



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : GH-4-L480-840-FA-DIM-UNV\_.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST] GEM FROM 13309242.03A  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUEDATE] 06-MAY-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT] GH-4-L480-840-FA-DIM-UNV  
 [LUMINAIRE] Formed white steel housing, lens enclosures  
 [\_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	47688
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	131
Total Luminaire Watts	363.5
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)	3.73 ft
Luminous Width (90-270)	1.42 ft
Luminous Height	0.21 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24235	26310	28967
55	20755	24349	28008
65	16973	21934	25014
75	12991	17878	18055
85	7725	11135	12990

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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	15979.6561	5979.6561	5979.6561	5979.6561	5979.6561
0.5	16002.0081	5979.6561	5985.7521	5977.6241	5953.240
1.0	15993.8801	5975.5921	5985.7521	5979.6561	5945.112
1.5	15987.7841	5973.5601	5987.7841	5977.6241	5945.112
2.0	15977.6241	5965.4321	5981.6881	5971.5281	5941.048
2.5	15965.4321	5961.3681	5975.5921	5965.4321	5936.984
3.0	15967.4641	5943.0801	5969.4961	5959.3361	5928.856
3.5	15947.1441	5934.9521	5959.3361	5953.2401	5930.888
4.0	15936.9841	5926.8241	5951.2081	5947.1441	5914.632
4.5	15928.8561	5910.5681	5945.1121	5936.9841	5908.536
5.0	15910.5681	5898.3761	5926.8241	5920.7281	5906.504
5.5	15892.2801	5873.9921	5914.6321	5910.5681	5886.184
6.0	15861.8001	5861.8001	5896.3441	5902.4401	5878.056
6.5	15839.4481	5845.5441	5880.0881	5890.2481	5861.800
7.0	15817.0961	5819.1281	5859.7681	5869.9281	5845.544
7.5	15786.6161	5796.7761	5837.4161	5853.6721	5833.352
8.0	15764.2641	5768.3281	5817.0961	5831.3201	5815.064
8.5	15735.8161	5737.8481	5792.7121	5813.0321	5800.840
9.0	15699.2401	5705.3361	5768.3281	5794.7441	5778.488
9.5	15656.5681	5674.8561	5735.8161	5768.3281	5758.168
10.0	15624.0561	5632.1841	5713.4641	5745.9761	5731.752
10.5	15589.5121	5601.7041	5680.9521	5715.4961	5717.528
11.0	15542.7761	5569.1921	5652.5041	5693.1441	5699.240
11.5	15510.2641	5528.5521	5619.9921	5670.7921	5674.856
12.0	15459.4641	5485.8801	5585.4481	5644.3761	5648.440
12.5	15418.8241	5443.2081	5550.9041	5617.9601	5622.024
13.0	15365.9921	5398.5041	5516.3601	5589.5121	5597.640
13.5	15317.2241	5353.8001	5475.7201	5561.0641	5569.192
14.0	15266.4241	5307.0641	5437.1121	5522.4561	5544.808
14.5	15217.6561	5258.2961	5398.5041	5489.9441	5508.232
15.0	15162.7921	5207.4961	5355.8321	5457.4321	5477.752
15.5	15107.9281	5154.6641	5313.1601	5422.8881	5445.240
16.0	15051.0321	5101.8321	5268.4561	5386.3121	5414.760
16.5	14990.0721	5046.9681	5221.7201	5347.7041	5380.216
17.0	14927.0791	4990.0721	5174.9841	5309.0961	5345.672
17.5	14862.0551	4931.1431	5126.2161	5268.4561	5309.096
18.0	14794.9991	4870.1831	5077.4481	5227.8161	5270.488
18.5	14729.9751	4807.1911	5026.6481	5185.1441	5233.912
19.0	14658.8551	4742.1671	4973.8161	5140.4401	5193.272
19.5	14585.7031	4677.1431	4920.9831	5095.7361	5152.632
20.0	14512.5511	4610.0871	4866.1191	5049.0001	5111.992
20.5	14437.3671	4543.0311	4811.2551	5004.2961	5069.320
21.0	14360.1511	4471.9111	4756.3911	4957.5591	5028.680
21.5	14282.9351	4400.7911	4697.4631	4910.8231	4986.008
22.0	14205.7191	4327.6391	4636.5031	4862.0551	4941.303
22.5	14126.4711	4254.4871	4577.5751	4811.2551	4898.631
23.0	14045.1911	4179.3031	4514.5831	4762.4871	4853.927
23.5	13961.8791	4102.0871	4449.5591	4711.6871	4807.191
24.0	13876.5351	4022.8391	4384.5351	4660.8871	4762.487
24.5	13789.1591	3943.5911	4317.4791	4608.0551	4715.751
25.0	13701.7831	3862.3111	4248.3911	4553.1911	4666.983
25.5	13610.3431	3778.9991	4179.3031	4498.3271	4618.215
26.0	13518.9031	3693.6551	4108.1831	4441.4311	4567.415
26.5	13425.4311	3606.2791	4035.0311	4384.5351	4516.615

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**CANDELA TABULATION - (Cont.)**

27.0	13327.89513518.90313961.87914325.60714463.783
27.5	13230.35913427.46313886.69514266.67914408.919
28.0	13128.75913336.02313811.51114203.68714352.023
28.5	13027.15913242.55113732.26314142.72714293.095
29.0	12921.49413147.04713653.01514075.67114234.167
29.5	12813.79813049.51113573.76714010.64714171.175
30.0	12706.10212949.94213490.45513941.55914108.183
30.5	12596.37412850.37413407.14313872.47114043.159
31.0	12486.64612746.74213321.79913801.35113974.071
31.5	12372.85412641.07813236.45513728.19913904.983
32.0	12259.06212535.41413147.04713653.01513833.863
32.5	12145.27012427.71813057.63913575.79913760.711
33.0	12027.41412320.02212968.23113496.55113685.527
33.5	11907.52612208.26212874.75813417.30313610.343
34.0	11789.67012094.47012781.28613336.02313531.095
34.5	11667.75011980.67812683.75013250.67913449.815
35.0	11545.83011864.85412586.21413163.30313368.535
35.5	11419.84611744.96612484.61413075.92713283.191
36.0	11293.86211627.11012385.04612986.51913199.879
36.5	11165.84611507.22212281.41412897.11013114.535
37.0	11033.76611385.30212177.78212807.70213029.191
37.5	10903.71711263.38212074.15012714.23012937.750
38.0	10769.60511139.43011966.45412618.72612850.374
38.5	10635.49311017.51011858.75812525.25412758.934
39.0	10501.38110893.55711749.03012429.75012665.462
39.5	10365.23710769.60511639.30212336.27812574.022
40.0	10231.12510643.62111531.60612240.77412480.550
40.5	10092.94910517.63711423.91012145.27012387.078
41.0	9956.805 10393.68511314.18212047.73412293.606
41.5	9822.693 10273.79711204.45411950.19812200.134
42.0	9688.581 10145.78111096.75811854.69412104.630
42.5	9552.437 10019.79710987.03011757.15812011.158
43.0	9418.325 9893.813 10879.33311661.65411917.686
43.5	9286.245 9769.861 10771.63711566.15011824.214
44.0	9152.133 9645.909 10665.97311470.64611728.710
44.5	9020.053 9523.989 10558.27711373.11011635.238
45.0	8890.004 9402.069 10450.58111277.60611541.766
45.5	8759.956 9278.117 10340.85311178.03811448.294
46.0	8629.908 9154.165 10233.15711082.53411354.822
46.5	8499.860 9032.245 10125.46110984.99811259.318
47.0	8369.812 8910.324 10017.76510887.46111163.814
47.5	8241.796 8788.404 9910.069 10789.92511068.310
48.0	8111.748 8666.484 9802.373 10690.35710972.806
48.5	7983.732 8544.564 9694.677 10588.75710877.301
49.0	7853.684 8424.676 9584.949 10489.18910779.765
49.5	7723.636 8302.756 9477.253 10389.62110686.293
50.0	7595.620 8182.868 9369.557 10288.02110586.725
50.5	7465.572 8062.980 9259.829 10184.38910487.157
51.0	7337.556 7943.092 9152.133 10080.75710387.589
51.5	7207.508 7823.204 9044.437 9977.125 10285.989
52.0	7077.460 7703.316 8934.708 9873.493 10184.389
52.5	6949.443 7581.396 8822.948 9767.829 10082.789
53.0	6821.427 7461.508 8711.188 9662.165 9981.189
53.5	6695.443 7341.620 8601.460 9554.469 9877.557
54.0	6567.427 7221.732 8489.700 9446.773 9769.861
54.5	6441.443 7101.844 8379.972 9339.077 9660.133

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**CANDELA TABULATION - (Cont.)**

55.0	6315.459	6981.955	8266.180	9229.349	9548.373
55.5	6187.443	6862.067	8152.388	9117.589	9432.549
56.0	6063.491	6744.211	8038.596	9007.861	9320.789
56.5	5939.539	6624.323	7922.772	8894.068	9206.997
57.0	5815.587	6506.467	7808.980	8778.244	9089.141
57.5	5695.699	6386.579	7695.188	8660.388	8967.220
58.0	5571.747	6268.723	7579.364	8540.500	8841.236
58.5	5449.827	6150.867	7461.508	8420.612	8707.124
59.0	5329.939	6035.043	7345.684	8298.692	8575.044
59.5	5208.019	5917.187	7229.860	8176.772	8444.996
60.0	5090.163	5801.363	7114.036	8050.788	8314.948
60.5	4970.274	5687.571	6996.180	7922.772	8174.740
61.0	4854.450	5573.779	6880.355	7790.692	8036.564
61.5	4736.594	5462.019	6764.531	7658.612	7894.324
62.0	4620.770	5350.259	6648.707	7526.532	7745.988
62.5	4506.978	5240.531	6534.915	7392.420	7597.652
63.0	4391.154	5130.803	6419.091	7256.276	7451.348
63.5	4277.362	5023.107	6301.235	7116.068	7298.948
64.0	4165.602	4915.410	6185.411	6973.827	7144.516
64.5	4055.874	4809.746	6071.619	6829.555	6988.052
65.0	3946.146	4704.082	5953.763	6685.283	6829.555
65.5	3836.418	4598.418	5837.939	6538.979	6666.995
66.0	3730.754	4494.786	5718.051	6392.675	6506.467
66.5	3623.058	4393.186	5598.163	6246.371	6347.971
67.0	3519.426	4291.586	5476.243	6096.003	6185.411
67.5	3415.794	4189.986	5356.355	5941.571	6020.819
68.0	3312.162	4088.386	5234.435	5791.203	5852.163
68.5	3210.562	3986.786	5110.483	5640.835	5685.539
69.0	3110.994	3885.186	4988.563	5490.467	5516.883
69.5	3013.458	3783.586	4864.610	5336.035	5348.227
70.0	2915.921	3681.986	4740.658	5181.603	5179.571
70.5	2818.385	3580.386	4614.674	5023.107	5008.883
71.0	2722.881	3480.818	4486.658	4862.578	4836.162
71.5	2629.409	3381.250	4362.706	4706.114	4665.474
72.0	2533.905	3281.682	4236.722	4547.618	4496.818
72.5	2442.465	3184.146	4114.802	4391.154	4334.258
73.0	2351.025	3086.610	3990.850	4234.690	4173.730
73.5	2261.617	2987.041	3864.866	4078.226	4011.170
74.0	2172.209	2891.537	3740.914	3923.794	3856.738
74.5	2082.801	2794.001	3614.930	3767.330	3704.338
75.0	1996.035	2696.465	3488.946	3618.994	3553.970
75.5	1910.284	2602.993	3364.994	3472.690	3407.666
76.0	1825.143	2505.457	3241.042	3330.450	3269.490
76.5	1741.628	2409.953	3117.090	3192.274	3137.410
77.0	1659.942	2314.449	2993.138	3058.162	3005.330
77.5	1579.881	2220.977	2869.185	2924.049	2879.345
78.0	1500.226	2129.537	2747.265	2798.065	2759.457
78.5	1423.214	2038.097	2625.345	2674.113	2641.601
79.0	1346.607	1947.063	2505.457	2558.289	2529.841
79.5	1272.642	1857.249	2387.601	2444.497	2422.145
80.0	1199.084	1768.654	2271.777	2334.769	2320.545
80.5	1127.761	1681.074	2157.985	2229.105	2220.977
81.0	1057.047	1593.292	2046.225	2125.473	2129.537
81.5	989.584	1506.729	1937.716	2027.327	2038.097
82.0	921.106	1420.369	1832.255	1932.433	1950.924
82.5	855.676	1334.415	1728.623	1841.806	1866.799

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**CANDELA TABULATION - (Cont.)**

83.0	790.042	1248.461	1628.242	1755.649	1784.300
83.5	726.034	1162.101	1530.910	1670.305	1706.271
84.0	664.261	1079.196	1436.828	1589.025	1631.697
84.5	602.082	995.477	1344.981	1510.183	1559.764
85.0	541.731	912.572	1257.605	1434.593	1489.660
85.5	481.178	830.885	1172.871	1362.050	1421.791
86.0	420.421	750.012	1091.185	1291.540	1355.954
86.5	359.461	671.780	1013.969	1223.874	1290.321
87.0	299.314	595.579	938.784	1158.241	1227.735
87.5	238.963	520.192	866.852	1095.045	1166.775
88.0	179.629	448.056	799.389	1034.492	1106.425
88.5	119.888	382.016	738.429	978.002	1051.561
89.0	72.746	326.543	687.832	932.282	1006.857
89.5	40.843	286.309	645.364	893.471	969.264
90.0	18.898	261.112	612.242	857.098	930.453
90.5	31.496	278.587	623.012	866.242	929.437
91.0	33.122	271.272	612.039	845.109	897.941
91.5	35.966	263.144	596.189	822.960	873.964
92.0	37.795	258.674	583.997	805.079	859.740
92.5	39.218	254.407	575.056	791.871	847.954
93.0	41.250	249.733	566.522	780.695	836.778
93.5	43.485	244.450	557.987	769.925	825.602
94.0	45.720	239.167	549.047	759.156	813.816
94.5	48.158	233.680	539.699	748.183	801.624
95.0	51.003	228.397	530.149	737.210	789.839
95.5	54.458	223.114	521.005	726.034	778.460
96.0	58.115	218.034	512.267	715.061	767.690
96.5	61.773	213.360	503.530	704.495	757.327
97.0	65.024	209.093	494.792	693.928	746.964
97.5	68.072	205.232	486.258	683.362	736.600
98.0	70.307	201.778	477.927	673.608	726.440
98.5	71.730	198.323	470.002	663.855	715.874
99.0	72.542	195.885	462.280	654.304	705.308
99.5	73.355	193.650	454.355	644.754	695.148
100.0	73.965	190.805	446.431	635.000	684.581
100.5	74.371	188.366	438.709	625.450	674.624
101.0	74.778	186.334	431.394	615.493	664.464
101.5	75.387	184.506	423.875	605.536	654.711
102.0	75.794	182.880	416.560	595.783	644.754
102.5	76.200	181.661	409.448	586.029	635.000
103.0	76.606	180.848	402.539	576.479	625.450
103.5	76.810	180.238	396.647	567.741	615.493
104.0	77.419	179.832	390.957	559.207	605.740
104.5	77.622	179.426	385.674	550.469	596.189
105.0	78.029	179.222	380.594	541.935	586.842
105.5	78.638	179.222	375.717	533.400	577.698
106.0	78.842	179.222	371.450	525.069	568.960
106.5	79.451	179.629	367.183	516.738	560.426
107.0	79.858	180.035	362.915	508.813	551.891
107.5	80.264	180.442	358.242	501.295	543.357
108.0	80.670	180.645	353.975	494.386	534.823
108.5	81.077	181.051	350.114	488.087	526.491
109.0	81.280	181.661	346.253	482.194	518.567
109.5	81.686	182.270	341.986	476.098	511.251
110.0	82.093	183.083	338.125	469.799	504.749
110.5	82.296	184.302	334.467	463.499	498.653

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**CANDELA TABULATION - (Cont.)**

111.0	82.702	185.318	331.216	457.403	492.557
111.5	83.109	186.538	327.965	451.714	486.461
112.0	83.515	187.960	324.917	446.634	479.959
112.5	83.922	189.586	322.072	441.554	473.659
113.0	84.328	191.618	319.227	436.474	467.970
113.5	84.734	193.446	316.789	431.597	462.890
114.0	84.938	195.478	314.351	426.517	457.607
114.5	85.344	197.714	311.709	421.640	452.527
115.0	85.750	199.746	309.677	416.560	446.837
115.5	85.954	201.981	307.645	411.683	441.351
116.0	86.360	204.216	305.613	406.807	436.067
116.5	86.766	206.248	303.784	402.133	430.784
117.0	87.376	208.483	301.955	397.866	425.907
117.5	87.579	210.312	300.127	394.005	421.234
118.0	87.986	212.547	298.704	390.347	416.560
118.5	88.392	214.783	297.079	386.690	412.090
119.0	89.002	216.815	295.656	383.235	407.619
119.5	89.205	218.847	294.234	379.984	403.555
120.0	89.611	221.082	293.218	376.733	399.695
120.5	89.814	223.114	291.999	373.279	396.037
121.0	90.221	225.349	290.983	370.027	392.583
121.5	90.424	227.584	289.763	366.979	389.331
122.0	90.830	229.819	288.747	364.135	386.080
122.5	91.237	232.258	287.935	361.290	383.032
123.0	91.440	234.493	287.122	358.851	379.984
123.5	91.846	236.119	286.715	356.413	376.936
124.0	92.050	237.135	286.106	354.178	373.685
124.5	92.659	237.744	285.903	351.739	371.043
125.0	93.269	238.151	285.699	349.301	368.605
125.5	93.675	238.354	285.903	347.269	366.370
126.0	94.285	238.760	286.512	345.034	363.931
126.5	94.894	238.557	287.122	343.205	361.493
127.0	95.301	238.151	288.138	341.579	359.258
127.5	95.910	237.541	289.560	339.954	357.226
128.0	96.520	236.728	290.779	338.125	354.991
128.5	97.130	236.119	291.999	336.499	352.959
129.0	97.739	235.306	293.015	334.874	350.927
129.5	98.146	234.493	294.234	333.045	348.895
130.0	98.755	233.680	295.453	331.419	347.066
130.5	99.365	232.461	296.672	329.997	345.237
131.0	99.974	231.039	297.891	328.575	343.611
131.5	100.584	229.616	299.111	327.152	341.783
132.0	100.990	227.991	300.127	326.136	339.954
132.5	100.990	226.771	301.346	325.323	338.328
133.0	101.194	225.146	302.565	324.917	336.703
133.5	101.397	223.927	303.784	324.714	335.077
134.0	101.600	222.707	305.207	324.917	333.858
134.5	101.803	221.691	306.629	325.120	332.639
135.0	102.210	220.472	307.848	325.933	332.029
135.5	103.022	219.253	308.864	326.543	331.826
136.0	103.632	218.034	310.083	327.559	331.623
136.5	104.038	216.408	311.506	328.575	331.826
137.0	104.648	214.376	313.131	329.591	332.232
137.5	105.461	212.547	314.757	330.607	332.842
138.0	106.070	210.312	316.789	331.623	333.655
138.5	106.477	207.467	318.415	332.639	334.671

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

139.0	106.070	204.826	320.040	334.061	335.687
139.5	105.867	201.981	321.869	335.483	336.906
140.0	104.648	199.136	323.495	336.906	338.125
140.5	103.632	195.275	324.917	338.328	339.344
141.0	102.819	192.024	325.933	339.751	340.767
141.5	101.600	188.773	326.339	341.173	342.189
142.0	100.381	186.741	325.323	342.392	343.815
142.5	98.958	184.912	323.901	344.018	345.237
143.0	95.504	182.677	322.275	345.237	346.863
143.5	94.691	181.864	320.447	346.456	348.285
144.0	94.082	180.848	318.008	347.675	349.911
144.5	92.050	180.035	314.757	348.895	351.333
145.0	91.846	179.426	311.303	350.317	352.959
145.5	92.456	178.816	308.051	351.536	354.381
146.0	93.066	178.206	304.800	352.552	355.397
146.5	93.675	177.597	301.346	353.771	356.616
147.0	94.488	176.987	297.688	354.991	357.835
147.5	95.301	176.378	293.827	356.007	359.258
148.0	96.317	175.362	290.373	356.413	360.680
148.5	97.130	174.346	286.715	356.007	362.103
149.0	98.349	173.126	283.058	354.787	363.525
149.5	99.365	171.907	279.197	352.552	365.151
150.0	100.584	170.282	275.336	349.911	366.573
150.5	101.803	168.859	271.475	346.659	366.167
151.0	103.226	167.234	267.818	342.595	365.151
151.5	104.445	165.608	263.957	338.328	363.525
152.0	105.461	163.982	259.893	333.655	360.477
152.5	106.070	161.950	255.829	328.778	356.819
153.0	106.680	160.122	252.171	323.698	352.959
153.5	106.883	158.090	248.514	318.821	348.895
154.0	106.883	156.261	244.856	313.741	344.018
154.5	106.883	154.229	241.402	308.458	338.531
155.0	107.086	152.197	237.744	302.971	333.248
155.5	106.883	150.165	234.087	297.688	328.168
156.0	106.680	148.336	230.632	292.608	323.088
156.5	106.680	146.507	226.975	287.325	317.602
157.0	106.477	144.475	223.520	282.245	312.319
157.5	105.867	142.443	220.066	277.368	307.035
158.0	105.258	140.411	217.018	272.898	301.346
158.5	104.242	138.176	214.579	268.631	295.453
159.0	103.226	136.144	212.344	264.363	289.967
159.5	102.006	133.909	209.703	260.299	285.903
160.0	100.584	131.674	206.858	256.032	282.042
160.5	99.365	129.642	203.810	251.765	278.384
161.0	97.942	127.610	200.355	247.295	275.743
161.5	96.723	125.781	196.291	242.824	272.695
162.0	95.910	123.952	192.227	238.354	269.037
162.5	95.707	122.326	188.163	233.883	265.379
163.0	96.317	120.904	184.099	229.819	261.315
163.5	96.723	119.482	180.442	226.365	256.032
164.0	97.536	118.262	176.378	222.707	250.343
164.5	97.942	116.840	172.314	218.237	244.653
165.0	98.349	115.621	168.250	212.751	240.386
165.5	98.552	114.605	164.186	206.655	235.306
166.0	98.552	113.589	160.325	200.152	228.194
166.5	98.755	112.573	156.464	194.462	219.253

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

167.0	98.755	111.963	152.806	188.976	210.109
167.5	98.552	111.150	148.946	183.896	201.371
168.0	98.552	110.541	145.085	178.613	193.040
168.5	98.552	110.134	141.224	173.126	184.912
169.0	98.349	109.525	137.363	167.234	176.784
169.5	98.552	109.118	133.909	161.138	169.062
170.0	98.755	108.509	130.861	155.245	161.747
170.5	99.162	107.899	128.016	149.352	154.432
171.0	99.365	107.493	125.578	143.256	147.726
171.5	99.568	107.290	123.749	137.566	142.037
172.0	99.974	107.086	122.123	132.283	136.347
172.5	100.178	106.883	120.701	127.203	130.658
173.0	100.584	106.680	119.482	123.139	125.578
173.5	100.990	106.680	118.059	119.685	121.107
174.0	101.397	106.883	116.840	116.840	117.856
174.5	102.006	107.290	115.621	114.402	115.011
175.0	102.819	107.493	114.402	112.166	111.760
175.5	103.632	108.306	113.589	110.338	109.322
176.0	104.648	109.118	112.979	108.712	106.680
176.5	105.867	110.134	112.776	107.290	103.835
177.0	107.086	111.150	112.573	106.680	102.210
177.5	108.712	111.963	112.573	106.070	101.194
178.0	109.931	112.979	112.370	105.664	100.990
178.5	110.947	113.792	112.370	105.461	101.600
179.0	111.557	114.198	112.573	105.664	102.413
179.5	111.963	114.402	112.979	106.070	103.226
180.0	110.541	110.541	110.541	110.541	110.541



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

Zone	Lumens	%Lamp	%Fixt
0-20	5839.24	N.A.	12.20
0-30	12386.65	N.A.	26.00
0-40	20208.18	N.A.	42.40
0-60	35427.83	N.A.	74.30
0-80	44391.26	N.A.	93.10
0-90	45692.76	N.A.	95.80
10-90	44180.67	N.A.	92.60
20-40	14368.94	N.A.	30.10
20-50	22349.17	N.A.	46.90
40-70	20837.56	N.A.	43.70
60-80	8963.43	N.A.	18.80
70-80	3345.52	N.A.	7.00
80-90	1301.5	N.A.	2.70
90-110	908.85	N.A.	1.90
90-120	1206.27	N.A.	2.50
90-130	1454.51	N.A.	3.10
90-150	1829.75	N.A.	3.80
90-180	1995.17	N.A.	4.20
110-180	1086.33	N.A.	2.30
0-180	47687.93	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1512.09
10-20	4327.16
20-30	6547.41
30-40	7821.53
40-50	7980.23
50-60	7239.42
60-70	5617.91
70-80	3345.52
80-90	1301.5
90-100	526.16
100-110	382.68
110-120	297.43
120-130	248.23
130-140	208.25
140-150	166.99
150-160	106.43
160-170	47.80
170-180	11.19

**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	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	107	102	98	94	104	100	96	92	95	91	88	90	87	85	86	84	82	79
2	97	89	82	76	94	87	80	75	83	77	73	79	74	70	75	71	68	66
3	89	78	70	63	86	76	69	62	73	66	61	69	64	59	66	62	58	55
4	81	69	60	54	79	68	59	53	65	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	50	42	35	62	49	41	35	47	40	35	46	39	34	44	38	34	31
8	59	46	37	32	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	35	29	25	23

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : GH-4-L480-840-FA-DIM-UNV\_.IES**

**UGR TABLE - CORRECTED**

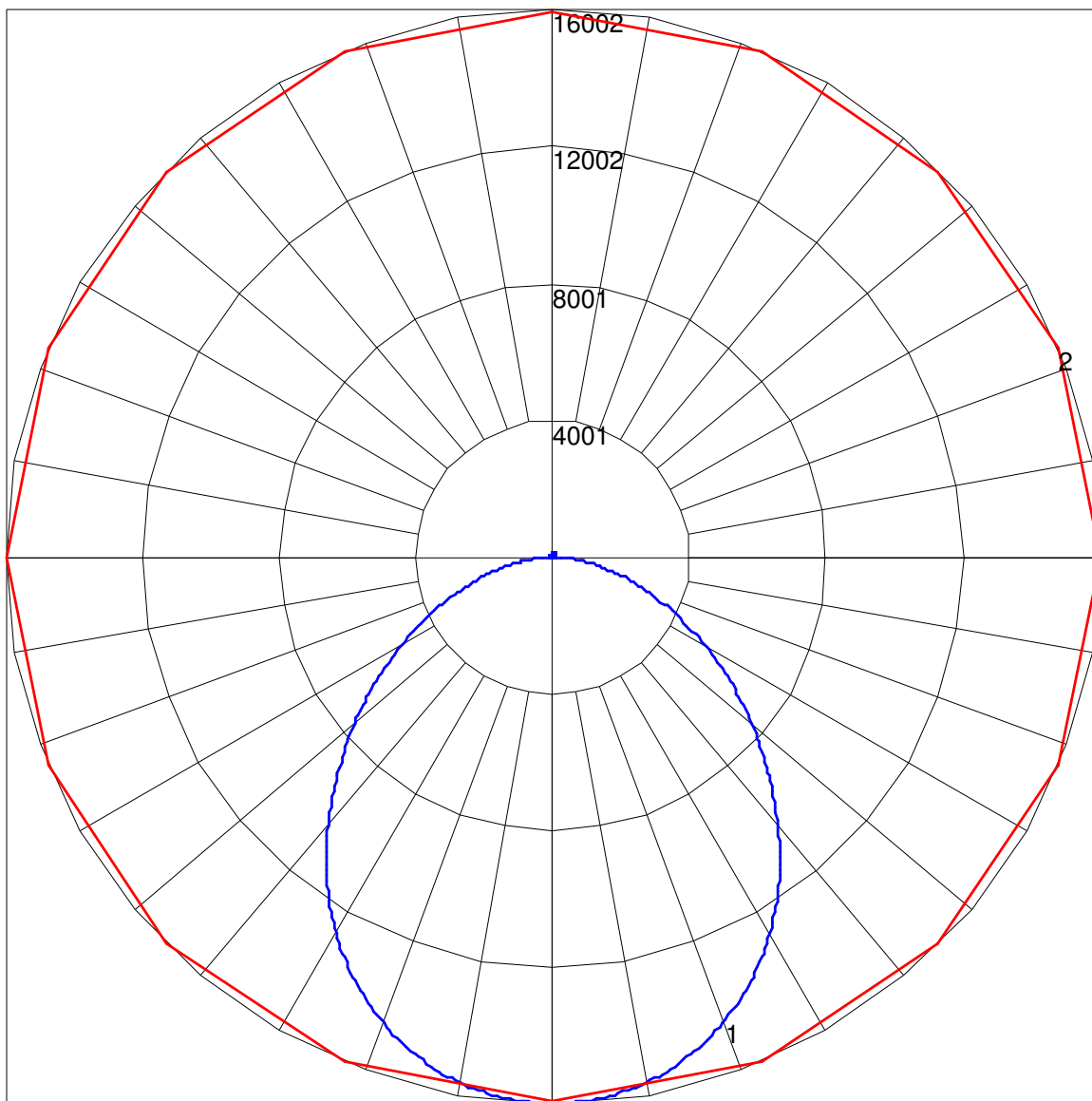
Reflectances

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	21.4	23.0	21.8	23.4	23.8	24.0	25.5	24.4	25.9	26.4
	3H	22.9	24.3	23.3	24.7	25.1	25.9	27.3	26.3	27.7	28.1
	4H	23.3	24.7	23.8	25.1	25.6	26.5	27.8	26.9	28.2	28.7
	6H	23.6	24.9	24.1	25.3	25.8	27.0	28.2	27.4	28.6	29.1
	8H	23.7	24.9	24.2	25.4	25.9	27.2	28.3	27.6	28.8	29.3
	12H	23.8	24.9	24.3	25.4	25.9	27.3	28.5	27.8	28.9	29.4
4H	2H	22.4	23.8	22.9	24.2	24.7	24.4	25.7	24.9	26.2	26.6
	3H	24.1	25.2	24.6	25.7	26.2	26.5	27.6	27.0	28.1	28.6
	4H	24.7	25.7	25.2	26.2	26.7	27.3	28.3	27.8	28.8	29.3
	6H	25.1	26.0	25.6	26.5	27.1	27.9	28.8	28.4	29.3	29.9
	8H	25.2	26.1	25.8	26.6	27.1	28.1	29.0	28.7	29.5	30.0
	12H	25.3	26.1	25.8	26.6	27.2	28.4	29.1	28.9	29.7	30.2
8H	4H	25.2	26.1	25.8	26.6	27.1	27.5	28.3	28.0	28.8	29.4
	6H	25.8	26.5	26.4	27.1	27.6	28.2	28.9	28.8	29.5	30.0
	8H	26.0	26.6	26.6	27.2	27.8	28.5	29.2	29.1	29.7	30.3
	12H	26.1	26.7	26.7	27.2	27.9	28.9	29.4	29.5	30.0	30.6
12H	4H	25.3	26.1	25.9	26.6	27.2	27.5	28.3	28.0	28.8	29.4
	6H	25.9	26.6	26.5	27.1	27.7	28.3	28.9	28.8	29.4	30.0
	8H	26.2	26.7	26.8	27.3	28.0	28.6	29.2	29.2	29.7	30.4

Maximum UGR = 30.6

POLAR GRAPH



Maximum Candela = 16002.008 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.)