Test Report issued under the responsibility of:

eurofins

TEST REPORT					
	(EU) No 1194/2012				
E	codesign requirements for				
	ht emitting diode lamps and related equipment				
Report Reference No					
Tested by:	Andy Gong Andy Tong Project Engineer				
Approved by:	Andy Gong Project Engineer Neil Shi Reviewer				
Date of issue:	2019-12-10				
Total number of pages	16 pages				
Testing Laboratory:	Eurofins Product Testing Service (Shanghai) Co., Ltd.				
Address	No.399, No. 395 West Jiangchang Road, Jing'an, District, Shanghai, China				
Applicant's name:	DGM (HK) LTD				
Address	Unit 4, 18/F, Global Gateway Tower,63 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong, China				
Test specification:					
Standard:	Regulation (EU) 1194/2012 on ecodesign requirements for directional lamps, light emitting diode lamps and related equipment Regulation (EC) No 244/2009 on ecodesign requirements for non- direction household lamps				
	Amending Regulation (EC) No 859/2009 on amending regulation (EC) No 244/2009				
	Regulation (EU) 874/2012 on energy labelling of electrical lamps and luminaries				
	Amending Regulation (EU) 2015/1428 on amending (EC) No 244/2009, (EC) No 245/2009 and (EU) 1194/2012				
Test procedure:	⊠type test □customer specific □verification				
Test Report Form No:	EU_1194_2012_B				
Test Report Form(s) Originator:	Eurofins.				
Master TRF:	2016-08				
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Test item description	LED Lamps
Trademark	Smart DGM
Manufacturer	Foshan Electrical and Lighting Co., Ltd 64 North Fenjiang Road, Foshan, Guangdong, China
Factory	Foshan Electrical and Lighting Co., Ltd
	64 North Fenjiang Road, Foshan, Guangdong, China
Model and/or type reference	T65-WD6E
Rating(s) (V; Hz)	220-240V~, 50/60Hz, 6W, 2000K, 350Im,
	Dimmable, Non-replaceable LED module



Testing location:

List of Attachments (including a total number of pages in each attachment):

Attachment 1 – Measured lamp parameters (1 page)

Attachment 2 – Photos (1 page)

Attachment 3 – Luminous Intensity Distribution (1 page)

Attachment 4 - Energy labelling (1 page)

Attachment 5 – Packaging (1 page)

Summary of testing:

The product meets the energy efficiency and product information requirement of stage 1 to stage 6 of nondirectional lamps according to the implementation measure No. EC 244/2009.

The product meets the functionality requirements of stage 1 to stage 3 according to the implementation measure No. EU 1194/2012.

Efficiency & Information requirement

(EC244/2009)

Non- directional	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Start Date	Sep. 1, 2009	Sep. 1, 2010	Sep. 1, 2011	Sep. 1, 2012	Sep. 1, 2013	Sep. 1, 2016

EU1194/2012

Directional	Stage 1	Stage 2	Stage 3
Start Date	Sep. 1, 2013	Sep. 1, 2014	Sep. 1, 2016

Functionality requirement (EU1194/2012)

All	Stage 1	Stage 2	Stage 3
Start Date	Sep. 1, 2013	Sep. 1, 2014	Sep. 1, 2016

Tests performed (name of test and test clause):

This is the 6000H for LED lamps, the samples are tested according
to Annex III of Regulation (EC) 244/2009 and Annex VI and VII of
Regulation (EU) 874/2012.Eurofins Product Testing Service
(Shanghai) Co., Ltd.
No.399, No. 395 West Jiangchang
Road, Jing'an, District, Shanghai,
ChinaThe test samples are complying with the relevant product standard(s)
and all applicable test clauses as below give the most unfavourable
test result.Eurofins Product Testing Service
(Shanghai) Co., Ltd.
No.399, No. 395 West Jiangchang
Road, Jing'an, District, Shanghai,
China

1. Energy Efficacy Requirements

2. Functionality Requirements

Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own this label.

No label and packaging were provided by client.



Test item particulars:	LED lamp
Lamp type:	Self-ballasted lamp
	Lamp with external power supply
	Incandescent lamp
	Tungsten halogen lamp
	Discharge lamp
	Compact fluorescent lamp
	LED lamp directional
	LED lamp non directional
	Lamp control gear
Declared lamp type (e.g.MR 11)	non directional
Controlgear:	Integral control gear
Envelope transparency:	Clear lamp
Lamp cap:	E27
Nominal power (W):	6
Nominal luminous flux (Im):	350
Color temperature (CCT):	2000
Color rendering (Ra)	>80
Nominalbeam angle (°)	280
Nominal life time (h)	15000
Power factor:	>0.5
Declared start up time (ms):	< 0.5 s
Declared warm up time (s):	< 2.0 s
Lamp dimming:	⊠Dimming □No-dimming
Possible test case verdicts:	
- test case does not apply to the test object	N/A (Not applicable)
- test object doesnotcheck:	NC (Not check)
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement:	F (Fail)
Testing:	
Date of receipt of test item	2019-02-05
Date (s) of performance of tests	2019-02-05 to 2019-10-20



General remarks:

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

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"(See Enclosure #)" refers to additional information appended to the report.

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

Throughout this report a \Box comma / \boxtimes point is used as the decimal separator.

Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.

General product information:

The product in this report is LED lamp.

Model No.	Rating	Remark
T65-WD6E	220-240V~, 50/60Hz, 6W, 2000K, 350Im, E27	Dimmable,
		Non-replaceable LED module
Supplementary information	:/	



Sample

1.

Ρ

Ρ

	(EU) No 1194/2012					
Clause	Requirement + Test	Result - Remark	Verdic			
0	Measurement methods		P			
	Recognised state of art measurement methods incl. the one published in the Official Journal taking into account the measurement methods of (EC) 244/2009, (EU)1194/2012		P			

Number of sample used for test 20

2	Energy Efficacy Requirements					Р
2.1	Energy efficiency requirements for direct Ref to A III-1 of (EU) 1194/2012	ctional lam	ps			N/A
	Power correction factors P cor - No correction appropriate: P cor = Prated					
	- Lamps operating on external halogen lamp control gear					N/A
	- Lamps operating on external LED lamp control gear		× 1.10 =			N/A
	- Fluorescent lamps of 16 mm diameter (T5 lamps) and 4- pin single capped fluorescent lamps operating on external fluorescent lamp control gear $P_{rated} \times 1.10 =$ - Other lamps operating on external 					N/A
						N/A
	- Lamps operating on external high-intensity discharge lamp control gear: P _{rated} × 1.10 =					N/A
- Compact fluorescent lamps with colour rendering index \ge 90: $P_{rated} \times 0.85 =$					N/A	
	- Lamps with anti-glare shield: P _{rated} × 0.80 =					N/A
	Reference power P _{ref}					
	- For models with Φ_{use} < 1 300 lumen P_{ref} = 0.88 $\sqrt{\Phi_{use}}$ +0.049 Φ_{use} : (W)	:				—
	- For models with Φ _{use} ≥ 1 300 lumen P _{ref} = 0.07341 Φ _{use} :(W)					
	Maximum energy efficiency index (EEI)	·				
	Stage 1		□ Stage 2	⊠ Stage 3	Calculated	
	- Mains-voltage filament lamps If Φ _{use} > 45	i0 lm: 1.75	1.75	0.95		N/A
		50 lm: 1.20; 50 lm: 0.95	0.95	0.95	—	N/A



	(EU) No 1194/2012							
Clause	lause Requirement + Test Result - Remark					Verdict		
	- High-intensitydischarge lamps	0.50		0.50	0.36		N/A	
	- Other lamps	0.50		0.50	0.20		N/A	

2.2	Lamp efficacy requirements for non-directional household lamps Ref to A II-1 of 244/2009/EC						
	Maximum rated po	Maximum rated power (Pmax) for a given rated luminous flux (Φ) (W)					
		Stage 1 to 5	Stage 6	Measured			
	Clear lamps	0.8 * (0.88√Ф+0.049Ф)	0.6 * (0.88√Φ+0.049Φ)	21.82	Р		
	Non clearlamps	0.24√Ф+0.0103Ф	0.24√Ф+0.0103Ф		N/A		
	Applied Exemption	IS					
	Clear lamps 60 lm	≤ Φ ≤ 950 lm in Stage 1	1.1*(0.88√Φ+0.049Φ)		N/A		
	Clear lamps 60 lm	≤ Φ ≤ 725 lm in Stage 2	1.1*(0.88√Φ+0.049Φ)		N/A		
	Clear lamps 60 lm	≤ Φ ≤ 450 lm in Stage 3	1.1*(0.88√Φ+0.049Φ)		N/A		
	Clear lamps with G9 or R7s cap in Stage 6 $0.8^{\circ}(0.88\sqrt{\Phi}+0.049\Phi)$				N/A		
	Applied correction factors						
		uiring external power	P _{max} / 1.06		N/A		
	Discharge lamp wi	th cap GX53:	P _{max} / 0.75		N/A		
		h colour rendering index ≥ 0.88√Φ+0.049Φ):	P _{max} / 0.85		N/A		
		th colour rendering index 0K	P _{max} / 0.76		N/A		
		h second envelope and Ρ 049Φ)	P _{max} / 0.95		N/A		
	LED lamp requiring	g external power supply.:	P _{max} / 1.1		N/A		

2.3	Energy efficiency requirements for lamp control gear (from September 2014)			
	External halogen lampcontrolgear	Yes 🗌 No 🗌		
	External LEDlampcontrolgear	Yes 🗌 No 🗌		
	External fluorescentlampcontrolgear	Yes 🗌 No 🗌		
	External high-intensitydischarge lamp control gear	Yes 🗌 No 🗌		
	From September 2014		N/A	
	- Power Consumption in any no load condition: ≤ 1W (W):		N/A	
	- Externalhalogenlampcontrolgearthe efficiency shall be at least 0.91 at 100 % load .:		N/A	



	(EU) No 1194/2012					
Clause	Requirement + Test	Result - Remark	Verdict			
	For lamp control gear with output power (P) over 250 W, the no-load power limits shall be multiplied by P/250 W:		N/A			
	From September 2016		N/A			
	- Power Consumption in any no load condition: ≤0.5W:		N/A			
	For lamp control gear with output power (P) over 250 W, the no-load power limits shall be multiplied by P/250 W		N/A			

3	Functionality Requirements					
3.1	Functionality requirements for o	directional compact	fluorescent lamps	;	N/A	
		Stage 1	Stage 3	Measured		
	Lamp survival factor at 6 000 h	≥ 0.50	≥ 0.70		N/A	
	Lumen Maintenance	At 2000h ≥ 85%	At 2000h ≥ 83% At 6000h ≥70%		N/A	
	Number of switching cycles before failure:	≥½ the lamp lifetime expressed in hours ≥ 10'000 if lamp starting time > 0.3 s	 ≥ lamp lifetime expressed in hours ≥ 30'000 if lamp starting time > 0.3 		N/A	
	Starting time	< 2.0 s	< 1.5 s if P < 10W < 1.0 s if P ≥ 10W		N/A	
	Lamp warm-up time to 60%Φ:	<40 s or < 100 s for lamps containing mercury in amalgam form	< 40 s or < 100 s for lamps containing mercury in amalgam form		N/A	
	Premature failure rate:	≤5.0 % at 500 h	≤5.0 % at 1000 h		N/A	
	Lamp power factor for lamps withintegrated control gear:	$\ge 0.50 \text{ if } P < 25 \text{ W}$ $\ge 0.90 \text{ if } P \ge 25 \text{ W}$	$ \geq 0.55 \text{ if } P < 25 \text{ W} \\ \geq 0.90 \text{ if } P \geq 25 \text{ W} $		N/A	
	Colorrendering(Ra) ≥ 80 ≥ 65 if the lamp is intended for outdoor or industrial applications according to point 3.1.3(I) of this Annex			N/A		



(EU) No 1194/2012				
Clause	Requirement + Test	Result - Remark	Verdict	

3.1.0	Functionality requirements for	other directional lan	nps (excl. LED. HID	and CFL)	N/A
		Stage 1 and 2	Stage 3	Measured	
	Rated lamp lifetime at 50 % lamp survival	≥ 1 000 h (≥ 2 000 h in stage 2) ≥ 2 000 h for extra low voltage lamps not complying with the stage 3 filament lamp efficiency requirement in point 1.1 of this Annex	≥ 4 000 h for extra low voltage lamps		N/A
	Lumen maintenance	≥ 80 % at 75 % of ra	ted average lifetime		N/A
	Number of switching cycles:	≥ four times the rate expressed in hours	≥ four times the rated lamp life expressed in hours		N/A
	Starting time	< 2.0 s			N/A
	Lamp warm-up time to 60%⊄: ≤ 1.0 s				N/A
	Premature failure rate:	≤5.0 % at 100 h	≤5.0 % at 200 h		N/A
	Lamp power factor for lamps withintegrated control gear:	Power > 25 W: ≥ 0.9 Power ≤ 25 W: ≥ 0.5			N/A

3.2	Functionality requirements for non-directiona	I and directional L	ED lamps	Р
		From Stage 1	Measured	_
	Lamp survival factor at 6 000 h	≥ 0.90 (1 March 2014)	See attachment 1 table	Р
	Lumen Maintenance at 6 000 h	≥ 0.80 (1 March 2014)	See attachment 1 table	Р
	Number of switching cycles before failure:	\geq 15 000 if rated lamp life \geq 30 000 h otherwise \geq 1/2 the lamp lifetime expressed in hours	See attachment 1 table	Ρ
	Starting time	< 0.5 s	See attachment 1 table	Р
	Lamp warm-up time to 95 % Φ	<2.0 s	See attachment 1 table	Р
	Premature failure rate	≤ 5.0 % at 1 000 h	See attachment 1 table	Р
	Colour rendering (Ra)	80	See attachment 1 table	Р



	(EU) No 1194/2	2012		
Clause	Requirement + Test	Result - Remark		Verdict
	Colour rendering (Ra) for outdoor or industrial applications	≥ 65		N/A
	Colour consistency:	Within a six-step MacAdam ellipse or less.	See attachment 1 table	Ρ
	Lamp power factor (PF) for lamps with integrated control gear:	$\square P \le 2 W: no$ requirement $\square 2 W < P \le 5$ $W: PF > 0.4$ $\boxtimes 5 W < P \le 25$ $W: PF > 0.5$ $\square P > 25 W:$ $PF > 0.9$	See attachment 1 table	Ρ
3.3	Functionality requirement for equipment designation mains and the lamps	gned for installation	on between the	N/A
(a)	As from stage 2, equipment designed for installation shall comply with state-of- the-art requirements for efficiency index (calculated for both directional an with the method set out in point 1.1 of this Annex)	r compatibility with d non-directional la	lamps whose energy	
	- 0.24 for non-directional lamps (assuming that Φ use = total rated luminous flux),			N/A
	- 0.40 for directional lamps.			N/A
	When a dimming control device is switched on at its lowest control setting for which the operated lamps consume power, the operated lamps shall emit at least 1 % of their luminous flux at full load.			N/A
	When a luminaire is placed on the market and intended to be marketed to the end-users, and lamps that the end- user can replace are included with the luminaire, these lamps shall be of one of the two highest energy classes, according to Commission Delegated Regulation (EU) No 874/2012, with which the luminaire is labelled to be compatible.			N/A
(b)	As from stage 3, a luminaire designed for lamps replaceable by the end-user, which is placed on the market, shall be fully compatible with lamps of at least the energy efficiency class "A+" according to delegated regulation (EU) No 874/2012, the technical documentation file of such luminaires drawn up for the purposes of conformity assessment in accordance with article 8 of Directive 2009/125/EC shall list at least one realistic combination of product setting and conditions in which to test product.			N/A



(EU) No 1194/2012				
Clause	Requirement + Test	Result - Remark	Verdict	

4	Product information requirements	N/C
4.1	Product information requirements for directional lamps	N/C
4.1.1	Information to be displayed on the lamp itself (in order of importance)	N/C
4.1.2	Information to be visibly displayed to end-users, prior to their purchase, on the packaging and on free access websites	N/C
4.1.3	Information to be made publicly available on free-access websites and in any other form the manufacturer deems appropriate	N/C
4.2	Additional product information requirements for LED lamps replacing fluorescent lamps without integrated ballast	N/C
4.3	Product information requirements for equipment other than luminaires, designed for installation between the mains and the lamps	N/A
4.4	Product information requirements for lamp control gears	N/A

Energy Efficiency Class of the Lamp (Directive EU No 874/2012)

0	Measurement methods	
	Recognised state of art measurement methods incl. the one published in the Official Journal taking into account the measurement methods of (EC) 244/2009, (EU)1194/2012	Р

1	Energy efficiency class		Р
1.1.1	Power correction factor for lamps with extern	al control gear	Р
	Average measured Input Power (W)	5.8	
	Power correction factors P _{cor}		
	- Lamps operating on external halogen lamp control gear:	P _{rated} × 1.06	N/A
	- Lamps operating on external LED lamp control gear:	P _{rated} × 1.10	N/A
	- Fluorescent lamps of 16 mm diameter (T5 lamps) and 4- pin single capped fluorescent lamps operating on external fluorescent lamp control gear	P _{rated} × 1.10	N/A
	- Other lamps operating on external fluorescent lamp control gear:	$P_{rated} \times \frac{0, 24\sqrt{\phi_{use}} + 0, 0104\phi_{use}}{0, 15\sqrt{\phi_{use}} + 0, 0097\phi_{use}}$	N/A
	- Lamps operating on external high-intensity discharge lamp control gear	P _{rated} × 1.10	N/A
	- Lamps operating on external low pressure sodium lamp control gear:	P _{rated} × 1.15	N/A



	(EU) No 1194/2012					
Clause	Clause Requirement + Test Result - Remark					
	1		1			
1.1.2	Power correction requirement for lamps		Р			
	- Non directional lamp:	5.8	Р			
	- Directional lamp:		N/A			

1.2.1	Useful luminous flu	x				
	Non directional lamp					Р
		mps and carrying a tex on their packaging tha				N/A
	Other directional lamps					N/A
1.2.2	Reference Power					
	Reference power P re	f				
	- For models with Φ_{use} P _{ref} = 0.88 $\sqrt{\Phi_{use}}$ +0.04	₉ < 1 300 lumen 49Φ _{use} : (W)	:	36.37		Р
	- For models with Φ_{us} P _{ref} = 0.07341 Φ_{use} :(_e ≥ 1 300 lumen W)				N/A
	The energy efficiency class of lamps shall be determined on the basis of their energy eff index (EEI) as set out in Table 1.					ficiency
	Energy efficiency class	Energy efficiency index (EEI) for non- directional lamps	Energy efficiency index (EEI) for directional lamps		_	
	A++ (most efficient)	EEI ≤ 0.11	EE	l ≤ 0.13		N/A
	A+	<u>0.11 < EEI ≤ 0.17</u>	0.1	3 <eei 0.18<="" td="" ≤=""><td>0.16</td><td>Р</td></eei>	0.16	Р
	А	0.17 < EEI ≤ 0.24	0.1	8< EEI ≤ 0.40		N/A
	В	0.24 < EEI ≤ 0.60	0.4	0< EEI ≤ 0.95		N/A
	С	0.60 < EEI ≤ 0.80	0.9	5< EEI ≤ 1.20		N/A
	D	0.80 < EEI ≤ 0.95	1.2	0 < EEI ≤1.75		N/A
	E (least efficient)	EEI > 0.95	EE	l > 1.75		N/A
2	The energy consum	ption				Р
	The weighted energy consumption (Ec) is calculated in kWh/1 000 h as follows and is rounded to two decimal places:					—
	$E_c = \frac{P_{cor} \times 1000h}{1000}$ See below				—	
3	Energy label for electrical lamps or luminaires					
	Label for electrical lan	mps presented at a				N/C
	Label for luminaires p	presented atapoint of				N/C



(EU) No 1194/2012										
Clause	Requirement +	Test		Verdict						
4	Energy label design									
Energy Ef	ficiency Class of	the lamp	(See below)							
Remark: E	EI is the abbrevi	iation of Energy E	fficiency index;							
E	Ec is the energy of	comsumption.								
Model No.			T65-WD6E							
		based on rated value			based on tested valu					
EEI		0.16			0.16					
Class		A+			A+					
Ec		6kWh/1000h			6kWh/1000h					



Page 14 of 16

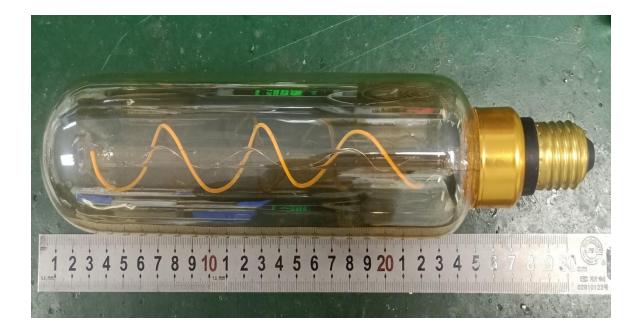
Attachment 1 – Measured lamp parameters

Lamp No.	Test Voltage	Lamp wattage (w)	Initial Iuminous flux (Im)	Colour rendering (Ra)	Colour consis tency	Power factor	Starting time (s)	Warm- up time to 95% Φ (s)	Number of switching cycles	Premature failure rate(%)	Luminous flux at 6000h(lm)	Lumen maintenance at 6000h (%)	Survival at 6000h
1.	230V/50Hz	5.6	382	82.6	4.9	0.5044	0.237	0.337	10000	No	343	89.8%	survival
2.	230V/50Hz	5.8	383	82.5	4.8	0.5072	0.238	0.325	10000	No	340	88.7%	survival
3.	230V/50Hz	5.6	384	82.5	4.8	0.5079	0.259	0.238	10000	No	347	90.3%	survival
4.	230V/50Hz	5.7	381	82.5	4.8	0.5102	0.260	0.359	10000	No	341	89.6%	survival
5.	230V/50Hz	5.7	385	82.5	4.4	0.5123	0.255	0.275	10000	No	351	91.1%	survival
6.	230V/50Hz	5.9	382	82.5	4.6	0.5214	0.248	0.336	10000	No	345	90.2%	survival
7.	230V/50Hz	5.8	383	83.2	4.0	0.5012	0.249	0.312	10000	No	346	90.3%	survival
8.	230V/50Hz	5.7	377	83.1	4.6	0.5022	0.265	0.286	10000	No	340	90.2%	survival
9.	230V/50Hz	5.6	382	83.4	4.6	0.5014	0.240	0.295	10000	No	348	91.0%	survival
10.	230V/50Hz	5.8	386	82.9	4.2	0.5016	0.239	0.324	10000	No	345	89.3%	survival
11.	230V/50Hz	5.9	486	82.7	4.8	0.5096	0.242	0.268	10000	No	432	88.9%	survival
12.	230V/50Hz	5.8	383	83.1	4.9	0.5098	0.262	0.295	10000	No	342	89.4%	survival
13.	230V/50Hz	6.1	381	83.2	4.3	0.5028	0.234	0.285	10000	No	344	90.4%	survival
14.	230V/50Hz	5.8	378	82.8	4.1	0.5104	0.238	0.269	10000	No	341	90.1%	survival
15.	230V/50Hz	5.9	379	82.7	4.5	0.5124	0.240	0.288	10000	No	345	91.1%	survival
16.	230V/50Hz	5.7	386	82.9	4.6	0.5198	0.256	0.274	10000	No	350	90.6%	survival
17.	230V/50Hz	5.8	388	82.6	4.2	0.5196	0.240	0.263	10000	No	347	89.5%	survival
18.	230V/50Hz	6.0	390	83.2	4.3	0.5213	0.236	0.251	10000	No	352	90.2%	survival
19.	230V/50Hz	5.9	386	83	4.9	0.5198	0.254	0.263	10000	No	349	90.4%	survival
20.	230V/50Hz	5.9	385	82.9	4.7	0.5223	0.261	0.259	10000	No	346	89.9%	survival
Average	/	5.8	388.4	82.84	4.55	0.5026	0.247	0.293	10000	0%	349.6	90.1%	100%

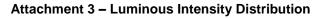


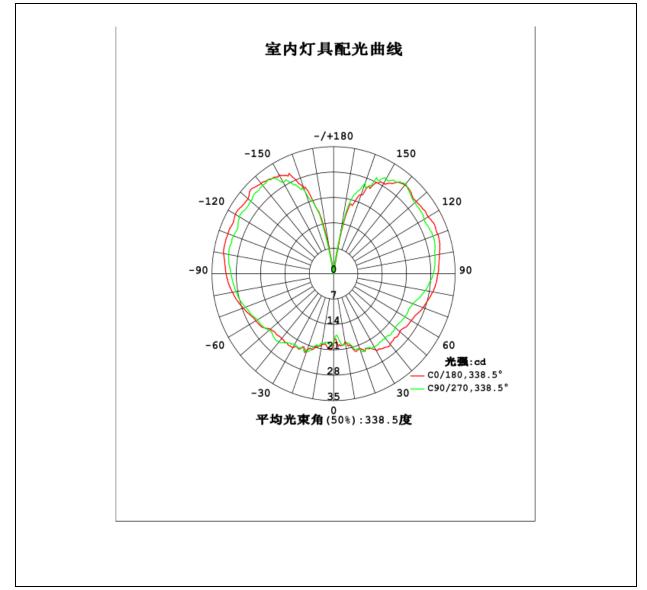
Attachment 2–Photos

Description: Overview of sample









Attachment 4 – Energy labelling

No energy label was provided by client.

Attachment 5 – Packaging

No packaging was provided by client.