

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: P333013-935

Luminaire Tested: **S124RDIP-S1195D1205U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333013-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7740.8 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

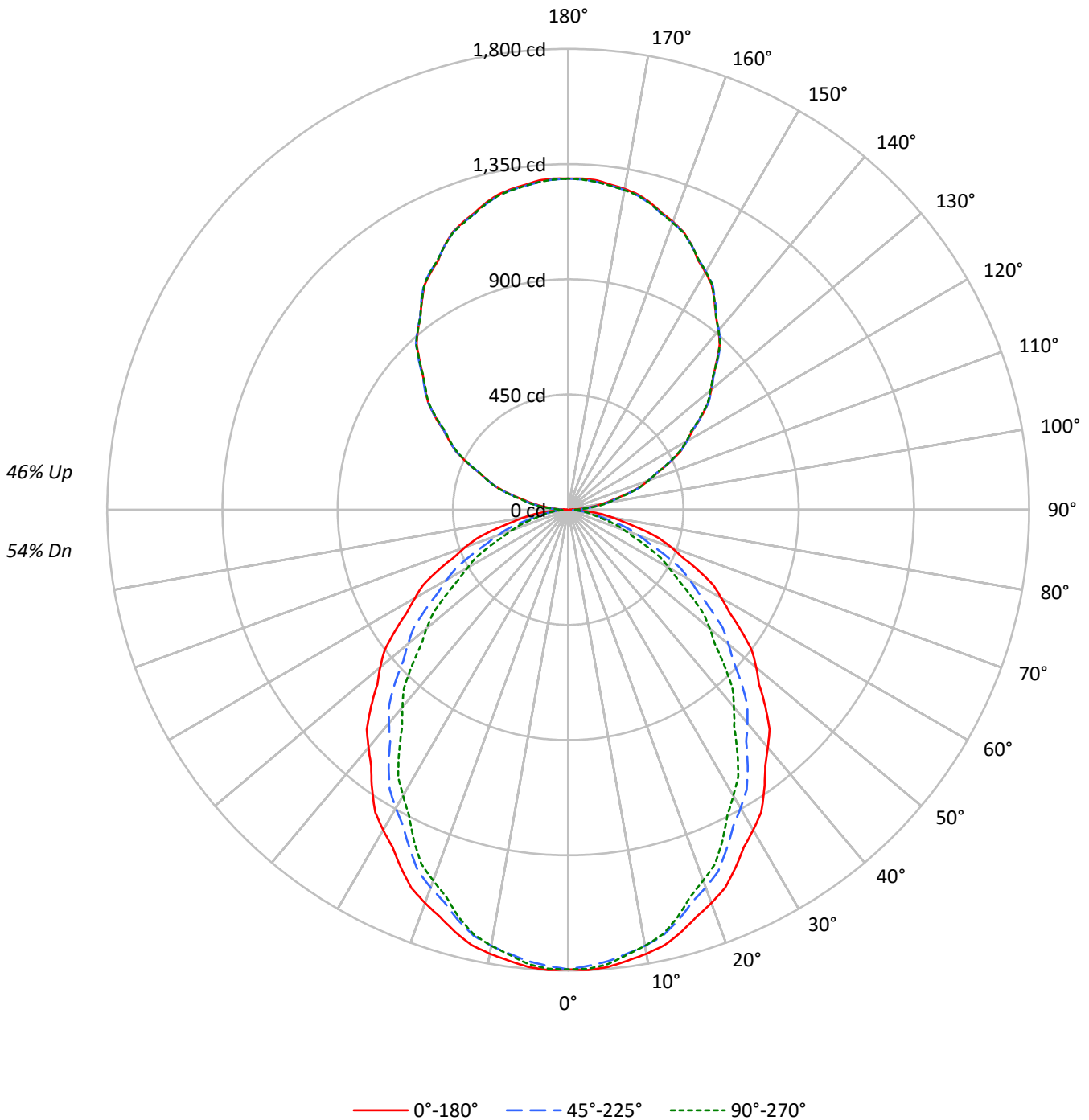
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P333013-935

CATALOG NUMBER: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	54
1	99	95	91	87	92	88	85	82	75	73	71	64	62	60	53	52	51	46
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	39
3	83	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	38	35	32	29
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	28	25	22
7	59	47	39	34	55	44	37	32	39	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	23	20	18
9	51	39	32	27	48	37	30	25	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14495	14495	14495
5°	14528	14350	14439
10°	14437	14178	14178
15°	14271	13881	13778
20°	14044	13489	13241
25°	13752	13030	12699
30°	13470	12547	12021
35°	13157	12046	11340
40°	12779	11475	10606
45°	12432	10909	9857
50°	12036	10257	9065
55°	11610	9578	8204
60°	11144	8835	7325
65°	10714	7904	6460
70°	10093	6878	5486
75°	9304	5705	4460
80°	8117	4347	4091
85°	6873	3946	3696



TEST NUMBER: P333013-935

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.7	2.2
10°-20°	470.4	6.1
20°-30°	679.2	8.8
30°-40°	769.9	9.9
40°-50°	743.4	9.6
50°-60°	618.2	8.0
60°-70°	426.9	5.5
70°-80°	216.4	2.8
80°-90°	59.4	0.8
90°-100°	85.3	1.1
100°-110°	252.7	3.3
110°-120°	428.9	5.5
120°-130°	565.6	7.3
130°-140°	635.2	8.2
140°-150°	624.2	8.1
150°-160°	525.0	6.8
160°-170°	349.3	4.5
170°-180°	122.3	1.6
0°-30°	1318.2	17.0
0°-40°	2088.1	27.0
0°-60°	3449.7	44.6
0°-90°	4152.4	53.6
90°-120°	767.0	9.9
90°-150°	2591.9	33.5
90°-180°	3588.0	46.4
0°-180°	7740.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1796	1796	1796	1796	1796	
5°	1793	1787	1771	1784	1782	170
15°	1708	1694	1661	1658	1648	481
25°	1544	1517	1463	1440	1426	711
35°	1335	1290	1222	1177	1151	834
45°	1089	1036	956	890	863	839
55°	825	768	680	612	583	738
65°	561	500	414	357	338	554
75°	298	247	183	152	143	315
85°	74	48	43	40	40	84
90°	3	14	22	28	30	7
95°	60	69	76	79	79	67
105°	233	234	238	241	244	247
115°	436	436	434	433	432	430
125°	635	635	634	632	630	566
135°	819	825	825	823	820	634
145°	995	999	1000	999	996	623
155°	1140	1140	1139	1143	1139	524
165°	1241	1238	1236	1242	1238	350
175°	1291	1287	1285	1292	1285	123
180°	1293	1293	1293	1293	1293	



TEST NUMBER: P333013-935

CATALOG NUMBER: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1799.9	1799.0	1798.0	1797.0	1796.0	1794.2	1791.6	1788.8	1786.1	1783.5	1786.1
5°	1792.8	1791.6	1790.4	1789.2	1788.0	1785.5	1781.8	1778.1	1774.5	1770.8	1773.8
7.5°	1776.6	1775.3	1774.0	1772.7	1771.4	1768.4	1763.7	1758.9	1754.1	1749.4	1751.4
10°	1761.2	1759.6	1758.2	1756.6	1755.1	1751.5	1746.1	1740.6	1735.1	1729.6	1730.8
12.5°	1741.4	1739.7	1737.8	1736.0	1734.3	1730.2	1723.7	1717.3	1710.7	1704.3	1705.0
15°	1707.5	1704.8	1702.1	1699.4	1696.6	1691.3	1683.8	1676.1	1668.4	1660.8	1660.2
17.5°	1666.6	1662.6	1658.6	1654.7	1650.7	1644.2	1635.0	1625.8	1616.6	1607.5	1605.8
20°	1634.7	1630.7	1626.8	1622.8	1618.9	1611.6	1601.3	1590.9	1580.5	1570.1	1567.6
22.5°	1599.5	1595.1	1590.6	1586.1	1581.7	1573.9	1562.7	1551.6	1540.5	1529.4	1525.7
25°	1543.9	1538.4	1532.9	1527.5	1522.0	1512.9	1500.5	1487.9	1475.4	1462.8	1457.7
27.5°	1485.7	1478.8	1471.9	1465.0	1458.0	1447.9	1434.5	1421.2	1407.7	1394.4	1387.9
30°	1445.0	1437.4	1429.7	1422.0	1414.5	1403.4	1389.1	1374.7	1360.4	1346.0	1338.3
32.5°	1402.1	1393.4	1384.8	1376.2	1367.6	1355.9	1341.0	1326.2	1311.3	1296.5	1287.6
35°	1335.0	1325.2	1315.4	1305.6	1295.9	1283.3	1268.1	1252.8	1237.5	1222.3	1211.9
37.5°	1263.3	1253.1	1243.0	1233.0	1222.9	1209.4	1192.5	1175.5	1158.6	1141.7	1130.1
40°	1212.6	1202.6	1192.5	1182.4	1172.3	1158.6	1141.2	1123.7	1106.3	1088.9	1076.1
42.5°	1164.2	1153.7	1143.1	1132.5	1122.0	1107.6	1089.4	1071.3	1053.2	1035.0	1021.9
45°	1088.9	1077.5	1066.3	1055.0	1043.7	1028.8	1010.6	992.2	973.9	955.5	940.6
47.5°	1011.1	999.4	987.7	976.0	964.4	949.0	930.0	910.9	891.8	872.8	857.2
50°	958.3	946.3	934.4	922.6	910.6	894.8	875.3	855.7	836.2	816.7	801.4
52.5°	904.4	892.7	881.1	869.4	857.7	841.8	821.8	801.8	781.7	761.6	746.1
55°	824.9	812.7	800.5	788.2	776.0	760.0	740.1	720.3	700.4	680.5	664.7
57.5°	746.2	733.6	720.8	708.2	695.4	679.3	659.8	640.2	620.6	601.1	585.0
60°	690.2	678.0	665.7	653.5	641.3	625.4	605.9	586.3	566.7	547.2	531.3
62.5°	639.6	626.9	614.2	601.5	588.8	572.4	552.3	532.3	512.2	492.2	477.5
65°	560.9	547.8	534.7	521.5	508.4	492.1	472.5	453.0	433.4	413.8	400.7
67.5°	479.2	466.7	454.1	441.5	429.0	413.5	395.4	377.3	359.1	341.0	329.7
70°	427.6	414.7	401.9	389.1	376.3	361.1	343.7	326.3	308.9	291.4	281.4
72.5°	372.6	361.0	349.4	337.8	326.1	312.1	295.7	279.2	262.8	246.3	237.7
75°	298.3	287.1	275.7	264.4	253.1	240.3	225.9	211.5	197.3	182.9	175.8
77.5°	223.0	213.4	203.8	194.2	184.6	174.0	162.4	150.8	139.2	127.6	123.5
80°	174.6	165.7	156.9	148.0	139.1	130.2	121.0	111.8	102.6	93.5	92.6
82.5°	132.9	124.7	116.6	108.4	100.3	93.6	88.3	83.1	77.8	72.6	71.9
85°	74.2	68.1	62.0	55.9	49.8	46.3	45.4	44.4	43.6	42.6	42.0
87.5°	25.9	24.5	23.0	21.5	20.1	19.4	19.5	19.5	19.7	19.8	19.8
90°	3.0	5.4	7.9	10.3	12.7	14.9	16.7	18.4	20.2	22.0	23.3
92.5°	21.4	24.2	27.0	29.8	32.6	34.6	35.9	37.1	38.4	39.6	40.4
95°	60.0	62.0	64.1	66.0	68.0	69.8	71.4	72.9	74.5	76.0	76.7
97.5°	104.9	106.4	108.1	109.6	111.2	113.0	114.8	116.6	118.4	120.2	121.1
100°	140.1	140.9	141.8	142.7	143.6	145.1	147.1	149.0	151.0	153.1	153.5
102.5°	176.8	177.2	177.5	177.9	178.3	179.3	181.2	183.0	184.9	186.7	187.3
105°	233.1	233.3	233.5	233.8	233.9	234.5	235.4	236.3	237.2	238.1	238.8
107.5°	292.1	292.4	292.7	292.9	293.2	293.3	293.5	293.6	293.8	293.9	294.5
110°	332.1	332.5	332.9	333.5	333.9	334.0	333.8	333.6	333.3	333.1	332.7



TEST NUMBER: P333013-935

CATALOG NUMBER: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	373.7	373.8	373.9	374.0	374.1	373.9	373.5	373.2	372.7	372.3	372.2
115°	436.1	436.1	436.1	436.1	436.1	435.9	435.5	435.1	434.5	434.1	433.9
117.5°	495.0	495.2	495.3	495.5	495.7	495.6	495.2	495.0	494.6	494.4	493.6
120°	534.2	535.0	536.0	536.8	537.7	537.9	537.2	536.5	535.8	535.2	534.1
122.5°	575.0	575.3	575.7	576.0	576.4	576.4	576.1	575.8	575.5	575.1	574.5
125°	635.2	635.2	635.2	635.2	635.2	635.1	634.9	634.6	634.4	634.2	633.8
127.5°	689.8	690.5	691.1	691.8	692.5	692.7	692.2	691.9	691.6	691.2	690.8
130°	728.2	728.9	729.5	730.2	730.9	731.2	731.2	731.2	731.2	731.2	730.8
132.5°	767.4	767.9	768.4	768.9	769.4	769.6	769.4	769.2	769.0	768.9	768.4
135°	819.2	820.6	821.9	823.3	824.6	825.3	825.3	825.3	825.3	825.3	824.8
137.5°	875.6	876.3	876.9	877.5	878.1	878.7	879.0	879.3	879.7	880.0	879.5
140°	913.3	913.7	914.2	914.6	915.1	915.2	915.2	915.2	915.2	915.2	915.1
142.5°	947.7	948.1	948.6	949.0	949.5	949.6	949.4	949.3	949.1	948.9	948.8
145°	995.3	996.2	997.1	998.0	998.8	999.4	999.6	999.9	1000.1	1000.3	1000.1
147.5°	1042.5	1043.6	1044.7	1045.7	1046.8	1047.2	1047.1	1046.9	1046.7	1046.5	1046.4
150°	1071.3	1072.2	1073.2	1074.0	1074.9	1075.3	1075.3	1075.3	1075.3	1075.3	1075.3
152.5°	1098.5	1099.1	1099.6	1100.1	1100.7	1101.0	1101.2	1101.4	1101.6	1101.7	1102.3
155°	1140.3	1140.3	1140.3	1140.3	1140.3	1140.2	1140.1	1139.8	1139.5	1139.4	1140.2
157.5°	1175.5	1175.2	1174.7	1174.4	1174.0	1173.7	1173.7	1173.6	1173.6	1173.5	1174.2
160°	1196.4	1196.2	1195.9	1195.7	1195.5	1195.2	1195.1	1194.8	1194.6	1194.4	1195.1
162.5°	1215.6	1215.0	1214.4	1213.8	1213.2	1212.9	1212.6	1212.5	1212.2	1211.9	1213.1
165°	1241.4	1240.7	1240.0	1239.4	1238.7	1238.1	1237.7	1237.3	1236.8	1236.4	1237.7
167.5°	1261.2	1260.2	1259.3	1258.4	1257.5	1257.0	1257.1	1257.1	1257.1	1257.1	1258.5
170°	1272.4	1271.3	1270.1	1269.0	1267.9	1267.5	1267.7	1267.9	1268.2	1268.4	1269.7
172.5°	1280.4	1279.4	1278.5	1277.6	1276.7	1276.2	1276.3	1276.3	1276.3	1276.4	1277.9
175°	1291.4	1290.3	1289.2	1288.1	1286.9	1286.2	1286.1	1285.8	1285.6	1285.4	1286.9
177.5°	1295.0	1294.1	1293.2	1292.4	1291.4	1291.0	1291.0	1291.0	1291.0	1291.0	1292.3
180°	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4



TEST NUMBER: P333013-935

CATALOG NUMBER: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1788.8	1791.6	1794.2	1795.4	1795.2	1794.9	1794.7	1794.5
5°	1776.9	1779.9	1783.0	1784.3	1783.6	1783.0	1782.4	1781.8
7.5°	1753.3	1755.2	1757.2	1757.6	1756.7	1755.8	1754.7	1753.8
10°	1732.0	1733.2	1734.5	1734.5	1733.2	1732.0	1730.8	1729.6
12.5°	1705.7	1706.5	1707.2	1706.7	1705.0	1703.3	1701.6	1699.9
15°	1659.6	1659.0	1658.4	1657.0	1654.8	1652.7	1650.6	1648.5
17.5°	1604.0	1602.3	1600.6	1598.2	1594.9	1591.6	1588.5	1585.2
20°	1565.2	1562.7	1560.3	1557.1	1553.2	1549.2	1545.2	1541.2
22.5°	1522.1	1518.4	1514.8	1511.3	1508.0	1504.8	1501.6	1498.3
25°	1452.4	1447.3	1442.1	1438.0	1434.9	1431.8	1428.7	1425.7
27.5°	1381.6	1375.1	1368.7	1363.3	1358.9	1354.5	1350.1	1345.7
30°	1330.7	1323.1	1315.4	1309.2	1304.2	1299.4	1294.5	1289.6
32.5°	1278.8	1269.9	1261.0	1254.3	1249.7	1245.0	1240.4	1235.7
35°	1201.4	1191.1	1180.7	1172.8	1167.3	1161.7	1156.2	1150.7
37.5°	1118.4	1106.8	1095.3	1086.7	1081.2	1075.6	1070.2	1064.7
40°	1063.2	1050.4	1037.6	1028.4	1022.9	1017.4	1011.9	1006.4
42.5°	1008.8	995.7	982.7	973.3	967.5	961.8	956.1	950.3
45°	925.6	910.6	895.6	885.4	879.9	874.4	868.9	863.4
47.5°	841.7	826.2	810.7	799.9	793.8	787.8	781.7	775.7
50°	786.1	770.9	755.5	745.0	739.3	733.4	727.6	721.8
52.5°	730.6	715.1	699.6	688.8	682.8	676.7	670.6	664.6
55°	648.8	632.9	617.0	606.1	600.4	594.5	588.8	582.9
57.5°	568.9	552.7	536.6	526.3	521.9	517.5	513.1	508.7
60°	515.4	499.6	483.6	473.3	468.4	463.5	458.6	453.7
62.5°	462.9	448.2	433.5	424.2	420.3	416.5	412.5	408.6
65°	387.5	374.4	361.3	352.8	349.2	345.5	341.9	338.2
67.5°	318.4	307.0	295.8	288.1	284.0	280.0	276.0	271.9
70°	271.3	261.2	251.2	244.6	241.5	238.5	235.4	232.4
72.5°	229.1	220.5	211.9	206.2	203.4	200.6	197.8	194.9
75°	168.8	161.8	154.7	150.3	148.5	146.6	144.8	143.0
77.5°	119.4	115.3	111.2	108.9	108.3	107.8	107.3	106.7
80°	91.7	90.7	89.8	89.2	88.9	88.6	88.3	88.0
82.5°	71.3	70.6	69.9	69.4	69.1	68.8	68.5	68.2
85°	41.4	40.8	40.2	39.9	39.9	39.9	39.9	39.9
87.5°	19.8	19.9	19.9	20.1	20.4	20.8	21.1	21.4
90°	24.7	26.0	27.4	28.2	28.7	29.1	29.5	30.0
92.5°	41.2	42.0	42.8	43.3	43.7	43.9	44.2	44.4
95°	77.3	78.0	78.7	79.0	79.0	79.0	79.0	79.0
97.5°	121.8	122.6	123.5	123.8	123.8	123.8	123.8	123.8
100°	153.9	154.4	154.8	155.1	155.1	155.1	155.1	155.1
102.5°	187.9	188.6	189.2	189.5	189.8	189.9	190.1	190.3
105°	239.4	240.0	240.7	241.4	242.1	242.7	243.4	244.1
107.5°	295.2	295.8	296.4	296.7	296.6	296.6	296.5	296.5
110°	332.2	331.7	331.3	331.4	332.1	332.8	333.5	334.1



TEST NUMBER: P333013-935

CATALOG NUMBER: S124RDIP-S1195D1205U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	372.1	372.0	372.0	372.0	372.1	372.2	372.4	372.6
115°	433.7	433.4	433.3	433.0	432.8	432.6	432.4	432.1
117.5°	492.8	492.1	491.3	490.8	490.3	489.8	489.4	489.0
120°	533.0	531.8	530.7	530.4	530.8	531.2	531.8	532.2
122.5°	573.7	572.9	572.1	571.4	570.6	569.8	568.9	568.2
125°	633.3	632.8	632.4	632.0	631.5	631.1	630.6	630.2
127.5°	690.3	689.9	689.4	689.1	688.7	688.3	687.9	687.6
130°	730.3	729.9	729.4	728.8	727.9	727.0	726.1	725.2
132.5°	767.9	767.5	767.1	766.6	766.3	765.9	765.6	765.3
135°	824.4	823.9	823.5	822.9	822.3	821.6	820.9	820.3
137.5°	878.9	878.3	877.8	877.5	877.7	877.8	878.0	878.0
140°	914.8	914.6	914.4	914.2	914.0	913.7	913.5	913.3
142.5°	948.8	948.7	948.7	948.6	948.6	948.6	948.6	948.5
145°	999.9	999.6	999.4	998.9	998.3	997.6	997.0	996.3
147.5°	1046.2	1046.0	1045.8	1045.6	1045.4	1045.2	1044.9	1044.7
150°	1075.3	1075.3	1075.3	1075.2	1075.0	1074.8	1074.5	1074.4
152.5°	1102.8	1103.4	1103.9	1103.9	1103.3	1102.7	1102.1	1101.6
155°	1141.2	1142.0	1142.9	1142.9	1142.0	1141.2	1140.2	1139.4
157.5°	1174.9	1175.5	1176.2	1176.2	1175.4	1174.7	1173.9	1173.2
160°	1195.7	1196.4	1197.0	1196.8	1195.7	1194.6	1193.5	1192.4
162.5°	1214.4	1215.6	1216.8	1216.9	1215.7	1214.6	1213.5	1212.4
165°	1239.1	1240.4	1241.7	1241.9	1241.0	1240.2	1239.2	1238.4
167.5°	1259.8	1261.2	1262.5	1262.5	1261.1	1259.7	1258.4	1257.0
170°	1271.1	1272.4	1273.8	1273.6	1272.0	1270.5	1268.9	1267.4
172.5°	1279.4	1280.9	1282.5	1282.5	1280.8	1279.3	1277.7	1276.2
175°	1288.5	1290.0	1291.6	1291.6	1290.0	1288.5	1286.9	1285.4
177.5°	1293.5	1294.8	1296.0	1295.9	1294.4	1293.0	1291.6	1290.2
180°	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4	1293.4

(END OF REPORT)