



Test Report issued under the responsibility of:



**TEST REPORT
IEC TR 62778
Application of IEC 62471 for the assessment of blue light hazard to
light sources and luminaires**

Report Number..... : 6198444.50P

Date of issue..... : 2024-07-27

Total number of pages 13

Name of Testing Laboratory

preparing the Report : DEKRA Testing and Certification (Shanghai) Ltd.
3/F, #250, Jiangchangsan Road building 16 Headquater
Economy Park Shibe Hi-Tech Park, Jing'an District, Shanghai,
P.R.C 200436

Applicant's name : Lumileds (Shanghai) Management Co.,Ltd

Address..... : Building 1-A, No.19&20, Lane 299, Wenshui Road, JingAn
District, Shanghai 200072, China

Test specification:

Standard : IEC TR 62778:2014 (Second Edition)

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC62778A

Test Report Form(s) Originator : TÜV SÜD Product Service GmbH

Master TRF : Dated 2016-02

**Copyright © 2016 IEC System of Conformity Assessment Schemes for Electrotechnical
Equipment and Components (IECEE System). All rights reserved.**

This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory
and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

General disclaimer:

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

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

The purpose of this report is only for export activities.

Test item description	LED package	
Trade Mark		
Manufacturer	Lumileds (Shanghai) Management Co.,Ltd Building 1-A, No.19&20, Lane 299, Wenshui Road, JingAn District, Shanghai 200072, China	
Model/Type reference	L130-AABBcccccccc (For details see Model list)	
Ratings	Max current 240 mA (For details see Model list)	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	DEKRA Testing and Certification (Shanghai) Ltd.
Testing location/ address		3/F, #250, Jiangchangsan Road building 16 Headquarter Economy Park Shibe Hi-Tech Park, Jing'an District, Shanghai, P.R.C 200436
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name, function, signature)	Nancy Wang (Project Handler)	
Approved by (name, function, signature)	Hanson Zhang (Reviewer)	
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature)		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	
Testing location/ address		
Tested by (name + signature)		

÷ Witnessed by (name, function, signature) ÷			
÷ Approved by (name, function, signature) ÷			
<input type="checkbox"/>	Testing procedure: CTF Stage 3:		
<input type="checkbox"/>	Testing procedure: CTF Stage 4:		
Testing location/ address ÷			
Tested by (name, function, signature) ÷			
Witnessed by (name, function, signature) ÷			
Approved by (name, function, signature) ÷			
Supervised by (name, function, signature) ÷			

<p>List of Attachments (including a total number of pages in each attachment):</p> <ul style="list-style-type: none"> ● Appendix 1: Photo Documentation ● Appendix 2: Model List ● Appendix 3: DEKRA report 4331224.51 	
<p>Summary of testing:</p>	
<p>Tests performed (name of test and test clause):</p> <p>These tests fulfil the requirements of standard ISO/IEC 17025. When determining the test conclusion, the Measurement Uncertainty of test has been considered.</p> <p>For DEKRA report 4331224.51 (Appendix 3): The tested sample of L130-6570003000001 have been tested according to the IEC 62471(first edition, 2006-07) at 200mm and been classified as RG 0. have been tested according to the EN 62471:2008 at 200mm and been classified as RG 1. have been tested according to the IEC/TR 62778:2014 and been classified as RG 1 Unlimited for blue light hazard.</p>	<p>Testing location:</p> <p>DEKRA Testing and Certification (Shanghai) Ltd. 3/F, #250, Jiangchangsan Road building 16 Headquater Economy Park Shibei Hi-Tech Park, Jing'an District, Shanghai, P.R.C 200436</p>
<p>Summary of compliance with National Differences:</p> <p>List of countries addressed: EU Group Differences</p>	

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 these marks.

N/A

Test item particulars: See below	
Product evaluated:	<input checked="" type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire
Rated voltage (V)	--
Rated current (mA)	Max current 240 mA
Rated CCT (K):	--
Rated Luminance (Mcd/m²)	--
Component report data used	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> LED package <input type="checkbox"/> Lamp Report number: --
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	2024-07
Date (s) of performance of tests	2024-07
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p>The product complied with the following standards: <input checked="" type="checkbox"/> IEC 62471:2006 <input checked="" type="checkbox"/> EN 62471:2008 <input type="checkbox"/> IEC/TR 62471-2:2009 <input checked="" type="checkbox"/> IEC/TR 62778:2014</p> <p>Decision rules applied Procedure 2 "Simple Acceptance" as stated in the IEC Guide 115:2023.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies): Lumileds (Shanghai) Management Co.,Ltd
Building 1-A, No.19&20, Lane 299, Wenshui Road,
JingAn District, Shanghai 200072, China

General product information:

Amendment 1 report:

The original test report 4331224.51, dated 2016-08-19 was modified to include the following additions:

- New CPN L130-AABB0BHVccccc and L130-AABB0CHVccccc was added. The LED die of new CPN was same as original but had different series / parallel connection.

After review, no additional tests were considered necessary.

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict
7	MEASUREMENT INFORMATION FLOW		P
7.1	Basic flow		P
	'Law of conservation of luminance' applied		N/A
	Use of only true luminance/radiance values		P
	In case of luminaire: The light source is operated in the luminaire under similar conditions as when tested as a component		N/A
	In case E_{thr} value for RG2 was established the peak value was derived from angular light distribution		N/A
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		N/A
7.3	Special cases (I): Replacement by a lamp or LUXEON Flash 9/9X of another type		N/A
	Light source is a white light source		N/A
	Evaluation done based on highest luminance		N/A
	Evaluation done based on CCT value		N/A
7.4	Special cases (II): Arrays and clusters of primary light sources		N/A
	LED package is evaluated as : <input type="checkbox"/> RG0 unlimited <input type="checkbox"/> RG1 unlimited		N/A
	E_{thr} of LED package applies to array		N/A
8	RISK GROUP CLASSIFICATION		P
	Risk group achieved:		P
	- .. Risk Group 0 unlimited		N/A
	- .. Risk Group 1 unlimited		P
	- E_{thr} (lx) : Distance to reach RG1 (m) :		N/A

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Angular light distribution	N/A

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to CTF stage 1 or CTF stage 2 procedure has been used.

Note: This page may be removed when CTF stage 1 CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date
7	Irradiance measurements Radiance measurements	IDR 300 Monochromator (SH 344)	200-3000nm	/	/
7	Radiance measurements	S009 Telescope (SH 345)	300-1400nm	/	/
7	Radiance measurements	SRS 12 Radiance Standard (SH 348)	300-1400nm	2024/2/25	2025/2/24
7	Irradiance measurements	CL6 Spectral irradiance standard (SH 350)	300-3000nm	2024/2/25	2025/2/24
7	Irradiance measurements	CL7 Spectral irradiance standard (SH 351)	200-400nm	2024/2/25	2025/2/24
7	Irradiance measurements	Photometric detector head (SH 359)	380nm-800nm	2024/2/26	2025/2/25
7	Irradiance measurements Radiance measurements	Wattmeter (SH030)	500V,40A	2023/10/10	2024/10/10

Appendix 1: Photo Documentation



Overview

Appendix 2: Model List

Model No	Max Current (mA)	Max Voltage (V)	2200K	2500K	2700K	3000K	3500K	4000K	5000K	5700K	6500K
L130-AABBcccccccc	130	6,6	RG 1 Unlimited								
	240	6,6	RG 1 Unlimited								
L130-AABB0BHVcccc	32,5	24	RG 1 Unlimited								
	60	24	RG 1 Unlimited								
L130-AABB0CHVcccc	16	48	RG 1 Unlimited								
	30	48	RG 1 Unlimited								

Appendix 3: DEKRA report 4331224.51

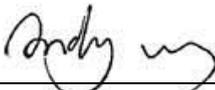
---End---



Test Report issued under the responsibility of:



TEST REPORT IEC TR 62778 Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	
Report Number.....	: 4331224.51
Date of issue	: 2016-08-19
Total number of pages	: 17
Name of Testing Laboratory preparing the Report	: DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch
Applicant's name	: Lumileds Commercial (Shanghai) Co., Ltd.
Address.....	: No. 9, Lane 888, Tianlin Road, Shanghai, China
Test specification:	
Standard	: IEC TR 62778:2014 (Second Edition)
Test procedure	: CB Scheme
Non-standard test method	: N/A
Test Report Form No.	: IEC62778A
Test Report Form(s) Originator	: TÜV SÜD Product Service GmbH
Master TRF	: Dated 2016-02
Copyright © 2016 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved.	
This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.	
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.	
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description :	LED package	
Trade Mark :	LUMILEDS	
Manufacturer	Lumileds Commercial (Shanghai) Co., Ltd. No. 9, Lane 888, Tianlin Road, Shanghai, China	
Model/Type reference	LUXEON 3030 2D series. Detailed lists refer to Appendix 2: Model List	
Ratings	Max 240mA, max 6.6Vdc. Detail information please refer to Appendix 2: Model List	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch
Testing location/ address :	Building A3, No. 3 Qiyun Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P. R. China	
Tested by (name, function, signature) :	Andy Wang	
Approved by (name, function, signature) ... :	Magic Tong	

<p>List of Attachments (including a total number of pages in each attachment):</p> <p>Appendix 1: Photo Documentation (1 Page)</p> <p>Appendix 2: Model List (4 Pages)</p> <p>Appendix 3: Relative Spectrum Of Tested Sample(s) (1 Page)</p> <p>Appendix 4: Table 6.1 Based On IEC 62471:2006 (1 Page)</p> <p>Appendix 5: Table 6.1 Based On EN62471:2008, Attachment To IEC 62471 European Group Differences And National Differences (2 Pages)</p>	
<p>Summary of testing:</p>	
<p>Tests performed (name of test and test clause):</p> <p>These tests fulfil the requirements of standard ISO/IEC 17025.</p> <p>When determining the test conclusion, the Measurement Uncertainty of test has been considered.</p> <p>The tested sample of L130-6570003000001 from model list at appendix 2 (CCT ≤ 6500K) Have been tested</p> <ul style="list-style-type: none"> - according to the IEC 62471 (first edition, 2006-07) at 200 mm and been classified as Exempt Group. - according to the EN 62471:2008 at 200 mm and been classified as Risk 1. - according to the IEC/TR62778:2014 and been classified as Risk 1 Unlimited for blue light hazard. 	<p>Testing location:</p> <p>DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch</p> <p>Building A3, No. 3 Qiyun Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, P. R. China</p>
<p>Summary of compliance with National Differences (List of countries addressed):</p> <p><input checked="" type="checkbox"/> The product fulfils the requirements of <u>EN 62471:2008</u> .</p>	
<p>Copy of marking plate:</p> <p>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 these marks.</p> <p>N/A</p>	

Test item particulars.....:	
Product evaluated.....:	<input checked="" type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire
Rated voltage (V)	Max 6,6 Vdc
Rated current (mA)	Max 240 mA
Rated CCT (K).....	6500 K
Rated Luminance (Mcd/m²)	--
Component report data used	<input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp Report number: -
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	2016-08-09
Date (s) of performance of tests	2016-08-10 to 2016-08-15
General remarks:	
"(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 <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.	
The product complied with the following standards: <input checked="" type="checkbox"/> IEC 62471:2006 <input checked="" type="checkbox"/> EN 62471:2008 <input type="checkbox"/> IEC/TR 62471-2:2009 <input checked="" type="checkbox"/> IEC/TR 62778:2014	

Manufacturer's Declaration per sub-clause 4.2.5 of IEC62778:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) : Lumileds Commercial (Shanghai) Co., Ltd. No. 9, Lane 888, Tianlin Road, Shanghai, China	
General product information:	
<p>L130-6570003000001, with ANSI bin 6500K, is part of the LUXEON 3030 2D product family. The sample measured, L130-6570003000001 was the highest CCT and lowest CRI in the product family. The present classification is thus valid (worst case) for all LUXEON 3030 2D products with part number L130-AABBcccccccc where AA represents nominal ANSI CCT bins can be equal to 6500K or lower, and BB represents CRI ranging can be from 70 to 90 (see TR IEC62778), and cccccccc represents customized code for customer application. See the appendix below for an explanation of the type designation.</p> <p>L130-6570003000001 was subjected to full test at 200 mm.</p> <p>L130-6570003000001 was tested and classified as Exempt Group. Other models were evaluated and classified as Exempt Group. Therefore all these models do not pose any photobiological hazard according to IEC62471. No warning label is required.</p> <p>For the blue light hazard required by IEC TR 62778:2014, model L130-6570003000001 was tested and classified as Risk Group 1. So all these models do not need to mark d_{thr}</p>	

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict
7	MEASUREMENT INFORMATION FLOW		P
7.1	Basic flow		P
	'Law of conservation of luminance' applied		N/A
	Use of only true luminance/radiance values		P
	In case of luminaire: The light source is operated in the luminaire under similar conditions as when tested as a component		N/A
	In case E_{thr} value for RG2 was established the peak value was derived from angular light distribution		N/A
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		N/A
7.3	Special cases (I): Replacement by a lamp or LED module of another type		N/A
	Light source is a white light source		N/A
	Evaluation done based on highest luminance		N/A
	Evaluation done based on CCT value		N/A
7.4	Special cases (II): Arrays and clusters of primary light sources		N/A
	LED package is evaluated as	<input type="checkbox"/> RG0 unlimited <input type="checkbox"/> RG1 unlimited	N/A
	E_{thr} of LED package applies to array		N/A
8	RISK GROUP CLASSIFICATION		P
	Risk group achieved:		P
	- .. Risk Group 0 unlimited		N/A
	- .. Risk Group 1 unlimited		P
	- E_{thr} (lx) : Distance to reach RG1 (m) :		N/A

TABLE: Spectroradiometric measurement				
Measurement performed on:		<input checked="" type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
Model number		L130-6570003000001		
Test voltage (V)		6,6 Vdc		
Test current (mA)		240 mA		
Test frequency (Hz).....		--		
Ambient, t (°C)		25°C		
Measurement distance		<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		
Source size		<input type="checkbox"/> Non-small <input checked="" type="checkbox"/> Small : 1,407 x 1,825 mm		
Field of view		<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)		
Item	Symb ol	Units	Result	Remark
Correlated colour temperature	CCT	K	6905	
x/y colour coordinates	-	-	0,3090 / 0,3108	
Blue light hazard radiance	L _B	W/(m ² ·sr ¹)	-	
Blue light hazard irradiance	E _B	W/m ²	0,999	
Luminance	L	cd/m ²	7,35E+06	@11mrad
Illuminance	E	lx	9,02E+02	
Supplementary information:				

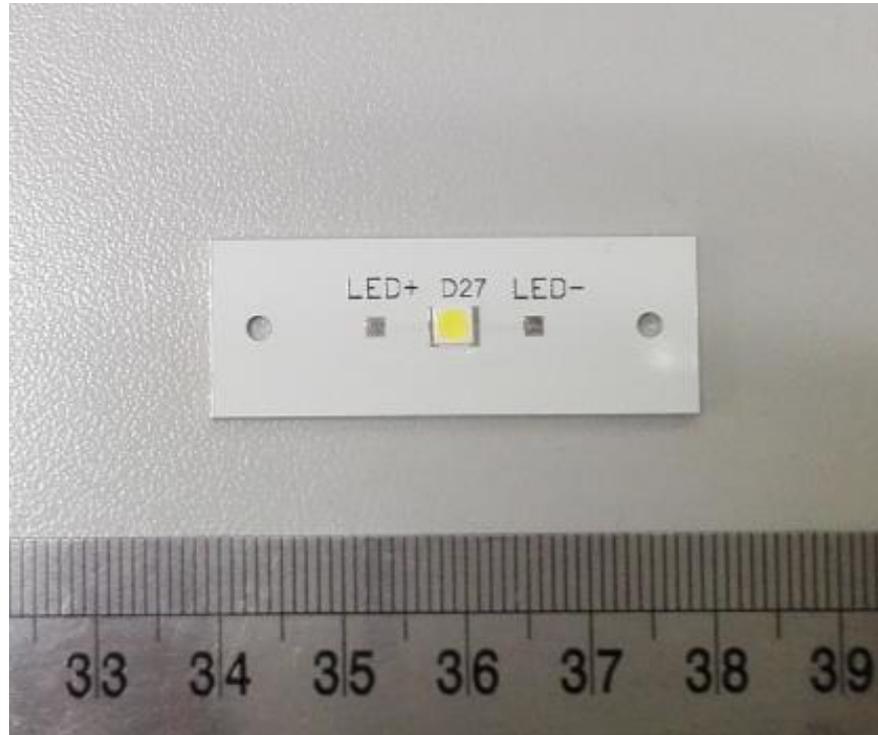
TABLE: Angular light distribution		N/A

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to CTF stage 1 or CTF stage 2 procedure has been used.
 Note: This page may be removed when CTF stage 1 CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

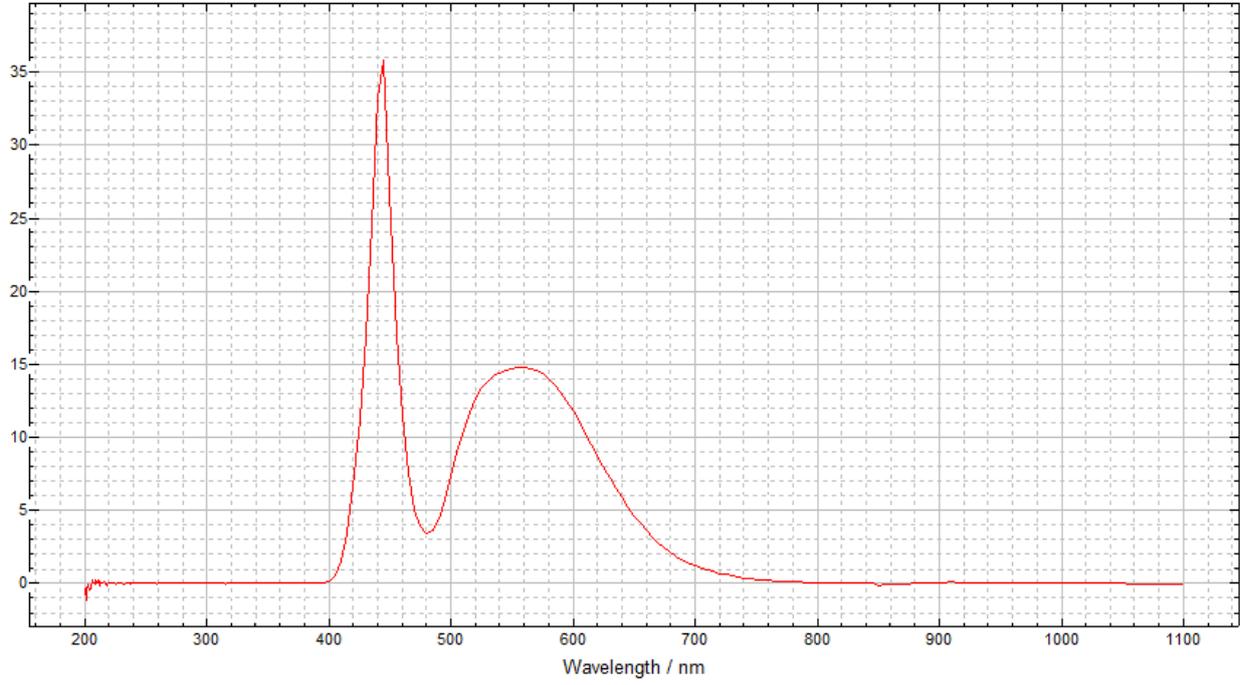
Clause	Measurement / testing	Testing / measuring equipment / material used, (Equipment ID)	Range used	Last Calibration date	Calibration due date
7	Irradiance measurements Radiance measurements	IDR 300 Monochromator (G/L655)	200-3000nm	/	/
7	Radiance measurements	S009 Telescope (G/L655)	300-1400nm	/	/
7	Radiance measurements	SRS 12 Radiance Standard (G/L655)	300-1400nm	2016/1/21	2017/1/20
7	Irradiance measurements	CL6 Spectral irradiance standard (G/L655)	300-3000nm	2016/1/21	2017/1/20
7	Irradiance measurements	CL7 Spectral irradiance standard (G/L655)	200-400nm	2016/1/21	2017/1/20
7	Irradiance measurements	Photometric detector head (G/L655)	380nm-800nm	2016/1/21	2017/1/20
7	Irradiance measurements Radiance measurements	PF2010A Digital power meter (G/L357)	--	2016/4/20	2017/4/19

Appendix 1: Photo Documentation



Overview (tested)

Appendix 3: Relative Spectrum Of Tested Sample(s)



Appendix 4: Table 6.1 Based On IEC 62471:2006

DUT: L130-6570003000001, Evaluation Distance: 200mm, Angular subtense of the apparent source α : 8,1mrad

Table 6.1		Emission limits for risk groups of continuous wave lamps							P	
Risk	Action spectrum	Symbol	Units	Emission Measurement						
				Exempt		Low risk		Mod risk		
				Limit	Result	Limit	Result	Limit	Result	
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	0,00032	0,003	--	0,03	--	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,00085	33	--	100	--	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	--	10000	--	4000000	--	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*	0,99	1,0	--	400	--	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	86338,11	$28000/\alpha$	--	$71000/\alpha$	--	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	$6000/\alpha$	--	$6000/\alpha$	--	$6000/\alpha$	--	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,01	570	--	3200	--	
* Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian. ** Involves evaluation of non-GLS source										

Appendix 5: Table 6.1 Based On EN62471:2008, Attachment To IEC 62471 European Group Differences And National Differences

DUT: L130-6570003000001, Evaluation Distance: 200mm, Angular subtense of the apparent source α : 8,1mrad

Table 6.1		Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)							P	
Risk	Action spectrum	Symbol	Units	Emission Measurement L130-6570003000001, $\alpha=8,1$ mrad						
				Exempt		Low risk		Mod risk		
				Limit	Result	Limit	Result	Limit	Result	
Actinic UV	$S_{UV}(\lambda)$	E_s	$W \cdot m^{-2}$	0,001	0,00032	-	-	-	-	
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,00085	-	-	-	-	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	--	10000	--	4000000	--	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*	--	1,0	0,99	400	--	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	86338,11	$28000/\alpha$	--	$71000/\alpha$	--	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000	--					
				$0,0017 \leq \alpha \leq 0,011$						
				$6000/\alpha$	--					
				$0,011 \leq \alpha \leq 0,1$						
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,01	570	--	3200	--	

Table 6.1	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)	P
<p>* Small source defined as one with $\alpha < 0,011$ radian. Averaging field of view at 10000 s is 0,1 radian.</p> <p>** Involves evaluation of non-GLS source</p> <p>NOTE The action functions: see Table 4.1 and Table 4.2 The applicable aperture diameters: see 4.2.1 The limitations for the angular subtenses: see 4.2.2 The related measurement condition 5.2.3 and the range of acceptance angles: see Table 5.5.</p>		

-END-