

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: P242404

Luminaire Tested: **S122RDR-S675D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242404
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-S675D840-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2511.3 lumens
Efficiency: N/A
Efficacy: 95.1 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

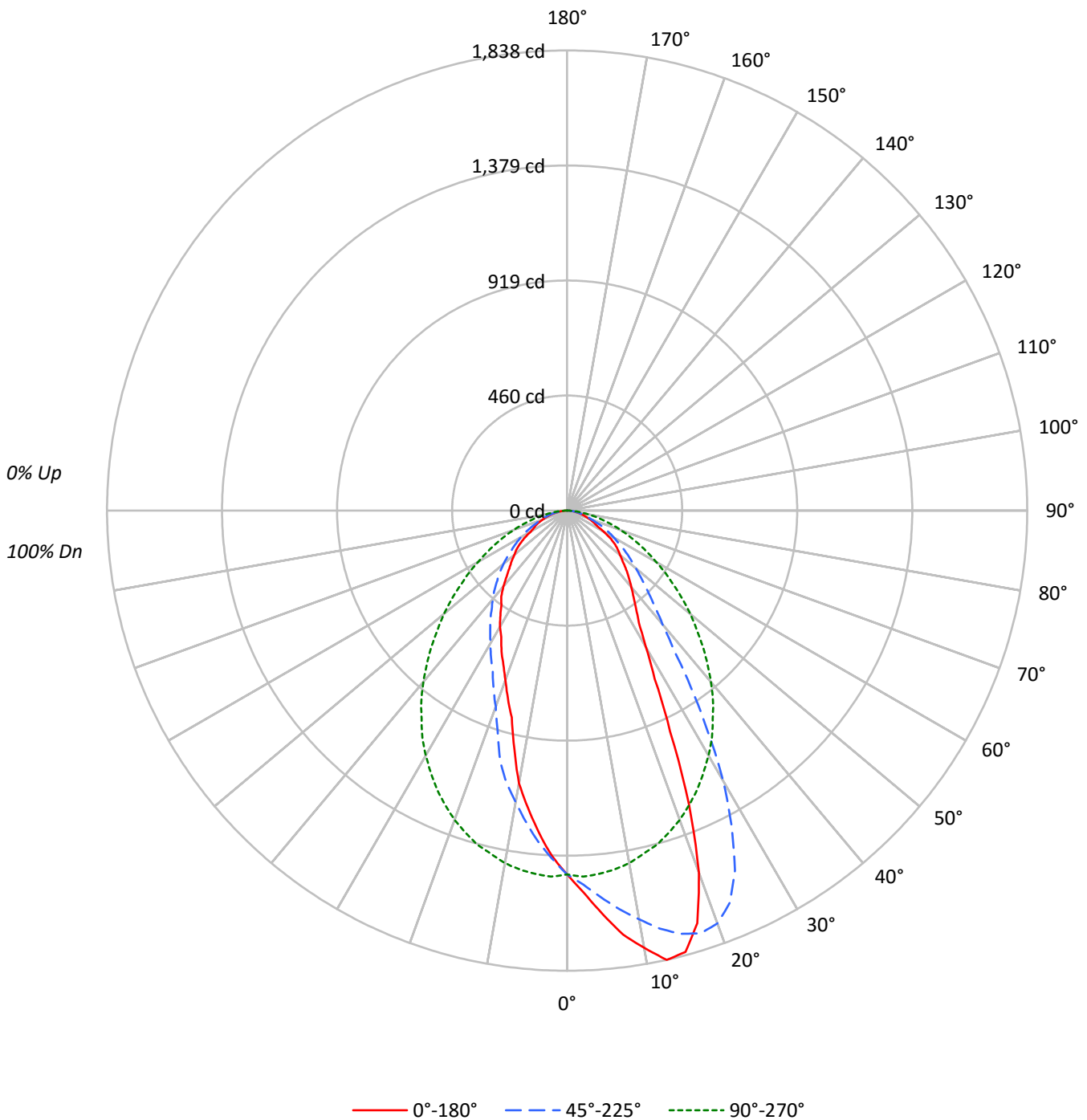
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	27682	27682	27682
5°	30916	27855	24698
10°	34300	27658	21409
15°	35986	27255	16868
20°	31198	26653	14597
25°	20462	25832	13033
30°	13773	24834	11796
35°	11154	23579	10638
40°	9919	22212	9844
45°	8978	20607	8787
50°	8170	19018	8140
55°	7681	17255	7578
60°	6427	15638	6347
65°	5418	14202	6143
70°	5007	12681	5792
75°	4681	11039	5350
80°	4322	9082	4761
85°	3978	7168	4196



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.8	5.5
10°-20°	384.7	15.3
20°-30°	495.2	19.7
30°-40°	469.7	18.7
40°-50°	402.5	16.0
50°-60°	306.6	12.2
60°-70°	193.4	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°	1017.7	40.5
0°-40°	1487.5	59.2
0°-60°	2196.6	87.5
0°-90°	2511.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2511.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1453	1453	1453	1453	1453	
5°	1617	1550	1457	1328	1292	159
15°	1825	1750	1382	1035	855	496
25°	974	1586	1229	704	620	460
35°	480	862	1014	534	458	305
45°	333	454	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	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3
2.5°	1527.0	1528.5	1530.0	1526.5	1526.5	1523.5	1516.9	1511.8	1497.7	1495.7	1495.7
5°	1616.9	1615.9	1617.9	1611.3	1602.2	1600.2	1590.6	1578.0	1564.9	1550.2	1547.2
7.5°	1707.8	1701.7	1699.2	1702.2	1692.6	1679.5	1663.3	1648.2	1625.5	1606.8	1595.2
10°	1773.4	1790.1	1780.0	1762.3	1765.8	1742.1	1729.5	1707.8	1689.6	1657.8	1650.7
12.5°	1838.1	1842.1	1840.6	1832.5	1825.9	1811.3	1793.1	1774.9	1737.6	1709.8	1680.5
15°	1824.9	1834.5	1837.0	1834.0	1836.5	1835.5	1826.4	1810.8	1781.5	1750.2	1722.9
17.5°	1728.0	1739.1	1748.2	1756.2	1768.9	1793.6	1801.2	1804.2	1792.1	1769.9	1747.2
20°	1539.1	1528.0	1574.5	1598.2	1618.4	1668.9	1712.3	1729.0	1755.7	1755.2	1750.2
22.5°	1271.5	1277.5	1321.0	1350.3	1418.9	1469.4	1520.4	1594.7	1652.7	1695.7	1721.9
25°	973.6	992.8	1036.7	1075.1	1140.7	1234.6	1320.0	1418.9	1512.4	1586.1	1656.3
27.5°	757.4	760.0	799.9	838.7	879.1	960.4	1074.6	1193.2	1326.5	1422.5	1543.7
30°	626.2	623.1	637.8	659.5	692.8	752.4	833.2	949.3	1082.1	1247.8	1395.2
32.5°	533.2	534.2	544.3	559.0	585.2	620.6	669.6	758.4	882.2	1044.3	1223.5
35°	479.7	479.2	487.3	498.9	510.5	536.3	574.1	623.6	710.0	862.0	1038.7
37.5°	435.3	437.8	441.3	448.9	463.0	478.2	501.9	536.8	602.4	696.8	855.4
40°	398.9	399.9	405.5	411.5	419.1	430.2	448.9	475.7	520.6	592.3	700.9
42.5°	365.6	366.6	370.1	375.7	381.2	392.4	407.0	429.2	463.6	515.6	600.4
45°	333.3	333.3	336.8	339.3	345.9	356.0	368.6	387.8	413.1	454.5	514.0
47.5°	302.0	302.0	304.5	309.0	313.6	321.7	334.8	350.9	369.1	403.0	456.0
50°	275.7	276.2	277.7	281.3	283.8	290.9	300.5	314.1	333.3	358.0	400.4
52.5°	254.5	254.0	256.0	257.0	258.5	263.1	269.6	281.3	297.9	318.6	352.0
55°	231.3	229.3	232.3	234.8	236.3	238.3	242.4	250.0	264.6	282.8	309.0
57.5°	204.0	203.0	204.5	207.0	211.6	216.6	219.2	224.2	231.8	245.9	273.7
60°	168.7	168.7	173.2	174.7	180.3	187.3	194.4	198.4	206.0	214.6	233.8
62.5°	137.3	137.9	139.4	140.9	143.4	152.5	163.1	173.2	180.3	188.3	199.5
65°	120.2	121.2	121.2	122.2	124.2	126.2	130.3	137.3	150.0	161.6	171.2
67.5°	105.0	105.0	105.5	106.5	107.1	109.6	111.1	114.6	117.2	130.3	143.4
70°	89.9	91.4	90.9	91.9	92.4	93.4	95.4	97.0	101.5	104.0	111.1
72.5°	75.7	76.8	76.8	77.3	78.8	78.8	80.3	81.8	84.3	86.3	89.4
75°	63.6	63.1	63.6	64.6	65.1	65.6	65.6	67.7	69.2	71.2	73.7
77.5°	51.5	52.0	52.0	52.0	52.0	53.0	53.0	54.0	55.5	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



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3
2.5°	1496.7	1492.7	1489.1	1480.0	1475.5	1465.4	1463.9	1463.4	1450.2	1437.6	1434.1
5°	1539.1	1531.0	1518.9	1504.8	1490.1	1475.0	1464.9	1456.8	1436.6	1417.4	1406.3
7.5°	1581.0	1566.4	1547.2	1523.0	1502.3	1478.0	1461.4	1446.2	1418.4	1393.2	1376.5
10°	1629.0	1600.7	1572.9	1536.1	1507.3	1479.0	1452.8	1430.0	1397.7	1361.4	1335.6
12.5°	1658.8	1627.0	1586.1	1550.2	1510.8	1473.0	1435.6	1404.8	1365.4	1327.5	1295.7
15°	1685.1	1651.7	1605.3	1553.8	1505.8	1458.8	1418.4	1382.1	1332.6	1287.6	1250.3
17.5°	1709.3	1663.3	1615.4	1555.8	1502.8	1445.7	1394.7	1349.3	1295.2	1242.2	1199.8
20°	1719.9	1674.4	1616.9	1557.3	1491.7	1421.5	1365.4	1314.9	1255.8	1196.8	1146.3
22.5°	1713.3	1680.5	1614.9	1540.6	1473.0	1398.7	1333.6	1273.0	1205.8	1145.2	1084.7
25°	1679.0	1666.9	1606.3	1528.5	1451.8	1366.4	1293.2	1229.1	1154.3	1089.7	1026.1
27.5°	1615.9	1633.5	1590.6	1506.3	1423.5	1331.6	1251.8	1179.6	1103.3	1031.1	967.5
30°	1515.9	1576.0	1559.8	1483.1	1387.6	1297.7	1205.3	1129.1	1046.3	971.5	908.9
32.5°	1379.0	1488.1	1511.8	1450.7	1351.3	1250.3	1152.3	1076.6	989.2	909.4	848.8
35°	1232.1	1380.6	1448.7	1407.8	1308.9	1202.3	1102.3	1014.0	927.1	849.3	788.7
37.5°	1057.9	1255.8	1360.9	1356.3	1261.9	1153.3	1044.8	957.4	868.0	791.3	728.2
40°	889.2	1108.4	1256.3	1289.2	1212.4	1092.7	982.7	893.3	806.4	731.7	656.4
42.5°	737.7	955.9	1146.3	1209.4	1152.3	1033.7	923.1	828.6	744.8	675.1	597.9
45°	621.1	812.0	1012.4	1114.4	1080.6	970.5	853.9	765.0	685.7	624.6	550.9
47.5°	537.8	676.6	878.1	1011.4	1007.4	902.9	786.7	701.4	626.7	570.1	507.5
50°	468.6	585.8	749.9	906.4	919.5	835.2	726.1	641.8	573.1	513.0	465.1
52.5°	406.5	497.9	641.3	789.8	833.2	763.0	658.0	581.7	515.6	461.5	422.1
55°	354.0	428.7	540.8	681.2	737.7	686.2	592.3	519.6	465.6	419.1	383.8
57.5°	308.0	366.6	460.0	577.7	641.8	607.0	526.7	466.6	418.6	375.2	346.9
60°	265.1	311.1	387.3	481.7	554.4	531.7	465.6	410.5	371.1	334.8	308.5
62.5°	224.7	262.6	325.2	397.4	462.5	456.5	405.5	361.6	328.2	295.9	274.7
65°	187.3	216.1	267.1	327.2	380.7	385.3	346.4	315.1	284.3	258.0	238.3
67.5°	155.0	174.7	213.1	266.1	307.0	321.2	294.9	269.6	244.4	223.2	205.5
70°	125.7	140.9	167.1	208.0	244.9	260.1	246.4	227.7	206.5	189.9	175.2
72.5°	95.9	110.6	128.3	155.5	185.8	202.5	200.0	187.8	171.7	158.6	144.9
75°	76.8	81.3	94.4	114.6	139.4	153.5	157.0	150.0	136.3	125.7	117.7
77.5°	59.6	62.6	69.7	81.8	99.0	111.6	117.2	116.1	106.0	99.0	91.4
80°	45.4	47.0	50.0	54.5	66.7	79.3	82.8	82.8	76.2	73.7	66.1
82.5°	31.8	32.8	34.3	36.4	40.4	51.0	55.0	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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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3	1453.3
2.5°	1427.5	1424.0	1417.4	1407.3	1401.3	1390.7	1383.6	1387.6	1388.6	1387.6	1386.6
5°	1394.2	1383.6	1368.9	1354.8	1341.7	1327.5	1319.5	1315.9	1308.9	1304.8	1302.8
7.5°	1356.3	1340.7	1320.0	1297.2	1276.0	1255.8	1246.7	1239.7	1226.5	1219.5	1212.9
10°	1312.9	1284.1	1263.4	1231.1	1211.4	1182.6	1162.9	1163.4	1143.7	1132.6	1124.5
12.5°	1264.9	1232.6	1194.7	1166.5	1137.2	1115.5	1090.7	1078.6	1057.4	1046.8	1021.5
15°	1210.9	1174.0	1137.7	1098.3	1070.5	1034.7	1000.3	958.4	924.6	895.3	887.2
17.5°	1153.3	1107.9	1072.0	1031.6	988.2	923.1	880.6	854.9	834.7	819.5	807.4
20°	1093.7	1047.3	1008.4	938.7	874.6	833.7	804.4	785.7	764.5	747.8	738.8
22.5°	1031.1	982.1	925.6	845.8	799.4	768.5	743.3	721.1	708.5	696.3	688.3
25°	972.6	919.5	832.2	778.6	738.3	703.9	685.7	672.6	657.5	639.8	631.7
27.5°	911.5	827.1	761.0	722.1	680.7	659.0	643.3	621.6	608.0	601.4	592.3
30°	841.3	756.9	708.0	664.5	637.3	612.5	593.3	582.2	569.1	555.5	549.9
32.5°	763.0	699.9	653.4	619.1	591.3	571.1	557.0	537.3	528.7	521.6	508.5
35°	700.9	649.9	607.0	577.7	551.4	534.2	516.6	506.0	488.8	481.7	477.2
37.5°	644.3	599.9	567.6	535.3	515.1	494.9	484.8	467.1	460.5	449.4	440.3
40°	597.9	554.4	523.6	498.4	475.2	461.0	447.4	433.8	422.7	418.1	406.5
42.5°	550.4	517.1	486.3	458.0	444.4	429.2	411.0	401.9	390.3	382.3	376.2
45°	507.5	476.2	449.9	427.2	410.0	394.4	383.3	366.6	360.0	345.4	339.3
47.5°	469.6	439.3	414.1	391.8	374.7	365.6	349.4	334.8	325.7	315.6	307.0
50°	428.7	404.5	380.2	361.0	345.9	331.3	314.6	308.0	291.9	287.3	282.8
52.5°	391.3	368.6	346.9	328.2	313.1	298.9	284.8	275.7	266.1	261.6	258.5
55°	357.0	334.8	313.6	296.9	281.8	267.1	258.0	247.4	242.4	238.8	234.8
57.5°	321.7	301.5	284.8	267.6	252.5	240.4	229.3	223.2	218.1	214.1	208.5
60°	288.3	269.1	254.5	238.8	223.2	213.6	205.5	197.9	191.9	184.8	182.8
62.5°	253.0	236.8	223.7	208.5	195.4	186.8	179.3	172.2	164.6	153.5	150.5
65°	221.2	208.0	193.9	181.3	169.2	160.6	149.5	141.4	138.4	137.3	136.8
67.5°	191.9	179.3	167.1	154.0	142.9	133.3	126.7	125.7	123.7	123.2	121.7
70°	162.6	151.0	138.9	126.7	116.1	114.6	112.6	110.6	108.1	107.1	106.0
72.5°	136.3	124.2	112.1	103.0	100.0	98.0	95.9	93.9	92.4	91.4	90.9
75°	108.6	97.5	89.4	85.8	83.3	81.8	78.8	77.3	76.2	74.7	74.2
77.5°	82.8	75.7	71.7	69.7	66.7	65.1	63.1	61.6	60.1	60.1	59.1
80°	59.6	56.6	54.0	51.0	50.0	48.0	47.5	46.0	46.5	44.9	44.9
82.5°	42.9	38.9	36.9	35.9	34.8	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: P242404

CATALOG NUMBER: S122RDR-S675D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1453.3	1453.3	1453.3	1453.3
2.5°	1381.1	1382.1	1380.6	1381.6
5°	1300.3	1294.2	1293.2	1291.7
7.5°	1204.8	1204.3	1201.3	1197.8
10°	1113.4	1110.9	1110.4	1106.9
12.5°	1006.4	986.7	984.7	974.6
15°	875.1	872.1	862.0	855.4
17.5°	801.9	791.8	788.2	786.7
20°	731.7	722.6	721.1	720.1
22.5°	683.2	673.6	669.1	665.5
25°	626.7	623.1	621.1	620.1
27.5°	582.2	573.1	572.1	569.6
30°	545.4	542.8	539.3	536.3
32.5°	501.9	499.9	496.9	495.9
35°	472.1	465.1	462.0	457.5
37.5°	439.3	435.3	430.2	432.2
40°	399.9	397.4	396.4	395.9
42.5°	368.6	360.5	357.5	357.5
45°	336.8	330.2	325.7	326.2
47.5°	302.5	303.0	299.9	301.0
50°	279.2	276.2	274.2	274.7
52.5°	257.0	254.5	253.0	255.5
55°	232.3	229.3	228.7	228.2
57.5°	205.5	204.0	201.5	200.0
60°	176.2	172.2	167.1	166.6
62.5°	149.5	149.5	149.5	149.5
65°	135.8	135.3	135.8	136.3
67.5°	121.7	120.7	119.7	120.2
70°	105.0	104.5	104.0	104.0
72.5°	88.9	88.9	88.4	87.9
75°	73.7	72.7	72.7	72.7
77.5°	59.1	58.6	58.1	57.6
80°	44.4	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)