



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..... : 6150884.50P

Date of issue..... : 2023-02-17

Total number of pages 37

Name of Testing Laboratory

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

Applicant's name Lumileds Malaysia Sdn. Bhd

Address..... : No. 3, Lintang Bayan Lepas 8, Phase 4, Bayan Lepas Industrial
Park, 11900 Penang, Malaysia

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 Malaysia Sdn. Bhd No. 3, Lintang Bayan Lepas 8, Phase 4, Bayan Lepas Industrial Park, 11900 Penang, Malaysia	
Model/Type reference	L1HX-AABB2Czzzzzzz; (Detailed lists refer to Appendix 2: Model List)	
Ratings	Max current 2500mA (Detailed lists 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.
Testing location/ address.....		3/F, #250, Jiangchangsan Road building 16 Headquater 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 
Approved by (name, function, signature) ..		Hanson Zhang 
<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)			

List of Attachments (including a total number of pages in each attachment): <ul style="list-style-type: none"> ● Appendix 1: Photo Documentation ● Appendix 2: Model List ● Appendix 3: Relative Spectrum Of Tested Sample(s) ● Appendix 4: Table 6.1 Based On IEC 62471:2006 ● Appendix 5: Table 6.1 Based On EN62471:2008, Attachment To IEC 62471 European Group Differences And National Differences 	
Summary of testing:	
Tests performed (name of test and test clause): <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>The tested sample of L1HX-65702P00000000 (2500mA) L1HX-65702P00000000 (2000mA) L1HX-65702D00000000 (2500mA) L1HX-65702D00000000 (2000mA) L1HX-30702D00000000 (2500mA) L1HX-30702D00000000 (2000mA) have been tested according to the IEC 62471(first edition, 2006-07) at 200mm and been classified as RG 2. have been tested according to the EN 62471:2008 at 200mm and been classified as RG 2. have been tested according to the IEC/TR 62778:2014 and been classified as RG 2 for blue light hazard.</p> <p>The RG2-RG1 threshold current for L1HX-65702D00000000 was 220mA L1HX-30702D00000000 was 540mA</p>	Testing location: <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>
Summary of compliance with National Differences (List of countries addressed): EN Standards <p>EN 62471:2008</p> <p><input checked="" type="checkbox"/> The product fulfills the requirements</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 2500mA 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: 2023-01-30 Date (s) of performance of tests: 2023-02-17	
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 Decision rules applied Procedure 2 "Accuracy Method" as stated in the IEC Guide 115:2007.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 62471-2:	
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 Malaysia Sdn. Bhd
No. 3, Lintang Bayan Lepas 8, Phase 4, Bayan
Lepas Industrial Park, 11900 Penang, Malaysia

General product information:

Full tests were performed on model L1HX-65702P0000000, L1HX-65702D0000000 and L1HX-30702D0000000.

The products were considered as worst case which should be evaluated at 200mm.

The sample of L1HX-65702P0000000, L1HX-65702D0000000 and L1HX-30702D0000000 was tested at 200mm from the light source.

Base on the Model list which listed on the appendix 2, The tested sample can be considered as

☐ typical product ☒ worst product

Which the results can be reference used for the other models.

Type test was performed according to IEC 62471:2006 procedure.

Amendment 1 report:

The original test report 6073518.51P, dated 2020-09-11 was modified to include the following additions:

- The die size was changed from 2mm² to 2.6mm², performance in average ~3% flux gain.

After review, full tests were performed on model **L1HX-65702P0000000**.

Amendment 2 report:

The original test report 6137207.50P, dated 2022-07-29 was modified to include the following additions:

- A new LUXEON HL2X-D series was added in Model list with bold letters.

After review, full tests were performed on model **L1HX-65702D0000000** and **L1HX-30702D0000000**.

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		N/A
	- E_{thr} (lx) : Distance to reach RG1 (m) :	Refer to the Supplementary information of TABLE: Spectroradiometric measurement as following	P

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-65702P0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	2500 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	6500K	
x/y colour coordinates				--	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	1,06E+05	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	6,16E+07	@11mrad
Illuminance		E	lx	1,61E+03	
Supplementary information: Per IEC/TR 62778:2014 Ethr= 581 lx Dmin= 333 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-65702P0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	2000 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	6500K	
x/y colour coordinates				--	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	8,91E+04	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	5,30E+07	@11mrad
Illuminance		E	lx	1,40E+03	
Supplementary information: Per IEC/TR 62778:2014 Ethr= 595 lx Dmin= 307 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-65702D0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	2500 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	6500K	
x/y colour coordinates				--	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	1,00E+05	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	6,23E+07	@11mrad
Illuminance		E	lx	9,56E+03	
Supplementary information: Per IEC/TR 62778:2014 Ethr= 623 lx Dmin= 783 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-65702D0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	2000 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	6500K	
x/y colour coordinates				--	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	8,20E+04	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	5,24E+07	@11mrad
Illuminance		E	lx	8,26E+03	
Supplementary information: Per IEC/TR 62778:2014 Ethr= 639 lx Dmin= 719 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-65702D0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	220 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	6500K	
x/y colour coordinates				--	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	9,91E+03	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	7,19E+06	@11mrad
Illuminance		E	lx	1,16E+03	
Supplementary information: N/A					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....		L1HX-30702D0000000		
	Test voltage (V)		3,4 Vdc		—
	Test current (mA)		2500 mA		—
	Test frequency (Hz).....		--		—
	Ambient, t(°C)		25°C		—
	Measurement distance		<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	Source size		<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	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	3385	
x/y colour coordinates				0,4005 / 0,3653	
Blue light hazard radiance		L _B	W/(m²•sr¹)	3,95E+04	@11mrad
Blue light hazard irradiance		E _B	W/m²	--	
Luminance		L	cd/m²	6,24E+07	@11mrad
Illuminance		E	lx	7,34E+03	
Supplementary information: Per IEC/TR 62778:2014 Eth _r = 1580 lx Dmin= 431 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-30702D0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	2000 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	3344	
x/y colour coordinates				0,4032 / 0,3675	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	3,34E+04	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	5,41E+07	@11mrad
Illuminance		E	lx	6,32E+03	
Supplementary information: Per IEC/TR 62778:2014 Ethr= 1619 lx Dmin= 395 mm					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	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.....	L1HX-30702D0000000			
	Test voltage (V)	3,4 Vdc			—
	Test current (mA)	540 mA			—
	Test frequency (Hz).....	--			—
	Ambient, t(°C)	25°C			—
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm			—
	Source size	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :			—
	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	3256	
x/y colour coordinates				0,4103 / 0,3752	
Blue light hazard radiance		L _B	W/(m ² •sr ¹)	9,97E+03	@11mrad
Blue light hazard irradiance		E _B	W/m ²	--	
Luminance		L	cd/m ²	1,79E+07	@11mrad
Illuminance		E	lx	2,07E+03	
Supplementary information: N/A					

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: Angular light distribution	N/A

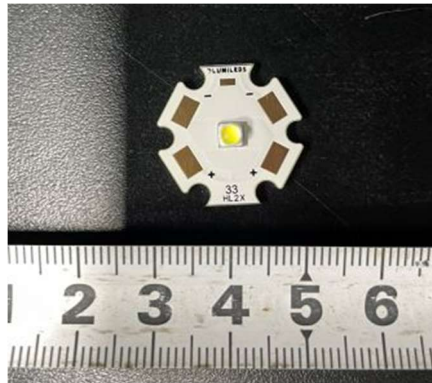
List of test equipment used:

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.

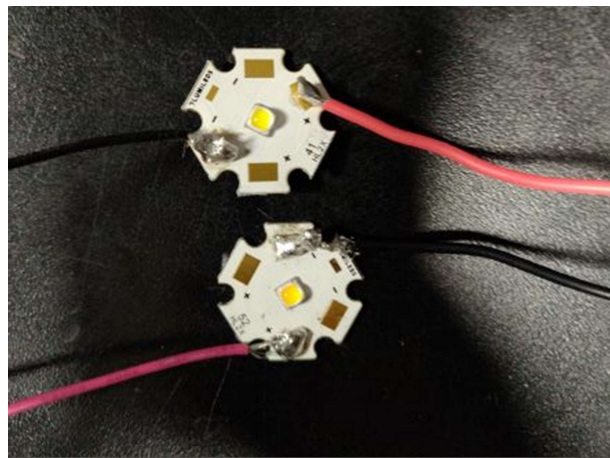
Note: This page may be removed when CTF stage 1 CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

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	2022/2/25	2023/2/24
7	Irradiance measurements	CL6 Spectral irradiance standard (SH 350)	300-3000nm	2022/2/25	2023/2/24
7	Irradiance measurements	CL7 Spectral irradiance standard (SH 351)	200-400nm	2022/2/25	2023/2/24
7	Irradiance measurements	Photometric detector head (SH 359)	380nm-800nm	2022/2/26	2023/2/25
7	Irradiance measurements Radiance measurements	Wattmeter (SH030)	500V,40A	2022/10/10	2023/10/10

Appendix 1: Photo Documentation



L1HX-65702P0000000



L1HX-65702D0000000 and L1HX-30702D0000000

Appendix 2: Model List

L1HX-65702P0000000 is part of Lumileds LUXEON HL2X product line, and **L1HX-65702D0000000 is part of Lumileds LUXEON HL2X-D product line.** The tested samples have the highest CCT (6500K) in that product line. The risk group classification of this worst case is thus applicable for all part numbers in LUXEON HL2X product line with part number L1HX-AABB2Czzzzzzz.

where

A A - can be any alphanumeric character that designates nominal ANSI CCT (For example, 27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K, 57=5700K, 65=6500K).

B B - can be any alphanumeric character that designates minimum CRI (For example, 70=70CRI, 80=80CRI, 90=90CRI).

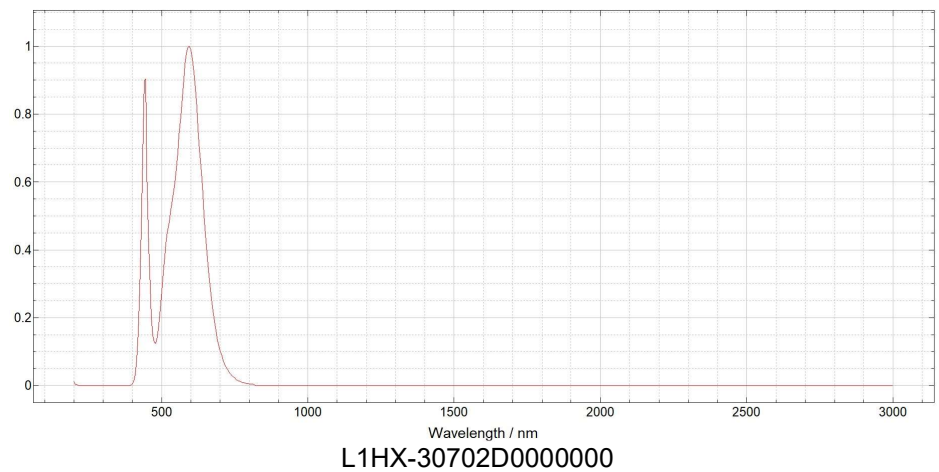
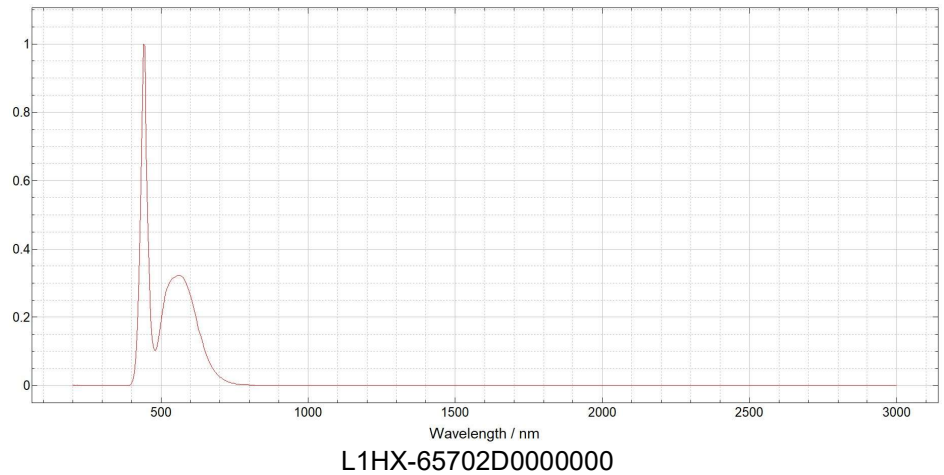
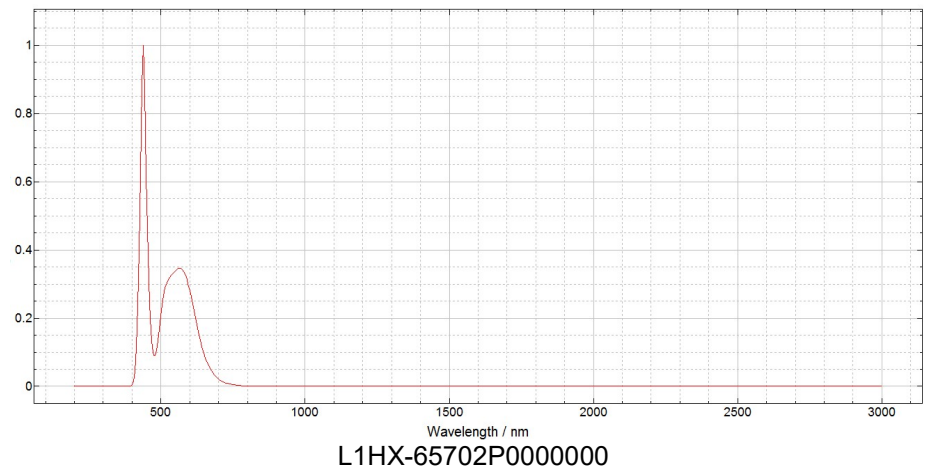
C – can be alphanumeric character that designates performance options (For example, 0=Standard, P=High Flux Performance, **D = High Flux Plus Performance**).

zzzzzzz - can be any alphanumeric character that can be used to designate customer-specific options.

Table of nominal ANSI CCT risk group classification versus drive current. For other (flexible) CCT, the next higher nominal ANSI CCT risk group classification shall be used to represent that CCT in regards to blue light hazard risk group classification.

Model No	Drive current (mA)	1800K	2200K	2700K	3000K	3500K	4000K	5000K	5700K	6500K
L1HX-AABB2Cz zzzzzz	2500	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	2000	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	540	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2	RG2
	220	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1

Appendix 3: Relative Spectrum Of Tested Sample(s)



Appendix 4: Table 6.1 Based On IEC 62471:2006

DUT: L1HX-65702P0000000, Evaluation Distance: 200mm, Test current: 2500 mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471									
Clause	Requirement + Test				Result – Remark				Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	7,15E+02	10000	1,06E+05	4000000	1,10E+05
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	2,17E+06	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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									

DUT: L1HX-65702P0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	6,68E+02	10000	8,91E+04	4000000	9,97E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	9,83E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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									

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 2500mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471									
Clause	Requirement + Test				Result – Remark			Verdict	

Table 6.1 Emission limits for risk groups of continuous wave lamps									
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,70E+03	10000	1,00E+05	4000000	1,06E+05
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	1,11E+06	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,10	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									

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,44E+03	10000	8,20E+04	4000000	8,59E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	9,12E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,09	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									

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 220mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps									
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,75E+02	10000	9,91E+03	4000000	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	1,12E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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									

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 2500mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	5,14E+02	10000	3,95E+04	4000000	3,96E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	5,31E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,11	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									

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	4,29E+02	10000	3,34E+04	4000000	3,61E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	4,52E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,09	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									

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 540mA, Angular subtense of the apparent source α : 14 mrad

IEC 62471			
Clause	Requirement + Test	Result – Remark	Verdict

Table 6.1		Emission limits for risk groups of continuous wave lamps							
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	0,0000	0,003		0,03	
Near UV		E_{UVA}	$W \cdot m^{-2}$	10	0,0000	33		100	
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,26E+02	10000	9,97E+03	4000000	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	1,0*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	4,39E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	6000/ α	--	6000/ α		6000/ α	
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,07	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: L1HX-65702P0000000, Evaluation Distance: 200mm, Test current: 2500mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark				Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	7,15E+02	10000	1,06E+05	4000000	1,10E+05
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	2,17E+06	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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

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.

DUT: L1HX-65702P0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark				Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	6,68E+02	10000	8,91E+04	4000000	9,97E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	9,83E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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

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.

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 2500mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark			Verdict	

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,70E+03	10000	1,00E+05	4000000	1,06E+05
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	1,11E+06	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,10	570		3200	
<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>									

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark				Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,44E+03	10000	8,20E+04	4000000	8,59E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	9,12E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,09	570		3200	
<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>									

DUT: L1HX-65702D0000000, Evaluation Distance: 200mm, Test current: 220mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark			Verdict	

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,75E+02	10000	9,91E+03	4000000	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	1,12E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,06	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

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.

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 2500mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	5,14E+02	10000	3,95E+04	4000000	3,96E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	5,31E+05	28000/ α		71000/ α	
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/ α 0,011 $\leq \alpha \leq$ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,11	570		3200	
<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>									

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 2000mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test				Result – Remark				Verdict

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	4,29E+02	10000	3,34E+04	4000000	3,61E+04
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	4,52E+05	28000/ α		71000/ α	
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/ α 0,011 $\leq \alpha \leq$ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,09	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

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.

DUT: L1HX-30702D0000000, Evaluation Distance: 200mm, Test current: 540mA, Angular subtense of the apparent source α : 14 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	

Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
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	0,0000	--	--	--	--
Near UV		E_{UVA}	$W \cdot m^{-2}$	0,33	0,0000	--	--	--	--
Blue light	$B(\lambda)$	L_B	$W \cdot m^{-2} \cdot sr^{-1}$	100	1,26E+02	10000	9,97E+03	4000000	
Blue light, small source	$B(\lambda)$	E_B	$W \cdot m^{-2}$	0,01*		1,0		400	
Retinal thermal	$R(\lambda)$	L_R	$W \cdot m^{-2} \cdot sr^{-1}$	28000/ α	4,39E+05	28000/ α		71000/ α	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	L_{IR}	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ α ≤ 0,011	--				
				6000/ α 0,011 ≤ α ≤ 0,1	--				
IR radiation, eye		E_{IR}	$W \cdot m^{-2}$	100	0,07	570		3200	
<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>									

-----The End-----