

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: P242403

Luminaire Tested: **S122RDR-S485D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242403
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-S485D840-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1803.2 lumens
Efficiency: N/A
Efficacy: 95.9 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

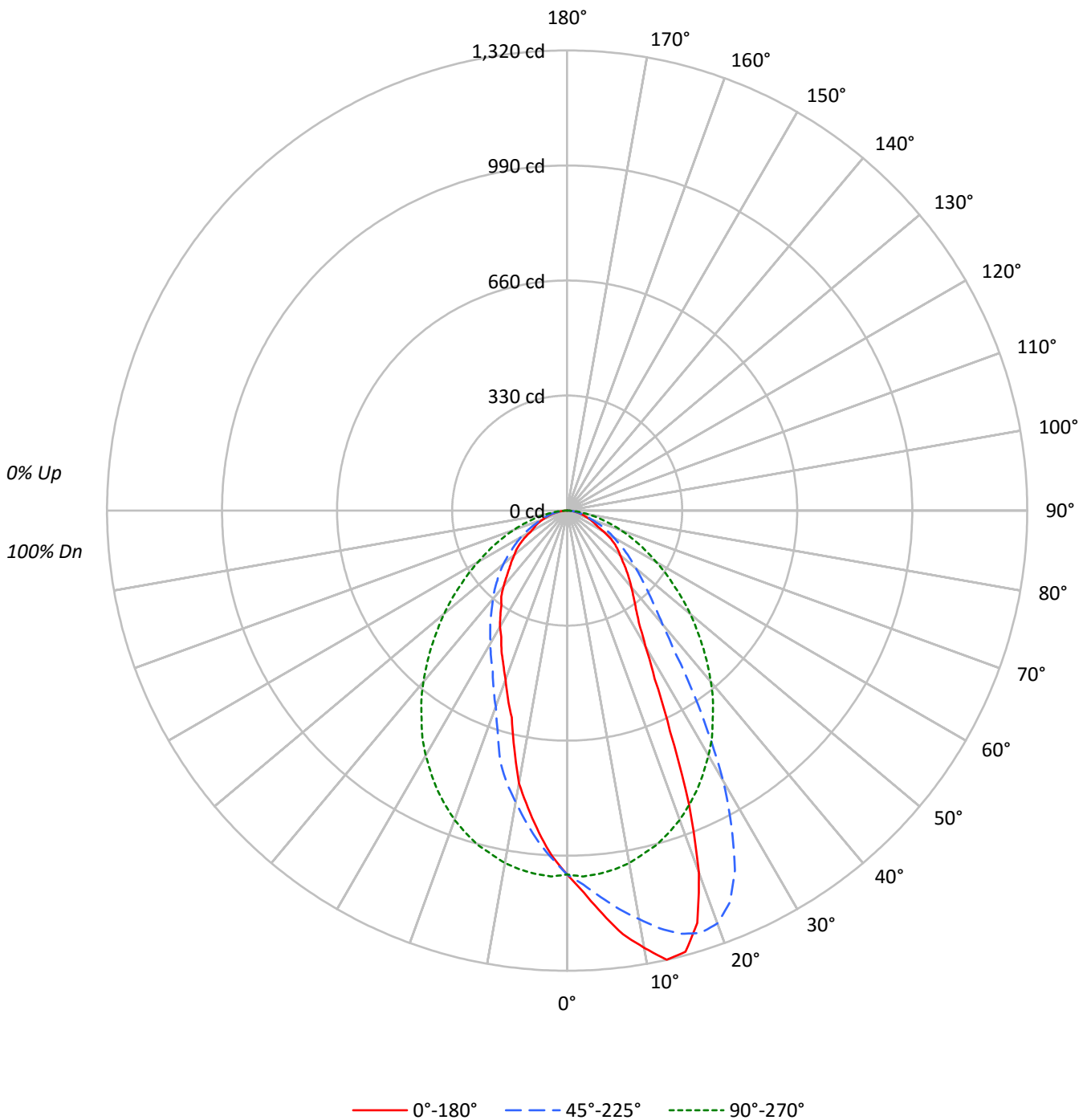
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				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°	19876	19876	19876
5°	22199	20000	17734
10°	24630	19860	15373
15°	25839	19570	12112
20°	22401	19137	10480
25°	14691	18547	9357
30°	9889	17831	8470
35°	8008	16928	7639
40°	7121	15948	7069
45°	6446	14797	6309
50°	5867	13655	5844
55°	5516	12390	5443
60°	4613	11231	4556
65°	3890	10195	4412
70°	3592	9106	4160
75°	3363	7926	3842
80°	3104	6527	3422
85°	2863	5158	3016



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	5.5
10°-20°	276.3	15.3
20°-30°	355.5	19.7
30°-40°	337.3	18.7
40°-50°	289.0	16.0
50°-60°	220.2	12.2
60°-70°	138.8	7.7
70°-80°	69.3	3.8
80°-90°	17.8	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°	730.8	40.5
0°-40°	1068.1	59.2
0°-60°	1577.2	87.5
0°-90°	1803.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1803.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1044	1044	1044	1044	1044	
5°	1161	1113	1046	953	928	114
15°	1310	1257	992	743	614	356
25°	699	1139	882	505	445	330
35°	344	619	728	384	328	219
45°	239	326	549	283	234	185
55°	166	203	373	192	164	146
65°	86	116	226	115	98	87
75°	46	51	108	59	52	48
85°	13	13	24	14	14	15
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°	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5
2.5°	1096.4	1097.5	1098.6	1096.1	1096.1	1093.9	1089.2	1085.5	1075.4	1073.9	1073.9
5°	1161.0	1160.2	1161.7	1157.0	1150.4	1149.0	1142.1	1133.0	1123.6	1113.1	1110.9
7.5°	1226.2	1221.9	1220.1	1222.2	1215.3	1205.9	1194.3	1183.4	1167.1	1153.7	1145.4
10°	1273.4	1285.3	1278.1	1265.4	1267.9	1250.9	1241.8	1226.2	1213.2	1190.3	1185.3
12.5°	1319.8	1322.7	1321.6	1315.8	1311.1	1300.6	1287.5	1274.4	1247.6	1227.7	1206.6
15°	1310.3	1317.2	1319.0	1316.9	1318.7	1318.0	1311.4	1300.2	1279.2	1256.7	1237.1
17.5°	1240.7	1248.7	1255.2	1261.0	1270.1	1287.9	1293.3	1295.5	1286.8	1270.8	1254.5
20°	1105.1	1097.1	1130.5	1147.5	1162.1	1198.3	1229.5	1241.5	1260.7	1260.3	1256.7
22.5°	913.0	917.3	948.5	969.5	1018.8	1055.1	1091.7	1145.0	1186.7	1217.5	1236.4
25°	699.0	712.8	744.4	771.9	819.1	886.5	947.8	1018.8	1085.9	1138.8	1189.2
27.5°	543.9	545.7	574.3	602.2	631.2	689.6	771.6	856.8	952.5	1021.4	1108.4
30°	449.6	447.4	457.9	473.5	497.5	540.2	598.2	681.6	777.0	895.9	1001.8
32.5°	382.9	383.6	390.9	401.4	420.2	445.6	480.8	544.6	633.4	749.8	878.5
35°	344.4	344.1	349.9	358.2	366.6	385.1	412.2	447.8	509.8	618.9	745.8
37.5°	312.5	314.4	316.9	322.3	332.5	343.4	360.4	385.4	432.6	500.4	614.2
40°	286.4	287.2	291.1	295.5	300.9	308.9	322.3	341.5	373.8	425.3	503.3
42.5°	262.5	263.2	265.8	269.8	273.7	281.7	292.2	308.2	332.8	370.2	431.1
45°	239.3	239.3	241.8	243.6	248.4	255.6	264.7	278.5	296.6	326.3	369.1
47.5°	216.8	216.8	218.6	221.9	225.2	231.0	240.4	252.0	265.0	289.3	327.4
50°	198.0	198.3	199.4	202.0	203.8	208.8	215.7	225.5	239.3	257.1	287.5
52.5°	182.7	182.4	183.8	184.6	185.6	188.9	193.6	202.0	213.9	228.8	252.7
55°	166.1	164.6	166.8	168.6	169.7	171.1	174.0	179.5	190.0	203.0	221.9
57.5°	146.5	145.8	146.8	148.7	151.9	155.5	157.4	161.0	166.4	176.6	196.5
60°	121.1	121.1	124.4	125.5	129.4	134.5	139.6	142.5	147.9	154.1	167.9
62.5°	98.6	99.0	100.1	101.2	103.0	109.5	117.1	124.4	129.4	135.2	143.2
65°	86.3	87.0	87.0	87.7	89.2	90.6	93.5	98.6	107.7	116.0	122.9
67.5°	75.4	75.4	75.8	76.5	76.9	78.7	79.8	82.3	84.1	93.5	103.0
70°	64.5	65.6	65.3	66.0	66.4	67.1	68.5	69.6	72.9	74.7	79.8
72.5°	54.4	55.1	55.1	55.5	56.6	56.6	57.6	58.7	60.5	62.0	64.2
75°	45.7	45.3	45.7	46.4	46.8	47.1	47.1	48.6	49.7	51.1	52.9
77.5°	37.0	37.3	37.3	37.3	37.3	38.1	38.1	38.8	39.9	40.6	41.7
80°	28.3	28.6	28.3	28.6	29.0	29.4	29.0	29.4	30.5	31.2	31.2
82.5°	20.3	20.3	20.7	20.7	20.7	20.7	21.4	21.4	22.1	21.8	22.1
85°	13.1	12.7	12.7	12.7	13.1	13.4	13.1	13.1	13.4	13.4	13.4
87.5°	5.8	6.2	6.2	6.2	6.2	6.2	6.2	6.5	6.2	6.5	6.2
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°	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5
2.5°	1074.7	1071.8	1069.2	1062.7	1059.4	1052.2	1051.1	1050.7	1041.3	1032.2	1029.7
5°	1105.1	1099.3	1090.6	1080.5	1070.0	1059.1	1051.8	1046.0	1031.5	1017.7	1009.8
7.5°	1135.2	1124.7	1110.9	1093.5	1078.7	1061.3	1049.3	1038.4	1018.5	1000.3	988.4
10°	1169.7	1149.4	1129.4	1103.0	1082.3	1062.0	1043.1	1026.8	1003.6	977.5	959.0
12.5°	1191.1	1168.2	1138.8	1113.1	1084.8	1057.6	1030.8	1008.7	980.4	953.2	930.4
15°	1209.9	1186.0	1152.6	1115.6	1081.2	1047.5	1018.5	992.4	956.8	924.6	897.7
17.5°	1227.3	1194.3	1159.9	1117.1	1079.0	1038.1	1001.4	968.8	930.0	891.9	861.5
20°	1234.9	1202.3	1161.0	1118.2	1071.0	1020.6	980.4	944.1	901.7	859.3	823.0
22.5°	1230.2	1206.6	1159.5	1106.2	1057.6	1004.3	957.6	914.0	865.8	822.3	778.8
25°	1205.6	1196.9	1153.3	1097.5	1042.4	981.1	928.6	882.5	828.8	782.4	736.8
27.5°	1160.2	1172.9	1142.1	1081.6	1022.1	956.1	898.8	847.0	792.2	740.4	694.7
30°	1088.4	1131.6	1120.0	1064.9	996.4	931.8	865.5	810.7	751.3	697.6	652.6
32.5°	990.2	1068.5	1085.5	1041.7	970.2	897.7	827.4	773.0	710.3	653.0	609.5
35°	884.7	991.3	1040.2	1010.9	939.8	863.3	791.5	728.0	665.7	609.8	566.3
37.5°	759.6	901.7	977.1	973.9	906.1	828.1	750.2	687.4	623.3	568.2	522.8
40°	638.5	795.9	902.1	925.7	870.5	784.6	705.6	641.4	579.0	525.4	471.3
42.5°	529.7	686.4	823.0	868.4	827.4	742.2	662.8	595.0	534.8	484.8	429.3
45°	446.0	583.0	727.0	800.2	775.9	696.9	613.1	549.3	492.4	448.5	395.6
47.5°	386.1	485.8	630.5	726.2	723.3	648.3	564.9	503.6	450.0	409.3	364.4
50°	336.5	420.6	538.4	650.8	660.2	599.7	521.4	460.8	411.5	368.4	333.9
52.5°	291.9	357.5	460.5	567.1	598.2	547.8	472.4	417.7	370.2	331.4	303.1
55°	254.2	307.8	388.3	489.1	529.7	492.7	425.3	373.1	334.3	300.9	275.6
57.5°	221.2	263.2	330.3	414.8	460.8	435.8	378.2	335.0	300.6	269.4	249.1
60°	190.4	223.3	278.1	345.9	398.1	381.8	334.3	294.8	266.5	240.4	221.5
62.5°	161.3	188.5	233.5	285.3	332.1	327.8	291.1	259.6	235.7	212.5	197.2
65°	134.5	155.2	191.8	234.9	273.4	276.6	248.7	226.2	204.1	185.3	171.1
67.5°	111.3	125.5	153.0	191.1	220.4	230.6	211.7	193.6	175.5	160.3	147.6
70°	90.3	101.2	120.0	149.4	175.8	186.7	176.9	163.5	148.3	136.3	125.8
72.5°	68.9	79.4	92.1	111.7	133.4	145.4	143.6	134.9	123.3	113.8	104.1
75°	55.1	58.4	67.8	82.3	100.1	110.2	112.8	107.7	97.9	90.3	84.5
77.5°	42.8	45.0	50.0	58.7	71.1	80.1	84.1	83.4	76.1	71.1	65.6
80°	32.6	33.7	35.9	39.2	47.9	56.9	59.5	59.5	54.7	52.9	47.5
82.5°	22.8	23.6	24.7	26.1	29.0	36.6	39.5	40.2	37.7	35.2	31.2
85°	14.1	13.8	14.5	15.6	16.3	18.5	22.8	23.6	22.8	19.9	18.9
87.5°	6.2	6.5	6.5	6.2	6.5	6.9	8.7	10.5	9.1	8.0	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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5	1043.5
2.5°	1025.0	1022.5	1017.7	1010.5	1006.1	998.5	993.5	996.4	997.1	996.4	995.6
5°	1001.1	993.5	982.9	972.8	963.4	953.2	947.4	944.9	939.8	936.9	935.4
7.5°	973.9	962.6	947.8	931.5	916.2	901.7	895.2	890.1	880.7	875.6	870.9
10°	942.7	922.0	907.2	884.0	869.8	849.1	835.0	835.4	821.2	813.3	807.5
12.5°	908.2	885.0	857.9	837.5	816.5	800.9	783.2	774.5	759.2	751.6	733.5
15°	869.5	843.0	816.9	788.6	768.7	742.9	718.3	688.2	663.9	642.8	637.0
17.5°	828.1	795.5	769.7	740.7	709.6	662.8	632.3	613.8	599.3	588.5	579.8
20°	785.3	752.0	724.1	674.0	628.0	598.6	577.6	564.2	548.9	537.0	530.4
22.5°	740.4	705.2	664.6	607.3	574.0	551.8	533.7	517.8	508.7	500.0	494.2
25°	698.3	660.2	597.5	559.1	530.1	505.4	492.4	482.9	472.1	459.4	453.6
27.5°	654.4	593.9	546.4	518.5	488.8	473.2	461.9	446.3	436.5	431.8	425.3
30°	604.0	543.5	508.3	477.1	457.6	439.8	426.0	418.0	408.6	398.8	394.8
32.5°	547.8	502.5	469.2	444.5	424.6	410.1	399.9	385.8	379.6	374.5	365.1
35°	503.3	466.6	435.8	414.8	395.9	383.6	370.9	363.3	351.0	345.9	342.6
37.5°	462.6	430.7	407.5	384.3	369.8	355.3	348.1	335.4	330.7	322.7	316.2
40°	429.3	398.1	376.0	357.9	341.2	331.0	321.2	311.5	303.5	300.2	291.9
42.5°	395.2	371.3	349.2	328.9	319.1	308.2	295.1	288.6	280.3	274.5	270.1
45°	364.4	341.9	323.1	306.7	294.4	283.2	275.2	263.2	258.5	248.0	243.6
47.5°	337.2	315.4	297.3	281.4	269.0	262.5	250.9	240.4	233.9	226.6	220.4
50°	307.8	290.4	273.0	259.2	248.4	237.8	225.9	221.2	209.6	206.3	203.0
52.5°	281.0	264.7	249.1	235.7	224.8	214.6	204.5	198.0	191.1	187.8	185.6
55°	256.3	240.4	225.2	213.2	202.3	191.8	185.3	177.7	174.0	171.5	168.6
57.5°	231.0	216.5	204.5	192.2	181.3	172.6	164.6	160.3	156.6	153.7	149.7
60°	207.0	193.3	182.7	171.5	160.3	153.4	147.6	142.1	137.8	132.7	131.3
62.5°	181.6	170.0	160.6	149.7	140.3	134.2	128.7	123.6	118.2	110.2	108.0
65°	158.8	149.4	139.2	130.2	121.5	115.3	107.3	101.5	99.3	98.6	98.3
67.5°	137.8	128.7	120.0	110.6	102.6	95.7	91.0	90.3	88.8	88.5	87.4
70°	116.7	108.4	99.7	91.0	83.4	82.3	80.9	79.4	77.6	76.9	76.1
72.5°	97.9	89.2	80.5	74.0	71.8	70.3	68.9	67.4	66.4	65.6	65.3
75°	78.0	70.0	64.2	61.6	59.8	58.7	56.6	55.5	54.7	53.7	53.3
77.5°	59.5	54.4	51.5	50.0	47.9	46.8	45.3	44.2	43.1	43.1	42.4
80°	42.8	40.6	38.8	36.6	35.9	34.4	34.1	33.0	33.4	32.3	32.3
82.5°	30.8	27.9	26.5	25.7	25.0	23.9	23.6	23.2	23.2	22.5	22.5
85°	17.0	16.3	15.6	14.9	14.9	13.8	14.1	13.8	13.8	13.1	12.7
87.5°	6.9	6.5	5.8	5.8	5.8	5.4	5.4	5.1	5.1	5.1	4.7
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: P242403

CATALOG NUMBER: S122RDR-S485D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1043.5	1043.5	1043.5	1043.5
2.5°	991.6	992.4	991.3	992.0
5°	933.6	929.3	928.6	927.5
7.5°	865.1	864.7	862.6	860.0
10°	799.5	797.7	797.3	794.8
12.5°	722.6	708.5	707.0	699.8
15°	628.3	626.2	618.9	614.2
17.5°	575.8	568.5	566.0	564.9
20°	525.4	518.8	517.8	517.0
22.5°	490.6	483.7	480.4	477.9
25°	450.0	447.4	446.0	445.2
27.5°	418.0	411.5	410.8	409.0
30°	391.6	389.8	387.2	385.1
32.5°	360.4	358.9	356.8	356.0
35°	339.0	333.9	331.8	328.5
37.5°	315.4	312.5	308.9	310.4
40°	287.2	285.3	284.6	284.3
42.5°	264.7	258.9	256.7	256.7
45°	241.8	237.1	233.9	234.2
47.5°	217.2	217.5	215.4	216.1
50°	200.5	198.3	196.9	197.2
52.5°	184.6	182.7	181.6	183.5
55°	166.8	164.6	164.2	163.9
57.5°	147.6	146.5	144.7	143.6
60°	126.5	123.6	120.0	119.6
62.5°	107.3	107.3	107.3	107.3
65°	97.5	97.2	97.5	97.9
67.5°	87.4	86.7	85.9	86.3
70°	75.4	75.1	74.7	74.7
72.5°	63.8	63.8	63.5	63.1
75°	52.9	52.2	52.2	52.2
77.5°	42.4	42.1	41.7	41.3
80°	31.9	31.5	31.2	31.2
82.5°	22.5	22.1	22.1	21.8
85°	13.1	13.4	13.1	13.8
87.5°	4.7	4.4	4.7	4.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)