



TEST REPORT

IEC TR 62778

Application of IEC TR 62778 for the assessment of blue light hazard to light sources and luminaires

Report reference No	RSZ190514552-SF
Compiled by (+ signature)	Test Engineer: Taylor Chen 
Approved by (+ signature)	Project Engineer: Harrison Huang 
Date of issue	2019-05-20
Testing laboratory	Bay Area Compliance Laboratories Corp.(Dongguan)
Address	No.69, Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China
Testing location	Same as above
Applicant	Hongli Zhihui Group Co.,Ltd. Guangzhou Branch
Address	Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China
Standard	IEC TR 62778:2014
Test sample(s) received.....	2019-05-15
Test in period.....	2019-05-16
Procedure deviation	N.A.
Non-standard test method	N.A.
Note: 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 package
Trademark	N.A.
Model/type reference	HL-A-2835DW-2-S1-08L-HR3
Manufacturer.....	Hongli Zhihui Group Co.,Ltd. Guangzhou Branch Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China
Rating	Input: 2.6~3.0Vdc,60mA
Copy of marking plate:	None
Test item particulars	

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Clause	Requirement + Test	Result - Remark	Verdict
7	MEASUREMENT INFORMATION FLOW		P
7.1	Basic flow		P
	'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
7.2	Conditions for the radiance measurement		P
	Standard condition applied (200mm distance, 0,011rad field of view)		P
	Non-standard condition applied		N
7.3	Special cases (I): Replacement by a lamp or LED module of another type		N
	Light source is a white light source		N
	Evaluation done based on highest luminance		N
	Evaluation done based on CCT value		N
7.4	Special cases (II): Arrays and clusters of primary light sources		N
	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
8	RISK GROUP CLASSIFICATION		P
	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 RG1(mm) :	1510 71	P

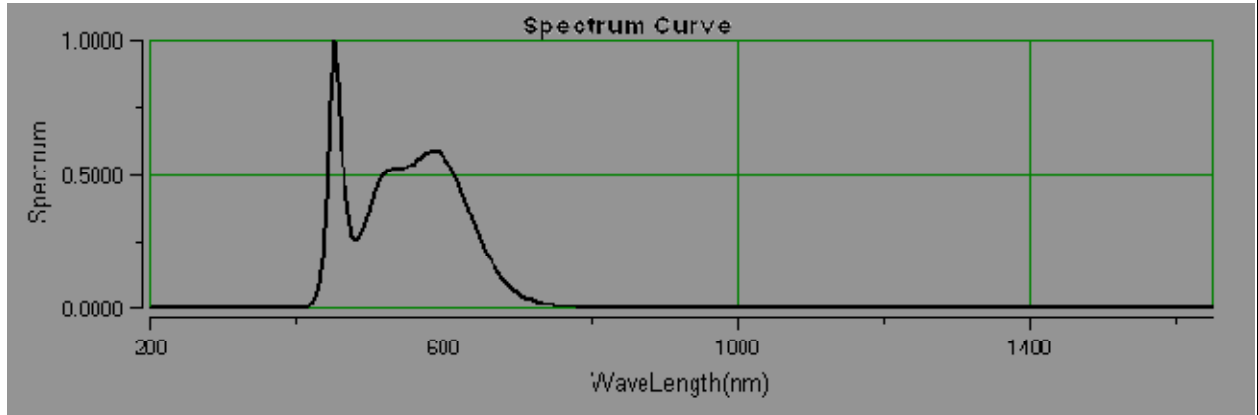
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Clause	Requirement + Test	Result - Remark	Verdict

	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-2835DW-2-S1-08L-HR3	—
	Test voltage (V) 2.6~3.0Vdc	—
	Test current (mA) 60m A	—
	Test frequency (Hz) --	—
	Ambient, t (°C) 25.1	—
	Measurement distance <input checked="" type="checkbox"/> 20 cm <input type="checkbox"/> ... cm	—
	Source size <input type="checkbox"/> Non-small: mm <input checked="" type="checkbox"/> Small: 1.4 mm	—
	Field of view <input type="checkbox"/> 100 mrad <input checked="" type="checkbox"/> 11 mrad <input type="checkbox"/> 1,7 mrad (for small sources)	—

Item	Symbol	Units	Result	Remark
Correlated colour temperature	CCT	K	5152	--
x/y colour coordinates	x/y		0.3414/0.3546	--
Blue light hazard radiance	L _B	W/(m ² •sr ¹)	1218	--
Blue light hazard irradiance	E _B	W/m ²	1.243 x10 ⁻¹	--
Luminance	L	cd/m ²	1.839x10 ⁶	--
Illuminance	E	lx	188	--

Supplementary information: NA

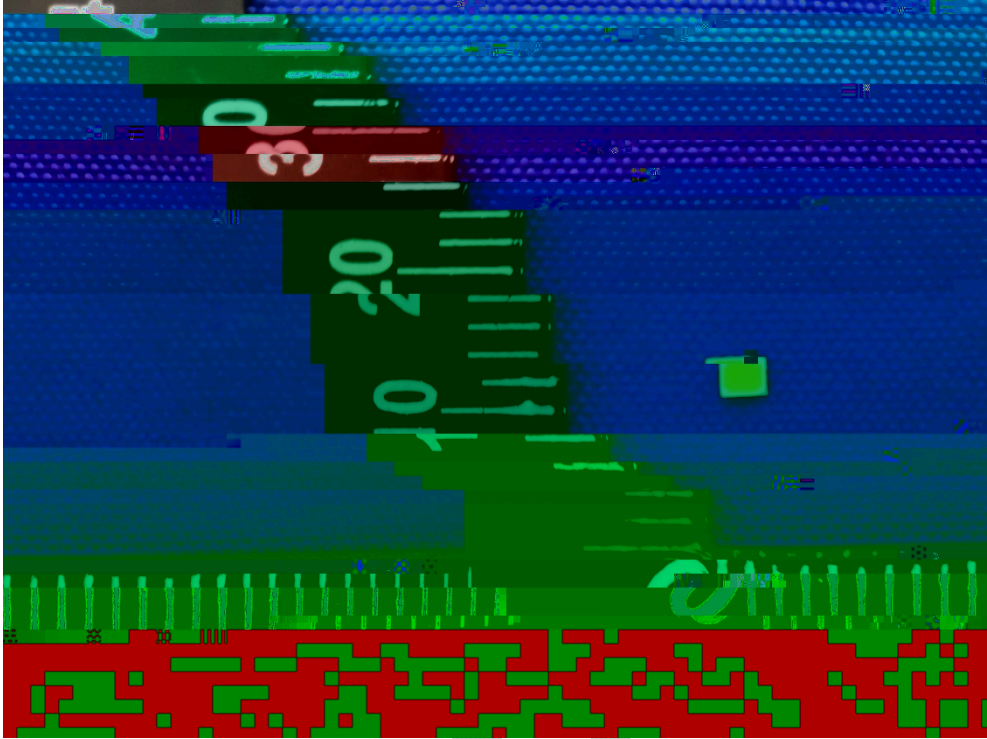
TABLE: Angular light distribution



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Appendix A - EUT Photos

The overall view of EUT



FEM



Appendix B Test equipment list

Equipment Description	Model No	BACL#	Manufacturer	Last Cal	Cal Due
UV-VIS-near IR Spectrophotometer	PMS-2000	T-08-SF213	EVERFINE	2018-09-03	2019-09-03
Imaging luminance meter	CX-2K	T-08-SF213-1	EVERFINE	2018-09-03	2019-09-03
Radiation illuminance meter	RD-2000	T-08-SF213-2	EVERFINE	2018-09-03	2019-09-03
Radiation illuminance meter	RD-2000	T-08-SF213-3	EVERFINE	2018-09-03	2019-09-03
High Accuracy Array	HAAS-2000	T-08-SF213-4	EVERFINE	2018-09-03	2019-09-03
80mm sample integrating sphere	SMS-300	T-08-SF213-5	EVERFINE	2018-09-03	2019-09-03
Hygrothermograph	VC230	T-08-QA015	VICTOR	2019-03-17	2020-03-17
Steel tape	5m×19mm	T-08-SF197	B&Q	2016-02-25	2021-02-23
High power LED aging dc power supply	B12005	T-08-SF205	BACL	2019-03-26	2020-03-26
AC power supply	HPA-1103	F-08-SF129	EVERFINE	2018-07-23	2019-07-23

***** End of report *****