

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: P243263

Luminaire Tested: **S122RDR-H485D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243263
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-H485D840-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1733.8 lumens
Efficiency: N/A
Efficacy: 100.8 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

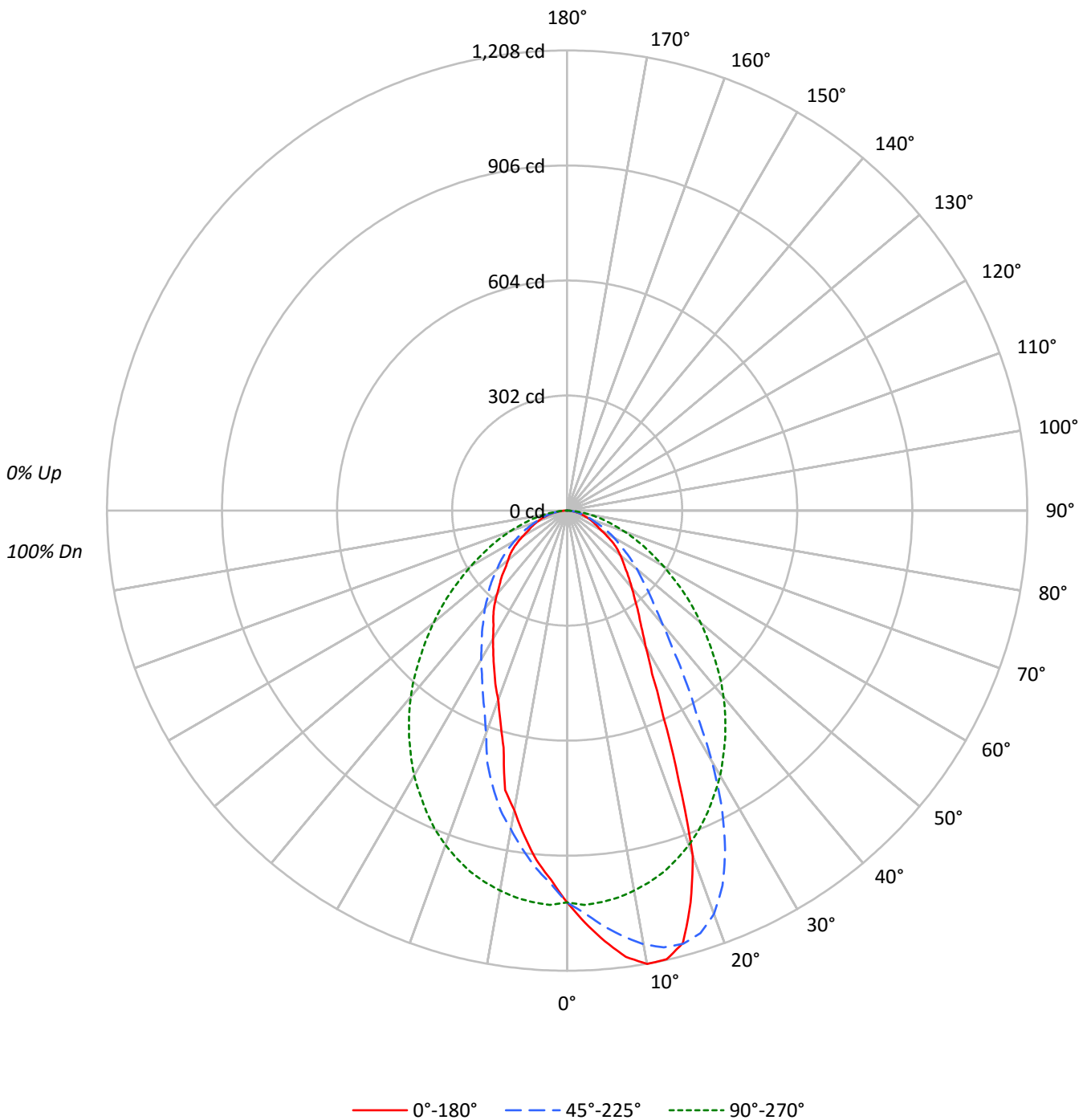
Input Watts (W): 17.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	100	100	100	100	100		
1	110	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87	87	87	87		
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78	76	76	76	76	76	76	76		
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66	66	66	66	66	66	66		
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58	58	58	58	58	58	58		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52	52	52	52	52	52	52		
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47	47	47	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42	42	42	42		
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38	38	38	38	38	38	38		
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35	35	35	35		
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33	33	33	33	33	33	33		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19596	19596	19596
5°	21692	19728	17612
10°	23374	19593	15444
15°	23169	19365	12694
20°	19542	18936	10713
25°	12566	18352	9537
30°	9077	17675	8545
35°	7562	16821	7860
40°	6562	15886	7114
45°	5859	14700	6511
50°	5408	13536	5986
55°	4852	12364	5702
60°	3874	11131	5131
65°	3552	9997	4732
70°	3264	8833	4500
75°	2973	7727	4261
80°	2589	6428	3993
85°	2054	5158	3672



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.4	5.6
10°-20°	266.5	15.4
20°-30°	335.9	19.4
30°-40°	322.4	18.6
40°-50°	277.7	16.0
50°-60°	212.3	12.2
60°-70°	135.1	7.8
70°-80°	68.5	3.9
80°-90°	18.1	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°	699.7	40.4
0°-40°	1022.1	59.0
0°-60°	1512.2	87.2
0°-90°	1733.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1733.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1029	1029	1029	1029	1029	
5°	1134	1095	1032	942	921	111
15°	1175	1177	982	752	644	319
25°	598	981	873	524	454	286
35°	325	538	723	390	338	205
45°	218	302	546	289	242	169
55°	146	184	372	201	172	129
65°	79	101	222	123	105	78
75°	40	46	105	64	58	43
85°	9	11	24	18	17	11
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°	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8
2.5°	1083.3	1084.7	1085.3	1083.6	1079.9	1080.3	1076.9	1071.2	1064.1	1057.7	1061.4
5°	1134.5	1136.2	1135.8	1132.8	1129.1	1125.7	1120.0	1111.9	1103.5	1094.8	1093.1
7.5°	1181.6	1185.3	1184.3	1178.6	1175.9	1171.2	1161.4	1152.3	1139.5	1127.1	1122.0
10°	1208.5	1211.6	1209.9	1208.5	1205.5	1200.8	1192.0	1183.3	1169.2	1156.0	1148.6
12.5°	1206.5	1209.2	1210.6	1211.9	1210.9	1209.2	1205.5	1198.1	1186.7	1174.5	1165.1
15°	1174.9	1170.5	1167.5	1175.9	1178.9	1190.4	1193.1	1194.1	1186.3	1177.2	1174.9
17.5°	1078.6	1079.9	1103.2	1099.5	1104.5	1132.5	1143.6	1158.7	1165.1	1163.1	1167.1
20°	964.1	948.3	959.8	976.6	992.4	1033.2	1060.1	1084.0	1111.6	1127.1	1141.9
22.5°	764.8	765.2	792.8	820.4	856.1	900.2	941.2	987.0	1036.2	1066.1	1100.8
25°	597.9	614.0	626.2	638.3	690.1	732.5	800.9	856.4	924.1	981.0	1039.2
27.5°	483.4	500.2	502.3	529.5	560.2	594.5	639.3	726.8	796.2	879.6	951.7
30°	412.7	416.1	423.2	430.2	452.8	484.8	532.9	587.8	664.9	760.1	856.8
32.5°	361.6	360.9	367.9	379.1	391.5	413.1	440.3	485.8	555.5	631.2	744.0
35°	325.2	324.2	329.2	333.3	340.7	358.2	382.8	412.7	462.9	538.3	625.8
37.5°	290.9	292.9	295.9	300.3	310.0	321.2	337.7	362.6	402.3	452.1	535.9
40°	263.9	266.3	269.6	272.7	280.1	289.2	300.3	320.1	346.7	390.2	454.5
42.5°	239.7	240.7	243.4	247.8	253.2	261.2	272.0	287.2	309.4	339.7	395.9
45°	217.5	217.5	220.5	224.5	227.9	235.6	244.1	258.5	275.7	301.6	341.7
47.5°	198.6	199.0	200.6	201.3	205.0	212.1	221.2	232.6	246.8	266.6	304.0
50°	182.5	183.8	184.5	185.5	186.8	190.5	196.9	205.7	221.2	238.7	263.6
52.5°	165.6	167.3	168.7	170.7	172.7	173.0	177.7	183.5	194.2	212.4	232.6
55°	146.1	147.4	150.1	151.8	154.5	156.9	160.6	164.6	171.7	183.8	204.7
57.5°	123.9	124.2	126.9	128.6	134.0	139.4	142.7	147.1	152.2	160.6	176.4
60°	101.7	102.7	103.0	104.4	109.1	114.8	121.5	128.3	133.6	141.1	152.2
62.5°	89.5	89.9	90.9	92.2	92.6	95.3	97.3	105.4	114.8	122.2	129.6
65°	78.8	79.1	79.1	80.1	81.5	82.8	83.8	86.9	90.9	101.3	110.4
67.5°	68.7	68.3	69.0	70.0	70.4	71.4	73.1	74.7	77.4	80.5	89.9
70°	58.6	58.6	58.2	59.2	60.3	60.6	61.6	63.3	65.0	67.7	70.7
72.5°	48.5	49.1	49.1	49.8	50.2	51.5	52.2	52.9	55.2	56.6	58.9
75°	40.4	40.1	41.1	40.7	41.4	41.7	42.8	43.8	44.4	45.8	47.8
77.5°	32.3	31.6	32.3	32.0	32.7	33.3	33.3	34.3	35.0	36.4	37.4
80°	23.6	23.6	23.9	24.6	24.6	24.9	25.6	25.2	26.6	26.9	27.9
82.5°	16.2	16.5	16.5	16.8	16.8	16.8	17.5	17.5	17.8	18.5	18.9
85°	9.4	9.1	9.4	9.4	9.4	9.8	10.1	9.8	10.4	11.1	11.1
87.5°	2.7	2.7	3.0	3.4	3.4	3.7	3.7	3.7	4.0	4.0	4.4
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°	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8
2.5°	1061.4	1059.7	1055.4	1051.3	1043.9	1037.9	1035.8	1036.2	1027.1	1017.7	1015.0
5°	1090.7	1084.7	1075.9	1066.8	1055.7	1044.6	1037.5	1031.8	1017.7	1003.5	995.4
7.5°	1115.0	1105.2	1092.4	1077.9	1063.4	1047.0	1035.5	1024.7	1005.2	986.0	975.6
10°	1137.2	1123.4	1105.9	1087.0	1067.8	1046.3	1029.8	1013.0	988.4	966.8	949.0
12.5°	1158.4	1136.5	1118.7	1091.4	1070.2	1040.9	1018.3	998.8	969.9	942.9	923.1
15°	1160.4	1144.9	1121.0	1092.7	1060.4	1033.2	1004.9	982.0	949.0	919.0	885.0
17.5°	1160.1	1147.9	1123.0	1094.1	1055.4	1019.7	989.1	959.1	921.4	886.4	857.1
20°	1147.9	1139.5	1118.0	1083.6	1044.6	1003.5	969.5	934.2	890.1	854.1	822.1
22.5°	1119.3	1121.4	1104.5	1073.9	1031.8	986.0	946.6	905.9	860.8	819.4	779.0
25°	1070.9	1092.4	1087.4	1058.7	1014.0	963.8	919.0	873.2	824.8	780.7	743.3
27.5°	1010.6	1051.0	1059.7	1037.5	994.8	938.6	887.7	837.9	788.4	740.9	702.6
30°	939.2	999.5	1021.7	1009.6	970.2	911.3	852.4	803.6	749.4	698.9	658.5
32.5°	849.3	933.8	972.9	976.6	944.3	881.0	815.7	763.2	707.6	659.8	616.4
35°	749.0	852.7	916.3	933.5	910.3	847.7	779.0	723.4	664.2	616.1	572.3
37.5°	648.0	769.9	853.4	886.7	871.2	810.6	737.9	681.7	623.1	574.0	532.9
40°	555.1	670.9	779.3	831.5	826.8	770.6	697.2	638.9	579.4	533.9	488.8
42.5°	472.0	583.7	702.9	772.9	776.6	727.5	652.4	593.8	536.6	491.5	444.4
45°	406.3	504.6	622.8	706.3	722.4	682.0	606.0	545.7	493.5	451.1	404.0
47.5°	353.8	430.2	540.0	637.9	666.5	631.2	558.5	501.3	452.1	415.8	371.3
50°	308.4	380.1	473.3	563.9	606.0	579.4	511.4	456.8	412.4	377.4	338.3
52.5°	268.0	323.5	404.3	491.2	547.7	523.5	465.6	415.4	373.7	341.0	308.4
55°	234.6	281.1	352.5	429.9	482.1	468.6	417.1	372.3	335.6	304.7	278.1
57.5°	200.3	239.4	296.9	365.9	417.1	415.1	372.7	329.6	300.6	271.3	252.1
60°	170.3	202.0	248.8	307.4	358.9	359.2	326.2	292.2	267.3	242.0	223.9
62.5°	143.7	169.0	209.7	256.9	297.9	308.4	283.8	254.2	234.0	214.4	199.0
65°	120.9	139.7	170.3	213.1	245.4	259.6	243.4	221.8	205.0	187.5	173.7
67.5°	99.6	113.4	136.0	169.7	202.0	212.4	205.7	189.2	177.1	162.6	152.2
70°	78.4	90.2	106.0	131.3	157.9	172.4	170.3	158.6	148.5	138.0	128.3
72.5°	62.3	69.0	81.1	99.3	120.5	136.7	137.3	131.3	122.9	114.1	107.7
75°	50.2	53.2	58.9	73.1	89.9	103.3	108.1	105.0	98.3	92.9	88.5
77.5°	38.7	41.4	45.1	51.8	65.0	75.4	81.1	81.5	77.4	72.7	69.3
80°	29.0	30.0	32.7	36.0	42.8	51.8	58.6	58.6	56.2	53.9	51.8
82.5°	19.9	20.9	22.2	23.9	27.3	32.7	38.7	39.7	38.4	37.7	35.0
85°	11.1	12.1	12.8	13.8	15.1	17.8	22.2	23.6	23.9	21.9	20.5
87.5°	4.4	4.4	4.7	5.0	5.4	6.4	8.1	10.1	10.1	9.1	8.8
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°	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8	1028.8
2.5°	1011.6	1006.9	1000.8	995.4	988.0	980.6	979.3	982.0	982.7	979.3	980.3
5°	987.7	979.0	971.5	959.4	951.7	941.6	934.9	934.9	934.9	929.8	925.1
7.5°	962.8	951.0	936.9	925.4	909.6	896.5	890.1	887.0	881.0	875.9	870.2
10°	933.8	917.3	899.8	882.0	868.2	850.0	839.2	832.5	822.1	817.7	809.3
12.5°	899.8	883.3	862.1	833.2	829.1	806.9	791.8	779.3	766.5	756.1	752.4
15°	872.6	844.0	815.7	795.1	765.2	752.1	729.8	727.8	717.4	686.7	662.8
17.5°	828.5	802.9	771.6	748.7	724.8	695.5	671.9	648.7	626.5	604.9	604.3
20°	789.4	759.5	729.8	704.9	663.2	621.4	607.0	585.8	572.6	555.5	550.4
22.5°	746.7	715.4	678.3	642.0	593.2	566.9	551.1	534.2	521.1	513.4	505.6
25°	703.6	672.3	623.1	578.3	545.0	524.5	511.0	492.8	483.4	476.7	466.6
27.5°	661.5	621.8	569.9	534.2	507.3	484.1	472.0	457.2	446.7	438.0	431.6
30°	619.8	565.2	521.1	493.5	465.9	451.4	435.6	424.5	416.8	408.7	398.2
32.5°	574.0	516.7	488.1	454.1	438.0	417.1	405.7	394.2	384.1	378.4	374.7
35°	520.8	474.7	449.1	424.2	403.6	389.8	373.7	366.6	361.2	350.1	345.4
37.5°	475.7	442.3	415.4	393.2	374.3	359.5	352.1	340.0	332.3	328.6	323.5
40°	438.3	408.7	385.5	362.9	347.1	336.3	323.2	316.8	306.7	303.0	298.9
42.5°	406.0	378.7	354.5	337.3	323.5	308.7	302.0	291.2	286.8	277.7	274.4
45°	373.3	349.1	327.9	311.1	297.9	288.8	276.7	270.0	262.2	257.5	248.4
47.5°	340.7	319.1	301.6	287.5	276.0	264.9	254.8	249.1	239.4	234.3	229.6
50°	315.4	294.6	278.1	263.9	252.1	241.0	234.6	225.2	216.5	210.7	209.1
52.5°	285.5	267.3	252.1	241.4	229.6	221.5	212.8	202.3	197.9	192.2	190.9
55°	258.9	244.1	231.3	219.8	209.7	200.6	190.5	183.1	179.8	177.1	175.1
57.5°	234.0	219.8	208.0	197.6	188.9	179.4	171.0	166.6	163.6	160.6	158.6
60°	209.4	196.6	185.8	177.1	168.0	158.9	152.8	149.1	146.8	142.4	141.1
62.5°	187.5	175.7	164.6	156.5	148.1	141.1	136.0	131.0	127.3	123.9	116.8
65°	163.6	153.2	144.8	136.7	128.6	123.2	117.5	111.8	107.1	107.1	107.1
67.5°	142.4	133.3	124.6	117.5	110.4	104.0	98.3	98.0	96.3	95.6	94.6
70°	120.9	114.5	106.4	98.6	91.6	88.5	87.5	85.8	83.8	83.5	82.1
72.5°	101.3	93.9	86.5	79.8	78.4	77.1	75.1	73.4	72.0	71.0	70.4
75°	82.8	75.4	69.3	67.7	66.0	63.6	61.9	60.6	59.9	59.9	59.6
77.5°	63.3	58.9	56.2	53.5	52.2	50.8	49.8	49.1	48.1	48.5	47.8
80°	46.5	45.1	42.8	41.1	40.4	39.1	38.4	38.0	37.4	37.4	37.0
82.5°	33.3	31.0	30.0	29.0	28.3	27.6	27.9	27.6	27.3	26.9	27.3
85°	19.2	18.9	18.2	18.2	18.2	17.8	17.8	17.8	17.5	17.2	17.2
87.5°	8.4	8.8	8.8	8.1	9.1	9.1	8.8	8.8	8.4	9.1	8.4
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: P243263

CATALOG NUMBER: S122RDR-H485D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1028.8	1028.8	1028.8	1028.8
2.5°	975.9	975.6	973.6	970.2
5°	923.1	921.7	918.4	921.1
7.5°	866.5	862.8	859.4	861.1
10°	805.9	804.6	802.6	798.5
12.5°	738.9	744.3	738.6	751.4
15°	639.6	663.5	633.6	643.7
17.5°	590.1	590.5	586.4	581.7
20°	543.7	531.9	536.3	528.5
22.5°	498.9	496.2	494.9	492.2
25°	458.8	453.8	452.1	453.8
27.5°	429.2	426.9	420.5	419.5
30°	392.2	391.2	389.2	388.5
32.5°	369.0	364.6	363.6	359.5
35°	343.0	340.7	339.0	338.0
37.5°	317.1	315.8	312.7	314.4
40°	295.9	289.2	286.5	286.1
42.5°	272.7	269.0	263.6	261.9
45°	245.7	244.1	242.4	241.7
47.5°	222.2	221.2	219.2	218.1
50°	205.4	202.7	202.3	202.0
52.5°	189.2	188.2	187.2	188.5
55°	174.0	172.7	171.7	171.7
57.5°	157.5	155.2	153.2	153.5
60°	138.4	137.0	135.3	134.7
62.5°	116.1	116.1	115.8	115.8
65°	105.7	105.0	104.7	105.0
67.5°	94.3	93.6	92.6	92.9
70°	81.1	80.8	81.1	80.8
72.5°	69.3	69.0	69.3	70.0
75°	58.6	58.2	57.9	57.9
77.5°	47.5	47.1	46.5	47.1
80°	37.0	36.7	36.4	36.4
82.5°	26.3	26.6	26.3	26.3
85°	17.2	17.5	17.2	16.8
87.5°	8.8	9.1	8.4	8.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)