

SONNEMAN - A WAY OF LIGHT

TEST REPORT

SCOPE OF WORK

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

MODEL NUMBER

Tik- Tak 2801

PROJECT NUMBER

G103590523

REPORT NUMBER

103590523CRT-037

ISSUE DATE

August 28, 2018

REVISION DATE

None

DOCUMENT CONTROL NUMBER

RTTDS-R-AMER-Test-3407

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TEST REPORT**REPORT NO.: 103590523CRT-037****REPORT DATE: August 28, 2018**

TEST OF (1) TANDEM LED PENDANT

MODEL NO. TIK- TAK 2801

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
CRT1808130905-001	LTF DA20W24V	Driver	Production	8/13/2018
CRT1808130905-002	Tik- Tak 2801	Tandem LED Pendant	Production	8/13/2018

DATE OF TESTS

August 27, 2018.

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REPORT DATE: August 28, 2018

SUMMARY

MODEL NO:	Tik- Tak 2801
DESCRIPTION:	Tandem LED Pendant
LED MODEL NO:	Not Provided
DRIVER MODEL NO:	LTF DA20W24V

CRITERIA	RESULTS
Lumen Output (lumens)	1326.5
Input Power (W) @ 120 (VAC)	22.65
Lumen Efficacy (lm/W)	58.6
Input Power Factor () @ 120 (VAC)	0.969

EQUIPMENT LIST

EQUIPMENT USED	MODEL NO.	CONTROL NO.	CAL DUE DATE	DATE USED
LSI High Speed Mirror Goniometer	6440	---	9/7/2018	8/27/2018
Elgar AC Power Supply	CW1251	---	VBU	8/27/2018
Sorenson DC Power Supply	XG 150-10	---	VBU	8/27/2018
Yokogawa Power Analyzer	WT210	E464	5/3/2019	8/27/2018
Omega Thermometer	DPI8-C24	M263	5/3/2019	8/27/2018
M-D Building Products Digital Level	Smart Tool	L112	4/21/2019	8/27/2018
NIST Luminous Intensity Standard Source	NBS10322	N1427	1/9/2019	8/27/2018
NIST Luminous Intensity Standard Source	NBS10332	N1435	1/9/2019	8/27/2018
NIST Luminous Intensity Standard Source	NBS10265	N1437	1/9/2019	8/27/2018
NIST Luminous Flux Standard Source	NBS10428	N1424	1/11/2019	8/27/2018

TEST REPORT**REPORT NO.: 103590523CRT-037****REPORT DATE: August 28, 2018****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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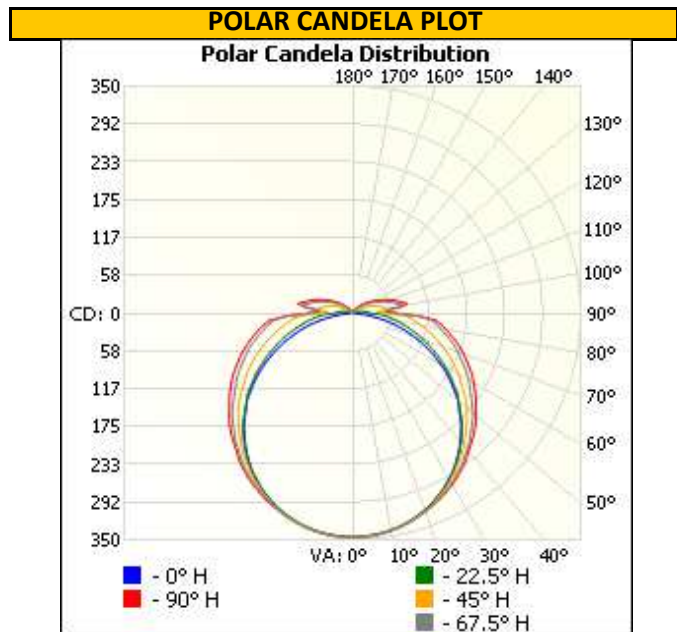
RESULTS OF TESTS

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)
CRT1808130905-001	Base Up	120.03	194.7	22.65	0.969	1326.5	58.6

INTENSITY SUMMARY - CANDELAS

Angle	0	22.5	45	67.5	90
0	346	346	346	346	346
5	345	344	345	344	344
10	340	340	341	341	340
15	333	333	334	334	334
20	323	323	325	326	326
25	311	311	313	315	317
30	296	296	299	303	306
35	278	279	283	289	293
40	258	259	265	274	277
45	235	237	247	257	264
50	212	212	229	241	247
55	184	188	207	222	231
60	155	163	188	206	214
65	126	138	167	188	197
70	95	113	146	171	181
75	66	90	126	154	163
80	37	69	106	137	146
85	12	51	89	120	128
90	0	25	49	66	68
95	0	24	48	54	56
100	0	15	50	76	85
105	0	9	40	63	72
110	0	6	32	51	60
115	0	3	25	41	48
120	0	1	18	32	38
125	0	0	12	24	29
130	0	0	8	18	22
135	0	0	4	12	15
140	0	0	2	8	10
145	0	0	1	5	6
150	0	0	0	2	3
155	0	0	0	0	1



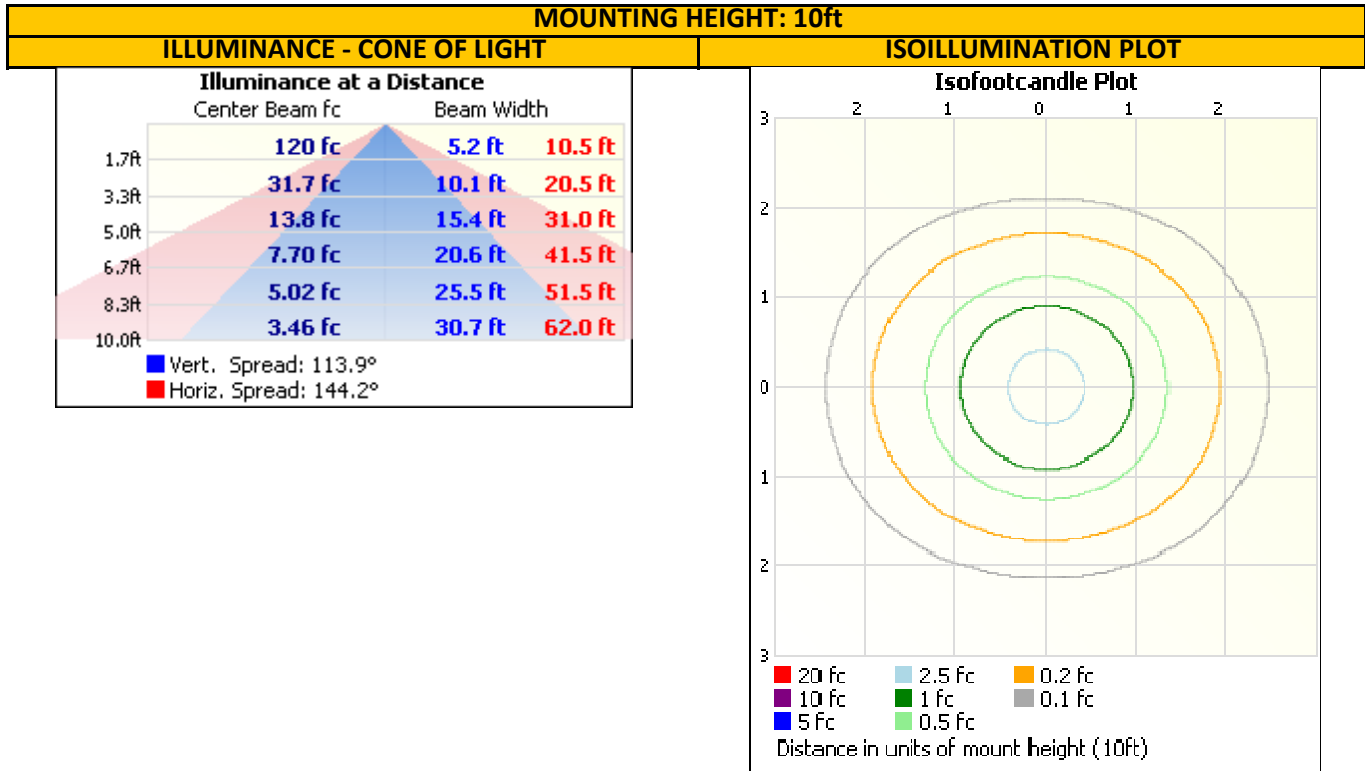
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RESULTS OF TESTS

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



ZONAL LUMEN SUMMARY AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	271.4	20.5
0-40	449.2	33.9
0-60	825.2	62.2
60-90	375.9	28.3
0-90	1201.1	90.5
90-180	125.4	9.5
0-180	1326.5	100.0

ZONE	LUMENS	% LUMINAIRE
0-10	32.7	2.5
10-20	94.2	7.1
20-30	144.4	10.9
30-40	177.8	13.4
40-50	191.1	14.4
50-60	184.8	13.9
60-70	161.9	12.2
70-80	128.0	9.6
80-90	86.0	6.5
90-100	44.5	3.4
100-110	39.6	3.0
110-120	23.2	1.8
120-130	11.7	0.9
130-140	4.8	0.4
140-150	1.4	0.1
150-160	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:

Handwritten signature of Gerald Gray in black ink.

Gerald Gray
Associate Engineer
Lighting Division

Report Reviewed By:

Handwritten signature of Jeff Davis in black ink.

Jeff Davis
Engineering Supervisor
Lighting Division

Attachments: IES File

REVISION HISTORY

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