

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: P242905

Luminaire Tested: **S125RDR-S850D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242905  
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-S850D927-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2499.8 lumens  
Efficiency: N/A  
Efficacy: 94.7 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

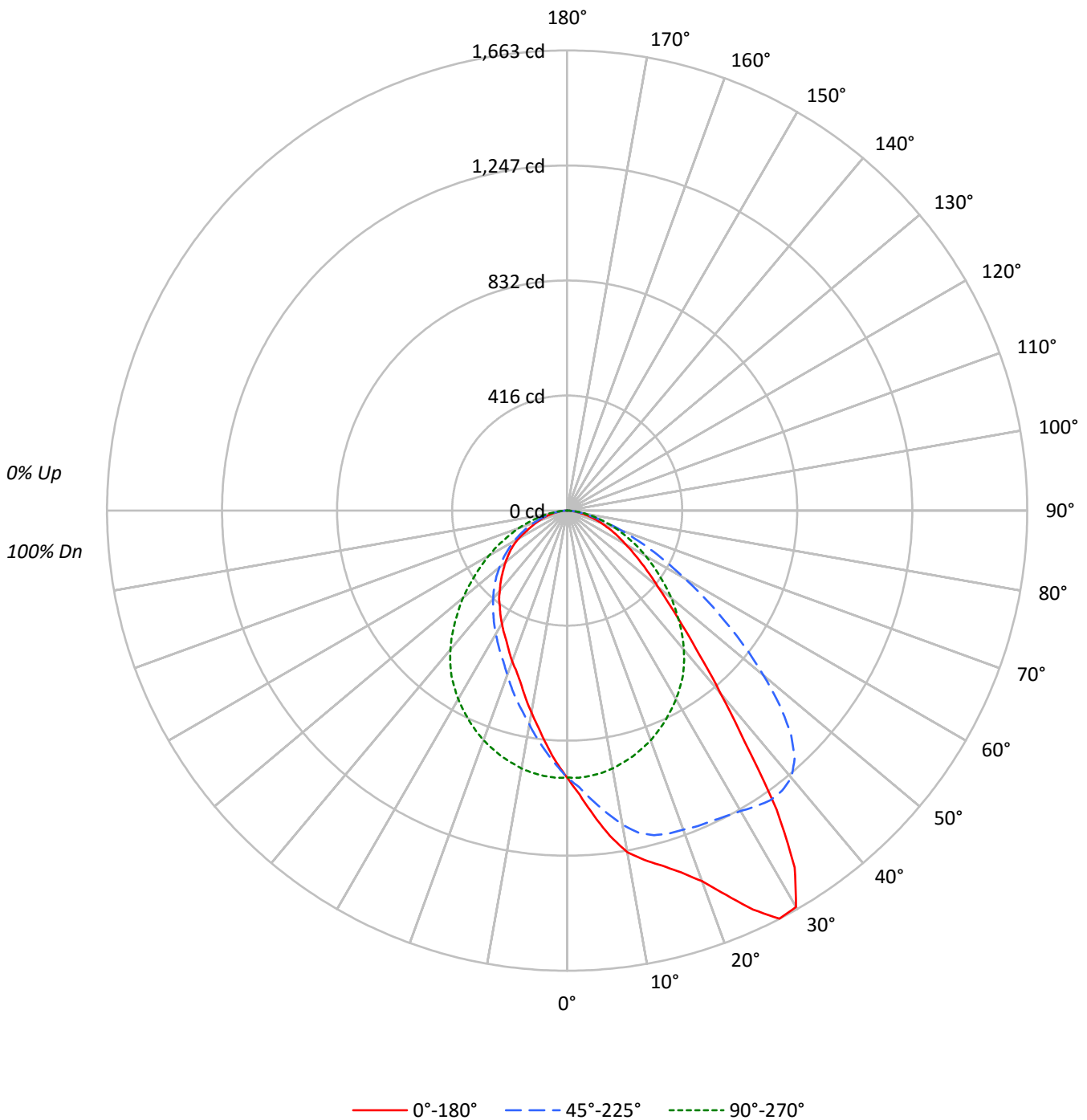
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86	86	86	86	86		
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73	73	73	73	73	73	73		
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63	63	63	63	63	63	63		
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55	55	55	55	55	55	55		
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48	48	48	48	48	48	48		
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42	42	42	42	42	42	42		
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37	37	37	37	37	37	37		
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34	34	34	34	34	34	34		
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30	30	30	30	30	30	30		
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28	28	28	28	28	28	28		

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

	0°	90°	180°
0°	6857	6857	6857
5°	7889	6866	6064
10°	9049	6832	5351
15°	9774	6761	4756
20°	10779	6680	4391
25°	12474	6572	4075
30°	13574	6459	3868
35°	11450	6327	3677
40°	7996	6089	3513
45°	5931	5768	3352
50°	4730	5435	3214
55°	4015	5021	3092
60°	3468	4651	2894
65°	3091	4250	2491
70°	2716	3892	2271
75°	2351	3372	2131
80°	1785	2836	1785
85°	1484	2226	1680



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.5	3.7
10°-20°	271.3	10.9
20°-30°	430.1	17.2
30°-40°	519.7	20.8
40°-50°	462.8	18.5
50°-60°	354.9	14.2
60°-70°	230.4	9.2
70°-80°	111.8	4.5
80°-90°	26.3	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°	793.9	31.8
0°-40°	1313.6	52.5
0°-60°	2131.2	85.3
0°-90°	2499.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2499.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	965	965	965	965	965	
5°	1106	1051	962	874	850	110
15°	1328	1215	919	708	646	380
25°	1591	1238	838	570	520	732
35°	1320	1278	729	464	424	800
45°	590	1145	574	368	334	468
55°	324	695	405	270	250	293
65°	184	331	253	173	148	183
75°	86	116	123	86	78	91
85°	18	20	27	22	21	22
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	1027.4	1026.6	1028.2	1023.8	1024.2	1017.5	1017.5	1012.3	1005.6	1000.5	998.1
5°	1105.8	1106.6	1105.0	1099.1	1095.1	1089.2	1082.5	1070.6	1060.7	1051.2	1043.6
7.5°	1185.8	1186.6	1181.5	1180.3	1170.0	1163.6	1148.6	1133.1	1119.7	1101.9	1089.2
10°	1253.9	1253.6	1248.0	1243.7	1234.9	1223.8	1209.2	1190.2	1172.4	1152.6	1133.5
12.5°	1293.6	1292.4	1291.6	1286.0	1278.1	1268.6	1256.7	1238.1	1215.1	1193.0	1170.0
15°	1328.4	1325.6	1320.5	1313.8	1302.3	1290.8	1276.9	1260.3	1239.3	1214.7	1194.1
17.5°	1370.4	1370.8	1362.9	1355.7	1340.7	1321.7	1301.1	1275.7	1248.8	1223.8	1203.3
20°	1425.1	1423.9	1415.9	1397.7	1379.9	1354.6	1330.0	1297.1	1262.3	1227.0	1199.7
22.5°	1503.5	1499.9	1491.6	1466.2	1436.1	1401.7	1360.9	1318.9	1274.9	1233.8	1195.7
25°	1590.6	1588.2	1572.0	1544.3	1505.5	1455.2	1406.0	1351.0	1290.4	1237.7	1194.1
27.5°	1662.7	1657.9	1643.3	1617.1	1579.1	1524.9	1457.1	1385.8	1313.8	1244.4	1184.6
30°	1654.0	1659.9	1658.3	1647.6	1620.7	1573.2	1511.8	1429.0	1339.1	1253.9	1179.1
32.5°	1529.6	1534.8	1552.6	1581.5	1590.2	1578.3	1536.3	1461.5	1367.6	1267.8	1174.7
35°	1319.7	1326.8	1353.8	1396.1	1451.6	1497.9	1507.4	1466.2	1382.7	1278.5	1170.4
37.5°	1052.7	1099.1	1117.3	1160.5	1247.6	1332.0	1405.2	1421.9	1376.7	1276.1	1165.2
40°	861.8	871.3	911.7	962.0	1032.5	1121.3	1238.1	1322.5	1325.2	1260.3	1148.6
42.5°	706.6	719.3	743.8	781.4	839.3	928.0	1049.6	1167.6	1231.4	1216.7	1126.8
45°	590.1	599.3	619.4	650.3	696.7	770.0	873.7	1002.4	1104.6	1144.6	1084.4
47.5°	499.0	503.8	522.4	547.4	583.0	638.5	722.8	839.3	960.9	1042.1	1026.2
50°	427.8	433.3	446.8	464.6	493.5	538.7	602.8	695.9	822.2	927.2	948.2
52.5°	372.3	376.7	383.8	400.4	423.0	455.1	503.8	585.8	696.3	809.6	865.0
55°	324.0	327.2	333.9	343.4	362.4	387.4	432.1	490.3	582.2	694.7	766.0
57.5°	282.8	284.4	288.3	297.8	311.7	330.3	364.4	417.5	484.0	589.7	668.2
60°	244.0	245.6	251.1	257.0	267.3	284.0	309.3	343.8	407.2	490.7	570.3
62.5°	213.1	213.9	215.5	221.4	230.1	242.0	260.6	287.1	334.3	405.2	479.2
65°	183.8	184.2	185.0	189.7	195.3	204.8	217.8	237.6	275.7	331.1	397.7
67.5°	154.5	155.3	158.0	159.6	166.3	171.1	179.4	195.3	224.6	264.2	318.0
70°	130.7	130.3	133.1	135.1	137.0	143.0	148.1	160.4	177.0	205.6	248.7
72.5°	108.5	107.3	108.1	108.5	111.3	114.9	120.0	126.3	138.2	155.7	186.2
75°	85.6	85.9	85.9	86.7	88.7	90.3	91.9	95.8	103.0	116.0	133.9
77.5°	64.2	63.4	65.4	65.4	66.9	68.9	70.1	71.7	74.5	80.4	91.1
80°	43.6	43.6	44.0	45.2	44.8	45.5	47.5	49.1	52.7	55.8	59.0
82.5°	30.9	30.5	30.9	30.9	30.9	31.7	32.1	32.1	32.9	34.1	36.0
85°	18.2	18.2	18.6	18.6	19.0	19.0	19.4	19.4	19.4	19.8	20.2
87.5°	8.7	8.3	7.9	7.9	8.3	9.1	8.7	8.3	8.3	8.3	8.7
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	998.1	995.3	990.2	985.4	979.5	974.3	970.8	966.4	960.9	954.1	948.6
5°	1035.3	1026.6	1015.1	1005.2	992.5	982.6	972.3	962.4	952.5	939.9	928.8
7.5°	1076.5	1059.5	1043.6	1023.0	1004.4	988.2	972.3	956.1	940.7	923.2	907.0
10°	1113.7	1092.0	1067.8	1040.1	1014.7	990.6	968.4	946.6	923.6	903.4	881.6
12.5°	1148.6	1118.9	1090.4	1053.5	1021.9	991.0	961.3	932.7	907.8	880.1	856.3
15°	1166.8	1139.1	1108.2	1065.4	1023.0	987.4	954.1	918.9	888.4	859.1	832.9
17.5°	1177.5	1148.2	1112.6	1071.0	1025.4	981.1	939.1	901.4	866.6	832.9	804.0
20°	1172.8	1144.6	1107.8	1068.6	1019.1	972.3	926.0	883.2	843.2	807.2	775.9
22.5°	1161.3	1132.0	1096.7	1054.7	1008.4	958.1	907.8	861.4	819.1	781.4	746.6
25°	1149.8	1110.2	1073.7	1033.3	988.6	939.5	888.4	838.1	793.3	755.3	718.1
27.5°	1138.7	1090.8	1045.6	1006.8	958.9	914.5	864.6	812.7	766.0	727.6	689.6
30°	1122.5	1067.0	1015.9	970.4	925.6	884.0	837.3	787.0	738.7	698.7	659.8
32.5°	1102.3	1042.4	985.0	930.8	888.0	846.8	805.6	758.1	711.3	669.8	630.1
35°	1086.0	1010.8	949.8	893.9	846.0	806.0	768.0	729.2	682.0	639.3	600.8
37.5°	1063.4	980.7	911.7	850.8	800.8	761.2	730.7	693.9	649.9	608.4	572.7
40°	1043.2	947.4	870.2	810.0	756.9	714.5	686.4	656.3	617.1	578.7	543.0
42.5°	1016.3	916.9	828.2	764.8	711.3	670.9	642.4	617.1	585.8	550.1	511.3
45°	979.5	875.7	785.0	717.7	663.8	623.8	597.3	573.9	548.9	515.7	482.4
47.5°	935.5	836.5	741.0	667.0	615.1	577.5	551.3	531.9	513.7	484.8	451.1
50°	880.5	785.8	693.1	621.8	565.6	530.3	506.2	491.5	475.3	449.5	422.6
52.5°	815.5	733.5	643.2	569.9	517.7	485.2	462.2	447.6	434.9	415.1	389.7
55°	746.6	672.5	589.3	523.2	474.5	441.2	419.0	405.2	397.3	379.4	359.2
57.5°	668.6	611.5	536.3	471.7	427.8	394.5	377.8	365.6	356.5	343.4	328.3
60°	586.2	548.9	483.2	422.6	383.0	351.7	337.1	327.2	318.8	308.1	297.1
62.5°	502.6	478.1	423.0	373.1	337.4	312.5	299.0	290.3	280.4	274.1	263.4
65°	429.7	405.6	366.0	325.2	291.5	270.5	260.6	252.7	246.8	238.8	231.3
67.5°	348.9	337.8	308.5	278.0	253.5	233.3	224.6	218.2	211.5	206.7	201.2
70°	275.7	270.9	251.5	232.9	210.3	197.6	189.7	187.3	178.6	173.9	170.3
72.5°	210.7	209.1	200.0	188.5	174.3	163.6	156.4	153.7	148.9	145.4	143.4
75°	153.3	154.1	152.1	143.8	137.8	130.7	124.4	122.8	118.8	115.7	113.7
77.5°	104.6	108.5	107.7	107.3	104.6	99.4	96.6	95.5	91.1	89.9	89.5
80°	66.5	70.9	74.9	74.5	73.7	72.5	70.5	69.3	67.3	66.1	65.4
82.5°	38.8	42.8	45.9	48.7	48.7	47.5	46.3	45.9	45.9	45.2	45.2
85°	21.0	21.8	23.0	25.7	27.7	28.1	27.7	27.3	26.1	26.5	26.9
87.5°	9.1	9.1	9.5	9.5	9.1	11.1	12.3	12.7	11.9	11.1	10.3
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°	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8	964.8
2.5°	944.6	939.1	935.1	927.2	921.6	919.3	914.9	913.7	918.1	914.9	914.5
5°	920.5	909.0	899.9	890.8	880.9	874.5	865.0	863.4	861.1	857.5	856.7
7.5°	892.3	878.1	867.4	852.3	840.1	830.2	818.3	813.5	811.1	806.8	799.7
10°	863.8	846.0	830.2	815.1	798.9	785.8	773.9	764.8	758.9	753.3	750.9
12.5°	835.7	817.5	796.1	777.1	758.5	743.4	730.0	724.8	718.1	711.3	705.0
15°	806.4	782.2	760.1	739.1	723.6	707.8	695.1	686.4	676.5	673.7	663.0
17.5°	775.1	752.5	726.4	703.8	686.4	669.8	655.9	645.6	638.1	627.4	622.2
20°	746.2	718.1	692.7	672.5	652.7	632.1	617.9	609.5	602.4	594.1	590.1
22.5°	715.3	688.0	661.8	637.3	617.1	596.9	587.8	579.1	570.7	563.2	557.7
25°	685.2	657.5	630.1	605.6	584.6	569.9	558.1	548.2	543.8	536.3	530.7
27.5°	655.1	625.8	598.1	572.3	556.1	541.4	531.9	524.0	515.7	508.9	503.8
30°	626.2	596.1	565.2	545.8	528.4	514.5	503.8	496.3	490.3	484.4	480.8
32.5°	597.3	566.0	539.4	518.1	501.8	490.3	479.2	472.1	465.8	459.0	454.7
35°	566.0	534.3	512.1	491.5	475.3	464.2	456.7	446.4	441.2	436.5	432.1
37.5°	537.9	507.8	483.2	465.4	450.3	439.6	429.7	424.6	417.9	413.9	410.3
40°	506.2	479.2	457.5	438.4	428.1	415.9	406.8	399.6	394.9	389.3	385.4
42.5°	477.7	453.1	432.1	415.5	402.0	392.1	383.4	376.3	369.9	366.4	363.2
45°	451.1	426.2	405.6	389.7	377.8	367.9	358.8	355.3	347.4	342.6	341.0
47.5°	423.4	400.8	380.6	366.0	353.7	344.6	335.9	327.9	324.0	319.2	316.9
50°	395.3	373.9	355.3	341.0	329.1	318.8	310.9	306.2	300.2	295.9	292.7
52.5°	367.2	347.7	329.1	315.7	305.8	295.5	286.4	281.6	276.1	273.7	271.7
55°	340.6	319.6	303.8	290.3	279.6	270.1	261.8	257.0	253.5	250.7	249.9
57.5°	310.1	293.1	278.0	266.2	254.7	245.6	238.0	233.7	230.5	230.1	227.3
60°	280.4	265.4	251.9	238.8	229.3	221.0	214.7	209.5	206.4	206.0	205.2
62.5°	250.7	236.5	224.2	213.1	204.8	196.8	190.9	185.0	183.4	181.0	179.0
65°	221.4	208.3	198.0	188.9	179.8	173.1	167.1	163.6	159.2	156.8	152.5
67.5°	192.5	181.8	171.9	164.4	156.8	150.1	145.0	139.8	136.6	134.7	131.1
70°	164.0	156.1	146.1	137.8	132.3	127.1	123.2	117.2	115.3	113.7	112.1
72.5°	137.0	130.3	122.4	116.0	110.5	105.8	101.0	99.0	97.0	95.5	94.7
75°	112.1	105.4	98.2	93.5	89.5	85.6	83.2	81.2	80.4	80.0	78.4
77.5°	87.1	83.2	77.2	72.9	70.1	68.5	66.1	65.4	65.7	63.8	63.4
80°	63.0	61.0	56.2	54.7	52.7	51.1	49.9	47.9	45.9	45.2	44.0
82.5°	42.8	40.8	39.6	36.8	35.3	34.5	33.3	32.9	33.7	32.5	32.1
85°	25.0	23.0	22.2	21.8	21.0	21.8	21.4	21.0	20.6	20.2	20.6
87.5°	9.9	9.9	9.5	10.3	9.1	9.5	9.5	9.1	9.1	9.1	8.7
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: P242905

CATALOG NUMBER: S125RDR-S850D927-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	964.8	964.8	964.8	964.8
2.5°	914.1	909.8	908.6	910.2
5°	852.7	848.8	850.8	850.0
7.5°	800.8	795.7	789.8	791.3
10°	745.8	741.8	739.5	741.4
12.5°	699.5	697.5	695.5	693.9
15°	658.3	653.5	651.5	646.4
17.5°	618.7	617.1	611.9	608.4
20°	584.2	582.6	577.5	580.6
22.5°	555.7	551.7	550.9	548.9
25°	529.1	524.0	522.0	519.6
27.5°	502.2	499.4	496.7	495.9
30°	476.1	473.3	471.3	471.3
32.5°	452.7	450.7	448.7	448.3
35°	430.1	427.0	426.2	423.8
37.5°	406.4	403.6	403.6	404.0
40°	383.8	381.8	381.4	378.6
42.5°	359.6	358.8	357.3	356.5
45°	338.2	335.5	335.5	333.5
47.5°	315.7	313.3	313.7	311.3
50°	293.1	291.9	291.5	290.7
52.5°	270.5	270.1	272.1	270.1
55°	250.7	249.5	251.9	249.5
57.5°	227.3	226.6	228.9	227.3
60°	204.4	202.0	203.2	203.6
62.5°	177.0	175.9	176.6	174.3
65°	151.7	150.5	148.9	148.1
67.5°	131.9	128.3	128.3	129.1
70°	109.7	109.7	109.3	109.3
72.5°	94.3	93.9	93.1	92.7
75°	78.4	78.8	78.0	77.6
77.5°	61.4	59.4	60.2	59.4
80°	44.0	43.6	44.8	43.6
82.5°	32.5	32.1	32.5	31.7
85°	21.0	20.6	20.2	20.6
87.5°	9.1	8.7	8.7	8.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)