

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: P331835-927

Luminaire Tested: **S122RDIW-S865D970U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331835-927  
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-S865D970U927-4F0-1E-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: 5457.3 lumens  
Efficiency: N/A  
Efficacy: 89.2 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

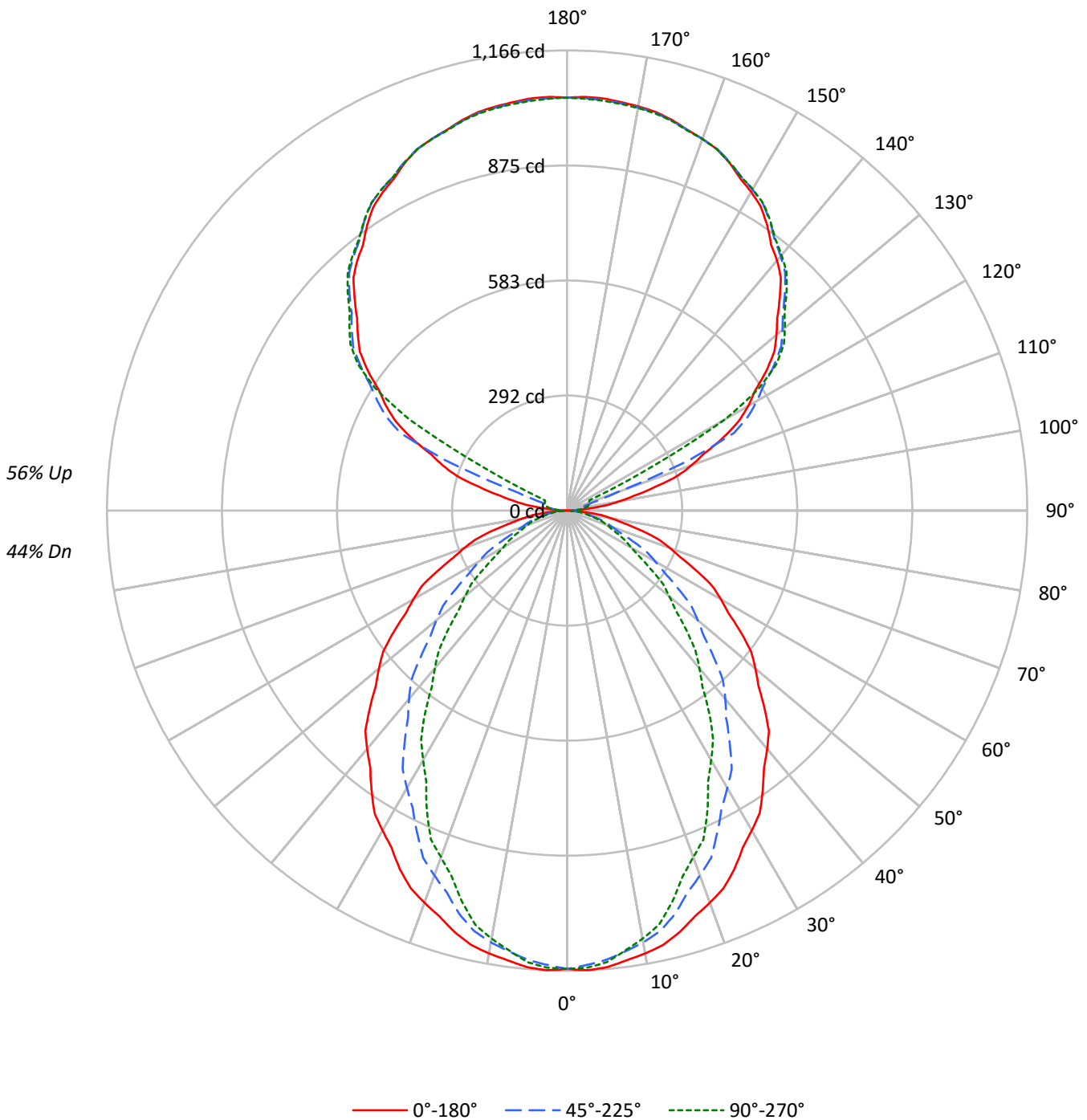
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**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	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°	18755	18755	18755
5°	18827	18519	18621
10°	18682	18216	18061
15°	18467	17677	17167
20°	18170	16905	16057
25°	17865	16030	14982
30°	17443	15129	13601
35°	17030	14152	12390
40°	16617	13139	10989
45°	16130	12001	9720
50°	15631	10854	8475
55°	15122	9619	7279
60°	14528	8315	6042
65°	13857	6988	5501
70°	13053	5755	5061
75°	12071	5246	4722
80°	10646	4695	4305
85°	8373	3705	3705



TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	2.0
10°-20°	298.5	5.5
20°-30°	419.2	7.7
30°-40°	457.1	8.4
40°-50°	420.3	7.7
50°-60°	330.1	6.0
60°-70°	215.2	3.9
70°-80°	111.0	2.0
80°-90°	31.4	0.6
90°-100°	34.9	0.6
100°-110°	128.0	2.3
110°-120°	342.1	6.3
120°-130°	564.7	10.3
130°-140°	600.5	11.0
140°-150°	558.1	10.2
150°-160°	448.7	8.2
160°-170°	289.2	5.3
170°-180°	99.5	1.8
0°-30°	826.5	15.1
0°-40°	1283.6	23.5
0°-60°	2034.0	37.3
0°-90°	2391.6	43.8
90°-120°	504.9	9.3
90°-150°	2228.2	40.8
90°-180°	3066.0	56.2
0°-180°	5457.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1156	1143	1151	1149	110
15°	1105	1092	1058	1038	1027	311
25°	1003	967	900	858	841	461
35°	864	808	718	654	629	541
45°	706	634	526	454	426	545
55°	537	453	342	281	259	480
65°	363	277	183	149	144	359
75°	194	122	84	77	76	205
85°	45	24	20	20	20	53
90°	1	9	15	19	20	4
95°	49	26	30	33	33	60
105°	230	240	46	54	58	246
115°	435	448	467	133	62	428
125°	615	626	640	645	647	549
135°	762	773	780	787	786	588
145°	883	883	896	900	897	552
155°	973	967	975	979	973	448
165°	1025	1021	1023	1027	1023	289
175°	1048	1043	1045	1049	1042	100
180°	1046	1046	1046	1046	1046	



TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1165.8	1164.8	1163.9	1162.9	1162.1	1160.5	1158.5	1156.4	1154.4	1152.3	1154.2
5°	1161.6	1160.4	1159.2	1158.0	1156.9	1154.8	1151.8	1148.7	1145.7	1142.6	1144.7
7.5°	1149.5	1148.1	1146.7	1145.3	1143.8	1141.3	1137.7	1134.2	1130.6	1127.0	1127.7
10°	1139.5	1137.8	1136.2	1134.6	1132.9	1129.8	1125.1	1120.5	1115.8	1111.1	1110.4
12.5°	1126.9	1124.8	1122.8	1120.9	1118.8	1114.8	1108.8	1102.9	1096.9	1090.9	1089.6
15°	1104.8	1102.2	1099.6	1097.1	1094.5	1089.3	1081.3	1073.4	1065.4	1057.5	1053.0
17.5°	1077.7	1073.7	1069.8	1065.9	1062.0	1054.9	1044.7	1034.5	1024.4	1014.2	1008.9
20°	1057.5	1052.8	1048.1	1043.5	1038.8	1030.6	1018.9	1007.3	995.6	983.9	978.0
22.5°	1035.6	1030.4	1025.2	1019.9	1014.7	1005.5	992.3	979.1	966.0	952.8	945.2
25°	1002.8	995.4	987.9	980.4	973.0	961.5	946.0	930.7	915.2	899.8	890.3
27.5°	963.3	955.1	947.1	938.9	930.8	918.1	900.6	883.3	865.9	848.5	837.3
30°	935.6	926.7	917.8	908.9	900.1	886.3	867.6	848.9	830.2	811.5	799.6
32.5°	908.6	898.3	887.9	877.5	867.1	852.5	833.4	814.3	795.3	776.2	762.6
35°	864.0	852.2	840.3	828.3	816.4	800.2	779.6	759.1	738.6	718.0	703.2
37.5°	819.5	806.4	793.4	780.2	767.1	749.6	727.8	705.8	684.0	662.0	645.8
40°	788.4	774.4	760.3	746.3	732.3	714.0	691.3	668.7	646.0	623.4	606.7
42.5°	756.5	741.6	726.9	712.2	697.4	678.3	654.9	631.4	608.1	584.6	567.5
45°	706.4	690.7	675.1	659.4	643.8	623.7	599.2	574.6	550.1	525.6	509.0
47.5°	657.6	641.0	624.5	607.8	591.3	570.3	545.0	519.7	494.3	469.1	452.6
50°	622.3	605.7	589.1	572.5	556.0	534.8	509.1	483.4	457.7	432.1	415.9
52.5°	587.8	570.5	553.2	535.8	518.5	497.3	472.1	446.9	421.8	396.7	381.1
55°	537.2	519.0	500.7	482.5	464.3	442.5	417.3	392.1	366.9	341.7	327.6
57.5°	485.2	466.5	447.8	429.1	410.5	389.0	364.7	340.5	316.2	292.0	279.2
60°	449.9	431.2	412.6	393.9	375.2	353.8	329.7	305.6	281.6	257.5	245.7
62.5°	415.4	396.7	378.0	359.3	340.6	319.9	296.9	274.0	251.0	228.1	216.7
65°	362.7	343.7	324.8	305.9	287.0	267.0	246.0	225.0	203.9	182.9	175.0
67.5°	311.8	293.0	274.3	255.4	236.6	217.8	198.9	180.0	161.1	142.1	138.5
70°	276.5	258.3	240.0	221.8	203.6	186.4	170.3	154.2	138.1	121.9	119.6
72.5°	242.8	225.4	207.9	190.4	172.9	157.7	144.8	131.8	118.9	106.0	104.0
75°	193.5	177.1	160.7	144.3	128.0	115.9	107.9	100.0	92.1	84.1	82.5
77.5°	144.9	130.5	116.1	101.8	87.5	78.4	74.5	70.7	66.9	63.1	62.1
80°	114.5	102.7	90.8	78.8	66.9	59.8	57.4	55.1	52.8	50.5	49.5
82.5°	86.8	77.6	68.2	58.9	49.7	44.2	42.6	41.0	39.5	37.9	37.3
85°	45.2	40.3	35.4	30.5	25.6	22.8	22.1	21.4	20.7	20.0	20.0
87.5°	13.6	12.5	11.3	10.2	9.1	8.7	9.0	9.2	9.5	9.7	9.7
90°	0.8	2.6	4.4	6.3	8.2	9.7	11.1	12.4	13.8	15.1	16.0
92.5°	15.3	15.1	15.0	14.8	14.7	14.9	15.5	16.2	16.9	17.6	18.0
95°	49.2	43.6	38.1	32.6	27.0	24.8	26.0	27.2	28.4	29.5	30.3
97.5°	97.7	82.0	66.4	50.7	35.1	28.6	31.4	34.1	36.8	39.5	40.2
100°	134.0	110.9	87.9	64.9	41.8	31.7	34.5	37.4	40.3	43.2	44.5
102.5°	174.0	169.1	164.2	159.3	154.4	140.1	116.1	92.2	68.3	44.4	46.1
105°	230.1	235.2	240.2	245.3	250.3	229.9	183.9	138.0	92.1	46.2	48.0
107.5°	294.1	298.3	302.3	306.3	310.5	284.9	229.9	174.8	119.7	64.6	62.7
110°	335.3	338.9	342.4	345.9	349.4	326.9	278.3	229.7	181.1	132.5	115.7



TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	374.1	377.2	380.3	383.5	386.6	382.1	370.2	358.1	346.1	334.1	272.7
115°	435.2	438.1	441.0	443.9	446.7	450.2	454.4	458.6	462.9	467.1	389.1
117.5°	489.9	493.1	496.3	499.5	502.7	505.7	508.7	511.5	514.4	517.3	498.4
120°	529.9	532.4	534.9	537.4	540.0	542.7	545.7	548.8	551.8	554.8	556.9
122.5°	563.8	566.4	569.1	571.7	574.4	577.4	580.7	584.0	587.2	590.6	591.8
125°	615.4	617.6	619.8	621.9	624.2	626.9	630.0	633.3	636.4	639.6	640.8
127.5°	662.2	664.6	667.0	669.5	671.8	674.3	676.7	679.1	681.4	683.8	685.6
130°	691.9	694.6	697.3	699.9	702.6	704.9	706.7	708.6	710.4	712.3	714.2
132.5°	722.2	724.5	726.7	729.0	731.3	733.3	735.2	737.0	738.9	740.8	742.4
135°	761.5	764.2	766.9	769.6	772.3	774.4	775.9	777.4	778.9	780.5	782.1
137.5°	801.3	803.2	805.1	807.0	808.8	810.6	812.4	814.0	815.8	817.5	819.2
140°	827.4	828.7	830.0	831.4	832.7	834.3	836.1	838.0	839.9	841.8	843.3
142.5°	849.1	850.3	851.6	852.8	854.0	855.6	857.8	859.9	862.1	864.1	865.5
145°	883.4	883.2	883.0	882.9	882.7	884.1	886.9	889.8	892.6	895.5	896.7
147.5°	913.2	912.5	911.9	911.2	910.6	911.7	914.6	917.3	920.2	923.1	923.9
150°	932.6	931.4	930.2	929.1	927.9	928.6	931.3	934.0	936.7	939.4	940.4
152.5°	949.0	947.6	946.3	945.0	943.6	944.3	946.8	949.4	952.0	954.5	955.5
155°	972.7	971.1	969.6	968.1	966.6	966.9	968.9	970.9	973.0	974.9	976.0
157.5°	991.3	990.1	988.7	987.5	986.2	986.3	987.7	989.1	990.5	991.9	993.1
160°	1002.2	1001.2	1000.2	999.2	998.1	998.1	999.2	1000.2	1001.2	1002.2	1003.2
162.5°	1011.9	1010.9	1009.9	1008.8	1007.9	1007.8	1008.7	1009.6	1010.4	1011.3	1012.4
165°	1024.9	1023.9	1022.9	1021.9	1020.9	1020.6	1021.1	1021.6	1022.2	1022.6	1023.8
167.5°	1034.6	1033.6	1032.6	1031.6	1030.5	1030.3	1030.8	1031.3	1031.7	1032.2	1033.3
170°	1040.1	1039.0	1038.1	1037.0	1036.0	1035.7	1036.0	1036.3	1036.7	1037.0	1038.2
172.5°	1043.7	1042.7	1041.6	1040.7	1039.7	1039.3	1039.7	1040.0	1040.3	1040.7	1041.9
175°	1048.4	1047.2	1046.0	1044.9	1043.7	1043.2	1043.6	1043.9	1044.3	1044.6	1045.8
177.5°	1049.2	1048.2	1047.3	1046.3	1045.4	1045.0	1045.1	1045.2	1045.4	1045.5	1046.5
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1



TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6	1161.6
2.5°	1156.0	1157.9	1159.8	1160.5	1160.2	1159.8	1159.4	1159.0
5°	1146.8	1148.9	1151.0	1151.8	1151.0	1150.3	1149.6	1148.9
7.5°	1128.3	1128.9	1129.5	1129.2	1128.0	1126.8	1125.5	1124.3
10°	1109.7	1109.0	1108.3	1107.2	1105.8	1104.5	1103.0	1101.6
12.5°	1088.4	1087.1	1085.8	1084.1	1081.7	1079.4	1077.1	1074.8
15°	1048.6	1044.2	1039.7	1036.3	1034.0	1031.7	1029.4	1027.0
17.5°	1003.6	998.3	993.1	988.4	984.4	980.4	976.4	972.3
20°	972.2	966.4	960.5	955.1	949.9	944.8	939.6	934.5
22.5°	937.8	930.3	922.7	917.0	913.2	909.3	905.5	901.7
25°	880.7	871.1	861.5	854.9	851.4	848.0	844.5	841.0
27.5°	826.2	815.0	803.8	795.5	790.0	784.3	778.8	773.2
30°	787.7	775.8	763.8	754.7	748.5	742.1	735.9	729.5
32.5°	749.0	735.4	721.8	712.0	706.2	700.2	694.3	688.3
35°	688.5	673.8	659.1	649.2	644.0	638.9	633.7	628.6
37.5°	629.6	613.4	597.2	586.1	580.3	574.3	568.5	562.6
40°	590.2	573.6	557.0	545.7	539.6	533.5	527.4	521.4
42.5°	550.4	533.2	516.1	504.5	498.7	492.8	486.9	481.0
45°	492.4	475.9	459.2	448.1	442.5	437.0	431.3	425.7
47.5°	436.0	419.5	403.1	392.3	387.2	382.1	377.0	371.9
50°	399.8	383.7	367.6	357.0	352.1	347.2	342.3	337.4
52.5°	365.6	350.1	334.5	324.5	319.9	315.4	310.9	306.3
55°	313.6	299.6	285.6	276.3	271.9	267.4	263.0	258.6
57.5°	266.3	253.5	240.7	232.3	228.6	224.8	221.1	217.4
60°	233.7	221.8	209.8	202.1	198.3	194.6	190.8	187.1
62.5°	205.4	194.1	182.7	175.9	173.6	171.4	169.1	166.9
65°	167.0	159.1	151.1	146.8	146.1	145.4	144.7	144.0
67.5°	134.8	131.2	127.5	125.3	124.6	123.8	123.1	122.4
70°	117.2	114.9	112.6	111.0	110.0	109.1	108.1	107.2
72.5°	102.0	100.1	98.1	96.9	96.3	95.7	95.1	94.6
75°	80.8	79.2	77.6	76.6	76.4	76.1	75.9	75.7
77.5°	61.2	60.3	59.3	58.7	58.3	57.9	57.6	57.2
80°	48.6	47.7	46.7	46.3	46.3	46.3	46.3	46.3
82.5°	36.8	36.1	35.6	35.3	35.3	35.3	35.3	35.3
85°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
87.5°	9.7	9.7	9.7	9.7	9.7	9.8	9.9	10.0
90°	16.8	17.7	18.5	19.1	19.4	19.7	20.1	20.4
92.5°	18.5	18.9	19.3	19.6	19.8	20.0	20.2	20.4
95°	31.2	32.1	32.9	33.2	33.0	32.9	32.7	32.6
97.5°	40.9	41.5	42.2	42.6	42.9	43.0	43.3	43.4
100°	45.9	47.2	48.6	49.4	49.7	50.1	50.4	50.7
102.5°	47.8	49.6	51.3	52.4	52.9	53.4	53.9	54.3
105°	49.9	51.7	53.6	54.8	55.5	56.2	56.9	57.5
107.5°	60.8	59.0	57.1	56.5	57.2	57.8	58.5	59.2
110°	98.8	82.0	65.2	57.1	57.8	58.5	59.1	59.8





TEST NUMBER: P331835-927

CATALOG NUMBER: S122RDIW-S865D970U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	211.4	150.0	88.6	58.2	58.8	59.3	59.9	60.4
115°	311.2	233.4	155.5	110.5	98.4	86.3	74.1	62.1
117.5°	479.6	460.8	442.0	412.6	372.8	333.0	293.3	253.4
120°	558.9	560.9	562.9	552.5	529.9	507.2	484.4	461.8
122.5°	593.0	594.2	595.4	593.8	589.4	585.0	580.6	576.2
125°	642.0	643.2	644.4	645.2	645.7	646.2	646.7	647.2
127.5°	687.3	689.0	690.7	691.6	691.7	691.8	691.9	692.0
130°	716.0	717.9	719.7	720.6	720.3	720.2	720.0	719.9
132.5°	743.9	745.5	747.1	747.8	747.6	747.4	747.3	747.1
135°	783.8	785.4	787.1	787.8	787.5	787.1	786.8	786.5
137.5°	820.8	822.4	824.1	824.7	824.1	823.5	822.9	822.4
140°	844.8	846.3	847.8	848.1	847.3	846.4	845.6	844.8
142.5°	866.9	868.3	869.7	869.9	869.1	868.2	867.4	866.6
145°	897.9	899.0	900.2	900.4	899.5	898.7	897.9	897.0
147.5°	924.8	925.7	926.5	926.6	925.9	925.2	924.5	923.8
150°	941.4	942.4	943.4	943.5	942.7	941.8	941.0	940.2
152.5°	956.6	957.5	958.5	958.5	957.4	956.3	955.2	954.1
155°	977.0	977.9	979.0	978.8	977.5	976.1	974.8	973.4
157.5°	994.2	995.4	996.5	996.4	995.1	993.8	992.4	991.2
160°	1004.2	1005.2	1006.2	1006.2	1005.0	1003.8	1002.7	1001.5
162.5°	1013.6	1014.7	1015.9	1015.7	1014.2	1012.8	1011.4	1010.0
165°	1025.0	1026.2	1027.4	1027.4	1026.2	1025.0	1023.8	1022.6
167.5°	1034.5	1035.7	1036.9	1036.7	1035.2	1033.7	1032.2	1030.7
170°	1039.4	1040.5	1041.7	1041.6	1040.1	1038.6	1037.0	1035.5
172.5°	1043.0	1044.2	1045.4	1045.2	1043.7	1042.2	1040.7	1039.2
175°	1046.9	1048.1	1049.3	1049.1	1047.3	1045.7	1044.0	1042.4
177.5°	1047.4	1048.3	1049.2	1049.2	1047.9	1046.7	1045.5	1044.3
180°	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1	1046.1

(END OF REPORT)