



IES INDOOR REPORT

PHOTOMETRIC FILENAME : BIO-LIN-LED4-SO-ASY.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L021507505R01
 [TESTLAB] L
 [ISSUE DATE]
 [MANUFAC] PRUDENTIAL LTG.
 [LUMCAT] BIOS-LED4-SO-ASY
 [LUMINAIRE] 4-1/2"L. X 48"W. X 5"H. LED LUMINAIRE
 [MORE] WHITE REFLECTOR
 [BALLASTCAT] OSRAM OPTOTRONIC
 [BALLAST] INPUT: 120-277VAC
 [LAMPPOSITION] 0,0
 [LAMPCAT] N/A
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4009
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	33.4
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	3.94 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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CANDELA TABULATION

	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	18.14	18.16	18.96	18.74	18.66	18.72	18.86	19.12	19.52	20.14
100	857.96	856.56	850.74	825.12	804.36	783.50	747.86	711.74	687.10	686.86
105	1121.00	1120.50	1111.82	1094.72	1074.44	1049.46	1007.24	970.10	925.62	870.86
110	1210.78	1208.40	1199.72	1184.90	1160.60	1136.94	1106.82	1070.64	1028.52	981.38
115	1292.66	1297.04	1280.18	1277.04	1251.40	1220.00	1195.54	1165.06	1124.46	1081.92
120	1364.10	1358.20	1347.00	1336.80	1320.90	1295.88	1269.68	1237.02	1204.76	1163.38
125	1422.26	1418.84	1403.10	1395.42	1379.72	1364.40	1336.90	1306.66	1271.62	1234.38
130	1475.88	1469.94	1454.32	1451.56	1440.24	1419.42	1395.62	1369.36	1337.92	1300.58
135	1514.38	1505.66	1503.84	1492.36	1480.26	1467.94	1445.52	1421.02	1390.22	1357.18
140	1538.90	1538.94	1535.48	1527.34	1512.56	1501.90	1483.98	1459.20	1436.06	1402.06
145	1560.06	1566.66	1549.16	1547.08	1536.30	1523.54	1507.22	1488.22	1467.90	1436.48
150	1575.00	1574.02	1554.24	1554.60	1546.76	1535.56	1522.02	1504.50	1482.78	1456.76
155	1569.96	1566.04	1561.26	1550.68	1541.64	1527.60	1517.34	1502.64	1482.04	1460.34
160	1538.82	1534.16	1536.80	1524.74	1514.38	1506.16	1495.16	1479.84	1458.82	1438.16
165	1475.88	1478.72	1478.68	1469.52	1460.84	1452.50	1441.60	1423.22	1402.16	1373.82
170	1376.34	1382.08	1374.40	1363.58	1354.44	1343.66	1330.66	1316.44	1300.66	1283.12
175	1239.20	1230.40	1236.76	1232.14	1229.04	1223.92	1219.50	1213.18	1204.14	1197.32
180	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00

Vert. Angles **Horizontal Angles**

	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>	<u>95</u>
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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CANDELA TABULATION - (Cont.)

65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	62.56	320.10	309.40	267.56	248.20	225.50	161.76	114.84	56.74	25.96
100	692.62	639.72	568.78	501.90	428.94	355.28	263.40	209.58	130.12	80.72
105	819.40	762.06	696.54	627.68	557.66	484.64	408.02	300.94	220.26	160.66
110	928.26	876.14	817.22	751.00	681.70	608.72	531.92	439.24	299.52	255.84
115	1033.72	980.40	922.90	861.42	795.32	726.16	649.22	544.16	421.12	357.84
120	1120.34	1069.98	1015.04	956.44	895.34	825.56	741.16	628.66	515.24	453.60
125	1191.46	1146.76	1098.78	1042.72	984.32	915.26	830.98	704.38	602.22	544.50
130	1259.04	1218.30	1172.96	1122.40	1066.72	997.00	909.40	785.86	692.16	639.50
135	1323.34	1283.12	1238.42	1188.78	1124.42	1054.86	961.48	853.10	774.44	725.44
140	1371.84	1334.16	1291.46	1240.24	1175.44	1103.10	1002.54	910.38	844.48	801.08
145	1406.94	1367.86	1327.80	1276.50	1213.64	1135.58	1040.08	958.10	906.66	867.76
150	1431.40	1393.94	1354.74	1300.42	1235.62	1153.46	1076.02	1007.74	963.58	932.02
155	1432.64	1397.28	1352.88	1300.70	1230.40	1171.02	1105.46	1051.06	1016.70	988.66
160	1405.78	1369.48	1324.46	1267.26	1218.72	1170.60	1120.74	1087.20	1061.36	1038.92
165	1343.08	1307.64	1272.38	1237.52	1197.28	1162.96	1133.88	1109.34	1089.76	1072.58
170	1264.74	1241.72	1222.76	1195.72	1172.62	1157.50	1136.74	1123.38	1107.36	1098.16
175	1188.08	1180.14	1173.32	1165.98	1153.88	1145.90	1137.14	1131.90	1125.78	1118.14
180	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	25.30	25.86	25.92	26.28	26.74	27.38	27.68	27.76	27.58	27.50
100	53.42	41.36	41.60	43.18	44.22	43.94	43.70	43.62	43.54	43.58
105	113.32	81.12	63.14	57.30	58.98	60.28	61.58	62.76	63.38	63.10
110	199.30	149.54	113.14	88.46	76.10	74.00	75.48	76.44	77.30	78.10
115	285.32	240.20	189.88	150.86	120.48	100.62	91.06	88.84	90.26	91.02
120	396.72	322.42	278.62	229.54	188.56	155.54	131.36	114.30	105.24	101.70
125	488.64	433.40	375.90	309.84	276.02	234.26	200.16	171.80	150.16	134.10
130	588.18	535.18	484.98	432.62	379.94	321.48	293.22	259.56	230.26	206.46
135	677.24	628.02	583.00	536.18	489.58	441.84	399.44	354.72	331.82	303.98

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CANDELA TABULATION - (Cont.)

140	755.76	712.00	671.30	629.70	588.86	549.78	511.80	476.10	444.90	416.62
145	828.24	790.18	754.02	717.14	683.10	651.06	619.76	587.74	557.72	530.68
150	897.50	866.68	834.88	802.72	774.18	746.22	719.38	694.38	670.64	644.90
155	961.56	937.80	907.40	882.04	857.52	835.80	812.84	791.68	771.12	751.24
160	1015.18	995.10	971.84	952.44	931.32	912.98	893.90	875.16	858.72	844.38
165	1057.42	1041.56	1023.72	1007.28	993.94	977.42	963.80	950.94	939.38	928.36
170	1088.24	1077.54	1064.36	1055.32	1046.44	1037.06	1025.38	1018.76	1010.88	1004.56
175	1114.34	1112.66	1103.40	1096.12	1093.40	1087.78	1082.70	1077.66	1071.80	1069.82
180	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00

Vert. Horizontal Angles
Angles

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	27.48	27.52	27.72	27.92	28.14	28.28	28.34
100	43.70	43.84	44.02	44.12	44.26	44.36	44.38
105	62.84	62.62	62.58	62.50	62.36	62.42	62.44
110	78.84	79.60	80.10	80.68	80.96	81.24	81.40
115	91.52	91.88	92.34	92.64	93.00	93.10	93.26
120	101.64	102.48	103.06	103.44	103.74	103.86	103.96
125	123.02	117.00	113.62	112.12	111.98	111.96	111.98
130	186.74	170.66	159.02	150.72	145.16	142.12	141.02
135	280.08	260.12	244.72	233.42	224.44	219.12	218.40
140	392.64	365.08	352.94	339.66	330.64	324.76	326.02
145	508.14	489.54	471.16	458.64	453.42	448.54	450.40
150	622.30	603.12	587.36	575.46	566.82	560.76	558.62
155	734.02	718.12	704.86	693.94	684.56	678.02	680.96
160	831.20	820.08	813.28	804.08	799.64	798.16	793.24
165	920.10	912.44	904.60	898.00	893.66	892.66	891.02
170	996.34	991.88	988.32	982.66	977.96	980.76	976.26
175	1065.90	1062.18	1062.54	1059.50	1055.78	1055.52	1057.64
180	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00	1130.00

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	0.00	N.A.	0.00
0-30	0.00	N.A.	0.00
0-40	0.00	N.A.	0.00
0-60	0.00	N.A.	0.00
0-80	0.00	N.A.	0.00
0-90	0.00	N.A.	0.00
10-90	0.00	N.A.	0.00
20-40	0.00	N.A.	0.00
20-50	0.00	N.A.	0.00
40-70	0.00	N.A.	0.00
60-80	0.00	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	583.66	N.A.	14.60
90-120	1157.17	N.A.	28.90
90-130	1791.33	N.A.	44.70
90-150	3069.56	N.A.	76.60
90-180	4009.37	N.A.	100.00
110-180	3425.71	N.A.	85.40
0-180	4009.37	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.00
10-20	0.00
20-30	0.00
30-40	0.00
40-50	0.00
50-60	0.00
60-70	0.00
70-80	0.00
80-90	0.00
90-100	127.14
100-110	456.52
110-120	573.51
120-130	634.16
130-140	658.09
140-150	620.14
150-160	506.50
160-170	324.50
170-180	108.80

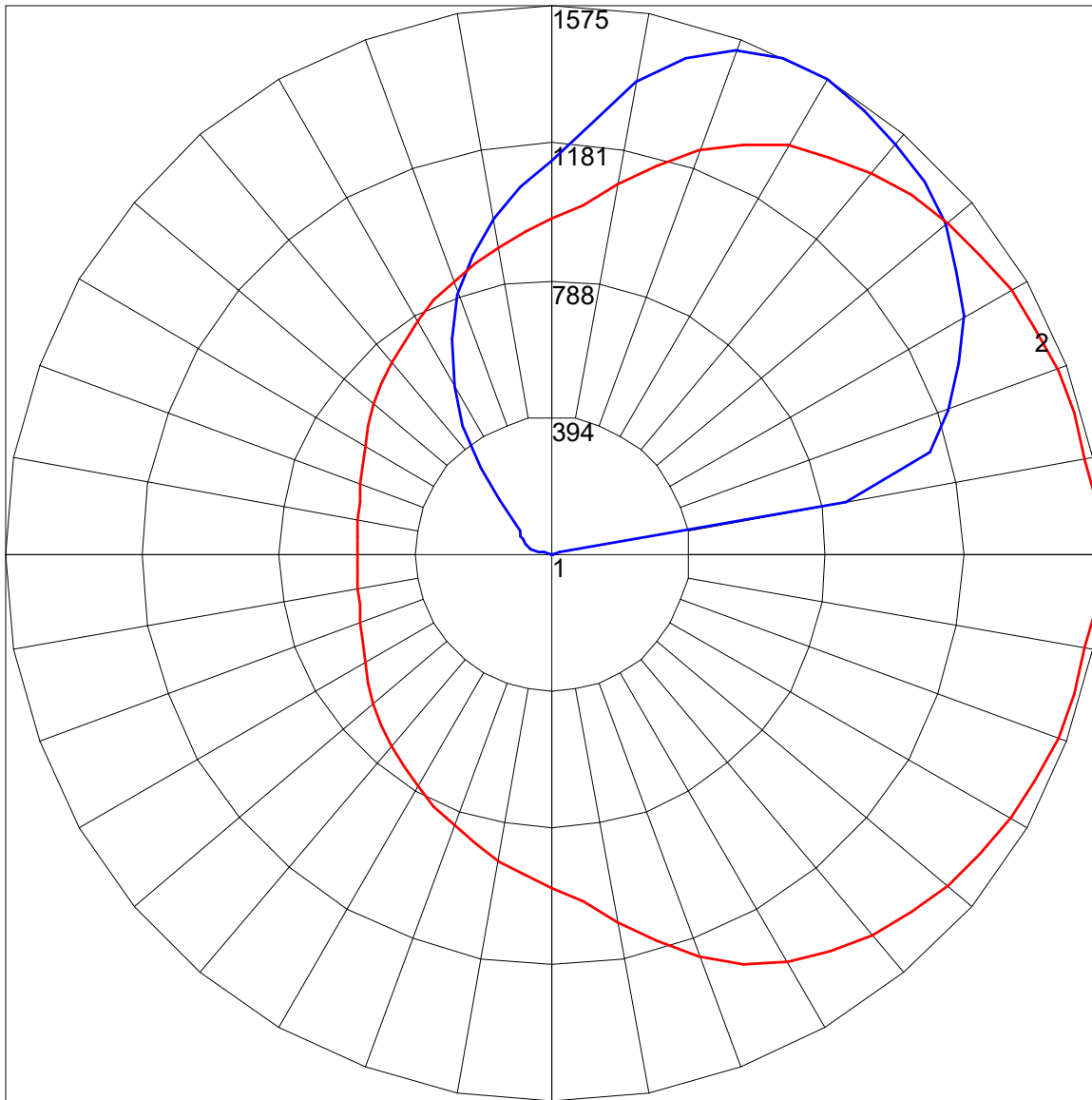
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	28	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

POLAR GRAPH



Maximum Candela = 1575 Located At Horizontal Angle = 0, Vertical Angle = 150
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (150) (Through Max. Cd.)