

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: P332468-927

Luminaire Tested: **S123RDIW-S1000D1535U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332468-927  
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-S1000D1535U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1535 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7868.9 lumens  
Efficiency: N/A  
Efficacy: 102.7 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: Semi-Indirect

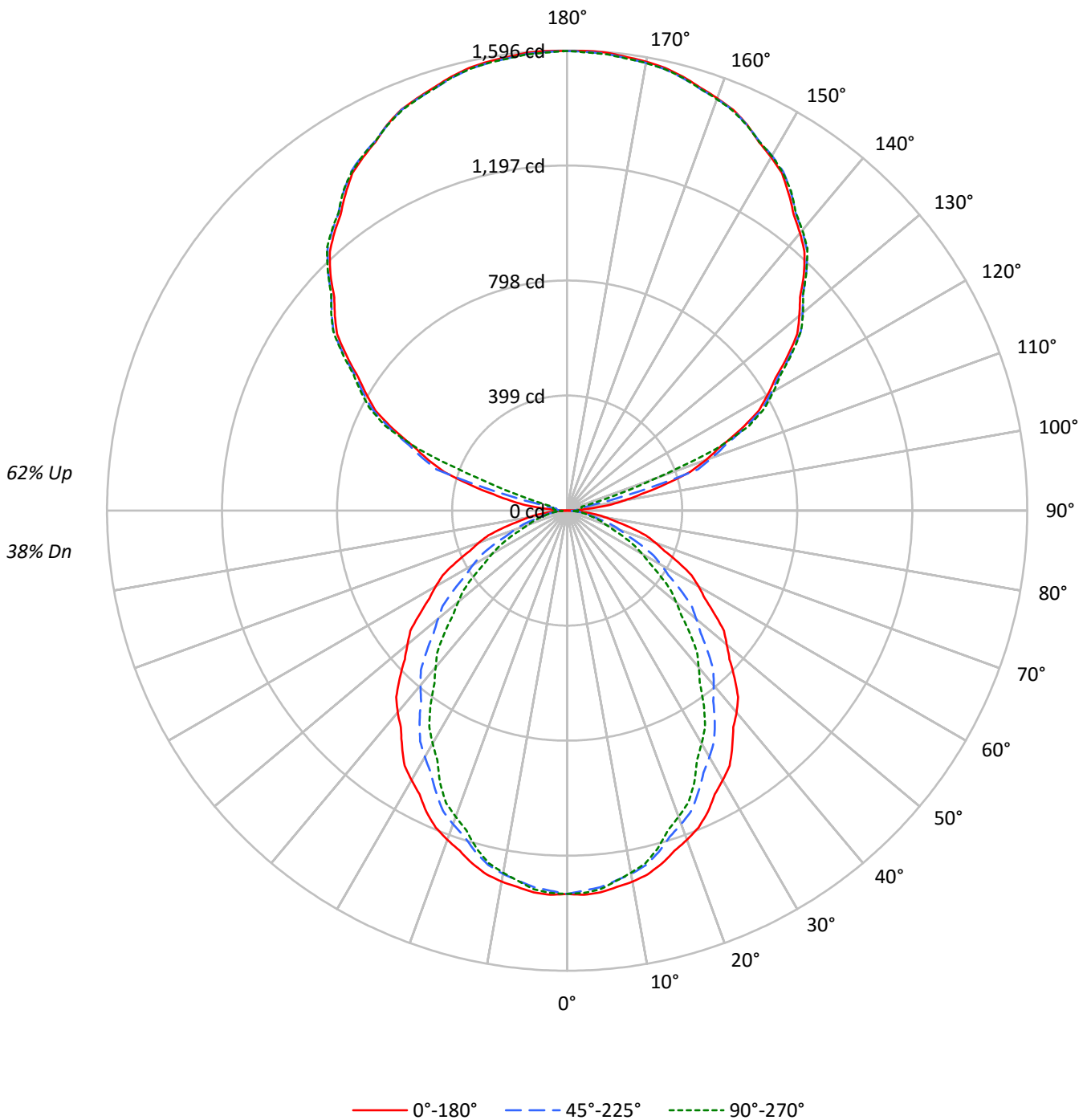
Input Watts (W): 76.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	88	84	86	83	80	77	68	65	63	53	52	51	40	40	39	33
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28
3	80	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	23	22	18
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	24	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	22	18	22	18	15	17	14	13	11

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

	0°	45°	90°
0°	14310	14310	14310
5°	14364	14166	14249
10°	14283	13988	13941
15°	14130	13661	13517
20°	13919	13252	12944
25°	13702	12792	12383
30°	13415	12263	11591
35°	13119	11730	10867
40°	12847	11105	9969
45°	12490	10488	9159
50°	12097	9786	8251
55°	11695	8983	7405
60°	11328	8125	6476
65°	10847	7195	5547
70°	10247	6039	4482
75°	9374	4754	4213
80°	8356	4209	3874
85°	7052	3730	3458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.8	1.6
10°-20°	347.3	4.4
20°-30°	500.2	6.4
30°-40°	563.4	7.2
40°-50°	539.0	6.8
50°-60°	441.4	5.6
60°-70°	297.8	3.8
70°-80°	149.8	1.9
80°-90°	44.1	0.6
90°-100°	58.0	0.7
100°-110°	276.2	3.5
110°-120°	663.5	8.4
120°-130°	844.9	10.7
130°-140°	902.7	11.5
140°-150°	844.1	10.7
150°-160°	680.9	8.7
160°-170°	439.5	5.6
170°-180°	151.5	1.9
0°-30°	972.3	12.4
0°-40°	1535.7	19.5
0°-60°	2516.0	32.0
0°-90°	3007.7	38.2
90°-120°	997.6	12.7
90°-150°	3589.3	45.6
90°-180°	4861.0	61.8
0°-180°	7868.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1324	1311	1320	1319	126
15°	1268	1255	1226	1220	1213	357
25°	1154	1125	1077	1055	1043	530
35°	998	958	893	848	827	625
45°	820	770	689	629	602	633
55°	623	568	479	418	395	559
65°	426	365	282	232	218	421
75°	225	173	114	104	101	240
85°	57	34	30	28	28	64
90°	1	13	28	33	36	6
95°	72	27	37	44	45	89
105°	353	359	259	62	52	374
115°	662	669	680	691	696	653
125°	933	942	948	950	952	833
135°	1162	1169	1174	1177	1174	894
145°	1341	1349	1351	1354	1354	839
155°	1477	1475	1476	1481	1474	680
165°	1557	1554	1553	1561	1554	440
175°	1594	1588	1589	1597	1588	152
180°	1594	1594	1594	1594	1594	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1333.7	1332.9	1332.2	1331.4	1330.6	1329.1	1326.8	1324.5	1322.2	1319.9	1322.0
5°	1329.4	1328.2	1327.0	1325.8	1324.6	1322.5	1319.7	1316.8	1314.0	1311.1	1313.2
7.5°	1317.1	1315.8	1314.5	1313.2	1311.9	1309.4	1305.7	1302.0	1298.2	1294.5	1295.7
10°	1306.8	1305.1	1303.4	1301.7	1300.1	1297.0	1292.8	1288.4	1284.1	1279.8	1280.1
12.5°	1292.1	1290.2	1288.4	1286.5	1284.6	1281.0	1275.8	1270.5	1265.3	1260.0	1259.8
15°	1268.0	1265.4	1262.7	1260.0	1257.4	1252.8	1246.0	1239.3	1232.6	1225.9	1224.7
17.5°	1237.5	1234.5	1231.4	1228.4	1225.3	1219.5	1210.9	1202.5	1193.9	1185.3	1182.8
20°	1215.1	1211.3	1207.4	1203.6	1199.8	1193.3	1184.2	1175.1	1166.0	1156.9	1153.8
22.5°	1190.1	1185.7	1181.3	1176.9	1172.5	1165.5	1155.7	1146.1	1136.4	1126.7	1122.8
25°	1153.7	1147.7	1141.7	1135.7	1129.7	1121.2	1110.2	1099.2	1088.1	1077.1	1072.1
27.5°	1109.5	1102.9	1096.2	1089.6	1083.0	1073.6	1061.3	1049.0	1036.7	1024.5	1017.5
30°	1079.3	1072.1	1064.9	1057.7	1050.5	1040.2	1026.8	1013.4	1000.0	986.6	978.4
32.5°	1049.1	1040.9	1032.8	1024.6	1016.5	1005.4	991.2	977.0	962.7	948.6	939.7
35°	998.4	989.8	981.1	972.6	963.9	952.1	937.3	922.4	907.6	892.7	882.4
37.5°	947.1	937.5	927.9	918.3	908.7	896.0	880.2	864.3	848.4	832.6	820.9
40°	914.3	903.8	893.2	882.6	872.1	858.3	841.4	824.3	807.3	790.3	777.8
42.5°	877.2	866.6	856.1	845.6	835.0	821.0	803.4	785.8	768.3	750.7	737.0
45°	820.5	809.7	798.9	788.1	777.4	762.8	744.3	725.9	707.4	689.0	675.3
47.5°	763.8	751.9	740.1	728.3	716.4	701.3	682.9	664.4	645.9	627.5	612.7
50°	722.4	711.1	699.9	688.6	677.3	662.0	642.6	623.2	603.8	584.4	569.5
52.5°	685.3	673.1	660.8	648.6	636.4	620.7	601.5	582.3	563.1	543.8	528.4
55°	623.2	611.5	599.7	588.0	576.2	560.2	539.8	519.4	499.1	478.7	464.9
57.5°	565.9	553.0	540.3	527.4	514.7	498.0	477.5	457.1	436.7	416.2	403.1
60°	526.2	513.0	499.8	486.6	473.4	456.9	437.0	417.2	397.3	377.4	364.4
62.5°	486.5	473.3	460.1	446.9	433.8	417.2	397.4	377.5	357.6	337.7	325.5
65°	425.9	412.7	399.5	386.3	373.2	357.3	338.6	319.9	301.2	282.5	270.8
67.5°	365.3	352.0	338.7	325.3	312.0	296.4	278.5	260.5	242.6	224.7	215.9
70°	325.6	312.7	299.8	286.8	273.9	259.0	242.2	225.5	208.7	191.9	183.5
72.5°	285.9	273.2	260.5	247.7	235.0	220.9	205.7	190.5	175.2	160.0	153.1
75°	225.4	213.8	202.3	190.8	179.4	167.0	153.8	140.6	127.5	114.3	111.9
77.5°	170.2	159.7	149.3	138.9	128.6	119.1	110.6	102.1	93.6	85.2	83.9
80°	134.8	124.9	115.1	105.3	95.5	88.1	83.0	78.0	73.0	67.9	67.2
82.5°	101.2	92.7	84.2	75.7	67.2	61.8	59.4	57.1	54.7	52.4	51.7
85°	57.1	51.9	46.6	41.4	36.0	33.0	32.3	31.6	30.9	30.2	29.7
87.5°	20.9	19.3	17.7	16.2	14.6	14.2	14.8	15.5	16.2	16.9	17.0
90°	1.2	3.8	6.4	9.1	11.7	14.7	18.1	21.5	25.0	28.4	29.5
92.5°	22.0	21.3	20.5	19.8	19.1	20.0	22.6	25.2	27.7	30.3	32.0
95°	72.2	61.5	50.7	39.8	29.1	25.1	28.0	30.9	33.8	36.7	38.6
97.5°	145.2	140.4	135.5	130.6	125.8	113.9	95.0	76.0	57.1	38.1	40.2
100°	200.2	205.4	210.6	215.9	221.2	203.3	162.2	121.2	80.2	39.1	41.2
102.5°	262.7	266.5	270.3	274.0	277.8	257.3	212.5	167.6	122.8	78.0	71.4
105°	352.9	355.8	358.7	361.6	364.5	354.1	330.4	306.7	283.0	259.4	212.8
107.5°	448.1	450.4	452.7	455.1	457.4	460.4	464.1	467.9	471.7	475.4	441.2
110°	511.6	513.7	515.8	517.9	520.1	522.5	525.5	528.3	531.2	534.1	525.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	572.3	574.2	576.1	578.0	579.8	582.3	585.1	588.0	590.9	593.8	594.0
115°	662.0	663.6	665.2	666.8	668.4	670.3	672.7	675.0	677.4	679.8	682.4
117.5°	748.9	750.9	752.8	754.8	756.8	758.4	759.5	760.7	761.9	763.2	765.2
120°	803.0	805.3	807.7	810.1	812.5	814.0	814.8	815.6	816.3	817.1	819.3
122.5°	857.9	859.8	861.8	863.7	865.7	867.2	868.2	869.2	870.1	871.2	872.7
125°	933.2	935.3	937.5	939.5	941.7	943.3	944.3	945.3	946.4	947.5	948.0
127.5°	1006.2	1008.3	1010.4	1012.5	1014.6	1016.3	1017.6	1018.8	1020.1	1021.4	1022.2
130°	1051.6	1053.8	1055.9	1058.0	1060.1	1061.7	1062.7	1063.7	1064.9	1065.9	1066.9
132.5°	1095.3	1097.3	1099.5	1101.5	1103.7	1105.2	1106.0	1106.8	1107.6	1108.5	1109.5
135°	1161.8	1163.4	1165.0	1166.6	1168.2	1169.4	1170.4	1171.6	1172.6	1173.6	1174.4
137.5°	1218.6	1220.7	1222.7	1224.6	1226.6	1228.0	1228.5	1229.1	1229.7	1230.3	1231.5
140°	1256.6	1258.1	1259.7	1261.3	1262.9	1264.0	1264.8	1265.6	1266.4	1267.2	1268.3
142.5°	1291.6	1293.2	1294.7	1296.3	1297.9	1299.1	1299.9	1300.7	1301.5	1302.3	1303.1
145°	1340.6	1342.4	1344.3	1346.2	1348.0	1349.2	1349.7	1350.2	1350.8	1351.3	1351.8
147.5°	1386.8	1388.1	1389.3	1390.4	1391.6	1392.5	1393.1	1393.6	1394.1	1394.6	1395.2
150°	1415.2	1416.0	1416.8	1417.6	1418.4	1419.0	1419.6	1420.1	1420.6	1421.2	1421.7
152.5°	1440.8	1441.2	1441.5	1441.9	1442.3	1442.6	1443.0	1443.3	1443.6	1443.9	1444.9
155°	1476.8	1476.3	1475.8	1475.3	1474.7	1474.6	1474.9	1475.1	1475.4	1475.6	1476.9
157.5°	1504.8	1504.8	1504.7	1504.6	1504.6	1504.4	1504.1	1503.9	1503.6	1503.3	1504.9
160°	1521.9	1521.5	1521.3	1521.1	1520.8	1520.5	1520.3	1520.0	1519.7	1519.5	1521.1
162.5°	1537.9	1537.2	1536.6	1535.9	1535.2	1534.7	1534.5	1534.2	1533.9	1533.7	1535.5
165°	1557.4	1556.6	1555.8	1555.0	1554.2	1553.7	1553.4	1553.2	1552.9	1552.6	1554.7
167.5°	1572.5	1571.5	1570.4	1569.4	1568.3	1567.8	1567.8	1567.8	1567.8	1567.8	1569.9
170°	1581.0	1580.0	1578.9	1577.9	1576.8	1576.3	1576.3	1576.3	1576.3	1576.3	1578.4
172.5°	1586.7	1585.5	1584.2	1582.9	1581.7	1581.1	1581.4	1581.6	1581.8	1582.0	1584.1
175°	1594.0	1592.8	1591.4	1590.1	1588.8	1588.2	1588.6	1588.8	1589.0	1589.4	1591.2
177.5°	1595.9	1594.9	1593.9	1592.8	1591.7	1591.3	1591.6	1591.7	1592.0	1592.2	1593.9
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1324.1	1326.3	1328.3	1329.2	1328.8	1328.5	1328.1	1327.7
5°	1315.4	1317.6	1319.7	1320.6	1320.1	1319.6	1319.1	1318.7
7.5°	1296.9	1298.1	1299.3	1299.5	1298.6	1297.8	1297.0	1296.2
10°	1280.3	1280.6	1280.8	1280.3	1279.1	1277.9	1276.7	1275.5
12.5°	1259.6	1259.6	1259.4	1258.6	1257.3	1255.8	1254.5	1253.1
15°	1223.5	1222.3	1221.1	1219.6	1218.0	1216.3	1214.7	1213.0
17.5°	1180.3	1177.7	1175.2	1172.7	1170.2	1167.7	1165.2	1162.7
20°	1150.6	1147.6	1144.5	1141.5	1138.6	1135.7	1132.8	1130.0
22.5°	1119.0	1115.1	1111.2	1107.9	1105.3	1102.6	1099.9	1097.2
25°	1067.1	1062.0	1057.0	1053.1	1050.5	1047.9	1045.3	1042.6
27.5°	1010.5	1003.5	996.5	991.0	987.0	982.9	978.9	974.9
30°	970.3	962.1	953.9	948.0	944.1	940.3	936.4	932.6
32.5°	930.7	921.9	912.9	906.5	902.5	898.4	894.4	890.3
35°	872.1	861.8	851.5	844.2	840.0	835.6	831.3	827.0
37.5°	809.2	797.5	785.8	777.3	772.0	766.7	761.4	756.1
40°	765.4	753.0	740.5	731.5	726.0	720.5	714.9	709.5
42.5°	723.4	709.8	696.2	686.9	682.0	677.1	672.1	667.2
45°	661.6	648.0	634.3	624.6	618.9	613.1	607.4	601.7
47.5°	597.8	583.0	568.1	558.1	552.9	547.9	542.7	537.6
50°	554.7	539.8	525.0	514.8	509.3	503.7	498.3	492.7
52.5°	513.0	497.6	482.1	471.9	467.0	462.1	457.2	452.2
55°	450.9	437.0	423.1	413.8	409.0	404.2	399.4	394.6
57.5°	389.9	376.8	363.7	355.1	351.0	346.9	342.9	338.7
60°	351.5	338.6	325.6	317.1	313.1	309.0	304.9	300.8
62.5°	313.3	301.2	289.0	280.7	276.6	272.3	268.0	263.7
65°	259.0	247.2	235.5	228.3	225.7	223.1	220.5	217.8
67.5°	207.2	198.4	189.6	183.8	181.0	178.2	175.3	172.5
70°	175.2	166.8	158.4	152.9	150.2	147.6	145.0	142.4
72.5°	146.3	139.4	132.6	128.7	127.5	126.4	125.3	124.2
75°	109.5	107.1	104.7	103.3	102.8	102.3	101.8	101.3
77.5°	82.6	81.3	80.0	79.1	78.7	78.2	77.7	77.2
80°	66.5	65.8	65.0	64.5	64.0	63.5	63.0	62.5
82.5°	50.9	50.2	49.5	49.1	49.0	49.0	48.8	48.7
85°	29.2	28.8	28.3	28.0	28.0	28.0	28.0	28.0
87.5°	17.0	17.0	17.0	17.0	16.9	16.8	16.7	16.6
90°	30.5	31.6	32.6	33.4	34.0	34.5	35.0	35.5
92.5°	33.7	35.4	37.1	38.0	38.3	38.7	39.0	39.3
95°	40.4	42.2	44.0	45.0	45.0	45.0	45.0	45.0
97.5°	42.4	44.4	46.6	47.8	48.0	48.2	48.6	48.8
100°	43.3	45.4	47.5	48.7	49.0	49.2	49.5	49.7
102.5°	64.9	58.4	51.8	48.8	49.3	49.7	50.2	50.7
105°	166.2	119.6	73.0	50.0	50.5	51.1	51.6	52.1
107.5°	407.0	372.9	338.7	304.1	269.0	233.9	198.8	163.7
110°	516.7	508.0	499.4	476.2	438.6	400.9	363.3	325.7





TEST NUMBER: P332468-927

CATALOG NUMBER: S123RDIW-S1000D1535U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	594.1	594.3	594.5	590.6	582.6	574.6	566.7	558.7
115°	685.1	687.7	690.3	692.1	693.2	694.3	695.3	696.4
117.5°	767.4	769.4	771.6	772.8	772.9	773.2	773.4	773.6
120°	821.4	823.5	825.6	826.6	826.6	826.6	826.6	826.6
122.5°	874.1	875.6	877.1	877.9	878.1	878.3	878.5	878.8
125°	948.5	949.0	949.5	950.1	950.6	951.1	951.6	952.2
127.5°	1023.0	1023.9	1024.7	1024.8	1024.4	1023.8	1023.3	1022.8
130°	1067.9	1069.1	1070.1	1070.3	1069.8	1069.3	1068.7	1068.3
132.5°	1110.6	1111.7	1112.7	1112.9	1112.1	1111.4	1110.6	1109.9
135°	1175.2	1176.0	1176.8	1176.8	1176.0	1175.2	1174.4	1173.6
137.5°	1232.8	1234.1	1235.3	1235.6	1235.2	1234.6	1234.1	1233.6
140°	1269.3	1270.3	1271.4	1271.7	1271.1	1270.7	1270.1	1269.6
142.5°	1303.9	1304.8	1305.6	1305.7	1305.0	1304.2	1303.5	1302.7
145°	1352.3	1352.9	1353.4	1353.7	1353.7	1353.7	1353.7	1353.7
147.5°	1395.7	1396.2	1396.8	1396.4	1395.2	1394.0	1392.7	1391.5
150°	1422.2	1422.8	1423.2	1423.2	1422.4	1421.6	1420.8	1420.0
152.5°	1445.8	1446.8	1447.7	1447.6	1446.4	1445.1	1443.9	1442.7
155°	1478.3	1479.6	1480.9	1480.7	1479.2	1477.6	1476.0	1474.5
157.5°	1506.5	1508.1	1509.7	1509.4	1507.4	1505.3	1503.2	1501.2
160°	1522.7	1524.2	1525.7	1525.7	1523.8	1521.9	1520.1	1518.3
162.5°	1537.2	1539.1	1540.8	1540.9	1539.3	1537.6	1536.0	1534.4
165°	1556.8	1558.9	1561.1	1561.2	1559.3	1557.5	1555.6	1553.8
167.5°	1572.0	1574.1	1576.2	1576.2	1574.1	1572.0	1569.9	1567.8
170°	1580.5	1582.6	1584.8	1584.8	1582.6	1580.5	1578.4	1576.3
172.5°	1586.2	1588.3	1590.4	1590.3	1588.0	1585.7	1583.3	1581.0
175°	1593.0	1594.8	1596.7	1596.6	1594.4	1592.4	1590.2	1588.2
177.5°	1595.5	1597.2	1598.9	1598.7	1596.6	1594.5	1592.4	1590.3
180°	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0	1594.0

(END OF REPORT)