TEST REPORT

Reference No.	:	WTF14F0312228N
Applicant	:	GuangZhou O' Ming ELECTRIC & MACHINING CO., Ltd.
Address	:	No. 2, WeiMin South Road, ZhangBian Village, NanCun Town, PanYu District, Guangzhou, China
Manufacturer	:	GuangZhou O' Ming ELECTRIC & MACHINING CO., Ltd.
Address	:	No. 2, WeiMin South Road, ZhangBian Village, NanCun Town, PanYu District, Guangzhou, China
Product Name	:	Pendant lamp
Model No.	:	P50904 (37660006), P50626 (37660001)
Ratings	:	220-240VAC, 50/60Hz, 4*4.5W 220-240VAC, 50/60Hz, 6*4.5W According to customer's requirements
Standards	:	Commission regulation (EU) No. 1194/2012 and Commission delegated regulation (EU) No. 874/2012
Date of Receipt sample	:	2014-03-18
Date of Test	:	2014-03-20 to 2014-12-16
Date of Issue	:	2014-12-17
Test Report Form No.	:	WPL-1194EC-01A
Test Result	:	See the attached sheets

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
Waltek Services (Foshan) Co., Ltd.
Address: No. 13-19, 2/F, 2nd Building, Sunlink International Machinery City, Chencun Town, Shunde District, Foshan, Guangdong, China.

Tel:+86-757-23811398
Fax:+86-757-23811381

Compiled by: Victor Zhang / Project Engineer

Approved by: Oren Yang / Manager

Test sample……..……: Pendant lamp	
Type of test objects……: P50904 (37660006)	
Trademark: …..……..…: ---	
Subcontract / test (clause)…:.N/A	
Address……..: N/A	
Order description……...: Evaluation according to Commission regulation (EU) No. 1194/2012 and Commission delegated regulation (EU) No. 874/2012	
Test item particular:	
Classification:	
- main-voltage filament lamp……:	☐
- other filament lamp……..……:	☐
- High-intensity discharge lamps..……:	☐
- lighting-emitting diode (LED) lamps……:	☒
- compact fluorescent lamps……..……:	☐
- other lamps……..……..:	☐
- equipment designed for installation between the mains and the lamps, including lamp control gear, control devices and luminaires (other than ballasts and luminaires for fluorescent and high-intensity discharge lamps)……..…:	☐
Lamp cap	---
Declared data	General product information
Rated voltage	220-240VAC
Lamp power	4*4.5W
Rated life time	30000H
Luminous flux without anti-glare shield	1520lm
Dimmable lamp	☐Yes ☒No
Non-standard condition	N/A
Possible test case verdicts:	
- test case does not apply to the test object: ……: N(.A.) / not included in the order	
- test object does meet the requirement……: P(ass)	
- test object does not meet the requirement: ……: F(ail)	
Possible suffixes to the verdicts:	
- suffix for detailed information for the client……..…: C(omment)	
- suffix for important information for factory inspection.....: M(anufacturing)	

Copy of marking plate:

P50904 (37660006)
220-240VAC, 50/60Hz, 4*4.5W
1100lm 3000K Beam angle 120°
GuangZhou O' Ming ELECTRIC & MACHINING CO., Ltd.

General remark:

"(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 point is used as the decimal separator.

1. The lamps were pre-conditioned for 30 mins except lamp warm-up time to 95% of luminous flux test and starting time test.
2. The tests were performed at a stable ambient temperature 25°C ±1°C.
3. The tests were performed with the sample in lighting-surface vertically downward position.

Summary of testing:

1. ☒ Report for initial test.
2. ☒ The 1000h Premature failure rate of equipment under test (EUT) is in this report.
3. ☒ The 6000h Lumen Maintenance and 6000h Lamp survival factor of equipment under test (EUT) are updated in this report.
4. ☒ All models are similar except the number of LED module/array/package and the rated power. Unless otherwise specified, all tests were performed on model P50904 (37660006) to represent the other similar models.

Test Method:

All submitted samples were tested according to implementation measure the Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012

Test Condition
The ambient temperature in which measurements are being taken shall be maintained at 25°C ± 1°C, measured at a point not more than 1 m from the product to the same height as the product.

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load. The AC power supply, while operating the product, shall have a sinusoidal voltage waveshape at the prescribed frequency 50 Hz such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

Photometric and Electrical Measurement
The photometric and electrical measurement tests at 0 hour and 6000 hours, were conducted at ambient temperature 25℃ ±1℃, including Total Light Output (luminous flux), Correlated Color Temperature(CCT), Color Rendering Index(CRI), Luminous Efficacy. Chromaticity Coordinate, Current, Power, Power Factor, and Luminous Intensity & Color Distribution (If any). Products were tested with no seasoning.

Total Light Output (luminous flux), Correlated Color Temperature(CCT), Color Rendering Index(CRI), Luminous Efficacy, chromaticity Coordinate, Current, Power, and Power Factor was measured base up by integrating sphere system. This system including spectrophotometer, integrating sphere, digital power meter, DC power supply and AC power supply, was calibrated by standard light source before measurement. Spectral radiant flux measurement was taken at 1nm intervals over the range 380 to 780nm.

The goniophotometer system was used during test and was calibrated by standard light source before measurement. The standard light source has been calibrated regularly and traceable to the National Primary Standards. The goniophotometer was used for measuring total luminous flux, zonal lumen density and beam angle. The product was operated in its intended orientation in application and was recorded in this report.

Starting Time and Warm-up Time
The starting time was performed at 25℃ ±1℃ ambient temperatures at rated voltage. Samples were tested in its designated orientation. Oscilloscope, photodetector and test box were used to measure the starting time. The time was recorded after the supply voltage is switched on, until the lamp to start fully and remain alight.

The run-up time test was made at 25℃ ±1℃ ambient temperatures at rated voltage and was performed on each sample. Lamps were off for at least 24 hours prior to this test. Photometer was used to measure the light output at 1 second intervals. The run-up time was calculated between switching on the supply for the lamp and reach 95% of its stabilized light output.

Rapid-Cycle Stress Test
Products were operated base up with 30 seconds on, 30 seconds off until they burned out or reach the times requested.

Lumen Maintenance and Lamp Survival Factor
Lamps were operated continually at rated voltage to test lumen maintenance in its designated orientation. This test would be suspended for Photometric measurement: after 6000 hours. The samples were inspected at regular intervals throughout the life test. The number of burned out lamps was recorded at both of 1000 hours and 6000 hours.

General product information:

Non-Directional LED luminaires for general lighting services.

Model	Nominal useful luminous flux	Colour temperature	Colour rendering	Power
P50904 (37660006)	1100 lm	3000 K	>80	4*4.5 W
P50626 (37660001)	1.5x1100 lm	3000 K	>80	6*4.5 W

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
Annex III			
Ecodesign Requirements			
1	ENERGY EFFICIENCY REQUIREMENTS		
1.1	Energy efficiency requirements for directional lamps and non-directional LED lamps		P
	P_{rated} is the rated power measured at nominal input voltage		P
	P_{cor} is and corrected where appropriate in accordance with Table 1 of Annex III of (EU) No. 1194/2012. The correction factors are cumulative where appropriate.		P
	- Lamps operating on external halogen lamp control gear: $P_{rated} \times 1,06$		N/A
	- Lamps operating on external LED lamp control gear: $P_{rated} \times 1,1$		N/A
	- Fluorescent lamps of 16 mm diameter (T5 lamps) and 4- pin single capped fluorescent lamps operating on external fluorescent lamp control gear: $P_{rated} \times 1,1$		N/A
	- Other lamps operating on external fluorescent lamp control gear: $P_{rated} \times \frac{0,24\sqrt{\Phi_{use}} + 0,0103\Phi_{use}}{0,15\sqrt{\Phi_{use}} + 0,0097\Phi_{use}}$		N/A
	- Lamps operating on external high-intensity discharge lamp control gear: $P_{rated} \times 1,1$		N/A
	- Compact fluorescent lamps with colour rendering index ≥ 90: $P_{rated} \times 0,85$		N/A
	- Lamps with anti-glare shield: $P_{rated} \times 0,80$		N/A
	- Others not mention in table 1: $P_{rated} \times 1,0$		P
	Useful luminous flux (Φ_{use})		P
	For non-directional LED lamps, Φ_{use} =	Φ_{total}	P
	- Directional lamps with a beam angle ≥ 90° other than filament lamps and carrying a warning on their packaging in accordance with point 3.1.2(j) of this Annex: rated luminous flux in a 120° cone ($\Phi_{120°}$)		N/A
	- Other directional lamps: rated luminous flux in a 90° cone ($\Phi_{90°}$).		N/A
	P_{ref} is the reference power obtained from the useful luminous flux of the lamp (Φ_{use}) by the following formula:		P
	For models with Φ_{use}<1300 lumen: $0,88\sqrt{(\Phi_{use})}+0,049\Phi_{use}$		P
	For models with Φ_{use} ≥ 1300 lumen: $0,07341\Phi_{use}$		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	EEI= P_{cor} / P_{ref} in Stage 1:	See table 1 of this report	P
	- Mains-voltage filament lamps, if Φ_{use}> 450 lm: ≤1,75		N/A
	- Other filament lamps:		N/A
	If Φ_{use} ≤ 450 lm: ≤1,20		N/A
	IfΦ_{use} > 450 lm: ≤0,95		N/A
	High-intensity discharge lamps: ≤0,5		N/A
	Other lamps: ≤0,5		P
	EEI= P_{cor} / P_{ref} in Stage 2:	See table 1 of this report	P
	- Mains-voltage filament lamp: ≤1,75		N/A
	- Other filament lamps: ≤0,95		N/A
	High-intensity discharge lamps: ≤0,5		N/A
	Other lamps: ≤0,5		P
	EEI= P_{cor} / P_{ref} in Stage 3:		N/A
	- Mains-voltage filament lamps: ≤0,95		N/A
	- Other filament lamps: ≤0,95		N/A
	High-intensity discharge lamps: ≤0,36		N/A
	Other lamps: ≤0,2		N/A
1.2	Energy efficiency requirements for lamp control gear		N/A
	As from stage 2, the no-load power of a lamp control gear intended for use between the mains and the switch for turning the lamp load on/off shall not exceed 1,0 W. As from stage 3, the limit shall be 0,50 W. 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
	As from stage 3, the standby power of a lamp control gear shall not exceed 0,50 W.		N/A
	As from stage 2, the efficiency of a halogen lamp control gear shall be at least 0,91 at 100 % load	LED products control gear	N/A
2	FUNCTIONALITY REQUIREMENTS		
2.1	Functionality requirements for other directional lamps (excluding LED lamps, compact fluorescent lamps and high-intensity discharge lamps)other than LED lamps		N/A
	Requirement for stage 1		N/A
	Rated lamp lifetime at 50% lamp survival:		N/A
	≥1000h (lm: ≥2000h in stage 2)		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	≥2000h for extra low voltage lamps not complying with the stage 3 filament lamp efficiency requirement in point 1.1 of this Annex		N/A
	Lumen maintenance at 75% of rated average lifetime: ≥80%		N/A
	Number of switching cycles: ≥four times the rated lamp life expressed in hours		N/A
	Starting time: <0,2s		N/A
	Lamp warm-up time to 60% Φ: ≤1,0s		N/A
	Premature failure rate at 100h: ≤5,0%		N/A
	Lamp power factor for lamps with integrated control gear:		N/A
	Power>25W, ≥0,9		N/A
	Power≤25W, ≥0,5		N/A
	Requirement for stage 2		N/A
	Rated lamp lifetime at 50% lamp survival:		N/A
	≥2000h		N/A
	≥2000h for extra low voltage lamps not complying with the stage 3 filament lamp efficiency requirement in point 1.1 of this Annex		N/A
	Lumen maintenance at 75% of rated average lifetime: ≥80%		N/A
	Number of switching cycles: ≥four times the rated lamp life expressed in hours		N/A
	Starting time: <0,2s		N/A
	Lamp warm-up time to 60% Φ: ≤1,0s		N/A
	Premature failure rate at 200h: ≤5,0%		N/A
	Lamp power factor for lamps with integrated control gear:		N/A
	Power>25W, ≥0,9		N/A
	Power≤25W, ≥0,5		N/A
	Requirement for stage 3		N/A
	Rated lamp lifetime at 50% lamp survival:		N/A
	≥2000h		N/A
	≥4000h for extra low voltage lamps		N/A
	Lumen maintenance at 75% of rated average lifetime: ≥80%		N/A
	Number of switching cycles: lm: ≥four times the rated lamp life expressed in hours		N/A
	Starting time: <0,2s		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	Lamp warm-up time to 60% Φ: ≤1,0s		N/A
	Premature failure rate at 100h: ≤5,0%		N/A
	Lamp power factor for lamps with integrated control gear:		N/A
	Power>25W, ≥0,9		N/A
	Power≤25W, ≥0,5		N/A
2.2	Functionality requirements for non-directional and directional LED lamps	☒ Non-directional LED lamps ☐ Directional LED lamps	P
	Lamp survival factor at 6 000 h	100%	P
	Lumen Maintenance at 6 000 h	94.22%	P
	Number of switching cycles before failure: ≥ 15 000 if rated lamp life ≥ 30 000 h	30s on and 30s off for one cycle	P
	otherwise: ≥ half the rated lamp life expressed in hours		N/A
	Starting time: < 0,5 s		P
	Lamp warm-up time to 95 % Φ: < 2 s		P
	Premature failure rate: ≤ 5,0 % at 1 000 h	0%	P
	Colour rendering (Ra)		P
	≥ 80		P
	≥ 65 if the lamp is intended for outdoor or industrial applications in accordance with point 3.1.3(l) of this Annex		N/A
	Colour consistency: Variation of chromaticity coordinates within a six-step MacAdam ellipse or less.		P
	Lamp power factor (PF) for lamps with integrated control gear:		P
	P ≤ 2 W: no requirement		N/A
	2 W < P ≤ 5 W: PF > 0,4		N/A
	5 W < P ≤ 25 W: PF > 0,5		P
	P > 25 W: PF > 0,9		N/A
3	PRODUCT INFORMATION REQUIREMENTS		
3.1	Product information requirements for directional lamps		N/A
	The following information shall be provided as from stage 1, except where otherwise stipulated. These information requirements do not apply to: filament lamps not fulfilling the efficacy requirements of Stage 2.		N/A
	The term ‘energy-saving lamp’ or any similar product related promotional statement about		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	lamp efficacy may be used only if the energy efficiency index of the lamp (calculated in accordance with the method set out in point 1.1 of this Annex) is 0,40 or below.		
3.2	Additional product information requirements for LED lamps replacing fluorescent lamps without integrated ballast		N/A
	Information to be displayed on the lamp itself		N/A
	Inclusion of safety-related information such as power and voltage		N/A
	If there is sufficient space available for it on the lamp without unduly obstructing the light coming from the lamp, below information shall also be displayed in a legible font on the surface.		N/A
	- Nominal useful luminous flux in unit 'lm'		N/A
	- Colour temperature in unit 'K'		N/A
	- Nominal beam angle in unit '°'		N/A
	Information to be visibly displayed to end-users, prior to their purchase, on the packaging and on free access websites		N/A
	The information in paragraphs (a) to (o) below shall be displayed on free access websites and in any other form the manufacturer deems appropriate.EN 14.12.2012 Official Journal of the European Union L 342/13		N/A
	(a) Nominal useful luminous flux displayed in a font at least twice as large as any display of the nominal lamp power;		N/A
	(b) Nominal life time of the lamp in hours (not longer than the rated life time);		N/A
	(c) Colour temperature, as a value in Kelvins and also expressed graphically or in words;		N/A
	(d) Number of switching cycles before premature failure;		N/A
	(e) Warm-up time up to 60 % of the full light output (may be indicated as 'instant full light' if less than 1 second);		N/A
	(f) A warning if the lamp cannot be dimmed or can be dimmed only on specific dimmers; in the latter case a list of compatible dimmers shall be also provided on the manufacturer's website;		N/A
	(g) If designed for optimum use in non-standard conditions (such as ambient temperature Ta ≠ 25 °C or specific thermal management is necessary), information on those conditions;		N/A
	(h) Lamp dimensions in millimetres (length and largest diameter);		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	(i) Nominal beam angle in degrees;		N/A
	(j) If the lamp's beam angle is ≥ 90° and its useful luminous flux as defined in point 1.1 of this Annex is to be measured in a 120° cone, a warning that the lamp is not suitable for accent lighting;		N/A
	(k) If the lamp cap is a standardised type also used with filament lamps, but the lamp's dimensions are different from the dimensions of the filament lamp(s) that the lamp is meant to replace, a drawing comparing the lamp's dimensions to the dimensions of the filament lamp(s) it replaces;		N/A
	(l) An indication that the lamp is of a type listed in the first column of Table 6 may be displayed only if the luminous flux of the lamp in a 90° cone (Φ 90°) is not lower than the reference luminous flux indicated in Table 6 for the smallest wattage among the lamps of the type concerned.		N/A
	(m) An equivalence claim involving the power of a replaced lamp type may be displayed only if the lamp type is listed in Table 6 and if the luminous flux of the lamp in a 90° cone (Φ 90°) is not lower than the corresponding reference luminous flux in Table 6. The intermediate values of both the luminous flux and the claimed equivalent lamp power (rounded to the nearest 1 W) shall be calculated by linear interpolation between the two adjacent values.		N/A
	If the lamp contains mercury:		N/A
	(n) Lamp mercury content as X,X mg;		N/A
	(o) Indication of which website to consult in case of accidental lamp breakage to find instructions on how to clean up the lamp debris		N/A
	Information to be made publicly available on free-access websites and in any other form the manufacturer deems appropriate As a minimum, the following information shall be expressed at least as values.		N/A
	(a) The information specified in point 3.1.2;		N/A
	(b) Rated power (0,1 W precision);		N/A
	(c) Rated useful luminous flux;		N/A
	(d) Rated lamp life time;		N/A
	(e) Lamp power factor;		N/A
	(f) Lumen maintenance factor at the end of the nominal life (except for filament lamps);		N/A

Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012			
Clause	Requirement – Test	Measuring result – Remark	Verdict
	(g) Starting time (as X,X seconds);		N/A
	(h) Colour rendering;		N/A
	(j) Rated peak intensity in candela (cd);		N/A
	(k) Rated beam angle;		N/A
	(l) If intended for use in outdoor or industrial applications, an indication to this effect;		N/A
	(m) Spectral power distribution in the range 180-800 nm;		N/A
	If the lamp contains mercury:		N/A
	(n) Instructions on how to clean up the lamp debris in case of accidental lamp breakage;		N/A
	(o) Recommendations on how to dispose of the lamp at the end of its life for recycling in line with Directive 2012/19/EU of the European Parliament and of the Council (1).		N/A
3.3	Product information requirements for equipment other than luminaires, designed for installation between the mains and the lamps		N/A
	As from stage 2, if the equipment provides no compatibility with any of the energy-saving lamps according to part 2.3 of this Annex, a warning that the equipment is not compatible with energy-saving lamps shall be published on publicly available free-access websites and in other forms the manufacturer deems appropriate		N/A
3.4	Product information requirements for lamp control gears.		N/A
	As from stage 2, the following information shall be published on publicly available free access websites and in other forms the manufacturer deems appropriate:		N/A
	Indication that the product is intended to be used as a lamp control gear.		N/A
	If applicable, the information that the product may be operated in no-load mode.		N/A

Appendix-Test Data Sheet

Table 1 EEI:

Model: P50904 (37660006)			
Sample No.	P (W)	Useful Luminous Flux (Lm) Φtotal	EEI= P_{cor} / P_{ref}
1	21.48	1051.90	0.27
2	20.25	1076.70	0.25
3	21.41	1029.60	0.27
4	20.32	1085.70	0.25
5	21.42	1036.50	0.27
6	20.52	1080.30	0.25
7	21.38	976.76	0.28
8	21.67	1073.20	0.27
9	20.32	1045.50	0.26
10	21.39	980.52	0.28
11	20.30	1037.40	0.26
12	21.52	1023.60	0.27
13	21.41	987.07	0.28
14	21.46	1004.50	0.28
15	20.26	1034.00	0.26
16	21.43	996.30	0.28
17	20.25	1031.00	0.26
18	21.49	1016.90	0.28
19	20.24	1029.80	0.26
20	21.64	1066.30	0.27
Average value	**21.01**	**1033.18**	**0.27**

Energy Efficiency Class	☒Non-directional lamps	☐Directional lamps	
A ++	EEI ≤ 0,11	EEI ≤ 0,13	
A +	0,11 < EEI ≤ 0,17	0,13 < EEI ≤ 0,18	
A	0,17 < EEI ≤ 0,24	0,18 < EEI ≤ 0,40	
B	0,24 < EEI ≤ 0,60	0,40 < EEI ≤ 0,95	0.27
C	0,60 < EEI ≤ 0,80	0,95 < EEI ≤ 1,2	
D	0,80 < EEI ≤ 0,95	1,2 < EEI ≤ 1,75	

Table 2 Functionality requirements:

Model: P50904 (37660006)				
Sample No.	Φtotal Luminous Flux (Lm)	Starting time (s)	Lamp warm-up time to 95% Φ (s)	Power factor
1	1051.90	0.084	0.30	0.9113
2	1076.70	0.076	0.40	0.9065
3	1029.60	0.082	0.30	0.9126
4	1085.70	0.075	0.30	0.9064
5	1036.50	0.073	0.40	0.9121
6	1080.30	0.074	0.35	0.9060
7	976.76	0.082	0.40	0.9130
8	1073.20	0.088	0.50	0.9101
9	1045.50	0.073	0.30	0.9068
10	980.52	0.083	0.40	0.9127
11	1037.40	0.085	0.40	0.9072
12	1023.60	0.075	0.50	0.9111
13	987.07	0.072	0.30	0.9121
14	1004.50	0.081	0.30	0.9113
15	1034.00	0.086	0.40	0.9073
16	996.30	0.084	0.30	0.9117
17	1031.00	0.075	0.40	0.9079
18	1016.90	0.088	0.30	0.9110
19	1029.80	0.074	0.40	0.9078
20	1066.30	0.082	0.50	0.9102
Average value	**1033.18**	**0.080**	**0.37**	**0.9098**

Model: P50904 (37660006)					
Sample No.	1000 Hours Premature failure rate	6000 Hours Lumen Maintenance	Lamp survival factor (6000 Hours)	Sample No.	Switching cycle (15000 cycle)
1	Pass	92.30%	Pass	1	Pass
2	Pass	96.85%	Pass	2	Pass
3	Pass	93.66%	Pass	3	Pass
4	Pass	94.13%	Pass	4	Pass
5	Pass	92.07%	Pass	5	Pass
6	Pass	97.09%	Pass	6	Pass
7	Pass	93.67%	Pass	7	Pass
8	Pass	93.24%	Pass	8	Pass
9	Pass	93.66%	Pass	9	Pass
10	Pass	93.04%	Pass	10	Pass
11	Pass	93.22%	Pass	11	Pass
12	Pass	94.49%	Pass	12	Pass
13	Pass	92.60%	Pass	13	Pass
14	Pass	94.99%	Pass	14	Pass
15	Pass	94.00%	Pass	15	Pass
16	Pass	95.41%	Pass	16	Pass
17	Pass	95.09%	Pass	17	Pass
18	Pass	95.23%	Pass	18	Pass
19	Pass	94.64%	Pass	19	Pass
20	Pass	95.09%	Pass	20	Pass
Average value	**Pass**	**94.22%**	**100%**	**Average value**	**Pass**

Table 3 Parameters of the lamps:

Model: P50904 (37660006)					
Sample No.	Colour rendering (Ra)	Beam angle (°)	Peak intensity	Color temperature (K)	Colour consistency
1	83.3	102.60	393.30	3031.0	5.6
2	83.5	102.80	401.40	3056.0	6.0
3	83.2	102.60	385.10	3034.0	5.8
4	83.5	102.80	404.80	3056.0	6.0
5	83.3	102.60	387.70	3032.0	5.7
6	83.6	102.20	406.30	3053.0	5.9
7	82.9	103.00	363.80	3034.0	6.1
8	83.7	103.60	396.50	3045.0	5.6
9	83.0	101.90	395.00	3028.0	5.9
10	83.5	103.00	365.00	3051.0	5.9
11	83.2	101.80	392.10	3016.0	5.3
12	83.5	103.40	379.10	3051.0	5.8
13	83.6	103.00	367.30	3055.0	5.8
14	83.6	103.30	372.90	3049.0	5.8
15	83.3	101.80	391.10	3014.0	5.1
16	83.6	103.10	370.40	3049.0	5.8
17	83.3	101.80	389.90	3017.0	5.3
18	83.6	103.40	376.90	3051.0	5.8
19	83.2	101.80	389.60	3021.0	5.5
20	83.4	103.70	393.60	3056.0	6.1
Average value	**83.4**	**102.71**	**386.09**	**3040.0**	**5.7**

Performance Requirements of Commission regulation (EU) No. 1194/2012 used in conjunction with Commission delegated regulation (EU) No. 874/2012

Item	Result（Average）	Performance Requirements of regulation (EU)No 1194/2012 (ANNEX III)	Verdict (P/F/NA)
Lamp wattage(W)	21.01	(Declared value: 4*4.5 W)	P (customer's requirements)
Useful Luminous Flux(lm)	1033.18	Reference Luminous flux for equivalence claims the average results do not vary from declared values by more than 10% (Declared value: 错误!未找到引用源。 lm)	P
Beam Angle(Deg)	102.71	The average results do not vary from declared values by more than 25% (Declared value: Max. 120)	P
EEI	0.27	Stage1 and 2 for LED lamps : EEI ≤ 0.5. (From 1 Setember 2014 to 1 Setember 2016) Stage 3 for LED lamps: EEI ≤ 0.2 (From 1 Setember 2016)	P (for stage1 and 2)
Power Factor	0.9098	P≤2W: no requirement; 2W＜P≤5W:PF＞0.4 ; 5W＜P≤25W;PF＞0.5; P＞25W;PF＞0.9	P
Starting Time (s)	0.080	＜0.5s	P
Warm-up Time to 95% Φ (s)	0.37	＜2s	P
Color Rendering	83.4	≥80	P
Colour consistency	5.7	Variation of chromaticity coordinates within a six-step MacAdam ellipse or less	P
CCT(K)	3040.0	The average results do not vary from declared values by more than 10% (Declared value: 错误!未找到引用源。 K)	P
Switching Cycles	15000	≥15000 if rated lamp life ≥30000h otherwise: ≥half the rated lamp life expressed in hours	P
Premature Failure Rate at 1000h	0%	≤5% at 1000h	P
Lumen Maintenance at 6000h	94.22%	From 1 March 2014:≥0.80	P
Lamp Survival Factor at 6000h	100%	From 1 March 2014:≥0.90	P

Equipment List

Equipment	Model/Type	Cal. Due Date
AC power supply	EVERFINE TPS-500B	2015-03-05
Power meter	EVERFINE PF2010A-V1-CAN	2015-03-05
High accuracy array spectroradio meter	EVERFINE HAAS-2000	2015-03-05
Integrating Sphere	EVERFINE R80	---
Standard light source	EVERFINE D204	2015-03-06
Temperature & Humidity Datalogger	Testo 608-H1	2015-03-05
Caliper	CD-6”CS	2015-03-05
Digital Power Meter	EVERFINE PF2010A-V1	2015-03-05
Goniophotometer	EVERFINE GO R5000-2M2D	2015-03-05
Oscillograph	Tektronic TDS3012C	2015-03-05
Standard lamp	EVERFINE 28V/10A/500cd	2015-03-03
Standard lamp	EVERFINE D908	2015-03-06

Attachment 1: Photo document

Model: P50626 (37660001)

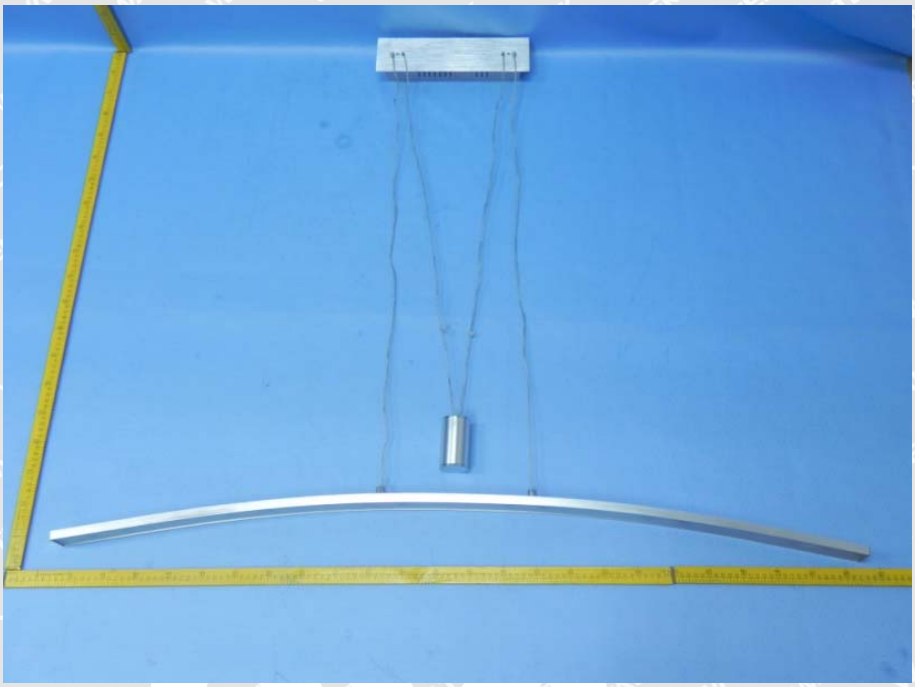

Photo 1

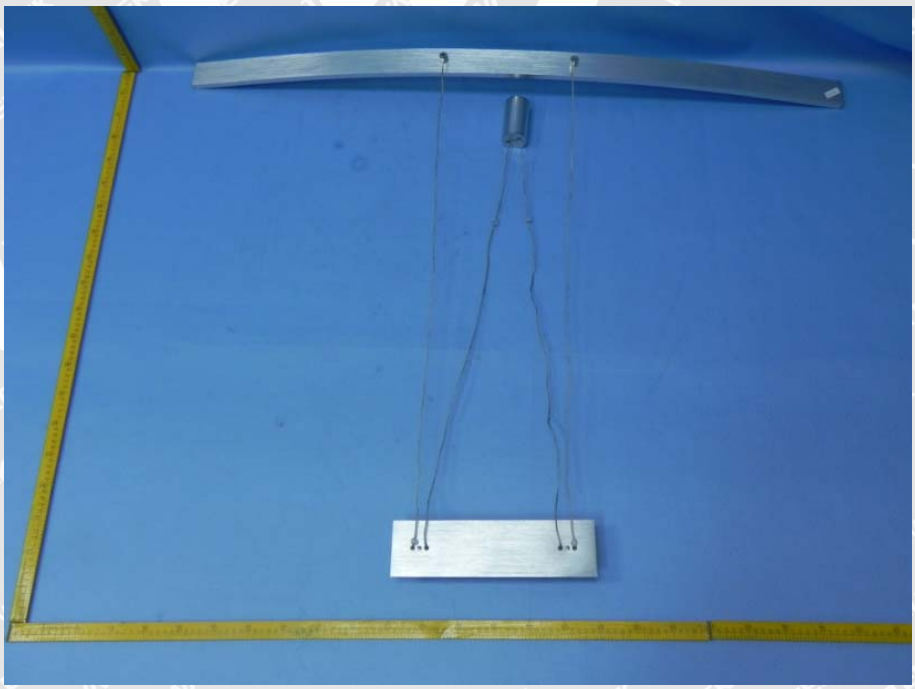

Photo 2

Model: P50904 (37660006)

Photo 3

====== End of Report ======