



IES INDOOR REPORT

PHOTOMETRIC FILENAME : P4040-LED35-SO-FWA-D9.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] P4040-LED35-SO-FWA -D9
 [TESTLAB] Intertek
 [ISSUE DATE] November 28, 2017
 [MANUFAC] Prudential Ltg

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	19000
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	193
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	3.88 ft (Diameter)
Luminous Width (90-270)	3.88 ft (Diameter)
Luminous Height	0.50 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3634	3627	3616
55	3302	3282	3266
65	2853	2827	2793
75	2204	2171	2110
85	1061	1032	962

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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>
0.0	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050
2.5	4973.553	4975.601	4976.498	4978.175	4979.364	4978.175	4976.498	4975.601	4973.553	4975.601
5.0	4951.109	4957.251	4955.828	4958.558	4961.346	4958.558	4955.828	4957.251	4951.109	4957.251
7.5	4924.920	4927.494	4926.968	4927.514	4929.503	4927.514	4926.968	4927.494	4924.920	4927.494
10.0	4877.399	4884.867	4883.093	4883.775	4881.162	4883.775	4883.093	4884.867	4877.399	4884.867
12.5	4827.069	4829.175	4828.785	4828.317	4828.395	4828.317	4828.785	4829.175	4827.069	4829.175
15.0	4762.583	4765.605	4765.449	4763.987	4760.204	4763.987	4765.449	4765.605	4762.583	4765.605
17.5	4689.516	4691.486	4689.945	4690.433	4687.118	4690.433	4689.945	4691.486	4689.516	4691.486
20.0	4605.744	4609.098	4605.452	4604.808	4601.396	4604.808	4605.452	4609.098	4605.744	4609.098
22.5	4510.370	4515.128	4511.774	4511.033	4506.138	4511.033	4511.774	4515.128	4510.370	4515.128
25.0	4405.850	4410.861	4408.326	4406.474	4405.245	4406.474	4408.326	4410.861	4405.850	4410.861
27.5	4297.820	4299.867	4296.552	4295.090	4293.179	4295.090	4296.552	4299.867	4297.820	4299.867
30.0	4170.387	4178.948	4173.078	4173.351	4168.593	4173.351	4173.078	4178.948	4170.387	4178.948
32.5	4038.314	4048.824	4045.607	4042.877	4038.294	4042.877	4045.607	4048.824	4038.314	4048.824
35.0	3905.382	3912.032	3906.318	3902.711	3898.479	3902.711	3906.318	3912.032	3905.382	3912.032
37.5	3764.885	3764.748	3760.575	3757.377	3751.235	3757.377	3760.575	3764.748	3764.885	3764.748
40.0	3613.701	3611.166	3605.609	3599.895	3595.332	3599.895	3605.609	3611.166	3613.701	3611.166
42.5	3452.436	3450.194	3444.909	3437.753	3435.705	3437.753	3444.909	3450.194	3452.436	3450.194
45.0	3280.739	3280.914	3274.889	3268.922	3264.671	3268.922	3274.889	3280.914	3280.739	3280.914
47.5	3104.888	3107.540	3099.233	3094.689	3089.990	3094.689	3099.233	3107.540	3104.888	3107.540
50.0	2929.602	2928.803	2918.858	2912.852	2909.322	2912.852	2918.858	2928.803	2929.602	2928.803
52.5	2751.236	2745.951	2736.474	2727.641	2722.707	2727.641	2736.474	2745.951	2751.236	2745.951
55.0	2564.250	2559.512	2548.475	2538.101	2536.073	2538.101	2548.475	2559.512	2564.250	2559.512
57.5	2372.370	2366.852	2357.550	2346.650	2343.120	2346.650	2357.550	2366.852	2372.370	2366.852
60.0	2175.557	2173.217	2164.461	2152.020	2146.404	2152.020	2164.461	2173.217	2175.557	2173.217
62.5	1982.468	1979.114	1969.130	1954.310	1949.220	1954.310	1969.130	1979.114	1982.468	1979.114
65.0	1788.306	1782.593	1771.790	1756.248	1750.476	1756.248	1771.790	1782.593	1788.306	1782.593
67.5	1596.543	1586.072	1575.795	1557.738	1551.245	1557.738	1575.795	1586.072	1596.543	1586.072
70.0	1396.122	1391.130	1381.634	1361.042	1354.119	1361.042	1381.634	1391.130	1396.122	1391.130
72.5	1201.317	1196.910	1187.258	1164.794	1156.214	1164.794	1187.258	1196.910	1201.317	1196.910
75.0	1009.281	1006.532	994.071	973.479	966.108	973.479	994.071	1006.532	1009.281	1006.532
77.5	824.772	819.078	809.094	787.118	781.697	787.118	809.094	819.078	824.772	819.078
80.0	643.695	634.218	625.638	606.353	600.990	606.353	625.638	634.218	643.695	634.218
82.5	462.657	457.704	451.035	432.452	426.368	432.452	451.035	457.704	462.657	457.704
85.0	291.837	288.405	283.745	268.262	264.557	268.262	283.745	288.405	291.837	288.405
87.5	133.614	134.258	137.807	144.417	154.089	144.417	137.807	134.258	133.614	134.258
90.0	22.347	78.702	136.305	159.432	154.830	159.432	136.305	78.702	22.347	78.702
92.5	41.262	106.509	196.794	261.515	277.934	261.515	196.794	106.509	41.262	106.509
95.0	82.193	135.603	231.758	307.866	332.982	307.866	231.758	135.603	82.193	135.603
97.5	127.062	169.436	267.150	346.496	373.035	346.496	267.150	169.436	127.062	169.436
100.0	167.115	207.266	305.741	386.061	413.400	386.061	305.741	207.266	167.115	207.266
102.5	218.732	248.742	345.852	428.103	458.894	428.103	345.852	248.742	218.732	248.742
105.0	263.679	294.665	388.284	471.764	500.721	471.764	388.284	294.665	263.679	294.665
107.5	314.106	340.841	433.427	516.224	545.064	516.224	433.427	340.841	314.106	340.841
110.0	371.183	392.847	481.865	563.238	591.942	563.238	481.865	392.847	371.183	392.847
112.5	422.741	448.539	528.431	609.609	640.088	609.609	528.431	448.539	422.741	448.539
115.0	480.402	501.774	578.468	660.524	689.949	660.524	578.468	501.774	480.402	501.774
117.5	541.964	557.427	632.171	711.828	739.811	711.828	632.171	557.427	541.964	557.427
120.0	594.770	619.008	689.832	764.283	792.909	764.283	689.832	619.008	594.770	619.008
122.5	651.320	683.358	746.558	818.357	847.880	818.357	746.558	683.358	651.320	683.358
125.0	718.341	742.482	804.882	872.528	899.945	872.528	804.882	742.482	718.341	742.482
127.5	779.903	797.570	866.327	927.537	954.018	927.537	866.327	797.570	779.903	797.570
130.0	844.409	853.067	929.097	983.073	1007.975	983.073	929.097	853.067	844.409	853.067
132.5	895.772	913.478	990.542	1039.487	1064.291	1039.487	990.542	913.478	895.772	913.478

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135.0	955.227	976.209	1045.590	1091.708	1115.888	1091.708	1045.590	976.209	955.227	976.209
137.5	1016.379	1039.760	1098.455	1144.962	1167.543	1144.962	1098.455	1039.760	1016.379	1039.760
140.0	1078.350	1102.023	1147.614	1195.838	1216.293	1195.838	1147.614	1102.023	1078.350	1102.023
142.5	1142.466	1160.387	1198.080	1244.315	1262.703	1244.315	1198.080	1160.387	1142.466	1160.387
145.0	1200.128	1214.831	1246.479	1290.939	1308.860	1290.939	1246.479	1214.831	1200.128	1214.831
147.5	1248.722	1262.781	1293.806	1333.098	1349.049	1333.098	1293.806	1262.781	1248.722	1262.781
150.0	1297.959	1305.798	1339.767	1375.530	1387.328	1375.530	1339.767	1305.798	1297.959	1305.798
152.5	1340.411	1349.985	1381.985	1412.990	1424.592	1412.990	1381.985	1349.985	1340.411	1349.985
155.0	1381.887	1393.197	1420.283	1448.207	1456.787	1448.207	1420.283	1393.197	1381.887	1393.197
157.5	1425.002	1434.869	1457.372	1479.855	1487.909	1479.855	1457.372	1434.869	1425.002	1434.869
160.0	1463.417	1470.671	1490.483	1509.261	1515.696	1509.261	1490.483	1470.671	1463.417	1470.671
162.5	1498.595	1504.035	1521.059	1535.567	1540.227	1535.567	1521.059	1504.035	1498.595	1504.035
165.0	1530.302	1533.539	1546.838	1557.173	1560.624	1557.173	1546.838	1533.539	1530.302	1533.539
167.5	1557.563	1559.630	1568.892	1576.887	1579.481	1576.887	1568.892	1559.630	1557.563	1559.630
170.0	1579.110	1581.470	1587.476	1593.404	1594.437	1593.404	1587.476	1581.470	1579.110	1581.470
172.5	1596.758	1599.234	1602.003	1607.307	1606.313	1607.307	1602.003	1599.234	1596.758	1599.234
175.0	1608.399	1610.739	1613.099	1614.971	1615.107	1614.971	1613.099	1610.739	1608.399	1610.739
177.5	1616.862	1618.364	1618.539	1620.645	1619.553	1620.645	1618.539	1618.364	1616.862	1618.364
180.0	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470

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	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050	4983.050
2.5	4976.498	4978.175	4979.364	4978.175	4976.498	4975.601	4973.553
5.0	4955.828	4958.558	4961.346	4958.558	4955.828	4957.251	4951.109
7.5	4926.968	4927.514	4929.503	4927.514	4926.968	4927.494	4924.920
10.0	4883.093	4883.775	4881.162	4883.775	4883.093	4884.867	4877.399
12.5	4828.785	4828.317	4828.395	4828.317	4828.785	4829.175	4827.069
15.0	4765.449	4763.987	4760.204	4763.987	4765.449	4765.605	4762.583
17.5	4689.945	4690.433	4687.118	4690.433	4689.945	4691.486	4689.516
20.0	4605.452	4604.808	4601.396	4604.808	4605.452	4609.098	4605.744
22.5	4511.774	4511.033	4506.138	4511.033	4511.774	4515.128	4510.370
25.0	4408.326	4406.474	4405.245	4406.474	4408.326	4410.861	4405.850
27.5	4296.552	4295.090	4293.179	4295.090	4296.552	4299.867	4297.820
30.0	4173.078	4173.351	4168.593	4173.351	4173.078	4178.948	4170.387
32.5	4045.607	4042.877	4038.294	4042.877	4045.607	4048.824	4038.314
35.0	3906.318	3902.711	3898.479	3902.711	3906.318	3912.032	3905.382
37.5	3760.575	3757.377	3751.235	3757.377	3760.575	3764.748	3764.885
40.0	3605.609	3599.895	3595.332	3599.895	3605.609	3611.166	3613.701
42.5	3444.909	3437.753	3435.705	3437.753	3444.909	3450.194	3452.436
45.0	3274.889	3268.922	3264.671	3268.922	3274.889	3280.914	3280.739
47.5	3099.233	3094.689	3089.990	3094.689	3099.233	3107.540	3104.888
50.0	2918.858	2912.852	2909.322	2912.852	2918.858	2928.803	2929.602
52.5	2736.474	2727.641	2722.707	2727.641	2736.474	2745.951	2751.236
55.0	2548.475	2538.101	2536.073	2538.101	2548.475	2559.512	2564.250
57.5	2357.550	2346.650	2343.120	2346.650	2357.550	2366.852	2372.370
60.0	2164.461	2152.020	2146.404	2152.020	2164.461	2173.217	2175.557
62.5	1969.130	1954.310	1949.220	1954.310	1969.130	1979.114	1982.468
65.0	1771.790	1756.248	1750.476	1756.248	1771.790	1782.593	1788.306
67.5	1575.795	1557.738	1551.245	1557.738	1575.795	1586.072	1596.543
70.0	1381.634	1361.042	1354.119	1361.042	1381.634	1391.130	1396.122
72.5	1187.258	1164.794	1156.214	1164.794	1187.258	1196.910	1201.317
75.0	994.071	973.479	966.108	973.479	994.071	1006.532	1009.281
77.5	809.094	787.118	781.697	787.118	809.094	819.078	824.772
80.0	625.638	606.353	600.990	606.353	625.638	634.218	643.695

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CANDELA TABULATION - (Cont.)

82.5	451.035	432.452	426.368	432.452	451.035	457.704	462.657
85.0	283.745	268.262	264.557	268.262	283.745	288.405	291.837
87.5	137.807	144.417	154.089	144.417	137.807	134.258	133.614
90.0	136.305	159.432	154.830	159.432	136.305	78.702	22.347
92.5	196.794	261.515	277.934	261.515	196.794	106.509	41.262
95.0	231.758	307.866	332.982	307.866	231.758	135.603	82.193
97.5	267.150	346.496	373.035	346.496	267.150	169.436	127.062
100.0	305.741	386.061	413.400	386.061	305.741	207.266	167.115
102.5	345.852	428.103	458.894	428.103	345.852	248.742	218.732
105.0	388.284	471.764	500.721	471.764	388.284	294.665	263.679
107.5	433.427	516.224	545.064	516.224	433.427	340.841	314.106
110.0	481.865	563.238	591.942	563.238	481.865	392.847	371.183
112.5	528.431	609.609	640.088	609.609	528.431	448.539	422.741
115.0	578.468	660.524	689.949	660.524	578.468	501.774	480.402
117.5	632.171	711.828	739.811	711.828	632.171	557.427	541.964
120.0	689.832	764.283	792.909	764.283	689.832	619.008	594.770
122.5	746.558	818.357	847.880	818.357	746.558	683.358	651.320
125.0	804.882	872.528	899.945	872.528	804.882	742.482	718.341
127.5	866.327	927.537	954.018	927.537	866.327	797.570	779.903
130.0	929.097	983.073	1007.975	983.073	929.097	853.067	844.409
132.5	990.542	1039.487	1064.291	1039.487	990.542	913.478	895.772
135.0	1045.590	1091.708	1115.888	1091.708	1045.590	976.209	955.227
137.5	1098.455	1144.962	1167.543	1144.962	1098.455	1039.760	1016.379
140.0	1147.614	1195.838	1216.293	1195.838	1147.614	1102.023	1078.350
142.5	1198.080	1244.315	1262.703	1244.315	1198.080	1160.387	1142.466
145.0	1246.479	1290.939	1308.860	1290.939	1246.479	1214.831	1200.128
147.5	1293.806	1333.098	1349.049	1333.098	1293.806	1262.781	1248.722
150.0	1339.767	1375.530	1387.328	1375.530	1339.767	1305.798	1297.959
152.5	1381.985	1412.990	1424.592	1412.990	1381.985	1349.985	1340.411
155.0	1420.283	1448.207	1456.787	1448.207	1420.283	1393.197	1381.887
157.5	1457.372	1479.855	1487.909	1479.855	1457.372	1434.869	1425.002
160.0	1490.483	1509.261	1515.696	1509.261	1490.483	1470.671	1463.417
162.5	1521.059	1535.567	1540.227	1535.567	1521.059	1504.035	1498.595
165.0	1546.838	1557.173	1560.624	1557.173	1546.838	1533.539	1530.302
167.5	1568.892	1576.887	1579.481	1576.887	1568.892	1559.630	1557.563
170.0	1587.476	1593.404	1594.437	1593.404	1587.476	1581.470	1579.110
172.5	1602.003	1607.307	1606.313	1607.307	1602.003	1599.234	1596.758
175.0	1613.099	1614.971	1615.107	1614.971	1613.099	1610.739	1608.399
177.5	1618.539	1620.645	1619.553	1620.645	1618.539	1618.364	1616.862
180.0	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470	1620.470

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1815.25	N.A.	9.60
0-30	3846.7	N.A.	20.20
0-40	6289.62	N.A.	33.10
0-60	11092.74	N.A.	58.40
0-80	13893.64	N.A.	73.10
0-90	14229.8	N.A.	74.90
10-90	13758.93	N.A.	72.40
20-40	4474.37	N.A.	23.50
20-50	6999.74	N.A.	36.80
40-70	6555.2	N.A.	34.50
60-80	2800.9	N.A.	14.70
70-80	1048.83	N.A.	5.50
80-90	336.16	N.A.	1.80
90-110	643.62	N.A.	3.40
90-120	1221.07	N.A.	6.40
90-130	1943.24	N.A.	10.20
90-150	3525.92	N.A.	18.60
90-180	4769.75	N.A.	25.10
110-180	4126.13	N.A.	21.70
0-180	18999.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	470.88
10-20	1344.38
20-30	2031.44
30-40	2442.92
40-50	2525.37
50-60	2277.76
60-70	1752.07
70-80	1048.83
80-90	336.16
90-100	236.17
100-110	407.45
110-120	577.45
120-130	722.17
130-140	800.61
140-150	782.07
150-160	654.63
160-170	436.05
170-180	153.14

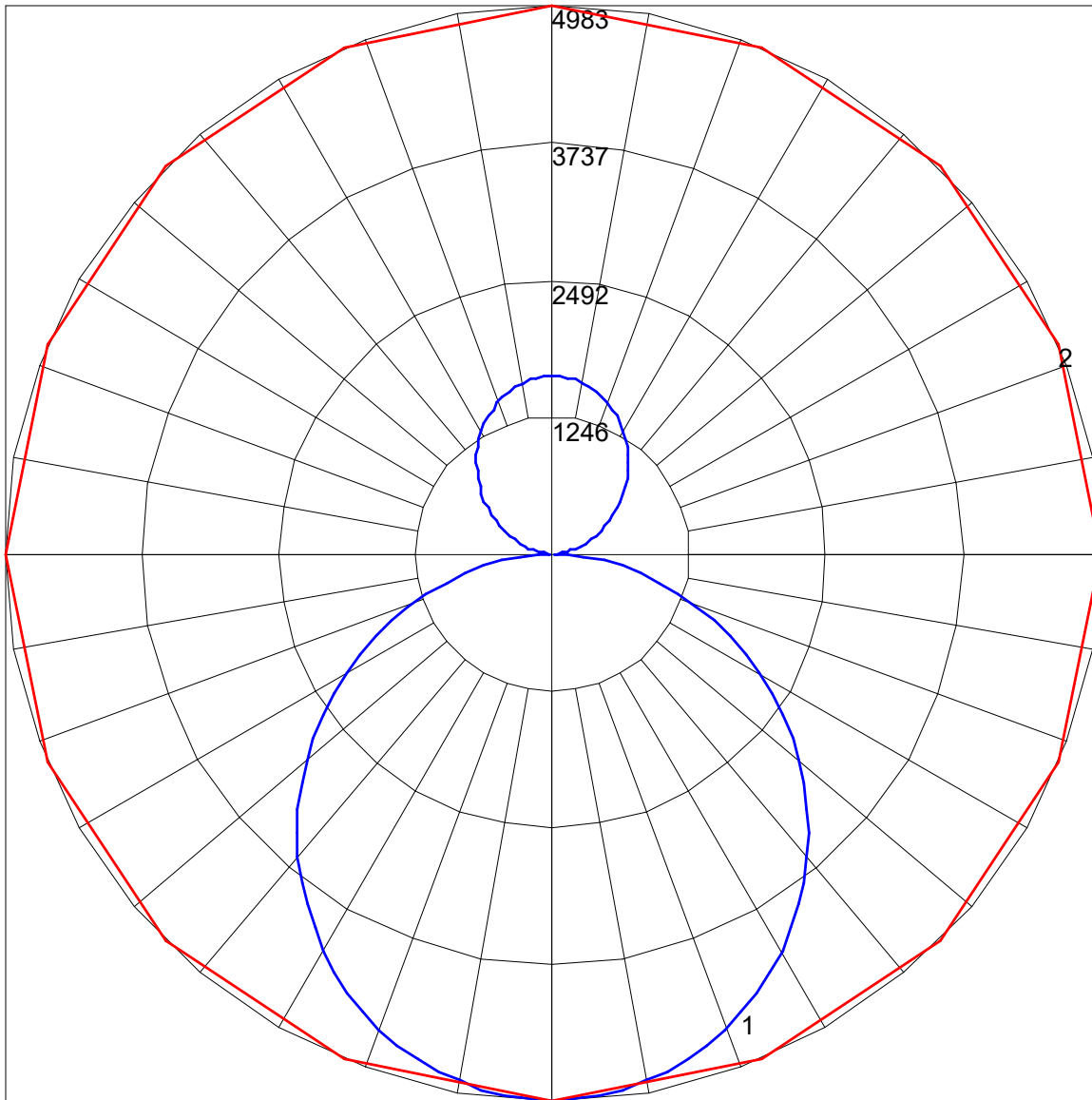
IES INDOOR REPORT
PHOTOMETRIC FILENAME : P4040-LED35-SO-FWA-D9.IES

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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	103	98	94	90	98	94	90	86	85	82	79	77	74	72	69	68	66	62
2	94	86	79	73	89	82	76	71	74	69	65	67	63	60	61	58	55	52
3	85	75	67	61	81	72	64	59	65	59	54	59	54	50	53	50	47	43
4	78	66	58	51	74	63	56	50	58	51	46	52	47	43	48	43	40	37
5	72	59	50	44	68	57	49	43	52	45	40	47	42	37	43	38	35	32
6	66	53	44	38	62	51	43	37	47	40	35	42	37	33	39	34	30	28
7	61	48	40	34	58	46	38	33	42	36	31	39	33	29	35	31	27	25
8	57	44	35	30	54	42	34	29	39	32	27	35	30	26	32	28	24	22
9	53	40	32	27	50	38	31	26	35	29	25	33	27	23	30	25	22	20
10	49	37	29	24	47	35	28	23	33	26	22	30	25	21	28	23	20	18

POLAR GRAPH



Maximum Candela = 4983.05 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)