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## INDEPENDENT TEST LABORATORY REPORT No. 31675A

### Description:

PRUDENTIAL LIGHTING - LED COVE LUMINAIRE, CAT# P59-LED3-04-W-UNV  
WITH WHITE INTERIOR AND NO LENS  
128 LEDS. LUMINAIRE OUTPUT = 2497 LMS  
ONE EPTRONICS LD50W-36-C1400-RD DRIVER OPERATING AT 120 VAC AND 40.1 WATTS

### The sample(s) was(were) tested in accordance with the following applied standards/regulations:

IES LM-41-98: Approved Method for Photometric Testing of Indoor Fluorescent Luminaire (withdrawn)

IES LM-79-08: Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

### Prepared for:

PRUDENTIAL LIGHTING  
  
LOS ANGELES, CA

### Approved by:

JIM DOMIGAN

VS SUPERVISOR

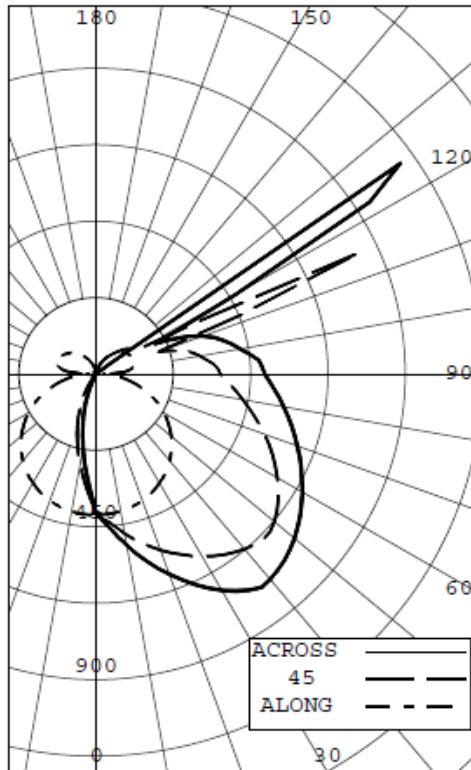
REVISED: APR 5, 2013

*This report shall not be reproduced except in full without the written approval of the laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.*

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INTENSITY (CANDLEPOWER)				SUMMARY		OUTPUT LUMENS
ANGLE	ALONG	BEAM	SIDE	22.5	ACROSS	
0	408	408	408	408	408	
5	414	427	439	450	454	22
15	405	455	516	556	571	72
25	385	482	588	660	685	131
35	353	499	650	747	778	193
45	311	505	689	758	775	240
55	258	500	647	707	726	262
65	196	463	567	636	659	259
75	125	361	476	561	589	232
85	55	248	395	492	521	194
90	22	203	361	461	491	
95	83	185	343	446	475	168
105	117	450	266	359	385	154
115	119	198	845	204	240	149
125	106	157	137	139	1082	121
135	87	122	97	45	5	30
145	67	83	66	27	0	17
155	43	47	39	13	0	7
165	20	22	13	1	0	2
175	0	0	0	0	0	0
180	0	0	0	0	0	

BOTH SIDES  
ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	308	12.34
0-40	530	21.23
0-60	1079	43.20
0-90	1798	72.00
40-90	1268	50.77
60-90	719	28.80
90-180	699	28.00
0-180	2497	100.00

EFFICACY (LUMENS PER WATT): 62.3

\*\*\* THIS IS AN ABSOLUTE TEST \*\*\*

LUMINOUS LENGTH: 4.630 INS  
WIDTH: 48.000 INS

LUMINANCE SUMMARY - CD./SQ.M.

BEAM SIDE			
ANGLE	ALONG	45	ACROSS
45	3067	6818	7674
55	3137	7892	8856
65	3234	9395	10912
75	3368	12853	15932
85	4401	31650	41876

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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BEAM SIDE  
INTENSITY(CANDLEPOWER) DATA

ANGLE	PLANE						OUTPUT
	ALONG	67.5	45	22.5	ACROSS	AVERAGE	LUMENS
0	408	408	408	408	408	408	
5	414	427	439	450	454	437	22
10	411	438	477	503	512	470	
15	405	455	516	556	571	504	72
20	396	470	552	608	628	535	
25	385	482	588	660	685	566	131
30	370	492	621	708	737	593	
35	353	499	650	747	778	615	193
40	333	503	673	772	789	627	
45	311	505	689	758	775	624	240
50	286	505	677	736	753	609	
55	258	500	647	707	726	586	262
60	228	490	609	672	693	558	
65	196	463	567	636	659	523	259
70	161	416	522	598	624	482	
75	125	361	476	561	589	439	232
80	92	304	434	526	555	397	
85	55	248	395	492	521	356	194
90	22	203	361	461	491	320	
95	83	185	343	446	475	313	168
100	108	162	308	400	427	284	
105	117	450	266	359	385	331	154
110	120	225	194	300	329	236	
115	119	198	845	204	240	357	149
120	114	176	165	816	469	362	
125	106	157	137	139	1082	257	121
130	96	139	115	61	16	93	
135	87	122	97	45	5	77	30
140	77	104	81	35	0	64	
145	67	83	66	27	0	52	17
150	53	65	53	19	0	41	
155	43	47	39	13	0	30	7
160	31	34	25	7	0	20	
165	20	22	13	1	0	11	2
170	9	11	1	0	0	4	
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	

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BEAM SIDE  
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	67.5	45	22.5	ACROSS
0	2846( 830)	2846( 830)	2846( 830)	2846( 830)	2846( 830)
30	2979( 869)	3971( 1159)	5010( 1462)	5713( 1667)	5932( 1731)
40	3031( 884)	4589( 1339)	6134( 1790)	7043( 2055)	7186( 2097)
45	3067( 895)	4984( 1454)	6818( 1990)	7498( 2188)	7674( 2239)
50	3103( 905)	5494( 1603)	7346( 2144)	8002( 2335)	8173( 2385)
55	3137( 915)	6090( 1777)	7892( 2303)	8617( 2515)	8856( 2584)
60	3180( 928)	6857( 2001)	8499( 2480)	9392( 2741)	9663( 2820)
65	3234( 944)	7652( 2233)	9395( 2742)	10522( 3071)	10912( 3184)
70	3283( 958)	8521( 2487)	10681( 3117)	12220( 3566)	12716( 3711)
75	3368( 983)	9775( 2853)	12853( 3751)	15166( 4426)	15932( 4650)
80	3695( 1078)	12252( 3576)	17486( 5103)	21136( 6168)	22279( 6502)
85	4401( 1284)	19899( 5807)	31650( 9237)	39482( 11523)	41876( 12222)

LUMINOUS LENGTH: 4.630 INS  
WIDTH: 48.000 INS

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OPPOSITE SIDE TO BEAM  
INTENSITY(CANDLEPOWER) DATA

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS	AVERAGE	
0	408	408	408	408	408	408	
5	414	369	336	314	307	345	16
10	411	330	272	235	224	288	
15	405	291	213	167	153	238	33
20	396	253	161	109	94	192	
25	385	216	116	62	46	152	35
30	370	180	76	24	9	118	
35	353	146	43	4	0	92	29
40	333	116	18	4	0	76	
45	311	88	15	4	0	65	25
50	286	63	14	4	0	56	
55	258	43	14	4	0	47	21
60	228	33	13	3	0	41	
65	196	30	11	2	0	35	17
70	161	25	9	2	0	29	
75	125	19	6	1	0	22	12
80	92	13	5	1	0	16	
85	55	8	4	1	0	10	5
90	22	7	3	1	0	5	
95	83	9	4	1	0	14	7
100	108	10	5	1	0	17	
105	117	12	5	1	0	19	10
110	120	13	5	1	0	20	
115	119	15	5	1	0	20	10
120	114	19	6	1	0	21	
125	106	21	7	1	0	20	9
130	96	22	7	1	0	20	
135	87	23	9	1	0	19	7
140	77	25	10	1	0	19	
145	67	26	10	1	0	17	5
150	53	25	8	0	0	15	
155	43	23	7	0	0	13	3
160	31	20	6	0	0	10	
165	20	11	3	0	0	6	1
170	9	3	0	0	0	2	
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	

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OPPOSITE SIDE TO BEAM  
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	112.5	135	157.5	ACROSS
0	2846( 830)	2846( 830)	2846( 830)	2846( 830)	2846( 830)
30	2979( 869)	1454( 424)	616( 179)	193( 56)	72( 21)
40	3031( 884)	1057( 308)	164( 47)	32( 9)	0( 0)
45	3067( 895)	864( 252)	143( 41)	36( 10)	0( 0)
50	3103( 905)	687( 200)	156( 45)	40( 11)	0( 0)
55	3137( 915)	522( 152)	168( 49)	42( 12)	0( 0)
60	3180( 928)	463( 135)	177( 51)	40( 11)	0( 0)
65	3234( 944)	487( 142)	175( 51)	39( 11)	0( 0)
70	3283( 958)	513( 149)	173( 50)	36( 10)	0( 0)
75	3368( 983)	516( 150)	172( 50)	37( 11)	0( 0)
80	3695( 1078)	512( 149)	189( 55)	40( 11)	0( 0)
85	4401( 1284)	626( 182)	296( 86)	56( 16)	0( 0)

LUMINOUS LENGTH: 4.630 INS  
WIDTH: 48.000 INS

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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																									
0	1.181	1.181	1.181	1.18	1.121	1.121	1.121	1.12	1.071	1.071	1.071	1.07	0.960	0.960	0.96	0.860	0.860	0.86	0.760	0.760	0.76	0.72			
1	1.050	0.990	0.930	0.88	0.990	0.940	0.880	0.84	0.940	0.890	0.840	0.79	0.790	0.750	0.72	0.700	0.670	0.65	0.620	0.600	0.58	0.54			
2	0.940	0.840	0.760	0.69	0.890	0.800	0.720	0.66	0.840	0.760	0.690	0.63	0.670	0.620	0.57	0.600	0.560	0.52	0.530	0.500	0.46	0.43			
3	0.850	0.730	0.630	0.55	0.810	0.690	0.600	0.53	0.760	0.650	0.570	0.51	0.580	0.520	0.46	0.520	0.470	0.42	0.460	0.420	0.38	0.34			
4	0.780	0.640	0.540	0.46	0.740	0.610	0.520	0.44	0.690	0.580	0.490	0.43	0.520	0.450	0.39	0.460	0.400	0.36	0.410	0.360	0.32	0.29			
5	0.710	0.560	0.460	0.39	0.670	0.530	0.440	0.37	0.630	0.510	0.420	0.36	0.450	0.380	0.33	0.410	0.350	0.30	0.360	0.310	0.27	0.24			
6	0.650	0.500	0.400	0.33	0.610	0.470	0.380	0.32	0.580	0.450	0.360	0.30	0.400	0.330	0.28	0.360	0.300	0.25	0.320	0.270	0.23	0.20			
7	0.600	0.440	0.350	0.28	0.560	0.420	0.330	0.27	0.530	0.400	0.320	0.26	0.360	0.290	0.24	0.320	0.260	0.22	0.290	0.230	0.20	0.17			
8	0.550	0.400	0.310	0.24	0.520	0.380	0.290	0.23	0.490	0.360	0.280	0.22	0.320	0.260	0.21	0.290	0.230	0.19	0.260	0.210	0.17	0.15			
9	0.510	0.360	0.270	0.21	0.480	0.350	0.260	0.20	0.450	0.330	0.250	0.20	0.290	0.230	0.18	0.260	0.210	0.16	0.240	0.190	0.15	0.13			
10	0.470	0.330	0.240	0.18	0.450	0.310	0.230	0.18	0.420	0.300	0.220	0.17	0.270	0.200	0.16	0.240	0.180	0.14	0.220	0.170	0.13	0.11			

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS  
BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.  
LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD  
THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

LUMINAIRE INPUT WATTS 40.1

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.  
BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST  
LUMINOUS OPENING OF LUMINAIRE.

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ONE EPTRONICS LD50W-36-C1400-RD DRIVER OPERATING AT 120 VAC AND 40.1 WATTS

**ELECTRICAL MEASUREMENTS**

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.339	AMPS
INPUT POWER:	40.1	WATTS
POWER FACTOR:	98.6	PERCENT
TOTAL HARMONIC DISTORTION:	8.92	PERCENT
OFF STATE POWER:	0.00	WATTS
INPUT VOLTAGE:	277.0	VOLTS AC
INPUT CURRENT:	0.160	AMPS
INPUT POWER:	39.4	WATTS
POWER FACTOR:	88.8	PERCENT
TOTAL HARMONIC DISTORTION:	20.02	PERCENT

**LIGHT OUTPUT**

LUMENS:	2497	lm
EFFICACY:	62.3	lm/W

**SPECTRAL MEASUREMENTS**

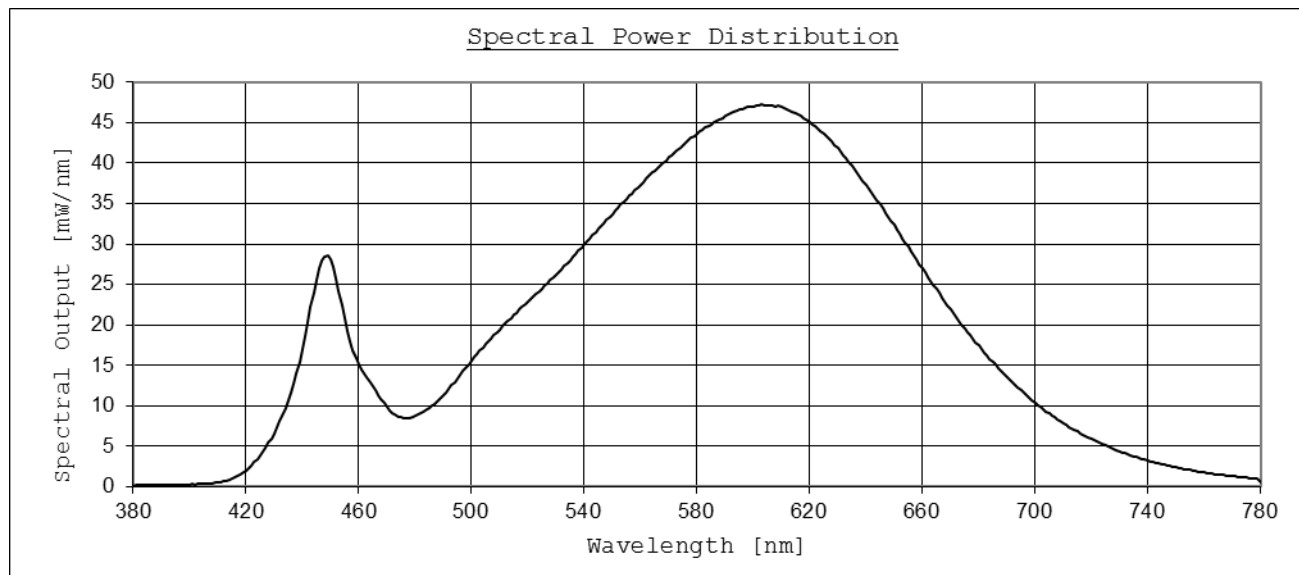
X:	0.4302	
y:	0.4026	
u/u':	0.2469	
v:	0.3465	
v':	0.5198	
Duv:	0.0001	
CRI (R <sub>a</sub> ):	82.0	
CRI (R <sub>9</sub> ):	16.4	
CCT:	3102	K
RADIANT FLUX:	7835	mW



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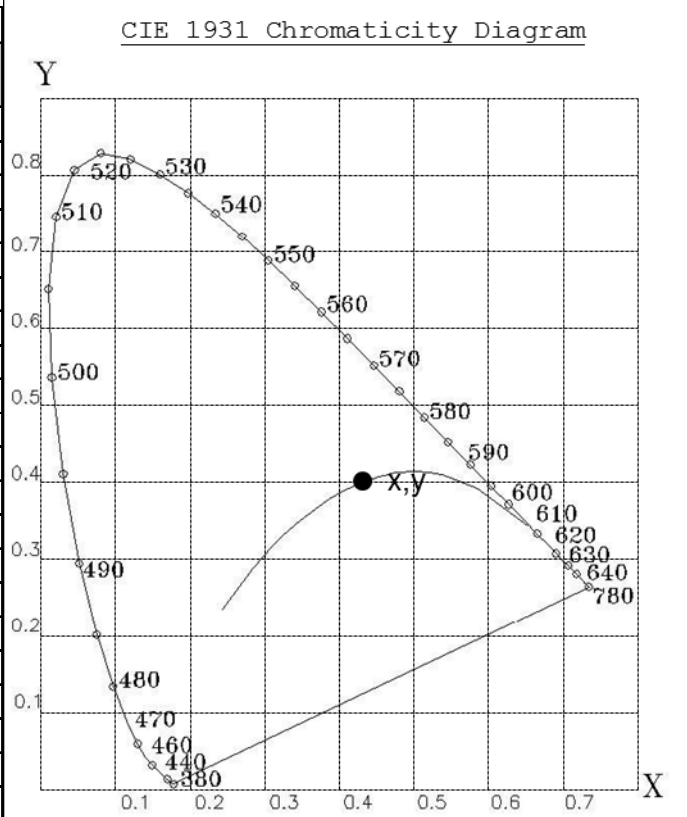
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Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.14772	590	45.87904
390	0.27719	600	47.02277
400	0.29672	610	46.94686
410	0.53791	620	45.11267
420	2.03250	630	41.83586
430	6.63491	640	37.36999
440	16.97853	650	32.31708
450	28.13371	660	27.03617
460	15.14434	670	21.94051
470	9.86562	680	17.45487
480	8.77257	690	13.60239
490	11.30765	700	10.37589
500	15.58843	710	7.84602
510	19.46797	720	5.89353
520	22.84986	730	4.39469
530	26.13133	740	3.24986
540	29.99069	750	2.39393
550	33.70884	760	1.78023
560	37.32813	770	1.31124
570	40.71135	780	0.48364
580	43.65690		



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LUMINOUS OPENING



SIDE VIEW



**All testing was conducted in accordance with LM-79-08,**

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products as published by the Illuminating Engineering Society of North America (IESNA).

The condition of the item tested was new. Stabilization time before testing meets the stabilization requirements of LM-79-08.

The test results (luminous distribution and flux) were obtained by using a Lighting Sciences series 6000 Type C Moving Mirror Goniophotometer

- The photometric reference standard used is a set of three incandescent luminous intensity standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.

The test results (colorimetric and luminous flux) were obtained by using a Labsphere Model LMS-760 Integrating Sphere.  $4\pi$  geometry was used. Correction factors were applied for self-absorption.

- The colorimetric & photometric reference standard used is an incandescent spectral flux standard lamp calibrated and traceable to the U.S. National Institute of Standards and Technology.

Power measurements were obtained with a Yokogawa WT210 power analyzer.

Ambient temperature during testing was  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured using an Omega model DP460.

Calibration certificates are on file at the laboratories of Lighting Sciences Inc.

The results in this report apply to the test sample(s) mentioned in this report at the time of the testing period only and are not to be used to indicate applicability to other similar products.