

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: P332449-940

Luminaire Tested: **S123RDIW-S775D1535U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332449-940  
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-S775D1535U940-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7348.5 lumens  
Efficiency: N/A  
Efficacy: 107.9 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: Semi-Indirect

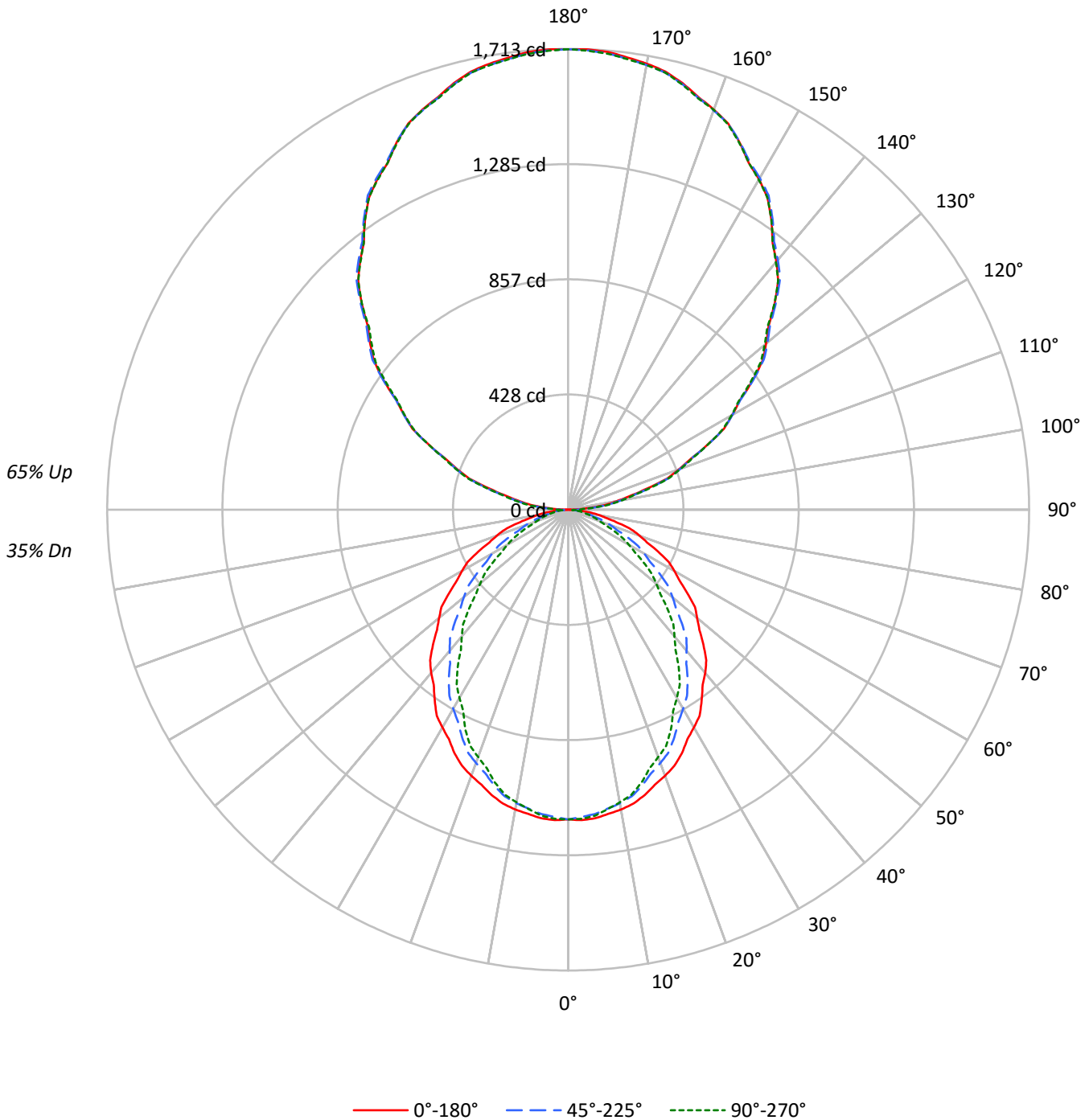
Input Watts (W): 68.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	94	94	94	94	75	75	75		58	58	58		43	43	43	35
1	95	91	87	84	86	82	79	76	66	64	62		52	50	49		38	37	37	30
2	86	79	73	69	78	72	67	63	58	55	52		46	43	41		34	32	31	26
3	79	70	63	57	71	64	58	53	52	47	44		40	37	35		30	28	27	22
4	72	62	54	49	65	56	50	45	46	41	37		36	33	30		27	25	23	19
5	66	55	47	42	60	50	43	38	41	36	32		32	29	26		24	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28		29	26	23		22	20	18	15
7	56	45	37	32	51	41	34	29	34	28	25		27	23	20		20	18	16	13
8	52	40	33	28	47	37	30	26	31	26	22		24	21	18		19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20		22	19	16		17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18		21	17	15		16	14	12	10

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

	0°	45°	90°
0°	12392	12392	12392
5°	12440	12268	12338
10°	12369	12114	12073
15°	12237	11830	11705
20°	12054	11475	11208
25°	11866	11077	10723
30°	11616	10618	10038
35°	11361	10159	9410
40°	11126	9617	8633
45°	10816	9082	7931
50°	10474	8473	7145
55°	10128	7781	6412
60°	9810	7035	5608
65°	9393	6230	4804
70°	8875	5231	3877
75°	8114	4117	3647
80°	7234	3651	3353
85°	6113	3223	3001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.1	1.5
10°-20°	300.8	4.1
20°-30°	433.1	5.9
30°-40°	487.9	6.6
40°-50°	466.7	6.4
50°-60°	382.2	5.2
60°-70°	257.9	3.5
70°-80°	129.7	1.8
80°-90°	39.4	0.5
90°-100°	111.5	1.5
100°-110°	333.8	4.5
110°-120°	567.7	7.7
120°-130°	746.7	10.2
130°-140°	839.3	11.4
140°-150°	825.0	11.2
150°-160°	694.5	9.5
160°-170°	462.3	6.3
170°-180°	161.9	2.2
0°-30°	842.0	11.5
0°-40°	1329.9	18.1
0°-60°	2178.8	29.7
0°-90°	2605.8	35.5
90°-120°	1013.0	13.8
90°-150°	3423.9	46.6
90°-180°	4743.0	64.5
0°-180°	7348.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1151	1151	1151	1151	1151	
5°	1151	1146	1135	1143	1142	109
15°	1098	1087	1062	1057	1050	309
25°	999	975	933	914	903	459
35°	865	830	773	734	716	541
45°	710	667	597	545	521	548
55°	540	492	415	362	342	484
65°	369	316	245	201	189	365
75°	195	150	99	90	88	208
85°	50	30	26	24	24	56
90°	1	15	32	38	40	7
95°	79	89	100	105	105	89
105°	303	306	317	318	320	324
115°	572	575	573	574	573	565
125°	836	840	838	832	827	746
135°	1085	1093	1092	1087	1084	836
145°	1316	1319	1323	1322	1316	822
155°	1507	1507	1509	1513	1505	694
165°	1642	1638	1638	1645	1636	463
175°	1708	1703	1702	1709	1701	162
180°	1712	1712	1712	1712	1712	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1154.9	1154.3	1153.6	1153.0	1152.4	1151.0	1149.0	1147.0	1145.0	1143.0	1144.9
5°	1151.3	1150.2	1149.1	1148.2	1147.1	1145.3	1142.8	1140.3	1137.8	1135.4	1137.2
7.5°	1140.6	1139.5	1138.4	1137.2	1136.1	1133.9	1130.7	1127.5	1124.3	1121.0	1122.0
10°	1131.7	1130.2	1128.7	1127.3	1125.8	1123.2	1119.5	1115.8	1112.1	1108.3	1108.5
12.5°	1118.9	1117.3	1115.7	1114.1	1112.5	1109.4	1104.8	1100.3	1095.6	1091.1	1091.0
15°	1098.1	1095.7	1093.4	1091.2	1088.9	1084.9	1079.1	1073.3	1067.4	1061.6	1060.6
17.5°	1071.7	1069.1	1066.4	1063.7	1061.0	1056.1	1048.7	1041.3	1033.8	1026.5	1024.3
20°	1052.3	1048.9	1045.6	1042.3	1039.0	1033.4	1025.5	1017.6	1009.8	1001.8	999.2
22.5°	1030.6	1026.8	1023.0	1019.1	1015.3	1009.2	1000.9	992.5	984.1	975.7	972.3
25°	999.1	993.9	988.6	983.5	978.3	970.9	961.4	951.8	942.3	932.7	928.4
27.5°	960.7	955.0	949.3	943.6	937.9	929.7	919.1	908.5	897.8	887.2	881.1
30°	934.6	928.4	922.2	916.0	909.7	900.8	889.2	877.5	865.9	854.3	847.3
32.5°	908.5	901.4	894.4	887.3	880.3	870.6	858.3	846.1	833.7	821.4	813.8
35°	864.6	857.1	849.6	842.2	834.7	824.6	811.7	798.8	786.0	773.1	764.2
37.5°	820.2	811.8	803.5	795.2	786.9	776.0	762.2	748.5	734.8	721.0	710.9
40°	791.8	782.7	773.5	764.4	755.3	743.3	728.6	713.9	699.1	684.4	673.6
42.5°	759.6	750.6	741.4	732.3	723.2	711.0	695.7	680.5	665.3	650.1	638.3
45°	710.5	701.2	691.9	682.5	673.2	660.6	644.5	628.6	612.6	596.6	584.8
47.5°	661.5	651.2	641.0	630.7	620.5	607.3	591.4	575.3	559.4	543.4	530.6
50°	625.5	615.8	606.1	596.3	586.6	573.3	556.5	539.7	522.9	506.0	493.2
52.5°	593.4	582.9	572.3	561.7	551.2	537.5	520.8	504.3	487.6	470.9	457.6
55°	539.7	529.5	519.3	509.2	499.0	485.1	467.4	449.9	432.2	414.6	402.5
57.5°	490.0	478.9	467.9	456.7	445.7	431.3	413.6	395.8	378.1	360.4	349.0
60°	455.7	444.3	432.8	421.4	410.0	395.7	378.4	361.2	344.0	326.8	315.6
62.5°	421.2	409.8	398.4	387.0	375.7	361.3	344.1	326.9	309.7	292.4	281.9
65°	368.8	357.4	346.0	334.6	323.2	309.3	293.2	277.0	260.8	244.6	234.4
67.5°	316.4	304.8	293.3	281.7	270.2	256.6	241.1	225.6	210.1	194.6	187.0
70°	282.0	270.8	259.6	248.3	237.2	224.3	209.7	195.3	180.7	166.2	158.9
72.5°	247.6	236.6	225.5	214.5	203.5	191.4	178.2	165.0	151.8	138.6	132.6
75°	195.1	185.2	175.2	165.2	155.3	144.6	133.2	121.8	110.4	99.0	96.9
77.5°	147.3	138.3	129.3	120.3	111.3	103.2	95.8	88.5	81.1	73.7	72.7
80°	116.7	108.2	99.7	91.2	82.7	76.2	71.9	67.5	63.2	58.9	58.2
82.5°	87.6	80.3	72.9	65.5	58.2	53.5	51.5	49.4	47.4	45.4	44.8
85°	49.5	44.9	40.4	35.8	31.2	28.6	28.0	27.4	26.8	26.1	25.8
87.5°	18.2	16.9	15.8	14.5	13.3	13.0	13.8	14.6	15.4	16.1	16.2
90°	1.3	4.4	7.3	10.3	13.3	16.8	20.6	24.5	28.4	32.3	33.4
92.5°	32.5	34.6	36.6	38.6	40.7	42.8	45.0	47.2	49.4	51.6	52.6
95°	79.4	81.4	83.6	85.6	87.7	90.0	92.3	94.7	97.1	99.5	100.7
97.5°	140.9	142.5	144.0	145.6	147.1	148.7	150.5	152.2	154.0	155.7	157.1
100°	182.9	184.7	186.5	188.2	190.0	191.7	193.1	194.7	196.2	197.7	198.6
102.5°	231.3	232.4	233.4	234.5	235.6	237.1	239.1	241.0	243.0	245.0	245.9
105°	302.6	303.2	303.7	304.3	305.0	306.6	309.2	311.9	314.7	317.4	317.4
107.5°	385.4	385.8	386.1	386.5	386.8	387.5	388.6	389.7	390.7	391.8	392.8
110°	437.0	437.7	438.2	438.8	439.4	440.0	440.6	441.2	441.8	442.4	443.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	490.8	491.2	491.5	491.9	492.2	492.5	492.6	492.7	492.8	492.9	494.4
115°	571.5	572.4	573.3	574.2	575.1	575.2	574.6	574.0	573.5	572.8	573.1
117.5°	652.7	653.3	653.9	654.5	655.1	655.0	654.2	653.4	652.6	651.9	651.8
120°	703.3	705.1	706.9	708.6	710.4	710.6	709.1	707.6	706.1	704.6	704.3
122.5°	756.0	757.2	758.6	759.9	761.3	761.5	760.7	759.9	759.2	758.4	757.6
125°	836.3	837.2	838.2	839.1	840.0	840.1	839.5	838.9	838.3	837.8	836.5
127.5°	910.6	912.5	914.4	916.3	918.3	918.9	918.2	917.6	916.9	916.2	914.5
130°	960.1	962.5	964.8	967.2	969.6	970.4	969.5	968.6	967.7	966.8	965.6
132.5°	1009.6	1011.9	1014.3	1016.7	1019.1	1020.0	1019.3	1018.7	1018.0	1017.4	1015.9
135°	1085.1	1086.9	1088.7	1090.5	1092.3	1093.1	1092.8	1092.4	1092.2	1091.9	1090.7
137.5°	1155.0	1156.5	1158.1	1159.6	1161.0	1162.2	1163.0	1163.7	1164.5	1165.3	1164.0
140°	1203.5	1205.0	1206.5	1207.9	1209.4	1210.3	1210.7	1210.9	1211.2	1211.6	1211.2
142.5°	1247.6	1249.0	1250.5	1252.1	1253.6	1254.5	1255.1	1255.6	1256.2	1256.7	1256.4
145°	1316.4	1317.1	1317.6	1318.2	1318.8	1319.6	1320.4	1321.3	1322.2	1323.1	1322.9
147.5°	1376.6	1377.7	1378.8	1379.9	1381.0	1381.9	1382.8	1383.6	1384.4	1385.3	1385.3
150°	1418.6	1419.2	1419.8	1420.4	1421.0	1421.6	1422.2	1422.8	1423.3	1424.0	1424.0
152.5°	1453.0	1453.8	1454.7	1455.5	1456.3	1457.0	1457.3	1457.7	1458.0	1458.4	1458.9
155°	1507.3	1507.3	1507.3	1507.3	1507.3	1507.5	1507.8	1508.1	1508.4	1508.7	1509.9
157.5°	1553.6	1553.3	1552.9	1552.6	1552.2	1552.1	1552.4	1552.6	1552.8	1553.1	1554.3
160°	1582.7	1582.1	1581.4	1580.8	1580.3	1579.9	1579.9	1579.9	1579.9	1579.9	1581.4
162.5°	1608.5	1607.7	1606.8	1606.0	1605.2	1604.8	1605.1	1605.3	1605.5	1605.8	1607.3
165°	1641.8	1640.9	1640.0	1639.1	1638.3	1637.8	1637.8	1637.8	1637.8	1637.8	1639.6
167.5°	1668.5	1667.2	1666.1	1664.8	1663.7	1663.2	1663.4	1663.7	1663.9	1664.1	1666.0
170°	1683.5	1682.3	1681.1	1679.9	1678.7	1678.1	1678.1	1678.1	1678.1	1678.1	1680.3
172.5°	1695.3	1694.2	1692.9	1691.8	1690.6	1690.0	1690.0	1690.0	1690.0	1690.0	1691.8
175°	1707.7	1706.6	1705.3	1704.1	1702.9	1702.4	1702.4	1702.4	1702.4	1702.4	1704.1
177.5°	1712.8	1711.9	1710.9	1709.9	1709.0	1708.5	1708.5	1708.5	1708.5	1708.5	1709.9
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1146.7	1148.5	1150.3	1151.1	1150.8	1150.4	1150.0	1149.8
5°	1139.1	1140.9	1142.8	1143.5	1143.2	1142.7	1142.3	1141.9
7.5°	1123.1	1124.1	1125.2	1125.3	1124.6	1123.9	1123.2	1122.5
10°	1108.8	1108.9	1109.1	1108.8	1107.7	1106.6	1105.6	1104.6
12.5°	1090.8	1090.7	1090.7	1089.9	1088.8	1087.5	1086.4	1085.1
15°	1059.5	1058.5	1057.5	1056.2	1054.8	1053.3	1051.9	1050.4
17.5°	1022.1	1019.9	1017.7	1015.6	1013.3	1011.2	1009.1	1006.9
20°	996.5	993.7	991.0	988.5	986.0	983.5	981.0	978.5
22.5°	969.0	965.6	962.2	959.4	957.1	954.8	952.4	950.1
25°	924.1	919.7	915.3	912.0	909.7	907.4	905.2	902.9
27.5°	875.0	869.1	863.0	858.2	854.7	851.2	847.7	844.3
30°	840.3	833.1	826.1	820.9	817.6	814.3	810.9	807.6
32.5°	806.0	798.3	790.6	785.0	781.5	778.0	774.5	771.1
35°	755.3	746.4	737.4	731.1	727.4	723.6	719.9	716.1
37.5°	700.7	690.6	680.5	673.2	668.5	663.9	659.3	654.7
40°	662.8	652.0	641.2	633.5	628.7	623.9	619.1	614.4
42.5°	626.4	614.7	602.9	594.9	590.6	586.3	582.0	577.7
45°	573.0	561.2	549.3	540.9	535.9	530.9	526.0	521.0
47.5°	517.6	504.8	492.0	483.3	478.8	474.4	470.0	465.6
50°	480.4	467.4	454.6	445.8	441.0	436.2	431.5	426.7
52.5°	444.3	430.9	417.5	408.7	404.4	400.1	395.8	391.6
55°	390.5	378.4	366.4	358.3	354.2	350.0	345.9	341.7
57.5°	337.7	326.3	315.0	307.5	304.0	300.4	296.9	293.4
60°	304.3	293.2	282.0	274.6	271.1	267.5	264.0	260.5
62.5°	271.3	260.8	250.3	243.2	239.4	235.8	232.1	228.4
65°	224.3	214.1	203.9	197.7	195.5	193.1	190.9	188.6
67.5°	179.4	171.8	164.2	159.2	156.8	154.3	151.9	149.4
70°	151.7	144.4	137.1	132.4	130.1	127.8	125.6	123.2
72.5°	126.7	120.7	114.9	111.4	110.4	109.5	108.5	107.5
75°	94.8	92.7	90.7	89.4	89.0	88.6	88.2	87.7
77.5°	71.5	70.4	69.3	68.5	68.1	67.7	67.2	66.9
80°	57.6	57.0	56.4	55.8	55.4	55.0	54.6	54.1
82.5°	44.1	43.5	42.9	42.5	42.4	42.4	42.3	42.2
85°	25.3	24.9	24.5	24.3	24.3	24.3	24.3	24.3
87.5°	16.3	16.4	16.5	16.5	16.4	16.4	16.3	16.3
90°	34.7	35.8	37.1	38.0	38.5	39.1	39.8	40.3
92.5°	53.5	54.5	55.5	55.7	55.4	55.0	54.7	54.3
95°	101.9	103.1	104.2	104.9	104.9	104.9	104.9	104.9
97.5°	158.5	159.8	161.2	161.8	161.8	161.6	161.5	161.4
100°	199.5	200.4	201.3	202.0	202.6	203.2	203.8	204.4
102.5°	246.8	247.7	248.6	249.0	248.9	248.7	248.6	248.5
105°	317.4	317.4	317.4	317.6	318.3	318.9	319.4	320.0
107.5°	393.8	394.7	395.7	395.9	395.6	395.2	394.8	394.5
110°	444.8	445.9	447.2	447.5	446.8	446.3	445.7	445.1





TEST NUMBER: P332449-940

CATALOG NUMBER: S123RDIW-S775D1535U940-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	495.8	497.2	498.6	499.4	499.3	499.1	499.0	498.8
115°	573.5	573.7	574.0	574.0	573.7	573.5	573.1	572.8
117.5°	651.8	651.8	651.7	651.2	650.3	649.5	648.7	647.8
120°	704.0	703.7	703.4	702.9	702.4	701.8	701.2	700.5
122.5°	756.8	756.1	755.3	754.5	753.7	752.8	752.0	751.1
125°	835.4	834.1	832.9	831.7	830.5	829.4	828.1	827.0
127.5°	912.9	911.2	909.5	908.0	906.7	905.3	903.9	902.5
130°	964.4	963.2	962.1	960.4	958.3	956.2	954.1	952.0
132.5°	1014.5	1013.1	1011.6	1010.1	1008.5	1006.9	1005.2	1003.6
135°	1089.5	1088.2	1087.1	1086.2	1085.6	1084.9	1084.4	1083.8
137.5°	1162.8	1161.5	1160.3	1159.0	1157.9	1156.8	1155.7	1154.5
140°	1210.9	1210.7	1210.3	1209.2	1207.0	1205.0	1202.8	1200.8
142.5°	1256.2	1255.8	1255.5	1254.5	1252.9	1251.3	1249.7	1248.1
145°	1322.5	1322.2	1322.0	1321.2	1320.0	1318.8	1317.6	1316.4
147.5°	1385.3	1385.3	1385.3	1384.4	1382.6	1380.8	1378.9	1377.2
150°	1424.0	1424.0	1424.0	1423.1	1421.3	1419.5	1417.7	1415.9
152.5°	1459.4	1459.8	1460.4	1459.8	1458.2	1456.7	1455.1	1453.6
155°	1511.1	1512.3	1513.5	1513.1	1510.9	1508.9	1506.7	1504.7
157.5°	1555.6	1556.8	1558.1	1557.9	1556.2	1554.5	1552.8	1551.2
160°	1583.0	1584.5	1585.9	1586.1	1584.9	1583.7	1582.5	1581.3
162.5°	1608.7	1610.3	1611.8	1611.6	1609.6	1607.8	1605.8	1603.9
165°	1641.4	1643.2	1644.9	1644.8	1642.7	1640.7	1638.5	1636.5
167.5°	1667.9	1669.7	1671.5	1671.5	1669.7	1667.9	1666.0	1664.1
170°	1682.3	1684.4	1686.5	1686.5	1684.4	1682.3	1680.3	1678.1
172.5°	1693.6	1695.5	1697.4	1697.3	1695.1	1693.1	1691.0	1688.9
175°	1705.9	1707.7	1709.5	1709.3	1707.3	1705.1	1703.1	1701.0
177.5°	1711.4	1712.8	1714.2	1714.1	1712.4	1710.7	1709.1	1707.4
180°	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7	1711.7

(END OF REPORT)