

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: P334223

Luminaire Tested: **SA4XXRDP-C1020D935-4F0-1E-UDD-A**

Issue Date: 10/11/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P334223  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 10/11/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDP-C1020D935-4F0-1E-UDD-A  
Description: DEFINE 4 REGRESSED DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER  
PENDANT/SURFACE/WALL MOUNT, 1020 LUMENS PER FOOT  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

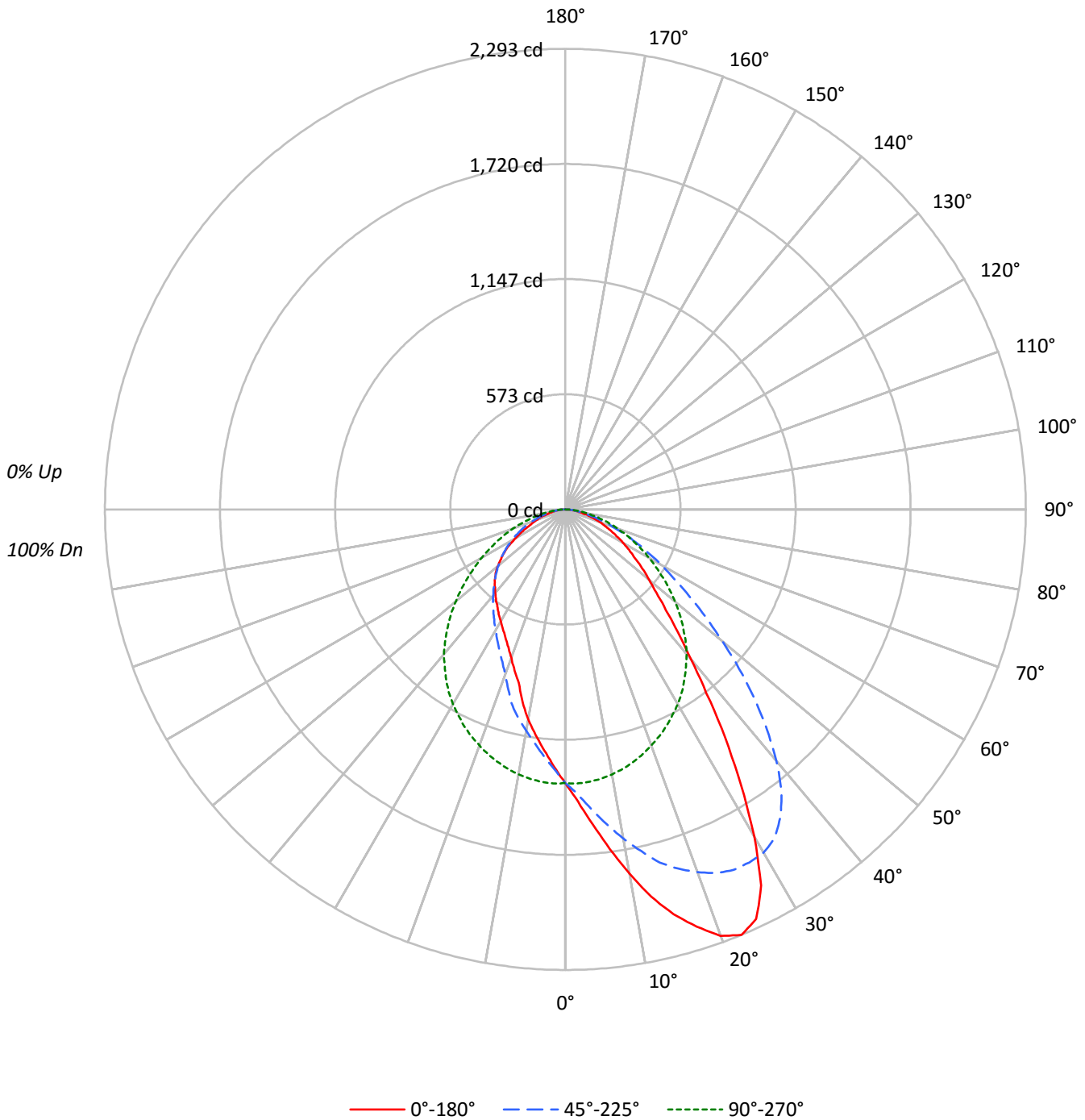
Lumens per Lamp: N/A  
Luminaire Lumens: 3444.5 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39  
Luminous Opening: Rectangular (W 4' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.8  
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									20
RC	80									50									30									10									0									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	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	100	100	100	100	100	100	100	100	100	100	100	100																
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86	86	86	86	86	86	86	86	86	86	86	86															
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74	74	74	74	74	74	74	74	74	74	74	74	74	74															
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63	63	63	63	63	63	63	63	63	63	63	63	63	63															
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55	55	55	55	55	55	55	55	55	55	55	55	55	55															
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48	48	48	48	48	48	48	48	48	48	48	48	48	48															
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43	43	43	43	43	43	43	43	43	43	43	43	43	43															
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38	38	38	38	38	38	38	38	38	38	38	38	38	38															
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34	34	34	34	34	34	34	34	34	34	34	34	34	34															
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31	31	31	31	31	31	31	31	31	31	31	31	31	31															
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28	28	28	28	28	28	28	28	28	28	28															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	11000	11000	11000
5°	12759	11033	9752
10°	15094	10985	8704
15°	17436	10883	7479
20°	19413	10744	6764
25°	20040	10607	6279
30°	17544	10440	5987
35°	13656	10193	5811
40°	10240	9910	5716
45°	8085	9458	5666
50°	6826	8936	5502
55°	5949	8360	5208
60°	5354	7765	4610
65°	4718	7121	3964
70°	4251	6453	3576
75°	3562	5721	3047
80°	3013	4877	2859
85°	2538	3816	2538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.9	3.8
10°-20°	398.4	11.6
20°-30°	624.1	18.1
30°-40°	693.1	20.1
40°-50°	614.2	17.8
50°-60°	478.6	13.9
60°-70°	313.1	9.1
70°-80°	153.6	4.5
80°-90°	37.4	1.1
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°	1154.5	33.5
0°-40°	1847.6	53.6
0°-60°	2940.4	85.4
0°-90°	3444.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3444.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1363	1363	1363	1363	1363	
5°	1574	1499	1362	1232	1203	159
15°	2086	1822	1302	1014	895	593
25°	2250	1981	1191	776	705	1005
35°	1386	1868	1034	624	590	867
45°	708	1331	828	496	496	558
55°	423	753	594	374	370	384
65°	247	387	373	242	208	248
75°	114	147	183	118	98	125
85°	27	30	41	29	27	32
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°	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6
2.5°	1455.9	1460.9	1455.9	1455.4	1449.9	1448.2	1446.1	1438.9	1425.7	1418.1	1419.7
5°	1574.5	1588.2	1580.6	1579.5	1567.4	1555.3	1547.6	1530.1	1511.4	1498.8	1488.3
7.5°	1706.3	1714.5	1709.0	1703.0	1682.1	1675.5	1657.4	1636.6	1605.3	1581.7	1560.2
10°	1841.3	1847.9	1845.7	1831.4	1817.2	1788.1	1771.6	1739.2	1696.9	1663.5	1632.2
12.5°	1974.2	1981.3	1957.7	1962.1	1931.9	1910.5	1882.0	1839.1	1788.6	1743.1	1701.9
15°	2086.2	2077.4	2077.4	2066.4	2036.2	2004.4	1977.5	1934.7	1873.2	1821.6	1767.2
17.5°	2178.4	2182.3	2177.9	2149.9	2127.9	2095.5	2047.2	1998.3	1945.1	1875.9	1822.1
20°	2259.7	2259.7	2254.7	2237.2	2206.4	2171.3	2118.0	2063.7	1991.2	1921.5	1858.9
22.5°	2292.6	2294.8	2288.8	2275.0	2248.1	2214.1	2170.7	2115.3	2040.1	1959.4	1878.1
25°	2249.8	2260.2	2261.3	2257.5	2249.2	2228.4	2189.4	2132.8	2065.9	1980.8	1897.3
27.5°	2111.4	2125.2	2130.7	2142.7	2165.2	2173.5	2168.5	2130.7	2065.9	1981.9	1899.0
30°	1882.0	1892.9	1928.6	1975.3	2011.5	2044.5	2073.0	2080.7	2047.8	1974.2	1885.8
32.5°	1627.2	1643.1	1678.8	1729.9	1796.3	1857.8	1930.8	1969.8	1976.9	1940.1	1860.0
35°	1385.7	1396.6	1429.6	1482.3	1554.8	1637.7	1739.2	1818.3	1872.1	1868.2	1818.3
37.5°	1154.0	1169.4	1202.8	1246.2	1317.6	1423.5	1519.6	1625.6	1722.2	1769.4	1744.2
40°	971.7	972.3	1004.7	1049.7	1115.6	1205.0	1312.1	1432.9	1543.8	1634.4	1651.9
42.5°	827.9	827.9	846.6	896.0	938.8	1021.7	1122.7	1242.4	1376.9	1485.0	1538.8
45°	708.2	713.1	730.7	759.8	797.1	868.5	950.3	1061.8	1207.2	1331.3	1408.7
47.5°	613.8	622.6	633.0	659.3	690.1	740.0	809.8	914.1	1034.9	1172.7	1279.7
50°	543.5	544.6	558.9	572.1	597.9	635.7	695.0	778.5	887.2	1018.4	1140.8
52.5°	483.1	482.6	489.7	507.3	527.0	554.5	599.5	673.6	766.9	881.1	1008.5
55°	422.7	425.5	432.1	445.2	461.2	482.0	519.9	577.0	652.8	753.2	868.0
57.5°	376.6	378.3	384.3	389.2	404.6	420.0	450.7	491.9	558.3	642.3	754.9
60°	331.6	332.1	333.8	342.0	353.6	367.8	387.0	420.5	474.3	549.5	634.1
62.5°	287.7	288.8	291.5	297.0	305.2	314.0	334.3	359.6	401.9	463.4	537.5
65°	247.0	247.6	251.4	253.6	260.8	269.6	284.4	302.5	333.2	387.0	444.7
67.5°	213.0	213.0	213.0	216.3	221.8	227.8	237.7	253.1	277.8	312.4	366.2
70°	180.1	180.1	181.2	182.8	185.6	190.5	195.4	206.4	223.4	250.3	289.3
72.5°	149.3	149.9	151.0	151.0	152.1	155.9	159.2	165.2	176.8	195.4	225.1
75°	114.2	115.8	118.6	120.8	123.5	123.0	126.8	131.2	135.1	147.1	165.2
77.5°	90.0	88.9	88.9	91.1	91.7	92.2	95.0	98.8	102.1	108.7	115.3
80°	64.8	64.8	66.4	67.0	66.4	67.0	69.7	71.4	72.5	74.7	80.7
82.5°	45.0	46.1	45.0	45.6	46.1	46.7	48.9	48.9	50.0	50.5	52.2
85°	27.4	28.0	28.5	27.4	27.4	27.4	28.5	29.1	30.2	29.6	30.7
87.5°	12.1	11.5	12.1	12.1	12.6	12.1	12.6	13.7	12.6	13.2	13.2
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°	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6
2.5°	1414.2	1406.5	1402.7	1393.9	1383.5	1378.0	1373.0	1365.9	1356.6	1346.7	1339.5
5°	1475.2	1462.0	1445.5	1425.7	1408.2	1391.2	1376.3	1361.5	1344.5	1326.9	1309.4
7.5°	1535.5	1511.9	1486.7	1456.5	1427.4	1400.5	1376.3	1352.7	1325.8	1301.7	1279.2
10°	1599.2	1564.1	1525.1	1483.9	1442.8	1407.1	1371.9	1340.1	1305.0	1273.7	1247.3
12.5°	1650.8	1608.0	1559.1	1505.3	1453.7	1408.7	1367.0	1323.1	1281.9	1247.3	1210.0
15°	1709.0	1652.5	1589.3	1527.9	1463.6	1404.9	1350.5	1302.2	1256.7	1208.9	1175.4
17.5°	1749.1	1683.8	1609.1	1537.7	1464.2	1396.1	1334.6	1278.6	1226.5	1178.7	1139.2
20°	1784.2	1710.1	1625.0	1541.0	1455.9	1381.8	1314.3	1250.6	1196.3	1143.6	1102.4
22.5°	1804.0	1720.0	1625.0	1536.1	1447.2	1365.4	1289.6	1222.6	1162.2	1109.5	1062.9
25°	1805.1	1717.3	1622.3	1521.3	1424.6	1339.5	1262.7	1190.8	1124.9	1072.2	1023.9
27.5°	1800.7	1699.1	1603.6	1501.0	1401.6	1311.0	1231.4	1155.1	1089.8	1033.8	984.3
30°	1787.5	1676.6	1572.3	1464.7	1363.7	1277.5	1192.4	1120.0	1051.3	992.6	942.6
32.5°	1759.0	1649.2	1535.0	1424.1	1321.4	1231.9	1152.3	1079.3	1012.3	952.0	898.2
35°	1719.5	1608.0	1486.1	1373.0	1272.6	1180.3	1104.6	1034.3	970.1	905.8	849.8
37.5°	1673.9	1557.5	1437.3	1313.2	1213.3	1125.4	1054.6	987.1	924.5	865.8	803.7
40°	1603.6	1499.9	1374.7	1251.7	1148.5	1064.5	1000.3	940.4	877.3	819.1	757.1
42.5°	1518.5	1434.0	1307.2	1183.6	1082.1	1001.9	943.2	885.0	829.0	773.0	707.7
45°	1421.9	1354.9	1236.3	1117.8	1015.1	934.9	880.0	828.4	777.9	724.1	663.2
47.5°	1314.3	1264.9	1161.7	1037.6	941.5	868.0	815.3	772.4	728.0	673.6	618.7
50°	1201.2	1172.1	1073.3	962.4	871.8	805.4	751.0	711.5	675.8	624.2	576.4
52.5°	1080.4	1068.3	988.7	883.9	797.1	732.4	687.9	653.3	617.1	576.4	532.5
55°	957.4	965.7	894.9	803.2	720.8	665.9	623.7	594.0	563.3	527.0	492.4
57.5°	829.5	860.8	808.1	725.2	645.6	594.0	561.6	535.3	509.5	478.7	447.4
60°	717.0	742.2	715.3	644.5	577.0	529.8	500.1	480.9	455.1	427.7	405.2
62.5°	607.2	634.6	621.5	567.7	506.2	467.2	441.9	424.4	406.8	383.7	360.1
65°	518.8	536.4	528.7	489.2	444.7	410.1	385.9	372.8	355.2	337.6	316.8
67.5°	415.0	449.6	444.1	422.2	379.4	351.9	334.9	322.8	306.3	293.2	278.3
70°	326.7	357.9	357.4	340.4	319.5	294.3	283.3	273.4	259.1	246.5	235.0
72.5°	252.5	280.5	286.0	273.9	261.3	243.8	233.3	227.3	213.6	205.9	197.1
75°	187.2	208.1	213.6	213.6	207.0	197.1	187.8	183.4	173.5	165.8	160.3
77.5°	131.8	146.0	154.3	155.9	156.5	152.6	143.8	140.5	132.9	130.1	124.1
80°	86.7	95.5	105.4	108.7	111.4	110.3	107.1	104.9	97.7	95.0	92.8
82.5°	53.3	57.1	64.8	73.0	71.4	75.2	72.5	70.8	65.9	65.3	63.1
85°	31.3	31.8	32.9	37.9	40.6	41.7	42.3	41.2	39.5	39.5	35.7
87.5°	13.2	12.6	13.7	13.7	14.3	16.5	18.1	18.7	17.0	15.4	13.7
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°	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6	1362.6
2.5°	1331.9	1326.4	1319.2	1311.0	1301.1	1292.3	1288.5	1291.8	1293.4	1289.0	1288.5
5°	1297.3	1283.6	1272.6	1256.1	1242.9	1231.9	1224.3	1221.0	1222.1	1213.3	1211.1
7.5°	1258.8	1244.0	1225.9	1207.2	1189.7	1174.3	1166.1	1162.2	1152.9	1149.0	1143.0
10°	1222.1	1200.1	1182.5	1159.5	1138.6	1119.4	1110.1	1102.4	1093.0	1088.7	1079.3
12.5°	1184.2	1157.8	1138.1	1113.9	1092.5	1068.3	1059.6	1043.6	1027.7	1017.3	1004.7
15°	1149.0	1118.3	1094.7	1066.1	1040.9	1014.5	990.9	964.6	954.7	933.8	921.8
17.5°	1107.3	1075.5	1049.1	1012.3	974.5	942.6	916.3	888.8	874.0	859.7	853.7
20°	1066.1	1037.6	997.0	952.5	909.1	872.9	852.6	836.1	819.7	810.3	803.7
22.5°	1027.2	988.7	939.9	891.0	847.6	821.3	804.8	787.8	775.2	766.4	757.1
25°	982.7	934.9	885.0	830.1	800.4	775.7	757.1	743.3	735.1	723.6	719.2
27.5°	939.3	881.7	825.1	787.8	757.1	733.5	716.4	706.6	695.6	687.9	681.9
30°	887.7	829.0	779.6	744.4	713.1	694.5	681.3	669.2	661.0	655.0	650.6
32.5°	836.7	777.9	738.4	700.0	676.9	658.8	644.5	636.3	630.2	622.0	619.8
35°	787.8	735.7	699.4	665.4	640.1	623.7	612.7	603.3	597.9	595.7	594.0
37.5°	740.0	696.7	656.6	629.1	605.5	592.9	578.6	574.2	570.4	565.5	567.7
40°	695.0	655.0	620.4	590.7	572.6	558.3	550.6	545.2	541.9	541.9	541.9
42.5°	656.0	617.1	583.6	557.8	539.7	528.1	519.3	515.0	514.4	513.9	517.2
45°	615.4	579.2	545.2	523.2	507.8	495.7	490.8	487.0	487.0	489.2	489.7
47.5°	574.8	540.8	513.3	488.1	473.8	466.1	461.7	459.5	459.5	462.3	464.5
50°	538.0	504.5	477.6	455.7	442.5	435.4	431.5	430.4	431.5	431.5	435.4
52.5°	497.9	468.8	442.5	424.9	409.6	403.0	401.3	399.7	400.2	402.4	403.5
55°	459.0	432.1	406.8	389.2	378.3	373.9	368.9	369.5	368.4	369.5	369.5
57.5°	419.4	395.8	371.1	356.8	347.5	340.9	335.4	337.1	335.4	335.4	334.9
60°	381.6	355.2	336.5	323.9	312.9	307.4	302.5	303.6	301.9	300.8	298.7
62.5°	340.4	319.5	301.9	289.9	281.6	275.0	270.1	268.5	264.1	259.7	254.2
65°	300.8	282.7	266.8	255.3	247.0	242.1	238.3	235.0	226.7	218.0	213.6
67.5°	261.9	248.7	233.3	223.4	216.9	210.3	203.1	197.1	188.9	183.4	180.6
70°	224.5	211.9	199.3	190.0	182.8	176.8	168.5	164.7	159.2	157.0	154.3
72.5°	188.9	177.3	165.8	157.6	149.9	145.5	139.4	135.6	134.0	133.4	130.7
75°	152.6	143.3	134.5	126.8	120.8	117.5	114.7	112.0	110.9	106.0	103.2
77.5°	117.5	110.9	105.4	99.4	95.5	93.3	87.3	83.4	81.3	78.5	78.0
80°	86.7	82.3	76.9	73.6	67.5	65.3	63.1	62.6	62.0	61.5	60.9
82.5°	59.8	55.4	50.0	48.3	47.8	46.7	45.6	45.0	44.5	45.0	45.0
85°	32.9	30.7	30.7	30.2	29.6	29.1	28.5	28.5	28.0	28.5	28.0
87.5°	13.7	13.2	13.2	12.1	12.6	12.6	12.1	12.1	12.6	11.5	11.5
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: P334223

CATALOG NUMBER: SA4XXRDP-C1020D935-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1362.6	1362.6	1362.6	1362.6
2.5°	1285.2	1286.3	1282.5	1281.4
5°	1206.7	1205.6	1202.8	1203.4
7.5°	1138.6	1134.8	1137.5	1133.1
10°	1077.1	1071.1	1066.1	1061.8
12.5°	993.1	988.2	981.1	983.8
15°	914.6	906.4	893.2	894.9
17.5°	844.4	845.5	837.8	840.0
20°	792.2	788.4	788.9	787.3
22.5°	756.0	751.0	746.1	742.2
25°	714.2	710.9	706.0	704.9
27.5°	677.5	676.9	674.7	672.0
30°	646.2	645.1	644.0	642.3
32.5°	618.2	617.6	616.5	617.1
35°	591.8	591.3	590.2	589.6
37.5°	567.1	568.8	567.7	567.7
40°	541.3	541.9	543.0	542.4
42.5°	519.9	519.9	521.5	519.3
45°	493.5	496.8	496.3	496.3
47.5°	465.5	469.4	469.9	469.9
50°	438.1	437.0	438.6	438.1
52.5°	404.6	405.2	404.6	404.1
55°	370.0	370.6	369.5	370.0
57.5°	333.2	331.0	332.7	331.6
60°	293.2	288.8	287.7	285.5
62.5°	248.1	245.4	241.0	243.8
65°	209.2	207.0	205.3	207.5
67.5°	177.9	176.8	176.8	175.7
70°	154.3	152.6	152.6	151.5
72.5°	130.1	128.5	129.0	128.5
75°	99.9	97.2	97.2	97.7
77.5°	78.0	77.4	78.5	76.9
80°	60.9	60.4	59.8	61.5
82.5°	43.9	43.9	43.9	46.1
85°	28.5	27.4	28.5	27.4
87.5°	12.6	12.1	11.5	12.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)