

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: P333109-940

Luminaire Tested: **S124RDIW-S1195D1340U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333109-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S1195D1340U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9084.4 lumens
Efficiency: N/A
Efficacy: 119.2 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

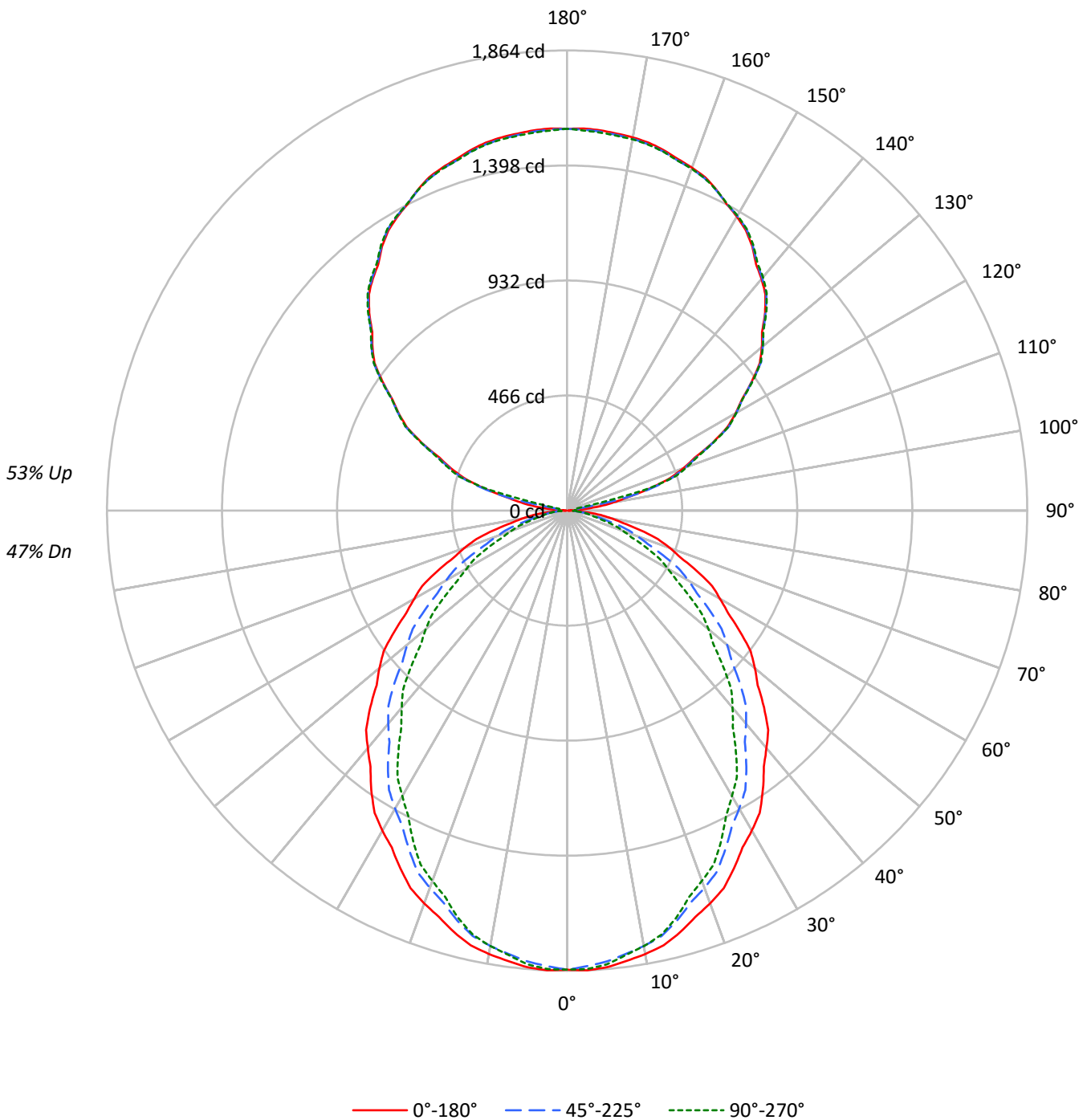
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P333109-940

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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	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	97	93	89	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40
2	89	82	76	71	82	75	70	66	63	60	56	53	50	48	42	41	39	34
3	81	72	65	59	74	67	60	55	56	52	48	47	43	40	38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	68	57	49	43	63	53	46	40	45	39	35	38	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	22	20
7	58	46	38	33	54	43	36	31	37	31	27	31	27	24	25	22	20	17
8	54	42	34	29	50	39	32	28	34	28	24	28	24	21	23	20	18	16
9	50	38	31	26	46	36	29	25	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15012	15012	15012
5°	15046	14862	14955
10°	14952	14684	14684
15°	14780	14375	14269
20°	14545	13970	13713
25°	14243	13495	13153
30°	13951	12995	12450
35°	13626	12476	11745
40°	13235	11884	10984
45°	12875	11298	10209
50°	12465	10623	9388
55°	12024	9920	8497
60°	11541	9150	7585
65°	11096	8187	6692
70°	10452	7124	5681
75°	9638	5908	4619
80°	8405	4500	4235
85°	7123	4085	3825



TEST NUMBER: P333109-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	1.9
10°-20°	487.1	5.4
20°-30°	703.4	7.7
30°-40°	797.3	8.8
40°-50°	770.0	8.5
50°-60°	640.3	7.0
60°-70°	442.1	4.9
70°-80°	224.1	2.5
80°-90°	62.0	0.7
90°-100°	52.9	0.6
100°-110°	337.2	3.7
110°-120°	645.1	7.1
120°-130°	818.9	9.0
130°-140°	876.2	9.6
140°-150°	819.3	9.0
150°-160°	660.7	7.3
160°-170°	426.2	4.7
170°-180°	146.9	1.6
0°-30°	1365.2	15.0
0°-40°	2162.6	23.8
0°-60°	3572.8	39.3
0°-90°	4300.9	47.3
90°-120°	1035.2	11.4
90°-150°	3549.6	39.1
90°-180°	4783.0	52.7
0°-180°	9084.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1857	1850	1834	1847	1845	176
15°	1768	1754	1720	1717	1707	498
25°	1599	1572	1515	1491	1477	736
35°	1383	1336	1266	1219	1192	864
45°	1128	1073	990	922	894	869
55°	854	795	705	633	604	764
65°	581	518	429	370	350	573
75°	309	256	189	158	148	326
85°	77	50	44	41	41	87
90°	4	16	25	32	35	7
95°	64	26	25	32	34	82
105°	348	355	361	368	330	364
115°	650	653	652	654	655	639
125°	914	918	916	919	921	815
135°	1134	1133	1137	1139	1142	873
145°	1307	1310	1310	1312	1314	816
155°	1433	1434	1431	1435	1432	660
165°	1512	1506	1506	1514	1505	427
175°	1546	1540	1541	1550	1537	147
180°	1546	1546	1546	1546	1546	



TEST NUMBER: P333109-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1864.1	1863.1	1862.2	1861.1	1860.1	1858.2	1855.5	1852.6	1849.9	1847.1	1849.9
5°	1856.7	1855.5	1854.2	1853.0	1851.7	1849.1	1845.4	1841.6	1837.8	1834.0	1837.1
7.5°	1840.0	1838.6	1837.3	1835.9	1834.6	1831.5	1826.6	1821.7	1816.7	1811.8	1813.8
10°	1824.0	1822.4	1820.9	1819.3	1817.7	1814.0	1808.4	1802.7	1797.0	1791.3	1792.5
12.5°	1803.5	1801.7	1799.8	1798.0	1796.2	1791.9	1785.2	1778.5	1771.7	1765.1	1765.9
15°	1768.4	1765.6	1762.8	1760.0	1757.1	1751.7	1743.8	1735.9	1728.0	1720.0	1719.4
17.5°	1726.1	1721.9	1717.8	1713.7	1709.6	1702.8	1693.3	1683.8	1674.3	1664.8	1663.0
20°	1693.0	1688.9	1684.8	1680.7	1676.6	1669.1	1658.4	1647.6	1636.8	1626.1	1623.5
22.5°	1656.5	1652.0	1647.3	1642.7	1638.1	1630.0	1618.5	1607.0	1595.4	1583.9	1580.1
25°	1599.0	1593.3	1587.6	1582.0	1576.3	1566.9	1554.0	1541.0	1528.0	1515.0	1509.7
27.5°	1538.6	1531.5	1524.4	1517.2	1510.0	1499.6	1485.7	1471.9	1457.9	1444.1	1437.4
30°	1496.6	1488.6	1480.7	1472.7	1464.9	1453.5	1438.6	1423.7	1408.9	1394.0	1386.1
32.5°	1452.1	1443.1	1434.2	1425.3	1416.4	1404.3	1388.8	1373.5	1358.1	1342.7	1333.6
35°	1382.6	1372.4	1362.4	1352.2	1342.1	1329.1	1313.3	1297.5	1281.7	1265.9	1255.1
37.5°	1308.3	1297.8	1287.4	1276.9	1266.5	1252.5	1235.0	1217.5	1200.0	1182.4	1170.4
40°	1255.9	1245.5	1235.0	1224.6	1214.1	1199.9	1181.9	1163.8	1145.8	1127.7	1114.5
42.5°	1205.8	1194.8	1183.8	1172.9	1162.0	1147.1	1128.3	1109.5	1090.7	1071.9	1058.4
45°	1127.7	1116.0	1104.3	1092.6	1080.9	1065.5	1046.6	1027.6	1008.6	989.6	974.1
47.5°	1047.1	1035.0	1023.0	1010.8	998.8	982.8	963.1	943.3	923.6	903.9	887.8
50°	992.5	980.1	967.8	955.5	943.1	926.8	906.5	886.3	866.0	845.8	830.0
52.5°	936.7	924.5	912.5	900.4	888.3	871.8	851.1	830.4	809.6	788.8	772.8
55°	854.3	841.7	829.0	816.4	803.7	787.1	766.5	746.0	725.4	704.8	688.4
57.5°	772.8	759.7	746.5	733.4	720.2	703.6	683.3	663.0	642.7	622.5	605.8
60°	714.8	702.1	689.5	676.8	664.1	647.7	627.5	607.3	586.9	566.7	550.3
62.5°	662.4	649.3	636.1	622.9	609.8	592.8	572.0	551.3	530.5	509.8	494.5
65°	580.9	567.3	553.8	540.1	526.6	509.6	489.4	469.1	448.9	428.6	415.0
67.5°	496.3	483.3	470.3	457.3	444.3	428.3	409.5	390.7	371.9	353.1	341.4
70°	442.8	429.5	416.3	403.0	389.7	374.0	356.0	338.0	319.9	301.8	291.4
72.5°	385.8	373.9	361.9	349.8	337.8	323.2	306.2	289.2	272.2	255.1	246.2
75°	309.0	297.3	285.5	273.8	262.2	248.9	234.0	219.1	204.3	189.4	182.1
77.5°	231.0	221.1	211.1	201.2	191.2	180.2	168.2	156.2	144.2	132.2	127.9
80°	180.8	171.7	162.5	153.3	144.1	134.8	125.3	115.8	106.3	96.8	95.9
82.5°	137.6	129.1	120.7	112.3	103.9	96.9	91.5	86.1	80.6	75.2	74.5
85°	76.9	70.5	64.2	57.9	51.5	48.0	47.0	46.0	45.1	44.1	43.5
87.5°	26.9	25.4	24.0	22.5	21.0	20.4	20.6	20.7	20.9	21.0	21.1
90°	3.5	6.3	9.1	11.9	14.8	17.2	19.3	21.3	23.4	25.4	27.0
92.5°	14.5	14.7	14.9	15.1	15.2	16.3	18.4	20.4	22.5	24.5	26.0
95°	63.6	54.8	46.1	37.4	28.6	24.4	24.7	25.0	25.1	25.4	27.0
97.5°	135.1	140.5	146.0	151.4	156.9	145.3	116.5	87.9	59.2	30.5	30.7
100°	189.7	194.3	198.9	203.6	208.2	192.8	157.3	121.8	86.3	50.9	46.5
102.5°	250.7	254.1	257.5	260.9	264.3	263.7	259.0	254.5	249.9	245.2	198.0
105°	348.1	349.6	351.2	352.8	354.3	355.7	357.0	358.3	359.5	360.9	363.2
107.5°	438.5	439.3	440.1	440.9	441.7	442.9	444.7	446.4	448.2	450.0	451.0
110°	499.6	500.4	501.2	501.9	502.7	503.9	505.4	506.9	508.5	510.1	510.6



TEST NUMBER: P333109-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	558.8	560.3	561.7	563.0	564.5	565.4	566.2	566.9	567.7	568.4	568.3
115°	650.0	650.8	651.6	652.3	653.1	653.4	653.1	652.8	652.6	652.3	652.8
117.5°	732.1	733.2	734.1	735.2	736.2	737.0	737.6	738.2	738.7	739.3	739.2
120°	787.6	788.6	789.7	790.8	791.8	792.1	791.9	791.7	791.4	791.1	791.7
122.5°	839.5	840.1	840.7	841.3	842.0	842.4	842.8	843.1	843.5	843.8	844.2
125°	913.7	914.7	915.8	916.8	917.8	918.1	917.6	917.0	916.5	916.1	916.8
127.5°	984.0	984.3	984.5	984.8	985.1	985.8	986.9	988.1	989.4	990.5	990.3
130°	1029.4	1029.7	1029.9	1030.1	1030.4	1030.9	1031.7	1032.4	1033.2	1034.0	1034.3
132.5°	1071.0	1071.5	1071.9	1072.4	1072.8	1073.6	1074.6	1075.5	1076.5	1077.5	1077.7
135°	1133.5	1133.2	1132.9	1132.7	1132.5	1132.8	1133.8	1134.9	1136.0	1136.9	1137.5
137.5°	1188.7	1188.8	1188.9	1189.1	1189.2	1189.8	1190.9	1192.0	1193.2	1194.3	1194.9
140°	1224.9	1225.4	1225.8	1226.4	1226.9	1227.4	1227.9	1228.4	1229.0	1229.5	1230.2
142.5°	1257.2	1258.1	1259.1	1260.0	1261.0	1261.5	1261.9	1262.1	1262.5	1262.8	1263.4
145°	1307.0	1307.7	1308.5	1309.3	1310.0	1310.5	1310.5	1310.5	1310.5	1310.5	1310.7
147.5°	1346.5	1347.9	1349.4	1350.9	1352.3	1352.9	1352.6	1352.4	1352.1	1351.8	1352.0
150°	1375.2	1376.3	1377.2	1378.3	1379.3	1379.7	1379.5	1379.2	1378.9	1378.7	1378.7
152.5°	1399.3	1400.1	1400.9	1401.7	1402.6	1402.8	1402.3	1401.8	1401.3	1400.9	1401.3
155°	1433.1	1433.2	1433.5	1433.8	1434.0	1433.8	1433.1	1432.3	1431.5	1430.7	1431.7
157.5°	1461.5	1461.3	1461.2	1461.0	1460.9	1460.4	1459.5	1458.6	1457.8	1456.9	1458.2
160°	1478.1	1477.4	1476.6	1475.8	1475.1	1474.5	1474.3	1474.0	1473.7	1473.6	1475.1
162.5°	1492.9	1491.9	1491.0	1490.0	1489.1	1488.4	1488.2	1487.9	1487.6	1487.4	1488.9
165°	1511.7	1510.4	1509.1	1507.8	1506.5	1505.9	1505.9	1505.9	1505.9	1505.9	1508.0
167.5°	1526.5	1525.2	1523.8	1522.5	1521.2	1520.4	1520.3	1520.1	1519.9	1519.7	1522.1
170°	1534.8	1533.3	1531.7	1530.2	1528.7	1528.0	1528.2	1528.5	1528.7	1529.0	1531.1
172.5°	1540.3	1538.8	1537.3	1535.7	1534.2	1533.6	1533.8	1534.1	1534.3	1534.5	1536.6
175°	1546.4	1544.8	1543.3	1541.8	1540.2	1539.5	1539.8	1540.1	1540.3	1540.6	1542.9
177.5°	1549.2	1547.7	1546.2	1544.8	1543.4	1542.8	1543.3	1543.7	1544.1	1544.5	1546.1
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4



TEST NUMBER: P333109-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1852.6	1855.5	1858.2	1859.5	1859.2	1858.9	1858.7	1858.5
5°	1840.3	1843.4	1846.6	1847.9	1847.3	1846.6	1846.0	1845.4
7.5°	1815.8	1817.8	1819.9	1820.3	1819.4	1818.4	1817.3	1816.3
10°	1793.8	1795.0	1796.4	1796.4	1795.0	1793.8	1792.5	1791.3
12.5°	1766.6	1767.4	1768.1	1767.5	1765.9	1764.1	1762.3	1760.5
15°	1718.8	1718.1	1717.5	1716.1	1713.9	1711.6	1709.5	1707.3
17.5°	1661.3	1659.5	1657.7	1655.2	1651.8	1648.4	1645.1	1641.7
20°	1621.0	1618.5	1616.0	1612.7	1608.6	1604.5	1600.3	1596.2
22.5°	1576.4	1572.5	1568.8	1565.2	1561.8	1558.4	1555.1	1551.8
25°	1504.2	1498.9	1493.5	1489.2	1486.0	1482.9	1479.7	1476.6
27.5°	1430.8	1424.2	1417.6	1411.9	1407.4	1402.8	1398.3	1393.7
30°	1378.1	1370.3	1362.4	1355.8	1350.8	1345.8	1340.7	1335.6
32.5°	1324.4	1315.2	1306.0	1299.0	1294.2	1289.4	1284.6	1279.8
35°	1244.3	1233.6	1222.8	1214.6	1208.9	1203.2	1197.5	1191.8
37.5°	1158.3	1146.3	1134.3	1125.4	1119.7	1114.0	1108.4	1102.7
40°	1101.2	1087.9	1074.6	1065.1	1059.4	1053.6	1048.0	1042.3
42.5°	1044.8	1031.3	1017.7	1008.0	1002.0	996.1	990.2	984.2
45°	958.6	943.1	927.6	916.9	911.3	905.6	899.9	894.2
47.5°	871.7	855.7	839.6	828.4	822.2	815.9	809.6	803.3
50°	814.1	798.3	782.5	771.6	765.6	759.6	753.6	747.5
52.5°	756.7	740.7	724.5	713.4	707.1	700.9	694.6	688.3
55°	671.9	655.5	639.0	627.8	621.8	615.7	609.8	603.7
57.5°	589.2	572.4	555.7	545.1	540.6	535.9	531.4	526.8
60°	533.8	517.4	500.9	490.2	485.1	480.0	474.9	469.8
62.5°	479.4	464.2	449.0	439.3	435.3	431.3	427.2	423.2
65°	401.4	387.8	374.2	365.4	361.7	357.8	354.1	350.3
67.5°	329.8	318.0	306.3	298.4	294.2	290.0	285.8	281.6
70°	281.0	270.5	260.1	253.3	250.1	247.0	243.8	240.7
72.5°	237.3	228.4	219.5	213.6	210.6	207.8	204.8	201.9
75°	174.9	167.6	160.2	155.7	153.8	151.9	150.0	148.1
77.5°	123.7	119.4	115.2	112.8	112.2	111.6	111.1	110.5
80°	95.0	94.0	93.0	92.4	92.1	91.8	91.5	91.1
82.5°	73.8	73.1	72.4	71.9	71.6	71.2	71.0	70.6
85°	42.9	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	21.1	21.2	21.2	21.5	21.8	22.2	22.6	22.9
90°	28.5	30.1	31.7	32.6	33.2	33.7	34.2	34.7
92.5°	27.6	29.2	30.7	31.5	31.7	31.7	31.8	31.9
95°	28.5	30.1	31.7	32.5	32.7	33.0	33.3	33.5
97.5°	30.9	31.0	31.1	31.4	31.7	31.8	32.1	32.4
100°	42.2	37.8	33.4	31.4	31.7	31.8	32.1	32.4
102.5°	151.0	103.8	56.6	33.1	33.2	33.2	33.3	33.3
105°	365.5	367.8	370.1	366.7	357.4	348.1	338.9	329.7
107.5°	452.2	453.3	454.4	455.5	456.5	457.4	458.4	459.4
110°	511.1	511.6	512.1	512.7	513.5	514.3	515.1	515.9



TEST NUMBER: P333109-940

CATALOG NUMBER: S124RDIW-S1195D1340U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	568.1	568.0	567.9	568.4	569.4	570.3	571.3	572.3
115°	653.4	653.9	654.3	654.6	654.6	654.6	654.6	654.6
117.5°	739.0	739.0	738.9	738.8	738.7	738.6	738.5	738.3
120°	792.1	792.6	793.2	793.2	792.6	792.1	791.7	791.1
122.5°	844.5	844.8	845.1	845.0	844.5	843.9	843.5	842.9
125°	917.6	918.4	919.1	919.6	919.9	920.2	920.4	920.7
127.5°	990.2	990.1	989.9	989.7	989.5	989.3	989.1	988.9
130°	1034.5	1034.7	1035.0	1035.2	1035.2	1035.2	1035.2	1035.2
132.5°	1078.0	1078.3	1078.5	1078.5	1078.3	1078.2	1077.9	1077.7
135°	1138.0	1138.4	1139.0	1139.5	1140.1	1140.5	1141.0	1141.6
137.5°	1195.4	1196.0	1196.6	1196.8	1196.6	1196.5	1196.3	1196.1
140°	1231.0	1231.8	1232.5	1233.1	1233.3	1233.6	1233.9	1234.1
142.5°	1263.9	1264.4	1265.1	1265.3	1265.4	1265.4	1265.5	1265.5
145°	1310.9	1311.2	1311.4	1311.9	1312.3	1312.9	1313.4	1313.9
147.5°	1352.3	1352.5	1352.6	1352.9	1353.2	1353.4	1353.6	1353.9
150°	1378.7	1378.7	1378.7	1378.8	1379.0	1379.3	1379.6	1379.8
152.5°	1401.7	1402.1	1402.5	1402.7	1402.5	1402.3	1402.2	1402.0
155°	1432.8	1433.8	1434.9	1434.9	1434.2	1433.4	1432.6	1431.9
157.5°	1459.6	1460.9	1462.2	1462.2	1460.9	1459.6	1458.2	1456.9
160°	1476.6	1478.1	1479.7	1479.7	1478.1	1476.6	1475.1	1473.6
162.5°	1490.5	1492.0	1493.5	1493.4	1491.7	1490.0	1488.2	1486.5
165°	1510.0	1512.1	1514.1	1513.9	1511.7	1509.4	1507.1	1504.8
167.5°	1524.3	1526.5	1528.8	1528.7	1526.1	1523.5	1521.0	1518.4
170°	1533.1	1535.2	1537.2	1537.0	1534.5	1531.9	1529.3	1526.7
172.5°	1538.6	1540.8	1542.8	1542.5	1539.6	1536.9	1534.1	1531.3
175°	1545.2	1547.6	1549.9	1549.4	1546.4	1543.3	1540.2	1537.1
177.5°	1547.8	1549.4	1551.1	1550.7	1548.2	1545.8	1543.3	1540.8
180°	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4	1546.4

(END OF REPORT)