

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: P242409

Luminaire Tested: **S122RDR-S675D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242409
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-S675D930-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2027.5 lumens
Efficiency: N/A
Efficacy: 76.8 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

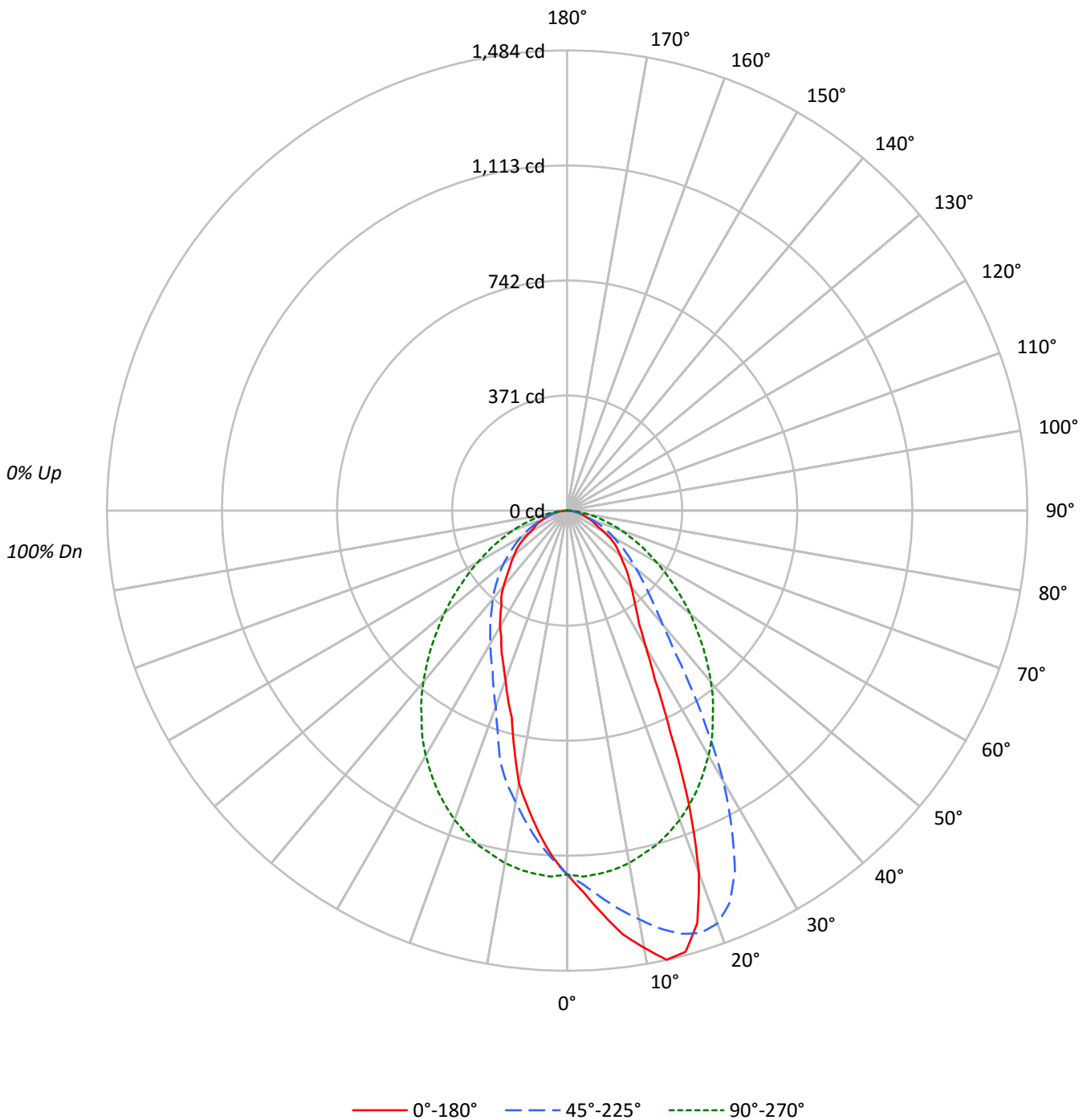
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

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°	22349	22349	22349
5°	24960	22488	19939
10°	27691	22330	17284
15°	29053	22003	13618
20°	25188	21519	11783
25°	16519	20855	10521
30°	11118	20050	9521
35°	9006	19035	8590
40°	8009	17933	7947
45°	7249	16637	7095
50°	6596	15356	6573
55°	6200	13931	6120
60°	5189	12625	5124
65°	4372	11466	4962
70°	4043	10242	4678
75°	3783	8912	4320
80°	3488	7338	3850
85°	3213	5792	3387



TEST NUMBER: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.3	5.5
10°-20°	310.6	15.3
20°-30°	399.8	19.7
30°-40°	379.2	18.7
40°-50°	325.0	16.0
50°-60°	247.5	12.2
60°-70°	156.1	7.7
70°-80°	77.9	3.8
80°-90°	20.0	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°	821.7	40.5
0°-40°	1200.9	59.2
0°-60°	1773.4	87.5
0°-90°	2027.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2027.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1173	1173	1173	1173	1173	
5°	1305	1252	1176	1072	1043	129
15°	1473	1413	1116	835	691	401
25°	786	1280	992	568	501	371
35°	387	696	819	431	369	246
45°	269	367	618	318	263	208
55°	187	228	420	216	184	164
65°	97	130	254	130	110	98
75°	51	58	121	66	59	54
85°	15	15	26	16	16	16
90°	0	0	0	0	0	



TEST NUMBER: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3
2.5°	1232.8	1234.0	1235.2	1232.4	1232.4	1229.9	1224.6	1220.6	1209.2	1207.5	1207.5
5°	1305.4	1304.5	1306.2	1300.9	1293.5	1291.9	1284.2	1274.0	1263.4	1251.6	1249.1
7.5°	1378.7	1373.9	1371.8	1374.3	1366.5	1355.9	1342.9	1330.6	1312.3	1297.2	1287.8
10°	1431.7	1445.2	1437.0	1422.8	1425.6	1406.5	1396.3	1378.7	1364.1	1338.4	1332.7
12.5°	1483.9	1487.2	1486.0	1479.4	1474.1	1462.3	1447.6	1433.0	1402.8	1380.4	1356.7
15°	1473.3	1481.1	1483.1	1480.7	1482.7	1481.9	1474.5	1461.9	1438.3	1413.0	1391.0
17.5°	1395.1	1404.0	1411.4	1417.9	1428.1	1448.0	1454.2	1456.6	1446.8	1428.9	1410.5
20°	1242.6	1233.6	1271.1	1290.3	1306.6	1347.4	1382.4	1395.9	1417.5	1417.1	1413.0
22.5°	1026.5	1031.4	1066.5	1090.1	1145.6	1186.3	1227.5	1287.4	1334.3	1369.0	1390.2
25°	786.0	801.5	836.9	867.9	920.9	996.8	1065.7	1145.6	1221.0	1280.5	1337.2
27.5°	611.5	613.5	645.8	677.1	709.8	775.4	867.5	963.3	1071.0	1148.4	1246.3
30°	505.5	503.1	514.9	532.4	559.3	607.4	672.7	766.4	873.6	1007.4	1126.4
32.5°	430.5	431.3	439.5	451.3	472.5	501.0	540.6	612.3	712.2	843.1	987.8
35°	387.3	386.9	393.4	402.8	412.2	432.9	463.5	503.5	573.2	695.9	838.6
37.5°	351.4	353.5	356.3	362.4	373.8	386.1	405.2	433.4	486.4	562.6	690.6
40°	322.1	322.9	327.4	332.3	338.4	347.3	362.4	384.0	420.3	478.2	565.8
42.5°	295.2	296.0	298.8	303.3	307.8	316.8	328.6	346.5	374.2	416.2	484.7
45°	269.1	269.1	271.9	274.0	279.3	287.4	297.6	313.1	333.5	366.9	415.0
47.5°	243.8	243.8	245.8	249.5	253.2	259.7	270.3	283.3	298.0	325.3	368.1
50°	222.6	223.0	224.2	227.1	229.1	234.8	242.6	253.6	269.1	289.0	323.3
52.5°	205.5	205.1	206.7	207.5	208.7	212.4	217.7	227.1	240.5	257.2	284.1
55°	186.7	185.1	187.5	189.6	190.8	192.4	195.7	201.8	213.6	228.3	249.5
57.5°	164.7	163.9	165.1	167.1	170.8	174.9	176.9	181.0	187.1	198.5	221.0
60°	136.2	136.2	139.8	141.1	145.5	151.2	157.0	160.2	166.3	173.3	188.8
62.5°	110.9	111.3	112.5	113.7	115.8	123.1	131.7	139.8	145.5	152.1	161.0
65°	97.0	97.8	97.8	98.7	100.3	101.9	105.2	110.9	121.1	130.5	138.2
67.5°	84.8	84.8	85.2	86.0	86.4	88.5	89.7	92.5	94.6	105.2	115.8
70°	72.6	73.8	73.4	74.2	74.6	75.4	77.0	78.3	81.9	84.0	89.7
72.5°	61.2	62.0	62.0	62.4	63.6	63.6	64.8	66.0	68.1	69.7	72.2
75°	51.4	51.0	51.4	52.2	52.6	53.0	53.0	54.6	55.9	57.5	59.5
77.5°	41.6	42.0	42.0	42.0	42.0	42.8	42.8	43.6	44.8	45.7	46.9
80°	31.8	32.2	31.8	32.2	32.6	33.0	32.6	33.0	34.2	35.1	35.1
82.5°	22.8	22.8	23.2	23.2	23.2	23.2	24.1	24.1	24.9	24.5	24.9
85°	14.7	14.3	14.3	14.3	14.7	15.1	14.7	14.7	15.1	15.1	15.1
87.5°	6.5	6.9	6.9	6.9	6.9	6.9	6.9	7.3	6.9	7.3	6.9
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: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3
2.5°	1208.3	1205.1	1202.2	1194.9	1191.2	1183.1	1181.8	1181.4	1170.8	1160.6	1157.8
5°	1242.6	1236.1	1226.3	1214.9	1203.0	1190.8	1182.7	1176.1	1159.8	1144.3	1135.4
7.5°	1276.4	1264.6	1249.1	1229.5	1212.8	1193.3	1179.8	1167.6	1145.1	1124.8	1111.3
10°	1315.1	1292.3	1269.9	1240.1	1216.9	1194.1	1172.9	1154.5	1128.4	1099.1	1078.3
12.5°	1339.2	1313.5	1280.5	1251.6	1219.8	1189.2	1159.0	1134.1	1102.3	1071.8	1046.1
15°	1360.4	1333.5	1296.0	1254.4	1215.7	1177.8	1145.1	1115.8	1075.8	1039.6	1009.4
17.5°	1380.0	1342.9	1304.1	1256.0	1213.2	1167.2	1126.0	1089.3	1045.7	1002.9	968.6
20°	1388.5	1351.8	1305.4	1257.3	1204.3	1147.6	1102.3	1061.6	1013.9	966.2	925.4
22.5°	1383.2	1356.7	1303.7	1243.8	1189.2	1129.3	1076.7	1027.7	973.5	924.6	875.7
25°	1355.5	1345.7	1296.8	1234.0	1172.1	1103.2	1044.0	992.3	931.9	879.8	828.4
27.5°	1304.5	1318.8	1284.2	1216.1	1149.2	1075.0	1010.6	952.3	890.8	832.5	781.1
30°	1223.8	1272.3	1259.3	1197.3	1120.3	1047.7	973.1	911.6	844.7	784.4	733.8
32.5°	1113.4	1201.4	1220.6	1171.2	1090.9	1009.4	930.3	869.2	798.6	734.2	685.3
35°	994.7	1114.6	1169.6	1136.6	1056.7	970.7	889.9	818.6	748.5	685.7	636.8
37.5°	854.1	1013.9	1098.7	1095.0	1018.8	931.1	843.5	772.9	700.8	638.8	587.9
40°	717.9	894.8	1014.3	1040.8	978.8	882.2	793.3	721.2	651.1	590.7	530.0
42.5°	595.6	771.7	925.4	976.4	930.3	834.5	745.2	669.0	601.3	545.1	482.7
45°	501.4	655.5	817.4	899.7	872.4	783.5	689.4	617.6	553.6	504.3	444.8
47.5°	434.2	546.3	708.9	816.6	813.3	728.9	635.2	566.3	505.9	460.3	409.7
50°	378.3	472.9	605.4	731.8	742.4	674.3	586.2	518.2	462.7	414.2	375.5
52.5°	328.2	402.0	517.7	637.6	672.7	616.0	531.2	469.6	416.2	372.6	340.8
55°	285.8	346.1	436.6	549.9	595.6	554.0	478.2	419.5	375.9	338.4	309.8
57.5°	248.7	296.0	371.4	466.4	518.2	490.0	425.2	376.7	338.0	302.9	280.1
60°	214.0	251.1	312.7	388.9	447.6	429.3	375.9	331.4	299.6	270.3	249.1
62.5°	181.4	212.0	262.5	320.8	373.4	368.5	327.4	291.9	265.0	238.9	221.8
65°	151.2	174.5	215.7	264.2	307.4	311.1	279.7	254.4	229.5	208.3	192.4
67.5°	125.2	141.1	172.0	214.8	247.9	259.3	238.1	217.7	197.3	180.2	165.9
70°	101.5	113.7	134.9	168.0	197.7	210.0	198.9	183.9	166.7	153.3	141.5
72.5°	77.5	89.3	103.5	125.6	150.0	163.5	161.4	151.7	138.6	128.0	117.0
75°	62.0	65.6	76.2	92.5	112.5	123.9	126.8	121.1	110.1	101.5	95.0
77.5°	48.1	50.6	56.3	66.0	79.9	90.1	94.6	93.8	85.6	79.9	73.8
80°	36.7	37.9	40.4	44.0	53.8	64.0	66.9	66.9	61.6	59.5	53.4
82.5°	25.7	26.5	27.7	29.4	32.6	41.2	44.4	45.3	42.4	39.5	35.1
85°	15.9	15.5	16.3	17.5	18.3	20.8	25.7	26.5	25.7	22.4	21.2
87.5°	6.9	7.3	7.3	6.9	7.3	7.7	9.8	11.8	10.2	9.0	8.2
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: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3	1173.3
2.5°	1152.5	1149.6	1144.3	1136.2	1131.3	1122.7	1117.0	1120.3	1121.1	1120.3	1119.5
5°	1125.6	1117.0	1105.2	1093.8	1083.2	1071.8	1065.2	1062.4	1056.7	1053.4	1051.8
7.5°	1095.0	1082.4	1065.7	1047.3	1030.2	1013.9	1006.5	1000.8	990.2	984.5	979.2
10°	1059.9	1036.7	1020.0	993.9	978.0	954.8	938.9	939.3	923.4	914.4	907.9
12.5°	1021.2	995.1	964.6	941.7	918.1	900.5	880.6	870.8	853.7	845.1	824.7
15°	977.6	947.8	918.5	886.7	864.3	835.3	807.6	773.8	746.4	722.8	716.3
17.5°	931.1	894.4	865.5	832.9	797.8	745.2	711.0	690.2	673.9	661.7	651.9
20°	883.0	845.5	814.1	757.9	706.1	673.1	649.4	634.3	617.2	603.8	596.4
22.5°	832.5	792.9	747.3	682.8	645.3	620.5	600.1	582.2	572.0	562.2	555.7
25°	785.2	742.4	671.8	628.6	596.0	568.3	553.6	543.0	530.8	516.5	510.0
27.5°	735.8	667.8	614.4	583.0	549.5	532.0	519.4	501.8	490.8	485.5	478.2
30°	679.2	611.1	571.6	536.5	514.5	494.5	479.0	470.0	459.4	448.4	444.0
32.5°	616.0	565.0	527.5	499.8	477.4	461.1	449.7	433.8	426.8	421.1	410.5
35°	565.8	524.7	490.0	466.4	445.2	431.3	417.0	408.5	394.6	388.9	385.2
37.5°	520.2	484.3	458.2	432.1	415.8	399.5	391.4	377.1	371.8	362.8	355.5
40°	482.7	447.6	422.8	402.4	383.6	372.2	361.2	350.2	341.2	337.6	328.2
42.5°	444.4	417.5	392.6	369.8	358.8	346.5	331.8	324.5	315.1	308.6	303.7
45°	409.7	384.4	363.2	344.9	331.0	318.4	309.4	296.0	290.7	278.8	274.0
47.5°	379.1	354.7	334.3	316.4	302.5	295.2	282.1	270.3	262.9	254.8	247.9
50°	346.1	326.5	307.0	291.5	279.3	267.4	254.0	248.7	235.6	232.0	228.3
52.5°	315.9	297.6	280.1	265.0	252.8	241.3	229.9	222.6	214.8	211.2	208.7
55°	288.2	270.3	253.2	239.7	227.5	215.7	208.3	199.8	195.7	192.8	189.6
57.5°	259.7	243.4	229.9	216.1	203.8	194.1	185.1	180.2	176.1	172.9	168.4
60°	232.8	217.3	205.5	192.8	180.2	172.4	165.9	159.8	154.9	149.2	147.6
62.5°	204.2	191.2	180.6	168.4	157.8	150.8	144.7	139.0	132.9	123.9	121.5
65°	178.6	168.0	156.5	146.4	136.6	129.6	120.7	114.1	111.7	110.9	110.5
67.5°	154.9	144.7	134.9	124.3	115.4	107.6	102.3	101.5	99.9	99.5	98.2
70°	131.3	121.9	112.1	102.3	93.8	92.5	90.9	89.3	87.2	86.4	85.6
72.5°	110.1	100.3	90.5	83.2	80.7	79.1	77.5	75.8	74.6	73.8	73.4
75°	87.6	78.7	72.2	69.3	67.3	66.0	63.6	62.4	61.6	60.3	59.9
77.5°	66.9	61.2	57.9	56.3	53.8	52.6	51.0	49.7	48.5	48.5	47.7
80°	48.1	45.7	43.6	41.2	40.4	38.7	38.3	37.1	37.5	36.3	36.3
82.5°	34.7	31.4	29.8	28.9	28.1	26.9	26.5	26.1	26.1	25.3	25.3
85°	19.2	18.3	17.5	16.7	16.7	15.5	15.9	15.5	15.5	14.7	14.3
87.5°	7.7	7.3	6.5	6.5	6.5	6.1	6.1	5.7	5.7	5.7	5.3
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: P242409

CATALOG NUMBER: S122RDR-S675D930-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1173.3	1173.3	1173.3	1173.3
2.5°	1115.0	1115.8	1114.6	1115.4
5°	1049.8	1044.9	1044.0	1042.8
7.5°	972.7	972.3	969.9	967.0
10°	898.9	896.9	896.5	893.6
12.5°	812.5	796.6	795.0	786.8
15°	706.5	704.0	695.9	690.6
17.5°	647.4	639.2	636.4	635.2
20°	590.7	583.4	582.2	581.3
22.5°	551.6	543.8	540.2	537.3
25°	505.9	503.1	501.4	500.6
27.5°	470.0	462.7	461.9	459.9
30°	440.3	438.2	435.4	432.9
32.5°	405.2	403.6	401.1	400.3
35°	381.2	375.5	373.0	369.4
37.5°	354.7	351.4	347.3	349.0
40°	322.9	320.8	320.0	319.6
42.5°	297.6	291.1	288.6	288.6
45°	271.9	266.6	262.9	263.4
47.5°	244.2	244.6	242.2	243.0
50°	225.4	223.0	221.4	221.8
52.5°	207.5	205.5	204.2	206.3
55°	187.5	185.1	184.7	184.3
57.5°	165.9	164.7	162.7	161.4
60°	142.3	139.0	134.9	134.5
62.5°	120.7	120.7	120.7	120.7
65°	109.7	109.3	109.7	110.1
67.5°	98.2	97.4	96.6	97.0
70°	84.8	84.4	84.0	84.0
72.5°	71.8	71.8	71.3	70.9
75°	59.5	58.7	58.7	58.7
77.5°	47.7	47.3	46.9	46.5
80°	35.9	35.5	35.1	35.1
82.5°	25.3	24.9	24.9	24.5
85°	14.7	15.1	14.7	15.5
87.5°	5.3	4.9	5.3	4.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)