

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: P242398

Luminaire Tested: **S122RDR-S485D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242398  
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-S485D835-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1785.6 lumens  
Efficiency: N/A  
Efficacy: 95.0 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

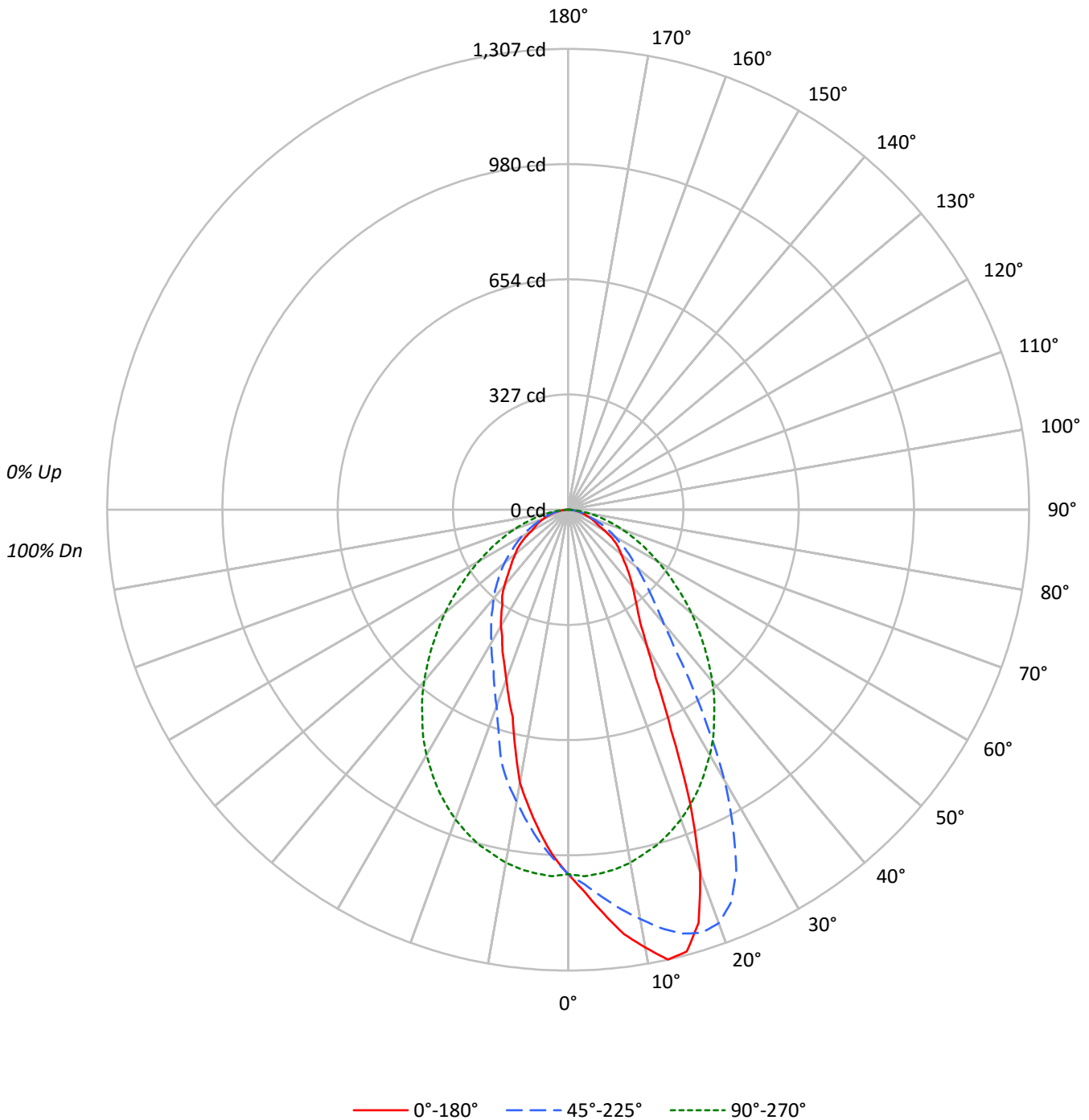
Input Watts (W): 18.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	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	87	83	80	84	81	78	76	76	76	76	76	76	76		
3	94	85	78	72	92	84	77	72	81	75	71	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	66	61	69	64	60	59	59	59	59	59	59	59		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39	39	39	39	39	39	39		
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	19682	19682	19682
5°	21981	19805	17560
10°	24388	19666	15222
15°	25586	19378	11993
20°	22182	18951	10378
25°	14548	18367	9266
30°	9792	17657	8386
35°	7932	16763	7564
40°	7052	15792	7000
45°	6384	14651	6247
50°	5808	13522	5787
55°	5460	12267	5390
60°	4568	11120	4514
65°	3849	10096	4367
70°	3559	9016	4121
75°	3326	7845	3805
80°	3071	6461	3389
85°	2819	5092	2972



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.0	5.5
10°-20°	273.6	15.3
20°-30°	352.1	19.7
30°-40°	334.0	18.7
40°-50°	286.2	16.0
50°-60°	218.0	12.2
60°-70°	137.5	7.7
70°-80°	68.6	3.8
80°-90°	17.6	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°	723.6	40.5
0°-40°	1057.6	59.2
0°-60°	1561.8	87.5
0°-90°	1785.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1785.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1033	1033	1033	1033	1033	
5°	1150	1102	1036	944	918	113
15°	1298	1244	983	736	608	353
25°	692	1128	874	500	441	327
35°	341	613	721	380	325	217
45°	237	323	544	280	232	183
55°	164	201	369	190	162	145
65°	85	115	224	114	97	86
75°	45	51	107	58	52	48
85°	13	13	23	14	14	14
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°	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3
2.5°	1085.7	1086.8	1087.9	1085.4	1085.4	1083.2	1078.5	1074.9	1064.9	1063.5	1063.5
5°	1149.6	1148.9	1150.3	1145.7	1139.2	1137.8	1131.0	1122.0	1112.6	1102.2	1100.1
7.5°	1214.2	1209.9	1208.1	1210.3	1203.5	1194.1	1182.7	1171.9	1155.7	1142.4	1134.2
10°	1260.9	1272.8	1265.6	1253.0	1255.5	1238.7	1229.7	1214.2	1201.3	1178.7	1173.7
12.5°	1306.9	1309.8	1308.7	1302.9	1298.3	1287.8	1274.9	1262.0	1235.4	1215.7	1194.9
15°	1297.5	1304.4	1306.2	1304.0	1305.8	1305.1	1298.6	1287.5	1266.7	1244.4	1225.0
17.5°	1228.6	1236.5	1243.0	1248.7	1257.7	1275.3	1280.7	1282.8	1274.2	1258.4	1242.3
20°	1094.3	1086.4	1119.5	1136.3	1150.7	1186.6	1217.5	1229.3	1248.4	1248.0	1244.4
22.5°	904.0	908.4	939.2	960.1	1008.9	1044.8	1081.0	1133.8	1175.1	1205.6	1224.3
25°	692.2	705.9	737.1	764.4	811.1	877.8	938.5	1008.9	1075.3	1127.7	1177.6
27.5°	538.5	540.3	568.7	596.4	625.1	682.9	764.0	848.4	943.2	1011.4	1097.6
30°	445.2	443.0	453.5	468.9	492.6	535.0	592.4	675.0	769.4	887.2	992.0
32.5°	379.1	379.9	387.0	397.4	416.1	441.3	476.1	539.3	627.2	742.5	869.9
35°	341.1	340.7	346.5	354.7	363.0	381.3	408.2	443.4	504.8	612.9	738.5
37.5°	309.5	311.3	313.8	319.2	329.2	340.0	356.9	381.7	428.3	495.5	608.2
40°	283.6	284.4	288.3	292.6	298.0	305.9	319.2	338.2	370.2	421.1	498.3
42.5°	259.9	260.7	263.2	267.1	271.1	279.0	289.4	305.2	329.6	366.6	426.9
45°	237.0	237.0	239.5	241.3	245.9	253.1	262.1	275.7	293.7	323.1	365.5
47.5°	214.7	214.7	216.5	219.7	223.0	228.7	238.0	249.5	262.5	286.5	324.2
50°	196.0	196.4	197.5	200.0	201.8	206.8	213.6	223.3	237.0	254.6	284.7
52.5°	181.0	180.6	182.0	182.7	183.8	187.1	191.7	200.0	211.8	226.5	250.2
55°	164.4	163.0	165.2	167.0	168.0	169.5	172.3	177.7	188.1	201.1	219.7
57.5°	145.0	144.3	145.4	147.2	150.4	154.0	155.8	159.4	164.8	174.8	194.6
60°	119.9	119.9	123.1	124.2	128.2	133.2	138.2	141.1	146.5	152.6	166.2
62.5°	97.7	98.0	99.1	100.2	102.0	108.4	116.0	123.1	128.2	133.9	141.8
65°	85.4	86.2	86.2	86.9	88.3	89.8	92.6	97.7	106.6	114.9	121.7
67.5°	74.7	74.7	75.0	75.8	76.1	77.9	79.0	81.5	83.3	92.6	102.0
70°	63.9	65.0	64.6	65.3	65.7	66.4	67.9	68.9	72.2	74.0	79.0
72.5°	53.9	54.6	54.6	54.9	56.0	56.0	57.1	58.2	60.0	61.4	63.5
75°	45.2	44.9	45.2	46.0	46.3	46.7	46.7	48.1	49.2	50.6	52.4
77.5°	36.6	37.0	37.0	37.0	37.0	37.7	37.7	38.4	39.5	40.2	41.3
80°	28.0	28.4	28.0	28.4	28.7	29.1	28.7	29.1	30.2	30.9	30.9
82.5°	20.1	20.1	20.5	20.5	20.5	20.5	21.2	21.2	21.9	21.5	21.9
85°	12.9	12.6	12.6	12.6	12.9	13.3	12.9	12.9	13.3	13.3	13.3
87.5°	5.7	6.1	6.1	6.1	6.1	6.1	6.1	6.5	6.1	6.5	6.1
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°	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3
2.5°	1064.2	1061.3	1058.8	1052.3	1049.1	1041.9	1040.8	1040.5	1031.1	1022.2	1019.7
5°	1094.3	1088.6	1080.0	1069.9	1059.5	1048.7	1041.6	1035.8	1021.4	1007.8	999.9
7.5°	1124.1	1113.7	1100.1	1082.8	1068.1	1050.9	1039.0	1028.3	1008.5	990.6	978.7
10°	1158.2	1138.1	1118.4	1092.2	1071.7	1051.6	1032.9	1016.8	993.8	968.0	949.6
12.5°	1179.4	1156.8	1127.7	1102.2	1074.2	1047.3	1020.7	998.8	970.8	943.9	921.3
15°	1198.1	1174.4	1141.4	1104.7	1070.6	1037.2	1008.5	982.7	947.5	915.5	889.0
17.5°	1215.3	1182.7	1148.5	1106.2	1068.5	1027.9	991.6	959.3	920.9	883.2	853.1
20°	1222.9	1190.6	1149.6	1107.3	1060.6	1010.7	970.8	934.9	892.9	850.9	815.0
22.5°	1218.2	1194.9	1148.2	1095.4	1047.3	994.5	948.2	905.1	857.4	814.3	771.2
25°	1193.8	1185.2	1142.1	1086.8	1032.2	971.5	919.5	873.9	820.7	774.8	729.6
27.5°	1148.9	1161.5	1131.0	1071.0	1012.1	946.8	890.0	838.7	784.5	733.1	687.9
30°	1077.8	1120.5	1109.1	1054.5	986.6	922.7	857.0	802.8	743.9	690.8	646.3
32.5°	980.5	1058.1	1074.9	1031.5	960.8	889.0	819.3	765.5	703.3	646.6	603.5
35°	876.0	981.6	1030.1	1001.0	930.6	854.9	783.8	720.9	659.2	603.9	560.8
37.5°	752.2	892.9	967.6	964.4	897.2	820.0	742.8	680.7	617.2	562.6	517.7
40°	632.3	788.1	893.3	916.6	862.0	776.9	698.7	635.1	573.4	520.2	466.7
42.5°	524.5	679.6	815.0	859.9	819.3	734.9	656.3	589.2	529.6	480.0	425.1
45°	441.6	577.3	719.9	792.4	768.3	690.1	607.1	543.9	487.6	444.1	391.7
47.5°	382.4	481.1	624.4	719.1	716.3	641.9	559.4	498.7	445.6	405.3	360.8
50°	333.2	416.5	533.2	644.5	653.8	593.8	516.3	456.3	407.5	364.8	330.7
52.5°	289.0	354.0	456.0	561.5	592.4	542.5	467.8	413.6	366.6	328.2	300.2
55°	251.7	304.8	384.5	484.3	524.5	487.9	421.1	369.4	331.0	298.0	272.9
57.5°	219.0	260.7	327.1	410.7	456.3	431.6	374.5	331.7	297.6	266.8	246.7
60°	188.5	221.2	275.4	342.5	394.2	378.1	331.0	291.9	263.9	238.0	219.4
62.5°	159.8	186.7	231.2	282.6	328.9	324.6	288.3	257.1	233.4	210.4	195.3
65°	133.2	153.7	189.9	232.7	270.7	273.9	246.3	224.0	202.1	183.5	169.5
67.5°	110.2	124.2	151.5	189.2	218.3	228.3	209.7	191.7	173.8	158.7	146.1
70°	89.4	100.2	118.8	147.9	174.1	184.9	175.2	161.9	146.8	135.0	124.6
72.5°	68.2	78.6	91.2	110.6	132.1	144.0	142.2	133.6	122.1	112.7	103.0
75°	54.6	57.8	67.1	81.5	99.1	109.1	111.7	106.6	96.9	89.4	83.7
77.5°	42.4	44.5	49.5	58.2	70.4	79.3	83.3	82.6	75.4	70.4	65.0
80°	32.3	33.4	35.5	38.8	47.4	56.4	58.9	58.9	54.2	52.4	47.0
82.5°	22.6	23.3	24.4	25.9	28.7	36.3	39.1	39.9	37.3	34.8	30.9
85°	14.0	13.6	14.4	15.4	16.2	18.3	22.6	23.3	22.6	19.7	18.7
87.5°	6.1	6.5	6.5	6.1	6.5	6.8	8.6	10.4	9.0	7.9	7.2
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3	1033.3
2.5°	1015.0	1012.5	1007.8	1000.6	996.3	988.8	983.7	986.6	987.3	986.6	985.9
5°	991.3	983.7	973.3	963.3	953.9	943.9	938.2	935.6	930.6	927.7	926.3
7.5°	964.4	953.2	938.5	922.4	907.3	892.9	886.5	881.4	872.1	867.1	862.4
10°	933.5	913.0	898.3	875.3	861.3	840.9	826.9	827.2	813.2	805.3	799.6
12.5°	899.4	876.4	849.5	829.4	808.5	793.1	775.5	766.9	751.8	744.3	726.3
15°	861.0	834.8	808.9	780.9	761.1	735.7	711.2	681.4	657.4	636.6	630.8
17.5°	820.0	787.7	762.2	733.5	702.6	656.3	626.2	607.8	593.5	582.7	574.1
20°	777.7	744.6	717.0	667.4	621.8	592.8	571.9	558.7	543.6	531.7	525.3
22.5°	733.1	698.3	658.1	601.4	568.3	546.4	528.5	512.7	503.7	495.1	489.4
25°	691.5	653.8	591.7	553.6	524.9	500.5	487.6	478.2	467.5	454.9	449.1
27.5°	648.1	588.1	541.1	513.4	484.0	468.5	457.4	442.0	432.3	427.6	421.1
30°	598.1	538.2	503.4	472.5	453.1	435.5	421.9	414.0	404.6	394.9	391.0
32.5°	542.5	497.6	464.6	440.2	420.4	406.1	396.0	382.0	375.9	370.9	361.5
35°	498.3	462.1	431.6	410.7	392.1	379.9	367.3	359.8	347.5	342.5	339.3
37.5°	458.1	426.5	403.6	380.6	366.2	351.9	344.7	332.1	327.4	319.5	313.1
40°	425.1	394.2	372.3	354.4	337.8	327.8	318.1	308.4	300.5	297.3	289.0
42.5°	391.3	367.6	345.7	325.6	315.9	305.2	292.3	285.8	277.5	271.8	267.5
45°	360.8	338.6	319.9	303.7	291.5	280.4	272.5	260.7	256.0	245.6	241.3
47.5°	333.9	312.4	294.4	278.6	266.4	259.9	248.5	238.0	231.6	224.4	218.3
50°	304.8	287.6	270.4	256.7	245.9	235.5	223.7	219.0	207.5	204.3	201.1
52.5°	278.3	262.1	246.7	233.4	222.6	212.5	202.5	196.0	189.2	186.0	183.8
55°	253.8	238.0	223.0	211.1	200.3	189.9	183.5	175.9	172.3	169.8	167.0
57.5°	228.7	214.3	202.5	190.3	179.5	170.9	163.0	158.7	155.1	152.2	148.3
60°	205.0	191.4	181.0	169.8	158.7	151.9	146.1	140.7	136.4	131.4	130.0
62.5°	179.9	168.4	159.1	148.3	138.9	132.8	127.5	122.4	117.0	109.1	107.0
65°	157.3	147.9	137.9	128.9	120.3	114.2	106.3	100.5	98.4	97.7	97.3
67.5°	136.4	127.5	118.8	109.5	101.6	94.8	90.1	89.4	88.0	87.6	86.5
70°	115.6	107.4	98.7	90.1	82.6	81.5	80.1	78.6	76.8	76.1	75.4
72.5°	96.9	88.3	79.7	73.2	71.1	69.7	68.2	66.8	65.7	65.0	64.6
75°	77.2	69.3	63.5	61.0	59.2	58.2	56.0	54.9	54.2	53.1	52.8
77.5°	58.9	53.9	51.0	49.5	47.4	46.3	44.9	43.8	42.7	42.7	42.0
80°	42.4	40.2	38.4	36.3	35.5	34.1	33.7	32.7	33.0	32.0	32.0
82.5°	30.5	27.6	26.2	25.5	24.8	23.7	23.3	23.0	23.0	22.3	22.3
85°	16.9	16.2	15.4	14.7	14.7	13.6	14.0	13.6	13.6	12.9	12.6
87.5°	6.8	6.5	5.7	5.7	5.7	5.4	5.4	5.0	5.0	5.0	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: P242398

CATALOG NUMBER: S122RDR-S485D835-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1033.3	1033.3	1033.3	1033.3
2.5°	982.0	982.7	981.6	982.3
5°	924.5	920.2	919.5	918.4
7.5°	856.7	856.3	854.1	851.6
10°	791.7	789.9	789.5	787.0
12.5°	715.6	701.5	700.1	692.9
15°	622.2	620.0	612.9	608.2
17.5°	570.1	563.0	560.4	559.4
20°	520.2	513.8	512.7	512.0
22.5°	485.8	478.9	475.7	473.2
25°	445.6	443.0	441.6	440.9
27.5°	414.0	407.5	406.8	405.0
30°	387.8	386.0	383.4	381.3
32.5°	356.9	355.4	353.3	352.6
35°	335.7	330.7	328.5	325.3
37.5°	312.4	309.5	305.9	307.3
40°	284.4	282.6	281.8	281.5
42.5°	262.1	256.3	254.2	254.2
45°	239.5	234.8	231.6	231.9
47.5°	215.1	215.4	213.3	214.0
50°	198.5	196.4	195.0	195.3
52.5°	182.7	181.0	179.9	181.7
55°	165.2	163.0	162.6	162.3
57.5°	146.1	145.0	143.3	142.2
60°	125.3	122.4	118.8	118.5
62.5°	106.3	106.3	106.3	106.3
65°	96.6	96.2	96.6	96.9
67.5°	86.5	85.8	85.1	85.4
70°	74.7	74.3	74.0	74.0
72.5°	63.2	63.2	62.8	62.5
75°	52.4	51.7	51.7	51.7
77.5°	42.0	41.6	41.3	40.9
80°	31.6	31.2	30.9	30.9
82.5°	22.3	21.9	21.9	21.5
85°	12.9	13.3	12.9	13.6
87.5°	4.7	4.3	4.7	4.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)