

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: P242389

Luminaire Tested: **S122RDR-S675D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242389  
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-S675D927-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1970.0 lumens  
Efficiency: N/A  
Efficacy: 74.6 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

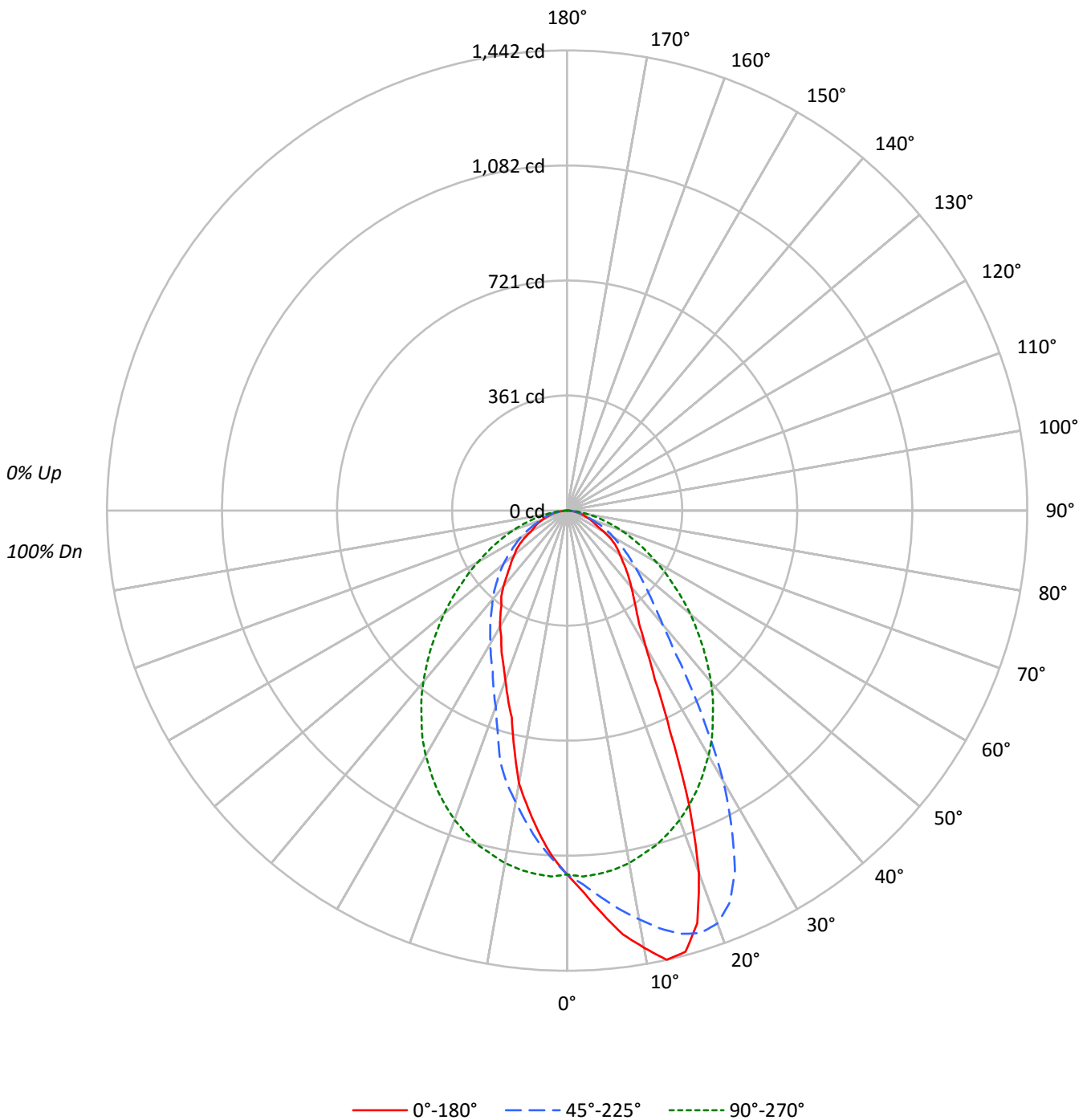
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	21714	21714	21714
5°	24252	21851	19375
10°	26906	21697	16794
15°	28231	21380	13232
20°	24474	20909	11451
25°	16051	20262	10223
30°	10804	19480	9253
35°	8750	18495	8345
40°	7780	17423	7723
45°	7041	16165	6893
50°	6410	14920	6386
55°	6024	13536	5944
60°	5040	12267	4979
65°	4250	11141	4823
70°	3926	9947	4544
75°	3672	8655	4195
80°	3389	7130	3740
85°	3125	5617	3300



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.1	5.5
10°-20°	301.8	15.3
20°-30°	388.4	19.7
30°-40°	368.5	18.7
40°-50°	315.7	16.0
50°-60°	240.5	12.2
60°-70°	151.7	7.7
70°-80°	75.7	3.8
80°-90°	19.5	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°	798.4	40.5
0°-40°	1166.9	59.2
0°-60°	1723.1	87.5
0°-90°	1970.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1970.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1140	1140	1140	1140	1140	
5°	1268	1216	1143	1041	1013	125
15°	1432	1373	1084	812	671	389
25°	764	1244	964	552	486	361
35°	376	676	795	419	359	239
45°	261	356	600	309	256	202
55°	181	222	408	210	179	160
65°	94	127	247	126	107	95
75°	50	56	118	64	57	53
85°	14	15	26	15	15	16
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°	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0
2.5°	1197.8	1199.0	1200.2	1197.4	1197.4	1195.1	1189.9	1186.0	1174.9	1173.3	1173.3
5°	1268.4	1267.6	1269.1	1264.0	1256.9	1255.3	1247.8	1237.9	1227.6	1216.1	1213.7
7.5°	1339.7	1334.9	1332.9	1335.3	1327.8	1317.5	1304.8	1292.9	1275.1	1260.4	1251.3
10°	1391.1	1404.2	1396.3	1382.4	1385.2	1366.6	1356.7	1339.7	1325.4	1300.4	1294.9
12.5°	1441.8	1445.0	1443.8	1437.5	1432.3	1420.9	1406.6	1392.3	1363.0	1341.2	1318.3
15°	1431.6	1439.1	1441.1	1438.7	1440.7	1439.9	1432.7	1420.5	1397.5	1372.9	1351.5
17.5°	1355.5	1364.2	1371.3	1377.7	1387.6	1407.0	1412.9	1415.3	1405.8	1388.4	1370.5
20°	1207.4	1198.6	1235.1	1253.7	1269.5	1309.2	1343.2	1356.3	1377.3	1376.9	1372.9
22.5°	997.4	1002.2	1036.2	1059.2	1113.1	1152.7	1192.7	1250.9	1296.5	1330.1	1350.7
25°	763.7	778.8	813.2	843.3	894.8	968.5	1035.4	1113.1	1186.4	1244.2	1299.2
27.5°	594.2	596.1	627.4	657.9	689.6	753.4	842.9	936.0	1040.6	1115.8	1210.9
30°	491.2	488.8	500.3	517.3	543.5	590.2	653.6	744.7	848.9	978.8	1094.5
32.5°	418.3	419.1	427.0	438.5	459.1	486.8	525.2	595.0	692.0	819.2	959.8
35°	376.3	375.9	382.2	391.4	400.5	420.7	450.4	489.2	556.9	676.2	814.8
37.5°	341.4	343.4	346.2	352.1	363.2	375.1	393.7	421.1	472.6	546.6	671.0
40°	312.9	313.7	318.1	322.8	328.8	337.5	352.1	373.1	408.4	464.6	549.8
42.5°	286.8	287.6	290.4	294.7	299.1	307.8	319.3	336.7	363.6	404.4	471.0
45°	261.4	261.4	264.2	266.2	271.3	279.3	289.2	304.2	324.0	356.5	403.2
47.5°	236.9	236.9	238.9	242.4	246.0	252.3	262.6	275.3	289.6	316.1	357.7
50°	216.3	216.7	217.9	220.6	222.6	228.2	235.7	246.4	261.4	280.8	314.1
52.5°	199.6	199.2	200.8	201.6	202.8	206.4	211.5	220.6	233.7	249.9	276.1
55°	181.4	179.8	182.2	184.2	185.4	187.0	190.1	196.1	207.6	221.8	242.4
57.5°	160.0	159.2	160.4	162.4	166.0	169.9	171.9	175.9	181.8	192.9	214.7
60°	132.3	132.3	135.9	137.1	141.4	147.0	152.5	155.7	161.6	168.3	183.4
62.5°	107.7	108.1	109.3	110.5	112.5	119.6	127.9	135.9	141.4	147.7	156.5
65°	94.3	95.1	95.1	95.9	97.4	99.0	102.2	107.7	117.6	126.8	134.3
67.5°	82.4	82.4	82.8	83.6	84.0	86.0	87.1	89.9	91.9	102.2	112.5
70°	70.5	71.7	71.3	72.1	72.5	73.3	74.9	76.1	79.6	81.6	87.1
72.5°	59.4	60.2	60.2	60.6	61.8	61.8	63.0	64.2	66.2	67.7	70.1
75°	49.9	49.5	49.9	50.7	51.1	51.5	51.5	53.1	54.3	55.9	57.8
77.5°	40.4	40.8	40.8	40.8	40.8	41.6	41.6	42.4	43.6	44.4	45.6
80°	30.9	31.3	30.9	31.3	31.7	32.1	31.7	32.1	33.3	34.1	34.1
82.5°	22.2	22.2	22.6	22.6	22.6	22.6	23.4	23.4	24.2	23.8	24.2
85°	14.3	13.9	13.9	13.9	14.3	14.7	14.3	14.3	14.7	14.7	14.7
87.5°	6.3	6.7	6.7	6.7	6.7	6.7	6.7	7.1	6.7	7.1	6.7
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°	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0
2.5°	1174.1	1170.9	1168.1	1161.0	1157.4	1149.5	1148.3	1147.9	1137.6	1127.7	1125.0
5°	1207.4	1201.0	1191.5	1180.4	1168.9	1157.0	1149.1	1142.8	1126.9	1111.9	1103.2
7.5°	1240.2	1228.7	1213.7	1194.7	1178.4	1159.4	1146.3	1134.5	1112.7	1092.9	1079.8
10°	1277.9	1255.7	1233.9	1205.0	1182.4	1160.2	1139.6	1121.8	1096.4	1067.9	1047.7
12.5°	1301.2	1276.3	1244.2	1216.1	1185.2	1155.5	1126.1	1102.0	1071.1	1041.4	1016.4
15°	1321.8	1295.7	1259.2	1218.8	1181.2	1144.4	1112.7	1084.2	1045.3	1010.1	980.8
17.5°	1340.8	1304.8	1267.2	1220.4	1178.8	1134.1	1094.1	1058.4	1016.0	974.4	941.2
20°	1349.2	1313.5	1268.4	1221.6	1170.1	1115.1	1071.1	1031.5	985.1	938.8	899.2
22.5°	1344.0	1318.3	1266.8	1208.5	1155.5	1097.2	1046.1	998.6	945.9	898.4	850.8
25°	1317.1	1307.6	1260.0	1199.0	1138.8	1071.9	1014.4	964.1	905.5	854.8	804.9
27.5°	1267.6	1281.4	1247.8	1181.6	1116.6	1044.5	982.0	925.3	865.5	808.9	759.0
30°	1189.1	1236.3	1223.6	1163.4	1088.5	1018.0	945.5	885.7	820.7	762.1	713.0
32.5°	1081.8	1167.3	1186.0	1138.0	1060.0	980.8	903.9	844.5	776.0	713.4	665.9
35°	966.5	1083.0	1136.4	1104.4	1026.7	943.1	864.7	795.4	727.3	666.3	618.7
37.5°	829.9	985.1	1067.5	1064.0	989.9	904.7	819.6	751.0	680.9	620.7	571.2
40°	697.6	869.5	985.5	1011.3	951.1	857.2	770.8	700.7	632.6	574.0	514.9
42.5°	578.7	749.8	899.2	948.7	903.9	810.8	724.1	650.0	584.3	529.6	469.0
45°	487.2	636.9	794.2	874.2	847.7	761.3	669.8	600.1	537.9	490.0	432.2
47.5°	421.9	530.8	688.8	793.4	790.2	708.2	617.1	550.2	491.6	447.2	398.1
50°	367.6	459.5	588.2	711.0	721.3	655.2	569.6	503.5	449.6	402.5	364.8
52.5°	318.9	390.6	503.1	619.5	653.6	598.5	516.1	456.3	404.4	362.0	331.2
55°	277.7	336.3	424.2	534.4	578.7	538.3	464.6	407.6	365.2	328.8	301.0
57.5°	241.6	287.6	360.9	453.2	503.5	476.1	413.1	366.0	328.4	294.3	272.1
60°	208.0	244.0	303.8	377.9	434.9	417.1	365.2	322.0	291.1	262.6	242.0
62.5°	176.3	206.0	255.1	311.7	362.8	358.1	318.1	283.6	257.5	232.1	215.5
65°	147.0	169.5	209.5	256.7	298.7	302.2	271.7	247.2	223.0	202.4	187.0
67.5°	121.6	137.1	167.2	208.8	240.8	251.9	231.3	211.5	191.7	175.1	161.2
70°	98.6	110.5	131.1	163.2	192.1	204.0	193.3	178.6	162.0	148.9	137.5
72.5°	75.3	86.7	100.6	122.0	145.8	158.8	156.9	147.4	134.7	124.4	113.7
75°	60.2	63.8	74.1	89.9	109.3	120.4	123.2	117.6	107.0	98.6	92.3
77.5°	46.7	49.1	54.7	64.2	77.6	87.5	91.9	91.1	83.2	77.6	71.7
80°	35.7	36.8	39.2	42.8	52.3	62.2	65.0	65.0	59.8	57.8	51.9
82.5°	25.0	25.7	26.9	28.5	31.7	40.0	43.2	44.0	41.2	38.4	34.1
85°	15.4	15.1	15.8	17.0	17.8	20.2	25.0	25.7	25.0	21.8	20.6
87.5°	6.7	7.1	7.1	6.7	7.1	7.5	9.5	11.5	9.9	8.7	7.9
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°	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0	1140.0
2.5°	1119.8	1117.0	1111.9	1104.0	1099.2	1090.9	1085.3	1088.5	1089.3	1088.5	1087.7
5°	1093.7	1085.3	1073.9	1062.8	1052.5	1041.4	1035.0	1032.3	1026.7	1023.6	1022.0
7.5°	1064.0	1051.7	1035.4	1017.6	1001.0	985.1	978.0	972.5	962.2	956.6	951.5
10°	1029.9	1007.3	991.1	965.7	950.3	927.7	912.2	912.6	897.2	888.5	882.1
12.5°	992.3	966.9	937.2	915.0	892.0	875.0	855.6	846.1	829.5	821.1	801.3
15°	949.9	921.0	892.4	861.5	839.8	811.6	784.7	751.8	725.3	702.3	696.0
17.5°	904.7	869.1	840.9	809.3	775.2	724.1	690.8	670.6	654.8	642.9	633.4
20°	858.0	821.5	791.0	736.4	686.1	654.0	631.0	616.4	599.7	586.6	579.5
22.5°	808.9	770.4	726.1	663.5	627.0	602.9	583.1	565.6	555.7	546.2	539.9
25°	762.9	721.3	652.8	610.8	579.1	552.2	537.9	527.6	515.7	501.9	495.5
27.5°	715.0	648.8	596.9	566.4	534.0	516.9	504.6	487.6	476.9	471.8	464.6
30°	659.9	593.8	555.3	521.3	499.9	480.5	465.4	456.7	446.4	435.7	431.4
32.5°	598.5	549.0	512.6	485.6	463.8	448.0	436.9	421.5	414.7	409.2	398.9
35°	549.8	509.8	476.1	453.2	432.6	419.1	405.2	396.9	383.4	377.9	374.3
37.5°	505.4	470.6	445.2	419.9	404.0	388.2	380.3	366.4	361.3	352.5	345.4
40°	469.0	434.9	410.8	391.0	372.7	361.7	351.0	340.3	331.5	328.0	318.9
42.5°	431.8	405.6	381.5	359.3	348.6	336.7	322.4	315.3	306.2	299.9	295.1
45°	398.1	373.5	352.9	335.1	321.6	309.4	300.6	287.6	282.4	270.9	266.2
47.5°	368.4	344.6	324.8	307.4	293.9	286.8	274.1	262.6	255.5	247.6	240.8
50°	336.3	317.3	298.3	283.2	271.3	259.8	246.8	241.6	229.0	225.4	221.8
52.5°	307.0	289.2	272.1	257.5	245.6	234.5	223.4	216.3	208.8	205.2	202.8
55°	280.1	262.6	246.0	232.9	221.0	209.5	202.4	194.1	190.1	187.4	184.2
57.5°	252.3	236.5	223.4	209.9	198.1	188.5	179.8	175.1	171.1	168.0	163.6
60°	226.2	211.1	199.6	187.4	175.1	167.6	161.2	155.3	150.5	145.0	143.4
62.5°	198.5	185.8	175.5	163.6	153.3	146.6	140.6	135.1	129.1	120.4	118.0
65°	173.5	163.2	152.1	142.2	132.7	126.0	117.2	110.9	108.5	107.7	107.3
67.5°	150.5	140.6	131.1	120.8	112.1	104.6	99.4	98.6	97.0	96.7	95.5
70°	127.5	118.4	108.9	99.4	91.1	89.9	88.3	86.7	84.8	84.0	83.2
72.5°	107.0	97.4	87.9	80.8	78.4	76.8	75.3	73.7	72.5	71.7	71.3
75°	85.2	76.4	70.1	67.3	65.4	64.2	61.8	60.6	59.8	58.6	58.2
77.5°	65.0	59.4	56.2	54.7	52.3	51.1	49.5	48.3	47.1	47.1	46.3
80°	46.7	44.4	42.4	40.0	39.2	37.6	37.2	36.0	36.4	35.3	35.3
82.5°	33.7	30.5	28.9	28.1	27.3	26.1	25.7	25.4	25.4	24.6	24.6
85°	18.6	17.8	17.0	16.2	16.2	15.1	15.4	15.1	15.1	14.3	13.9
87.5°	7.5	7.1	6.3	6.3	6.3	5.9	5.9	5.5	5.5	5.5	5.1
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: P242389

CATALOG NUMBER: S122RDR-S675D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1140.0	1140.0	1140.0	1140.0
2.5°	1083.4	1084.2	1083.0	1083.8
5°	1020.0	1015.2	1014.4	1013.3
7.5°	945.1	944.7	942.4	939.6
10°	873.4	871.4	871.1	868.3
12.5°	789.5	774.0	772.4	764.5
15°	686.5	684.1	676.2	671.0
17.5°	629.0	621.1	618.3	617.1
20°	574.0	566.8	565.6	564.9
22.5°	535.9	528.4	524.8	522.1
25°	491.6	488.8	487.2	486.4
27.5°	456.7	449.6	448.8	446.8
30°	427.8	425.8	423.0	420.7
32.5°	393.7	392.2	389.8	389.0
35°	370.4	364.8	362.4	358.9
37.5°	344.6	341.4	337.5	339.1
40°	313.7	311.7	310.9	310.6
42.5°	289.2	282.8	280.4	280.4
45°	264.2	259.1	255.5	255.9
47.5°	237.3	237.7	235.3	236.1
50°	219.1	216.7	215.1	215.5
52.5°	201.6	199.6	198.5	200.4
55°	182.2	179.8	179.4	179.0
57.5°	161.2	160.0	158.0	156.9
60°	138.2	135.1	131.1	130.7
62.5°	117.2	117.2	117.2	117.2
65°	106.6	106.2	106.6	107.0
67.5°	95.5	94.7	93.9	94.3
70°	82.4	82.0	81.6	81.6
72.5°	69.7	69.7	69.3	68.9
75°	57.8	57.0	57.0	57.0
77.5°	46.3	45.9	45.6	45.2
80°	34.9	34.5	34.1	34.1
82.5°	24.6	24.2	24.2	23.8
85°	14.3	14.7	14.3	15.1
87.5°	5.1	4.8	5.1	4.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)