

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: P331835-935

Luminaire Tested: **S122RDIW-S865D970U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331835-935  
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-S865D970U935-4F0-1E-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**

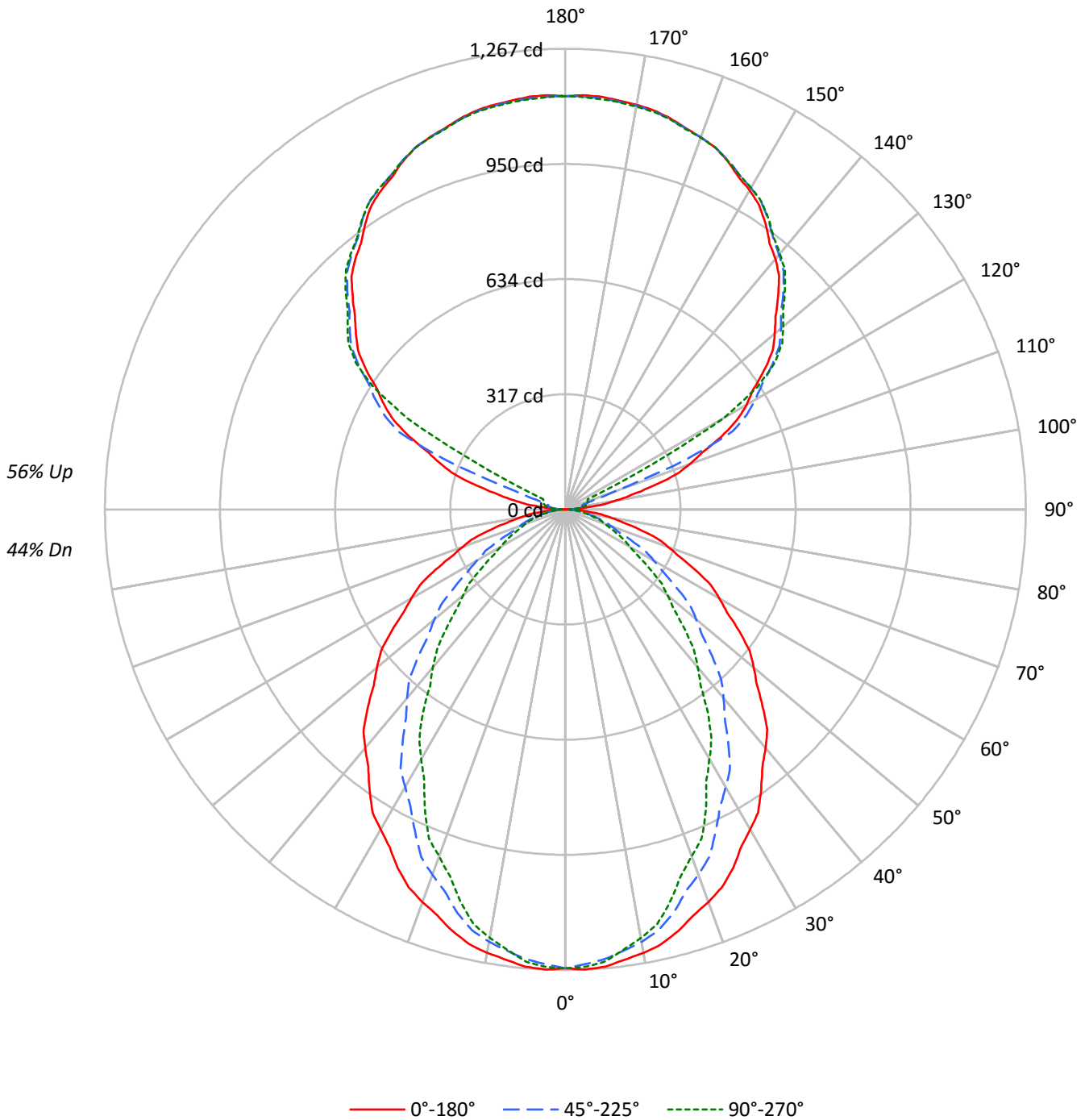
Lumens per Lamp: N/A  
Luminaire Lumens: 5931.4 lumens  
Efficiency: N/A  
Efficacy: 96.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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



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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	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°	20384	20384	20384
5°	20462	20128	20238
10°	20305	19799	19630
15°	20072	19211	18658
20°	19747	18374	17452
25°	19417	17423	16283
30°	18957	16444	14783
35°	18510	15380	13466
40°	18061	14280	11944
45°	17532	13045	10565
50°	16990	11796	9211
55°	16434	10452	7910
60°	15791	9038	6568
65°	15060	7595	5979
70°	14186	6255	5500
75°	13119	5702	5128
80°	11576	5095	4677
85°	9114	4020	4020



TEST NUMBER: P331835-935

CATALOG NUMBER: S122RDIW-S865D970U935-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	2.0
10°-20°	324.5	5.5
20°-30°	455.6	7.7
30°-40°	496.8	8.4
40°-50°	456.8	7.7
50°-60°	358.8	6.0
60°-70°	233.9	3.9
70°-80°	120.6	2.0
80°-90°	34.1	0.6
90°-100°	37.9	0.6
100°-110°	139.1	2.3
110°-120°	371.8	6.3
120°-130°	613.7	10.3
130°-140°	652.7	11.0
140°-150°	606.6	10.2
150°-160°	487.7	8.2
160°-170°	314.3	5.3
170°-180°	108.2	1.8
0°-30°	898.3	15.1
0°-40°	1395.1	23.5
0°-60°	2210.7	37.3
0°-90°	2599.4	43.8
90°-120°	548.8	9.3
90°-150°	2421.8	40.8
90°-180°	3332.0	56.2
0°-180°	5931.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1262	1256	1242	1251	1249	120
15°	1201	1187	1149	1128	1116	338
25°	1090	1051	978	933	914	501
35°	939	878	780	711	683	587
45°	768	689	571	493	463	593
55°	584	493	371	305	281	521
65°	394	301	199	162	156	391
75°	210	133	91	84	82	223
85°	49	26	22	22	22	58
90°	1	10	16	20	22	5
95°	54	28	32	36	35	65
105°	250	261	50	59	62	267
115°	473	487	508	145	68	466
125°	669	680	695	701	703	596
135°	828	840	848	856	855	639
145°	960	960	973	978	975	600
155°	1057	1051	1060	1064	1058	487
165°	1114	1109	1112	1117	1112	315
175°	1139	1134	1135	1140	1133	108
180°	1137	1137	1137	1137	1137	



TEST NUMBER: P331835-935

CATALOG NUMBER: S122RDIW-S865D970U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1267.0	1266.0	1265.0	1263.9	1263.0	1261.4	1259.1	1256.9	1254.6	1252.4	1254.5
5°	1262.5	1261.2	1259.9	1258.6	1257.4	1255.1	1251.8	1248.5	1245.2	1241.9	1244.1
7.5°	1249.4	1247.8	1246.3	1244.7	1243.1	1240.4	1236.6	1232.7	1228.8	1224.9	1225.6
10°	1238.5	1236.7	1234.9	1233.1	1231.3	1228.0	1222.9	1217.8	1212.7	1207.6	1206.9
12.5°	1224.8	1222.5	1220.4	1218.2	1216.0	1211.7	1205.1	1198.7	1192.1	1185.7	1184.3
15°	1200.8	1198.0	1195.2	1192.4	1189.6	1183.9	1175.3	1166.7	1158.0	1149.3	1144.5
17.5°	1171.3	1167.0	1162.8	1158.5	1154.3	1146.6	1135.5	1124.4	1113.4	1102.3	1096.6
20°	1149.3	1144.3	1139.2	1134.1	1129.0	1120.2	1107.4	1094.8	1082.1	1069.4	1063.0
22.5°	1125.6	1119.9	1114.2	1108.5	1102.9	1092.9	1078.5	1064.2	1049.9	1035.5	1027.3
25°	1089.9	1081.8	1073.7	1065.6	1057.5	1045.0	1028.2	1011.5	994.7	978.0	967.6
27.5°	1047.0	1038.1	1029.3	1020.5	1011.7	997.8	978.9	960.0	941.1	922.2	910.1
30°	1016.8	1007.2	997.6	987.9	978.3	963.3	943.0	922.6	902.3	882.0	869.1
32.5°	987.6	976.3	965.0	953.7	942.5	926.5	905.8	885.0	864.4	843.6	828.9
35°	939.1	926.2	913.3	900.3	887.3	869.7	847.3	825.0	802.7	780.3	764.3
37.5°	890.7	876.5	862.3	848.0	833.8	814.8	791.0	767.2	743.4	719.5	701.9
40°	856.9	841.6	826.4	811.1	795.9	776.0	751.4	726.8	702.1	677.5	659.4
42.5°	822.2	806.1	790.1	774.0	757.9	737.2	711.8	686.3	660.9	635.4	616.8
45°	767.8	750.7	733.7	716.7	699.7	677.9	651.3	624.6	597.9	571.3	553.2
47.5°	714.7	696.7	678.7	660.6	642.7	619.8	592.4	564.8	537.3	509.8	491.9
50°	676.4	658.3	640.3	622.2	604.2	581.3	553.4	525.4	497.5	469.6	452.0
52.5°	638.9	620.0	601.2	582.4	563.5	540.4	513.2	485.8	458.5	431.2	414.2
55°	583.8	564.0	544.2	524.4	504.6	481.0	453.6	426.1	398.7	371.3	356.1
57.5°	527.4	507.0	486.7	466.4	446.2	422.8	396.4	370.1	343.7	317.4	303.4
60°	489.0	468.6	448.4	428.1	407.8	384.5	358.3	332.2	306.1	279.9	267.0
62.5°	451.5	431.2	410.9	390.5	370.2	347.7	322.7	297.8	272.9	247.9	235.6
65°	394.2	373.6	353.0	332.4	311.9	290.2	267.3	244.5	221.6	198.8	190.2
67.5°	338.9	318.5	298.1	277.6	257.2	236.7	216.2	195.6	175.0	154.5	150.5
70°	300.5	280.7	260.9	241.1	221.3	202.6	185.1	167.6	150.1	132.5	130.0
72.5°	263.9	245.0	225.9	207.0	188.0	171.4	157.4	143.3	129.2	115.2	113.0
75°	210.3	192.4	174.7	156.9	139.1	126.0	117.3	108.7	100.0	91.4	89.6
77.5°	157.5	141.8	126.2	110.6	95.1	85.2	81.0	76.9	72.8	68.5	67.5
80°	124.5	111.6	98.7	85.7	72.8	65.0	62.4	59.9	57.3	54.8	53.8
82.5°	94.4	84.3	74.1	64.1	54.0	48.0	46.3	44.6	42.9	41.2	40.6
85°	49.2	43.8	38.5	33.1	27.8	24.8	24.0	23.2	22.5	21.7	21.7
87.5°	14.8	13.6	12.3	11.1	9.9	9.5	9.7	10.0	10.3	10.6	10.6
90°	0.9	2.8	4.8	6.9	8.9	10.6	12.1	13.5	15.0	16.4	17.4
92.5°	16.6	16.4	16.3	16.1	15.9	16.2	16.9	17.7	18.3	19.1	19.5
95°	53.5	47.4	41.4	35.4	29.4	26.9	28.2	29.5	30.8	32.1	33.0
97.5°	106.2	89.1	72.2	55.1	38.1	31.1	34.1	37.0	40.0	43.0	43.7
100°	145.6	120.5	95.5	70.5	45.5	34.4	37.5	40.6	43.8	46.9	48.4
102.5°	189.1	183.7	178.5	173.1	167.8	152.2	126.2	100.2	74.2	48.2	50.1
105°	250.1	255.6	261.1	266.6	272.1	249.9	199.9	150.0	100.1	50.2	52.2
107.5°	319.7	324.2	328.6	332.9	337.4	309.7	249.9	189.9	130.1	70.3	68.2
110°	364.5	368.3	372.1	376.0	379.8	355.3	302.5	249.7	196.8	144.0	125.7



TEST NUMBER: P331835-935

CATALOG NUMBER: S122RDIW-S865D970U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	406.6	410.0	413.4	416.8	420.2	415.3	402.3	389.3	376.2	363.2	296.4
115°	473.0	476.1	479.3	482.4	485.5	489.3	493.9	498.4	503.1	507.6	422.9
117.5°	532.4	536.0	539.4	542.9	546.4	549.7	552.8	555.9	559.1	562.2	541.7
120°	575.9	578.7	581.3	584.1	586.9	589.9	593.1	596.5	599.8	603.0	605.3
122.5°	612.8	615.6	618.5	621.4	624.3	627.6	631.1	634.7	638.3	641.9	643.2
125°	668.8	671.2	673.6	676.0	678.4	681.3	684.8	688.3	691.7	695.2	696.5
127.5°	719.7	722.4	725.0	727.6	730.2	732.9	735.5	738.0	740.6	743.2	745.1
130°	752.0	754.9	757.9	760.7	763.6	766.1	768.1	770.2	772.1	774.2	776.2
132.5°	784.9	787.4	789.9	792.3	794.8	797.0	799.1	801.1	803.1	805.1	806.8
135°	827.7	830.6	833.5	836.5	839.4	841.6	843.3	844.9	846.5	848.3	850.1
137.5°	870.9	873.0	875.0	877.1	879.1	881.1	883.0	884.8	886.7	888.6	890.4
140°	899.2	900.7	902.2	903.6	905.1	906.8	908.8	910.9	912.8	914.9	916.5
142.5°	922.9	924.2	925.6	926.9	928.2	930.0	932.3	934.6	936.9	939.2	940.7
145°	960.1	959.9	959.8	959.6	959.4	960.9	964.0	967.1	970.2	973.3	974.6
147.5°	992.6	991.8	991.1	990.4	989.7	990.9	994.0	997.0	1000.1	1003.2	1004.2
150°	1013.6	1012.3	1011.0	1009.8	1008.5	1009.3	1012.2	1015.1	1018.0	1021.0	1022.1
152.5°	1031.4	1029.9	1028.5	1027.1	1025.6	1026.3	1029.1	1031.9	1034.7	1037.4	1038.5
155°	1057.2	1055.5	1053.9	1052.2	1050.6	1050.9	1053.1	1055.2	1057.5	1059.6	1060.8
157.5°	1077.5	1076.1	1074.6	1073.2	1071.9	1071.9	1073.5	1075.0	1076.5	1078.1	1079.3
160°	1089.3	1088.2	1087.1	1086.0	1084.9	1084.9	1086.0	1087.1	1088.2	1089.3	1090.4
162.5°	1099.8	1098.7	1097.6	1096.5	1095.5	1095.4	1096.3	1097.3	1098.2	1099.2	1100.4
165°	1114.0	1112.8	1111.7	1110.7	1109.6	1109.3	1109.8	1110.3	1110.9	1111.5	1112.8
167.5°	1124.5	1123.3	1122.3	1121.2	1120.1	1119.8	1120.3	1120.8	1121.4	1121.9	1123.1
170°	1130.4	1129.3	1128.3	1127.1	1126.0	1125.7	1126.0	1126.4	1126.8	1127.1	1128.4
172.5°	1134.4	1133.2	1132.1	1131.1	1130.0	1129.6	1130.0	1130.3	1130.7	1131.1	1132.4
175°	1139.4	1138.2	1136.9	1135.7	1134.4	1133.9	1134.3	1134.6	1135.0	1135.3	1136.6
177.5°	1140.3	1139.3	1138.2	1137.2	1136.2	1135.7	1135.9	1136.0	1136.2	1136.3	1137.4
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0



TEST NUMBER: P331835-935

CATALOG NUMBER: S122RDIW-S865D970U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1256.5	1258.5	1260.5	1261.4	1260.9	1260.5	1260.2	1259.7
5°	1246.5	1248.7	1251.0	1251.8	1251.0	1250.3	1249.5	1248.7
7.5°	1226.3	1226.9	1227.6	1227.3	1226.0	1224.7	1223.3	1222.0
10°	1206.1	1205.3	1204.5	1203.4	1201.9	1200.4	1198.9	1197.3
12.5°	1182.9	1181.6	1180.2	1178.3	1175.7	1173.2	1170.6	1168.1
15°	1139.7	1134.9	1130.1	1126.4	1123.9	1121.3	1118.8	1116.2
17.5°	1090.8	1085.0	1079.3	1074.3	1069.9	1065.6	1061.2	1056.8
20°	1056.7	1050.3	1044.0	1038.0	1032.4	1026.8	1021.2	1015.7
22.5°	1019.3	1011.1	1002.9	996.7	992.6	988.3	984.2	980.1
25°	957.2	946.8	936.3	929.2	925.4	921.6	917.8	914.0
27.5°	897.9	885.8	873.7	864.6	858.6	852.5	846.4	840.4
30°	856.1	843.2	830.2	820.3	813.5	806.6	799.8	792.9
32.5°	814.1	799.3	784.5	773.9	767.5	761.0	754.6	748.1
35°	748.3	732.4	716.4	705.6	700.0	694.4	688.8	683.2
37.5°	684.3	666.7	649.1	637.1	630.7	624.2	617.9	611.5
40°	641.4	623.5	605.4	593.1	586.5	579.9	573.3	566.7
42.5°	598.2	579.5	560.9	548.4	542.0	535.6	529.2	522.8
45°	535.2	517.2	499.1	487.1	481.0	474.9	468.8	462.7
47.5°	473.9	456.0	438.1	426.4	420.9	415.3	409.7	404.2
50°	434.5	417.0	399.5	388.1	382.7	377.4	372.0	366.7
52.5°	397.4	380.5	363.5	352.7	347.7	342.8	337.9	332.9
55°	340.9	325.6	310.4	300.3	295.5	290.7	285.9	281.0
57.5°	289.5	275.5	261.6	252.5	248.5	244.4	240.3	236.3
60°	254.0	241.1	228.1	219.6	215.5	211.5	207.4	203.4
62.5°	223.3	210.9	198.5	191.1	188.7	186.3	183.8	181.4
65°	181.5	172.9	164.3	159.5	158.8	158.1	157.3	156.5
67.5°	146.5	142.6	138.6	136.2	135.4	134.6	133.8	133.0
70°	127.4	124.9	122.3	120.6	119.6	118.6	117.5	116.5
72.5°	110.9	108.7	106.6	105.3	104.6	104.0	103.4	102.8
75°	87.8	86.1	84.3	83.3	83.0	82.7	82.5	82.2
77.5°	66.6	65.5	64.5	63.8	63.4	62.9	62.6	62.2
80°	52.8	51.8	50.8	50.3	50.3	50.3	50.3	50.3
82.5°	40.0	39.3	38.7	38.4	38.4	38.4	38.4	38.4
85°	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
87.5°	10.6	10.5	10.5	10.6	10.6	10.7	10.8	10.8
90°	18.3	19.2	20.1	20.8	21.1	21.4	21.9	22.2
92.5°	20.1	20.5	21.0	21.4	21.5	21.8	22.0	22.2
95°	33.9	34.9	35.7	36.1	35.9	35.7	35.6	35.4
97.5°	44.4	45.1	45.9	46.3	46.6	46.8	47.0	47.2
100°	49.9	51.3	52.8	53.6	54.0	54.4	54.8	55.1
102.5°	52.0	53.9	55.8	57.0	57.5	58.0	58.5	59.1
105°	54.2	56.2	58.2	59.6	60.4	61.0	61.8	62.5
107.5°	66.1	64.1	62.1	61.4	62.2	62.9	63.6	64.3
110°	107.4	89.1	70.9	62.1	62.8	63.5	64.2	65.0





TEST NUMBER: P331835-935

CATALOG NUMBER: S122RDIW-S865D970U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	229.7	163.1	96.3	63.3	63.9	64.5	65.1	65.7
115°	338.3	253.7	169.0	120.1	106.9	93.8	80.6	67.5
117.5°	521.2	500.8	480.4	448.5	405.2	362.0	318.7	275.4
120°	607.4	609.6	611.8	600.5	575.9	551.2	526.5	501.9
122.5°	644.5	645.8	647.1	645.4	640.6	635.8	631.0	626.3
125°	697.8	699.0	700.3	701.2	701.8	702.3	702.8	703.4
127.5°	747.0	748.8	750.7	751.7	751.8	751.9	752.0	752.1
130°	778.2	780.2	782.2	783.2	782.9	782.7	782.6	782.4
132.5°	808.6	810.3	812.0	812.8	812.5	812.4	812.2	812.0
135°	851.9	853.7	855.5	856.3	855.9	855.5	855.1	854.8
137.5°	892.1	893.9	895.7	896.3	895.7	895.0	894.4	893.8
140°	918.2	919.8	921.4	921.8	920.9	920.0	919.0	918.2
142.5°	942.2	943.7	945.2	945.5	944.6	943.7	942.8	941.8
145°	975.9	977.1	978.4	978.6	977.7	976.7	975.9	974.9
147.5°	1005.1	1006.1	1007.0	1007.1	1006.3	1005.6	1004.8	1004.0
150°	1023.2	1024.2	1025.4	1025.5	1024.6	1023.6	1022.7	1021.8
152.5°	1039.7	1040.7	1041.8	1041.8	1040.6	1039.4	1038.2	1037.0
155°	1061.9	1062.9	1064.0	1063.9	1062.4	1060.9	1059.5	1058.0
157.5°	1080.6	1081.8	1083.1	1083.0	1081.5	1080.1	1078.7	1077.3
160°	1091.5	1092.5	1093.6	1093.6	1092.3	1091.0	1089.8	1088.5
162.5°	1101.6	1102.9	1104.1	1104.0	1102.3	1100.8	1099.2	1097.7
165°	1114.0	1115.3	1116.6	1116.6	1115.3	1114.0	1112.8	1111.5
167.5°	1124.4	1125.7	1127.0	1126.8	1125.2	1123.5	1121.9	1120.2
170°	1129.7	1130.9	1132.2	1132.0	1130.4	1128.8	1127.1	1125.5
172.5°	1133.6	1134.9	1136.2	1136.0	1134.4	1132.7	1131.1	1129.5
175°	1137.9	1139.2	1140.5	1140.2	1138.3	1136.5	1134.7	1132.9
177.5°	1138.4	1139.4	1140.4	1140.3	1138.9	1137.6	1136.3	1135.1
180°	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0	1137.0

(END OF REPORT)