

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: P243254

Luminaire Tested: **S122RDR-H675D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243254
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-H675D830-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2266.3 lumens
Efficiency: N/A
Efficacy: 96.0 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

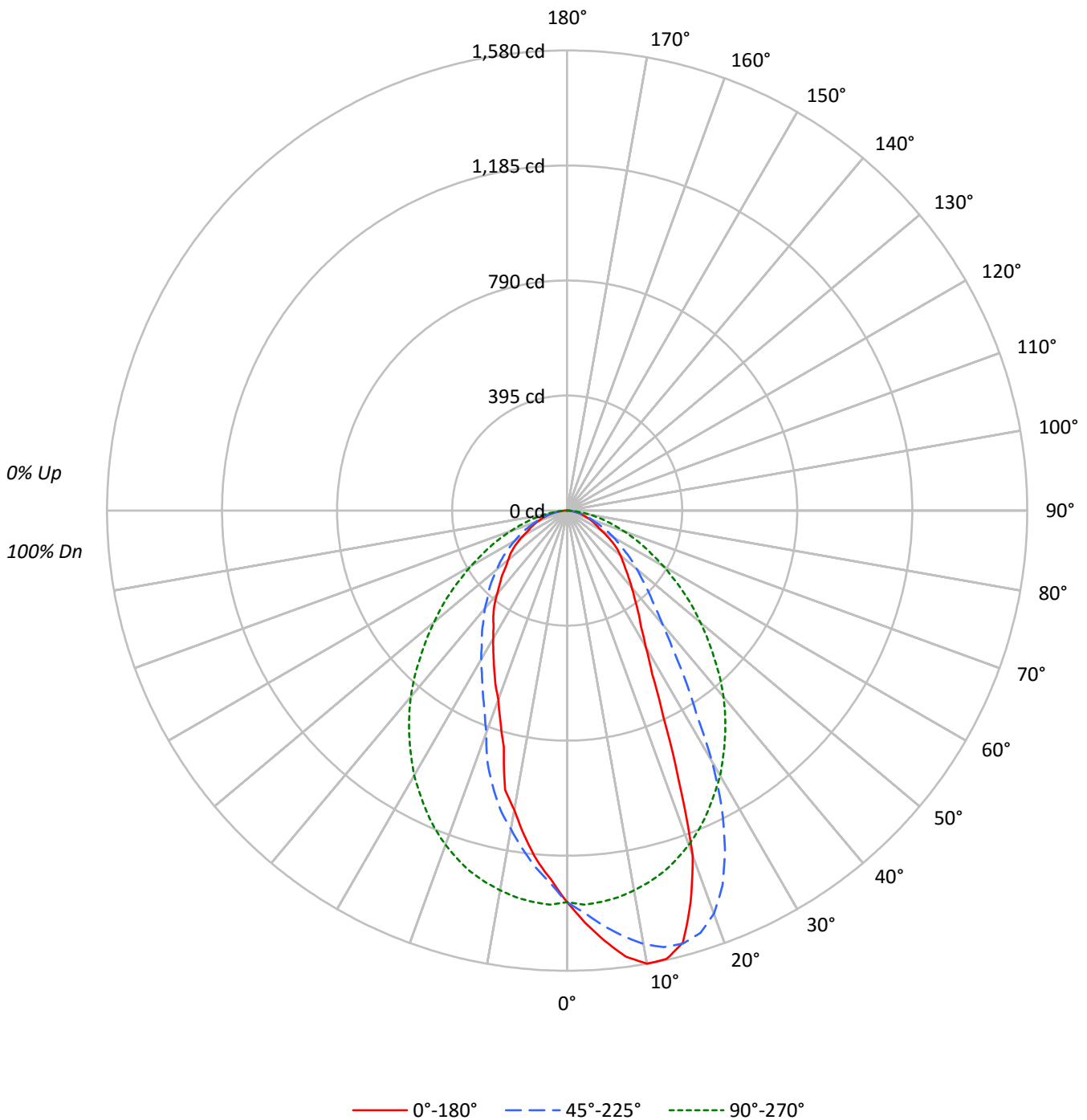
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	25613	25613	25613
5°	28354	25788	23019
10°	30554	25610	20189
15°	30283	25312	16590
20°	25546	24752	14005
25°	16425	23989	12467
30°	11866	23103	11169
35°	9885	21988	10273
40°	8578	20767	9300
45°	7658	19215	8510
50°	7067	17694	7823
55°	6343	16163	7452
60°	5063	14549	6705
65°	4642	13071	6188
70°	4266	11545	5881
75°	3886	10105	5571
80°	3378	8402	5210
85°	2688	6731	4808



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	5.6
10°-20°	348.3	15.4
20°-30°	439.0	19.4
30°-40°	421.5	18.6
40°-50°	363.0	16.0
50°-60°	277.5	12.2
60°-70°	176.6	7.8
70°-80°	89.5	3.9
80°-90°	23.6	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°	914.6	40.4
0°-40°	1336.1	59.0
0°-60°	1976.6	87.2
0°-90°	2266.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2266.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1345	1345	1345	1345	1345	
5°	1483	1431	1349	1231	1204	145
15°	1536	1539	1284	983	841	416
25°	782	1282	1141	686	593	374
35°	425	704	946	510	442	268
45°	284	394	713	378	316	221
55°	191	240	487	262	224	168
65°	103	132	290	161	137	103
75°	53	60	137	83	76	56
85°	12	14	31	23	22	14
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°	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7
2.5°	1416.0	1417.8	1418.7	1416.5	1411.6	1412.1	1407.7	1400.2	1390.9	1382.6	1387.4
5°	1482.9	1485.1	1484.7	1480.7	1475.9	1471.5	1464.0	1453.4	1442.4	1431.0	1428.8
7.5°	1544.5	1549.4	1548.0	1540.6	1537.0	1530.9	1518.1	1506.2	1489.5	1473.2	1466.6
10°	1579.7	1583.7	1581.5	1579.7	1575.8	1569.6	1558.2	1546.7	1528.2	1511.1	1501.4
12.5°	1577.1	1580.6	1582.4	1584.1	1582.8	1580.6	1575.8	1566.1	1551.1	1535.3	1523.0
15°	1535.7	1530.0	1526.0	1537.0	1541.0	1556.0	1559.5	1560.8	1550.7	1538.8	1535.7
17.5°	1409.9	1411.6	1442.0	1437.1	1443.7	1480.3	1494.8	1514.6	1523.0	1520.3	1525.6
20°	1260.3	1239.6	1254.5	1276.5	1297.2	1350.5	1385.7	1416.9	1453.0	1473.2	1492.6
22.5°	999.8	1000.2	1036.3	1072.4	1119.0	1176.6	1230.3	1290.2	1354.4	1393.6	1438.9
25°	781.5	802.6	818.5	834.3	902.1	957.5	1046.8	1119.4	1207.9	1282.3	1358.4
27.5°	631.9	653.9	656.5	692.2	732.2	777.1	835.6	950.0	1040.7	1149.8	1244.0
30°	539.5	543.9	553.1	562.4	591.8	633.6	696.6	768.3	869.1	993.6	1119.9
32.5°	472.6	471.7	481.0	495.5	511.8	539.9	575.6	635.0	726.1	825.1	972.5
35°	425.1	423.8	430.4	435.6	445.3	468.2	500.3	539.5	605.0	703.6	818.0
37.5°	380.2	382.8	386.8	392.5	405.3	419.8	441.4	473.9	525.8	591.0	700.5
40°	345.0	348.1	352.5	356.4	366.1	378.0	392.5	418.5	453.2	510.0	594.0
42.5°	313.3	314.6	318.1	323.9	330.9	341.5	355.5	375.3	404.4	444.0	517.5
45°	284.3	284.3	288.2	293.5	297.9	308.0	319.0	337.9	360.4	394.3	446.6
47.5°	259.6	260.1	262.3	263.1	268.0	277.2	289.1	304.1	322.5	348.5	397.3
50°	238.5	240.3	241.1	242.5	244.2	249.1	257.4	268.9	289.1	312.0	344.5
52.5°	216.5	218.7	220.5	223.1	225.7	226.2	232.3	239.8	253.9	277.7	304.1
55°	191.0	192.7	196.3	198.5	202.0	205.1	209.9	215.2	224.4	240.3	267.5
57.5°	161.9	162.4	165.9	168.1	175.1	182.2	186.6	192.3	198.9	209.9	230.6
60°	132.9	134.2	134.6	136.4	142.6	150.1	158.9	167.7	174.7	184.4	198.9
62.5°	117.0	117.5	118.8	120.6	121.0	124.5	127.2	137.7	150.1	159.7	169.4
65°	103.0	103.4	103.4	104.7	106.5	108.2	109.6	113.5	118.8	132.4	144.3
67.5°	89.8	89.3	90.2	91.5	92.0	93.3	95.5	97.7	101.2	105.2	117.5
70°	76.6	76.6	76.1	77.4	78.8	79.2	80.5	82.7	84.9	88.4	92.4
72.5°	63.4	64.2	64.2	65.1	65.6	67.3	68.2	69.1	72.2	73.9	77.0
75°	52.8	52.4	53.7	53.2	54.1	54.6	55.9	57.2	58.1	59.8	62.5
77.5°	42.2	41.4	42.2	41.8	42.7	43.6	43.6	44.9	45.8	47.5	48.8
80°	30.8	30.8	31.2	32.1	32.1	32.6	33.4	33.0	34.8	35.2	36.5
82.5°	21.1	21.6	21.6	22.0	22.0	22.0	22.9	22.9	23.3	24.2	24.6
85°	12.3	11.9	12.3	12.3	12.3	12.8	13.2	12.8	13.6	14.5	14.5
87.5°	3.5	3.5	4.0	4.4	4.4	4.8	4.8	4.8	5.3	5.3	5.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7
2.5°	1387.4	1385.2	1379.5	1374.2	1364.5	1356.6	1354.0	1354.4	1342.5	1330.2	1326.7
5°	1425.7	1417.8	1406.3	1394.5	1379.9	1365.4	1356.2	1348.7	1330.2	1311.7	1301.2
7.5°	1457.4	1444.6	1427.9	1409.0	1390.1	1368.5	1353.5	1339.5	1313.9	1288.9	1275.2
10°	1486.4	1468.4	1445.5	1420.9	1395.8	1367.6	1346.1	1324.1	1291.9	1263.8	1240.5
12.5°	1514.2	1485.5	1462.2	1426.6	1398.9	1360.6	1331.1	1305.6	1267.7	1232.5	1206.6
15°	1516.8	1496.6	1465.3	1428.3	1386.1	1350.5	1313.5	1283.6	1240.5	1201.3	1156.8
17.5°	1516.4	1500.5	1467.9	1430.1	1379.5	1332.9	1292.8	1253.7	1204.4	1158.6	1120.3
20°	1500.5	1489.5	1461.3	1416.5	1365.4	1311.7	1267.3	1221.1	1163.4	1116.4	1074.6
22.5°	1463.1	1465.7	1443.7	1403.7	1348.7	1288.9	1237.4	1184.1	1125.2	1071.0	1018.2
25°	1399.7	1427.9	1421.3	1383.9	1325.4	1259.8	1201.3	1141.4	1078.1	1020.4	971.6
27.5°	1321.0	1373.8	1385.2	1356.2	1300.3	1226.8	1160.4	1095.2	1030.6	968.5	918.3
30°	1227.7	1306.5	1335.5	1319.7	1268.2	1191.2	1114.2	1050.4	979.5	913.5	860.7
32.5°	1110.2	1220.7	1271.7	1276.5	1234.3	1151.6	1066.2	997.6	924.9	862.5	805.7
35°	979.1	1114.6	1197.8	1220.2	1189.8	1108.0	1018.2	945.6	868.2	805.3	748.1
37.5°	847.1	1006.4	1115.5	1159.0	1138.8	1059.6	964.6	891.1	814.5	750.3	696.6
40°	725.6	877.0	1018.7	1086.9	1080.7	1007.2	911.3	835.2	757.3	697.9	638.9
42.5°	616.9	763.0	918.8	1010.3	1015.2	950.9	852.8	776.2	701.4	642.4	580.8
45°	531.1	659.6	814.1	923.2	944.3	891.5	792.1	713.3	645.1	589.6	528.0
47.5°	462.5	562.4	705.8	833.9	871.3	825.1	730.0	655.2	591.0	543.4	485.4
50°	403.1	496.8	618.7	737.1	792.1	757.3	668.4	597.1	539.0	493.3	442.2
52.5°	350.3	422.9	528.5	642.0	715.9	684.3	608.6	543.0	488.4	445.8	403.1
55°	306.7	367.4	460.7	561.9	630.1	612.5	545.2	486.7	438.7	398.2	363.5
57.5°	261.8	312.9	388.1	478.3	545.2	542.6	487.1	430.8	392.9	354.7	329.6
60°	222.7	264.0	325.2	401.7	469.1	469.5	426.4	381.9	349.4	316.4	292.6
62.5°	187.9	220.9	274.1	335.7	389.4	403.1	370.9	332.2	305.8	280.3	260.1
65°	158.0	182.6	222.7	278.5	320.8	339.3	318.1	290.0	268.0	245.1	227.1
67.5°	130.2	148.3	177.8	221.8	264.0	277.7	268.9	247.3	231.5	212.5	198.9
70°	102.5	117.9	138.6	171.6	206.4	225.3	222.7	207.3	194.1	180.4	167.7
72.5°	81.4	90.2	106.0	129.8	157.5	178.7	179.5	171.6	160.6	149.2	140.8
75°	65.6	69.5	77.0	95.5	117.5	135.1	141.3	137.3	128.5	121.4	115.7
77.5°	50.6	54.1	59.0	67.8	84.9	98.6	106.0	106.5	101.2	95.0	90.6
80°	37.8	39.2	42.7	47.1	55.9	67.8	76.6	76.6	73.5	70.4	67.8
82.5°	26.0	27.3	29.0	31.2	35.6	42.7	50.6	51.9	50.2	49.3	45.8
85°	14.5	15.8	16.7	18.0	19.8	23.3	29.0	30.8	31.2	28.6	26.8
87.5°	5.7	5.7	6.2	6.6	7.0	8.4	10.6	13.2	13.2	11.9	11.4
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°	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7	1344.7
2.5°	1322.3	1316.1	1308.2	1301.2	1291.5	1281.8	1280.1	1283.6	1284.5	1280.1	1281.4
5°	1291.1	1279.6	1269.9	1254.1	1244.0	1230.8	1222.0	1222.0	1222.0	1215.4	1209.2
7.5°	1258.5	1243.1	1224.6	1209.6	1189.0	1171.8	1163.4	1159.5	1151.6	1145.0	1137.5
10°	1220.7	1199.1	1176.2	1152.9	1134.8	1111.1	1097.0	1088.2	1074.6	1068.8	1057.8
12.5°	1176.2	1154.6	1126.9	1089.1	1083.8	1054.8	1035.0	1018.7	1002.0	988.3	983.5
15°	1140.6	1103.2	1066.2	1039.4	1000.2	983.0	954.0	951.4	937.7	897.7	866.4
17.5°	1082.9	1049.5	1008.6	978.6	947.4	909.1	878.3	847.9	818.9	790.7	789.9
20°	1031.9	992.7	954.0	921.4	866.9	812.3	793.4	765.7	748.5	726.1	719.5
22.5°	976.0	935.1	886.7	839.1	775.3	741.0	720.3	698.3	681.2	671.0	660.9
25°	919.7	878.7	814.5	756.0	712.4	685.6	668.0	644.2	631.9	623.1	609.9
27.5°	864.7	812.7	745.0	698.3	663.1	632.8	616.9	597.6	583.9	572.5	564.1
30°	810.1	738.8	681.2	645.1	609.0	590.1	569.4	554.9	544.8	534.2	520.6
32.5°	750.3	675.4	638.0	593.6	572.5	545.2	530.2	515.3	502.1	494.6	489.8
35°	680.7	620.4	587.0	554.4	527.6	509.6	488.4	479.2	472.2	457.6	451.5
37.5°	621.8	578.2	543.0	514.0	489.3	470.0	460.3	444.4	434.3	429.5	422.9
40°	572.9	534.2	503.8	474.4	453.7	439.6	422.4	414.1	400.9	396.0	390.7
42.5°	530.7	495.0	463.4	440.9	422.9	403.5	394.7	380.6	374.9	363.0	358.6
45°	488.0	456.3	428.6	406.6	389.4	377.5	361.7	352.9	342.8	336.6	324.7
47.5°	445.3	417.2	394.3	375.8	360.8	346.3	333.1	325.6	312.9	306.3	300.1
50°	412.3	385.0	363.5	345.0	329.6	315.1	306.7	294.4	282.9	275.5	273.3
52.5°	373.1	349.4	329.6	315.5	300.1	289.5	278.1	264.5	258.7	251.3	249.5
55°	338.4	319.0	302.3	287.3	274.1	262.3	249.1	239.4	235.0	231.5	228.8
57.5°	305.8	287.3	271.9	258.3	246.9	234.5	223.5	217.8	213.9	209.9	207.3
60°	273.7	257.0	242.9	231.5	219.6	207.7	199.8	194.9	191.9	186.1	184.4
62.5°	245.1	229.7	215.2	204.6	193.6	184.4	177.8	171.2	166.3	161.9	152.7
65°	213.9	200.2	189.2	178.7	168.1	161.1	153.6	146.1	139.9	139.9	139.9
67.5°	186.1	174.3	162.8	153.6	144.3	136.0	128.5	128.0	125.8	125.0	123.6
70°	158.0	149.6	139.1	128.9	119.7	115.7	114.4	112.2	109.6	109.1	107.4
72.5°	132.4	122.8	113.1	104.3	102.5	100.8	98.1	95.9	94.2	92.8	92.0
75°	108.2	98.6	90.6	88.4	86.2	83.2	81.0	79.2	78.3	78.3	77.9
77.5°	82.7	77.0	73.5	70.0	68.2	66.4	65.1	64.2	62.9	63.4	62.5
80°	60.7	59.0	55.9	53.7	52.8	51.0	50.2	49.7	48.8	48.8	48.4
82.5°	43.6	40.5	39.2	37.8	37.0	36.1	36.5	36.1	35.6	35.2	35.6
85°	25.1	24.6	23.8	23.8	23.8	23.3	23.3	23.3	22.9	22.4	22.4
87.5°	11.0	11.4	11.4	10.6	11.9	11.9	11.4	11.4	11.0	11.9	11.0
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: P243254

CATALOG NUMBER: S122RDR-H675D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1344.7	1344.7	1344.7	1344.7
2.5°	1275.7	1275.2	1272.6	1268.2
5°	1206.6	1204.8	1200.4	1203.9
7.5°	1132.6	1127.8	1123.4	1125.6
10°	1053.4	1051.7	1049.0	1043.8
12.5°	965.9	972.9	965.4	982.2
15°	836.1	867.3	828.1	841.3
17.5°	771.4	771.8	766.5	760.4
20°	710.7	695.3	701.0	690.9
22.5°	652.1	648.6	646.8	643.3
25°	599.8	593.2	591.0	593.2
27.5°	561.0	558.0	549.6	548.3
30°	512.6	511.3	508.7	507.8
32.5°	482.3	476.6	475.2	470.0
35°	448.4	445.3	443.1	441.8
37.5°	414.5	412.8	408.8	411.0
40°	386.8	378.0	374.5	374.0
42.5°	356.4	351.6	344.5	342.3
45°	321.2	319.0	316.8	315.9
47.5°	290.4	289.1	286.5	285.1
50°	268.4	264.9	264.5	264.0
52.5°	247.3	246.0	244.7	246.4
55°	227.5	225.7	224.4	224.4
57.5°	205.9	202.9	200.2	200.7
60°	180.9	179.1	176.9	176.0
62.5°	151.8	151.8	151.4	151.4
65°	138.2	137.3	136.9	137.3
67.5°	123.2	122.3	121.0	121.4
70°	106.0	105.6	106.0	105.6
72.5°	90.6	90.2	90.6	91.5
75°	76.6	76.1	75.7	75.7
77.5°	62.0	61.6	60.7	61.6
80°	48.4	48.0	47.5	47.5
82.5°	34.3	34.8	34.3	34.3
85°	22.4	22.9	22.4	22.0
87.5°	11.4	11.9	11.0	10.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)