REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100125842 Date: September 13, 2010

REPORT NO. 100125842CRT-044

TEST OF PAR 38 LED LAMPS

MODEL NOS.

S8871 / S8877

RENDERED TO

SATCO PRODUCTS, INC / KOLOURONE / WOOREE LIGHTING
110 HEARLAND BLVD
BRENTWOOD, NY 11717

TEST: Electrical and Photometric tests as required to the IESNA test standard.

LABORATORY NOTE: The laboratory that conducted the testing detailed in this report has been Qualified, Verified, and Recognized for LM-79 Testing for ENERGY STAR for SSL by US DOE's CALiPER program.

AUTHORIZATION: The testing performed was authorized by signed quote number 500233869.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

IESNA LM-79: 2008 Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products

ANSI NEMA ANSLG C78.377: 2008 Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE: The client submitted three samples of model number S8871 / S8877. The samples were received by Intertek on July 13, 2010, in undamaged condition, and two samples were tested as received. The sample designations were S6143L and S6144L.

DATES OF TESTS: August 6, 2010

SUMMARY

Model Nos.:	S8871 / S8877
Description:	PAR 38 - 10W 60 DEGREE 5000K

Criteria	Result
Total Lumen Output	638.6 Lumens
Total Power	10.37 W
Luminaire Efficacy	61.62
Power Factor	0.942
Color Rendering Index (CRI)	84.65
Correlated Color Temperature (CCT)	5152 K
Chromaticity Coordinate (x)	0.341
Chromaticity Coordinate (y)	0.345
Chromaticity Coordinate (u')	0.211
Chromaticity Coordinate (v')	0.481

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Calibration Date	Calibration Due Date
Elgar AC Power Supply	1001SX	---	---	---
Xitron Power Analyzer	2503H	E235	04/09/10	04/09/11
Elgar AC Power Supply	CW1251	--	--	--
Yokogawa Power Analyzer	WT1600	E462	06/11/10	06/11/11
Labsphere Diode Array	DAS 1100	N714	Before Use	Before Use
Leeds & Northup Standard Resistor	Manganin	Y089	02/10/10	02/10/11
Data Precision Digital Voltmeter	3600	V124	02/10/10	02/10/11
Fluke Multimeter	45	M133	02/10/10	02/10/11
Fluke Temperature Meter	52	T801	06/11/10	06/11/11
Kikusui DC Power Supply	35-10L	E160	---	---
Sorenson DC Power Supply	DLM150-20E	--	---	---
UDT Optometer	S370	N301	Before Use	Before Use
ITS Two Meter Diameter Integrating Sphere	---	N308	Before Use	Before Use
ITS Ten Foot Diameter Integrating Sphere	---	N307	Before Use	Before Use
NIST Luminous Flux Standard Sources	---	150-14, 8043, 8830	03/17/2010	03/17/11
NIST Spectral Flux Standard Source	RF0605	---	11/29/06	100 hours of use
LSI High Speed Mirror Goniophotometer	6440	--	Before Use	Before Use
Labsphere CDS 1100 CCD Spectroradiometer	CDS1100	--	Before Use	Before Use
Optronics Spectroradiomter	EL750D	E288	Before Use	Before Use

TEST METHODS

Seasoning in Sample Orientation – LED Products

No seasoning was performed in accordance with IESNA LM-79.

Photometric and Electrical Measurements – Integrating Sphere Method

A Labsphere Model DAS 1100 Diode Array Spectroradiometer and Two Meter or Ten Foot Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation. Each SSL unit was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

The calibration of the sphere photometer-spectroradiometer system is traceable to the National Institute of Standards and Technology.

Estimated Total Operating Time

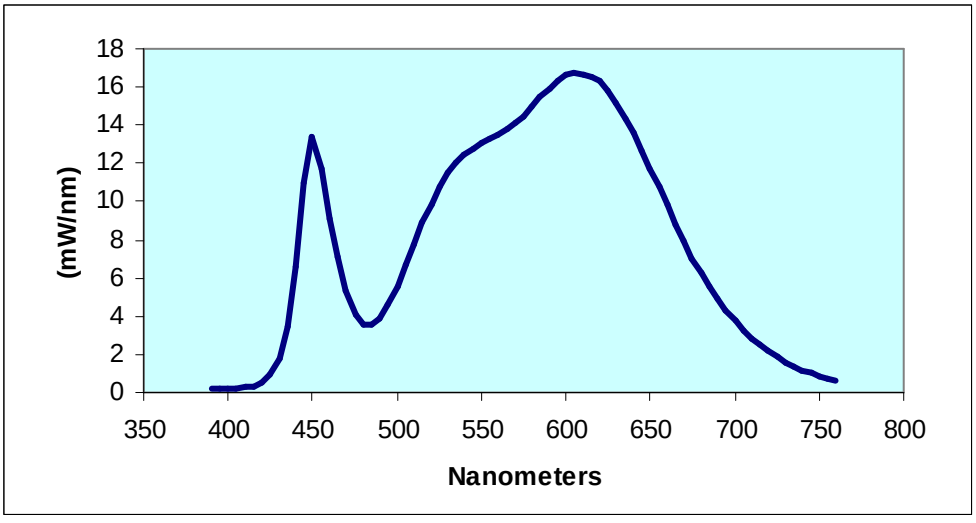
Model Nos.	Total Hours
S8871 / S8877	5

RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
Sample No. S6143L, Model Nos. S8871 / S8877							
350	0.149	460	10.174	570	9.158	680	3.207
355	0.070	465	7.629	575	9.086	685	2.842
360	0.088	470	5.357	580	9.050	690	2.499
365	0.051	475	4.043	585	9.078	695	2.181
370	0.072	480	3.395	590	9.135	700	1.899
375	0.064	485	3.236	595	9.163	705	1.638
380	0.061	490	3.494	600	9.163	710	1.429
385	0.045	495	4.112	605	9.107	715	1.240
390	0.059	500	4.969	610	8.999	720	1.068
395	0.068	505	5.936	615	8.871	725	0.922
400	0.081	510	6.920	620	8.651	730	0.798
405	0.105	515	7.810	625	8.295	735	0.688
410	0.169	520	8.599	630	7.971	740	0.585
415	0.298	525	9.170	635	7.526	745	0.505
420	0.609	530	9.590	640	7.082	750	0.433
425	1.261	535	9.820	645	6.581	755	0.373
430	2.520	540	9.878	650	6.073	760	0.327
435	5.133	545	9.861	655	5.571	765	0.275
440	10.258	550	9.781	660	5.043	770	0.238
445	16.544	555	9.641	665	4.545	775	0.207
450	17.313	560	9.481	670	4.039	780	0.178
455	13.485	565	9.292	675	3.602		

SATCO
Sample No. S6143L
Model Nos. S8871 / S8877
Spectral Data Over Visible Wavelengths



RESULTS OF TESTS (cont'd)

Photometric Measurements at 25℃ – Integrating Sphe re Method

Intertek Sample No.	Correlated Color Temperature (K)	CRI	CIE 31' Chromaticity Coordinate (x)	CIE 31' Chromaticity Coordinate (y)	CIE 76' Chromaticity Coordinate (u')	CIE 76' Chromaticity Coordinate (v')
Model Nos. S8871 / S8877						
S6143L	5148	84.80	0.341	0.345	0.211	0.481
S6144L	5155	84.50	0.341	0.344	0.211	0.480
Average	5152	84.65	0.341	0.345	0.211	0.481

Photometric and Electrical Measurements – Integrating Sphere Method

Intertek Sample No.	Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (Lumens Per Watt)
Model Nos. S8871 / S8877							
S6143L	UP	120.0	921.0	10.43	0.944	630.9	60.49
S6144L	UP	120.0	911.0	10.30	0.940	646.2	62.74
Average	UP	120.0	916.0	10.37	0.942	638.6	61.62

Picture (not to scale)

CONCLUSION

The results tabulated in this report are representative of the actual test samples submitted for this report only. The data is provided to the client for further evaluation. Compliance to the referenced specification requirements was not determined in this report.

In Charge Of Tests:

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Report Reviewed By:

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Attachment: None