




<b>Prüfbericht-Nr.:</b> Test Report No.:	60448640 002	<b>Auftrags-Nr.:</b> Order No.:	244512904	Seite 1 von 30 Page 1 of 30
<b>Kunden-Referenz-Nr.:</b> Client Reference No.:	2039576	<b>Auftragsdatum:</b> Order date:	2023.04.17	
<b>Auftraggeber:</b> Client:	<b>Xiamen Yankon Energetic Lighting Co., Ltd.</b> No. 88 Houxiang road, Haicang District, Xiamen, 361026 Fujian, P.R. China			
<b>Prüfgegenstand:</b> Test item:	<b>LED Bulb</b>			
<b>Bezeichnung / Typ-Nr.:</b> Identification / Type No.:	G45F7H-CL-2.3W(E27); G45F7H-CL-2.3W(B22); LG290023-CSv00			
<b>Auftrags-Inhalt:</b> Order content:	Testing report			
<b>Prüfgrundlage:</b> Test specification:	Regulation (EU) 2017/1369 COMMISSION REGULATION (EU) 2019/2020 COMMISSION DELEGATED REGULATION (EU) 2019/2015 COMMISSION DELEGATED REGULATION (EU) 2021/340 and COMMISSION REGULATION (EU) 2021/341 also considered			
<b>Wareneingangsdatum:</b> Date of receipt:	2023.03.03			
<b>Prüfmuster-Nr.:</b> Test sample No.:	Number 1# to 10# for each model			
<b>Prüfzeitraum:</b> Testing period:	2023.03.03-2023.08.05			
<b>Ort der Prüfung:</b> Place of testing:	Central laboratory - Shanghai – Safety Lab			
<b>Prüflaboratorium:</b> Testing laboratory:	TÜV Rheinland (Shanghai) Co., Ltd.			
<b>Prüfergebnis*:</b> Test result*:	Pass			
<b>geprüft von:</b> tested by: Penny Pan	<b>genehmigt von:</b> authorized by: Jimmy Wang			
<b>Datum:</b> Date: 2023.08.23		<b>Ausstellungsdatum:</b> Issue date: 2023.08.23		
<b>Stellung: / Position:</b>	PE	<b>Stellung: / Position:</b>	Reviewer	
<b>Sonstiges /</b> <i>Other :</i>	<p>This report is based on 60448640 001. It was written for updating the production information. The requirements of 2019/2020 for light source were performed and 3600H test results see test report. Energy efficiency class according to COMMISSION DELEGATED REGULATION (EU) 2019/2015 is also considered, and the result is for reference.</p> <p>The referred testing standard is IEC62612:2013 and its amendment.</p> <p>Appendix: Photo of tested samples.</p>			
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b></p> <p><i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>				

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Test Report No.:

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**Anmerkungen**  
*Remarks*

<p>1</p>	<p>Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden.</p> <p><i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.</i></p> <p><i>Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i></p>
<p>2</p>	<p>Wie vertraglich vereinbart, wurde dieses Dokument nur digital unterzeichnet. Der TÜV Rheinland hat nicht überprüft, welche rechtlichen oder sonstigen diesbezüglichen Anforderungen für dieses Dokument gelten. Diese Überprüfung liegt in der Verantwortung des Benutzers dieses Dokuments. Auf Verlangen des Kunden kann der TÜV Rheinland die Gültigkeit der digitalen Signatur durch ein gesondertes Dokument bestätigen. Diese Anfrage ist an unseren Vertrieb zu richten. Eine Umweltgebühr für einen solchen zusätzlichen Service wird erhoben.</p> <p><i>As contractually agreed, this document has been signed digitally only. TUV Rheinland has not verified and unable to verify which legal or other pertaining requirements are applicable for this document. Such verification is within the responsibility of the user of this document. Upon request by its client, TUV Rheinland can confirm the validity of the digital signature by a separate document. Such request shall be addressed to our Sales department. An environmental fee for such additional service will be charged.</i></p>
<p>3</p>	<p>Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt.</p> <p><i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i></p> <p><i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i></p>
<p>4</p>	<p>Die Entscheidungsregel für Konformitätserklärungen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird.</p> <p><i>The decision rule for statements of conformity in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report.</i></p>

<b>TEST REPORT</b>	
<b>COMMISSION REGULATION (EU) 2019/2020</b>	
<b>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</b>	
<b>Test item particulars:</b>	
Product name .....	LED Bulb
Model name .....	G45F7H-CL-2.3W(E27); G45F7H-CL-2.3W(B22); LG290023-CSv00
Trade Mark .....	N/A
Manufacturer .....	Xiamen Yankon Energetic Lighting Co., Ltd.
address.....	No. 88 Houxiang road, Haicang District, Xiamen, 361026 Fujian, P.R. China
Factory.....	Xiamen Yankon Energetic Lighting Co., Ltd.
address.....	No. 88 Houxiang road, Haicang District, Xiamen, 361026 Fujian, P.R. China
<b>Declare value description:</b>	
Rated input.....	: 220-240V~, 50Hz;
Rated wattage.....	: 2.3W
Nominal luminous flux Φ.....	: 485lm
Declared η <sub>TM</sub> .....	: 210.9lm/W
Declared Colour rendering (CRI).....	: ≥80
Declared Displacement factor for LED and OLED MLS (DF) .....	: N/A
Declared Lumen maintenance factor for LED and OLED .....	: 0.96(3600h)
Declared Survival factor for LED and OLED :	0.9
Declared colour consistency for LED and OLED .....	: SDCM≤6
Declared beam angle for DLS .....	: N/A (declared 360° for NDLS)
Declared lamp life .....	: 30000h
Declared color temperature .....	: 2700K/4000K/6500K
Declared equivalent power .....	: 41W
Declared Flicker for LED and OLED MLS ....	: ≤1.0
Declared Stroboscopic effect for LED and OLED MLS.....	: ≤0.4

**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)

- **Test Report Form No** ..... Ver. 1.0
- TRF Originator ..... TÜV Rheinland (Shanghai) Co., Ltd.
- Master TRF ..... Dated 2021-03

**General product information:**

**Light source:**

Type	Rated wattage	Calculated Ponmax	Nominal luminous flux	Declared $\eta_{TM}$	Declare Energy efficiency class
G45F7H-CL-2.3W(E27)	2.3W	5.99W	485lm	210.9lm/W	A
G45F7H-CL-2.3W(B22)	2.3W	5.99W	485lm	210.9lm/W	A
LG290023-CSv00	2.3W	5.99W	485lm	210.9lm/W	A

**Summary of testing:**

Type	CCT	Testing condition	Testing period
G45F7H-CL-2.3W(E27)	2700K	230V,50Hz	3600h
G45F7H-CL-2.3W(E27)	4000K	230V,50Hz	0h
G45F7H-CL-2.3W(E27)	6500K	230V,50Hz	0h

There are three models covered in this report: G45F7H-CL-2.3W(E27); G45F7H-CL-2.3W(B22); LG290023-CSv00. According to the declaration from applicant, these models are almost the same, except the different lamp cap and the model no., G45F7H-CL-2.3W(E27) with E27 lamp cap, G45F7H-CL-2.3W(B22) with B22 lamp cap. They change different CCT LED module to achieve different CCT Value that belong to same family. After review the model G45F7H-CL-2.3W(E27) 2700K was selected for all items measurement and life testing which the corresponding data is representative for other models and other CCT just initial testing.

All tests are finished and the result is Pass.

And they are non-dimmable LED Light Source.

**Copy of rating label:**

N/A

ANNEX II: Ecodesign requirements			
Test item	Requirement	Result	Verdict
<b>1. Energy efficiency requirements:</b>			
(a): Light source	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 $\Phi_{use}$ (in lm) and the declared colour rendering index CRI (-) as follows: $P_{onmax} = C_x(L + \Phi_{use}/(F \times \eta)) \times R$	See table 2	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
	The standby power $P_{sb}$ of a light source shall not exceed 0,5W.		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing
	The networked standby power $P_{net}$ of a connected light source shall not exceed 0,5W. The allowable values for $P_{sb}$ and $P_{net}$ shall not be added together.		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing
(b): Control gear	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: Details see Table 3: Minimum energy efficiency for separate control gear at full-load		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing
	The no-load power $P_{no}$ of a separate control gear shall not exceed 0,5W. This applies only to separate control gear for which the manufacturer or importer has declared in the technical documentation that it has been designed for no-load mode.		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing
	The standby power $P_{sb}$ of a separate control gear shall not exceed 0,5W.		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing
	The networked standby power $P_{net}$ of a connected separate control gear shall not exceed 0,5W. The allowable values for $P_{sb}$ and $P_{net}$ shall not be added together.		<input type="checkbox"/> P <input type="checkbox"/> F <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Under testing

<b>2.Functional requirements:</b>			
	From 1 September 2021, the functional requirements specified in Table 4 shall apply for light sources: Table 4: Functional requirements for light sources		<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Colour rendering	CRI $\geq$ 80 (except for HID with $\Phi$ use > 4klm 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)	See table 1	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Displacement factor (DF, $\cos \phi_1$ ) at power input $P_{on}$ for LED and OLED MLS	No limit at $P_{on} \leq 5W$ , $DF \geq 0,5$ at $5 W < P_{on} \leq 10W$ , $DF \geq 0,7$ at $10 W < P_{on} \leq 25W$ $DF \geq 0,9$ at $25 W < P_{on}$	See table 1	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Lumen maintenance factor (for LED and OLED)	The lumen maintenance factor XLMF% after endurance testing according to Annex V shall be at least XLMF,MIN% calculated as follows: $XLMF,MIN\% = 100 \times e^{(3000 \times \ln(0,7)) L70}$ where L70 is the declared L70B50 lifetime (in hours) If the calculated value for XLMF,MIN exceeds 96,0%, an XLMF,MIN value of 96,0% shall be used	See table 4	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
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.	See table 4	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Colour consistency for LED and OLED light sources	Variation of chromaticity coordinates within a six-step MacAdam ellipse or less.	See table 1	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Flicker for LED and OLED MLS	$P_{st} LM \leq 1,0$ at full-load	See table 1	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing
Stroboscopic effect for LED and OLED MLS	$SVM \leq 0,9$ 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) From 1 September 2024: $SVM \leq 0,4$ 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)	See table 1	<input checked="" type="checkbox"/> P <input type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> Under testing

**3.Information requirements:**

	<p>From 1 September 2021 the following information requirements shall apply:</p> <p>(a) Information to be displayed on the light source itself</p> <p>(b) Information to be visibly displayed on the packaging</p> <p>(c) Information to be visibly displayed on a free-access website of the manufacturer, importer or authorised representative</p> <p>(d) Technical documentation</p> <p>(e) Information for products specified in point 3 of Annex III</p>		<p><input type="checkbox"/> P</p> <p><input type="checkbox"/> F</p> <p><input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> Not checked</p>
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**Appendix I: Test results**

<b>Table 1-1: Initial test results: 2700K</b>								
Sample No.	Measured voltage (V)	Measured current (mA)	Measured power(W)	Initial $\Phi_{total}$ (lm)	Initial $\Phi_{use}$ (lm)	Beam Angle (only for DLS)	CCT. (K)	<b>R9</b>
1#	230.1	18.9	2.3	492.8	492.8	-	2712	20
2#	230.1	19.1	2.3	501.6	501.6	-	2729	21
3#	230.1	18.7	2.3	490.8	490.8	-	2733	20
4#	230.1	18.7	2.3	488.7	488.7	-	2720	20
5#	230.1	18.7	2.3	494.5	494.5	-	2728	21
6#	230.1	19.1	2.3	496.2	496.2	-	2721	20
7#	230.1	18.6	2.3	486.3	486.3	-	2718	20
8#	230.0	18.7	2.3	484.5	484.5	-	2727	21
9#	230.0	18.8	2.3	485.4	485.4	-	2722	21
10#	230.1	18.7	2.3	488.0	488.0	-	2734	21
<b>Average</b>	230.1	18.8	2.3	490.9	490.9	-	2724	20.5
Sample No.	Colour rendering (CRI)	Displacement factor (DF)	Colour consistency	Peak luminous intensity(cd) (only for DLS)	Flicker (Pst LM)	Stroboscopic effect (SVM)	Psb (W)	Pnet (W)
1#	.	0.766	4	-	0.008	0.014	-	-
2#	81.2	0.766	3	-	0.009	0.013	-	-
3#	81.1	0.760	2.9	-	0.010	0.017	-	-
4#	81.1	0.760	2.7	-	0.009	0.016	-	-
5#	81.2	0.776	3.4	-	0.008	0.020	-	-
6#	81	0.762	3.4	-	0.007	0.016	-	-
7#	81.1	0.762	3.5	-	0.009	0.020	-	-
8#	81.2	0.764	3.5	-	0.010	0.020	-	-
9#	81.2	0.764	2.8	-	0.009	0.022	-	-
10#	81.2	0.766	2.8	-	0.009	0.017	-	-
<b>Average</b>	81.1	0.765	3.2	-	0.009	0.018	-	-
<b>Required</b>	<b>≥80</b>	<b>N/A</b>	<b>≤6</b>	N/A	<b>≤1.0</b>	<b>≤0.4</b>	-	-

Tabel 2-1: Initial test results: 2700K							
Sample No.	Initial $\Phi_{use}$ (lm)	Efficacy factor (F)	CRI factor (R)	Threshold efficacy ( $\eta$ )	End loss factor (L)	Correction factor (C)	Ponmax
1#	492.8	1.00	1.01	120	1.5	1.08	6.1
2#	501.6	1.00	1.01	120	1.5	1.08	6.2
3#	490.8	1.00	1.01	120	1.5	1.08	6.1
4#	488.7	1.00	1.01	120	1.5	1.08	6.1
5#	494.5	1.00	1.01	120	1.5	1.08	6.1
6#	496.2	1.00	1.01	120	1.5	1.08	6.1
7#	486.3	1.00	1.01	120	1.5	1.08	6.1
8#	484.5	1.00	1.01	120	1.5	1.08	6.0
9#	485.4	1.00	1.01	120	1.5	1.08	6.0
10#	488.0	1.00	1.01	120	1.5	1.08	6.1
<b>Average</b>	490.9	1.00	1.01	120	1.5	1.08	6.1
Factor	N/A	<input checked="" type="checkbox"/> 1.00 for NDLS <input type="checkbox"/> 0.85 for DLS	<input type="checkbox"/> 0.65 for CRI $\leq$ 25 <input checked="" type="checkbox"/> (CRI+80)/160 for CRI>25	120.0 for LED	<input checked="" type="checkbox"/> 1.5 for LED <input type="checkbox"/> 2.0 for connected light sources	<input type="checkbox"/> NDLS & NMLS: 1.00 <input checked="" type="checkbox"/> NDLS & MLS: 1.08 <input type="checkbox"/> DLS & NMLS: 1.15 <input type="checkbox"/> DLS & MLS: 1.23	$Pon = Cx(L + \Phi_{use}/(Fx \eta))xR$

Tabel 3-1: Initial test results for Energy efficiency classes: 2700K						
Sample No.	Initial $\Phi_{use}$ (lm)	Initial $P_{on}(W)$	$F_{TM}$	$\eta_{TM}$ (lm/W)	Test Energy efficiency class	Declare Energy efficiency class
1#	492.8	2.3	1.0	214.3	A	A
2#	501.6	2.3	1.0	218.1	A	A
3#	490.8	2.3	1.0	213.4	A	A
4#	488.7	2.3	1.0	212.5	A	A
5#	494.5	2.3	1.0	215.0	A	A
6#	496.2	2.3	1.0	215.7	A	A
7#	486.3	2.3	1.0	211.4	A	A
8#	484.5	2.3	1.0	210.7	A	A
9#	485.4	2.3	1.0	211.0	A	A
10#	488.0	2.3	1.0	212.2	A	A
<b>Average</b>	490.9	2.3	1.0	213.4	A	A
<b>Energy efficiency class:</b>				<b>Factors <math>F_{TM}</math> by light source type:</b>		
A: $210 \leq \eta_{TM}$ B: $185 \leq \eta_{TM} < 210$ C: $160 \leq \eta_{TM} < 185$ D: $135 \leq \eta_{TM} < 160$		E: $110 \leq \eta_{TM} < 135$ F: $85 \leq \eta_{TM} < 110$ G: $\eta_{TM} < 85$		<input checked="" type="checkbox"/> NDLS & MLS: 1.00 <input type="checkbox"/> NDLS & NMLS: 0.926 <input type="checkbox"/> DLS & MLS: 1.176 <input type="checkbox"/> DLS & NMLS: 1.089		

<b>Table 4: Test results of survival factor and Lumen maintenance:</b>				
Sample No.	Initial $\Phi$ use (lm)	3600H $\Phi$ use (lm)	XLMF,MIN% at 3600H	survival factor at 3600H
1#	492.8	484.6	98.33%	100%
2#	501.6	492.8	98.24%	100%
3#	490.8	482.8	98.37%	100%
4#	488.7	481.0	98.44%	100%
5#	494.5	487.5	98.57%	100%
6#	496.2	488.6	98.46%	100%
7#	486.3	478.7	98.44%	100%
8#	484.5	477.1	98.49%	100%
9#	485.4	477.4	98.36%	100%
10#	488.0	481.8	98.73%	100%
<b>Average</b>	490.9	483.2	98.44%	100%
<b>Required</b>	--	--	<b>96%</b>	<b>90%</b>

<b>Table 1-2: Initial test results: 4000K</b>								
Sample No.	Measured voltage (V)	Measured current (mA)	Measured power(W)	Initial $\Phi_{total}$ (lm)	Initial $\Phi_{use}$ (lm)	Beam Angle (only for DLS)	CCT. (K)	<b>R9</b>
1#	230.0	18.9	2.3	498.6	498.6	-	3955	25
2#	230.0	18.9	2.3	500.5	500.5	-	3968	25
3#	230.0	18.8	2.3	489.7	489.7	-	3928	25
4#	230.0	18.9	2.3	494.5	494.5	-	3963	25
5#	230.1	18.9	2.3	498.8	498.8	-	3947	24
6#	230.1	18.9	2.3	498.7	498.7	-	3947	25
7#	230.1	18.7	2.3	490.9	490.9	-	3942	25
8#	230.1	19.2	2.4	509.6	509.6	-	3965	25
9#	230.1	18.6	2.3	489.4	489.4	-	3948	26
10#	230.1	18.8	2.3	491.3	491.3	-	3929	24
<b>Average</b>	230.1	18.9	2.3	496.2	496.2	-	3949	24.9
Sample No.	Colour rendering (CRI)	Displacement factor (DF)	Colour consistency	Peak luminous intensity(cd) (only for DLS)	Flicker (Pst LM)	Stroboscopic effect (SVM)	Psb (W)	Pnet (W)
1#	80.1	0.766	3.1	-	0.008	0.014	-	-
2#	80.3	0.766	2.8	-	0.009	0.013	-	-
3#	80.1	0.766	3.5	-	0.010	0.017	-	-
4#	80	0.762	2.4	-	0.009	0.016	-	-
5#	80.2	0.760	3.7	-	0.008	0.020	-	-
6#	80.3	0.763	3.1	-	0.007	0.016	-	-
7#	80.1	0.776	2.6	-	0.009	0.020	-	-
8#	80	0.763	2.6	-	0.010	0.020	-	-
9#	80.1	0.763	3	-	0.009	0.022	-	-
10#	80.1	0.770	3.5	-	0.009	0.017	-	-
<b>Average</b>	80.1	0.765	3.0	-	0.009	0.018	-	-
<b>Required</b>	<b>≥80</b>	<b>N/A</b>	<b>≤6</b>	<b>N/A</b>	<b>≤1.0</b>	<b>≤0.4</b>	-	-

Tabel 2-2: Initial test results: 4000K							
Sample No.	Initial $\Phi_{use}$ (lm)	Efficacy factor (F)	CRI factor (R)	Threshold efficacy ( $\eta$ )	End loss factor (L)	Correction factor (C)	Ponmax
1#	498.6	1.00	1.00	120	1.5	1.08	6.1
2#	500.5	1.00	1.00	120	1.5	1.08	6.1
3#	489.7	1.00	1.00	120	1.5	1.08	6.0
4#	494.5	1.00	1.00	120	1.5	1.08	6.1
5#	498.8	1.00	1.00	120	1.5	1.08	6.1
6#	498.7	1.00	1.00	120	1.5	1.08	6.1
7#	490.9	1.00	1.00	120	1.5	1.08	6.0
8#	509.6	1.00	1.00	120	1.5	1.08	6.2
9#	489.4	1.00	1.00	120	1.5	1.08	6.0
10#	491.3	1.00	1.00	120	1.5	1.08	6.0
<b>Average</b>	496.2	1.00	1.00	120	1.5	1.08	6.1
Factor	N/A	<input checked="" type="checkbox"/> 1.00 for NDLS <input type="checkbox"/> 0.85 for DLS	<input type="checkbox"/> 0.65 for CRI $\leq$ 25 <input checked="" type="checkbox"/> (CRI+80)/160 for CRI>25	120.0 for LED	<input checked="" type="checkbox"/> 1.5 for LED <input type="checkbox"/> 2.0 for connected light sources	<input type="checkbox"/> NDLS & NMLS: 1.00 <input checked="" type="checkbox"/> NDLS & MLS: 1.08 <input type="checkbox"/> DLS & NMLS: 1.15 <input type="checkbox"/> DLS & MLS: 1.23	$P_{on} = C_x(L + \Phi_{use}/(F_x \eta)) \times R$

Tabel 3-2: Initial test results for Energy efficiency classes: 4000K						
Sample No.	Initial $\Phi_{use}$ (lm)	Initial $P_{on}(W)$	$F_{TM}$	$\eta_{TM}$ (lm/W)	Test Energy efficiency class	Declare Energy efficiency class
1#	498.6	2.3	1.0	216.8	A	A
2#	500.5	2.3	1.0	217.6	A	A
3#	489.7	2.3	1.0	212.9	A	A
4#	494.5	2.3	1.0	215.0	A	A
5#	498.8	2.3	1.0	216.9	A	A
6#	498.7	2.3	1.0	216.8	A	A
7#	490.9	2.3	1.0	213.4	A	A
8#	509.6	2.4	1.0	212.3	A	A
9#	489.4	2.3	1.0	212.8	A	A
10#	491.3	2.3	1.0	213.6	A	A
<b>Average</b>	496.2	2.3	1.0	214.8	A	A
<b>Energy efficiency class:</b>				<b>Factors FTM by light source type:</b>		
A: $210 \leq \eta_{TM}$ B: $185 \leq \eta_{TM} < 210$ C: $160 \leq \eta_{TM} < 185$ D: $135 \leq \eta_{TM} < 160$		E: $110 \leq \eta_{TM} < 135$ F: $85 \leq \eta_{TM} < 110$ G: $\eta_{TM} < 85$		<input checked="" type="checkbox"/> NDLS & MLS: 1.00 <input type="checkbox"/> NDLS & NMLS: 0.926 <input type="checkbox"/> DLS & MLS: 1.176 <input type="checkbox"/> DLS & NMLS: 1.089		

Table 1-3: Initial test results: 6500K								
Sample No.	Measured voltage (V)	Measured current (mA)	Measured power(W)	Initial $\Phi_{total}$ (lm)	Initial $\Phi_{use}$ (lm)	Beam Angle (only for DLS)	CCT. (K)	R9
1#	230.1	18.4	2.2	493.9	493.9	-	6493	28
2#	230.1	18.7	2.3	506.5	506.5	-	6669	28
3#	230.1	18.4	2.3	498.4	498.4	-	6567	29
4#	230.1	19.2	2.3	516.2	516.2	-	6592	29
5#	230.1	18.1	2.3	499.6	499.6	-	6599	29
6#	230.1	18.6	2.3	505.0	505.0	-	6545	29
7#	230.1	19.2	2.4	523.0	523.0	-	6594	29
8#	230.1	18.4	2.3	501.0	501.0	-	6527	28
9#	230.1	19.0	2.3	516.6	516.6	-	6620	29
10#	230.1	18.7	2.3	499.6	499.6	-	6654	29
<b>Average</b>	230.1	18.7	2.3	506.0	506.0	-	6586	28.7
Sample No.	Colour rendering (CRI)	Displacement factor (DF)	Colour consistency	Peak luminous intensity(cd) (only for DLS)	Flicker (Pst LM)	Stroboscopic effect (SVM)	Psb (W)	Pnet (W)
1#	81.6	0.763	0.5	-	0.008	0.014	-	-
2#	81.7	0.765	1.6	-	0.009	0.013	-	-
3#	81.6	0.766	0.7	-	0.010	0.017	-	-
4#	81.4	0.765	1.3	-	0.009	0.016	-	-
5#	81.9	0.822	0.8	-	0.008	0.020	-	-
6#	81.9	0.774	0.2	-	0.007	0.016	-	-
7#	81.6	0.771	0.8	-	0.009	0.020	-	-
8#	81.6	0.784	0.1	-	0.010	0.020	-	-
9#	81.6	0.777	1.2	-	0.009	0.022	-	-
10#	82	0.767	1.4	-	0.009	0.017	-	-
<b>Average</b>	81.7	0.775	0.9	-	0.009	0.018	-	-
<b>Required</b>	<b>≥80</b>	<b>N/A</b>	<b>≤6</b>	<b>N/A</b>	<b>≤1.0</b>	<b>≤0.4</b>	-	-

Tabel 2-3: Initial test results: 6500K							
Sample No.	Initial $\Phi_{use}$ (lm)	Efficacy factor (F)	CRI factor (R)	Threshold efficacy ( $\eta$ )	End loss factor (L)	Correction factor (C)	Ponmax
1#	493.9	1.00	1.01	120	1.5	1.08	6.1
2#	506.5	1.00	1.01	120	1.5	1.08	6.2
3#	498.4	1.00	1.01	120	1.5	1.08	6.2
4#	516.2	1.00	1.01	120	1.5	1.08	6.3
5#	499.6	1.00	1.01	120	1.5	1.08	6.2
6#	505.0	1.00	1.01	120	1.5	1.08	6.2
7#	523.0	1.00	1.01	120	1.5	1.08	6.4
8#	501.0	1.00	1.01	120	1.5	1.08	6.2
9#	516.6	1.00	1.01	120	1.5	1.08	6.3
10#	499.6	1.00	1.01	120	1.5	1.08	6.2
<b>Average</b>	506.0	1.00	1.01	120	1.5	1.08	6.2
Factor	N/A	<input checked="" type="checkbox"/> 1.00 for NDLS <input type="checkbox"/> 0.85 for DLS	<input type="checkbox"/> 0.65 for CRI $\leq$ 25 <input checked="" type="checkbox"/> (CRI+80)/160 for CRI>25	120.0 for LED	<input checked="" type="checkbox"/> 1.5 for LED <input type="checkbox"/> 2.0 for connected light sources	<input type="checkbox"/> NDLS & NMLS: 1.00 <input checked="" type="checkbox"/> NDLS & MLS: 1.08 <input type="checkbox"/> DLS & NMLS: 1.15 <input type="checkbox"/> DLS & MLS: 1.23	$Pon = Cx(L + \Phi_{use}/(Fx \eta))xR$

Tabel 3-3: Initial test results for Energy efficiency classes: 6500K						
Sample No.	Initial $\Phi_{use}$ (lm)	Initial $P_{on}(W)$	$F_{TM}$	$\eta_{TM}$ (lm/W)	Test Energy efficiency class	Declare Energy efficiency class
1#	493.9	2.2	1.0	224.5	A	A
2#	506.5	2.3	1.0	220.2	A	A
3#	498.4	2.3	1.0	216.7	A	A
4#	516.2	2.3	1.0	224.4	A	A
5#	499.6	2.3	1.0	217.2	A	A
6#	505.0	2.3	1.0	219.6	A	A
7#	523.0	2.4	1.0	217.9	A	A
8#	501.0	2.3	1.0	217.8	A	A
9#	516.6	2.3	1.0	224.6	A	A
10#	499.6	2.3	1.0	217.2	A	A
<b>Average</b>	506.0	2.3	1.0	220.0	A	A
<b>Energy efficiency class:</b>				<b>Factors FTM by light source type:</b>		
A: $210 \leq \eta_{TM}$ B: $185 \leq \eta_{TM} < 210$ C: $160 \leq \eta_{TM} < 185$ D: $135 \leq \eta_{TM} < 160$		E: $110 \leq \eta_{TM} < 135$ F: $85 \leq \eta_{TM} < 110$ G: $\eta_{TM} < 85$		<input checked="" type="checkbox"/> NDLS & MLS: 1.00 <input type="checkbox"/> NDLS & NMLS: 0.926 <input type="checkbox"/> DLS & MLS: 1.176 <input type="checkbox"/> DLS & NMLS: 1.089		

<b>Table 5: Test results of No-load power(Pno), Standby power(Psb), Networked standby power(Pnet) and energy efficiency for control gear</b>								
Sample No.	Measured voltage(V)	Measured current (mA)	Input wattage (W)	Output wattage (W)	Energy efficiency	Pno (W)	Psb (W)	Pnet (W)
1#	--	--	--	--	--	--	--	--
2#	--	--	--	--	--	--	--	--
3#	--	--	--	--	--	--	--	--
<b>Average</b>	--	--	--	--	--	--	--	--
<b>Required</b>	--	--	--	--	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

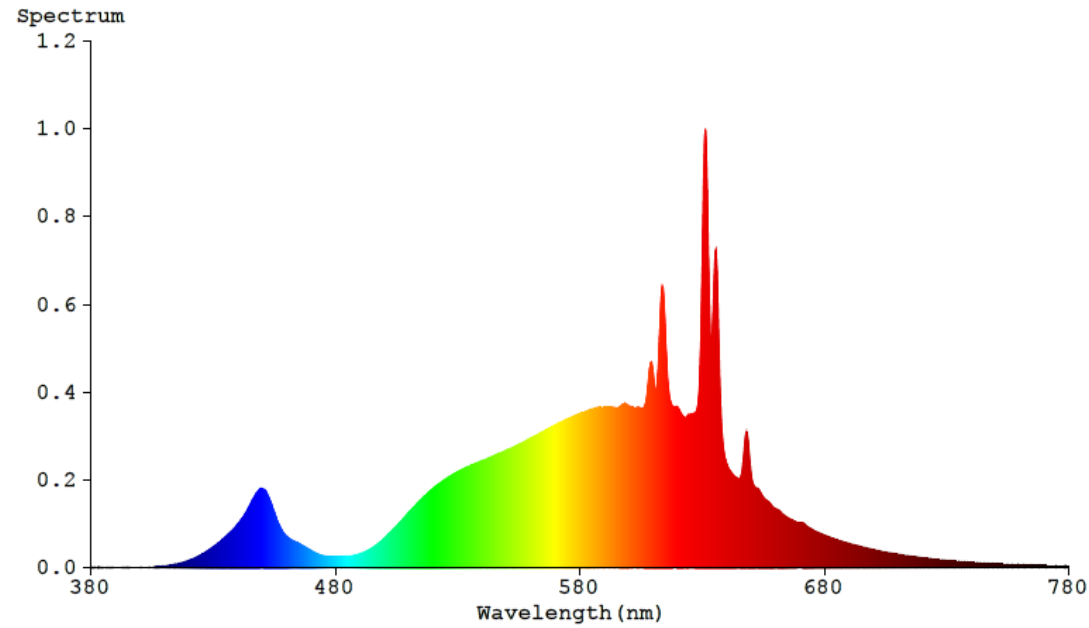
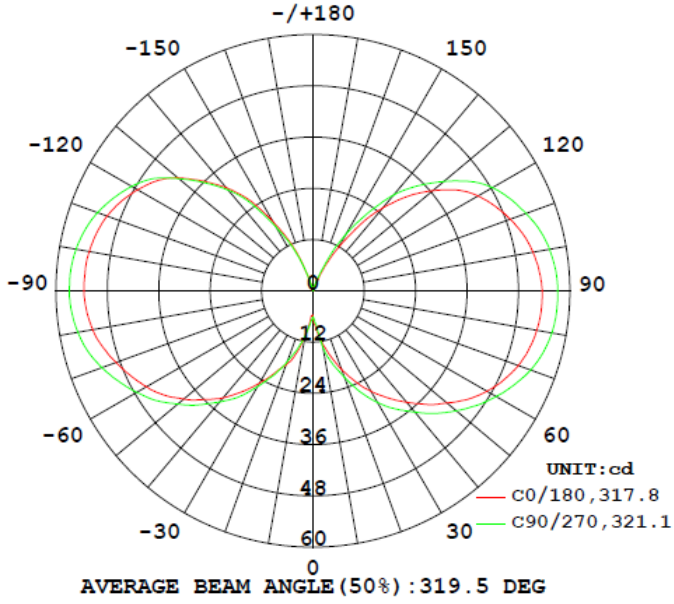
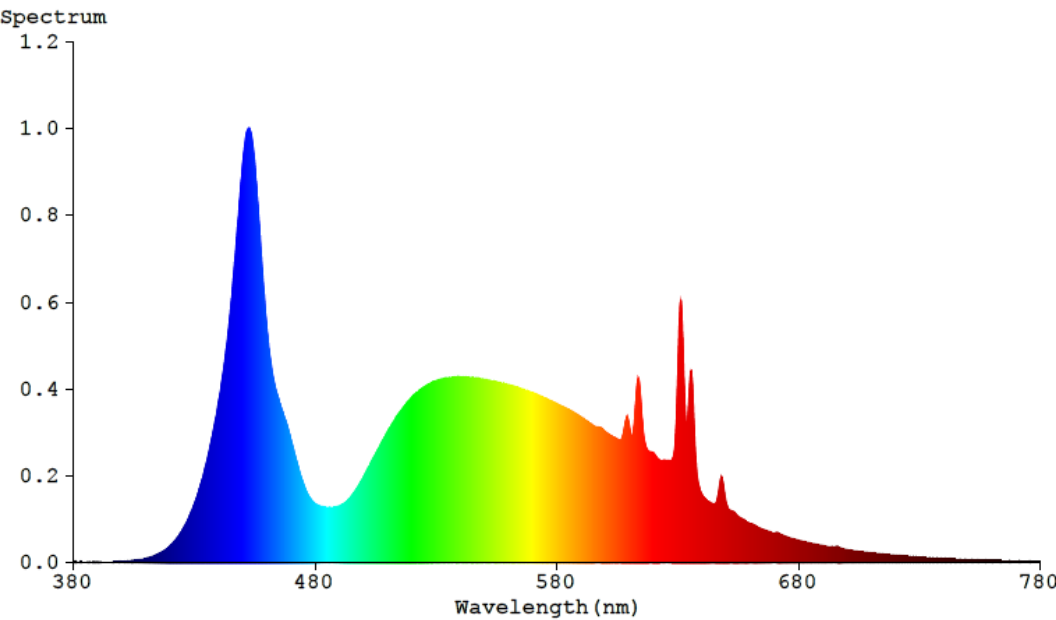
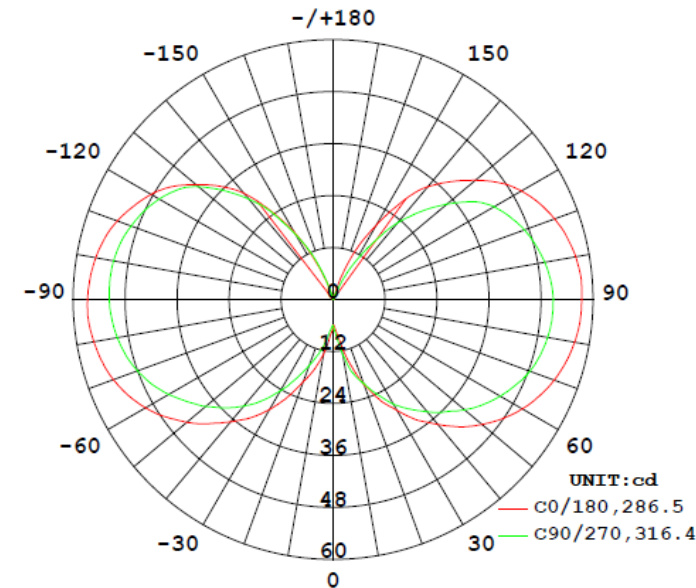
Table 6-1: Spectrum	Luminous Intensity Distribution (Sample 1#)
<p>2700K:</p>  <p>Spectrum</p> <p>1.2</p> <p>1.0</p> <p>0.8</p> <p>0.6</p> <p>0.4</p> <p>0.2</p> <p>0.0</p> <p>380 480 580 680 780</p> <p>Wavelength (nm)</p>	 <p>-/+180</p> <p>-150 150</p> <p>-120 120</p> <p>-90 90</p> <p>-60 60</p> <p>-30 30</p> <p>0</p> <p>12</p> <p>24</p> <p>36</p> <p>48</p> <p>60</p> <p>UNIT: cd</p> <p>— C0/180, 317.8</p> <p>— C90/270, 321.1</p> <p>AVERAGE BEAM ANGLE (50%) : 319.5 DEG</p>

Table 6-2: Spectrum	Luminous Intensity Distribution (Sample 1#)
<p>4000K: Spectrum</p> <p>Wavelength (nm)</p>	<p>UNIT: cd      — C0/180, 282.6      — C90/270, 323.0</p> <p>AVERAGE BEAM ANGLE (50%) : 302.8 DEG</p>

Table 6-3: Spectrum	Luminous Intensity Distribution (Sample 1#)
<p>6500K:</p>  <p>Spectrum</p> <p>1.2</p> <p>1.0</p> <p>0.8</p> <p>0.6</p> <p>0.4</p> <p>0.2</p> <p>0.0</p> <p>380 480 580 680 780</p> <p>Wavelength (nm)</p>	 <p>-/+180</p> <p>-150 150</p> <p>-120 120</p> <p>-90 90</p> <p>-60 60</p> <p>-30 30</p> <p>0</p> <p>12</p> <p>24</p> <p>36</p> <p>48</p> <p>60</p> <p>UNIT: cd</p> <p>— C0/180, 286.5</p> <p>— C90/270, 316.4</p> <p>AVERAGE BEAM ANGLE (50%) : 301.4 DEG</p>

### COMMISSION REGULATION (EU) 2019/2020:

#### 3. Information requirements

From 1 September 2021 the following information requirements shall apply:

- (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.
- For directional light sources, the beam angle (°) shall also be indicated.
- 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.
- (b) Information to be visibly displayed on the packaging
- (1) Light source placed on the market, not in a containing product
- 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:
- (a) the useful luminous flux ( $\Phi_{use}$ ) 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°);
- (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;
- (c) the beam angle in degrees (for directional light sources), or the range of beam angles that can be set;
- (d) electrical interface details, e.g. cap- or connector-type, type of power supply (e.g. 230 V AC 50 Hz, 12 V DC);
- (e) the L70B50 lifetime for LED and OLED light sources, expressed in hours;
- (f) the on-mode power ( $P_{on}$ ), expressed in W;
- (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;
- (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;
- (i) the colour rendering index, rounded to the nearest integer, or the range of CRI-values that can be set;
- (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  $> 4\,000$  lm, this indication is not mandatory;
- (k) if the light source is designed for optimum use in non-standard conditions (such as ambient temperature  $T_a \neq 25$  °C or specific thermal management is necessary): information on those conditions;
- (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;
- (m) if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place;
- (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.

Items (a) to (d) shall be displayed on the packaging in the direction meant to face prospective buyer; for other items this is also recommended, if space permits.

For light sources that can be set to emit light with different characteristics, the information shall be reported for the reference control settings. In addition, a range of obtainable values may be indicated.

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.

(2) 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:

- (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);
- (b) the type of light source(s) for which it is intended;
- (c) the efficiency in full-load, expressed in percentage;
- (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;
- (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;
- (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;
- (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;
- (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.

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.

(c) Information to be visibly displayed on a free-access website of the manufacturer, importer or authorised representative

(1) Separate control gears:

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:

- (a) the information specified in point 3(b)(2), except 3(b)(2)(h);
- (b) the outer dimensions in mm;

- (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;
- (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;
- (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;
- (f) recommendations on how to dispose of it at the end of its life in line with Directive 2012/19/EU.

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

(d) Technical documentation

(1) Separate control gears:

The information specified in point 3(c)(1) 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.’;

(e) 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, 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.’

#### **Article 4 Removal of light sources and separate control gears**

1. Manufacturers, importers or authorised representatives of containing products shall ensure that light sources and separate control gears can be replaced with the use of common available tools and without permanent damage to the containing product, unless a technical justification related to the functionality of the containing product is provided in the technical documentation explaining why the replacement of light sources and separate control gear is not appropriate.

The technical documentation shall also provide instructions on how light sources and separate control gears can be removed without being permanently damaged for verification purposes by market surveillance authorities.

2. Manufacturers, importers or authorised representatives of containing products shall provide information about the replaceability or non-replaceability of light sources and control gears by end-

users or qualified persons without permanent damage to the containing product. Such information shall be available on a free-access website. For products sold directly to end-users, this information shall be on the packaging, at least in the form of a pictogram, and in the user instructions.

3. Manufacturers, importers or authorised representatives of containing products shall ensure that light sources and separate control gears can be dismantled from containing products at end of life. Dismantling instructions shall be available on a free access website.

**COMMISSION DELEGATED REGULATION (EU) 2019/2015:**

## ANNEX V: Product information

**1. Product information sheet**

- 1.1. Pursuant to point 1(b) of Article 3, the supplier shall enter into the product database the information as set out in Table 3, including when the light source is a part in a containing product. Details see table 3: Product information sheet.

For light sources that can be tuned to emit light at full-load with different characteristics, the values of parameters that vary with these characteristics shall be reported at the reference control settings.

If the light source is no longer placed on the EU market, the supplier shall put in the product database the date (month, year) when the placing on the EU market stopped.

**2. Information to be displayed in the documentation for a containing product**

If a light source is placed on the market as a part in a containing product, the technical documentation for the containing product shall clearly identify the contained light source(s), including the energy efficiency class.

If a light source is placed on the market as a part in a containing product, the following text shall be displayed, clearly legible, in the user manual or booklet of instructions:

“This product contains a light source of energy efficiency class <X>”,  
where <X> shall be replaced by the energy efficiency class of the contained light source.

If the product contains more than one light source, the sentence can be in the plural, or repeated per light source, as suitable.

**3. Information to be displayed on the supplier’s free access website:**

- (a) The reference control settings, and instructions on how they can be implemented, where applicable;
- (b) Instructions on how to remove lighting control parts and/or non-lighting parts, if any, or how to switch them off or minimize their power consumption;
- (c) If the light source is dimmable: a list of dimmers it is compatible with, and the light source — dimmer compatibility standard(s) it is compliant with, if any;
- (d) If the light source contains mercury: instructions on how to clean up the debris in case of accidental breakage;
- (e) Recommendations on how to dispose of the light source at the end of its life in line with Directive 2012/19/EU of the European Parliament and of the Council (1).

**4. Information for products specified in point 3 of Annex IV**

For the light sources specified in point 3 of Annex IV, their intended use shall be stated on all forms of packaging, product information and advertisement, together with a clear indication that the light source is not intended for use in other applications.

The technical documentation file drawn up for the purposes of conformity assessment, in accordance with paragraph 3 of Article 3 of Regulation (EU) 2017/1369 shall list the technical parameters that make the product design specific to qualify for the exemption.

**Appendix IV: Photo of tested samples:**

	Light source
 <p data-bbox="268 1025 1021 1081">Dimensions(HxWxD):96mmx45mmx45mm (for E27 lamp cap); 94mmx45mmx45mm (for B22 lamp cap);</p>	LED Bulb

Appendix III: Product information sheet			
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, 361026 Fujian,P.R. China		
Model identifier:	G45F7H-CL-2.3W(E27); G45F7H-CL-2.3W(B22); LG290023-CSv00		
Type of light source:	LED Bulb		
Lighting technology used:	LED	Non-directional or directional:	NDLS
Light source cap-type (or other electric interface)	E27 or B22		
Mains or non-mains:	MLS	Connected light source (CLS):	no
Colour-tuneable light source:	no	Envelope:	no
High luminance light source:	no		
Anti-glare shield:	no	Dimmable:	no
Product parameters			
General product parameters:			
Energy consumption in on-mode (kWh/1000h)	3	Energy efficiency class	A
Useful luminous flux ( $\Phi_{use}$ ), indicating if it refers to the flux in a sphere (360°), in a wide cone (120°) or in a narrow cone (90°)	485	Correlated colour temperature, rounded to the nearest 100 K, or the range of correlated colour temperatures	2700K/4000K/6500K
	sphere		
On-mode power ( $P_{on}$ ), expressed in W	2.3	Standby power ( $P_{sb}$ ), expressed in W	N/A
Networked standby power ( $P_{net}$ ) for CLS, expressed in W	N/A	Colour rendering index	80
Outer dimensions without separate control gear, lighting control parts and non-lighting control parts, if any (millimetre)	Height	96 or 94	Spectral power distribution in the range 250 nm to 800 nm, at full-load
	Width	45	
	Depth	45	
			<u>See table 6</u>

Claim of equivalent power	yes	If yes, equivalent power (W)	41	
		Chromaticity coordinates (x and y)	x(2700K)	0.458
			x(4000K)	0.382
			x(6500K)	0.312
			y(2700K)	0.410
			y(4000K)	0.380
			y(6500K)	0.328

Parameters for directional light sources:			
Peak luminous intensity (cd)	N/A	Beam angle in degrees, or the range of beam angles	N/A
Parameters for LED and OLED light sources:			
R9 colour rendering index value	0	Survival factor	0.90
the lumen maintenance factor	0.96		

Parameters for LED and OLED for mains light sources			
displacement factor (cos φ1)	N/A	Colour consistency in McAdam ellipses	6
Claims that an LED light source replaces a fluorescent light source without integrated ballast of a particular wattage.	-	If yes then replacement claim (W)	
Flicker metric (Pst LM)	1.0	Stroboscopic effect metric (SVM)	0.4

Appendix IV: Product information sheet (For Reference)	
Information requirements	
Information to be displayed on the light source itself	
For all light sources, except CTLS, LFL, CFLni, other FL, and HID, the follow value and physical unit 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)	485lm
correlated colour temperature (K)	2700K/4000K/6500K
beam angle (°) for DLS	N/A

Information to be visibly displayed on the packaging	
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	--
(a) the useful luminous flux ( $\Phi_{use}$ )	485lm
(b) the correlated colour temperature	2700K/4000K/6500K
(c) the beam angle in degrees for DLS	N/A
(d) electrical interface details	E27 or B22
(e) the L70B50 lifetime for LED and OLED light sources	30000h
(f) the on-mode power ( $P_{on}$ )	2.3W
(g) the standby power ( $P_{sb}$ )	N/A
(h) the networked standby power ( $P_{net}$ ) for CLS	N/A
(i) the colour rendering index	80
(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 > 4 000 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 $T_a \neq 25 \text{ }^\circ\text{C}$ or specific thermal management is necessary): information on those conditions	N/A
(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	Non-dimmable
(m) if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place	0
(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
Items (a) to (d) shall be displayed on the packaging in the direction meant to face prospective buyer; for other items this is also recommended, if space permits.	--
For light sources that can be set to emit light with different characteristics, the information shall be reported for the reference control settings. In addition, a range of obtainable values may be indicated.	--
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.	--

-- End of report --