

IES LM-79-08

MEASUREMENT AND TEST REPORT

Test Model: SRLED-RTUS24-4K

Report Type:	Electrical and Photometric tests including: Input Current, Power, Power Factor, Luminous Flux, Luminous Efficacy, CRI, CCT, Chromaticity Coordinate, Spectral Power Distribution
Test Engineer:	Daniel Duan <i>Daniel Duan</i>
Report Number:	RSZ130820504-10A1
Test Date:	2013-08-21
Report Date:	2013-08-31
Reviewed By:	Jeanne Han/Safety Manager <i>Jeanne Han</i>
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China
Test Facility:	Test facility was located at Pu Long Cun 69, Puxinghu Industrial Area, Tangxia Town, Dongguan, Guangdong, P.R.China.
Accreditation:	The NVLAP Lab Code is 200707-0.

STATEMENT: This test may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Shenzhen). The test data was only valid for the test sample(s). This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Federal Government.

1. Product Description

General Information:

One sample was received on 2013-08-20 and used for testing.

Model Tested: SRLED-RTUS24-4K

Product Designation: LED PANEL

Burning Time Before Test: 0 hour(For New Products)

Rated Values:

Rated Voltage/Frequency: 120-277V AC 50/60Hz

Rated Power: 50W

Nominal CCT: 4000K

2. Standards Used

- IESNA LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products
- ANSI C82.77-2002: Harmonic Emission Limits – Related Power Quality Requirements for Lighting

3. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Test Range	Calibration date
2.0m integrating sphere	EVERFINE	R98	11010018	N/A	2013-03-08
High accuracy array spectroradiometer	EVERFINE	HAAS-2000	1012016T	380-780nm	2013-03-08
Digital CC&CV DC Power Supply	EVERFINE	WY305	1101047	30V/5A	2013-03-25
Temperature/humidity/clock	Victor	VC230	EE209	0~40°C 0~90%	2013-04-01
Standard Light Source	SENSING	N/A	LSD090808	N/A	2013-05-13
Special zero-voltage synchronous switching AC	EVERFINE	DPS1010	1011001T	N/A	2013-03-25

4. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-08. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C}\pm 1^{\circ}\text{C}$ during measurement. And relative humidity is less than 65%.

Integrating Sphere System

The system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The integrating sphere system is calibrated by standard light source before measurement. The system and standard light source has been calibrated regularly and traceable to the National Primary Standards.

4π geometry was used during measurement. The product was operated in its intended orientation in application and was recorded in this report.

FEMVA

5. Test Result

[Integrating Sphere System]

Total operating time for integrating sphere test: **1.5hours**

Test orientation: **Downward**

Electrical Measurement

Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
120.1	60.0	0.5058	50.49	0.9957

Photometric Measurement

Luminous Flux (lm)	Radiant Flux (W)	Efficacy (lm/W)	CCT (K)	Duv
5631	18.000	111.5	4075	-2.48E-03

Chromaticity Coordinate

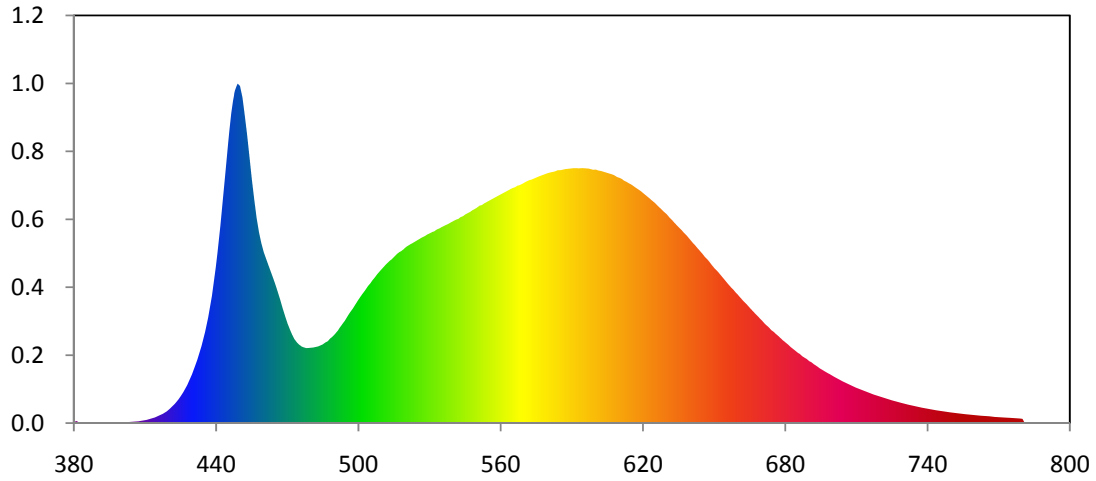
x	y	u	v	u'	v'
0.3756	0.3685	0.2252	0.3314	0.2252	0.4972

Color Rendering Index

Ra
84.9

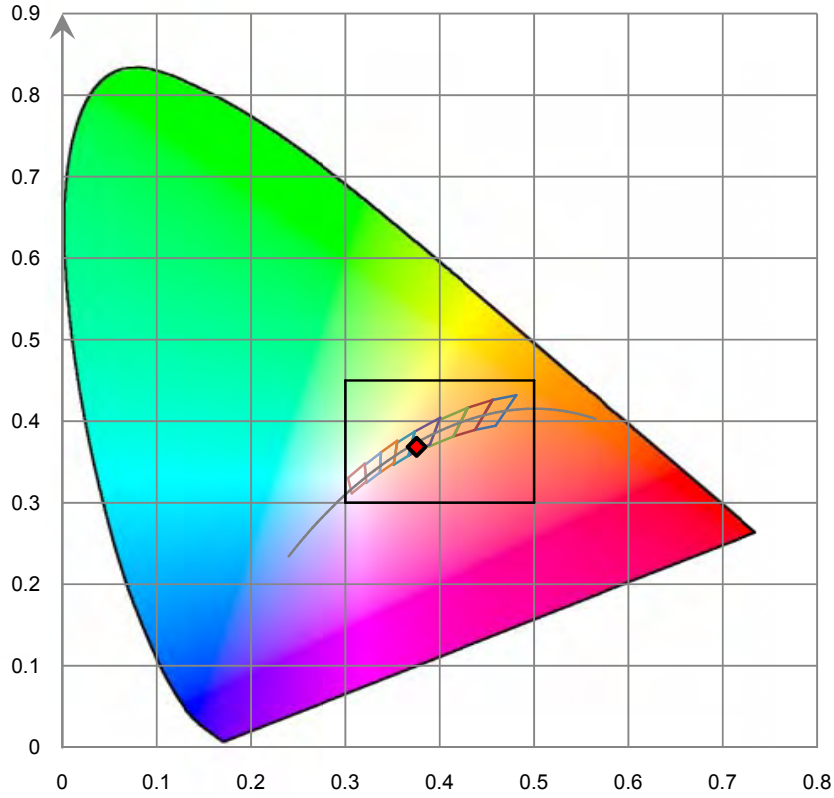
R1 84	R2 90	R3 93	R4 84
R5 84	R6 85	R7 88	R8 72
R9 27	R10 74	R11 83	R12 64
R13 85	R14 96	R15 80	

Relative Spectral Power Distribution

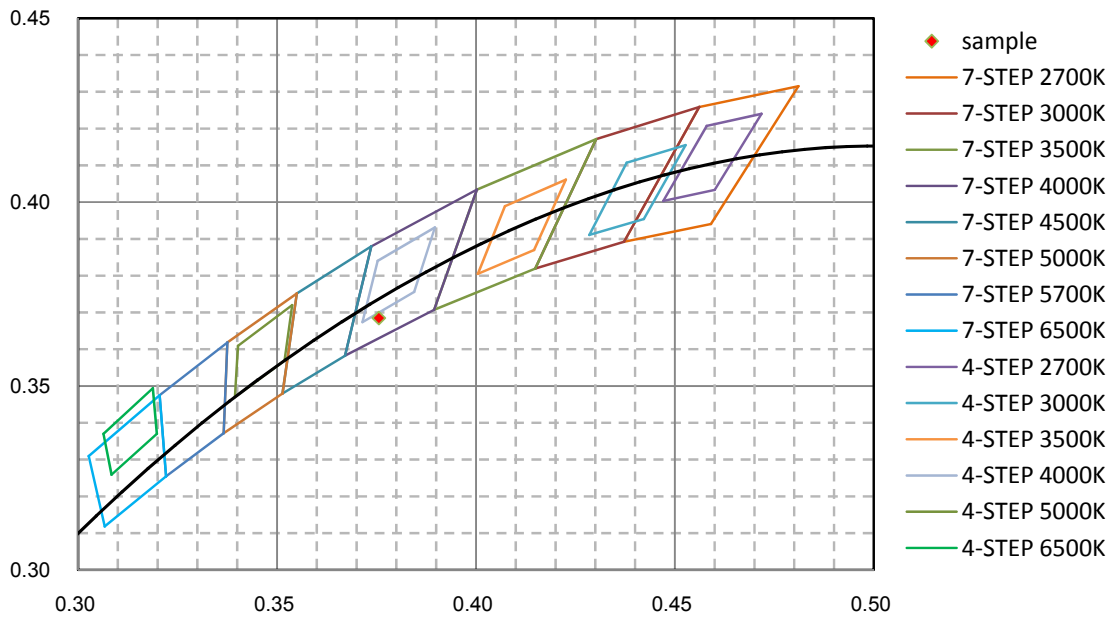


nm	mW	nm	mW	nm	mW	nm	mW	nm	mW
380	2.859E-01	465	3.185E+01	550	4.967E+01	635	4.517E+01	720	6.105E+00
385	1.103E-01	470	2.306E+01	555	5.123E+01	640	4.221E+01	725	5.272E+00
390	1.505E-01	475	1.806E+01	560	5.273E+01	645	3.906E+01	730	4.493E+00
395	1.698E-01	480	1.735E+01	565	5.420E+01	650	3.577E+01	735	3.868E+00
400	1.876E-01	485	1.818E+01	570	5.549E+01	655	3.266E+01	740	3.340E+00
405	3.260E-01	490	2.053E+01	575	5.663E+01	660	2.954E+01	745	2.859E+00
410	6.659E-01	495	2.429E+01	580	5.765E+01	665	2.657E+01	750	2.475E+00
415	1.501E+00	500	2.849E+01	585	5.829E+01	670	2.374E+01	755	2.118E+00
420	3.140E+00	505	3.225E+01	590	5.871E+01	675	2.108E+01	760	1.842E+00
425	6.192E+00	510	3.567E+01	595	5.876E+01	680	1.863E+01	765	1.598E+00
430	1.158E+01	515	3.836E+01	600	5.846E+01	685	1.633E+01	770	1.393E+00
435	2.042E+01	520	4.062E+01	605	5.765E+01	690	1.433E+01	775	1.210E+00
440	3.676E+01	525	4.224E+01	610	5.654E+01	695	1.247E+01	780	1.021E+00
445	6.452E+01	530	4.374E+01	615	5.499E+01	700	1.084E+01		
450	7.768E+01	535	4.519E+01	620	5.302E+01	705	9.402E+00		
455	5.609E+01	540	4.658E+01	625	5.075E+01	710	8.169E+00		
460	3.942E+01	545	4.811E+01	630	4.812E+01	715	7.028E+00		

CIE 1931 x y Chromaticity Diagram



7-Step & 4-Step Chromaticity Quadrangles



6. Product Photo



*****END OF REPORT*****