

SONNEMAN - A WAY OF LIGHT

TEST REPORT

SCOPE OF WORK

LED Performance Testing

MODEL NUMBER

3151

PROJECT NUMBER

G104119984

REPORT NUMBER

104119984CRT-037

ISSUE DATE

6/5/2020

REVISED DATE

None

TEST DATES

6/1/2020

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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REPORT NUMBER

104119984CRT-037

MODEL NUMBER(s)

3151

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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Melanie Brittain
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SAMPLE INFORMATION

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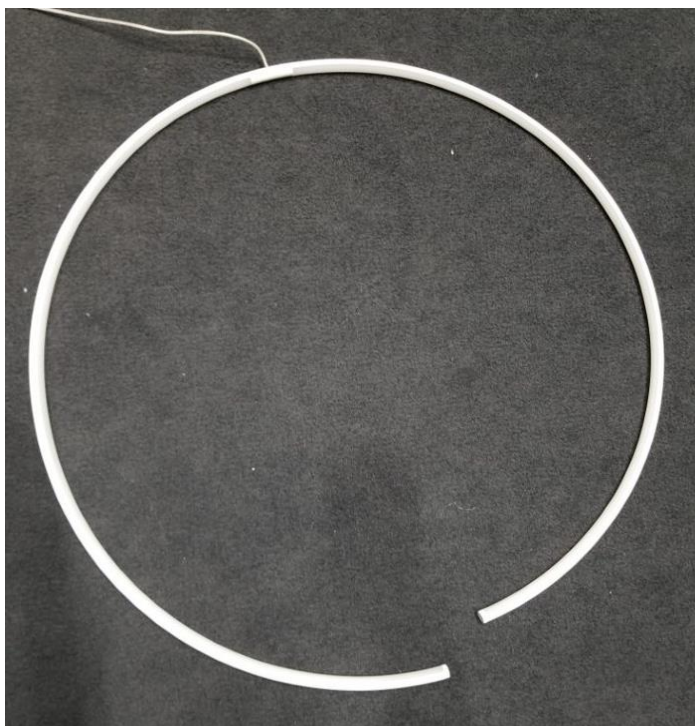
ITEMS RECEIVED

Item No.	Control No.	Model No.	Description	Type	Received
1	CRT2005201143-024	3151	Torc LED Pendant	Production	2/20/2020

TESTED SAMPLE CONFIGURATIONS

Config No.	Tested Model No.	Item Nos. Utilized
1	3151	1

SAMPLE PHOTOS - TESTED CONFIGURATIONS



SUMMARY

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PRODUCT INFORMATION AND SUMMARY OF DATA

Product Model No.:	3151
Product Description:	Torc LED Pendant
LED Model No.:	Not Provided
Driver Model No.:	ERP EBR020U-0400-42
Light Source:	LED

Criteria	Results
Light Output (lumens)	909.6
Input Power (W) @ 120 (Vac)	12.34
Lumen Efficacy (lm/W)	73.72
Input Power Factor () @ 120 (Vac)	0.936

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 (candela) 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	3151	NA

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

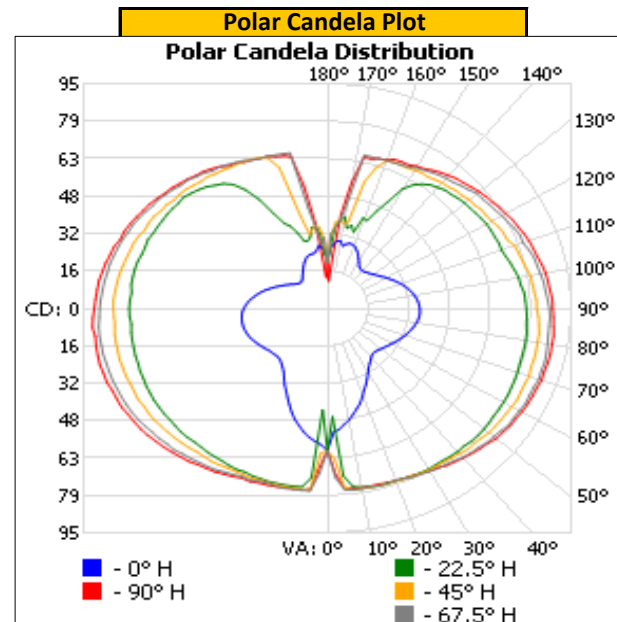
Base Orientation	Input Voltage (Vac)	Input Current (mA)	Input Power (W)	Input Power Factor ()
Up	120.02	109.8	12.34	0.936

Light Output (lm)	Lumen Efficacy (lm/W)
909.6	73.7

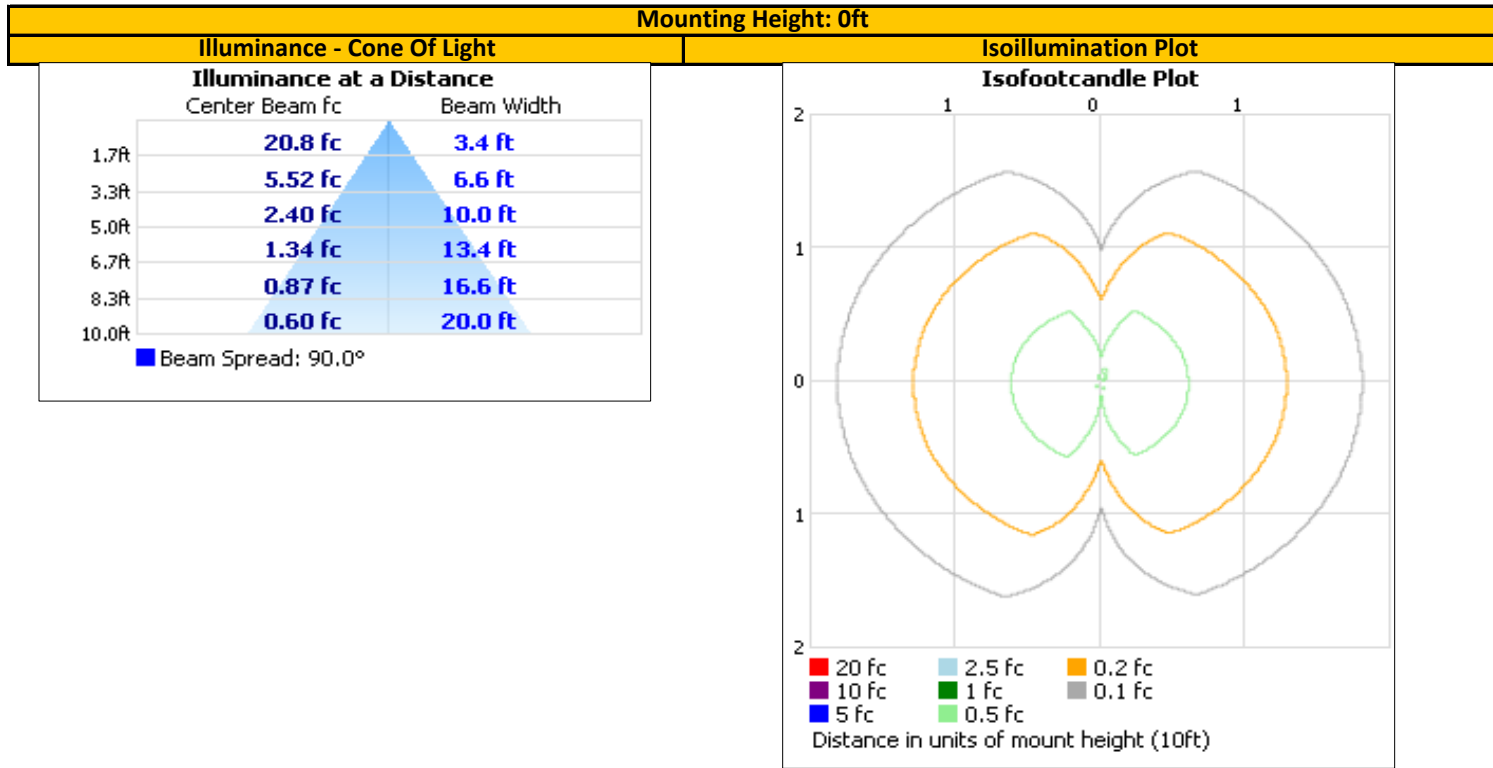
INTENSITY SUMMARY - CANDELA

Angle	0	22.5	45	67.5	90
0	60	60	60	60	60
5	51	71	76	77	76
10	48	77	77	78	77
15	44	78	78	78	77
20	40	78	78	78	78
25	36	78	78	79	78
30	32	79	79	80	79
35	29	78	79	80	81
40	27	79	80	82	82
45	26	80	81	83	84
50	27	80	82	84	86
55	28	79	82	86	87
60	29	79	83	86	88
65	31	79	83	87	88
70	33	79	84	88	89
75	34	78	83	88	89
80	35	78	83	87	89
85	36	78	83	87	88
90	36	78	82	86	88
95	35	77	81	85	87
100	34	76	80	84	86
105	32	74	79	83	85
110	30	72	78	81	84
115	28	72	76	80	82
120	26	72	74	78	80
125	24	70	73	77	78
130	23	70	72	76	77
135	22	68	71	74	75
140	21	67	70	72	73
145	22	64	68	70	71
150	24	58	68	69	70
155	27	46	67	67	68
160	29	41	66	67	67
165	28	36	55	66	66
170	29	39	36	46	54
175	27	35	36	34	21
180	20	20	20	20	20

Entire luminous intensity matrix found in .IES file



ILLUMINANCE SUMMARY



ZONAL LUMENS

Zonal Lumen Summary					
Zone	Lumens	Luminaire	Zone	Lumens	Total
0-30	61.3	6.7%	0-10	6.7	0.7%
0-40	107.6	11.8%	10-20	20.8	2.3%
0-60	234.2	25.8%	20-30	33.8	3.7%
60-90	245.1	26.9%	30-40	46.2	5.1%
70-100	251.9	27.7%	40-50	58.0	6.4%
90-120	234.7	25.8%	50-60	68.7	7.5%
0-90	479.3	52.7%	60-70	77.1	8.5%
90-180	430.3	47.3%	70-80	82.8	9.1%
0-180	909.6	100.0%	80-90	85.2	9.4%
			90-100	83.9	9.2%
			100-110	79.2	8.7%
			110-120	71.6	7.9%
			120-130	62.2	6.8%
			130-140	51.3	5.6%
			140-150	39.4	4.3%
			150-160	26.3	2.9%
			160-170	13.5	1.5%
			170-180	2.8	0.3%

EQUIPMENT LIST

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#	Equipment	Model No	Control No.	Last Cal	Cal Due
1	LSI High Speed Mirror Goniometer	6440	---	5/21/2020	6/21/2020
2	Elgar AC Power Supply	CW1251	---	VBU	VBU
3	Yokogawa Power Analyzer	WT210	E464	5/11/2020	5/11/2021
4	Omega Thermometer	DPi8-C24	M263	2/27/2020	2/27/2021
5	M-D Building Products Digital Level	Smart Tool	E499	6/27/2019	6/27/2020
6	NIST Luminous Intensity Standard Source	NBS10322	N1427	2/11/2019	2/11/2021
7	NIST Luminous Intensity Standard Source	NBS10332	N1435	2/11/2019	2/11/2021
8	NIST Luminous Intensity Standard Source	NBS10265	N1437	2/11/2019	2/11/2021
9	NIST Luminous Flux Standard Source	NBS10428	N1424	1/3/2019	1/3/2021
10	Sorenson DC Power Supply	XG 150-10	---	VBU	VBU

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

REVISION HISTORY

#	Revision Date	Updated By	Reviewed By	Description of Change
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