REPORT

25800 COMMERCENTRE DRIVE, LAKE FOREST, CA 92630

Project No. G103315037 Date: November 29, 2017

REPORT NO. 103315037LAX-002

TEST OF ONE LED DIRECT/INDIRECT LUMINAIRE

MODEL NO. P4020-LED35-LO-FWA -D9
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-00710638-6.

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 P4020-LED35-LO-FWA -D9. The sample was received by Intertek on November 21, 2017, in undamaged condition and one sample was tested as received. The sample designation was LAN1711211050-005.

DATES OF TESTS: November 22, 2017

SUMMARY

Model No.:	P4020-LED35-LO-FWA -D9
Description:	LED direct/indirect luminaire

Criteria	Result
Total Lumen Output (Lumens)	3751
Total Power (W)	42.07
Luminaire Efficacy (LPW)	89.16
Power Factor	0.997

EQUIPMENT LIST

Equipment Used	Model Number	Control Number	Last Date Calibrated	Calibration Due Date	Date Used
Goniophotometer	6440T	000943	10/30/17	11/30/17	11/22/17
AC Source	CW1251P	000944	VBU	VBU	11/22/17
Power Analyzer	WT210	000945	11/10/17	11/10/18	11/22/17
Tape Measure	33-428	001491	01/06/17	01/06/18	11/22/17
Magnetic Level	581-9	001610	10/10/17	10/10/18	11/22/17
Temp. & RH Meter	971	001178	12/22/16	12/22/17	11/22/17

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.

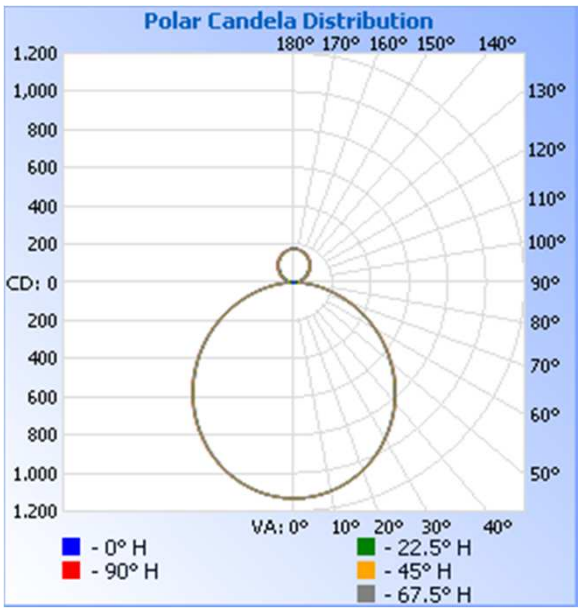
RESULTS OF TEST

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)
LAN1711211050-005	Up	120.1	351.5	42.07	0.997	3751	89.16

Intensity (Candlepower) Summary at 25°C - Candelas

Angle	0	22.5	45	67.5	90
0	1131	1131	1131	1131	1131
5	1126	1126	1126	1127	1126
10	1109	1110	1110	1110	1110
15	1083	1083	1083	1084	1083
20	1046	1047	1048	1048	1047
25	1001	1001	1002	1003	1004
30	944	945	947	948	949
35	883	884	887	887	888
40	814	815	818	819	820
45	739	740	742	744	745
50	658	659	662	664	665
55	572	575	578	579	580
60	485	486	489	491	492
65	395	398	400	403	403
70	307	308	310	313	314
75	220	220	223	225	226
80	140	142	141	143	143
85	68	68	67	66	66
90	4	12	22	30	33
95	10	15	25	33	35
100	21	23	33	40	42
105	32	34	42	49	51
110	44	46	53	59	61
115	58	58	64	70	72
120	72	72	77	82	84
125	85	84	90	94	97
130	99	97	104	107	109
135	109	112	115	119	121
140	125	124	126	130	132
145	138	134	137	140	142
150	145	145	146	149	150
155	155	154	154	157	158
160	162	161	162	163	164
165	169	167	167	168	169
170	174	172	172	172	172
175	177	175	174	174	174
180	176	176	176	176	176

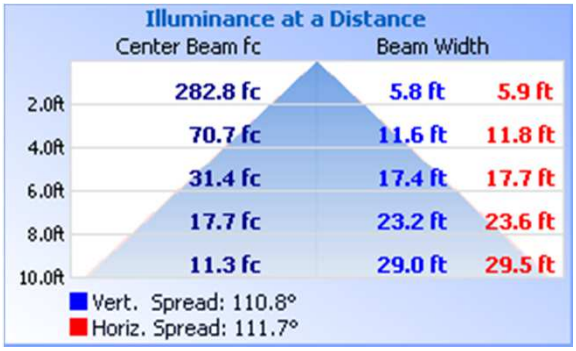


RESULTS OF TEST (cont'd)

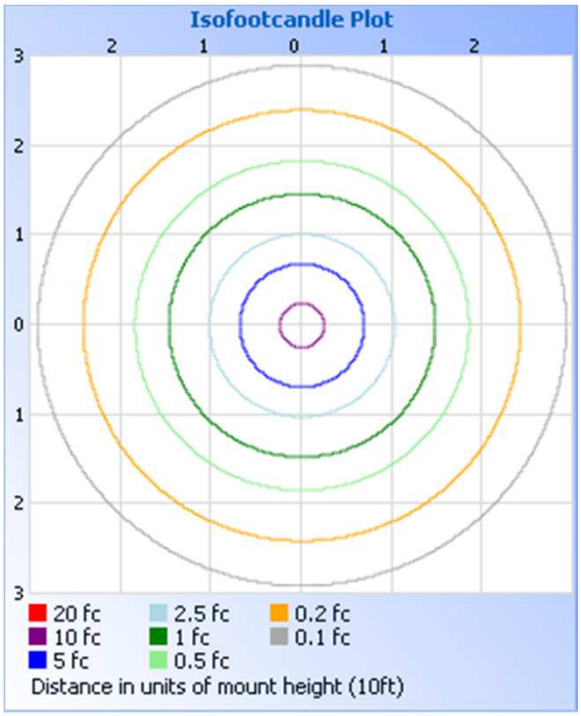
Illumination Plots

Mounting Height: 10 ft.

Illuminance - Cone of Light



Isoillumination Plot



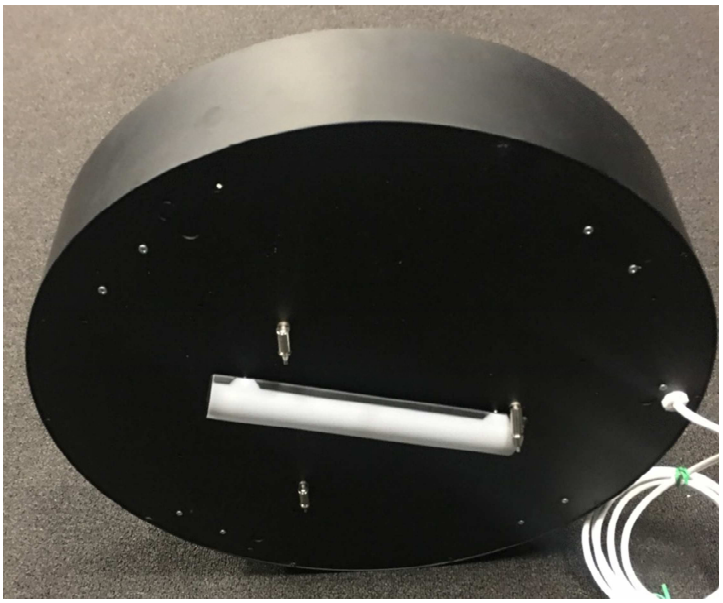
Zonal Lumen Summary and Percentages at 25°C

Zone	Lumens	% Luminaire
0-30	874.0	23.3
0-40	1428	38.1
0-60	2516	67.1
60-90	709.8	18.9
0-90	3225	86.0
90-180	525.5	14.0
0-180	3751	100.0

Zonal Lumens and Percentages at 25°C

Zone	Lumens	% Luminaire
0-10	106.9	2.9
10-20	305.6	8.1
20-30	461.5	12.3
30-40	553.9	14.8
40-50	572.2	15.3
50-60	515.5	13.7
60-70	395.8	10.6
70-80	236.5	6.3
80-90	77.5	2.1
90-100	26.9	0.7
100-110	44.1	1.2
110-120	63.8	1.7
120-130	80.5	2.1
130-140	88.8	2.4
140-150	86.0	2.3
150-160	71.5	1.9
160-170	47.4	1.3
170-180	16.6	0.4

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:

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Report Reviewed By:

Vladimir Kozak
Engineering Supervisor
Lighting Division

Attachment: None