





Test Report issued under the responsibility of:



<b>TEST REPORT IEC TR 62778 Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires</b>	
<b>Report Number</b> .....	6172848.51P
<b>Date of issue</b> .....	2024-01-31
<b>Total number of pages</b> .....	56
<b>Name of Testing Laboratory preparing the Report</b> .....	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
<b>Applicant's name</b> .....	Lumileds (Shanghai) Management Co., Ltd.
<b>Address</b> .....	Building 1-A, No. 19 & 20, Lane 299, Wenshui Road, Jing'an District, Shanghai, 200072, China
<b>Test specification:</b>	
<b>Standard</b> .....	IEC TR 62778:2014 (Second Edition)
<b>Test procedure</b> .....	CB Scheme
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	IEC62778A
<b>Test Report Form(s) Originator</b> ....	TÜV SÜD Product Service GmbH
<b>Master TRF</b> .....	Dated 2016-02
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The purpose of this report is only for export activities.	

<b>Test item description</b> ..... :	Integral LED module	
<b>Trade Mark</b> ..... :	LUMILEDS	
<b>Manufacturer</b> .....	Lumileds (Shanghai) Management Co., Ltd. Building 1-A, No. 19 & 20, Lane 299, Wenshui Road, Jing'an District, Shanghai, 200072, China	
<b>Model/Type reference</b> .....	<b>L2C5-AABBCCCCDEEFF</b> <b>Refer to annex model list for details</b>	
<b>Ratings</b> .....	Maximum current: 4500 mA Refer to annex model list for details.	
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>CB Testing Laboratory:</b>	DEKRA Testing and Certification (Shanghai) Ltd.
	<b>Testing location/ address</b> .....	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"/>	<b>Associated CB Testing Laboratory:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name, function, signature) .....</b>	Nancy Wang 
	<b>Approved by (name, function, signature) ..</b>	Hanson Zhang 
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name, function, signature) .....</b>	
	<b>Approved by (name, function, signature) .....</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
	<b>Testing location/ address</b> .....	
	<b>Tested by (name + signature) .....</b>	
	<b>Witnessed by (name, function, signature) .....</b>	
	<b>Approved by (name, function, signature) .....</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
	<b>Testing location/ address</b> .....	

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):**

- 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
- Appendix 6: Blue Light Hazard-Forward Current Relationship (Non-mandatory Information)

**Summary of testing:****Tests performed (name of test and test clause):**

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

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

The tested sample of  
L2C5-65701208F1500

Has 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**.

The tested sample of  
L2C5-50701208F1500

Has been tested according to the IEC 62471(first edition, 2006-07) **at 200mm** and been classified as **RG 2 at 1800mA and RG1 at 763mA**

Have been tested according to the EN 62471:2008 **at 200mm** and been classified as **RG 2 at 1800mA and RG1 at 763mA**

Have been tested according to the IEC/TR 62778:2014 and been classified as **RG 2 at 1800mA and RG1 Unlimited at 763mA for blue light hazard**.

**Testing location:**

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

The tested sample of  
L2C5-40701208F1500  
Has been tested according to the IEC 62471(first  
edition, 2006-07) **at 200mm** and been classified  
as **RG 2 at 1800mA and RG1 at 1053mA**  
Have been tested according to the EN  
62471:2008 **at 200mm** and been classified as  
**RG 2 at 1800mA and RG1 at 1053mA**  
Have been tested according to the IEC/TR  
62778:2014 and been classified as **RG 2 at**  
**1800mA and RG1 Unlimited at 1053mA for blue**  
**light hazard.**

The tested sample of  
L2C5-30701208F1500  
Has been tested according to the IEC 62471(first  
edition, 2006-07) **at 200mm** and been classified  
as **RG 1.**  
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.**

The tested sample of  
**L2C5-50702520F2900**  
Has been tested according to the IEC 62471(first  
edition, 2006-07) **at 200mm** and been classified  
as **RG 2 at 1600mA and RG1 at 1500mA**  
Have been tested according to the EN  
62471:2008 **at 200mm** and been classified as  
**RG 2 at 1600mA and RG1 at 1500mA**  
Have been tested according to the IEC/TR  
62778:2014 and been classified as **RG 2 at**  
**1600mA and RG1 Unlimited at 1500mA for blue**  
**light hazard.**

**Summary of compliance with National Differences (List of countries addressed): EN Standards**

EN 62471:2008

**The product fulfills the requirements**

**Copy of marking plate:**

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

N/A

<b>Test item particulars</b> .....: See below	
<b>Product evaluated</b> .....: <input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire	
<b>Rated voltage (V)</b> .....: --	
<b>Rated current (mA)</b> .....: Maximum current 4500 mA	
<b>Rated CCT (K)</b> .....: --	
<b>Rated Luminance (Mcd/m<sup>2</sup>)</b> .....: --	
<b>Component report data used</b> .....: <input checked="" type="checkbox"/> Not applicable <input type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp Report number: --	
<b>Possible test case verdicts:</b>	
- 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)	
<b>Testing</b> .....: --	
<b>Date of receipt of test item</b> .....: 2024-01	
<b>Date (s) of performance of tests</b> .....: 2024-01	
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.  <b>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</b>  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.	
<b>Manufacturer's Declaration per sub-clause 4.2.5 of IEC 62471-2:</b>	
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, Jing'an District, Shanghai, 200072, China

**General product information:**

Full tests were performed on model L2C5-65701208F1500, L2C5-50701208F1500, L2C5-40701208F1500, L2C5-30701208F1500 and L2C5-50702520F2900.

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

The sample of L2C5-65701208F1500 was tested at 200mm from the light source. The CCT of spectral irradiance was found at 6144 K.

The sample of L2C5-50701208F1500 was tested at 200mm from the light source. The CCT of spectral irradiance was found at 4573 K.

The sample of L2C5-40701208F1500 was tested at 200mm from the light source. The CCT of spectral irradiance was found at 3816 K.

The sample of L2C5-30701208F1500 was tested at 200mm from the light source. The CCT of spectral irradiance was found at 2976 K.

The sample of L2C5-50702520F2900 was tested at 200mm from the light source. The CCT of spectral irradiance was found at 5507 K.

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:**

This report is issued to suspend the original test report 6039987.50P, dated on 2018-09-28, to include following changed and/or additions:

- New models were added.

After review, no test was considered necessary.



**Amendment 2 report:**

This report is issued to suspend the original test report 6051921.50P, dated on 2019-06-18, to include following changed and/or additions:

- New model L2C5-30701208F1500 was added.

After review, full tests were performed on model **L2C5-30701208F1500**.

**Amendment 3 report:**

This report is issued to suspend the original test report 6064591.50P, dated on 2019-10-29, to include following changed and/or additions:

- New models were added.

After review, no test was considered necessary.

**Amendment 4 report:**

This report is issued to suspend the original test report 6130389.50P, dated on 2022-05-30, to include following changed and/or additions:

- The new models for LUXEON CoB Core Range series and LUXEON CoB Core Range PW series was added. The new models were same as the original ones except for flux density.

After review, no test was considered necessary.

**Amendment 5 report:**

This report is issued to suspend the original test report 6146694.50P, dated on 2022-12-02, to include following changed and/or additions:

- New models were added in Model list with bold letters.

After review, no additional tests were considered necessary.

**Amendment 6 report:**

This report is issued to suspend the original test report 6153393.50P, dated on 2023-03-14, to include following changed and/or additions:

- New models were added in Model list with bold letters.

After review, no additional tests were considered necessary.

**Amendment 7 report:**

This report is issued to suspend the original test report 6156363.50P, dated on 2023-05-04, to include following changed and/or additions:

- New models were added in Model list.

After review, full tests were performed on model **L2C5-50702520F2900**.

**Amendment 8 report:**

This report is issued to suspend the original test report 6172848.50P, dated on 2023-10-23, to include following changed and/or additions:

- New models were added in Model list with bold letter.

After review, no additional tests were considered necessary.

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict
<b>7</b>	<b>MEASUREMENT INFORMATION FLOW</b>		<b>P</b>
<b>7.1</b>	<b>Basic flow</b>		<b>P</b>
	'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
<b>7.2</b>	<b>Conditions for the radiance measurement</b>		<b>P</b>
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		N/A
<b>7.3</b>	<b>Special cases (I): Replacement by a lamp or LED module of another type</b>		<b>N/A</b>
	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
<b>7.4</b>	<b>Special cases (II): Arrays and clusters of primary light sources</b>		<b>N/A</b>
	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
<b>8</b>	<b>RISK GROUP CLASSIFICATION</b>		<b>P</b>
	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 <b>TABLE: Spectroradiometric measurement</b> as following	P

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE:Spectroradiometric measurement				
Measurement performed on:		<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
Model number.....		L2C5-65701208F1500		
Test voltage (V) .....		--		—
Test current (mA) .....		1800 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	6144	
x/y colour coordinates			0,3178 / 0,3485	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	2,02E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	2,32E+07	@11mrad
Illuminance	E	lx	7,05E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1149 lx D <sub>min</sub> = 1567 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1800 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	4573	
x/y colour coordinates			0,3599 / 0,3720	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	2,20E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	2,51E+07	@11mrad
Illuminance	E	lx	8,58E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1141 lx D <sub>min</sub> = 1734 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1350 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	4509	
x/y colour coordinates			0,3626 / 0,3756	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1,66E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	1,95E+07	@11mrad
Illuminance	E	lx	6,50E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1175 lx D <sub>min</sub> = 1488 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	900 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	4677	
x/y colour coordinates			0,3560 / 0,3672	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1,16E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	1,42E+07	@11mrad
Illuminance	E	lx	4,54E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1224 lx D <sub>min</sub> = 1218 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	450 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	4561	
x/y colour coordinates			0,3609 / 0,3754	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	5,91E+03	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	7,69E+06	@11mrad
Illuminance	E	lx	2,31E+04	
Supplementary information: N/A				



IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-40701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1800 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	3816	
x/y colour coordinates			0,3904 / 0,3869	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1,55E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	2,67E+07	@11mrad
Illuminance	E	lx	9,17E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1726 lx D <sub>min</sub> = 1457 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-40701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1350 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	3799	
x/y colour coordinates			0,3920 / 0,3897	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1,26E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	2,11E+07	@11mrad
Illuminance	E	lx	7,45E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1675 lx D <sub>min</sub> = 1334 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-40701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	900 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	3705	
x/y colour coordinates			0,3980 / 0,3959	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	8,52E+03	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	1,46E+07	@11mrad
Illuminance	E	lx	5,04E+04	
Supplementary information: N/A				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-40701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	450 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	3668	
x/y colour coordinates			0,4016 / 0,4019	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	4,27E+03	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	7,41E+06	@11mrad
Illuminance	E	lx	2,48E+04	
Supplementary information: N/A				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-30701208F1500		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1800 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	2976	
x/y colour coordinates			0,4428 / 0,4131	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	5,87E+03	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	2,20E+07	@11mrad
Illuminance	E	lx	6,70E+04	
Supplementary information: N/A				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50702520F2900		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1600 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	5507	
x/y colour coordinates			0,3323 / 0,3419	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1,02E+04	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	1,25E+07	@11mrad
Illuminance	E	lx	3,56E+04	
Supplementary information: Per IEC/TR 62778:2014 E <sub>thr</sub> = 1218 lx D <sub>min</sub> = 1082 mm				

IEC TR 62778				
Clause	Requirement + Test		Result - Remark	Verdict
	<b>TABLE:Spectroradiometric measurement</b>			
	<b>Measurement performed on:</b>	<input type="checkbox"/> LED package <input checked="" type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire		
	<b>Model number</b> .....	L2C5-50702520F2900		
	<b>Test voltage (V)</b> .....	--		—
	<b>Test current (mA)</b> .....	1500 mA		—
	<b>Test frequency (Hz)</b> .....	--		—
	<b>Ambient, t(°C)</b> .....	25°C		—
	<b>Measurement distance</b> .....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm		—
	<b>Source size</b> .....	<input checked="" type="checkbox"/> Non-small <input type="checkbox"/> Small :		—
	<b>Field of view</b> .....	<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	5406	
x/y colour coordinates			0,3346 / 0,3446	
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	9,24E+03	@11mrad
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	--	
Luminance	L	cd/m <sup>2</sup>	1,13E+07	@11mrad
Illuminance	E	lx	3,56E+04	
Supplementary information: N/A				

IEC TR 62778			
Clause	Requirement + Test	Result - Remark	Verdict

	<b>TABLE: Angular light distribution</b>	<b>N/A</b>



**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.

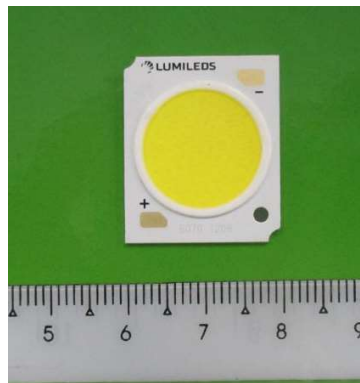
Note: This page may be removed when CTF stage 1 CTF stage 2 are not used. See also clause 4.8 in OD 2020 for more details.

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	2023/2/27	2024/2/26
7	Irradiance measurements	CL6 Spectral irradiance standard (SH 350)	300-3000nm	2023/2/27	2024/2/26
7	Irradiance measurements	CL7 Spectral irradiance standard (SH 351)	200-400nm	2023/2/27	2024/2/26
7	Irradiance measurements	Photometric detector head (SH 359)	380nm-800nm	2023/2/26	2024/2/25
7	Irradiance measurements Radiance measurements	Wattmeter (SH030)	500V,40A	2022/10/10	2023/10/10

Appendix 1: Photo Documentation



L2C5-65701208F1500



L2C5-50701208F1500



L2C5-40701208F1500



L2C5-30701208F1500



L2C5-50702520F2900

## Appendix 2: Model List

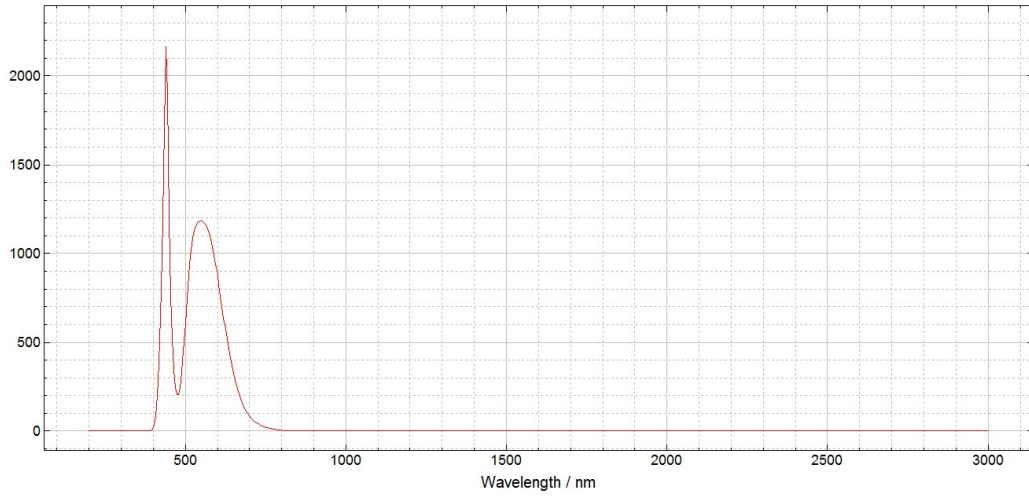
L2C5-65701208F1500, L2C5-50701208F1500, L2C5-40701208F1500 and L2C5-30701208F1500 are part of Lumileds LUXEON CoB Core Range series product line. The samples are with 6500K, 5700K, 5600K, 5000K, 4000K, 3500K, 3000K, 2700K and 2200K CCT separately, and we got different hazard classifications for them at different driven current. The tested sample of L2C5-65701208F1500 is with the highest CCT in that product line, and the tested samples L2C5-50701208F1500, L2C5-40701208F1500 and L2C5-30701208F1500 are with 5000K, 4000K and 3000K CCT in the product line. The classifications are thus valid (worst case) within the LUXEON CoB Core Range series product line with part number L2C5-AABBCCCCDEEFF.

Model Name	Series / Group	Model Name Explanation
L2C5-AABBCCCCDEEFF	LUXEON CoB Core Range / PW / Core Pro / Custom	<p><b>AA</b> – can be any alphanumeric characters, designate nominal ANSI CCT (eg: 22=2200K, 27=2700K, 30=3000K, 35=3500K, 40=4000K, 50=5000K, 56=5600K, 57=5700K, 65=6500K)</p> <p><b>BB</b> – can be any alphanumeric characters, designates minimum CRI(eg: 60=60CRI, 70=70CRI, 80=80CRI, 90=90CRI, 95=95CRI)</p> <p><b>CCCC</b> – can be any alphanumeric characters, designates product configuration (eg: 0406, 1202, 1203, 1204, 1205, 1208, 1210, 1211, 1213, 1216, 1812, 1816, 1321, 1825, 2520, 3618)</p> <p><b>D</b> – can be any alphanumeric characters, designates options for product specification (eg: F, X, H, G, I)</p> <p><b>EE</b> – can be any alphanumeric characters, designates light emitting surface(LES)size (eg: 06=6mm, 09=9mm, 13=13mm, 15=15mm, 19=19mm, 23=23mm, 29=29mm, 32=32mm)</p> <p><b>FF</b> – can be any alphanumeric characters, designates options for product specification.</p>

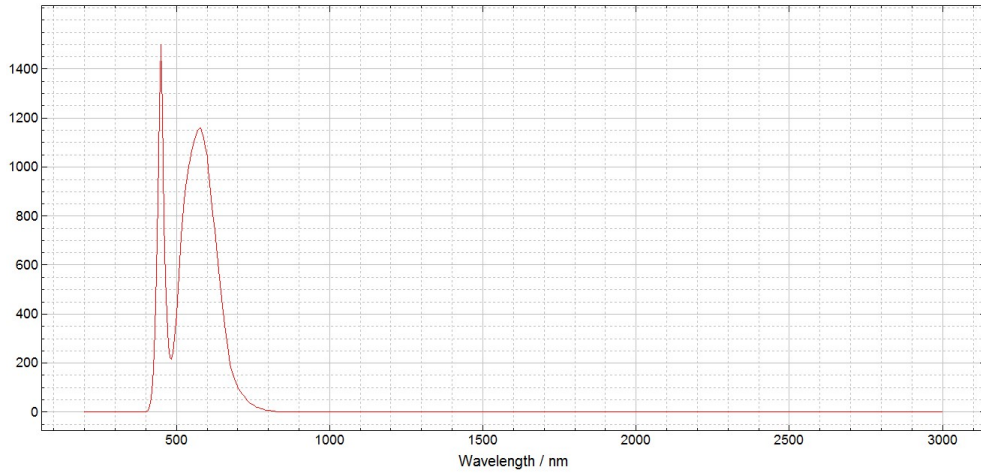
Model No	Drive Current (mA)	2200K/2700K	3000K	3200K/3500K	4000K	5000K	5600K	5700K	6500K
L2C5-AABB1202DEExx	400	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	263	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	191	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1203DEExx	600	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	395	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	286	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1204D09xx	800	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	527	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	382	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1204D13xx	900	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	527	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	382	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1205DEExx	1200	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	658	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	477	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1208DEExx	1800	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1053	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	763	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1210DEExx	1800	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1316	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	954	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1211DEExx	2400	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1448	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1049	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
L2C5-AABB1213DEExx	2600	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1711	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1240	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1

<b>L2C5-AABB1216DEExx</b>	3200	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	2106	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1526	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB1812F23xx</b>	2100	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1580	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1145	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB1812DEExx</b>	2400	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	1580	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1145	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB1321DEExx</b>	4200	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	2764	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	2003	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB1825DEExx</b>	4500	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	3291	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	2384	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB2520DEExx</b>	3200	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	2633	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1908	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1
<b>L2C5-AABB3618DEExx</b>	3240	RG2	RG2	RG2	RG2	RG2	RG2	RG2	RG2
	2369	RG1	RG1	RG1	RG1	RG2	RG2	RG2	RG2
	1717	RG1	RG1	RG1	RG1	RG1	RG1	RG1	RG1

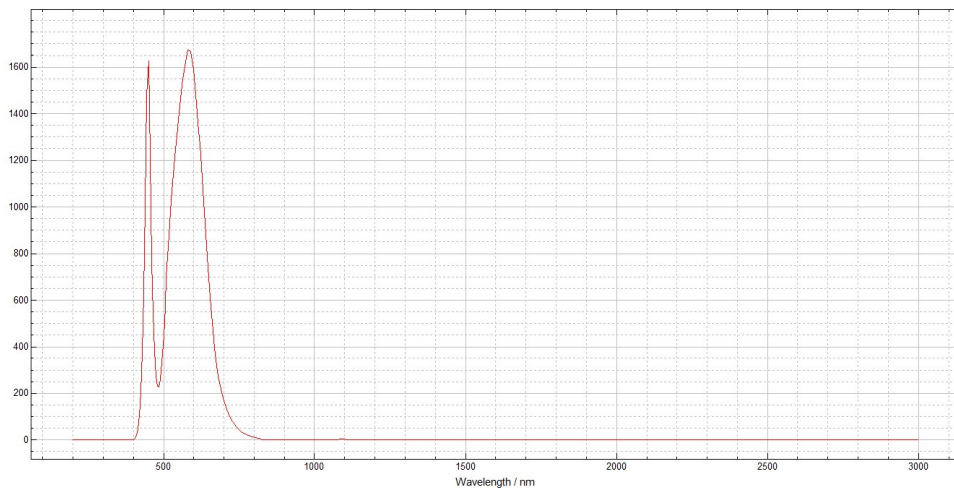
Appendix 3: Relative Spectrum Of Tested Sample(s)



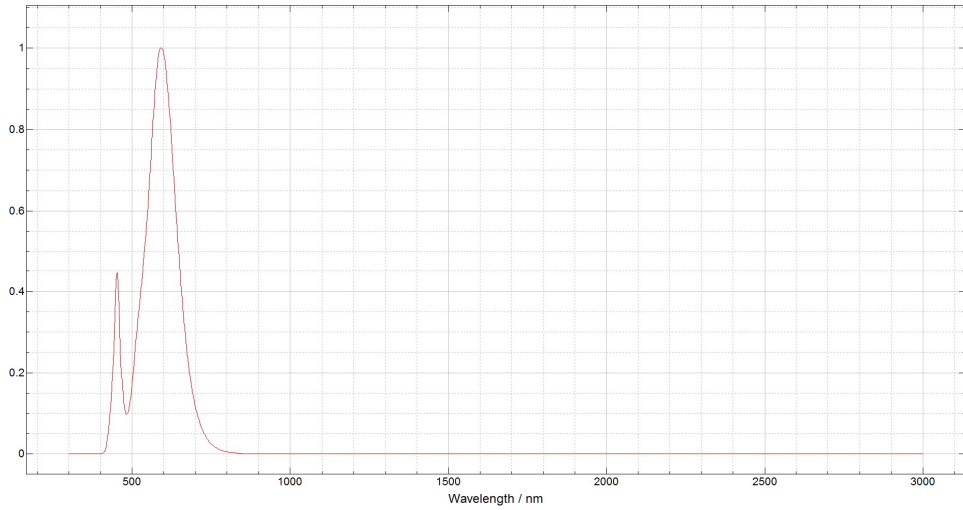
L2C5-65701208F1500



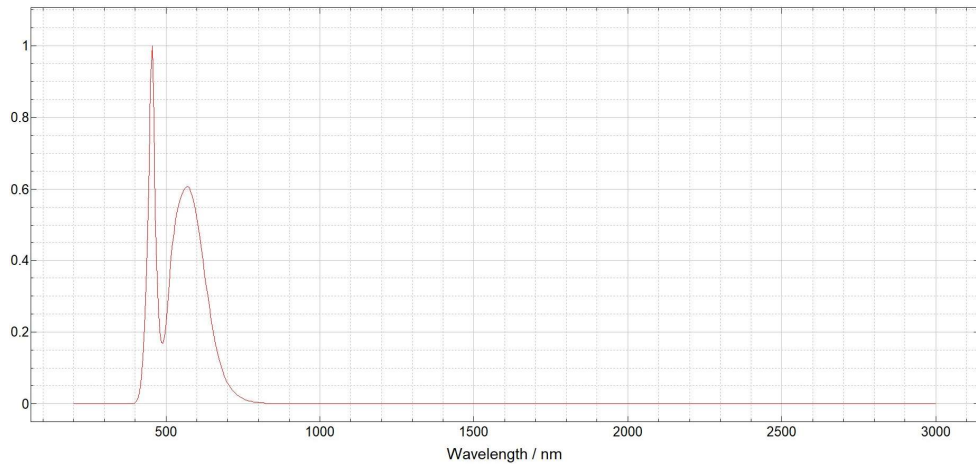
L2C5-50701208F1500



L2C5-40701208F1500



L2C5-30701208F1500



L2C5-50702520F2900



Appendix 4: Table 6.1 Based On IEC 62471:2006

DUT: L2C5-65701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

IEC 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	7,72E+03	10000	2,02E+04	4000000	3,63E+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/ $\alpha$	2,43E+05	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	0,29	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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

IEC 62471									
Clause	Requirement + Test				Result – Remark				Verdict
<b>Table 6.1</b>	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	5,86E+03	10000	2,20E+04	4000000	3,17E+04
Blue light, small source	$B(\lambda)$	$E_B$	$W \cdot m^{-2}$	1,0*	--	1,0		400	
Retinal thermal	$R(\lambda)$	$L_R$	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	2,52E+05	$28000/\alpha$		$71000/\alpha$	
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	0,51	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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 1350mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

IEC 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	4,76E+03	10000	1,66E+04	4000000	3,04E+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/ $\alpha$	2,03E+05	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	0,45	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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 900mA, Angular subtense of the apparent source  $\alpha$ : 75 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	3,32E+03	10000	1,16E+04	4000000	2,13E+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/ $\alpha$	1,42E+05	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	0,32	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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 450mA, Angular subtense of the apparent source  $\alpha$ : 75 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	1,69E+03	10000	5,91E+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/ $\alpha$	7,24E+04	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	0,16	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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 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	5,41E+03	10000	1,55E+04	4000000	1,92E+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/ $\alpha$	2,05E+05	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	0,83	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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 1350mA, Angular subtense of the apparent source  $\alpha$ : 75 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	4,39E+03	10000	1,26E+04	4000000	1,71E+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/ $\alpha$	1,64E+05	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	0,61	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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 900mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

IEC 62471									
Clause	Requirement + Test				Result – Remark				Verdict
<b>Table 6.1</b>	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	2,97E+03	10000	8,52E+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/ $\alpha$	1,12E+05	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	0,44	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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 450mA, Angular subtense of the apparent source  $\alpha$ : 75 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	1,48E+03	10000	4,27E+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/ $\alpha$	5,51E+04	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	0,22	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: L2C5-30701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

IEC 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	2,09E+03	10000	5,87E+03	4000000	
Blue light, small source	$B(\lambda)$	$E_B$	$W \cdot m^{-2}$	1,0*	--	1,0		400	
Retinal thermal	$R(\lambda)$	$L_R$	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	1,10E+05	$28000/\alpha$		$71000/\alpha$	
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	0,55	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: L2C5-50702520F2900, Evaluation Distance: 200mm, Test current: 1600mA, Angular subtense of the apparent source  $\alpha$ : 100 mrad

IEC 62471									
Clause	Requirement + Test				Result – Remark				Verdict
<b>Table 6.1</b>	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	3,42E+03	10000	1,02E+04	4000000	1,09E+04
Blue light, small source	$B(\lambda)$	$E_B$	$W \cdot m^{-2}$	1,0*	--	1,0		400	
Retinal thermal	$R(\lambda)$	$L_R$	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	1,26E+05	$28000/\alpha$		$71000/\alpha$	
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	0,26	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: L2C5-50702520F2900, Evaluation Distance: 200mm, Test current: 1500mA, Angular subtense of the apparent source  $\alpha$ : 100 mrad

IEC 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	3,34E+03	10000	9,24E+03	4000000	
Blue light, small source	$B(\lambda)$	$E_B$	$W \cdot m^{-2}$	1,0*	--	1,0		400	
Retinal thermal	$R(\lambda)$	$L_R$	$W \cdot m^{-2} \cdot sr^{-1}$	$28000/\alpha$	1,14E+05	$28000/\alpha$		$71000/\alpha$	
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	0,24	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: L2C5-65701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	7,72E+03	10000	2,02E+04	4000000	3,63E+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/ $\alpha$	2,43E+05	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	0,29	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> radian. Averaging field of view at 10000 s is 0,1 radian.  ** 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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	5,86E+03	10000	2,20E+04	4000000	3,17E+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/ $\alpha$	2,52E+05	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	0,51	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 1350mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	4,76E+03	10000	1,66E+04	4000000	3,04E+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/ $\alpha$	2,03E+05	28000/ $\alpha$		71000/ $\alpha$	
Retinal thermal, weak visual stimulus**	$R(\lambda)$	$L_{IR}$	$W \cdot m^{-2} \cdot sr^{-1}$	545000 0,0017 ≤ $\alpha$ ≤ 0,011	--				
				6000/ $\alpha$ 0,011 ≤ $\alpha$ ≤ 0,1	--				
IR radiation, eye		$E_{IR}$	$W \cdot m^{-2}$	100	0,45	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 900mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	3,32E+03	10000	1,16E+04	4000000	2,13E+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/ $\alpha$	1,42E+05	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	0,32	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-50701208F1500, Evaluation Distance: 200mm, Test current: 450mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	1,69E+03	10000	5,91E+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/ $\alpha$	7,24E+04	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	0,16	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	5,41E+03	10000	1,55E+04	4000000	1,92E+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/ $\alpha$	2,05E+05	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	0,83	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 1350mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	4,39E+03	10000	1,26E+04	4000000	1,71E+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/ $\alpha$	1,64E+05	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	0,61	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 900mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	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	2,97E+03	10000	8,52E+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/ $\alpha$	1,12E+05	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	0,44	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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: L2C5-40701208F1500, Evaluation Distance: 200mm, Test current: 450mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

EN 62471			
Clause	Requirement + Test	Result – Remark	Verdict

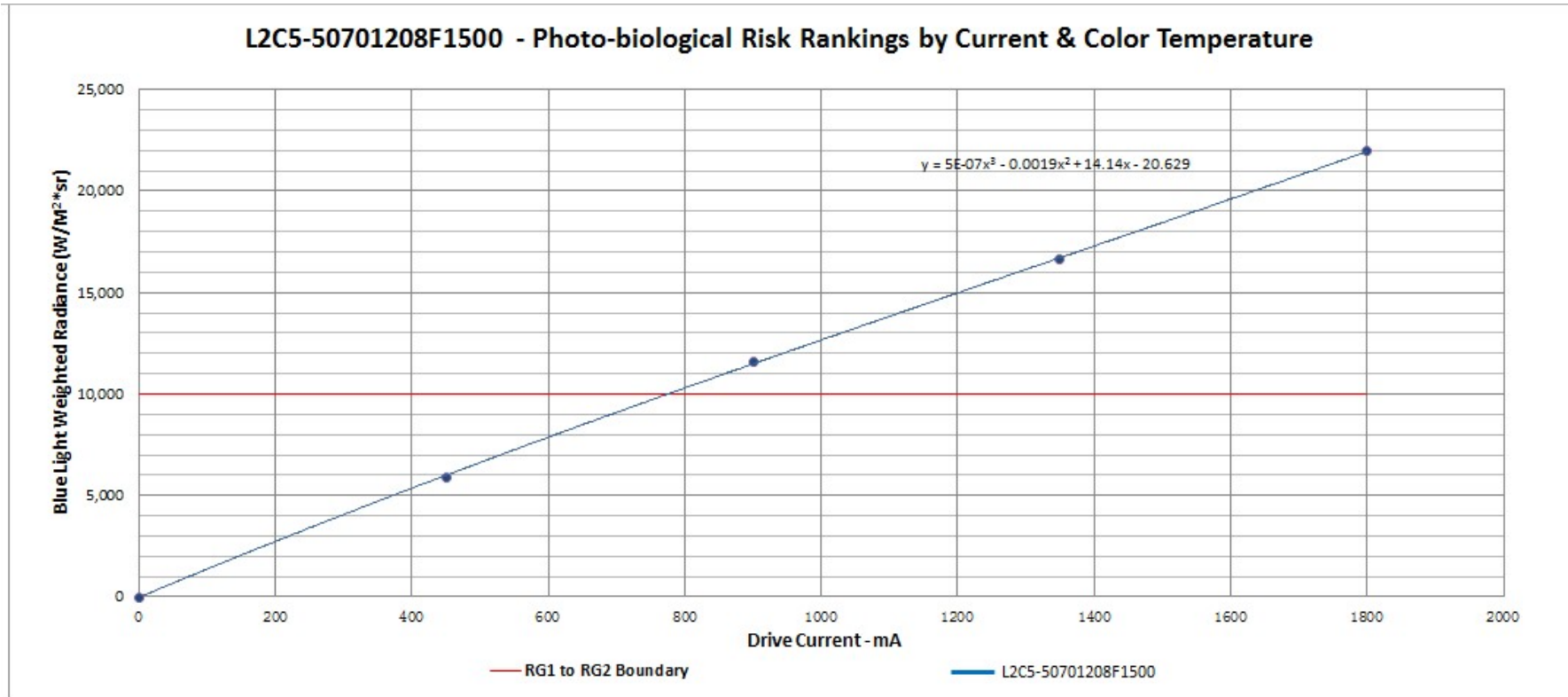
Table 6.1 Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)									
Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	Result	Limit	Result
Actinic UV	$S_{UV}(\lambda)$	$E_s$	$W \cdot m^{-2}$	0,001	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	1,48E+03	10000	4,27E+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/ $\alpha$	5,51E+04	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	0,22	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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.</p>									

DUT: L2C5-30701208F1500, Evaluation Distance: 200mm, Test current: 1800mA, Angular subtense of the apparent source  $\alpha$ : 75 mrad

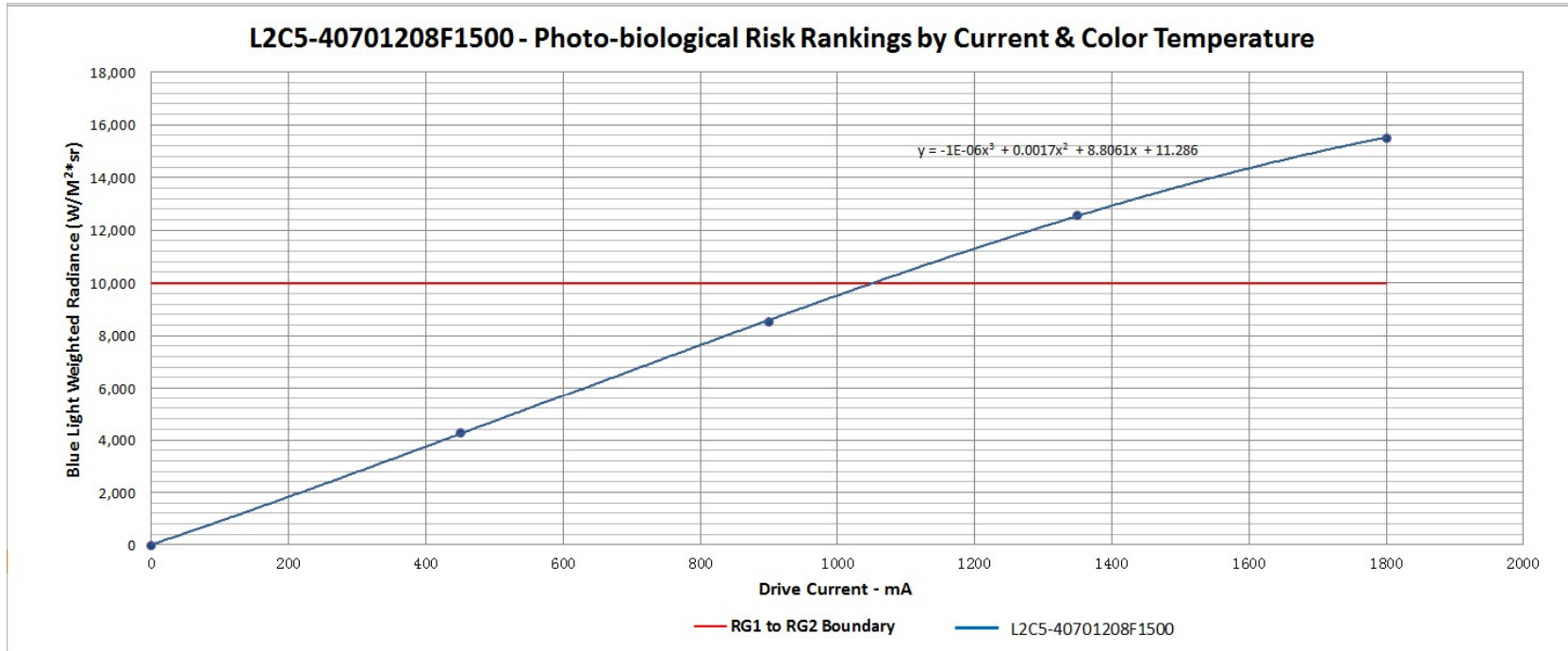
EN 62471									
Clause	Requirement + Test			Result – Remark				Verdict	
<b>Table 6.1</b>	Emission limits for risk groups of continuous wave lamps (based on EU Directive 2006/25/EC)								
Risk	Action spectrum	Symbol	Units	Emission Measurement					
				Exempt		Low risk		Mod risk	
				Limit	Result	Limit	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	2,09E+03	10000	5,87E+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/ $\alpha$	1,10E+05	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	0,55	570		3200	
<p>* Small source defined as one with <math>\alpha &lt; 0,011</math> 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>									

Appendix 6: Blue Light Hazard-Forward Current Relationship (Non-mandatory Information)

The diagram below shows the different blue light hazards against different forward currents. It is additional information for reference only.



Product ID:	Measured CCT:	Drive Currents (mA)					Regression Formula:	Fit to RG2 Line:	Current @ RG-1 to RG-2 Boundary, mA:
		0	450	900	1350	1800			
L2C5-50701208F1500	4573 K	0	5910	11606	16630	21968	$y=5E-07x^3-0.0019x^2+14.14x-20.629$	10000	763



Product ID:	Measured CCT:	Drive Currents (mA)					Regression Formula:	Fit to RG2 Line:	Current @ RG-1 to RG-2 Boundary, mA:
		0	450	900	1350	1800			
L2C5-40701208F1500	4731 K	0	4275	8523	12585	15512	$y = -1E-06x^3 + 0.0017x^2 + 8.8061x + 11.286$	10000	1053

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