

# REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G104160086

Date: November 26, 2019

REPORT NO. 104160086LAX-018

TEST OF ONE LED LUMINAIRE

MODEL NO. BOLT-LED35-SO-SAL  
LED MODEL NO. LUMILEDS 2835E 9V  
DRIVER MODEL NO. OSRAM OTI 50W G2

RENDERED TO

PRUDENTIAL LIGHTING  
1774 E 21ST STREET  
LOS ANGELES, CA 90058

STATEMENT OF LIMITATION: 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.

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

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-01019626-1.

STANDARDS USED: The following American National Standards or Illuminating Engineering Society of North America Test Guides were used in part or totally to test each specimen:

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

DESCRIPTION OF SAMPLE: The client submitted one Prototype sample of model number BOLT-LED35-SO-SAL. The sample was received by Intertek on November 21, 2019, in undamaged condition and one sample was tested as received. The sample designation was LAN1911211331-001.

DATES OF TESTS: November 24, 2019

## SUMMARY

Model No.:	BOLT-LED35-SO-SAL
Description:	LED Luminaire

Criteria	Result
Total Lumen Output (Lumens)	4572
Total Power (W)	37.36
Luminaire Efficacy (LPW)	122.4
Power Factor	0.985

## EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Goniophotometer	6440T	000943	VBU	VBU	11/24/19
AC Source	CW1251P	000944	VBU	VBU	11/24/19
Power Analyzer	WT210	000945	10/02/19	10/02/20	11/24/19
Tape Measure	33-428	001491	VBU	VBU	11/24/19
Magnetic Level	581-9	001610	10/11/19	10/11/20	11/24/19
Temp. & RH Meter	971	001177	01/29/19	01/29/20	11/24/19
Thermometer	DPI8-C24	001782	10/15/19	10/15/20	11/24/19

## 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 LSI Type C High Speed Model 6440 Mirror Goniometer was used to measure the intensity (candelas) at each angle of distribution for each sample.

Ambient temperature was measured equal to the height of the sample mounted on the Goniometer equipment. Each sample was operated at input rated voltage in its designated orientation. Each sample was allowed to stabilize for at least thirty minutes before measurements were made. Electrical measurements including voltage, current, and power were measured using the Xitron or Yokogawa Power Analyzer.

Some graphics were created with Photometrics Plus software.

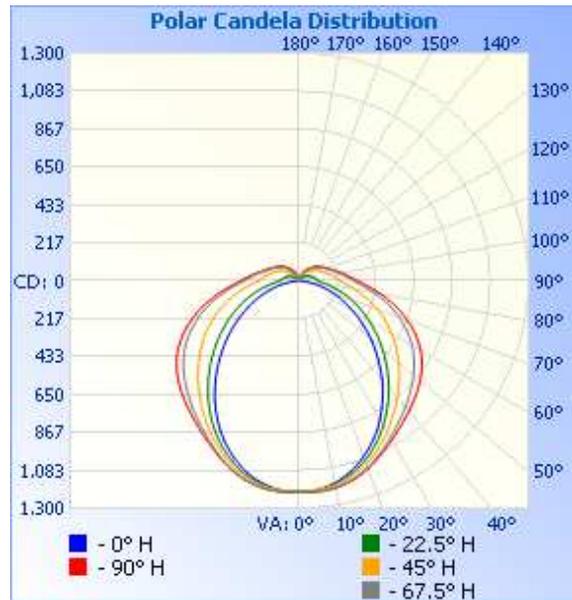
**RESULTS OF TEST**

**Photometric and Electrical Measurements at Ambient Temperature (25°C +/- 1°C) – Distribution Method**

Intertek Sample No.	Base Orientation	Input Voltage {Vac}	Input Current (mA)	Input Power (Watts)	Input Power Factor	Absolute Luminous Flux (Lumens)	Lumen Efficacy (LPW)
LAN1911211331-001	Up	120.0	316.1	37.36	0.985	4572	122.4

**Intensity (Candlepower) Summary at 25°C - Candelas**

Angle	0	22.5	45	67.5	90
0	1204	1204	1204	1204	1204
5	1200	1200	1198	1207	1209
10	1172	1178	1184	1197	1202
15	1128	1142	1155	1172	1179
20	1068	1092	1113	1134	1143
25	998	1028	1058	1086	1097
30	916	954	996	1034	1050
35	825	874	931	984	1008
40	731	791	867	938	970
45	632	705	802	893	933
50	540	621	737	847	894
55	447	538	672	797	850
60	362	460	606	740	796
65	280	385	540	674	729
70	206	314	471	602	651
75	137	247	402	524	568
80	76	186	335	444	481
85	27	136	275	370	400
90	0	107	231	310	332
95	0	98	206	270	286
100	0	89	184	237	248
105	0	81	165	208	218
110	0	71	148	185	193
115	0	61	133	166	174
120	0	53	119	150	157
125	0	47	104	136	142
130	0	41	89	121	127
135	0	35	77	104	112
140	0	29	66	88	96
145	0	25	56	74	82
150	0	20	45	62	68
155	0	17	35	50	54
160	0	14	27	37	39
165	0	11	20	26	27
170	0	0	14	17	11



RESULTS OF TEST (cont'd)

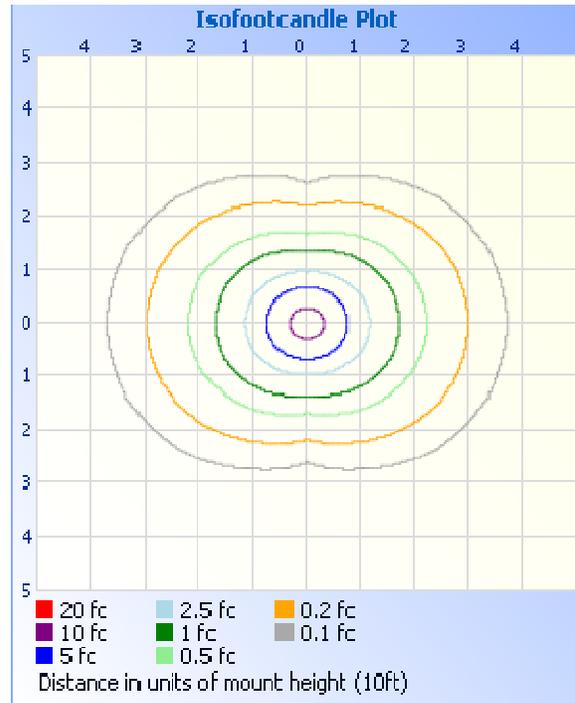
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	928.5	20.3
0-40	1512	33.1
0-60	2728	59.7
60-90	1210	26.5
0-90	3938	86.1
90-180	633.9	13.9
0-180	4572	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	114.4	2.5
10-20	326.5	7.1
20-30	487.6	10.7
30-40	583.0	12.8
40-50	618.0	13.5
50-60	598.2	13.1
60-70	525.2	11.5
70-80	407.4	8.9
80-90	277.4	6.1
90-100	197.2	4.3
100-110	150.0	3.3
110-120	111.3	2.4
120-130	78.4	1.7
130-140	50.1	1.1
140-150	28.2	0.6
150-160	13.7	0.3
160-170	4.7	0.1
170-180	0.4	0.0

Spacing Criterion at 25°C

Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.38

PICTURES (not to scale)



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:

Report Reviewed By:



Erik Linares  
Associate Engineer  
Lighting Division



Vladimir Kozak  
Engineering Supervisor  
Lighting Division

Attachment: None