

TEST REPORT	
Ecodesign Requirements for light sources and separate control gears	
Report Reference No.	6112726.50P_1500h
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Applicant's name	Xiamen Yankon Energetic Lighting Co., Ltd.
Address	No. 88 Houxiang Road, Haicang District, Xiamen, China
Test specification:	
Implementing Measure of Energy-related Product	COMMISSION REGULATION (EU) 2019/2020 of 1 October 2019 laying down ecodesign requirements for light sources and separate control gears pursuant to Directive 2009/125/EC of the European Parliament and of the Council and repealing Commission Regulations (EC) No 244/2009, (EC) No 245/2009 and (EU) No 1194/2012
Non-standard test method.....	N/A
Test Report Form No.	(EU) 2019/2020 of 1 October 2019-V2.1
Test procedure.....	<input type="checkbox"/> Partial test <input type="checkbox"/> Type test <input checked="" type="checkbox"/> Verification test
Test item description:	
Trade Mark	YANKON / energetic
Manufacturer.....	Xiamen Yankon Energetic Lighting Co., Ltd. No. 88 Houxiang Road, Haicang District, Xiamen, China
Model/Type reference	EMGDAL5EBC
EUT type	<input checked="" type="checkbox"/> light sources <input type="checkbox"/> control gears
Product information.....	See appendix IV
Summary of testing:	
This report is a Verification test report. Until now only initial tests were finished. The lamps' lumen maintenance and survival factor are still under testing. All the test results meet the (EU) 2019/2020 requirements.	

Standard Reference:

- | | |
|---|--|
| <input checked="" type="checkbox"/> EU 2019/2015 | <input type="checkbox"/> EN 61000-3-2:2019 |
| <input checked="" type="checkbox"/> EN 13032-1: 2004+ A1:2012 | <input type="checkbox"/> EN60188:2001 (incl. all amendments up to A11:2019) |
| <input checked="" type="checkbox"/> prEN 13032-4 | <input checked="" type="checkbox"/> prEN 60969:2017 |
| <input checked="" type="checkbox"/> CIE 13.3:1995 | <input checked="" type="checkbox"/> EN 62612:2013 (incl. all amendments up to A2:2018) |
| <input checked="" type="checkbox"/> CIE 015:2018 | <input type="checkbox"/> EN 62717:2017 (incl. all amendments up to A2:2019) |
| <input checked="" type="checkbox"/> CIE 018:2019 | <input type="checkbox"/> EN 62722-1:2016 |
| <input checked="" type="checkbox"/> CIE 84:1989 | <input type="checkbox"/> EN 62722-2-1:2016 |
| <input checked="" type="checkbox"/> CIE 97:2005 | <input checked="" type="checkbox"/> EN 60081: 1998 (incl. all amendments up to A11:2018) |
| <input type="checkbox"/> CIE 154:2003 | <input checked="" type="checkbox"/> ANSI/UL 1598-2008 |
| <input type="checkbox"/> EN 12464-1 | <input checked="" type="checkbox"/> EN 60061-1: 1993 (incl. all amendments up to A59:2019) |
| <input type="checkbox"/> EN 12464-2 | <input type="checkbox"/> EN 62471: 2008 |
| <input type="checkbox"/> EN 62035: 2014 | <input checked="" type="checkbox"/> EN 60901: 1996 (incl. all amendments up to A6:2017) |
| <input type="checkbox"/> EN 61167: 2018 | <input type="checkbox"/> EN 60662: 2012 (incl. all amendments up to A11:2019) |
| <input type="checkbox"/> EN 62442-1: 2018 | |
| <input type="checkbox"/> 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)

Testing:

Test on..... : DEKRA Manufacturer
Date of receipt of test item : 2021-08-09
Date (s) of performance of tests : 2021-08-09 to 2021-10-25

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.

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Number of the tested samples for each items			
Test	<input type="checkbox"/> Partial test	<input type="checkbox"/> Type Test	<input checked="" type="checkbox"/> 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 of 1 October		

Picture of test object:



Led module N/A	Led driver N/A
Copy of Package: For example: N/A	
General remarks: Throughout this report a <input checked="" type="checkbox"/> comma or <input type="checkbox"/> point is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. - Appendix: Test Results The information needs to be showed on free-access websites should based on this report.	

General product information :

N/A

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(EU) 2019/2020 of 1 October				
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 (%)	Checked on Sample 1#, Test Result: 27,2 %		N/A
4	Non-Directional light source (NDLS): light source is not a directional light source			P
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
	$P_{onmax} = C \times (L + \Phi_{use} / (F \times \eta)) \times R$	$P_{onmax} = 6,12W$		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 source type.			
	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)			P
	0,85 for directional light sources (DLS, using flux in a cone)			N/A
	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	98,8	1,9	N/A
	LFL T5-HO, $4000 \leq \Phi \leq 5000$ lm	83,0	1,9	N/A
	LFL T5-HO, other lm output	79,0	1,9	N/A
	FL T5 circular	79,0	1,9	N/A
	FL T8 (including FL T8 U-shaped)	89,7	4,5	N/A

(EU) 2019/2020 of 1 October				
Clause	Test Item	Requirements		Verdict
	From 1 September 2023, for FL T8 of 2-, 4- and 5-foot	120,0	1,5	N/A
	Magnetic induction light source, any length/flux	70,2	2,3	N/A
	CFLni	70,2	2,3	N/A
	FL T9 circular	71,5	6,2	N/A
	HPS single-ended	88,0	50,0	N/A
	HPS double-ended	78,0	47,7	N/A
	MH ≤ 405 W single-ended	84,5	7,7	N/A
	MH > 405 W single-ended	79,3	12,3	N/A
	MH ceramic double-ended	84,5	7,7	N/A
	MH quartz double-ended	79,3	12,3	N/A
	Organic light-emitting diode (OLED)	65,0	1,5	N/A
	Until 1 September 2023: HL G9, G4 and GY6.35	19,5	7,7	N/A
	HL R7s ≤ 2700 lm	26,0	13,0	N/A
	Other light sources in scope not mentioned above	120,0	1,5*	P
	(*) For connected light sources (CLS) a factor L=2,0 shall be applied			N/A
	Table 2 — Correction factor C depending on light source characteristics			
	Light source type	Basic C value		
	Non-directional (NDLS) not operating on mains (NMLS)	1,00		N/A
	Non-directional (NDLS) operating on mains (MLS)	1,08		P
	Directional (DLS) not operating on mains (NMLS)	1,15		N/A
	Directional (DLS) operating on mains (MLS)	1,23		N/A
	Special light source feature		Bonus on C	
	FL or HID with CCT >5000 K	+0,10		N/A
	FL with CRI > 90	+0,10		N/A
	HID with second envelope	+0,10		N/A
	MH NDLS >405 W with non-clear envelope	+0,10		N/A
	DLS with anti-glare shield	+0,20		N/A
	Colour-tuneable light source (CTLS)	+0,10		N/A
	High luminance light sources (HLLS)	+0,0058 • Luminance-HLLS – 0,0167		N/A

(EU) 2019/2020 of 1 October			
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 $P_{ls} \leq 5$ $5 < P_{ls} \leq 100$ $100 < P_{ls}$	0,71 $P_{ls} / (2 \times \sqrt{\frac{P_{ls}}{36}} + 38/36 \times P_{ls} + 1)$ 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
	The standby power P_{sb} of a separate control gear 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. The allowable values for P_{sb} and P_{net} shall not be added together.		N/A

(EU) 2019/2020 of 1 October			
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 $\Phi_{\text{use}} > 4$ 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, $\cos \Phi_1$) at power input P_{on} for LED and OLED MLS	No limit at $P_{\text{on}} \leq 5$ W, DF $\geq 0,5$ at 5 W $< P_{\text{on}} \leq 10$ W, DF $\geq 0,7$ at 10 W $< P_{\text{on}} \leq 25$ W DF $\geq 0,9$ at 25 W $< P_{\text{on}}$	P
	Lumen maintenance factor (for LED and OLED)	The lumen maintenance factor $X_{\text{LMF}}\%$ after endurance testing according to Annex V shall be at least $X_{\text{LMF,MIN}}\%$ calculated as follows: $X_{\text{LMF,MIN}}\% = 100 \times e^{\frac{(3000 \times \ln(0.7))}{L_{70}}}$ where L_{70} is the declared L70B50 lifetime (in hours) If the calculated value for $X_{\text{LMF,MIN}}$ exceeds 96,0 %, an $X_{\text{LMF,MIN}}$ 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	$P_{\text{st}} \text{ LM} \leq 1,0$ at full-load	P
	Stroboscopic effect for LED and OLED MLS	SVM $\leq 0,4$ at full-load (except for HID with $\Phi_{\text{use}} > 4$ klm and for light sources intended for use in outdoor applications, industrial applications or other applications where lighting standards allow a CRI < 80)	P

(EU) 2019/2020 of 1 October			
Clause	Test Item	Requirements	Verdict
3	Information requirements		N/A
	From 1 September 2021 the following information requirements shall apply:		N/A
(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 available for it without unduly obstructing the light emission.		N/A
	For directional light sources, the beam angle ($^{\circ}$) 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 $L_{70}B_{50}$ 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 $T_a \neq 25^{\circ}C$ or specific thermal management is necessary): information on those conditions;		N/A

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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)	if the light source is within the scope of Directive 2012/19/EU, without prejudice to marking obligations pursuant to Article 14(4) of Directive 2012/19/EU, or contains mercury: a warning that it shall not be disposed of as unsorted municipal waste.		N/A
(2)	Separate control gears:		N/A
	If a separate control gear is placed on the market as a stand-alone product and not as a part of a containing product, in a packaging containing information to be visibly displayed to potential buyers, prior to their purchase, the following information shall be clearly and prominently displayed on the packaging:		N/A
(a)	the maximum output power of the control gear (for HL, LED and OLED) or the power of the light source for which the control gear is intended (for FL and HID);		N/A
(b)	the type of light source(s) for which it is intended;		N/A
(c)	the efficiency in full-load, expressed in percentage;		N/A
(d)	the no-load power (P_{no}), expressed in W and rounded to the second decimal, or the indication that the gear is not intended to operate in no-load mode. If the value is zero, it may be omitted from the packaging but shall nonetheless be declared in the technical documentation and on websites;		N/A
(e)	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 but shall nonetheless be declared in the technical documentation and on websites;		N/A
(f)	where applicable, the networked standby power (P_{net}), expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging but shall nonetheless be declared in the technical documentation and on websites;		N/A
(g)	a warning if the control gear is not suitable for dimming of light sources or can be used only with specific types of dimmable light sources or using specific wired or wireless dimming methods. In the latter cases, detailed information on the conditions in which the control gear can be used for dimming shall be provided on the manufacturer's or importer's website;		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 of 1 October			
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)	<p>Separate control gears:</p> <p>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.</p>		N/A
(e)	<p>Information for products specified in point 3 of Annex III</p> <p>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, together with an explicit indication that the light source or separate control gear is not intended for use in other applications.</p> <p>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.</p> <p>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.'</p>		N/A
Additional	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 (°)	CCT	CRI	R9	Excitation purity [%]	Colour consistency (SDCM)	Total mains efficacy (lm/W)
1	230,1	0,021	3,6	0,986	500,3	500,3	47,6	295,5	2682	81,2	0	61,4	2	139,0
2	230,1	0,022	3,7	0,984	503,4	503,4	46,7	304,1	2702	81,2	0	60,8	1,1	136,1
3	230,1	0,022	3,7	0,985	508,4	508,4	46,6	295,5	2709	81,3	0	60,7	0,7	137,4
4	230,1	0,021	3,6	0,985	495,3	495,3			2701	81,2	0	61	1,1	137,6
5	230,1	0,021	3,6	0,985	505,1	505,1			2712	81,4	0	60,4	0,7	140,3
6	230,1	0,021	3,6	0,986	501,9	501,9			2707	81,4	0	60,6	0,8	139,4
7	230,1	0,021	3,6	0,986	495,1	495,1			2688	81,2	0	61,2	1,7	137,5
8	230,1	0,021	3,7	0,985	501,4	501,4			2689	81,2	0	60,9	1,7	135,5
9	230,1	0,021	3,7	0,986	503,9	503,9			2683	81,1	0	61,6	2	136,2
10	230,1	0,021	3,6	0,984	500,8	500,8			2707	81,2	0	60,6	0,8	139,1
Average	230,1	0,021	3,6	0,985	501,6	501,6			2698	81,2	0	60,9	1,3	137,8

Table 2: Test Result of Flicker and Stroboscopic effect:

		Test Results										P
Flicker P_{st} LM	Sample No.	1	2	3	4	5	6	7	8	9	10	
	Test results	0,009	0,01	0,045	0,01	0,009	0,009	0,014	0,015	0,015	0,021	
	Average	0,016										
Stroboscopic effect SVM	Sample No.	1	2	3	4	5	6	7	8	9	10	
	Test results	0,012	0,012	0,014	0,012	0,011	0,012	0,012	0,012	0,012	0,013	
	Average	0,012										

Table 3: Energy Class:

Energy efficiency classes of light sources (based on rated value)	
Energy efficiency class	Total mains efficacy η_{TM} (lm/W)
<input type="checkbox"/> A	$210 \leq \eta_{TM}$
<input type="checkbox"/> B	$185 \leq \eta_{TM} < 210$
<input type="checkbox"/> C	$160 \leq \eta_{TM} < 185$
<input checked="" type="checkbox"/> D	$135 \leq \eta_{TM} < 160$
<input type="checkbox"/> E	$110 \leq \eta_{TM} < 135$
<input type="checkbox"/> F	$85 \leq \eta_{TM} < 110$
<input type="checkbox"/> G	$\eta_{TM} < 85$

Energy efficiency classes of light sources (based on tested value)	
Energy efficiency class	Total mains efficacy η_{TM} (lm/W)
<input type="checkbox"/> A	$210 \leq \eta_{TM}$
<input type="checkbox"/> B	$185 \leq \eta_{TM} < 210$
<input type="checkbox"/> C	$160 \leq \eta_{TM} < 185$
<input checked="" type="checkbox"/> D	$135 \leq \eta_{TM} < 160$
<input type="checkbox"/> E	$110 \leq \eta_{TM} < 135$
<input type="checkbox"/> F	$85 \leq \eta_{TM} < 110$
<input type="checkbox"/> G	$\eta_{TM} < 85$

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

	Test results*						P
Sample No	Test Voltage (V)	Φ_{total} (lm)			Lumen Maintenance		Lamp survival factor
		Initial	1500H	3000 H	1500H	3000 H	At 3000 H
1	230	500,3	493,4		0,986		
2	230	503,4	496,5		0,986		
3	230	508,4	501,9		0,987		
4	230	495,3	490,2		0,990		
5	230	505,1	499,0		0,988		
6	230	501,9	497,3		0,991		
7	230	495,1	489,6		0,989		
8	230	501,4	495,4		0,988		
9	230	503,9	497,7		0,988		
10	230	500,8	496,4		0,991		
Average/Result	230	501,6	495,7		0,988		

Note *: "X" means the lamp still lit when the time(s) reach, "F" means the lamp failed when the time(s) reach.

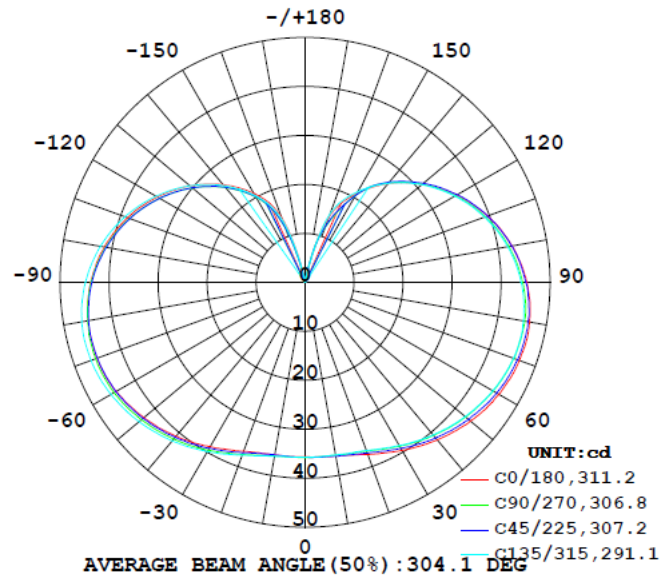
Table 5: No-load Mode and Standby Mode Test Results:

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

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	Ts
In-suit Temperature (°C)	-

Appendix II: Luminous Intensity Distribution (Sample 1#)

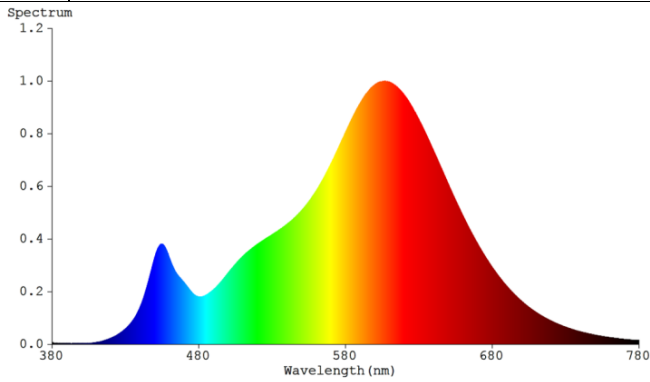


Appendix III: LM-80 Report:

N/A

Appendix IV: Product information

Product information sheet			
Supplier's name or trade mark:	Xiamen Yankon Energetic Lighting Co., Ltd		
Supplier's address:	No. 88 Houxiang Road, Haicang District, Xiamen, China		
Model identifier:	EMGDAL5EBC		
Type of light source:			
Lighting technology used:	<input type="checkbox"/> CFLni	<input type="checkbox"/> HL	<input type="checkbox"/> LFL T5 HE
	<input type="checkbox"/> LFL T5 HO	<input type="checkbox"/> other FL	<input type="checkbox"/> HPS
	<input type="checkbox"/> MH	<input type="checkbox"/> other HID	<input checked="" type="checkbox"/> LED
	<input type="checkbox"/> OLED	<input type="checkbox"/> mixed	<input type="checkbox"/> other
Non-directional or directional:	<input checked="" type="checkbox"/> NDLS <input type="checkbox"/> DLS	Mains or non-mains:	<input checked="" type="checkbox"/> MLS <input type="checkbox"/> NMLS
Connected light source (CLS):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Colour-tuneable light source:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
High luminance light source:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Envelope:	<input checked="" type="checkbox"/> No <input type="checkbox"/> second <input type="checkbox"/> non-clear
Anti-glare shield:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Dimmable:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> only with specific dimmers

Product parameters			
Parameter	Value	Parameter	Value
General product parameters:			
Energy consumption in on-mode (kWh/1 000 h)	4	Energy efficiency class	D
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°)	500 <input checked="" type="checkbox"/> in a sphere <input type="checkbox"/> in a wide cone <input type="checkbox"/> 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	2700
On-mode power (P_{on}), expressed in W	3,7	Standby power (P_{sb}), expressed in W and rounded to the second decimal	-
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	80
Outer dimensions without separate control gear, lighting control parts and non-lighting control parts, if any (millimetre)	Height	79	
	Width	45	
	Depth	45	
Spectral power distribution in the range 250 nm to 800 nm, at full-load			
Claim of equivalent power	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> -	If yes, equivalent power (W)	42
Chromaticity coordinates (x and y)	0,458/ 0,410		

Parameters for directional light sources:			
Peak luminous intensity (cd)	N/A	Beam angle in degrees, or the range of beam angles	300
Parameters for LED and OLED light sources:			
R9 colour rendering index value	0	Survival factor	0,90
The lumen maintenance factor	0,93		
Parameters for LED and OLED mains light sources:			
displacement factor (cos ϕ 1)	0,70	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> -	If yes, equivalent power (W)	-
Flicker metric (P _{st} LM)	0,7	Stroboscopic effect metric (SVM)	0,3

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)	500lm
Correlated colour temperature (K)	2700K
Beam angle (°).	N/A

Appendix VI: Information to be visibly displayed on the packaging (light source)

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:

Useful luminous flux(Lm)*	500lm(in a sphere)
Correlated colour temperature (K) *	2700K
The beam angel or range of beam angles(⁰)*	300
Electrical interface details*	220~240Vac; 50Hz
The L ₇₀ B ₅₀ life time expressed in hours	15000h
The on-mode power (P _{on}) expressed in W	3,7W
The standby power (P _{sb}) expressed in W	N/A
The networked standby power (P _{net}) for CLS expressed in W	N/A
The Colour rendering index	80
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.	N/A
If the light source is designed for optimum use in non-standard conditions (such as ambient temperature Ta ≠ 25 °C or specific thermal management is necessary)	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	Dimmable
Mercury content x,x mg (if applition)	N/A

*: Information shall be displayed on the packaging in the direction meant to face prospective buyer

The information does not need to use the exact wording on the list above. Alternatively, it may be displayed in the form of graphs, drawings or symbols.

Appendix VI: Information to be visibly displayed on the packaging (Separate control gears)

If a separate control gear is placed on the market as a stand-alone product and not as a part of a containing product, in a packaging containing information to be visibly displayed to potential buyers, prior to their purchase, the following information shall be clearly and prominently displayed on the packaging:

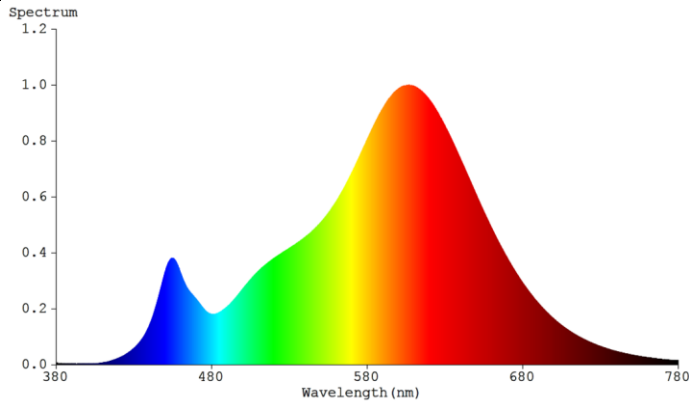
The maximum output power of the control gear (for HL, LED and OLED) or the power of the light source for which the control gear is intended (for FL and HID)	--
The type of light source(s) for which it is intended	--
The efficiency in full-load, expressed in percentage	--
The no-load power (P_{no}), expressed in W	--
The standby power (P_{sb}) expressed in W	--
The networked standby power (P_{net}) expressed in W	--
A warning if the control gear is not suitable for dimming of light sources or can be used only with specific types of dimmable light sources or using specific wired or wireless dimming methods	--
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.	--

The information does not need to use the exact wording on the list above. Alternatively, it may be displayed in the form of graphs, drawings or symbols.

Appendix VIII: ERP PRODUCT SUMMARY:

Parameter	Rated/Declare	Measured/Checked	Verdict
Model identifier:	EMGDAL5EBC	EMGDAL5EBC	N/A
Light source verification condition	Bulb	Bulb	N/A
Type of light source:	LED light source	LED light source	N/A
Lighting technology used:	LED	LED	P
Mains or non-mains:	MLS	MLS	P
Non-directional or directional:	NDLS	NDLS	P
Light output within a solid angle of π sr (%)	28	27,2	P
Connected light source (CLS):	No	No	P
Colour-tuneable light source:	No	No	P
High luminance light source:	No	No	P
Envelope:	No	No	P
Anti-glare shield:	No	No	P
Energy consumption in on-mode (kWh/1000h)	4	4	P
The energy efficiency class	D	D	P
Nominal Power P_{on} (W)	3,7	3,6	P
The useful luminous flux (Φ_{use}) (Light source)	500lm in a sphere	501,6lm in a sphere	P
Total mains efficacy η_{TM} (lm/W)	135,1	137,8	P
Φ_{90° (lm) (For directional light bulb 90° - 120° wide beam only)	-	-	N/A
Correlated Colour Temperature (CCT) in K	2700	2698	P
Chromaticity coordinates (x and y)	0,458/ 0,410	0,4595/0,4097	N/A
Beam Angle ($^\circ$)	300	304,1	P
Peak luminous intensity (cd) (For directional only)	-	-	N/A

Rated voltage in safety certificate	220~240Vac; 50Hz	220~240Vac; 50Hz	N/A
Cap / Connect-type	E27	E27	N/A
Norminal Life (h) as L70B50 lifetime	15000	Yes	N/A
Standby power P _{sb}	--	--	N/A
Networked standby power P _{net} [W]	--	--	N/A
Colour rendering index (CRI), rounded to the nearest integer, or the range of CRI-values that can be set	80	81,2	P
if CRI < 80,	No	No	P
Optimum use in non-standard condition T _a ≠ 25°C, specific thermal management is necessary	No	No	P
Dimmable or non-dimmable	Dimmable	Dimmable	P
Mercury content x.xmg	--	--	N/A
Claim of equivalent power	Yes	Yes (incandescent)	P
If yes, equivalent power (W)	42W	42W	N/A
Dimension of lamp (L x Dia mm) for light bulb only	79×45	Yes	N/A
Displacement factor (cos φ ₁)	0,70	0,985	P
Lumen maintenance factor at 1800 hours (switched on 1500 hours including switching cycle) (for LED and OLED)	0,965	0,988	P
Lumen maintenance factor at 3600 hours (switched on 3000 hours including switching cycle) (for LED and OLED)	0,931	--	N/A
Survival factor (for LED and OLED)	0,90	--	N/A
Colour consistency [MacAdam ellips steps]	6	<3	P
Flicker metric (P _{st} LM)	0,7	0,016	P
Stroboscopic effect metric (SVM)	0,3	0,012	P
Excitation purity (%)	--	60,9	N/A
No-load power P _{no}	N/A	--	N/A
Control gear efficiency [0-1]	N/A	--	N/A

R9 colour rendering index value	0	0	P
Outer dimensions without separate control gear, lighting control parts and non-lighting control parts, if any (millimetre)	79 x45 x45	Yes	N/A
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.	--	--	N/A
Spectral power distribution in the range 250 nm to 800 nm, at full-load	 <p>The graph displays the spectral power distribution (SPD) of the LED light source. The x-axis represents Wavelength (nm) from 380 to 780, and the y-axis represents relative intensity from 0.0 to 1.2. The spectrum shows a blue peak at approximately 450 nm and a broad red peak at approximately 620 nm.</p>		P
LED light source manufacturer / brand	BMTC	Yes	N/A
LED light source model	MC4030-5001E27-MHH-B-P	Yes	N/A
In-situ temperature / Tc temperature	-	-	N/A
LED current	-	-	N/A

-----END-----