

TEST REPORT

IEC/TR 62778:2014

Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires

Report Number. : KEYS21040707001LD-01

Date of issue : April 12, 2021

Total number of pages : 5 pages

Tested by (name + signature) . : Sunny Li



Approved by (name + signature)... : Jason Zhan

Testing Laboratory Name..... : Dongguan KEYS Testing Technology Co., Ltd.

Address : 6 / f, Building B, Chuangyigu Industrial Park, No.5 Hehe Street,
Songxi Road, Hengkeng, Liaobu, Dongguan City

Applicant's name : SHEN ZHEN MASTER OPTOELECTRONICS CO.,LTD

Address : Floor 4, Block A8, Guangyao Industrial Park, No.18, The Fourth
Industrial Zone, Shuitian Community, Shiyao Street, Baoan
District, Shenzhen, Guangdong, China

Manufacturer's name..... : SHEN ZHEN MASTER OPTOELECTRONICS CO.,LTD

Address : Floor 4, Block A8, Guangyao Industrial Park, No.18, The Fourth
Industrial Zone, Shuitian Community, Shiyao Street, Baoan
District, Shenzhen, Guangdong, China

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 KEYS Testing Laboratory.

Test specification:

Standard : IEC/TR 62778:2014

Test procedure..... : /

Non-standard test method : N/A

Test date : April 08, 2021

Test result : RG0 unlimited

Test item description..... : LED LAMP

Trade Mark : N/A

Model/Type reference..... : MS-*F2835D*W**0-*R*-Q

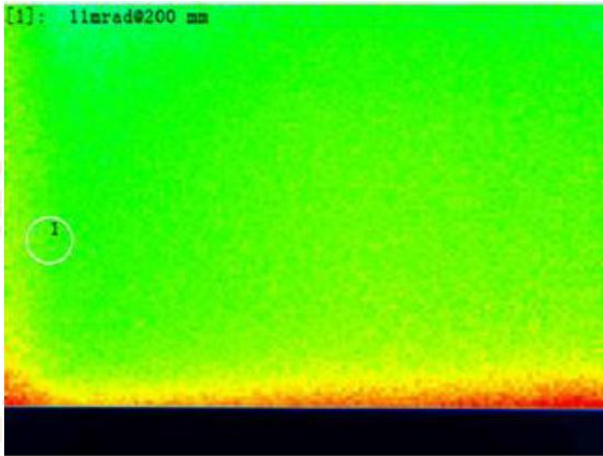
Ratings : DC2.8-3.4V , 60/150mA

7	MEASUREMENT INFORMATION FLOW		
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		P
	In case E_{thr} value for RG2 was established the peak value was derived from angular light distribution		N/A
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance,0,011rad field of view)		P
	Non-standard condition applied		N/A
7.3	Special cases(I):Replacement by a lamp or LED module of another type		N/A
	Light source is a white light source		N/A
	Evaluation done based on highest luminance		N/A
	Evaluation done based on CCT value		N/A
7.4	Special cases(II):Arrays and clusters of primary light sources		P
	LED package is evaluated as: ☒ RG0 unlimited ☐ RG1 unlimited		P
	E_{thr} of LED package applies to array		N/A
8	RISK GROUP CLASSIFICATION		P
	Risk group achieved:		P
	-..Risk Group 0 unlimited		P
	-..Risk Group 1 unlimited		N/A
	- E_{thr}(lx): Distance to reach RG1(m):		N/A

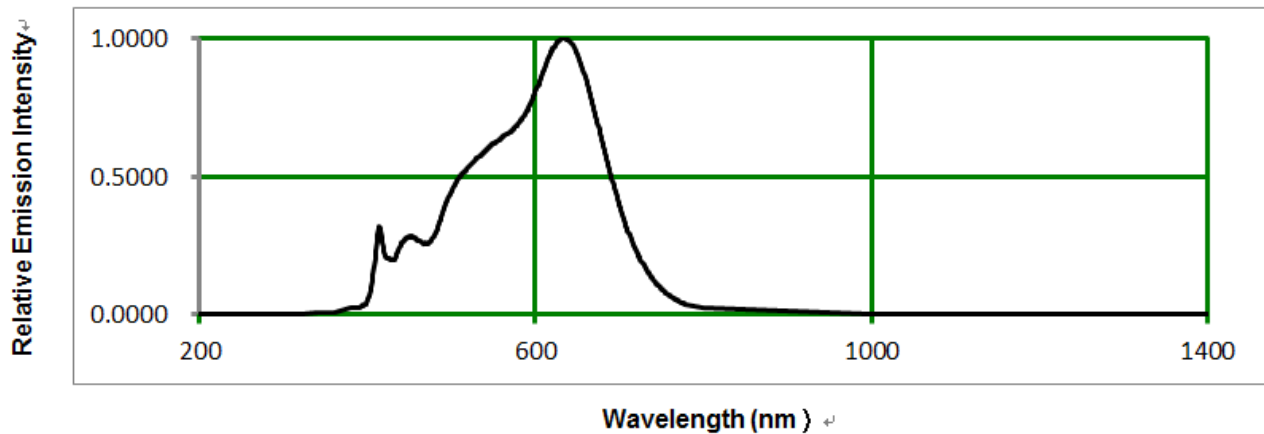
	TABLE: Spectroradiometric measurement		P
	Measurement performed on:	☒ LEDpackage ☐ LEDmodule ☐ Lamp ☐ Luminaire	P
	Model number.....	MS-*F2835D*W**0-*R*-Q	P
	Test voltage (V).....	DC2.92V	
	Test current (mA).....	60.17mA	
	Test frequency (Hz).....	/	
	Ambient, $t(^{\circ}\text{C})$	25.0	

Measurement distance.....		☒ 20cm		
		☐ ...cm		
Source size.....		☒ Non-small		
		☐ Small :mm		
Field of view.....		☐ 100mrad		
		☒ 11 mrad		
		☐ 1,7 mrad (for smallsources)		
Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	3073	/
x/y colour coordinates	/	/	0.4264/0.4068	/
Blue light hazard radiance	L _B	W/(m ² •sr ¹)	7.32	/
Blue light hazard irradiance	E _B	W/m ²	5.48	/
Luminance	L	cd/m ²	7.263 × 10 ³	/
Illuminance	E	lx	2952	/
Supplementary information:/				

measured Spectrum data



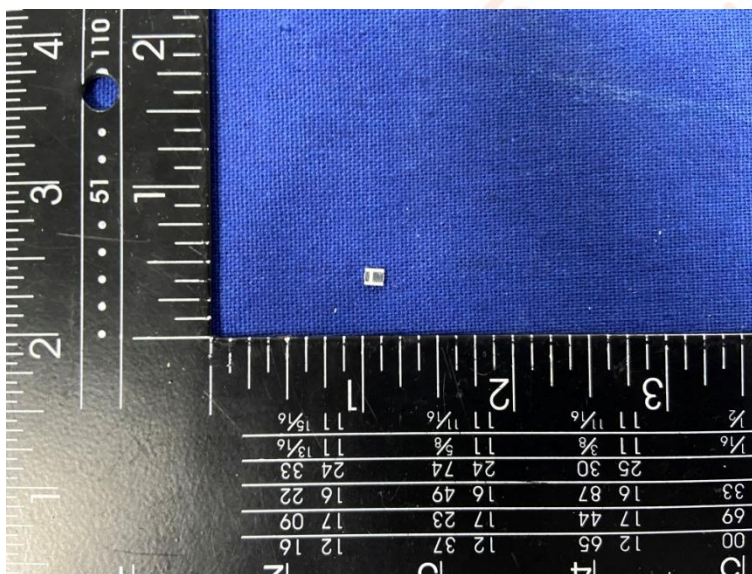
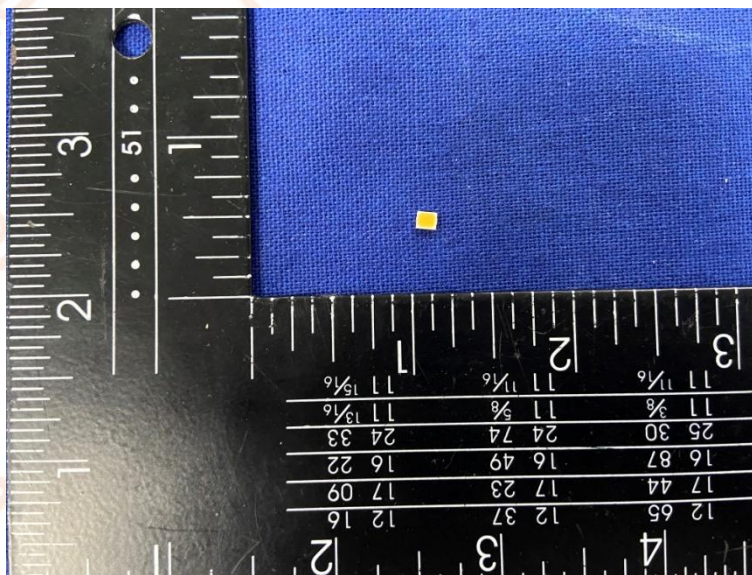
Risk group number	Blue light L_B ($W/(m^2 \cdot sr^1)$)	Risk group classification
RG0	<100	✓
RG1	<10000	
RG2	<4M	



number	Field of view (mrad)	Measurement distance d(mm)	Illuminance E(lx)	Diameter D(mm)	Luminance L (cd/m ²)	Blue light hazard radiance $L_B(W/(m^2 \cdot sr^1))$
1	11	200	2952	2.2	7.263e+003	7.32

number	maximum permissible exposure time(s)	colour temperature (K)	E_b (W/m ²)	CIE-x	CIE-y
1	234290	3073	5.48e+000	0.4264	0.4068

Product picture



-----Endofthereport-----