

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: P242742

Luminaire Tested: **S124RDR-S575D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242742
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDR-S575D835-X4F0-XX-UDD-A-W
Description: DEFINE 4 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: 2252.5 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

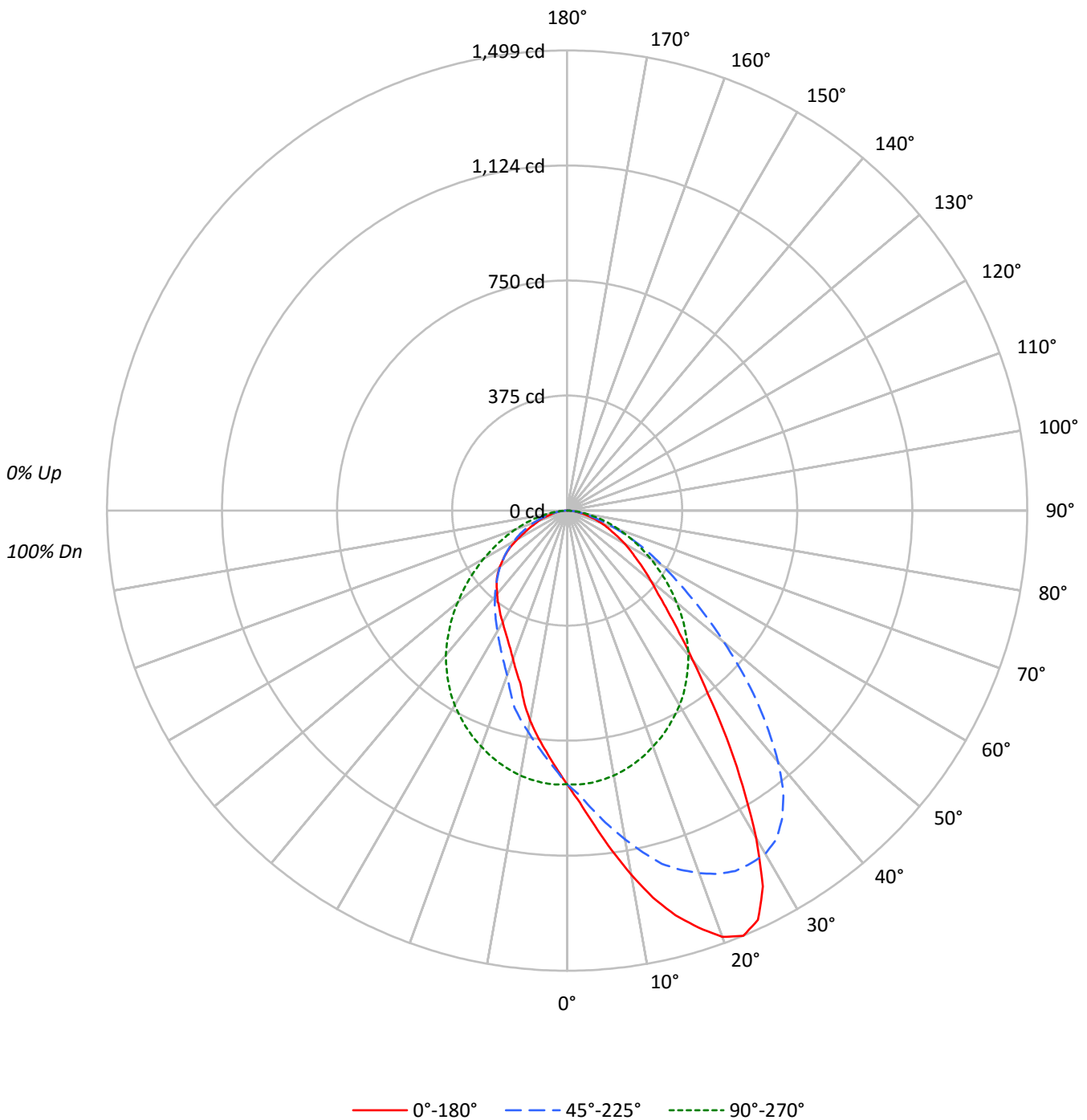
Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76					74				
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65					63				
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57					55				
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50					48				
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45					43				
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40					38				
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36					34				
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33					31				
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30					28				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7921	7921	7921
5°	9188	7945	7022
10°	10868	7910	6267
15°	12555	7837	5385
20°	13978	7736	4870
25°	14429	7637	4521
30°	12632	7517	4311
35°	9833	7340	4184
40°	7374	7136	4116
45°	5822	6811	4079
50°	4915	6434	3962
55°	4283	6021	3750
60°	3854	5591	3319
65°	3399	5128	2854
70°	3062	4647	2576
75°	2566	4118	2195
80°	2170	3512	2058
85°	1836	2743	1836



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.3	3.8
10°-20°	260.6	11.6
20°-30°	408.1	18.1
30°-40°	453.2	20.1
40°-50°	401.6	17.8
50°-60°	313.0	13.9
60°-70°	204.7	9.1
70°-80°	100.4	4.5
80°-90°	24.5	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°	755.0	33.5
0°-40°	1208.2	53.6
0°-60°	1922.9	85.4
0°-90°	2252.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2252.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	891	891	891	891	891	
5°	1030	980	890	806	787	104
15°	1364	1191	852	664	585	388
25°	1471	1295	779	507	461	657
35°	906	1222	676	408	386	567
45°	463	871	542	324	324	365
55°	276	493	388	244	242	251
65°	162	253	244	158	136	162
75°	75	96	120	77	64	82
85°	18	19	27	19	18	21
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°	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1
2.5°	952.1	952.1	952.1	951.7	948.2	947.1	945.6	941.0	932.4	927.3	928.4
5°	1029.7	1029.7	1033.6	1032.9	1025.0	1017.1	1012.1	1000.6	988.4	980.1	973.3
7.5°	1115.8	1115.8	1117.6	1113.7	1100.0	1095.7	1083.9	1070.2	1049.8	1034.3	1020.3
10°	1204.1	1204.1	1207.0	1197.7	1188.3	1169.3	1158.5	1137.4	1109.7	1087.8	1067.3
12.5°	1291.0	1291.0	1280.2	1283.1	1263.4	1249.4	1230.7	1202.7	1169.7	1139.9	1112.9
15°	1364.3	1364.3	1358.5	1351.3	1331.6	1310.8	1293.2	1265.2	1225.0	1191.2	1155.7
17.5°	1424.6	1424.6	1424.2	1405.9	1391.5	1370.4	1338.8	1306.8	1272.0	1226.8	1191.6
20°	1477.7	1477.7	1474.5	1463.0	1442.9	1419.9	1385.1	1349.5	1302.1	1256.5	1215.6
22.5°	1499.2	1499.2	1496.7	1487.8	1470.2	1447.9	1419.5	1383.3	1334.1	1281.3	1228.2
25°	1471.2	1471.2	1478.8	1476.3	1470.9	1457.2	1431.7	1394.8	1351.0	1295.3	1240.8
27.5°	1380.8	1380.8	1393.3	1401.2	1416.0	1421.3	1418.1	1393.3	1351.0	1296.0	1241.8
30°	1230.7	1230.7	1261.2	1291.7	1315.4	1337.0	1355.6	1360.7	1339.1	1291.0	1233.2
32.5°	1064.1	1064.1	1097.9	1131.3	1174.7	1214.9	1262.7	1288.1	1292.8	1268.8	1216.3
35°	906.2	906.2	934.9	969.3	1016.7	1070.9	1137.4	1189.1	1224.2	1221.7	1189.1
37.5°	754.6	754.6	786.6	815.0	861.6	930.9	993.8	1063.0	1126.2	1157.1	1140.6
40°	635.5	635.5	657.0	686.4	729.5	788.0	858.0	937.0	1009.5	1068.8	1080.3
42.5°	541.4	541.4	553.6	585.9	613.9	668.1	734.2	812.4	900.4	971.1	1006.3
45°	463.1	463.1	477.8	496.9	521.3	568.0	621.5	694.3	789.5	870.6	921.2
47.5°	401.4	401.4	413.9	431.2	451.3	484.0	529.5	597.8	676.7	766.9	836.9
50°	355.4	355.4	365.5	374.1	391.0	415.7	454.5	509.1	580.2	666.0	746.0
52.5°	315.9	315.9	320.2	331.7	344.7	362.6	392.0	440.5	501.5	576.2	659.5
55°	276.4	276.4	282.5	291.2	301.6	315.2	340.0	377.3	426.9	492.6	567.6
57.5°	246.3	246.3	251.3	254.5	264.6	274.6	294.8	321.7	365.1	420.0	493.6
60°	216.8	216.8	218.3	223.7	231.2	240.5	253.1	275.0	310.2	359.4	414.7
62.5°	188.1	188.1	190.6	194.2	199.6	205.4	218.6	235.2	262.8	303.0	351.5
65°	161.6	161.6	164.4	165.9	170.5	176.3	186.0	197.8	217.9	253.1	290.8
67.5°	139.3	139.3	139.3	141.5	145.0	149.0	155.5	165.5	181.7	204.3	239.5
70°	117.8	117.8	118.5	119.6	121.3	124.6	127.8	135.0	146.1	163.7	189.2
72.5°	97.7	97.7	98.7	98.7	99.4	102.0	104.1	108.1	115.6	127.8	147.2
75°	74.7	74.7	77.5	79.0	80.8	80.4	82.9	85.8	88.3	96.2	108.1
77.5°	58.9	58.9	58.2	59.6	60.0	60.3	62.1	64.6	66.8	71.1	75.4
80°	42.4	42.4	43.4	43.8	43.4	43.8	45.6	46.7	47.4	48.8	52.8
82.5°	29.4	29.4	29.4	29.8	30.2	30.5	32.0	32.0	32.7	33.0	34.1
85°	18.0	18.0	18.7	18.0	18.0	18.0	18.7	19.0	19.7	19.4	20.1
87.5°	7.9	7.9	7.9	7.9	8.3	7.9	8.3	9.0	8.3	8.6	8.6
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°	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1
2.5°	924.8	919.8	917.3	911.5	904.7	901.1	897.9	893.2	887.1	880.7	876.0
5°	964.7	956.1	945.3	932.4	920.9	909.7	900.0	890.4	879.2	867.7	856.2
7.5°	1004.2	988.7	972.2	952.5	933.4	915.8	900.0	884.6	867.0	851.2	836.5
10°	1045.8	1022.8	997.3	970.4	943.5	920.2	897.2	876.4	853.4	832.9	815.7
12.5°	1079.6	1051.6	1019.6	984.4	950.7	921.2	893.9	865.2	838.3	815.7	791.3
15°	1117.6	1080.6	1039.3	999.1	957.1	918.7	883.2	851.6	821.8	790.5	768.6
17.5°	1143.8	1101.1	1052.3	1005.6	957.5	913.0	872.8	836.1	802.0	770.8	745.0
20°	1166.8	1118.3	1062.7	1007.8	952.1	903.6	859.5	817.8	782.3	747.8	720.9
22.5°	1179.7	1124.8	1062.7	1004.5	946.4	892.9	843.3	799.5	760.0	725.6	695.1
25°	1180.4	1123.0	1060.9	994.8	931.6	876.0	825.7	778.7	735.6	701.2	669.6
27.5°	1177.6	1111.1	1048.7	981.5	916.6	857.3	805.3	755.4	712.6	676.0	643.7
30°	1169.0	1096.4	1028.2	957.9	891.8	835.4	779.8	732.4	687.5	649.1	616.4
32.5°	1150.3	1078.5	1003.8	931.3	864.1	805.6	753.6	705.8	662.0	622.5	587.3
35°	1124.4	1051.6	971.9	897.9	832.2	771.9	722.3	676.4	634.4	592.4	555.8
37.5°	1094.6	1018.5	939.9	858.8	793.4	736.0	689.7	645.5	604.6	566.2	525.6
40°	1048.7	980.8	899.0	818.6	751.1	696.1	654.1	615.0	573.7	535.6	495.1
42.5°	993.0	937.7	854.8	774.0	707.6	655.2	616.8	578.7	542.1	505.5	462.8
45°	929.8	886.0	808.5	731.0	663.8	611.4	575.5	541.8	508.7	473.5	433.7
47.5°	859.5	827.2	759.7	678.5	615.7	567.6	533.1	505.1	476.1	440.5	404.6
50°	785.5	766.5	701.9	629.4	570.1	526.7	491.1	465.3	441.9	408.2	377.0
52.5°	706.5	698.6	646.6	578.0	521.3	478.9	449.8	427.2	403.5	377.0	348.2
55°	626.1	631.5	585.2	525.2	471.4	435.5	407.8	388.5	368.3	344.7	322.0
57.5°	542.5	562.9	528.5	474.3	422.2	388.5	367.3	350.0	333.2	313.1	292.6
60°	468.9	485.4	467.8	421.5	377.3	346.4	327.1	314.5	297.6	279.7	265.0
62.5°	397.1	415.0	406.4	371.2	331.0	305.5	289.0	277.5	266.0	251.0	235.5
65°	339.3	350.8	345.7	319.9	290.8	268.2	252.4	243.8	232.3	220.8	207.2
67.5°	271.4	294.0	290.4	276.1	248.1	230.1	219.0	211.1	200.3	191.7	182.0
70°	213.6	234.1	233.7	222.6	208.9	192.4	185.3	178.8	169.5	161.2	153.7
72.5°	165.1	183.5	187.0	179.1	170.9	159.4	152.6	148.6	139.7	134.6	128.9
75°	122.4	136.1	139.7	139.7	135.3	128.9	122.8	119.9	113.4	108.4	104.8
77.5°	86.2	95.5	100.9	102.0	102.3	99.8	94.1	91.9	86.9	85.1	81.1
80°	56.7	62.5	68.9	71.1	72.9	72.2	70.0	68.6	63.9	62.1	60.7
82.5°	34.8	37.3	42.4	47.7	46.7	49.2	47.4	46.3	43.1	42.7	41.3
85°	20.5	20.8	21.5	24.8	26.6	27.3	27.6	26.9	25.8	25.8	23.3
87.5°	8.6	8.3	9.0	9.0	9.3	10.8	11.8	12.2	11.1	10.1	9.0
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°	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1	891.1
2.5°	871.0	867.4	862.7	857.3	850.9	845.1	842.6	844.8	845.8	843.0	842.6
5°	848.4	839.4	832.2	821.4	812.8	805.6	800.6	798.4	799.2	793.4	792.0
7.5°	823.2	813.5	801.7	789.5	778.0	767.9	762.5	760.0	753.9	751.4	747.5
10°	799.2	784.8	773.3	758.2	744.6	732.0	725.9	720.9	714.8	711.9	705.8
12.5°	774.4	757.2	744.2	728.4	714.4	698.6	692.9	682.5	672.1	665.3	657.0
15°	751.4	731.3	715.9	697.2	680.7	663.5	648.0	630.8	624.3	610.7	602.8
17.5°	724.1	703.3	686.1	662.0	637.3	616.4	599.2	581.2	571.6	562.2	558.3
20°	697.2	678.5	652.0	622.9	594.5	570.8	557.5	546.8	536.0	529.9	525.6
22.5°	671.7	646.6	614.6	582.7	554.3	537.1	526.3	515.2	506.9	501.2	495.1
25°	642.6	611.4	578.7	542.8	523.4	507.3	495.1	486.1	480.7	473.2	470.3
27.5°	614.3	576.6	539.6	515.2	495.1	479.6	468.5	462.1	454.9	449.8	445.9
30°	580.5	542.1	509.8	486.8	466.4	454.2	445.5	437.6	432.3	428.3	425.4
32.5°	547.1	508.7	482.9	457.7	442.7	430.8	421.5	416.1	412.1	406.8	405.3
35°	515.2	481.1	457.4	435.1	418.6	407.8	400.7	394.6	391.0	389.5	388.5
37.5°	484.0	455.6	429.4	411.4	396.0	387.7	378.4	375.5	373.0	369.8	371.2
40°	454.5	428.3	405.7	386.3	374.5	365.1	360.1	356.5	354.3	354.3	354.3
42.5°	429.0	403.5	381.6	364.8	352.9	345.4	339.6	336.8	336.4	336.0	338.2
45°	402.5	378.8	356.5	342.1	332.1	324.2	321.0	318.4	318.4	319.9	320.2
47.5°	375.9	353.6	335.7	319.2	309.8	304.8	301.9	300.5	300.5	302.3	303.7
50°	351.8	329.9	312.3	298.0	289.4	284.7	282.2	281.5	282.2	282.2	284.7
52.5°	325.6	306.6	289.4	277.9	267.8	263.5	262.4	261.4	261.7	263.2	263.9
55°	300.1	282.5	266.0	254.5	247.4	244.5	241.3	241.6	240.9	241.6	241.6
57.5°	274.3	258.8	242.7	233.4	227.3	222.9	219.4	220.4	219.4	219.4	219.0
60°	249.5	232.3	220.1	211.8	204.6	201.0	197.8	198.5	197.5	196.7	195.3
62.5°	222.6	208.9	197.5	189.6	184.2	179.9	176.6	175.6	172.7	169.8	166.2
65°	196.7	184.9	174.5	166.9	161.6	158.3	155.8	153.7	148.3	142.5	139.7
67.5°	171.2	162.6	152.6	146.1	141.8	137.5	132.8	128.9	123.5	119.9	118.1
70°	146.8	138.6	130.3	124.2	119.6	115.6	110.2	107.7	104.1	102.7	100.9
72.5°	123.5	116.0	108.4	103.0	98.0	95.1	91.2	88.7	87.6	87.2	85.4
75°	99.8	93.7	88.0	82.9	79.0	76.8	75.0	73.2	72.5	69.3	67.5
77.5°	76.8	72.5	68.9	65.0	62.5	61.0	57.1	54.6	53.1	51.3	51.0
80°	56.7	53.9	50.3	48.1	44.2	42.7	41.3	40.9	40.6	40.2	39.9
82.5°	39.1	36.3	32.7	31.6	31.2	30.5	29.8	29.4	29.1	29.4	29.4
85°	21.5	20.1	20.1	19.7	19.4	19.0	18.7	18.7	18.3	18.7	18.3
87.5°	9.0	8.6	8.6	7.9	8.3	8.3	7.9	7.9	8.3	7.5	7.5
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: P242742

CATALOG NUMBER: S124RDR-S575D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	891.1	891.1	891.1	891.1
2.5°	840.5	841.2	838.7	837.9
5°	789.1	788.4	786.6	787.0
7.5°	744.6	742.1	743.9	741.0
10°	704.4	700.4	697.2	694.3
12.5°	649.5	646.2	641.6	643.4
15°	598.1	592.7	584.1	585.2
17.5°	552.2	552.9	547.9	549.3
20°	518.1	515.5	515.9	514.8
22.5°	494.4	491.1	487.9	485.4
25°	467.1	464.9	461.7	461.0
27.5°	443.0	442.7	441.2	439.4
30°	422.6	421.8	421.1	420.0
32.5°	404.3	403.9	403.2	403.5
35°	387.0	386.7	385.9	385.6
37.5°	370.9	371.9	371.2	371.2
40°	354.0	354.3	355.1	354.7
42.5°	340.0	340.0	341.1	339.6
45°	322.8	324.9	324.5	324.5
47.5°	304.4	307.0	307.3	307.3
50°	286.5	285.8	286.9	286.5
52.5°	264.6	265.0	264.6	264.2
55°	242.0	242.3	241.6	242.0
57.5°	217.9	216.5	217.6	216.8
60°	191.7	188.8	188.1	186.7
62.5°	162.3	160.5	157.6	159.4
65°	136.8	135.3	134.3	135.7
67.5°	116.3	115.6	115.6	114.9
70°	100.9	99.8	99.8	99.1
72.5°	85.1	84.0	84.4	84.0
75°	65.3	63.5	63.5	63.9
77.5°	51.0	50.6	51.3	50.3
80°	39.9	39.5	39.1	40.2
82.5°	28.7	28.7	28.7	30.2
85°	18.7	18.0	18.7	18.0
87.5°	8.3	7.9	7.5	7.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)