



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : P4020-LED35-SO-FWA-D9.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] P4020-LED35-SO-FWA -D9  
 [TESTLAB] Intertek  
 [ISSUE DATE] November 22, 2017  
 [MANUFAC] Prudential Ltg

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6566
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	86
Total Luminaire Watts	76
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)	2.04 ft (Diameter)
Luminous Width (90-270)	2.04 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	4579	4600	4618
55	3968	4007	4025
65	3222	3260	3287
75	2261	2293	2316
85	982	971	954

**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>	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845
<b>2.5</b>	1977.570	1978.095	1978.900	1977.990	1978.130	1977.990	1978.900	1978.095	1977.570	1978.095
<b>5.0</b>	1970.237	1970.885	1970.868	1971.533	1970.990	1971.533	1970.868	1970.885	1970.237	1970.885
<b>7.5</b>	1958.880	1957.725	1958.303	1959.703	1959.650	1959.703	1958.303	1957.725	1958.880	1957.725
<b>10.0</b>	1941.223	1942.150	1941.852	1941.905	1943.287	1941.905	1941.852	1942.150	1941.223	1942.150
<b>12.5</b>	1920.555	1922.445	1921.027	1921.168	1921.658	1921.168	1921.027	1922.445	1920.555	1922.445
<b>15.0</b>	1894.620	1895.180	1895.862	1896.878	1895.723	1896.878	1895.862	1895.180	1894.620	1895.180
<b>17.5</b>	1864.345	1865.080	1866.165	1867.408	1866.655	1867.408	1866.165	1865.080	1864.345	1865.080
<b>20.0</b>	1830.868	1832.372	1833.457	1834.158	1833.090	1834.158	1833.457	1832.372	1830.868	1832.372
<b>22.5</b>	1792.455	1794.030	1797.023	1796.428	1796.130	1796.428	1797.023	1794.030	1792.455	1794.030
<b>25.0</b>	1751.453	1752.432	1754.025	1755.338	1756.388	1755.338	1754.025	1752.432	1751.453	1752.432
<b>27.5</b>	1704.588	1704.973	1708.350	1708.945	1711.027	1708.945	1708.350	1704.973	1704.588	1704.973
<b>30.0</b>	1652.473	1654.572	1658.055	1659.350	1659.928	1659.350	1658.055	1654.572	1652.473	1654.572
<b>32.5</b>	1601.757	1602.178	1606.027	1607.497	1608.652	1607.497	1606.027	1602.178	1601.757	1602.178
<b>35.0</b>	1545.880	1546.737	1551.830	1552.828	1553.842	1552.828	1551.830	1546.737	1545.880	1546.737
<b>37.5</b>	1488.165	1488.480	1492.872	1494.745	1496.880	1494.745	1492.872	1488.480	1488.165	1488.480
<b>40.0</b>	1424.237	1426.390	1431.203	1433.390	1434.388	1433.390	1431.203	1426.390	1424.237	1426.390
<b>42.5</b>	1360.223	1363.005	1366.138	1368.955	1369.602	1368.955	1366.138	1363.005	1360.223	1363.005
<b>45.0</b>	1293.162	1294.632	1299.112	1302.332	1304.100	1302.332	1299.112	1294.632	1293.162	1294.632
<b>47.5</b>	1223.652	1225.210	1229.882	1233.435	1235.902	1233.435	1229.882	1225.210	1223.652	1225.210
<b>50.0</b>	1151.868	1152.987	1158.850	1161.912	1163.207	1161.912	1158.850	1152.987	1151.868	1152.987
<b>52.5</b>	1077.878	1080.432	1084.090	1089.182	1089.217	1089.182	1084.090	1080.432	1077.878	1080.432
<b>55.0</b>	1001.350	1005.778	1011.342	1013.758	1015.700	1013.758	1011.342	1005.778	1001.350	1005.778
<b>57.5</b>	928.813	928.533	933.870	938.087	938.665	938.087	933.870	928.533	928.813	928.533
<b>60.0</b>	848.523	851.025	855.015	859.950	861.087	859.950	855.015	851.025	848.523	851.025
<b>62.5</b>	771.173	774.987	777.753	783.492	783.545	783.492	777.753	774.987	771.173	774.987
<b>65.0</b>	691.740	695.940	700.000	705.705	705.722	705.705	700.000	695.940	691.740	695.940
<b>67.5</b>	614.548	617.872	622.125	626.378	627.865	626.378	622.125	617.872	614.548	617.872
<b>70.0</b>	537.915	539.280	542.622	548.398	549.395	548.398	542.622	539.280	537.915	539.280
<b>72.5</b>	460.022	461.738	465.570	470.260	472.290	470.260	465.570	461.738	460.022	461.738
<b>75.0</b>	385.455	385.140	390.845	394.450	394.905	394.450	390.845	385.140	385.455	385.140
<b>77.5</b>	313.512	314.650	316.505	321.195	321.930	321.195	316.505	314.650	313.512	314.650
<b>80.0</b>	245.490	247.765	246.803	250.390	250.460	250.390	246.803	247.765	245.490	247.765
<b>82.5</b>	181.825	180.250	181.213	181.265	181.843	181.265	181.213	180.250	181.825	180.250
<b>85.0</b>	118.860	119.088	117.618	115.465	115.570	115.465	117.618	119.088	118.860	119.088
<b>87.5</b>	51.695	58.117	61.023	57.715	55.947	57.715	61.023	58.117	51.695	58.117
<b>90.0</b>	6.580	20.160	39.305	52.657	57.645	52.657	39.305	20.160	6.580	20.160
<b>92.5</b>	9.432	22.242	39.865	52.063	55.983	52.063	39.865	22.242	9.432	22.242
<b>95.0</b>	17.080	26.915	44.398	57.347	61.705	57.347	44.398	26.915	17.080	26.915
<b>97.5</b>	25.988	33.460	50.155	62.370	66.640	62.370	50.155	33.460	25.988	33.460
<b>100.0</b>	36.260	41.020	57.068	69.195	73.168	69.195	57.068	41.020	36.260	41.020
<b>102.5</b>	46.042	49.612	64.890	77.245	80.920	77.245	64.890	49.612	46.042	49.612
<b>105.0</b>	56.420	59.343	73.325	85.785	89.285	85.785	73.325	59.343	56.420	59.343
<b>107.5</b>	66.972	69.388	82.880	94.255	97.877	94.255	82.880	69.388	66.972	69.388
<b>110.0</b>	77.192	79.695	92.067	102.882	106.627	102.882	92.067	79.695	77.192	79.695
<b>112.5</b>	91.578	91.070	101.623	112.263	116.218	112.263	101.623	91.070	91.578	91.070
<b>115.0</b>	102.078	100.940	111.843	122.097	126.315	122.097	111.843	100.940	102.078	100.940
<b>117.5</b>	111.090	113.942	122.605	132.597	136.868	132.597	122.605	113.942	111.090	113.942
<b>120.0</b>	125.808	126.770	133.910	143.308	147.438	143.308	133.910	126.770	125.808	126.770
<b>122.5</b>	137.795	136.938	145.845	154.192	158.200	154.192	145.845	136.938	137.795	136.938
<b>125.0</b>	149.118	146.597	157.903	165.025	169.015	165.025	157.903	146.597	149.118	146.597
<b>127.5</b>	160.930	158.847	170.398	175.787	179.795	175.787	170.398	158.847	160.930	158.847
<b>130.0</b>	173.215	170.520	181.528	186.655	190.523	186.655	181.528	170.520	173.215	170.520
<b>132.5</b>	181.685	182.018	191.555	197.347	201.075	197.347	191.555	182.018	181.685	182.018

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : P4020-LED35-SO-FWA-D9.IES**

**CANDELA TABULATION - (Cont.)**

135.0	190.260	195.563	201.075	207.620	211.173	207.620	201.075	195.563	190.260	195.563
137.5	205.135	206.972	210.560	217.420	220.885	217.420	210.560	206.972	205.135	206.972
140.0	218.243	217.507	220.868	226.905	230.230	226.905	220.868	217.507	218.243	217.507
142.5	231.507	226.433	230.843	236.110	239.190	236.110	230.843	226.433	231.507	226.433
145.0	240.835	233.887	240.240	244.843	247.625	244.843	240.240	233.887	240.835	233.887
147.5	244.738	243.442	248.377	252.998	255.518	252.998	248.377	243.442	244.738	243.442
150.0	252.980	254.153	255.657	260.592	262.798	260.592	255.657	254.153	252.980	254.153
152.5	264.582	263.007	262.973	267.663	269.587	267.663	262.973	263.007	264.582	263.007
155.0	271.827	268.678	270.183	274.225	275.993	274.225	270.183	268.678	271.827	268.678
157.5	276.990	274.995	276.780	280.140	281.855	280.140	276.780	274.995	276.990	274.995
160.0	283.640	281.645	282.660	285.337	286.983	285.337	282.660	281.645	283.640	281.645
162.5	290.027	287.683	288.085	290.098	291.462	290.098	288.085	287.683	290.027	287.683
165.0	295.627	293.055	292.775	294.280	295.382	294.280	292.775	293.055	295.627	293.055
167.5	300.475	297.658	296.993	297.902	298.673	297.902	296.993	297.658	300.475	297.658
170.0	304.623	301.455	300.248	300.808	301.543	300.808	300.248	301.455	304.623	301.455
172.5	307.842	304.483	302.978	303.030	303.660	303.030	302.978	304.483	307.842	304.483
175.0	309.995	306.635	304.815	304.570	304.990	304.570	304.815	306.635	309.995	306.635
177.5	311.395	307.930	305.882	305.550	306.005	305.550	305.882	307.930	311.395	307.930
180.0	307.405	307.405	307.405	307.405	307.405	307.405	307.405	307.405	307.405	307.405

**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	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845	1979.845
2.5	1978.900	1977.990	1978.130	1977.990	1978.900	1978.095	1977.570
5.0	1970.868	1971.533	1970.990	1971.533	1970.868	1970.885	1970.237
7.5	1958.303	1959.703	1959.650	1959.703	1958.303	1957.725	1958.880
10.0	1941.852	1941.905	1943.287	1941.905	1941.852	1942.150	1941.223
12.5	1921.027	1921.168	1921.658	1921.168	1921.027	1922.445	1920.555
15.0	1895.862	1896.878	1895.723	1896.878	1895.862	1895.180	1894.620
17.5	1866.165	1867.408	1866.655	1867.408	1866.165	1865.080	1864.345
20.0	1833.457	1834.158	1833.090	1834.158	1833.457	1832.372	1830.868
22.5	1797.023	1796.428	1796.130	1796.428	1797.023	1794.030	1792.455
25.0	1754.025	1755.338	1756.388	1755.338	1754.025	1752.432	1751.453
27.5	1708.350	1708.945	1711.027	1708.945	1708.350	1704.973	1704.588
30.0	1658.055	1659.350	1659.928	1659.350	1658.055	1654.572	1652.473
32.5	1606.027	1607.497	1608.652	1607.497	1606.027	1602.178	1601.757
35.0	1551.830	1552.828	1553.842	1552.828	1551.830	1546.737	1545.880
37.5	1492.872	1494.745	1496.880	1494.745	1492.872	1488.480	1488.165
40.0	1431.203	1433.390	1434.388	1433.390	1431.203	1426.390	1424.237
42.5	1366.138	1368.955	1369.602	1368.955	1366.138	1363.005	1360.223
45.0	1299.112	1302.332	1304.100	1302.332	1299.112	1294.632	1293.162
47.5	1229.882	1233.435	1235.902	1233.435	1229.882	1225.210	1223.652
50.0	1158.850	1161.912	1163.207	1161.912	1158.850	1152.987	1151.868
52.5	1084.090	1089.182	1089.217	1089.182	1084.090	1080.432	1077.878
55.0	1011.342	1013.758	1015.700	1013.758	1011.342	1005.778	1001.350
57.5	933.870	938.087	938.665	938.087	933.870	928.533	928.813
60.0	855.015	859.950	861.087	859.950	855.015	851.025	848.523
62.5	777.753	783.492	783.545	783.492	777.753	774.987	771.173
65.0	700.000	705.705	705.722	705.705	700.000	695.940	691.740
67.5	622.125	626.378	627.865	626.378	622.125	617.872	614.548
70.0	542.622	548.398	549.395	548.398	542.622	539.280	537.915
72.5	465.570	470.260	472.290	470.260	465.570	461.738	460.022
75.0	390.845	394.450	394.905	394.450	390.845	385.140	385.455
77.5	316.505	321.195	321.930	321.195	316.505	314.650	313.512
80.0	246.803	250.390	250.460	250.390	246.803	247.765	245.490

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**PHOTOMETRIC FILENAME : P4020-LED35-SO-FWA-D9.IES**

**CANDELA TABULATION - (Cont.)**

82.5	181.213	181.265	181.843	181.265	181.213	180.250	181.825
85.0	117.618	115.465	115.570	115.465	117.618	119.088	118.860
87.5	61.023	57.715	55.947	57.715	61.023	58.117	51.695
90.0	39.305	52.657	57.645	52.657	39.305	20.160	6.580
92.5	39.865	52.063	55.983	52.063	39.865	22.242	9.432
95.0	44.398	57.347	61.705	57.347	44.398	26.915	17.080
97.5	50.155	62.370	66.640	62.370	50.155	33.460	25.988
100.0	57.068	69.195	73.168	69.195	57.068	41.020	36.260
102.5	64.890	77.245	80.920	77.245	64.890	49.612	46.042
105.0	73.325	85.785	89.285	85.785	73.325	59.343	56.420
107.5	82.880	94.255	97.877	94.255	82.880	69.388	66.972
110.0	92.067	102.882	106.627	102.882	92.067	79.695	77.192
112.5	101.623	112.263	116.218	112.263	101.623	91.070	91.578
115.0	111.843	122.097	126.315	122.097	111.843	100.940	102.078
117.5	122.605	132.597	136.868	132.597	122.605	113.942	111.090
120.0	133.910	143.308	147.438	143.308	133.910	126.770	125.808
122.5	145.845	154.192	158.200	154.192	145.845	136.938	137.795
125.0	157.903	165.025	169.015	165.025	157.903	146.597	149.118
127.5	170.398	175.787	179.795	175.787	170.398	158.847	160.930
130.0	181.528	186.655	190.523	186.655	181.528	170.520	173.215
132.5	191.555	197.347	201.075	197.347	191.555	182.018	181.685
135.0	201.075	207.620	211.173	207.620	201.075	195.563	190.260
137.5	210.560	217.420	220.885	217.420	210.560	206.972	205.135
140.0	220.868	226.905	230.230	226.905	220.868	217.507	218.243
142.5	230.843	236.110	239.190	236.110	230.843	226.433	231.507
145.0	240.240	244.843	247.625	244.843	240.240	233.887	240.835
147.5	248.377	252.998	255.518	252.998	248.377	243.442	244.738
150.0	255.657	260.592	262.798	260.592	255.657	254.153	252.980
152.5	262.973	267.663	269.587	267.663	262.973	263.007	264.582
155.0	270.183	274.225	275.993	274.225	270.183	268.678	271.827
157.5	276.780	280.140	281.855	280.140	276.780	274.995	276.990
160.0	282.660	285.337	286.983	285.337	282.660	281.645	283.640
162.5	288.085	290.098	291.462	290.098	288.085	287.683	290.027
165.0	292.775	294.280	295.382	294.280	292.775	293.055	295.627
167.5	296.993	297.902	298.673	297.902	296.993	297.658	300.475
170.0	300.248	300.808	301.543	300.808	300.248	301.455	304.623
172.5	302.978	303.030	303.660	303.030	302.978	304.483	307.842
175.0	304.815	304.570	304.990	304.570	304.815	306.635	309.995
177.5	305.882	305.550	306.005	305.550	305.882	307.930	311.395
180.0	307.405	307.405	307.405	307.405	307.405	307.405	307.405

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**PHOTOMETRIC FILENAME : P4020-LED35-SO-FWA-D9.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	722.14	N.A.	11.00
0-30	1530.00	N.A.	23.30
0-40	2499.56	N.A.	38.10
0-60	4403.38	N.A.	67.10
0-80	5510.12	N.A.	83.90
0-90	5645.74	N.A.	86.00
10-90	5458.52	N.A.	83.10
20-40	1777.41	N.A.	27.10
20-50	2778.99	N.A.	42.30
40-70	2596.61	N.A.	39.50
60-80	1106.74	N.A.	16.90
70-80	413.94	N.A.	6.30
80-90	135.62	N.A.	2.10
90-110	124.25	N.A.	1.90
90-120	235.94	N.A.	3.60
90-130	376.83	N.A.	5.70
90-150	682.83	N.A.	10.40
90-180	920.02	N.A.	14.00
110-180	795.77	N.A.	12.10
0-180	6565.76	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	187.21
10-20	534.93
20-30	807.85
30-40	969.56
40-50	1001.57
50-60	902.25
60-70	692.79
70-80	413.94
80-90	135.62
90-100	47.05
100-110	77.20
110-120	111.69
120-130	140.89
130-140	155.42
140-150	150.58
150-160	125.22
160-170	82.92
170-180	29.06

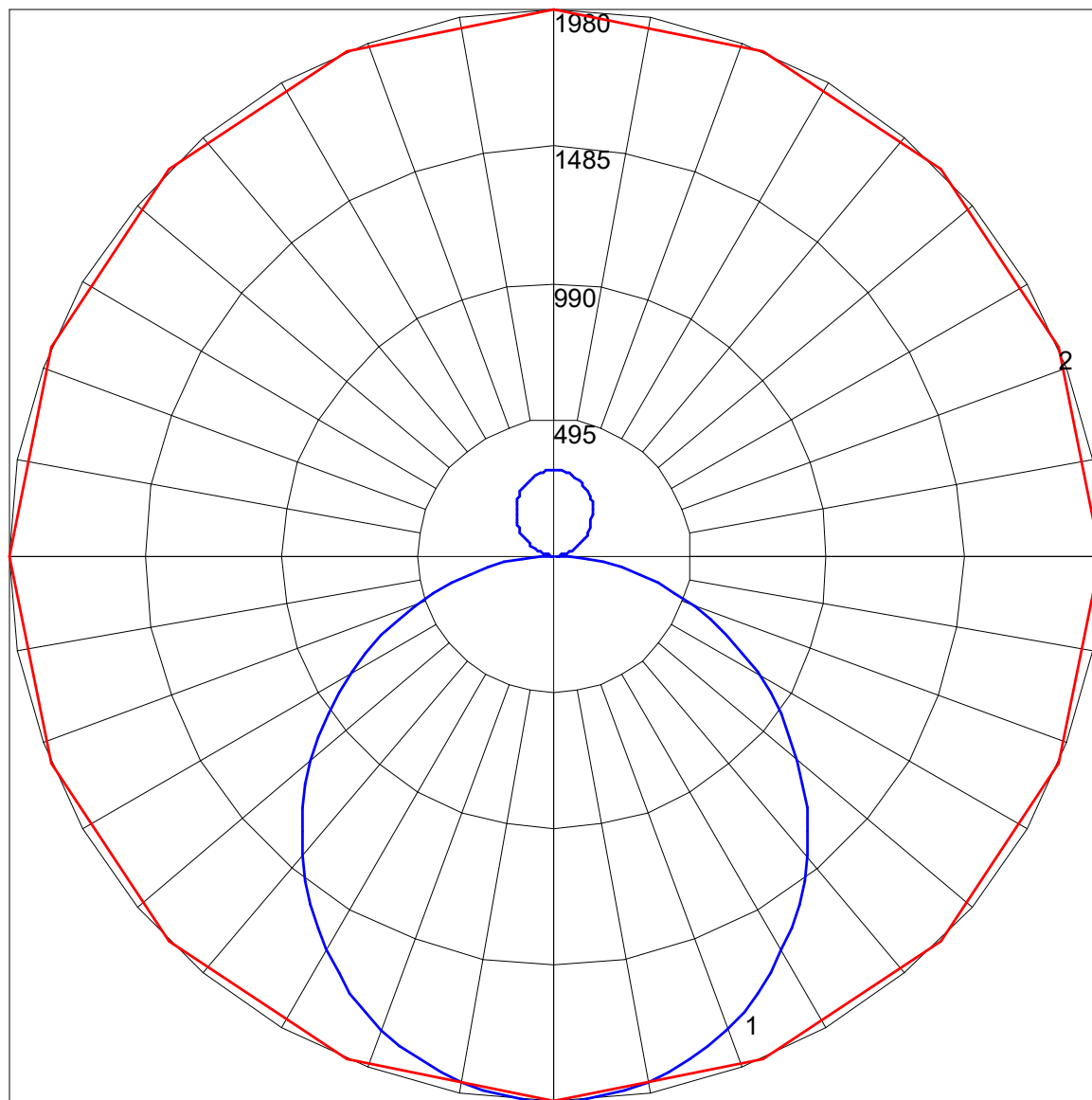
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**PHOTOMETRIC FILENAME : P4020-LED35-SO-FWA-D9.IES**

**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	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	86
1	105	101	96	92	101	97	93	90	90	87	84	84	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	79	74	69	73	69	66	68	65	62	59
3	87	77	69	62	84	74	67	61	69	63	58	65	60	55	60	56	53	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	54	49	45	42
5	73	61	52	45	70	59	50	44	55	48	43	52	46	41	48	43	39	37
6	68	54	46	39	65	53	45	39	50	42	37	47	40	36	44	39	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	32	27	38	31	26	36	30	25	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

POLAR GRAPH



Maximum Candela = 1979.845 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.)