



8165 E Kaiser Blvd. Anaheim, CA 92808  
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Report No: L121401601

Date: 12/9/2014



NVLAP LAB CODE 200927-0

**Report No:** L121401601

**Report Prepared For:** Prudential Lighting  
1774 East 21st Street, Los Angeles, CA 90058

**Model Number:** S1-LED4LO-04-LPA

**Test:** Electrical and Photometric tests

**Standards Used:** Appropriate part or all test guidelines were used for test performed:  
*IESNA LM79: 2008* Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products  
*ANSI NEMA ANSLG C78.377: 2008* Specification of the Chromaticity of Solid State Lighting Products  
*ANSI C82.77:2002:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Catalog number is S1-LED4LO-04-LPA. Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 12/4/14

**Date of Tests:** 12/8/14 - 12/8/14

**Seasoning of Sample:** No seasoning was performed in accordance with IESNA LM-79.

#### Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	01/04/15
Xitron Power Analysis System	2503AH	MT-EL01	01/09/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/15
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/04/15
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

### Test Summary

<b>Manufacturer:</b>	Prudential Lighting
<b>Model Number:</b>	S1-LED4LO-04-LPA
<b>Driver Model Number:</b>	OSRAM OPTOTRONIC OT30W/PRG1050C/UNV/DIM/L
<b>Total Lumens:</b>	2216.16
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.16
<b>Input Power (W):</b>	19.13
<b>Input Power Factor:</b>	0.99
<b>Current ATHD @ 120V(%):</b>	5%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	116
<b>Ambient Temperature (°F):</b>	77.0
<b>Stabilization Time (Hours):</b>	0:30
<b>Total Operating Time (Hours):</b>	2:35
<b>Off State Power(W):</b>	0.00

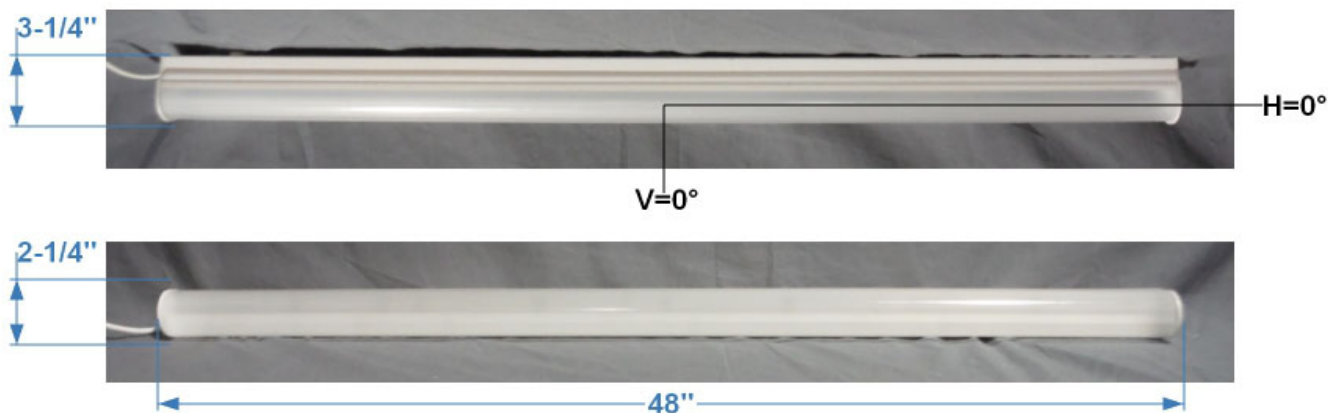


FIG.1 LUMINAIRE



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## Test Methods

### Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

### Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

### Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Randy Chau

Test Report Released by:

Jeff Ahn  
Engineering Manager

Test Report Reviewed by:

Steve Kang  
Quality Assurance

*\*Attached are photometric data reports. Total number of pages: 10*

*\*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.*



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## Photometric Test Report

### IES INDOOR REPORT

PHOTOMETRIC FILENAME : L121401601.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121401601  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 12/9/2014  
[MANUFAC] PRUDENTIAL LIGHTING  
[LUMCAT] S1-LED4LO-04-LPA  
[LUMINAIRE] 48"L. X 2-1/4"W. X 3-1/4"H. LED LUMINAIRE  
[MORE] DIFFUSED LENS  
[BALLASTCAT] OSRAM OPTOTRONIC OT30W/PRG1050C/UNV/DIM/L  
[BALLAST] INPUT: 120-277VAC, 0.31-0.15A, 50/60Hz. OUTPUT: 30Wmax, 10-55VDC, 350-1050mA  
[LAMPPOSITION] 0,0  
[LAMPCAT] N/A  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[\_INPUT] 120VAC, 19.13W  
[\_TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2216
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	19.13
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.50
Spacing Criterion (90-270)	1.80
Spacing Criterion (Diagonal)	1.70
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.19 ft
Luminous Height	0.13 ft

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121401601.IES**

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7462	6733	5192
55	7591	4379	3593
65	6041	2872	2415
75	3559	1948	1585
85	1776	1601	1252

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121401601.IES**

**CANDELA TABULATION**

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
<b>0</b>	414	414	414	414	414	414	414	414	414	414
<b>5</b>	412	412	414	417	422	428	434	441	449	456
<b>10</b>	411	413	419	431	446	466	489	514	541	569
<b>15</b>	409	414	428	452	486	528	577	631	687	743
<b>20</b>	407	415	440	481	539	610	689	771	850	917
<b>25</b>	405	417	454	516	600	698	796	883	947	981
<b>30</b>	403	420	471	552	657	765	854	910	925	908
<b>35</b>	400	422	484	579	689	782	837	844	814	770
<b>40</b>	396	420	489	584	677	740	752	722	674	632
<b>45</b>	385	410	474	552	619	646	626	582	539	507
<b>50</b>	363	383	431	483	521	521	489	449	417	396
<b>55</b>	322	334	361	390	407	395	366	337	317	306
<b>60</b>	266	271	283	299	305	293	272	255	244	238
<b>65</b>	193	195	200	209	213	205	194	185	181	179
<b>70</b>	126	127	132	139	144	142	138	135	134	135
<b>75</b>	73	75	82	90	96	99	99	100	102	103
<b>80</b>	37	40	47	56	64	69	73	76	79	81
<b>85</b>	15	19	29	35	43	50	55	60	64	67
<b>90</b>	0	9	13	25	30	37	44	49	54	57
<b>95</b>	0	8	11	15	26	30	36	42	46	50
<b>100</b>	0	0	10	13	19	27	31	36	40	44
<b>105</b>	0	0	9	12	15	22	28	31	35	38
<b>110</b>	0	0	8	11	13	19	23	28	31	34
<b>115</b>	0	0	8	10	13	16	20	25	27	30
<b>120</b>	0	0	8	10	12	15	17	21	24	26
<b>125</b>	0	0	8	9	11	14	16	18	21	23
<b>130</b>	0	0	8	9	10	12	15	16	18	20
<b>135</b>	0	0	8	8	10	11	13	15	16	17
<b>140</b>	0	0	8	8	9	10	12	13	15	16
<b>145</b>	0	0	8	8	9	10	11	12	13	14
<b>150</b>	0	0	8	8	9	9	10	11	12	12
<b>155</b>	0	0	8	9	9	9	9	10	10	11
<b>160</b>	0	0	9	9	9	9	9	9	10	10
<b>165</b>	0	0	9	9	9	9	9	9	9	9
<b>170</b>	0	0	9	9	9	9	9	9	9	9
<b>175</b>	0	0	0	0	0	0	0	0	0	0
<b>180</b>	0	0	0	0	0	0	0	0	0	0

**Vert. Horizontal Angles**

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
<b>0</b>	414	414	414	414	414	414	414	414	414
<b>5</b>	464	471	478	484	489	493	496	499	501
<b>10</b>	596	623	648	670	689	704	716	723	729
<b>15</b>	796	844	887	920	948	968	981	991	995
<b>20</b>	968	1005	1027	1037	1041	1040	1037	1037	1034
<b>25</b>	989	979	960	939	919	901	889	882	878
<b>30</b>	875	838	806	781	762	746	736	732	730
<b>35</b>	729	695	670	653	640	631	624	622	621
<b>40</b>	599	576	560	549	541	535	531	530	529
<b>45</b>	484	469	459	451	446	442	439	438	437
<b>50</b>	382	373	367	363	359	357	355	356	356
<b>55</b>	299	295	292	290	289	289	287	287	288
<b>60</b>	235	234	233	233	232	232	231	231	232

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121401601.IES**

**CANDELA TABULATION - (Cont.)**

<b>65</b>	179	179	179	178	178	178	177	177	178
<b>70</b>	135	135	135	135	135	135	134	135	135
<b>75</b>	104	104	104	104	104	103	103	103	103
<b>80</b>	82	83	83	83	83	82	82	82	82
<b>85</b>	68	69	70	70	69	69	69	69	68
<b>90</b>	59	60	61	61	61	61	60	60	60
<b>95</b>	52	53	54	55	55	55	55	55	55
<b>100</b>	46	48	49	50	50	50	50	50	50
<b>105</b>	41	43	44	45	45	46	46	46	46
<b>110</b>	36	38	40	41	41	42	42	42	42
<b>115</b>	32	34	35	36	37	38	38	38	38
<b>120</b>	28	30	31	32	33	34	34	34	34
<b>125</b>	25	26	27	28	29	30	30	31	31
<b>130</b>	22	23	24	25	26	26	27	27	27
<b>135</b>	19	20	21	22	23	23	24	24	24
<b>140</b>	17	18	19	19	20	21	21	21	21
<b>145</b>	15	16	17	17	18	18	18	19	19
<b>150</b>	13	14	15	15	16	16	16	16	16
<b>155</b>	12	12	13	13	14	14	14	14	14
<b>160</b>	10	11	11	11	11	12	12	12	12
<b>165</b>	10	10	10	10	10	10	10	10	10
<b>170</b>	9	9	9	9	9	10	10	10	10
<b>175</b>	0	0	0	0	0	0	0	0	0
<b>180</b>	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	249.92	N.A.	11.30
0-30	613.71	N.A.	27.70
0-40	1029.88	N.A.	46.50
0-60	1708.06	N.A.	77.10
0-80	2003.57	N.A.	90.40
0-90	2066.71	N.A.	93.30
10-90	2019.68	N.A.	91.10
20-40	779.96	N.A.	35.20
20-50	1164.85	N.A.	52.60
40-70	867.13	N.A.	39.10
60-80	295.51	N.A.	13.30
70-80	106.57	N.A.	4.80
80-90	63.14	N.A.	2.80
90-110	77.87	N.A.	3.50
90-120	103.10	N.A.	4.70
90-130	121.21	N.A.	5.50
90-150	141.76	N.A.	6.40
90-180	149.45	N.A.	6.70
110-180	71.58	N.A.	3.20
0-180	2216.16	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	47.03
10-20	202.89
20-30	363.79
30-40	416.17
40-50	384.89
50-60	293.30
60-70	188.94
70-80	106.57
80-90	63.14
90-100	44.26
100-110	33.61
110-120	25.23
120-130	18.11
130-140	12.41
140-150	8.15
150-160	4.87
160-170	2.52
170-180	0.30



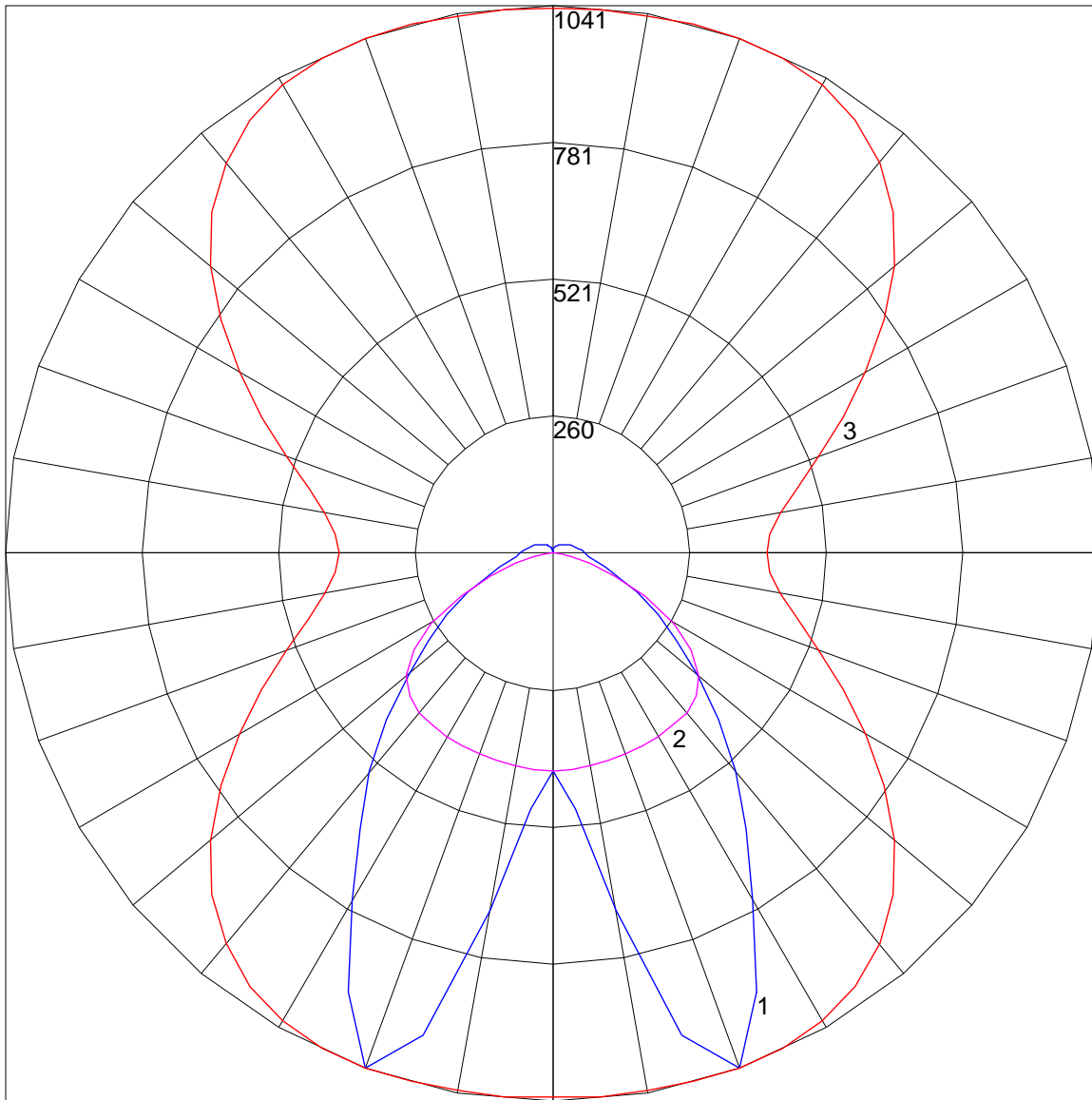
**IES INDOOR REPORT**  
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	107	103	99	95	104	100	96	93	94	91	88	89	87	85	85	83	81	78
2	98	90	84	78	95	88	82	77	83	78	74	79	75	71	75	72	69	66
3	90	80	72	66	87	78	70	65	74	68	63	70	65	61	67	63	59	57
4	83	71	63	56	80	69	61	55	66	59	54	63	57	52	60	55	51	49
5	76	64	55	48	73	62	54	48	59	52	47	57	50	46	54	49	45	42
6	70	57	49	42	68	56	48	42	54	46	41	51	45	40	49	44	39	37
7	65	52	43	37	63	51	43	37	49	42	36	47	40	36	45	39	35	33
8	61	47	39	33	59	46	38	33	44	37	32	43	36	32	41	35	31	29
9	56	43	35	30	55	42	35	30	41	34	29	39	33	29	38	32	28	26
10	53	40	32	27	51	39	32	27	38	31	26	36	30	26	35	30	26	24

POLAR GRAPH



Maximum Candela = 1041 Located At Horizontal Angle = 70, Vertical Angle = 20  
# 1 - Vertical Plane Through Horizontal Angles (70 - 250) (Through Max. Cd.)  
# 2 - Vertical Plane Through Horizontal Angles (0 - 180)  
# 3 - Horizontal Cone Through Vertical Angle (20) (Through Max. Cd.)