

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: P332469-935

Luminaire Tested: **S123RDIW-S1000D1535U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332469-935  
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-S1000D1535U935-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7848.4 lumens  
Efficiency: N/A  
Efficacy: 102.5 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

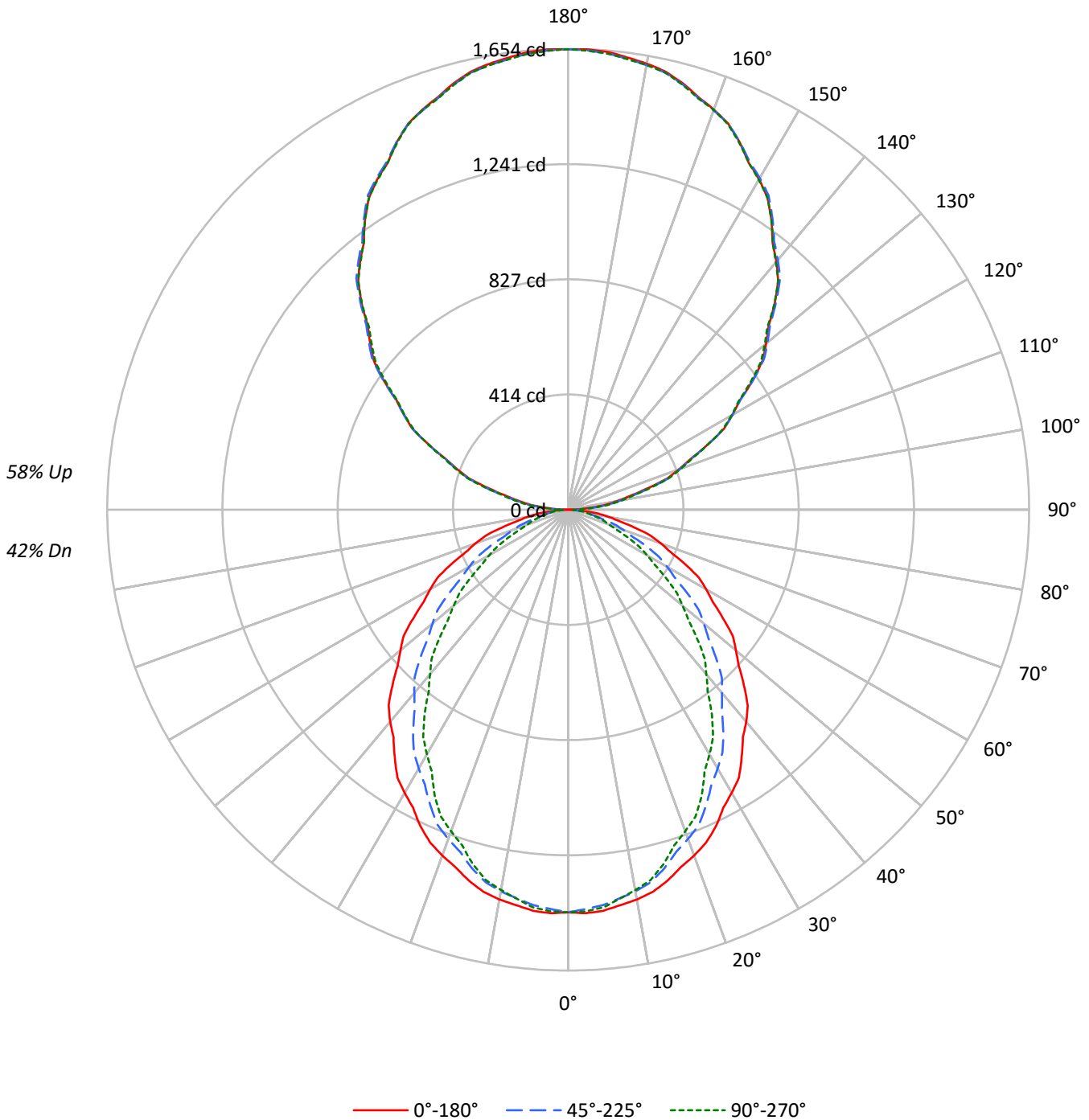
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	42
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36
2	88	81	75	70	80	74	69	64	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	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	40	34	39	34	30	32	28	25	25	23	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	18	16	14
9	50	38	30	26	45	35	28	24	30	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	22	27	22	19	23	19	16	18	15	13	11

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

	0°	45°	90°
0°	15553	15553	15553
5°	15612	15397	15486
10°	15524	15204	15152
15°	15357	14848	14692
20°	15128	14403	14068
25°	14892	13904	13459
30°	14579	13328	12599
35°	14259	12750	11811
40°	13964	12069	10835
45°	13575	11399	9954
50°	13147	10637	8967
55°	12710	9764	8049
60°	12312	8831	7037
65°	11790	7819	6029
70°	11138	6565	4869
75°	10189	5165	4579
80°	9081	4575	4209
85°	7669	4051	3767



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.7	1.7
10°-20°	377.5	4.8
20°-30°	543.6	6.9
30°-40°	612.3	7.8
40°-50°	585.8	7.5
50°-60°	479.7	6.1
60°-70°	323.7	4.1
70°-80°	162.8	2.1
80°-90°	48.0	0.6
90°-100°	107.7	1.4
100°-110°	322.3	4.1
110°-120°	548.1	7.0
120°-130°	721.0	9.2
130°-140°	810.4	10.3
140°-150°	796.6	10.1
150°-160°	670.6	8.5
160°-170°	446.4	5.7
170°-180°	156.3	2.0
0°-30°	1056.8	13.5
0°-40°	1669.1	21.3
0°-60°	2734.6	34.8
0°-90°	3269.0	41.7
90°-120°	978.1	12.5
90°-150°	3306.0	42.1
90°-180°	4579.0	58.3
0°-180°	7848.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1445	1439	1425	1435	1433	137
15°	1378	1364	1332	1326	1318	388
25°	1254	1223	1171	1147	1133	576
35°	1085	1041	970	922	899	679
45°	892	837	749	684	654	688
55°	677	618	520	455	429	607
65°	463	397	307	252	237	458
75°	245	188	124	113	110	261
85°	62	38	33	31	30	70
90°	1	14	31	36	39	8
95°	77	86	96	101	101	86
105°	292	295	306	307	309	313
115°	552	555	553	554	553	546
125°	808	811	809	804	798	720
135°	1048	1055	1054	1049	1046	807
145°	1271	1274	1278	1276	1271	794
155°	1455	1456	1457	1461	1453	670
165°	1585	1582	1581	1588	1580	447
175°	1649	1644	1644	1651	1642	157
180°	1653	1653	1653	1653	1653	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1449.6	1448.7	1447.9	1447.1	1446.2	1444.6	1442.1	1439.6	1437.1	1434.6	1436.8
5°	1444.9	1443.6	1442.3	1441.0	1439.7	1437.4	1434.3	1431.2	1428.1	1425.0	1427.3
7.5°	1431.5	1430.1	1428.7	1427.3	1425.9	1423.1	1419.1	1415.1	1411.0	1407.0	1408.3
10°	1420.3	1418.5	1416.6	1414.8	1413.0	1409.7	1405.1	1400.3	1395.7	1391.0	1391.3
12.5°	1404.4	1402.3	1400.3	1398.3	1396.2	1392.3	1386.6	1380.9	1375.2	1369.4	1369.2
15°	1378.1	1375.3	1372.3	1369.5	1366.7	1361.6	1354.3	1346.9	1339.7	1332.4	1331.1
17.5°	1345.1	1341.7	1338.4	1335.1	1331.7	1325.4	1316.1	1306.9	1297.6	1288.3	1285.6
20°	1320.7	1316.6	1312.3	1308.2	1304.0	1297.0	1287.1	1277.2	1267.3	1257.4	1254.0
22.5°	1293.5	1288.7	1283.9	1279.1	1274.4	1266.7	1256.1	1245.6	1235.1	1224.6	1220.4
25°	1253.9	1247.4	1240.9	1234.3	1227.9	1218.6	1206.6	1194.6	1182.7	1170.7	1165.2
27.5°	1205.8	1198.7	1191.5	1184.3	1177.1	1166.8	1153.5	1140.1	1126.8	1113.5	1105.9
30°	1173.0	1165.2	1157.4	1149.6	1141.8	1130.6	1116.0	1101.4	1086.8	1072.3	1063.4
32.5°	1140.2	1131.4	1122.5	1113.6	1104.8	1092.7	1077.3	1061.9	1046.4	1031.0	1021.3
35°	1085.1	1075.7	1066.3	1057.0	1047.7	1034.8	1018.7	1002.5	986.4	970.3	959.1
37.5°	1029.3	1018.9	1008.5	998.1	987.7	973.9	956.7	939.4	922.1	904.9	892.2
40°	993.8	982.3	970.8	959.3	947.9	932.9	914.5	896.0	877.4	858.9	845.4
42.5°	953.4	941.9	930.5	919.0	907.6	892.3	873.2	854.1	835.0	815.9	801.1
45°	891.8	880.0	868.3	856.6	844.9	829.1	809.0	788.9	768.9	748.8	734.0
47.5°	830.2	817.3	804.4	791.5	778.7	762.2	742.2	722.1	702.1	682.0	665.9
50°	785.1	772.9	760.7	748.5	736.2	719.5	698.4	677.3	656.3	635.2	619.0
52.5°	744.9	731.6	718.2	705.0	691.7	674.6	653.8	632.8	612.0	591.1	574.3
55°	677.3	664.6	651.8	639.0	626.3	608.8	586.7	564.6	542.4	520.3	505.2
57.5°	615.0	601.1	587.2	573.3	559.4	541.3	519.0	496.8	474.6	452.4	438.1
60°	571.9	557.6	543.2	528.9	514.5	496.6	475.0	453.4	431.8	410.2	396.1
62.5°	528.7	514.4	500.1	485.8	471.5	453.5	431.9	410.3	388.7	367.0	353.8
65°	462.9	448.6	434.2	419.9	405.6	388.3	368.0	347.7	327.4	307.0	294.3
67.5°	397.0	382.5	368.1	353.6	339.1	322.1	302.6	283.2	263.7	244.2	234.7
70°	353.9	339.8	325.8	311.7	297.6	281.5	263.3	245.0	226.8	208.6	199.5
72.5°	310.7	297.0	283.1	269.2	255.4	240.1	223.6	207.1	190.5	173.9	166.4
75°	245.0	232.4	219.9	207.4	194.9	181.5	167.2	152.8	138.5	124.2	121.6
77.5°	184.9	173.6	162.3	151.0	139.7	129.4	120.2	111.0	101.8	92.6	91.2
80°	146.5	135.8	125.1	114.4	103.8	95.7	90.2	84.7	79.3	73.8	73.0
82.5°	109.9	100.7	91.5	82.2	73.0	67.2	64.6	62.1	59.5	56.9	56.1
85°	62.1	56.4	50.6	44.9	39.2	35.9	35.1	34.4	33.6	32.8	32.3
87.5°	22.7	21.0	19.4	17.7	15.9	15.4	16.2	17.0	17.7	18.4	18.4
90°	1.3	4.2	7.1	10.0	12.8	16.2	19.9	23.7	27.4	31.2	32.3
92.5°	31.4	33.4	35.3	37.3	39.3	41.3	43.5	45.5	47.7	49.9	50.8
95°	76.6	78.6	80.7	82.7	84.7	86.9	89.1	91.4	93.8	96.1	97.2
97.5°	136.0	137.6	139.1	140.6	142.1	143.6	145.3	147.0	148.7	150.3	151.7
100°	176.6	178.3	180.0	181.8	183.5	185.1	186.5	188.0	189.4	190.9	191.7
102.5°	223.3	224.4	225.4	226.4	227.5	228.9	230.8	232.7	234.6	236.5	237.5
105°	292.1	292.7	293.3	293.9	294.5	296.0	298.6	301.2	303.8	306.4	306.4
107.5°	372.1	372.5	372.8	373.2	373.5	374.2	375.2	376.3	377.3	378.3	379.3
110°	422.0	422.6	423.1	423.7	424.3	424.8	425.4	426.0	426.5	427.1	428.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	473.9	474.2	474.6	474.9	475.3	475.5	475.6	475.7	475.9	476.0	477.3
115°	551.8	552.7	553.5	554.4	555.3	555.4	554.8	554.2	553.7	553.1	553.4
117.5°	630.3	630.8	631.4	632.0	632.5	632.4	631.7	630.9	630.2	629.5	629.4
120°	679.1	680.8	682.5	684.2	686.0	686.1	684.7	683.2	681.7	680.4	680.0
122.5°	730.0	731.2	732.5	733.7	735.0	735.3	734.5	733.7	733.1	732.3	731.5
125°	807.5	808.4	809.3	810.2	811.1	811.1	810.6	810.0	809.4	808.9	807.7
127.5°	879.3	881.1	883.0	884.8	886.7	887.3	886.6	886.0	885.4	884.7	883.0
130°	927.0	929.4	931.6	933.9	936.3	936.9	936.1	935.2	934.4	933.5	932.4
132.5°	974.8	977.1	979.4	981.7	984.0	984.9	984.2	983.6	982.9	982.3	980.9
135°	1047.8	1049.5	1051.2	1052.9	1054.7	1055.4	1055.2	1054.8	1054.6	1054.3	1053.1
137.5°	1115.3	1116.7	1118.2	1119.6	1121.0	1122.1	1122.9	1123.6	1124.4	1125.2	1123.9
140°	1162.0	1163.5	1164.9	1166.3	1167.8	1168.6	1169.0	1169.2	1169.5	1169.8	1169.5
142.5°	1204.6	1206.0	1207.5	1208.9	1210.4	1211.3	1211.9	1212.4	1212.9	1213.4	1213.1
145°	1271.1	1271.7	1272.2	1272.8	1273.4	1274.1	1275.0	1275.8	1276.7	1277.6	1277.3
147.5°	1329.2	1330.2	1331.3	1332.4	1333.4	1334.3	1335.2	1335.9	1336.7	1337.6	1337.6
150°	1369.8	1370.4	1370.9	1371.5	1372.1	1372.6	1373.2	1373.8	1374.3	1374.9	1374.9
152.5°	1403.0	1403.8	1404.6	1405.4	1406.2	1406.8	1407.1	1407.5	1407.8	1408.2	1408.7
155°	1455.4	1455.4	1455.4	1455.4	1455.4	1455.6	1455.9	1456.1	1456.5	1456.7	1457.9
157.5°	1500.1	1499.8	1499.4	1499.1	1498.7	1498.7	1498.9	1499.1	1499.3	1499.6	1500.8
160°	1528.2	1527.6	1527.0	1526.4	1525.9	1525.5	1525.5	1525.5	1525.5	1525.5	1527.0
162.5°	1553.1	1552.3	1551.4	1550.7	1549.9	1549.5	1549.8	1550.1	1550.2	1550.5	1552.0
165°	1585.3	1584.4	1583.6	1582.7	1581.8	1581.4	1581.4	1581.4	1581.4	1581.4	1583.1
167.5°	1611.0	1609.8	1608.7	1607.5	1606.4	1605.9	1606.1	1606.4	1606.6	1606.8	1608.6
170°	1625.5	1624.4	1623.2	1622.0	1620.9	1620.3	1620.3	1620.3	1620.3	1620.3	1622.4
172.5°	1636.9	1635.8	1634.6	1633.5	1632.4	1631.8	1631.8	1631.8	1631.8	1631.8	1633.6
175°	1648.9	1647.8	1646.6	1645.5	1644.3	1643.7	1643.7	1643.7	1643.7	1643.7	1645.5
177.5°	1653.8	1652.9	1652.0	1651.1	1650.1	1649.7	1649.7	1649.7	1649.7	1649.7	1651.1
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1439.2	1441.5	1443.7	1444.7	1444.2	1443.9	1443.5	1443.0
5°	1429.7	1432.0	1434.3	1435.3	1434.8	1434.3	1433.7	1433.2
7.5°	1409.5	1410.8	1412.1	1412.4	1411.4	1410.6	1409.7	1408.8
10°	1391.5	1391.8	1392.1	1391.5	1390.2	1388.9	1387.6	1386.3
12.5°	1369.1	1369.0	1368.8	1368.0	1366.5	1364.9	1363.5	1361.9
15°	1329.8	1328.5	1327.2	1325.6	1323.8	1322.0	1320.2	1318.4
17.5°	1282.8	1280.0	1277.3	1274.5	1271.9	1269.1	1266.4	1263.7
20°	1250.6	1247.2	1243.9	1240.6	1237.5	1234.3	1231.2	1228.1
22.5°	1216.2	1211.9	1207.7	1204.1	1201.3	1198.3	1195.4	1192.5
25°	1159.8	1154.3	1148.8	1144.6	1141.8	1138.9	1136.1	1133.2
27.5°	1098.3	1090.7	1083.1	1077.1	1072.7	1068.3	1063.9	1059.6
30°	1054.6	1045.7	1036.8	1030.4	1026.1	1022.0	1017.8	1013.7
32.5°	1011.6	1001.9	992.2	985.2	980.9	976.5	972.1	967.7
35°	947.9	936.7	925.5	917.6	912.9	908.2	903.5	898.8
37.5°	879.5	866.8	854.1	844.8	839.0	833.3	827.5	821.7
40°	831.9	818.4	804.8	795.0	789.0	783.1	777.1	771.1
42.5°	786.3	771.5	756.6	746.6	741.2	735.9	730.5	725.1
45°	719.1	704.3	689.4	678.9	672.6	666.4	660.1	653.9
47.5°	649.7	633.6	617.4	606.6	601.0	595.5	589.9	584.3
50°	602.9	586.7	570.6	559.5	553.5	547.5	541.6	535.5
52.5°	557.6	540.8	524.0	512.9	507.6	502.2	496.9	491.5
55°	490.1	475.0	459.9	449.7	444.5	439.3	434.1	428.9
57.5°	423.8	409.5	395.3	385.9	381.5	377.0	372.6	368.2
60°	382.0	368.0	353.9	344.7	340.3	335.8	331.4	326.9
62.5°	340.5	327.4	314.1	305.1	300.6	295.9	291.3	286.6
65°	281.5	268.7	256.0	248.1	245.3	242.5	239.6	236.7
67.5°	225.2	215.6	206.1	199.8	196.7	193.6	190.5	187.5
70°	190.4	181.2	172.1	166.2	163.2	160.4	157.6	154.7
72.5°	159.0	151.5	144.1	139.8	138.6	137.4	136.2	135.0
75°	119.0	116.4	113.8	112.3	111.8	111.2	110.6	110.1
77.5°	89.8	88.3	87.0	86.0	85.5	85.0	84.5	83.9
80°	72.2	71.5	70.7	70.1	69.6	69.1	68.4	67.9
82.5°	55.4	54.6	53.8	53.4	53.3	53.2	53.0	53.0
85°	31.8	31.3	30.7	30.5	30.5	30.5	30.5	30.5
87.5°	18.4	18.5	18.5	18.5	18.3	18.3	18.2	18.1
90°	33.5	34.6	35.8	36.7	37.2	37.8	38.4	38.9
92.5°	51.7	52.6	53.6	53.8	53.5	53.1	52.8	52.4
95°	98.4	99.5	100.7	101.3	101.3	101.3	101.3	101.3
97.5°	153.0	154.3	155.7	156.3	156.2	156.0	155.9	155.8
100°	192.6	193.5	194.3	195.0	195.6	196.2	196.7	197.3
102.5°	238.3	239.2	240.0	240.4	240.3	240.1	240.0	240.0
105°	306.4	306.4	306.4	306.7	307.3	307.9	308.4	309.0
107.5°	380.2	381.1	382.0	382.3	381.9	381.6	381.3	380.9
110°	429.5	430.6	431.8	432.0	431.4	430.9	430.3	429.7





TEST NUMBER: P332469-935

CATALOG NUMBER: S123RDIW-S1000D1535U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	478.7	480.1	481.5	482.2	482.1	481.9	481.8	481.6
115°	553.7	554.0	554.2	554.2	554.0	553.7	553.4	553.1
117.5°	629.3	629.3	629.2	628.8	627.9	627.2	626.4	625.5
120°	679.8	679.5	679.2	678.7	678.2	677.6	677.0	676.4
122.5°	730.7	730.0	729.3	728.5	727.7	726.9	726.1	725.2
125°	806.6	805.4	804.3	803.1	801.9	800.8	799.6	798.5
127.5°	881.5	879.9	878.2	876.8	875.5	874.1	872.8	871.4
130°	931.2	930.1	928.9	927.3	925.3	923.3	921.3	919.2
132.5°	979.6	978.2	976.8	975.3	973.8	972.2	970.6	969.1
135°	1052.0	1050.8	1049.6	1048.8	1048.2	1047.6	1047.1	1046.5
137.5°	1122.7	1121.5	1120.3	1119.1	1118.0	1117.0	1115.9	1114.7
140°	1169.2	1169.0	1168.6	1167.5	1165.4	1163.5	1161.4	1159.4
142.5°	1212.9	1212.5	1212.3	1211.3	1209.8	1208.2	1206.7	1205.1
145°	1276.9	1276.7	1276.4	1275.7	1274.5	1273.4	1272.2	1271.1
147.5°	1337.6	1337.6	1337.6	1336.7	1335.0	1333.3	1331.5	1329.7
150°	1374.9	1374.9	1374.9	1374.1	1372.3	1370.6	1368.9	1367.2
152.5°	1409.1	1409.5	1410.1	1409.5	1408.0	1406.5	1405.0	1403.5
155°	1459.1	1460.2	1461.4	1460.9	1458.9	1456.9	1454.8	1452.9
157.5°	1502.0	1503.2	1504.4	1504.3	1502.6	1501.0	1499.3	1497.8
160°	1528.4	1529.9	1531.3	1531.5	1530.3	1529.1	1528.0	1526.8
162.5°	1553.3	1554.8	1556.3	1556.1	1554.2	1552.4	1550.5	1548.7
165°	1584.8	1586.6	1588.3	1588.2	1586.1	1584.2	1582.1	1580.1
167.5°	1610.4	1612.2	1613.9	1613.9	1612.2	1610.4	1608.6	1606.8
170°	1624.4	1626.4	1628.4	1628.4	1626.4	1624.4	1622.4	1620.3
172.5°	1635.3	1637.1	1638.9	1638.8	1636.8	1634.8	1632.7	1630.7
175°	1647.2	1648.9	1650.6	1650.5	1648.5	1646.4	1644.4	1642.4
177.5°	1652.4	1653.8	1655.2	1655.1	1653.5	1651.8	1650.3	1648.6
180°	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8	1652.8

(END OF REPORT)