



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : GH-2-L240-840-HA-FA-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN FROM 13326828.02  
[TESTLAB] UL Verification Services Inc.  
[ISSUE DATE] 06-MAY-2020  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
[LUMCAT] GH-2-L240-840-HA-FA-DIM-UNV  
[LUMINAIRE] White steel housing, frosted lens enclosure  
[LAMP] 504 white LEDs  
[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	24001
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	146
Total Luminaire Watts	164
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	1.88 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.27 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	17202	19192	22250
55	14346	17382	21321
65	11254	15041	18603
75	7929	11320	12416
85	3647	5432	7571

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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	8152.072	8152.072	8152.072	8152.072	8152.072
0.5	8152.072	8144.330	8152.072	8159.814	8152.072
1.0	8152.072	8144.330	8152.072	8159.814	8152.072
1.5	8144.330	8136.589	8152.072	8159.814	8152.072
2.0	8144.330	8144.330	8152.072	8152.072	8144.330
2.5	8136.589	8136.589	8152.072	8152.072	8144.330
3.0	8128.847	8128.847	8144.330	8152.072	8144.330
3.5	8128.847	8128.847	8136.589	8152.072	8144.330
4.0	8121.105	8121.105	8136.589	8144.330	8136.589
4.5	8113.363	8113.363	8136.589	8136.589	8136.589
5.0	8105.621	8105.621	8121.105	8136.589	8128.847
5.5	8097.880	8097.880	8121.105	8128.847	8128.847
6.0	8082.396	8090.138	8113.363	8121.105	8113.363
6.5	8074.654	8074.654	8105.621	8121.105	8113.363
7.0	8059.171	8066.913	8097.880	8113.363	8105.621
7.5	8051.429	8051.429	8082.396	8105.621	8097.880
8.0	8035.946	8043.687	8074.654	8097.880	8090.138
8.5	8020.462	8028.204	8066.913	8090.138	8074.654
9.0	8004.979	8012.720	8051.429	8074.654	8074.654
9.5	7981.753	7997.237	8035.946	8066.913	8059.171
10.0	7966.270	7981.753	8020.462	8051.429	8051.429
10.5	7950.786	7958.528	8004.979	8035.946	8043.687
11.0	7935.303	7943.045	7989.495	8028.204	8028.204
11.5	7912.078	7919.819	7974.012	8012.720	8012.720
12.0	7881.110	7904.336	7958.528	7997.237	8004.979
12.5	7865.627	7881.110	7943.045	7989.495	7989.495
13.0	7842.402	7857.885	7919.819	7974.012	7974.012
13.5	7819.176	7834.660	7904.336	7958.528	7958.528
14.0	7795.951	7811.435	7881.110	7943.045	7950.786
14.5	7764.984	7788.209	7865.627	7927.561	7935.303
15.0	7741.759	7764.984	7842.402	7904.336	7919.819
15.5	7713.114	7738.662	7819.176	7888.852	7904.336
16.0	7688.341	7713.114	7795.951	7873.369	7888.852
16.5	7655.825	7689.115	7772.726	7857.885	7865.627
17.0	7624.858	7659.696	7749.501	7834.660	7850.143
17.5	7593.117	7634.148	7727.824	7811.435	7834.660
18.0	7561.376	7603.956	7700.728	7795.951	7811.435
18.5	7524.990	7572.988	7675.954	7772.726	7795.951
19.0	7493.248	7539.699	7649.632	7749.501	7772.726
19.5	7456.088	7507.184	7624.858	7727.824	7749.501
20.0	7419.702	7473.894	7596.214	7703.824	7730.920
20.5	7377.896	7439.830	7569.892	7682.147	7710.018
21.0	7339.187	7404.992	7541.247	7655.051	7685.244
21.5	7294.285	7364.735	7512.603	7630.277	7667.438
22.0	7252.480	7327.575	7481.636	7609.375	7641.116
22.5	7211.448	7287.318	7452.991	7580.730	7618.665
23.0	7171.965	7247.835	7423.573	7557.505	7594.665
23.5	7123.192	7207.577	7392.606	7528.086	7566.795
24.0	7083.709	7165.772	7357.768	7502.538	7548.989
24.5	7034.936	7124.741	7320.607	7475.442	7522.667
25.0	6992.357	7079.838	7288.092	7442.927	7497.119
25.5	6946.680	7038.807	7250.931	7418.927	7468.475
26.0	6901.004	6994.679	7210.674	7387.960	7446.024
26.5	6856.876	6952.099	7173.514	7356.219	7418.153

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**CANDELA TABULATION - (Cont.)**

27.0	6806.554	6906.423	7135.579	7326.026	7389.509
27.5	6760.878	6861.521	7096.096	7298.156	7359.316
28.0	6708.234	6815.070	7058.936	7264.092	7329.123
28.5	6655.590	6768.620	7017.130	7232.351	7298.930
29.0	6603.720	6718.298	6974.551	7195.965	7270.286
29.5	6549.528	6670.299	6933.519	7165.772	7239.319
30.0	6497.658	6619.204	6892.488	7130.934	7203.707
30.5	6441.918	6568.882	6848.360	7095.322	7169.643
31.0	6387.725	6519.335	6807.329	7057.387	7138.676
31.5	6331.210	6465.917	6763.975	7021.001	7097.644
32.0	6270.825	6414.047	6715.976	6986.163	7065.129
32.5	6212.761	6355.984	6673.396	6945.132	7025.646
33.0	6153.924	6302.566	6628.494	6906.423	6993.905
33.5	6089.667	6244.503	6578.947	6866.166	6947.454
34.0	6029.282	6188.762	6533.270	6825.135	6911.842
34.5	5961.928	6130.699	6483.723	6781.007	6870.811
35.0	5897.672	6070.313	6434.950	6736.879	6826.683
35.5	5838.835	6012.250	6379.209	6694.299	6786.426
36.0	5770.707	5951.864	6331.210	6647.074	6741.524
36.5	5704.902	5889.930	6279.341	6600.624	6698.170
37.0	5639.097	5827.222	6225.922	6555.721	6650.171
37.5	5571.744	5765.288	6171.730	6509.271	6610.688
38.0	5504.391	5702.580	6119.086	6462.820	6565.011
38.5	5437.037	5639.871	6061.797	6413.273	6515.464
39.0	5369.684	5576.389	6009.927	6366.822	6468.239
39.5	5301.556	5512.906	5955.735	6319.598	6420.241
40.0	5233.429	5448.650	5899.994	6268.502	6373.790
40.5	5164.527	5385.167	5843.480	6220.503	6329.662
41.0	5095.626	5320.911	5787.739	6172.504	6281.663
41.5	5028.272	5257.428	5731.998	6120.635	6229.793
42.0	4959.371	5193.946	5677.032	6073.410	6183.343
42.5	4891.243	5130.464	5622.065	6019.217	6135.344
43.0	4822.342	5066.981	5566.325	5968.896	6082.700
43.5	4754.214	5003.499	5511.358	5917.026	6036.249
44.0	4686.087	4940.790	5454.843	5869.027	5986.702
44.5	4618.733	4878.082	5399.877	5815.609	5937.929
45.0	4551.380	4815.374	5343.362	5764.514	5886.833
45.5	4484.801	4752.666	5288.395	5712.644	5838.835
46.0	4418.222	4689.957	5233.429	5661.548	5789.287
46.5	4350.868	4628.023	5178.462	5610.453	5739.740
47.0	4285.064	4566.089	5122.722	5559.357	5690.193
47.5	4219.259	4504.155	5067.755	5508.261	5639.871
48.0	4153.454	4442.221	5012.015	5456.392	5590.324
48.5	4088.423	4380.287	4955.500	5404.522	5540.777
49.0	4022.618	4319.127	4898.985	5351.878	5490.455
49.5	3956.813	4257.193	4843.244	5299.234	5438.586
50.0	3891.782	4196.033	4787.504	5246.590	5385.167
50.5	3826.751	4134.099	4730.989	5192.398	5332.523
51.0	3761.721	4072.939	4674.474	5138.205	5278.331
51.5	3696.690	4011.779	4617.959	5084.013	5224.139
52.0	3630.885	3950.620	4559.896	5028.272	5169.947
52.5	3566.628	3889.460	4501.833	4972.532	5114.206
53.0	3502.372	3829.074	4444.544	4916.017	5058.465
53.5	3438.115	3767.914	4386.481	4858.728	5001.950
54.0	3373.858	3707.528	4327.643	4800.665	4943.887
54.5	3308.828	3647.143	4269.580	4741.053	4884.276

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**CANDELA TABULATION - (Cont.)**

55.0	3245.345	3586.757	4210.743	4682.216	4823.116
55.5	3180.315	3525.597	4151.131	4621.056	4761.182
56.0	3116.832	3465.211	4091.520	4559.122	4698.473
56.5	3054.124	3404.826	4031.908	4497.188	4636.539
57.0	2990.641	3344.440	3971.522	4433.705	4572.283
57.5	2927.159	3284.054	3910.362	4370.223	4505.704
58.0	2865.225	3223.668	3849.977	4305.192	4436.802
58.5	2802.517	3163.283	3788.817	4239.387	4367.126
59.0	2741.357	3103.671	3728.431	4172.808	4296.676
59.5	2679.423	3043.285	3667.271	4106.229	4226.226
60.0	2618.263	2984.448	3606.111	4038.101	4154.228
60.5	2557.877	2924.836	3544.951	3969.200	4080.681
61.0	2497.491	2865.999	3483.017	3899.524	4006.360
61.5	2438.654	2807.936	3421.083	3830.622	3929.717
62.0	2379.817	2749.873	3359.149	3759.398	3853.073
62.5	2321.753	2692.584	3297.989	3688.174	3774.882
63.0	2262.916	2635.295	3237.604	3615.401	3694.367
63.5	2205.627	2579.554	3175.669	3541.855	3614.627
64.0	2148.338	2523.813	3114.510	3467.534	3534.113
64.5	2093.372	2468.073	3051.801	3392.439	3452.050
65.0	2036.857	2412.332	2989.093	3317.344	3366.891
65.5	1980.342	2357.366	2927.159	3239.926	3280.183
66.0	1925.375	2301.625	2864.451	3160.960	3191.927
66.5	1871.183	2247.433	2801.743	3081.220	3102.897
67.0	1816.991	2193.240	2738.260	2999.932	3013.093
67.5	1763.573	2139.822	2674.778	2917.869	2924.062
68.0	1710.929	2085.630	2610.521	2834.258	2834.258
68.5	1658.285	2031.438	2547.039	2749.873	2742.905
69.0	1606.415	1978.019	2483.556	2666.262	2651.552
69.5	1555.319	1925.375	2418.525	2581.102	2559.425
70.0	1504.998	1871.957	2354.269	2495.943	2467.299
70.5	1455.451	1819.313	2289.238	2410.010	2374.397
71.0	1405.903	1766.669	2223.433	2324.076	2283.819
71.5	1356.356	1714.800	2157.628	2238.917	2194.789
72.0	1308.357	1663.704	2091.049	2153.757	2107.307
72.5	1261.133	1611.834	2024.470	2070.920	2021.373
73.0	1213.908	1560.739	1957.891	1988.858	1936.214
73.5	1168.231	1509.643	1890.538	1907.569	1853.377
74.0	1121.781	1459.322	1823.184	1827.055	1771.314
74.5	1077.653	1409.000	1755.831	1748.863	1692.348
75.0	1032.751	1358.679	1688.478	1672.220	1617.253
75.5	988.623	1309.906	1621.124	1598.673	1542.933
76.0	945.269	1260.358	1554.545	1525.126	1472.483
76.5	902.689	1211.585	1487.966	1453.902	1405.129
77.0	860.884	1162.812	1422.161	1385.001	1340.098
77.5	819.078	1114.039	1357.130	1318.422	1275.842
78.0	778.047	1066.040	1292.874	1253.391	1214.682
78.5	738.564	1018.041	1227.069	1190.683	1155.845
79.0	698.307	970.817	1164.361	1131.071	1100.104
79.5	659.598	923.592	1103.201	1072.234	1046.686
80.0	621.663	876.367	1042.041	1016.493	994.816
80.5	584.503	829.917	983.203	962.301	945.269
81.0	547.342	782.692	925.140	909.657	897.270
81.5	510.956	736.241	869.400	859.335	850.819
82.0	475.344	690.565	814.433	811.336	805.917
82.5	440.506	644.114	760.241	764.112	763.337

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**CANDELA TABULATION - (Cont.)**

83.0	406.442	598.438	708.371	719.984	722.306
83.5	373.153	552.762	657.275	677.404	683.597
84.0	340.637	507.859	608.502	635.598	644.889
84.5	308.122	463.731	561.278	596.115	607.728
85.0	275.607	419.603	516.375	558.181	572.116
85.5	243.865	376.249	472.247	521.020	537.278
86.0	212.898	333.670	431.216	485.408	503.214
86.5	181.157	291.864	390.959	450.570	470.699
87.0	150.190	251.607	352.250	417.281	439.732
87.5	118.449	212.124	315.864	386.314	409.539
88.0	87.482	174.190	282.574	356.895	380.895
88.5	58.837	140.126	251.607	329.025	353.798
89.0	35.612	111.481	224.511	303.477	328.251
89.5	17.806	92.127	205.931	284.897	308.896
90.0	8.516	81.288	195.092	274.058	298.058
90.5	44.902	122.320	261.671	369.282	408.765
91.0	35.612	114.578	253.156	359.992	398.701
91.5	30.193	109.933	246.188	350.702	387.862
92.0	29.419	106.062	239.220	341.412	377.024
92.5	30.193	102.191	233.027	332.896	366.959
93.0	30.967	99.869	226.834	324.380	357.669
93.5	32.515	96.772	220.640	316.638	348.379
94.0	34.064	94.449	214.447	309.670	339.863
94.5	35.612	92.127	209.027	302.703	332.896
95.0	37.160	89.804	202.834	294.961	325.928
95.5	38.709	88.256	197.415	287.219	317.412
96.0	40.257	86.708	192.770	278.703	308.122
96.5	41.805	85.159	188.125	270.187	298.058
97.0	43.354	84.385	183.480	261.671	288.768
97.5	44.902	83.611	180.383	253.930	279.477
98.0	46.451	82.837	178.060	247.736	270.187
98.5	47.225	82.837	175.738	241.543	262.446
99.0	48.773	82.063	173.415	237.672	255.478
99.5	49.547	82.063	171.093	233.801	250.833
100.0	50.321	81.288	168.770	230.704	246.962
100.5	50.321	81.288	166.448	227.608	243.865
101.0	50.321	80.514	164.125	225.285	240.769
101.5	50.321	80.514	162.577	223.737	237.672
102.0	51.096	80.514	160.254	221.414	235.349
102.5	51.096	80.514	158.706	219.092	233.801
103.0	51.096	80.514	157.158	216.769	232.253
103.5	51.096	81.288	154.835	213.673	229.930
104.0	51.096	81.288	153.287	211.350	227.608
104.5	51.096	82.063	151.738	209.027	225.285
105.0	51.096	82.837	150.964	206.705	222.963
105.5	51.096	82.837	150.190	205.157	220.640
106.0	51.096	83.611	149.416	202.834	218.318
106.5	51.096	84.385	148.642	200.512	216.769
107.0	51.096	85.159	148.642	198.963	214.447
107.5	51.096	85.934	147.868	196.641	212.124
108.0	50.321	86.708	147.093	195.092	210.576
108.5	50.321	87.482	146.319	193.544	209.027
109.0	50.321	88.256	145.545	191.996	206.705
109.5	50.321	89.030	144.771	190.447	205.157
110.0	50.321	89.804	143.997	189.673	202.834
110.5	50.321	91.353	143.223	188.125	201.286

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**CANDELA TABULATION - (Cont.)**

111.0	50.321	92.127	142.448	187.351	199.737
111.5	50.321	92.901	142.448	187.351	198.963
112.0	50.321	94.449	141.674	186.576	197.415
112.5	50.321	95.224	140.900	185.802	196.641
113.0	50.321	95.998	140.126	185.028	195.866
113.5	50.321	97.546	139.352	184.254	195.092
114.0	50.321	98.320	138.577	182.706	194.318
114.5	50.321	99.869	138.577	181.931	193.544
115.0	50.321	101.417	137.803	181.157	193.544
115.5	49.547	102.965	137.803	180.383	192.770
116.0	49.547	104.514	137.803	178.835	191.221
116.5	49.547	106.836	137.803	178.060	190.447
117.0	49.547	109.159	137.803	177.286	189.673
117.5	49.547	110.707	137.803	176.512	188.125
118.0	48.773	113.030	137.803	175.738	187.351
118.5	48.773	115.352	137.803	174.964	185.802
119.0	49.547	117.675	137.803	174.190	185.028
119.5	49.547	119.997	137.803	173.415	184.254
120.0	49.547	121.546	137.803	172.641	182.706
120.5	50.321	123.868	137.803	171.867	181.931
121.0	50.321	126.191	137.803	171.093	181.157
121.5	51.096	127.739	138.577	171.093	180.383
122.0	51.096	130.062	139.352	170.319	180.383
122.5	51.870	131.610	140.126	170.319	179.609
123.0	52.644	133.158	140.126	169.545	178.835
123.5	52.644	134.707	140.900	168.770	178.060
124.0	53.418	136.255	141.674	168.770	177.286
124.5	54.192	137.029	142.448	167.996	177.286
125.0	54.966	137.803	143.223	167.222	176.512
125.5	54.966	138.577	143.997	166.448	176.512
126.0	55.741	139.352	145.545	165.674	176.512
126.5	56.515	140.126	146.319	164.899	175.738
127.0	57.289	140.126	147.093	164.125	175.738
127.5	57.289	140.126	148.642	163.351	174.964
128.0	58.063	140.126	149.416	163.351	174.190
128.5	58.837	140.126	150.190	164.125	173.415
129.0	58.837	140.126	150.964	164.125	171.867
129.5	59.612	139.352	152.513	164.125	171.093
130.0	60.386	139.352	153.287	164.899	171.093
130.5	60.386	139.352	154.835	164.899	171.093
131.0	61.160	138.577	155.609	165.674	171.093
131.5	61.934	138.577	157.158	166.448	171.093
132.0	61.934	137.803	158.706	166.448	171.867
132.5	62.708	137.029	160.254	167.222	172.641
133.0	62.708	137.029	162.577	167.996	172.641
133.5	63.482	136.255	164.125	167.996	173.415
134.0	63.482	135.481	165.674	168.770	174.190
134.5	63.482	134.707	167.222	168.770	174.190
135.0	64.257	133.932	169.545	169.545	174.964
135.5	64.257	133.158	171.093	170.319	175.738
136.0	63.482	132.384	172.641	170.319	175.738
136.5	63.482	131.610	174.190	170.319	176.512
137.0	63.482	130.062	175.738	170.319	176.512
137.5	62.708	129.287	176.512	170.319	177.286
138.0	62.708	128.513	178.060	170.319	177.286
138.5	61.934	126.965	179.609	170.319	178.060

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

139.0	61.160	126.191	180.383	171.093	177.286
139.5	61.160	125.416	181.931	171.093	177.286
140.0	60.386	123.868	182.706	172.641	176.512
140.5	60.386	123.094	183.480	173.415	176.512
141.0	60.386	122.320	183.480	174.964	176.512
141.5	60.386	120.771	184.254	176.512	176.512
142.0	59.612	119.997	184.254	178.060	176.512
142.5	59.612	119.223	183.480	179.609	177.286
143.0	59.612	117.675	183.480	181.157	178.060
143.5	59.612	116.901	182.706	182.706	178.835
144.0	59.612	116.126	181.157	183.480	179.609
144.5	58.837	114.578	180.383	185.028	181.157
145.0	58.837	113.804	178.835	186.576	181.931
145.5	58.837	113.030	177.286	188.125	182.706
146.0	58.063	112.256	175.738	188.899	183.480
146.5	58.063	111.481	174.190	190.447	184.254
147.0	58.063	109.933	171.867	191.221	185.028
147.5	58.063	109.159	170.319	191.996	185.802
148.0	58.063	107.610	168.770	192.770	187.351
148.5	58.063	106.836	166.448	192.770	188.899
149.0	58.063	105.288	164.899	192.770	190.447
149.5	58.063	104.514	163.351	191.996	191.221
150.0	58.063	102.965	161.029	191.996	191.996
150.5	58.063	102.191	159.480	190.447	191.996
151.0	58.063	100.643	157.158	188.899	191.996
151.5	58.063	99.869	155.609	186.576	191.996
152.0	58.063	98.320	153.287	184.254	191.221
152.5	58.063	97.546	150.964	181.931	189.673
153.0	58.063	95.998	148.642	179.609	187.351
153.5	58.063	95.224	146.319	177.286	185.802
154.0	58.063	94.449	143.997	174.964	183.480
154.5	58.837	93.675	141.674	172.641	181.157
155.0	58.837	92.901	139.352	169.545	178.060
155.5	58.837	91.353	137.803	167.222	175.738
156.0	58.837	90.579	135.481	164.899	172.641
156.5	58.837	89.804	133.158	161.803	170.319
157.0	58.837	88.256	130.836	159.480	167.222
157.5	58.837	87.482	128.513	156.384	164.899
158.0	58.837	85.934	126.965	153.287	161.803
158.5	58.837	85.159	124.642	150.190	158.706
159.0	58.063	83.611	122.320	147.093	155.609
159.5	58.063	82.063	119.997	143.997	152.513
160.0	58.063	81.288	117.675	140.900	149.416
160.5	58.063	79.740	116.126	137.803	145.545
161.0	58.837	78.966	113.804	134.707	142.448
161.5	58.837	77.418	111.481	131.610	139.352
162.0	58.837	76.643	108.385	128.513	136.255
162.5	58.837	75.869	106.062	126.191	132.384
163.0	58.837	74.321	103.740	123.094	129.287
163.5	58.837	73.547	101.417	119.997	126.965
164.0	58.837	72.773	99.095	116.901	123.868
164.5	58.837	71.998	97.546	114.578	119.997
165.0	58.837	71.224	95.224	111.481	116.901
165.5	58.837	70.450	93.675	108.385	113.804
166.0	58.837	69.676	92.127	105.288	110.707
166.5	58.837	68.902	89.804	102.191	107.610

IES INDOOR REPORT  
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CANDELA TABULATION - (Cont.)

167.0	58.837	68.902	88.256	98.320	103.740
167.5	58.837	68.127	85.159	95.224	100.643
168.0	58.837	67.353	82.837	92.901	96.772
168.5	58.837	67.353	80.514	90.579	93.675
169.0	58.063	66.579	78.192	87.482	90.579
169.5	58.063	66.579	76.643	85.159	87.482
170.0	58.063	65.805	74.321	82.837	85.159
170.5	58.063	65.805	71.998	79.740	82.063
171.0	58.063	65.031	70.450	76.643	78.192
171.5	58.063	64.257	68.902	73.547	75.095
172.0	58.063	63.482	67.353	71.224	71.998
172.5	58.063	62.708	65.805	68.902	68.902
173.0	58.063	61.934	65.031	66.579	66.579
173.5	58.063	61.160	64.257	65.031	64.257
174.0	58.063	60.386	63.482	62.708	61.934
174.5	58.063	60.386	62.708	61.934	59.612
175.0	58.063	59.612	61.934	60.386	58.063
175.5	58.063	58.837	61.160	59.612	56.515
176.0	58.837	58.837	60.386	58.837	55.741
176.5	58.837	58.063	59.612	57.289	54.192
177.0	58.837	58.063	58.837	56.515	54.192
177.5	59.612	58.063	58.063	54.966	53.418
178.0	59.612	58.063	56.515	54.192	52.644
178.5	59.612	57.289	56.515	52.644	51.870
179.0	60.386	57.289	55.741	51.870	51.096
179.5	60.386	57.289	54.966	51.870	50.321
180.0	54.966	54.966	54.966	54.966	54.966



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

Zone	Lumens	%Lamp	%Fixt
0-20	2983.42	N.A.	12.40
0-30	6330.48	N.A.	26.40
0-40	10330.54	N.A.	43.00
0-60	18098.81	N.A.	75.40
0-80	22528.29	N.A.	93.90
0-90	23073.95	N.A.	96.10
10-90	22302.00	N.A.	92.90
20-40	7347.12	N.A.	30.60
20-50	11428.44	N.A.	47.60
40-70	10587.76	N.A.	44.10
60-80	4429.49	N.A.	18.50
70-80	1610.00	N.A.	6.70
80-90	545.65	N.A.	2.30
90-110	365.11	N.A.	1.50
90-120	500.33	N.A.	2.10
90-130	626.46	N.A.	2.60
90-150	834.18	N.A.	3.50
90-180	927.37	N.A.	3.90
110-180	562.25	N.A.	2.30
0-180	24001.31	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	771.95
10-20	2211.47
20-30	3347.06
30-40	4000.06
40-50	4081.32
50-60	3686.95
60-70	2819.49
70-80	1610.00
80-90	545.65
90-100	211.15
100-110	153.97
110-120	135.22
120-130	126.13
130-140	114.02
140-150	93.70
150-160	60.47
160-170	26.56
170-180	6.15

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : GH-2-L240-840-HA-FA-DIM-UNV\_.IES**

**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	115	115	115	115	109	109	109	104	104	104	98	98	98	96
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80
2	98	90	83	77	95	87	81	76	83	78	73	79	75	71	76	72	69	67
3	89	79	70	64	86	77	69	63	73	67	61	70	64	60	67	62	58	56
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	60	54	50	48
5	75	62	53	47	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	41	67	55	46	40	53	45	40	51	44	39	49	43	38	36
7	64	51	42	36	62	50	41	36	48	40	35	46	39	35	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	36	31	41	35	30	28
9	56	42	34	29	54	42	34	29	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	38	31	26	37	30	26	36	30	25	35	29	25	23

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : GH-2-L240-840-HA-FA-DIM-UNV\_.IES**

**UGR TABLE - CORRECTED**

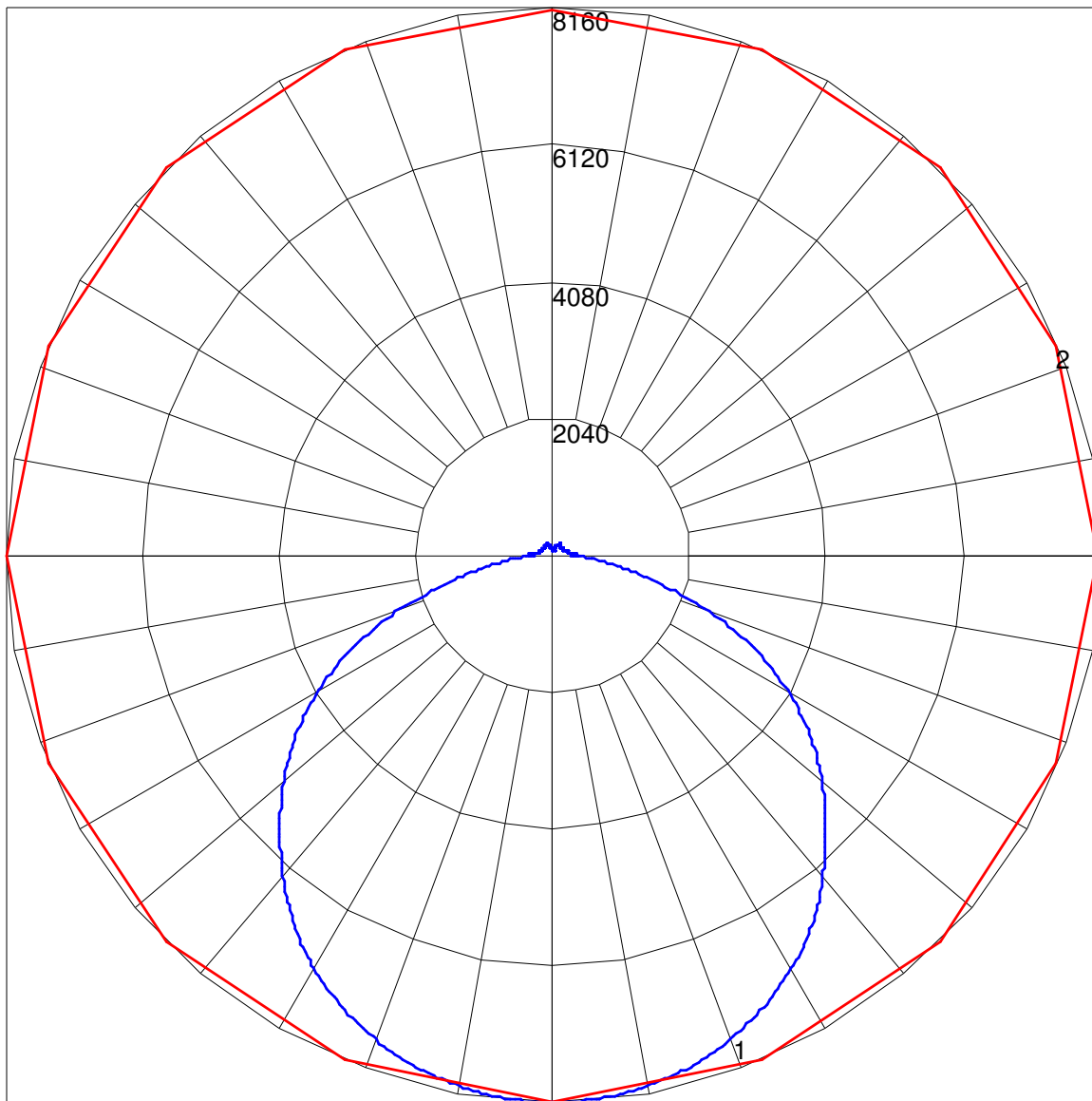
Reflectances

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	20.5	22.0	20.9	22.4	22.8	22.7	24.2	23.1	24.6	25.0
	3H	21.9	23.3	22.4	23.7	24.2	24.3	25.7	24.8	26.1	26.6
	4H	22.4	23.7	22.9	24.2	24.6	24.8	26.1	25.3	26.6	27.0
	6H	22.7	23.9	23.2	24.4	24.9	25.2	26.4	25.6	26.8	27.3
	8H	22.8	24.0	23.3	24.4	24.9	25.3	26.4	25.7	26.9	27.4
	12H	22.8	24.0	23.3	24.4	24.9	25.3	26.4	25.8	26.9	27.4
4H	2H	21.4	22.7	21.9	23.1	23.6	23.1	24.4	23.6	24.8	25.3
	3H	23.1	24.2	23.5	24.6	25.1	25.0	26.1	25.5	26.6	27.1
	4H	23.7	24.7	24.2	25.1	25.7	25.6	26.6	26.1	27.1	27.6
	6H	24.1	25.0	24.6	25.5	26.0	26.0	26.9	26.6	27.4	28.0
	8H	24.2	25.0	24.7	25.5	26.1	26.2	27.0	26.7	27.5	28.1
	12H	24.3	25.0	24.8	25.5	26.1	26.3	27.0	26.8	27.6	28.1
8H	4H	24.1	24.9	24.6	25.4	26.0	25.8	26.6	26.3	27.1	27.7
	6H	24.6	25.3	25.2	25.9	26.4	26.3	27.0	26.9	27.6	28.1
	8H	24.8	25.4	25.4	26.0	26.6	26.5	27.1	27.1	27.7	28.3
	12H	24.9	25.5	25.5	26.0	26.7	26.7	27.3	27.3	27.8	28.5
12H	4H	24.1	24.9	24.7	25.4	26.0	25.8	26.5	26.3	27.1	27.6
	6H	24.7	25.3	25.3	25.9	26.5	26.4	27.0	26.9	27.5	28.1
	8H	24.9	25.5	25.5	26.0	26.7	26.6	27.1	27.2	27.7	28.4

Maximum UGR = 28.5

POLAR GRAPH



Maximum Candela = 8159.814 Located At Horizontal Angle = 67.5, Vertical Angle = .5  
# 1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)