

GENERATION BRANDS

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

SLS14XXXXH930WELV0

REPORT NUMBER

103017649CHI-083

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. SLS14XXXXH930WELV0
LED MODEL NO. NICHIA NFSL757G-V1 (3000CCT, 90CRI)
DRIVER MODEL NO. ERP PSB50W-1200-42

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 SLS14XXXXH930WELV0 . 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 2, 2018 through June 12, 2018.

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SUMMARY

MODEL NO:	SLS14XXXXH930WELV0
DESCRIPTION:	Linear Suspended Fixture

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	2731.2	2604.0
Input Power (W) @ 120 (VAC)	47.46	47.641
Lumen Efficacy (lm/W)	57.5	54.7
Input Power Factor () @ 120 (VAC)	0.985	0.985

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	11.93
Correlated Color Temperature (K)	3099
Color Rendering Index - Ra ()	95.2
Color Rendering - R9 ()	64.8
DUV ()	0.0010
Chromaticity Coordinate (x)	0.429
Chromaticity Coordinate (y)	0.400
Chromaticity Coordinate (u')	0.247
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	VBU	VBU
Newport Thermohygrometer	iServer	146957	11/17/2017	11/17/2018
Pacific, AC power supply	118-ACX	CHI0358	VBU	VBU
Labsphere Spectroradiometer	CDS1100	CHI0091	VBU	VBU
3 Meter Sphere	SPR600	CHI0088	VBU	VBU
Elgar AC Power Supply	CW1251	146112	VBU	VBU
Sorenson DC Power Supply	XFR150-8	146846	VBU	VBU
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.

TEST REPORT

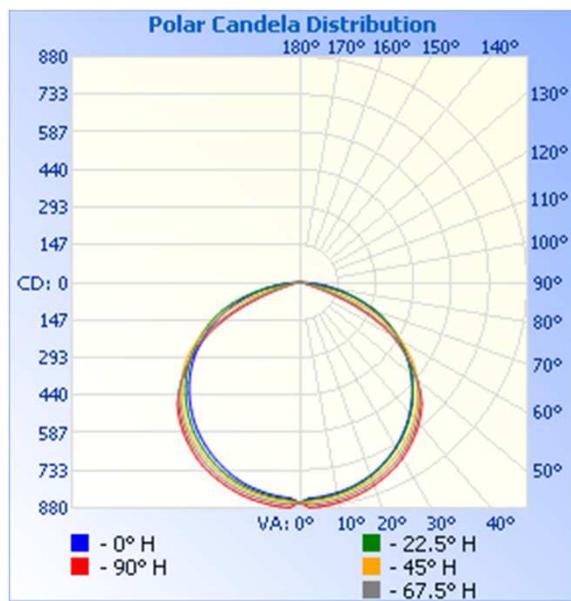
RESULTS OF TESTS

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	120.1	402.5	47.641	0.985	2604.0	54.7

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	859	859	859	859	859
5	842	847	854	866	878
10	833	838	847	859	871
15	820	824	834	846	859
20	801	803	816	829	842
25	775	778	793	807	820
30	744	746	765	780	793
35	706	709	731	744	757
40	664	667	690	704	717
45	617	619	644	657	668
50	564	566	591	594	593
55	506	508	531	510	508
60	443	445	448	421	415
65	373	379	357	312	290
70	297	306	251	169	140
75	217	214	112	50	37
80	139	106	23	22	22
85	66	11	10	10	10
90	3	1	1	1	1



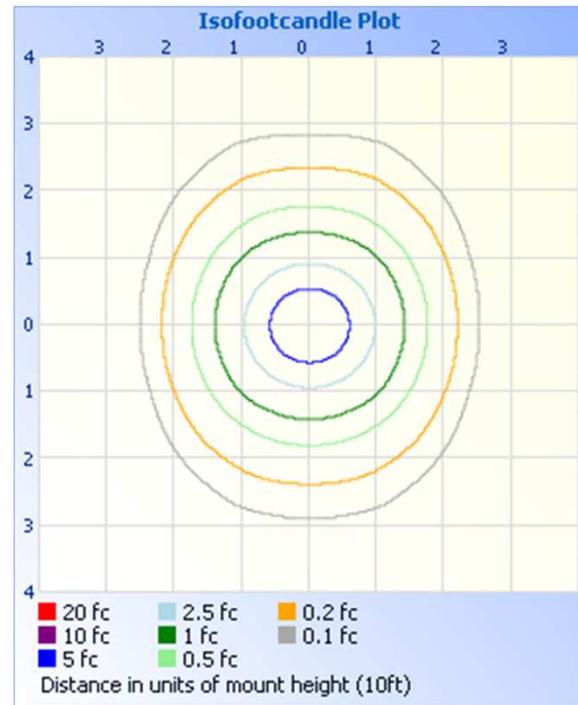
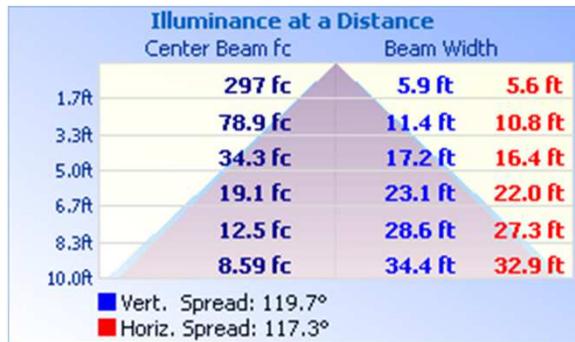
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RESULTS OF TESTS

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

MOUNTING HEIGHT: 10ft

ILLUMINANCE - CONE OF LIGHT	ISOILLUMINATION PLOT
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ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	683.5	26.2
0-40	1139.8	43.8
0-60	2093.2	80.4
60-90	510.6	19.6
70-100	170.2	6.5
90-120	0.2	0.0
0-90	2603.8	100.0
90-180	0.2	0.0
0-180	2604.0	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	81.5	3.1
10-20	236.0	9.1
20-30	366.0	14.1
30-40	456.3	17.5
40-50	493.7	19.0
50-60	459.6	17.7
60-70	340.6	13.1
70-80	145.1	5.6
80-90	24.9	1.0
90-100	0.2	0.0

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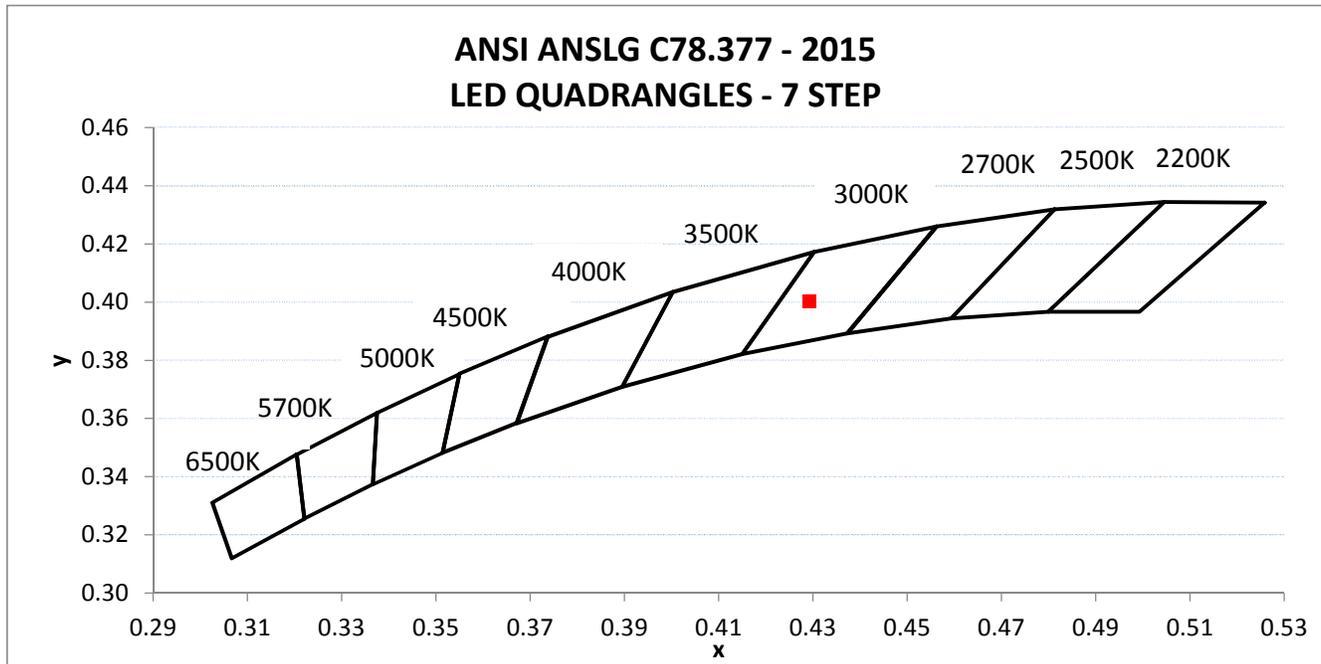
RESULTS OF TESTS

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	401.39	47.46	0.985	11.93

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra ()	CRI - R9 ()	DUV ()
2731.2	57.5	3099	95.2	64.8	0.0010

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.429	0.400	0.247	0.519



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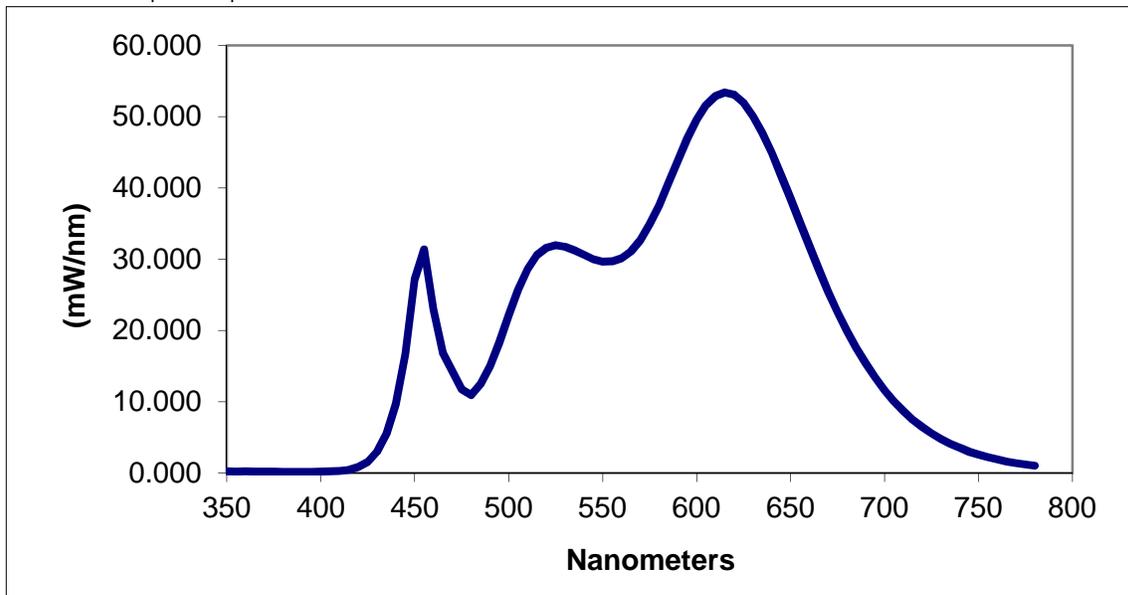
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RESULTS OF TESTS

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	0.204	460	22.982	570	32.678	680	19.915
355	0.190	465	16.843	575	34.910	685	17.532
360	0.195	470	14.344	580	37.537	690	15.362
365	0.175	475	11.731	585	40.635	695	13.429
370	0.172	480	10.938	590	43.774	700	11.619
375	0.152	485	12.434	595	46.920	705	10.091
380	0.142	490	15.012	600	49.594	710	8.707
385	0.131	495	18.305	605	51.594	715	7.505
390	0.129	500	22.183	610	52.916	720	6.452
395	0.139	505	25.703	615	53.378	725	5.556
400	0.157	510	28.605	620	53.083	730	4.780
405	0.195	515	30.593	625	51.967	735	4.092
410	0.278	520	31.586	630	50.063	740	3.509
415	0.453	525	31.949	635	47.730	745	3.001
420	0.824	530	31.753	640	44.912	750	2.576
425	1.558	535	31.239	645	41.725	755	2.210
430	2.983	540	30.629	650	38.473	760	1.898
435	5.519	545	29.984	655	35.160	765	1.623
440	9.697	550	29.652	660	31.827	770	1.391
445	16.700	555	29.666	665	28.600	775	1.192
450	27.129	560	30.129	670	25.465	780	1.023
455	31.394	565	31.056	675	22.590		

*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				