

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: P242414

Luminaire Tested: **S122RDR-S675D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242414  
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-S675D935-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2141.1 lumens  
Efficiency: N/A  
Efficacy: 81.1 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

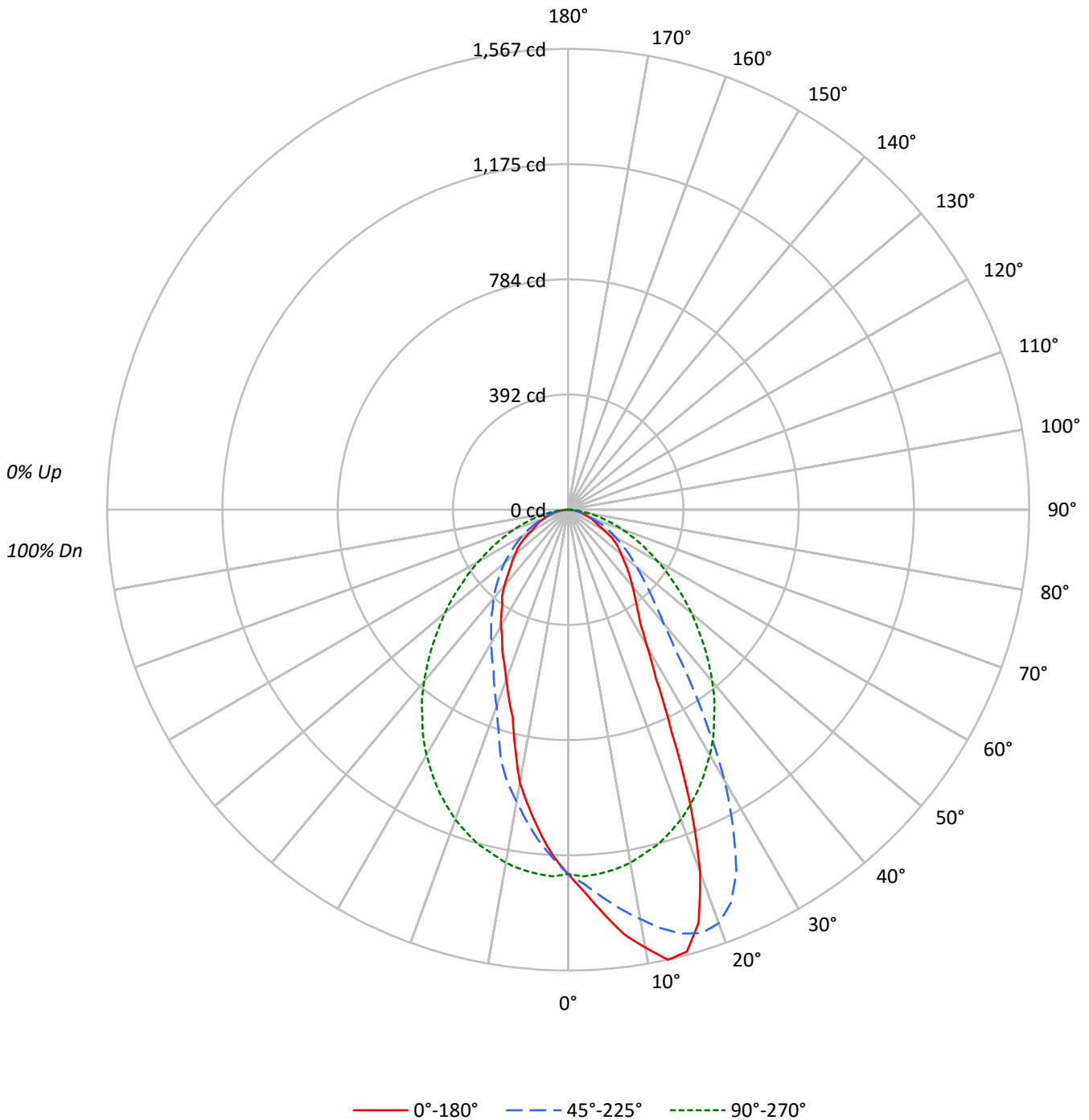
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	23600	23600	23600
5°	26358	23750	21057
10°	29244	23581	18253
15°	30682	23236	14382
20°	26598	22725	12444
25°	17444	22024	11112
30°	11741	21172	10056
35°	9510	20102	9071
40°	8457	18937	8392
45°	7653	17569	7491
50°	6967	16215	6940
55°	6549	14711	6462
60°	5478	13333	5413
65°	4620	12106	5237
70°	4266	10815	4940
75°	3989	9413	4563
80°	3686	7744	4059
85°	3387	6119	3584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.5	5.5
10°-20°	328.0	15.3
20°-30°	422.2	19.7
30°-40°	400.5	18.7
40°-50°	343.2	16.0
50°-60°	261.4	12.2
60°-70°	164.9	7.7
70°-80°	82.3	3.8
80°-90°	21.2	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°	867.7	40.5
0°-40°	1268.2	59.2
0°-60°	1872.8	87.5
0°-90°	2141.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2141.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1239	1239	1239	1239	1239	
5°	1378	1322	1242	1132	1101	136
15°	1556	1492	1178	882	729	423
25°	830	1352	1048	600	529	392
35°	409	735	864	456	390	260
45°	284	388	652	336	278	220
55°	197	241	443	228	195	174
65°	102	138	269	137	116	104
75°	54	61	128	70	62	57
85°	16	16	28	16	16	17
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°	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0
2.5°	1301.9	1303.2	1304.5	1301.5	1301.5	1298.9	1293.3	1289.0	1276.9	1275.2	1275.2
5°	1378.5	1377.7	1379.4	1373.8	1366.1	1364.3	1356.1	1345.4	1334.2	1321.7	1319.1
7.5°	1456.0	1450.9	1448.7	1451.3	1443.1	1431.9	1418.1	1405.2	1385.9	1369.9	1360.0
10°	1512.0	1526.2	1517.6	1502.5	1505.5	1485.3	1474.5	1456.0	1440.5	1413.4	1407.4
12.5°	1567.1	1570.5	1569.3	1562.4	1556.8	1544.3	1528.8	1513.3	1481.4	1457.8	1432.8
15°	1555.9	1564.1	1566.2	1563.7	1565.8	1565.0	1557.2	1543.9	1518.9	1492.2	1468.9
17.5°	1473.3	1482.7	1490.5	1497.4	1508.1	1529.2	1535.7	1538.3	1527.9	1509.0	1489.6
20°	1312.2	1302.8	1342.4	1362.6	1379.8	1422.9	1459.9	1474.1	1496.9	1496.5	1492.2
22.5°	1084.1	1089.2	1126.2	1151.2	1209.8	1252.8	1296.3	1359.6	1409.1	1445.7	1468.1
25°	830.0	846.4	883.9	916.6	972.6	1052.6	1125.4	1209.8	1289.4	1352.3	1412.1
27.5°	645.8	647.9	681.9	715.1	749.5	818.9	916.2	1017.3	1131.0	1212.8	1316.1
30°	533.8	531.3	543.8	562.3	590.7	641.5	710.4	809.4	922.6	1063.8	1189.5
32.5°	454.6	455.5	464.1	476.6	499.0	529.1	570.9	646.6	752.1	890.3	1043.2
35°	409.0	408.6	415.5	425.4	435.3	457.2	489.5	531.7	605.3	734.9	885.6
37.5°	371.1	373.3	376.3	382.7	394.8	407.7	427.9	457.6	513.6	594.1	729.3
40°	340.1	341.0	345.7	350.9	357.3	366.8	382.7	405.6	443.9	505.0	597.6
42.5°	311.7	312.6	315.6	320.3	325.0	334.5	347.0	365.9	395.2	439.6	511.9
45°	284.1	284.1	287.2	289.3	294.9	303.5	314.3	330.6	352.2	387.5	438.3
47.5°	257.5	257.5	259.6	263.5	267.4	274.2	285.4	299.2	314.7	343.6	388.8
50°	235.1	235.5	236.8	239.8	242.0	248.0	256.2	267.8	284.1	305.2	341.4
52.5°	217.0	216.6	218.3	219.1	220.4	224.3	229.9	239.8	254.0	271.7	300.1
55°	197.2	195.5	198.0	200.2	201.5	203.2	206.7	213.1	225.6	241.1	263.5
57.5°	173.9	173.1	174.4	176.5	180.4	184.7	186.8	191.2	197.6	209.7	233.3
60°	143.8	143.8	147.7	149.0	153.7	159.7	165.8	169.2	175.7	183.0	199.3
62.5°	117.1	117.5	118.8	120.1	122.3	130.0	139.1	147.7	153.7	160.6	170.1
65°	102.5	103.3	103.3	104.2	105.9	107.6	111.1	117.1	127.9	137.8	145.9
67.5°	89.5	89.5	90.0	90.8	91.3	93.4	94.7	97.7	99.9	111.1	122.3
70°	76.6	77.9	77.5	78.4	78.8	79.6	81.4	82.7	86.5	88.7	94.7
72.5°	64.6	65.4	65.4	65.9	67.2	67.2	68.5	69.7	71.9	73.6	76.2
75°	54.2	53.8	54.2	55.1	55.5	56.0	56.0	57.7	59.0	60.7	62.9
77.5°	43.9	44.3	44.3	44.3	44.3	45.2	45.2	46.1	47.4	48.2	49.5
80°	33.6	34.0	33.6	34.0	34.4	34.9	34.4	34.9	36.2	37.0	37.0
82.5°	24.1	24.1	24.5	24.5	24.5	24.5	25.4	25.4	26.3	25.8	26.3
85°	15.5	15.1	15.1	15.1	15.5	15.9	15.5	15.5	15.9	15.9	15.9
87.5°	6.9	7.3	7.3	7.3	7.3	7.3	7.3	7.7	7.3	7.7	7.3
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°	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0
2.5°	1276.1	1272.6	1269.6	1261.9	1258.0	1249.4	1248.1	1247.7	1236.5	1225.7	1222.7
5°	1312.2	1305.3	1295.0	1283.0	1270.5	1257.6	1248.9	1242.1	1224.8	1208.5	1199.0
7.5°	1348.0	1335.5	1319.1	1298.5	1280.8	1260.1	1245.9	1233.0	1209.3	1187.8	1173.6
10°	1388.9	1364.8	1341.1	1309.7	1285.1	1261.0	1238.6	1219.2	1191.7	1160.7	1138.7
12.5°	1414.3	1387.1	1352.3	1321.7	1288.1	1255.8	1224.0	1197.7	1164.1	1131.8	1104.7
15°	1436.7	1408.2	1368.6	1324.7	1283.8	1243.8	1209.3	1178.3	1136.2	1097.8	1066.0
17.5°	1457.3	1418.1	1377.2	1326.4	1281.2	1232.6	1189.1	1150.4	1104.3	1059.1	1022.9
20°	1466.4	1427.6	1378.5	1327.7	1271.8	1211.9	1164.1	1121.1	1070.7	1020.3	977.3
22.5°	1460.8	1432.8	1376.8	1313.5	1255.8	1192.5	1137.0	1085.3	1028.1	976.4	924.8
25°	1431.5	1421.2	1369.5	1303.2	1237.8	1165.0	1102.6	1047.9	984.2	929.1	874.8
27.5°	1377.7	1392.7	1356.1	1284.3	1213.6	1135.3	1067.3	1005.7	940.7	879.1	824.9
30°	1292.4	1343.7	1329.9	1264.4	1183.1	1106.4	1027.7	962.6	892.0	828.3	774.9
32.5°	1175.8	1268.8	1289.0	1236.9	1152.1	1066.0	982.5	917.9	843.4	775.4	723.7
35°	1050.5	1177.1	1235.2	1200.3	1115.9	1025.1	939.8	864.5	790.4	724.1	672.5
37.5°	901.9	1070.7	1160.3	1156.4	1075.9	983.3	890.8	816.3	740.1	674.6	620.8
40°	758.2	945.0	1071.1	1099.1	1033.7	931.7	837.8	761.6	687.5	623.8	559.7
42.5°	629.0	815.0	977.3	1031.1	982.5	881.3	787.0	706.5	635.0	575.6	509.7
45°	529.5	692.3	863.2	950.2	921.3	827.5	728.0	652.2	584.7	532.6	469.7
47.5°	458.5	576.9	748.7	862.3	858.9	769.8	670.8	598.0	534.3	486.1	432.7
50°	399.5	499.4	639.3	772.8	784.0	712.1	619.1	547.2	488.6	437.4	396.5
52.5°	346.6	424.5	546.8	673.3	710.4	650.5	561.0	496.0	439.6	393.5	359.9
55°	301.8	365.5	461.1	580.8	629.0	585.1	505.0	443.0	396.9	357.3	327.2
57.5°	262.6	312.6	392.2	492.5	547.2	517.5	449.0	397.8	356.9	319.9	295.8
60°	226.0	265.2	330.2	410.7	472.7	453.3	396.9	350.0	316.4	285.4	263.0
62.5°	191.6	223.9	277.3	338.8	394.4	389.2	345.7	308.3	279.8	252.3	234.2
65°	159.7	184.3	227.7	279.0	324.6	328.5	295.3	268.6	242.4	220.0	203.2
67.5°	132.2	149.0	181.7	226.9	261.8	273.8	251.4	229.9	208.4	190.3	175.2
70°	107.2	120.1	142.5	177.4	208.8	221.7	210.1	194.2	176.1	161.9	149.4
72.5°	81.8	94.3	109.4	132.6	158.4	172.6	170.5	160.2	146.4	135.2	123.6
75°	65.4	69.3	80.5	97.7	118.8	130.9	133.9	127.9	116.2	107.2	100.3
77.5°	50.8	53.4	59.4	69.7	84.4	95.1	99.9	99.0	90.4	84.4	77.9
80°	38.7	40.0	42.6	46.5	56.8	67.6	70.6	70.6	65.0	62.9	56.4
82.5°	27.1	28.0	29.3	31.0	34.4	43.5	46.9	47.8	44.8	41.8	37.0
85°	16.8	16.4	17.2	18.5	19.4	22.0	27.1	28.0	27.1	23.7	22.4
87.5°	7.3	7.7	7.7	7.3	7.7	8.2	10.3	12.5	10.8	9.5	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0	1239.0
2.5°	1217.1	1214.1	1208.5	1199.9	1194.7	1185.7	1179.6	1183.1	1183.9	1183.1	1182.2
5°	1188.7	1179.6	1167.1	1155.1	1143.9	1131.8	1125.0	1121.9	1115.9	1112.5	1110.7
7.5°	1156.4	1143.0	1125.4	1106.0	1087.9	1070.7	1063.0	1056.9	1045.7	1039.7	1034.1
10°	1119.4	1094.8	1077.2	1049.6	1032.8	1008.3	991.5	991.9	975.1	965.7	958.8
12.5°	1078.5	1050.9	1018.6	994.5	969.5	951.0	929.9	919.6	901.5	892.5	870.9
15°	1032.4	1001.0	970.0	936.4	912.7	882.1	852.9	817.1	788.3	763.3	756.4
17.5°	983.3	944.6	914.0	879.6	842.5	787.0	750.8	728.9	711.7	698.7	688.4
20°	932.5	892.9	859.8	800.3	745.7	710.8	685.8	669.9	651.8	637.6	629.9
22.5°	879.1	837.4	789.1	721.1	681.5	655.3	633.7	614.8	604.0	593.7	586.8
25°	829.2	784.0	709.5	663.9	629.4	600.1	584.7	573.5	560.5	545.5	538.6
27.5°	777.1	705.2	648.8	615.6	580.3	561.8	548.5	530.0	518.3	512.8	505.0
30°	717.3	645.4	603.6	566.6	543.3	522.2	505.9	496.4	485.2	473.6	468.8
32.5°	650.5	596.7	557.1	527.8	504.1	486.9	474.9	458.1	450.8	444.7	433.5
35°	597.6	554.1	517.5	492.5	470.1	455.5	440.4	431.4	416.7	410.7	406.8
37.5°	549.3	511.5	483.9	456.4	439.1	421.9	413.3	398.2	392.6	383.2	375.4
40°	509.7	472.7	446.5	424.9	405.1	393.1	381.4	369.8	360.3	356.5	346.6
42.5°	469.3	440.9	414.6	390.5	378.9	365.9	350.4	342.7	332.8	325.9	320.7
45°	432.7	406.0	383.6	364.2	349.6	336.2	326.8	312.6	307.0	294.5	289.3
47.5°	400.4	374.6	353.0	334.1	319.4	311.7	297.9	285.4	277.7	269.1	261.8
50°	365.5	344.8	324.2	307.8	294.9	282.4	268.2	262.6	248.8	245.0	241.1
52.5°	333.7	314.3	295.8	279.8	266.9	254.9	242.8	235.1	226.9	223.0	220.4
55°	304.4	285.4	267.4	253.1	240.2	227.7	220.0	211.0	206.7	203.6	200.2
57.5°	274.2	257.0	242.8	228.2	215.3	204.9	195.5	190.3	186.0	182.5	177.8
60°	245.8	229.5	217.0	203.6	190.3	182.1	175.2	168.8	163.6	157.6	155.8
62.5°	215.7	201.9	190.7	177.8	166.6	159.3	152.8	146.8	140.4	130.9	128.3
65°	188.6	177.4	165.3	154.6	144.2	136.9	127.4	120.5	118.0	117.1	116.7
67.5°	163.6	152.8	142.5	131.3	121.8	113.7	108.1	107.2	105.5	105.0	103.8
70°	138.6	128.7	118.4	108.1	99.0	97.7	96.0	94.3	92.1	91.3	90.4
72.5°	116.2	105.9	95.6	87.8	85.2	83.5	81.8	80.1	78.8	77.9	77.5
75°	92.6	83.1	76.2	73.2	71.0	69.7	67.2	65.9	65.0	63.7	63.3
77.5°	70.6	64.6	61.1	59.4	56.8	55.5	53.8	52.5	51.2	51.2	50.4
80°	50.8	48.2	46.1	43.5	42.6	40.9	40.5	39.2	39.6	38.3	38.3
82.5°	36.6	33.2	31.4	30.6	29.7	28.4	28.0	27.6	27.6	26.7	26.7
85°	20.2	19.4	18.5	17.7	17.7	16.4	16.8	16.4	16.4	15.5	15.1
87.5°	8.2	7.7	6.9	6.9	6.9	6.5	6.5	6.0	6.0	6.0	5.6
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: P242414

CATALOG NUMBER: S122RDR-S675D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1239.0	1239.0	1239.0	1239.0
2.5°	1177.5	1178.3	1177.1	1177.9
5°	1108.6	1103.4	1102.6	1101.3
7.5°	1027.2	1026.8	1024.2	1021.2
10°	949.3	947.2	946.7	943.7
12.5°	858.0	841.2	839.5	830.9
15°	746.1	743.5	734.9	729.3
17.5°	683.7	675.1	672.0	670.8
20°	623.8	616.1	614.8	613.9
22.5°	582.5	574.3	570.4	567.4
25°	534.3	531.3	529.5	528.7
27.5°	496.4	488.6	487.8	485.6
30°	465.0	462.8	459.8	457.2
32.5°	427.9	426.2	423.6	422.8
35°	402.5	396.5	393.9	390.1
37.5°	374.6	371.1	366.8	368.5
40°	341.0	338.8	338.0	337.5
42.5°	314.3	307.4	304.8	304.8
45°	287.2	281.6	277.7	278.1
47.5°	257.9	258.3	255.7	256.6
50°	238.1	235.5	233.8	234.2
52.5°	219.1	217.0	215.7	217.8
55°	198.0	195.5	195.0	194.6
57.5°	175.2	173.9	171.8	170.5
60°	150.3	146.8	142.5	142.1
62.5°	127.4	127.4	127.4	127.4
65°	115.8	115.4	115.8	116.2
67.5°	103.8	102.9	102.0	102.5
70°	89.5	89.1	88.7	88.7
72.5°	75.8	75.8	75.3	74.9
75°	62.9	62.0	62.0	62.0
77.5°	50.4	49.9	49.5	49.1
80°	37.9	37.5	37.0	37.0
82.5°	26.7	26.3	26.3	25.8
85°	15.5	15.9	15.5	16.4
87.5°	5.6	5.2	5.6	5.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)