

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: P242418

Luminaire Tested: **S122RDR-S485D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242418
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-S485D940-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1592.2 lumens
Efficiency: N/A
Efficacy: 84.7 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

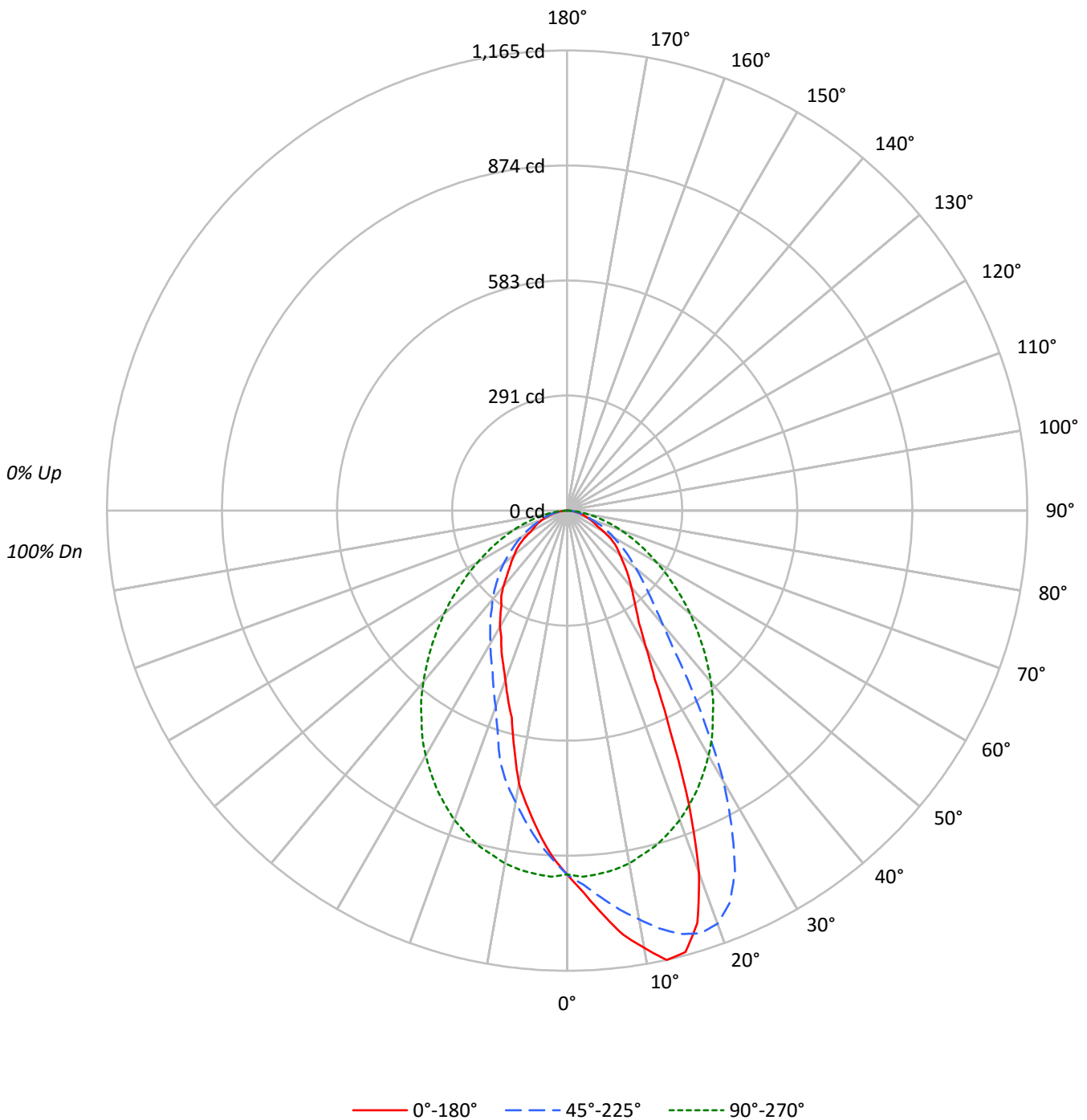
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

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°	17551	17551	17551
5°	19600	17660	15660
10°	21748	17537	13574
15°	22816	17280	10694
20°	19780	16899	9253
25°	12974	16378	8262
30°	8732	15746	7478
35°	7071	14949	6746
40°	6288	14084	6241
45°	5692	13065	5571
50°	5180	12058	5162
55°	4868	10939	4805
60°	4072	9916	4027
65°	3434	9005	3894
70°	3174	8042	3676
75°	2966	6999	3393
80°	2742	5759	3017
85°	2513	4546	2666



TEST NUMBER: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.4	5.5
10°-20°	243.9	15.3
20°-30°	313.9	19.7
30°-40°	297.8	18.7
40°-50°	255.2	16.0
50°-60°	194.4	12.2
60°-70°	122.6	7.7
70°-80°	61.2	3.8
80°-90°	15.7	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°	645.3	40.5
0°-40°	943.1	59.2
0°-60°	1392.7	87.5
0°-90°	1592.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1592.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	921	921	921	921	921	
5°	1025	983	924	842	819	101
15°	1157	1110	876	656	542	315
25°	617	1006	779	446	393	291
35°	304	546	643	339	290	194
45°	211	288	485	250	207	163
55°	147	179	329	169	145	129
65°	76	102	200	102	86	77
75°	40	45	95	52	46	43
85°	12	12	21	12	12	13
90°	0	0	0	0	0	



TEST NUMBER: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4
2.5°	968.1	969.1	970.1	967.8	967.8	965.9	961.7	958.5	949.6	948.3	948.3
5°	1025.1	1024.5	1025.8	1021.6	1015.8	1014.6	1008.5	1000.5	992.2	982.9	980.9
7.5°	1082.8	1078.9	1077.3	1079.2	1073.2	1064.8	1054.6	1045.0	1030.6	1018.7	1011.4
10°	1124.4	1134.9	1128.5	1117.3	1119.6	1104.5	1096.5	1082.8	1071.2	1051.1	1046.6
12.5°	1165.4	1167.9	1167.0	1161.8	1157.7	1148.4	1136.9	1125.3	1101.6	1084.0	1065.5
15°	1157.0	1163.1	1164.7	1162.8	1164.4	1163.8	1158.0	1148.1	1129.5	1109.7	1092.4
17.5°	1095.6	1102.6	1108.4	1113.5	1121.5	1137.2	1142.0	1143.9	1136.2	1122.1	1107.7
20°	975.8	968.8	998.2	1013.3	1026.1	1058.1	1085.6	1096.2	1113.2	1112.9	1109.7
22.5°	806.1	810.0	837.5	856.1	899.6	931.6	964.0	1011.0	1047.9	1075.1	1091.7
25°	617.3	629.4	657.3	681.6	723.2	782.8	836.9	899.6	958.9	1005.6	1050.1
27.5°	480.2	481.8	507.1	531.8	557.4	608.9	681.3	756.5	841.0	901.9	978.7
30°	397.0	395.1	404.4	418.1	439.3	477.0	528.3	601.9	686.1	791.1	884.6
32.5°	338.1	338.7	345.1	354.4	371.1	393.5	424.5	480.9	559.3	662.1	775.7
35°	304.1	303.8	308.9	316.3	323.7	340.0	364.0	395.4	450.1	546.5	658.6
37.5°	276.0	277.6	279.8	284.6	293.6	303.2	318.2	340.3	381.9	441.8	542.3
40°	252.9	253.6	257.1	260.9	265.7	272.8	284.6	301.6	330.1	375.5	444.4
42.5°	231.8	232.4	234.7	238.2	241.7	248.8	258.0	272.1	293.9	326.9	380.7
45°	211.3	211.3	213.5	215.1	219.3	225.7	233.7	245.9	261.9	288.1	325.9
47.5°	191.5	191.5	193.1	195.9	198.8	203.9	212.3	222.5	234.0	255.5	289.1
50°	174.8	175.1	176.1	178.3	179.9	184.4	190.5	199.1	211.3	227.0	253.9
52.5°	161.4	161.0	162.3	163.0	163.9	166.8	171.0	178.3	188.9	202.0	223.1
55°	146.6	145.3	147.3	148.9	149.8	151.1	153.7	158.5	167.8	179.3	195.9
57.5°	129.3	128.7	129.7	131.3	134.1	137.3	138.9	142.1	147.0	155.9	173.5
60°	106.9	106.9	109.8	110.8	114.3	118.8	123.3	125.8	130.6	136.1	148.2
62.5°	87.1	87.4	88.4	89.3	90.9	96.7	103.4	109.8	114.3	119.4	126.5
65°	76.2	76.8	76.8	77.5	78.8	80.0	82.6	87.1	95.1	102.4	108.5
67.5°	66.6	66.6	66.9	67.6	67.9	69.5	70.4	72.7	74.3	82.6	90.9
70°	57.0	57.9	57.6	58.3	58.6	59.2	60.5	61.5	64.4	66.0	70.4
72.5°	48.0	48.7	48.7	49.0	49.9	49.9	50.9	51.9	53.5	54.7	56.7
75°	40.3	40.0	40.3	41.0	41.3	41.6	41.6	42.9	43.9	45.1	46.7
77.5°	32.7	33.0	33.0	33.0	33.0	33.6	33.6	34.3	35.2	35.9	36.8
80°	25.0	25.3	25.0	25.3	25.6	25.9	25.6	25.9	26.9	27.5	27.5
82.5°	17.9	17.9	18.2	18.2	18.2	18.2	18.9	18.9	19.5	19.2	19.5
85°	11.5	11.2	11.2	11.2	11.5	11.8	11.5	11.5	11.8	11.8	11.8
87.5°	5.1	5.4	5.4	5.4	5.4	5.4	5.4	5.8	5.4	5.8	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



TEST NUMBER: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4
2.5°	948.9	946.4	944.1	938.4	935.5	929.1	928.1	927.8	919.5	911.5	909.2
5°	975.8	970.7	963.0	954.1	944.8	935.2	928.8	923.6	910.8	898.7	891.6
7.5°	1002.4	993.1	980.9	965.6	952.5	937.1	926.5	916.9	899.3	883.3	872.7
10°	1032.8	1014.9	997.3	973.9	955.7	937.7	921.1	906.7	886.2	863.1	846.8
12.5°	1051.7	1031.5	1005.6	982.9	957.9	933.9	910.2	890.7	865.7	841.7	821.5
15°	1068.4	1047.2	1017.8	985.1	954.7	924.9	899.3	876.3	844.9	816.4	792.7
17.5°	1083.7	1054.6	1024.2	986.4	952.8	916.6	884.3	855.4	821.2	787.6	760.7
20°	1090.4	1061.6	1025.1	987.4	945.7	901.2	865.7	833.7	796.2	758.8	726.7
22.5°	1086.3	1065.5	1023.8	976.8	933.9	886.8	845.5	807.1	764.5	726.1	687.7
25°	1064.5	1056.8	1018.4	969.1	920.4	866.3	819.9	779.3	731.9	690.9	650.6
27.5°	1024.5	1035.7	1008.5	955.0	902.5	844.2	793.7	747.9	699.5	653.8	613.4
30°	961.1	999.2	989.0	940.3	879.8	822.8	764.2	715.9	663.4	616.0	576.3
32.5°	874.3	943.5	958.5	919.8	856.7	792.7	730.6	682.6	627.2	576.6	538.2
35°	781.2	875.3	918.5	892.6	829.8	762.3	698.9	642.9	587.8	538.5	500.1
37.5°	670.7	796.2	862.8	859.9	800.1	731.2	662.4	607.0	550.3	501.7	461.7
40°	563.8	702.7	796.5	817.4	768.7	692.8	623.0	566.4	511.3	463.9	416.2
42.5°	467.7	606.0	726.7	766.8	730.6	655.4	585.2	525.4	472.2	428.0	379.1
45°	393.8	514.8	641.9	706.6	685.1	615.3	541.4	485.0	434.8	396.0	349.3
47.5°	341.0	429.0	556.7	641.3	638.7	572.4	498.8	444.7	397.3	361.5	321.8
50°	297.1	371.4	475.4	574.7	583.0	529.5	460.4	406.9	363.4	325.3	294.9
52.5°	257.7	315.7	406.6	500.7	528.3	483.8	417.2	368.8	326.9	292.6	267.6
55°	224.4	271.8	342.9	431.9	467.7	435.1	375.5	329.4	295.2	265.7	243.3
57.5°	195.3	232.4	291.7	366.3	406.9	384.8	333.9	295.8	265.4	237.9	219.9
60°	168.1	197.2	245.6	305.4	351.5	337.1	295.2	260.3	235.3	212.3	195.6
62.5°	142.5	166.5	206.2	252.0	293.3	289.4	257.1	229.2	208.1	187.6	174.2
65°	118.8	137.0	169.4	207.5	241.4	244.3	219.6	199.8	180.2	163.6	151.1
67.5°	98.3	110.8	135.1	168.7	194.7	203.6	187.0	171.0	155.0	141.5	130.3
70°	79.7	89.3	106.0	131.9	155.3	164.9	156.2	144.4	130.9	120.4	111.1
72.5°	60.8	70.1	81.3	98.6	117.8	128.4	126.8	119.1	108.9	100.5	91.9
75°	48.7	51.5	59.9	72.7	88.4	97.3	99.6	95.1	86.4	79.7	74.6
77.5°	37.8	39.7	44.2	51.9	62.8	70.8	74.3	73.6	67.2	62.8	57.9
80°	28.8	29.8	31.7	34.6	42.3	50.3	52.5	52.5	48.3	46.7	41.9
82.5°	20.2	20.8	21.8	23.1	25.6	32.3	34.9	35.5	33.3	31.1	27.5
85°	12.5	12.2	12.8	13.8	14.4	16.3	20.2	20.8	20.2	17.6	16.6
87.5°	5.4	5.8	5.8	5.4	5.8	6.1	7.7	9.3	8.0	7.0	6.4
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: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4	921.4
2.5°	905.1	902.8	898.7	892.3	888.4	881.7	877.2	879.8	880.4	879.8	879.1
5°	883.9	877.2	867.9	859.0	850.6	841.7	836.6	834.3	829.8	827.3	826.0
7.5°	859.9	850.0	836.9	822.5	809.0	796.2	790.5	786.0	777.7	773.2	769.0
10°	832.4	814.1	801.0	780.5	768.0	749.8	737.3	737.6	725.1	718.1	713.0
12.5°	802.0	781.5	757.5	739.6	721.0	707.2	691.5	683.8	670.4	663.7	647.7
15°	767.7	744.4	721.3	696.3	678.7	656.0	634.2	607.7	586.2	567.6	562.5
17.5°	731.2	702.4	679.7	654.1	626.5	585.2	558.3	542.0	529.2	519.6	511.9
20°	693.5	664.0	639.3	595.2	554.5	528.6	510.0	498.2	484.7	474.1	468.4
22.5°	653.8	622.7	586.8	536.3	506.8	487.3	471.3	457.2	449.2	441.5	436.4
25°	616.6	583.0	527.6	493.7	468.1	446.3	434.8	426.4	416.8	405.6	400.5
27.5°	577.9	524.4	482.5	457.8	431.6	417.8	407.9	394.1	385.5	381.3	375.5
30°	533.4	479.9	448.9	421.3	404.0	388.3	376.2	369.1	360.8	352.2	348.6
32.5°	483.8	443.7	414.3	392.5	374.9	362.1	353.1	340.6	335.2	330.7	322.4
35°	444.4	412.0	384.8	366.3	349.6	338.7	327.5	320.8	309.9	305.4	302.5
37.5°	408.5	380.3	359.9	339.4	326.6	313.8	307.3	296.1	292.0	284.9	279.2
40°	379.1	351.5	332.0	316.0	301.3	292.3	283.7	275.0	268.0	265.1	257.7
42.5°	349.0	327.8	308.3	290.4	281.7	272.1	260.6	254.8	247.5	242.4	238.5
45°	321.8	301.9	285.3	270.8	260.0	250.0	243.0	232.4	228.3	219.0	215.1
47.5°	297.7	278.5	262.5	248.4	237.6	231.8	221.5	212.3	206.5	200.1	194.7
50°	271.8	256.4	241.1	228.9	219.3	210.0	199.5	195.3	185.0	182.2	179.3
52.5°	248.1	233.7	219.9	208.1	198.5	189.5	180.6	174.8	168.7	165.8	163.9
55°	226.3	212.3	198.8	188.3	178.6	169.4	163.6	156.9	153.7	151.4	148.9
57.5°	203.9	191.1	180.6	169.7	160.1	152.4	145.3	141.5	138.3	135.7	132.2
60°	182.8	170.6	161.4	151.4	141.5	135.4	130.3	125.5	121.7	117.2	115.9
62.5°	160.4	150.2	141.8	132.2	123.9	118.5	113.7	109.2	104.4	97.3	95.4
65°	140.2	131.9	122.9	114.9	107.3	101.8	94.8	89.6	87.7	87.1	86.8
67.5°	121.7	113.7	106.0	97.6	90.6	84.5	80.4	79.7	78.4	78.1	77.2
70°	103.1	95.7	88.0	80.4	73.6	72.7	71.4	70.1	68.5	67.9	67.2
72.5°	86.4	78.8	71.1	65.3	63.4	62.1	60.8	59.5	58.6	57.9	57.6
75°	68.8	61.8	56.7	54.4	52.8	51.9	49.9	49.0	48.3	47.4	47.1
77.5°	52.5	48.0	45.5	44.2	42.3	41.3	40.0	39.1	38.1	38.1	37.5
80°	37.8	35.9	34.3	32.3	31.7	30.4	30.1	29.1	29.5	28.5	28.5
82.5°	27.2	24.7	23.4	22.7	22.1	21.1	20.8	20.5	20.5	19.8	19.8
85°	15.0	14.4	13.8	13.1	13.1	12.2	12.5	12.2	12.2	11.5	11.2
87.5°	6.1	5.8	5.1	5.1	5.1	4.8	4.8	4.5	4.5	4.5	4.2
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: P242418

CATALOG NUMBER: S122RDR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	921.4	921.4	921.4	921.4
2.5°	875.6	876.3	875.3	875.9
5°	824.4	820.6	819.9	819.0
7.5°	763.9	763.6	761.6	759.4
10°	705.9	704.3	704.0	701.8
12.5°	638.1	625.6	624.3	617.9
15°	554.8	552.9	546.5	542.3
17.5°	508.4	502.0	499.8	498.8
20°	463.9	458.1	457.2	456.5
22.5°	433.2	427.1	424.2	422.0
25°	397.3	395.1	393.8	393.1
27.5°	369.1	363.4	362.7	361.1
30°	345.8	344.2	341.9	340.0
32.5°	318.2	317.0	315.0	314.4
35°	299.3	294.9	292.9	290.1
37.5°	278.5	276.0	272.8	274.1
40°	253.6	252.0	251.3	251.0
42.5°	233.7	228.6	226.7	226.7
45°	213.5	209.4	206.5	206.8
47.5°	191.8	192.1	190.2	190.8
50°	177.0	175.1	173.8	174.2
52.5°	163.0	161.4	160.4	162.0
55°	147.3	145.3	145.0	144.7
57.5°	130.3	129.3	127.7	126.8
60°	111.7	109.2	106.0	105.7
62.5°	94.8	94.8	94.8	94.8
65°	86.1	85.8	86.1	86.4
67.5°	77.2	76.5	75.9	76.2
70°	66.6	66.3	66.0	66.0
72.5°	56.3	56.3	56.0	55.7
75°	46.7	46.1	46.1	46.1
77.5°	37.5	37.1	36.8	36.5
80°	28.2	27.9	27.5	27.5
82.5°	19.8	19.5	19.5	19.2
85°	11.5	11.8	11.5	12.2
87.5°	4.2	3.8	4.2	3.8
90°	0.0	0.0	0.0	0.0

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