

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: P331848-935

Luminaire Tested: **S122RDIW-S1005D435U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331848-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S1005D435U935-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4293.2 lumens  
Efficiency: N/A  
Efficacy: 81.9 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: Semi-Direct

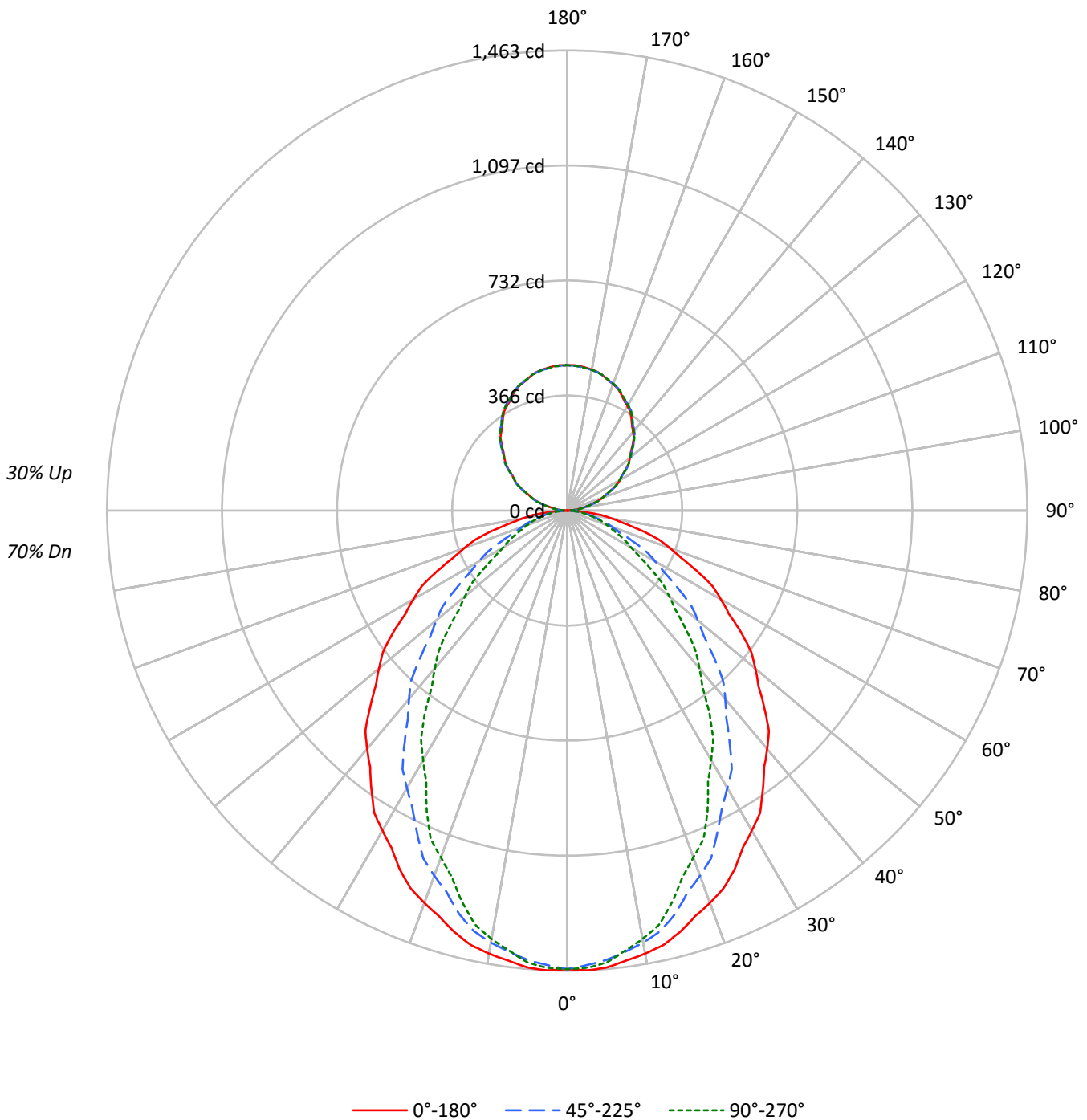
Input Watts (W): 52.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	103	99	95	92	97	94	90	87	84	81	79	75	73	71	67	65	64	60
2	94	87	81	76	89	83	77	73	74	70	67	67	63	61	60	57	55	52
3	86	77	70	64	82	73	67	62	66	61	57	60	56	52	53	50	48	44
4	80	69	61	55	75	66	58	53	59	54	49	54	49	45	48	45	42	39
5	73	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37	34
6	68	56	48	42	64	53	46	41	49	42	38	44	39	35	40	36	33	30
7	63	51	43	37	60	49	41	36	44	38	34	40	35	32	37	33	29	27
8	59	46	39	33	56	44	37	32	41	35	30	37	32	28	34	30	27	24
9	55	43	35	30	52	41	34	29	38	32	27	34	29	26	31	27	24	22
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	29	25	22	20

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.5	3.2
10°-20°	374.7	8.7
20°-30°	526.2	12.3
30°-40°	573.8	13.4
40°-50°	527.6	12.3
50°-60°	414.4	9.7
60°-70°	270.2	6.3
70°-80°	139.3	3.2
80°-90°	38.0	0.9
90°-100°	29.3	0.7
100°-110°	91.0	2.1
110°-120°	155.5	3.6
120°-130°	204.5	4.8
130°-140°	229.5	5.3
140°-150°	225.0	5.2
150°-160°	188.8	4.4
160°-170°	125.2	2.9
170°-180°	43.8	1.0
0°-30°	1037.4	24.2
0°-40°	1611.3	37.5
0°-60°	2553.2	59.5
0°-90°	3000.7	69.9
90°-120°	275.7	6.4
90°-150°	934.8	21.8
90°-180°	1293.0	30.1
0°-180°	4293.2	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°	0	5	14	13	13	3
95°	20	24	25	25	24	23
105°	84	85	86	87	87	89
115°	156	158	158	157	156	154
125°	227	230	229	228	228	203
135°	294	298	299	298	297	227
145°	356	359	362	362	360	223
155°	408	409	410	412	411	188
165°	444	443	443	446	444	125
175°	462	460	460	462	460	44
180°	462	462	462	462	462	



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**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	15.3	13.6	12.0	10.3	9.6	10.1	10.4	10.8	11.2	10.9
90°	0.4	1.5	2.5	3.5	4.6	6.0	7.9	9.8	11.7	13.7	13.5
92.5°	7.0	7.7	8.4	9.2	10.0	10.6	11.0	11.5	12.0	12.4	12.4
95°	20.3	21.2	22.0	22.9	23.8	24.3	24.5	24.6	24.8	25.0	25.0
97.5°	37.0	37.8	38.6	39.3	40.1	40.6	41.0	41.3	41.7	41.9	41.9
100°	49.5	50.2	50.9	51.7	52.3	52.8	53.0	53.3	53.6	53.8	53.8
102.5°	62.7	63.2	63.7	64.3	64.8	65.3	65.6	66.0	66.3	66.6	66.7
105°	83.9	84.1	84.4	84.6	84.9	85.2	85.3	85.5	85.7	85.8	86.0
107.5°	105.2	105.6	106.0	106.4	106.8	106.9	106.9	106.9	106.9	106.9	107.0
110°	119.0	119.5	120.0	120.5	121.1	121.3	121.3	121.3	121.3	121.3	121.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.0	134.5	135.0	135.5	136.0	136.3	136.2	136.1	136.0	136.0	135.8
115°	156.0	156.5	157.0	157.6	158.1	158.3	158.1	157.9	157.7	157.6	157.5
117.5°	178.1	178.7	179.4	180.1	180.8	180.9	180.5	179.9	179.4	179.0	178.7
120°	192.7	193.4	194.1	194.8	195.4	195.4	194.8	194.1	193.4	192.7	192.7
122.5°	206.1	207.0	207.8	208.6	209.5	209.7	209.1	208.6	208.2	207.7	207.5
125°	227.0	227.8	228.6	229.4	230.1	230.4	230.1	229.9	229.6	229.4	229.1
127.5°	247.4	248.4	249.3	250.4	251.3	251.7	251.4	251.1	250.7	250.5	250.1
130°	260.2	261.3	262.4	263.6	264.7	265.2	265.0	264.8	264.7	264.5	264.3
132.5°	274.6	275.4	276.4	277.3	278.2	278.7	278.7	278.8	278.8	278.8	278.4
135°	293.8	294.7	295.7	296.6	297.6	298.1	298.3	298.4	298.6	298.8	298.7
137.5°	313.9	314.7	315.5	316.2	317.0	317.5	317.8	318.1	318.2	318.5	318.4
140°	326.1	326.9	327.7	328.5	329.2	329.8	330.3	330.7	331.1	331.6	331.6
142.5°	338.6	339.4	340.2	341.0	341.7	342.2	342.5	342.9	343.1	343.5	343.5
145°	356.5	357.1	357.7	358.3	359.0	359.6	360.1	360.6	361.1	361.6	361.7
147.5°	372.6	373.2	374.0	374.7	375.5	376.0	376.3	376.7	377.0	377.4	377.5
150°	383.5	384.0	384.5	385.0	385.6	386.0	386.3	386.7	387.0	387.4	387.6
152.5°	393.1	393.6	394.2	394.7	395.2	395.7	396.1	396.5	396.9	397.4	397.7
155°	407.6	407.9	408.1	408.5	408.7	409.0	409.2	409.5	409.7	410.0	410.4
157.5°	420.1	420.3	420.4	420.6	420.8	420.9	421.0	421.2	421.4	421.5	422.1
160°	427.6	427.7	427.9	428.1	428.3	428.3	428.4	428.5	428.6	428.7	429.2
162.5°	434.4	434.5	434.5	434.5	434.5	434.6	434.7	434.8	434.9	435.0	435.5
165°	443.5	443.4	443.3	443.2	443.2	443.2	443.2	443.2	443.2	443.2	443.8
167.5°	451.2	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.6
170°	455.2	455.0	454.7	454.4	454.2	454.0	453.9	453.8	453.7	453.7	454.3
172.5°	458.1	457.8	457.5	457.3	457.0	456.8	456.8	456.7	456.6	456.5	457.1
175°	461.5	461.2	461.0	460.7	460.5	460.2	460.0	459.9	459.7	459.5	460.1
177.5°	462.9	462.7	462.4	462.3	462.0	461.8	461.8	461.6	461.4	461.3	461.8
180°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3



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**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	10.3	10.1	10.0	10.0	10.0	10.0	10.1
90°	13.3	13.2	13.0	12.9	13.0	13.1	13.2	13.3
92.5°	12.5	12.5	12.6	12.6	12.6	12.6	12.7	12.7
95°	25.0	25.0	25.0	24.9	24.7	24.5	24.4	24.2
97.5°	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
100°	53.8	53.8	53.8	53.8	53.7	53.6	53.6	53.5
102.5°	66.7	66.8	66.9	66.9	66.8	66.7	66.6	66.6
105°	86.2	86.4	86.5	86.6	86.6	86.6	86.6	86.6
107.5°	107.1	107.2	107.3	107.1	106.7	106.2	105.9	105.5
110°	121.3	121.3	121.3	121.1	120.9	120.6	120.4	120.1





TEST NUMBER: P331848-935

CATALOG NUMBER: S122RDIW-S1005D435U935-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	135.6	135.3	135.2	134.9	134.7	134.6	134.4	134.2
115°	157.4	157.3	157.2	157.0	156.8	156.5	156.3	156.0
117.5°	178.6	178.3	178.1	177.9	177.6	177.4	177.1	176.8
120°	192.7	192.7	192.7	192.6	192.3	192.1	191.8	191.6
122.5°	207.2	207.1	206.8	206.6	206.5	206.3	206.0	205.9
125°	228.9	228.6	228.3	228.2	228.1	228.0	227.9	227.8
127.5°	249.8	249.5	249.2	248.9	248.6	248.3	248.1	247.8
130°	264.2	264.0	263.8	263.6	263.2	262.9	262.5	262.2
132.5°	278.1	277.7	277.3	277.0	276.7	276.4	276.1	275.9
135°	298.6	298.5	298.4	298.3	298.0	297.7	297.5	297.2
137.5°	318.3	318.2	318.2	318.0	317.6	317.3	316.9	316.6
140°	331.6	331.6	331.6	331.4	331.1	330.7	330.4	330.0
142.5°	343.5	343.6	343.7	343.5	343.2	342.9	342.5	342.2
145°	361.8	361.9	362.0	361.8	361.4	361.1	360.8	360.4
147.5°	377.7	378.0	378.2	378.1	377.7	377.4	377.0	376.8
150°	387.9	388.1	388.4	388.4	388.1	387.9	387.6	387.4
152.5°	398.0	398.3	398.6	398.6	398.3	398.0	397.7	397.4
155°	410.9	411.3	411.7	411.8	411.6	411.3	411.0	410.8
157.5°	422.7	423.3	423.9	424.0	423.5	423.1	422.8	422.3
160°	429.7	430.2	430.8	430.8	430.5	430.2	429.8	429.5
162.5°	436.1	436.7	437.3	437.4	437.0	436.5	436.1	435.8
165°	444.4	445.0	445.6	445.7	445.2	444.8	444.4	443.9
167.5°	451.2	451.8	452.4	452.5	451.9	451.5	451.1	450.6
170°	454.9	455.5	456.1	456.2	455.6	455.1	454.6	454.1
172.5°	457.7	458.3	458.9	458.9	458.4	457.9	457.4	456.8
175°	460.7	461.3	461.9	462.0	461.5	461.0	460.5	459.9
177.5°	462.2	462.5	463.0	463.0	462.5	462.2	461.8	461.3
180°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3

(END OF REPORT)