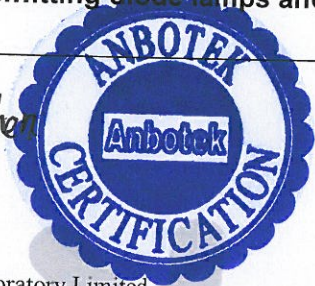


TEST REPORT

COMMISSION REGULATION (EU) No1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps,light emitting diode lamps and related equipment



Report Reference No.....: R011509070L
 Tested by(name+signature).....: Rain chen
 Approved by(+signature).....: Vic zhou *Vic Zhou*
 Date of issue.....: Sept. 07, 2015
 Total number of pages.....: 21
 Testing Laboratory.....: Shenzhen Anbotek Compliance Laboratory Limited
 Address.....: 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District,Shenzhen, Guangdong, China

Applicant's name.....: VTOP LED LIGHTING CO., LIMITED
 Address.....: 501B, 5th Floor, Building 1, No. 12 North Taihe Road, Duanzhou District, Zhaoqing City, Guangdong, P.R.China

Manufacturer's name.....: VTOP LED LIGHTING CO., LIMITED
 Address.....: 501B, 5th Floor, Building 1, No. 12 North Taihe Road, Duanzhou District, Zhaoqing City, Guangdong, P.R.China

Test specification:
 Standard.....: Regulation (EU) 1194/2012 on Ecodesign requirements for directional lamps,light emitting diode lamps,light emitting diode lamps and related equipment

Test procedure.....: Commission test
 Stage.....: stage1 stage2 stage3
 Non-standard test method.....: N/A

Test Report Form No.....: 1194/2012/EU_A
 Test Report Form(s) Originator.....: N/A
 Master TRF.....: N/A

This test report is based on the content of the internal test program.The test program considered selected clause of the a.m. Standard(s) and experience gained with product testing.It was prepared by Anbotek.
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Test item description.....: LED Spot Light
 TradeMark.....: **VTOP**[®]
 Factory.....: Same as applicant
 Model/Type reference.....: GU10-7W, G60-7W
 Ratings.....: 220V-240VAC,7W, 0.05A, 5700K

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Summary of testing:

The sample(s) tested complies with the requirements of COMMISSION REGULATION(EU) No1194/2012.

These tests fulfil the requirements of standard ISO/CEC 17025.

When determining the test conclusion,the Measurement Uncertainty of test has been considered.

List of attachments:

Appendix 1:Measured data by goniophotometer system

Appendix 2:Test instrumens

Appendix 3:Prouct photo

Copy of marking plate



GU10-7W, G60-7W
E27 230VAC 7W
5700K 390lm 100°

Test item particulars.....:	
Lamp cap.....:	E27
Lamp type.....:	<input type="checkbox"/> CFL/ <input checked="" type="checkbox"/> LED/ <input type="checkbox"/> Tungsten halogen lamp/ <input type="checkbox"/> Mains-voltage filament lamps/ <input type="checkbox"/> Other filament lamps/ <input type="checkbox"/> High-intensity discharge lamps <input type="checkbox"/> other lamps:
Bulb type.....:	<input checked="" type="checkbox"/> Directional/ <input type="checkbox"/> Non-directional
Rated Power(W).....:	7W
Rated luminous(lm).....:	390lm
Rated color temperature(CCT).....:	5700K
Rated color tendering(CRI).....:	≥80
Rated life(h).....:	35000h
Rated power factor.....:	--
Mass of the equipment.....:	0.01Kg
Declared start up time(ms).....:	<200ms
Declared warm up time(ms).....:	<1s
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)
Testing	
Date of receipt of test item	Dec. 24, 2014
Date(s) of perfomance of tests	Dec. 26, 2014 to Sept. 02, 2015
General remarks:	
<p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced,except in full,without the written approval of the Issuing testing laboratory.</p> <p>“(see Enclosure#)”refers to additional information appended to the report.</p> <p>“(see appended table)”refer to a table appended to the report.</p> <p>Any holder of this document is advised that information contained hereon reflects the Company’s findings at the time of its intervention only and within the limits of Client’s instructions,if any.The Company’s sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.Any unauthorized alteration,forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</p> <p>Unless otherwise stated:(a) the results shown in this document refer only to the sample(s)tested and(b) such sample(s) are retained of 12 months.This document cannot be reproduced except in full,without prior approval of the company.</p> <p>Throughout this report a comma (point) is used as the decimal separator.</p>	
General product information:	
<p>The submitted samples are 230VAC LED Spot Light;in can be used to replace ordinary LED Spot Light,it is directional lamp for general lighting purpose.</p> <p>The two models Jsut pin position is different,which not revelant to the ERP test.Test with mode GU10-7W .</p>	

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict
ANNEX I	Product information requirements for special purpose products		N/A
1	<p>If the chromaticity coordinates of a lamp always fall within the following range:</p> <p>—$x < 0.270$ or $x > 0.530$</p> <p>—$y < -2,3172x^2 + 2,3653x - 0,2199$</p> <p>or $y > -2,3172x^2 + 2,3653x - 0,1595$</p>	<p>x:</p> <p>y:</p>	N/A
	The chromaticity coordinates shall be stated in the technical documentation file, which shall indicate that these coordinates make them a special purpose product.		N/A
2	For all special purpose products, the intended purpose shall be stated in all forms of product information, together with the warning that they are not intended for use in other applications.		N/A
	The technical documentation file shall list the technical parameters that make the product design specific for the stated intended purpose.		N/A
	If needed, the parameters shall be listed in such a way as to avoid disclosing commercially sensitive information linked to the manufacturer's intellectual property rights.		N/A
	If the product is placed on the market in a packaging containing to be visibly displayed to the end-user prior purchase, the following information shall be clearly and prominently indicated on the packaging and in all other forms of product information:		N/A
	(a) the intended purpose; and		N/A
	(b) that it is not suitable for household room illumination.		N/A

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Clause	Requirement+Test	Result-Remark	Verdict
ANNEX III	Ecodesign requirements		P
1	ENERGY EFFICIENCY REQUIREMENTS		P
1.1	Energy efficiency requirements for directional lamps		P
Table 1	Lamps operating on external halogen lamp control gear		N/A
	Lamps operating on external LED lamp control gear		P
	Fluorescent lamps of 16 mm diameter (T5 lamps) and 4-pin single capped fluorescent lamps operating on external fluorescent lamp control gear		N/A
	Other lamps operating on external fluorescent lamp control gear		N/A
	Lamps operating on external high-intensity discharge lamp control gear		N/A
	Compact fluorescent lamps with colour rendering index ≥ 90		N/A
	Lamps with anti-glare shield		N/A
Table 2	The maximum EEI of directional lamps	(See Annex 1)	P
Stage 3	For mains-voltage filament lamps shall apply only if no later than 30 September 2015, evidence is produced by the Commission through a detailed market assessment and communicated to the Consultation Forum that there are mains-voltage lamps on the market that are:		N/A
	—compliant with the maximum EEI requirement in Stage 3;		—
	—affordable in terms of not entailing excessive costs for the majority of end-users;		—
	—broadly equivalent in terms of consumer-relevant functionality parameters to mains-voltage filament lamps available on the date of entry into force of this Regulation, including in terms of luminous fluxes spanning the full range of reference luminous fluxes listed in Table 6;		N/A
	—Compatible with equipment designed for installation between the mains and filament lamps available on the date of entry into force of this Regulation according to state-of-the-art requirements for compatibility		N/A
1.2	Energy efficiency requirements for lamp control gear		N/A
Stage 2	The no-load power of a lamp control gear intended for use between the mains and the switch turning the lamp load on/off shall not exceed 1,0W.....:		N/A
Stage 2	For lamp control gear with output power(P) over 250W, the no-load power limits shall be multiplied by		N/A

	P/250W.....:		
Stage 2	The efficiency of a halogen lamp control gear shall be at least 0,91 at 100% load		N/A
Stage 3	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 0,50W.....:		N/A
Stage 3	For lamp control gear with output power(P) over 250W,the no-load power limits shall be multiplied by P/250W.....:	Limit:	N/A
Stage 3	The standby power of a lamp control gear shall not exceed 0,50W.....:		N/A
2	FUNCTIONALITY REQUIREMENTS		P
2.1	Functionality requirements for directional lamps other than LED lamps		P
Table 3	Functionality requirements for directional compact florescent lamps	(see Annex 2)	N/A
	If the lamp cap is a standardised type also used with filament lamps,then as from stage 2,the lamp shall comply with state-of-the-art requirements for compatibility with equipment designed for installation between the mains and filament lamps.		N/A
Table 4	Functionality requirements for other directional lamps(excluding LED lamps,compact fluorescent lamps and high-intensity discharge lamps)	(see Annex 3)	N/A
2.2	Functionality requirements for non-directional and directional LED lamps		P
Table 5	Functionality requirements for non-directional and directional LED lamps	(see Annex 4)	P
1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict
	If the lamp cap is a standardised type also used with filament lamps,then as from stage 2 the lamp shall comply with state-of-the-art requirements for compatibility with equipment designed for installation between the mains and filament lamps.		P
2.3	Functionality requirement for equipment designed for installation between the mains and the lamps		N/A
Stage 2	Equipment designed for installation between the mains and the lamps shall comply with state-of-the-art requirements for compatibility with lamps whose energy efficiency index is at most:		N/A
	—0,24for non-directional lamps(assuming that Φ_{use} =total rated luminous flux),		N/A
	—0,40 for directional lamps.		N/A

	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
	A luminaire is placed on the market and intended to be marketed to the end-user can replace are included with the luminaire,there 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
3	PRODUCT INFORMATION REQUIREMENTS		P
3.1	Product information requirements for directional lamps		P
Stage 1	The following information shall be provided as from stage 1,except where otherwise stipulated.		P
	These information requirements do not apply to:		P
	— filament lamps not fulfilling the efficacy requirements of Stage2,		N/A

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Clause	Requirement+Test	Result-Remark	Verdict

	—LED modules when marketed as part of a luminaire from which they are not intended to be removed by the end-user.		P
	In all forms of product information,the term 'energy-saving lamp' or any similar product related promotional statement about 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.		N/A
3.1.1	Information to be displayed on the lamp itself		P
	Lamps other than high-intensity discharge lamps, the value and unit('lm', 'K' and '° ') of the nominal useful luminous flux,of the colour temperature and of the nominal beam angle shall be displayed in a legible font on the surface of the lamp.		P
3.1.2	Information to be visibly displayed to end-users, prior to their purchase,on the packaging and on free access websites		P
	The information in paragraphs(a) to(o)below shall be displayed on free access websites and in any other form the manufacturer deems appropriate.		P
	If the product is placed on the market in a packaging containing information to be visibly displayed to be end-users,prior to their purchase,the information shall also be clearly and prominently indicated on the packaging.		P
	The information does not need to use the exact wording on the list below.It may be		P

	displayed in the form of graphs,drawing or symbols rather than text.		
	(a) Nominal useful luminous flux displayed in a font at least twice as large as any display of the nominal lamp power;		P
	(b)Nominal life time of the lamp in hours(not longer than the rated life time);		P
	(c)Colour temperature,as a value in Kelvins and also expressed graphically or in words;		P
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Clause	Requirement+Test	Result-Remark	Verdict
	(d)Number of switching cycles before premature failure;		P
	(e) Warm-up time up to 60% of the full light output(may be indicated as 'instant full light' if less than 1 second);		P
	(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;	Not-dimming	P
	(g)If designed for optimum use in non-standard conditions (such as ambient temperature $T_a \neq 25^\circ\text{C}$ or specific thermal management is necessary),information on those conditions;		N/A
	(h)Lamp dimensions in millimetres (length and largest diameter)		N/A
	(i)Nominal beam angle in degrees;		P
	(j)If the lamp's beam angle is $\geq 90^\circ$ 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 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 ($\Phi 90^\circ$) 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
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Clause	Requirement+Test	Result-Remark	Verdict

	(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 ($\Phi 90^\circ$) is not lower than the corresponding reference luminous flux in Table 6.		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
3.13	Information to be made publicly available on free-access websites and in any other form the manufacturer deems appropriate		P
	As a minimum,the following information shall be expressed at least as least as values.		P
	(a)The information specified in point 3.1.2;		P
	(b)Rated power(0,1Wprecision);		P
	(c)Rared useful luminous flux;		P
	(d)Rated lamp life time;		P
	(e)Lamp power factor;		P
	(f)Lumen maintenance factor at the end of the nominal life (except for filament lamps);		N/A
	(g)Starting time (as X,X seconds);		P
	(h)Colour rendering;		P
	(i)Colour consistency (only for LEDs);		P
	(j)Rated peak intensity in candela(cd);		P
	(k)Rated beam angle;		
	(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
	(n)Instruction 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
3.2	Additional product information requirements for LED lamps replacing fluorescent lamps without integrated ballast		N/A
Stage 1	Manufacturers of LED lamps replacing fluorescent lamps without integrated ballase shall publish a warning on publicly available free-access websites and in any other form the deem appropriate that the overall energy efficiency and light distribution of any installation that uses such lamps are determined by the design of the installation.		N/A
	Claims that an LED lamp replaces a fluoescent lamp without integrated ballast of a particular wattage may be made only if :		N/A
	—The luminous intensity in any direction around the tube		N/A

	axid does not deviate by more than 25% from the average luminous intensity around the tube, and		
	—The luminous flux of the LED lamp is not lower than luminous flux or the fluorescent lamp of the claimed lamp shall be obtained by multiplying the claimed wattage. The luminous flux of the fluorescent lamp shall be obtained by multiplying the claimed wattage with the minimum luminous efficacy value corresponding to the fluorescent lamp in Commission Regulation (EC) No 245/2009, and		N/A
	—The wattage of the LED lamp is not higher than the wattage of the fluorescent lamp it is claimed to replace. The technical documentation file shall provide the data to support claims.		N/A
3.3	Product information requirements for equipment other than luminaires, designed for installation between the mains and the lamps		N/A
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
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

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ANNEX 1 Table 2: The maximum EEI of directional lamps

TABLE 1 CORRECTION FACTORS										
	<input type="checkbox"/> $P_{cor}=P_{rated} \times 1,06$			<input checked="" type="checkbox"/> $P_{cor}=P_{rated} \times 1,10$			<input type="checkbox"/> $P_{cor}=P_{rated} \times \frac{0,24\sqrt{\phi_{use}} + 0,0103\phi_{use}}{0,15\sqrt{\phi_{use}} + 0,0097\phi_{use}}$			
	<input type="checkbox"/> $P_{cor}=P_{rated} \times 0,80$			<input type="checkbox"/> $P_{cor}=P_{rated} \times 0,85$						
Sample	1	2	3	4	5	6	7	8	9	10
$\Phi_{use}(lm)$:	389.039	373.828	370.825	389.759	384.307	373.916	372.668	388.652	375.312	378.899
$P_{rated}(W)$:	7.5	6.8	6.6	7.5	6.6	7.0	7.4	7.3	7.3	6.8
$\Phi_{use}(lm)$ at 6000h:	350.135	336.445	337.450	354.681	349.719	336.524	342.855	357.560	341.534	348.587
Lumen maintenance	0.90	0.90	0.91	0.91	0.91	0.90	0.92	0.92	0.91	0.92
Sample	11	12	13	14	15	16	17	18	19	20
$\Phi_{use}(lm)$:	384.797	378.074	380.735	375.279	388.729	379.684	384.521	379.203	374.575	382.756
$P_{rated}(W)$:	6.7	6.5	7.3	6.6	6.9	7.3	7.2	6.8	6.7	6.9
$\Phi_{use}(lm)$ at 6000h:	350.165	340.267	350.276	337.751	349.856	349.309	353.759	345.075	340.863	352.136
Lumen maintenance	0.91	0.90	0.92	0.90	0.90	0.92	0.92	0.91	0.91	0.92
Test voltage (V):	230	Average $\Phi_{use}(lm)$:		380.278		Average $P_{rated}(W)$:		7.0	$P_{cor}(W)$:	7.7
$P_{ref}(W)$:	<input checked="" type="checkbox"/> $\Phi_{use} < 1300 lm$: $P_{ref} = 0,88\sqrt{\phi_{use}} + 0,049\phi_{use}$			35.79			<input type="checkbox"/> $\Phi_{use} \geq 1300 lm$: $P_{ref} = 0,0734\Phi_{use}$			N/A

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ANNEX 1 Table 2:The maximum EEI of directional lamps

TABLE2		Maximum energy efficiency index($EEI=P_{cor}/P_{ref}$)				
Application stage		<input checked="" type="checkbox"/> Limit for Stage 1	<input checked="" type="checkbox"/> Limit for Stage 2	<input checked="" type="checkbox"/> Limit for Stage 3	Calculated EEI/ Energy efficiency class	Verdict
Lamp type						
Mains-voltage Filament lamps:	--	<input checked="" type="checkbox"/> If $\Phi_{use} > 450$ lm: 1,75 <input type="checkbox"/> $\Phi_{use} = 135,92$ lm	1.75	0.95	N/A	N/A
Other filament lamps:	--	<input checked="" type="checkbox"/> If $\Phi_{use} \leq 450$ lm: 1, 20; <input type="checkbox"/> If $\Phi_{use} > 450$ lm: 0,95 $\Phi_{use} = 170,05$ lm	0.95	0.95	N/A	N/A
High-intensity discharge lamps:	--	0.50	0.50	0.36	N/A	N/A
Other lamps:	G60-7W	0.50	0.50	0.20	0,10/Class A+	P

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

ANNEX 2	Table 3:Functionality requirements for directional compact fluorescent lamps	N/A
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Type reference:				
Functionality parameter	<input type="checkbox"/> Limit for stage 1 except where indicated otherwise	<input type="checkbox"/> Limit for Sage 3	Average results	Verdict
Lamp survival factor at 6000 h	From 1 March 2014:≥0,50	≅ 0,7		N/A
Lumen maintenance	At 2000 h: <input type="checkbox"/> ≥80%	At 2000 h:≥83 % At 6000 h:≥70%		N/A
Number of switching cycles before failure	<input type="checkbox"/> ≥half the lamp lifetime <input type="checkbox"/> ≥10000 if lamp starting time>0,3s	<input type="checkbox"/> ≥lamp lifetime expressed in hours: <input type="checkbox"/> ≥30000 if lamp starting Time>0,3s		N/A
Starting time	<2,0s	<input type="checkbox"/> <1,5s if P<10W <input type="checkbox"/> <1,0s if P≥10W		N/A
Lamp warm-up time to 60%Φ	<input type="checkbox"/> <40s <input type="checkbox"/> <100s for lamps containing mercury in amalgam form	<input type="checkbox"/> <40s <input type="checkbox"/> <100s for lamps containing mercury in amalgam form		N/A
Premature failure rate	≤5,0% at 500h	≤5,0% at 500h		N/A
Lamp power factor for lamps with integrated control gear	<input type="checkbox"/> ≥0,50 if P<25W <input type="checkbox"/> ≥0,90 if P≥25W	<input type="checkbox"/> ≥0,55 if P<25W <input type="checkbox"/> ≥0,90 if P≥25W		N/A
Colour rendering (Ra)	<input type="checkbox"/> ≥80 <input type="checkbox"/> ≥65 if the lamp is intended for outdoor or industrial applications according to point 3.1.3(1) of this Annex	<input type="checkbox"/> ≥80 <input type="checkbox"/> ≥65 if the lamp is intended for outdoor or industrial applications according to point 3.1.3(1) of this Annex		N/A

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

Tests results for 20 samples:

Sample	1	2	3	4	5	6	7	8	9	10
Number of switching cycles										
Starting time										
Lamp warm-up time to 60%Φ										
Premature failure rate										
Sample	11	12	13	14	15	16	17	18	19	20
Number of switching cycles										
Starting time										
Lamp warm-up time to 60%Φ										
Premature failure rate										

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

ANNEX 3	Table 4:Functionality requirements for other directional lamps (excluding LED lamps,compact fluorescent lamps and high-intensity discharge lamps)		N/A
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Type reference:				
Functionality parameter	<input checked="" type="checkbox"/> Limit for stage 1 and <input checked="" type="checkbox"/> 2	<input type="checkbox"/> Limit for Stage 3	Average results	Verdict
Rated lamp lifetime at 50% lamp survival	<input type="checkbox"/> ≥1000 h <input checked="" type="checkbox"/> ≥2000 h in stage 2 <input type="checkbox"/> ≥2000 h for extra low voltage lamps not complying with the stage 3 filament lamp efficiency requirement in point 1.1 of this Annex	<input type="checkbox"/> ≥2000 h <input type="checkbox"/> ≥4000 h for extra low voltage lamps		N/A
Lumen maintenance	≥80% at 75% of rated average lifetime	≥80% at 75% of rated average lifetime		N/A
Number of switching cycles	≥four times the rated lamp life expressed in hours:	≥four times the rated lamp life expressed in hours:		N/A
Starting time	<0,2s	<0,2s		N/A
Lamp warm-up time to 60%Φ	≤1,0s	≤1,0s		N/A
Premature failure rate	≤5,0 % at 100h	≤5,0 % at 200h		N/A
Lamp power factor for lamps with integrated control gear	<input type="checkbox"/> Power>25W:≥0,9 <input checked="" type="checkbox"/> Power≤25W:≥0,5	<input type="checkbox"/> Power>25W:≥0,9 <input checked="" type="checkbox"/> Power≤25W:≥0,5		N/A

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

Tests results for 20 samples:

Sample	1	2	3	4	5	6	7	8	9	10
Number of switching cycles										
Starting time										
Lamp warm-up time to 60%Φ										
Premature failure rate										
Sample	11	12	13	14	15	16	17	18	19	20
Number of switching cycles										
Starting time										
Lamp warm-up time to 60%Φ										
Premature failure rate										

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

ANNEX 4	Table 5:Functionality requirements for non-directional and directional LED lamps		P
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Type reference:			
Functionality parameter	Limit for Stage 1 except where indicated otherwise	Average results	Verdict
Lamp survival factor at 6000 h	From 1 March 2014: $\geq 0,90$		P
Lumen maintenance at 6000 h	From 1 March 2014: $\geq 0,80$	0,91	P
Number of switching cycles before failure	<input checked="" type="checkbox"/> ≥ 15000 if rated lamp life ≥ 30000 h <input type="checkbox"/> otherwise \geq half the rated lamp life expressed in hours:		P
Starting time	$< 0,5s$	$< 0,2s$	P
Lamp warm-up time to 95% Φ	$\leq 2s$	$< 1s$	P
Premature failure rate	$\leq 5,0\%$ at 100h	$< 5,0\%$	P
Colour rendering (Ra)	<input checked="" type="checkbox"/> ≥ 80 <input type="checkbox"/> ≥ 65 if the lamp is intended for outdoor or industrial applications in accordance with point 3.1.3(l) of this Annex	81,9	P
Colour consistency	Variation of chromaticity coordinates within a six-step MacAdam ellipse or less	5,05 SDCM	P
Lamp power factor(PF) for lamps with integrated control gear	<input type="checkbox"/> $P \leq 2W$:no requirement <input type="checkbox"/> $2W < P \leq 5W$:PF $> 0,4$ <input checked="" type="checkbox"/> $5W < P \leq 25W$:PF $> 0,5$ <input type="checkbox"/> $P > 25W$:PF $> 0,9$	230VAC supply	P

1194/2012/EU			
Clause	Requirement+Test	Result-Remark	Verdict

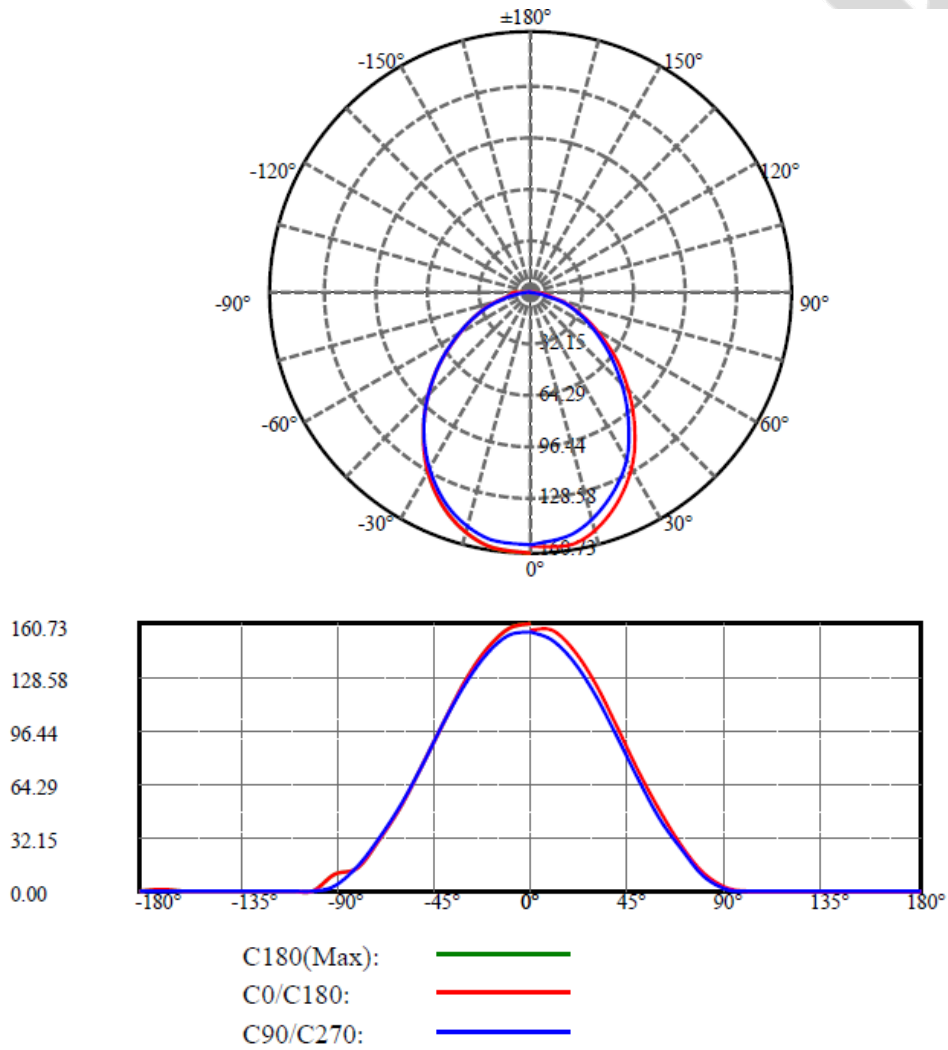
Tests results for 20 samples:

Sample	1	2	3	4	5	6	7	8	9	10
Energy efficiency index (EEI)	0.11	0.11	0.11	0.11	0.12	0.11	0.10	0.11	0.12	0.11
Lamp survival factor at 6000h	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
Number of switching cycles before failure	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
Starting time	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s
Lamp warm-up time to 95% Φ	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s
Premature failure rate at 1000h	0	0	0	0	0	0	0	0	0	0
Colour rendering (Ra)	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
Sample	11	12	13	14	15	16	17	18	19	20
Energy efficiency index (EEI)	0.11	0.10	0.11	0.11	0.12	0.11	0.11	0.11	0.11	0.10
Lamp survival factor at 6000h	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
Number of switching cycles before failure	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
Starting time	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s	<0.2s
Lamp warm-up time to 95% Φ	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s	<1s
Premature failure rate at 1000h	0	0	0	0	0	0	0	0	0	0
Colour rendering (Ra)	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80

Appendix 1: Measured data by goniophotometer system

	Luminous intensity (cd)	Beam angle (°)	Total luminous flux (lm)	Useful luminous flux(lm)	Useful luminous flux/Total luminous flux
Sample number 1	148.27	95.1	374.95	374.95	1

Luminous intensity distribution diagram of sample number 1




Appendix 2: Test instruments

Equipment	Model/Type	Cal.Data
AC power supply	Ainuo AN97001W	2016-03-15
Digital power meter	YOKOGAWA WT210	2016-03-15
Photometric colorimetric electric system	SENSING SPR-3000	2016-03-15
Integrating Sphere	SENSING 1.5m	2016-03-15
Hygrothermograph	XINIXI CTH-608	2016-03-15
Goniophotometer	SENSING GMS-3000	2016-03-15
Standard light source	SENSING 110V/100W	2016-03-15
Standard light source	SENSING 220V/500W	2016-03-15

Appendix 2:Product Photo

Type of equipment,model:GU10-7W

Details of:GU10-7W

<p>GU10-7W</p> <p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p> <p><input type="checkbox"/> internal</p>	
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Derails of:GU10-7W

<p>GU10-7W</p> <p>View:</p> <p><input checked="" type="checkbox"/> general</p> <p><input type="checkbox"/> front</p> <p><input type="checkbox"/> rear</p> <p><input type="checkbox"/> right</p> <p><input type="checkbox"/> left</p> <p><input type="checkbox"/> top</p> <p><input type="checkbox"/> bottom</p> <p><input type="checkbox"/> internal</p>	
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---End of Report---