



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : GH-4-L180-840-FA-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 13326828.01  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 06-MAY-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] GH-4-L180-840-FA-DIM-UNV  
 [LUMINAIRE] White steel housing, frosted lens enclosure  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Commercial, Industrial, Manufacturing, High Bay  
 [ \_SEARCH\_MOUNTING] Pendant, Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	18009
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	125.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.73 ft
Luminous Width (90-270)	0.88 ft
Luminous Height	0.27 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	14237	14068	15130
55	12018	12630	14138
65	9656	10959	12240
75	7105	8629	8582
85	3783	5293	5756

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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>
0.0	5890.732	5890.732	5890.732	5890.732	5890.732
0.5	5964.338	5879.580	5886.271	5879.580	5872.888
1.0	5964.338	5879.580	5886.271	5877.349	5870.658
1.5	5962.108	5877.349	5884.041	5877.349	5868.427
2.0	5959.877	5875.119	5881.810	5875.119	5868.427
2.5	5955.416	5872.888	5879.580	5872.888	5866.197
3.0	5953.186	5868.427	5877.349	5870.658	5863.966
3.5	5948.725	5863.966	5872.888	5868.427	5861.736
4.0	5942.034	5859.505	5870.658	5866.197	5859.505
4.5	5935.342	5855.044	5866.197	5861.736	5857.275
5.0	5928.651	5848.353	5861.736	5857.275	5852.814
5.5	5921.959	5841.661	5855.044	5852.814	5848.353
6.0	5915.268	5834.970	5850.583	5848.353	5843.892
6.5	5904.115	5826.048	5841.661	5843.892	5839.431
7.0	5895.193	5817.126	5834.970	5837.200	5834.970
7.5	5884.041	5808.204	5828.278	5832.739	5828.278
8.0	5875.119	5799.282	5819.356	5823.817	5823.817
8.5	5861.736	5788.130	5812.665	5819.356	5817.126
9.0	5848.353	5776.977	5801.512	5810.434	5810.434
9.5	5837.200	5765.825	5792.590	5803.743	5803.743
10.0	5821.587	5752.442	5783.669	5794.821	5797.051
10.5	5808.204	5741.289	5772.516	5785.899	5790.360
11.0	5794.821	5727.906	5761.364	5779.208	5781.438
11.5	5779.208	5714.523	5750.211	5770.286	5772.516
12.0	5761.364	5698.910	5739.059	5759.133	5763.594
12.5	5745.750	5683.296	5725.676	5750.211	5754.672
13.0	5727.906	5667.683	5712.293	5739.059	5745.750
13.5	5710.062	5652.069	5698.910	5727.906	5734.598
14.0	5689.988	5634.225	5683.296	5716.754	5725.676
14.5	5672.144	5616.382	5669.913	5703.371	5714.523
15.0	5652.069	5598.538	5654.300	5692.218	5703.371
15.5	5629.765	5578.463	5636.456	5678.835	5692.218
16.0	5609.690	5558.389	5620.843	5665.452	5678.835
16.5	5585.155	5538.314	5602.999	5652.069	5667.683
17.0	5562.850	5518.240	5587.385	5636.456	5654.300
17.5	5536.084	5495.935	5569.541	5623.073	5640.917
18.0	5511.548	5473.630	5549.467	5607.460	5627.534
18.5	5484.782	5449.095	5531.623	5591.846	5611.921
19.0	5458.017	5424.559	5511.548	5576.233	5598.538
19.5	5431.251	5397.793	5491.474	5560.619	5582.924
20.0	5404.485	5373.258	5471.399	5542.775	5567.311
20.5	5373.258	5348.722	5451.325	5524.931	5551.697
21.0	5346.492	5321.956	5431.251	5509.318	5536.084
21.5	5315.265	5295.191	5408.946	5491.474	5520.470
22.0	5286.269	5268.425	5386.641	5473.630	5502.626
22.5	5255.042	5239.428	5364.336	5453.556	5487.013
23.0	5223.815	5212.662	5342.031	5435.712	5469.169
23.5	5192.588	5183.666	5317.495	5417.868	5453.556
24.0	5161.361	5154.669	5292.960	5397.793	5435.712
24.5	5127.904	5125.673	5268.425	5377.719	5417.868
25.0	5094.446	5094.446	5243.889	5357.644	5400.024
25.5	5060.989	5065.450	5219.354	5337.570	5379.949
26.0	5025.301	5034.223	5192.588	5317.495	5362.105
26.5	4991.843	5002.996	5165.822	5295.191	5342.031

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**CANDELA TABULATION - (Cont.)**

27.0	4956.156	4969.539	5139.056	5275.116	5321.956
27.5	4916.007	4936.081	5112.290	5252.811	5301.882
28.0	4878.088	4902.624	5083.294	5230.506	5281.808
28.5	4840.170	4866.936	5054.297	5205.971	5259.503
29.0	4800.021	4831.248	5027.531	5183.666	5237.198
29.5	4759.872	4795.560	4996.304	5159.130	5214.893
30.0	4717.493	4757.642	4965.078	5132.365	5190.357
30.5	4677.344	4719.723	4933.851	5105.599	5165.822
31.0	4634.965	4681.805	4900.393	5078.833	5139.056
31.5	4590.355	4641.656	4869.166	5052.067	5114.521
32.0	4547.975	4601.507	4835.709	5025.301	5087.755
32.5	4503.366	4561.358	4802.252	4996.304	5060.989
33.0	4458.756	4521.209	4766.564	4965.078	5031.992
33.5	4414.146	4478.830	4730.876	4936.081	5002.996
34.0	4367.305	4436.451	4697.418	4904.854	4974.000
34.5	4320.465	4394.071	4659.500	4873.627	4942.773
35.0	4273.625	4351.692	4623.812	4842.400	4913.776
35.5	4226.784	4307.082	4585.894	4811.174	4884.780
36.0	4179.944	4264.703	4547.975	4777.716	4853.553
36.5	4128.643	4217.862	4512.287	4744.259	4822.326
37.0	4079.572	4173.253	4472.139	4710.801	4788.869
37.5	4030.501	4130.873	4434.220	4677.344	4757.642
38.0	3981.430	4084.033	4394.071	4641.656	4724.184
38.5	3932.359	4039.423	4353.922	4605.968	4690.727
39.0	3881.058	3992.583	4316.004	4572.511	4657.270
39.5	3829.757	3945.742	4273.625	4536.823	4623.812
40.0	3780.686	3898.902	4233.476	4501.135	4588.124
40.5	3729.384	3852.062	4193.327	4465.447	4552.436
41.0	3678.083	3805.221	4153.178	4427.529	4518.979
41.5	3626.782	3758.381	4110.799	4394.071	4485.522
42.0	3575.480	3711.540	4070.650	4358.383	4452.064
42.5	3526.410	3666.931	4032.731	4322.696	4416.376
43.0	3475.108	3620.090	3992.583	4287.008	4380.688
43.5	3426.037	3573.250	3950.203	4251.320	4347.231
44.0	3374.736	3526.410	3912.285	4217.862	4313.774
44.5	3325.665	3481.800	3872.136	4182.175	4282.547
45.0	3276.594	3437.190	3834.218	4146.487	4251.320
45.5	3227.523	3390.349	3794.069	4113.029	4215.632
46.0	3178.453	3345.740	3756.150	4077.341	4182.175
46.5	3129.382	3301.130	3716.001	4043.884	4148.717
47.0	3080.311	3256.520	3675.853	4008.196	4117.490
47.5	3031.240	3209.680	3637.934	3972.508	4084.033
48.0	2984.400	3165.070	3600.016	3936.820	4048.345
48.5	2935.329	3120.460	3559.867	3901.132	4014.888
49.0	2886.258	3075.850	3521.949	3867.675	3981.430
49.5	2837.187	3029.010	3481.800	3831.987	3947.973
50.0	2788.116	2984.400	3443.881	3796.299	3912.285
50.5	2739.045	2939.790	3403.732	3758.381	3878.827
51.0	2692.205	2895.180	3365.814	3722.693	3843.140
51.5	2640.904	2850.570	3325.665	3687.005	3807.452
52.0	2594.063	2805.960	3285.516	3649.087	3771.764
52.5	2544.993	2761.350	3245.367	3613.399	3738.306
53.0	2498.152	2716.741	3205.219	3575.480	3700.388
53.5	2449.081	2672.131	3167.300	3537.562	3664.700
54.0	2402.241	2627.521	3127.151	3499.644	3624.551
54.5	2353.170	2582.911	3087.002	3461.725	3586.633

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**CANDELA TABULATION - (Cont.)**

55.0	2308.560	2538.301	3046.854	3423.807	3548.714
55.5	2259.489	2495.922	3006.705	3383.658	3508.566
56.0	2213.318	2451.312	2966.556	3343.509	3468.417
56.5	2166.701	2408.933	2926.407	3303.360	3426.037
57.0	2120.753	2364.323	2884.028	3263.211	3381.427
57.5	2075.028	2321.943	2843.879	3220.832	3339.048
58.0	2029.303	2279.564	2801.499	3180.683	3294.438
58.5	1982.685	2237.185	2761.350	3136.073	3247.598
59.0	1937.183	2194.359	2721.202	3093.694	3202.988
59.5	1892.350	2153.541	2678.822	3046.854	3156.148
60.0	1847.294	2111.162	2636.443	3002.244	3107.077
60.5	1803.354	2069.898	2594.063	2957.634	3060.236
61.0	1759.859	2028.633	2553.915	2913.024	3011.166
61.5	1716.364	1988.038	2513.766	2866.184	2962.095
62.0	1677.108	1946.774	2471.386	2817.113	2913.024
62.5	1637.405	1907.295	2429.007	2770.272	2863.953
63.0	1595.918	1867.815	2388.858	2723.432	2814.882
63.5	1553.985	1829.004	2346.479	2674.361	2763.581
64.0	1512.720	1791.086	2304.099	2627.521	2714.510
64.5	1471.233	1752.721	2263.950	2578.450	2665.439
65.0	1431.084	1715.918	2220.010	2527.149	2611.907
65.5	1391.159	1680.453	2176.738	2480.308	2558.376
66.0	1351.902	1649.004	2133.690	2431.237	2504.844
66.5	1312.868	1613.762	2090.641	2382.167	2455.773
67.0	1274.058	1576.736	2047.593	2333.096	2400.011
67.5	1236.139	1540.379	2003.652	2281.794	2342.018
68.0	1198.667	1504.691	1959.042	2229.601	2284.025
68.5	1161.418	1469.003	1914.432	2178.746	2229.378
69.0	1124.392	1433.538	1871.384	2127.667	2171.608
69.5	1087.811	1397.627	1828.335	2075.028	2111.608
70.0	1051.008	1361.939	1785.064	2020.381	2049.600
70.5	1015.097	1326.028	1741.346	1964.395	1987.146
71.0	979.856	1290.340	1702.312	1910.417	1926.700
71.5	944.168	1254.206	1659.710	1855.547	1865.584
72.0	909.149	1217.403	1620.453	1798.893	1802.908
72.5	874.799	1181.492	1578.743	1742.461	1743.799
73.0	840.673	1145.135	1534.802	1687.145	1682.684
73.5	806.992	1109.224	1490.415	1630.713	1622.461
74.0	774.204	1073.536	1447.367	1579.189	1568.260
74.5	741.416	1037.402	1404.318	1523.204	1510.936
75.0	709.297	1001.045	1361.493	1466.549	1452.943
75.5	677.847	965.357	1317.329	1411.679	1397.404
76.0	647.066	929.670	1272.496	1358.816	1344.987
76.5	616.954	894.651	1227.886	1308.184	1294.132
77.0	587.066	859.409	1183.946	1258.890	1245.730
77.5	557.846	824.390	1141.120	1210.042	1197.775
78.0	529.296	790.264	1097.626	1161.864	1151.827
78.5	501.192	757.029	1053.685	1116.585	1108.555
79.0	473.980	725.133	1010.636	1073.982	1067.960
79.5	446.991	693.460	968.926	1032.718	1028.257
80.0	420.671	662.233	928.554	992.123	990.116
80.5	394.797	631.899	888.851	953.536	953.759
81.0	369.370	601.564	848.926	916.510	919.409
81.5	344.611	572.121	809.446	881.045	886.844
82.0	320.299	542.010	772.197	847.587	855.394
82.5	296.209	512.121	736.509	815.245	825.059

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**CANDELA TABULATION - (Cont.)**

83.0	272.789	482.456	701.936	783.795	795.617
83.5	250.038	453.236	667.587	753.684	767.736
84.0	227.510	424.463	634.129	725.133	741.193
84.5	205.205	395.689	602.233	698.144	715.765
85.0	183.123	367.362	572.568	671.825	691.007
85.5	161.265	339.704	544.240	646.397	666.917
86.0	139.183	312.715	516.582	621.861	643.720
86.5	117.324	286.618	489.593	598.441	621.638
87.0	95.019	261.191	464.612	576.359	600.449
87.5	72.714	236.655	441.192	554.947	579.036
88.0	50.632	213.681	419.110	533.980	557.846
88.5	28.550	191.822	398.812	513.906	538.664
89.0	8.922	173.755	381.414	497.846	523.051
89.5	0.000	159.703	366.470	482.902	507.883
90.0	0.000	150.558	355.094	470.188	494.723
90.5	5.799	192.715	439.853	598.664	641.713
91.0	6.022	185.800	428.924	584.835	626.769
91.5	6.245	179.109	419.333	572.791	614.055
92.0	6.245	172.640	410.188	561.415	601.564
92.5	6.468	166.172	400.597	550.709	590.412
93.0	6.691	159.926	391.228	539.779	579.036
93.5	7.138	154.350	381.860	528.404	567.660
94.0	7.807	148.997	372.492	517.474	555.393
94.5	8.699	143.421	362.901	506.991	544.240
95.0	9.591	138.291	353.979	496.508	533.534
95.5	10.706	133.607	345.057	485.578	522.828
96.0	11.599	129.146	336.804	474.649	511.898
96.5	12.491	124.685	329.221	464.389	500.077
97.0	13.383	120.447	321.860	454.351	489.593
97.5	14.498	116.209	314.723	444.537	479.333
98.0	15.167	112.640	307.362	435.169	469.296
98.5	15.837	109.294	299.555	426.916	459.482
99.0	16.283	106.171	291.748	418.887	450.783
99.5	16.729	103.272	284.834	410.857	442.753
100.0	17.175	100.372	277.919	402.604	434.723
100.5	17.398	97.696	271.451	394.574	426.470
101.0	17.621	95.242	265.429	385.429	418.217
101.5	17.844	93.235	258.960	375.838	410.411
102.0	18.067	91.227	252.715	367.139	400.374
102.5	18.290	89.443	246.469	359.555	390.559
103.0	18.736	87.881	240.001	351.972	381.860
103.5	18.959	86.320	233.756	344.388	374.500
104.0	19.182	84.759	227.733	337.697	366.916
104.5	19.405	83.420	222.157	331.228	358.886
105.0	19.628	82.082	216.804	324.537	352.418
105.5	19.851	80.967	212.343	317.399	346.173
106.0	20.074	80.075	207.882	310.708	339.704
106.5	20.297	78.959	202.975	303.347	332.343
107.0	20.521	78.067	198.514	295.763	325.652
107.5	20.744	77.398	194.499	289.072	318.737
108.0	20.967	76.729	190.484	282.157	310.708
108.5	21.190	76.060	186.692	275.466	303.347
109.0	21.190	75.391	182.677	268.774	296.656
109.5	21.413	74.722	178.662	263.198	289.518
110.0	21.636	74.275	175.540	258.291	283.050
110.5	21.859	73.829	172.640	253.607	276.135

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**CANDELA TABULATION - (Cont.)**

111.0	22.082	73.160	169.964	248.031	270.782
111.5	22.082	72.714	167.064	242.678	266.098
112.0	22.305	72.268	164.387	237.994	261.637
112.5	22.528	72.045	161.934	233.533	256.730
113.0	22.751	71.599	159.480	229.295	250.930
113.5	22.751	71.153	157.027	225.280	246.023
114.0	22.751	70.930	154.796	221.042	241.785
114.5	22.751	70.707	152.566	215.912	237.324
115.0	22.751	70.484	150.335	211.897	233.310
115.5	22.528	70.037	148.105	208.774	229.518
116.0	22.528	70.037	146.097	205.651	225.057
116.5	22.528	69.814	144.090	202.752	219.927
117.0	22.528	69.591	142.305	199.852	216.358
117.5	22.528	69.591	140.521	197.176	213.235
118.0	22.751	69.368	138.737	194.276	210.335
118.5	22.974	69.145	137.175	191.599	207.213
119.0	23.197	68.922	135.391	188.923	204.536
119.5	23.197	68.699	134.053	186.469	201.637
120.0	23.420	68.253	132.268	184.016	198.960
120.5	23.420	68.030	130.707	181.562	196.506
121.0	23.420	67.807	129.369	179.109	193.830
121.5	23.420	67.807	127.807	176.878	191.376
122.0	23.420	67.584	126.469	174.425	188.923
122.5	23.420	67.361	125.131	172.194	186.692
123.0	23.420	67.138	123.792	169.964	184.462
123.5	23.643	67.138	122.677	167.956	182.231
124.0	24.089	66.915	121.339	165.949	180.001
124.5	24.312	66.692	120.224	163.718	177.993
125.0	24.535	66.469	118.885	161.934	175.763
125.5	24.535	66.469	117.770	159.926	173.755
126.0	24.758	66.469	116.878	158.142	171.971
126.5	24.982	66.469	115.986	156.358	169.964
127.0	25.205	66.469	114.870	154.573	167.956
127.5	25.428	66.469	113.978	152.789	166.172
128.0	25.651	66.469	113.086	151.227	164.387
128.5	25.874	66.692	112.194	149.443	162.380
129.0	26.320	66.692	111.302	147.882	160.596
129.5	26.543	66.915	110.632	146.320	158.811
130.0	26.766	66.915	109.740	144.759	157.027
130.5	27.212	67.138	108.848	143.198	155.242
131.0	27.435	67.138	108.179	141.636	153.458
131.5	27.881	67.138	107.287	140.298	151.897
132.0	28.104	67.138	106.618	138.737	150.335
132.5	28.550	67.138	106.171	137.398	148.774
133.0	28.773	67.138	105.502	135.837	147.213
133.5	28.996	67.138	104.833	134.499	145.874
134.0	28.996	67.138	104.387	133.160	144.313
134.5	29.219	67.138	103.718	132.045	142.752
135.0	29.219	67.138	103.049	130.707	141.413
135.5	29.219	67.138	102.380	129.592	139.852
136.0	29.219	67.138	101.710	128.253	138.514
136.5	28.996	67.138	101.041	127.138	137.175
137.0	28.773	66.915	100.149	126.246	135.837
137.5	28.550	66.692	99.480	125.131	134.722
138.0	28.104	66.692	98.588	124.238	133.607
138.5	27.658	66.469	97.696	123.346	132.491

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

139.0	26.989	66.469	97.249	122.454	131.376
139.5	26.543	66.469	96.580	121.785	130.484
140.0	25.874	66.246	95.911	121.116	129.592
140.5	25.428	66.246	95.242	120.447	128.699
141.0	24.982	66.246	94.573	119.777	127.807
141.5	24.535	66.246	93.904	119.108	127.138
142.0	24.312	66.246	93.012	118.439	126.246
142.5	24.089	66.246	92.342	117.770	125.354
143.0	23.866	66.246	91.673	117.101	124.685
143.5	23.866	66.469	91.227	116.209	124.238
144.0	23.643	66.469	90.781	115.316	123.569
144.5	23.866	66.692	90.335	114.647	122.900
145.0	24.089	66.692	90.112	113.755	122.231
145.5	24.312	66.915	89.666	112.863	121.785
146.0	24.535	67.138	89.443	111.971	121.116
146.5	24.758	67.361	89.220	111.302	120.447
147.0	25.205	67.361	88.997	110.632	120.001
147.5	25.428	67.584	88.997	109.963	119.777
148.0	25.651	67.584	88.774	109.071	119.331
148.5	25.874	67.584	88.774	108.402	118.662
149.0	26.097	67.584	88.774	107.510	118.439
149.5	26.320	67.584	88.774	106.618	118.216
150.0	26.543	67.584	88.774	105.725	117.770
150.5	26.766	67.584	88.774	105.056	117.324
151.0	26.989	67.584	88.774	104.610	116.655
151.5	27.212	67.361	88.551	103.941	116.209
152.0	27.435	67.138	88.328	103.272	115.763
152.5	27.435	67.138	88.104	102.826	115.093
153.0	27.658	66.692	87.658	102.157	114.647
153.5	27.881	66.469	86.766	101.487	114.201
154.0	27.881	66.023	86.097	101.041	113.755
154.5	28.104	65.576	85.205	100.372	113.086
155.0	28.104	64.907	84.536	99.926	112.417
155.5	28.327	64.461	83.867	99.257	111.748
156.0	28.327	63.792	83.197	98.811	110.856
156.5	28.550	63.123	82.751	97.919	109.963
157.0	28.550	62.454	82.305	97.249	109.071
157.5	28.773	61.785	81.859	96.134	107.956
158.0	28.773	61.116	81.636	94.796	106.618
158.5	28.996	60.446	81.190	93.235	105.279
159.0	28.996	59.777	80.967	91.450	103.495
159.5	29.219	59.108	80.744	89.443	101.487
160.0	29.443	58.439	80.521	87.435	99.034
160.5	29.443	57.770	80.298	85.651	96.357
161.0	29.443	57.101	79.852	84.090	93.235
161.5	29.666	56.431	79.629	82.751	90.112
162.0	29.666	55.762	78.959	81.413	87.212
162.5	29.889	55.093	78.290	80.521	84.759
163.0	29.889	54.424	77.621	79.406	82.528
163.5	29.889	53.755	76.952	78.513	80.298
164.0	29.889	52.863	76.283	77.621	78.513
164.5	30.112	52.194	75.391	76.952	76.729
165.0	30.112	51.524	74.275	76.283	75.168
165.5	30.112	50.632	72.714	75.614	73.383
166.0	30.112	49.963	71.153	74.498	72.045
166.5	30.335	49.071	69.591	73.160	70.484

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

167.0	30.335	48.179	68.030	71.822	68.476
167.5	30.335	47.510	66.469	70.707	66.246
168.0	30.335	46.617	64.684	69.368	64.015
168.5	30.558	45.725	63.123	67.584	62.231
169.0	30.558	45.056	61.562	65.576	60.223
169.5	30.558	44.164	60.000	63.346	57.770
170.0	30.781	43.495	58.439	60.892	55.093
170.5	30.781	42.602	57.101	58.662	52.194
171.0	31.004	41.933	55.539	56.431	49.517
171.5	31.004	41.041	53.978	54.424	46.840
172.0	31.004	40.372	52.417	52.194	43.941
172.5	31.227	39.480	50.855	50.186	41.264
173.0	31.227	38.811	49.071	48.179	38.588
173.5	31.450	38.141	47.510	45.948	36.357
174.0	31.673	37.472	45.948	43.941	34.350
174.5	31.896	36.803	44.164	41.933	32.342
175.0	32.119	36.357	42.602	39.926	30.335
175.5	32.342	35.688	41.041	37.918	28.996
176.0	32.342	35.242	39.480	36.134	28.550
176.5	32.788	34.796	38.141	34.350	28.104
177.0	33.011	34.573	37.026	32.565	27.212
177.5	33.457	34.573	35.911	31.004	26.320
178.0	33.903	34.350	35.019	29.889	25.874
178.5	33.903	34.127	34.127	28.996	25.651
179.0	33.903	33.903	33.457	28.104	26.320
179.5	33.680	33.680	33.011	27.658	26.989
180.0	31.004	31.004	31.004	31.004	31.004



**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	2152.78	N.A.	12.00
0-30	4565.17	N.A.	25.30
0-40	7441.76	N.A.	41.30
0-60	13039.8	N.A.	72.40
0-80	16442.33	N.A.	91.30
0-90	17017.23	N.A.	94.50
10-90	16459.96	N.A.	91.40
20-40	5288.98	N.A.	29.40
20-50	8220.05	N.A.	45.60
40-70	7697.62	N.A.	42.70
60-80	3402.53	N.A.	18.90
70-80	1302.95	N.A.	7.20
80-90	574.90	N.A.	3.20
90-110	561.33	N.A.	3.10
90-120	702.34	N.A.	3.90
90-130	803.45	N.A.	4.50
90-150	932.69	N.A.	5.20
90-180	991.81	N.A.	5.50
110-180	430.49	N.A.	2.40
0-180	18009.04	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	557.27
10-20	1595.5
20-30	2412.39
30-40	2876.59
40-50	2931.07
50-60	2666.98
60-70	2099.57
70-80	1302.95
80-90	574.90
90-100	344.77
100-110	216.55
110-120	141.01
120-130	101.12
130-140	74.94
140-150	54.30
150-160	36.92
160-170	18.16
170-180	4.05

**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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	84	82	80	78
2	97	88	81	76	94	86	80	74	82	76	72	77	73	69	74	70	67	64
3	88	78	69	63	85	76	68	62	72	65	60	68	63	58	65	60	56	54
4	81	69	60	53	78	67	59	52	64	57	51	61	55	50	58	53	48	46
5	74	61	52	45	72	60	51	45	57	50	44	54	48	43	52	46	42	40
6	69	55	46	40	66	54	45	39	51	44	38	49	43	38	47	41	37	35
7	64	50	41	35	61	49	41	35	47	39	34	45	38	33	43	37	33	31
8	59	46	37	31	57	45	37	31	43	36	30	41	35	30	40	34	29	27
9	55	42	34	28	54	41	33	28	39	32	27	38	32	27	37	31	26	25
10	52	39	31	25	50	38	30	25	36	30	25	35	29	24	34	28	24	22

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : GH-4-L180-840-FA-DIM-UNV\_.IES**

**UGR TABLE - CORRECTED**

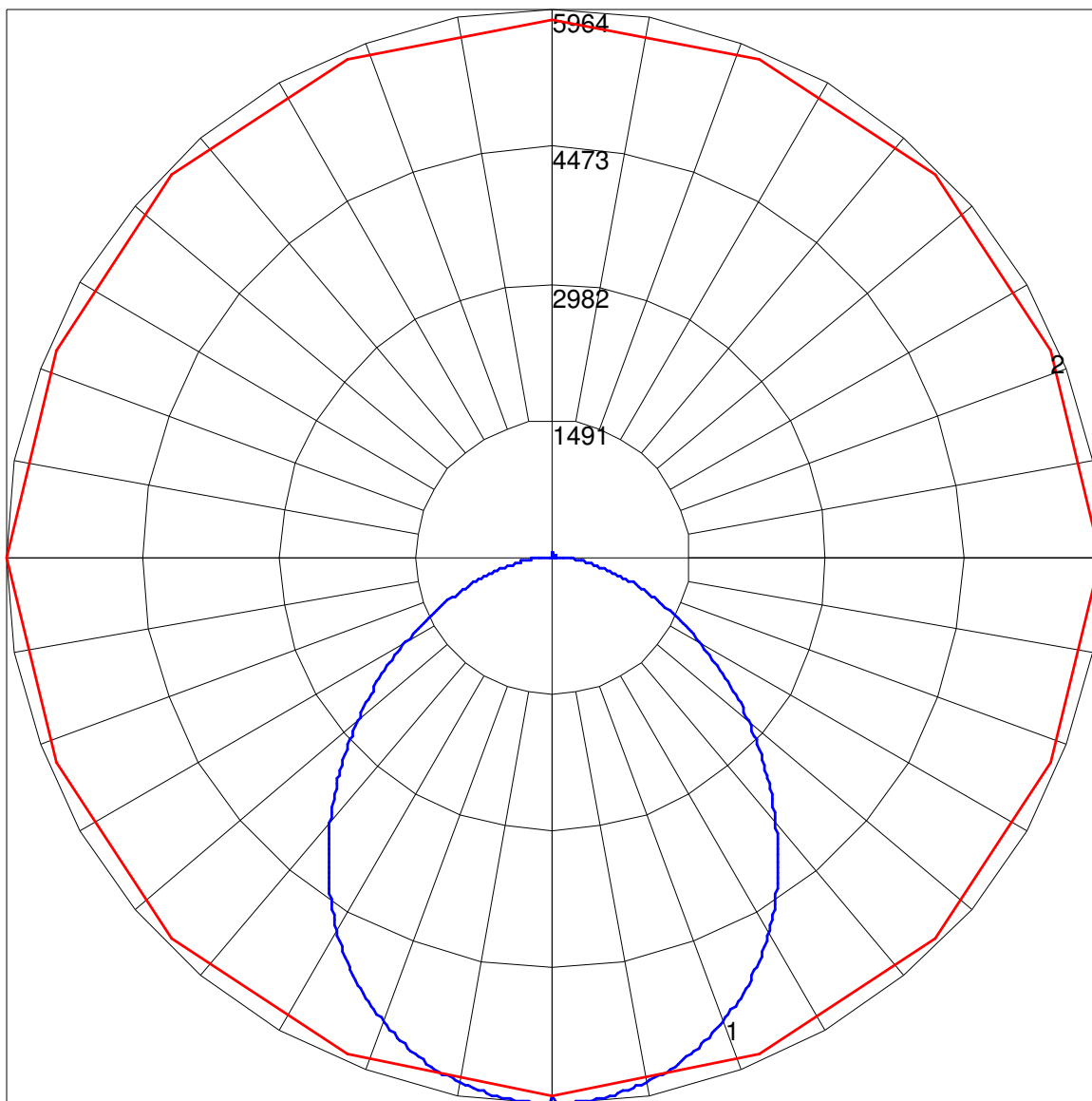
Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	18.7	20.2	19.2	20.7	21.1	21.8	23.3	22.3	23.7	24.2
	3H	20.1	21.5	20.6	21.9	22.4	23.8	25.2	24.3	25.6	26.1
	4H	20.5	21.8	21.0	22.3	22.8	24.5	25.8	25.0	26.3	26.8
	6H	20.8	22.0	21.3	22.4	23.0	25.1	26.3	25.6	26.7	27.3
	8H	20.8	22.0	21.3	22.5	23.0	25.3	26.4	25.8	26.9	27.5
	12H	20.8	21.9	21.4	22.4	23.0	25.5	26.6	26.0	27.1	27.7
4H	2H	19.8	21.1	20.3	21.5	22.1	22.2	23.5	22.7	23.9	24.4
	3H	21.4	22.5	21.9	23.0	23.5	24.4	25.5	24.9	26.0	26.5
	4H	21.9	22.9	22.4	23.4	24.0	25.2	26.2	25.7	26.7	27.3
	6H	22.3	23.1	22.8	23.7	24.3	25.9	26.8	26.5	27.3	27.9
	8H	22.4	23.2	22.9	23.7	24.3	26.2	27.0	26.8	27.6	28.2
	12H	22.4	23.1	23.0	23.7	24.3	26.5	27.3	27.1	27.8	28.4
8H	4H	22.5	23.3	23.1	23.9	24.5	25.4	26.2	26.0	26.8	27.4
	6H	23.0	23.7	23.6	24.3	24.9	26.2	26.9	26.8	27.5	28.1
	8H	23.2	23.8	23.8	24.4	25.0	26.6	27.2	27.2	27.8	28.4
	12H	23.2	23.8	23.8	24.4	25.1	27.0	27.6	27.6	28.1	28.8
12H	4H	22.6	23.3	23.2	23.9	24.5	25.4	26.1	26.0	26.7	27.3
	6H	23.2	23.8	23.8	24.3	25.0	26.3	26.9	26.9	27.4	28.1
	8H	23.4	23.9	24.0	24.5	25.2	26.7	27.2	27.3	27.8	28.5

Maximum UGR = 28.8

POLAR GRAPH



Maximum Candela = 5964.338 Located At Horizontal Angle = 0, Vertical Angle = .5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)