

SONNEMAN - A WAY OF LIGHT TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

7343

PROJECT NUMBER

G103590523

REPORT NUMBER

103590523CRT-005

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-005

REPORT DATE: July 26, 2018

TEST OF (1) BOX 28" LED BOLLARD

MODEL NO. 7343

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
CRT1807241235-001	7343	Box 28" LED Bollard	Production	7/24/2018

DATE OF TESTS

July 26, 2018.

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SUMMARY

MODEL NO:	7343
DESCRIPTION:	Box 28" LED Bollard

CRITERIA	RESULTS
Lumen Output (lumens)	183.9
Input Power (W) @ 12 (VAC)	11.22
Lumen Efficacy (lm/W)	16.4
Input Power Factor () @ 12 (VAC)	0.795

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	CAL DUE DATE	DATE USED
LSI High Speed Mirror Goniometer	6440	---	8/9/2018	7/26/2018
Elgar AC Power Supply	CW1251	---	VBU	7/26/2018
Sorenson DC Power Supply	XG 150-10	---	VBU	7/26/2018
Yokogawa Power Analyzer	WT210	E464	5/3/2019	7/26/2018
Omega Thermometer	DPi8-C24	M263	5/3/2019	7/26/2018
M-D Building Products Digital Level	Smart Tool	L112	4/21/2019	7/26/2018
NIST Luminous Intensity Standard Source	NBS10322	N1427	1/9/2019	7/26/2018
NIST Luminous Intensity Standard Source	NBS10332	N1435	1/9/2019	7/26/2018
NIST Luminous Intensity Standard Source	NBS10265	N1437	1/9/2019	7/26/2018
NIST Luminous Flux Standard Source	NBS10428	N1424	1/11/2019	7/26/2018

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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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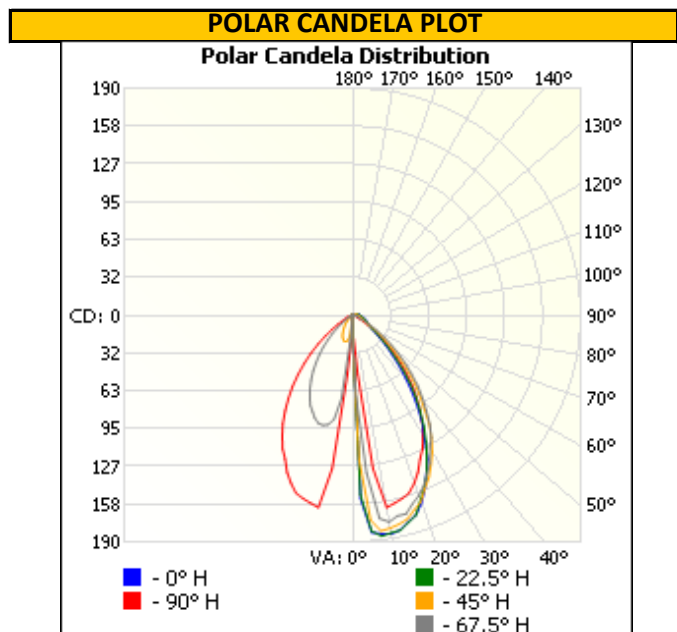
RESULTS OF TESTS

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)
CRT1807241235-001	Base Up	12.02	1174.3	11.22	0.795	183.9	16.4

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	19	19	19	19	19
5	183	182	172	132	50
10	186	185	181	176	164
15	179	180	177	172	159
20	168	165	166	161	150
25	145	146	150	147	133
30	120	122	132	128	117
35	95	98	111	112	98
40	69	74	86	90	78
45	46	51	64	70	57
50	30	33	43	50	37
55	19	20	26	32	21
60	16	14	15	17	10
65	13	13	10	9	5
70	11	10	8	6	4
75	10	9	7	5	2
80	8	7	6	4	1
85	7	6	5	2	0
90	6	5	4	2	0
95	5	4	3	1	0
100	4	4	3	1	0
105	4	3	2	1	0
110	3	3	2	1	0
115	2	2	2	0	0
120	2	2	1	0	0
125	2	2	1	0	0
130	1	1	1	0	0
135	1	1	1	0	0
140	1	1	0	0	0



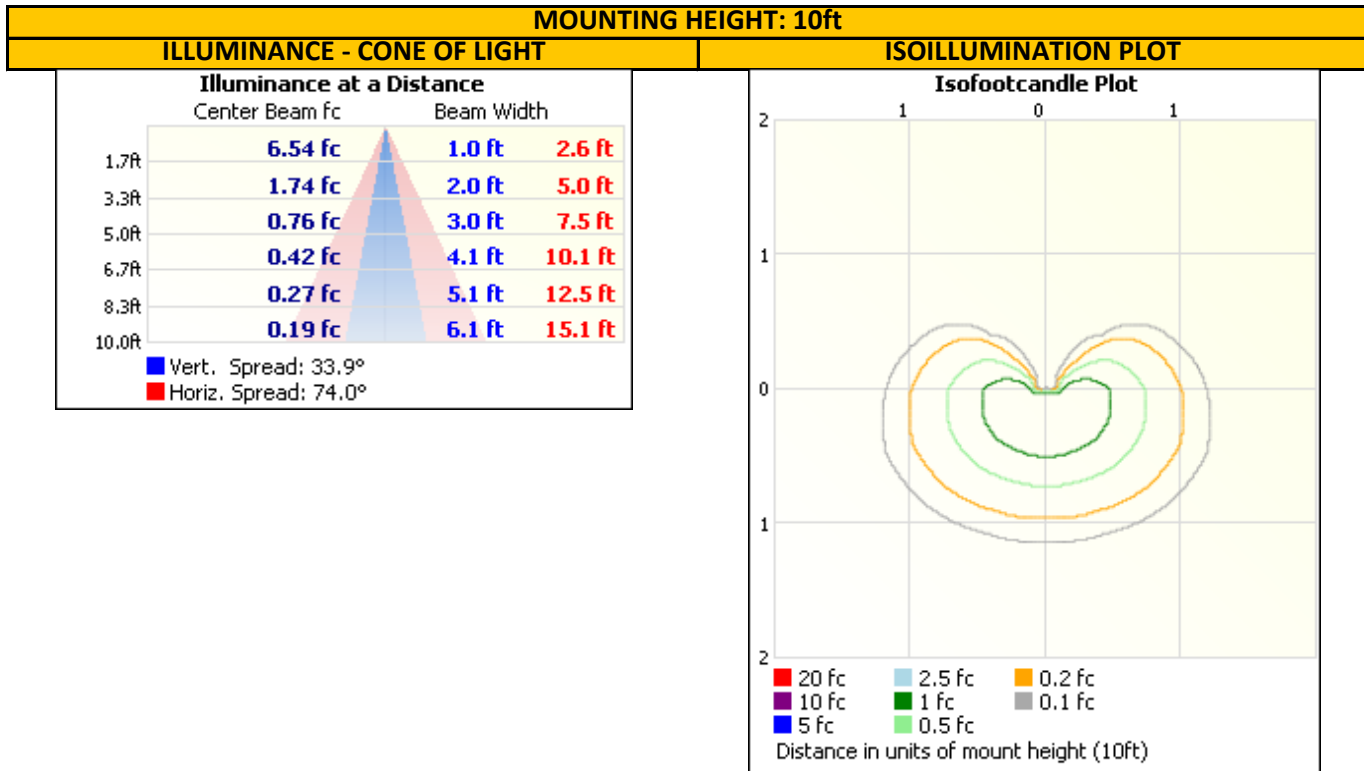
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RESULTS OF TESTS

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



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	83.4	45.4
0-40	125.0	68.0
0-60	167.8	91.2
60-90	12.1	6.6
0-90	179.9	97.8
90-180	4.0	2.2
0-180	183.9	100.0

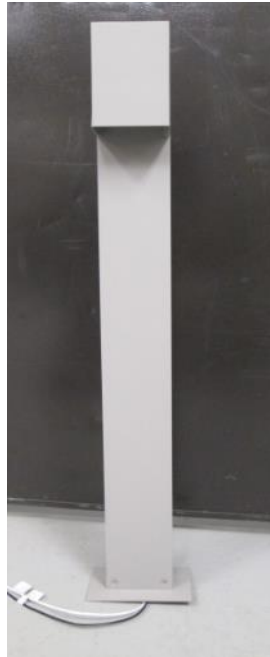
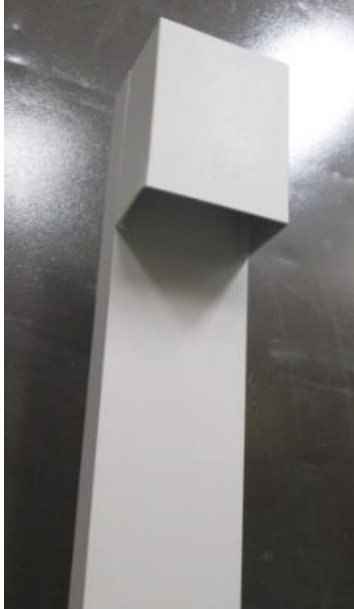
ZONE	LUMENS	% LUMINAIRE
0-10	9.0	4.9
10-20	31.4	17.1
20-30	43.1	23.4
30-40	41.6	22.6
40-50	28.9	15.7
50-60	13.8	7.5
60-70	6.0	3.3
70-80	3.7	2.0
80-90	2.3	1.3
90-100	1.5	0.8
100-110	1.1	0.6
110-120	0.7	0.4
120-130	0.4	0.2
130-140	0.2	0.1
140-150	0.1	0.0

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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:

A handwritten signature in black ink, appearing to read "Gerald Gray".

Gerald Gray
Associate Engineer
Lighting Division

Report Reviewed By:

A handwritten signature in black ink, appearing to read "Ryan Siddon".

Ryan Siddon
Project Engineer
Lighting Division

Attachments: IES File

REVISION HISTORY

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