

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: P243279

Luminaire Tested: **S122RDR-H675D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243279
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-H675D940-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2144.1 lumens
Efficiency: N/A
Efficacy: 90.9 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

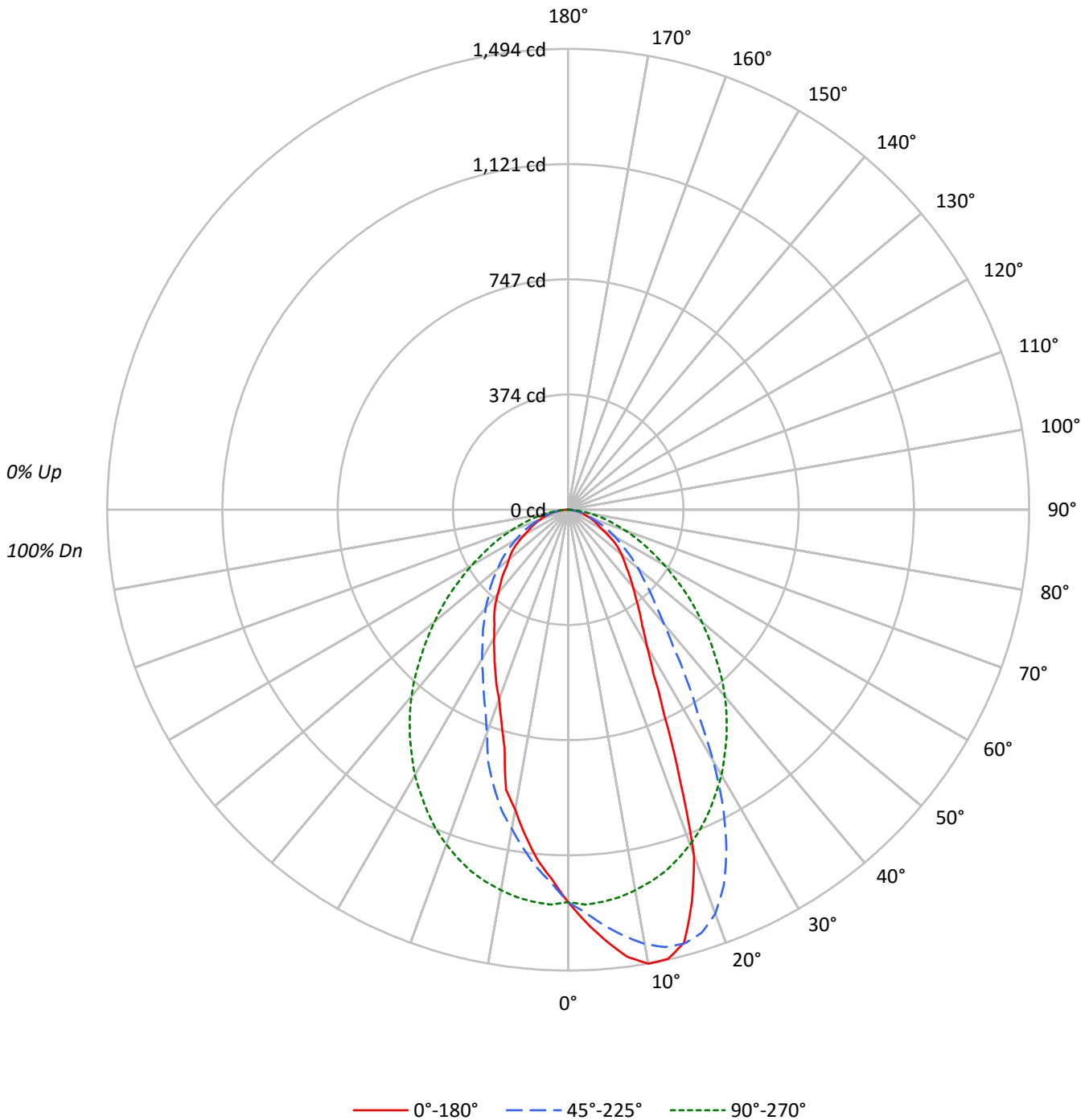
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	24232	24232	24232
5°	26824	24398	21778
10°	28906	24229	19100
15°	28651	23948	15697
20°	24168	23416	13249
25°	15540	22696	11795
30°	11226	21856	10566
35°	9350	20802	9720
40°	8116	19646	8800
45°	7244	18177	8052
50°	6685	16740	7402
55°	6001	15289	7050
60°	4789	13764	6343
65°	4390	12363	5855
70°	4032	10921	5564
75°	3680	9560	5269
80°	3192	7942	4936
85°	2557	6360	4546



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.4	5.6
10°-20°	329.5	15.4
20°-30°	415.3	19.4
30°-40°	398.7	18.6
40°-50°	343.4	16.0
50°-60°	262.6	12.2
60°-70°	167.1	7.8
70°-80°	84.7	3.9
80°-90°	22.4	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°	865.3	40.4
0°-40°	1264.0	59.0
0°-60°	1870.0	87.2
0°-90°	2144.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2144.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1272	1272	1272	1272	1272	
5°	1403	1354	1276	1164	1139	137
15°	1453	1456	1214	930	796	394
25°	739	1213	1080	649	561	353
35°	402	666	895	482	418	253
45°	269	373	675	357	299	209
55°	181	227	460	248	212	159
65°	97	125	274	152	130	97
75°	50	57	130	79	72	53
85°	12	14	29	22	21	13
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°	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2
2.5°	1339.7	1341.3	1342.2	1340.1	1335.5	1335.9	1331.7	1324.7	1315.9	1308.0	1312.6
5°	1402.9	1405.0	1404.6	1400.9	1396.3	1392.1	1385.0	1375.0	1364.6	1353.8	1351.7
7.5°	1461.2	1465.8	1464.5	1457.5	1454.1	1448.3	1436.2	1425.0	1409.2	1393.8	1387.5
10°	1494.5	1498.3	1496.2	1494.5	1490.8	1484.9	1474.1	1463.3	1445.8	1429.6	1420.4
12.5°	1492.0	1495.4	1497.0	1498.7	1497.4	1495.4	1490.8	1481.6	1467.5	1452.5	1440.8
15°	1452.9	1447.5	1443.7	1454.1	1457.9	1472.0	1475.4	1476.6	1467.0	1455.8	1452.9
17.5°	1333.8	1335.5	1364.2	1359.6	1365.9	1400.4	1414.2	1432.9	1440.8	1438.3	1443.3
20°	1192.3	1172.7	1186.9	1207.7	1227.3	1277.6	1310.9	1340.5	1374.6	1393.8	1412.1
22.5°	945.8	946.3	980.4	1014.5	1058.7	1113.2	1164.0	1220.6	1281.4	1318.4	1361.3
25°	739.4	759.3	774.3	789.3	853.4	905.9	990.4	1059.1	1142.7	1213.1	1285.1
27.5°	597.8	618.6	621.1	654.8	692.7	735.2	790.6	898.8	984.6	1087.8	1176.9
30°	510.4	514.5	523.3	532.0	559.9	599.5	659.0	726.9	822.2	940.0	1059.5
32.5°	447.1	446.3	455.0	468.8	484.2	510.8	544.5	600.7	686.9	780.6	920.0
35°	402.1	400.9	407.1	412.1	421.3	442.9	473.3	510.4	572.4	665.7	773.9
37.5°	359.7	362.2	365.9	371.3	383.4	397.2	417.6	448.4	497.5	559.1	662.8
40°	326.4	329.3	333.5	337.2	346.4	357.6	371.3	395.9	428.8	482.5	562.0
42.5°	296.4	297.7	301.0	306.4	313.1	323.0	336.4	355.1	382.6	420.0	489.6
45°	268.9	268.9	272.7	277.7	281.8	291.4	301.8	319.7	341.0	373.0	422.5
47.5°	245.6	246.0	248.1	248.9	253.5	262.3	273.5	287.7	305.1	329.7	375.9
50°	225.6	227.3	228.1	229.4	231.0	235.6	243.5	254.4	273.5	295.2	326.0
52.5°	204.8	206.9	208.6	211.1	213.6	214.0	219.8	226.9	240.2	262.7	287.7
55°	180.7	182.3	185.7	187.8	191.1	194.0	198.6	203.6	212.3	227.3	253.1
57.5°	153.2	153.6	156.9	159.0	165.7	172.3	176.5	181.9	188.2	198.6	218.1
60°	125.7	127.0	127.4	129.1	134.9	142.0	150.3	158.6	165.3	174.4	188.2
62.5°	110.7	111.2	112.4	114.1	114.5	117.8	120.3	130.3	142.0	151.1	160.3
65°	97.4	97.8	97.8	99.1	100.7	102.4	103.7	107.4	112.4	125.3	136.5
67.5°	84.9	84.5	85.3	86.6	87.0	88.3	90.3	92.4	95.7	99.5	111.2
70°	72.4	72.4	72.0	73.3	74.5	74.9	76.2	78.3	80.3	83.7	87.4
72.5°	59.9	60.8	60.8	61.6	62.0	63.7	64.5	65.4	68.3	69.9	72.9
75°	50.0	49.5	50.8	50.4	51.2	51.6	52.9	54.1	55.0	56.6	59.1
77.5°	40.0	39.1	40.0	39.5	40.4	41.2	41.2	42.5	43.3	45.0	46.2
80°	29.1	29.1	29.6	30.4	30.4	30.8	31.6	31.2	32.9	33.3	34.6
82.5°	20.0	20.4	20.4	20.8	20.8	20.8	21.6	21.6	22.1	22.9	23.3
85°	11.7	11.2	11.7	11.7	11.7	12.1	12.5	12.1	12.9	13.7	13.7
87.5°	3.3	3.3	3.7	4.2	4.2	4.6	4.6	4.6	5.0	5.0	5.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2
2.5°	1312.6	1310.5	1305.1	1300.1	1291.0	1283.5	1281.0	1281.4	1270.1	1258.5	1255.1
5°	1348.8	1341.3	1330.5	1319.3	1305.5	1291.8	1283.0	1276.0	1258.5	1241.0	1231.0
7.5°	1378.8	1366.7	1350.9	1333.0	1315.1	1294.7	1280.5	1267.2	1243.1	1219.3	1206.4
10°	1406.3	1389.2	1367.5	1344.2	1320.5	1293.9	1273.5	1252.7	1222.3	1195.6	1173.6
12.5°	1432.5	1405.4	1383.4	1349.6	1323.4	1287.2	1259.3	1235.2	1199.4	1166.1	1141.5
15°	1435.0	1415.8	1386.3	1351.3	1311.3	1277.6	1242.7	1214.4	1173.6	1136.5	1094.5
17.5°	1434.6	1419.6	1388.8	1353.0	1305.1	1261.0	1223.1	1186.0	1139.4	1096.1	1059.9
20°	1419.6	1409.2	1382.5	1340.1	1291.8	1241.0	1198.9	1155.2	1100.7	1056.2	1016.6
22.5°	1384.2	1386.7	1365.9	1328.0	1276.0	1219.3	1170.6	1120.3	1064.5	1013.3	963.3
25°	1324.3	1350.9	1344.7	1309.3	1253.9	1191.9	1136.5	1079.9	1019.9	965.4	919.2
27.5°	1249.7	1299.7	1310.5	1283.0	1230.2	1160.6	1097.8	1036.2	975.0	916.3	868.8
30°	1161.5	1236.0	1263.5	1248.5	1199.8	1126.9	1054.1	993.7	926.7	864.2	814.3
32.5°	1050.3	1154.8	1203.1	1207.7	1167.7	1089.5	1008.7	943.8	875.1	816.0	762.2
35°	926.3	1054.5	1133.2	1154.4	1125.7	1048.2	963.3	894.6	821.4	761.8	707.7
37.5°	801.4	952.1	1055.3	1096.5	1077.4	1002.5	912.5	843.0	770.6	709.8	659.0
40°	686.5	829.7	963.7	1028.3	1022.4	952.9	862.2	790.1	716.5	660.3	604.5
42.5°	583.7	721.9	869.2	955.8	960.4	899.6	806.8	734.4	663.6	607.8	549.5
45°	502.5	624.0	770.2	873.4	893.4	843.4	749.3	674.8	610.3	557.8	499.6
47.5°	437.5	532.0	667.7	788.9	824.3	780.6	690.6	619.9	559.1	514.1	459.2
50°	381.3	470.0	585.3	697.3	749.3	716.5	632.4	564.9	510.0	466.7	418.4
52.5°	331.4	400.1	500.0	607.4	677.3	647.3	575.7	513.7	462.1	421.7	381.3
55°	290.2	347.6	435.9	531.6	596.1	579.5	515.8	460.4	415.1	376.8	343.9
57.5°	247.7	296.0	367.2	452.5	515.8	513.3	460.8	407.6	371.8	335.5	311.8
60°	210.6	249.8	307.6	380.1	443.8	444.2	403.4	361.3	330.5	299.3	276.8
62.5°	177.8	209.0	259.4	317.6	368.4	381.3	350.9	314.3	289.3	265.2	246.0
65°	149.5	172.8	210.6	263.5	303.5	321.0	301.0	274.3	253.5	231.9	214.8
67.5°	123.2	140.3	168.2	209.8	249.8	262.7	254.4	234.0	219.0	201.1	188.2
70°	97.0	111.6	131.1	162.4	195.2	213.1	210.6	196.1	183.6	170.7	158.6
72.5°	77.0	85.3	100.3	122.8	149.0	169.0	169.9	162.4	151.9	141.1	133.2
75°	62.0	65.8	72.9	90.3	111.2	127.8	133.6	129.9	121.6	114.9	109.5
77.5°	47.9	51.2	55.8	64.1	80.3	93.3	100.3	100.7	95.7	89.9	85.8
80°	35.8	37.1	40.4	44.5	52.9	64.1	72.4	72.4	69.5	66.6	64.1
82.5°	24.6	25.8	27.5	29.6	33.7	40.4	47.9	49.1	47.5	46.6	43.3
85°	13.7	15.0	15.8	17.1	18.7	22.1	27.5	29.1	29.6	27.1	25.4
87.5°	5.4	5.4	5.8	6.2	6.7	7.9	10.0	12.5	12.5	11.2	10.8
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°	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2	1272.2
2.5°	1251.0	1245.2	1237.7	1231.0	1221.8	1212.7	1211.0	1214.4	1215.2	1211.0	1212.3
5°	1221.4	1210.6	1201.4	1186.5	1176.9	1164.4	1156.1	1156.1	1156.1	1149.8	1144.0
7.5°	1190.6	1176.1	1158.6	1144.4	1124.8	1108.6	1100.7	1097.0	1089.5	1083.2	1076.1
10°	1154.8	1134.4	1112.8	1090.7	1073.6	1051.2	1037.8	1029.5	1016.6	1011.2	1000.8
12.5°	1112.8	1092.4	1066.1	1030.3	1025.4	997.9	979.1	963.7	947.9	935.0	930.4
15°	1079.1	1043.7	1008.7	983.3	946.3	930.0	902.5	900.0	887.1	849.3	819.7
17.5°	1024.5	992.9	954.2	925.9	896.3	860.1	830.9	802.2	774.7	748.1	747.3
20°	976.2	939.2	902.5	871.7	820.1	768.5	750.6	724.4	708.1	686.9	680.7
22.5°	923.4	884.6	838.8	793.9	733.5	701.1	681.5	660.7	644.4	634.9	625.3
25°	870.1	831.4	770.6	715.2	674.0	648.6	631.9	609.5	597.8	589.5	577.0
27.5°	818.0	768.9	704.8	660.7	627.4	598.6	583.7	565.3	552.4	541.6	533.7
30°	766.4	699.0	644.4	610.3	576.2	558.3	538.7	525.0	515.4	505.4	492.5
32.5°	709.8	639.0	603.6	561.6	541.6	515.8	501.6	487.5	475.0	467.9	463.3
35°	644.0	587.0	555.3	524.5	499.1	482.1	462.1	453.4	446.7	433.0	427.1
37.5°	588.2	547.0	513.7	486.2	462.9	444.6	435.5	420.5	410.9	406.3	400.1
40°	542.0	505.4	476.7	448.8	429.2	415.9	399.6	391.7	379.3	374.7	369.7
42.5°	502.1	468.3	438.4	417.1	400.1	381.7	373.4	360.1	354.7	343.4	339.3
45°	461.7	431.7	405.5	384.7	368.4	357.2	342.2	333.9	324.3	318.5	307.2
47.5°	421.3	394.7	373.0	355.5	341.4	327.6	315.1	308.1	296.0	289.7	283.9
50°	390.1	364.3	343.9	326.4	311.8	298.1	290.2	278.5	267.7	260.6	258.5
52.5°	353.0	330.5	311.8	298.5	283.9	273.9	263.1	250.2	244.8	237.7	236.0
55°	320.1	301.8	286.0	271.8	259.4	248.1	235.6	226.5	222.3	219.0	216.5
57.5°	289.3	271.8	257.3	244.4	233.5	221.9	211.5	206.1	202.3	198.6	196.1
60°	258.9	243.1	229.8	219.0	207.7	196.5	189.0	184.4	181.5	176.1	174.4
62.5°	231.9	217.3	203.6	193.6	183.2	174.4	168.2	161.9	157.4	153.2	144.5
65°	202.3	189.4	179.0	169.0	159.0	152.4	145.3	138.2	132.4	132.4	132.4
67.5°	176.1	164.9	154.0	145.3	136.5	128.6	121.6	121.1	119.1	118.2	117.0
70°	149.5	141.5	131.6	122.0	113.2	109.5	108.2	106.2	103.7	103.2	101.6
72.5°	125.3	116.1	107.0	98.7	97.0	95.3	92.8	90.8	89.1	87.8	87.0
75°	102.4	93.3	85.8	83.7	81.6	78.7	76.6	74.9	74.1	74.1	73.7
77.5°	78.3	72.9	69.5	66.2	64.5	62.9	61.6	60.8	59.5	59.9	59.1
80°	57.4	55.8	52.9	50.8	50.0	48.3	47.5	47.0	46.2	46.2	45.8
82.5°	41.2	38.3	37.1	35.8	35.0	34.1	34.6	34.1	33.7	33.3	33.7
85°	23.7	23.3	22.5	22.5	22.5	22.1	22.1	22.1	21.6	21.2	21.2
87.5°	10.4	10.8	10.8	10.0	11.2	11.2	10.8	10.8	10.4	11.2	10.4
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: P243279

CATALOG NUMBER: S122RDR-H675D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1272.2	1272.2	1272.2	1272.2
2.5°	1206.9	1206.4	1203.9	1199.8
5°	1141.5	1139.8	1135.7	1139.0
7.5°	1071.6	1067.0	1062.8	1064.9
10°	996.6	995.0	992.5	987.5
12.5°	913.8	920.4	913.4	929.2
15°	791.0	820.5	783.5	796.0
17.5°	729.8	730.2	725.2	719.4
20°	672.3	657.8	663.2	653.6
22.5°	617.0	613.6	612.0	608.6
25°	567.4	561.2	559.1	561.2
27.5°	530.8	527.9	520.0	518.7
30°	485.0	483.7	481.2	480.4
32.5°	456.3	450.9	449.6	444.6
35°	424.2	421.3	419.2	418.0
37.5°	392.2	390.5	386.7	388.8
40°	365.9	357.6	354.3	353.9
42.5°	337.2	332.6	326.0	323.9
45°	303.9	301.8	299.7	298.9
47.5°	274.8	273.5	271.0	269.8
50°	253.9	250.6	250.2	249.8
52.5°	234.0	232.7	231.5	233.1
55°	215.2	213.6	212.3	212.3
57.5°	194.8	191.9	189.4	189.8
60°	171.1	169.4	167.4	166.5
62.5°	143.6	143.6	143.2	143.2
65°	130.7	129.9	129.5	129.9
67.5°	116.6	115.7	114.5	114.9
70°	100.3	99.9	100.3	99.9
72.5°	85.8	85.3	85.8	86.6
75°	72.4	72.0	71.6	71.6
77.5°	58.7	58.3	57.4	58.3
80°	45.8	45.4	45.0	45.0
82.5°	32.5	32.9	32.5	32.5
85°	21.2	21.6	21.2	20.8
87.5°	10.8	11.2	10.4	10.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)