



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HES-14-L38-835-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]HES-14-L38-835-A-DIM-UNV  
 [LUMINAIRE]1X4 SURFACE MOUNT LUMINAIRE  
 [MORE] WITH CENTER FROSTED LENS  
 [LAMP]LED  
 [LAMPCAT] HLM 80 CRI 3500K CCT  
 [\_SEARCH\_APPLICATION] INDOOR  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_MOUNTING] SURFACE

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3929
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	127
Total Luminaire Watts	30.9
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	4060	4105	4036
55	3440	3619	3314
65	2723	3014	2058
75	2088	2069	1079
85	1463	716	337

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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>	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471
<b>2.5</b>	1618.600	1625.846	1641.848	1662.177	1678.581	1661.774	1639.734	1623.934	1616.788	1623.934
<b>5.0</b>	1613.668	1621.719	1640.137	1660.567	1676.065	1657.547	1636.514	1618.902	1610.146	1618.902
<b>7.5</b>	1604.913	1614.574	1633.394	1651.710	1664.693	1646.376	1628.261	1610.649	1600.585	1610.649
<b>10.0</b>	1593.641	1604.007	1620.612	1634.601	1644.565	1626.953	1613.064	1598.472	1586.596	1598.472
<b>12.5</b>	1578.746	1589.011	1599.679	1610.750	1620.109	1601.893	1591.125	1580.859	1568.581	1580.859
<b>15.0</b>	1558.417	1569.688	1575.425	1586.193	1592.936	1575.022	1563.650	1558.719	1546.038	1558.719
<b>17.5</b>	1533.458	1544.830	1547.950	1555.699	1559.222	1541.509	1534.867	1532.250	1520.475	1532.250
<b>20.0</b>	1504.574	1515.242	1516.852	1518.462	1520.375	1502.360	1502.058	1501.253	1490.686	1501.253
<b>22.5</b>	1472.772	1480.924	1479.414	1478.005	1480.823	1460.594	1462.708	1464.821	1455.663	1464.821
<b>25.0</b>	1435.937	1442.278	1436.440	1438.554	1443.083	1421.043	1418.526	1423.860	1417.218	1423.860
<b>27.5</b>	1393.165	1399.405	1390.247	1397.191	1397.291	1377.767	1371.427	1378.975	1374.043	1378.975
<b>30.0</b>	1344.656	1352.506	1342.946	1347.776	1346.166	1327.044	1323.522	1330.064	1325.233	1330.064
<b>32.5</b>	1290.814	1299.167	1293.833	1293.632	1287.996	1272.195	1273.000	1275.818	1270.384	1275.818
<b>35.0</b>	1232.342	1240.695	1238.179	1234.053	1226.102	1211.811	1215.736	1216.038	1210.805	1216.038
<b>37.5</b>	1170.448	1178.097	1177.191	1170.850	1163.101	1148.609	1153.540	1152.131	1148.307	1152.131
<b>40.0</b>	1104.227	1111.271	1112.177	1106.038	1097.584	1084.199	1087.923	1084.400	1081.079	1084.400
<b>42.5</b>	1034.483	1042.232	1043.742	1039.917	1028.947	1017.776	1019.487	1015.059	1012.744	1015.059
<b>45.0</b>	962.726	971.180	973.394	970.375	957.090	949.240	949.039	944.711	940.384	944.711
<b>47.5</b>	888.856	899.725	902.644	900.329	883.220	877.484	877.182	870.942	863.696	870.942
<b>50.0</b>	815.489	827.767	833.504	829.981	810.357	806.130	806.432	795.965	787.612	795.965
<b>52.5</b>	738.298	753.595	764.766	757.420	727.328	733.769	738.600	721.894	711.830	721.894
<b>55.0</b>	661.610	680.933	696.130	678.316	637.557	652.955	671.271	649.533	636.047	649.533
<b>57.5</b>	587.438	610.585	629.506	594.382	550.100	569.826	605.553	580.293	562.077	580.293
<b>60.0</b>	516.587	543.257	564.190	512.964	457.209	486.395	539.936	514.272	491.226	514.272
<b>62.5</b>	449.259	479.149	494.748	426.313	370.055	401.857	470.494	452.781	424.904	452.781
<b>65.0</b>	385.956	419.469	427.118	344.492	291.656	322.854	405.279	395.416	363.312	395.416
<b>67.5</b>	326.981	364.117	360.796	271.025	224.428	252.406	339.058	342.379	307.155	342.379
<b>70.0</b>	273.541	312.488	295.983	208.124	168.975	191.519	275.252	292.562	255.526	292.562
<b>72.5</b>	225.233	264.181	235.499	155.087	125.599	141.299	216.276	245.764	208.829	245.764
<b>75.0</b>	181.253	216.176	179.542	112.415	93.696	102.251	162.434	199.067	166.459	199.067
<b>77.5</b>	141.098	170.485	128.618	79.908	71.857	75.984	114.327	155.590	128.719	155.590
<b>80.0</b>	104.565	127.209	83.230	57.063	50.521	54.044	75.178	114.126	94.803	114.126
<b>82.5</b>	70.046	85.846	47.804	33.815	26.670	30.293	42.772	76.688	66.020	76.688
<b>85.0</b>	42.772	45.791	20.933	12.379	9.863	10.567	17.411	39.552	39.652	39.552
<b>87.5</b>	20.430	13.486	5.535	4.529	3.623	3.824	4.730	9.762	18.518	9.762
<b>90.0</b>	2.717	0.302	0.000	0.000	0.000	0.000	0.000	0.000	1.510	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	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471	1645.471
2.5	1639.734	1661.774	1678.581	1662.177	1641.848	1625.846	1618.600
5.0	1636.514	1657.547	1676.065	1660.567	1640.137	1621.719	1613.668
7.5	1628.261	1646.376	1664.693	1651.710	1633.394	1614.574	1604.913
10.0	1613.064	1626.953	1644.565	1634.601	1620.612	1604.007	1593.641
12.5	1591.125	1601.893	1620.109	1610.750	1599.679	1589.011	1578.746
15.0	1563.650	1575.022	1592.936	1586.193	1575.425	1569.688	1558.417
17.5	1534.867	1541.509	1559.222	1555.699	1547.950	1544.830	1533.458
20.0	1502.058	1502.360	1520.375	1518.462	1516.852	1515.242	1504.574
22.5	1462.708	1460.594	1480.823	1478.005	1479.414	1480.924	1472.772
25.0	1418.526	1421.043	1443.083	1438.554	1436.440	1442.278	1435.937
27.5	1371.427	1377.767	1397.291	1397.191	1390.247	1399.405	1393.165
30.0	1323.522	1327.044	1346.166	1347.776	1342.946	1352.506	1344.656
32.5	1273.000	1272.195	1287.996	1293.632	1293.833	1299.167	1290.814
35.0	1215.736	1211.811	1226.102	1234.053	1238.179	1240.695	1232.342
37.5	1153.540	1148.609	1163.101	1170.850	1177.191	1178.097	1170.448
40.0	1087.923	1084.199	1097.584	1106.038	1112.177	1111.271	1104.227
42.5	1019.487	1017.776	1028.947	1039.917	1043.742	1042.232	1034.483
45.0	949.039	949.240	957.090	970.375	973.394	971.180	962.726
47.5	877.182	877.484	883.220	900.329	902.644	899.725	888.856
50.0	806.432	806.130	810.357	829.981	833.504	827.767	815.489
52.5	738.600	733.769	727.328	757.420	764.766	753.595	738.298
55.0	671.271	652.955	637.557	678.316	696.130	680.933	661.610
57.5	605.553	569.826	550.100	594.382	629.506	610.585	587.438
60.0	539.936	486.395	457.209	512.964	564.190	543.257	516.587
62.5	470.494	401.857	370.055	426.313	494.748	479.149	449.259
65.0	405.279	322.854	291.656	344.492	427.118	419.469	385.956
67.5	339.058	252.406	224.428	271.025	360.796	364.117	326.981
70.0	275.252	191.519	168.975	208.124	295.983	312.488	273.541
72.5	216.276	141.299	125.599	155.087	235.499	264.181	225.233
75.0	162.434	102.251	93.696	112.415	179.542	216.176	181.253
77.5	114.327	75.984	71.857	79.908	128.618	170.485	141.098
80.0	75.178	54.044	50.521	57.063	83.230	127.209	104.565

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**CANDELA TABULATION - (Cont.)**

82.5	42.772	30.293	26.670	33.815	47.804	85.846	70.046
85.0	17.411	10.567	9.863	12.379	20.933	45.791	42.772
87.5	4.730	3.824	3.623	4.529	5.535	13.486	20.430
90.0	0.000	0.000	0.000	0.000	0.000	0.302	2.717
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	598.87	N.A.	15.20
0-30	1257.7	N.A.	32.00
0-40	2022.79	N.A.	51.50
0-60	3354.81	N.A.	85.40
0-80	3895.12	N.A.	99.10
0-90	3929.32	N.A.	100.00
10-90	3773.49	N.A.	96.00
20-40	1423.92	N.A.	36.20
20-50	2162.19	N.A.	55.00
40-70	1704.15	N.A.	43.40
60-80	540.31	N.A.	13.80
70-80	168.19	N.A.	4.30
80-90	34.20	N.A.	0.90
90-110	0.04	N.A.	0.00
90-120	0.04	N.A.	0.00
90-130	0.04	N.A.	0.00
90-150	0.04	N.A.	0.00
90-180	0.04	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3929.36	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	155.83
10-20	443.04
20-30	658.83
30-40	765.09
40-50	738.27
50-60	593.76
60-70	372.12
70-80	168.19
80-90	34.20
90-100	0.04
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

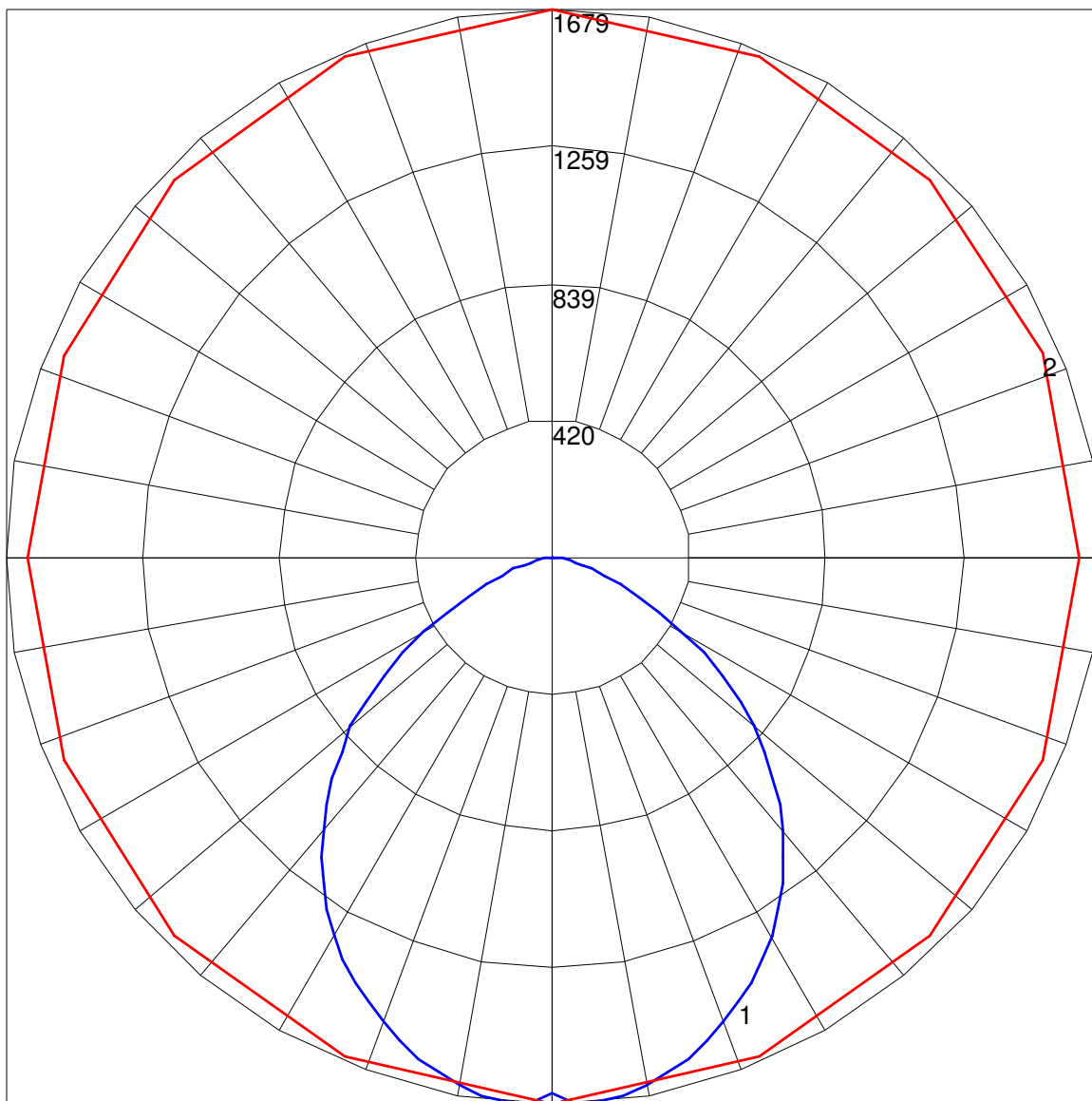
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	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 = 1678.581 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.)