

APPLICATION FOR TEST REPORT

On Behalf of

Report Reference No. : XKE230901038-NYR

Prepared For : Shenzhen Shengbai Industry Co.,Ltd.

Address : Building 505, building A, 70-1 Changjiang Pu Road, Heao
Community, Yuanshan Street, Longgang District, Shenzhen City

Sample Name : Rechargeable desk lamp

Model : ML-G04,ML-G02,ML-G01,ML-G03,ML-G05,ML-G06,
ML-G07,ML-G08,ML-G09,ML-G10

Trademark : N/A

Prepared By : Shenzhen xke Testing Technology Co., Ltd.

Address : 1/F, Building 4, Zhaofuda Industrial Park, Hongqiaotou , Yanluo
Street, Bao 'an District, Shenzhen,China

Date of Receipt : Mar.02, 2023

Date of Test : Mar.02, 2023, 2023 to Sep.07, 2023

Data of Issue : Sep.07, 2023

Note: *This test report is limited to the above client company and the product model only.
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TEST REPORT

Report Number..... : XKE230901038-NYR

Compileb by (name+signature)..... : Sandy Tang



Approved by (name+signature)..... : Tomi Liu



Dare of issue..... : Sep.07, 2023

Testing Laboratory..... : Shenzhen xke Testing Technology Co., Ltd.

Address..... : 1/F, Building 4, Zhaofuda Industrial Park, Hongqiaotou , Yanluo Street, Bao 'an District, Shenzhen,China

Applicant's name..... : Shenzhen Shengbai Industry Co.,Ltd.

Address..... : Building 505, building A, 70-1 Changjiang Pu Road, Heao Community, Yuanshan Street, Longgang District, Shenzhen City

Test specification:

- Standard..... :
- CIE 13.3:1995;
 - CIE 97:2005;
 - CIE 127:2007;
 - EU 2019/2020;
 - EU 2015/1428;
 - CIE 18.2:1983;
 - CIE 15:2004;
 - CIE 84:1989;
 - IEC62612: 2013+A1
 - EU 2019/2015

Test Procedure..... : COMMISSION REGULATION (EU) 2019/2020 of 1 October 2019

laying down ecodesign requirements for light sources and separate controlgears 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

Master TRF..... : 2022- 11-04

Test Item description..... : Rechargeable desk lamp

Trade Mark..... : N/A

Manufacturer..... : Shenzhen Shengbai Industry Co.,Ltd.

Address..... : Building 505, building A, 70-1 Changjiang Pu Road, Heao Community, Yuanshan Street, Longgang District, Shenzhen City

Model/Type reference..... : ML-G04

Serial Model..... : ML-G02,ML-G01,ML-G03,ML-G05,ML-G06, ML-G07,ML-G08,ML-G09,ML-G10

Rating..... : Input DC5.0V 1A from adapter or others

Test item particulars:

Model name..... : ML-G04

Lighting type : directional non-directional

Rated voltage and frequency..... : DC5.0V, 3.5W

Rated wattage..... : 3.5W

Energy efficiency class..... : A B C D E F G

Energy consumption in on-mode (kWh/1000h)..... : 3.5

Lamp cap : N/A

Nominal luminous flux Φ : 682lm

Useful luminous flux (Φ_{use})..... : 682lm

Declared η_{TM} (lm/W)..... : 195lm/W

Declared Colour rendering (CRI)..... : 80

Declared Displacement factor for LED and OLE
MLS(DF) : 0.99

Declared Lumen maintenance factor for LED
and OLE..... : 96%

Declared Survival factor for LED and OLED..... : 100%

Declared colour consistency for LED and OLED..... : 1.5

Declared beam angle for DLS : 180

Declared lamp life..... : 36000h

Declared color temperature..... : 6000K

Declared Flicker for LED and OLED MLS..... : 0.3

Declared Stroboscopic effect for LED
And OLED MLS..... : 0.2

Test case verdicts:

Test case does not apply to the test object..... : N(A)

Test item does meet the requirement..... : P(ass)

Test item does not meet the requirement : F(ail)

Testing:

Date of receipt of test item..... : Mar.02, 2023

Date(s) of performance of test..... : Mar.02, 2023, 2023 to Sep.07, 2023

Summary of testing:

- 1、 These results are in compliance with the ecodesign requirements of the Commission Regulation (EU) 2019/2020.
- 2、 Measurement was conducted at voltage 5VDC and a stable ambient temperature $25\pm 10^{\circ}\text{C}$.
- 3、 THDu $\leq 3\%$

General remarks

"(see remark #)" refers to a remark appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma is used as the decimal separator.

The test results presented in this report relate only to the object tested.

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(EU) 2019/2020			
Clause	Requirement – Test	Result - Remark	Verdict
Annex I	Definitions in Regulation (EU) 2019/2020		P
1	Number of sample used for test	10 PCS	P
(3)	Directional Light Source		N
	at least 80 % of total luminous flux within a solid angle of π sr (corresponding to a cone with angle of 120°)		N
(15)	Useful luminous flux Φ_{use}		P
	for non-directional light sources it is the total flux emitted in a solid angle of 4π sr (corresponding to a 360° sphere)		P
	for directional light sources with beam angle $\geq 90^\circ$ it is the flux emitted in a solid angle of π sr (corresponding to a cone with angle of 120°)		N
	for directional light sources with beam angle $< 90^\circ$ it is the flux emitted in a solid angle of $0,586\pi$ sr (corresponding to a cone with angle of 90°)		N
Annex II (Clause)	Energy Efficiency Requirements in Regulation (EU) 2019/2020		P
1.(a)	Energy Efficiency Requirements – Light Source		P
	On-mode Power P_{on} (W):	$P_{on}=3.5W$	P
	Maximum Allowed Power P_{onmax} (W): $P_{onmax} = C \times (L + \Phi_{use}/(F \times \eta)) \times R$	$P_{onmax}=5W$	P
	Φ_{use} :	682 lm	
	Threshold efficacy η (lm/W): η for LED:	195	P
	End loss factor L (W) depending on light source: L for LED: 1.5	1.5	P
	End loss factor L (W) for connected light sources: 2.0		
	Efficacy Factor F: 1.00 for non-directional light sources (NDLS, using total flux)	1.00	P

	Efficacy Factor F: 0.85 for directional light sources (DLS, using flux in a cone)		N
	CRI Factor R: 0.65 for CRI ≤ 25		N
	CRI Factor R: (CRI+80)/160 for CRI > 25, rounded to two decimals	R=(80+90)/160	P
	Correction Factor C Depending on Light Source Characteristics in Table 2		N
	Non-directional (NDLS) not operating on mains (NMLS), Basic Value: 1.00	1.00	P
	Non-directional (NDLS) operating on mains (MLS), Basic Value: 1.08		N
	Directional (DLS) not operating on mains (NMLS), Basic Value: 1.15		N
	Directional (DLS) operating on mains (MLS), Basic Value: 1.23		N
	Special Light Source Bonus on C		N
1.(a)	Standby power–Light Source		N
	The standby power P _{sb} of a light source shall not exceed 0.5 W		N
	The networked standby power P _{net} of a connected light source shall not exceed 0.5 W		N
	The allowable values for P _{sb} and P _{net} shall not be added together		N
1.(b)	Energy Efficiency Requirements–Separate Control Gear (atfull-load)		N
	Control gear for LED or OLED light sources: $P_{eg}^{0.81} / (1.09 \times P_{eg}^{0.81} + 2.10)$		N
	The no-load power P _{no} of a separate control gear shall not exceed 0.5 W		N
	The standby power P _{sb} of a separate control gear shall not exceed 0.5 W		N
	The networked standby power P _{net} of a connected separate control gear shall not exceed 0.5 W		N

	The allowable values for P _{sb} and P _{net} shall not be added together		N
2.	Functional Requirements – Light Source (Table 4)		P
	Colour Rendering Index CRI: ≥80	90	P
	Displacement Factor DF at Power Input P _{on} for LED and OLED MLS:		P
	No limit at P _{on} ≤ 5W DF ≥ 0.5 at 5W < P _{on} ≤ 10W, DF ≥ 0.7 at 10W < P _{on} ≤ 25W DF ≥ 0.9 at 25W < P _{on}	P _{on} = 3.5W	P
	Lumen Maintenance Factor (for LED and OLED): $X_{LMF,MIN} \% = 100 \times e^{-\frac{(3000 \times \ln(0.7))}{L_{70}}}$	99%	P
	Survival Factor (for LED and OLED): At least 9 light sources of the test sample must be operational after completing the test in Annex V of this Regulation.	100%	P
	Colour consistency for LED and OLED light sources: Variation of chromaticity coordinates within a six-step MacAdam ellipse or less.	1.5	P
	Flicker for LED and OLED MLS: P _{st} LM ≤ 1.0 at full-load	0.000	P
	Stroboscopic effect for LED and OLED MLS: SVM ≤ 0.9 at full-load	0.000	P
3.(a)	Information to be displayed on the light source itself		P
	Useful luminous flux (lm)	682lm	P
	Correlated colour temperature (K)	6004K	P
	Beam angle (°) For directional light sources		N
3.(b)	Information to be visibly displayed on the packaging		P
3.(b)(1)	Light source placed on the market, not in a containing product		P

	<p>Useful luminous flux (lm):</p> <ul style="list-style-type: none"> -In a font at least twice as large as the display of the on-mode power (Pon) -Clearly indicating if it refers to the flux in a sphere(360°),in a wide cone(120°) or in a narrow cone(90°) 		P
	(b) Correlated Colour Temperature, rounded to the nearest 100 K		P
	(c) Beam angle in degrees For directional light sources		N
	(d) electrical interface details, e.g. cap- or connector-type, type of power supply (e.g. 230 V AC 50 Hz, 12 V DC)	5VDC	P
	(e) L70B50 lifetime for LED and OLED light sources, expressed in hours		P
	(f) on-mode power (Pon), expressed in W		P
	(g) standby power (Psb), expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging		N
	(h) networked standby power (Pnet) for CLS, expressed in W and rounded to the second decimal. If the value is zero, it may be omitted from the packaging		N
	(i) Colour Rendering Index, rounded to the nearest integer		P
	(j) Clear indication to this effect, 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.		N
	(k) Information on non-standard conditions (such as ambient temperature $T_a \neq 25\text{ }^\circ\text{C}$ or specific thermal management is necessary)		N
	(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		P
	(m) if the light source contains mercury: a warning of this, including the mercury content in mg rounded to the first decimal place		P

	(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	P
3.(b)(2)	Separate control gears For separate control gear placed on the market as a stand-alone product, not as a part of a containing product	N
	(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
	(b) the type of light source(s) for which it is intended	N
	(c) the efficiency in full-load, expressed in percentage	N
	(d) the no-load power (Pno), 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
	(e) the standby power (Psb), 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	N
	(f) the networked standby power (Pnet), 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
	(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

	(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
3.(c)	Information to be visibly displayed on a free-access website of the manufacturer, importer or authorised representative		N
3.(c)(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:		N
	(a) the information specified in point 3(b)(2), except 3(b)(2)(h)		N
	(b) the outer dimensions in mm		N
	(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
	(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
	(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
	(f) recommendations on how to dispose of it at		

Appendix tables

1. Initial Lumen Measurement and Color Performance:

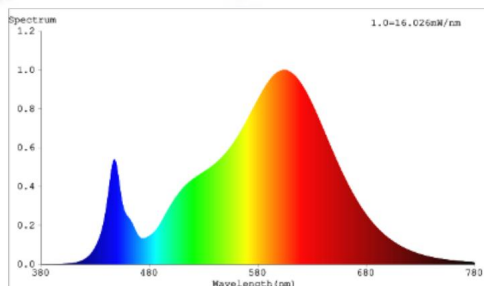
Sample No.	Power Pon (W)	Disp. Factor	Luminous Flux Φtotal (lm)	Efficacy (lm/W)	Color Temp (CCT)	Color rendering (Ra)	R9	SDCM	x	y
1	3.50	0.99	676.48	193.28	5989	81.8	5	1.6	0.4282	0.4058
2	3.42	0.99	665.80	194.68	6012	83.3	6	1.8	0.4413	0.4115
3	3.46	0.99	676.29	195.46	6000	81.7	5	1.6	0.4325	0.4009
4	3.53	0.99	676.62	193.32	5988	81.8	5	1.4	0.433	0.4107
5	3.55	0.99	688.91	194.06	5996	81.4	5	1.6	0.4235	0.3989
6	3.43	0.99	661.61	192.89	6019	82	5	1.6	0.4256	0.4053
7	3.44	0.99	662.33	192.54	5967	83.1	4	1.4	0.4239	0.3981
8	3.48	0.99	668.54	192.11	6033	81.5	4	1.4	0.4282	0.3989
9	3.51	0.99	679.50	193.59	5988	83.8	5	1.7	0.4357	0.3969
10	3.48	0.99	673.31	193.48	6026	82.7	5	1.6	0.4247	0.4074
AVG.	3.48	0.99	672.93	193.54	6004	82.3	5	1.5	0.4297	0.4034

2. Different Mode Power 、Flicker、Stroboscopic Effect and Lumen Maintenance Test:

Sample No.	No Load Power Pno	Standby Power Psb	Network Sb. Power Pnet	Flicker Pst LM	Stroboscopic Effect SVM	Total Luminous flux (lm) After 3600h	Lumen Maintenance at 3600h (%)	Survival factor at 3600h
1	N/A	N/A	N/A	0.000	0.000	672.68	98.63%	P
2	N/A	N/A	N/A	0.000	0.000	671.32	98.43%	P
3	N/A	N/A	N/A	0.000	0.000	670.61	98.32%	P
4	N/A	N/A	N/A	0.000	0.000	671.89	98.51%	P
5	N/A	N/A	N/A	0.000	0.000	662.16	97.09%	P
6	N/A	N/A	N/A	0.000	0.000	663.26	97.25%	P
7	N/A	N/A	N/A	0.000	0.000	668.18	97.97%	P
8	N/A	N/A	N/A	0.000	0.000	665.33	97.55%	P
9	N/A	N/A	N/A	0.000	0.000	663.72	97.31%	P
10	N/A	N/A	N/A	0.000	0.000	664.66	97.45%	P
AVG.	N/A	N/A	N/A	0.000	0.000	667.38	97.85%	P

Energy efficiency classes			
Standard	Clause	Model No.	Verdict
(EU) 2019/2015	Energy class	ML-G04	P
Conditions	-Test conditions: -ambient: 25°C/65%R.H. -Test voltage: 5VDC		
Φ_{use}	667.38lm (Declared)		
P_{on}	$P_{on} = 3.5W$ (Declared)		
F_{TM}	0.978		
η_{TM}	190.68lm/w (Declared)		
Technical requirements	Test result		
$\eta_{TM} = (\Phi_{use}/P_{on}) \times F_{TM}$ (lm/W).	Energy efficiency class	Total mains efficacy η_{TM} (lm/W)	--
	A	$210 \leq \eta_{TM}$	N
	B	$185 \leq \eta_{TM} < 210$	P
	C	$160 \leq \eta_{TM} < 185$	N
	D	$135 \leq \eta_{TM} < 160$	N
	E	$110 \leq \eta_{TM} < 135$	N
	F	$85 \leq \eta_{TM} < 110$	N
G	$\eta_{TM} < 85$	N	
Factors FTM by light source type			
Light source type	Factor FTM		--
Non-directional (NDLS) operating on mains (MLS)	1.000		N
Non-directional (NDLS) not operating on mains (NMLS)	0.978		P
Directional (DLS) operating on mains (MLS)	1.176		N
Directional (DLS) not operating on mains (NMLS)	1.089		N

ATTACHMENT 2



Sample Photo:

Photo 1

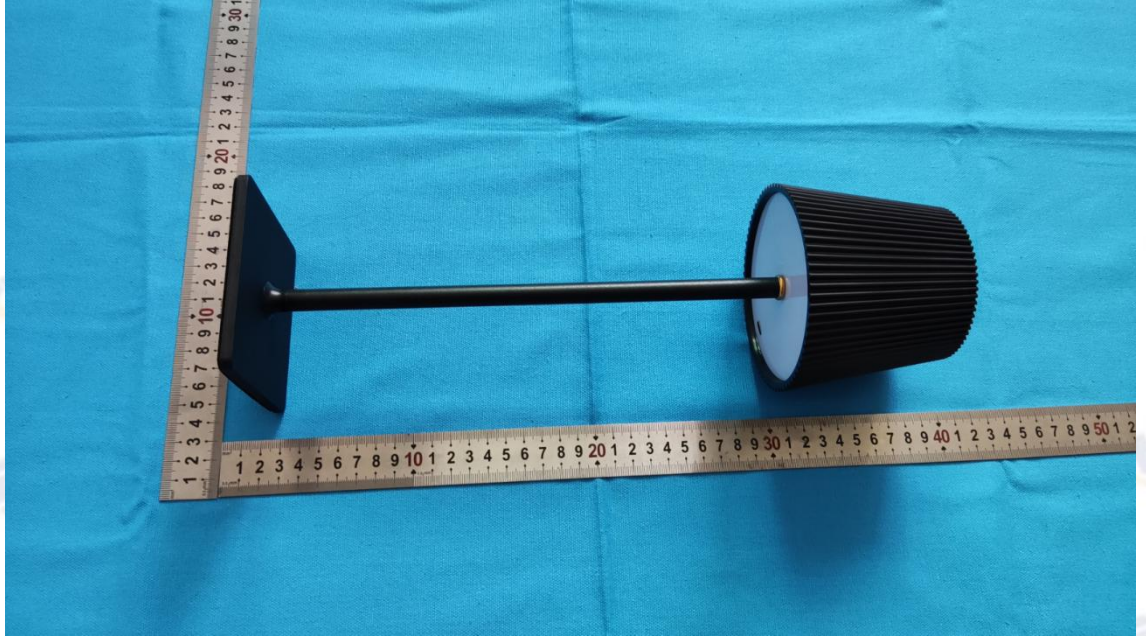


Photo 2

