

VISUAL COMFORT & COMPANY TEST REPORT

SCOPE OF WORK

Electrical and Photometric tests as required to the IESNA LM-79 test standard.

MODEL NUMBER

700TDSNPGPW**-LED927

REPORT NUMBER

104349704CHI-005

ISSUE DATE

August 14, 2020

REVISION DATE

None

DOCUMENT CONTROL NUMBER

TBD

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REPORT NO.: 104349704CHI-005

REPORT DATE: August 14, 2020

TEST REPORT

TEST OF ONE SEDONA WHITE

MODEL NO. 700TSDNGPW**-LED927

LED MODEL NO. 300BHV351

DRIVER MODEL NO. NA

RENDERED TO:

VISUAL COMFORT & COMPANY

7400 LINDER AVE

SKOKIE, IL 60077

STATEMENT OF LIMITATIONS

NVLAP Lab Code 600186-0. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

AUTHORIZATION

The testing performed was authorized by signed quote number .

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 700TSDNGPW**-LED927. The sample was received by Intertek on August 5, 2020 in undamaged condition and one sample was tested as received. The sample designation was AH08052020182125-005.

DATE OF TESTS

August 7, 2020 through August 13, 2020.

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SUMMARY

MODEL NO:	700TDS DNGPW**-LED927
DESCRIPTION:	SEDONA WHITE

CRITERIA	RESULTS	
	INTEGRATING SPHERE	GONIOPHOTOMETER
Lumen Output (lumens)	791.2	783.4
Input Power (W) @ 120 (VAC)	7.86	7.85
Lumen Efficacy (lm/W)	100.7	99.8
Input Power Factor () @ 120 (VAC)	0.930	0.930

CRITERIA	RESULTS
Input Current ATHD (%) @ 120 (VAC)	22.77
Correlated Color Temperature (K)	2685
Color Rendering Index - Ra	94.0
Color Rendering - R9	63.2
DUV	-0.0024
Chromaticity Coordinate (x)	0.457
Chromaticity Coordinate (y)	0.404
Chromaticity Coordinate (u')	0.264
Chromaticity Coordinate (v')	0.524

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EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	LAST CAL DATE	CAL DUE DATE
Yokogawa Power Meter	WT210	146919	7/1/2020	7/1/2021
Omega Thermometer	DPI8-C24	146920	10/3/2019	10/3/2020
LSI High Speed Mirror Goniometer	6440T	146928	VBV	VBV
Newport Thermohygrometer	iServer	146957	12/2/2019	12/2/2020
Pacific, AC Power Supply	118-ACX	CHI0153	VBV	VBV
Labsphere Spectroradiometer	CDS2600	CHI0539	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	iServer	CHI0456	10/11/2019	10/11/2020
Yokogawa Power Meter	WT1600	146769	4/6/2020	4/6/2021
Extech K Temperature Meter	421502	CHI0476	10/1/2019	10/1/2020

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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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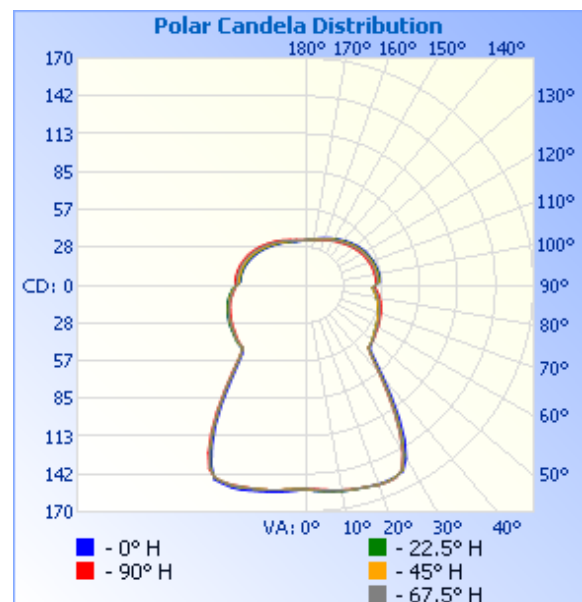
RESULTS OF TESTS

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)
AH08052020182125-005	Base Up	120.0	70.4	7.85	0.930	783.4	99.8

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	153	153	153	153	153
5	155	155	154	154	154
10	157	157	156	156	156
15	158	158	157	158	158
20	159	159	159	159	159
25	158	159	159	159	159
30	150	147	146	145	145
35	122	118	116	115	115
40	90	87	86	85	85
45	68	66	66	66	66
50	65	65	65	65	65
55	63	62	62	63	64
60	61	61	61	62	62
65	59	59	59	60	61
70	58	58	58	59	60
75	56	56	56	57	58
80	54	54	54	55	56
85	51	51	51	52	54
90	52	52	52	52	52
95	56	55	54	54	52
100	55	55	54	53	52
105	54	54	53	52	51
110	54	53	52	52	50
115	52	52	51	50	49
120	51	50	50	49	48
125	49	48	48	47	46
130	48	47	46	46	45
135	46	45	44	44	43
140	44	43	43	42	41
145	42	42	41	40	40
150	40	40	40	39	38
155	39	38	38	38	37
160	37	37	37	36	36
165	36	36	36	35	35
170	35	35	35	35	34
175	34	34	34	34	34
180	34	34	34	34	34



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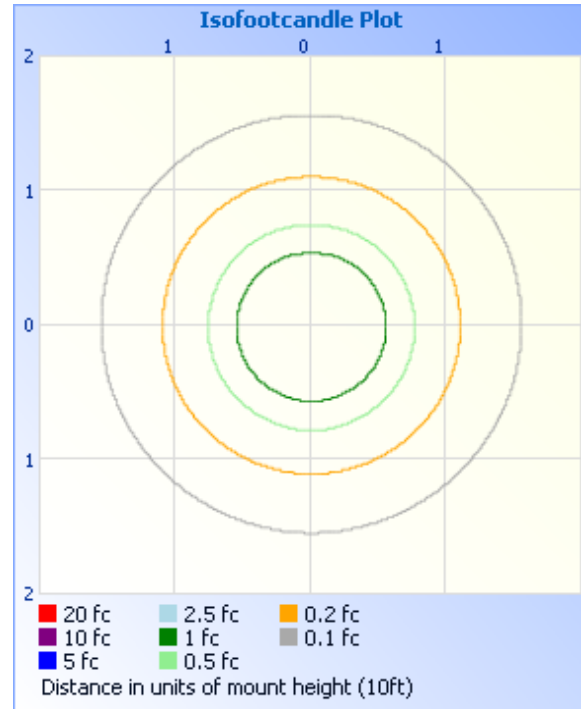
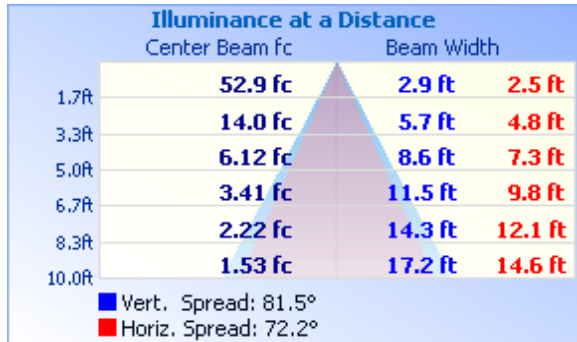
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RESULTS OF TESTS

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	131.8	16.8
0-40	202.9	25.9
0-60	314.1	40.1
60-90	179.9	23.0
70-100	176.2	22.5
90-120	159.4	20.4
0-90	494.0	63.1
90-180	289.3	36.9
0-180	783.4	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	14.8	1.9
10-20	44.8	5.7
20-30	72.3	9.2
30-40	71.1	9.1
40-50	54.0	6.9
50-60	57.2	7.3
60-70	60.5	7.7
70-80	61.1	7.8
80-90	58.2	7.4
90-100	56.8	7.2
100-110	54.1	6.9
110-120	48.6	6.2
120-130	41.3	5.3
130-140	33.1	4.2
140-150	25.0	3.2
150-160	17.2	2.2
160-170	10.0	1.3
170-180	3.2	0.4

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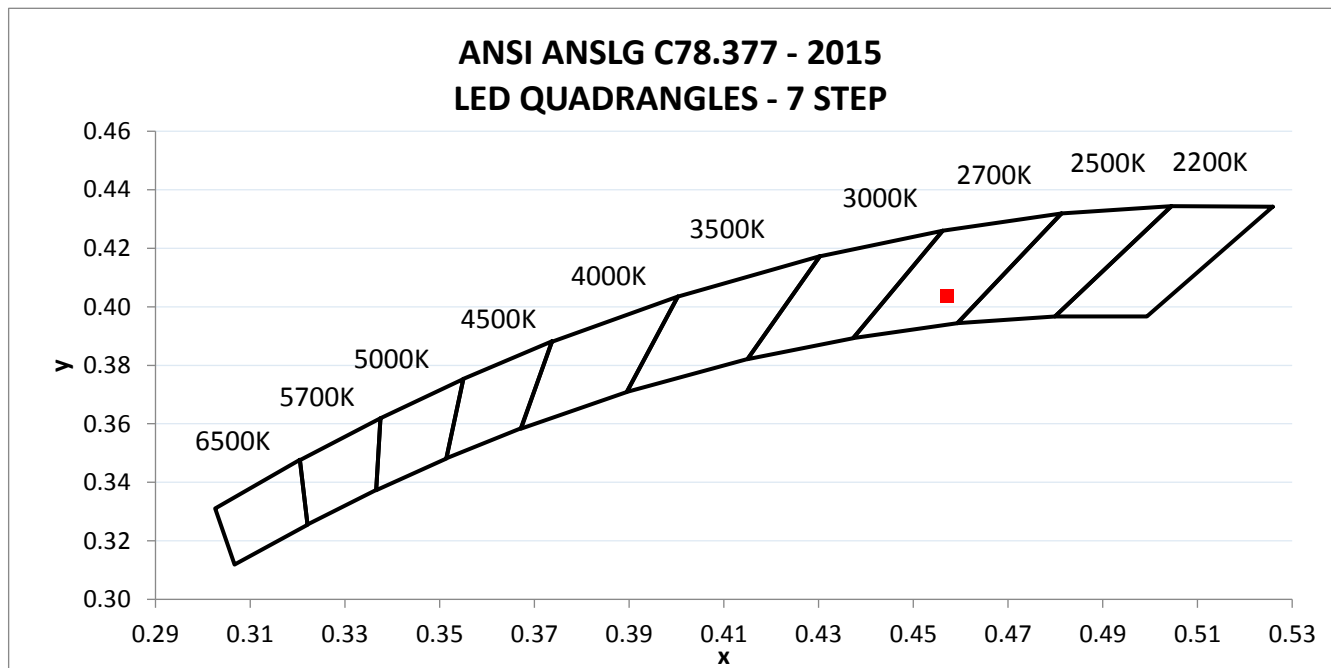
RESULTS OF TESTS

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 (%)
AH08052020182125-005	Base Up	120.01	70.41	7.86	0.930	22.77

LIGHT OUTPUT (lm)	LUMEN EFFICACY (lm/W)	CORRELATED COLOR TEMPERATURE - CCT (K)	CRI - Ra	CRI - R9	DUV
791.2	100.7	2685	94.0	63.2	-0.0024

CIE 1931 CHROMATICITY COORDINATE (x)	CIE 1931 CHROMATICITY COORDINATE (y)	CIE 1976 CHROMATICITY COORDINATE (u')	CIE 1976 CHROMATICITY COORDINATE (v')
0.457	0.404	0.264	0.524



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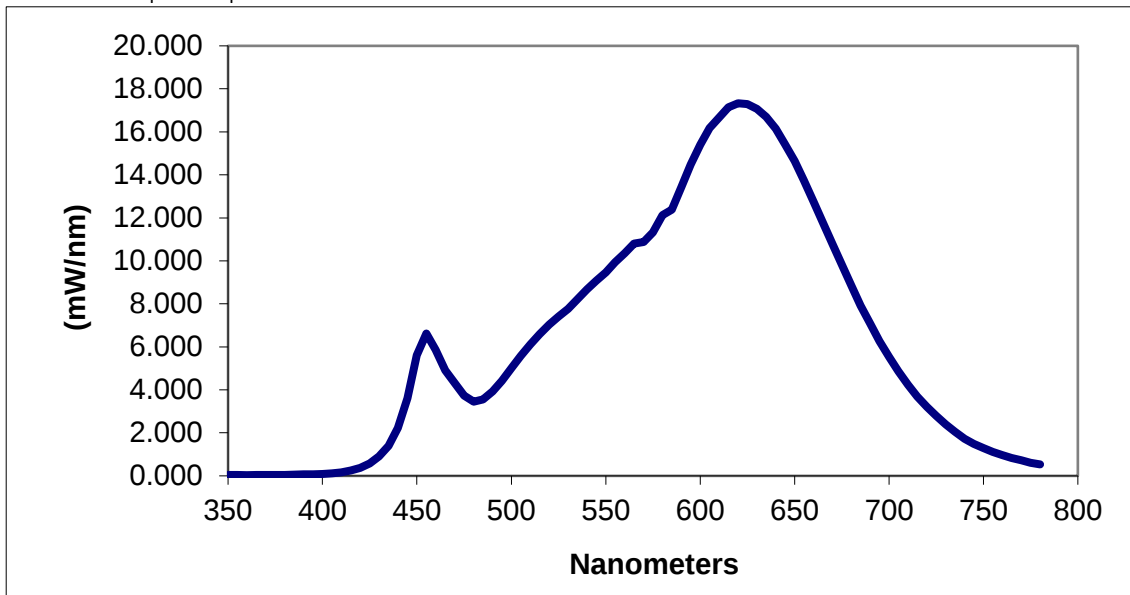
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RESULTS OF TESTS

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	0.043	460	5.862	570	10.872	680	8.854
355	0.037	465	4.914	575	11.324	685	7.923
360	0.033	470	4.329	580	12.132	690	7.080
365	0.040	475	3.735	585	12.378	695	6.259
370	0.043	480	3.447	590	13.443	700	5.537
375	0.043	485	3.556	595	14.476	705	4.858
380	0.045	490	3.926	600	15.397	710	4.245
385	0.054	495	4.420	605	16.180	715	3.695
390	0.070	500	5.010	610	16.670	720	3.215
395	0.078	505	5.583	615	17.141	725	2.798
400	0.088	510	6.110	620	17.330	730	2.398
405	0.115	515	6.586	625	17.290	735	2.049
410	0.160	520	7.032	630	17.073	740	1.727
415	0.244	525	7.404	635	16.691	745	1.492
420	0.377	530	7.773	640	16.145	750	1.290
425	0.580	535	8.221	645	15.416	755	1.120
430	0.907	540	8.669	650	14.646	760	0.972
435	1.400	545	9.072	655	13.740	765	0.833
440	2.231	550	9.469	660	12.759	770	0.720
445	3.620	555	9.937	665	11.785	775	0.611
450	5.603	560	10.357	670	10.788	780	0.528
455	6.621	565	10.811	675	9.833		

*Without correction of sample absorption.



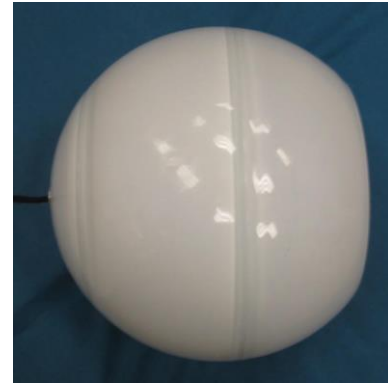
End Of Test Results

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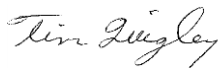
PICTURES



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:



Timothy Quigley
Project Engineer
Lighting Division

Report Reviewed By:



Jeff Davis
N.A. Technical Lead
Lighting Division

Attachments: IES File

REVISION HISTORY

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