

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: P243259

Luminaire Tested: **S122RDR-H675D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243259  
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-H675D835-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

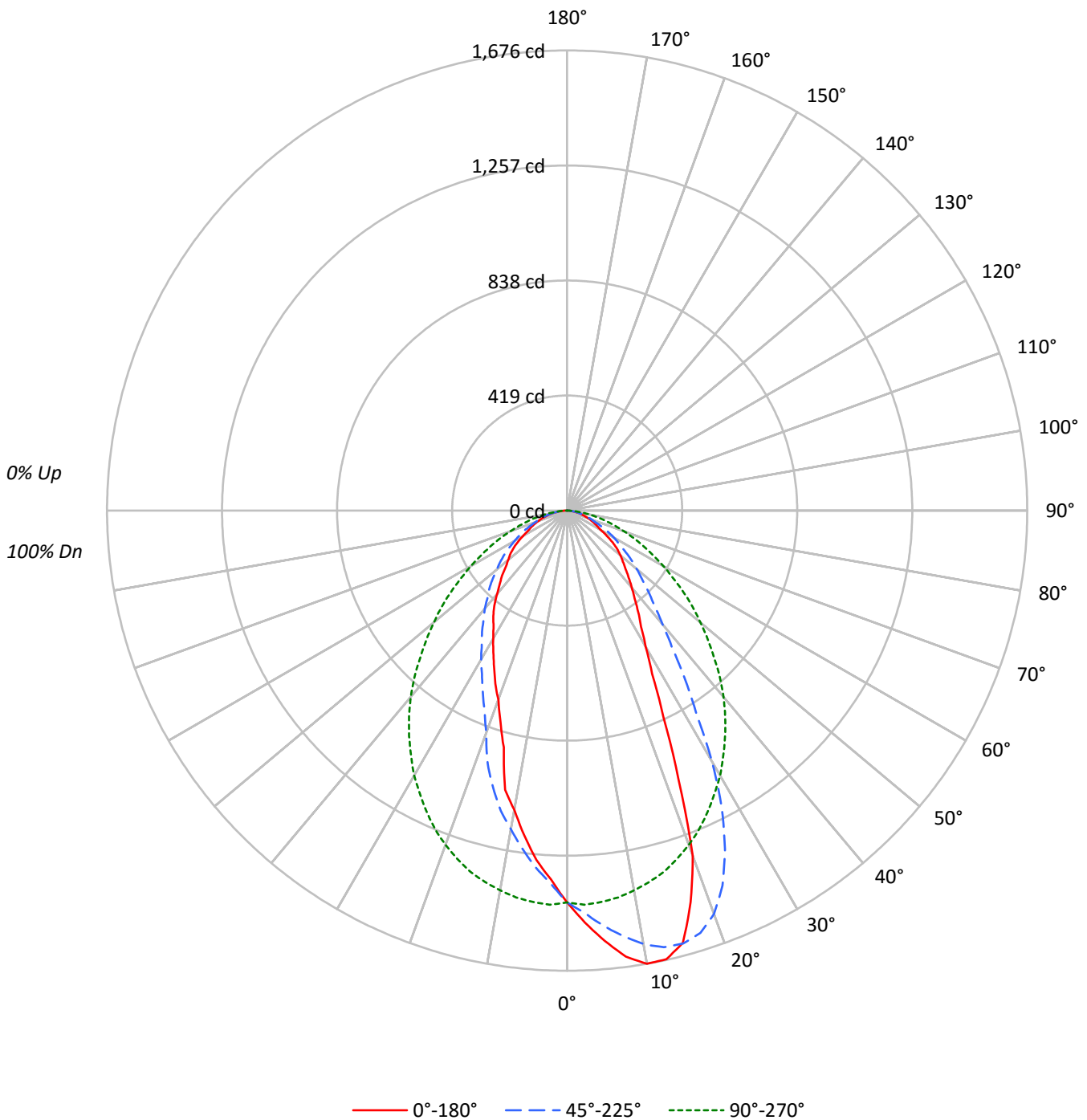
Lumens per Lamp: N/A  
Luminaire Lumens: 2404.5 lumens  
Efficiency: N/A  
Efficacy: 101.9 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
Input Voltage (V): 120  
Input Current (Ain): 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°	27175	27175	27175
5°	30082	27359	24423
10°	32416	27171	21419
15°	32129	26854	17602
20°	27103	26260	14858
25°	17425	25451	13226
30°	12590	24511	11851
35°	10487	23330	10899
40°	9101	22033	9866
45°	8124	20386	9029
50°	7497	18772	8300
55°	6728	17146	7907
60°	5371	15436	7112
65°	4922	13868	6567
70°	4522	12247	6237
75°	4121	10723	5910
80°	3587	8907	5528
85°	2863	7147	5092



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.1	5.6
10°-20°	369.5	15.4
20°-30°	465.8	19.4
30°-40°	447.2	18.6
40°-50°	385.1	16.0
50°-60°	294.4	12.2
60°-70°	187.4	7.8
70°-80°	95.0	3.9
80°-90°	25.1	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°	970.4	40.4
0°-40°	1417.5	59.0
0°-60°	2097.1	87.2
0°-90°	2404.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2404.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1427	1427	1427	1427	1427	
5°	1573	1518	1431	1306	1277	153
15°	1629	1633	1362	1043	893	442
25°	829	1360	1211	727	629	396
35°	451	746	1003	541	469	284
45°	302	418	757	401	335	235
55°	203	255	516	278	238	179
65°	109	140	308	171	146	109
75°	56	64	146	88	80	59
85°	13	15	33	25	23	15
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°	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7
2.5°	1502.3	1504.2	1505.1	1502.8	1497.7	1498.1	1493.5	1485.5	1475.7	1466.9	1472.0
5°	1573.3	1575.6	1575.2	1571.0	1565.8	1561.2	1553.2	1542.0	1530.4	1518.2	1515.9
7.5°	1638.7	1643.8	1642.4	1634.5	1630.7	1624.2	1610.7	1598.1	1580.3	1563.0	1556.0
10°	1676.0	1680.2	1677.9	1676.0	1671.8	1665.3	1653.1	1641.0	1621.4	1603.2	1592.9
12.5°	1673.2	1677.0	1678.8	1680.7	1679.3	1677.0	1671.8	1661.5	1645.7	1628.9	1615.8
15°	1629.3	1623.3	1619.1	1630.7	1634.9	1650.8	1654.5	1655.9	1645.2	1632.6	1629.3
17.5°	1495.8	1497.7	1529.9	1524.8	1531.8	1570.5	1585.9	1606.9	1615.8	1613.0	1618.6
20°	1337.1	1315.1	1331.0	1354.4	1376.3	1432.8	1470.1	1503.3	1541.6	1563.0	1583.6
22.5°	1060.7	1061.2	1099.4	1137.7	1187.2	1248.4	1305.3	1368.8	1437.0	1478.5	1526.6
25°	829.1	851.5	868.4	885.2	957.1	1015.9	1110.7	1187.7	1281.5	1360.4	1441.2
27.5°	670.4	693.7	696.6	734.4	776.8	824.5	886.6	1007.9	1104.1	1219.9	1319.8
30°	572.4	577.0	586.8	596.6	627.9	672.3	739.0	815.1	922.0	1054.2	1188.2
32.5°	501.4	500.5	510.3	525.7	543.0	572.8	610.6	673.7	770.3	875.4	1031.8
35°	451.0	449.6	456.6	462.2	472.5	496.7	530.8	572.4	641.9	746.5	867.9
37.5°	403.4	406.2	410.4	416.4	430.0	445.4	468.3	502.8	557.9	627.0	743.2
40°	366.0	369.3	374.0	378.2	388.4	401.0	416.4	444.0	480.9	541.1	630.3
42.5°	332.4	333.8	337.5	343.6	351.1	362.3	377.2	398.2	429.0	471.1	549.0
45°	301.6	301.6	305.8	311.4	316.1	326.8	338.5	358.5	382.4	418.3	473.9
47.5°	275.4	275.9	278.2	279.2	284.3	294.1	306.7	322.6	342.2	369.8	421.6
50°	253.0	254.9	255.8	257.2	259.1	264.2	273.1	285.2	306.7	331.0	365.5
52.5°	229.7	232.0	233.9	236.7	239.5	240.0	246.5	254.4	269.4	294.6	322.6
55°	202.6	204.5	208.2	210.6	214.3	217.6	222.7	228.3	238.1	254.9	283.8
57.5°	171.8	172.3	176.0	178.3	185.8	193.3	197.9	204.0	211.0	222.7	244.6
60°	141.0	142.4	142.9	144.7	151.3	159.2	168.5	177.9	185.3	195.6	211.0
62.5°	124.2	124.7	126.1	127.9	128.4	132.1	134.9	146.1	159.2	169.5	179.7
65°	109.2	109.7	109.7	111.1	113.0	114.8	116.2	120.4	126.1	140.5	153.1
67.5°	95.2	94.8	95.7	97.1	97.6	99.0	101.3	103.6	107.4	111.6	124.7
70°	81.2	81.2	80.8	82.2	83.6	84.0	85.4	87.8	90.1	93.8	98.0
72.5°	67.2	68.2	68.2	69.1	69.6	71.4	72.4	73.3	76.6	78.4	81.7
75°	56.0	55.6	57.0	56.5	57.4	57.9	59.3	60.7	61.6	63.5	66.3
77.5°	44.8	43.9	44.8	44.4	45.3	46.2	46.2	47.6	48.6	50.4	51.8
80°	32.7	32.7	33.1	34.1	34.1	34.5	35.5	35.0	36.9	37.3	38.7
82.5°	22.4	22.9	22.9	23.3	23.3	23.3	24.3	24.3	24.7	25.7	26.1
85°	13.1	12.6	13.1	13.1	13.1	13.5	14.0	13.5	14.5	15.4	15.4
87.5°	3.7	3.7	4.2	4.7	4.7	5.1	5.1	5.1	5.6	5.6	6.1
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7
2.5°	1472.0	1469.7	1463.6	1458.0	1447.7	1439.3	1436.5	1437.0	1424.4	1411.3	1407.6
5°	1512.6	1504.2	1492.1	1479.5	1464.1	1448.7	1438.9	1430.9	1411.3	1391.7	1380.5
7.5°	1546.2	1532.7	1515.0	1494.9	1474.8	1451.9	1436.1	1421.1	1394.0	1367.4	1353.0
10°	1577.0	1557.9	1533.6	1507.5	1480.9	1451.0	1428.1	1404.8	1370.7	1340.8	1316.1
12.5°	1606.5	1576.1	1551.4	1513.6	1484.1	1443.5	1412.2	1385.2	1345.0	1307.7	1280.1
15°	1609.3	1587.8	1554.6	1515.4	1470.6	1432.8	1393.6	1361.8	1316.1	1274.5	1227.4
17.5°	1608.8	1592.0	1557.4	1517.3	1463.6	1414.1	1371.6	1330.1	1277.8	1229.2	1188.6
20°	1592.0	1580.3	1550.4	1502.8	1448.7	1391.7	1344.5	1295.5	1234.4	1184.4	1140.1
22.5°	1552.3	1555.1	1531.8	1489.3	1430.9	1367.4	1312.8	1256.3	1193.8	1136.3	1080.3
25°	1485.1	1515.0	1507.9	1468.3	1406.2	1336.6	1274.5	1211.0	1143.8	1082.6	1030.8
27.5°	1401.5	1457.5	1469.7	1438.9	1379.6	1301.6	1231.1	1162.0	1093.4	1027.6	974.3
30°	1302.5	1386.1	1416.9	1400.1	1345.5	1263.8	1182.1	1114.4	1039.2	969.2	913.2
32.5°	1177.9	1295.1	1349.2	1354.4	1309.5	1221.8	1131.2	1058.4	981.3	915.0	854.8
35°	1038.8	1182.5	1270.8	1294.6	1262.4	1175.5	1080.3	1003.3	921.1	854.3	793.7
37.5°	898.7	1067.7	1183.5	1229.7	1208.2	1124.2	1023.4	945.4	864.2	796.0	739.0
40°	769.8	930.4	1080.8	1153.1	1146.6	1068.6	966.9	886.1	803.5	740.4	677.9
42.5°	654.5	809.5	974.8	1071.9	1077.0	1008.9	904.8	823.5	744.2	681.6	616.3
45°	563.5	699.8	863.7	979.5	1001.9	945.9	840.3	756.8	684.4	625.6	560.2
47.5°	490.7	596.6	748.8	884.7	924.4	875.4	774.5	695.1	627.0	576.6	514.9
50°	427.6	527.1	656.4	782.0	840.3	803.5	709.2	633.5	571.9	523.3	469.2
52.5°	371.6	448.6	560.7	681.1	759.6	726.0	645.7	576.1	518.2	472.9	427.6
55°	325.4	389.8	488.8	596.2	668.5	649.9	578.4	516.3	465.5	422.5	385.6
57.5°	277.8	331.9	411.8	507.5	578.4	575.6	516.8	457.1	416.9	376.3	349.7
60°	236.2	280.1	345.0	426.2	497.7	498.1	452.4	405.2	370.7	335.7	310.5
62.5°	199.3	234.4	290.9	356.2	413.2	427.6	393.6	352.5	324.5	297.4	275.9
65°	167.6	193.7	236.2	295.5	340.3	359.9	337.5	307.7	284.3	260.0	240.9
67.5°	138.2	157.3	188.6	235.3	280.1	294.6	285.2	262.4	245.6	225.5	211.0
70°	108.8	125.1	147.1	182.1	219.0	239.0	236.2	219.9	205.9	191.4	177.9
72.5°	86.4	95.7	112.5	137.7	167.1	189.5	190.5	182.1	170.4	158.3	149.4
75°	69.6	73.8	81.7	101.3	124.7	143.3	149.9	145.7	136.3	128.9	122.8
77.5°	53.7	57.4	62.6	71.9	90.1	104.6	112.5	113.0	107.4	100.8	96.2
80°	40.1	41.6	45.3	50.0	59.3	71.9	81.2	81.2	78.0	74.7	71.9
82.5°	27.5	28.9	30.8	33.1	37.8	45.3	53.7	55.1	53.2	52.3	48.6
85°	15.4	16.8	17.7	19.1	21.0	24.7	30.8	32.7	33.1	30.3	28.5
87.5°	6.1	6.1	6.5	7.0	7.5	8.9	11.2	14.0	14.0	12.6	12.1
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°	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7	1426.7
2.5°	1402.9	1396.4	1388.0	1380.5	1370.2	1360.0	1358.1	1361.8	1362.8	1358.1	1359.5
5°	1369.8	1357.6	1347.3	1330.5	1319.8	1305.8	1296.5	1296.5	1296.5	1289.5	1282.9
7.5°	1335.2	1318.9	1299.3	1283.4	1261.4	1243.2	1234.4	1230.2	1221.8	1214.8	1206.8
10°	1295.1	1272.2	1247.9	1223.2	1204.0	1178.8	1163.9	1154.5	1140.1	1134.0	1122.3
12.5°	1247.9	1225.0	1195.6	1155.5	1149.9	1119.1	1098.0	1080.8	1063.0	1048.6	1043.4
15°	1210.1	1170.4	1131.2	1102.7	1061.2	1043.0	1012.1	1009.3	994.9	952.4	919.2
17.5°	1148.9	1113.5	1070.0	1038.3	1005.1	964.5	931.8	899.6	868.8	838.9	838.0
20°	1094.8	1053.2	1012.1	977.6	919.7	861.8	841.7	812.3	794.1	770.3	763.3
22.5°	1035.5	992.1	940.7	890.3	822.6	786.2	764.2	740.9	722.7	712.0	701.2
25°	975.7	932.3	864.2	802.1	755.8	727.4	708.7	683.5	670.4	661.1	647.1
27.5°	917.4	862.3	790.4	740.9	703.6	671.3	654.5	634.0	619.5	607.4	598.5
30°	859.5	783.9	722.7	684.4	646.1	626.1	604.1	588.7	578.0	566.8	552.3
32.5°	796.0	716.6	676.9	629.8	607.4	578.4	562.6	546.7	532.7	524.7	519.6
35°	722.2	658.3	622.8	588.2	559.8	540.6	518.2	508.4	500.9	485.5	479.0
37.5°	659.7	613.4	576.1	545.3	519.1	498.6	488.3	471.5	460.8	455.7	448.6
40°	607.8	566.8	534.6	503.3	481.3	466.4	448.2	439.3	425.3	420.2	414.6
42.5°	563.0	525.2	491.6	467.8	448.6	428.1	418.8	403.8	397.8	385.2	380.5
45°	517.7	484.1	454.7	431.4	413.2	400.6	383.8	374.4	363.7	357.1	344.5
47.5°	472.5	442.6	418.3	398.7	382.8	367.4	353.4	345.5	331.9	324.9	318.4
50°	437.4	408.5	385.6	366.0	349.7	334.3	325.4	312.3	300.2	292.3	289.9
52.5°	395.9	370.7	349.7	334.7	318.4	307.2	295.1	280.6	274.5	266.6	264.7
55°	359.0	338.5	320.7	304.9	290.9	278.2	264.2	254.0	249.3	245.6	242.8
57.5°	324.5	304.9	288.5	274.0	261.9	248.8	237.2	231.1	226.9	222.7	219.9
60°	290.4	272.6	257.7	245.6	233.0	220.4	212.0	206.8	203.5	197.5	195.6
62.5°	260.0	243.7	228.3	217.1	205.4	195.6	188.6	181.6	176.5	171.8	162.0
65°	226.9	212.4	200.7	189.5	178.3	170.9	162.9	155.0	148.5	148.5	148.5
67.5°	197.5	184.9	172.7	162.9	153.1	144.3	136.3	135.9	133.5	132.6	131.2
70°	167.6	158.7	147.5	136.8	127.0	122.8	121.4	119.0	116.2	115.8	113.9
72.5°	140.5	130.3	120.0	110.6	108.8	106.9	104.1	101.8	99.9	98.5	97.6
75°	114.8	104.6	96.2	93.8	91.5	88.2	85.9	84.0	83.1	83.1	82.6
77.5°	87.8	81.7	78.0	74.2	72.4	70.5	69.1	68.2	66.8	67.2	66.3
80°	64.4	62.6	59.3	57.0	56.0	54.2	53.2	52.8	51.8	51.8	51.4
82.5°	46.2	43.0	41.6	40.1	39.2	38.3	38.7	38.3	37.8	37.3	37.8
85°	26.6	26.1	25.2	25.2	25.2	24.7	24.7	24.7	24.3	23.8	23.8
87.5°	11.7	12.1	12.1	11.2	12.6	12.6	12.1	12.1	11.7	12.6	11.7
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: P243259

CATALOG NUMBER: S122RDR-H675D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1426.7	1426.7	1426.7	1426.7
2.5°	1353.4	1353.0	1350.2	1345.5
5°	1280.1	1278.3	1273.6	1277.3
7.5°	1201.7	1196.6	1191.9	1194.2
10°	1117.7	1115.8	1113.0	1107.4
12.5°	1024.8	1032.2	1024.3	1042.0
15°	887.0	920.2	878.6	892.6
17.5°	818.4	818.9	813.3	806.7
20°	754.0	737.6	743.7	733.0
22.5°	691.9	688.1	686.3	682.5
25°	636.3	629.3	627.0	629.3
27.5°	595.2	592.0	583.1	581.7
30°	543.9	542.5	539.7	538.8
32.5°	511.7	505.6	504.2	498.6
35°	475.7	472.5	470.1	468.7
37.5°	439.8	437.9	433.7	436.0
40°	410.4	401.0	397.3	396.8
42.5°	378.2	373.0	365.5	363.2
45°	340.8	338.5	336.1	335.2
47.5°	308.1	306.7	303.9	302.5
50°	284.8	281.0	280.6	280.1
52.5°	262.4	261.0	259.6	261.4
55°	241.4	239.5	238.1	238.1
57.5°	218.5	215.2	212.4	212.9
60°	191.9	190.0	187.7	186.7
62.5°	161.1	161.1	160.6	160.6
65°	146.6	145.7	145.2	145.7
67.5°	130.7	129.8	128.4	128.9
70°	112.5	112.0	112.5	112.0
72.5°	96.2	95.7	96.2	97.1
75°	81.2	80.8	80.3	80.3
77.5°	65.8	65.4	64.4	65.4
80°	51.4	50.9	50.4	50.4
82.5°	36.4	36.9	36.4	36.4
85°	23.8	24.3	23.8	23.3
87.5°	12.1	12.6	11.7	11.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)