

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: P332078

Luminaire Tested: **S123DIP-S1165D1025U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332078
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S1165D1025U835-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8857.8 lumens
Efficiency: N/A
Efficacy: 132.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

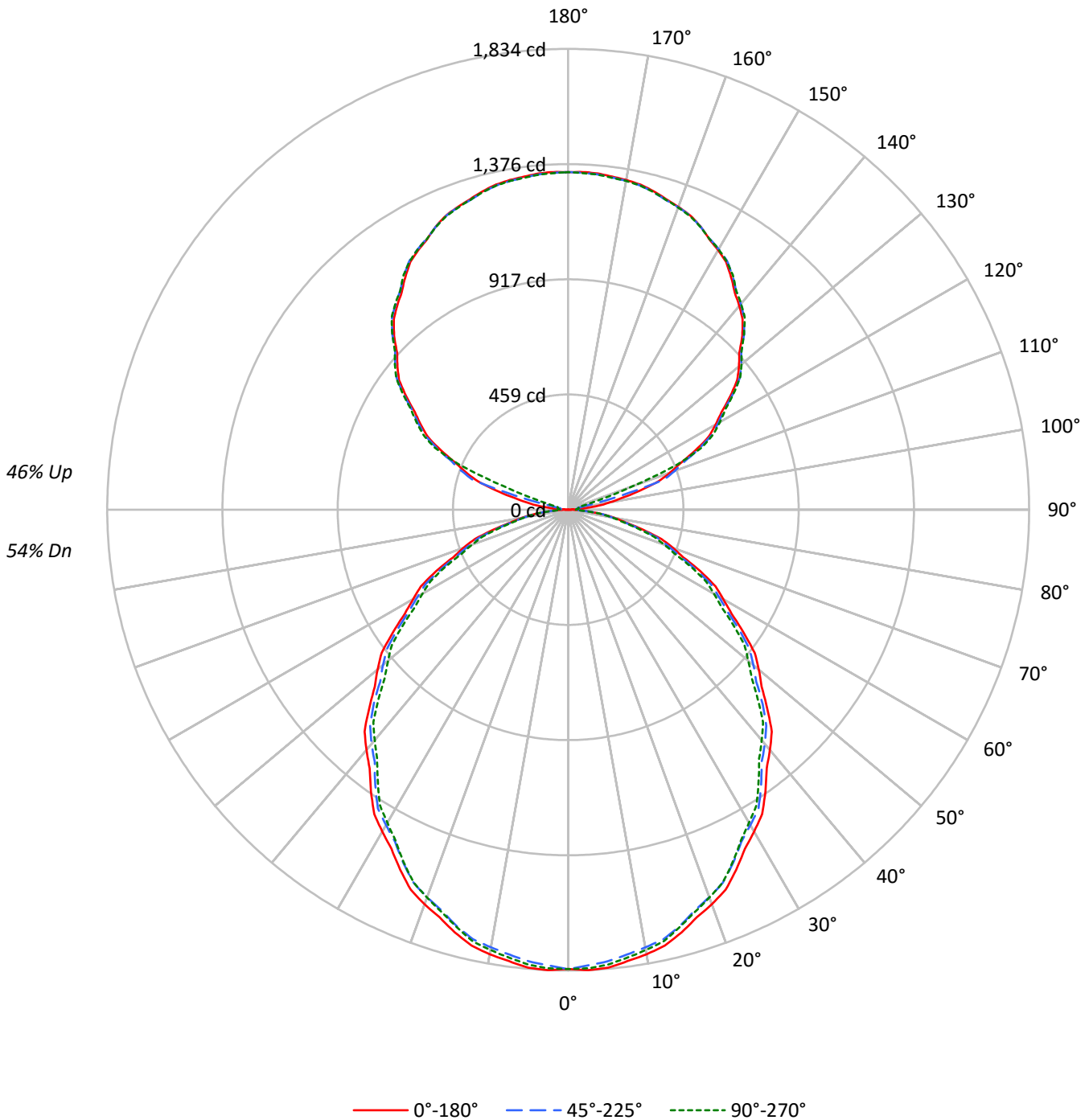
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	85	85	85	72	72	72	60	60	60	54
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	53	51	50	45
2	90	82	76	71	83	76	71	66	66	61	58	55	53	50	46	44	42	38
3	82	72	65	59	76	67	61	55	58	53	49	49	45	42	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	44	39	36	37	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	21
7	59	46	38	32	54	43	36	31	38	32	28	32	28	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	22	19	17
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19678	19678	19678
5°	19770	19498	19634
10°	19638	19329	19449
15°	19409	19110	19146
20°	19140	18798	18816
25°	18781	18427	18389
30°	18385	18013	17877
35°	17971	17578	17350
40°	17537	17096	16831
45°	17061	16653	16247
50°	16583	16109	15662
55°	15959	15546	15073
60°	15330	14889	14415
65°	14772	14174	13733
70°	13951	13357	12765
75°	12747	12289	11765
80°	11499	11009	10916
85°	10090	9707	9324



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.2	1.9
10°-20°	486.2	5.5
20°-30°	718.3	8.1
30°-40°	839.0	9.5
40°-50°	843.5	9.5
50°-60°	740.9	8.4
60°-70°	552.0	6.2
70°-80°	314.5	3.6
80°-90°	94.0	1.1
90°-100°	48.8	0.6
100°-110°	232.8	2.6
110°-120°	559.2	6.3
120°-130°	712.1	8.0
130°-140°	760.8	8.6
140°-150°	711.5	8.0
150°-160°	573.9	6.5
160°-170°	370.4	4.2
170°-180°	127.6	1.4
0°-30°	1376.7	15.5
0°-40°	2215.7	25.0
0°-60°	3800.2	42.9
0°-90°	4760.7	53.7
90°-120°	840.8	9.5
90°-150°	3025.2	34.2
90°-180°	4097.0	46.3
0°-180°	8857.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1828	1828	1828	1828	1828	
5°	1830	1821	1804	1819	1817	173
15°	1742	1735	1715	1726	1718	491
25°	1581	1571	1552	1553	1548	728
35°	1368	1358	1338	1328	1320	855
45°	1121	1114	1094	1076	1067	865
55°	850	848	828	812	803	761
65°	580	572	556	544	539	572
75°	306	300	296	288	283	328
85°	82	79	79	76	76	90
90°	1	11	24	28	30	7
95°	61	23	31	38	38	75
105°	297	303	219	52	44	315
115°	558	564	573	583	587	551
125°	786	794	798	800	802	702
135°	979	985	989	992	989	754
145°	1130	1137	1139	1141	1141	707
155°	1245	1243	1244	1248	1243	573
165°	1313	1310	1309	1316	1310	371
175°	1344	1339	1340	1346	1338	128
180°	1344	1344	1344	1344	1344	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1834.4	1833.3	1832.2	1831.1	1829.9	1827.8	1824.8	1821.7	1818.6	1815.5	1818.3
5°	1829.7	1828.0	1826.2	1824.5	1822.7	1819.9	1816.1	1812.2	1808.4	1804.5	1808.0
7.5°	1811.8	1810.0	1808.3	1806.5	1804.8	1801.9	1797.9	1794.0	1790.0	1786.0	1789.1
10°	1796.7	1794.9	1793.2	1791.4	1789.7	1786.6	1782.0	1777.5	1772.9	1768.4	1771.5
12.5°	1776.6	1775.1	1773.6	1772.2	1770.7	1767.8	1763.6	1759.3	1755.0	1750.8	1753.1
15°	1741.7	1740.3	1738.9	1737.5	1736.1	1733.1	1728.6	1724.0	1719.5	1714.9	1717.7
17.5°	1701.1	1699.3	1697.5	1695.7	1693.8	1690.7	1686.1	1681.6	1677.0	1672.5	1674.5
20°	1670.9	1668.8	1666.7	1664.6	1662.6	1659.2	1654.7	1650.2	1645.6	1641.1	1642.5
22.5°	1637.0	1634.9	1632.8	1630.7	1628.6	1625.3	1620.7	1616.2	1611.7	1607.1	1608.2
25°	1581.3	1579.2	1577.1	1575.0	1573.0	1569.6	1565.1	1560.6	1556.0	1551.5	1551.8
27.5°	1521.9	1519.9	1517.9	1515.8	1513.8	1510.4	1505.5	1500.6	1495.7	1490.8	1491.1
30°	1479.2	1477.4	1475.7	1473.9	1472.2	1468.9	1464.0	1459.1	1454.2	1449.3	1449.3
32.5°	1436.4	1434.1	1431.8	1429.5	1427.2	1424.1	1420.4	1416.6	1412.8	1409.1	1407.1
35°	1367.6	1365.5	1363.4	1361.3	1359.2	1355.9	1351.3	1346.8	1342.2	1337.7	1335.6
37.5°	1297.1	1294.5	1291.8	1289.2	1286.5	1282.9	1278.3	1273.7	1269.1	1264.4	1261.9
40°	1248.1	1246.0	1243.9	1241.8	1239.7	1236.2	1231.3	1226.4	1221.5	1216.7	1213.9
42.5°	1199.0	1196.7	1194.3	1191.9	1189.5	1185.9	1181.0	1176.1	1171.2	1166.4	1163.6
45°	1120.8	1119.4	1118.0	1116.6	1115.2	1112.2	1107.7	1103.1	1098.6	1094.0	1089.9
47.5°	1043.1	1041.1	1039.1	1037.0	1035.0	1031.9	1027.6	1023.3	1019.1	1014.8	1010.7
50°	990.3	988.6	986.8	985.1	983.3	980.2	975.6	971.1	966.5	962.0	958.2
52.5°	935.0	933.8	932.6	931.4	930.2	927.2	922.4	917.6	912.8	907.9	904.6
55°	850.4	850.1	849.7	849.4	849.0	846.6	842.0	837.5	832.9	828.4	824.6
57.5°	769.9	768.7	767.5	766.4	765.2	762.8	759.1	755.5	751.9	748.2	744.8
60°	712.1	711.7	711.4	711.0	710.7	708.4	704.2	700.0	695.8	691.6	688.5
62.5°	660.5	659.6	658.7	657.8	656.9	654.3	650.1	645.9	641.8	637.6	634.4
65°	580.0	578.3	576.5	574.8	573.0	570.4	566.9	563.4	559.9	556.5	553.7
67.5°	494.8	493.3	491.8	490.2	488.7	486.6	483.9	481.3	478.6	476.0	473.5
70°	443.3	441.2	439.1	437.0	434.9	432.8	430.7	428.6	426.5	424.4	422.0
72.5°	389.2	387.7	386.1	384.6	383.1	381.1	378.7	376.3	374.0	371.6	369.4
75°	306.5	305.1	303.7	302.3	300.9	299.7	298.7	297.6	296.6	295.5	293.8
77.5°	233.3	232.5	231.7	231.0	230.2	229.2	227.9	226.7	225.4	224.2	223.0
80°	185.5	184.4	183.4	182.3	181.3	180.4	179.7	179.0	178.3	177.6	177.3
82.5°	139.0	138.7	138.5	138.3	138.1	137.9	137.8	137.7	137.5	137.4	136.8
85°	81.7	81.0	80.3	79.6	78.9	78.6	78.6	78.6	78.6	78.6	77.9
87.5°	32.9	32.5	32.1	31.7	31.3	31.3	31.6	31.9	32.2	32.5	32.4
90°	1.0	3.2	5.4	7.7	9.9	12.4	15.3	18.2	21.1	24.0	24.8
92.5°	18.6	17.9	17.3	16.7	16.1	16.9	19.0	21.2	23.4	25.6	27.0
95°	60.9	51.8	42.7	33.6	24.5	21.2	23.6	26.1	28.5	30.9	32.5
97.5°	122.4	118.3	114.2	110.1	106.0	96.0	80.1	64.1	48.1	32.1	33.9
100°	168.7	173.1	177.6	182.0	186.4	171.3	136.7	102.1	67.5	32.9	34.7
102.5°	221.4	224.6	227.8	231.0	234.2	216.9	179.1	141.3	103.5	65.7	60.2
105°	297.4	299.9	302.3	304.8	307.2	298.4	278.5	258.5	238.6	218.6	179.3
107.5°	377.7	379.7	381.6	383.6	385.5	388.1	391.2	394.4	397.5	400.7	371.9
110°	431.2	433.0	434.7	436.5	438.3	440.4	442.8	445.3	447.7	450.2	442.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	482.3	483.9	485.5	487.1	488.7	490.7	493.2	495.6	498.0	500.5	500.6
115°	558.0	559.3	560.6	562.0	563.3	565.0	566.9	568.9	570.9	572.9	575.2
117.5°	631.2	632.9	634.5	636.2	637.8	639.1	640.1	641.2	642.2	643.2	645.0
120°	676.7	678.7	680.7	682.7	684.7	686.1	686.7	687.4	688.1	688.7	690.5
122.5°	723.1	724.7	726.3	728.0	729.6	730.9	731.7	732.6	733.4	734.2	735.5
125°	786.5	788.3	790.1	791.9	793.6	795.0	795.9	796.7	797.6	798.5	799.0
127.5°	848.0	849.8	851.6	853.3	855.1	856.5	857.6	858.7	859.7	860.8	861.5
130°	886.4	888.1	889.9	891.7	893.5	894.8	895.7	896.6	897.4	898.3	899.2
132.5°	923.1	924.9	926.6	928.4	930.2	931.4	932.1	932.8	933.6	934.3	935.2
135°	979.2	980.5	981.8	983.2	984.5	985.6	986.5	987.4	988.3	989.2	989.8
137.5°	1027.1	1028.8	1030.5	1032.2	1033.8	1034.9	1035.4	1035.9	1036.4	1036.9	1037.9
140°	1059.0	1060.4	1061.7	1063.0	1064.4	1065.4	1066.0	1066.7	1067.4	1068.0	1068.9
142.5°	1088.6	1089.9	1091.2	1092.6	1093.9	1094.9	1095.6	1096.2	1096.9	1097.6	1098.3
145°	1129.9	1131.5	1133.0	1134.6	1136.1	1137.1	1137.6	1138.0	1138.4	1138.9	1139.3
147.5°	1168.8	1169.9	1170.9	1171.9	1172.9	1173.6	1174.1	1174.5	1175.0	1175.4	1175.9
150°	1192.8	1193.5	1194.1	1194.8	1195.4	1196.0	1196.4	1196.9	1197.3	1197.8	1198.2
152.5°	1214.3	1214.7	1215.0	1215.3	1215.6	1215.9	1216.1	1216.4	1216.7	1216.9	1217.7
155°	1244.7	1244.2	1243.8	1243.4	1242.9	1242.8	1243.0	1243.2	1243.5	1243.7	1244.8
157.5°	1268.2	1268.2	1268.2	1268.1	1268.1	1267.9	1267.7	1267.5	1267.3	1267.0	1268.4
160°	1282.6	1282.4	1282.2	1282.0	1281.7	1281.5	1281.3	1281.1	1280.8	1280.6	1282.0
162.5°	1296.2	1295.6	1295.0	1294.5	1293.9	1293.5	1293.3	1293.0	1292.8	1292.6	1294.1
165°	1312.6	1311.9	1311.2	1310.6	1309.9	1309.5	1309.2	1309.0	1308.8	1308.6	1310.3
167.5°	1325.3	1324.5	1323.6	1322.7	1321.8	1321.3	1321.3	1321.3	1321.3	1321.3	1323.1
170°	1332.5	1331.6	1330.8	1329.9	1329.0	1328.5	1328.5	1328.5	1328.5	1328.5	1330.3
172.5°	1337.3	1336.3	1335.2	1334.1	1333.1	1332.6	1332.8	1333.0	1333.1	1333.3	1335.1
175°	1343.5	1342.4	1341.3	1340.2	1339.1	1338.6	1338.8	1339.1	1339.3	1339.5	1341.1
177.5°	1345.1	1344.2	1343.3	1342.4	1341.6	1341.2	1341.4	1341.6	1341.7	1341.9	1343.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1	1828.1
2.5°	1821.1	1823.9	1826.7	1828.0	1827.7	1827.4	1827.1	1826.9
5°	1811.5	1815.0	1818.5	1819.9	1819.2	1818.5	1817.8	1817.1
7.5°	1792.3	1795.4	1798.6	1799.9	1799.5	1799.1	1798.7	1798.3
10°	1774.7	1777.8	1781.0	1782.2	1781.5	1780.8	1780.1	1779.4
12.5°	1755.4	1757.7	1760.0	1761.0	1760.5	1760.1	1759.7	1759.3
15°	1720.5	1723.3	1726.1	1726.5	1724.4	1722.3	1720.2	1718.1
17.5°	1676.4	1678.4	1680.3	1680.9	1680.2	1679.4	1678.6	1677.9
20°	1643.9	1645.3	1646.7	1646.8	1645.8	1644.7	1643.7	1642.6
22.5°	1609.4	1610.5	1611.6	1611.5	1610.2	1608.8	1607.5	1606.2
25°	1552.2	1552.5	1552.9	1552.5	1551.5	1550.4	1549.4	1548.3
27.5°	1491.4	1491.6	1491.9	1491.4	1490.1	1488.7	1487.4	1486.1
30°	1449.3	1449.3	1449.3	1448.1	1445.6	1443.2	1440.7	1438.3
32.5°	1405.1	1403.2	1401.2	1399.6	1398.3	1396.9	1395.6	1394.3
35°	1333.5	1331.4	1329.3	1327.4	1325.6	1323.9	1322.1	1320.4
37.5°	1259.4	1256.9	1254.4	1252.6	1251.4	1250.3	1249.2	1248.1
40°	1211.1	1208.3	1205.5	1203.4	1202.0	1200.6	1199.2	1197.8
42.5°	1160.8	1158.0	1155.2	1153.1	1151.7	1150.3	1148.9	1147.5
45°	1085.7	1081.5	1077.3	1074.3	1072.6	1070.8	1069.1	1067.3
47.5°	1006.6	1002.5	998.3	995.5	994.0	992.4	990.9	989.4
50°	954.3	950.5	946.6	943.7	941.6	939.5	937.4	935.3
52.5°	901.4	898.1	894.8	892.1	890.0	887.9	885.8	883.7
55°	820.7	816.9	813.0	810.2	808.5	806.7	805.0	803.2
57.5°	741.4	738.0	734.5	731.8	729.8	727.8	725.7	723.7
60°	685.4	682.2	679.1	676.6	674.9	673.1	671.4	669.6
62.5°	631.3	628.1	625.0	622.8	621.6	620.4	619.3	618.1
65°	550.9	548.1	545.3	543.4	542.3	541.3	540.2	539.2
67.5°	471.1	468.6	466.2	464.2	462.8	461.3	459.8	458.4
70°	419.5	417.1	414.6	412.5	410.8	409.0	407.3	405.6
72.5°	367.3	365.1	362.9	361.4	360.5	359.6	358.7	357.8
75°	292.0	290.3	288.5	287.1	286.1	285.0	284.0	282.9
77.5°	221.8	220.6	219.4	218.8	218.8	218.8	218.8	218.8
80°	176.9	176.6	176.2	176.1	176.1	176.1	176.1	176.1
82.5°	136.1	135.5	134.9	134.4	134.1	133.9	133.6	133.3
85°	77.2	76.5	75.8	75.5	75.5	75.5	75.5	75.5
87.5°	32.3	32.2	32.0	32.0	32.1	32.2	32.3	32.4
90°	25.7	26.6	27.5	28.2	28.6	29.1	29.5	29.9
92.5°	28.4	29.8	31.2	32.1	32.3	32.6	32.9	33.1
95°	34.0	35.6	37.2	37.9	37.9	37.9	37.9	37.9
97.5°	35.7	37.5	39.2	40.2	40.5	40.7	40.9	41.1
100°	36.5	38.3	40.0	41.0	41.3	41.5	41.7	41.9
102.5°	54.7	49.2	43.7	41.1	41.5	41.9	42.3	42.7
105°	140.1	100.8	61.6	42.1	42.6	43.0	43.5	43.9
107.5°	343.1	314.3	285.5	256.3	226.7	197.1	167.5	137.9
110°	435.5	428.2	420.9	401.4	369.6	337.9	306.2	274.5



TEST NUMBER: P332078

CATALOG NUMBER: S123DIP-S1165D1025U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.7	500.9	501.0	497.7	491.0	484.3	477.6	470.9
115°	577.4	579.6	581.8	583.4	584.2	585.1	586.0	586.9
117.5°	646.8	648.5	650.3	651.3	651.5	651.6	651.8	652.0
120°	692.3	694.0	695.8	696.7	696.7	696.7	696.7	696.7
122.5°	736.7	738.0	739.2	739.9	740.1	740.3	740.4	740.6
125°	799.4	799.8	800.3	800.7	801.2	801.6	802.1	802.5
127.5°	862.2	862.9	863.6	863.8	863.3	862.9	862.4	862.0
130°	900.1	901.0	901.9	902.1	901.7	901.2	900.8	900.3
132.5°	936.0	936.9	937.8	937.9	937.3	936.7	936.1	935.5
135°	990.5	991.2	991.8	991.8	991.2	990.5	989.8	989.2
137.5°	1039.0	1040.1	1041.1	1041.4	1041.0	1040.6	1040.1	1039.7
140°	1069.8	1070.7	1071.6	1071.8	1071.3	1070.9	1070.5	1070.0
142.5°	1099.0	1099.7	1100.4	1100.4	1099.8	1099.2	1098.6	1098.0
145°	1139.8	1140.2	1140.7	1140.9	1140.9	1140.9	1140.9	1140.9
147.5°	1176.3	1176.7	1177.2	1176.9	1175.9	1174.9	1173.8	1172.8
150°	1198.7	1199.1	1199.6	1199.4	1198.8	1198.1	1197.4	1196.8
152.5°	1218.5	1219.3	1220.1	1220.0	1219.0	1218.0	1217.0	1215.9
155°	1245.9	1247.0	1248.1	1248.0	1246.7	1245.4	1244.0	1242.7
157.5°	1269.7	1271.0	1272.4	1272.2	1270.4	1268.7	1267.0	1265.3
160°	1283.3	1284.6	1285.9	1285.8	1284.3	1282.7	1281.2	1279.6
162.5°	1295.6	1297.1	1298.6	1298.7	1297.3	1295.9	1294.6	1293.2
165°	1312.1	1313.9	1315.7	1315.8	1314.2	1312.7	1311.1	1309.6
167.5°	1324.9	1326.7	1328.4	1328.4	1326.7	1324.9	1323.1	1321.3
170°	1332.1	1333.9	1335.6	1335.6	1333.9	1332.1	1330.3	1328.5
172.5°	1336.9	1338.6	1340.4	1340.3	1338.4	1336.4	1334.5	1332.5
175°	1342.6	1344.2	1345.7	1345.6	1343.8	1342.1	1340.3	1338.5
177.5°	1344.7	1346.2	1347.6	1347.4	1345.6	1343.9	1342.1	1340.3
180°	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5	1343.5

(END OF REPORT)