

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: P242315

Luminaire Tested: **S122DR-S485D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242315
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DR-S485D940-X4F0-XX-UDD-A-W
Description: DEFINE 2 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: 1837.8 lumens
Efficiency: N/A
Efficacy: 97.8 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

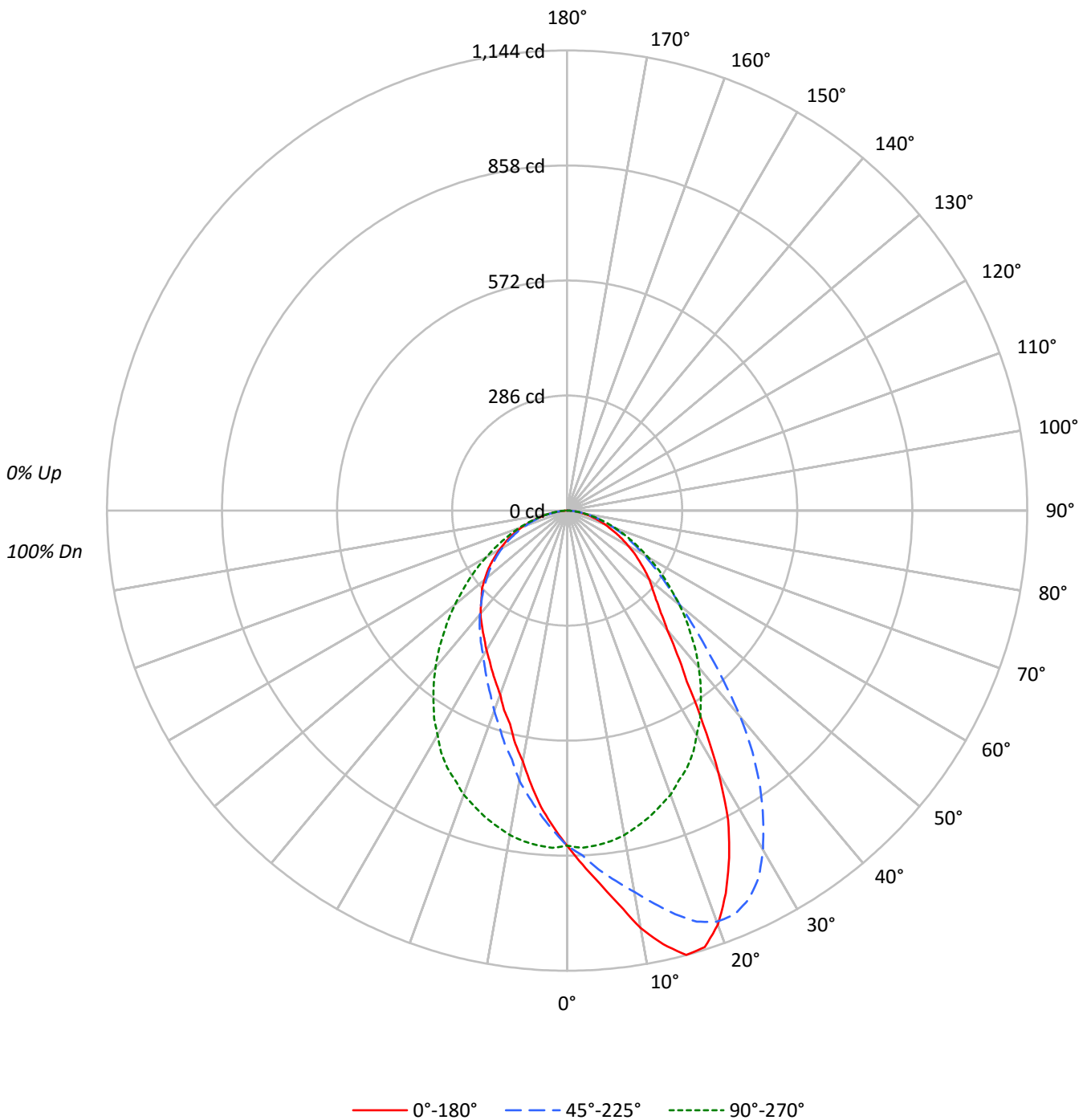
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P242315

CATALOG NUMBER: S122DR-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	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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58					55				
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51					49				
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45					43				
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37					35				
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34					32				
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31					29				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15869	15869	15869
5°	17790	15971	14153
10°	20386	15841	12249
15°	22553	15551	10822
20°	22208	15239	9865
25°	20025	14823	9260
30°	16549	14162	8818
35°	12061	13468	8501
40°	9633	12651	8327
45°	8418	11704	8089
50°	7912	10786	7933
55°	7293	9856	7718
60°	6686	8869	7391
65°	6089	7982	7072
70°	5530	7112	6599
75°	4901	6153	5843
80°	4212	5090	4706
85°	3781	3781	2797



TEST NUMBER: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.4	4.3
10°-20°	230.9	12.6
20°-30°	335.2	18.2
30°-40°	353.3	19.2
40°-50°	312.6	17.0
50°-60°	249.6	13.6
60°-70°	169.5	9.2
70°-80°	86.8	4.7
80°-90°	20.5	1.1
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°	645.5	35.1
0°-40°	998.8	54.3
0°-60°	1561.0	84.9
0°-90°	1837.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1837.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	833	833	833	833	833	
5°	930	896	835	759	740	93
15°	1144	1039	789	600	549	317
25°	953	1067	705	469	441	432
35°	519	836	579	376	366	336
45°	312	495	434	298	300	245
55°	220	285	297	224	232	197
65°	135	169	177	148	157	134
75°	67	82	84	75	79	71
85°	17	19	17	14	13	20
90°	0	0	0	0	0	



TEST NUMBER: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1
2.5°	881.1	881.4	882.1	877.0	876.3	876.3	871.8	868.0	863.5	857.4	858.1
5°	930.4	933.9	935.2	931.4	925.6	925.0	919.5	910.6	902.2	895.5	890.7
7.5°	987.4	988.7	986.1	981.6	977.8	970.4	961.5	952.8	940.0	928.5	920.2
10°	1054.0	1055.9	1050.5	1043.1	1037.0	1028.1	1013.3	998.3	980.0	962.4	948.3
12.5°	1104.6	1110.0	1102.7	1103.3	1091.8	1078.7	1060.4	1054.6	1027.1	1000.9	985.5
15°	1143.7	1143.3	1144.0	1137.9	1130.2	1128.3	1109.7	1089.5	1053.4	1039.0	1014.0
17.5°	1137.9	1142.4	1144.9	1143.0	1141.7	1138.9	1130.8	1115.8	1095.9	1071.6	1041.8
20°	1095.6	1102.0	1103.0	1110.4	1114.5	1120.0	1122.2	1118.7	1107.5	1087.9	1063.0
22.5°	1030.3	1031.0	1034.5	1047.0	1057.2	1072.9	1081.2	1096.9	1094.3	1087.3	1067.5
25°	952.8	949.6	960.8	966.6	987.4	1009.2	1024.9	1042.2	1057.5	1066.8	1060.7
27.5°	867.0	860.3	877.3	892.3	907.0	928.2	951.9	980.0	1001.5	1030.6	1037.7
30°	752.4	755.3	771.3	787.6	813.2	846.5	874.1	905.8	940.0	973.6	997.0
32.5°	628.8	641.9	650.6	677.8	699.6	737.7	781.2	822.8	867.7	907.0	946.4
35°	518.7	531.5	545.6	563.8	595.5	632.3	671.7	725.2	783.5	835.6	878.6
37.5°	448.9	446.6	455.3	468.7	495.9	527.6	574.4	628.8	698.6	756.6	814.2
40°	387.4	386.1	391.9	404.1	423.6	445.4	485.1	531.5	595.2	670.1	742.2
42.5°	345.1	346.4	349.0	356.7	368.5	385.5	412.7	450.5	507.5	576.9	655.7
45°	312.5	314.7	318.3	322.4	330.1	344.8	361.5	389.6	435.8	494.7	570.9
47.5°	286.9	287.5	291.4	295.2	299.7	308.6	323.4	341.3	376.5	426.8	495.0
50°	267.0	264.8	267.3	270.2	275.0	280.8	289.8	306.4	328.2	366.9	421.7
52.5°	242.7	243.3	245.6	246.2	250.4	256.1	264.1	274.4	293.6	321.8	364.4
55°	219.6	221.2	222.5	224.4	228.3	232.4	238.8	246.5	261.9	284.6	317.9
57.5°	197.9	198.5	199.5	203.6	205.9	209.7	216.1	223.2	233.4	251.0	277.3
60°	175.5	175.5	178.0	179.6	182.8	186.7	191.5	198.2	207.2	220.9	241.1
62.5°	155.0	154.6	155.3	158.2	160.4	163.9	168.7	174.2	182.5	194.3	210.0
65°	135.1	134.5	136.4	137.0	139.6	143.1	147.0	153.0	159.8	168.7	183.5
67.5°	115.3	116.2	117.5	118.8	120.1	124.2	126.8	131.3	137.0	144.7	155.0
70°	99.3	99.3	99.3	100.2	102.1	104.1	106.6	110.1	115.6	122.0	131.0
72.5°	81.3	82.6	83.9	82.9	85.5	86.4	89.6	91.2	96.4	99.9	107.6
75°	66.6	66.6	66.6	68.2	69.2	70.1	72.0	74.0	76.5	81.6	85.8
77.5°	52.5	52.2	52.5	52.8	54.1	55.4	56.0	57.6	60.2	62.8	66.6
80°	38.4	39.1	39.4	40.0	40.0	40.7	41.0	43.2	44.8	46.4	48.7
82.5°	27.5	27.5	27.5	27.5	27.9	28.2	29.1	29.5	29.8	31.1	32.7
85°	17.3	17.0	17.0	17.6	17.3	17.3	17.9	18.6	18.6	18.9	19.9
87.5°	8.3	8.3	8.6	8.3	8.3	8.6	8.6	8.3	8.6	9.0	9.3
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: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1
2.5°	860.3	857.7	856.1	850.4	845.3	840.1	838.5	839.2	832.1	825.4	822.5
5°	888.2	881.8	875.7	867.0	856.8	845.6	839.8	835.3	824.1	812.0	804.9
7.5°	913.4	905.1	894.2	878.9	864.8	848.1	837.9	829.2	813.6	797.2	787.3
10°	936.2	923.7	908.6	888.8	870.5	849.1	834.0	819.0	799.8	779.3	766.5
12.5°	955.7	937.8	923.1	896.2	873.7	845.6	827.0	804.3	783.8	758.5	746.0
15°	989.0	958.0	929.8	901.0	874.4	836.9	817.1	788.6	762.0	731.9	717.5
17.5°	1013.7	980.0	936.5	901.6	872.1	832.1	803.6	769.7	739.6	706.3	687.1
20°	1034.2	994.1	946.4	902.9	865.7	818.4	786.7	751.8	714.9	676.2	655.1
22.5°	1046.3	1003.7	956.7	898.1	852.9	807.2	765.2	726.1	688.7	646.1	623.7
25°	1047.0	1008.5	958.6	895.8	842.7	790.5	742.5	705.3	660.2	621.1	588.8
27.5°	1036.4	1006.0	957.6	891.4	830.8	771.0	718.8	678.1	630.4	588.2	555.8
30°	1013.0	997.0	950.3	883.7	816.1	750.5	691.6	643.9	596.5	553.6	520.3
32.5°	976.8	976.5	936.8	872.8	800.4	724.5	663.1	614.7	560.9	519.0	487.6
35°	927.2	942.6	916.7	855.5	779.9	700.2	634.3	579.2	524.8	484.4	454.6
37.5°	864.1	899.7	889.4	832.4	753.7	674.3	602.6	544.9	492.7	451.1	422.0
40°	798.5	847.2	854.2	805.2	725.5	643.2	566.1	508.8	458.2	421.0	391.6
42.5°	728.1	787.0	809.4	772.6	694.8	610.6	533.4	473.5	423.6	387.7	362.4
45°	647.7	722.9	757.8	735.4	659.9	574.1	494.7	434.5	389.0	355.1	334.9
47.5°	575.0	656.7	701.2	690.6	622.4	537.2	458.8	400.2	355.1	327.5	308.6
50°	496.9	581.4	638.1	640.7	581.4	497.2	418.5	364.0	323.4	298.1	283.4
52.5°	429.0	508.8	571.8	588.2	535.6	455.6	382.3	328.2	293.6	270.9	258.1
55°	371.7	439.9	508.4	533.4	490.2	413.3	344.5	296.8	263.2	247.2	235.6
57.5°	317.3	377.2	442.2	468.4	440.9	373.3	306.7	264.8	236.3	221.9	212.9
60°	276.0	320.8	377.2	410.1	387.1	328.5	272.1	232.8	210.4	197.9	189.5
62.5°	237.6	276.0	321.5	350.9	341.0	286.6	237.6	203.9	185.4	173.9	168.4
65°	202.3	233.7	270.5	298.4	290.1	248.1	206.8	177.1	161.7	152.4	147.6
67.5°	172.3	196.3	222.5	248.1	241.1	210.0	175.1	151.1	139.3	131.0	128.1
70°	144.1	161.4	184.1	203.6	198.2	173.9	147.6	127.7	117.8	111.1	108.2
72.5°	117.2	130.6	146.6	161.7	158.5	139.3	118.5	104.7	97.7	91.6	89.3
75°	92.5	103.4	114.0	124.5	123.6	107.9	95.1	83.6	77.5	72.7	71.7
77.5°	72.4	79.1	86.8	93.5	91.9	81.6	71.1	64.0	59.2	56.0	55.7
80°	52.2	55.7	60.8	65.3	63.1	59.2	51.2	46.4	43.2	40.0	38.7
82.5°	34.3	37.8	40.3	42.3	40.7	37.1	33.0	30.1	28.5	26.6	26.3
85°	19.9	21.8	23.1	23.7	23.1	20.8	18.6	17.3	15.7	14.7	14.4
87.5°	9.6	9.6	9.6	10.2	9.3	9.3	8.0	7.0	6.7	6.4	5.8
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: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1	833.1
2.5°	819.3	817.4	810.7	807.2	801.4	795.9	792.4	794.0	795.3	794.7	793.7
5°	798.5	792.4	783.1	775.1	769.4	758.8	754.3	752.1	750.2	747.9	745.7
7.5°	775.5	766.8	753.7	743.4	733.2	719.7	713.0	709.2	705.0	700.2	695.7
10°	750.5	737.0	722.9	706.9	694.1	682.3	671.7	664.7	658.3	652.2	647.7
12.5°	724.2	708.2	690.0	666.6	652.2	633.9	634.6	620.8	609.9	606.7	601.3
15°	696.1	674.3	652.2	626.3	615.0	599.7	590.1	580.5	571.8	565.7	564.1
17.5°	665.3	636.2	614.7	595.5	577.3	561.6	553.3	545.6	538.2	529.2	528.9
20°	629.1	604.8	580.8	564.5	545.6	529.6	518.7	511.0	504.9	500.1	495.9
22.5°	594.9	567.7	546.2	528.0	509.4	497.2	489.2	481.9	477.1	471.6	467.8
25°	557.7	536.9	512.9	492.7	477.4	469.1	462.0	455.6	452.4	448.9	444.4
27.5°	526.0	503.0	479.3	463.6	449.5	442.2	436.7	431.9	429.0	426.8	423.9
30°	492.1	468.7	451.1	435.8	424.5	417.2	414.0	411.4	407.9	406.6	405.3
32.5°	459.4	439.0	424.5	411.7	401.2	397.0	394.1	391.9	389.3	388.0	385.2
35°	429.0	411.4	396.7	389.3	380.7	376.5	374.3	371.1	368.5	367.2	366.9
37.5°	399.9	383.9	374.0	364.0	359.9	357.6	354.4	352.2	351.2	350.9	350.6
40°	371.7	359.2	350.6	342.9	341.3	337.5	334.9	333.0	333.0	333.3	333.0
42.5°	346.1	335.2	327.9	321.5	319.5	317.6	315.0	315.4	316.0	317.3	316.0
45°	320.2	312.2	306.7	303.5	300.0	297.8	297.4	298.4	298.7	299.0	300.0
47.5°	295.8	290.7	285.6	281.8	280.2	279.8	279.2	280.8	282.4	282.7	284.3
50°	274.7	268.6	264.5	262.2	260.9	260.3	260.9	262.9	264.1	265.7	266.7
52.5°	251.0	247.2	244.6	243.0	242.7	243.3	243.3	245.6	247.8	248.1	248.5
55°	229.6	226.4	225.7	222.8	224.1	223.8	225.4	226.7	228.6	230.5	230.8
57.5°	207.8	204.9	203.0	203.3	203.6	204.9	206.2	208.4	210.7	212.9	212.9
60°	186.0	184.7	183.8	183.8	184.4	186.3	187.9	190.2	191.5	192.7	193.7
62.5°	166.2	164.9	163.9	164.6	166.5	167.4	169.4	170.3	171.6	172.9	173.2
65°	145.0	144.4	145.4	146.0	146.3	147.9	150.2	151.1	152.4	153.0	155.3
67.5°	125.8	125.8	125.5	126.5	128.4	128.7	131.0	133.5	133.5	134.8	136.4
70°	106.3	106.9	107.6	108.2	109.8	110.5	112.1	113.0	114.3	115.3	116.2
72.5°	88.4	88.4	89.0	88.7	90.0	91.6	92.8	93.8	95.1	96.4	97.3
75°	70.8	70.8	71.4	71.7	73.3	74.9	74.6	75.2	76.5	77.8	78.4
77.5°	54.7	54.1	54.7	55.1	55.7	57.0	57.3	58.3	59.9	59.6	60.2
80°	39.4	38.4	39.4	39.7	39.7	41.3	41.3	41.9	42.9	41.9	42.9
82.5°	25.3	25.0	25.6	25.6	26.3	25.9	26.6	26.6	27.5	27.2	27.5
85°	14.1	13.8	14.1	13.8	14.1	14.4	14.4	14.1	14.1	14.7	13.8
87.5°	5.4	5.1	4.8	4.8	4.5	4.2	3.8	3.8	3.8	3.2	3.2
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: P242315

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	833.1	833.1	833.1	833.1
2.5°	790.5	789.9	789.9	787.0
5°	741.2	740.2	738.6	740.2
7.5°	694.5	690.3	689.6	686.4
10°	642.3	639.7	639.4	633.3
12.5°	602.6	595.5	597.1	594.2
15°	555.5	555.5	554.2	548.8
17.5°	521.9	521.6	518.7	520.6
20°	492.4	490.5	486.7	486.7
22.5°	464.6	464.9	460.7	462.3
25°	444.1	441.5	439.6	440.6
27.5°	422.9	422.0	421.7	418.8
30°	405.0	401.8	402.5	400.9
32.5°	384.5	383.9	382.9	381.6
35°	366.3	366.6	365.0	365.6
37.5°	349.9	351.2	350.3	350.3
40°	333.9	333.9	333.9	334.9
42.5°	318.6	317.9	317.3	317.0
45°	300.6	301.6	301.9	300.3
47.5°	285.0	285.3	285.0	286.9
50°	268.3	267.7	268.3	267.7
52.5°	250.7	251.0	250.4	250.4
55°	232.1	232.8	232.4	232.4
57.5°	213.2	213.6	214.2	212.6
60°	193.4	195.0	194.7	194.0
62.5°	175.1	175.5	175.5	175.5
65°	156.2	156.9	155.9	156.9
67.5°	135.8	136.1	136.7	137.0
70°	116.9	116.5	117.5	118.5
72.5°	97.0	98.0	97.3	98.0
75°	77.8	78.8	78.4	79.4
77.5°	59.6	59.9	59.9	60.2
80°	42.9	42.3	41.6	42.9
82.5°	26.6	27.2	26.6	26.3
85°	13.8	13.4	12.8	12.8
87.5°	3.2	2.9	2.9	2.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)