

# SONNEMAN - A WAY OF LIGHT

## TEST REPORT

**SCOPE OF WORK**

LED Performance Testing

**MODEL NUMBER**

3842

**PROJECT NUMBER**

G104119984

**REPORT NUMBER**

104119984CRT-005

**REPORT ISSUE DATE**

October 16, 2019

**REPORT REVISION DATE**

None



**REPORT NUMBER**  
104119984CRT-005

TEST OF (1) PICCOLO ENCORE LED SCONCE

**MODEL NUMBER**  
3842

**REPORT RENDERED TO:**  
SONNEMAN - A WAY OF LIGHT  
151 AIRPORT DRIVE  
WAPPINGERS FALLS, NY 12590  
USA

**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-01007713.

**TEST STANDARDS**

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

**TEST DATES**

September 20, 2019

In Charge Of Tests:



Gerald Gray  
Associate Engineer  
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Report Reviewed By:



Kristie Ray  
Engineer  
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**SAMPLE INFORMATION**

Control No.	Model No.	Description	Type	Received
CRT1908191302-001	3842	Piccolo Encore LED Sconce	Production	8/27/2019

**SAMPLE PHOTOS**



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**SUMMARY OF DATA**

<b>Product Model No.:</b>	3842
<b>Product Description:</b>	Piccolo Encore LED Sconce
<b>LED Model No.:</b>	Not Provided
<b>Driver Model No.:</b>	LTF DA10W220C
<b>Light Source:</b>	LED

Criteria	Results
Light Output (lumens)	933.5
Input Power (W) @ 120 (Vac)	11.27
Lumen Efficacy (lm/W)	82.8
Input Power Factor (PF) @ 120 (Vac)	0.975

**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 (candela) 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.

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

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

Fixture Model No.	3842	Fixture Control No.	CRT1908191302-001
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Test Notes:	N/A
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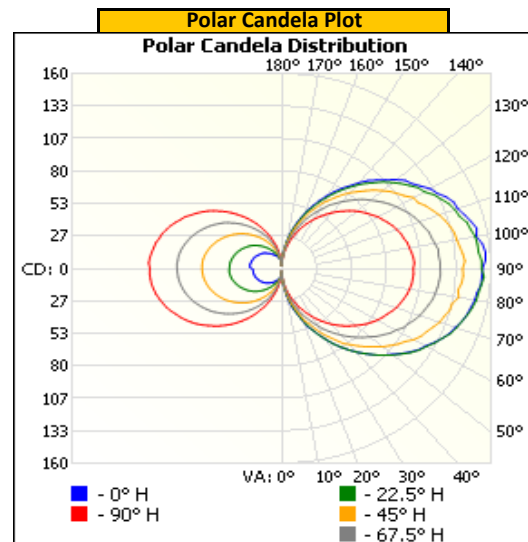
Base Orientation	Up
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Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ( )
120.09	96.3	11.27	0.975

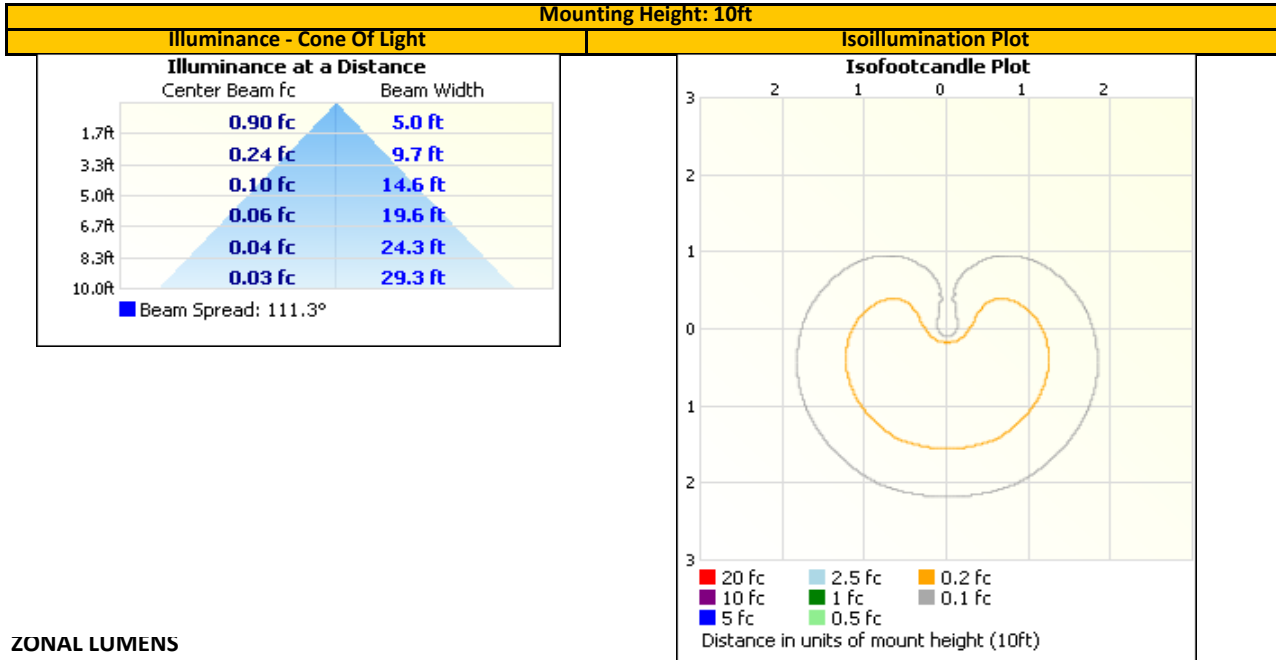
Light Output (lm)	Lumen Efficacy (lm/W)
933.5	82.8

INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	3	3	3	3	3
5	11	11	10	9	8
10	23	22	20	18	15
15	34	33	30	27	22
20	44	44	40	36	30
25	56	56	50	45	37
30	67	67	62	54	45
35	79	79	72	63	52
40	90	90	82	72	60
45	100	100	91	80	66
50	110	110	100	87	73
55	120	120	108	95	79
60	127	128	117	101	85
65	136	136	122	107	89
70	141	142	129	112	94
75	147	147	133	116	97
80	150	151	137	119	99
85	153	153	138	121	100
90	154	153	138	121	101
95	156	151	139	120	101
100	151	150	136	119	99
105	150	146	133	116	96
110	143	141	128	112	94
115	139	135	122	107	89
120	131	126	116	101	85
125	121	119	108	95	79
130	113	110	100	88	73
135	103	100	90	80	67
140	92	89	81	72	60
145	80	78	71	64	52
150	69	66	62	54	45
155	57	55	51	45	38
160	45	44	41	36	30
165	34	33	30	27	22
170	22	21	20	18	15
175	11	11	10	9	8
180	3	3	3	3	3



**ILLUMINANCE SUMMARY**



**ZONAL LUMENS**

Zonal Lumen Summary					
Zone	Lumens	% Lum			
0-30	24.6	2.6%			
0-40	56.7	6.1%			
0-60	175.4	18.8%			
60-90	290.8	31.2%			
70-100	311.4	33.4%			
90-120	291.5	31.2%			
0-90	466.2	49.9%			
90-180	467.3	50.1%			
0-180	933.5	100.0%			
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1.0	0.1%	90-100	106.4	11.4%
10-20	6.5	0.7%	100-110	99.2	10.6%
20-30	17.1	1.8%	110-120	85.9	9.2%
30-40	32.1	3.4%	120-130	68.8	7.4%
40-50	50.0	5.4%	130-140	50.1	5.4%
50-60	68.7	7.4%	140-150	32.1	3.4%
60-70	85.8	9.2%	150-160	17.1	1.8%
70-80	98.9	10.6%	160-170	6.6	0.7%
80-90	106.1	11.4%	170-180	1.0	0.1%

<b>Test Equipment Used:</b>	1 thru 10				
<b>Ambient Temp (°C):</b>	24.1	<b>Relative Hum (%):</b>	NA	<b>Test Completion Date</b>	9/20/2019

See last page for equipment details

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**EQUIPMENT LIST**

#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	LSI High Speed Mirror Goniometer	6440	---	9/9/2019	10/9/2019
2	Elgar AC Power Supply	CW1251	---	VBU	VBU
3	Sorenson DC Power Supply	XG 150-10	---	VBU	VBU
4	Yokogawa Power Analyzer	WT210	E464	5/7/2019	5/7/2020
5	Omega Thermometer	DPI8-C24	M263	5/7/2019	5/7/2020
6	M-D Building Products Digital Level	Smart Tool	L112	5/1/2019	5/1/2020
7	NIST Luminous Intensity Standard Source	NBS10322	N1427	2/11/2019	2/11/2021
8	NIST Luminous Intensity Standard Source	NBS10332	N1435	2/11/2019	2/11/2021
9	NIST Luminous Intensity Standard Source	NBS10265	N1437	2/11/2019	2/11/2021
10	NIST Luminous Flux Standard Source	NBS10428	N1424	1/3/2019	1/3/2021