

SONNEMAN - A WAY OF LIGHT TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

3834

PROJECT NUMBER

G104119984

REPORT NUMBER

104119984CRT-027

ISSUE DATE

5/11/2020

REVISED DATE

None

TEST DATES

5/6/2020

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104119984CRT-027

MODEL NUMBER(s)

3834

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-01007713-2.

TEST STANDARDS

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

In Charge of Testing:

Reviewer:



Gerald Gray
Associate Engineer
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SAMPLE INFORMATION

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ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	CRT2004291221-001	3834	Keel 44" LED Bath Bar	Production	4/29/2020

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	3834	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	3834
Product Description:	Keel 44" LED Bath Bar
LED Model No.:	Not Provided
Driver Model No.:	ERP EBR020U-0700-30
Light Source:	LED

Criteria	Results
Light Output (lumens)	2013.7
Input Power (W) @ 120 (Vac)	20.50
Lumen Efficacy (lm/W)	98.2
Input Power Factor () @ 120 (Vac)	0.983

TEST METHODS

SEASONING IN SAMPLE ORIENTATION - LED PRODUCTS

No seasoning was performed in accordance with IESNA LM-79.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

A Type C Mirror Goniophotometer system was used to measure the luminous intensity at each angle of distribution for the EUT. Electrical measurements of the unit were measured using a power analyzer. Each EUT was operated at the rated input voltage of the system in its designated orientation. The ambient temperature was measured at a position near the EUT at equal height and stabilization procedures to LM-79 were followed.

TYPE C GONIOPHOTOMETER DISTRIBUTION TESTING

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Test Configuration	Tested Model No.	Pass/Fail/NA
1	3834	NA

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

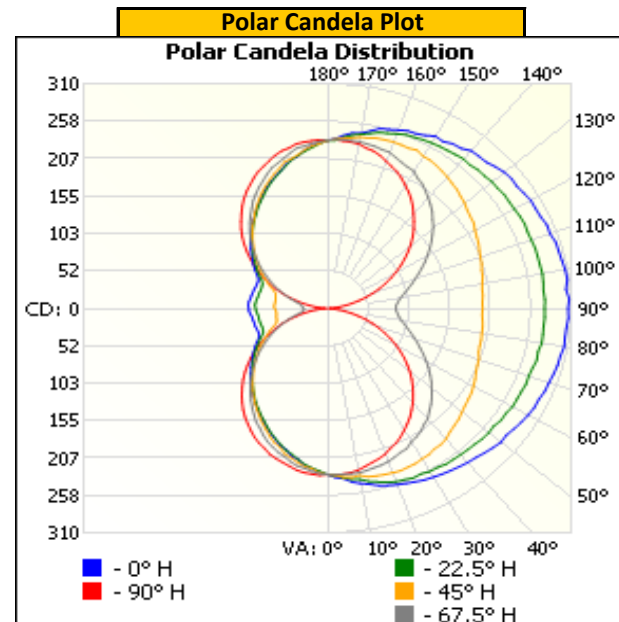
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor (I)
Up	120.05	173.7	20.50	0.983

Light Output (lm)	Lumen Efficacy (lm/W)
2013.7	98.2

INTENSITY SUMMARY - CANDELA

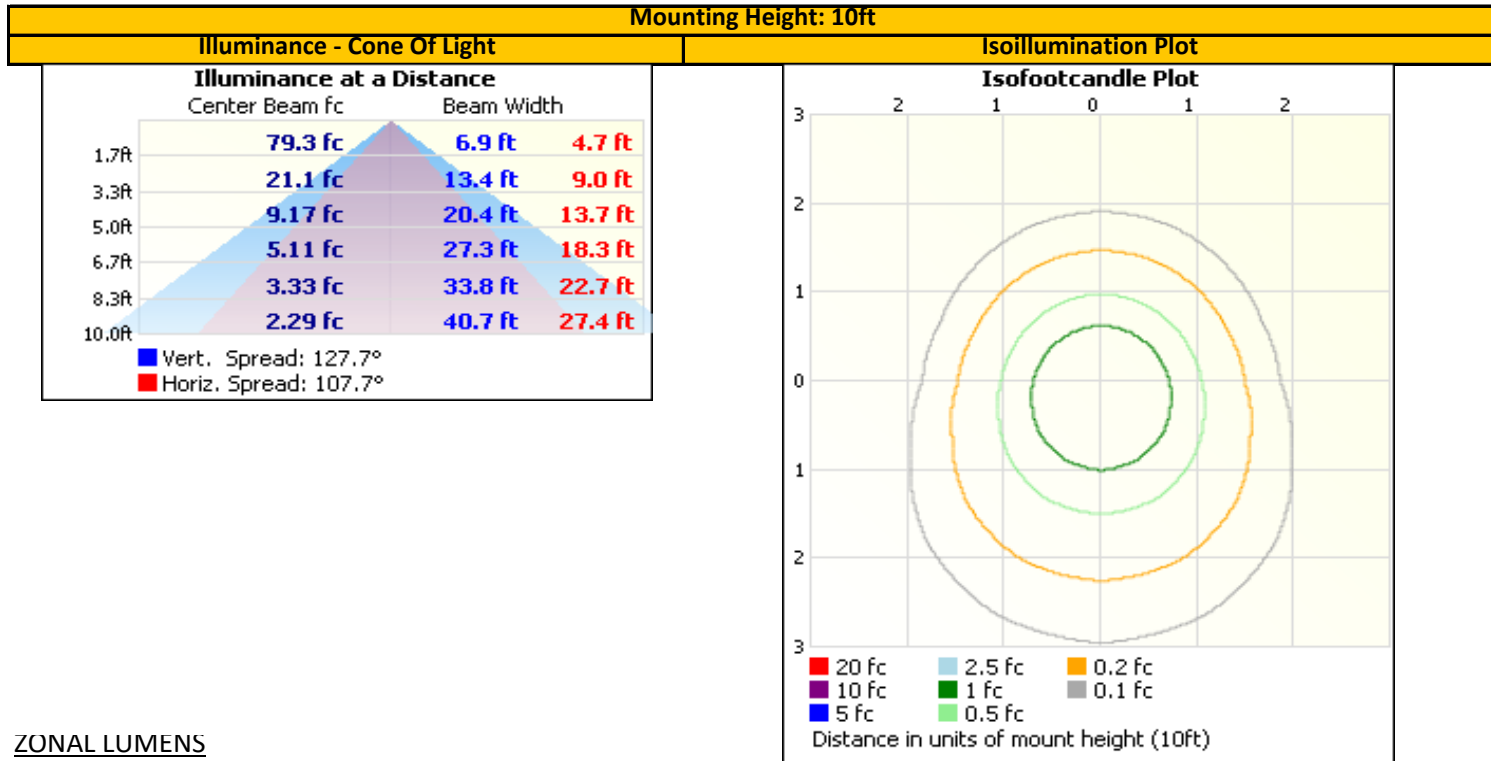
Angle	0	22.5	45	67.5	90
0	229	229	229	229	229
5	236	235	234	230	229
10	245	240	234	230	227
15	253	248	239	228	220
20	259	255	241	225	214
25	264	258	242	220	205
30	269	260	240	213	195
35	273	263	237	207	183
40	278	264	235	198	169
45	282	265	228	186	153
50	288	267	223	173	137
55	290	269	219	159	119
60	295	272	214	145	100
65	297	272	208	130	81
70	300	272	205	117	61
75	303	276	200	105	42
80	306	277	199	96	23
85	305	276	198	90	8
90	306	276	197	87	0
95	304	276	198	89	8
100	307	278	200	96	23
105	305	277	203	106	42
110	301	276	207	118	61
115	299	277	212	132	81
120	298	274	216	147	101
125	294	274	222	162	120
130	293	272	227	176	138
135	286	271	232	188	155
140	284	269	237	199	170
145	278	266	241	210	185
150	275	264	243	219	197
155	266	261	244	222	209
160	262	256	245	230	217
165	257	252	243	232	225
170	246	244	240	234	230
175	240	237	236	234	232
180	232	232	232	232	232

Entire luminous intensity matrix found in .IES file



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ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	183.3	9.1%	90-100	132.2	6.6%
0-40	308.0	15.3%	100-110	136.8	6.8%
0-60	593.5	29.5%	110-120	143.0	7.1%
60-90	408.4	20.3%	120-130	146.8	7.3%
70-100	398.8	19.8%	130-140	141.7	7.0%
90-120	411.9	20.5%	140-150	126.0	6.3%
0-90	1,001.9	49.8%	150-160	99.6	4.9%
90-180	1,011.8	50.2%	160-170	63.9	3.2%
0-180	2,013.7	100.0%	170-180	22.0	1.1%

EQUIPMENT LIST

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	LSI High Speed Mirror Goniometer	6440	---	4/21/2020	5/21/2020
2	Elgar AC Power Supply	CW1251	---	VBV	VBV
3	Sorenson DC Power Supply	XG 150-10	---	VBV	VBV
4	Yokogawa Power Analyzer	WT210	E464	5/7/2019	5/7/2020
5	Omega Thermometer	DPI8-C24	M263	2/27/2020	2/27/2021
6	M-D Building Products Digital Level	Smart Tool	E499	6/27/2019	6/27/2020
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

Note: Standard sources listed above are traceable to NIST: National Institute of Standards and Technology

*Validated by calibration on 5/11/20.

REVISION HISTORY

#	Revision Date	Updated By	Reviewed By	Description of Change
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