



8165 E Kaiser Blvd. Anaheim, CA 92808  
p. 714.282.2270  
f. 714.676.5558

Test #: L041411801

Date: 5/14/2014



NVLAP LAB CODE 200927-0

**Test Report:** L041411801

**Model Number:** P40-LED35LO-OPL-TMW-D1-SC-UNV

**Report Prepared For:** Prudential Lighting  
1737 East 22nd Street

**Test:** Electrical and Photometric tests as required by the IESNA test standards.

**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 C82.77:2002:* Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

**Description of Sample:** Client submitted the sample. Fixture catalog number is P40-LED35LO-OPL-TMW-D1-SC-UNV. Received in working and undamaged condition. No modifications were necessary.

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

**Sample Arrival Date:** 4/24/14

**Date of Tests:** 5/13/14 - 5/13/14

**Seasoning of Sample SSL:** 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>	P40-LED35LO-OPL-TMW-D1-SC-UNV
<b>LAMPCAT:</b>	N/A
<b>Driver Model Number:</b>	OSRAM OPTOTRONIC OT30W/PRG1050C/UNV/DIM/L
<b>Total Lumens:</b>	1651.16
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.16
<b>Input Power (W):</b>	18.98
<b>Input Power Factor:</b>	0.99
<b>Total Harmonic Distortion @ 120V(%)</b>	5%
<b>Total Harmonic Distortion @ 277V(%)</b>	N/A
<b>Efficacy:</b>	87
<b>Ambient Temperature (°F):</b>	77.0
<b>Stabilization Time (Hours):</b>	0:40
<b>Total Operating Time (Hours):</b>	1:40
<b>Off State Power(W):</b>	0.00

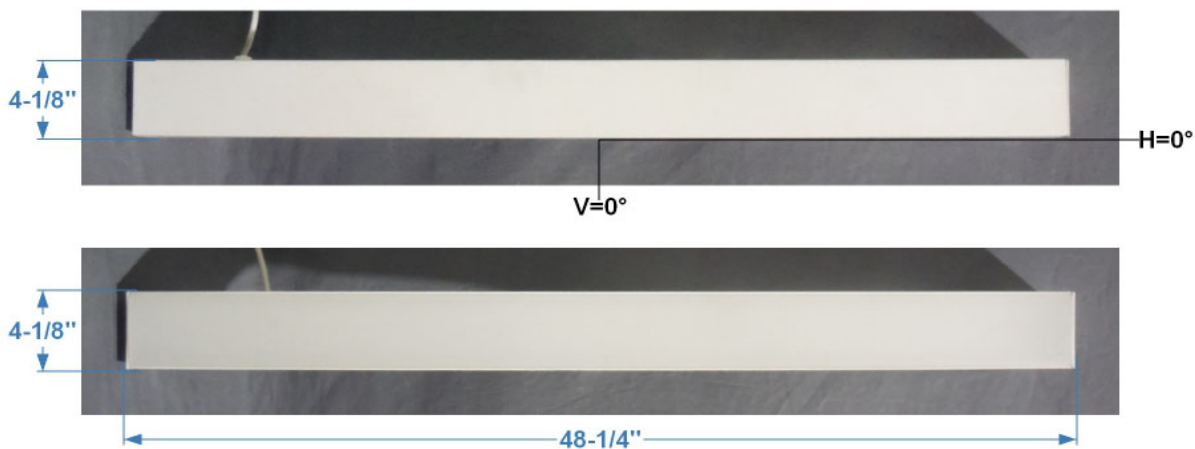


FIG.1 LUMINAIRE



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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

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: 9*

*\*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 : L041411801.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L041411801  
[TESTLAB] LIGHT LABORATORY, INC.  
[ISSUEDATE] 5/14/2014  
[MANUFAC] PRUDENTIAL LIGHTING  
[LUMCAT] P40-LED35LO-OPL-TMW-D1-SC-UNV  
[LUMINAIRE] 4-1/8"SQ. X 48-1/4"L. LED LUMINAIRE  
[MORE] DIFFUSED LENS  
[BALLASTCAT] OSRAM OPTOTRONIC OT30W/PRG1050C/UNV/DIM/L  
[BALLAST] INPUT: 120-277VAC, 0.31-0.15A, 50/60Hz. OUTPUT: 30W, 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, 18.98W  
[\_TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1651
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	87
Total Luminaire Watts	18.98
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.34 ft
Luminous Height	0.00 ft

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L041411801.IES**

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4271	4162	4048
55	3926	3812	3699
65	3657	3531	3436
75	3106	3131	3116
85	2366	2879	3081

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L041411801.IES**

**CANDELA TABULATION**

	<b>0</b>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>	<b>40</b>	<b>45</b>
<b>0</b>	663.15	663.15	663.15	663.15	663.15	663.15	663.15	663.15	663.15	663.15
<b>5</b>	656.61	656.75	656.76	656.68	657.05	657.75	658.47	658.73	658.71	658.57
<b>10</b>	643.72	643.88	644.05	644.07	644.60	645.04	644.97	644.63	644.23	644.11
<b>15</b>	621.67	621.78	621.62	621.36	621.54	621.94	622.27	622.44	622.67	621.89
<b>20</b>	594.06	594.09	594.30	594.41	594.02	593.11	592.77	592.39	591.77	590.94
<b>25</b>	558.76	558.75	558.45	557.99	557.65	557.69	558.24	557.50	557.04	554.53
<b>30</b>	520.88	520.95	520.46	519.29	519.54	518.14	516.82	515.93	514.57	514.14
<b>35</b>	475.93	475.74	475.01	474.67	474.15	473.64	473.18	472.46	470.46	467.90
<b>40</b>	429.55	429.37	428.96	428.50	428.57	428.46	427.18	424.48	422.61	421.43
<b>45</b>	381.95	381.70	381.53	382.55	381.70	379.39	377.99	376.31	374.87	372.18
<b>50</b>	333.35	333.13	333.17	334.42	333.41	330.70	329.32	328.63	325.60	323.79
<b>55</b>	284.82	284.66	284.27	283.81	284.99	282.37	281.05	279.92	277.91	276.50
<b>60</b>	243.75	243.37	240.66	240.07	239.57	240.17	237.83	237.22	235.34	234.23
<b>65</b>	195.45	194.75	193.22	192.66	192.51	191.79	191.02	190.34	189.62	188.74
<b>70</b>	146.82	146.63	146.94	146.11	145.93	145.72	145.52	145.22	144.86	144.46
<b>75</b>	101.68	101.09	101.32	101.40	101.71	102.00	102.21	102.37	102.49	102.50
<b>80</b>	60.60	60.01	60.42	61.06	61.79	62.50	63.11	63.69	64.21	64.65
<b>85</b>	26.08	26.07	26.72	27.53	28.35	29.14	29.90	30.59	31.19	31.73
<b>90</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**Vert. Angles**      **Horizontal Angles**

	<b>50</b>	<b>55</b>	<b>60</b>	<b>65</b>	<b>70</b>	<b>75</b>	<b>80</b>	<b>85</b>	<b>90</b>
<b>0</b>	663.15	663.15	663.15	663.15	663.15	663.15	663.15	663.15	663.15
<b>5</b>	658.30	658.17	658.10	657.57	657.12	656.76	656.83	657.08	657.50
<b>10</b>	643.73	643.30	643.14	642.55	642.14	641.65	641.42	641.79	642.18
<b>15</b>	621.75	620.30	619.44	618.75	618.25	617.76	617.24	617.68	617.86
<b>20</b>	590.23	589.78	589.21	587.34	586.57	585.73	585.07	585.57	585.47
<b>25</b>	553.08	551.68	551.15	550.32	548.50	547.44	546.79	546.95	547.03
<b>30</b>	512.56	509.61	508.31	507.35	506.73	504.53	503.68	503.77	504.04
<b>35</b>	465.88	464.83	462.71	461.11	460.39	458.59	457.53	457.64	457.77
<b>40</b>	418.70	416.75	415.84	413.67	412.23	411.53	410.11	410.20	410.12
<b>45</b>	370.33	369.47	367.06	366.25	365.82	363.34	362.13	362.08	362.00
<b>50</b>	322.42	320.94	319.08	317.56	316.18	314.98	314.43	314.28	314.45
<b>55</b>	275.07	273.68	272.32	270.93	269.69	268.96	268.25	268.15	268.30
<b>60</b>	233.11	231.85	230.59	229.50	228.43	228.01	227.45	227.31	227.29
<b>65</b>	187.85	186.96	186.06	185.23	184.69	184.08	183.93	183.70	183.65
<b>70</b>	144.00	143.48	142.95	142.61	142.26	142.01	141.91	141.70	141.60
<b>75</b>	102.49	102.48	102.41	102.35	102.29	102.29	102.20	102.03	101.99
<b>80</b>	65.03	65.34	65.56	65.73	65.89	65.94	65.94	65.90	65.90
<b>85</b>	32.23	32.67	33.05	33.36	33.59	33.76	33.87	33.94	33.96
<b>90</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L041411801.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	237.10	N.A.	14.40
0-30	492.05	N.A.	29.80
0-40	784.50	N.A.	47.50
0-60	1320.92	N.A.	80.00
0-80	1616.9	N.A.	97.90
0-90	1651.16	N.A.	100.00
10-90	1588.83	N.A.	96.20
20-40	547.40	N.A.	33.20
20-50	835.05	N.A.	50.60
40-70	723.60	N.A.	43.80
60-80	295.98	N.A.	17.90
70-80	108.80	N.A.	6.60
80-90	34.26	N.A.	2.10
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1651.16	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	62.33
10-20	174.77
20-30	254.95
30-40	292.45
40-50	287.64
50-60	248.77
60-70	187.18
70-80	108.80
80-90	34.26
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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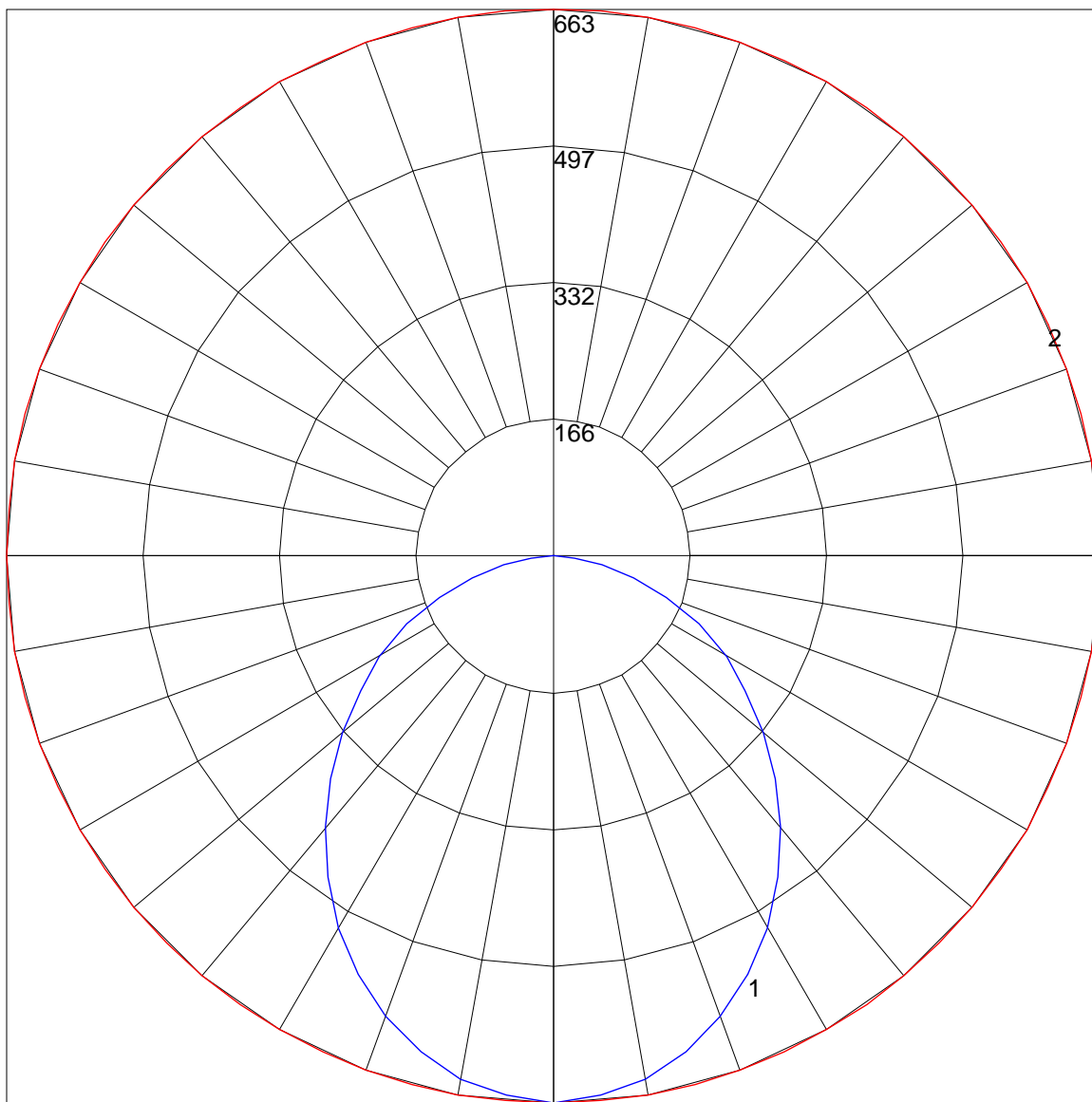
**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	31	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26



POLAR GRAPH



Maximum Candela = 663.15 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)