

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: NEO-RAY

Report Number: P332703

Luminaire Tested: **S124DIP-S1195D1035U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332703  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S1195D1035U835-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9246.3 lumens  
Efficiency: N/A  
Efficacy: 138.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

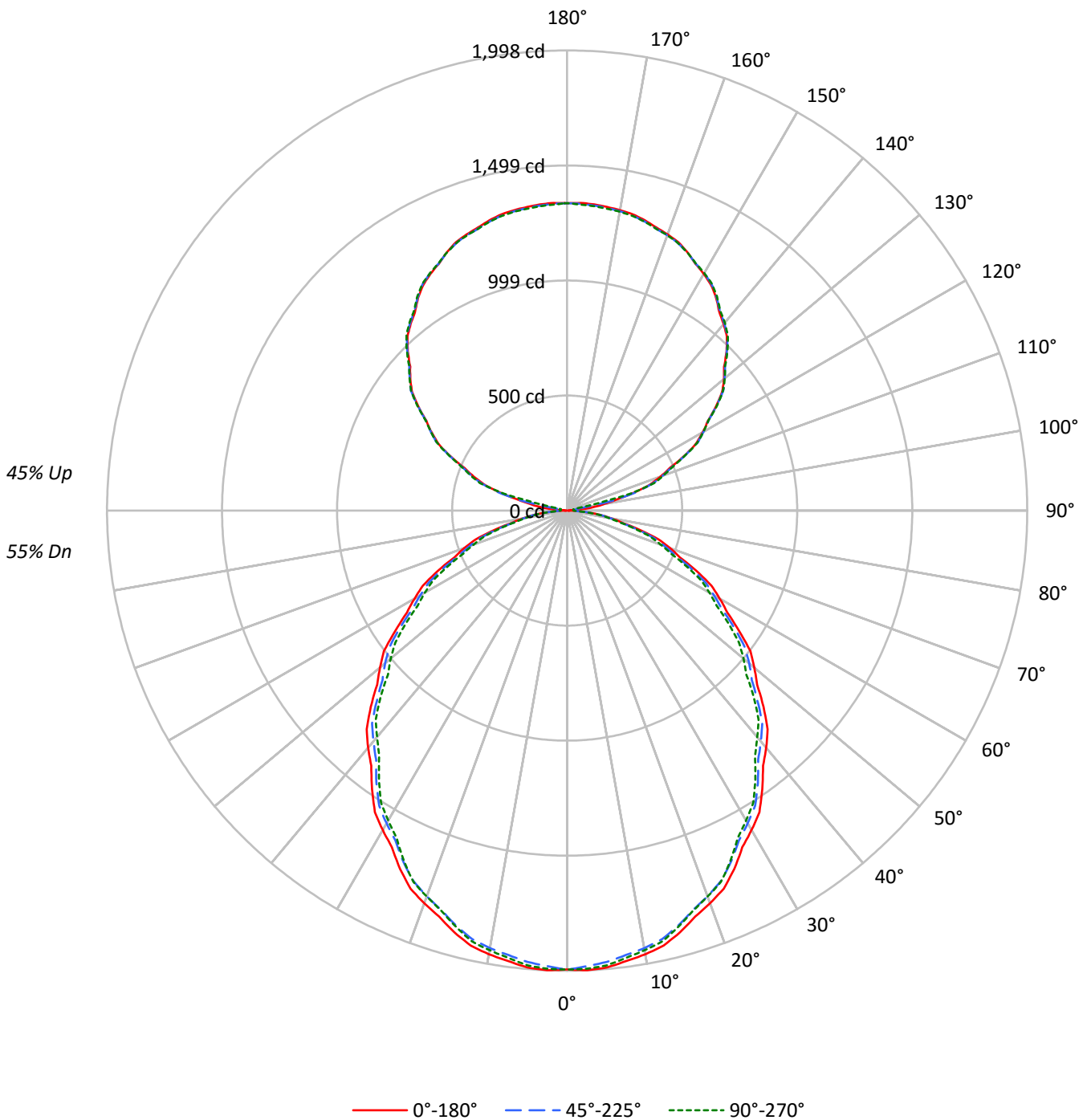
Input Watts (W): 66.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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
RCR																		
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	87	92	88	85	81	76	73	71	64	63	61	54	53	51	47
2	90	83	76	71	83	77	71	67	66	62	59	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	46	42	44	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	35	32	34	30	28	25
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	24	22
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	16088	16088	16088
5°	16136	15943	16058
10°	16035	15813	15891
15°	15841	15588	15628
20°	15584	15309	15323
25°	15291	14991	14949
30°	14930	14618	14483
35°	14557	14226	14038
40°	14169	13782	13529
45°	13764	13345	13089
50°	13317	12955	12554
55°	12833	12451	12047
60°	12350	11885	11525
65°	11805	11347	10890
70°	11195	10629	10213
75°	10259	9763	9513
80°	9131	8759	8536
85°	7984	7688	7540



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.7	2.0
10°-20°	528.8	5.7
20°-30°	778.3	8.4
30°-40°	904.8	9.8
40°-50°	904.8	9.8
50°-60°	791.5	8.6
60°-70°	587.8	6.4
70°-80°	333.9	3.6
80°-90°	100.2	1.1
90°-100°	45.7	0.5
100°-110°	291.1	3.1
110°-120°	556.8	6.0
120°-130°	706.8	7.6
130°-140°	756.2	8.2
140°-150°	707.2	7.6
150°-160°	570.3	6.2
160°-170°	367.8	4.0
170°-180°	126.8	1.4
0°-30°	1494.7	16.2
0°-40°	2399.5	26.0
0°-60°	4095.8	44.3
0°-90°	5117.7	55.3
90°-120°	893.5	9.7
90°-150°	3063.7	33.1
90°-180°	4129.0	44.7
0°-180°	9246.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	1991	1984	1967	1984	1982	189
15°	1895	1888	1865	1874	1870	534
25°	1717	1705	1683	1684	1678	789
35°	1477	1465	1444	1433	1424	923
45°	1206	1194	1169	1152	1146	929
55°	912	906	885	866	856	816
65°	618	610	594	578	570	612
75°	329	321	313	307	305	350
85°	86	86	83	83	81	95
90°	3	14	22	28	30	7
95°	55	23	22	28	29	71
105°	300	306	312	318	284	314
115°	561	564	563	565	565	552
125°	789	792	791	794	795	704
135°	978	978	981	983	985	753
145°	1128	1131	1131	1132	1134	705
155°	1237	1238	1235	1238	1236	570
165°	1305	1300	1300	1307	1299	369
175°	1335	1329	1330	1338	1327	127
180°	1335	1335	1335	1335	1335	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1997.9	1997.1	1996.2	1995.4	1994.5	1992.5	1989.4	1986.3	1983.2	1980.1	1982.9
5°	1991.2	1989.8	1988.4	1987.0	1985.6	1982.9	1979.0	1975.1	1971.2	1967.3	1971.2
7.5°	1972.7	1971.3	1969.9	1968.4	1967.0	1964.2	1959.8	1955.5	1951.2	1946.8	1950.0
10°	1956.1	1954.7	1953.3	1951.8	1950.4	1947.4	1942.8	1938.2	1933.6	1929.0	1931.8
12.5°	1934.4	1933.0	1931.5	1930.1	1928.7	1925.5	1920.7	1915.8	1910.9	1906.0	1909.1
15°	1895.4	1894.0	1892.6	1891.2	1889.7	1886.4	1881.0	1875.7	1870.4	1865.1	1867.2
17.5°	1848.5	1846.7	1844.9	1843.2	1841.4	1838.0	1832.9	1827.9	1822.9	1817.8	1819.2
20°	1814.0	1812.2	1810.4	1808.7	1806.9	1803.3	1798.0	1792.7	1787.4	1782.0	1783.1
22.5°	1776.9	1774.6	1772.3	1769.9	1767.6	1763.7	1758.4	1753.1	1747.8	1742.4	1744.4
25°	1716.6	1714.1	1711.6	1709.1	1706.6	1702.9	1697.9	1693.0	1688.0	1683.0	1683.4
27.5°	1647.6	1645.0	1642.5	1639.9	1637.4	1633.8	1629.2	1624.6	1620.0	1615.3	1614.5
30°	1601.6	1598.8	1595.9	1593.1	1590.3	1586.5	1581.9	1577.3	1572.7	1568.1	1566.7
32.5°	1553.1	1550.5	1548.0	1545.4	1542.8	1539.1	1534.2	1529.3	1524.4	1519.5	1517.8
35°	1477.1	1474.6	1472.1	1469.6	1467.1	1463.4	1458.4	1453.5	1448.5	1443.5	1441.0
37.5°	1396.9	1394.6	1392.4	1390.1	1387.8	1384.0	1378.7	1373.4	1368.0	1362.7	1360.0
40°	1344.5	1341.7	1338.8	1336.0	1333.2	1329.1	1323.8	1318.4	1313.1	1307.8	1304.2
42.5°	1288.3	1286.6	1284.9	1283.2	1281.5	1277.7	1271.8	1265.9	1260.0	1254.1	1250.0
45°	1205.6	1203.1	1200.6	1198.1	1195.7	1191.6	1185.9	1180.2	1174.5	1168.9	1165.0
47.5°	1119.0	1117.3	1115.6	1113.9	1112.2	1108.8	1103.5	1098.3	1093.0	1087.8	1083.4
50°	1060.3	1058.9	1057.4	1056.0	1054.6	1051.4	1046.4	1041.5	1036.5	1031.5	1026.6
52.5°	1002.8	1001.1	999.4	997.7	996.0	992.5	987.3	982.0	976.8	971.5	967.1
55°	911.8	910.7	909.7	908.6	907.5	904.5	899.5	894.6	889.6	884.6	880.4
57.5°	824.9	823.7	822.5	821.3	820.1	817.0	812.1	807.2	802.3	797.4	793.4
60°	764.9	763.1	761.3	759.6	757.8	754.6	750.0	745.4	740.7	736.1	732.9
62.5°	706.1	704.6	703.1	701.6	700.2	697.0	692.1	687.2	682.3	677.4	674.5
65°	618.0	616.2	614.4	612.6	610.9	608.2	604.7	601.1	597.6	594.0	590.5
67.5°	529.2	527.6	525.9	524.3	522.7	520.1	516.7	513.3	509.9	506.5	503.1
70°	474.3	471.8	469.3	466.8	464.3	461.7	458.8	456.0	453.1	450.3	447.5
72.5°	415.5	413.0	410.5	408.0	405.6	403.2	400.9	398.6	396.4	394.1	391.8
75°	328.9	327.2	325.4	323.6	321.8	320.1	318.3	316.5	314.8	313.0	311.6
77.5°	246.2	245.4	244.7	243.9	243.1	241.9	240.4	238.8	237.3	235.7	235.3
80°	196.4	195.3	194.3	193.2	192.2	191.3	190.6	189.8	189.1	188.4	187.7
82.5°	147.9	147.4	146.9	146.4	145.9	145.6	145.4	145.3	145.1	145.0	144.6
85°	86.2	86.2	86.2	86.2	86.2	85.9	85.2	84.5	83.7	83.0	83.0
87.5°	33.8	34.0	34.2	34.4	34.6	34.8	34.8	34.9	35.0	35.1	35.3
90°	3.0	5.4	7.9	10.3	12.8	14.9	16.6	18.4	20.2	22.0	23.3
92.5°	12.6	12.7	12.8	13.0	13.1	14.1	15.8	17.6	19.4	21.2	22.5
95°	54.9	47.4	39.8	32.3	24.7	21.1	21.3	21.5	21.7	22.0	23.3
97.5°	116.6	121.3	126.0	130.7	135.4	125.4	100.6	75.9	51.1	26.4	26.5
100°	163.7	167.7	171.7	175.7	179.7	166.4	135.8	105.2	74.5	43.9	40.2
102.5°	216.4	219.4	222.3	225.2	228.1	227.6	223.6	219.6	215.6	211.6	170.9
105°	300.5	301.8	303.1	304.5	305.8	307.0	308.1	309.2	310.4	311.5	313.5
107.5°	378.5	379.2	379.9	380.5	381.2	382.3	383.8	385.3	386.8	388.3	389.3
110°	431.3	431.9	432.6	433.2	433.9	434.9	436.2	437.6	438.9	440.2	440.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.4	483.6	484.8	486.0	487.2	488.1	488.7	489.3	489.9	490.5	490.5
115°	561.0	561.7	562.4	563.0	563.7	563.9	563.7	563.5	563.2	563.0	563.5
117.5°	631.9	632.8	633.7	634.6	635.5	636.1	636.6	637.1	637.6	638.1	638.0
120°	679.8	680.7	681.6	682.5	683.4	683.7	683.5	683.3	683.0	682.8	683.3
122.5°	724.5	725.1	725.6	726.1	726.7	727.1	727.4	727.7	728.0	728.3	728.6
125°	788.6	789.5	790.4	791.3	792.2	792.4	792.0	791.5	791.1	790.6	791.3
127.5°	849.3	849.5	849.8	850.0	850.2	850.8	851.9	852.9	853.9	854.9	854.8
130°	888.5	888.7	888.9	889.1	889.3	889.8	890.5	891.1	891.8	892.5	892.7
132.5°	924.4	924.8	925.2	925.6	926.0	926.6	927.5	928.3	929.1	930.0	930.2
135°	978.3	978.1	977.9	977.6	977.4	977.7	978.6	979.5	980.4	981.3	981.7
137.5°	1026.0	1026.1	1026.2	1026.3	1026.4	1026.9	1027.9	1028.9	1029.8	1030.8	1031.3
140°	1057.2	1057.6	1058.1	1058.5	1058.9	1059.4	1059.8	1060.3	1060.7	1061.2	1061.8
142.5°	1085.1	1085.9	1086.7	1087.5	1088.3	1088.8	1089.1	1089.4	1089.6	1089.9	1090.4
145°	1128.0	1128.7	1129.4	1130.0	1130.7	1131.0	1131.0	1131.0	1131.0	1131.0	1131.3
147.5°	1162.2	1163.4	1164.7	1165.9	1167.2	1167.7	1167.4	1167.2	1167.0	1166.8	1167.0
150°	1186.9	1187.8	1188.7	1189.6	1190.5	1190.8	1190.6	1190.4	1190.2	1189.9	1189.9
152.5°	1207.7	1208.4	1209.1	1209.8	1210.5	1210.7	1210.3	1209.9	1209.5	1209.1	1209.5
155°	1236.9	1237.1	1237.3	1237.5	1237.7	1237.5	1236.9	1236.2	1235.5	1234.9	1235.7
157.5°	1261.4	1261.3	1261.1	1261.0	1260.9	1260.4	1259.7	1258.9	1258.2	1257.4	1258.6
160°	1275.8	1275.1	1274.5	1273.8	1273.1	1272.7	1272.5	1272.2	1272.0	1271.8	1273.1
162.5°	1288.6	1287.7	1286.9	1286.0	1285.2	1284.7	1284.4	1284.2	1284.0	1283.8	1285.1
165°	1304.7	1303.6	1302.5	1301.4	1300.3	1299.7	1299.7	1299.7	1299.7	1299.7	1301.5
167.5°	1317.5	1316.4	1315.2	1314.1	1312.9	1312.3	1312.1	1312.0	1311.9	1311.7	1313.7
170°	1324.7	1323.4	1322.0	1320.7	1319.4	1318.8	1319.0	1319.3	1319.5	1319.7	1321.5
172.5°	1329.5	1328.2	1326.8	1325.5	1324.2	1323.6	1323.8	1324.1	1324.3	1324.5	1326.3
175°	1334.7	1333.4	1332.0	1330.7	1329.4	1328.8	1329.0	1329.3	1329.5	1329.7	1331.7
177.5°	1337.1	1335.8	1334.6	1333.4	1332.1	1331.7	1332.0	1332.4	1332.7	1333.1	1334.5
180°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8	1992.8
2.5°	1985.7	1988.6	1991.4	1992.7	1992.4	1992.1	1991.8	1991.5
5°	1975.1	1979.0	1982.9	1984.5	1983.8	1983.1	1982.4	1981.6
7.5°	1953.1	1956.2	1959.3	1960.7	1960.3	1959.8	1959.4	1959.0
10°	1934.6	1937.5	1940.3	1941.4	1940.7	1940.0	1939.2	1938.5
12.5°	1912.2	1915.3	1918.5	1919.5	1918.5	1917.5	1916.5	1915.5
15°	1869.3	1871.5	1873.6	1874.1	1873.1	1872.0	1870.9	1869.9
17.5°	1820.5	1821.9	1823.2	1823.5	1822.8	1822.1	1821.4	1820.7
20°	1784.2	1785.2	1786.3	1786.5	1785.8	1785.1	1784.4	1783.6
22.5°	1746.3	1748.2	1750.1	1750.4	1749.2	1747.9	1746.6	1745.3
25°	1683.8	1684.1	1684.5	1683.9	1682.5	1681.1	1679.7	1678.3
27.5°	1613.6	1612.8	1611.9	1610.6	1608.8	1607.1	1605.3	1603.5
30°	1565.2	1563.8	1562.4	1560.8	1559.0	1557.3	1555.5	1553.7
32.5°	1516.1	1514.4	1512.7	1511.0	1509.2	1507.4	1505.7	1503.9
35°	1438.6	1436.1	1433.6	1431.5	1429.7	1427.9	1426.1	1424.4
37.5°	1357.3	1354.6	1351.9	1349.4	1347.1	1344.7	1342.4	1340.0
40°	1300.7	1297.1	1293.6	1290.9	1289.2	1287.4	1285.6	1283.8
42.5°	1245.9	1241.8	1237.7	1235.0	1233.8	1232.6	1231.4	1230.2
45°	1161.1	1157.2	1153.3	1150.8	1149.7	1148.6	1147.6	1146.5
47.5°	1079.0	1074.6	1070.2	1066.6	1063.9	1061.2	1058.5	1055.8
50°	1021.6	1016.6	1011.7	1008.1	1006.0	1003.9	1001.7	999.6
52.5°	962.7	958.3	953.9	950.4	947.7	945.0	942.3	939.6
55°	876.1	871.9	867.6	864.4	862.3	860.2	858.0	855.9
57.5°	789.4	785.3	781.3	778.2	776.2	774.1	772.0	770.0
60°	729.7	726.6	723.4	720.9	719.1	717.3	715.6	713.8
62.5°	671.5	668.6	665.7	663.4	661.6	659.8	658.1	656.3
65°	586.9	583.4	579.8	577.2	575.4	573.6	571.8	570.1
67.5°	499.7	496.3	492.9	490.9	490.4	489.9	489.4	488.9
70°	444.6	441.8	438.9	437.0	435.9	434.9	433.8	432.7
72.5°	389.6	387.3	385.0	383.3	382.3	381.2	380.1	379.1
75°	310.1	308.7	307.3	306.4	306.1	305.7	305.3	305.0
77.5°	234.8	234.4	234.0	233.3	232.4	231.5	230.5	229.6
80°	187.0	186.3	185.6	185.1	184.7	184.3	184.0	183.6
82.5°	144.1	143.7	143.3	142.9	142.5	142.2	141.8	141.5
85°	83.0	83.0	83.0	82.9	82.5	82.1	81.8	81.4
87.5°	35.6	35.8	36.1	36.3	36.4	36.5	36.6	36.6
90°	24.6	26.0	27.3	28.2	28.6	29.1	29.5	29.9
92.5°	23.8	25.2	26.5	27.2	27.3	27.4	27.5	27.6
95°	24.6	26.0	27.3	28.1	28.3	28.5	28.7	28.9
97.5°	26.6	26.8	26.9	27.1	27.3	27.5	27.7	28.0
100°	36.4	32.6	28.8	27.1	27.3	27.5	27.7	28.0
102.5°	130.3	89.6	48.9	28.6	28.6	28.7	28.7	28.8
105°	315.5	317.4	319.4	316.5	308.5	300.5	292.5	284.5
107.5°	390.3	391.3	392.2	393.1	394.0	394.8	395.7	396.5
110°	441.1	441.6	442.0	442.6	443.2	443.9	444.6	445.2





TEST NUMBER: P332703

CATALOG NUMBER: S124DIP-S1195D1035U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	490.4	490.3	490.2	490.6	491.4	492.3	493.1	493.9
115°	563.9	564.4	564.8	565.0	565.0	565.0	565.0	565.0
117.5°	637.9	637.8	637.7	637.7	637.6	637.5	637.4	637.3
120°	683.7	684.1	684.6	684.6	684.1	683.7	683.3	682.8
122.5°	728.9	729.1	729.4	729.3	728.9	728.4	728.0	727.5
125°	792.0	792.6	793.3	793.7	794.0	794.2	794.4	794.6
127.5°	854.7	854.5	854.4	854.2	854.1	853.9	853.7	853.5
130°	892.9	893.1	893.3	893.5	893.5	893.5	893.5	893.5
132.5°	930.4	930.7	930.9	930.9	930.7	930.5	930.4	930.2
135°	982.2	982.6	983.1	983.5	984.0	984.4	984.8	985.3
137.5°	1031.8	1032.3	1032.8	1032.9	1032.8	1032.7	1032.5	1032.4
140°	1062.5	1063.2	1063.8	1064.3	1064.5	1064.7	1064.9	1065.2
142.5°	1090.9	1091.4	1091.9	1092.1	1092.2	1092.2	1092.3	1092.3
145°	1131.5	1131.7	1131.9	1132.3	1132.7	1133.1	1133.6	1134.0
147.5°	1167.1	1167.3	1167.5	1167.7	1167.9	1168.1	1168.4	1168.6
150°	1189.9	1189.9	1189.9	1190.0	1190.3	1190.5	1190.7	1190.9
152.5°	1209.8	1210.2	1210.5	1210.6	1210.5	1210.4	1210.2	1210.1
155°	1236.6	1237.5	1238.4	1238.5	1237.9	1237.2	1236.5	1235.9
157.5°	1259.7	1260.9	1262.0	1262.0	1260.9	1259.7	1258.6	1257.4
160°	1274.5	1275.8	1277.1	1277.1	1275.8	1274.5	1273.1	1271.8
162.5°	1286.4	1287.8	1289.1	1289.0	1287.5	1286.0	1284.5	1283.0
165°	1303.3	1305.1	1306.8	1306.7	1304.7	1302.7	1300.7	1298.7
167.5°	1315.6	1317.6	1319.5	1319.4	1317.2	1315.0	1312.7	1310.5
170°	1323.3	1325.0	1326.8	1326.6	1324.4	1322.2	1319.9	1317.7
172.5°	1328.1	1329.8	1331.6	1331.3	1328.9	1326.5	1324.1	1321.7
175°	1333.7	1335.7	1337.7	1337.3	1334.7	1332.0	1329.4	1326.7
177.5°	1335.9	1337.3	1338.8	1338.4	1336.3	1334.2	1332.0	1329.9
180°	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7	1334.7

(END OF REPORT)