

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: P332340-940

Luminaire Tested: **S123RDIP-S1000D585U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332340-940
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: S123RDIP-S1000D585U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5176.4 lumens
Efficiency: N/A
Efficacy: 106.1 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

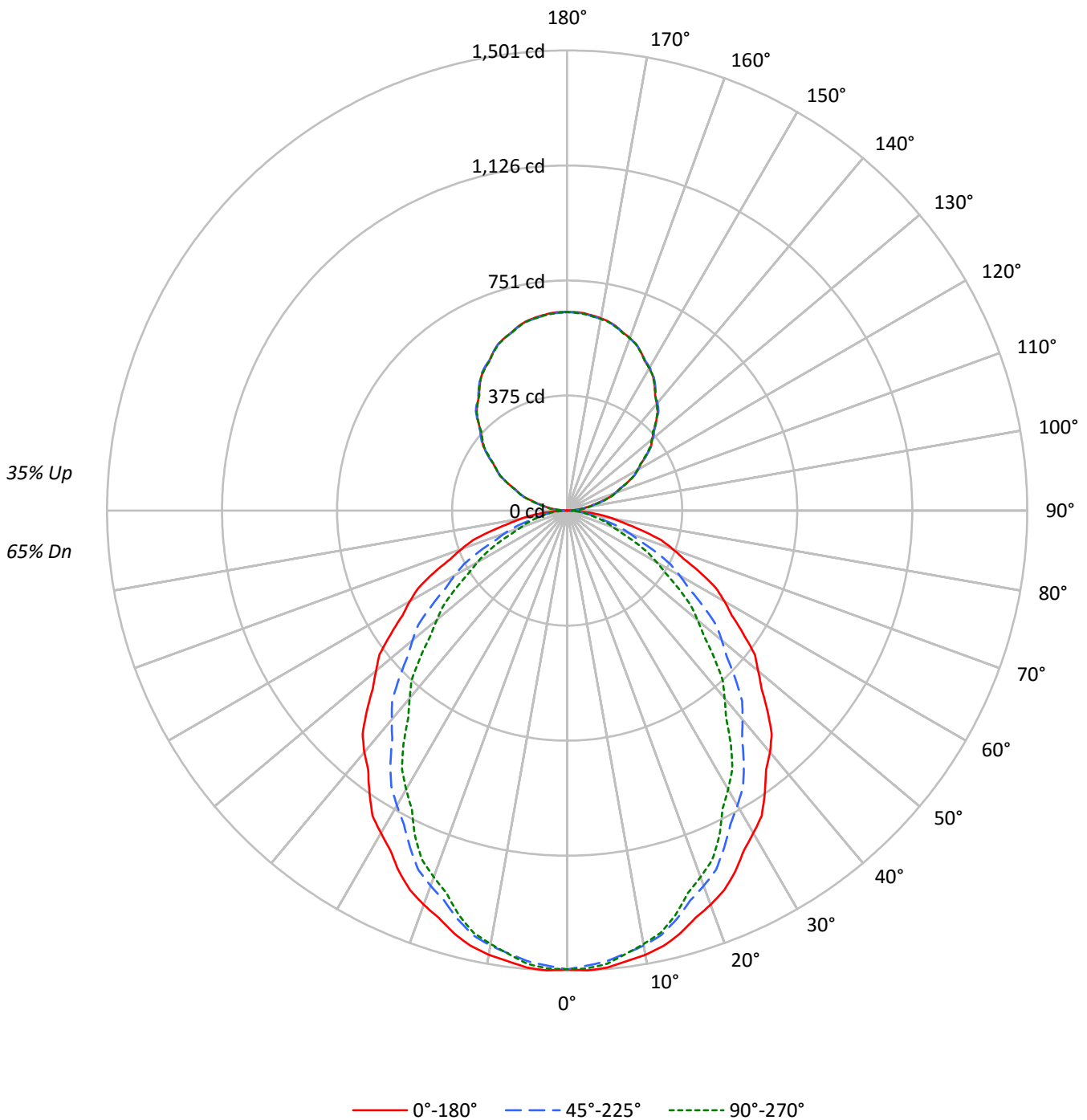
Input Watts (W): 48.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	58	56	53	51	47
3	85	76	68	62	80	71	65	60	64	59	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	51	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	37	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	36	31	39	33	28	35	30	26	31	27	24	22
9	53	41	34	28	50	39	32	27	36	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16108	16108	16108
5°	16170	15946	16038
10°	16078	15746	15692
15°	15905	15377	15216
20°	15668	14917	14569
25°	15423	14400	13938
30°	15100	13803	13048
35°	14767	13205	12232
40°	14462	12500	11221
45°	14059	11805	10310
50°	13618	11015	9287
55°	13165	10113	8336
60°	12751	9145	7289
65°	12210	8099	6243
70°	11534	6801	5042
75°	10551	5352	4741
80°	9403	4736	4364
85°	7941	4199	3903



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	2.7
10°-20°	391.0	7.6
20°-30°	563.0	10.9
30°-40°	634.1	12.3
40°-50°	606.7	11.7
50°-60°	496.8	9.6
60°-70°	335.2	6.5
70°-80°	168.6	3.3
80°-90°	46.5	0.9
90°-100°	42.2	0.8
100°-110°	126.2	2.4
110°-120°	214.7	4.1
120°-130°	282.4	5.5
130°-140°	317.5	6.1
140°-150°	312.1	6.0
150°-160°	262.7	5.1
160°-170°	174.9	3.4
170°-180°	61.2	1.2
0°-30°	1094.5	21.1
0°-40°	1728.6	33.4
0°-60°	2832.1	54.7
0°-90°	3382.5	65.3
90°-120°	383.2	7.4
90°-150°	1295.1	25.0
90°-180°	1794.0	34.7
0°-180°	5176.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1496	1496	1496	1496	1496	
5°	1496	1490	1476	1486	1484	142
15°	1427	1413	1380	1374	1365	402
25°	1299	1267	1212	1188	1174	597
35°	1124	1078	1005	954	931	703
45°	924	867	776	709	677	712
55°	702	640	539	471	444	629
65°	479	411	318	261	245	474
75°	254	195	129	117	114	270
85°	64	39	34	32	32	72
90°	0	6	12	14	15	5
95°	30	34	38	40	40	34
105°	114	116	120	120	121	123
115°	216	218	217	217	217	214
125°	316	318	317	315	313	282
135°	410	413	413	411	410	316
145°	498	499	500	500	498	311
155°	570	570	571	572	569	262
165°	621	620	620	622	619	175
175°	646	644	644	647	643	61
180°	648	648	648	648	648	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1501.3	1500.4	1499.6	1498.7	1497.8	1496.1	1493.5	1490.9	1488.4	1485.8	1488.1
5°	1496.5	1495.0	1493.7	1492.4	1491.0	1488.7	1485.5	1482.3	1479.1	1475.8	1478.2
7.5°	1482.6	1481.1	1479.7	1478.2	1476.8	1473.9	1469.7	1465.5	1461.3	1457.1	1458.5
10°	1471.0	1469.1	1467.1	1465.3	1463.4	1460.0	1455.2	1450.3	1445.5	1440.6	1440.9
12.5°	1454.5	1452.3	1450.3	1448.1	1446.0	1442.0	1436.1	1430.1	1424.2	1418.3	1418.1
15°	1427.3	1424.3	1421.3	1418.4	1415.4	1410.2	1402.6	1395.0	1387.5	1379.9	1378.6
17.5°	1393.0	1389.6	1386.2	1382.7	1379.2	1372.7	1363.1	1353.5	1343.9	1334.3	1331.4
20°	1367.8	1363.5	1359.1	1354.9	1350.5	1343.3	1333.0	1322.8	1312.5	1302.3	1298.8
22.5°	1339.6	1334.7	1329.7	1324.7	1319.8	1311.9	1300.9	1290.0	1279.2	1268.3	1263.9
25°	1298.6	1291.9	1285.1	1278.4	1271.7	1262.0	1249.6	1237.2	1224.9	1212.5	1206.8
27.5°	1248.8	1241.4	1233.9	1226.5	1219.1	1208.4	1194.6	1180.8	1167.0	1153.2	1145.3
30°	1214.9	1206.8	1198.7	1190.6	1182.5	1170.9	1155.8	1140.7	1125.6	1110.5	1101.4
32.5°	1180.9	1171.7	1162.5	1153.3	1144.2	1131.7	1115.7	1099.7	1083.7	1067.7	1057.7
35°	1123.8	1114.1	1104.4	1094.8	1085.0	1071.7	1055.1	1038.3	1021.6	1004.9	993.3
37.5°	1066.0	1055.3	1044.5	1033.7	1022.9	1008.6	990.8	972.9	955.0	937.2	924.0
40°	1029.2	1017.4	1005.4	993.5	981.7	966.2	947.1	927.9	908.7	889.6	875.6
42.5°	987.4	975.5	963.7	951.8	940.0	924.2	904.4	884.6	864.8	845.0	829.6
45°	923.6	911.4	899.3	887.2	875.0	858.6	837.9	817.1	796.3	775.5	760.2
47.5°	859.8	846.4	833.1	819.7	806.5	789.4	768.7	747.9	727.1	706.3	689.6
50°	813.2	800.5	787.8	775.2	762.4	745.2	723.4	701.5	679.7	657.8	641.1
52.5°	771.4	757.7	743.9	730.1	716.4	698.7	677.1	655.4	633.8	612.2	594.8
55°	701.5	688.3	675.0	661.8	648.6	630.5	607.6	584.7	561.8	538.9	523.3
57.5°	636.9	622.5	608.1	593.7	579.3	560.6	537.5	514.5	491.5	468.5	453.7
60°	592.3	577.5	562.6	547.8	532.9	514.3	492.0	469.6	447.2	424.8	410.2
62.5°	547.6	532.8	517.9	503.1	488.3	469.7	447.3	424.9	402.5	380.1	366.4
65°	479.4	464.6	449.7	434.9	420.1	402.2	381.1	360.1	339.0	318.0	304.8
67.5°	411.2	396.2	381.2	366.2	351.2	333.6	313.4	293.3	273.1	252.9	243.1
70°	366.5	352.0	337.4	322.8	308.3	291.6	272.7	253.8	234.9	216.1	206.6
72.5°	321.8	307.6	293.2	278.8	264.5	248.7	231.6	214.5	197.2	180.1	172.4
75°	253.7	240.7	227.7	214.8	201.9	188.0	173.2	158.3	143.5	128.7	125.9
77.5°	191.5	179.8	168.1	156.4	144.7	134.0	124.5	114.9	105.4	95.9	94.4
80°	151.7	140.6	129.6	118.5	107.5	99.2	93.5	87.7	82.1	76.4	75.6
82.5°	113.9	104.3	94.8	85.2	75.6	69.6	66.9	64.3	61.6	58.9	58.1
85°	64.3	58.4	52.4	46.5	40.6	37.2	36.4	35.6	34.8	34.0	33.4
87.5°	23.4	21.2	19.1	16.9	14.8	13.9	14.2	14.4	14.8	15.1	15.0
90°	0.5	1.6	2.8	3.9	5.0	6.3	7.8	9.3	10.7	12.2	12.7
92.5°	12.3	13.1	13.8	14.6	15.4	16.2	17.0	17.8	18.7	19.5	19.9
95°	30.1	30.8	31.6	32.4	33.2	34.1	35.0	35.8	36.7	37.6	38.1
97.5°	53.3	53.9	54.5	55.1	55.6	56.3	56.9	57.6	58.2	58.9	59.4
100°	69.2	69.8	70.5	71.2	71.9	72.5	73.0	73.7	74.2	74.7	75.1
102.5°	87.5	87.9	88.3	88.7	89.1	89.7	90.4	91.2	91.9	92.6	93.0
105°	114.4	114.7	114.9	115.1	115.4	115.9	117.0	118.0	119.0	120.0	120.0
107.5°	145.8	145.9	146.1	146.2	146.3	146.6	147.0	147.4	147.8	148.2	148.6
110°	165.3	165.5	165.8	165.9	166.2	166.4	166.7	166.9	167.1	167.4	167.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	185.7	185.7	185.9	186.0	186.2	186.3	186.4	186.4	186.5	186.5	187.0
115°	216.2	216.5	216.9	217.2	217.5	217.6	217.3	217.1	216.9	216.7	216.8
117.5°	246.9	247.1	247.4	247.5	247.8	247.7	247.4	247.2	246.9	246.6	246.6
120°	266.0	266.7	267.3	268.0	268.8	268.8	268.2	267.7	267.1	266.5	266.4
122.5°	286.0	286.4	287.0	287.4	287.9	288.0	287.8	287.5	287.1	286.9	286.6
125°	316.4	316.7	317.0	317.4	317.7	317.8	317.5	317.4	317.1	316.9	316.4
127.5°	344.5	345.2	345.9	346.6	347.3	347.6	347.3	347.1	346.8	346.6	346.0
130°	363.2	364.1	365.0	365.9	366.8	367.0	366.8	366.4	366.0	365.7	365.2
132.5°	381.8	382.8	383.7	384.6	385.5	385.8	385.6	385.3	385.0	384.9	384.2
135°	410.5	411.2	411.8	412.5	413.1	413.5	413.3	413.2	413.1	413.0	412.6
137.5°	436.9	437.5	438.0	438.6	439.2	439.6	439.9	440.1	440.5	440.8	440.3
140°	455.2	455.8	456.4	456.9	457.4	457.8	457.9	458.1	458.2	458.3	458.2
142.5°	471.9	472.4	473.1	473.6	474.1	474.6	474.7	474.9	475.2	475.4	475.3
145°	497.9	498.2	498.4	498.6	498.8	499.1	499.4	499.8	500.2	500.5	500.3
147.5°	520.8	521.1	521.6	521.9	522.4	522.7	523.1	523.3	523.7	524.0	524.0
150°	536.6	536.8	537.1	537.3	537.5	537.7	538.0	538.1	538.4	538.6	538.6
152.5°	549.7	549.9	550.3	550.5	550.9	551.1	551.3	551.3	551.5	551.6	551.8
155°	570.2	570.2	570.2	570.2	570.2	570.2	570.3	570.4	570.6	570.7	571.1
157.5°	587.6	587.5	587.4	587.3	587.1	587.1	587.2	587.3	587.4	587.5	587.9
160°	598.6	598.4	598.2	598.0	597.7	597.6	597.6	597.6	597.6	597.6	598.2
162.5°	608.4	608.1	607.8	607.4	607.2	607.1	607.2	607.3	607.3	607.4	608.0
165°	621.0	620.7	620.4	620.0	619.6	619.5	619.5	619.5	619.5	619.5	620.2
167.5°	631.1	630.6	630.2	629.7	629.3	629.1	629.2	629.3	629.4	629.5	630.2
170°	636.8	636.3	635.9	635.4	635.0	634.7	634.7	634.7	634.7	634.7	635.5
172.5°	641.2	640.8	640.3	639.9	639.4	639.3	639.3	639.3	639.3	639.3	640.0
175°	646.0	645.5	645.1	644.6	644.2	643.9	643.9	643.9	643.9	643.9	644.6
177.5°	647.9	647.6	647.2	646.8	646.4	646.2	646.2	646.2	646.2	646.2	646.8
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5	1496.5
2.5°	1490.5	1492.9	1495.2	1496.2	1495.8	1495.4	1495.0	1494.5
5°	1480.7	1483.1	1485.5	1486.5	1485.9	1485.4	1484.9	1484.3
7.5°	1459.8	1461.2	1462.5	1462.8	1461.8	1460.9	1460.0	1459.0
10°	1441.2	1441.5	1441.7	1441.2	1439.8	1438.4	1437.1	1435.7
12.5°	1417.9	1417.8	1417.6	1416.8	1415.2	1413.6	1412.1	1410.5
15°	1377.2	1375.9	1374.6	1372.9	1371.0	1369.1	1367.3	1365.4
17.5°	1328.6	1325.7	1322.9	1320.0	1317.2	1314.4	1311.6	1308.8
20°	1295.2	1291.7	1288.3	1284.9	1281.7	1278.4	1275.1	1271.9
22.5°	1259.5	1255.2	1250.8	1247.1	1244.1	1241.1	1238.1	1235.0
25°	1201.1	1195.4	1189.8	1185.4	1182.5	1179.6	1176.6	1173.6
27.5°	1137.5	1129.6	1121.7	1115.5	1111.0	1106.4	1101.9	1097.4
30°	1092.2	1083.0	1073.8	1067.1	1062.7	1058.5	1054.1	1049.8
32.5°	1047.7	1037.7	1027.6	1020.4	1015.8	1011.3	1006.7	1002.2
35°	981.7	970.1	958.5	950.3	945.5	940.6	935.8	930.9
37.5°	910.9	897.7	884.6	874.9	869.0	863.0	857.0	851.0
40°	861.6	847.6	833.5	823.4	817.2	811.0	804.8	798.6
42.5°	814.3	799.0	783.6	773.2	767.7	762.1	756.5	751.0
45°	744.8	729.4	714.0	703.1	696.6	690.2	683.7	677.3
47.5°	672.9	656.2	639.4	628.2	622.4	616.7	610.9	605.1
50°	624.4	607.6	590.9	579.4	573.3	567.0	560.9	554.6
52.5°	577.5	560.1	542.7	531.2	525.7	520.1	514.6	509.0
55°	507.6	492.0	476.3	465.7	460.4	455.0	449.6	444.2
57.5°	438.9	424.1	409.4	399.7	395.1	390.5	385.9	381.3
60°	395.7	381.1	366.5	357.0	352.4	347.8	343.2	338.6
62.5°	352.7	339.0	325.3	316.0	311.3	306.5	301.7	296.9
65°	291.6	278.3	265.1	257.0	254.0	251.1	248.2	245.1
67.5°	233.2	223.3	213.5	206.9	203.8	200.5	197.3	194.2
70°	197.2	187.7	178.3	172.1	169.1	166.1	163.2	160.2
72.5°	164.7	156.9	149.3	144.8	143.6	142.3	141.1	139.8
75°	123.2	120.6	117.9	116.3	115.7	115.1	114.6	114.0
77.5°	93.0	91.5	90.1	89.1	88.5	88.0	87.5	86.9
80°	74.8	74.0	73.2	72.6	72.1	71.5	70.9	70.4
82.5°	57.3	56.5	55.7	55.3	55.2	55.1	54.9	54.8
85°	32.9	32.4	31.8	31.6	31.6	31.6	31.6	31.6
87.5°	14.8	14.7	14.5	14.4	14.3	14.1	13.9	13.7
90°	13.1	13.6	14.0	14.4	14.6	14.8	15.1	15.2
92.5°	20.2	20.6	21.0	21.1	21.0	20.8	20.7	20.5
95°	38.5	39.0	39.4	39.7	39.7	39.7	39.7	39.7
97.5°	59.9	60.5	61.0	61.2	61.2	61.1	61.1	61.0
100°	75.4	75.8	76.2	76.4	76.6	76.9	77.0	77.3
102.5°	93.4	93.7	94.0	94.2	94.2	94.1	94.1	94.0
105°	120.0	120.0	120.0	120.1	120.4	120.6	120.8	121.1
107.5°	148.9	149.3	149.6	149.8	149.6	149.5	149.4	149.3
110°	168.3	168.7	169.2	169.2	169.1	168.8	168.6	168.4



TEST NUMBER: P332340-940

CATALOG NUMBER: S123RDIP-S1000D585U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	187.5	188.1	188.6	188.9	188.9	188.8	188.8	188.7
115°	216.9	217.0	217.1	217.1	217.0	216.9	216.8	216.7
117.5°	246.6	246.5	246.5	246.3	246.0	245.7	245.4	245.0
120°	266.3	266.2	266.1	265.9	265.6	265.5	265.2	265.0
122.5°	286.2	286.0	285.7	285.3	285.1	284.7	284.5	284.1
125°	315.9	315.5	315.0	314.6	314.1	313.7	313.3	312.8
127.5°	345.3	344.6	344.0	343.5	343.0	342.4	341.9	341.3
130°	364.8	364.4	363.9	363.3	362.5	361.7	360.9	360.1
132.5°	383.7	383.2	382.6	382.1	381.5	380.8	380.2	379.6
135°	412.1	411.6	411.2	410.8	410.6	410.4	410.2	409.9
137.5°	439.8	439.3	438.9	438.5	438.0	437.6	437.1	436.7
140°	458.1	457.9	457.8	457.4	456.6	455.8	455.0	454.2
142.5°	475.1	475.0	474.9	474.6	473.9	473.3	472.7	472.1
145°	500.2	500.2	500.1	499.7	499.3	498.8	498.4	497.9
147.5°	524.0	524.0	524.0	523.6	523.0	522.3	521.7	520.9
150°	538.6	538.6	538.6	538.3	537.6	536.9	536.3	535.6
152.5°	552.1	552.2	552.4	552.1	551.6	551.0	550.5	549.8
155°	571.6	572.0	572.5	572.3	571.5	570.7	570.0	569.2
157.5°	588.4	588.9	589.3	589.2	588.6	588.0	587.4	586.7
160°	598.8	599.3	599.9	599.9	599.5	599.1	598.6	598.2
162.5°	608.5	609.1	609.7	609.6	608.9	608.1	607.4	606.7
165°	620.9	621.5	622.2	622.1	621.3	620.5	619.8	619.0
167.5°	630.9	631.6	632.3	632.3	631.6	630.9	630.2	629.5
170°	636.3	637.1	637.9	637.9	637.1	636.3	635.5	634.7
172.5°	640.6	641.3	642.0	642.0	641.2	640.4	639.6	638.8
175°	645.2	646.0	646.7	646.6	645.8	645.0	644.2	643.4
177.5°	647.4	647.9	648.5	648.4	647.7	647.1	646.5	645.9
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5

(END OF REPORT)