



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : WAVE2-LED4-MO-04-WA-D9.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] L101404401  
 [TESTLAB] LIGHT LABORATORY, INC.  
 [ISSUEDATE] 10/21/2014  
 [MANUFAC] PRUDENTIAL LTG.  
 [LUMCAT] Wave2-LED4-SO-04-WA-D9-SC-UN  
 [LUMINAIRE] 48"L. X 10"W. X 2-1/2"H. LED LUMINAIRE  
 [MORE] DIFFUSED LENS  
 [BALLASTCAT] OSRAM OPTOTRONIC  
 [BALLAST] INPUT: 120-277VAC  
 [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  
 [ TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1984
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	102
Total Luminaire Watts	19.5
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.54 ft
Luminous Height	0.21 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2618	2046	1891
55	2419	1741	1572
65	2176	1395	1228
75	1707	904	767
85	969	312	234

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**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>
0	631.557	631.557	631.557	631.557	631.557	631.557	631.557	631.557	631.557	631.557
5	626.482	626.519	626.507	626.409	626.641	627.226	627.763	628.056	628.227	628.215
10	615.600	615.612	615.563	615.392	615.490	615.954	616.381	616.588	616.649	616.527
15	598.068	598.032	597.861	597.678	597.690	597.934	598.190	598.227	598.093	597.824
20	574.510	574.437	574.217	573.949	573.851	573.937	573.937	573.876	573.681	573.290
25	545.730	545.608	545.303	544.974	544.779	544.754	544.754	544.608	543.961	542.961
30	512.144	512.095	511.741	511.363	511.156	511.229	510.851	510.094	509.033	507.715
35	475.044	474.946	474.470	473.994	473.860	473.494	472.713	471.713	470.334	468.700
40	434.527	434.381	433.844	433.368	433.137	432.392	431.514	430.209	428.379	426.280
45	391.339	391.132	390.510	390.278	389.583	388.814	387.679	385.886	383.495	381.335
50	345.980	345.724	345.284	344.833	344.077	343.064	341.332	339.062	337.196	335.561
55	299.534	299.351	299.205	298.522	297.643	296.167	294.252	292.776	291.458	290.031
60	255.492	255.444	255.273	254.541	253.370	251.320	250.539	249.527	248.148	246.623
65	205.497	205.411	205.131	204.374	202.984	202.422	201.556	200.239	198.909	197.689
70	155.001	155.074	154.672	153.647	153.317	152.634	151.646	150.682	149.694	148.742
75	106.128	106.116	105.506	105.310	104.774	104.237	103.663	103.066	102.382	101.711
80	61.769	61.647	61.561	61.415	61.244	60.988	60.707	60.414	60.122	59.780
85	27.133	27.194	27.157	27.121	27.011	26.816	26.474	25.986	25.510	24.925
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	10.419	10.492	11.907	12.639	12.542	12.127	11.663	11.407	11.126	10.870
100	17.422	16.690	17.019	19.215	21.643	23.058	23.424	23.156	22.497	21.728
105	25.779	25.083	23.680	24.900	26.779	30.061	31.818	33.623	34.489	34.831
110	33.196	32.672	31.183	31.012	32.415	34.331	36.551	38.979	41.248	43.200
115	41.687	41.260	39.711	38.723	39.113	40.358	42.066	43.859	45.835	47.946
120	49.727	49.422	48.129	46.897	46.421	47.007	48.031	49.459	51.033	52.484
125	56.596	56.279	55.400	53.973	53.229	53.180	53.802	54.717	55.852	57.120
130	63.940	63.696	62.781	61.683	60.780	60.292	60.378	60.963	61.634	62.342
135	70.589	70.528	69.662	68.906	67.917	67.503	67.063	67.039	67.454	67.893
140	76.604	76.750	75.994	75.298	74.688	74.078	73.749	73.273	73.237	73.407
145	82.265	82.435	81.984	81.252	80.703	80.178	79.849	79.434	79.093	78.788
150	87.254	87.437	87.267	86.571	86.095	85.766	85.461	85.071	84.692	84.400
155	91.573	91.756	91.817	91.317	90.817	90.512	90.256	90.134	89.597	89.475
160	95.319	95.453	95.636	95.404	94.916	94.526	94.318	93.989	93.867	93.842
165	98.222	98.332	98.552	98.539	98.381	98.051	97.759	97.478	97.295	97.161
170	100.333	100.418	100.528	100.638	100.723	100.772	100.687	100.504	100.235	100.052
175	101.626	101.711	101.772	101.797	101.919	102.090	102.248	102.334	102.334	102.395
180	102.480	102.480	102.480	102.480	102.480	102.480	102.480	102.480	102.480	102.480

**Vert.  
Angles**

**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>
0	631.557	631.557	631.557	631.557	631.557	631.557	631.557	631.557	631.557
5	628.129	627.995	627.824	627.422	627.092	626.873	626.848	626.812	626.690
10	616.283	616.027	615.685	615.185	614.795	614.526	614.404	614.380	614.246
15	597.434	597.031	596.568	596.019	595.616	595.275	595.055	595.092	594.896
20	572.692	571.863	571.045	570.167	569.472	568.947	568.544	568.471	568.288
25	541.936	540.838	539.777	538.703	537.935	537.227	536.715	536.580	536.361
30	506.446	505.092	503.726	502.445	501.542	500.615	499.846	499.651	499.444
35	467.114	465.406	463.551	462.002	460.721	459.647	458.940	458.598	458.500
40	424.133	422.169	420.461	419.277	418.204	417.277	416.740	416.276	416.386
45	379.591	377.993	376.651	375.614	374.638	373.686	373.198	372.808	372.942
50	334.121	332.718	331.437	330.242	329.058	328.156	327.558	327.265	327.302
55	288.567	287.115	285.748	284.467	283.272	282.454	282.015	281.686	281.759
60	245.147	243.841	242.573	241.414	240.438	239.669	239.401	238.998	239.059

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	196.493	195.322	194.261	193.297	192.467	191.894	191.564	191.198	191.150
<b>70</b>	147.815	146.864	146.010	145.265	144.692	144.253	143.826	143.509	143.399
<b>75</b>	101.016	100.333	99.784	99.345	98.893	98.430	98.161	97.868	97.722
<b>80</b>	59.426	59.060	58.658	58.328	58.023	57.718	57.425	57.194	57.108
<b>85</b>	24.339	23.753	23.265	22.936	22.668	22.497	22.387	22.326	22.302
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	10.638	10.407	10.150	9.784	9.357	9.260	9.199	9.199	9.150
<b>100</b>	20.911	20.020	19.117	18.300	17.434	16.799	16.446	16.141	15.982
<b>105</b>	34.916	34.770	34.404	34.014	33.623	33.221	32.928	32.684	32.635
<b>110</b>	44.811	45.860	46.311	46.519	46.628	46.750	46.860	46.811	46.787
<b>115</b>	49.886	51.643	52.960	54.022	54.790	55.498	55.949	56.218	56.230
<b>120</b>	53.961	55.559	56.962	57.987	58.926	59.719	60.134	60.536	60.597
<b>125</b>	58.304	59.341	60.256	61.085	61.842	62.513	62.879	63.269	63.269
<b>130</b>	63.147	63.965	64.709	65.453	65.990	66.380	66.612	66.758	66.722
<b>135</b>	68.393	68.930	69.430	69.943	70.345	70.601	70.809	70.858	70.833
<b>140</b>	73.664	74.066	74.444	74.810	75.115	75.176	75.176	75.128	75.115
<b>145</b>	78.873	79.068	79.288	79.495	79.642	79.642	79.581	79.422	79.434
<b>150</b>	84.180	84.131	84.095	84.070	84.070	83.973	83.777	83.509	83.485
<b>155</b>	89.365	89.158	88.938	88.755	88.645	88.377	88.060	87.767	87.803
<b>160</b>	93.720	93.306	93.171	93.062	92.903	92.720	92.586	92.293	92.415
<b>165</b>	96.978	96.844	96.734	96.697	96.661	96.539	96.417	96.282	96.356
<b>170</b>	99.894	99.723	99.528	99.454	99.406	99.320	99.198	99.186	99.198
<b>175</b>	102.370	102.297	102.199	102.151	102.102	102.065	102.004	102.029	101.968
<b>180</b>	102.480	102.480	102.480	102.480	102.480	102.480	102.480	102.480	102.480

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	227.79	N.A.	11.50
0-30	477.31	N.A.	24.10
0-40	769.83	N.A.	38.80
0-60	1324.92	N.A.	66.80
0-80	1629.65	N.A.	82.10
0-90	1659.4	N.A.	83.60
10-90	1599.89	N.A.	80.60
20-40	542.04	N.A.	27.30
20-50	836.72	N.A.	42.20
40-70	751.08	N.A.	37.90
60-80	304.73	N.A.	15.40
70-80	108.74	N.A.	5.50
80-90	29.75	N.A.	1.50
90-110	43.57	N.A.	2.20
90-120	90.48	N.A.	4.60
90-130	142.58	N.A.	7.20
90-150	246.09	N.A.	12.40
90-180	324.58	N.A.	16.40
110-180	281.02	N.A.	14.20
0-180	1983.99	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	59.51
10-20	168.28
20-30	249.52
30-40	292.52
40-50	294.68
50-60	260.41
60-70	195.99
70-80	108.74
80-90	29.75
90-100	11.12
100-110	32.44
110-120	46.91
120-130	52.10
130-140	53.42
140-150	50.09
150-160	41.36
160-170	27.46
170-180	9.68

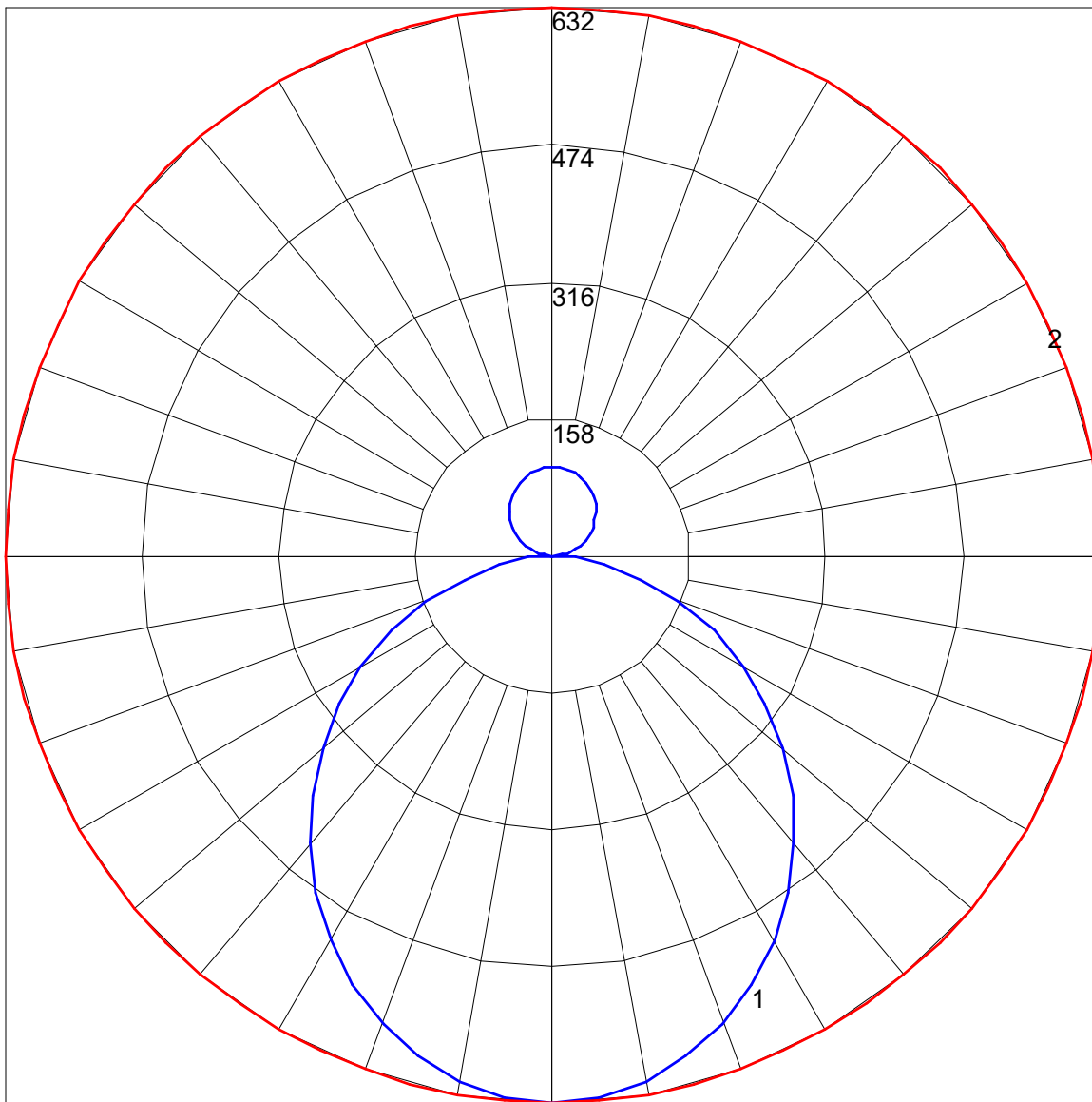
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	115	115	115	115	111	111	111	111	102	102	102	94	94	94	87	87	87	84
1	105	101	97	93	101	97	93	90	90	87	84	83	81	79	77	75	73	70
2	96	88	81	76	92	85	79	74	78	74	70	73	69	66	68	64	62	59
3	87	77	69	63	84	74	67	62	69	63	58	64	59	55	60	56	52	50
4	80	69	60	54	77	66	58	52	62	55	50	57	52	48	53	49	45	43
5	74	61	53	46	70	59	51	45	55	48	43	52	46	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	38	47	41	36	44	39	35	32
7	63	50	41	36	60	48	40	35	45	39	34	43	37	32	40	35	31	29
8	59	46	37	32	56	44	36	31	42	35	30	39	33	29	37	32	28	26
9	55	42	34	28	53	41	33	28	38	32	27	36	30	26	34	29	25	23
10	51	39	31	26	49	37	30	25	35	29	24	33	28	24	31	26	23	21

POLAR GRAPH



Maximum Candela = 631.557 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.)