

<b>TEST REPORT</b> <b>IEC TR 62778</b> <b>Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires</b>	
Report reference No .....	RSZ161229553-03
Compiled by (+ signature) .....	Zero Gao <i>Zero Gao</i>
Approved by (+ signature) .....	Harrison Huang <i>Harrison Huang</i>
Date of issue .....	2017-01-05
Testing laboratory .....	Bay Area Compliance Laboratories Corp.(Dongguan)
Address .....	No.69, Pulongcun, Puxinhu Industry Zone, Tangxia, Dongguan, Guangdong, China
Testing location .....	Same as above
Applicant .....	Hongli Zhihui Group Co.,Ltd.
Address .....	No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China
Standard .....	IEC TR 62778:2014 (Second Edition)
Test sample(s) received.....	2016-12-30
Test in period.....	2016-12-30~2017-01-05
Procedure deviation .....	N.A.
Non-standard test method .....	N.A.
<b>Note:</b> The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the specific product described herein. It must not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).	
Type of test object .....	LED
Trademark .....	N.A.
Model/type reference .....	HL-A-4014H489W-S1-HR3-DM-SX
Multiple Models.....	N.A.
Manufacturer.....	Hongli Zhihui Group Co.,Ltd. No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China
Rating .....	Input: 2.8-3.4Vdc, 60mA
Copy of marking plate:	None

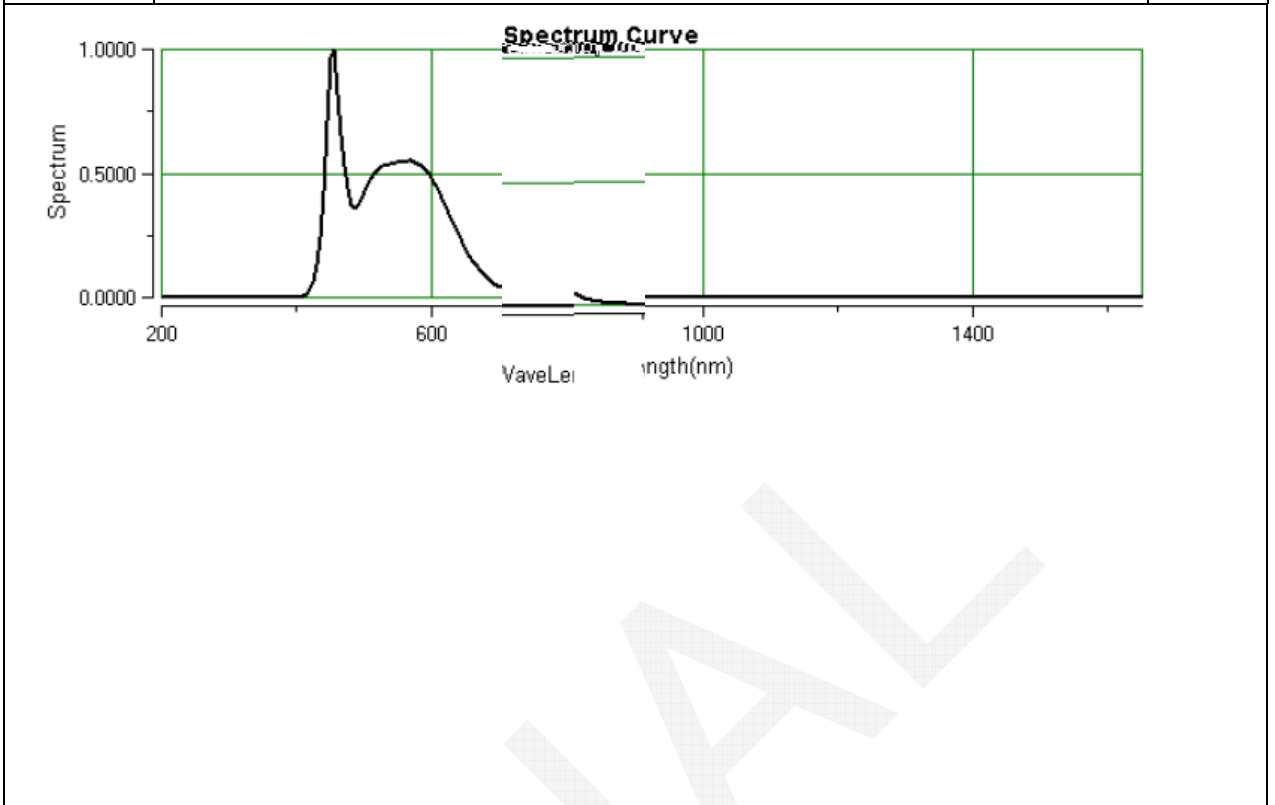


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Clause	Requirement + Test	Result - Remark	Verdict
<b>7</b>	<b>MEASUREMENT INFORMATION FLOW</b>		<b>P</b>
<b>7.1</b>	<b>Basic flow</b>		<b>P</b>
	'Law of conservation of luminance' applied		P
	Use of only true luminance/radiance values		P
	In case of 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
<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
<b>7.3</b>	<b>Special cases (I): Replacement by a lamp or LED module of another type</b>		<b>N</b>
	Light source is a white light source		N
	Evaluation done based on highest luminance		N
	Evaluation done based on CCT value		N
<b>7.4</b>	<b>Special cases (II): Arrays and clusters of primary light sources</b>		<b>N</b>
	LED package is evaluated as ..... : <input type="checkbox"/> RG0 unlimited <input type="checkbox"/> RG1 unlimited <input type="checkbox"/> RG2 unlimited		N
	$E_{thr}$ of LED package applies to array		N
<b>8</b>	<b>RISK GROUP CLASSIFICATION</b>		<b>P</b>
	Risk group achieved:		P
	- .. Risk Group 0 unlimited		N
	- .. Risk Group 1 unlimited		P
	- Risk Group 2 unlimited		N
	- $E_{thr}$ ..... (lx) : Distance to reach RG2 .....(mm) :	1251 lx 69 mm	P

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TABLE: Spectroradiometric measurement			P	
	Measurement performed on:	<input checked="" type="checkbox"/> LED package <input type="checkbox"/> LED module <input type="checkbox"/> Lamp <input type="checkbox"/> Luminaire	—	
	Model number.....	HL-A-4014H489W-S1-HR3-DM-SX	—	
	Test voltage (V) .....	2.8-3.4Vdc	—	
	Test current (mA).....	60mA	—	
	Test frequency (Hz).....	-	—	
	Ambient, t (°C).....	25.0	—	
	Measurement distance.....	<input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	—	
	Source size .....	<input type="checkbox"/> Non-small <input checked="" type="checkbox"/> Small : 0.30mm	—	
	Field of view .....	<input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	—	
Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	6527	--
x/y colour coordinates	x/y		0.3109/0.3383	--
Blue light hazard radiance	L <sub>B</sub>	W/(m <sup>2</sup> •sr <sup>1</sup> )	1393	--
Blue light hazard irradiance	E <sub>B</sub>	W/m <sup>2</sup>	1.194 x10 <sup>-1</sup>	--
Luminance	L	cd/m <sup>2</sup>	1.742x10 <sup>6</sup>	--
Illuminance	E	lx	149	--
Supplementary information: NA				

TABLE: Angular light distribution





FEM

