

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: P242930

Luminaire Tested: **S125RDR-S850D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242930  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-32)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125RDR-S850D935-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2717.0 lumens  
Efficiency: N/A  
Efficacy: 102.9 lumens/watt  
Spacing Criteria (0/90/45): 1.4 / 1.21 / 1.48  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

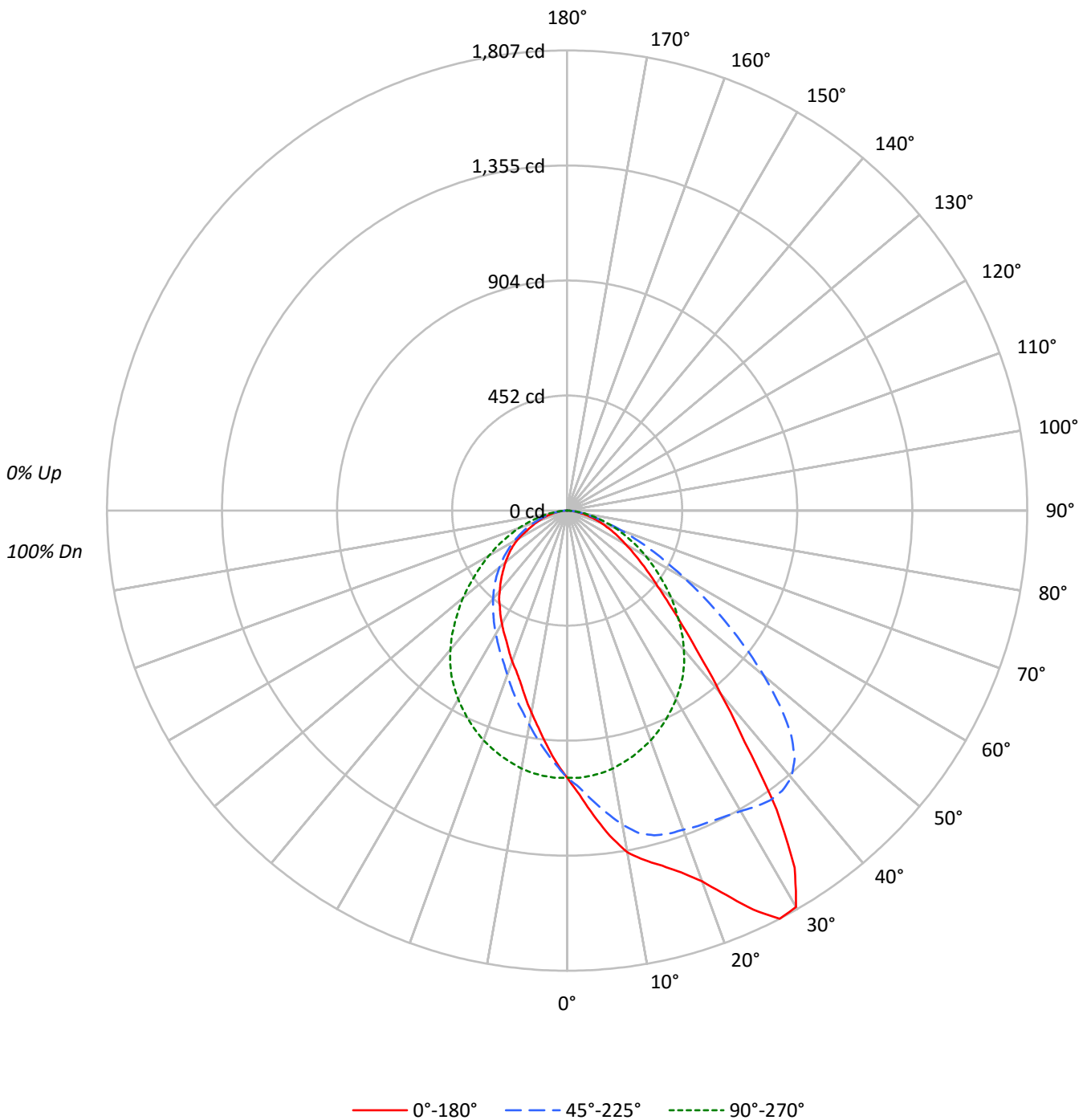
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	7453	7453	7453
5°	8575	7463	6591
10°	9836	7425	5815
15°	10624	7348	5169
20°	11714	7261	4773
25°	13557	7143	4429
30°	14753	7020	4204
35°	12445	6876	3996
40°	8691	6618	3818
45°	6447	6270	3644
50°	5140	5907	3494
55°	4363	5457	3361
60°	3770	5055	3146
65°	3358	4618	2708
70°	2953	4231	2469
75°	2554	3663	2318
80°	1940	3082	1940
85°	1615	2422	1827



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.6	3.7
10°-20°	294.8	10.9
20°-30°	467.4	17.2
30°-40°	564.9	20.8
40°-50°	503.0	18.5
50°-60°	385.7	14.2
60°-70°	250.5	9.2
70°-80°	121.5	4.5
80°-90°	28.6	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°	862.8	31.8
0°-40°	1427.7	52.5
0°-60°	2316.4	85.3
0°-90°	2717.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2717.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1049	1049	1049	1049	1049	
5°	1202	1142	1046	950	924	120
15°	1444	1320	999	769	702	413
25°	1729	1345	911	620	565	796
35°	1434	1390	792	504	461	869
45°	641	1244	624	400	362	509
55°	352	755	440	294	271	319
65°	200	360	275	188	161	198
75°	93	126	133	93	84	99
85°	20	22	30	24	22	24
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°	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6
2.5°	1116.7	1115.8	1117.5	1112.8	1113.2	1105.9	1105.9	1100.3	1093.0	1087.4	1084.8
5°	1201.9	1202.7	1201.0	1194.6	1190.3	1183.8	1176.5	1163.6	1152.8	1142.5	1134.3
7.5°	1288.8	1289.7	1284.1	1282.8	1271.6	1264.7	1248.4	1231.6	1217.0	1197.6	1183.8
10°	1362.9	1362.5	1356.4	1351.7	1342.2	1330.2	1314.2	1293.6	1274.2	1252.7	1232.0
12.5°	1405.9	1404.6	1403.8	1397.7	1389.1	1378.8	1365.9	1345.7	1320.7	1296.6	1271.6
15°	1443.8	1440.8	1435.2	1427.9	1415.4	1402.9	1387.8	1369.8	1347.0	1320.3	1297.9
17.5°	1489.4	1489.9	1481.3	1473.5	1457.2	1436.5	1414.1	1386.6	1357.3	1330.2	1307.8
20°	1548.8	1547.6	1538.9	1519.1	1499.8	1472.2	1445.5	1409.8	1371.9	1333.6	1303.9
22.5°	1634.1	1630.2	1621.2	1593.6	1560.9	1523.4	1479.1	1433.5	1385.7	1340.9	1299.6
25°	1728.8	1726.2	1708.6	1678.4	1636.2	1581.6	1528.2	1468.3	1402.5	1345.2	1297.9
27.5°	1807.1	1802.0	1786.0	1757.6	1716.3	1657.3	1583.7	1506.2	1427.9	1352.5	1287.5
30°	1797.7	1804.1	1802.4	1790.8	1761.5	1709.8	1643.1	1553.2	1455.4	1362.9	1281.5
32.5°	1662.5	1668.1	1687.5	1718.9	1728.4	1715.4	1669.8	1588.4	1486.4	1377.9	1276.8
35°	1434.3	1442.1	1471.4	1517.4	1577.7	1628.1	1638.4	1593.6	1502.8	1389.6	1272.1
37.5°	1144.2	1194.6	1214.4	1261.3	1356.0	1447.7	1527.3	1545.4	1496.3	1387.0	1266.5
40°	936.7	947.0	991.0	1045.6	1122.2	1218.7	1345.7	1437.4	1440.4	1369.8	1248.4
42.5°	768.0	781.7	808.4	849.3	912.2	1008.6	1140.8	1269.0	1338.3	1322.4	1224.7
45°	641.4	651.3	673.3	706.8	757.2	836.8	949.6	1089.5	1200.6	1244.1	1178.6
47.5°	542.4	547.6	567.8	594.9	633.7	693.9	785.6	912.2	1044.3	1132.6	1115.4
50°	464.9	470.9	485.6	504.9	536.4	585.4	655.2	756.3	893.7	1007.7	1030.6
52.5°	404.6	409.4	417.1	435.2	459.7	494.6	547.6	636.7	756.8	879.9	940.2
55°	352.1	355.6	362.9	373.2	393.9	421.0	469.6	532.9	632.8	755.1	832.5
57.5°	307.4	309.1	313.4	323.7	338.8	359.0	396.0	453.7	526.0	641.0	726.2
60°	265.2	266.9	272.9	279.4	290.6	308.7	336.2	373.7	442.5	533.4	619.9
62.5°	231.6	232.5	234.2	240.6	250.1	263.0	283.3	312.1	363.3	440.4	520.9
65°	199.7	200.2	201.0	206.2	212.2	222.6	236.8	258.3	299.6	359.9	432.2
67.5°	167.9	168.7	171.8	173.5	180.8	186.0	195.0	212.2	244.1	287.1	345.7
70°	142.1	141.6	144.6	146.8	148.9	155.4	161.0	174.3	192.4	223.4	270.3
72.5°	117.9	116.7	117.5	117.9	121.0	124.8	130.4	137.3	150.2	169.2	202.3
75°	93.0	93.4	93.4	94.3	96.4	98.1	99.9	104.2	111.9	126.1	145.5
77.5°	69.7	68.9	71.0	71.0	72.8	74.9	76.2	77.9	80.9	87.4	99.0
80°	47.4	47.4	47.8	49.1	48.6	49.5	51.7	53.4	57.3	60.7	64.1
82.5°	33.6	33.1	33.6	33.6	33.6	34.4	34.9	34.9	35.7	37.0	39.2
85°	19.8	19.8	20.2	20.2	20.7	20.7	21.1	21.1	21.1	21.5	22.0
87.5°	9.5	9.0	8.6	8.6	9.0	9.9	9.5	9.0	9.0	9.0	9.5
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°	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6
2.5°	1084.8	1081.8	1076.2	1071.0	1064.6	1059.0	1055.1	1050.4	1044.3	1037.0	1031.0
5°	1125.3	1115.8	1103.3	1092.5	1078.8	1068.0	1056.8	1046.1	1035.3	1021.5	1009.5
7.5°	1170.0	1151.5	1134.3	1111.9	1091.7	1074.0	1056.8	1039.2	1022.4	1003.4	985.8
10°	1210.5	1186.8	1160.6	1130.4	1102.9	1076.6	1052.5	1028.8	1003.9	981.9	958.2
12.5°	1248.4	1216.1	1185.1	1145.1	1110.6	1077.0	1044.8	1013.8	986.6	956.5	930.7
15°	1268.2	1238.0	1204.5	1158.0	1111.9	1073.2	1037.0	998.7	965.6	933.7	905.3
17.5°	1279.8	1247.9	1209.2	1164.0	1114.5	1066.3	1020.7	979.8	941.9	905.3	873.9
20°	1274.6	1244.1	1204.0	1161.4	1107.6	1056.8	1006.4	960.0	916.5	877.3	843.3
22.5°	1262.2	1230.3	1192.0	1146.4	1096.0	1041.3	986.6	936.3	890.2	849.3	811.4
25°	1249.7	1206.6	1167.0	1123.1	1074.5	1021.1	965.6	910.9	862.2	820.9	780.4
27.5°	1237.6	1185.5	1136.5	1094.3	1042.2	994.0	939.7	883.3	832.5	790.8	749.5
30°	1220.0	1159.7	1104.2	1054.7	1006.0	960.8	910.0	855.4	802.8	759.4	717.2
32.5°	1198.0	1133.0	1070.6	1011.6	965.1	920.4	875.6	823.9	773.1	727.9	684.9
35°	1180.4	1098.6	1032.3	971.6	919.5	876.0	834.7	792.5	741.3	694.8	653.0
37.5°	1155.8	1065.9	991.0	924.7	870.4	827.4	794.2	754.2	706.4	661.2	622.5
40°	1133.9	1029.7	945.8	880.3	822.6	776.6	746.0	713.3	670.7	628.9	590.2
42.5°	1104.6	996.5	900.1	831.2	773.1	729.2	698.2	670.7	636.7	597.9	555.7
45°	1064.6	951.8	853.2	780.0	721.5	678.0	649.2	623.8	596.6	560.5	524.3
47.5°	1016.8	909.2	805.4	724.9	668.5	627.6	599.2	578.1	558.3	526.9	490.3
50°	956.9	854.1	753.3	675.8	614.7	576.4	550.1	534.2	516.6	488.6	459.3
52.5°	886.3	797.2	699.1	619.5	562.6	527.3	502.4	486.4	472.7	451.1	423.6
55°	811.4	730.9	640.5	568.7	515.7	479.5	455.4	440.4	431.8	412.4	390.4
57.5°	726.6	664.7	582.9	512.7	464.9	428.8	410.7	397.3	387.4	373.2	356.9
60°	637.1	596.6	525.2	459.3	416.3	382.3	366.3	355.6	346.5	334.9	322.9
62.5°	546.3	519.6	459.7	405.5	366.8	339.6	325.0	315.5	304.8	297.9	286.3
65°	467.1	440.8	397.8	353.4	316.8	294.0	283.3	274.6	268.2	259.6	251.4
67.5°	379.2	367.2	335.3	302.2	275.5	253.5	244.1	237.2	229.9	224.7	218.7
70°	299.6	294.4	273.4	253.1	228.6	214.8	206.2	203.6	194.1	189.0	185.1
72.5°	229.0	227.3	217.4	204.9	189.4	177.8	170.0	167.0	161.9	158.0	155.8
75°	166.6	167.5	165.3	156.3	149.8	142.1	135.2	133.4	129.1	125.7	123.5
77.5°	113.6	117.9	117.1	116.7	113.6	108.0	105.0	103.7	99.0	97.7	97.3
80°	72.3	77.1	81.4	80.9	80.1	78.8	76.6	75.3	73.2	71.9	71.0
82.5°	42.2	46.5	49.9	52.9	52.9	51.7	50.4	49.9	49.9	49.1	49.1
85°	22.8	23.7	25.0	28.0	30.1	30.6	30.1	29.7	28.4	28.8	29.3
87.5°	9.9	9.9	10.3	10.3	9.9	12.1	13.3	13.8	12.9	12.1	11.2
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°	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6	1048.6
2.5°	1026.7	1020.7	1016.3	1007.7	1001.7	999.1	994.4	993.1	997.8	994.4	994.0
5°	1000.4	987.9	978.0	968.1	957.4	950.5	940.2	938.4	935.9	932.0	931.1
7.5°	969.9	954.4	942.7	926.4	913.0	902.3	889.4	884.2	881.6	876.9	869.1
10°	938.9	919.5	902.3	885.9	868.3	854.1	841.1	831.2	824.8	818.8	816.2
12.5°	908.3	888.5	865.3	844.6	824.4	808.0	793.4	787.8	780.4	773.1	766.2
15°	876.4	850.2	826.1	803.3	786.5	769.3	755.5	746.0	735.2	732.2	720.6
17.5°	842.4	817.9	789.5	765.0	746.0	727.9	712.9	701.7	693.5	681.9	676.3
20°	811.0	780.4	752.9	730.9	709.4	687.0	671.5	662.5	654.8	645.7	641.4
22.5°	777.4	747.7	719.3	692.6	670.7	648.7	638.8	629.4	620.3	612.1	606.1
25°	744.7	714.6	684.9	658.2	635.4	619.5	606.5	595.8	591.0	582.9	576.8
27.5°	712.0	680.1	650.0	622.0	604.4	588.5	578.1	569.5	560.5	553.2	547.6
30°	680.6	647.9	614.3	593.2	574.3	559.2	547.6	539.4	532.9	526.5	522.6
32.5°	649.2	615.1	586.3	563.1	545.4	532.9	520.9	513.1	506.2	498.9	494.2
35°	615.1	580.7	556.6	534.2	516.6	504.5	496.3	485.1	479.5	474.4	469.6
37.5°	584.6	551.9	525.2	505.8	489.4	477.8	467.1	461.5	454.2	449.8	446.0
40°	550.1	520.9	497.2	476.5	465.3	452.0	442.1	434.3	429.2	423.2	418.9
42.5°	519.2	492.5	469.6	451.6	436.9	426.2	416.7	409.0	402.1	398.2	394.7
45°	490.3	463.2	440.8	423.6	410.7	399.9	390.0	386.1	377.5	372.4	370.6
47.5°	460.2	435.6	413.7	397.8	384.4	374.5	365.0	356.4	352.1	347.0	344.4
50°	429.6	406.4	386.1	370.6	357.7	346.5	337.9	332.8	326.3	321.6	318.1
52.5°	399.0	378.0	357.7	343.1	332.3	321.1	311.2	306.1	300.0	297.5	295.3
55°	370.2	347.4	330.2	315.5	303.9	293.6	284.5	279.4	275.5	272.5	271.6
57.5°	337.1	318.6	302.2	289.3	276.8	266.9	258.7	254.0	250.5	250.1	247.1
60°	304.8	288.4	273.8	259.6	249.2	240.2	233.3	227.7	224.3	223.8	223.0
62.5°	272.5	257.0	243.6	231.6	222.6	213.9	207.5	201.0	199.3	196.7	194.6
65°	240.6	226.4	215.2	205.3	195.4	188.1	181.7	177.8	173.1	170.5	165.7
67.5°	209.2	197.6	186.8	178.6	170.5	163.1	157.6	152.0	148.5	146.4	142.5
70°	178.2	169.6	158.8	149.8	143.8	138.2	133.9	127.4	125.3	123.5	121.8
72.5°	148.9	141.6	133.0	126.1	120.1	114.9	109.8	107.6	105.5	103.7	102.9
75°	121.8	114.5	106.8	101.6	97.3	93.0	90.4	88.2	87.4	87.0	85.2
77.5°	94.7	90.4	83.9	79.2	76.2	74.5	71.9	71.0	71.5	69.3	68.9
80°	68.4	66.3	61.1	59.4	57.3	55.5	54.2	52.1	49.9	49.1	47.8
82.5°	46.5	44.3	43.0	40.0	38.3	37.5	36.2	35.7	36.6	35.3	34.9
85°	27.1	25.0	24.1	23.7	22.8	23.7	23.2	22.8	22.4	22.0	22.4
87.5°	10.8	10.8	10.3	11.2	9.9	10.3	10.3	9.9	9.9	9.9	9.5
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: P242930

CATALOG NUMBER: S125RDR-S850D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1048.6	1048.6	1048.6	1048.6
2.5°	993.5	988.8	987.5	989.2
5°	926.8	922.5	924.7	923.8
7.5°	870.4	864.8	858.4	860.1
10°	810.6	806.3	803.7	805.8
12.5°	760.2	758.1	755.9	754.2
15°	715.4	710.3	708.1	702.5
17.5°	672.4	670.7	665.1	661.2
20°	634.9	633.2	627.6	631.1
22.5°	604.0	599.7	598.8	596.6
25°	575.1	569.5	567.4	564.8
27.5°	545.8	542.8	539.8	539.0
30°	517.4	514.4	512.3	512.3
32.5°	492.0	489.9	487.7	487.3
35°	467.5	464.1	463.2	460.6
37.5°	441.7	438.7	438.7	439.1
40°	417.1	415.0	414.5	411.5
42.5°	390.9	390.0	388.3	387.4
45°	367.6	364.6	364.6	362.5
47.5°	343.1	340.5	340.9	338.4
50°	318.6	317.3	316.8	316.0
52.5°	294.0	293.6	295.7	293.6
55°	272.5	271.2	273.8	271.2
57.5°	247.1	246.2	248.8	247.1
60°	222.1	219.5	220.8	221.3
62.5°	192.4	191.1	192.0	189.4
65°	164.9	163.6	161.9	161.0
67.5°	143.3	139.5	139.5	140.3
70°	119.2	119.2	118.8	118.8
72.5°	102.5	102.0	101.2	100.7
75°	85.2	85.7	84.8	84.4
77.5°	66.7	64.6	65.4	64.6
80°	47.8	47.4	48.6	47.4
82.5°	35.3	34.9	35.3	34.4
85°	22.8	22.4	22.0	22.4
87.5°	9.9	9.5	9.5	9.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)