

SONNEMAN - A WAY OF LIGHT TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

2696

PROJECT NUMBER

G103590523

REPORT NUMBER

103590523CRT-002

ISSUE DATE

July 26, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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TEST REPORT

REPORT NO.: 103590523CRT-002

REPORT DATE: July 26, 2018

TEST OF (1) ABSTRACT RHYTHMS LED PENDANT

MODEL NO. 2696

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
CRT1807231315-002	2696	ESS030W-0700-42	Production	7/23/2018

DATE OF TESTS

July 25, 2018.

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SUMMARY

MODEL NO:	2696
DESCRIPTION:	Abstract Rhythms LED Pendant

CRITERIA	RESULTS
Lumen Output (lumens)	1469.4
Input Power (W) @ 120 (VAC)	28.40
Lumen Efficacy (lm/W)	51.7
Input Power Factor () @ 120 (VAC)	0.992

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	CAL DUE DATE	DATE USED
LSI High Speed Mirror Goniometer	6440	---	8/9/2018	7/25/2018
Elgar AC Power Supply	CW1251	---	VBU	7/25/2018
Sorenson DC Power Supply	XG 150-10	---	VBU	7/25/2018
Yokogawa Power Analyzer	WT210	E464	5/3/2019	7/25/2018
Omega Thermometer	DPi8-C24	M263	5/3/2019	7/25/2018
M-D Building Products Digital Level	Smart Tool	L112	4/21/2019	7/25/2018
NIST Luminous Intensity Standard Source	NBS10322	N1427	1/9/2019	7/25/2018
NIST Luminous Intensity Standard Source	NBS10332	N1435	1/9/2019	7/25/2018
NIST Luminous Intensity Standard Source	NBS10265	N1437	1/9/2019	7/25/2018
NIST Luminous Flux Standard Source	NBS10428	N1424	1/11/2019	7/25/2018

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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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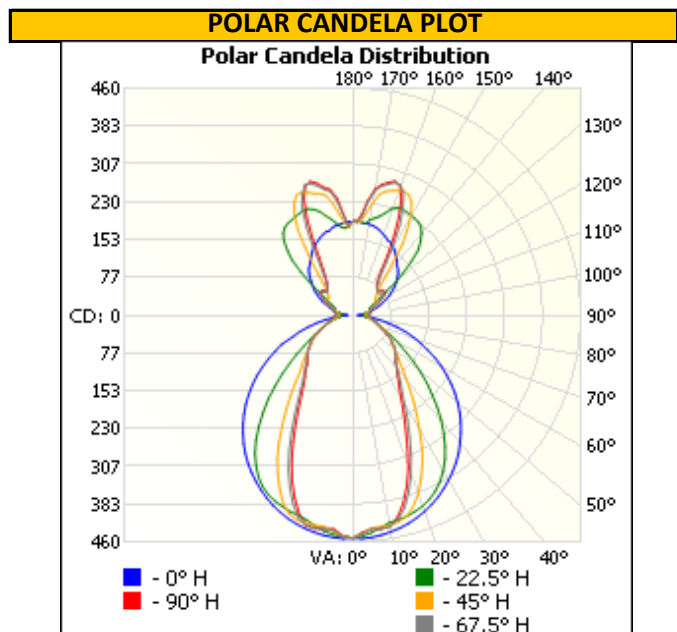
RESULTS OF TESTS

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)
CRT1807231315-002	Base Up	120.08	238.5	28.40	0.992	1469.4	51.7

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	452	452	452	452	452
5	452	442	433	436	434
10	446	427	433	436	435
15	437	422	421	405	395
20	424	412	386	344	328
25	407	394	333	272	253
30	386	365	271	211	196
35	364	325	215	170	161
40	337	278	168	140	140
45	308	226	134	123	125
50	277	178	111	111	110
55	243	133	97	96	97
60	206	99	86	83	82
65	167	72	71	66	65
70	130	55	55	53	54
75	91	47	42	44	46
80	56	33	34	38	40
85	26	24	30	34	35
90	10	20	27	31	33
95	20	22	27	32	34
100	30	28	30	35	37
105	44	34	36	38	40
110	58	36	46	44	44
115	74	41	56	56	54
120	88	55	57	69	68
125	105	84	56	74	80
130	118	132	62	69	78
135	130	187	75	70	71
140	139	216	105	78	76
145	151	231	175	99	91
150	162	235	235	163	141
155	168	237	269	240	222
160	176	230	268	281	280
165	184	207	260	275	278
170	188	195	228	256	260
175	189	191	190	198	204
180	190	190	190	190	190



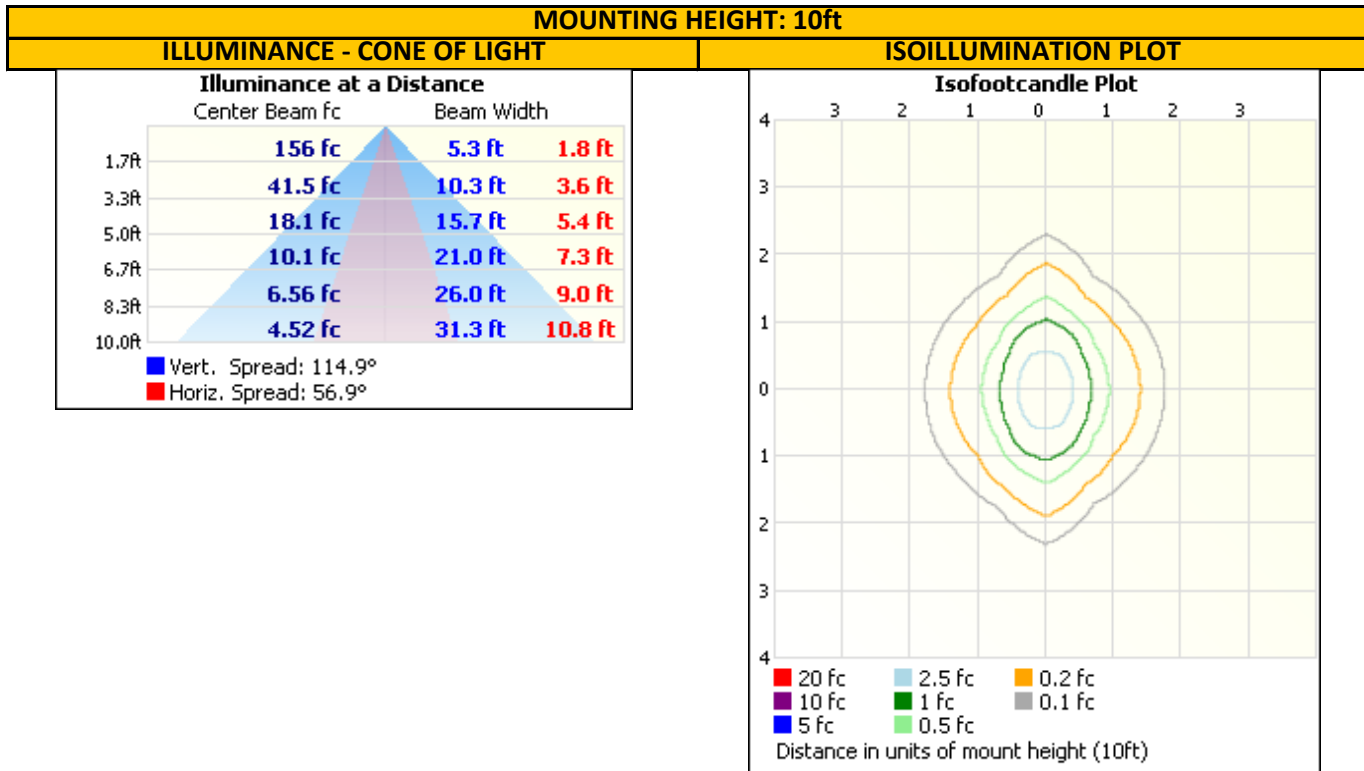
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RESULTS OF TESTS

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



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	316.7	21.6
0-40	473.9	32.3
0-60	729.1	49.6
60-90	171.7	11.7
0-90	900.8	61.3
90-180	568.6	38.7
0-180	1469.4	100.0

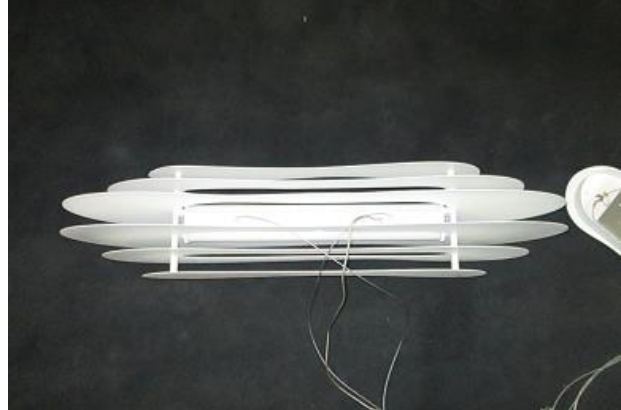
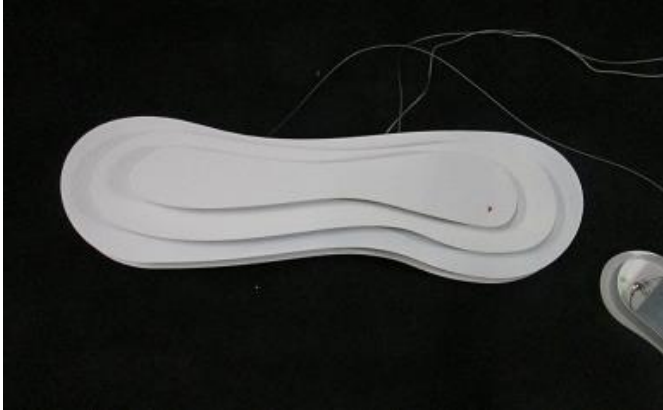
ZONE	LUMENS	% LUMINAIRE
0-10	41.9	2.9
10-20	117.6	8.0
20-30	157.1	10.7
30-40	157.3	10.7
40-50	140.0	9.5
50-60	115.2	7.8
60-70	84.0	5.7
70-80	54.4	3.7
80-90	33.3	2.3
90-100	30.1	2.0
100-110	39.6	2.7
110-120	54.0	3.7
120-130	70.0	4.8
130-140	84.0	5.7
140-150	98.1	6.7
150-160	105.1	7.2
160-170	68.1	4.6
170-180	19.5	1.3

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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:

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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				