



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-AR14-L69-830-A-DIM-UNV.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM ORIGINAL TEST  
 [TESTLAB]Intertek  
 [ISSUE DATE] 03/18/2019  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
 [LUMCAT]HETG-AR14-L69-830-A-DIM-UNV  
 [LUMINAIRE]1X4 RECESSED GRID LUMINAIRE  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LAMP]LED  
 [LAMPCAT] HLM 80 CRI 3000K CCT  
 [\_SEARCH\_APPLICATION] INDOOR  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_MOUNTING] RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6929
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	53.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.92 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7159	7238	7117
55	6065	6381	5844
65	4802	5314	3629
75	3682	3647	1903
85	2580	1263	595

**IES INDOOR REPORT**  
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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>
<b>0.0</b>	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471
<b>2.5</b>	2854.089	2866.866	2895.082	2930.929	2959.855	2930.220	2891.356	2863.495	2850.895	2863.495
<b>5.0</b>	2845.394	2859.590	2892.066	2928.090	2955.419	2922.766	2885.677	2854.622	2839.183	2854.622
<b>7.5</b>	2829.955	2846.991	2880.176	2912.474	2935.366	2903.068	2871.125	2840.070	2822.324	2840.070
<b>10.0</b>	2810.079	2828.358	2857.638	2882.305	2899.874	2868.818	2844.329	2818.597	2797.657	2818.597
<b>12.5</b>	2783.815	2801.916	2820.727	2840.247	2856.751	2824.631	2805.643	2787.542	2765.892	2787.542
<b>15.0</b>	2747.968	2767.844	2777.959	2796.947	2808.837	2777.249	2757.196	2748.501	2726.141	2748.501
<b>17.5</b>	2703.958	2724.011	2729.512	2743.177	2749.388	2718.155	2706.443	2701.829	2681.066	2701.829
<b>20.0</b>	2653.027	2671.838	2674.677	2677.517	2680.888	2649.123	2648.591	2647.171	2628.538	2647.171
<b>22.5</b>	2596.950	2611.324	2608.662	2606.178	2611.146	2575.477	2579.204	2582.930	2566.781	2582.930
<b>25.0</b>	2531.999	2543.179	2532.887	2536.613	2544.599	2505.735	2501.299	2510.704	2498.992	2510.704
<b>27.5</b>	2456.579	2467.581	2451.432	2463.677	2463.855	2429.427	2418.247	2431.557	2422.861	2431.557
<b>30.0</b>	2371.043	2384.885	2368.026	2376.544	2373.705	2339.988	2333.776	2345.311	2336.793	2345.311
<b>32.5</b>	2276.102	2290.831	2281.426	2281.071	2271.133	2243.272	2244.692	2249.660	2240.078	2249.660
<b>35.0</b>	2172.998	2187.727	2183.290	2176.015	2161.995	2136.796	2143.717	2144.249	2135.021	2144.249
<b>37.5</b>	2063.860	2077.347	2075.750	2064.570	2050.905	2025.351	2034.047	2031.562	2024.819	2031.562
<b>40.0</b>	1947.091	1959.513	1961.110	1950.285	1935.379	1911.777	1918.343	1912.132	1906.275	1912.132
<b>42.5</b>	1824.111	1837.776	1840.438	1833.694	1814.351	1794.653	1797.670	1789.862	1785.780	1789.862
<b>45.0</b>	1697.582	1712.489	1716.393	1711.069	1687.645	1673.803	1673.448	1665.817	1658.186	1665.817
<b>47.5</b>	1567.327	1586.492	1591.639	1587.557	1557.389	1547.274	1546.741	1535.739	1522.962	1535.739
<b>50.0</b>	1437.958	1459.609	1469.724	1463.513	1428.908	1421.455	1421.987	1403.531	1388.802	1403.531
<b>52.5</b>	1301.847	1328.821	1348.519	1335.564	1282.503	1293.861	1302.379	1272.921	1255.175	1272.921
<b>55.0</b>	1166.622	1200.694	1227.491	1196.080	1124.209	1151.360	1183.658	1145.327	1121.547	1145.327
<b>57.5</b>	1035.834	1076.650	1110.012	1048.079	969.996	1004.779	1067.777	1023.234	991.114	1023.234
<b>60.0</b>	910.902	957.929	994.841	904.514	806.201	857.664	952.073	906.821	866.182	906.821
<b>62.5</b>	792.181	844.887	872.393	751.721	652.520	708.598	829.626	798.393	749.236	798.393
<b>65.0</b>	680.559	739.653	753.140	607.446	514.279	569.292	714.631	697.240	640.631	697.240
<b>67.5</b>	576.568	642.050	636.194	477.900	395.736	445.070	597.863	603.719	541.608	603.719
<b>70.0</b>	482.336	551.013	521.910	366.987	297.955	337.706	485.353	515.876	450.571	515.876
<b>72.5</b>	397.155	465.833	415.256	273.466	221.470	249.154	381.362	433.357	368.230	433.357
<b>75.0</b>	319.605	381.184	316.589	198.223	165.215	180.299	286.420	351.016	293.519	351.016
<b>77.5</b>	248.799	300.617	226.794	140.903	126.706	133.982	201.595	274.353	226.971	274.353
<b>80.0</b>	184.381	224.309	146.759	100.620	89.085	95.296	132.563	201.240	167.167	201.240
<b>82.5</b>	123.512	151.373	84.294	59.627	47.027	53.415	75.421	135.225	116.414	135.225
<b>85.0</b>	75.421	80.744	36.912	21.828	17.391	18.633	30.701	69.742	69.919	69.742
<b>87.5</b>	36.024	23.780	9.760	7.986	6.389	6.743	8.341	17.214	32.653	17.214
<b>90.0</b>	4.791	0.532	0.000	0.000	0.000	0.000	0.000	0.000	2.662	0.000
<b>92.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>95.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>97.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>100.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>102.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>105.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>107.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>110.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>112.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>115.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>117.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>120.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>122.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>125.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>127.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>130.0</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>132.5</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**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	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471	2901.471
2.5	2891.356	2930.220	2959.855	2930.929	2895.082	2866.866	2854.089
5.0	2885.677	2922.766	2955.419	2928.090	2892.066	2859.590	2845.394
7.5	2871.125	2903.068	2935.366	2912.474	2880.176	2846.991	2829.955
10.0	2844.329	2868.818	2899.874	2882.305	2857.638	2828.358	2810.079
12.5	2805.643	2824.631	2856.751	2840.247	2820.727	2801.916	2783.815
15.0	2757.196	2777.249	2808.837	2796.947	2777.959	2767.844	2747.968
17.5	2706.443	2718.155	2749.388	2743.177	2729.512	2724.011	2703.958
20.0	2648.591	2649.123	2680.888	2677.517	2674.677	2671.838	2653.027
22.5	2579.204	2575.477	2611.146	2606.178	2608.662	2611.324	2596.950
25.0	2501.299	2505.735	2544.599	2536.613	2532.887	2543.179	2531.999
27.5	2418.247	2429.427	2463.855	2463.677	2451.432	2467.581	2456.579
30.0	2333.776	2339.988	2373.705	2376.544	2368.026	2384.885	2371.043
32.5	2244.692	2243.272	2271.133	2281.071	2281.426	2290.831	2276.102
35.0	2143.717	2136.796	2161.995	2176.015	2183.290	2187.727	2172.998
37.5	2034.047	2025.351	2050.905	2064.570	2075.750	2077.347	2063.860
40.0	1918.343	1911.777	1935.379	1950.285	1961.110	1959.513	1947.091
42.5	1797.670	1794.653	1814.351	1833.694	1840.438	1837.776	1824.111
45.0	1673.448	1673.803	1687.645	1711.069	1716.393	1712.489	1697.582
47.5	1546.741	1547.274	1557.389	1587.557	1591.639	1586.492	1567.327
50.0	1421.987	1421.455	1428.908	1463.513	1469.724	1459.609	1437.958
52.5	1302.379	1293.861	1282.503	1335.564	1348.519	1328.821	1301.847
55.0	1183.658	1151.360	1124.209	1196.080	1227.491	1200.694	1166.622
57.5	1067.777	1004.779	969.996	1048.079	1110.012	1076.650	1035.834
60.0	952.073	857.664	806.201	904.514	994.841	957.929	910.902
62.5	829.626	708.598	652.520	751.721	872.393	844.887	792.181
65.0	714.631	569.292	514.279	607.446	753.140	739.653	680.559
67.5	597.863	445.070	395.736	477.900	636.194	642.050	576.568
70.0	485.353	337.706	297.955	366.987	521.910	551.013	482.336
72.5	381.362	249.154	221.470	273.466	415.256	465.833	397.155
75.0	286.420	180.299	165.215	198.223	316.589	381.184	319.605
77.5	201.595	133.982	126.706	140.903	226.794	300.617	248.799
80.0	132.563	95.296	89.085	100.620	146.759	224.309	184.381

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**CANDELA TABULATION - (Cont.)**

82.5	75.421	53.415	47.027	59.627	84.294	151.373	123.512
85.0	30.701	18.633	17.391	21.828	36.912	80.744	75.421
87.5	8.341	6.743	6.389	7.986	9.760	23.780	36.024
90.0	0.000	0.000	0.000	0.000	0.000	0.532	4.791
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1055.99	N.A.	15.20
0-30	2217.71	N.A.	32.00
0-40	3566.8	N.A.	51.50
0-60	5915.57	N.A.	85.40
0-80	6868.3	N.A.	99.10
0-90	6928.6	N.A.	100.00
10-90	6653.82	N.A.	96.00
20-40	2510.81	N.A.	36.20
20-50	3812.6	N.A.	55.00
40-70	3004.94	N.A.	43.40
60-80	952.73	N.A.	13.80
70-80	296.56	N.A.	4.30
80-90	60.30	N.A.	0.90
90-110	0.07	N.A.	0.00
90-120	0.07	N.A.	0.00
90-130	0.07	N.A.	0.00
90-150	0.07	N.A.	0.00
90-180	0.07	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	6928.67	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	274.78
10-20	781.21
20-30	1161.72
30-40	1349.09
40-50	1301.79
50-60	1046.98
60-70	656.17
70-80	296.56
80-90	60.30
90-100	0.07
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

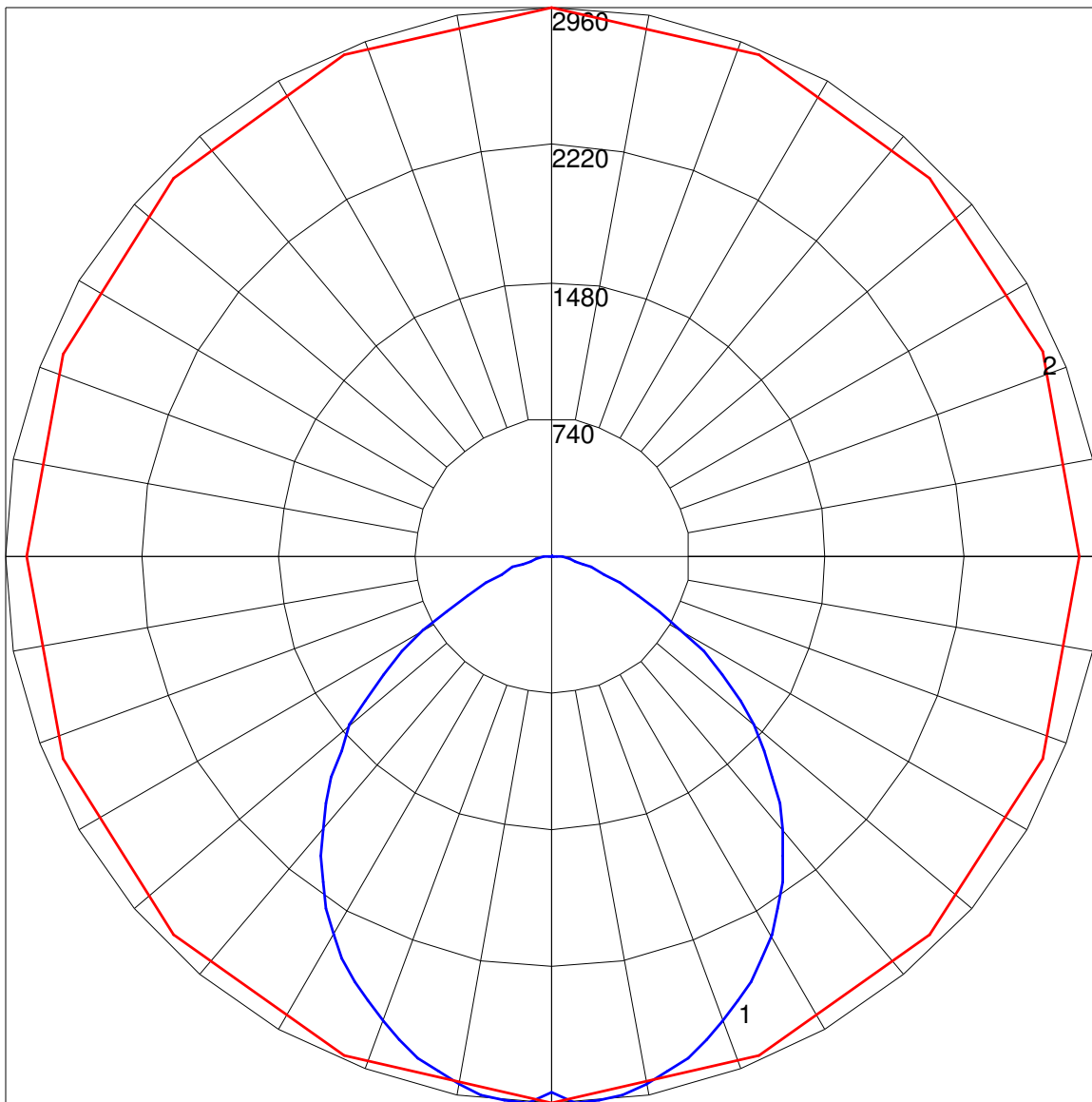
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HETG-AR14-L69-830-A-DIM-UNV.IES**

**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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	76	65	57	51	63	56	51	61	55	50	59	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

POLAR GRAPH



Maximum Candela = 2959.855 Located At Horizontal Angle = 90, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)