

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: P332464

Luminaire Tested: **S123RDIW-S1000D1320U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332464  
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: S123RDIW-S1000D1320U835-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1320 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9073.9 lumens  
Efficiency: N/A  
Efficacy: 130.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

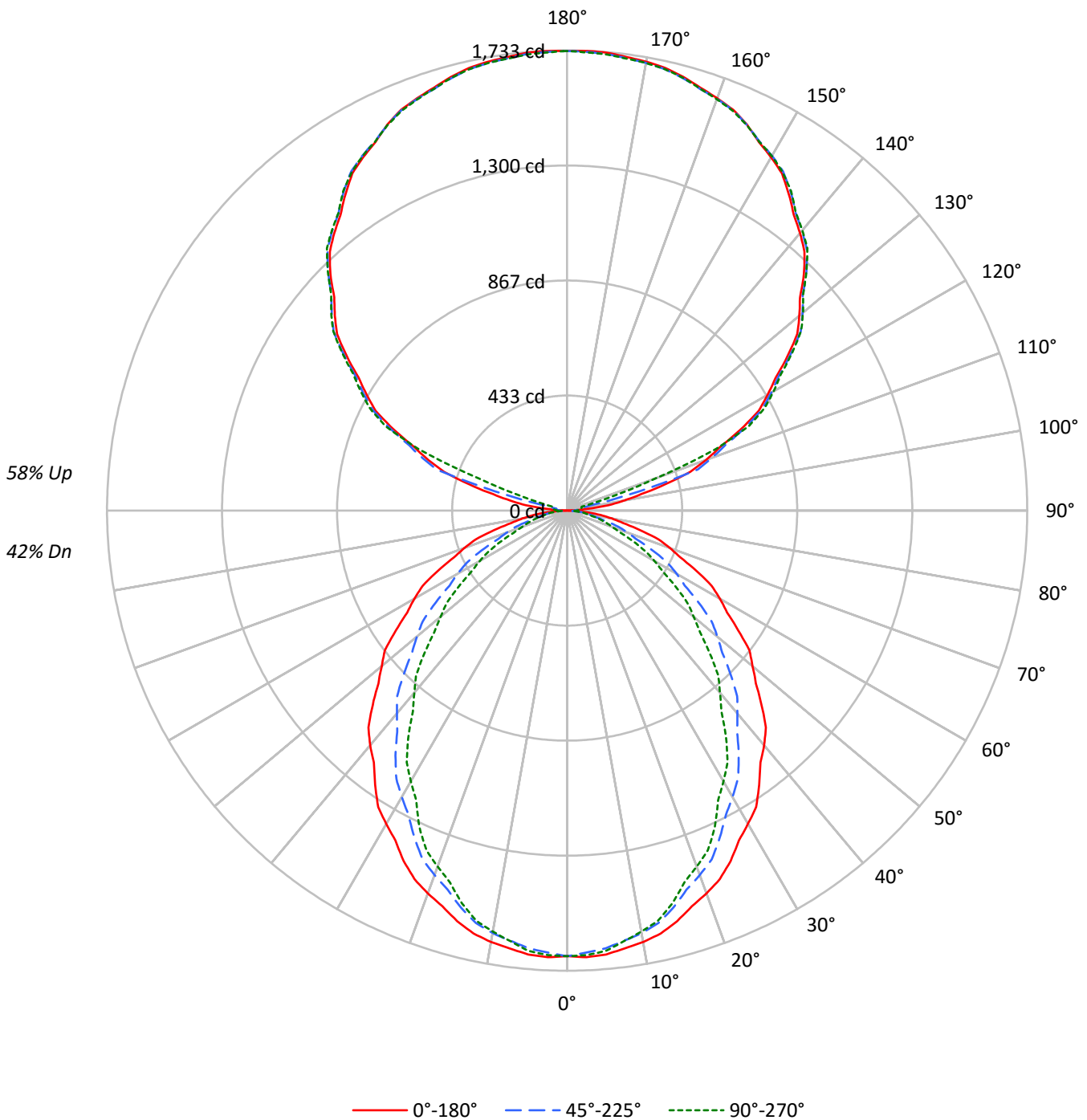
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42								
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	42	36								
2	88	81	75	70	80	74	69	65	61	57	54	49	47	45	38	37	35	30								
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	34	32	30	26								
4	73	63	55	50	67	58	51	46	48	43	39	39	36	33	31	28	26	23								
5	68	56	48	43	61	52	45	40	43	38	34	35	31	29	28	25	23	20								
6	62	50	43	37	57	46	40	35	39	34	30	32	28	25	25	23	20	17								
7	58	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	16								
8	53	41	34	29	49	38	32	27	32	27	23	27	23	20	21	19	16	14								
9	50	38	30	26	45	35	28	24	30	24	21	25	21	18	20	17	15	13								
10	46	35	28	23	42	32	26	22	27	22	19	23	19	16	18	16	14	12								

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

	0°	45°	90°
0°	18064	18064	18064
5°	18133	17882	17986
10°	18030	17658	17598
15°	17836	17245	17063
20°	17570	16728	16339
25°	17296	16149	15631
30°	16933	15479	14633
35°	16561	14808	13717
40°	16218	14018	12584
45°	15767	13239	11561
50°	15270	12353	10416
55°	14763	11340	9348
60°	14299	10256	8174
65°	13692	9082	7002
70°	12935	7626	5655
75°	11832	6001	5319
80°	10544	5312	4891
85°	8904	4705	4372



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.6	1.7
10°-20°	438.5	4.8
20°-30°	631.4	7.0
30°-40°	711.2	7.8
40°-50°	680.4	7.5
50°-60°	557.2	6.1
60°-70°	375.9	4.1
70°-80°	189.1	2.1
80°-90°	54.9	0.6
90°-100°	62.9	0.7
100°-110°	299.9	3.3
110°-120°	720.3	7.9
120°-130°	917.3	10.1
130°-140°	980.1	10.8
140°-150°	916.5	10.1
150°-160°	739.3	8.1
160°-170°	477.1	5.3
170°-180°	164.4	1.8
0°-30°	1227.4	13.5
0°-40°	1938.6	21.4
0°-60°	3176.1	35.0
0°-90°	3796.0	41.8
90°-120°	1083.2	11.9
90°-150°	3897.1	42.9
90°-180°	5278.0	58.2
0°-180°	9073.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1678	1671	1655	1666	1665	159
15°	1601	1584	1548	1541	1531	451
25°	1456	1421	1360	1332	1316	669
35°	1260	1209	1127	1070	1044	788
45°	1036	972	870	795	760	799
55°	787	717	604	528	498	705
65°	538	461	357	293	275	532
75°	284	219	144	131	128	303
85°	72	44	38	36	35	81
90°	1	14	31	36	39	7
95°	78	29	40	48	49	97
105°	383	390	282	67	57	406
115°	719	727	738	750	756	709
125°	1013	1023	1029	1031	1034	905
135°	1261	1269	1274	1278	1274	971
145°	1456	1464	1467	1470	1470	911
155°	1603	1601	1602	1608	1601	738
165°	1691	1687	1686	1695	1687	478
175°	1731	1725	1726	1734	1724	165
180°	1731	1731	1731	1731	1731	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1683.6	1682.6	1681.7	1680.7	1679.7	1677.8	1674.9	1672.0	1669.1	1666.2	1668.8
5°	1678.2	1676.6	1675.1	1673.6	1672.1	1669.5	1665.9	1662.3	1658.7	1655.0	1657.7
7.5°	1662.6	1661.0	1659.4	1657.7	1656.1	1652.9	1648.2	1643.5	1638.8	1634.1	1635.6
10°	1649.6	1647.5	1645.3	1643.2	1641.1	1637.3	1631.9	1626.4	1621.0	1615.6	1615.9
12.5°	1631.1	1628.7	1626.4	1624.0	1621.6	1617.1	1610.5	1603.8	1597.2	1590.5	1590.3
15°	1600.6	1597.3	1593.9	1590.6	1587.3	1581.4	1572.9	1564.4	1556.0	1547.5	1546.0
17.5°	1562.2	1558.3	1554.5	1550.6	1546.7	1539.4	1528.6	1517.9	1507.1	1496.3	1493.1
20°	1533.9	1529.1	1524.2	1519.4	1514.5	1506.4	1494.9	1483.4	1471.9	1460.4	1456.5
22.5°	1502.3	1496.8	1491.2	1485.6	1480.1	1471.2	1458.9	1446.7	1434.5	1422.3	1417.4
25°	1456.3	1448.8	1441.2	1433.6	1426.1	1415.3	1401.4	1387.5	1373.6	1359.7	1353.3
27.5°	1400.5	1392.2	1383.8	1375.5	1367.1	1355.2	1339.7	1324.2	1308.7	1293.3	1284.4
30°	1362.4	1353.3	1344.3	1335.2	1326.1	1313.1	1296.2	1279.2	1262.3	1245.4	1235.1
32.5°	1324.3	1314.0	1303.7	1293.4	1283.2	1269.1	1251.2	1233.3	1215.3	1197.4	1186.2
35°	1260.3	1249.4	1238.5	1227.7	1216.8	1201.9	1183.2	1164.4	1145.7	1126.9	1113.9
37.5°	1195.5	1183.4	1171.3	1159.2	1147.1	1131.1	1111.1	1091.0	1071.0	1051.0	1036.2
40°	1154.2	1140.9	1127.5	1114.2	1100.9	1083.5	1062.1	1040.6	1019.1	997.6	981.9
42.5°	1107.3	1094.0	1080.7	1067.4	1054.1	1036.4	1014.2	992.0	969.8	947.6	930.4
45°	1035.8	1022.1	1008.5	994.9	981.3	962.9	939.6	916.3	893.0	869.7	852.5
47.5°	964.2	949.2	934.3	919.3	904.4	885.3	862.0	838.7	815.4	792.1	773.4
50°	911.9	897.7	883.5	869.3	855.0	835.7	811.2	786.7	762.2	737.7	718.9
52.5°	865.1	849.7	834.2	818.8	803.4	783.5	759.3	735.0	710.8	686.5	667.0
55°	786.7	771.9	757.0	742.2	727.4	707.1	681.4	655.7	630.0	604.3	586.8
57.5°	714.3	698.1	682.0	665.8	649.7	628.7	602.8	577.0	551.2	525.4	508.8
60°	664.2	647.6	630.9	614.3	597.6	576.8	551.7	526.6	501.5	476.4	460.0
62.5°	614.1	597.5	580.8	564.2	547.6	526.7	501.6	476.5	451.4	426.3	410.9
65°	537.6	521.0	504.3	487.7	471.1	451.0	427.4	403.8	380.2	356.6	341.8
67.5°	461.1	444.3	427.5	410.7	393.9	374.1	351.5	328.9	306.3	283.6	272.6
70°	411.0	394.7	378.4	362.0	345.7	327.0	305.8	284.6	263.4	242.3	231.7
72.5°	360.9	344.9	328.8	312.7	296.6	278.9	259.7	240.5	221.2	202.0	193.3
75°	284.5	269.9	255.4	240.9	226.4	210.8	194.2	177.5	160.9	144.3	141.2
77.5°	214.8	201.6	188.5	175.4	162.3	150.3	139.6	128.9	118.2	107.5	105.9
80°	170.1	157.7	145.3	132.9	120.5	111.2	104.8	98.4	92.1	85.7	84.8
82.5°	127.7	117.0	106.3	95.5	84.8	78.0	75.0	72.1	69.1	66.1	65.2
85°	72.1	65.5	58.8	52.2	45.5	41.7	40.8	39.9	39.0	38.1	37.5
87.5°	26.4	24.3	22.2	20.1	18.0	17.4	18.1	18.8	19.6	20.3	20.3
90°	1.3	4.1	7.0	9.9	12.7	16.0	19.7	23.4	27.1	30.9	32.0
92.5°	23.9	23.1	22.3	21.5	20.7	21.7	24.5	27.3	30.1	32.9	34.7
95°	78.4	66.7	55.0	43.3	31.6	27.3	30.4	33.6	36.7	39.9	41.9
97.5°	157.6	152.4	147.1	141.9	136.6	123.7	103.1	82.6	62.0	41.4	43.7
100°	217.3	223.0	228.7	234.4	240.2	220.7	176.2	131.6	87.0	42.4	44.7
102.5°	285.2	289.3	293.4	297.5	301.7	279.4	230.7	182.0	133.3	84.6	77.5
105°	383.2	386.3	389.5	392.6	395.7	384.5	358.7	333.0	307.3	281.6	231.0
107.5°	486.6	489.1	491.6	494.1	496.6	499.9	504.0	508.0	512.1	516.1	479.0
110°	555.5	557.8	560.0	562.3	564.6	567.3	570.5	573.6	576.8	579.9	570.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	621.3	623.4	625.4	627.5	629.5	632.1	635.3	638.4	641.6	644.7	644.9
115°	718.8	720.5	722.2	723.9	725.6	727.8	730.3	732.9	735.5	738.1	740.9
117.5°	813.2	815.3	817.4	819.5	821.6	823.3	824.6	826.0	827.3	828.6	830.9
120°	871.8	874.4	876.9	879.5	882.1	883.8	884.6	885.5	886.4	887.2	889.5
122.5°	931.5	933.6	935.7	937.8	939.9	941.5	942.6	943.7	944.8	945.9	947.5
125°	1013.2	1015.5	1017.8	1020.1	1022.4	1024.1	1025.2	1026.4	1027.5	1028.7	1029.2
127.5°	1092.4	1094.7	1097.0	1099.3	1101.6	1103.4	1104.8	1106.2	1107.5	1108.9	1109.8
130°	1141.8	1144.1	1146.4	1148.7	1151.0	1152.7	1153.8	1155.0	1156.1	1157.2	1158.4
132.5°	1189.1	1191.4	1193.7	1196.0	1198.3	1199.9	1200.8	1201.7	1202.6	1203.5	1204.7
135°	1261.4	1263.1	1264.8	1266.5	1268.3	1269.7	1270.8	1272.0	1273.1	1274.3	1275.1
137.5°	1323.1	1325.3	1327.5	1329.6	1331.8	1333.2	1333.8	1334.5	1335.1	1335.7	1337.1
140°	1364.3	1366.0	1367.7	1369.4	1371.1	1372.4	1373.3	1374.1	1375.0	1375.8	1377.0
142.5°	1402.3	1404.0	1405.8	1407.5	1409.2	1410.5	1411.3	1412.2	1413.0	1413.9	1414.8
145°	1455.6	1457.6	1459.6	1461.6	1463.6	1464.8	1465.4	1466.0	1466.6	1467.1	1467.7
147.5°	1505.7	1507.0	1508.3	1509.6	1511.0	1511.9	1512.5	1513.0	1513.6	1514.2	1514.8
150°	1536.6	1537.4	1538.3	1539.1	1540.0	1540.7	1541.3	1541.8	1542.4	1543.0	1543.6
152.5°	1564.3	1564.7	1565.1	1565.5	1565.9	1566.3	1566.7	1567.0	1567.3	1567.7	1568.7
155°	1603.4	1602.9	1602.3	1601.7	1601.1	1601.0	1601.3	1601.6	1601.9	1602.1	1603.6
157.5°	1633.8	1633.7	1633.7	1633.6	1633.5	1633.4	1633.1	1632.8	1632.5	1632.2	1633.9
160°	1652.3	1652.0	1651.7	1651.4	1651.1	1650.9	1650.6	1650.3	1650.0	1649.7	1651.4
162.5°	1669.8	1669.0	1668.3	1667.5	1666.8	1666.3	1666.0	1665.7	1665.4	1665.1	1667.1
165°	1690.9	1690.0	1689.1	1688.3	1687.4	1686.9	1686.6	1686.3	1686.0	1685.7	1688.0
167.5°	1707.3	1706.2	1705.0	1703.9	1702.7	1702.2	1702.2	1702.2	1702.2	1702.2	1704.5
170°	1716.6	1715.4	1714.3	1713.2	1712.0	1711.4	1711.4	1711.4	1711.4	1711.4	1713.7
172.5°	1722.8	1721.4	1720.0	1718.6	1717.3	1716.7	1716.9	1717.2	1717.4	1717.6	1719.9
175°	1730.7	1729.3	1727.9	1726.4	1725.0	1724.4	1724.7	1725.0	1725.3	1725.6	1727.6
177.5°	1732.8	1731.6	1730.5	1729.4	1728.2	1727.8	1728.0	1728.2	1728.4	1728.7	1730.5
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2	1678.2
2.5°	1671.5	1674.2	1676.8	1677.9	1677.4	1677.0	1676.5	1676.0
5°	1660.5	1663.2	1665.9	1667.0	1666.4	1665.8	1665.2	1664.6
7.5°	1637.1	1638.6	1640.1	1640.4	1639.3	1638.3	1637.3	1636.2
10°	1616.2	1616.5	1616.8	1616.2	1614.6	1613.1	1611.6	1610.1
12.5°	1590.1	1590.0	1589.8	1588.8	1587.1	1585.3	1583.6	1581.8
15°	1544.5	1543.0	1541.5	1539.6	1537.5	1535.4	1533.3	1531.2
17.5°	1489.9	1486.7	1483.5	1480.3	1477.2	1474.0	1470.9	1467.7
20°	1452.5	1448.6	1444.7	1440.9	1437.3	1433.6	1430.0	1426.4
22.5°	1412.5	1407.6	1402.7	1398.5	1395.2	1391.8	1388.4	1385.0
25°	1347.0	1340.6	1334.3	1329.4	1326.1	1322.8	1319.5	1316.1
27.5°	1275.6	1266.8	1257.9	1251.0	1245.9	1240.8	1235.7	1230.7
30°	1224.8	1214.5	1204.2	1196.7	1191.8	1187.0	1182.1	1177.3
32.5°	1174.9	1163.7	1152.4	1144.3	1139.2	1134.1	1129.0	1123.9
35°	1100.9	1087.9	1074.9	1065.7	1060.3	1054.8	1049.4	1043.9
37.5°	1021.5	1006.7	992.0	981.2	974.5	967.8	961.1	954.4
40°	966.2	950.5	934.7	923.4	916.4	909.5	902.5	895.6
42.5°	913.2	896.0	878.8	867.1	860.9	854.7	848.4	842.2
45°	835.2	818.0	800.7	788.5	781.2	774.0	766.7	759.5
47.5°	754.6	735.9	717.1	704.5	698.0	691.6	685.1	678.6
50°	700.2	681.4	662.7	649.8	642.9	635.9	629.0	622.0
52.5°	647.6	628.1	608.6	595.7	589.5	583.3	577.1	570.8
55°	569.2	551.7	534.1	522.3	516.3	510.2	504.2	498.1
57.5°	492.2	475.6	459.1	448.2	443.1	437.9	432.8	427.6
60°	443.7	427.4	411.0	400.3	395.2	390.0	384.9	379.7
62.5°	395.5	380.2	364.8	354.4	349.1	343.7	338.3	332.9
65°	327.0	312.1	297.3	288.2	284.9	281.6	278.3	274.9
67.5°	261.5	250.4	239.4	232.0	228.5	224.9	221.3	217.8
70°	221.1	210.5	199.9	193.0	189.6	186.3	183.0	179.7
72.5°	184.7	176.0	167.4	162.4	161.0	159.6	158.2	156.8
75°	138.2	135.2	132.2	130.4	129.8	129.1	128.5	127.9
77.5°	104.3	102.6	101.0	99.9	99.3	98.7	98.1	97.5
80°	83.9	83.0	82.1	81.4	80.8	80.2	79.5	78.9
82.5°	64.3	63.4	62.5	62.0	61.9	61.8	61.6	61.5
85°	36.9	36.3	35.7	35.4	35.4	35.4	35.4	35.4
87.5°	20.3	20.3	20.3	20.2	20.1	19.9	19.8	19.7
90°	33.1	34.3	35.4	36.3	36.9	37.4	38.0	38.6
92.5°	36.6	38.4	40.2	41.3	41.7	42.0	42.3	42.7
95°	43.9	45.9	47.9	48.9	48.9	48.9	48.9	48.9
97.5°	46.0	48.3	50.5	51.8	52.1	52.4	52.7	53.0
100°	47.0	49.3	51.6	52.9	53.1	53.4	53.7	54.0
102.5°	70.4	63.3	56.3	53.0	53.5	54.0	54.5	55.0
105°	180.4	129.9	79.3	54.3	54.9	55.4	56.0	56.6
107.5°	442.0	404.9	367.8	330.2	292.1	253.9	215.8	177.7
110°	561.0	551.6	542.2	517.0	476.2	435.3	394.5	353.6





TEST NUMBER: P332464

CATALOG NUMBER: S123RDIW-S1000D1320U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	645.1	645.2	645.4	641.2	632.5	623.9	615.3	606.7
115°	743.8	746.6	749.5	751.5	752.6	753.8	754.9	756.1
117.5°	833.2	835.4	837.7	839.0	839.2	839.4	839.7	839.9
120°	891.8	894.1	896.4	897.5	897.5	897.5	897.5	897.5
122.5°	949.1	950.7	952.3	953.2	953.4	953.6	953.9	954.1
125°	1029.8	1030.4	1030.9	1031.5	1032.1	1032.7	1033.2	1033.8
127.5°	1110.7	1111.6	1112.6	1112.7	1112.2	1111.6	1111.0	1110.4
130°	1159.5	1160.7	1161.8	1162.1	1161.5	1161.0	1160.4	1159.8
132.5°	1205.8	1207.0	1208.1	1208.3	1207.5	1206.7	1205.9	1205.1
135°	1276.0	1276.8	1277.7	1277.7	1276.8	1276.0	1275.1	1274.3
137.5°	1338.5	1339.8	1341.2	1341.6	1341.0	1340.5	1339.9	1339.3
140°	1378.1	1379.3	1380.4	1380.7	1380.1	1379.5	1379.0	1378.4
142.5°	1415.7	1416.6	1417.6	1417.6	1416.8	1416.0	1415.2	1414.4
145°	1468.3	1468.8	1469.4	1469.7	1469.7	1469.7	1469.7	1469.7
147.5°	1515.3	1515.9	1516.5	1516.1	1514.8	1513.5	1512.2	1510.8
150°	1544.1	1544.7	1545.3	1545.1	1544.3	1543.4	1542.6	1541.7
152.5°	1569.7	1570.8	1571.8	1571.7	1570.3	1569.0	1567.7	1566.4
155°	1605.0	1606.4	1607.9	1607.7	1606.0	1604.3	1602.6	1600.9
157.5°	1635.7	1637.4	1639.1	1638.8	1636.6	1634.4	1632.1	1629.9
160°	1653.1	1654.9	1656.6	1656.4	1654.4	1652.4	1650.4	1648.4
162.5°	1669.0	1671.0	1672.9	1673.0	1671.2	1669.5	1667.7	1665.9
165°	1690.3	1692.6	1694.9	1695.0	1693.0	1691.0	1689.0	1687.0
167.5°	1706.8	1709.0	1711.3	1711.3	1709.0	1706.8	1704.5	1702.2
170°	1716.0	1718.3	1720.6	1720.6	1718.3	1716.0	1713.7	1711.4
172.5°	1722.2	1724.5	1726.8	1726.6	1724.1	1721.6	1719.1	1716.6
175°	1729.6	1731.6	1733.6	1733.4	1731.2	1728.9	1726.6	1724.3
177.5°	1732.3	1734.2	1736.0	1735.8	1733.5	1731.2	1728.9	1726.6
180°	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7	1730.7

(END OF REPORT)