

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: P331835-940

Luminaire Tested: **S122RDIW-S865D970U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331835-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S865D970U940-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 970 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6142.9 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

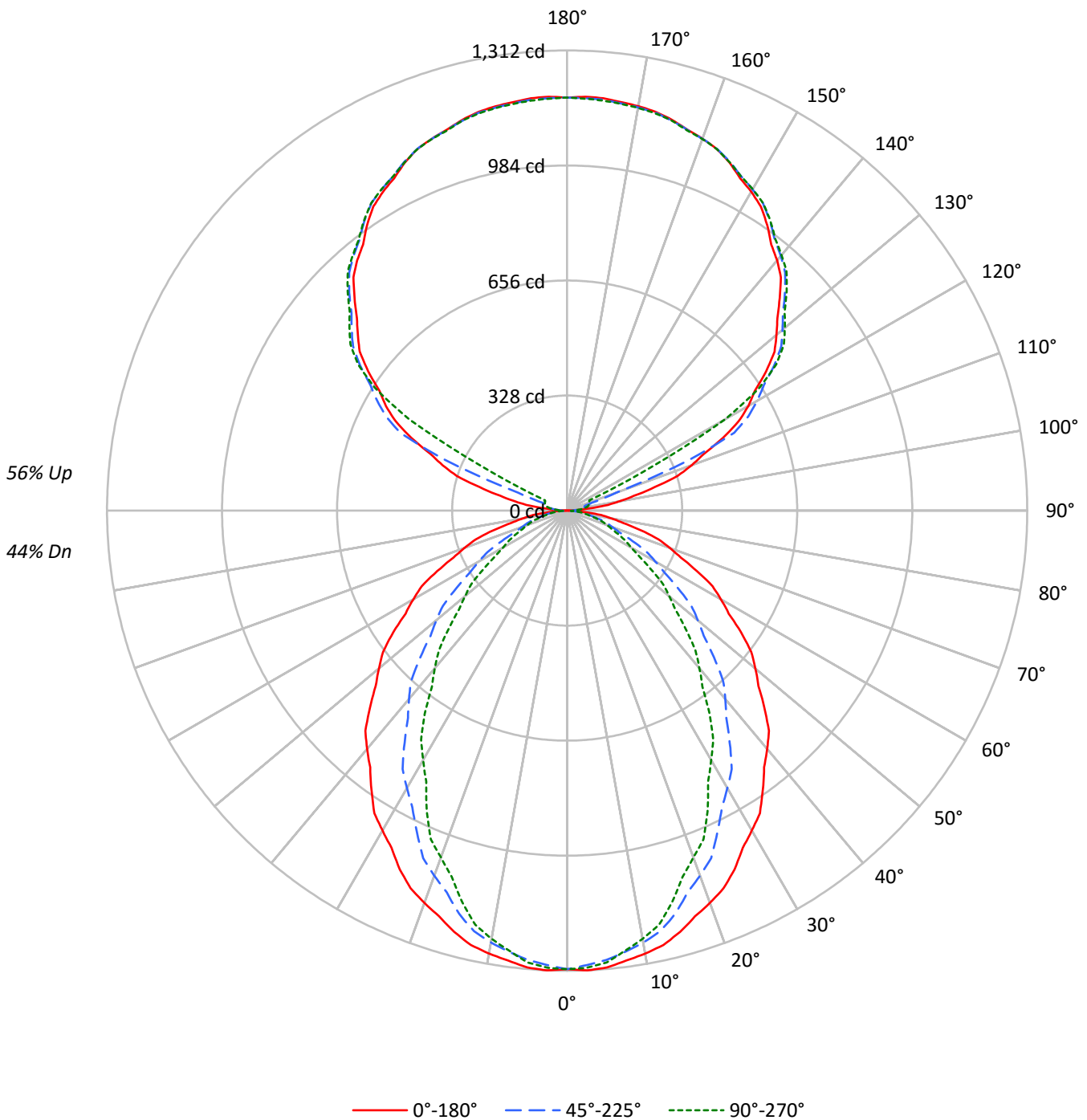
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44								
1	97	93	89	86	88	85	82	79	71	68	66	57	56	55	45	44	43	38								
2	88	81	76	71	81	75	70	65	62	59	56	51	48	46	40	39	37	32								
3	81	72	65	59	74	66	60	55	55	51	47	45	42	40	36	34	32	28								
4	74	64	56	50	68	59	52	47	49	45	41	41	37	34	33	30	28	24								
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25	21								
6	63	51	44	38	58	47	41	36	40	35	31	33	29	26	27	24	22	19								
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20	17								
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18	15								
9	50	39	31	26	46	36	29	25	31	26	22	26	22	19	21	18	16	14								
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	20	17	15	13								

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

	0°	45°	90°
0°	21111	21111	21111
5°	21191	20846	20960
10°	21028	20505	20330
15°	20787	19896	19323
20°	20452	19029	18076
25°	20110	18045	16864
30°	19634	17031	15310
35°	19170	15930	13947
40°	18704	14790	12370
45°	18155	13511	10942
50°	17595	12215	9540
55°	17022	10826	8194
60°	16353	9361	6801
65°	15595	7866	6193
70°	14691	6477	5693
75°	13587	5908	5315
80°	11985	5281	4844
85°	9429	4168	4168



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.4	2.0
10°-20°	336.0	5.5
20°-30°	471.9	7.7
30°-40°	514.6	8.4
40°-50°	473.1	7.7
50°-60°	371.6	6.0
60°-70°	242.3	3.9
70°-80°	124.9	2.0
80°-90°	35.3	0.6
90°-100°	39.3	0.6
100°-110°	144.0	2.3
110°-120°	385.0	6.3
120°-130°	635.6	10.3
130°-140°	675.9	11.0
140°-150°	628.3	10.2
150°-160°	505.1	8.2
160°-170°	325.5	5.3
170°-180°	112.0	1.8
0°-30°	930.3	15.1
0°-40°	1444.9	23.5
0°-60°	2289.6	37.3
0°-90°	2692.1	43.8
90°-120°	568.4	9.3
90°-150°	2508.2	40.8
90°-180°	3451.0	56.2
0°-180°	6142.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1308	1301	1286	1296	1293	124
15°	1244	1229	1190	1168	1156	350
25°	1129	1089	1013	966	947	519
35°	973	910	808	736	708	608
45°	795	713	592	511	479	614
55°	605	510	385	316	291	540
65°	408	312	206	168	162	405
75°	218	137	95	87	85	230
85°	51	27	22	22	22	60
90°	1	10	17	21	23	5
95°	55	29	33	37	37	68
105°	259	270	52	61	65	277
115°	490	505	526	150	70	482
125°	693	704	720	726	728	617
135°	857	870	878	886	885	662
145°	994	994	1008	1013	1010	622
155°	1095	1088	1097	1102	1096	504
165°	1154	1149	1151	1156	1151	326
175°	1180	1175	1176	1181	1173	112
180°	1178	1178	1178	1178	1178	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1312.2	1311.2	1310.1	1309.0	1308.1	1306.4	1304.0	1301.7	1299.4	1297.1	1299.2
5°	1307.5	1306.2	1304.8	1303.5	1302.3	1299.8	1296.5	1293.1	1289.6	1286.2	1288.5
7.5°	1294.0	1292.4	1290.8	1289.1	1287.5	1284.7	1280.7	1276.7	1272.6	1268.6	1269.4
10°	1282.6	1280.8	1279.0	1277.1	1275.2	1271.8	1266.5	1261.2	1256.0	1250.7	1249.9
12.5°	1268.5	1266.1	1263.9	1261.7	1259.4	1254.9	1248.1	1241.4	1234.7	1228.0	1226.5
15°	1243.6	1240.7	1237.8	1234.9	1232.0	1226.1	1217.2	1208.3	1199.3	1190.3	1185.4
17.5°	1213.1	1208.6	1204.3	1199.8	1195.4	1187.5	1176.0	1164.5	1153.1	1141.6	1135.7
20°	1190.3	1185.1	1179.8	1174.6	1169.3	1160.1	1146.9	1133.8	1120.7	1107.5	1100.9
22.5°	1165.7	1159.8	1154.0	1148.1	1142.2	1131.8	1117.0	1102.2	1087.4	1072.5	1064.0
25°	1128.8	1120.4	1112.0	1103.6	1095.2	1082.3	1064.9	1047.6	1030.2	1012.9	1002.1
27.5°	1084.3	1075.1	1066.0	1056.9	1047.8	1033.4	1013.8	994.3	974.6	955.1	942.5
30°	1053.1	1043.1	1033.1	1023.1	1013.2	997.6	976.6	955.6	934.5	913.5	900.1
32.5°	1022.8	1011.1	999.4	987.7	976.1	959.6	938.1	916.6	895.2	873.7	858.4
35°	972.6	959.2	945.8	932.4	919.0	900.7	877.5	854.4	831.3	808.2	791.6
37.5°	922.5	907.8	893.0	878.2	863.5	843.8	819.2	794.5	769.9	745.2	726.9
40°	887.4	871.6	855.9	840.1	824.3	803.7	778.2	752.7	727.2	701.7	683.0
42.5°	851.5	834.8	818.2	801.6	785.0	763.5	737.2	710.8	684.5	658.1	638.8
45°	795.1	777.5	759.9	742.3	724.7	702.0	674.5	646.8	619.2	591.7	572.9
47.5°	740.2	721.6	702.9	684.2	665.6	641.9	613.5	585.0	556.4	528.0	509.4
50°	700.5	681.8	663.2	644.4	625.8	602.0	573.1	544.1	515.2	486.3	468.1
52.5°	661.6	642.1	622.7	603.2	583.6	559.7	531.5	503.1	474.8	446.6	429.0
55°	604.7	584.2	563.7	543.1	522.6	498.1	469.8	441.3	413.0	384.6	368.8
57.5°	546.2	525.1	504.1	483.0	462.1	437.9	410.5	383.3	356.0	328.7	314.2
60°	506.4	485.4	464.4	443.4	422.3	398.2	371.1	344.0	317.0	289.9	276.5
62.5°	467.6	446.6	425.5	404.5	383.4	360.1	334.2	308.4	282.6	256.7	244.0
65°	408.2	386.9	365.6	344.3	323.1	300.5	276.9	253.2	229.5	205.9	197.0
67.5°	351.0	329.8	308.7	287.5	266.4	245.1	223.9	202.6	181.3	160.0	155.9
70°	311.2	290.7	270.2	249.7	229.2	209.8	191.7	173.5	155.4	137.2	134.6
72.5°	273.3	253.7	234.0	214.4	194.7	177.5	163.0	148.4	133.8	119.3	117.1
75°	217.8	199.3	180.9	162.5	144.1	130.5	121.5	112.5	103.6	94.7	92.8
77.5°	163.1	146.9	130.7	114.6	98.4	88.3	83.9	79.6	75.3	71.0	69.9
80°	128.9	115.6	102.2	88.7	75.3	67.3	64.6	62.1	59.4	56.8	55.7
82.5°	97.7	87.3	76.8	66.3	55.9	49.8	48.0	46.2	44.4	42.6	42.0
85°	50.9	45.4	39.9	34.3	28.8	25.7	24.9	24.1	23.3	22.5	22.5
87.5°	15.3	14.1	12.8	11.5	10.3	9.8	10.1	10.3	10.7	11.0	11.0
90°	0.9	2.9	5.0	7.1	9.2	11.0	12.5	14.0	15.5	17.0	18.0
92.5°	17.2	17.0	16.9	16.7	16.5	16.8	17.5	18.3	19.0	19.8	20.2
95°	55.4	49.1	42.9	36.6	30.4	27.9	29.2	30.6	31.9	33.3	34.2
97.5°	109.9	92.3	74.7	57.1	39.5	32.2	35.3	38.3	41.4	44.5	45.2
100°	150.8	124.8	98.9	73.0	47.1	35.7	38.9	42.1	45.4	48.6	50.1
102.5°	195.8	190.3	184.9	179.3	173.8	157.7	130.7	103.8	76.9	49.9	51.9
105°	259.0	264.7	270.4	276.1	281.8	258.8	207.1	155.3	103.7	52.0	54.0
107.5°	331.1	335.7	340.3	344.8	349.5	320.7	258.8	196.7	134.7	72.8	70.6
110°	377.5	381.5	385.4	389.4	393.3	368.0	313.3	258.6	203.8	149.1	130.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.1	424.6	428.1	431.7	435.2	430.2	416.7	403.1	389.6	376.1	307.0
115°	489.9	493.1	496.4	499.6	502.8	506.8	511.5	516.2	521.0	525.8	438.0
117.5°	551.4	555.1	558.7	562.2	565.9	569.3	572.6	575.8	579.1	582.3	561.1
120°	596.5	599.3	602.1	604.9	607.8	610.9	614.3	617.8	621.2	624.6	626.9
122.5°	634.6	637.6	640.6	643.5	646.6	650.0	653.6	657.4	661.0	664.8	666.1
125°	692.7	695.2	697.7	700.1	702.6	705.6	709.2	712.8	716.4	720.0	721.3
127.5°	745.4	748.1	750.8	753.6	756.3	759.0	761.7	764.4	767.0	769.7	771.7
130°	778.8	781.9	784.9	787.8	790.9	793.4	795.5	797.6	799.7	801.8	803.9
132.5°	812.9	815.5	818.1	820.6	823.1	825.5	827.6	829.6	831.7	833.8	835.6
135°	857.2	860.2	863.3	866.3	869.3	871.6	873.3	875.0	876.7	878.5	880.4
137.5°	902.0	904.1	906.2	908.4	910.4	912.5	914.4	916.3	918.3	920.2	922.1
140°	931.3	932.8	934.3	935.9	937.4	939.1	941.2	943.3	945.4	947.5	949.2
142.5°	955.8	957.2	958.6	959.9	961.3	963.1	965.5	968.0	970.4	972.7	974.3
145°	994.3	994.2	994.0	993.8	993.6	995.1	998.4	1001.6	1004.8	1008.0	1009.3
147.5°	1028.0	1027.2	1026.4	1025.7	1025.0	1026.3	1029.5	1032.6	1035.8	1039.0	1040.0
150°	1049.7	1048.4	1047.0	1045.8	1044.5	1045.3	1048.3	1051.3	1054.4	1057.4	1058.5
152.5°	1068.2	1066.7	1065.1	1063.7	1062.2	1062.9	1065.8	1068.7	1071.6	1074.4	1075.6
155°	1094.9	1093.1	1091.5	1089.8	1088.1	1088.3	1090.7	1092.9	1095.2	1097.4	1098.6
157.5°	1115.9	1114.5	1112.9	1111.5	1110.1	1110.2	1111.8	1113.4	1114.9	1116.5	1117.8
160°	1128.1	1127.0	1125.9	1124.7	1123.6	1123.6	1124.7	1125.9	1127.0	1128.1	1129.3
162.5°	1139.1	1137.9	1136.8	1135.6	1134.5	1134.4	1135.4	1136.4	1137.4	1138.4	1139.6
165°	1153.7	1152.5	1151.4	1150.3	1149.1	1148.9	1149.4	1150.0	1150.6	1151.1	1152.4
167.5°	1164.6	1163.4	1162.3	1161.2	1160.0	1159.8	1160.3	1160.8	1161.4	1161.9	1163.1
170°	1170.7	1169.6	1168.5	1167.3	1166.2	1165.8	1166.2	1166.5	1167.0	1167.3	1168.7
172.5°	1174.8	1173.7	1172.5	1171.4	1170.3	1169.9	1170.3	1170.6	1171.0	1171.4	1172.8
175°	1180.1	1178.8	1177.4	1176.2	1174.8	1174.3	1174.7	1175.1	1175.5	1175.8	1177.1
177.5°	1181.0	1179.9	1178.8	1177.8	1176.7	1176.3	1176.4	1176.5	1176.7	1176.9	1177.9
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5	1307.5
2.5°	1301.3	1303.4	1305.5	1306.4	1305.9	1305.5	1305.1	1304.7
5°	1290.9	1293.2	1295.7	1296.5	1295.7	1294.9	1294.1	1293.2
7.5°	1270.1	1270.7	1271.4	1271.0	1269.7	1268.4	1266.9	1265.6
10°	1249.1	1248.3	1247.5	1246.3	1244.7	1243.2	1241.6	1240.0
12.5°	1225.1	1223.7	1222.3	1220.3	1217.6	1215.0	1212.4	1209.8
15°	1180.4	1175.4	1170.4	1166.5	1164.0	1161.3	1158.7	1156.0
17.5°	1129.7	1123.7	1117.8	1112.6	1108.0	1103.6	1099.0	1094.5
20°	1094.4	1087.8	1081.2	1075.0	1069.3	1063.5	1057.7	1052.0
22.5°	1055.6	1047.1	1038.7	1032.2	1028.0	1023.6	1019.3	1015.0
25°	991.3	980.5	969.7	962.3	958.4	954.5	950.6	946.6
27.5°	930.0	917.4	904.8	895.5	889.2	882.9	876.6	870.4
30°	886.6	873.3	859.8	849.5	842.5	835.4	828.3	821.2
32.5°	843.1	827.8	812.5	801.5	794.9	788.2	781.5	774.8
35°	775.0	758.5	741.9	730.8	725.0	719.2	713.4	707.6
37.5°	708.7	690.5	672.3	659.8	653.2	646.5	639.9	633.3
40°	664.3	645.7	627.0	614.2	607.4	600.6	593.7	586.9
42.5°	619.6	600.2	580.9	567.9	561.3	554.7	548.0	541.4
45°	554.3	535.7	516.9	504.4	498.1	491.9	485.5	479.2
47.5°	490.8	472.3	453.7	441.6	435.9	430.1	424.4	418.7
50°	450.0	431.9	413.8	401.9	396.4	390.8	385.3	379.8
52.5°	411.5	394.0	376.5	365.2	360.1	355.0	349.9	344.8
55°	353.0	337.2	321.5	311.0	306.0	301.0	296.0	291.1
57.5°	299.8	285.3	270.9	261.5	257.3	253.1	248.9	244.7
60°	263.1	249.7	236.2	227.5	223.2	219.0	214.8	210.6
62.5°	231.2	218.5	205.6	198.0	195.5	193.0	190.4	187.9
65°	188.0	179.1	170.1	165.2	164.4	163.7	162.9	162.1
67.5°	151.8	147.7	143.6	141.1	140.3	139.4	138.6	137.8
70°	132.0	129.4	126.7	124.9	123.9	122.8	121.7	120.6
72.5°	114.9	112.6	110.4	109.1	108.3	107.7	107.1	106.5
75°	91.0	89.2	87.3	86.2	86.0	85.7	85.4	85.2
77.5°	68.9	67.9	66.8	66.1	65.6	65.2	64.8	64.4
80°	54.7	53.7	52.6	52.1	52.1	52.1	52.1	52.1
82.5°	41.4	40.7	40.0	39.8	39.8	39.8	39.8	39.8
85°	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
87.5°	11.0	10.9	10.9	11.0	11.0	11.1	11.1	11.2
90°	18.9	19.9	20.9	21.5	21.8	22.2	22.6	23.0
92.5°	20.8	21.2	21.8	22.1	22.3	22.6	22.7	23.0
95°	35.1	36.1	37.0	37.4	37.2	37.0	36.8	36.6
97.5°	46.0	46.7	47.5	48.0	48.2	48.4	48.7	48.9
100°	51.6	53.1	54.7	55.6	55.9	56.4	56.7	57.1
102.5°	53.9	55.8	57.8	59.0	59.6	60.1	60.6	61.2
105°	56.2	58.2	60.3	61.7	62.5	63.2	64.0	64.7
107.5°	68.5	66.4	64.3	63.6	64.4	65.1	65.9	66.6
110°	111.2	92.3	73.4	64.3	65.0	65.8	66.5	67.3





TEST NUMBER: P331835-940

CATALOG NUMBER: S122RDIW-S865D970U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.9	168.9	99.8	65.5	66.2	66.8	67.4	68.0
115°	350.4	262.7	175.0	124.4	110.8	97.1	83.5	69.9
117.5°	539.8	518.7	497.5	464.5	419.6	374.9	330.1	285.3
120°	629.1	631.3	633.6	622.0	596.5	570.9	545.3	519.8
122.5°	667.5	668.9	670.2	668.4	663.4	658.5	653.5	648.6
125°	722.6	724.0	725.3	726.2	726.8	727.4	727.9	728.5
127.5°	773.6	775.5	777.5	778.5	778.6	778.7	778.8	778.9
130°	805.9	808.1	810.1	811.1	810.8	810.7	810.5	810.3
132.5°	837.4	839.2	841.0	841.8	841.5	841.3	841.2	841.0
135°	882.3	884.1	886.0	886.8	886.4	886.0	885.6	885.3
137.5°	923.9	925.8	927.6	928.3	927.6	926.9	926.3	925.7
140°	950.9	952.6	954.3	954.7	953.8	952.8	951.8	950.9
142.5°	975.8	977.4	978.9	979.2	978.3	977.3	976.4	975.4
145°	1010.7	1012.0	1013.3	1013.5	1012.5	1011.6	1010.7	1009.7
147.5°	1041.0	1042.0	1042.9	1043.0	1042.2	1041.4	1040.6	1039.8
150°	1059.7	1060.8	1061.9	1062.0	1061.1	1060.2	1059.2	1058.3
152.5°	1076.7	1077.8	1079.0	1079.0	1077.7	1076.5	1075.2	1074.0
155°	1099.7	1100.8	1102.0	1101.8	1100.3	1098.8	1097.3	1095.7
157.5°	1119.1	1120.4	1121.7	1121.6	1120.1	1118.7	1117.1	1115.7
160°	1130.4	1131.5	1132.7	1132.6	1131.2	1129.9	1128.6	1127.3
162.5°	1140.9	1142.2	1143.5	1143.4	1141.7	1140.1	1138.4	1136.8
165°	1153.8	1155.1	1156.5	1156.5	1155.1	1153.8	1152.4	1151.1
167.5°	1164.5	1165.8	1167.2	1167.0	1165.3	1163.6	1161.9	1160.2
170°	1170.0	1171.3	1172.6	1172.4	1170.7	1169.0	1167.3	1165.6
172.5°	1174.0	1175.4	1176.7	1176.5	1174.8	1173.1	1171.4	1169.7
175°	1178.5	1179.8	1181.2	1180.9	1178.9	1177.1	1175.2	1173.3
177.5°	1179.0	1180.0	1181.1	1181.0	1179.6	1178.2	1176.9	1175.5
180°	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5	1177.5

(END OF REPORT)