

GENERATION BRANDS

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

SLS14XXXXXS930WELV0

REPORT NUMBER

103017649CHI-084

ISSUE DATE

June 14, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT DATE: June 14, 2018

TEST REPORT

TEST OF ONE LINEAR SUSPENDED FIXTURE

MODEL NO. SLS14XXXXS930WELV0
LED MODEL NO. NICHIA NFSL757G-V1 (3000CCT, 90CRI)
DRIVER MODEL NO. PSB50W-750-42

RENDERED TO:

GENERATION BRANDS
7400 LINDER AVE.
SKOKIE, IL, 60077

AUTHORIZATION

The testing performed was authorized by signed quote number Qu-00779063-2.

STANDARDS USED

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting
ANSI NEMA ANSLG C78.377: 2015: Specifications of the Chromaticity of Solid State Lighting Products

DESCRIPTION OF SAMPLE

The client submitted one Production sample of model number SLS14XXXXS930WELV0 . The sample was received by Intertek on May 24, 2018 in undamaged condition and one sample was tested as received. The sample designation was AH05242018032942I.

DATE OF TESTS

June 4, 2018 through June 12, 2018.

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SUMMARY

MODEL NO:	SLS14XXXXS930WELV0
DESCRIPTION:	Linear Suspended Fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	1782.3	1700.7
Input Power (W) @ 120 (VAC)	28.87	28.799
Lumen Efficacy (lm/W)	61.7	59.1
Input Power Factor () @ 120 (VAC)	0.979	0.981

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	12.11
Correlated Color Temperature (K)	3088
Color Rendering Index - Ra ()	95.3
Color Rendering - R9 ()	66.4
DUV ()	0.0010
Chromaticity Coordinate (x)	0.430
Chromaticity Coordinate (y)	0.401
Chromaticity Coordinate (u')	0.248
Chromaticity Coordinate (v')	0.519

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/10/2017	7/10/2018
Omega Newport Thermometer	DPI8-C24	146920	10/4/2017	10/4/2018
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
Newport Thermohygrometer	iServer	146957	11/17/2017	11/17/2018
Pacific, AC power supply	118-ACX	CHI0358	VBV	VBV
Labsphere Spectroradiometer	CDS1100	CHI0091	VBV	VBV
3 Meter Sphere	SPR600	CHI0088	VBV	VBV
Elgar AC Power Supply	CW1251	146112	VBV	VBV
Sorenson DC Power Supply	XFR150-8	146846	VBV	VBV
Newport Humidity Recorder	iTHX-SD	146961	7/14/2017	7/14/2018
Yokogawa Power Meter	WT1600	146768	10/3/2017	10/3/2018
Extech K Temperature Meter	SD200	CHI0207	4/12/2018	4/12/2019

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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 Spectroradiometer and integrating 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. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

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

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD

A Type C Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for the SSL sample.

Ambient temperature was measured equal to the height of the sample mounted on the goniometer equipment. The SSL sample was operated on the client provided driver at rated input volts in its designated orientation. The SSL sample was allowed to stabilize for at least thirty minutes before measurements were made. Stabilization procedures to LM-79 were followed. Electrical measurements including voltage, current, and power were measured using a power analyzer.

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TEST REPORT

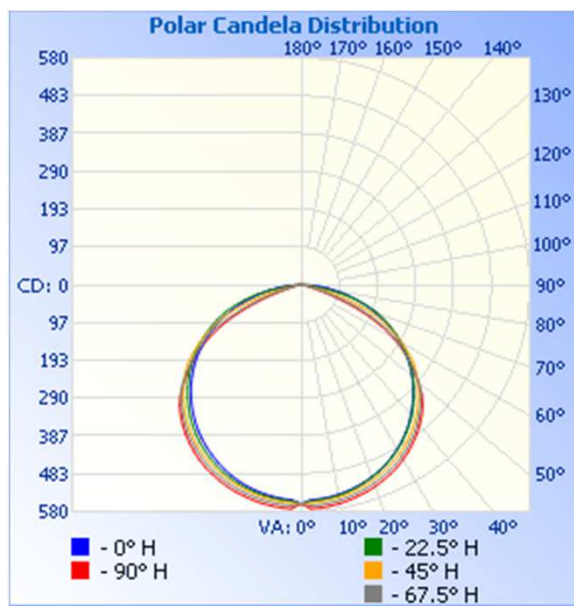
RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR ()	LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)
AH05242018032942I	Base Up	120.0	244.7	28.799	0.981	1700.7	59.1

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	560	560	560	560	560
5	550	552	556	564	572
10	544	547	551	559	567
15	535	537	543	551	559
20	523	524	532	540	549
25	507	507	517	526	534
30	486	487	498	508	517
35	462	463	476	486	494
40	433	436	451	460	468
45	402	404	420	429	436
50	369	370	386	389	388
55	331	332	348	334	333
60	289	292	294	277	271
65	245	249	235	203	189
70	196	202	164	113	93
75	144	142	75	34	27
80	93	71	16	14	14
85	45	7	6	6	6
90	2	1	1	1	1



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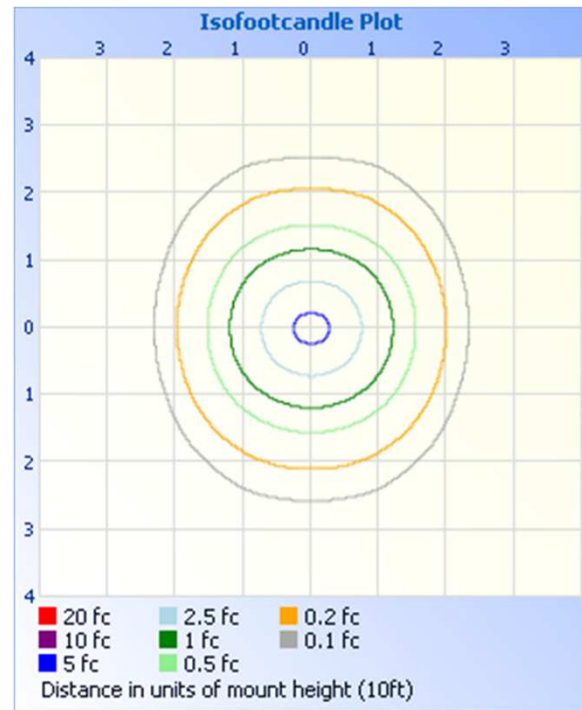
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RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - DISTRIBUTION METHOD (25°C +/- 1°C)

MOUNTING HEIGHT: 10ft	
ILLUMINANCE - CONE OF LIGHT	ISOILLUMINATION PLOT



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	445.8	26.2
0-40	743.6	43.7
0-60	1366.5	80.4
60-90	334.0	19.6
70-100	111.6	6.6
90-120	0.1	0.0
0-90	1700.6	100.0
90-180	0.1	0.0
0-180	1700.7	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	53.1	3.1
10-20	153.9	9.0
20-30	238.8	14.0
30-40	297.9	17.5
40-50	322.3	19.0
50-60	300.6	17.7
60-70	222.6	13.1
70-80	95.3	5.6
80-90	16.1	0.9
90-100	0.1	0.0

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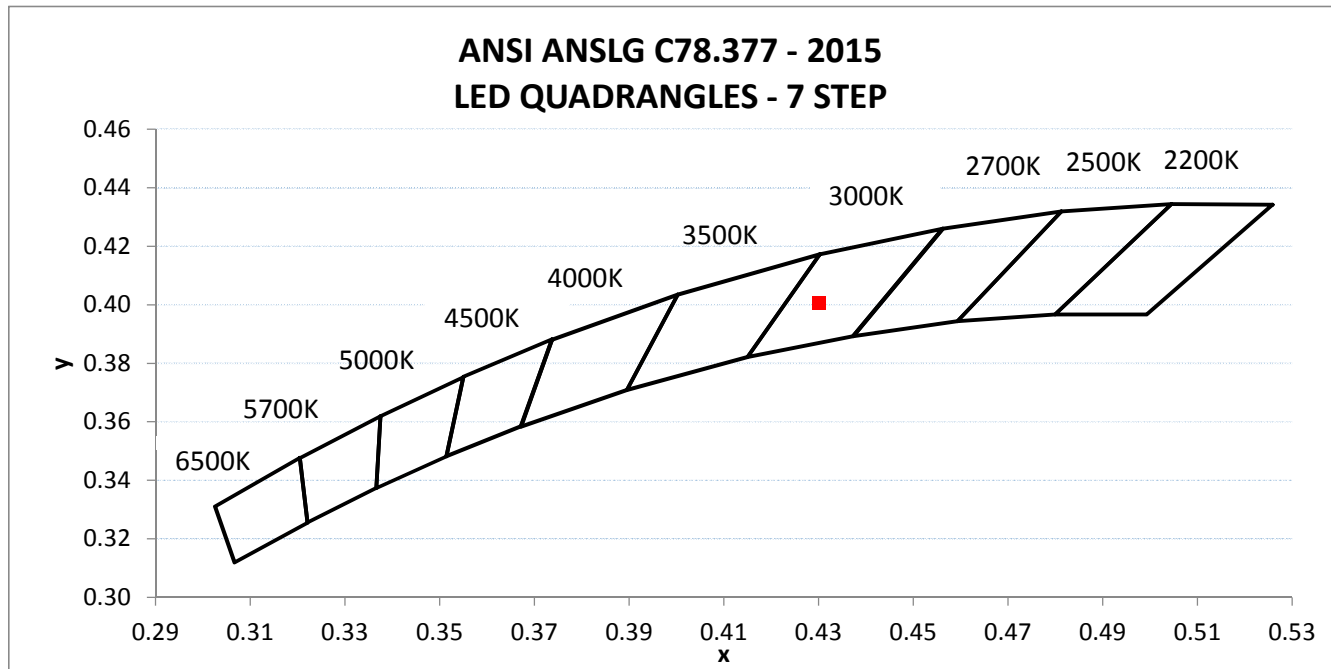
RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

INTERTEK CONTROL NO.	BASE POSITION	INPUT VOLTAGE (VAC)	INPUT CURRENT (mA)	INPUT POWER (W)	INPUT POWER FACTOR ()	INPUT CURRENT ATHD (%)
AH05242018032942I	Base Up	120.00	245.82	28.87	0.979	12.11

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra ()	CRI - R9 ()	DUV ()
1782.3	61.7	3088	95.3	66.4	0.0010

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.430	0.401	0.248	0.519



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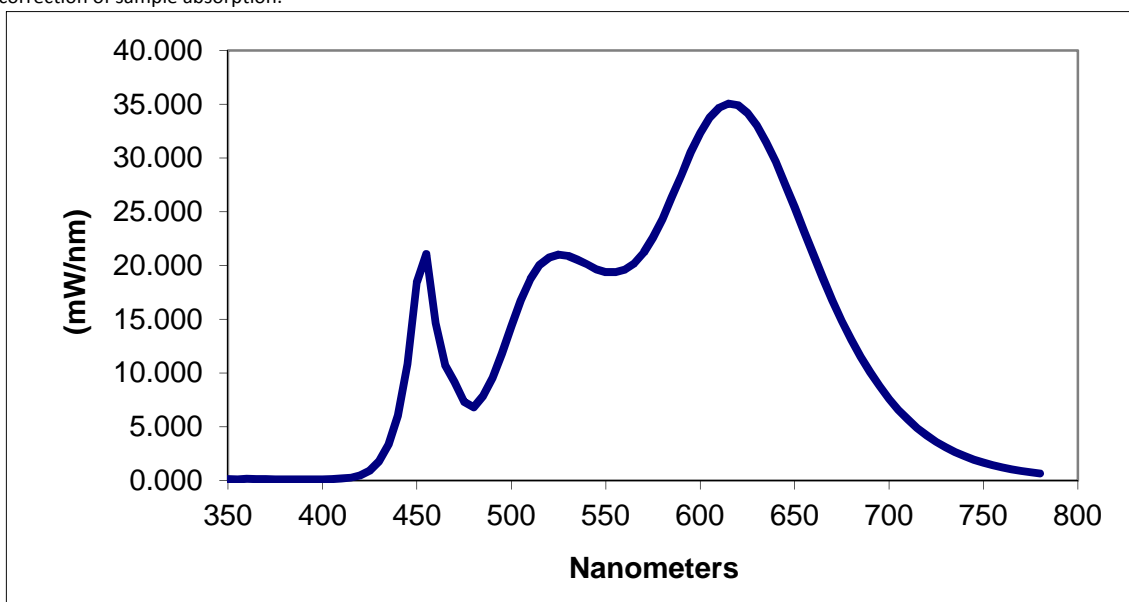
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RESULTS OF TESTS

PHOTOMETRIC AND ELECTRICAL MEASUREMENTS - INTEGRATING SPHERE METHOD (25°C +/- 1°C)

SPECTRAL DISTRIBUTION OVER VISIBLE WAVELENGTHS*							
nm	mW/nm	nm	mW/nm	nm	mW/nm	nm	mW/nm
350	0.116	460	14.631	570	21.187	680	13.086
355	0.076	465	10.704	575	22.601	685	11.504
360	0.135	470	9.153	580	24.311	690	10.062
365	0.124	475	7.308	585	26.350	695	8.794
370	0.108	480	6.815	590	28.406	700	7.599
375	0.100	485	7.853	595	30.526	705	6.582
380	0.090	490	9.543	600	32.327	710	5.684
385	0.082	495	11.775	605	33.745	715	4.881
390	0.087	500	14.374	610	34.671	720	4.187
395	0.089	505	16.761	615	35.055	725	3.604
400	0.099	510	18.717	620	34.926	730	3.089
405	0.121	515	20.065	625	34.211	735	2.648
410	0.169	520	20.748	630	32.996	740	2.267
415	0.270	525	20.998	635	31.472	745	1.940
420	0.485	530	20.888	640	29.642	750	1.662
425	0.923	535	20.522	645	27.576	755	1.421
430	1.768	540	20.113	650	25.409	760	1.215
435	3.345	545	19.639	655	23.188	765	1.045
440	6.032	550	19.386	660	20.985	770	0.891
445	10.843	555	19.361	665	18.838	775	0.762
450	18.433	560	19.622	670	16.759	780	0.656
455	21.079	565	20.181	675	14.858		

*Without correction of sample absorption.



End Of Test Results

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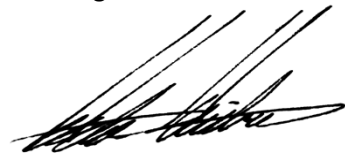
PICTURES



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:



Hector Huitron
Associate Engineer
Lighting Division

Report Reviewed By:



Vladimir Kozak
Engineering Supervisor
Lighting Division

Attachments: IES File

REVISION HISTORY

JOB NUMBER	DATE OF REVISION	PROJECT HANDLER	REVIEWED BY	REVISION NOTE
None				