REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Project No. G100125842 Date: August 17, 2010

REPORT NO. 100125842CRT-043

TEST OF A19 LED LAMPS

MODEL NOS.

S8841 / S8844

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 S8841 / S8844. The samples were received by Intertek on July 13, 2010, in undamaged condition, and three samples were tested as received. The sample designations were S5766L, S5767L, and S6192L.

DATES OF TESTS: July 28, 2010

SUMMARY

Model Nos.:	S8841 / S8844
Description:	A19 – 5.5W 5000K

Criteria	Result
Total Lumen Output	300.9 Lumens
Total Power	5.53 W
Luminaire Efficacy	54.43
Power Factor	0.822
Color Rendering Index (CRI)	86.01
Correlated Color Temperature (CCT)	5141 K
Chromaticity Coordinate (x)	0.341
Chromaticity Coordinate (y)	0.347
Chromaticity Coordinate (u')	0.210
Chromaticity Coordinate (v')	0.482

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

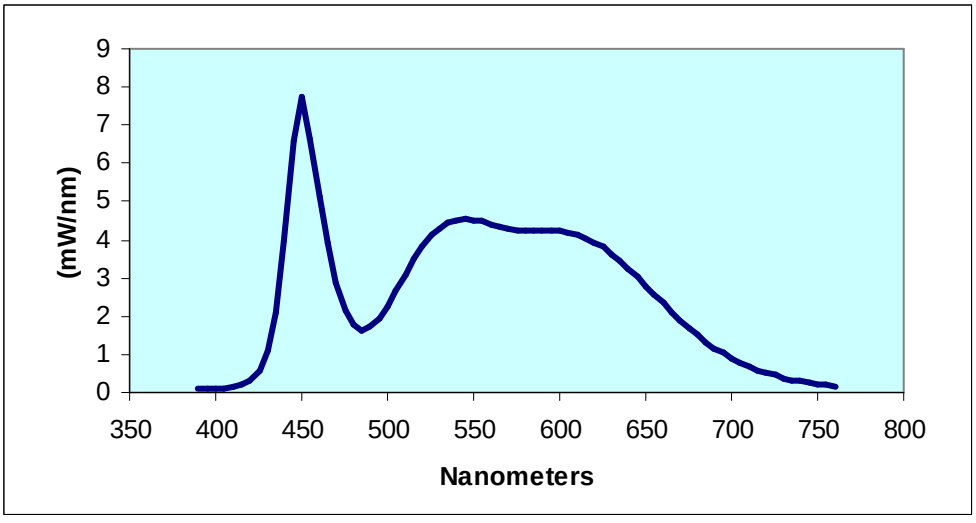
Model Nos.	Total Hours
S8841 / S8844	7

RESULTS OF TESTS

Spectral Distribution over Visible Wavelengths

nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
Sample No. S5766L, Model Nos. S8841 / S8844							
390	0.0980	500	2.2688	610	4.1191	720	0.5192
395	0.1170	505	2.6763	615	4.0490	725	0.4531
400	0.1115	510	3.0952	620	3.9483	730	0.3893
405	0.1256	515	3.4880	625	3.8045	735	0.3400
410	0.1476	520	3.8324	630	3.6301	740	0.2938
415	0.1988	525	4.1161	635	3.4389	745	0.2523
420	0.3212	530	4.3166	640	3.2309	750	0.2243
425	0.5809	535	4.4507	645	3.0134	755	0.1898
430	1.1046	540	4.5145	650	2.7922	760	0.1615
435	2.1074	545	4.5392	655	2.5571		
440	3.9793	550	4.5208	660	2.3285		
445	6.5709	555	4.4766	665	2.0974		
450	7.7583	560	4.4161	670	1.8844		
455	6.6492	565	4.3514	675	1.6849		
460	5.1282	570	4.2935	680	1.5022		
465	3.9155	575	4.2487	685	1.3296		
470	2.8530	580	4.2225	690	1.1729		
475	2.1331	585	4.2266	695	1.0376		
480	1.7662	590	4.2323	700	0.9052		
485	1.6416	595	4.2339	705	0.7869		
490	1.7015	600	4.2267	710	0.6889		
495	1.9289	605	4.1834	715	0.5970		

SATCO
Sample No. S5766L
Model Nos. S8841 / S8844
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. S8841 / S8844						
S5766L	5128	86.34	0.341	0.346	0.211	0.481
S5767L	5144	84.96	0.341	0.351	0.209	0.484
S6192L	5150	86.72	0.341	0.345	0.211	0.481
Average	5141	86.01	0.341	0.347	0.210	0.482

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. S8841 / S8844							
S5766L	UP	120.0	56.1	5.46	0.811	294.5	53.94
S5767L	UP	120.0	56.1	5.62	0.833	312.1	55.53
S6192L	UP	120.0	55.6	5.50	0.824	296.0	53.82
Average	UP	120.0	55.9	5.53	0.822	300.9	54.43

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