



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : O-20-TU-LO-D9.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] L041502002  
 [TESTLAB]  
 [ISSUE DATE]  
 [MANUFAC] PRUDENTIAL LTG.  
 [LUMCAT] O-20--TU-LO-D9  
 [LUMINAIRE] 24"DIA. X 5"H. LED FIXTURE  
 [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.  
 [TEST PROCEDURE] IESNA:LM-79-08

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1548
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	57
Total Luminaire Watts	27
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	3.00 ft (Diameter)
Luminous Width (90-270)	3.00 ft (Diameter)
Luminous Height	0.42 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	463	464	464
55	412	412	412
65	355	354	354
75	261	261	261
85	109	108	106

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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>
<b>0</b>	402.441	402.441	402.441	402.441	402.441	402.441	402.441	402.441	402.441	402.441
<b>5</b>	400.253	400.227	400.205	400.171	400.145	400.102	400.094	400.089	400.111	400.128
<b>10</b>	393.747	393.738	393.717	393.721	393.751	393.747	393.738	393.730	393.773	393.798
<b>15</b>	383.066	383.087	383.104	383.134	383.143	383.134	383.134	383.177	383.233	383.268
<b>20</b>	368.790	368.794	368.794	368.837	368.876	368.880	368.897	368.979	369.060	369.112
<b>25</b>	350.755	350.790	350.794	350.833	350.919	350.953	351.013	351.074	351.134	351.190
<b>30</b>	329.819	329.823	329.844	329.900	329.982	330.034	330.081	330.158	330.223	330.266
<b>35</b>	306.444	306.461	306.465	306.504	306.551	306.642	306.710	306.779	306.831	306.900
<b>40</b>	280.807	280.850	280.829	280.867	280.919	281.027	281.138	281.254	281.362	281.414
<b>45</b>	253.507	253.494	253.442	253.455	253.494	253.515	253.519	253.597	253.812	253.928
<b>50</b>	224.615	224.606	224.550	224.507	224.512	224.512	224.533	224.576	224.619	224.679
<b>55</b>	194.807	194.790	194.721	194.691	194.652	194.618	194.627	194.670	194.700	194.738
<b>60</b>	167.575	167.597	167.545	167.515	167.472	167.335	167.261	167.279	167.296	167.322
<b>65</b>	136.125	136.138	136.190	136.065	136.091	136.022	136.022	136.026	135.983	135.949
<b>70</b>	104.598	104.537	104.542	104.494	104.490	104.464	104.456	104.460	104.430	104.421
<b>75</b>	74.020	73.951	73.986	73.964	73.960	73.934	73.913	73.921	73.908	73.896
<b>80</b>	45.064	45.060	45.030	45.017	45.017	45.008	44.978	44.939	44.901	44.858
<b>85</b>	19.015	19.015	18.997	18.989	18.976	18.937	18.899	18.868	18.834	18.782
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	9.525	9.503	9.439	9.322	9.189	9.030	8.880	8.742	8.622	8.527
<b>100</b>	16.804	16.766	16.727	16.749	16.710	16.658	16.598	16.521	16.478	16.396
<b>105</b>	26.277	26.307	26.458	26.535	26.578	26.617	26.583	26.574	26.454	26.372
<b>110</b>	37.126	37.092	37.221	37.294	37.281	37.264	37.204	37.191	37.234	37.234
<b>115</b>	48.865	48.818	48.887	48.844	49.011	49.089	48.973	48.938	48.839	48.723
<b>120</b>	60.647	60.720	60.785	60.970	61.039	60.888	60.690	60.660	60.699	60.617
<b>125</b>	71.754	71.879	71.664	71.634	71.930	72.055	72.201	72.395	72.399	72.438
<b>130</b>	84.405	84.486	84.418	84.538	84.981	85.394	85.566	85.712	85.888	85.966
<b>135</b>	98.191	98.165	98.117	98.281	98.814	99.119	99.369	99.691	100.194	100.457
<b>140</b>	111.349	111.379	111.456	111.486	112.161	113.060	113.830	114.354	114.651	114.672
<b>145</b>	125.818	125.758	125.779	125.969	126.442	126.949	127.422	127.934	128.166	128.372
<b>150</b>	139.535	139.208	139.290	139.479	139.651	139.969	140.477	140.601	140.872	140.967
<b>155</b>	151.399	151.369	151.635	151.317	151.425	151.794	152.237	152.375	152.641	152.654
<b>160</b>	162.252	162.235	161.702	161.831	161.929	162.162	162.622	162.755	162.772	162.832
<b>165</b>	170.770	171.037	170.710	170.370	170.598	170.740	170.891	171.217	171.273	171.170
<b>170</b>	177.078	177.147	177.053	176.777	176.855	177.130	177.268	177.624	177.607	177.418
<b>175</b>	180.432	180.342	180.325	180.514	180.686	181.125	181.279	181.529	181.550	181.219
<b>180</b>	182.311	182.311	182.311	182.311	182.311	182.311	182.311	182.311	182.311	182.311

**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>
<b>0</b>	402.441	402.441	402.441	402.441	402.441	402.441	402.441	402.441	402.441
<b>5</b>	400.154	400.162	400.180	400.214	400.231	400.227	400.253	400.278	400.330
<b>10</b>	393.816	393.850	393.880	393.906	393.932	393.932	393.953	394.000	394.043
<b>15</b>	383.328	383.388	383.427	383.478	383.513	383.491	383.491	383.521	383.547
<b>20</b>	369.181	369.228	369.258	369.297	369.336	369.349	369.383	369.379	369.353
<b>25</b>	351.263	351.323	351.383	351.405	351.439	351.461	351.491	351.473	351.456
<b>30</b>	330.348	330.399	330.468	330.515	330.554	330.580	330.580	330.597	330.588
<b>35</b>	306.947	307.016	307.110	307.149	307.209	307.226	307.218	307.226	307.192
<b>40</b>	281.487	281.551	281.603	281.676	281.723	281.745	281.732	281.719	281.680
<b>45</b>	254.010	254.066	254.121	254.164	254.225	254.255	254.255	254.220	254.216
<b>50</b>	224.804	224.916	224.993	225.053	225.088	225.152	225.152	225.109	225.139
<b>55</b>	194.777	194.829	194.910	194.958	195.014	195.070	195.104	195.091	195.082
<b>60</b>	167.360	167.390	167.438	167.464	167.502	167.558	167.610	167.567	167.554

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**CANDELA TABULATION - (Cont.)**

<b>65</b>	135.962	135.988	136.018	136.043	136.039	136.048	136.078	136.043	136.031
<b>70</b>	104.408	104.443	104.464	104.456	104.477	104.443	104.473	104.434	104.365
<b>75</b>	73.887	73.904	73.900	73.896	73.908	73.908	73.930	73.896	73.848
<b>80</b>	44.832	44.828	44.819	44.810	44.815	44.823	44.840	44.793	44.724
<b>85</b>	18.739	18.718	18.684	18.649	18.606	18.567	18.559	18.490	18.473
<b>90</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95</b>	8.480	8.488	8.531	8.536	8.596	8.673	8.695	8.518	8.445
<b>100</b>	16.353	16.323	16.331	16.310	16.340	16.344	16.241	15.979	15.957
<b>105</b>	26.449	26.458	26.462	26.376	26.234	26.161	25.946	25.637	25.598
<b>110</b>	37.217	37.191	37.165	37.049	36.980	36.885	36.615	36.490	36.443
<b>115</b>	48.827	48.814	48.753	48.835	48.741	48.470	48.323	48.121	48.044
<b>120</b>	60.750	60.824	60.918	60.948	60.819	60.510	60.329	60.222	60.011
<b>125</b>	72.528	72.692	72.730	72.704	72.580	72.197	72.094	72.029	71.780
<b>130</b>	86.232	86.331	86.284	86.159	85.845	85.656	85.518	85.471	85.346
<b>135</b>	100.599	100.564	100.448	100.242	99.979	99.708	99.610	99.601	99.532
<b>140</b>	114.690	114.629	114.363	114.092	113.735	113.219	113.176	113.064	112.892
<b>145</b>	128.226	128.015	127.693	127.517	127.392	127.142	127.035	126.970	126.936
<b>150</b>	141.001	140.851	140.679	140.460	140.236	140.262	140.055	140.210	140.404
<b>155</b>	152.702	152.646	152.564	152.315	151.919	151.837	152.022	151.678	151.764
<b>160</b>	162.888	162.880	162.772	162.420	162.187	162.157	161.895	162.587	162.390
<b>165</b>	171.260	171.213	170.852	170.714	170.598	170.220	170.590	171.024	170.805
<b>170</b>	177.581	177.448	177.229	177.048	176.825	176.803	176.790	176.760	176.730
<b>175</b>	181.563	181.443	181.262	181.017	180.626	180.497	180.346	180.088	180.235
<b>180</b>	182.311	182.311	182.311	182.311	182.311	182.311	182.311	182.311	182.311

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	146.11	N.A.	9.40
0-30	307.88	N.A.	19.90
0-40	499.84	N.A.	32.30
0-60	870.64	N.A.	56.20
0-80	1083.74	N.A.	70.00
0-90	1106.18	N.A.	71.40
10-90	1068.18	N.A.	69.00
20-40	353.74	N.A.	22.80
20-50	549.55	N.A.	35.50
40-70	505.47	N.A.	32.60
60-80	213.10	N.A.	13.80
70-80	78.42	N.A.	5.10
80-90	22.45	N.A.	1.40
90-110	37.31	N.A.	2.40
90-120	85.65	N.A.	5.50
90-130	150.67	N.A.	9.70
90-150	306.99	N.A.	19.80
90-180	442.21	N.A.	28.60
110-180	404.90	N.A.	26.10
0-180	1548.39	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	38.00
10-20	108.11
20-30	161.78
30-40	191.96
40-50	195.81
50-60	174.98
60-70	134.68
70-80	78.42
80-90	22.45
90-100	9.28
100-110	28.03
110-120	48.34
120-130	65.02
130-140	76.81
140-150	79.51
150-160	69.97
160-170	48.10
170-180	17.15

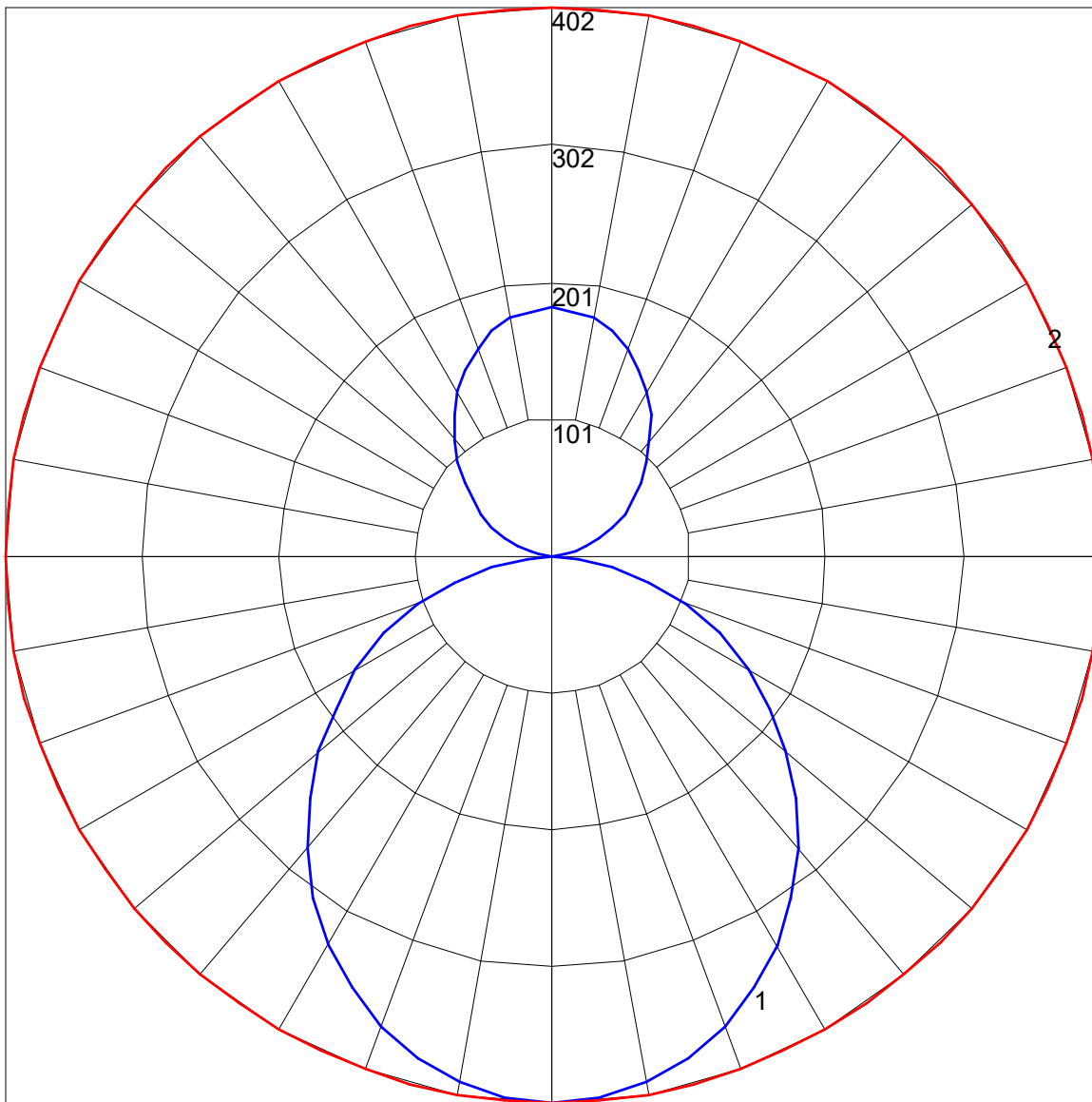
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76	71
1	102	98	94	90	97	93	89	86	83	81	78	75	73	71	67	65	64	60
2	93	85	79	73	88	81	75	70	73	68	64	65	62	59	58	56	53	50
3	85	75	67	61	80	71	64	58	64	59	54	58	53	49	52	48	45	42
4	78	66	58	51	73	63	55	50	57	51	46	51	46	42	46	42	39	36
5	71	59	50	44	67	56	48	43	51	45	40	46	41	37	41	37	34	31
6	66	53	45	38	62	51	43	37	46	39	35	42	36	32	38	33	30	27
7	61	48	40	34	57	46	38	33	42	35	31	38	32	28	34	30	26	24
8	57	44	36	30	53	42	34	29	38	32	27	35	29	25	31	27	24	21
9	53	40	32	27	50	38	31	26	35	29	24	32	27	23	29	25	21	19
10	49	37	29	24	47	35	28	23	32	26	22	30	24	21	27	23	19	17

POLAR GRAPH



Maximum Candela = 402.441 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.)