

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: P332388-940

Luminaire Tested: **S123RDIP-S1165D1195U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332388-940
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-S1165D1195U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7562.5 lumens
Efficiency: N/A
Efficacy: 105.5 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: General Diffuse

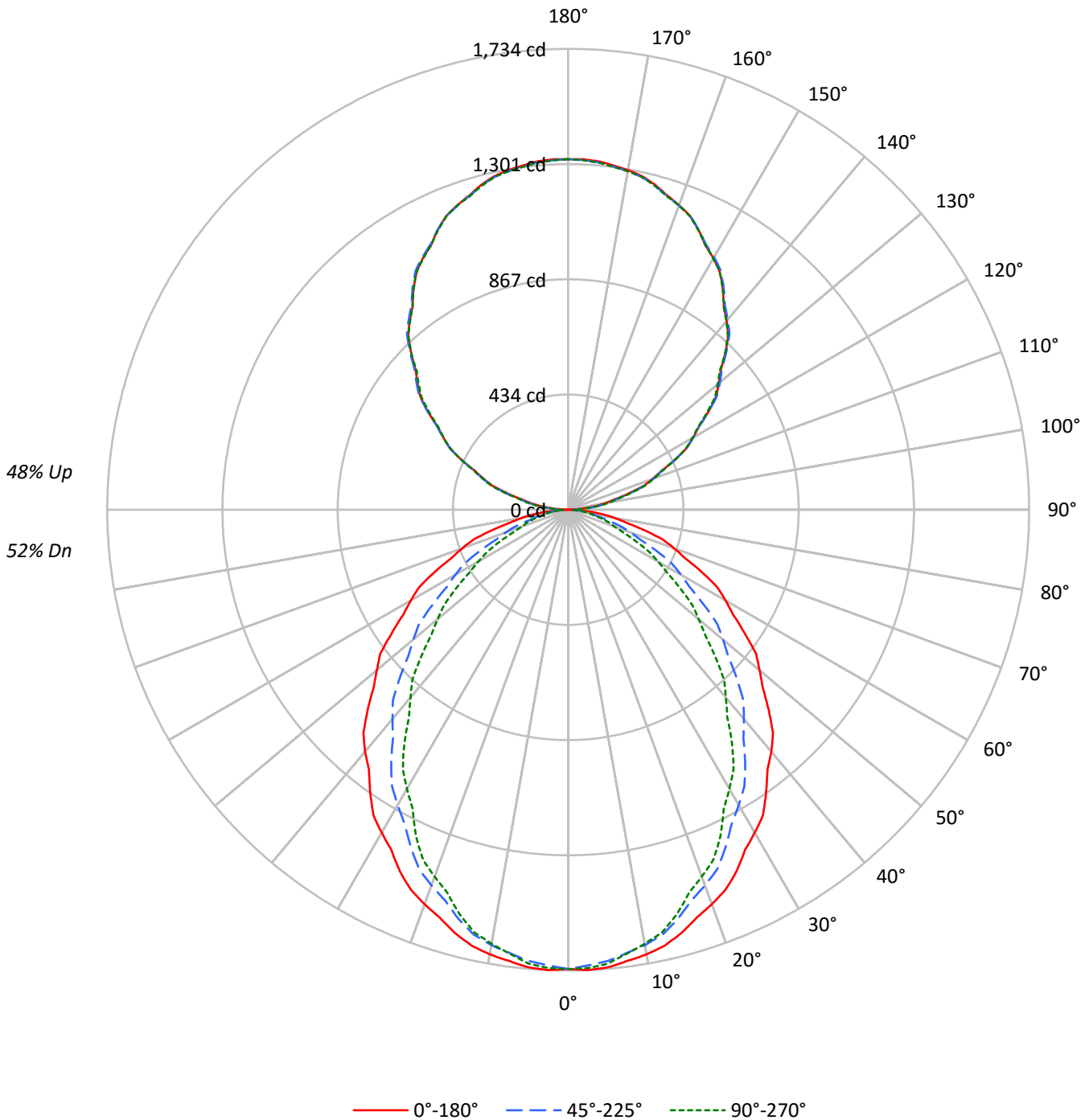
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

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	108	108	108	108	99	99	99	99	84	84	84		70	70	70		58	58	58	52
1	98	94	91	87	91	87	84	81	74	72	70		62	61	59		51	50	49	44
2	90	83	77	72	83	77	72	67	66	62	58		55	52	50		46	44	42	38
3	82	73	66	60	76	68	62	56	58	53	49		49	46	43		41	38	36	32
4	75	65	57	51	70	60	53	48	52	47	42		44	40	37		37	34	31	28
5	69	58	50	44	64	54	47	42	47	41	37		40	35	32		33	30	28	24
6	64	52	44	38	59	49	41	36	42	36	32		36	32	28		30	27	24	22
7	59	47	39	34	55	44	37	32	38	33	29		33	28	25		28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25		30	26	23		25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23		28	23	20		24	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21		26	21	18		22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18603	18603	18603
5°	18674	18416	18522
10°	18569	18185	18124
15°	18369	17761	17572
20°	18095	17228	16827
25°	17813	16631	16098
30°	17439	15940	15070
35°	17056	15251	14127
40°	16703	14436	12960
45°	16238	13633	11905
50°	15726	12722	10727
55°	15204	11678	9627
60°	14725	10562	8420
65°	14103	9352	7210
70°	13322	7852	5822
75°	12181	6180	5481
80°	10860	5473	5040
85°	9176	4841	4508



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	2.1
10°-20°	451.6	6.0
20°-30°	650.2	8.6
30°-40°	732.4	9.7
40°-50°	700.7	9.3
50°-60°	573.8	7.6
60°-70°	387.1	5.1
70°-80°	194.8	2.6
80°-90°	55.4	0.7
90°-100°	85.9	1.1
100°-110°	257.2	3.4
110°-120°	437.4	5.8
120°-130°	575.3	7.6
130°-140°	646.7	8.6
140°-150°	635.6	8.4
150°-160°	535.1	7.1
160°-170°	356.2	4.7
170°-180°	124.7	1.6
0°-30°	1264.1	16.7
0°-40°	1996.5	26.4
0°-60°	3270.9	43.3
0°-90°	3908.2	51.7
90°-120°	780.5	10.3
90°-150°	2638.1	34.9
90°-180°	3654.0	48.3
0°-180°	7562.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1728	1728	1728	1728	1728	
5°	1728	1721	1704	1716	1714	164
15°	1648	1632	1594	1587	1577	464
25°	1500	1463	1400	1372	1355	689
35°	1298	1246	1161	1102	1075	812
45°	1067	1001	896	818	782	823
55°	810	739	622	544	513	726
65°	554	475	367	302	283	548
75°	293	225	149	135	132	312
85°	74	45	39	37	36	83
90°	1	12	25	29	31	7
95°	61	68	77	81	81	69
105°	233	236	244	245	247	250
115°	440	443	441	442	441	436
125°	644	647	646	641	637	574
135°	836	842	841	837	835	644
145°	1014	1016	1020	1018	1014	633
155°	1162	1162	1162	1166	1159	534
165°	1265	1262	1262	1267	1261	357
175°	1316	1312	1312	1317	1311	125
180°	1319	1319	1319	1319	1319	



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1733.9	1732.9	1731.9	1730.9	1729.9	1727.9	1724.9	1721.9	1719.0	1715.9	1718.7
5°	1728.3	1726.7	1725.2	1723.6	1722.1	1719.4	1715.7	1711.9	1708.2	1704.4	1707.3
7.5°	1712.3	1710.7	1709.0	1707.3	1705.6	1702.3	1697.5	1692.6	1687.7	1682.8	1684.4
10°	1698.9	1696.7	1694.5	1692.3	1690.1	1686.2	1680.6	1675.0	1669.4	1663.8	1664.1
12.5°	1679.8	1677.4	1674.9	1672.5	1670.1	1665.4	1658.6	1651.7	1644.8	1638.0	1637.8
15°	1648.4	1644.9	1641.6	1638.1	1634.7	1628.6	1619.9	1611.1	1602.4	1593.8	1592.1
17.5°	1608.8	1604.9	1600.9	1596.9	1593.0	1585.4	1574.3	1563.2	1552.1	1541.1	1537.8
20°	1579.7	1574.8	1569.8	1564.8	1559.8	1551.4	1539.5	1527.7	1515.8	1504.0	1499.9
22.5°	1547.2	1541.4	1535.7	1530.0	1524.3	1515.1	1502.5	1490.0	1477.4	1464.7	1459.7
25°	1499.8	1492.0	1484.3	1476.4	1468.6	1457.6	1443.2	1429.0	1414.6	1400.3	1393.7
27.5°	1442.3	1433.8	1425.1	1416.6	1407.9	1395.7	1379.7	1363.8	1347.8	1331.9	1322.8
30°	1403.1	1393.7	1384.4	1375.0	1365.7	1352.3	1334.9	1317.4	1300.0	1282.5	1271.9
32.5°	1363.9	1353.3	1342.6	1332.0	1321.5	1307.0	1288.5	1270.1	1251.6	1233.2	1221.6
35°	1298.0	1286.7	1275.5	1264.4	1253.1	1237.9	1218.5	1199.3	1179.9	1160.6	1147.2
37.5°	1231.3	1218.8	1206.3	1193.8	1181.4	1164.8	1144.2	1123.6	1103.0	1082.4	1067.2
40°	1188.7	1174.9	1161.2	1147.5	1133.8	1115.9	1093.8	1071.7	1049.5	1027.4	1011.2
42.5°	1140.4	1126.7	1113.0	1099.3	1085.6	1067.3	1044.5	1021.5	998.7	975.9	958.1
45°	1066.7	1052.7	1038.7	1024.7	1010.6	991.6	967.6	943.6	919.6	895.6	877.9
47.5°	992.9	977.6	962.2	946.8	931.4	911.7	887.7	863.7	839.7	815.8	796.5
50°	939.1	924.5	909.8	895.2	880.6	860.7	835.4	810.2	785.0	759.7	740.4
52.5°	890.9	875.0	859.2	843.3	827.3	806.9	781.9	757.0	732.0	707.0	687.0
55°	810.2	794.9	779.6	764.4	749.1	728.3	701.8	675.3	648.8	622.3	604.3
57.5°	735.6	719.0	702.3	685.7	669.1	647.5	620.9	594.2	567.7	541.1	524.0
60°	684.0	666.9	649.8	632.7	615.5	594.0	568.1	542.3	516.5	490.6	473.8
62.5°	632.4	615.3	598.2	581.0	563.9	542.4	516.6	490.7	464.8	439.0	423.2
65°	553.7	536.5	519.4	502.3	485.2	464.4	440.1	415.8	391.6	367.2	352.0
67.5°	474.9	457.5	440.2	422.9	405.6	385.3	362.0	338.7	315.4	292.1	280.7
70°	423.3	406.5	389.7	372.8	356.1	336.7	315.0	293.1	271.3	249.5	238.6
72.5°	371.8	355.2	338.6	322.0	305.4	287.2	267.4	247.6	227.8	208.0	199.1
75°	292.9	278.0	263.1	248.1	233.2	217.1	200.0	182.8	165.7	148.6	145.4
77.5°	221.1	207.7	194.1	180.7	167.1	154.8	143.8	132.8	121.7	110.8	109.1
80°	175.2	162.5	149.6	136.9	124.1	114.5	107.9	101.4	94.9	88.3	87.4
82.5°	131.4	120.5	109.4	98.4	87.4	80.3	77.3	74.2	71.2	68.1	67.1
85°	74.3	67.4	60.5	53.8	46.9	43.0	42.1	41.1	40.2	39.2	38.6
87.5°	27.1	24.9	22.6	20.2	18.0	17.1	17.7	18.4	19.0	19.5	19.5
90°	1.1	3.3	5.6	7.9	10.3	12.9	15.9	18.9	21.8	24.9	25.8
92.5°	25.1	26.7	28.2	29.8	31.3	33.0	34.7	36.4	38.1	39.8	40.5
95°	61.2	62.8	64.4	66.0	67.6	69.3	71.2	72.9	74.8	76.7	77.6
97.5°	108.6	109.8	111.0	112.2	113.3	114.7	116.0	117.3	118.6	119.9	121.0
100°	140.9	142.3	143.7	145.1	146.4	147.7	148.8	150.0	151.1	152.3	153.0
102.5°	178.2	179.1	179.9	180.7	181.6	182.7	184.2	185.7	187.3	188.8	189.5
105°	233.1	233.5	234.1	234.5	235.0	236.2	238.3	240.4	242.5	244.5	244.5
107.5°	296.9	297.2	297.5	297.7	298.0	298.6	299.4	300.2	301.0	301.9	302.6
110°	336.7	337.2	337.6	338.1	338.6	339.0	339.5	339.9	340.4	340.9	341.8



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	378.2	378.4	378.7	379.0	379.2	379.4	379.5	379.6	379.7	379.8	380.9
115°	440.3	441.0	441.7	442.4	443.1	443.2	442.7	442.3	441.8	441.4	441.6
117.5°	502.9	503.4	503.8	504.3	504.7	504.7	504.1	503.5	502.9	502.3	502.2
120°	541.9	543.2	544.7	546.0	547.4	547.5	546.4	545.2	544.0	542.9	542.7
122.5°	582.5	583.4	584.5	585.5	586.6	586.7	586.1	585.5	585.0	584.3	583.7
125°	644.4	645.2	645.8	646.5	647.2	647.3	646.8	646.4	646.0	645.5	644.5
127.5°	701.6	703.1	704.5	706.1	707.5	708.0	707.5	706.9	706.5	706.0	704.7
130°	739.8	741.5	743.4	745.3	747.1	747.7	747.0	746.3	745.6	744.9	744.0
132.5°	777.8	779.7	781.6	783.4	785.2	786.0	785.4	784.9	784.3	783.9	782.7
135°	836.1	837.5	838.8	840.3	841.6	842.2	842.0	841.8	841.5	841.2	840.3
137.5°	890.0	891.1	892.2	893.4	894.6	895.5	896.1	896.6	897.2	897.9	896.9
140°	927.3	928.4	929.6	930.8	931.8	932.6	932.8	933.0	933.3	933.5	933.3
142.5°	961.3	962.4	963.6	964.7	965.9	966.6	967.1	967.5	967.9	968.3	968.0
145°	1014.3	1014.8	1015.2	1015.7	1016.1	1016.7	1017.4	1018.1	1018.8	1019.5	1019.2
147.5°	1060.7	1061.6	1062.4	1063.2	1064.1	1064.8	1065.4	1066.0	1066.7	1067.4	1067.4
150°	1093.1	1093.5	1094.0	1094.4	1094.9	1095.4	1095.8	1096.3	1096.7	1097.2	1097.2
152.5°	1119.5	1120.3	1120.9	1121.5	1122.1	1122.6	1122.8	1123.2	1123.5	1123.7	1124.1
155°	1161.5	1161.5	1161.5	1161.5	1161.5	1161.5	1161.8	1162.0	1162.3	1162.4	1163.4
157.5°	1197.0	1196.8	1196.5	1196.2	1196.0	1195.9	1196.1	1196.3	1196.5	1196.7	1197.7
160°	1219.4	1219.0	1218.5	1218.1	1217.6	1217.4	1217.4	1217.4	1217.4	1217.4	1218.5
162.5°	1239.3	1238.7	1238.1	1237.4	1236.8	1236.5	1236.7	1236.9	1237.1	1237.2	1238.4
165°	1265.1	1264.4	1263.6	1262.9	1262.3	1261.9	1261.9	1261.9	1261.9	1261.9	1263.3
167.5°	1285.6	1284.6	1283.7	1282.8	1281.8	1281.5	1281.7	1281.8	1282.0	1282.2	1283.6
170°	1297.2	1296.2	1295.3	1294.4	1293.4	1293.0	1293.0	1293.0	1293.0	1293.0	1294.6
172.5°	1306.3	1305.4	1304.4	1303.5	1302.6	1302.2	1302.2	1302.2	1302.2	1302.2	1303.6
175°	1315.8	1314.9	1313.9	1313.0	1312.2	1311.6	1311.6	1311.6	1311.6	1311.6	1313.0
177.5°	1319.7	1319.0	1318.3	1317.5	1316.8	1316.4	1316.4	1316.4	1316.4	1316.4	1317.5
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3	1728.3
2.5°	1721.4	1724.2	1726.9	1728.0	1727.5	1727.1	1726.5	1726.0
5°	1710.0	1712.9	1715.7	1716.7	1716.1	1715.5	1714.8	1714.2
7.5°	1686.0	1687.6	1689.1	1689.3	1688.3	1687.2	1686.1	1685.1
10°	1664.5	1664.7	1665.1	1664.5	1662.9	1661.3	1659.7	1658.2
12.5°	1637.6	1637.4	1637.3	1636.3	1634.5	1632.6	1630.8	1629.1
15°	1590.6	1589.0	1587.5	1585.6	1583.4	1581.3	1579.0	1576.9
17.5°	1534.5	1531.1	1527.8	1524.6	1521.3	1518.0	1514.8	1511.5
20°	1495.9	1491.8	1487.8	1483.9	1480.2	1476.4	1472.7	1469.0
22.5°	1454.6	1449.7	1444.6	1440.3	1436.8	1433.3	1429.9	1426.4
25°	1387.2	1380.6	1374.1	1369.1	1365.7	1362.3	1358.9	1355.4
27.5°	1313.7	1304.6	1295.5	1288.3	1283.1	1277.9	1272.6	1267.4
30°	1261.3	1250.8	1240.2	1232.4	1227.4	1222.4	1217.5	1212.5
32.5°	1210.1	1198.5	1186.9	1178.5	1173.2	1168.0	1162.8	1157.5
35°	1133.8	1120.4	1107.1	1097.5	1091.9	1086.3	1080.7	1075.1
37.5°	1052.0	1036.8	1021.5	1010.5	1003.6	996.7	989.8	982.8
40°	995.1	978.8	962.7	951.0	943.8	936.7	929.5	922.3
42.5°	940.5	922.7	905.1	893.0	886.6	880.2	873.8	867.4
45°	860.1	842.4	824.7	812.1	804.6	797.1	789.6	782.1
47.5°	777.1	757.9	738.5	725.6	718.9	712.2	705.5	698.9
50°	721.1	701.8	682.4	669.2	662.1	654.9	647.7	640.6
52.5°	666.9	646.8	626.8	613.5	607.1	600.7	594.3	587.9
55°	586.2	568.1	550.1	538.0	531.7	525.5	519.2	513.0
57.5°	506.9	489.8	472.8	461.5	456.3	451.0	445.7	440.4
60°	456.9	440.1	423.3	412.2	407.0	401.6	396.4	391.1
62.5°	407.3	391.6	375.7	365.1	359.4	353.9	348.4	342.9
65°	336.7	321.5	306.2	296.9	293.5	290.0	286.6	283.1
67.5°	269.3	257.9	246.5	239.0	235.3	231.6	227.9	224.3
70°	227.7	216.8	205.9	198.8	195.3	191.9	188.4	185.0
72.5°	190.2	181.3	172.4	167.2	165.8	164.3	162.9	161.5
75°	142.3	139.2	136.1	134.3	133.7	133.0	132.4	131.8
77.5°	107.4	105.7	104.0	102.8	102.2	101.6	100.9	100.3
80°	86.4	85.5	84.5	83.8	83.2	82.6	81.9	81.3
82.5°	66.3	65.4	64.4	63.8	63.8	63.6	63.5	63.4
85°	38.0	37.4	36.7	36.5	36.5	36.5	36.5	36.5
87.5°	19.4	19.4	19.3	19.2	19.0	18.9	18.7	18.5
90°	26.8	27.6	28.5	29.2	29.7	30.1	30.6	31.1
92.5°	41.3	42.0	42.7	43.0	42.7	42.4	42.1	41.8
95°	78.5	79.5	80.3	80.8	80.8	80.8	80.8	80.8
97.5°	122.1	123.1	124.2	124.7	124.6	124.5	124.4	124.3
100°	153.6	154.4	155.1	155.6	156.1	156.6	157.0	157.5
102.5°	190.1	190.8	191.5	191.8	191.7	191.6	191.5	191.5
105°	244.5	244.5	244.5	244.8	245.2	245.7	246.1	246.6
107.5°	303.4	304.2	304.9	305.1	304.8	304.5	304.3	304.0
110°	342.7	343.7	344.6	344.7	344.3	343.8	343.4	343.0



TEST NUMBER: P332388-940

CATALOG NUMBER: S123RDIP-S1165D1195U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.0	383.2	384.2	384.8	384.7	384.6	384.5	384.4
115°	441.8	442.0	442.3	442.3	442.0	441.8	441.6	441.4
117.5°	502.2	502.1	502.1	501.8	501.1	500.4	499.8	499.2
120°	542.4	542.2	542.0	541.6	541.2	540.7	540.3	539.8
122.5°	583.2	582.6	581.9	581.3	580.7	580.1	579.3	578.7
125°	643.6	642.7	641.8	640.9	640.0	639.0	638.1	637.2
127.5°	703.4	702.1	700.8	699.6	698.6	697.5	696.4	695.4
130°	743.1	742.2	741.3	739.9	738.3	736.7	735.1	733.5
132.5°	781.7	780.6	779.4	778.3	777.0	775.8	774.5	773.3
135°	839.5	838.5	837.6	836.9	836.4	836.0	835.5	835.1
137.5°	895.9	894.9	893.9	893.0	892.2	891.4	890.5	889.6
140°	933.0	932.8	932.6	931.7	930.1	928.4	926.8	925.2
142.5°	967.9	967.6	967.4	966.6	965.4	964.1	963.0	961.7
145°	1019.0	1018.8	1018.6	1018.0	1017.1	1016.1	1015.2	1014.3
147.5°	1067.4	1067.4	1067.4	1066.7	1065.2	1063.9	1062.5	1061.1
150°	1097.2	1097.2	1097.2	1096.5	1095.1	1093.8	1092.3	1091.0
152.5°	1124.4	1124.8	1125.2	1124.8	1123.6	1122.4	1121.1	1120.0
155°	1164.3	1165.2	1166.2	1165.8	1164.2	1162.6	1161.0	1159.3
157.5°	1198.5	1199.5	1200.5	1200.3	1199.1	1197.7	1196.5	1195.2
160°	1219.7	1220.8	1222.0	1222.1	1221.2	1220.2	1219.3	1218.4
162.5°	1239.6	1240.7	1241.9	1241.7	1240.2	1238.8	1237.2	1235.8
165°	1264.7	1266.1	1267.5	1267.3	1265.7	1264.1	1262.5	1260.9
167.5°	1285.0	1286.5	1287.9	1287.9	1286.5	1285.0	1283.6	1282.2
170°	1296.2	1297.9	1299.5	1299.5	1297.9	1296.2	1294.6	1293.0
172.5°	1305.0	1306.4	1307.9	1307.8	1306.1	1304.5	1302.9	1301.3
175°	1314.4	1315.8	1317.1	1317.1	1315.5	1313.8	1312.2	1310.6
177.5°	1318.7	1319.7	1320.8	1320.7	1319.5	1318.1	1316.9	1315.6
180°	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9	1318.9

(END OF REPORT)