

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: P332465

Luminaire Tested: **S123RDIW-S1000D1320U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332465
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
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-F1
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, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8370.5 lumens
Efficiency: N/A
Efficacy: 119.9 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

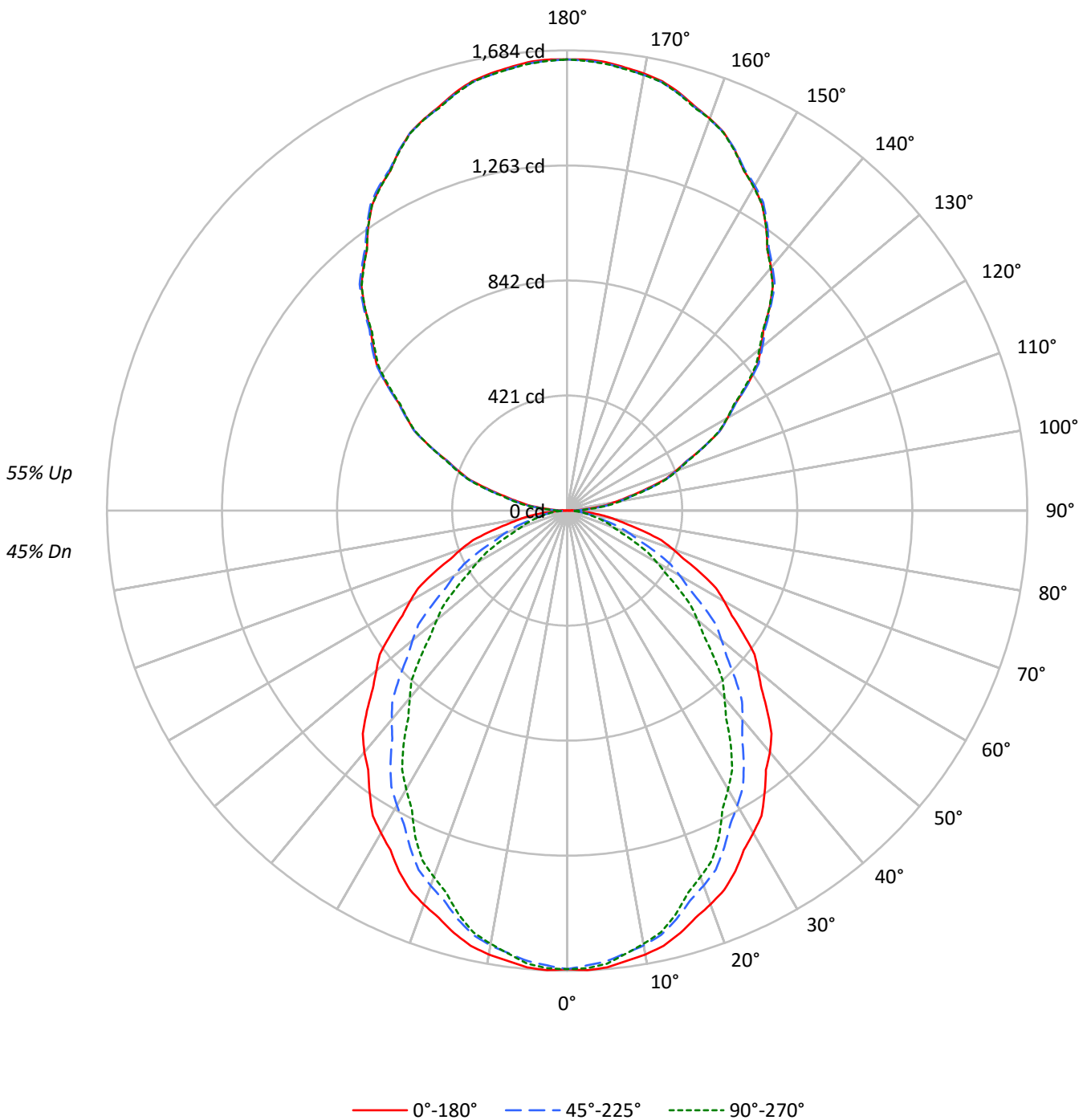
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39				
2	89	81	75	70	81	75	70	65	63	59	56	51	49	47	41	39	38	33				
3	81	72	65	59	74	66	60	55	56	51	47	46	42	40	37	34	32	28				
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24				
5	68	57	49	43	62	53	46	40	44	39	35	37	33	30	30	27	25	21				
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17				
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	18	15				
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	14	13				

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	1.9
10°-20°	438.5	5.2
20°-30°	631.4	7.5
30°-40°	711.2	8.5
40°-50°	680.4	8.1
50°-60°	557.2	6.7
60°-70°	375.9	4.5
70°-80°	189.1	2.3
80°-90°	54.9	0.7
90°-100°	107.6	1.3
100°-110°	321.9	3.8
110°-120°	547.5	6.5
120°-130°	720.2	8.6
130°-140°	809.5	9.7
140°-150°	795.7	9.5
150°-160°	669.9	8.0
160°-170°	445.9	5.3
170°-180°	156.2	1.9
0°-30°	1227.4	14.7
0°-40°	1938.6	23.2
0°-60°	3176.1	37.9
0°-90°	3796.0	45.3
90°-120°	977.1	11.7
90°-150°	3302.5	39.5
90°-180°	4574.0	54.6
0°-180°	8370.5	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	8
95°	76	86	96	101	101	86
105°	292	295	306	306	309	313
115°	551	555	552	554	552	545
125°	807	810	808	803	798	719
135°	1047	1054	1053	1048	1045	806
145°	1270	1272	1276	1275	1270	793
155°	1454	1454	1455	1460	1451	669
165°	1584	1580	1580	1587	1578	446
175°	1647	1642	1642	1649	1641	156
180°	1651	1651	1651	1651	1651	



TEST NUMBER: P332465

CATALOG NUMBER: S123RDIW-S1000D1320U835-4F0-1E-UDD-F1

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	18.1	17.4	18.1	18.9	19.6	20.4	20.4
90°	1.3	4.2	7.1	9.9	12.8	16.1	19.9	23.6	27.4	31.1	32.3
92.5°	31.4	33.3	35.3	37.3	39.2	41.3	43.4	45.5	47.7	49.8	50.7
95°	76.5	78.5	80.6	82.6	84.6	86.8	89.1	91.4	93.7	96.0	97.1
97.5°	135.9	137.4	138.9	140.4	141.9	143.5	145.2	146.8	148.5	150.2	151.5
100°	176.4	178.1	179.8	181.6	183.3	184.9	186.3	187.8	189.2	190.7	191.5
102.5°	223.1	224.1	225.2	226.2	227.2	228.7	230.6	232.5	234.4	236.3	237.2
105°	291.8	292.4	293.0	293.5	294.1	295.7	298.3	300.9	303.5	306.1	306.1
107.5°	371.7	372.1	372.4	372.8	373.1	373.8	374.8	375.9	376.9	377.9	378.9
110°	421.5	422.1	422.7	423.2	423.8	424.4	425.0	425.6	426.1	426.7	427.9



TEST NUMBER: P332465

CATALOG NUMBER: S123RDIW-S1000D1320U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	473.4	473.7	474.1	474.4	474.8	475.0	475.1	475.2	475.4	475.5	476.9
115°	551.2	552.1	552.9	553.8	554.7	554.8	554.2	553.7	553.1	552.5	552.8
117.5°	629.6	630.1	630.7	631.3	631.9	631.8	631.0	630.3	629.5	628.8	628.7
120°	678.3	680.0	681.8	683.5	685.2	685.4	683.9	682.5	681.1	679.6	679.3
122.5°	729.2	730.4	731.7	733.0	734.2	734.5	733.7	733.0	732.2	731.5	730.7
125°	806.7	807.6	808.4	809.3	810.2	810.3	809.7	809.2	808.6	808.0	806.9
127.5°	878.3	880.2	882.0	883.8	885.7	886.3	885.7	885.0	884.4	883.8	882.1
130°	926.0	928.3	930.7	933.0	935.3	936.0	935.1	934.3	933.4	932.5	931.4
132.5°	973.8	976.1	978.4	980.7	983.0	983.8	983.2	982.6	981.9	981.3	979.9
135°	1046.7	1048.4	1050.1	1051.8	1053.6	1054.3	1054.0	1053.7	1053.4	1053.1	1052.0
137.5°	1114.1	1115.5	1117.0	1118.4	1119.9	1121.0	1121.7	1122.5	1123.2	1124.0	1122.7
140°	1160.8	1162.2	1163.7	1165.1	1166.6	1167.4	1167.7	1168.0	1168.3	1168.6	1168.3
142.5°	1203.3	1204.8	1206.2	1207.7	1209.1	1210.1	1210.6	1211.1	1211.6	1212.2	1211.9
145°	1269.7	1270.3	1270.9	1271.5	1272.0	1272.8	1273.6	1274.5	1275.4	1276.2	1275.9
147.5°	1327.8	1328.9	1329.9	1331.0	1332.0	1332.9	1333.7	1334.5	1335.3	1336.1	1336.1
150°	1368.3	1368.9	1369.5	1370.0	1370.6	1371.2	1371.8	1372.3	1372.9	1373.5	1373.5
152.5°	1401.5	1402.3	1403.1	1403.9	1404.7	1405.3	1405.7	1406.0	1406.4	1406.7	1407.2
155°	1453.9	1453.9	1453.9	1453.9	1453.9	1454.1	1454.3	1454.6	1454.9	1455.2	1456.4
157.5°	1498.5	1498.2	1497.8	1497.5	1497.1	1497.1	1497.3	1497.5	1497.8	1498.0	1499.2
160°	1526.5	1526.0	1525.4	1524.8	1524.2	1523.9	1523.9	1523.9	1523.9	1523.9	1525.4
162.5°	1551.4	1550.6	1549.8	1549.0	1548.2	1547.9	1548.2	1548.4	1548.6	1548.8	1550.3
165°	1583.6	1582.7	1581.9	1581.0	1580.2	1579.7	1579.7	1579.7	1579.7	1579.7	1581.4
167.5°	1609.3	1608.1	1607.0	1605.8	1604.7	1604.2	1604.4	1604.7	1604.9	1605.1	1606.9
170°	1623.8	1622.7	1621.5	1620.4	1619.2	1618.6	1618.6	1618.6	1618.6	1618.6	1620.6
172.5°	1635.2	1634.1	1632.9	1631.8	1630.6	1630.0	1630.0	1630.0	1630.0	1630.0	1631.8
175°	1647.2	1646.0	1644.9	1643.7	1642.5	1642.0	1642.0	1642.0	1642.0	1642.0	1643.7
177.5°	1652.1	1651.2	1650.2	1649.3	1648.4	1647.9	1647.9	1647.9	1647.9	1647.9	1649.3
180°	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1



TEST NUMBER: P332465

CATALOG NUMBER: S123RDIW-S1000D1320U835-4F0-1E-UDD-F1

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°	20.4	20.3	20.3	20.3	20.1	20.0	19.9	19.8
90°	33.4	34.6	35.7	36.6	37.2	37.8	38.3	38.9
92.5°	51.6	52.6	53.5	53.8	53.4	53.1	52.7	52.4
95°	98.3	99.4	100.6	101.2	101.2	101.2	101.2	101.2
97.5°	152.8	154.2	155.5	156.1	156.0	155.9	155.8	155.6
100°	192.4	193.2	194.1	194.8	195.4	196.0	196.6	197.1
102.5°	238.0	238.9	239.8	240.1	240.0	239.9	239.8	239.7
105°	306.1	306.1	306.1	306.4	307.0	307.5	308.1	308.7
107.5°	379.8	380.7	381.6	381.9	381.6	381.2	380.9	380.5
110°	429.0	430.2	431.3	431.6	431.0	430.5	429.9	429.3



TEST NUMBER: P332465

CATALOG NUMBER: S123RDIW-S1000D1320U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	478.2	479.6	481.0	481.6	481.5	481.4	481.3	481.2
115°	553.1	553.4	553.7	553.7	553.4	553.1	552.8	552.5
117.5°	628.7	628.6	628.5	628.1	627.3	626.5	625.7	624.9
120°	679.0	678.8	678.5	678.0	677.5	676.9	676.3	675.7
122.5°	730.0	729.2	728.5	727.7	726.9	726.1	725.3	724.5
125°	805.7	804.6	803.4	802.3	801.1	799.9	798.8	797.6
127.5°	880.5	878.9	877.3	875.8	874.5	873.2	871.9	870.5
130°	930.2	929.1	927.9	926.3	924.3	922.3	920.3	918.3
132.5°	978.5	977.1	975.8	974.3	972.7	971.2	969.6	968.1
135°	1050.8	1049.7	1048.5	1047.7	1047.1	1046.5	1045.9	1045.4
137.5°	1121.5	1120.3	1119.1	1118.0	1116.9	1115.8	1114.7	1113.6
140°	1168.0	1167.7	1167.4	1166.3	1164.3	1162.2	1160.2	1158.2
142.5°	1211.6	1211.3	1211.0	1210.1	1208.5	1207.0	1205.4	1203.9
145°	1275.6	1275.4	1275.1	1274.4	1273.2	1272.0	1270.9	1269.7
147.5°	1336.1	1336.1	1336.1	1335.3	1333.6	1331.8	1330.1	1328.4
150°	1373.5	1373.5	1373.5	1372.6	1370.9	1369.2	1367.4	1365.7
152.5°	1407.6	1408.1	1408.5	1408.0	1406.5	1405.0	1403.5	1402.0
155°	1457.5	1458.7	1459.8	1459.4	1457.4	1455.4	1453.3	1451.3
157.5°	1500.4	1501.6	1502.9	1502.6	1501.0	1499.4	1497.8	1496.2
160°	1526.8	1528.3	1529.7	1529.9	1528.7	1527.6	1526.4	1525.2
162.5°	1551.7	1553.2	1554.6	1554.4	1552.6	1550.7	1548.9	1547.0
165°	1583.2	1584.9	1586.6	1586.5	1584.5	1582.5	1580.4	1578.4
167.5°	1608.7	1610.5	1612.3	1612.3	1610.5	1608.7	1606.9	1605.1
170°	1622.7	1624.7	1626.7	1626.7	1624.7	1622.7	1620.6	1618.6
172.5°	1633.6	1635.4	1637.2	1637.1	1635.1	1633.0	1631.0	1629.0
175°	1645.4	1647.2	1648.9	1648.7	1646.7	1644.7	1642.7	1640.7
177.5°	1650.7	1652.1	1653.5	1653.4	1651.7	1650.1	1648.5	1646.9
180°	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1	1651.1

(END OF REPORT)