REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G103624486 Date: August 13, 2018

REPORT NO. 103624486LAX-002

TEST OF ONE LED DIRECT INDIRECT LUMINAIRE

MODEL NO. BTRI-33-LED35-LO
LED MODEL NO. NICHIA NFSL757D
DRIVER MODEL NO. OSRAM 79399

RENDERED TO

PRUDENTIAL LTG
1774 EAST 21ST STREET
LOS ANGELES, CA 90058-1008

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

AUTHORIZATION: The testing performed was authorized by signed quote number Qu-00849811-9.

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 production sample of model number BTRI-33-LED35-LO. The sample was received by Intertek on August 8, 2018, in undamaged condition and one sample was tested as received. The sample designation was LAN1808081241-002.

DATES OF TESTS: August 9, 2018

SUMMARY

Model No.:	BTRI-33-LED35-LO
Description:	LED direct indirect luminaire

Criteria	Result
Total Lumen Output (Lumens)	4579
Total Power (W)	36.79
Luminaire Efficacy (LPW)	124.5
Power Factor	0.996

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Goniophotometer	6440T	000943	08/01/18	09/01/18	08/09/18
AC Source	CW1251P	000944	VBU	VBU	08/09/18
Power Analyzer	WT210	000945	11/10/17	11/10/18	08/09/18
Tape Measure	33-428	000684	01/04/18	01/04/19	08/09/18
Magnetic Level	581-9	001610	10/10/17	10/10/18	08/09/18
Temp. & RH Meter	971	001177	01/25/18	01/25/19	08/09/18

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.

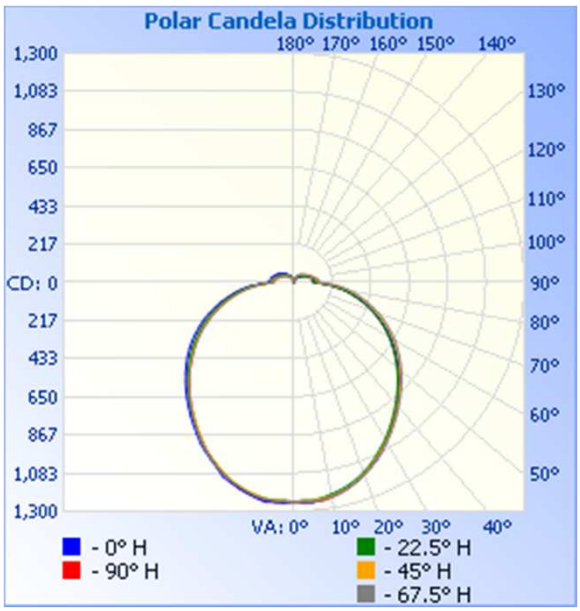
RESULTS OF TEST

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)
LAN1808081241-002	Up	120.2	307.3	36.79	0.996	4579	124.5

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	1245	1245	1245	1245	1245
5	1252	1241	1244	1250	1251
10	1230	1220	1230	1235	1238
15	1202	1190	1204	1206	1207
20	1159	1145	1158	1164	1158
25	1109	1090	1102	1108	1102
30	1041	1029	1041	1048	1038
35	979	962	977	983	970
40	907	894	911	919	906
45	840	827	846	856	834
50	772	760	782	791	768
55	699	691	718	725	696
60	628	620	649	658	626
65	551	546	576	583	552
70	472	469	499	506	472
75	392	390	420	426	393
80	310	309	339	345	312
85	224	225	254	258	230
90	114	116	139	146	126
95	104	104	124	132	122
100	120	114	125	130	118
105	112	105	114	111	100
110	100	98	107	101	87
115	93	87	93	93	81
120	83	70	84	84	76
125	66	63	74	76	68
130	55	56	67	69	61
135	49	51	62	62	51
140	43	48	58	58	45
145	38	44	51	52	39
150	32	42	46	46	35
155	26	37	40	38	29
160	29	29	32	31	26
165	22	23	24	22	19
170	16	16	16	15	15
175	10	10	10	10	10

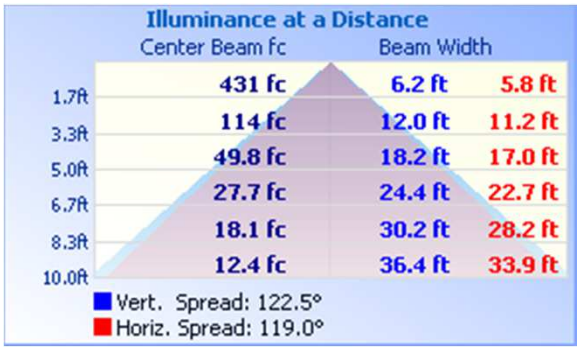


RESULTS OF TEST (cont'd)

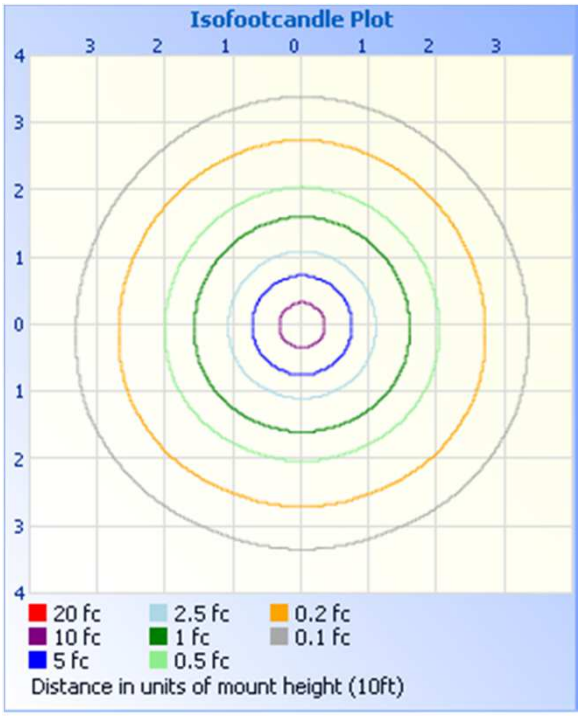
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



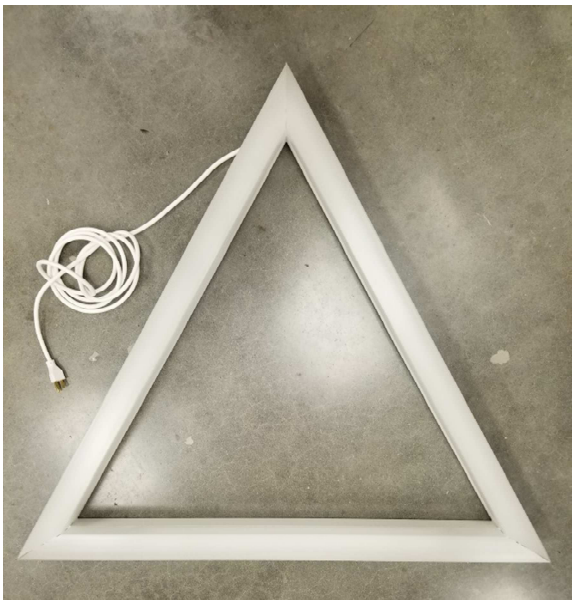
Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	964.8	21.1
0-40	1575	34.4
0-60	2858	62.4
60-90	1228	26.8
0-90	4086	89.2
90-180	493.2	10.8
0-180	4579	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	118.4	2.6
10-20	338.5	7.4
20-30	507.9	11.1
30-40	610.4	13.3
40-50	650.4	14.2
50-60	632.1	13.8
60-70	554.7	12.1
70-80	424.0	9.3
80-90	249.4	5.4
90-100	133.3	2.9
100-110	114.2	2.5
110-120	87.7	1.9
120-130	63.3	1.4
130-140	43.5	1.0
140-150	28.2	0.6
150-160	15.7	0.3
160-170	6.3	0.1
170-180	1.0	0.0

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:

Gregory V. Rosandich
Technician
Lighting Division

Report Reviewed By:

Vladimir Kozak
Engineering Supervisor
Lighting Division

Attachment: None