

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: P332453-930

Luminaire Tested: **S123RDIW-S1000D460U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332453-930
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-S1000D460U930-4F0-1E-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: 4395.4 lumens
Efficiency: N/A
Efficacy: 95.1 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

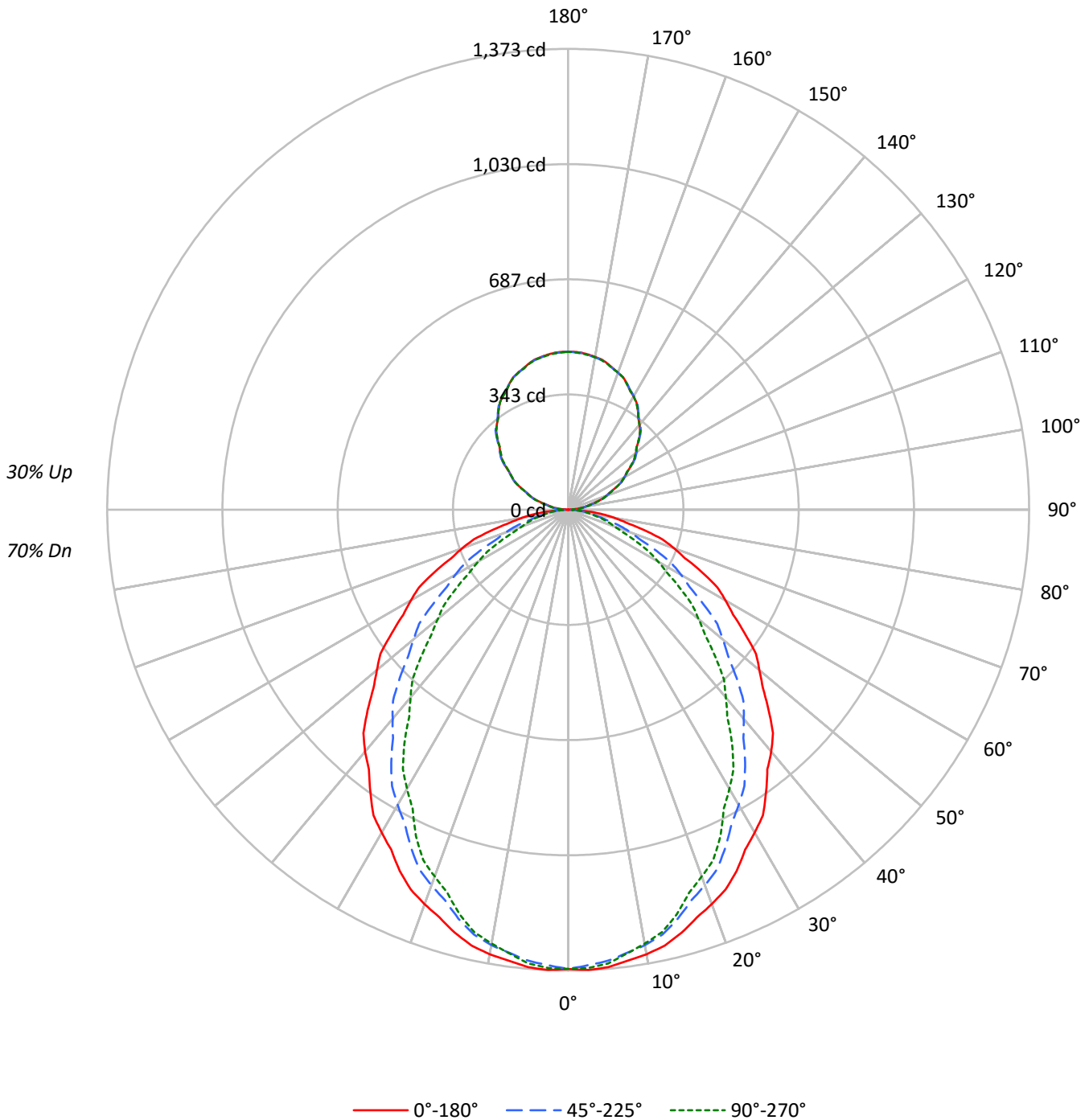
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	14727	14727	14727
5°	14783	14579	14664
10°	14700	14397	14348
15°	14542	14060	13912
20°	14325	13639	13321
25°	14101	13166	12744
30°	13806	12621	11931
35°	13502	12073	11184
40°	13222	11428	10260
45°	12855	10794	9426
50°	12450	10071	8492
55°	12037	9246	7621
60°	11657	8361	6665
65°	11163	7404	5708
70°	10546	6216	4611
75°	9649	4891	4338
80°	8598	4333	3986
85°	7262	3841	3569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	2.9
10°-20°	357.5	8.1
20°-30°	514.7	11.7
30°-40°	579.8	13.2
40°-50°	554.7	12.6
50°-60°	454.2	10.3
60°-70°	306.5	7.0
70°-80°	154.2	3.5
80°-90°	42.2	1.0
90°-100°	30.6	0.7
100°-110°	91.7	2.1
110°-120°	156.0	3.5
120°-130°	205.2	4.7
130°-140°	230.6	5.2
140°-150°	226.7	5.2
150°-160°	190.8	4.3
160°-170°	127.0	2.9
170°-180°	44.5	1.0
0°-30°	1000.7	22.8
0°-40°	1580.5	36.0
0°-60°	2589.5	58.9
0°-90°	3092.3	70.4
90°-120°	278.3	6.3
90°-150°	940.8	21.4
90°-180°	1303.0	29.6
0°-180°	4395.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1368	1368	1368	1368	1368	
5°	1368	1362	1349	1359	1357	130
15°	1305	1292	1262	1256	1248	367
25°	1187	1158	1109	1086	1073	546
35°	1028	986	919	873	851	643
45°	844	793	709	648	619	651
55°	641	585	493	431	406	575
65°	438	376	291	239	224	434
75°	232	178	118	107	104	247
85°	59	36	31	29	29	66
90°	0	4	9	10	11	4
95°	22	24	27	29	29	24
105°	83	84	87	87	88	89
115°	157	158	157	158	157	155
125°	230	231	230	229	227	205
135°	298	300	300	299	298	230
145°	362	362	364	363	362	226
155°	414	414	415	416	413	191
165°	451	450	450	452	450	127
175°	469	468	468	470	467	45
180°	470	470	470	470	470	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1372.6	1371.8	1371.1	1370.3	1369.5	1367.9	1365.5	1363.2	1360.8	1358.5	1360.6
5°	1368.2	1366.9	1365.7	1364.5	1363.3	1361.1	1358.2	1355.3	1352.3	1349.3	1351.5
7.5°	1355.5	1354.2	1352.9	1351.5	1350.2	1347.6	1343.8	1339.9	1336.1	1332.3	1333.5
10°	1344.9	1343.2	1341.4	1339.7	1338.0	1334.9	1330.5	1326.0	1321.6	1317.2	1317.4
12.5°	1329.8	1327.9	1326.0	1324.0	1322.1	1318.4	1313.0	1307.6	1302.2	1296.7	1296.6
15°	1305.0	1302.3	1299.5	1296.8	1294.1	1289.3	1282.4	1275.5	1268.6	1261.7	1260.5
17.5°	1273.7	1270.5	1267.4	1264.2	1261.0	1255.1	1246.3	1237.5	1228.7	1219.9	1217.3
20°	1250.6	1246.7	1242.7	1238.8	1234.8	1228.2	1218.8	1209.4	1200.0	1190.7	1187.5
22.5°	1224.8	1220.3	1215.8	1211.2	1206.7	1199.5	1189.4	1179.5	1169.5	1159.6	1155.6
25°	1187.3	1181.2	1175.0	1168.8	1162.7	1153.9	1142.6	1131.2	1119.9	1108.6	1103.3
27.5°	1141.8	1135.1	1128.2	1121.4	1114.6	1104.9	1092.3	1079.6	1067.0	1054.4	1047.2
30°	1110.8	1103.3	1096.0	1088.6	1081.2	1070.6	1056.8	1042.9	1029.2	1015.4	1007.0
32.5°	1079.7	1071.3	1062.9	1054.5	1046.2	1034.7	1020.1	1005.5	990.8	976.2	967.1
35°	1027.5	1018.6	1009.7	1000.9	992.1	979.9	964.7	949.3	934.1	918.8	908.2
37.5°	974.7	964.8	955.0	945.1	935.2	922.2	905.9	889.5	873.2	856.9	844.8
40°	941.0	930.2	919.2	908.4	897.6	883.4	865.9	848.4	830.9	813.3	800.5
42.5°	902.8	891.9	881.1	870.3	859.4	845.0	826.9	808.8	790.7	772.6	758.6
45°	844.5	833.3	822.2	811.1	800.1	785.1	766.1	747.1	728.1	709.1	695.0
47.5°	786.1	773.9	761.7	749.5	737.4	721.8	702.8	683.8	664.8	645.8	630.6
50°	743.5	731.9	720.3	708.7	697.1	681.3	661.4	641.4	621.4	601.4	586.1
52.5°	705.3	692.8	680.1	667.6	655.0	638.8	619.1	599.2	579.5	559.7	543.8
55°	641.4	629.3	617.2	605.1	593.0	576.5	555.5	534.6	513.6	492.7	478.4
57.5°	582.4	569.2	556.0	542.8	529.7	512.6	491.5	470.4	449.4	428.4	414.8
60°	541.5	528.0	514.4	500.8	487.2	470.3	449.8	429.3	408.9	388.4	375.0
62.5°	500.7	487.1	473.5	460.0	446.5	429.4	409.0	388.5	368.0	347.6	335.0
65°	438.3	424.8	411.2	397.6	384.1	367.7	348.5	329.2	310.0	290.7	278.7
67.5°	375.9	362.2	348.5	334.8	321.1	305.0	286.6	268.2	249.7	231.2	222.3
70°	335.1	321.8	308.5	295.1	281.8	266.6	249.3	232.0	214.7	197.5	188.9
72.5°	294.2	281.2	268.1	254.9	241.8	227.4	211.7	196.1	180.3	164.7	157.6
75°	232.0	220.0	208.2	196.4	184.6	171.9	158.3	144.7	131.2	117.6	115.1
77.5°	175.1	164.4	153.7	143.0	132.3	122.5	113.8	105.1	96.4	87.6	86.3
80°	138.7	128.6	118.5	108.4	98.2	90.7	85.4	80.2	75.1	69.9	69.1
82.5°	104.1	95.4	86.7	77.9	69.1	63.6	61.1	58.8	56.3	53.9	53.2
85°	58.8	53.4	47.9	42.6	37.1	34.0	33.3	32.5	31.8	31.1	30.6
87.5°	21.4	19.4	17.4	15.3	13.4	12.5	12.6	12.9	13.1	13.3	13.2
90°	0.4	1.2	2.0	2.9	3.7	4.6	5.6	6.8	7.8	8.9	9.2
92.5°	9.0	9.5	10.0	10.6	11.2	11.7	12.4	13.0	13.6	14.2	14.4
95°	21.8	22.3	22.9	23.6	24.1	24.7	25.4	26.0	26.7	27.3	27.6
97.5°	38.7	39.1	39.5	40.0	40.4	40.8	41.3	41.8	42.3	42.8	43.1
100°	50.2	50.7	51.2	51.7	52.2	52.7	53.1	53.5	53.9	54.3	54.5
102.5°	63.5	63.8	64.2	64.4	64.7	65.1	65.7	66.2	66.8	67.3	67.6
105°	83.2	83.3	83.5	83.6	83.8	84.2	85.0	85.7	86.4	87.2	87.2
107.5°	105.9	106.0	106.1	106.2	106.3	106.5	106.8	107.0	107.4	107.7	107.9
110°	120.1	120.3	120.4	120.6	120.7	120.9	121.1	121.2	121.4	121.6	121.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.9	134.9	135.1	135.2	135.3	135.3	135.3	135.4	135.4	135.4	135.8
115°	157.0	157.3	157.5	157.8	158.0	158.1	157.9	157.8	157.6	157.4	157.5
117.5°	179.4	179.5	179.7	179.9	180.0	179.9	179.8	179.5	179.4	179.1	179.1
120°	193.2	193.7	194.2	194.7	195.2	195.3	194.9	194.4	194.0	193.6	193.6
122.5°	207.7	208.1	208.5	208.8	209.1	209.2	209.0	208.8	208.6	208.4	208.1
125°	229.8	230.1	230.3	230.6	230.8	230.8	230.6	230.5	230.3	230.2	229.8
127.5°	250.2	250.7	251.3	251.8	252.3	252.5	252.3	252.1	251.9	251.8	251.3
130°	263.8	264.5	265.1	265.8	266.4	266.6	266.4	266.1	265.9	265.6	265.3
132.5°	277.4	278.0	278.8	279.4	280.1	280.3	280.1	279.9	279.7	279.6	279.2
135°	298.2	298.6	299.1	299.6	300.1	300.4	300.3	300.2	300.1	300.0	299.7
137.5°	317.4	317.8	318.2	318.6	319.0	319.4	319.5	319.8	320.0	320.2	319.8
140°	330.7	331.1	331.5	331.9	332.3	332.6	332.6	332.7	332.8	332.9	332.8
142.5°	342.8	343.2	343.6	344.1	344.5	344.7	344.9	345.0	345.2	345.3	345.2
145°	361.7	361.9	362.1	362.2	362.4	362.6	362.8	363.1	363.3	363.5	363.5
147.5°	378.3	378.5	378.9	379.1	379.4	379.7	379.9	380.2	380.4	380.7	380.7
150°	389.8	390.0	390.1	390.3	390.4	390.6	390.8	390.9	391.1	391.3	391.3
152.5°	399.3	399.5	399.7	399.9	400.1	400.3	400.4	400.6	400.6	400.7	400.9
155°	414.2	414.2	414.2	414.2	414.2	414.3	414.3	414.4	414.5	414.6	414.9
157.5°	426.9	426.8	426.7	426.6	426.5	426.5	426.6	426.6	426.6	426.7	427.1
160°	434.9	434.7	434.6	434.4	434.2	434.1	434.1	434.1	434.1	434.1	434.6
162.5°	442.0	441.7	441.5	441.2	441.1	441.0	441.0	441.1	441.2	441.2	441.6
165°	451.1	450.9	450.6	450.4	450.1	450.0	450.0	450.0	450.0	450.0	450.5
167.5°	458.4	458.1	457.8	457.5	457.1	457.0	457.1	457.1	457.2	457.2	457.8
170°	462.6	462.3	461.9	461.6	461.3	461.1	461.1	461.1	461.1	461.1	461.7
172.5°	465.9	465.5	465.2	464.9	464.5	464.3	464.3	464.3	464.3	464.3	464.9
175°	469.2	468.9	468.6	468.2	467.9	467.7	467.7	467.7	467.7	467.7	468.2
177.5°	470.7	470.3	470.1	469.9	469.6	469.4	469.4	469.4	469.4	469.4	469.9
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1362.8	1365.0	1367.1	1368.0	1367.6	1367.3	1366.8	1366.4
5°	1353.8	1356.0	1358.2	1359.1	1358.6	1358.1	1357.6	1357.1
7.5°	1334.7	1335.9	1337.2	1337.4	1336.5	1335.7	1334.9	1334.0
10°	1317.7	1317.9	1318.2	1317.7	1316.4	1315.2	1313.9	1312.7
12.5°	1296.4	1296.3	1296.2	1295.3	1294.0	1292.5	1291.1	1289.6
15°	1259.2	1258.0	1256.8	1255.2	1253.5	1251.8	1250.1	1248.4
17.5°	1214.7	1212.1	1209.5	1206.9	1204.4	1201.8	1199.2	1196.6
20°	1184.2	1181.0	1177.9	1174.8	1171.8	1168.8	1165.9	1162.9
22.5°	1151.6	1147.6	1143.6	1140.2	1137.5	1134.7	1132.0	1129.2
25°	1098.2	1093.0	1087.9	1083.9	1081.2	1078.5	1075.8	1073.0
27.5°	1040.0	1032.8	1025.6	1019.9	1015.8	1011.6	1007.5	1003.4
30°	998.6	990.2	981.8	975.7	971.7	967.8	963.8	959.9
32.5°	957.9	948.8	939.6	932.9	928.8	924.6	920.5	916.3
35°	897.6	887.0	876.4	868.9	864.5	860.0	855.6	851.1
37.5°	832.8	820.8	808.8	800.0	794.5	789.0	783.6	778.1
40°	787.7	774.9	762.1	752.8	747.1	741.5	735.8	730.2
42.5°	744.5	730.5	716.5	706.9	701.9	696.8	691.7	686.6
45°	680.9	666.9	652.8	642.9	636.9	631.0	625.1	619.2
47.5°	615.2	600.0	584.7	574.4	569.1	563.9	558.6	553.3
50°	570.9	555.5	540.3	529.8	524.2	518.4	512.8	507.1
52.5°	528.0	512.1	496.2	485.7	480.6	475.6	470.5	465.4
55°	464.1	449.8	435.5	425.8	420.9	416.0	411.1	406.1
57.5°	401.3	387.8	374.3	365.4	361.3	357.0	352.9	348.6
60°	361.7	348.5	335.1	326.4	322.2	318.0	313.8	309.6
62.5°	322.5	310.0	297.4	288.9	284.6	280.2	275.8	271.4
65°	266.6	254.5	242.4	235.0	232.3	229.6	226.9	224.1
67.5°	213.2	204.2	195.2	189.1	186.3	183.4	180.4	177.6
70°	180.3	171.6	163.0	157.4	154.6	151.9	149.2	146.5
72.5°	150.6	143.5	136.5	132.4	131.3	130.1	129.0	127.8
75°	112.7	110.2	107.8	106.3	105.8	105.3	104.8	104.3
77.5°	85.0	83.6	82.3	81.4	81.0	80.5	80.0	79.5
80°	68.4	67.7	66.9	66.4	65.9	65.4	64.8	64.3
82.5°	52.4	51.7	51.0	50.5	50.5	50.4	50.2	50.1
85°	30.1	29.6	29.1	28.9	28.9	28.9	28.9	28.9
87.5°	13.0	12.9	12.8	12.6	12.5	12.3	12.1	12.0
90°	9.5	9.9	10.2	10.4	10.6	10.8	10.9	11.1
92.5°	14.7	15.0	15.2	15.3	15.2	15.1	15.0	14.9
95°	28.0	28.3	28.6	28.8	28.8	28.8	28.8	28.8
97.5°	43.5	43.9	44.3	44.4	44.4	44.4	44.4	44.4
100°	54.8	55.0	55.3	55.5	55.7	55.8	56.0	56.2
102.5°	67.8	68.1	68.3	68.4	68.4	68.3	68.3	68.2
105°	87.2	87.2	87.2	87.2	87.5	87.6	87.8	88.0
107.5°	108.2	108.4	108.7	108.8	108.7	108.6	108.5	108.4
110°	122.2	122.5	122.9	122.9	122.8	122.6	122.5	122.3



TEST NUMBER: P332453-930

CATALOG NUMBER: S123RDIW-S1000D460U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	136.2	136.6	137.1	137.2	137.1	137.1	137.1	137.1
115°	157.6	157.7	157.8	157.8	157.7	157.6	157.5	157.4
117.5°	179.1	179.0	179.0	179.0	178.7	178.5	178.2	178.0
120°	193.5	193.4	193.3	193.1	193.0	192.8	192.7	192.5
122.5°	208.0	207.7	207.5	207.3	207.1	206.8	206.6	206.4
125°	229.5	229.2	228.9	228.5	228.2	227.9	227.6	227.2
127.5°	250.9	250.4	249.9	249.5	249.2	248.7	248.3	248.0
130°	265.0	264.6	264.3	263.9	263.3	262.8	262.2	261.5
132.5°	278.8	278.3	277.9	277.5	277.1	276.6	276.2	275.7
135°	299.4	299.1	298.7	298.5	298.3	298.2	298.0	297.8
137.5°	319.5	319.2	318.8	318.5	318.1	317.9	317.6	317.2
140°	332.7	332.6	332.6	332.2	331.7	331.1	330.5	330.0
142.5°	345.1	345.0	345.0	344.7	344.3	343.8	343.4	342.9
145°	363.4	363.3	363.2	363.1	362.7	362.4	362.1	361.7
147.5°	380.7	380.7	380.7	380.4	379.9	379.4	378.9	378.4
150°	391.3	391.3	391.3	391.0	390.5	390.0	389.6	389.1
152.5°	401.0	401.1	401.3	401.1	400.7	400.2	399.8	399.4
155°	415.2	415.6	415.9	415.7	415.2	414.6	414.0	413.4
157.5°	427.5	427.8	428.1	428.0	427.6	427.1	426.6	426.2
160°	435.0	435.4	435.8	435.8	435.5	435.1	434.8	434.5
162.5°	442.1	442.5	442.9	442.8	442.3	441.7	441.2	440.7
165°	451.0	451.5	452.0	451.9	451.3	450.8	450.2	449.6
167.5°	458.3	458.8	459.3	459.3	458.8	458.3	457.8	457.2
170°	462.3	462.8	463.4	463.4	462.8	462.3	461.7	461.1
172.5°	465.4	465.9	466.4	466.4	465.8	465.2	464.6	464.1
175°	468.7	469.2	469.7	469.7	469.1	468.6	468.0	467.4
177.5°	470.3	470.7	471.0	471.0	470.5	470.1	469.6	469.1
180°	470.3	470.3	470.3	470.3	470.3	470.3	470.3	470.3

(END OF REPORT)