

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: P332453-935

Luminaire Tested: **S123RDIW-S1000D460U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332453-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1000D460U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4641.8 lumens
Efficiency: N/A
Efficacy: 100.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

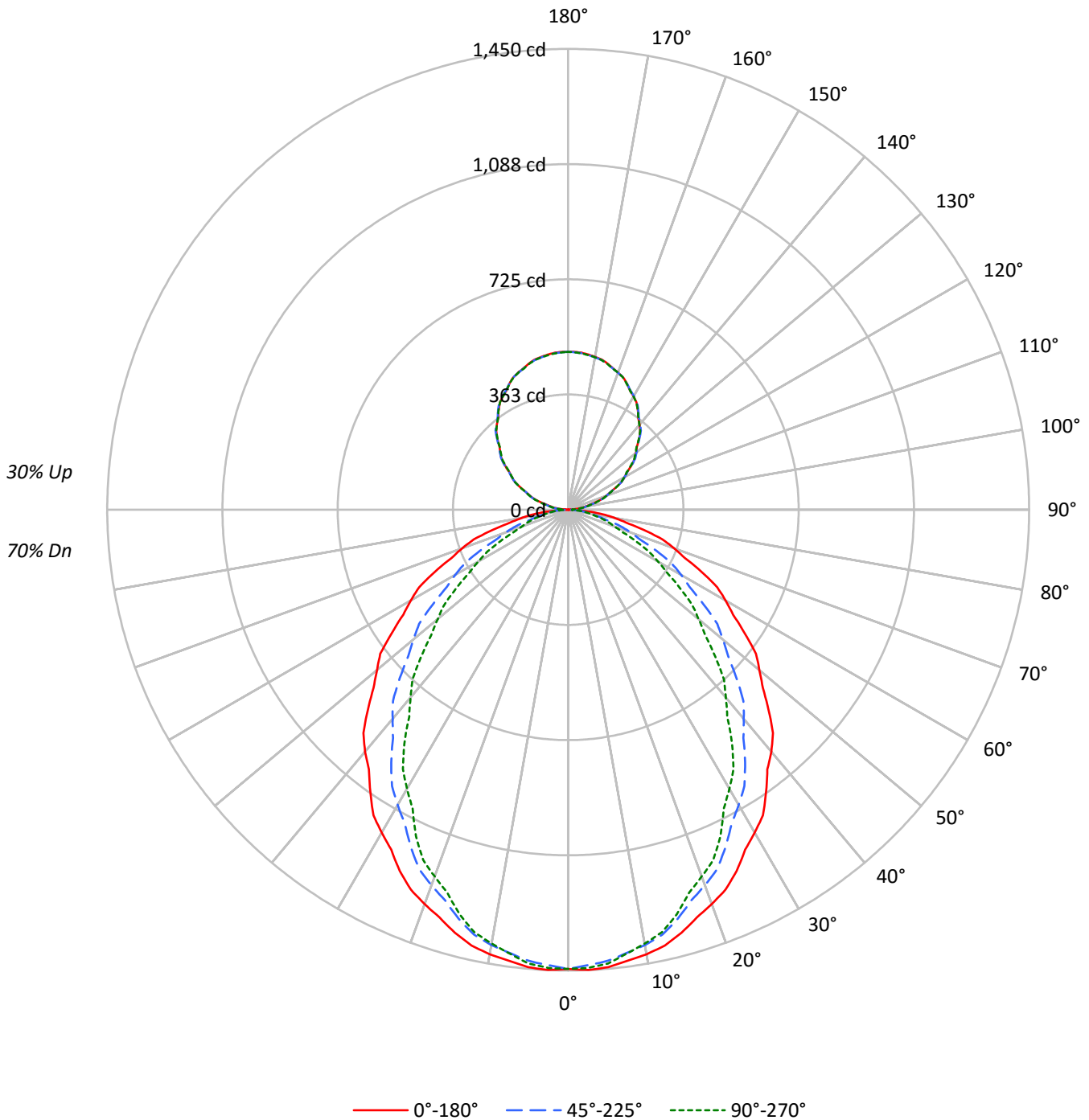
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	95	95	84	84	84	75	75	75	70
1	103	99	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60
2	94	87	80	75	89	82	77	72	74	70	66	66	63	60	59	57	55	51
3	86	77	69	63	81	73	66	61	66	60	56	59	55	52	53	50	47	44
4	79	68	60	54	75	65	58	52	59	53	48	53	48	45	48	44	41	38
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	43	39	36	33
6	67	55	47	41	64	53	45	40	48	42	37	43	38	34	39	35	32	29
7	62	50	42	36	59	48	40	35	44	37	33	40	35	31	36	32	29	26
8	58	46	38	32	55	44	36	31	40	34	29	36	31	28	33	29	26	24
9	54	42	34	29	51	40	33	28	37	31	27	34	29	25	31	26	23	21
10	51	39	31	26	48	37	30	26	34	28	24	31	26	23	29	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15553	15553	15553
5°	15612	15397	15486
10°	15524	15204	15152
15°	15357	14848	14692
20°	15128	14403	14068
25°	14892	13904	13459
30°	14579	13328	12599
35°	14259	12750	11811
40°	13964	12069	10835
45°	13575	11399	9954
50°	13147	10637	8967
55°	12710	9764	8049
60°	12312	8831	7037
65°	11790	7819	6029
70°	11138	6565	4869
75°	10189	5165	4579
80°	9081	4575	4209
85°	7669	4051	3767



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.7	2.9
10°-20°	377.5	8.1
20°-30°	543.6	11.7
30°-40°	612.3	13.2
40°-50°	585.8	12.6
50°-60°	479.7	10.3
60°-70°	323.7	7.0
70°-80°	162.8	3.5
80°-90°	44.5	1.0
90°-100°	32.4	0.7
100°-110°	96.8	2.1
110°-120°	164.7	3.5
120°-130°	216.7	4.7
130°-140°	243.5	5.2
140°-150°	239.4	5.2
150°-160°	201.5	4.3
160°-170°	134.2	2.9
170°-180°	47.0	1.0
0°-30°	1056.8	22.8
0°-40°	1669.1	36.0
0°-60°	2734.6	58.9
0°-90°	3265.6	70.4
90°-120°	293.9	6.3
90°-150°	993.5	21.4
90°-180°	1376.0	29.6
0°-180°	4641.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1445	1439	1425	1435	1433	137
15°	1378	1364	1332	1326	1318	388
25°	1254	1223	1171	1147	1133	576
35°	1085	1041	970	922	899	679
45°	892	837	749	684	654	688
55°	677	618	520	455	429	607
65°	463	397	307	252	237	458
75°	245	188	124	113	110	261
85°	62	38	33	31	30	70
90°	0	4	9	11	12	5
95°	23	26	29	30	30	26
105°	88	89	92	92	93	94
115°	166	167	166	167	166	164
125°	243	244	243	242	240	216
135°	315	317	317	315	314	243
145°	382	383	384	384	382	239
155°	437	437	438	439	437	201
165°	476	475	475	477	475	134
175°	496	494	494	496	494	47
180°	497	497	497	497	497	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1449.6	1448.7	1447.9	1447.1	1446.2	1444.6	1442.1	1439.6	1437.1	1434.6	1436.8
5°	1444.9	1443.6	1442.3	1441.0	1439.7	1437.4	1434.3	1431.2	1428.1	1425.0	1427.3
7.5°	1431.5	1430.1	1428.7	1427.3	1425.9	1423.1	1419.1	1415.1	1411.0	1407.0	1408.3
10°	1420.3	1418.5	1416.6	1414.8	1413.0	1409.7	1405.1	1400.3	1395.7	1391.0	1391.3
12.5°	1404.4	1402.3	1400.3	1398.3	1396.2	1392.3	1386.6	1380.9	1375.2	1369.4	1369.2
15°	1378.1	1375.3	1372.3	1369.5	1366.7	1361.6	1354.3	1346.9	1339.7	1332.4	1331.1
17.5°	1345.1	1341.7	1338.4	1335.1	1331.7	1325.4	1316.1	1306.9	1297.6	1288.3	1285.6
20°	1320.7	1316.6	1312.3	1308.2	1304.0	1297.0	1287.1	1277.2	1267.3	1257.4	1254.0
22.5°	1293.5	1288.7	1283.9	1279.1	1274.4	1266.7	1256.1	1245.6	1235.1	1224.6	1220.4
25°	1253.9	1247.4	1240.9	1234.3	1227.9	1218.6	1206.6	1194.6	1182.7	1170.7	1165.2
27.5°	1205.8	1198.7	1191.5	1184.3	1177.1	1166.8	1153.5	1140.1	1126.8	1113.5	1105.9
30°	1173.0	1165.2	1157.4	1149.6	1141.8	1130.6	1116.0	1101.4	1086.8	1072.3	1063.4
32.5°	1140.2	1131.4	1122.5	1113.6	1104.8	1092.7	1077.3	1061.9	1046.4	1031.0	1021.3
35°	1085.1	1075.7	1066.3	1057.0	1047.7	1034.8	1018.7	1002.5	986.4	970.3	959.1
37.5°	1029.3	1018.9	1008.5	998.1	987.7	973.9	956.7	939.4	922.1	904.9	892.2
40°	993.8	982.3	970.8	959.3	947.9	932.9	914.5	896.0	877.4	858.9	845.4
42.5°	953.4	941.9	930.5	919.0	907.6	892.3	873.2	854.1	835.0	815.9	801.1
45°	891.8	880.0	868.3	856.6	844.9	829.1	809.0	788.9	768.9	748.8	734.0
47.5°	830.2	817.3	804.4	791.5	778.7	762.2	742.2	722.1	702.1	682.0	665.9
50°	785.1	772.9	760.7	748.5	736.2	719.5	698.4	677.3	656.3	635.2	619.0
52.5°	744.9	731.6	718.2	705.0	691.7	674.6	653.8	632.8	612.0	591.1	574.3
55°	677.3	664.6	651.8	639.0	626.3	608.8	586.7	564.6	542.4	520.3	505.2
57.5°	615.0	601.1	587.2	573.3	559.4	541.3	519.0	496.8	474.6	452.4	438.1
60°	571.9	557.6	543.2	528.9	514.5	496.6	475.0	453.4	431.8	410.2	396.1
62.5°	528.7	514.4	500.1	485.8	471.5	453.5	431.9	410.3	388.7	367.0	353.8
65°	462.9	448.6	434.2	419.9	405.6	388.3	368.0	347.7	327.4	307.0	294.3
67.5°	397.0	382.5	368.1	353.6	339.1	322.1	302.6	283.2	263.7	244.2	234.7
70°	353.9	339.8	325.8	311.7	297.6	281.5	263.3	245.0	226.8	208.6	199.5
72.5°	310.7	297.0	283.1	269.2	255.4	240.1	223.6	207.1	190.5	173.9	166.4
75°	245.0	232.4	219.9	207.4	194.9	181.5	167.2	152.8	138.5	124.2	121.6
77.5°	184.9	173.6	162.3	151.0	139.7	129.4	120.2	111.0	101.8	92.6	91.2
80°	146.5	135.8	125.1	114.4	103.8	95.7	90.2	84.7	79.3	73.8	73.0
82.5°	109.9	100.7	91.5	82.2	73.0	67.2	64.6	62.1	59.5	56.9	56.1
85°	62.1	56.4	50.6	44.9	39.2	35.9	35.1	34.4	33.6	32.8	32.3
87.5°	22.6	20.5	18.3	16.2	14.1	13.2	13.3	13.6	13.9	14.0	13.9
90°	0.4	1.3	2.2	3.0	3.9	4.8	5.9	7.1	8.3	9.4	9.7
92.5°	9.5	10.1	10.6	11.2	11.8	12.4	13.1	13.7	14.4	15.0	15.2
95°	23.0	23.6	24.2	24.9	25.5	26.1	26.8	27.5	28.2	28.8	29.2
97.5°	40.9	41.3	41.8	42.3	42.7	43.1	43.7	44.2	44.7	45.2	45.5
100°	53.0	53.6	54.1	54.6	55.1	55.6	56.1	56.5	56.9	57.3	57.6
102.5°	67.1	67.4	67.8	68.0	68.4	68.8	69.4	69.9	70.5	71.1	71.4
105°	87.8	88.0	88.2	88.3	88.5	88.9	89.7	90.5	91.3	92.0	92.0
107.5°	111.8	111.9	112.0	112.1	112.3	112.4	112.8	113.0	113.4	113.7	114.0
110°	126.8	127.0	127.2	127.3	127.5	127.7	127.9	128.0	128.2	128.4	128.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.4	142.5	142.7	142.8	142.8	142.9	142.9	143.0	143.0	143.0	143.4
115°	165.8	166.1	166.3	166.6	166.9	166.9	166.8	166.6	166.4	166.3	166.3
117.5°	189.4	189.6	189.8	189.9	190.1	190.0	189.9	189.6	189.4	189.2	189.2
120°	204.1	204.6	205.1	205.6	206.1	206.2	205.8	205.3	204.9	204.5	204.4
122.5°	219.4	219.7	220.2	220.5	220.8	220.9	220.8	220.5	220.3	220.1	219.8
125°	242.7	243.0	243.2	243.5	243.7	243.7	243.6	243.4	243.2	243.1	242.7
127.5°	264.2	264.8	265.4	265.9	266.5	266.7	266.5	266.2	266.0	265.9	265.4
130°	278.6	279.3	280.0	280.7	281.4	281.5	281.3	281.0	280.8	280.5	280.2
132.5°	292.9	293.6	294.4	295.1	295.8	296.0	295.8	295.6	295.4	295.2	294.8
135°	314.9	315.4	315.9	316.4	316.9	317.2	317.1	317.0	316.9	316.8	316.5
137.5°	335.2	335.6	336.0	336.5	336.9	337.3	337.4	337.7	337.9	338.1	337.8
140°	349.2	349.7	350.1	350.5	350.9	351.2	351.3	351.4	351.5	351.5	351.5
142.5°	362.1	362.5	362.9	363.3	363.8	364.0	364.2	364.4	364.5	364.6	364.5
145°	382.0	382.2	382.4	382.5	382.7	382.9	383.1	383.4	383.7	383.9	383.8
147.5°	399.5	399.8	400.1	400.4	400.7	401.0	401.2	401.5	401.7	402.0	402.0
150°	411.6	411.8	412.0	412.2	412.3	412.5	412.7	412.8	413.0	413.2	413.2
152.5°	421.6	421.9	422.1	422.3	422.6	422.8	422.8	423.0	423.1	423.2	423.4
155°	437.4	437.4	437.4	437.4	437.4	437.5	437.6	437.6	437.7	437.8	438.2
157.5°	450.8	450.7	450.6	450.5	450.4	450.4	450.5	450.6	450.6	450.6	451.0
160°	459.3	459.1	458.9	458.7	458.6	458.5	458.5	458.5	458.5	458.5	458.9
162.5°	466.7	466.5	466.2	466.0	465.8	465.7	465.7	465.8	465.9	466.0	466.4
165°	476.4	476.1	475.9	475.6	475.4	475.3	475.3	475.3	475.3	475.3	475.8
167.5°	484.1	483.8	483.5	483.1	482.8	482.6	482.7	482.8	482.8	482.8	483.5
170°	488.5	488.2	487.8	487.5	487.2	487.0	487.0	487.0	487.0	487.0	487.6
172.5°	492.0	491.6	491.3	490.9	490.5	490.3	490.3	490.3	490.3	490.3	490.9
175°	495.5	495.2	494.8	494.5	494.1	494.0	494.0	494.0	494.0	494.0	494.5
177.5°	497.1	496.7	496.5	496.2	495.9	495.8	495.8	495.8	495.8	495.8	496.2
180°	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9	1444.9
2.5°	1439.2	1441.5	1443.7	1444.7	1444.2	1443.9	1443.5	1443.0
5°	1429.7	1432.0	1434.3	1435.3	1434.8	1434.3	1433.7	1433.2
7.5°	1409.5	1410.8	1412.1	1412.4	1411.4	1410.6	1409.7	1408.8
10°	1391.5	1391.8	1392.1	1391.5	1390.2	1388.9	1387.6	1386.3
12.5°	1369.1	1369.0	1368.8	1368.0	1366.5	1364.9	1363.5	1361.9
15°	1329.8	1328.5	1327.2	1325.6	1323.8	1322.0	1320.2	1318.4
17.5°	1282.8	1280.0	1277.3	1274.5	1271.9	1269.1	1266.4	1263.7
20°	1250.6	1247.2	1243.9	1240.6	1237.5	1234.3	1231.2	1228.1
22.5°	1216.2	1211.9	1207.7	1204.1	1201.3	1198.3	1195.4	1192.5
25°	1159.8	1154.3	1148.8	1144.6	1141.8	1138.9	1136.1	1133.2
27.5°	1098.3	1090.7	1083.1	1077.1	1072.7	1068.3	1063.9	1059.6
30°	1054.6	1045.7	1036.8	1030.4	1026.1	1022.0	1017.8	1013.7
32.5°	1011.6	1001.9	992.2	985.2	980.9	976.5	972.1	967.7
35°	947.9	936.7	925.5	917.6	912.9	908.2	903.5	898.8
37.5°	879.5	866.8	854.1	844.8	839.0	833.3	827.5	821.7
40°	831.9	818.4	804.8	795.0	789.0	783.1	777.1	771.1
42.5°	786.3	771.5	756.6	746.6	741.2	735.9	730.5	725.1
45°	719.1	704.3	689.4	678.9	672.6	666.4	660.1	653.9
47.5°	649.7	633.6	617.4	606.6	601.0	595.5	589.9	584.3
50°	602.9	586.7	570.6	559.5	553.5	547.5	541.6	535.5
52.5°	557.6	540.8	524.0	512.9	507.6	502.2	496.9	491.5
55°	490.1	475.0	459.9	449.7	444.5	439.3	434.1	428.9
57.5°	423.8	409.5	395.3	385.9	381.5	377.0	372.6	368.2
60°	382.0	368.0	353.9	344.7	340.3	335.8	331.4	326.9
62.5°	340.5	327.4	314.1	305.1	300.6	295.9	291.3	286.6
65°	281.5	268.7	256.0	248.1	245.3	242.5	239.6	236.7
67.5°	225.2	215.6	206.1	199.8	196.7	193.6	190.5	187.5
70°	190.4	181.2	172.1	166.2	163.2	160.4	157.6	154.7
72.5°	159.0	151.5	144.1	139.8	138.6	137.4	136.2	135.0
75°	119.0	116.4	113.8	112.3	111.8	111.2	110.6	110.1
77.5°	89.8	88.3	87.0	86.0	85.5	85.0	84.5	83.9
80°	72.2	71.5	70.7	70.1	69.6	69.1	68.4	67.9
82.5°	55.4	54.6	53.8	53.4	53.3	53.2	53.0	53.0
85°	31.8	31.3	30.7	30.5	30.5	30.5	30.5	30.5
87.5°	13.8	13.6	13.5	13.3	13.2	13.0	12.8	12.7
90°	10.1	10.4	10.8	11.0	11.2	11.4	11.5	11.7
92.5°	15.5	15.8	16.1	16.2	16.1	15.9	15.8	15.8
95°	29.5	29.9	30.2	30.4	30.4	30.4	30.4	30.4
97.5°	46.0	46.4	46.8	46.9	46.9	46.9	46.8	46.8
100°	57.9	58.1	58.4	58.6	58.8	59.0	59.2	59.3
102.5°	71.6	71.9	72.2	72.2	72.2	72.2	72.2	72.1
105°	92.0	92.0	92.0	92.1	92.4	92.6	92.7	92.9
107.5°	114.3	114.5	114.8	114.9	114.8	114.7	114.6	114.5
110°	129.1	129.4	129.8	129.8	129.7	129.5	129.3	129.2



TEST NUMBER: P332453-935

CATALOG NUMBER: S123RDIW-S1000D460U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	143.9	144.3	144.7	144.9	144.8	144.8	144.8	144.7
115°	166.4	166.5	166.6	166.6	166.5	166.4	166.3	166.3
117.5°	189.2	189.1	189.1	189.0	188.7	188.5	188.2	188.0
120°	204.3	204.2	204.1	204.0	203.8	203.6	203.5	203.3
122.5°	219.6	219.4	219.1	219.0	218.7	218.4	218.2	217.9
125°	242.4	242.0	241.7	241.3	241.0	240.6	240.3	240.0
127.5°	264.9	264.4	263.9	263.5	263.1	262.7	262.3	261.9
130°	279.8	279.5	279.1	278.7	278.1	277.5	276.9	276.2
132.5°	294.4	293.9	293.5	293.1	292.7	292.1	291.7	291.2
135°	316.2	315.8	315.5	315.2	315.0	314.9	314.7	314.5
137.5°	337.4	337.1	336.7	336.3	336.0	335.7	335.4	335.0
140°	351.4	351.3	351.2	350.9	350.3	349.7	349.0	348.4
142.5°	364.5	364.4	364.3	364.0	363.6	363.1	362.7	362.1
145°	383.7	383.7	383.6	383.4	383.1	382.7	382.4	382.0
147.5°	402.0	402.0	402.0	401.7	401.2	400.6	400.1	399.6
150°	413.2	413.2	413.2	412.9	412.4	411.9	411.4	410.9
152.5°	423.4	423.6	423.8	423.6	423.2	422.7	422.2	421.8
155°	438.5	438.9	439.2	439.0	438.4	437.8	437.2	436.6
157.5°	451.4	451.8	452.1	452.0	451.6	451.1	450.6	450.1
160°	459.3	459.8	460.2	460.2	459.9	459.5	459.2	458.8
162.5°	466.8	467.3	467.7	467.6	467.1	466.5	466.0	465.4
165°	476.3	476.8	477.3	477.3	476.6	476.0	475.4	474.8
167.5°	484.0	484.5	485.0	485.0	484.5	484.0	483.5	482.8
170°	488.2	488.8	489.4	489.4	488.8	488.2	487.6	487.0
172.5°	491.5	492.0	492.5	492.5	491.9	491.3	490.7	490.1
175°	495.0	495.5	496.0	496.0	495.4	494.8	494.2	493.6
177.5°	496.6	497.1	497.4	497.4	496.9	496.5	495.9	495.4
180°	496.7	496.7	496.7	496.7	496.7	496.7	496.7	496.7

(END OF REPORT)