



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : P4030-LED35-HO-FWA-D9.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] P4030-LED35-HO-FWA -D9  
 [TESTLAB] Intertek  
 [ISSUE DATE] November 27, 2017  
 [MANUFAC] Prudential Ltg

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	16691
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	194
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.96 ft (Diameter)
Luminous Width (90-270)	2.96 ft (Diameter)
Luminous Height	0.50 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6419	6407	6403
55	5713	5709	5700
65	4781	4778	4780
75	3466	3485	3465
85	1484	1492	1453

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**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986
2.5	5347.159	5349.484	5351.220	5351.654	5352.584	5351.654	5351.220	5349.484	5347.159	5349.484
5.0	5328.187	5331.101	5332.372	5332.961	5329.272	5332.961	5332.372	5331.101	5328.187	5331.101
7.5	5296.722	5298.396	5299.729	5300.628	5297.652	5300.628	5299.729	5298.396	5296.722	5298.396
10.0	5252.175	5254.004	5256.546	5255.895	5255.523	5255.895	5256.546	5254.004	5252.175	5254.004
12.5	5199.072	5199.568	5198.452	5197.181	5198.359	5197.181	5198.452	5199.568	5199.072	5199.568
15.0	5128.330	5131.926	5131.988	5131.678	5129.353	5131.678	5131.988	5131.926	5128.330	5131.926
17.5	5052.473	5051.822	5052.628	5051.605	5053.403	5051.605	5052.628	5051.822	5052.473	5051.822
20.0	4959.814	4962.170	4962.697	4960.775	4962.201	4960.775	4962.697	4962.170	4959.814	4962.170
22.5	4858.599	4860.056	4858.723	4857.235	4854.972	4857.235	4858.723	4860.056	4858.599	4860.056
25.0	4746.720	4748.301	4745.821	4744.271	4742.876	4744.271	4745.821	4748.301	4746.720	4748.301
27.5	4624.890	4624.115	4625.014	4621.945	4619.806	4621.945	4625.014	4624.115	4624.890	4624.115
30.0	4492.923	4492.303	4492.489	4491.621	4486.227	4491.621	4492.489	4492.303	4492.923	4492.303
32.5	4352.741	4351.966	4350.819	4348.618	4346.975	4348.618	4350.819	4351.966	4352.741	4351.966
35.0	4208.622	4201.585	4200.996	4197.338	4195.354	4197.338	4200.996	4201.585	4208.622	4201.585
37.5	4047.701	4044.322	4040.664	4040.292	4037.657	4040.292	4040.664	4044.322	4047.701	4044.322
40.0	3876.116	3876.953	3874.473	3871.838	3871.404	3871.838	3874.473	3876.953	3876.116	3876.953
42.5	3704.965	3703.725	3700.594	3697.742	3696.347	3697.742	3700.594	3703.725	3704.965	3703.725
45.0	3525.723	3522.406	3518.748	3516.888	3516.609	3516.888	3518.748	3522.406	3525.723	3522.406
47.5	3338.576	3332.345	3329.028	3327.292	3326.114	3327.292	3329.028	3332.345	3338.576	3332.345
50.0	3143.803	3137.727	3135.650	3135.154	3134.565	3135.154	3135.650	3137.727	3143.803	3137.727
52.5	2941.714	2939.141	2938.211	2935.173	2935.452	2935.173	2938.211	2939.141	2941.714	2939.141
55.0	2738.416	2737.176	2736.122	2731.379	2731.844	2731.379	2736.122	2737.176	2738.416	2737.176
57.5	2529.197	2526.097	2526.779	2524.330	2522.718	2524.330	2526.779	2526.097	2529.197	2526.097
60.0	2318.397	2313.313	2313.964	2312.042	2308.942	2312.042	2313.964	2313.313	2318.397	2313.313
62.5	2104.218	2100.870	2100.436	2098.266	2097.305	2098.266	2100.436	2100.870	2104.218	2100.870
65.0	1887.466	1885.544	1886.257	1884.025	1887.125	1884.025	1886.257	1885.544	1887.466	1885.544
67.5	1673.132	1670.807	1673.535	1671.179	1669.505	1671.179	1673.535	1670.807	1673.132	1670.807
70.0	1455.574	1456.907	1459.418	1456.814	1453.900	1456.814	1459.418	1456.907	1455.574	1456.907
72.5	1244.092	1243.751	1247.409	1244.123	1245.270	1244.123	1247.409	1243.751	1244.092	1243.751
75.0	1033.850	1036.361	1039.554	1037.105	1033.695	1037.105	1039.554	1036.361	1033.850	1036.361
77.5	833.869	834.210	838.085	837.341	834.768	837.341	838.085	834.210	833.869	834.210
80.0	638.445	639.003	642.785	641.886	641.700	641.886	642.785	639.003	638.445	639.003
82.5	457.095	455.297	458.707	458.986	457.064	458.986	458.707	455.297	457.095	455.297
85.0	286.037	284.642	287.525	283.526	280.054	283.526	287.525	284.642	286.037	284.642
87.5	120.435	124.899	132.277	127.906	122.078	127.906	132.277	124.899	120.435	124.899
90.0	11.687	29.946	60.078	81.902	88.226	81.902	60.078	29.946	11.687	29.946
92.5	18.290	38.192	68.975	91.450	100.130	91.450	68.975	38.192	18.290	38.192
95.0	29.977	47.957	80.724	103.602	114.855	103.602	80.724	47.957	29.977	47.957
97.5	47.182	58.838	90.458	112.344	125.271	112.344	90.458	58.838	47.182	58.838
100.0	61.442	69.967	103.571	128.216	135.470	128.216	103.571	69.967	61.442	69.967
102.5	75.733	85.095	111.786	138.198	143.654	138.198	111.786	85.095	75.733	85.095
105.0	88.288	97.030	123.504	148.738	157.666	148.738	123.504	97.030	88.288	97.030
107.5	103.292	112.251	136.989	161.479	171.709	161.479	136.989	112.251	103.292	112.251
110.0	121.210	128.805	150.164	177.165	184.109	177.165	150.164	128.805	121.210	128.805
112.5	139.469	144.057	167.741	191.270	198.183	191.270	167.741	144.057	139.469	144.057
115.0	151.900	161.262	183.241	206.026	212.474	206.026	183.241	161.262	151.900	161.262
117.5	172.484	176.638	198.338	221.123	228.439	221.123	198.338	176.638	172.484	176.638
120.0	188.666	195.021	214.117	238.142	244.063	238.142	214.117	195.021	188.666	195.021
122.5	205.034	212.009	233.399	250.976	260.152	250.976	233.399	212.009	205.034	212.009
125.0	224.564	229.865	248.899	269.049	276.613	269.049	248.899	229.865	224.564	229.865
127.5	241.769	246.822	264.833	282.596	291.028	282.596	264.833	246.822	241.769	246.822
130.0	260.245	262.787	283.743	299.925	306.993	299.925	283.743	262.787	260.245	262.787
132.5	278.163	280.891	299.894	315.053	322.369	315.053	299.894	280.891	278.163	280.891

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**CANDELA TABULATION - (Cont.)**

135.0	295.585	295.461	314.929	329.933	336.257	329.933	314.929	295.461	295.585	295.461
137.5	311.612	313.844	330.460	344.782	351.974	344.782	330.460	313.844	311.612	313.844
140.0	330.119	331.514	347.262	358.422	365.211	358.422	347.262	331.514	330.119	331.514
142.5	350.703	350.889	361.181	373.767	378.107	373.767	361.181	350.889	350.703	350.889
145.0	367.288	365.986	375.038	387.748	392.491	387.748	375.038	365.986	367.288	365.986
147.5	381.145	380.246	387.624	398.877	404.209	398.877	387.624	380.246	381.145	380.246
150.0	393.948	393.235	400.210	411.215	412.641	411.215	400.210	393.235	393.948	393.235
152.5	409.014	405.976	412.021	422.034	424.483	422.034	412.021	405.976	409.014	405.976
155.0	419.492	418.593	424.111	432.791	434.310	432.791	424.111	418.593	419.492	418.593
157.5	431.706	429.443	433.504	441.285	446.183	441.285	433.504	429.443	431.706	429.443
160.0	442.370	441.223	442.587	449.376	452.972	449.376	442.587	441.223	442.370	441.223
162.5	451.391	449.810	452.228	456.382	458.025	456.382	452.228	449.810	451.391	449.810
165.0	463.202	458.645	458.273	465.248	462.954	465.248	458.273	458.645	463.202	458.645
167.5	469.805	465.062	466.085	468.720	468.224	468.720	466.085	465.062	469.805	465.062
170.0	477.183	470.673	470.518	474.021	476.160	474.021	470.518	470.673	477.183	470.673
172.5	481.058	476.439	474.610	478.950	478.020	478.950	474.610	476.439	481.058	476.439
175.0	485.491	478.981	478.547	482.143	479.043	482.143	478.547	478.981	485.491	478.981
177.5	486.111	481.275	480.190	481.151	480.190	481.151	480.190	481.275	486.111	481.275
180.0	482.887	482.887	482.887	482.887	482.887	482.887	482.887	482.887	482.887	482.887

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

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986	5356.986
2.5	5351.220	5351.654	5352.584	5351.654	5351.220	5349.484	5347.159
5.0	5332.372	5332.961	5329.272	5332.961	5332.372	5331.101	5328.187
7.5	5299.729	5300.628	5297.652	5300.628	5299.729	5298.396	5296.722
10.0	5256.546	5255.895	5255.523	5255.895	5256.546	5254.004	5252.175
12.5	5198.452	5197.181	5198.359	5197.181	5198.452	5199.568	5199.072
15.0	5131.988	5131.678	5129.353	5131.678	5131.988	5131.926	5128.330
17.5	5052.628	5051.605	5053.403	5051.605	5052.628	5051.822	5052.473
20.0	4962.697	4960.775	4962.201	4960.775	4962.697	4962.170	4959.814
22.5	4858.723	4857.235	4854.972	4857.235	4858.723	4860.056	4858.599
25.0	4745.821	4744.271	4742.876	4744.271	4745.821	4748.301	4746.720
27.5	4625.014	4621.945	4619.806	4621.945	4625.014	4624.115	4624.890
30.0	4492.489	4491.621	4486.227	4491.621	4492.489	4492.303	4492.923
32.5	4350.819	4348.618	4346.975	4348.618	4350.819	4351.966	4352.741
35.0	4200.996	4197.338	4195.354	4197.338	4200.996	4201.585	4208.622
37.5	4040.664	4040.292	4037.657	4040.292	4040.664	4044.322	4047.701
40.0	3874.473	3871.838	3871.404	3871.838	3874.473	3876.953	3876.116
42.5	3700.594	3697.742	3696.347	3697.742	3700.594	3703.725	3704.965
45.0	3518.748	3516.888	3516.609	3516.888	3518.748	3522.406	3525.723
47.5	3329.028	3327.292	3326.114	3327.292	3329.028	3332.345	3338.576
50.0	3135.650	3135.154	3134.565	3135.154	3135.650	3137.727	3143.803
52.5	2938.211	2935.173	2935.452	2935.173	2938.211	2939.141	2941.714
55.0	2736.122	2731.379	2731.844	2731.379	2736.122	2737.176	2738.416
57.5	2526.779	2524.330	2522.718	2524.330	2526.779	2526.097	2529.197
60.0	2313.964	2312.042	2308.942	2312.042	2313.964	2313.313	2318.397
62.5	2100.436	2098.266	2097.305	2098.266	2100.436	2100.870	2104.218
65.0	1886.257	1884.025	1887.125	1884.025	1886.257	1885.544	1887.466
67.5	1673.535	1671.179	1669.505	1671.179	1673.535	1670.807	1673.132
70.0	1459.418	1456.814	1453.900	1456.814	1459.418	1456.907	1455.574
72.5	1247.409	1244.123	1245.270	1244.123	1247.409	1243.751	1244.092
75.0	1039.554	1037.105	1033.695	1037.105	1039.554	1036.361	1033.850
77.5	838.085	837.341	834.768	837.341	838.085	834.210	833.869
80.0	642.785	641.886	641.700	641.886	642.785	639.003	638.445

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**CANDELA TABULATION - (Cont.)**

82.5	458.707	458.986	457.064	458.986	458.707	455.297	457.095
85.0	287.525	283.526	280.054	283.526	287.525	284.642	286.037
87.5	132.277	127.906	122.078	127.906	132.277	124.899	120.435
90.0	60.078	81.902	88.226	81.902	60.078	29.946	11.687
92.5	68.975	91.450	100.130	91.450	68.975	38.192	18.290
95.0	80.724	103.602	114.855	103.602	80.724	47.957	29.977
97.5	90.458	112.344	125.271	112.344	90.458	58.838	47.182
100.0	103.571	128.216	135.470	128.216	103.571	69.967	61.442
102.5	111.786	138.198	143.654	138.198	111.786	85.095	75.733
105.0	123.504	148.738	157.666	148.738	123.504	97.030	88.288
107.5	136.989	161.479	171.709	161.479	136.989	112.251	103.292
110.0	150.164	177.165	184.109	177.165	150.164	128.805	121.210
112.5	167.741	191.270	198.183	191.270	167.741	144.057	139.469
115.0	183.241	206.026	212.474	206.026	183.241	161.262	151.900
117.5	198.338	221.123	228.439	221.123	198.338	176.638	172.484
120.0	214.117	238.142	244.063	238.142	214.117	195.021	188.666
122.5	233.399	250.976	260.152	250.976	233.399	212.009	205.034
125.0	248.899	269.049	276.613	269.049	248.899	229.865	224.564
127.5	264.833	282.596	291.028	282.596	264.833	246.822	241.769
130.0	283.743	299.925	306.993	299.925	283.743	262.787	260.245
132.5	299.894	315.053	322.369	315.053	299.894	280.891	278.163
135.0	314.929	329.933	336.257	329.933	314.929	295.461	295.585
137.5	330.460	344.782	351.974	344.782	330.460	313.844	311.612
140.0	347.262	358.422	365.211	358.422	347.262	331.514	330.119
142.5	361.181	373.767	378.107	373.767	361.181	350.889	350.703
145.0	375.038	387.748	392.491	387.748	375.038	365.986	367.288
147.5	387.624	398.877	404.209	398.877	387.624	380.246	381.145
150.0	400.210	411.215	412.641	411.215	400.210	393.235	393.948
152.5	412.021	422.034	424.483	422.034	412.021	405.976	409.014
155.0	424.111	432.791	434.310	432.791	424.111	418.593	419.492
157.5	433.504	441.285	446.183	441.285	433.504	429.443	431.706
160.0	442.587	449.376	452.972	449.376	442.587	441.223	442.370
162.5	452.228	456.382	458.025	456.382	452.228	449.810	451.391
165.0	458.273	465.248	462.954	465.248	458.273	458.645	463.202
167.5	466.085	468.720	468.224	468.720	466.085	465.062	469.805
170.0	470.518	474.021	476.160	474.021	470.518	470.673	477.183
172.5	474.610	478.950	478.020	478.950	474.610	476.439	481.058
175.0	478.547	482.143	479.043	482.143	478.547	478.981	485.491
177.5	480.190	481.151	480.190	481.151	480.190	481.275	486.111
180.0	482.887	482.887	482.887	482.887	482.887	482.887	482.887

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1954.31	N.A.	11.70
0-30	4141.22	N.A.	24.80
0-40	6768.29	N.A.	40.60
0-60	11924.95	N.A.	71.40
0-80	14890.11	N.A.	89.20
0-90	15221.24	N.A.	91.20
10-90	14714.78	N.A.	88.20
20-40	4813.98	N.A.	28.80
20-50	7527.64	N.A.	45.10
40-70	7023.00	N.A.	42.10
60-80	2965.16	N.A.	17.80
70-80	1098.82	N.A.	6.60
80-90	331.13	N.A.	2.00
90-110	214.59	N.A.	1.30
90-120	396.42	N.A.	2.40
90-130	619.30	N.A.	3.70
90-150	1097.61	N.A.	6.60
90-180	1469.32	N.A.	8.80
110-180	1254.73	N.A.	7.50
0-180	16690.56	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	506.46
10-20	1447.84
20-30	2186.91
30-40	2627.06
40-50	2713.66
50-60	2443.00
60-70	1866.34
70-80	1098.82
80-90	331.13
90-100	83.23
100-110	131.36
110-120	181.83
120-130	222.87
130-140	242.83
140-150	235.48
150-160	196.04
160-170	130.06
170-180	45.62

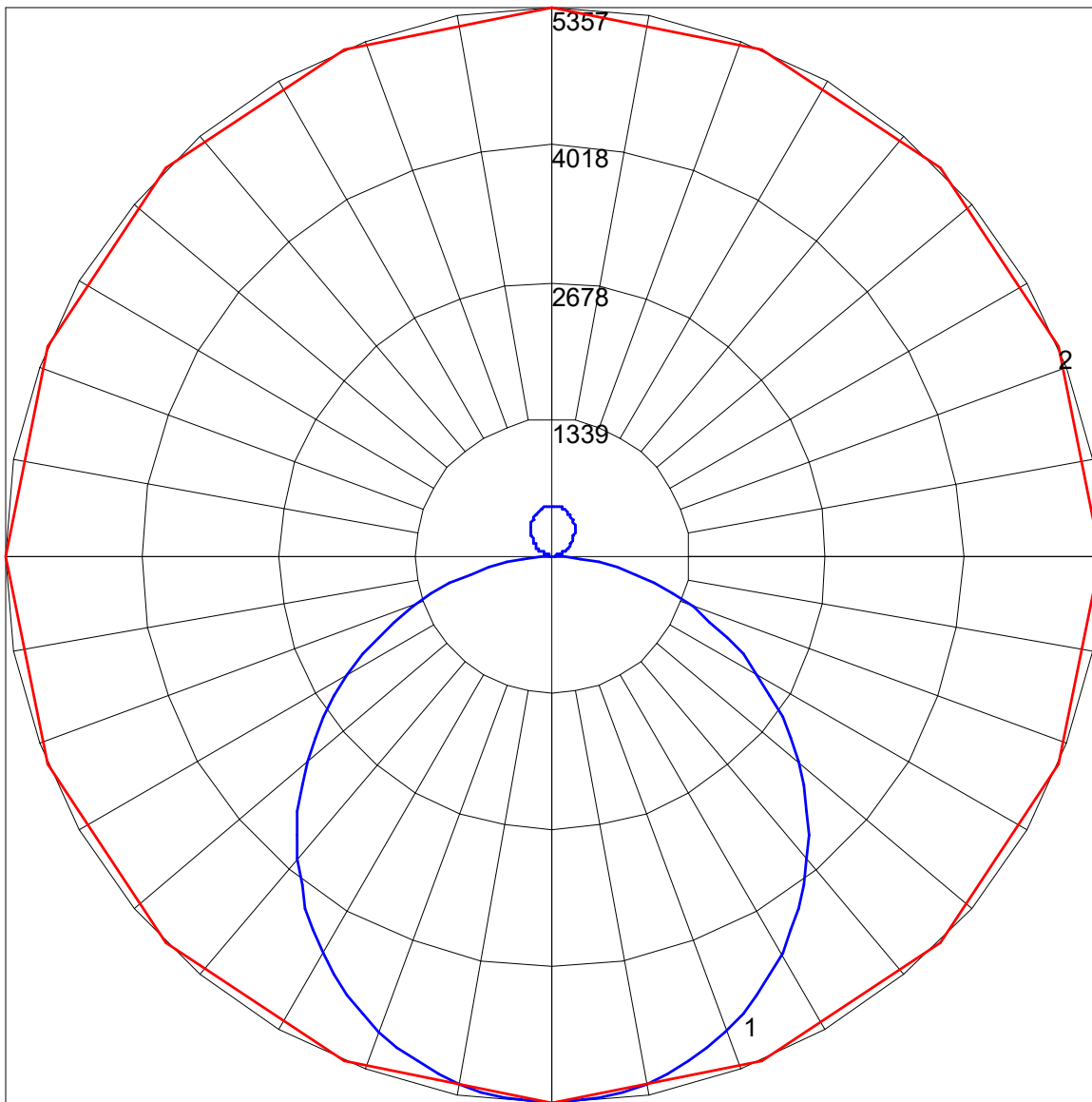
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	107	102	98	94	103	99	95	91	93	90	87	87	85	83	82	81	79	76
2	97	89	82	76	93	86	80	75	81	76	71	76	72	69	72	69	66	63
3	88	78	70	63	85	75	68	62	71	65	60	67	62	58	64	59	56	53
4	81	69	60	53	78	67	59	53	63	56	51	60	54	49	57	52	48	45
5	74	61	52	46	71	60	51	45	57	49	44	54	48	43	51	46	41	39
6	68	55	46	40	66	54	46	39	51	44	38	49	42	37	46	41	36	34
7	63	50	41	35	61	49	41	35	46	39	34	44	38	33	42	37	32	30
8	59	46	37	31	57	45	37	31	42	35	30	41	34	30	39	33	29	27
9	55	42	34	28	53	41	33	28	39	32	27	37	31	27	36	30	26	24
10	52	39	31	25	50	38	30	25	36	29	25	35	29	24	33	28	24	22

POLAR GRAPH



Maximum Candela = 5356.986 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.)