

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: P243271

Luminaire Tested: **S122RDR-H1005D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243271
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H1005D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2953.4 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

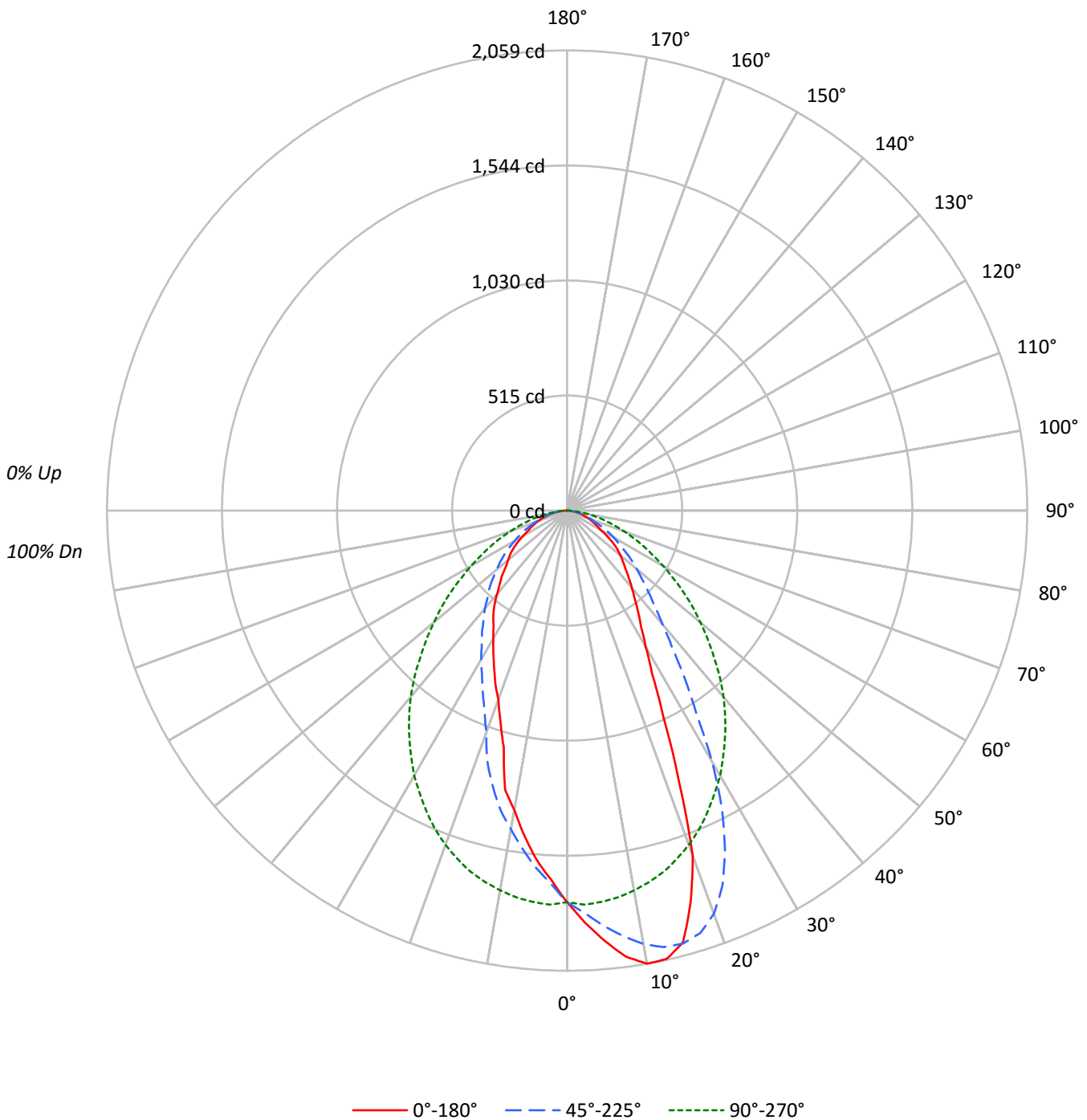
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	33379	33379	33379
5°	36950	33606	29998
10°	39817	33372	26308
15°	39465	32985	21621
20°	33290	32256	18249
25°	21404	31263	16246
30°	15462	30106	14554
35°	12880	28655	13387
40°	11179	27063	12119
45°	9978	25038	11090
50°	9210	23057	10197
55°	8266	21061	9710
60°	6598	18960	8739
65°	6048	17032	8063
70°	5558	15042	7663
75°	5063	13166	7256
80°	4399	10947	6790
85°	3519	8764	6272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.9	5.6
10°-20°	453.9	15.4
20°-30°	572.1	19.4
30°-40°	549.2	18.6
40°-50°	473.0	16.0
50°-60°	361.7	12.2
60°-70°	230.1	7.8
70°-80°	116.6	3.9
80°-90°	30.8	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1191.9	40.4
0°-40°	1741.1	59.0
0°-60°	2575.8	87.2
0°-90°	2953.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2953.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1752	1752	1752	1752	1752	
5°	1932	1865	1758	1604	1569	188
15°	2001	2005	1673	1281	1096	543
25°	1018	1671	1488	893	773	487
35°	554	917	1232	664	576	349
45°	370	514	930	492	412	288
55°	249	313	634	342	292	220
65°	134	173	378	210	179	134
75°	69	78	179	108	99	73
85°	16	19	40	30	29	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4
2.5°	1845.3	1847.6	1848.7	1845.9	1839.6	1840.1	1834.4	1824.6	1812.6	1801.7	1808.0
5°	1932.5	1935.3	1934.7	1929.6	1923.3	1917.5	1907.8	1894.0	1879.7	1864.8	1861.9
7.5°	2012.7	2019.0	2017.3	2007.6	2003.0	1995.0	1978.3	1962.8	1941.1	1919.8	1911.2
10°	2058.6	2063.8	2060.9	2058.6	2053.4	2045.4	2030.5	2015.6	1991.5	1969.2	1956.5
12.5°	2055.2	2059.8	2062.0	2064.3	2062.6	2059.8	2053.4	2040.8	2021.3	2000.7	1984.6
15°	2001.3	1993.8	1988.6	2003.0	2008.1	2027.6	2032.2	2033.9	2020.8	2005.3	2001.3
17.5°	1837.3	1839.6	1879.1	1872.8	1881.4	1929.0	1947.9	1973.7	1984.6	1981.2	1988.1
20°	1642.3	1615.3	1634.8	1663.5	1690.5	1759.8	1805.7	1846.4	1893.5	1919.8	1945.1
22.5°	1302.8	1303.4	1350.4	1397.4	1458.2	1533.3	1603.3	1681.3	1765.0	1816.0	1875.1
25°	1018.4	1045.9	1066.6	1087.2	1175.5	1247.8	1364.2	1458.8	1574.1	1671.0	1770.2
27.5°	823.4	852.1	855.6	902.0	954.2	1012.7	1088.9	1238.0	1356.2	1498.4	1621.1
30°	703.0	708.8	720.8	732.8	771.3	825.7	907.7	1001.2	1132.5	1294.8	1459.4
32.5°	615.9	614.7	626.8	645.7	666.9	703.6	750.0	827.5	946.2	1075.2	1267.3
35°	553.9	552.2	560.8	567.7	580.3	610.1	652.0	703.0	788.5	916.9	1066.0
37.5°	495.4	498.9	504.0	511.5	528.1	547.1	575.1	617.6	685.2	770.1	912.9
40°	449.6	453.6	459.3	464.5	477.1	492.6	511.5	545.3	590.6	664.6	774.1
42.5°	408.3	410.0	414.6	422.0	431.2	445.0	463.3	489.1	527.0	578.6	674.4
45°	370.4	370.4	375.6	382.5	388.2	401.4	415.7	440.4	469.6	513.8	582.0
47.5°	338.3	338.9	341.8	342.9	349.2	361.3	376.7	396.2	420.3	454.2	517.8
50°	310.8	313.1	314.2	316.0	318.3	324.6	335.5	350.4	376.7	406.6	449.0
52.5°	282.1	285.0	287.3	290.7	294.2	294.7	302.8	312.5	330.9	361.8	396.2
55°	248.9	251.2	255.7	258.6	263.2	267.2	273.5	280.4	292.4	313.1	348.6
57.5°	211.0	211.6	216.2	219.0	228.2	237.4	243.1	250.6	259.2	273.5	300.5
60°	173.2	174.9	175.5	177.8	185.8	195.5	207.0	218.5	227.7	240.3	259.2
62.5°	152.5	153.1	154.8	157.1	157.7	162.3	165.7	179.5	195.5	208.2	220.8
65°	134.2	134.8	134.8	136.5	138.8	141.1	142.8	147.9	154.8	172.6	188.1
67.5°	117.0	116.4	117.6	119.3	119.8	121.6	124.4	127.3	131.9	137.0	153.1
70°	99.8	99.8	99.2	100.9	102.6	103.2	104.9	107.8	110.7	115.3	120.4
72.5°	82.6	83.7	83.7	84.9	85.4	87.7	88.9	90.0	94.0	96.3	100.3
75°	68.8	68.2	70.0	69.4	70.5	71.1	72.8	74.5	75.7	78.0	81.4
77.5°	55.0	53.9	55.0	54.5	55.6	56.8	56.8	58.5	59.6	61.9	63.7
80°	40.1	40.1	40.7	41.9	41.9	42.4	43.6	43.0	45.3	45.9	47.6
82.5°	27.5	28.1	28.1	28.7	28.7	28.7	29.8	29.8	30.4	31.5	32.1
85°	16.1	15.5	16.1	16.1	16.1	16.6	17.2	16.6	17.8	18.9	18.9
87.5°	4.6	4.6	5.2	5.7	5.7	6.3	6.3	6.3	6.9	6.9	7.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4
2.5°	1808.0	1805.2	1797.7	1790.8	1778.2	1767.9	1764.4	1765.0	1749.5	1733.5	1728.9
5°	1857.9	1847.6	1832.7	1817.2	1798.3	1779.3	1767.3	1757.6	1733.5	1709.4	1695.6
7.5°	1899.2	1882.6	1860.8	1836.1	1811.5	1783.4	1763.9	1745.5	1712.3	1679.6	1661.8
10°	1937.0	1913.5	1883.7	1851.6	1818.9	1782.2	1754.1	1725.4	1683.6	1646.9	1616.5
12.5°	1973.2	1935.9	1905.5	1859.1	1822.9	1773.0	1734.6	1701.4	1652.0	1606.2	1572.3
15°	1976.6	1950.2	1909.5	1861.3	1806.3	1759.8	1711.7	1672.7	1616.5	1565.5	1507.5
17.5°	1976.0	1955.4	1913.0	1863.6	1797.7	1736.9	1684.7	1633.7	1569.5	1509.8	1459.9
20°	1955.4	1941.1	1904.4	1845.9	1779.3	1709.4	1651.5	1591.3	1516.1	1454.8	1400.3
22.5°	1906.6	1910.1	1881.4	1829.2	1757.6	1679.6	1612.5	1543.1	1466.3	1395.7	1326.9
25°	1824.1	1860.8	1852.2	1803.4	1727.2	1641.7	1565.5	1487.5	1404.9	1329.8	1266.1
27.5°	1721.4	1790.2	1805.2	1767.3	1694.5	1598.7	1512.1	1427.3	1343.0	1262.1	1196.7
30°	1599.9	1702.5	1740.4	1719.7	1652.6	1552.3	1451.9	1368.8	1276.5	1190.4	1121.6
32.5°	1446.8	1590.7	1657.2	1663.5	1608.5	1500.7	1389.4	1300.0	1205.3	1123.9	1049.9
35°	1275.9	1452.5	1560.9	1590.1	1550.5	1443.9	1326.9	1232.3	1131.4	1049.4	974.8
37.5°	1103.8	1311.4	1453.6	1510.4	1484.0	1380.8	1257.0	1161.2	1061.4	977.7	907.7
40°	945.6	1142.8	1327.5	1416.4	1408.3	1312.6	1187.6	1088.4	986.9	909.5	832.6
42.5°	803.9	994.3	1197.3	1316.6	1322.9	1239.2	1111.3	1011.5	914.0	837.2	756.9
45°	692.1	859.6	1060.8	1203.1	1230.6	1161.8	1032.2	929.5	840.6	768.4	688.1
47.5°	602.7	732.8	919.8	1086.6	1135.4	1075.2	951.3	853.8	770.1	708.2	632.5
50°	525.3	647.4	806.2	960.5	1032.2	986.9	871.0	778.1	702.4	642.8	576.3
52.5°	456.4	551.1	688.7	836.6	933.0	891.7	793.1	707.6	636.5	580.9	525.3
55°	399.7	478.8	600.4	732.3	821.1	798.2	710.5	634.2	571.7	519.0	473.7
57.5°	341.2	407.7	505.8	623.3	710.5	707.0	634.8	561.4	512.1	462.2	429.5
60°	290.2	344.1	423.8	523.5	611.3	611.8	555.7	497.7	455.3	412.3	381.3
62.5°	244.9	287.9	357.2	437.5	507.5	525.3	483.4	432.9	398.5	365.3	338.9
65°	205.9	238.0	290.2	363.0	418.0	442.1	414.6	377.9	349.2	319.4	295.9
67.5°	169.7	193.2	231.7	289.0	344.1	361.8	350.4	322.3	301.6	277.0	259.2
70°	133.6	153.7	180.6	223.6	268.9	293.6	290.2	270.1	252.9	235.1	218.5
72.5°	106.1	117.6	138.2	169.2	205.3	232.8	234.0	223.6	209.3	194.4	183.5
75°	85.4	90.6	100.3	124.4	153.1	176.0	184.1	178.9	167.4	158.3	150.8
77.5°	65.9	70.5	76.8	88.3	110.7	128.4	138.2	138.8	131.9	123.9	118.1
80°	49.3	51.0	55.6	61.4	72.8	88.3	99.8	99.8	95.8	91.7	88.3
82.5°	33.8	35.6	37.8	40.7	46.4	55.6	65.9	67.7	65.4	64.2	59.6
85°	18.9	20.6	21.8	23.5	25.8	30.4	37.8	40.1	40.7	37.3	35.0
87.5°	7.5	7.5	8.0	8.6	9.2	10.9	13.8	17.2	17.2	15.5	14.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4	1752.4
2.5°	1723.2	1715.1	1704.8	1695.6	1683.0	1670.4	1668.1	1672.7	1673.8	1668.1	1669.8
5°	1682.4	1667.5	1654.9	1634.3	1621.1	1603.9	1592.4	1592.4	1592.4	1583.8	1575.8
7.5°	1640.0	1619.9	1595.8	1576.4	1549.4	1527.0	1516.1	1511.0	1500.7	1492.1	1482.3
10°	1590.7	1562.6	1532.8	1502.4	1478.9	1447.9	1429.6	1418.1	1400.3	1392.9	1378.5
12.5°	1532.8	1504.7	1468.5	1419.2	1412.4	1374.5	1348.7	1327.5	1305.7	1287.9	1281.6
15°	1486.3	1437.6	1389.4	1354.4	1303.4	1281.0	1243.2	1239.8	1222.0	1169.8	1129.1
17.5°	1411.2	1367.6	1314.3	1275.3	1234.6	1184.7	1144.6	1105.0	1067.1	1030.4	1029.3
20°	1344.7	1293.7	1243.2	1200.8	1129.7	1058.5	1033.9	997.8	975.4	946.2	937.6
22.5°	1271.9	1218.5	1155.5	1093.5	1010.4	965.7	938.7	910.0	887.7	874.5	861.3
25°	1198.5	1145.1	1061.4	985.1	928.4	893.4	870.5	839.5	823.4	812.0	794.8
27.5°	1126.8	1059.1	970.8	910.0	864.2	824.6	803.9	778.7	760.9	746.0	735.1
30°	1055.7	962.8	887.7	840.6	793.6	769.0	742.0	723.1	709.9	696.1	678.4
32.5°	977.7	880.2	831.5	773.6	746.0	710.5	691.0	671.5	654.3	644.5	638.2
35°	887.1	808.5	765.0	722.5	687.5	664.0	636.5	624.5	615.3	596.4	588.3
37.5°	810.3	753.5	707.6	669.8	637.7	612.4	599.8	579.2	566.0	559.7	551.1
40°	746.6	696.1	656.6	618.2	591.2	572.9	550.5	539.6	522.4	516.1	509.2
42.5°	691.6	645.1	603.8	574.6	551.1	525.8	514.4	496.0	488.6	473.1	467.3
45°	635.9	594.6	558.5	529.8	507.5	492.0	471.4	459.9	446.7	438.7	423.2
47.5°	580.3	543.6	513.8	489.7	470.2	451.3	434.1	424.3	407.7	399.1	391.1
50°	537.3	501.7	473.7	449.6	429.5	410.6	399.7	383.6	368.7	359.0	356.1
52.5°	486.3	455.3	429.5	411.1	391.1	377.3	362.4	344.6	337.2	327.4	325.1
55°	441.0	415.7	393.9	374.4	357.2	341.8	324.6	311.9	306.2	301.6	298.2
57.5°	398.5	374.4	354.4	336.6	321.7	305.6	291.3	283.8	278.7	273.5	270.1
60°	356.7	334.9	316.5	301.6	286.1	270.7	260.3	254.0	250.0	242.6	240.3
62.5°	319.4	299.3	280.4	266.6	252.3	240.3	231.7	223.1	216.8	211.0	199.0
65°	278.7	260.9	246.6	232.8	219.0	209.9	200.1	190.4	182.4	182.4	182.4
67.5°	242.6	227.1	212.2	200.1	188.1	177.2	167.4	166.9	164.0	162.9	161.1
70°	205.9	195.0	181.2	168.0	156.0	150.8	149.1	146.2	142.8	142.2	139.9
72.5°	172.6	160.0	147.4	135.9	133.6	131.3	127.9	125.0	122.7	121.0	119.8
75°	141.1	128.4	118.1	115.3	112.4	108.4	105.5	103.2	102.1	102.1	101.5
77.5°	107.8	100.3	95.8	91.2	88.9	86.6	84.9	83.7	82.0	82.6	81.4
80°	79.1	76.8	72.8	70.0	68.8	66.5	65.4	64.8	63.7	63.7	63.1
82.5°	56.8	52.8	51.0	49.3	48.2	47.0	47.6	47.0	46.4	45.9	46.4
85°	32.7	32.1	31.0	31.0	31.0	30.4	30.4	30.4	29.8	29.2	29.2
87.5°	14.3	14.9	14.9	13.8	15.5	15.5	14.9	14.9	14.3	15.5	14.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P243271

CATALOG NUMBER: S122RDR-H1005D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1752.4	1752.4	1752.4	1752.4
2.5°	1662.4	1661.8	1658.4	1652.6
5°	1572.3	1570.0	1564.3	1568.9
7.5°	1476.0	1469.7	1464.0	1466.8
10°	1372.8	1370.5	1367.1	1360.2
12.5°	1258.7	1267.8	1258.1	1279.9
15°	1089.5	1130.2	1079.2	1096.4
17.5°	1005.2	1005.8	998.9	990.9
20°	926.1	906.0	913.5	900.3
22.5°	849.8	845.2	842.9	838.4
25°	781.6	773.0	770.1	773.0
27.5°	731.1	727.1	716.2	714.5
30°	668.0	666.3	662.9	661.7
32.5°	628.5	621.0	619.3	612.4
35°	584.3	580.3	577.4	575.7
37.5°	540.2	537.9	532.7	535.6
40°	504.0	492.6	488.0	487.4
42.5°	464.5	458.2	449.0	446.1
45°	418.6	415.7	412.9	411.7
47.5°	378.5	376.7	373.3	371.6
50°	349.8	345.2	344.6	344.1
52.5°	322.3	320.5	318.8	321.1
55°	296.5	294.2	292.4	292.4
57.5°	268.4	264.4	260.9	261.5
60°	235.7	233.4	230.5	229.4
62.5°	197.8	197.8	197.3	197.3
65°	180.1	178.9	178.3	178.9
67.5°	160.6	159.4	157.7	158.3
70°	138.2	137.6	138.2	137.6
72.5°	118.1	117.6	118.1	119.3
75°	99.8	99.2	98.6	98.6
77.5°	80.9	80.3	79.1	80.3
80°	63.1	62.5	61.9	61.9
82.5°	44.7	45.3	44.7	44.7
85°	29.2	29.8	29.2	28.7
87.5°	14.9	15.5	14.3	13.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)