

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: P332335-935

Luminaire Tested: **S123RDIP-S1000D365U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332335-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
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-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4396.2 lumens
Efficiency: N/A
Efficacy: 101.1 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

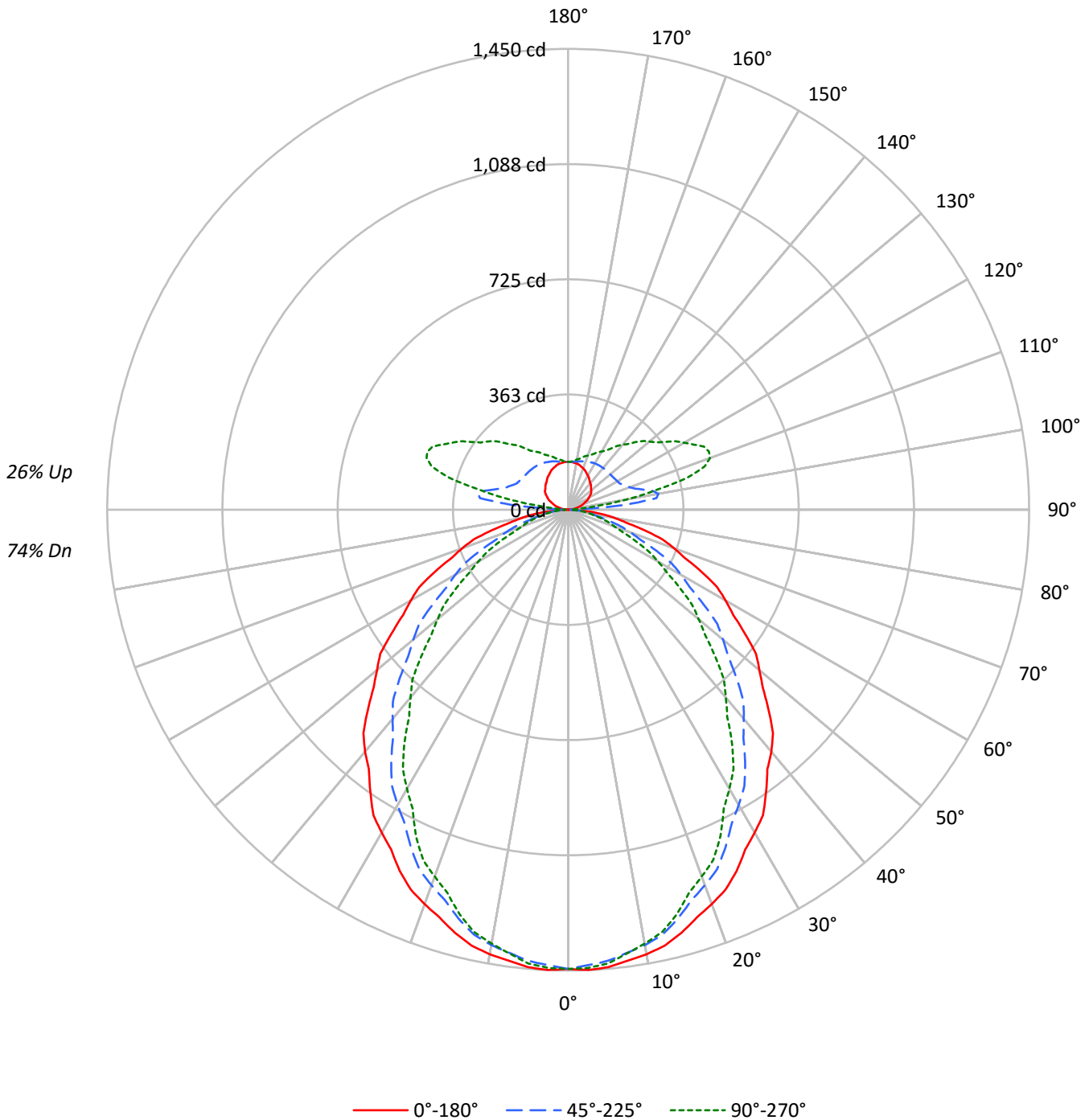
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	97	97	97	87	87	87	78	78	78	74
1	104	99	96	92	98	95	91	88	86	83	81	78	76	74	70	69	67	64
2	95	87	81	76	90	83	78	73	76	71	68	69	65	62	62	60	57	54
3	87	77	70	64	82	74	67	62	67	62	58	61	57	53	56	52	49	46
4	80	69	61	55	76	66	59	53	60	54	50	55	50	46	50	46	43	40
5	74	62	53	47	70	59	52	46	54	48	43	50	44	40	45	41	38	35
6	68	56	47	41	64	53	46	40	49	43	38	45	40	36	41	37	33	31
7	63	51	42	37	60	49	41	36	45	38	34	41	36	32	38	33	30	28
8	59	46	38	33	56	44	37	32	41	35	30	38	32	29	35	30	27	25
9	55	42	35	30	52	41	34	29	38	32	27	35	30	26	32	28	24	23
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	30	26	22	21

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	3.1
10°-20°	377.5	8.6
20°-30°	543.6	12.4
30°-40°	612.3	13.9
40°-50°	585.8	13.3
50°-60°	479.7	10.9
60°-70°	323.7	7.4
70°-80°	162.8	3.7
80°-90°	44.2	1.0
90°-100°	83.7	1.9
100°-110°	236.9	5.4
110°-120°	233.0	5.3
120°-130°	185.8	4.2
130°-140°	146.5	3.3
140°-150°	109.4	2.5
150°-160°	76.2	1.7
160°-170°	44.8	1.0
170°-180°	14.6	0.3
0°-30°	1056.8	24.0
0°-40°	1669.1	38.0
0°-60°	2734.6	62.2
0°-90°	3265.3	74.3
90°-120°	553.5	12.6
90°-150°	995.3	22.6
90°-180°	1131.0	25.7
0°-180°	4396.2	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°	1	4	8	8	9	4
95°	10	34	180	53	35	11
105°	35	52	245	428	387	38
115°	62	78	187	410	471	62
125°	87	102	175	316	371	77
135°	102	121	172	261	301	79
145°	116	133	170	214	235	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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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	14.0	13.0	13.2	13.3	13.5	13.7	13.4
90°	0.6	1.2	1.8	2.8	3.4	4.0	4.9	5.8	6.7	7.6	7.3
92.5°	3.8	5.6	8.2	10.5	13.1	17.6	25.6	38.7	51.5	46.8	35.3
95°	10.3	11.3	14.6	19.8	27.7	39.5	65.4	110.7	160.7	180.5	146.4
97.5°	17.7	17.9	20.6	25.1	32.9	45.7	70.4	121.5	204.7	279.7	299.1
100°	22.6	22.8	25.0	29.2	36.5	48.4	69.7	114.7	194.8	288.2	348.1
102.5°	27.6	28.2	30.0	34.1	40.6	51.6	70.7	108.8	180.1	272.3	350.5
105°	35.3	36.2	38.1	41.7	47.4	56.9	73.4	104.7	162.2	244.6	331.9
107.5°	43.5	44.3	46.1	49.7	55.1	63.9	78.4	104.4	150.8	220.2	299.5
110°	49.2	50.2	51.7	55.1	60.3	68.8	82.5	105.6	146.4	206.3	279.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.7	55.5	57.1	60.4	65.6	73.9	86.6	108.1	143.9	197.0	261.2
115°	62.3	63.6	65.4	68.4	73.6	81.9	93.4	111.9	143.0	187.1	239.8
117.5°	70.1	71.5	73.0	75.9	81.6	89.2	100.7	117.2	143.5	181.2	226.8
120°	75.4	76.4	77.9	80.9	86.7	94.3	105.3	121.1	144.6	178.6	220.0
122.5°	80.1	81.0	82.5	85.8	91.4	99.4	110.1	124.8	146.2	176.9	214.4
125°	86.7	87.3	89.1	92.5	98.2	106.5	117.2	130.5	148.8	174.6	207.2
127.5°	91.8	92.6	95.0	98.3	104.7	113.0	123.2	135.3	151.7	173.6	200.9
130°	95.0	95.8	98.6	102.2	108.7	116.8	126.9	138.4	153.7	172.8	197.4
132.5°	97.4	98.5	101.5	105.9	112.3	120.3	130.0	141.4	155.2	172.5	194.3
135°	101.6	102.8	106.2	110.7	117.2	125.4	134.7	145.2	157.3	172.2	190.2
137.5°	105.6	106.9	110.2	115.0	121.4	129.0	138.1	147.9	158.8	171.5	186.6
140°	108.3	109.9	112.9	117.8	123.8	131.5	140.3	149.4	159.7	171.3	184.3
142.5°	111.2	112.5	115.8	120.2	126.3	133.4	142.0	150.8	160.5	170.8	182.4
145°	115.9	116.8	119.6	124.2	129.3	136.3	144.2	152.4	160.9	170.0	179.8
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.3
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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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	12.9	12.7	12.5	12.3	12.1
90°	7.6	7.9	8.2	8.8	8.5	8.8	9.1	8.8
92.5°	25.7	20.3	17.9	16.4	15.8	14.9	15.2	14.6
95°	109.5	74.2	58.1	47.2	41.4	38.7	36.5	35.3
97.5°	273.0	218.7	179.4	143.1	120.6	106.9	98.7	96.1
100°	358.7	334.1	298.5	255.3	224.5	202.3	190.5	190.8
102.5°	387.2	386.4	365.7	338.3	314.4	296.8	286.9	279.8
105°	395.5	425.9	431.7	423.9	409.8	398.3	388.6	387.0
107.5°	371.5	420.9	447.6	458.5	458.7	454.8	451.5	448.8
110°	348.7	404.7	443.0	464.3	472.9	475.3	474.7	474.1



TEST NUMBER: P332335-935

CATALOG NUMBER: S123RDIP-S1000D365U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.1	383.2	426.2	453.6	469.2	476.7	479.1	479.1
115°	296.0	349.0	393.7	426.9	449.7	463.0	469.2	470.7
117.5°	274.3	320.0	360.2	393.8	417.7	433.0	441.7	443.8
120°	262.9	303.9	340.4	371.2	395.2	412.2	419.6	421.4
122.5°	253.9	291.0	324.9	353.4	374.8	390.1	398.1	400.5
125°	241.9	275.1	304.3	328.6	348.1	361.4	369.1	371.2
127.5°	231.4	261.0	287.3	309.5	326.8	338.3	345.2	347.1
130°	224.8	252.3	276.9	297.6	313.7	324.7	331.1	333.5
132.5°	218.8	243.9	266.9	286.6	301.8	312.7	318.4	320.1
135°	210.5	232.1	251.9	269.2	284.2	293.3	298.8	300.9
137.5°	203.0	220.8	237.8	252.9	265.4	274.7	279.2	280.7
140°	198.7	214.2	228.8	241.9	253.5	262.0	266.8	266.6
142.5°	194.6	207.8	220.5	231.9	241.8	249.3	253.7	253.4
145°	189.6	199.6	209.3	218.2	225.8	232.1	234.6	235.2
147.5°	185.5	193.5	201.3	207.6	213.4	217.7	220.0	220.2
150°	182.5	189.6	196.0	201.7	206.3	209.7	211.5	211.5
152.5°	179.9	185.9	191.6	196.4	199.9	203.0	204.1	204.1
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)