

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: P332333-935

Luminaire Tested: **S123RDIP-S1000D365U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332333-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D365U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4514.1 lumens
Efficiency: N/A
Efficacy: 103.8 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

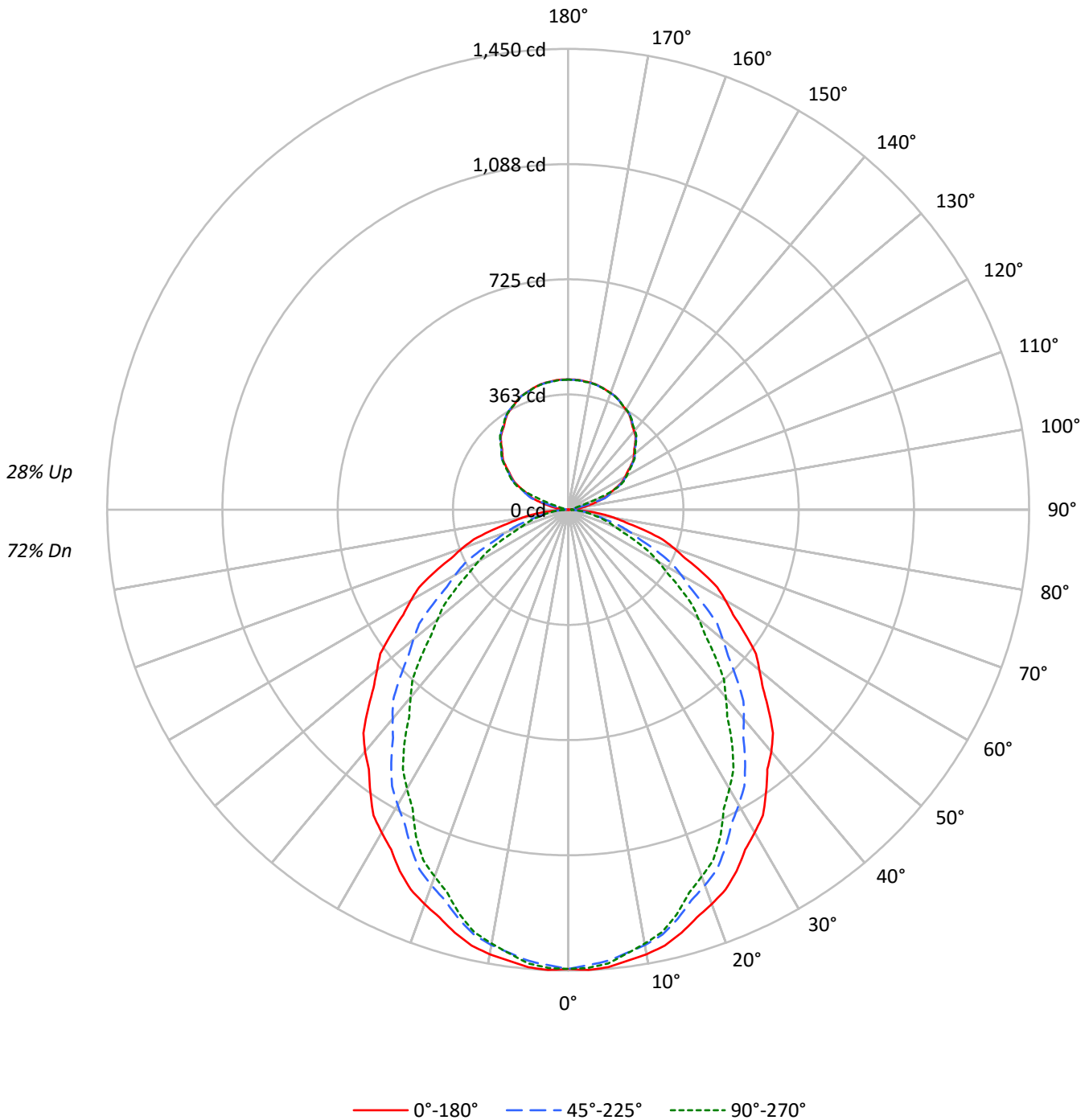
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	96	96	96	86	86	86	77	77	77	72
1	103	99	95	92	98	94	91	88	85	82	80	76	74	73	69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67	68	64	61	61	58	56	53
3	86	77	70	64	82	73	67	61	67	61	57	60	56	52	54	51	48	45
4	79	68	60	54	75	65	58	53	59	54	49	54	49	45	49	45	42	39
5	73	61	53	47	69	59	51	46	54	47	43	49	44	40	44	40	37	34
6	68	55	47	41	64	53	45	40	48	42	37	44	39	35	40	36	33	30
7	63	50	42	36	59	48	41	35	44	38	33	40	35	31	37	33	29	27
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	34	30	26	24
9	55	42	34	29	52	40	33	28	37	31	27	34	29	25	32	27	24	22
10	51	39	31	27	49	37	30	26	34	29	24	32	27	23	29	25	22	20

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	3.0
10°-20°	377.5	8.4
20°-30°	543.6	12.0
30°-40°	612.3	13.6
40°-50°	585.8	13.0
50°-60°	479.7	10.6
60°-70°	323.7	7.2
70°-80°	162.8	3.6
80°-90°	44.2	1.0
90°-100°	14.9	0.3
100°-110°	71.0	1.6
110°-120°	170.4	3.8
120°-130°	217.0	4.8
130°-140°	231.9	5.1
140°-150°	216.9	4.8
150°-160°	174.9	3.9
160°-170°	112.9	2.5
170°-180°	38.9	0.9
0°-30°	1056.8	23.4
0°-40°	1669.1	37.0
0°-60°	2734.6	60.6
0°-90°	3265.3	72.3
90°-120°	256.3	5.7
90°-150°	922.1	20.4
90°-180°	1249.0	27.7
0°-180°	4514.1	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	3	7	8	9	4
95°	19	7	10	11	12	23
105°	91	92	67	16	13	96
115°	170	172	175	178	179	168
125°	240	242	243	244	245	214
135°	298	300	302	302	302	230
145°	344	346	347	348	348	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	



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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	20.4	18.3	16.1	13.9	12.9	13.1	13.3	13.4	13.7	13.5
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	5.7	5.5	5.3	5.1	4.9	5.2	5.8	6.5	7.1	7.7	8.2
95°	18.6	15.8	13.0	10.2	7.5	6.5	7.2	7.9	8.7	9.5	9.9
97.5°	37.3	36.1	34.8	33.6	32.3	29.3	24.4	19.5	14.6	9.8	10.3
100°	51.4	52.8	54.2	55.4	56.8	52.3	41.7	31.2	20.6	10.1	10.6
102.5°	67.5	68.4	69.4	70.4	71.4	66.1	54.6	43.0	31.5	20.1	18.3
105°	90.7	91.4	92.1	92.9	93.7	91.0	84.9	78.8	72.8	66.6	54.7
107.5°	115.1	115.7	116.3	116.9	117.5	118.3	119.2	120.2	121.1	122.1	113.3
110°	131.5	132.0	132.5	133.0	133.6	134.2	135.0	135.7	136.5	137.2	135.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.0	147.5	148.0	148.4	149.0	149.6	150.3	151.1	151.8	152.6	152.6
115°	170.0	170.5	170.9	171.3	171.7	172.2	172.8	173.4	174.0	174.6	175.3
117.5°	192.4	193.0	193.4	193.9	194.4	194.8	195.1	195.4	195.8	196.0	196.6
120°	206.3	206.9	207.5	208.1	208.7	209.1	209.3	209.6	209.7	209.9	210.5
122.5°	220.4	220.9	221.4	221.9	222.4	222.7	223.0	223.3	223.5	223.8	224.2
125°	239.8	240.3	240.8	241.3	241.9	242.3	242.6	242.9	243.1	243.4	243.6
127.5°	258.5	259.1	259.6	260.1	260.6	261.1	261.4	261.7	262.1	262.3	262.6
130°	270.2	270.7	271.2	271.8	272.3	272.8	273.0	273.3	273.5	273.8	274.1
132.5°	281.4	281.9	282.5	283.0	283.5	283.9	284.1	284.4	284.6	284.8	285.1
135°	298.5	298.9	299.3	299.7	300.1	300.4	300.7	301.0	301.3	301.5	301.7
137.5°	313.1	313.6	314.1	314.6	315.1	315.5	315.6	315.7	315.9	316.1	316.4
140°	322.8	323.2	323.6	324.0	324.4	324.8	324.9	325.1	325.4	325.5	325.8
142.5°	331.8	332.3	332.6	333.0	333.5	333.7	334.0	334.2	334.3	334.6	334.8
145°	344.4	344.9	345.3	345.9	346.3	346.6	346.7	346.9	347.0	347.2	347.3
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5



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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°	13.3	13.2	13.0	12.8	12.7	12.5	12.3	12.1
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	8.7	9.1	9.6	9.8	9.8	9.9	10.0	10.1
95°	10.4	10.8	11.4	11.5	11.5	11.5	11.5	11.5
97.5°	10.8	11.5	12.0	12.2	12.3	12.4	12.5	12.6
100°	11.1	11.6	12.2	12.5	12.6	12.7	12.7	12.7
102.5°	16.7	15.0	13.3	12.6	12.7	12.7	12.9	13.0
105°	42.7	30.7	18.8	12.8	13.0	13.1	13.3	13.3
107.5°	104.6	95.8	87.0	78.1	69.1	60.1	51.1	42.0
110°	132.8	130.5	128.3	122.3	112.7	103.0	93.3	83.7



TEST NUMBER: P332333-935

CATALOG NUMBER: S123RDIP-S1000D365U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	152.7	152.7	152.7	151.7	149.6	147.7	145.6	143.5
115°	176.0	176.7	177.4	177.8	178.1	178.4	178.7	178.9
117.5°	197.2	197.7	198.2	198.5	198.5	198.6	198.7	198.7
120°	211.0	211.5	212.1	212.4	212.4	212.4	212.4	212.4
122.5°	224.5	225.0	225.3	225.5	225.6	225.7	225.7	225.8
125°	243.7	243.8	243.9	244.1	244.2	244.4	244.5	244.6
127.5°	262.8	263.0	263.3	263.3	263.1	263.0	262.9	262.8
130°	274.4	274.7	274.9	275.0	274.8	274.7	274.6	274.4
132.5°	285.3	285.6	285.9	285.9	285.7	285.5	285.3	285.2
135°	302.0	302.1	302.3	302.3	302.1	302.0	301.7	301.5
137.5°	316.7	317.0	317.4	317.5	317.3	317.2	317.0	316.9
140°	326.1	326.3	326.7	326.7	326.6	326.4	326.3	326.1
142.5°	335.0	335.2	335.4	335.4	335.3	335.0	334.8	334.7
145°	347.4	347.6	347.7	347.8	347.8	347.8	347.8	347.8
147.5°	358.5	358.7	358.9	358.8	358.4	358.1	357.8	357.5
150°	365.4	365.5	365.7	365.6	365.4	365.2	365.0	364.8
152.5°	371.4	371.7	372.0	371.9	371.6	371.3	370.9	370.7
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

(END OF REPORT)