

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: P331851-935

Luminaire Tested: **S122RDIW-S1005D710U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331851-935  
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-S1005D710U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5442.0 lumens  
Efficiency: N/A  
Efficacy: 91.0 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

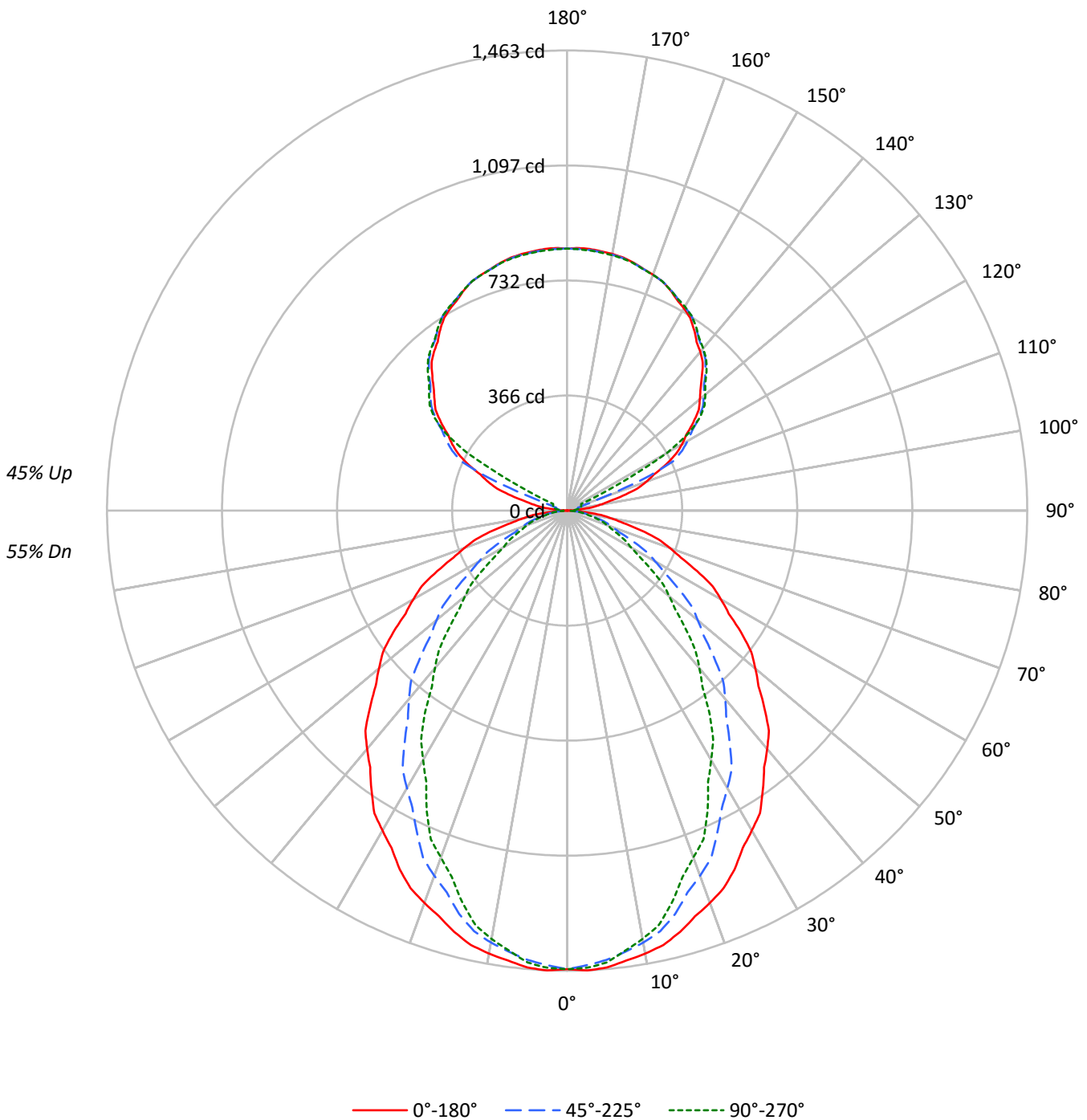
Input Watts (W): 59.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

### Luminous Intensity Polar Plot





TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-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	0
RCR																		
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	92	88	92	89	85	83	76	74	72	65	63	62	55	53	52	47
2	91	84	78	73	84	78	73	69	68	64	60	58	55	52	49	47	45	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	41	39	35
4	77	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	31
5	70	59	51	45	65	55	48	43	48	43	39	42	38	34	36	33	30	27
6	65	53	45	40	60	50	43	38	44	38	34	38	34	30	33	29	27	24
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	44	36	31	52	41	35	30	37	31	27	32	28	24	28	24	22	19
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	26	22	20	18
10	49	37	30	25	46	35	29	24	31	26	22	27	23	20	24	20	18	16

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

	0°	45°	90°
0°	23541	23541	23541
5°	23631	23246	23376
10°	23451	22866	22673
15°	23181	22188	21549
20°	22807	21220	20155
25°	22425	20122	18805
30°	21895	18990	17074
35°	21378	17763	15554
40°	20858	16493	13793
45°	20247	15066	12202
50°	19623	13622	10638
55°	18978	12073	9137
60°	18235	10440	7585
65°	17391	8772	6907
70°	16386	7227	6354
75°	15147	6588	5926
80°	13371	5895	5393
85°	10504	4650	4650



TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	2.5
10°-20°	374.7	6.9
20°-30°	526.2	9.7
30°-40°	573.8	10.5
40°-50°	527.6	9.7
50°-60°	414.4	7.6
60°-70°	270.2	5.0
70°-80°	139.3	2.6
80°-90°	38.2	0.7
90°-100°	27.8	0.5
100°-110°	101.9	1.9
110°-120°	272.4	5.0
120°-130°	449.6	8.3
130°-140°	478.2	8.8
140°-150°	444.4	8.2
150°-160°	357.3	6.6
160°-170°	230.3	4.2
170°-180°	79.3	1.5
0°-30°	1037.4	19.1
0°-40°	1611.3	29.6
0°-60°	2553.2	46.9
0°-90°	3000.9	55.1
90°-120°	402.1	7.4
90°-150°	1774.3	32.6
90°-180°	2441.0	44.9
0°-180°	5442.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1458	1458	1458	1458	1458	
5°	1458	1451	1434	1445	1442	138
15°	1387	1371	1327	1303	1289	390
25°	1259	1214	1130	1077	1056	579
35°	1085	1015	901	821	789	678
45°	887	796	660	570	534	684
55°	674	569	429	353	325	602
65°	455	348	230	187	181	451
75°	243	153	106	97	95	257
85°	57	30	25	25	25	67
90°	1	7	12	15	16	4
95°	39	21	24	26	26	48
105°	183	191	37	43	46	196
115°	347	357	372	106	49	341
125°	490	498	509	513	515	437
135°	606	616	622	627	626	468
145°	703	703	713	717	714	440
155°	775	770	776	779	775	357
165°	816	813	814	818	814	230
175°	835	831	832	835	830	79
180°	833	833	833	833	833	



TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1463.4	1462.2	1460.9	1459.8	1458.6	1456.7	1454.1	1451.6	1449.1	1446.5	1448.8
5°	1458.0	1456.6	1455.1	1453.6	1452.2	1449.6	1445.7	1441.9	1438.1	1434.3	1436.9
7.5°	1443.0	1441.2	1439.4	1437.5	1435.7	1432.6	1428.1	1423.7	1419.3	1414.8	1415.6
10°	1430.4	1428.3	1426.2	1424.2	1422.1	1418.2	1412.3	1406.4	1400.6	1394.7	1393.9
12.5°	1414.5	1412.0	1409.5	1407.0	1404.5	1399.4	1391.9	1384.4	1376.9	1369.4	1367.8
15°	1386.8	1383.5	1380.4	1377.1	1373.9	1367.3	1357.4	1347.4	1337.4	1327.4	1321.9
17.5°	1352.7	1347.8	1342.9	1338.0	1333.1	1324.2	1311.4	1298.6	1285.8	1273.1	1266.4
20°	1327.4	1321.5	1315.7	1309.8	1304.0	1293.7	1279.0	1264.4	1249.7	1235.0	1227.7
22.5°	1299.9	1293.4	1286.9	1280.3	1273.7	1262.1	1245.6	1229.1	1212.5	1196.0	1186.5
25°	1258.8	1249.4	1240.0	1230.6	1221.2	1206.9	1187.6	1168.2	1148.8	1129.5	1117.5
27.5°	1209.2	1199.0	1188.8	1178.6	1168.4	1152.4	1130.6	1108.7	1086.9	1065.1	1051.1
30°	1174.4	1163.2	1152.1	1140.9	1129.8	1112.5	1089.0	1065.6	1042.2	1018.6	1003.7
32.5°	1140.6	1127.6	1114.6	1101.6	1088.5	1070.1	1046.1	1022.2	998.2	974.3	957.3
35°	1084.6	1069.7	1054.7	1039.7	1024.8	1004.4	978.6	952.9	927.0	901.2	882.8
37.5°	1028.7	1012.3	995.8	979.4	963.0	941.1	913.5	886.1	858.5	831.0	810.7
40°	989.6	972.1	954.4	936.9	919.3	896.2	867.8	839.4	810.9	782.5	761.6
42.5°	949.5	931.0	912.5	893.9	875.4	851.4	822.1	792.6	763.3	733.9	712.4
45°	886.7	867.0	847.4	827.8	808.1	782.9	752.1	721.3	690.5	659.8	638.9
47.5°	825.4	804.7	783.9	763.0	742.2	715.9	684.2	652.3	620.5	588.8	568.1
50°	781.2	760.3	739.5	718.7	697.8	671.3	639.1	606.8	574.5	542.3	522.1
52.5°	737.9	716.1	694.4	672.6	650.8	624.2	592.6	561.1	529.5	498.0	478.5
55°	674.2	651.4	628.5	605.6	582.8	555.5	523.8	492.1	460.5	428.9	411.2
57.5°	609.1	585.7	562.1	538.7	515.2	488.3	457.9	427.4	397.0	366.5	350.4
60°	564.7	541.3	517.8	494.4	470.9	444.1	413.9	383.7	353.4	323.3	308.3
62.5°	521.5	498.0	474.6	451.1	427.7	401.5	372.7	343.9	315.1	286.4	272.1
65°	455.2	431.4	407.8	384.0	360.2	335.2	308.8	282.4	256.0	229.6	219.6
67.5°	391.3	367.8	344.2	320.6	297.0	273.4	249.7	225.9	202.2	178.4	173.8
70°	347.1	324.2	301.3	278.4	255.5	234.0	213.8	193.6	173.3	153.1	150.2
72.5°	304.8	282.8	261.0	239.0	217.1	197.9	181.8	165.5	149.2	133.0	130.5
75°	242.8	222.2	201.7	181.2	160.7	145.4	135.4	125.5	115.5	105.6	103.5
77.5°	181.8	163.8	145.9	127.9	109.8	98.4	93.6	88.8	83.9	79.2	78.0
80°	143.8	128.9	113.9	98.9	84.0	75.1	72.2	69.2	66.3	63.4	62.2
82.5°	109.0	97.3	85.7	74.0	62.3	55.4	53.5	51.5	49.5	47.5	46.8
85°	56.7	50.5	44.4	38.2	32.1	28.6	27.7	26.9	25.9	25.1	25.1
87.5°	17.0	15.4	13.9	12.2	10.7	10.0	10.2	10.4	10.7	10.8	10.8
90°	0.6	2.1	3.5	5.0	6.5	7.7	8.9	9.9	11.0	12.1	12.7
92.5°	12.1	12.1	11.9	11.8	11.6	11.9	12.4	12.9	13.4	13.9	14.3
95°	39.2	34.8	30.3	25.9	21.5	19.7	20.7	21.6	22.6	23.5	24.2
97.5°	77.7	65.3	52.9	40.4	27.9	22.8	25.0	27.1	29.3	31.4	32.0
100°	106.7	88.3	70.0	51.7	33.3	25.2	27.6	29.8	32.1	34.4	35.4
102.5°	138.5	134.7	130.7	126.8	123.0	111.5	92.5	73.4	54.3	35.3	36.7
105°	183.2	187.3	191.3	195.3	199.3	183.0	146.5	109.9	73.4	36.8	38.2
107.5°	234.2	237.5	240.7	243.9	247.2	226.9	183.0	139.2	95.3	51.5	49.9
110°	267.0	269.8	272.7	275.4	278.3	260.3	221.6	182.9	144.2	105.5	92.1



TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	297.9	300.4	302.9	305.3	307.8	304.3	294.7	285.2	275.6	266.0	217.2
115°	346.6	348.9	351.1	353.4	355.7	358.5	361.9	365.2	368.5	371.9	309.9
117.5°	390.1	392.6	395.2	397.7	400.3	402.7	405.0	407.3	409.6	411.9	396.9
120°	421.9	424.0	425.9	427.9	430.0	432.1	434.5	437.0	439.4	441.8	443.4
122.5°	448.9	451.1	453.1	455.3	457.4	459.8	462.4	465.0	467.6	470.3	471.2
125°	490.0	491.8	493.5	495.2	497.0	499.1	501.7	504.2	506.8	509.3	510.2
127.5°	527.3	529.2	531.2	533.0	535.0	536.9	538.8	540.7	542.6	544.5	545.9
130°	550.9	553.0	555.2	557.3	559.5	561.3	562.7	564.2	565.7	567.2	568.7
132.5°	575.1	576.9	578.7	580.5	582.3	583.9	585.4	586.9	588.4	589.9	591.1
135°	606.4	608.5	610.6	612.8	614.9	616.6	617.9	619.1	620.3	621.5	622.8
137.5°	638.1	639.6	641.1	642.6	644.0	645.5	646.9	648.2	649.6	651.0	652.3
140°	658.8	659.9	660.9	662.0	663.1	664.3	665.8	667.3	668.7	670.3	671.5
142.5°	676.1	677.1	678.1	679.1	680.0	681.3	683.0	684.8	686.4	688.1	689.2
145°	703.4	703.3	703.2	703.0	702.8	704.0	706.2	708.5	710.8	713.1	714.0
147.5°	727.1	726.7	726.2	725.7	725.1	726.0	728.2	730.5	732.7	734.9	735.7
150°	742.6	741.7	740.7	739.8	738.8	739.4	741.6	743.7	745.9	748.0	748.8
152.5°	755.6	754.6	753.5	752.4	751.4	751.9	754.0	756.0	758.0	760.1	760.9
155°	774.6	773.4	772.1	770.9	769.7	769.9	771.5	773.1	774.7	776.4	777.1
157.5°	789.4	788.3	787.3	786.3	785.3	785.3	786.4	787.6	788.7	789.8	790.7
160°	798.1	797.2	796.4	795.7	794.8	794.8	795.7	796.4	797.2	798.1	798.8
162.5°	805.7	804.9	804.2	803.3	802.5	802.5	803.1	803.9	804.6	805.3	806.2
165°	816.1	815.3	814.5	813.7	812.9	812.7	813.1	813.5	813.9	814.3	815.3
167.5°	823.8	823.0	822.3	821.4	820.6	820.4	820.8	821.1	821.6	821.9	822.9
170°	828.2	827.3	826.6	825.8	824.9	824.7	824.9	825.3	825.5	825.8	826.7
172.5°	831.0	830.3	829.5	828.6	827.9	827.6	827.9	828.1	828.4	828.6	829.6
175°	834.8	833.9	832.9	832.0	831.0	830.7	831.0	831.3	831.6	831.8	832.8
177.5°	835.4	834.7	833.9	833.2	832.4	832.1	832.2	832.3	832.4	832.5	833.3
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0



TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0	1458.0
2.5°	1451.1	1453.5	1455.9	1456.7	1456.3	1455.9	1455.3	1454.9
5°	1439.6	1442.3	1444.8	1445.7	1444.8	1444.0	1443.1	1442.3
7.5°	1416.3	1417.0	1417.8	1417.5	1415.9	1414.4	1412.9	1411.4
10°	1392.9	1392.1	1391.2	1389.9	1388.1	1386.4	1384.6	1382.9
12.5°	1366.2	1364.6	1363.0	1360.8	1357.9	1355.0	1352.0	1349.1
15°	1316.3	1310.7	1305.1	1300.9	1298.0	1295.0	1292.1	1289.2
17.5°	1259.8	1253.2	1246.6	1240.7	1235.7	1230.6	1225.5	1220.6
20°	1220.4	1213.1	1205.7	1198.9	1192.4	1185.9	1179.5	1173.0
22.5°	1177.2	1167.7	1158.2	1151.1	1146.3	1141.5	1136.7	1131.9
25°	1105.4	1093.5	1081.4	1073.2	1068.8	1064.4	1060.0	1055.6
27.5°	1037.1	1023.0	1009.0	998.5	991.5	984.6	977.6	970.6
30°	988.8	973.8	958.8	947.4	939.5	931.6	923.7	915.8
32.5°	940.2	923.2	906.0	893.8	886.4	878.9	871.4	864.0
35°	864.3	845.8	827.3	814.9	808.4	801.9	795.5	789.1
37.5°	790.3	770.0	749.6	735.7	728.4	721.0	713.6	706.2
40°	740.8	720.0	699.2	685.0	677.3	669.7	662.1	654.4
42.5°	690.9	669.3	647.8	633.4	625.9	618.5	611.2	603.8
45°	618.1	597.3	576.4	562.6	555.5	548.5	541.4	534.4
47.5°	547.3	526.7	505.9	492.4	486.0	479.7	473.2	466.8
50°	501.9	481.6	461.4	448.2	442.0	435.8	429.7	423.5
52.5°	458.9	439.4	419.9	407.3	401.6	395.9	390.2	384.5
55°	393.6	376.1	358.4	346.9	341.3	335.7	330.2	324.6
57.5°	334.3	318.1	302.0	291.6	287.0	282.2	277.6	272.9
60°	293.3	278.4	263.5	253.7	248.9	244.3	239.5	234.9
62.5°	257.9	243.6	229.4	220.8	218.0	215.2	212.3	209.6
65°	209.7	199.7	189.7	184.3	183.4	182.5	181.7	180.8
67.5°	169.3	164.7	160.1	157.3	156.4	155.5	154.5	153.6
70°	147.2	144.3	141.4	139.3	138.1	136.9	135.8	134.6
72.5°	128.1	125.6	123.1	121.6	120.9	120.2	119.4	118.7
75°	101.4	99.4	97.4	96.2	95.9	95.6	95.3	95.0
77.5°	76.8	75.7	74.5	73.6	73.2	72.8	72.2	71.8
80°	61.0	59.8	58.6	58.0	58.0	58.0	58.0	58.0
82.5°	46.1	45.4	44.7	44.3	44.3	44.3	44.3	44.3
85°	25.1	25.1	25.1	25.1	25.1	25.1	25.1	25.1
87.5°	10.7	10.6	10.4	10.4	10.5	10.5	10.6	10.7
90°	13.4	14.0	14.7	15.2	15.5	15.8	16.0	16.3
92.5°	14.7	15.1	15.4	15.7	15.8	15.9	16.1	16.3
95°	24.9	25.5	26.2	26.4	26.3	26.2	26.1	25.9
97.5°	32.5	33.1	33.6	33.9	34.1	34.3	34.4	34.6
100°	36.5	37.5	38.7	39.3	39.6	39.9	40.1	40.4
102.5°	38.1	39.5	40.9	41.8	42.2	42.5	42.9	43.3
105°	39.7	41.2	42.6	43.7	44.2	44.8	45.3	45.8
107.5°	48.5	47.0	45.5	45.0	45.5	46.1	46.6	47.1
110°	78.7	65.3	51.9	45.5	46.0	46.6	47.1	47.6





TEST NUMBER: P331851-935

CATALOG NUMBER: S122RDIW-S1005D710U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.3	119.5	70.6	46.4	46.8	47.3	47.7	48.1
115°	247.9	185.8	123.8	88.0	78.4	68.7	59.1	49.4
117.5°	381.9	366.9	351.9	328.6	296.9	265.2	233.5	201.8
120°	445.1	446.6	448.2	440.0	421.9	403.8	385.7	367.6
122.5°	472.2	473.1	474.2	472.9	469.3	465.8	462.4	458.8
125°	511.2	512.1	513.1	513.8	514.1	514.5	515.0	515.3
127.5°	547.3	548.6	550.0	550.7	550.8	550.9	551.0	551.0
130°	570.2	571.6	573.1	573.8	573.6	573.5	573.3	573.3
132.5°	592.4	593.7	594.9	595.5	595.3	595.2	595.0	595.0
135°	624.1	625.4	626.8	627.3	627.1	626.8	626.5	626.3
137.5°	653.6	654.9	656.3	656.7	656.2	655.7	655.3	654.8
140°	672.7	673.9	675.1	675.4	674.7	674.0	673.3	672.7
142.5°	690.3	691.4	692.5	692.7	692.1	691.4	690.7	690.0
145°	714.9	715.8	716.8	717.0	716.3	715.6	714.9	714.3
147.5°	736.4	737.1	737.8	737.9	737.3	736.8	736.2	735.6
150°	749.6	750.4	751.2	751.3	750.6	749.9	749.2	748.6
152.5°	761.6	762.5	763.3	763.3	762.3	761.5	760.6	759.7
155°	777.9	778.8	779.5	779.4	778.3	777.3	776.2	775.2
157.5°	791.7	792.6	793.5	793.4	792.4	791.3	790.3	789.2
160°	799.6	800.5	801.2	801.2	800.2	799.3	798.4	797.5
162.5°	807.1	808.0	808.9	808.8	807.6	806.5	805.3	804.2
165°	816.2	817.1	818.0	818.0	817.1	816.2	815.3	814.3
167.5°	823.8	824.8	825.6	825.5	824.3	823.1	821.9	820.7
170°	827.7	828.5	829.5	829.4	828.2	827.0	825.8	824.6
172.5°	830.5	831.5	832.4	832.2	831.0	829.8	828.6	827.4
175°	833.7	834.6	835.5	835.3	834.0	832.7	831.3	830.0
177.5°	834.1	834.7	835.5	835.4	834.5	833.4	832.5	831.6
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0

(END OF REPORT)