

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: P332445

Luminaire Tested: **S123RDIW-S775D1320U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332445  
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-S775D1320U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 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: 7496.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 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

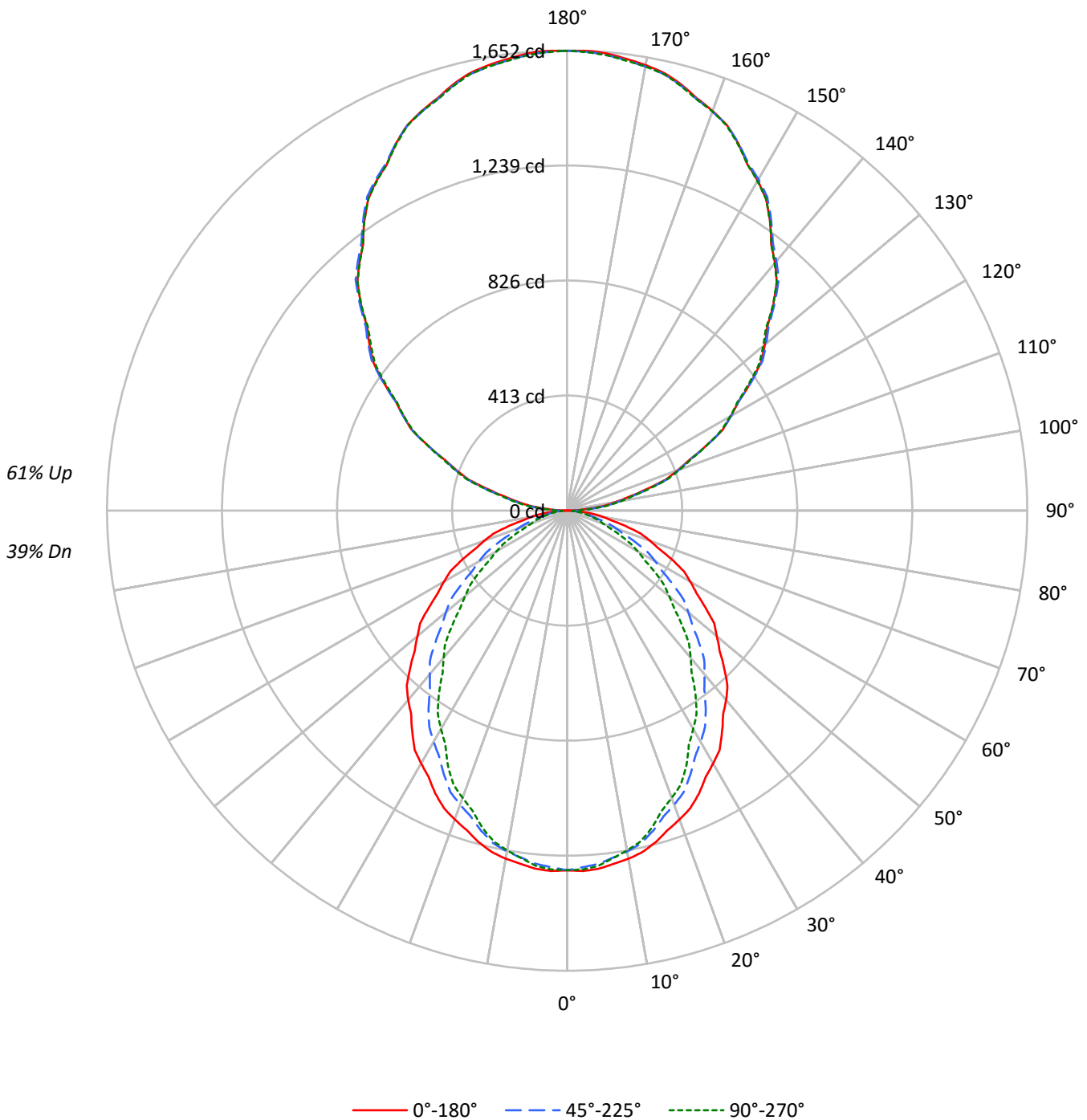
Input Watts (W): 61.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	96	91	88	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	74	69	79	73	68	64	60	56	53	48	45	43	36	35	33	28
3	80	71	64	58	72	64	58	53	53	49	45	42	39	37	32	30	29	24
4	73	63	55	49	66	57	51	45	47	42	38	38	34	32	29	27	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	37	32	52	41	35	30	35	29	26	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	26	22	19	20	17	15	13
9	49	37	30	25	45	34	28	24	29	24	20	24	20	17	19	16	14	12
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	17	15	13	11

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

	0°	45°	90°
0°	13897	13897	13897
5°	13950	13758	13837
10°	13871	13585	13539
15°	13722	13266	13127
20°	13518	12869	12569
25°	13307	12423	12025
30°	13027	11908	11257
35°	12741	11393	10553
40°	12476	10784	9681
45°	12129	10185	8894
50°	11747	9503	8013
55°	11357	8724	7191
60°	11001	7890	6288
65°	10534	6986	5387
70°	9951	5866	4349
75°	9100	4616	4092
80°	8114	4091	3763
85°	6854	3619	3359



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	1.6
10°-20°	337.3	4.5
20°-30°	485.7	6.5
30°-40°	547.1	7.3
40°-50°	523.4	7.0
50°-60°	428.6	5.7
60°-70°	289.2	3.9
70°-80°	145.5	1.9
80°-90°	43.4	0.6
90°-100°	107.6	1.4
100°-110°	321.9	4.3
110°-120°	547.5	7.3
120°-130°	720.2	9.6
130°-140°	809.5	10.8
140°-150°	795.7	10.6
150°-160°	669.9	8.9
160°-170°	445.9	5.9
170°-180°	156.2	2.1
0°-30°	944.3	12.6
0°-40°	1491.4	19.9
0°-60°	2443.4	32.6
0°-90°	2921.5	39.0
90°-120°	977.1	13.0
90°-150°	3302.5	44.1
90°-180°	4574.0	61.0
0°-180°	7496.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1291	1291	1291	1291	1291	
5°	1291	1285	1273	1282	1281	122
15°	1231	1219	1190	1185	1178	347
25°	1120	1093	1046	1025	1012	515
35°	970	930	867	823	803	607
45°	797	748	669	611	584	615
55°	605	552	465	406	383	542
65°	414	355	274	225	212	409
75°	219	168	111	101	98	233
85°	56	34	29	27	27	62
90°	1	14	31	36	39	7
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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1295.2	1294.5	1293.7	1293.0	1292.3	1290.8	1288.5	1286.3	1284.1	1281.8	1283.9
5°	1291.1	1289.9	1288.7	1287.6	1286.4	1284.4	1281.6	1278.8	1276.0	1273.3	1275.3
7.5°	1279.1	1277.9	1276.6	1275.3	1274.1	1271.6	1268.0	1264.4	1260.8	1257.1	1258.3
10°	1269.1	1267.4	1265.8	1264.2	1262.5	1259.6	1255.4	1251.3	1247.1	1242.9	1243.1
12.5°	1254.8	1253.0	1251.2	1249.4	1247.6	1244.1	1239.0	1233.9	1228.7	1223.6	1223.5
15°	1231.4	1228.8	1226.2	1223.7	1221.1	1216.6	1210.1	1203.6	1197.0	1190.5	1189.4
17.5°	1201.8	1198.9	1195.9	1192.9	1189.9	1184.3	1176.0	1167.7	1159.4	1151.2	1148.7
20°	1180.1	1176.3	1172.6	1168.9	1165.2	1158.9	1150.0	1141.2	1132.4	1123.5	1120.5
22.5°	1155.8	1151.5	1147.2	1142.9	1138.6	1131.8	1122.4	1113.0	1103.6	1094.2	1090.4
25°	1120.4	1114.6	1108.7	1102.9	1097.1	1088.8	1078.1	1067.4	1056.7	1046.0	1041.1
27.5°	1077.4	1071.0	1064.6	1058.2	1051.8	1042.6	1030.7	1018.8	1006.8	994.9	988.1
30°	1048.1	1041.1	1034.2	1027.2	1020.2	1010.2	997.2	984.1	971.1	958.1	950.2
32.5°	1018.8	1010.9	1003.0	995.1	987.2	976.3	962.5	948.8	935.0	921.2	912.6
35°	969.6	961.2	952.8	944.5	936.1	924.7	910.3	895.8	881.4	867.0	857.0
37.5°	919.8	910.4	901.1	891.8	882.5	870.2	854.8	839.4	824.0	808.6	797.2
40°	887.9	877.7	867.4	857.2	847.0	833.6	817.1	800.6	784.0	767.5	755.4
42.5°	851.9	841.7	831.4	821.2	811.0	797.3	780.2	763.1	746.1	729.0	715.8
45°	796.8	786.4	775.9	765.4	754.9	740.8	722.8	704.9	687.0	669.1	655.8
47.5°	741.8	730.3	718.8	707.3	695.8	681.1	663.2	645.2	627.3	609.4	595.0
50°	701.5	690.6	679.7	668.7	657.8	642.9	624.1	605.2	586.4	567.5	553.1
52.5°	665.5	653.7	641.8	629.9	618.1	602.8	584.1	565.5	546.8	528.1	513.2
55°	605.2	593.8	582.4	571.0	559.6	544.0	524.2	504.5	484.7	464.9	451.4
57.5°	549.5	537.1	524.7	512.2	499.8	483.7	463.8	443.9	424.0	404.2	391.4
60°	511.0	498.2	485.4	472.6	459.8	443.7	424.4	405.1	385.8	366.5	353.9
62.5°	472.4	459.6	446.8	434.0	421.3	405.2	385.9	366.6	347.3	327.9	316.1
65°	413.6	400.8	388.0	375.2	362.4	346.9	328.8	310.6	292.5	274.3	262.9
67.5°	354.8	341.8	328.9	315.9	303.0	287.8	270.4	253.0	235.6	218.2	209.7
70°	316.2	303.7	291.1	278.5	266.0	251.5	235.2	219.0	202.7	186.4	178.2
72.5°	277.7	265.3	252.9	240.5	228.2	214.6	199.8	185.0	170.2	155.4	148.7
75°	218.8	207.7	196.5	185.3	174.2	162.2	149.4	136.6	123.8	111.0	108.7
77.5°	165.2	155.1	145.0	134.9	124.8	115.7	107.4	99.2	91.0	82.7	81.5
80°	130.9	121.3	111.8	102.3	92.7	85.5	80.6	75.7	70.9	66.0	65.3
82.5°	98.2	90.0	81.7	73.5	65.3	60.0	57.7	55.4	53.2	50.9	50.2
85°	55.5	50.4	45.3	40.1	35.0	32.1	31.4	30.7	30.0	29.3	28.9
87.5°	20.4	18.9	17.4	15.9	14.5	14.1	14.9	15.6	16.4	17.1	17.2
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



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**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



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1	1291.1
2.5°	1285.9	1288.0	1290.0	1290.9	1290.5	1290.1	1289.7	1289.4
5°	1277.4	1279.5	1281.6	1282.4	1282.0	1281.5	1281.0	1280.6
7.5°	1259.5	1260.6	1261.8	1262.0	1261.2	1260.4	1259.6	1258.8
10°	1243.4	1243.6	1243.8	1243.4	1242.2	1241.0	1239.9	1238.7
12.5°	1223.3	1223.2	1223.1	1222.3	1221.0	1219.6	1218.3	1216.9
15°	1188.2	1187.0	1185.9	1184.5	1182.9	1181.2	1179.6	1178.0
17.5°	1146.2	1143.8	1141.3	1138.9	1136.4	1134.0	1131.6	1129.2
20°	1117.5	1114.4	1111.4	1108.5	1105.7	1102.9	1100.1	1097.3
22.5°	1086.7	1082.9	1079.1	1075.9	1073.3	1070.7	1068.1	1065.5
25°	1036.3	1031.4	1026.5	1022.8	1020.2	1017.6	1015.1	1012.5
27.5°	981.3	974.6	967.8	962.4	958.5	954.6	950.7	946.8
30°	942.3	934.3	926.4	920.6	916.9	913.2	909.4	905.7
32.5°	903.9	895.3	886.6	880.3	876.4	872.5	868.6	864.7
35°	847.0	837.0	827.0	819.9	815.7	811.5	807.3	803.1
37.5°	785.8	774.5	763.1	754.9	749.7	744.5	739.4	734.2
40°	743.3	731.2	719.1	710.4	705.0	699.7	694.3	689.0
42.5°	702.5	689.3	676.1	667.1	662.3	657.5	652.7	647.9
45°	642.6	629.3	616.0	606.6	601.0	595.4	589.9	584.3
47.5°	580.5	566.1	551.7	542.0	537.0	532.0	527.1	522.1
50°	538.7	524.2	509.8	499.9	494.6	489.2	483.9	478.5
52.5°	498.2	483.2	468.2	458.3	453.5	448.7	443.9	439.1
55°	437.9	424.4	410.9	401.8	397.2	392.5	387.9	383.2
57.5°	378.7	365.9	353.2	344.8	340.9	336.9	332.9	329.0
60°	341.3	328.8	316.2	308.0	304.0	300.0	296.1	292.1
62.5°	304.3	292.5	280.7	272.7	268.5	264.4	260.3	256.1
65°	251.5	240.1	228.7	221.7	219.2	216.6	214.1	211.5
67.5°	201.2	192.7	184.1	178.5	175.8	173.0	170.3	167.5
70°	170.1	161.9	153.8	148.5	145.9	143.3	140.8	138.2
72.5°	142.1	135.4	128.8	124.9	123.8	122.8	121.7	120.6
75°	106.3	104.0	101.7	100.3	99.8	99.4	98.9	98.4
77.5°	80.2	78.9	77.7	76.8	76.4	75.9	75.4	75.0
80°	64.6	63.9	63.2	62.6	62.1	61.7	61.2	60.7
82.5°	49.5	48.8	48.1	47.7	47.6	47.5	47.4	47.3
85°	28.4	27.9	27.5	27.2	27.2	27.2	27.2	27.2
87.5°	17.2	17.2	17.3	17.3	17.2	17.1	17.1	17.0
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: P332445

CATALOG NUMBER: S123RDIW-S775D1320U835-4F0-1E-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)