

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: P332851

Luminaire Tested: **S124DIW-S1195D1050U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332851
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: S124DIW-S1195D1050U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9308.1 lumens
Efficiency: N/A
Efficacy: 138.1 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

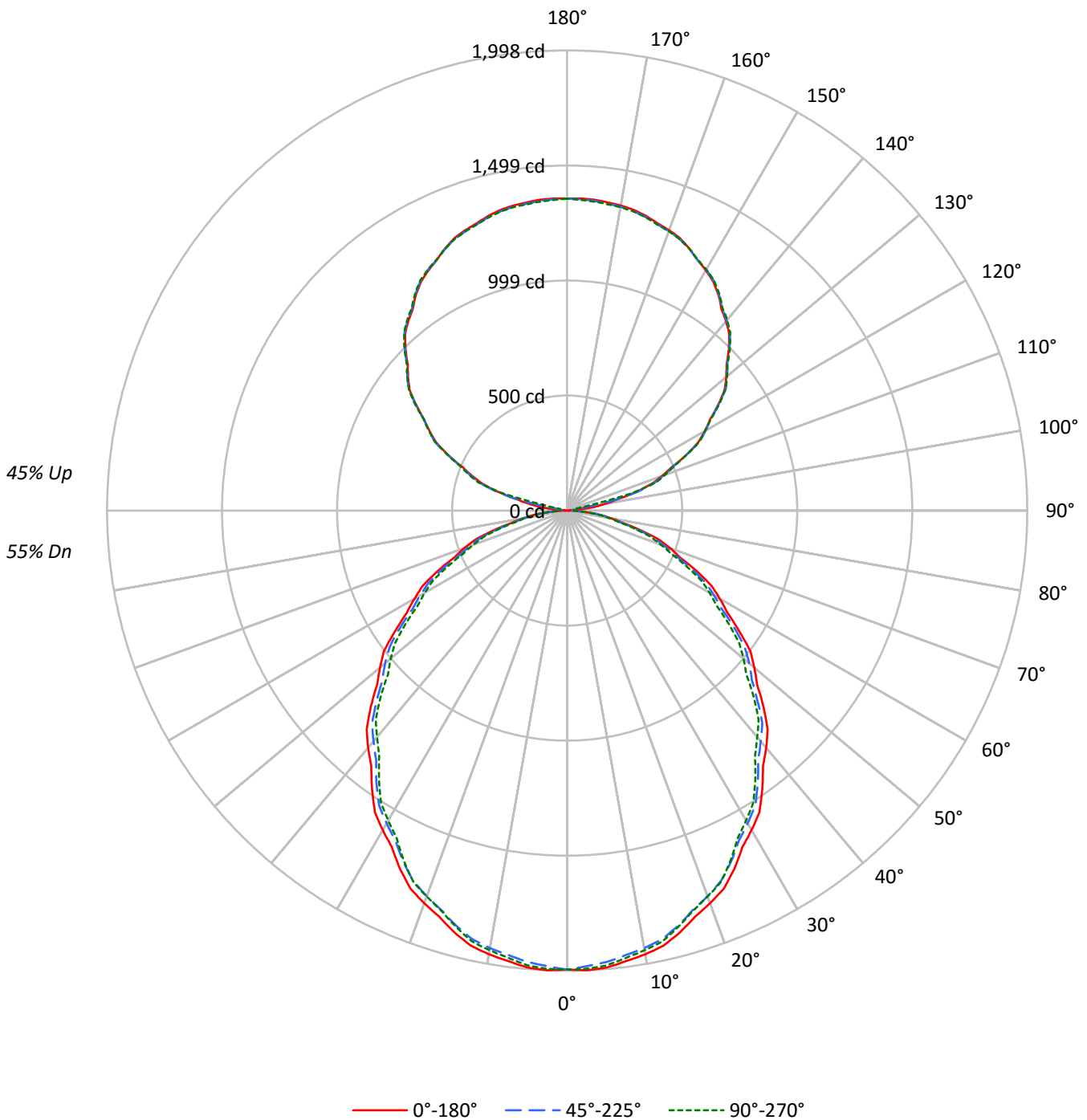
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46
2	90	82	76	71	83	77	71	67	66	62	58	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	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	53	46	41	46	41	36	40	35	32	34	30	28	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	31	27	24	21
7	59	46	38	33	54	43	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	32	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	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	9.7
40°-50°	904.8	9.7
50°-60°	791.5	8.5
60°-70°	587.8	6.3
70°-80°	333.9	3.6
80°-90°	100.3	1.1
90°-100°	46.3	0.5
100°-110°	295.4	3.2
110°-120°	565.1	6.1
120°-130°	717.4	7.7
130°-140°	767.5	8.2
140°-150°	717.7	7.7
150°-160°	578.8	6.2
160°-170°	373.3	4.0
170°-180°	128.7	1.4
0°-30°	1494.7	16.1
0°-40°	2399.5	25.8
0°-60°	4095.8	44.0
0°-90°	5117.8	55.0
90°-120°	906.8	9.7
90°-150°	3109.5	33.4
90°-180°	4190.0	45.0
0°-180°	9308.1	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°	56	23	22	28	29	72
105°	305	311	316	323	289	319
115°	569	572	571	573	574	560
125°	800	804	802	805	806	714
135°	993	992	996	998	1000	765
145°	1145	1148	1148	1149	1151	715
155°	1255	1256	1253	1257	1254	579
165°	1324	1319	1319	1326	1318	374
175°	1355	1349	1350	1358	1346	129
180°	1355	1355	1355	1355	1355	



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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	34.5	34.7	34.8	34.9	35.0	35.0	35.1	35.4
90°	3.0	5.5	8.0	10.5	12.9	15.1	16.9	18.7	20.5	22.3	23.6
92.5°	12.8	12.9	13.0	13.2	13.3	14.3	16.1	17.9	19.7	21.5	22.8
95°	55.7	48.1	40.4	32.8	25.1	21.4	21.6	21.8	22.1	22.3	23.6
97.5°	118.3	123.1	127.9	132.7	137.4	127.3	102.1	77.0	51.9	26.7	26.9
100°	166.2	170.2	174.3	178.3	182.4	168.9	137.8	106.7	75.7	44.6	40.8
102.5°	219.7	222.6	225.6	228.6	231.5	231.0	227.0	222.9	218.8	214.8	173.5
105°	305.0	306.3	307.7	309.0	310.4	311.6	312.7	313.9	315.0	316.1	318.1
107.5°	384.2	384.9	385.5	386.2	386.9	388.0	389.5	391.1	392.6	394.1	395.1
110°	437.7	438.4	439.0	439.7	440.4	441.4	442.8	444.1	445.5	446.8	447.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	489.6	490.8	492.0	493.2	494.4	495.4	496.0	496.6	497.2	497.9	497.8
115°	569.4	570.1	570.8	571.4	572.1	572.3	572.1	571.9	571.7	571.4	571.9
117.5°	641.3	642.2	643.1	644.0	644.9	645.6	646.1	646.6	647.1	647.6	647.5
120°	690.0	690.9	691.8	692.7	693.6	693.9	693.7	693.5	693.2	693.0	693.5
122.5°	735.4	735.9	736.4	737.0	737.5	738.0	738.3	738.6	738.9	739.2	739.5
125°	800.4	801.3	802.2	803.1	804.0	804.2	803.8	803.3	802.9	802.4	803.1
127.5°	862.0	862.2	862.5	862.7	862.9	863.5	864.6	865.6	866.6	867.7	867.6
130°	901.7	902.0	902.2	902.4	902.6	903.1	903.8	904.4	905.1	905.8	906.0
132.5°	938.2	938.6	939.0	939.4	939.8	940.5	941.3	942.2	943.0	943.9	944.1
135°	992.9	992.7	992.5	992.2	992.0	992.4	993.3	994.2	995.1	996.0	996.4
137.5°	1041.3	1041.4	1041.5	1041.6	1041.7	1042.2	1043.2	1044.2	1045.2	1046.2	1046.7
140°	1073.0	1073.4	1073.9	1074.3	1074.8	1075.2	1075.7	1076.1	1076.6	1077.0	1077.7
142.5°	1101.3	1102.1	1102.9	1103.8	1104.6	1105.1	1105.4	1105.6	1105.9	1106.2	1106.7
145°	1144.9	1145.6	1146.2	1146.9	1147.6	1147.9	1147.9	1147.9	1147.9	1147.9	1148.2
147.5°	1179.5	1180.8	1182.1	1183.3	1184.6	1185.1	1184.9	1184.7	1184.4	1184.2	1184.4
150°	1204.7	1205.6	1206.5	1207.4	1208.3	1208.6	1208.4	1208.2	1207.9	1207.7	1207.7
152.5°	1225.7	1226.5	1227.2	1227.9	1228.6	1228.8	1228.4	1228.0	1227.6	1227.2	1227.5
155°	1255.3	1255.6	1255.8	1256.0	1256.2	1256.0	1255.3	1254.7	1254.0	1253.3	1254.2
157.5°	1280.3	1280.1	1280.0	1279.8	1279.7	1279.3	1278.5	1277.7	1277.0	1276.2	1277.4
160°	1294.8	1294.2	1293.5	1292.8	1292.1	1291.7	1291.5	1291.2	1291.0	1290.8	1292.1
162.5°	1307.8	1307.0	1306.1	1305.2	1304.4	1303.8	1303.6	1303.4	1303.2	1302.9	1304.3
165°	1324.2	1323.1	1322.0	1320.8	1319.7	1319.2	1319.2	1319.2	1319.2	1319.2	1321.0
167.5°	1337.2	1336.0	1334.9	1333.7	1332.5	1331.9	1331.7	1331.6	1331.5	1331.3	1333.3
170°	1344.5	1343.1	1341.8	1340.4	1339.1	1338.5	1338.7	1339.0	1339.2	1339.4	1341.2
172.5°	1349.3	1348.0	1346.6	1345.3	1343.9	1343.4	1343.6	1343.8	1344.1	1344.3	1346.1
175°	1354.6	1353.3	1351.9	1350.6	1349.2	1348.7	1348.9	1349.1	1349.3	1349.6	1351.6
177.5°	1357.0	1355.8	1354.5	1353.3	1352.0	1351.6	1351.9	1352.3	1352.6	1353.0	1354.4
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6



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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°	35.7	35.9	36.2	36.4	36.5	36.6	36.6	36.7
90°	25.0	26.3	27.7	28.6	29.0	29.5	29.9	30.4
92.5°	24.2	25.5	26.9	27.6	27.7	27.8	27.9	28.0
95°	25.0	26.3	27.7	28.5	28.7	28.9	29.2	29.4
97.5°	27.0	27.2	27.3	27.5	27.7	27.9	28.1	28.4
100°	36.9	33.1	29.3	27.5	27.7	27.9	28.1	28.4
102.5°	132.2	90.9	49.6	29.0	29.0	29.1	29.1	29.2
105°	320.2	322.2	324.2	321.2	313.1	305.0	296.9	288.8
107.5°	396.1	397.1	398.1	399.0	399.9	400.7	401.6	402.4
110°	447.7	448.2	448.6	449.2	449.9	450.5	451.2	451.9



TEST NUMBER: P332851

CATALOG NUMBER: S124DIW-S1195D1050U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	497.7	497.6	497.5	497.9	498.8	499.6	500.5	501.3
115°	572.3	572.8	573.2	573.5	573.5	573.5	573.5	573.5
117.5°	647.4	647.4	647.3	647.2	647.1	647.0	646.9	646.8
120°	693.9	694.4	694.8	694.8	694.4	693.9	693.5	693.0
122.5°	739.8	740.0	740.3	740.2	739.8	739.3	738.9	738.4
125°	803.8	804.5	805.1	805.6	805.8	806.0	806.3	806.5
127.5°	867.4	867.3	867.1	867.0	866.8	866.6	866.4	866.3
130°	906.2	906.5	906.7	906.8	906.8	906.8	906.8	906.8
132.5°	944.3	944.6	944.8	944.8	944.6	944.4	944.3	944.1
135°	996.9	997.3	997.8	998.2	998.7	999.1	999.6	1000.0
137.5°	1047.2	1047.7	1048.2	1048.4	1048.2	1048.1	1048.0	1047.8
140°	1078.4	1079.0	1079.7	1080.2	1080.4	1080.6	1080.8	1081.1
142.5°	1107.2	1107.7	1108.2	1108.4	1108.5	1108.5	1108.6	1108.6
145°	1148.4	1148.6	1148.8	1149.2	1149.6	1150.1	1150.5	1151.0
147.5°	1184.6	1184.7	1184.9	1185.1	1185.4	1185.6	1185.8	1186.0
150°	1207.7	1207.7	1207.7	1207.8	1208.0	1208.3	1208.5	1208.7
152.5°	1227.9	1228.2	1228.6	1228.7	1228.6	1228.4	1228.3	1228.2
155°	1255.1	1256.0	1256.9	1257.0	1256.3	1255.7	1255.0	1254.3
157.5°	1278.5	1279.7	1280.9	1280.9	1279.7	1278.5	1277.4	1276.2
160°	1293.5	1294.8	1296.2	1296.2	1294.8	1293.5	1292.1	1290.8
162.5°	1305.6	1307.0	1308.3	1308.3	1306.7	1305.2	1303.7	1302.1
165°	1322.8	1324.6	1326.4	1326.2	1324.2	1322.2	1320.2	1318.1
167.5°	1335.3	1337.3	1339.2	1339.1	1336.9	1334.6	1332.4	1330.1
170°	1343.0	1344.8	1346.6	1346.4	1344.1	1341.9	1339.6	1337.4
172.5°	1347.9	1349.7	1351.5	1351.2	1348.7	1346.3	1343.9	1341.4
175°	1353.6	1355.6	1357.7	1357.3	1354.6	1351.9	1349.2	1346.5
177.5°	1355.9	1357.3	1358.8	1358.4	1356.2	1354.1	1351.9	1349.8
180°	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6	1354.6

(END OF REPORT)