presented in this report relate only to the object tested.

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- Appendix: Test Results

The information needs to be showed on free-access websites should based on this report.

Number of the tested samples for each items (if applicable)			
Test	Partial test	Type Test	☒ Verification test
Full-load on-mode power P_{on}	10	10	10
Displacement factor	10	10	10
Useful luminous flux	10	10	10
No-load power P_{no}	10	10	10
Standby power P_{sb}	10	10	10
Networked standby power P_{net}	10	10	10
CRI	10	10	10
stroboscopic effect	10	10	10
Flicker	10	10	10
Colour consistency	10	10	10
Beam angle	10	10	10
Control gear efficiency	3	3	3
Lumen maintenance factor	--	10	10
Survival factor	--	10	10
Excitation purity	10	10	10
Correlated colour temperature	10	10	10
product information requirements	--	1	1
Standard / Regulation	(EU) 2019/2020		

Picture of test object:



(EU) 2019/2020				
Clause	Test Item	Requirements		Verdict
Annex I	Definitions applicable for the Annexes			
3	Directional light source (DLS): light source having at least 80 % of total luminous flux within a solid angle of π sr (%)			P
4	Non-Directional light source(NDLS): light source is not a directional light source			N/A
Annex II	Ecodesign requirements (Test results see appendix if applicable)			
	For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonized standards the reference numbers of which have been published for this purpose in the <i>Official Journal of the European Union</i> , or other reliable, accurate and reproducible methods, which take into account the generally recognised state-of-the-art.			
1	Energy efficiency requirements			P
(a)	From 1 September 2021, the declared power consumption of a light source P_{on} shall not exceed the maximum allowed power P_{onmax} (in W), defined as a function of the declared useful luminous flux Φ_{use} (in lm) and the declared colour rendering index CRI (-) as follows:			P
	$P_{onmax}=C \times (L + \Phi_{use}/(F \times \eta)) \times R$	$P_{onmax}=20W$		P
	The values for threshold efficacy (η in lm/W) and end loss factor (L in W) are specified in Table 1, depending on the light sourcetype.			
	Basic values for correction factor (C) depending on light source type, and additions to C for special light source features are specified in Table 2.			
	Efficacy factor (F) is:			P
	1,00 for non-directional light sources (NDLS, using total flux)			N/A
	0,85 for directional light sources (DLS, using flux in a cone)			P
	CRI factor (R) is:			P
	0,65 for CRI ≤ 25			N/A
	(CRI+80)/160 for CRI > 25, rounded to two decimals			P
	Table 1 — Threshold efficacy (η) and end loss factor (L)			
	Light source description	η (lm/W)	L(W)	
	LFL T5-HE			N/A
	LFL T5-HO, 4000 $\leq\Phi\leq$ 5000 lm			N/A
	LFL T5-HO, other lm output			N/A
	FL T5 circular			N/A
	FL T8 (including FL T8 U-shaped)			N/A

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(EU) 2019/2020			
Clause	Test Item	Requirements	Verdict
	Where applicable, bonuses on correction factor C are cumulative The bonus for HLLS shall not be combined with the basic C-value for DLS (basic C-value for NDLS shall be used for HLLS).		
	The standby power P_{sb} of a light source shall not exceed 0,5 W		N/A
	The networked standby power P_{net} of a connected light source shall not exceed 0,5 W.		N/A
(b)	From 1 September 2021, the values set in Table 3 for the minimum energy efficiency requirements of a separate control gear operating at full-load shall apply:		N/A
	Table 3 — Minimum energy efficiency for separate control gear at full-load		
	Declared output power of the control gear (P_{cg}) or declared power of the light source (P_{ls}) in W, as applicable	Minimum energy efficiency	
	Control gear for HL light sources all wattages P_{cg}	0,91	N/A
	Control gear for FL light sources $P_{ls} \leq 5$ $5 < P_{ls} \leq 100$ $100 < P_{ls}$	$P_{ls} / (2 \times \sqrt{\frac{P_{ls}}{36}} + 38/36 \times P_{ls} + 1)$ 0,91	N/A
	Control gear for FL light sources $P_{ls} \leq 30$ $30 < P_{ls} \leq 75$ $75 < P_{ls} \leq 105$ $105 < P_{ls} \leq 405$ $405 < P_{ls}$	0,78 0,85 0,87 0,90 0,92	N/A
	Control gear for LED or OLED light sources all wattages P_{cg}	$P_{cg}^{0,81} / (1,09 \times P_{cg}^{0,81} + 2,10)$	N/A
	Multi-wattage separate control gears shall comply with the requirements in Table 3 according to the maximum declared power on which they can operate		N/A
	The no-load power P_{no} of a separate control gear shall not exceed 0,5 W		N/A
(EU) 2019/2020			
Clause	Test Item	Requirements	Verdict
2	Functional requirements		

	From 1 September 2021, the functional requirements specified in Table 4 shall apply for light sources:		P
	Table 4 — Functional requirements for light sources		
	Colour rendering	CRI ≥ 80 (except for HID with Φ _{use} > 4 klm and for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI<80, when a clear indication to this effect is shown on the light source packaging and in all relevant printed and electronic documentation)	P
	Displacement factor (DF, cos Φ ₁) at power input P _{on} for LED and OLED MLS	No limit at P _{on} ≤ 5 W, DF ≥ 0,5 at 5 W < P _{on} ≤ 10 W, DF ≥ 0,7 at 10 W < P _{on} ≤ 25 W DF ≥ 0,9 at 25 W < P _{on}	N/A
	Lumen maintenance factor (for LED and OLED)	The lumen maintenance factor X _{LMF} % after endurance testing according to Annex V shall be at least X _{LMF,MIN} % calculated as follows: $X_{LMF,MIN}\% = 100 \times e^{\frac{(3000 \times \ln(0.7))}{L_{70}}}$ where L ₇₀ is the declared L70B50 lifetime (in hours) If the calculated value for X _{LMF,MIN} exceeds 96,0 %, an X _{LMF,MIN} value of 96,0 % shall be used	N/A
	Survival factor (for LED and OLED)	Light sources should be operational as specified in row “Survival factor (for LED and OLED)” of Annex IV, Table 6, following the endurance testing given in Annex V.	N/A
	Colour consistency for LED and OLED light sources	Variation of chromaticity coordinates within a six-step MacAdam ellipse or less.	P
	Flicker for LED and OLED MLS	P _{st} LM ≤ 1,0 at full-load	N/A
	Stroboscopic effect for LED and OLED MLS	SVM ≤ 0,9 at full-load (except for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI<80)	N/A
		From 1 September 2024: SVM ≤ 0,4 at full-load (except for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI<80)	N/A
(EU) 2019/2020			
Clause	Test Item	Requirements	Verdict
3	Information requirements		P
	From 1 September 2021 the following information requirements shall apply:		P
a	Information to be displayed on the light source itself For all light sources, except CTLS, LFL, CFLni, other FL, and HID, the value and physical unit of the useful luminous flux (lm) and correlated colour temperature (K) shall be displayed in a legible font on the surface if, after the inclusion of safety-related information, there is sufficient space		P

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	available for it without unduly obstructing the light emission.		
	For directional light sources, the beam angle (°) shall also be indicated.	N/A	
	If there is room for only two values, the useful luminous flux and the correlated colour temperature shall be displayed. If there is room for only one value, the useful luminous flux shall be displayed.	N/A	
(b)	Information to be visibly displayed on the packaging	N/A	
(1)	Light source placed on the market, not in a containing product	N/A	
	If a light source is placed on the market, not in a containing product, in a packaging containing information to be visibly displayed at a point-of-sale prior to its purchase, the following information shall be clearly and prominently displayed on the packaging:	N/A	
(a)	the useful luminous flux (Φ_{use}) in a font at least twice as large as the display of the on- mode power (P_{on}), clearly indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°);	N/A	
(b)	the correlated colour temperature, rounded to the nearest 100 K, also expressed graphically or in words, or the range of correlated colour temperatures that can be set;	N/A	
(c)	the beam angle in degrees (for directional light sources), or the range of beam angles that can be set;	N/A	
(d)	electrical interface details, e.g. cap- or connector-type, type of power supply (e.g. 230 V _{AC} 50 Hz, 12 V _{DC});	N/A	
(e)	the L _{70B50} lifetime for LED and OLED light sources, expressed in hours;	N/A	
(f)	the on-mode power (P_{on}), expressed in W;	N/A	
(g)	the standby power (P_{sb}), expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging;	N/A	
(h)	the networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging;	N/A	
(i)	the colour rendering index, rounded to the nearest integer, or the range of CRI-values that can be set;	N/A	
(j)	if CRI<80, and the light source is intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI<80, a clear indication to this effect. For HID light sources with useful luminous flux > 4000 lm, this indication is not mandatory;	N/A	
(k)	if the light source is designed for optimum use in non-standard conditions (such as ambient temperature $T_a \neq 25^{\circ}\text{C}$ or specific thermal management is necessary): information on those conditions;	N/A	
(EU) 2019/2020			
Clause	Test Item	Requirements	Verdict
(l)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;		N/A
(m)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;		N/A
(n)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;		N/A
(2)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;		N/A
	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;		N/A
(a)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;		N/A

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(b)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;	N/A	
(c)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;	N/A	
(d)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;	N/A	
(e)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;	N/A	
(f)	a warning if the light source cannot be dimmed or can be dimmed only with specific dimmers or with specific wired or wireless dimming methods. In the latter cases a list of compatible dimmers and/or methods shall be provided on the manufacturer's website;	N/A	
(g)	if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;	N/A	
(h)	a QR-code redirecting to a free-access website of the manufacturer, importer or authorised representative, or the internet address for such a website, where full information on the control gear can be found.	N/A	
(c)	Information to be visibly displayed on a free-access website of the manufacturer, importer or authorised representative	N/A	
(1)	Separate control gears:	N/A	
	For any separate control gear that is placed on the EU market, the following information shall be displayed on at least one free-access website:	N/A	
(EU) 2019/2020			
Clause	Test Item	Requirements	Verdict
(a)	the information specified in point 3(b)(2), except 3(b)(2)(h);		N/A
(b)	the outer dimensions in mm;		N/A
(c)	the mass in grams of the control gear, without packaging, and without lighting control parts and non-lighting parts, if any and if they can be physically separated from the control gear;		N/A
(d)	instructions on how to remove lighting control parts and non-lighting parts, if any, or how to switch them off or minimise their power consumption during control-gear testing for market surveillance purposes;		N/A

(e)	if the control gear can be used with dimmable light sources, a list of minimum characteristics that the light sources should have to be fully compatible with the control gear during dimming, and possibly a list of compatible dimmable light sources;	N/A
(f)	recommendation on how to dispose of it at the end of its life in line with Directive 2012/19/EU	N/A
(d)	Technical documentation	N/A
(1)	Separate control gears: The information specified in point 3(c)(2) of this Annex shall also be contained in the technical documentation file drawn up for the purposes of conformity assessment pursuant to Article 8 of Directive 2009/125/EC.	N/A
	Information for products specified in point 3 of Annex III For the light sources and separate control gears specified in point 3 of Annex III the intended purpose shall be stated in the technical documentation for compliance assessment as per Article 5 of this Regulation and on all forms of packaging, product information and advertisement,	

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(e)	together with an explicit indication that the light source or separate control gear is not intended for use in other applications. The technical documentation file drawn up for the purposes of conformity assessment, in accordance with Article 5 of this Regulation shall list the technical parameters that make the product design specific to qualify for the exemption. In particular for light sources indicated in point 3(p) of Annex III it shall be stated: 'This light source is only for use by photo sensitive patients. Use of this light source will lead to increased energy cost compared to an equivalent more energy efficient product.'		N/A
Addition	In Situ Temperature Measurement Test		N/A
	LED driver current	Not exceed rated current	N/A
	T _{MP} temperature	Not exceed LM-80 maximum temperature	N/A

Appendix I: Test Results Table 1:
Initial Test Results:

		Test Results												P
Sample No	Test Voltage (V)	Test Current (A)	P _{on} (W)	Displacement factor (DF)	Φ_{total} (lm)	Φ_{use} (lm)	Peak Intensity (cd)	Beam angle (°)	CRI	R9	Excitation purity [%]	CCT (K)	Colour consistency (SDCM)	Total mains efficacy (lm/W)
1	241,50	0.151	20,00	-	--	2365,5	368,12	169,2	82	4	--	6777	4,5	118,2
2	241,45	0.150	19,84	-	--	2364,5	368,12	169,2	82	4	--	6777	4,2	119,1
3	241,51	0,149	19,71	-	--	2365,1	368,12	169,2	82	4	--	6775	4,2	119,9
4	241,44	0.148	19,58	-	--	2364,7	368,12	169,2	82	4	--	6771	4,5	120,7
5	241,47	0.150	19,84	-	--	2364,3	368,12	169,2	82	4	--	6773	4,5	119,2
6	241,46	0.152	20,11	-	--	2365,0	368,12	169,2	82	4	--	6778	4,4	117,6
7	241,50	0.149	19,71	-	--	2364,2	368,12	169,2	-82	4	--	6770	4,6	119,9
8	241,51	0.150	19,85	-	--	2364,9	368,12	169,2	82	4	--	6777	4,3	119,1
9	241,43	0.152	20,11	-	--	2365,2	368,12	169,2	82	4	--	6775	4,5	117,5
10	241,46	0.150	19,84	-	--	2365,0	368,12	169,2	82	4	--	6777	4,1	119,2
Average	241,47	0,150	19,85	-	--	2364,8	368,12	169,2	82	4	--	6775	4,3	119,0

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Table 2: Test Result of Flicker and Stroboscopic effect:

		Test Results										N/A
Flicker P _{st} LM	Sample No.	1	2	3	4	5	6	7	8	9	10	
	Test results	--	--	--	--	--	--	--	--	--	--	
	Average	--	--	--	--	--	--	--	--	--	--	
Stroboscopic effect SVM	Sample No.	1	2	3	4	5	6	7	8	9	10	
	Test results	--	--	--	--	--	--	--	--	--	--	
	Average	--	--	--	--	--	--	--	--	--	--	

Table 4: Led Module Test Result of Lumen Maintenance & Lamp Survival Factor:

3.1 Data Set 1, 55°C, 65mA (Lumen Maintenance)

No.	V _r (V)	Φ(lm)	Lumen Maintenance (%)						
			0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	2.879	30.35	100.30	100.26	100.23	100.03	99.90	99.70	
2	2.898	30.26	100.20	100.03	99.87	99.77	99.57	99.41	
3	2.869	30.00	100.17	99.90	99.77	99.73	99.67	99.53	
4	2.891	30.62	100.29	100.20	100.03	99.67	99.54	99.51	
5	2.880	30.18	100.33	100.13	100.07	99.97	99.70	99.54	
6	2.923	30.61	100.36	100.16	100.03	99.90	99.67	99.58	
7	2.881	30.22	100.43	100.30	100.13	99.97	99.87	99.64	
8	2.928	30.40	100.46	100.33	100.20	100.07	99.93	99.77	
9	2.891	30.49	100.39	100.20	100.07	100.03	99.84	99.70	
10	2.868	30.16	100.10	99.97	99.90	99.80	99.64	99.50	
11	2.890	30.35	100.23	100.10	99.84	99.74	99.57	99.47	
12	2.891	30.25	100.36	100.26	100.07	99.83	99.80	99.74	
13	2.904	30.32	100.43	100.36	100.03	99.90	99.87	99.70	
14	2.895	30.32	100.20	100.07	99.84	99.74	99.60	99.51	
15	2.891	30.85	100.36	100.26	100.16	99.87	99.81	99.64	
16	2.873	30.12	100.43	100.37	100.23	99.93	99.83	99.70	
17	2.884	29.69	100.24	100.13	99.93	99.70	99.60	99.43	
18	2.903	30.46	100.26	100.03	99.90	99.77	99.54	99.47	
19	2.892	30.25	100.23	100.07	99.97	99.74	99.57	99.31	
20	2.873	29.89	100.23	100.10	99.87	99.77	99.67	99.46	
21	2.877	30.31	100.20	99.93	99.77	99.54	99.41	99.24	
22	2.911	30.32	100.36	100.13	100.07	99.90	99.70	99.44	
23	2.885	30.33	100.30	100.10	99.97	99.84	99.74	99.64	
24	2.879	30.14	100.36	100.30	100.10	99.87	99.83	99.60	
25	2.890	30.25	100.33	100.20	100.13	99.97	99.74	99.67	
Ave.	2.890	30.29	100.30	100.16	100.01	99.84	99.70	99.56	
Med.	2.890	30.31	100.30	100.13	100.03	99.84	99.70	99.54	
st dev	0.0153	0.2338	0.0946	0.1298	0.1386	0.1284	0.1360	0.1362	
Min.	2.868	29.69	100.10	99.90	99.77	99.54	99.41	99.24	
Max.	2.928	30.85	100.46	100.37	100.23	100.07	99.93	99.77	

3.3 Data Set 2, 85°C, 65mA (Lumen Maintenance)

No.	V _F (V)	Φ(lm)	Lumen Maintenance					
			0hrs(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs
26	2.922	30.60	100.26	100.13	99.93	99.77	99.64	99.61
27	2.875	30.36	100.23	100.07	99.90	99.67	99.60	99.54
28	2.872	30.07	100.27	100.23	100.03	99.77	99.67	99.47
29	2.863	30.06	100.27	100.07	99.90	99.70	99.53	99.47
30	2.875	30.36	100.13	99.87	99.70	99.60	99.41	99.24
31	2.873	30.08	100.03	99.77	99.73	99.47	99.20	99.07
32	2.884	30.25	100.13	99.93	99.74	99.44	99.21	99.04
33	2.912	30.46	100.26	100.13	99.84	99.61	99.51	99.18
34	2.882	30.47	100.10	100.03	99.97	99.70	99.41	99.05
35	2.892	30.54	100.26	100.07	99.87	99.64	99.38	99.08
36	2.888	30.65	100.20	100.03	99.90	99.74	99.45	99.22
37	2.887	30.74	100.13	100.07	99.93	99.77	99.54	99.28
38	2.886	30.52	100.07	100.03	99.80	99.67	99.61	99.41
39	2.886	30.44	100.20	99.93	99.74	99.64	99.57	99.38
40	2.899	30.46	100.23	100.10	99.80	99.67	99.51	99.44
41	2.945	30.61	100.29	100.20	99.93	99.74	99.61	99.51
42	2.879	29.96	100.20	100.17	99.90	99.70	99.53	99.37
43	2.889	30.47	100.10	99.87	99.77	99.61	99.41	99.31
44	2.895	30.20	100.23	100.03	99.87	99.70	99.54	99.24
45	2.958	30.87	100.19	99.90	99.81	99.61	99.51	99.25
46	2.913	30.48	100.33	100.13	99.93	99.84	99.67	99.44
47	2.899	30.11	100.27	100.03	99.83	99.77	99.60	99.37
48	2.880	29.98	100.27	100.10	99.77	99.63	99.53	99.43
49	3.025	30.23	100.23	100.07	99.70	99.64	99.50	99.34
50	2.890	29.95	100.30	99.93	99.83	99.63	99.33	99.00
Ave.	2.899	30.36	100.21	100.04	99.85	99.67	99.50	99.31
Med.	2.888	30.44	100.23	100.07	99.84	99.67	99.53	99.34
st dev	0.0344	0.2561	0.0785	0.1115	0.0889	0.0906	0.1258	0.1694
Min.	2.863	29.95	100.03	99.77	99.70	99.44	99.20	99.00
Max.	3.025	30.87	100.33	100.23	100.03	99.84	99.67	99.61

3.5 Data Set 3, 105°C, 65mA (Lumen Maintenance)

No.	V _F (V)	Φ(lm)	Lumen Maintenance (%)					
			0hrs(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs
51	2.900	30.39	100.26	99.97	99.74	99.37	99.01	98.78
52	2.872	30.12	99.83	99.54	99.07	98.71	98.31	98.11
53	2.934	30.38	100.16	100.03	99.70	99.41	98.98	98.82
54	2.898	30.20	100.13	99.97	99.74	99.67	99.34	99.07
55	2.902	30.30	99.80	99.54	99.24	98.98	98.88	98.65
56	2.919	30.35	100.10	99.87	99.57	99.14	98.95	98.75
57	2.886	30.16	100.13	99.90	99.67	99.24	99.07	98.87
58	2.929	30.02	100.27	99.93	99.73	99.33	99.17	99.00
59	2.874	30.21	100.13	99.80	99.50	99.40	99.11	98.78
60	2.890	30.44	99.90	99.67	99.21	99.15	98.88	98.55
61	2.869	30.08	99.93	99.80	99.47	99.14	98.77	98.54
62	2.881	30.54	100.03	99.93	99.64	99.28	98.79	98.26
63	2.883	30.66	100.10	99.90	99.61	99.32	98.96	98.56
64	2.919	30.30	100.23	100.03	99.77	99.50	99.21	98.78
65	2.883	30.61	100.16	99.90	99.64	99.38	99.09	98.79
66	2.862	29.98	100.20	99.97	99.73	99.47	99.13	98.83
67	2.872	30.24	100.03	99.80	99.47	99.24	98.94	98.58
68	2.886	30.53	100.23	100.07	99.74	99.41	99.21	98.92
69	2.896	30.32	100.20	99.90	99.67	99.44	99.14	98.81
70	2.879	30.38	100.10	99.74	99.61	99.31	99.14	98.85
71	2.875	30.23	100.07	99.67	99.57	99.21	99.01	98.74
72	2.886	30.53	100.16	99.67	99.34	99.02	98.82	98.59
73	2.874	30.52	100.13	99.84	99.48	99.12	98.66	98.30
74	2.876	30.26	100.20	99.83	99.44	99.14	98.74	98.41
75	2.883	30.08	100.13	99.87	99.50	99.17	98.77	98.47
Ave.	2.889	30.31	100.11	99.85	99.55	99.26	98.96	98.67
Med.	2.883	30.30	100.13	99.87	99.61	99.28	98.98	98.75
st dev	0.0190	0.1865	0.1243	0.1432	0.1640	0.1961	0.2201	0.2344
Min.	2.862	29.98	99.80	99.54	99.07	98.71	98.31	98.11
Max.	2.934	30.66	100.27	100.07	99.77	99.67	99.34	99.07

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Table 5: No-load Mode and Standby Mode Test Results:

No-load mode and Standby mode Test results (Sample 1#)				N/A
Mode	Input voltage (V)	Input current (A)	Input power (W)	
No-load mode(P_{no})	--	--	--	
Standby mode(P_{sb})	--	--	--	
networked Standby mode(P_{net})	--	--	--	

Note: There is no standby mode or networked standby mode.

Table 6: Test Result of In-situ Temperature Test:

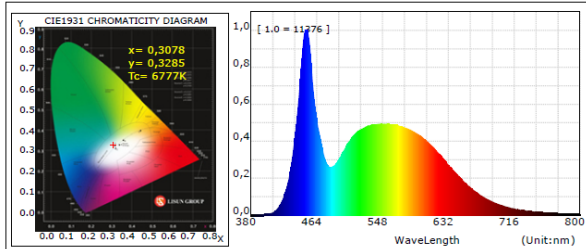
Mounting position of the luminaire	Mounted according to the practical usage status with AC suppliers
Supply wattage (W)	--
Supply current (A)	--
Displacement factor (DF)	--
Test voltage (V)	--
LED current (mA)	--
In-situ Temperature Measurement Point	T_s
In-suit Temperature (°C)	--

Table 7: Test Result of energy efficiency of separate control gear:

Energy efficiency of separate control gear							N/A
Sample No.	Input			Output			Calculated efficiency
	Voltage (V)	Current (A)	Power (W)	Voltage (V)	Current (A)	Power (W)	
1#	--	--	--	--	--	--	--
2#	--	--	--	--	--	--	--
3#	--	--	--	--	--	--	--

Product information sheet			
Supplier's name or trade mark:	ANADOLU LED		
Supplier's address:	Osmangazi, 567/1. Sokak No:10/B, Bayraklı/İzmir, Türkiye		
Model identifier:	ANDL-20-65-C		
Type of light source:	Led Bulb		
Lighting technology used:	CFLni	HL	LFL T5 HE
	LFL T5 HO	other FL	HPS
	MH	other HID	☒ LED
	OLED	mixed	other
Non-directional or directional:	☒ NDLS DLS	Mains or non-mains:	MLS ☒ NMLS
Light source cap-type (or other electric interface)	Lamp Holder		
Connected light source (CLS):	Yes ☒ No	Colour-tuneable light source:	Yes No
High luminance light source:	Yes ☒ No	Envelope:	☒ No second non-clear
Anti-glare shield:	Yes ☒ No	Dimmable:	Yes ☒ No only with specific dimmers

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Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h), rounded up to the nearest integer	19,85	Energy efficiency class	E
Useful luminous flux (Φ_{use}), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	2364,8 in a sphere in a wide cone in a narrow cone	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures, rounded to the nearest 100 K	6775K
On-mode power (P_{on}), expressed in W	19,85	Standby power (P_{sb}), expressed in W and rounded to the second decimal	0,10
Networked standby power (P_{net}) for CLS, expressed in W and rounded to the second decimal	--	Colour rendering index, rounded to the nearest integer, or the range of CRI-values	82
Outer dimensions without separate control gear, lighting control parts and non-lighting control parts, if any (millimeter)	Height	145 mm	
	Width	60 mm	
	Depth	60mm	
Spectral power distribution in the range 250 nm to 800 nm, at full-load			
Claim of equivalent power	Yes ☐ No ☒	If yes, equivalent power (W)	--
Chromaticity coordinates (x and y)	X:0,307; Y:0,328		

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Parameters for directional light sources: Directional			
Peak luminous intensity (cd)	368,12	Beam angle in degrees, or the range of beam angles (°)	169,2
Parameters for LED and OLED light sources:			
R9 colour rendering index value	4	Survival factor	90,00%
The lumen maintenance factor	90%		
Parameters for LED and OLED mains light sources:			
displacement factor (cos ϕ 1)	--	Colour consistency in McAdam ellipses	-
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage	Yes ☒ --	If yes, equivalent power (W)	--
Flicker metric (P _{st} LM)	--	Stroboscopic effect metric (SVM)	--
Addition information			
Rated voltage and frequency (V/Hz)	240V	Cap/connect-type	-
Total mains efficacy η_{TM} (lm/W)	119,0	Excitation purity (%)	-
In-situ temperature / Tc temperature	--	LED light source Brand/Model	-

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Appendix V: Information to be displayed on the light source itself

For all light sources, except CTLS, LFL, CFLni, other FL, and HID, the follow value shall be displayed in a legible font on the surface if, after the inclusion of safety-related information, there is sufficient space available for it without unduly obstructing the light emission.

Useful luminous flux (lm)	2364,8 lm
Correlated colour temperature (K)	6775 K
Beam angle (°).	169,2°