

SONNEMAN - A WAY OF LIGHT TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

2970W

PROJECT NUMBER

G103590523

REPORT NUMBER

103590523CRT-010

ISSUE DATE

August 10, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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TEST REPORT

REPORT NO.: 103590523CRT-010

REPORT DATE: August 10, 2018

TEST OF (1) LIQUID LED PENDANT - WHITE

MODEL NO. 2970W

RENDERED TO:

SONNEMAN - A WAY OF LIGHT
151 AIRPORT DRIVE
WAPPINGERS FALLS, NY 12590

STATEMENT OF LIMITATION

NVLAP Lab Code 100402-0. 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 Qu-00895529.

STANDARDS USED

IESNA LM-79 - 2008: Electrical and Photometric Measurements of Solid State Lighting

SAMPLE INFORMATION

CONTROL NO.	MODEL/SERIAL NO.	DESCRIPTION	TYPE	RECEIVED
CRT1808021341-004	2970W	Luminaire	Production	8/2/2018

DATE OF TESTS

August 8, 2018.

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SUMMARY

MODEL NO:	2970W
DESCRIPTION:	Liquid LED Pendant - White
LED MODEL NO:	Proprietary-Not Reported
DRIVER MODEL NO:	LTF TA60WA24LED

CRITERIA	RESULTS
Lumen Output (lumens)	189.3
Input Power (W) @ 120 (VAC)	4.00
Lumen Efficacy (lm/W)	47.4
Input Power Factor () @ 120 (VAC)	0.763

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	CAL DUE DATE	DATE USED
LSI High Speed Mirror Goniometer	6440	---	9/7/2018	8/8/2018
Elgar AC Power Supply	CW1251	---	VBU	8/8/2018
Sorenson DC Power Supply	XG 150-10	---	VBU	8/8/2018
Yokogawa Power Analyzer	WT210	E464	5/3/2019	8/8/2018
Omega Thermometer	DPi8-C24	M263	5/3/2019	8/8/2018
M-D Building Products Digital Level	Smart Tool	L112	4/21/2019	8/8/2018
NIST Luminous Intensity Standard Source	NBS10322	N1427	1/9/2019	8/8/2018
NIST Luminous Intensity Standard Source	NBS10332	N1435	1/9/2019	8/8/2018
NIST Luminous Intensity Standard Source	NBS10265	N1437	1/9/2019	8/8/2018
NIST Luminous Flux Standard Source	NBS10428	N1424	1/11/2019	8/8/2018

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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 - 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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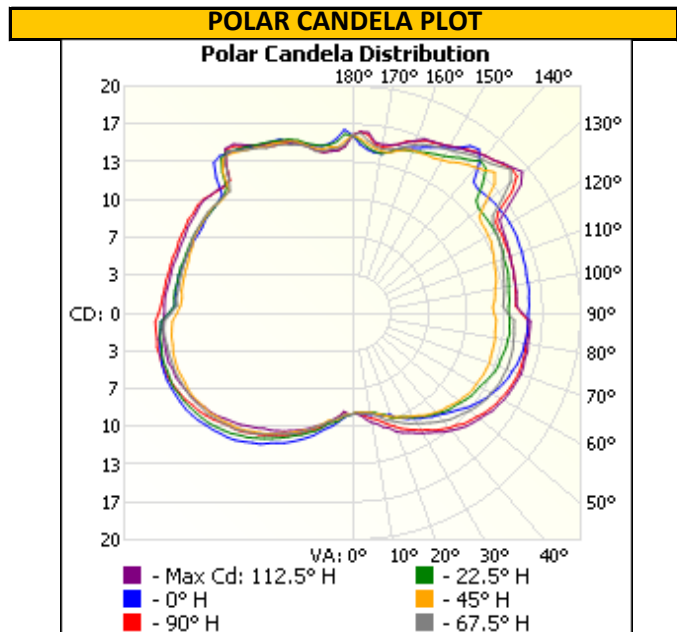
RESULTS OF TESTS

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)
CRT1808021341-004	Base Up	120.04	43.6	4.00	0.763	189.3	47.4

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	9	9	9	9	9
5	9	9	9	9	9
10	9	9	9	9	9
15	9	9	9	10	10
20	10	10	10	10	11
25	10	10	10	11	11
30	11	11	10	11	12
35	11	11	11	12	13
40	12	12	11	12	13
45	12	12	12	13	14
50	13	12	12	13	14
55	14	13	12	14	15
60	14	13	12	14	15
65	15	13	13	14	15
70	15	14	13	14	16
75	15	14	13	14	16
80	15	14	13	14	15
85	15	14	13	14	15
90	15	14	12	14	15
95	16	14	12	13	14
100	16	14	13	14	14
105	16	14	13	14	15
110	16	14	13	14	15
115	16	14	14	14	15
120	16	14	14	14	15
125	16	14	14	15	16
130	16	14	15	18	19
135	16	16	18	18	19
140	17	18	17	18	18
145	18	17	16	17	18
150	17	16	16	17	17
155	16	16	15	16	17
160	16	15	15	16	16
165	15	15	15	15	15
170	14	14	14	15	15
175	14	15	15	15	16
180	16	16	16	16	16



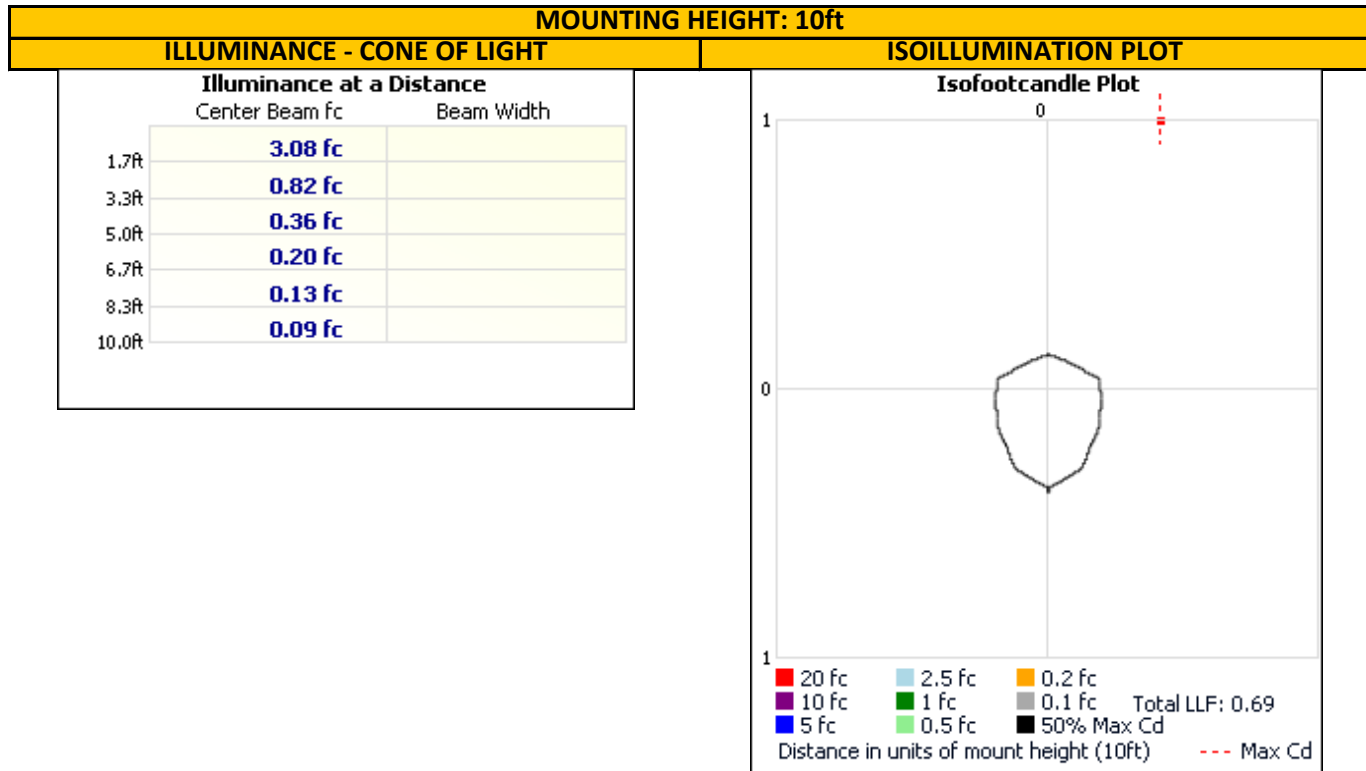
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RESULTS OF TESTS

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



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	9.0	4.8
0-40	16.9	8.9
0-60	40.9	21.6
60-90	49.5	26.1
0-90	90.4	47.8
90-180	98.9	52.2
0-180	189.3	100.0

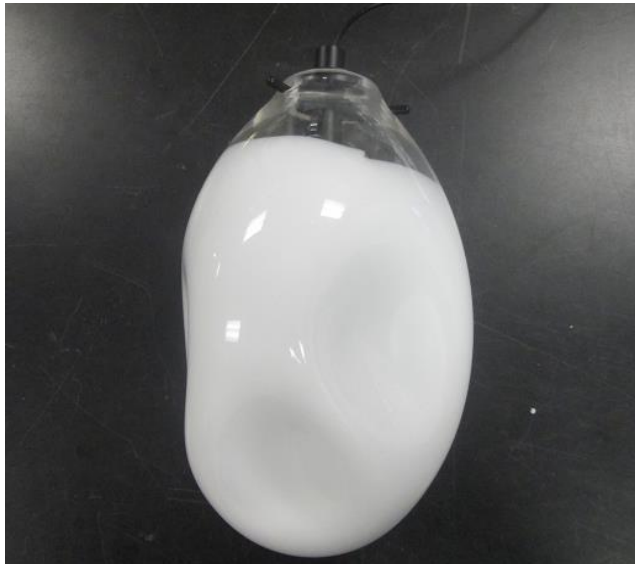
ZONE	LUMENS	% LUMINAIRE
0-10	0.9	0.5
10-20	2.9	1.5
20-30	5.3	2.8
30-40	7.9	4.2
40-50	10.7	5.7
50-60	13.3	7.0
60-70	15.4	8.2
70-80	16.8	8.9
80-90	17.2	9.1
90-100	16.5	8.7
100-110	16.0	8.5
110-120	15.2	8.0
120-130	14.0	7.4
130-140	13.0	6.9
140-150	10.9	5.8
150-160	7.6	4.0
160-170	4.4	2.3
170-180	1.4	0.8

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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:

Report Reviewed By:

Jerry Gray
Associate Engineer
Lighting Division

Ryan Siddon
Project Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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