



IES INDOOR REPORT

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L021507505R01
 [TESTLAB]
 [ISSUE DATE]
 [MANUFAC] PRUDENTIAL LTG.
 [LUMCAT] BIOS-LED4-HO-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	4511
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	40
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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	20.408	20.430	21.330	21.082	20.992	21.060	21.218	21.510	21.960	22.657
100	965.205	963.630	957.082	928.260	904.905	881.438	841.342	800.707	772.987	772.717
105	1261.125	1260.563	1250.797	1231.560	1208.745	1180.642	1133.145	1091.362	1041.322	979.717
110	1362.128	1359.450	1349.685	1333.013	1305.675	1279.057	1245.172	1204.470	1157.085	1104.053
115	1454.243	1459.170	1440.203	1436.670	1407.825	1372.500	1344.983	1310.693	1265.017	1217.160
120	1534.612	1527.975	1515.375	1503.900	1486.013	1457.865	1428.390	1391.648	1355.355	1308.803
125	1600.043	1596.195	1578.487	1569.848	1552.185	1534.950	1504.013	1469.993	1430.572	1388.678
130	1660.365	1653.682	1636.110	1633.005	1620.270	1596.848	1570.072	1540.530	1505.160	1463.152
135	1703.678	1693.868	1691.820	1678.905	1665.293	1651.432	1626.210	1598.648	1563.997	1526.828
140	1731.263	1731.307	1727.415	1718.257	1701.630	1689.638	1669.477	1641.600	1615.568	1577.318
145	1755.068	1762.493	1742.805	1740.465	1728.338	1713.983	1695.622	1674.247	1651.388	1616.040
150	1771.875	1770.773	1748.520	1748.925	1740.105	1727.505	1712.273	1692.563	1668.128	1638.855
155	1766.205	1761.795	1756.418	1744.515	1734.345	1718.550	1707.007	1690.470	1667.295	1642.882
160	1731.172	1725.930	1728.900	1715.332	1703.678	1694.430	1682.055	1664.820	1641.172	1617.930
165	1660.365	1663.560	1663.515	1653.210	1643.445	1634.063	1621.800	1601.122	1577.430	1545.547
170	1548.382	1554.840	1546.200	1534.027	1523.745	1511.618	1496.993	1480.995	1463.243	1443.510
175	1394.100	1384.200	1391.355	1386.158	1382.670	1376.910	1371.938	1364.828	1354.658	1346.985
180	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250

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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	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.)

65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	70.380	360.113	348.075	301.005	279.225	253.688	181.980	129.195	63.833	29.205
100	779.197	719.685	639.878	564.638	482.558	399.690	296.325	235.778	146.385	90.810
105	921.825	857.317	783.607	706.140	627.367	545.220	459.022	338.558	247.792	180.743
110	1044.293	985.658	919.372	844.875	766.913	684.810	598.410	494.145	336.960	287.820
115	1162.935	1102.950	1038.263	969.097	894.735	816.930	730.372	612.180	473.760	402.570
120	1260.382	1203.727	1141.920	1075.995	1007.258	928.755	833.805	707.242	579.645	510.300
125	1340.392	1290.105	1236.128	1173.060	1107.360	1029.668	934.852	792.428	677.497	612.563
130	1416.420	1370.588	1319.580	1262.700	1200.060	1121.625	1023.075	884.092	778.680	719.438
135	1488.757	1443.510	1393.223	1337.378	1264.973	1186.717	1081.665	959.737	871.245	816.120
140	1543.320	1500.930	1452.892	1395.270	1322.370	1240.987	1127.858	1024.178	950.040	901.215
145	1582.807	1538.842	1493.775	1436.063	1365.345	1277.527	1170.090	1077.862	1019.992	976.230
150	1610.325	1568.182	1524.082	1462.973	1390.072	1297.642	1210.523	1133.707	1084.027	1048.523
155	1611.720	1571.940	1521.990	1463.287	1384.200	1317.398	1243.642	1182.443	1143.787	1112.243
160	1581.503	1540.665	1490.017	1425.668	1371.060	1316.925	1260.832	1223.100	1194.030	1168.785
165	1510.965	1471.095	1431.428	1392.210	1346.940	1308.330	1275.615	1248.007	1225.980	1206.652
170	1422.832	1396.935	1375.605	1345.185	1319.197	1302.188	1278.832	1263.803	1245.780	1235.430
175	1336.590	1327.658	1319.985	1311.727	1298.115	1289.138	1279.283	1273.388	1266.503	1257.908
180	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250

**Vert.
Angles**

Horizontal Angles

	100	105	110	115	120	125	130	135	140	145
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	28.462	29.093	29.160	29.565	30.082	30.802	31.140	31.230	31.027	30.938
100	60.097	46.530	46.800	48.578	49.748	49.432	49.163	49.072	48.983	49.028
105	127.485	91.260	71.032	64.463	66.353	67.815	69.278	70.605	71.302	70.987
110	224.213	168.232	127.282	99.517	85.612	83.250	84.915	85.995	86.963	87.862
115	320.985	270.225	213.615	169.718	135.540	113.198	102.442	99.945	101.543	102.397
120	446.310	362.723	313.447	258.233	212.130	174.982	147.780	128.588	118.395	114.412
125	549.720	487.575	422.887	348.570	310.522	263.543	225.180	193.275	168.930	150.863
130	661.702	602.077	545.602	486.697	427.433	361.665	329.873	292.005	259.043	232.268
135	761.895	706.523	655.875	603.202	550.778	497.070	449.370	399.060	373.298	341.978

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CANDELA TABULATION - (Cont.)

140	850.230	801.000	755.212	708.413	662.467	618.503	575.775	535.612	500.512	468.697
145	931.770	888.952	848.273	806.783	768.487	732.442	697.230	661.207	627.435	597.015
150	1009.688	975.015	939.240	903.060	870.952	839.497	809.303	781.178	754.470	725.513
155	1081.755	1055.025	1020.825	992.295	964.710	940.275	914.445	890.640	867.510	845.145
160	1142.078	1119.487	1093.320	1071.495	1047.735	1027.102	1005.638	984.555	966.060	949.928
165	1189.598	1171.755	1151.685	1133.190	1118.182	1099.598	1084.275	1069.807	1056.803	1044.405
170	1224.270	1212.233	1197.405	1187.235	1177.245	1166.693	1153.553	1146.105	1137.240	1130.130
175	1253.632	1251.743	1241.325	1233.135	1230.075	1223.753	1218.037	1212.368	1205.775	1203.547
180	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250

Vert. Horizontal Angles
Angles

	150	155	160	165	170	175	180
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	30.915	30.960	31.185	31.410	31.657	31.815	31.883
100	49.163	49.320	49.523	49.635	49.792	49.905	49.928
105	70.695	70.448	70.403	70.313	70.155	70.222	70.245
110	88.695	89.550	90.112	90.765	91.080	91.395	91.575
115	102.960	103.365	103.882	104.220	104.625	104.737	104.918
120	114.345	115.290	115.942	116.370	116.707	116.843	116.955
125	138.398	131.625	127.823	126.135	125.978	125.955	125.978
130	210.083	191.993	178.898	169.560	163.305	159.885	158.648
135	315.090	292.635	275.310	262.598	252.495	246.510	245.700
140	441.720	410.715	397.058	382.118	371.970	365.355	366.772
145	571.658	550.732	530.055	515.970	510.098	504.608	506.700
150	700.087	678.510	660.780	647.393	637.673	630.855	628.447
155	825.773	807.885	792.967	780.683	770.130	762.773	766.080
160	935.100	922.590	914.940	904.590	899.595	897.930	892.395
165	1035.112	1026.495	1017.675	1010.250	1005.367	1004.242	1002.398
170	1120.882	1115.865	1111.860	1105.493	1100.205	1103.355	1098.293
175	1199.138	1194.953	1195.358	1191.938	1187.753	1187.460	1189.845
180	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250	1271.250

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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	656.61	N.A.	14.60
90-120	1301.81	N.A.	28.90
90-130	2015.24	N.A.	44.70
90-150	3453.26	N.A.	76.60
90-180	4510.54	N.A.	100.00
110-180	3853.93	N.A.	85.40
0-180	4510.54	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	143.03
100-110	513.58
110-120	645.20
120-130	713.43
130-140	740.35
140-150	697.66
150-160	569.82
160-170	365.07
170-180	122.40

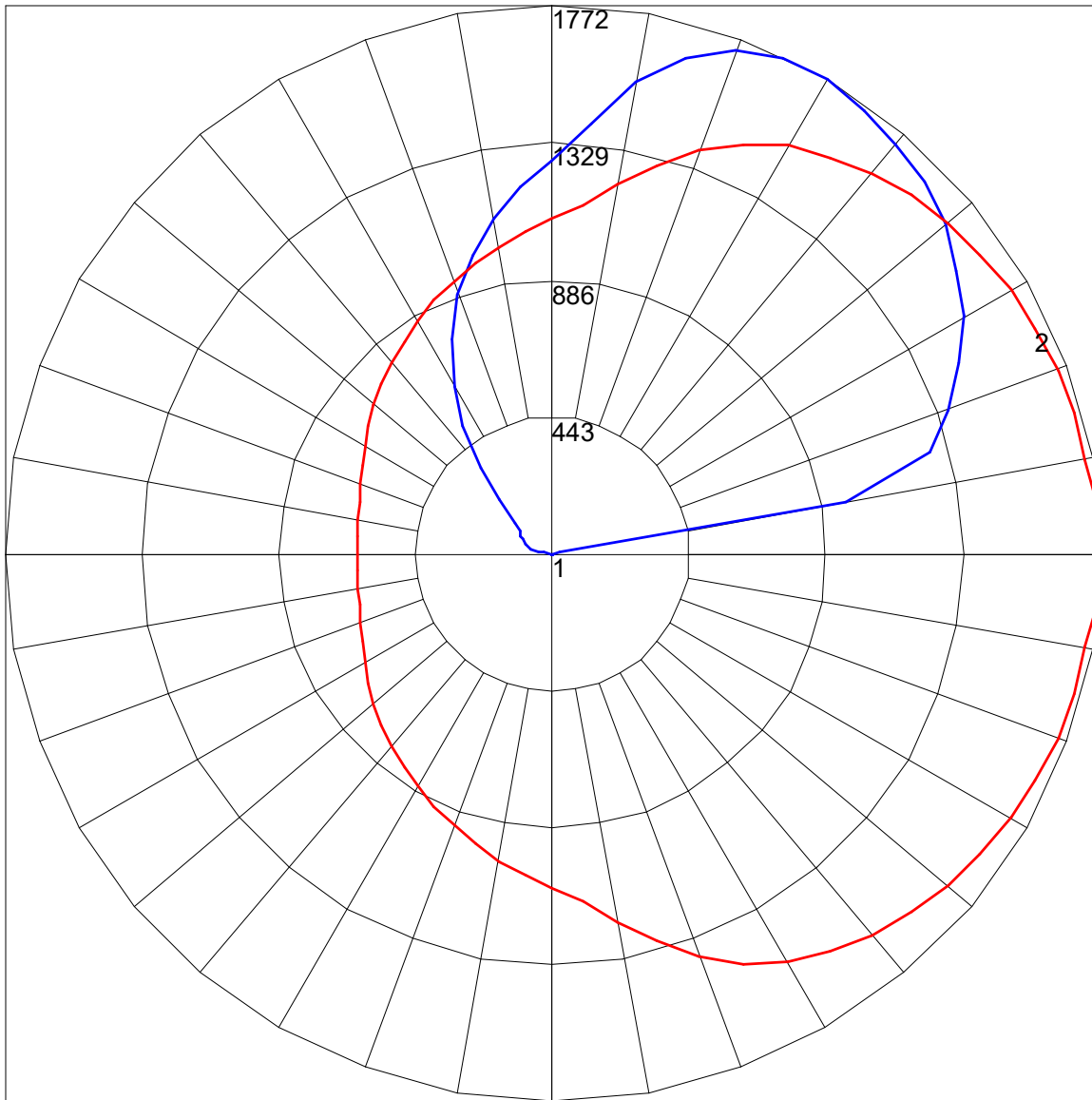
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	27	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 = 1771.875 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.)