

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: P333863

Luminaire Tested: **SA2XXRDP-C865D927-4F0-1E-UDD-A**

Issue Date: 10/11/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P333863  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 10/11/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDP-C865D927-4F0-1E-UDD-A  
Description: DEFINE 2 REGRESSED DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER  
PENDANT/SURFACE/WALL MOUNT, 865 LUMENS PER FOOT  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

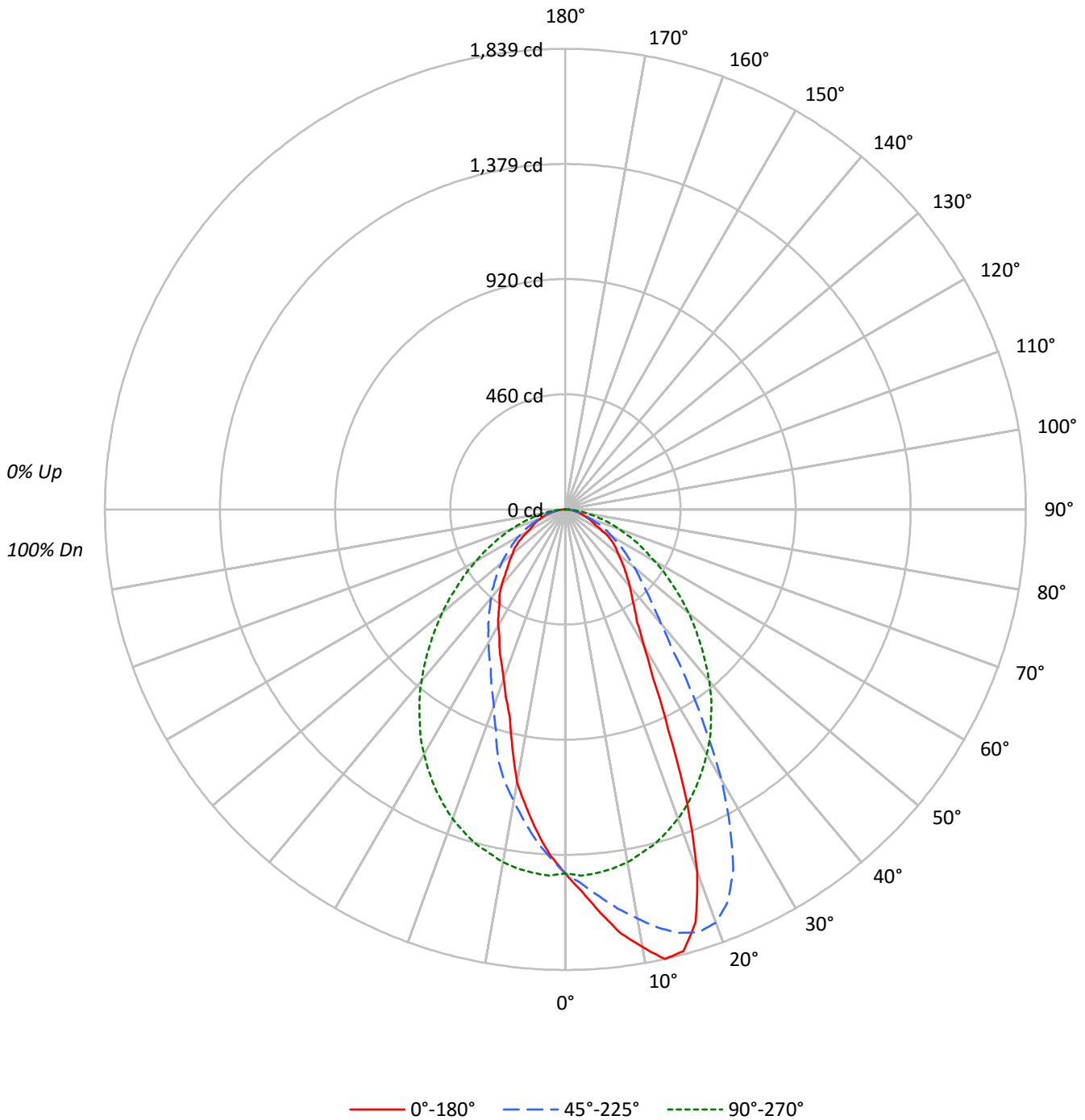
Lumens per Lamp: N/A  
Luminaire Lumens: 2512.2 lumens  
Efficiency: N/A  
Efficacy: 72.2 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

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	
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	111	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	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	23473	23473	23473
5°	26216	23619	20943
10°	29086	23455	18154
15°	30516	23111	14303
20°	26455	22601	12376
25°	17350	21903	11051
30°	11678	21058	10002
35°	9459	19992	9021
40°	8412	18834	8346
45°	7613	17475	7451
50°	6928	16126	6903
55°	6514	14632	6427
60°	5448	13262	5383
65°	4592	12042	5211
70°	4244	10754	4914
75°	3968	9357	4535
80°	3663	7699	4035
85°	3372	6076	3557



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CATALOG NUMBER: SA2XXRDP-C865D927-4F0-1E-UDD-A

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.9	5.5
10°-20°	384.9	15.3
20°-30°	495.3	19.7
30°-40°	469.9	18.7
40°-50°	402.7	16.0
50°-60°	306.7	12.2
60°-70°	193.5	7.7
70°-80°	96.5	3.8
80°-90°	24.8	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°	1018.1	40.5
0°-40°	1488.0	59.2
0°-60°	2197.4	87.5
0°-90°	2512.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2512.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1454	1454	1454	1454	1454	
5°	1618	1551	1457	1328	1292	159
15°	1826	1751	1383	1035	856	496
25°	974	1587	1230	704	620	460
35°	480	862	1014	534	458	305
45°	333	455	765	394	326	258
55°	231	283	520	267	228	204
65°	120	162	315	161	136	122
75°	64	71	150	82	73	67
85°	18	19	33	19	19	20
90°	0	0	0	0	0	



TEST NUMBER: P333863

CATALOG NUMBER: SA2XXRDP-C865D927-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8
2.5°	1527.5	1529.1	1530.6	1527.0	1527.0	1524.0	1517.4	1512.4	1498.2	1496.2	1496.2
5°	1617.5	1616.5	1618.5	1611.9	1602.8	1600.8	1591.2	1578.6	1565.4	1550.8	1547.8
7.5°	1708.4	1702.3	1699.8	1702.8	1693.2	1680.1	1663.9	1648.8	1626.0	1607.4	1595.7
10°	1774.1	1790.7	1780.6	1762.9	1766.5	1742.7	1730.1	1708.4	1690.2	1658.4	1651.3
12.5°	1838.7	1842.8	1841.2	1833.2	1826.6	1811.9	1793.8	1775.6	1738.2	1710.4	1681.1
15°	1825.6	1835.2	1837.7	1834.7	1837.2	1836.2	1827.1	1811.4	1782.1	1750.8	1723.5
17.5°	1728.6	1739.7	1748.8	1756.9	1769.5	1794.3	1801.8	1804.9	1792.7	1770.5	1747.8
20°	1539.7	1528.6	1575.0	1598.8	1619.0	1669.5	1712.9	1729.6	1756.4	1755.9	1750.8
22.5°	1271.9	1278.0	1321.4	1350.7	1419.4	1470.0	1521.0	1595.2	1653.3	1696.3	1722.5
25°	973.9	993.1	1037.1	1075.4	1141.1	1235.1	1320.4	1419.4	1512.9	1586.6	1656.9
27.5°	757.7	760.2	800.1	839.0	879.5	960.8	1074.9	1193.6	1327.0	1423.0	1544.2
30°	626.4	623.3	638.0	659.7	693.1	752.7	833.5	949.7	1082.5	1248.2	1395.7
32.5°	533.4	534.4	544.5	559.2	585.5	620.8	669.8	758.7	882.5	1044.6	1224.0
35°	479.9	479.4	487.5	499.1	510.7	536.5	574.3	623.8	710.2	862.3	1039.1
37.5°	435.4	438.0	441.5	449.1	463.2	478.4	502.1	537.0	602.6	697.1	855.7
40°	399.1	400.1	405.6	411.7	419.3	430.4	449.1	475.8	520.8	592.5	701.1
42.5°	365.7	366.7	370.3	375.8	381.4	392.5	407.1	429.4	463.7	515.7	600.6
45°	333.4	333.4	336.9	339.5	346.0	356.1	368.8	387.9	413.2	454.6	514.2
47.5°	302.1	302.1	304.6	309.1	313.7	321.8	334.9	351.1	369.3	403.1	456.1
50°	275.8	276.3	277.8	281.4	283.9	291.0	300.6	314.2	333.4	358.1	400.6
52.5°	254.6	254.1	256.1	257.1	258.6	263.2	269.7	281.4	298.0	318.7	352.1
55°	231.4	229.3	232.4	234.9	236.4	238.4	242.5	250.0	264.7	282.9	309.1
57.5°	204.1	203.1	204.6	207.1	211.7	216.7	219.2	224.3	231.9	246.0	273.8
60°	168.7	168.7	173.3	174.8	180.3	187.4	194.5	198.5	206.1	214.7	233.9
62.5°	137.4	137.9	139.4	140.9	143.5	152.6	163.2	173.3	180.3	188.4	199.5
65°	120.2	121.2	121.2	122.2	124.3	126.3	130.3	137.4	150.0	161.6	171.2
67.5°	105.1	105.1	105.6	106.6	107.1	109.6	111.1	114.7	117.2	130.3	143.5
70°	89.9	91.4	90.9	91.9	92.4	93.5	95.5	97.0	101.5	104.1	111.1
72.5°	75.8	76.8	76.8	77.3	78.8	78.8	80.3	81.8	84.4	86.4	89.4
75°	63.6	63.1	63.6	64.7	65.2	65.7	65.7	67.7	69.2	71.2	73.8
77.5°	51.5	52.0	52.0	52.0	52.0	53.0	53.0	54.1	55.6	56.6	58.1
80°	39.4	39.9	39.4	39.9	40.4	40.9	40.4	40.9	42.4	43.4	43.4
82.5°	28.3	28.3	28.8	28.8	28.8	28.8	29.8	29.8	30.8	30.3	30.8
85°	18.2	17.7	17.7	17.7	18.2	18.7	18.2	18.2	18.7	18.7	18.7
87.5°	8.1	8.6	8.6	8.6	8.6	8.6	8.6	9.1	8.6	9.1	8.6
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: P333863

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8
2.5°	1497.2	1493.2	1489.7	1480.6	1476.0	1465.9	1464.4	1463.9	1450.8	1438.1	1434.6
5°	1539.7	1531.6	1519.5	1505.3	1490.7	1475.5	1465.4	1457.3	1437.1	1417.9	1406.8
7.5°	1581.6	1566.9	1547.8	1523.5	1502.8	1478.5	1461.9	1446.7	1418.9	1393.7	1377.0
10°	1629.6	1601.3	1573.5	1536.6	1507.8	1479.6	1453.3	1430.6	1398.2	1361.9	1336.1
12.5°	1659.4	1627.6	1586.6	1550.8	1511.4	1473.5	1436.1	1405.3	1365.9	1328.0	1296.2
15°	1685.7	1652.3	1605.8	1554.3	1506.3	1459.4	1418.9	1382.6	1333.1	1288.1	1250.7
17.5°	1709.9	1663.9	1615.9	1556.3	1503.3	1446.2	1395.2	1349.7	1295.7	1242.6	1200.2
20°	1720.5	1675.0	1617.5	1557.9	1492.2	1422.0	1365.9	1315.4	1256.3	1197.2	1146.7
22.5°	1713.9	1681.1	1615.4	1541.2	1473.5	1399.2	1334.1	1273.5	1206.3	1145.7	1085.0
25°	1679.6	1667.5	1606.9	1529.1	1452.3	1366.9	1293.7	1229.5	1154.8	1090.1	1026.4
27.5°	1616.5	1634.1	1591.2	1506.8	1424.0	1332.1	1252.2	1180.0	1103.7	1031.5	967.9
30°	1516.4	1576.5	1560.4	1483.6	1388.1	1298.2	1205.8	1129.5	1046.7	971.9	909.3
32.5°	1379.5	1488.7	1512.4	1451.3	1351.8	1250.7	1152.7	1077.0	989.6	909.8	849.1
35°	1232.5	1381.1	1449.2	1408.3	1309.3	1202.7	1102.7	1014.3	927.4	849.6	789.0
37.5°	1058.3	1256.3	1361.4	1356.8	1262.3	1153.7	1045.1	957.7	868.3	791.6	728.4
40°	889.6	1108.8	1256.8	1289.6	1212.8	1093.1	983.0	893.6	806.7	731.9	656.7
42.5°	738.0	956.2	1146.7	1209.8	1152.7	1034.0	923.4	828.9	745.1	675.4	598.1
45°	621.3	812.3	1012.8	1114.8	1081.0	970.9	854.2	765.3	686.0	624.9	551.1
47.5°	538.0	676.9	878.4	1011.8	1007.8	903.2	787.0	701.6	626.9	570.3	507.7
50°	468.8	586.0	750.1	906.7	919.9	835.5	726.4	642.0	573.3	513.2	465.2
52.5°	406.6	498.1	641.5	790.0	833.5	763.3	658.2	581.9	515.7	461.7	422.3
55°	354.1	428.9	541.0	681.4	738.0	686.5	592.5	519.8	465.7	419.3	383.9
57.5°	308.1	366.7	460.2	577.9	642.0	607.2	526.9	466.8	418.8	375.3	347.0
60°	265.2	311.2	387.4	481.9	554.6	531.9	465.7	410.7	371.3	334.9	308.6
62.5°	224.8	262.7	325.3	397.5	462.7	456.6	405.6	361.7	328.3	296.0	274.8
65°	187.4	216.2	267.2	327.3	380.9	385.4	346.5	315.2	284.4	258.1	238.4
67.5°	155.1	174.8	213.2	266.2	307.1	321.3	295.0	269.7	244.5	223.3	205.6
70°	125.8	140.9	167.2	208.1	245.0	260.1	246.5	227.8	206.6	189.9	175.3
72.5°	96.0	110.6	128.3	155.6	185.9	202.6	200.0	187.9	171.7	158.6	145.0
75°	76.8	81.3	94.5	114.7	139.4	153.6	157.1	150.0	136.4	125.8	117.7
77.5°	59.6	62.6	69.7	81.8	99.0	111.6	117.2	116.2	106.1	99.0	91.4
80°	45.5	47.0	50.0	54.6	66.7	79.3	82.8	82.8	76.3	73.8	66.2
82.5°	31.8	32.8	34.3	36.4	40.4	51.0	55.1	56.1	52.5	49.0	43.4
85°	19.7	19.2	20.2	21.7	22.7	25.8	31.8	32.8	31.8	27.8	26.3
87.5°	8.6	9.1	9.1	8.6	9.1	9.6	12.1	14.6	12.6	11.1	10.1
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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CATALOG NUMBER: SA2XXRDP-C865D927-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8	1453.8
2.5°	1428.0	1424.5	1417.9	1407.8	1401.8	1391.2	1384.1	1388.1	1389.1	1388.1	1387.1
5°	1394.7	1384.1	1369.4	1355.3	1342.2	1328.0	1319.9	1316.4	1309.3	1305.3	1303.3
7.5°	1356.8	1341.1	1320.4	1297.7	1276.5	1256.3	1247.2	1240.1	1227.0	1219.9	1213.3
10°	1313.4	1284.6	1263.9	1231.5	1211.8	1183.0	1163.3	1163.8	1144.1	1133.0	1124.9
12.5°	1265.4	1233.0	1195.2	1166.9	1137.6	1115.9	1091.1	1079.0	1057.8	1047.2	1021.9
15°	1211.3	1174.5	1138.1	1098.7	1070.9	1035.0	1000.7	958.8	924.9	895.6	887.5
17.5°	1153.7	1108.3	1072.4	1032.0	988.6	923.4	881.0	855.2	835.0	819.8	807.7
20°	1094.1	1047.7	1008.8	939.1	874.9	834.0	804.7	786.0	764.8	748.1	739.0
22.5°	1031.5	982.5	925.9	846.1	799.6	768.8	743.6	721.3	708.7	696.6	688.5
25°	972.9	919.9	832.5	778.9	738.5	704.2	686.0	672.8	657.7	640.0	631.9
27.5°	911.8	827.4	761.2	722.4	680.9	659.2	643.5	621.8	608.2	601.6	592.5
30°	841.6	757.2	708.2	664.8	637.5	612.7	593.5	582.4	569.3	555.7	550.1
32.5°	763.3	700.1	653.7	619.3	591.5	571.3	557.2	537.5	528.9	521.8	508.7
35°	701.1	650.1	607.2	577.9	551.6	534.4	516.8	506.2	489.0	481.9	477.4
37.5°	644.6	600.1	567.8	535.4	515.2	495.0	484.9	467.3	460.7	449.6	440.5
40°	598.1	554.6	523.8	498.6	475.3	461.2	447.6	433.9	422.8	418.3	406.6
42.5°	550.6	517.3	486.5	458.2	444.5	429.4	411.2	402.1	390.5	382.4	376.3
45°	507.7	476.3	450.1	427.3	410.2	394.5	383.4	366.7	360.2	345.5	339.5
47.5°	469.8	439.5	414.2	392.0	374.8	365.7	349.6	334.9	325.8	315.7	307.1
50°	428.9	404.6	380.4	361.2	346.0	331.4	314.7	308.1	292.0	287.4	282.9
52.5°	391.5	368.8	347.0	328.3	313.2	299.0	284.9	275.8	266.2	261.7	258.6
55°	357.1	334.9	313.7	297.0	281.9	267.2	258.1	247.5	242.5	238.9	234.9
57.5°	321.8	301.6	284.9	267.7	252.6	240.4	229.3	223.3	218.2	214.2	208.6
60°	288.4	269.2	254.6	238.9	223.3	213.7	205.6	198.0	192.0	184.9	182.9
62.5°	253.1	236.9	223.8	208.6	195.5	186.9	179.3	172.3	164.7	153.6	150.5
65°	221.3	208.1	194.0	181.3	169.2	160.6	149.5	141.4	138.4	137.4	136.9
67.5°	192.0	179.3	167.2	154.1	143.0	133.4	126.8	125.8	123.8	123.3	121.7
70°	162.7	151.0	138.9	126.8	116.2	114.7	112.6	110.6	108.1	107.1	106.1
72.5°	136.4	124.3	112.1	103.0	100.0	98.0	96.0	94.0	92.4	91.4	90.9
75°	108.6	97.5	89.4	85.9	83.3	81.8	78.8	77.3	76.3	74.8	74.3
77.5°	82.8	75.8	71.7	69.7	66.7	65.2	63.1	61.6	60.1	60.1	59.1
80°	59.6	56.6	54.1	51.0	50.0	48.0	47.5	46.0	46.5	45.0	45.0
82.5°	42.9	38.9	36.9	35.9	34.9	33.3	32.8	32.3	32.3	31.3	31.3
85°	23.7	22.7	21.7	20.7	20.7	19.2	19.7	19.2	19.2	18.2	17.7
87.5°	9.6	9.1	8.1	8.1	8.1	7.6	7.6	7.1	7.1	7.1	6.6
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: P333863

CATALOG NUMBER: SA2XXRDP-C865D927-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1453.8	1453.8	1453.8	1453.8
2.5°	1381.6	1382.6	1381.1	1382.1
5°	1300.7	1294.7	1293.7	1292.2
7.5°	1205.3	1204.8	1201.7	1198.2
10°	1113.8	1111.3	1110.8	1107.3
12.5°	1006.7	987.0	985.0	974.9
15°	875.4	872.4	862.3	855.7
17.5°	802.2	792.1	788.5	787.0
20°	731.9	722.9	721.3	720.3
22.5°	683.5	673.9	669.3	665.8
25°	626.9	623.3	621.3	620.3
27.5°	582.4	573.3	572.3	569.8
30°	545.6	543.0	539.5	536.5
32.5°	502.1	500.1	497.1	496.0
35°	472.3	465.2	462.2	457.7
37.5°	439.5	435.4	430.4	432.4
40°	400.1	397.5	396.5	396.0
42.5°	368.8	360.7	357.6	357.6
45°	336.9	330.4	325.8	326.3
47.5°	302.6	303.1	300.1	301.1
50°	279.3	276.3	274.3	274.8
52.5°	257.1	254.6	253.1	255.6
55°	232.4	229.3	228.8	228.3
57.5°	205.6	204.1	201.6	200.0
60°	176.3	172.3	167.2	166.7
62.5°	149.5	149.5	149.5	149.5
65°	135.9	135.4	135.9	136.4
67.5°	121.7	120.7	119.7	120.2
70°	105.1	104.6	104.1	104.1
72.5°	88.9	88.9	88.4	87.9
75°	73.8	72.7	72.7	72.7
77.5°	59.1	58.6	58.1	57.6
80°	44.5	43.9	43.4	43.4
82.5°	31.3	30.8	30.8	30.3
85°	18.2	18.7	18.2	19.2
87.5°	6.6	6.1	6.6	6.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)