

# SONNEMAN - A WAY OF LIGHT

## TEST REPORT

### SCOPE OF WORK

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

### MODEL NUMBER

2990C-SML

### PROJECT NUMBER

G103590523

### REPORT NUMBER

103590523CRT-049

### ISSUE DATE

October 24, 2018

### REVISION DATE

None

### DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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**TEST REPORT****REPORT NO.: 103590523CRT-049****REPORT DATE: October 24, 2018**

TEST OF (1) CANTINA SMALL LED PENDANT - CLEAR

MODEL NO. 2990C-SML

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
CRT1810021331-004	2990C-SML	Cantina Small LED Pendant - Clear	Production	10/2/2018

**DATE OF TESTS**

October 16, 2018.

**TEST REPORT**

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**REPORT DATE: October 24, 2018**

**SUMMARY**

<b>MODEL NO:</b>	2990C-SML
<b>DESCRIPTION:</b>	Cantina Small LED Pendant - Clear
<b>LED MODEL NO:</b>	N/A
<b>DRIVER MODEL NO:</b>	LTF TA60WA24LED

CRITERIA	RESULTS
Lumen Output (lumens)	254.9
Input Power (W) @ 120 (VAC)	3.90
Lumen Efficacy (lm/W)	65.4
Input Power Factor ( ) @ 120 (VAC)	0.766

**EQUIPMENT LIST**

EQUIPMENT USED	MODEL NO.	CONTROL NO.	CAL DUE DATE	DATE USED
LSI High Speed Mirror Goniometer	6440	---	11/5/2018	10/16/2018
Elgar AC Power Supply	CW1251	---	VBU	10/16/2018
Sorenson DC Power Supply	XG 150-10	---	VBU	10/16/2018
Yokogawa Power Analyzer	WT210	E464	5/3/2019	10/16/2018
Omega Thermometer	DPi8-C24	M263	5/3/2019	10/16/2018
M-D Building Products Digital Level	Smart Tool	L112	4/21/2019	10/16/2018
NIST Luminous Intensity Standard Source	NBS10322	N1427	1/9/2019	10/16/2018
NIST Luminous Intensity Standard Source	NBS10332	N1435	1/9/2019	10/16/2018
NIST Luminous Intensity Standard Source	NBS10265	N1437	1/9/2019	10/16/2018
NIST Luminous Flux Standard Source	NBS10428	N1424	1/11/2019	10/16/2018

**TEST REPORT****REPORT NO.: 103590523CRT-049****REPORT DATE: October 24, 2018****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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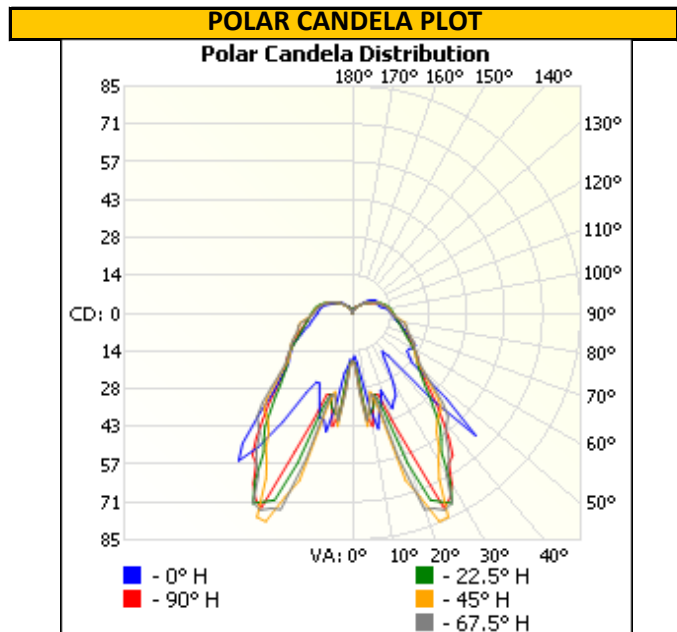
**RESULTS OF TESTS**

**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)
CRT1810021331-004	Base Up	120.04	42.4	3.90	0.766	254.9	65.4

**INTENSITY SUMMARY - CANDELAS**

Angle	0	22.5	45	67.5	90
0	18	18	18	18	18
5	19	24	29	30	26
10	35	38	36	35	43
15	38	32	36	32	31
20	31	60	73	78	43
25	36	78	84	81	80
30	30	73	64	70	74
35	20	58	54	62	65
40	21	48	50	55	52
45	65	38	45	48	41
50	29	32	35	36	33
55	25	29	29	30	30
60	26	26	26	27	26
65	25	23	25	25	23
70	22	20	22	22	21
75	19	19	21	21	19
80	17	17	20	19	17
85	15	16	16	16	16
90	14	15	15	14	15
95	14	14	14	14	14
100	12	14	13	13	13
105	10	12	12	12	12
110	10	11	11	10	10
115	10	10	9	9	9
120	10	8	8	8	8
125	9	7	7	7	7
130	7	6	6	6	6
135	5	5	5	5	4
140	4	4	4	4	4
145	2	3	2	3	3
150	2	2	2	2	3
155	2	2	2	2	2
160	2	2	1	1	2
165	1	1	0	1	1



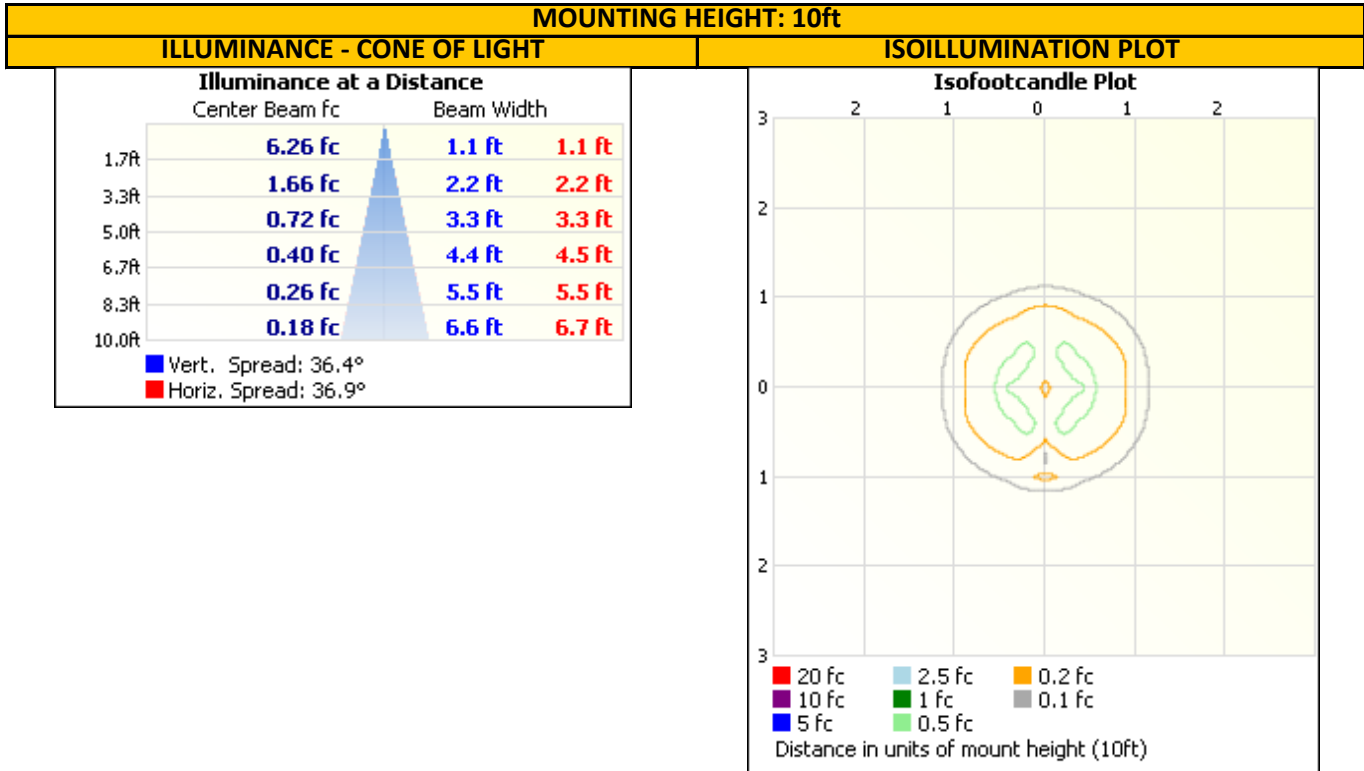
TEST REPORT

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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	47.9	18.8
0-40	83.5	32.8
0-60	142.9	56.1
60-90	62.2	24.4
0-90	205.1	80.5
90-180	49.8	19.5
0-180	254.9	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	3.1	1.2
10-20	12.3	4.8
20-30	32.6	12.8
30-40	35.6	13.9
40-50	33.2	13.0
50-60	26.3	10.3
60-70	23.7	9.3
70-80	20.8	8.2
80-90	17.6	6.9
90-100	15.1	5.9
100-110	12.5	4.9
110-120	9.3	3.7
120-130	6.2	2.4
130-140	3.7	1.4
140-150	1.8	0.7
150-160	0.9	0.3
160-170	0.3	0.1

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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:

Gerald Gray  
Associate Engineer  
Lighting Division

Report Reviewed By:

Ryan Siddon  
Project Engineer  
Lighting Division

Attachments: IES File

## REVISION HISTORY

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