

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: P242910

Luminaire Tested: **S125RDR-S850D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242910  
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-S850D830-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2974.3 lumens  
Efficiency: N/A  
Efficacy: 112.7 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

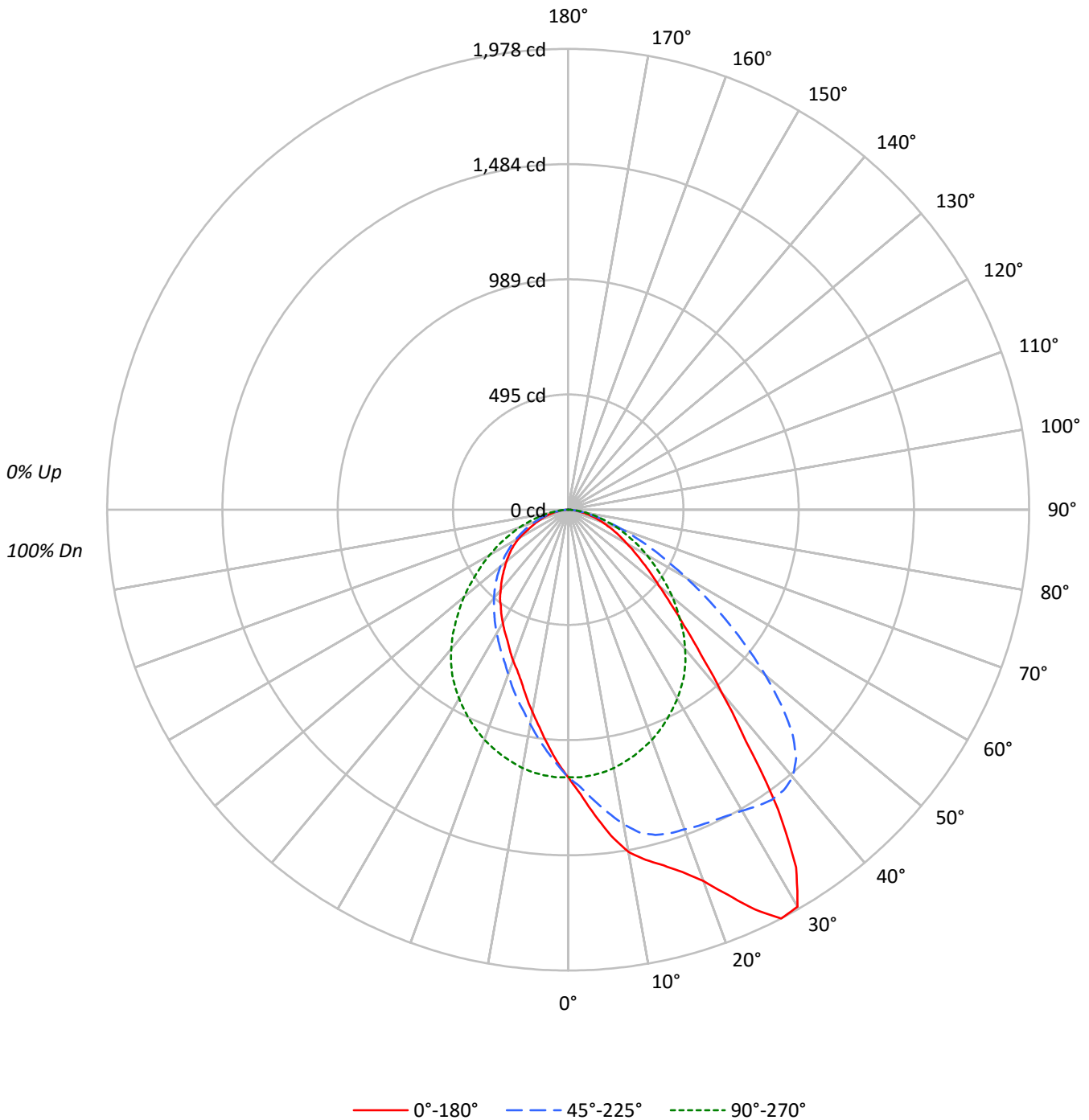
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	8159	8159	8159
5°	9387	8170	7215
10°	10768	8128	6367
15°	11629	8045	5659
20°	12824	7948	5225
25°	14841	7820	4849
30°	16150	7685	4602
35°	13624	7528	4375
40°	9514	7244	4180
45°	7058	6863	3988
50°	5627	6466	3825
55°	4777	5974	3679
60°	4127	5532	3443
65°	3678	5057	2963
70°	3231	4632	2704
75°	2795	4012	2537
80°	2120	3377	2120
85°	1770	2650	1998



TEST NUMBER: P242910

CATALOG NUMBER: S125RDR-S850D830-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.1	3.7
10°-20°	322.7	10.9
20°-30°	511.7	17.2
30°-40°	618.4	20.8
40°-50°	550.6	18.5
50°-60°	422.2	14.2
60°-70°	274.2	9.2
70°-80°	133.1	4.5
80°-90°	31.3	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°	944.5	31.8
0°-40°	1562.9	52.5
0°-60°	2535.8	85.3
0°-90°	2974.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2974.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1148	1148	1148	1148	1148	
5°	1316	1251	1145	1040	1011	131
15°	1580	1445	1093	842	769	452
25°	1892	1473	997	678	618	871
35°	1570	1521	868	552	504	952
45°	702	1362	683	438	397	557
55°	386	827	482	321	297	349
65°	219	394	301	206	176	217
75°	102	138	146	102	92	108
85°	22	24	32	26	24	26
90°	0	0	0	0	0	



TEST NUMBER: P242910

CATALOG NUMBER: S125RDR-S850D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9
2.5°	1222.4	1221.5	1223.3	1218.2	1218.6	1210.6	1210.6	1204.5	1196.5	1190.4	1187.5
5°	1315.7	1316.7	1314.8	1307.7	1303.0	1295.9	1287.9	1273.8	1262.0	1250.7	1241.7
7.5°	1410.9	1411.8	1405.7	1404.3	1392.1	1384.5	1366.6	1348.2	1332.2	1311.0	1295.9
10°	1492.0	1491.5	1484.9	1479.7	1469.3	1456.1	1438.7	1416.1	1394.9	1371.3	1348.7
12.5°	1539.1	1537.7	1536.7	1530.1	1520.7	1509.4	1495.3	1473.1	1445.8	1419.4	1392.1
15°	1580.5	1577.3	1571.1	1563.1	1549.4	1535.8	1519.3	1499.5	1474.5	1445.3	1420.8
17.5°	1630.5	1631.0	1621.5	1613.1	1595.2	1572.5	1548.0	1517.9	1485.8	1456.1	1431.6
20°	1695.5	1694.1	1684.7	1663.0	1641.8	1611.7	1582.4	1543.3	1501.9	1459.9	1427.4
22.5°	1788.8	1784.6	1774.7	1744.5	1708.7	1667.7	1619.2	1569.2	1516.9	1467.9	1422.7
25°	1892.5	1889.7	1870.4	1837.4	1791.2	1731.3	1672.9	1607.4	1535.3	1472.6	1420.8
27.5°	1978.3	1972.6	1955.2	1924.1	1878.8	1814.3	1733.7	1648.9	1563.1	1480.6	1409.5
30°	1967.9	1975.0	1973.1	1960.4	1928.3	1871.8	1798.7	1700.2	1593.3	1492.0	1402.9
32.5°	1819.9	1826.1	1847.3	1881.7	1892.0	1877.9	1828.0	1738.9	1627.2	1508.4	1397.7
35°	1570.2	1578.7	1610.7	1661.1	1727.1	1782.2	1793.6	1744.5	1645.1	1521.2	1392.5
37.5°	1252.6	1307.7	1329.4	1380.7	1484.4	1584.8	1672.0	1691.8	1638.0	1518.3	1386.4
40°	1025.4	1036.7	1084.8	1144.6	1228.5	1334.1	1473.1	1573.5	1576.8	1499.5	1366.6
42.5°	840.7	855.8	885.0	929.8	998.6	1104.1	1248.8	1389.2	1465.1	1447.7	1340.7
45°	702.2	713.0	737.0	773.8	828.9	916.1	1039.6	1192.7	1314.3	1361.9	1290.3
47.5°	593.8	599.4	621.6	651.3	693.7	759.6	860.0	998.6	1143.2	1239.8	1221.0
50°	508.9	515.5	531.6	552.8	587.2	640.9	717.2	828.0	978.3	1103.2	1128.2
52.5°	443.0	448.2	456.6	476.4	503.3	541.5	599.4	697.0	828.4	963.2	1029.2
55°	385.5	389.2	397.3	408.6	431.2	460.9	514.1	583.4	692.7	826.6	911.4
57.5°	336.5	338.4	343.1	354.4	370.9	393.0	433.5	496.7	575.9	701.7	795.0
60°	290.3	292.2	298.8	305.8	318.1	337.9	368.0	409.0	484.4	583.9	678.6
62.5°	253.5	254.5	256.4	263.4	273.8	287.9	310.1	341.7	397.7	482.1	570.2
65°	218.7	219.1	220.1	225.7	232.3	243.6	259.2	282.7	328.0	394.0	473.1
67.5°	183.8	184.7	188.0	189.9	197.9	203.6	213.5	232.3	267.2	314.3	378.4
70°	155.5	155.0	158.3	160.7	163.1	170.1	176.2	190.9	210.6	244.6	295.9
72.5°	129.1	127.7	128.6	129.1	132.4	136.7	142.8	150.3	164.5	185.2	221.5
75°	101.8	102.3	102.3	103.2	105.6	107.4	109.3	114.0	122.5	138.1	159.3
77.5°	76.3	75.4	77.8	77.8	79.6	82.0	83.4	85.3	88.6	95.7	108.4
80°	51.8	51.8	52.3	53.7	53.3	54.2	56.5	58.4	62.7	66.4	70.2
82.5°	36.8	36.3	36.8	36.8	36.8	37.7	38.2	38.2	39.1	40.5	42.9
85°	21.7	21.7	22.1	22.1	22.6	22.6	23.1	23.1	23.1	23.6	24.0
87.5°	10.4	9.9	9.4	9.4	9.9	10.8	10.4	9.9	9.9	9.9	10.4
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: P242910

CATALOG NUMBER: S125RDR-S850D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9
2.5°	1187.5	1184.2	1178.1	1172.5	1165.4	1159.3	1155.0	1149.8	1143.2	1135.2	1128.6
5°	1231.8	1221.5	1207.8	1196.0	1180.9	1169.2	1156.9	1145.1	1133.3	1118.3	1105.1
7.5°	1280.8	1260.6	1241.7	1217.2	1195.1	1175.8	1156.9	1137.6	1119.2	1098.5	1079.1
10°	1325.1	1299.2	1270.5	1237.5	1207.3	1178.6	1152.2	1126.3	1098.9	1074.9	1049.0
12.5°	1366.6	1331.3	1297.3	1253.5	1215.8	1179.1	1143.7	1109.8	1080.1	1047.1	1018.8
15°	1388.3	1355.3	1318.5	1267.6	1217.2	1174.8	1135.2	1093.3	1057.0	1022.1	991.0
17.5°	1401.0	1366.1	1323.7	1274.2	1220.0	1167.3	1117.3	1072.5	1031.1	991.0	956.6
20°	1395.4	1361.9	1318.1	1271.4	1212.5	1156.9	1101.8	1050.9	1003.3	960.4	923.2
22.5°	1381.7	1346.8	1304.9	1254.9	1199.8	1139.9	1080.1	1025.0	974.5	929.8	888.3
25°	1368.0	1320.9	1277.5	1229.5	1176.2	1117.8	1057.0	997.2	943.9	898.7	854.4
27.5°	1354.8	1297.8	1244.1	1197.9	1140.9	1088.1	1028.7	967.0	911.4	865.7	820.4
30°	1335.5	1269.5	1208.7	1154.5	1101.3	1051.8	996.2	936.4	878.9	831.3	785.1
32.5°	1311.5	1240.3	1172.0	1107.4	1056.5	1007.5	958.5	902.0	846.4	796.9	749.7
35°	1292.1	1202.6	1130.0	1063.6	1006.6	959.0	913.7	867.6	811.5	760.6	714.9
37.5°	1265.3	1166.8	1084.8	1012.2	952.9	905.7	869.4	825.6	773.3	723.8	681.4
40°	1241.3	1127.2	1035.3	963.7	900.5	850.1	816.7	780.8	734.2	688.5	646.1
42.5°	1209.2	1090.9	985.4	910.0	846.4	798.3	764.4	734.2	697.0	654.6	608.4
45°	1165.4	1041.9	934.0	853.9	789.8	742.2	710.6	682.8	653.1	613.6	574.0
47.5°	1113.1	995.3	881.7	793.6	731.8	687.1	656.0	632.9	611.2	576.8	536.7
50°	1047.6	934.9	824.7	739.9	672.9	631.0	602.2	584.8	565.5	534.9	502.8
52.5°	970.3	872.7	765.3	678.1	615.9	577.3	549.9	532.5	517.4	493.9	463.7
55°	888.3	800.2	701.2	622.5	564.5	525.0	498.6	482.1	472.7	451.5	427.4
57.5°	795.5	727.6	638.1	561.3	508.9	469.4	449.6	435.0	424.1	408.6	390.7
60°	697.4	653.1	574.9	502.8	455.7	418.5	401.0	389.2	379.4	366.6	353.4
62.5°	598.0	568.8	503.3	443.9	401.5	371.8	355.8	345.4	333.6	326.1	313.4
65°	511.3	482.6	435.4	386.9	346.8	321.9	310.1	300.7	293.6	284.2	275.2
67.5°	415.2	402.0	367.1	330.8	301.6	277.6	267.2	259.7	251.6	246.0	239.4
70°	328.0	322.3	299.2	277.1	250.2	235.2	225.7	222.9	212.5	206.9	202.6
72.5°	250.7	248.8	238.0	224.3	207.3	194.6	186.1	182.8	177.2	172.9	170.6
75°	182.4	183.3	181.0	171.1	164.0	155.5	148.0	146.1	141.4	137.6	135.2
77.5°	124.4	129.1	128.2	127.7	124.4	118.3	115.0	113.6	108.4	107.0	106.5
80°	79.2	84.4	89.1	88.6	87.7	86.2	83.9	82.5	80.1	78.7	77.8
82.5°	46.2	50.9	54.7	58.0	58.0	56.5	55.1	54.7	54.7	53.7	53.7
85°	25.0	25.9	27.3	30.6	33.0	33.5	33.0	32.5	31.1	31.6	32.0
87.5°	10.8	10.8	11.3	11.3	10.8	13.2	14.6	15.1	14.1	13.2	12.3
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: P242910

CATALOG NUMBER: S125RDR-S850D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9	1147.9
2.5°	1123.9	1117.3	1112.6	1103.2	1096.6	1093.8	1088.6	1087.2	1092.3	1088.6	1088.1
5°	1095.2	1081.5	1070.7	1059.8	1048.0	1040.5	1029.2	1027.3	1024.5	1020.2	1019.3
7.5°	1061.7	1044.7	1032.0	1014.1	999.5	987.7	973.6	967.9	965.1	959.9	951.4
10°	1027.8	1006.6	987.7	969.8	950.5	934.9	920.8	910.0	902.9	896.3	893.5
12.5°	994.3	972.6	947.2	924.6	902.4	884.5	868.5	862.4	854.4	846.4	838.8
15°	959.5	930.7	904.3	879.3	861.0	842.1	827.0	816.7	804.9	801.6	788.9
17.5°	922.2	895.4	864.3	837.4	816.7	796.9	780.4	768.1	759.2	746.4	740.3
20°	887.8	854.4	824.2	800.2	776.6	752.1	735.1	725.2	716.8	706.9	702.2
22.5°	851.1	818.5	787.4	758.2	734.2	710.2	699.3	689.0	679.1	670.1	663.5
25°	815.3	782.3	749.7	720.5	695.6	678.1	664.0	652.2	647.0	638.1	631.5
27.5°	779.4	744.6	711.6	680.9	661.6	644.2	632.9	623.5	613.6	605.5	599.4
30°	745.0	709.2	672.5	649.4	628.6	612.1	599.4	590.5	583.4	576.3	572.1
32.5°	710.6	673.4	641.8	616.4	597.1	583.4	570.2	561.7	554.2	546.2	541.0
35°	673.4	635.7	609.3	584.8	565.5	552.3	543.3	531.1	525.0	519.3	514.1
37.5°	639.9	604.1	574.9	553.7	535.8	523.1	511.3	505.2	497.2	492.4	488.2
40°	602.2	570.2	544.3	521.7	509.4	494.8	484.0	475.5	469.8	463.2	458.5
42.5°	568.3	539.1	514.1	494.3	478.3	466.5	456.2	447.7	440.1	435.9	432.1
45°	536.7	507.1	482.6	463.7	449.6	437.8	426.9	422.7	413.3	407.6	405.7
47.5°	503.8	476.9	452.9	435.4	420.8	410.0	399.6	390.2	385.5	379.8	377.0
50°	470.3	444.9	422.7	405.7	391.6	379.4	369.9	364.3	357.2	352.0	348.2
52.5°	436.8	413.8	391.6	375.6	363.8	351.5	340.7	335.1	328.5	325.6	323.3
55°	405.3	380.3	361.4	345.4	332.7	321.4	311.5	305.8	301.6	298.3	297.4
57.5°	369.0	348.7	330.8	316.7	303.0	292.2	283.2	278.0	274.3	273.8	270.5
60°	333.6	315.7	299.7	284.2	272.8	263.0	255.4	249.3	245.5	245.0	244.1
62.5°	298.3	281.3	266.7	253.5	243.6	234.2	227.1	220.1	218.2	215.4	213.0
65°	263.4	247.9	235.6	224.8	213.9	205.9	198.9	194.6	189.4	186.6	181.4
67.5°	229.0	216.3	204.5	195.6	186.6	178.6	172.5	166.3	162.6	160.2	156.0
70°	195.1	185.7	173.9	164.0	157.4	151.3	146.6	139.5	137.1	135.2	133.4
72.5°	163.1	155.0	145.6	138.1	131.5	125.8	120.2	117.8	115.5	113.6	112.6
75°	133.4	125.4	116.9	111.2	106.5	101.8	99.0	96.6	95.7	95.2	93.3
77.5°	103.7	99.0	91.9	86.7	83.4	81.5	78.7	77.8	78.2	75.9	75.4
80°	74.9	72.6	66.9	65.0	62.7	60.8	59.4	57.0	54.7	53.7	52.3
82.5°	50.9	48.5	47.1	43.8	41.9	41.0	39.6	39.1	40.1	38.6	38.2
85°	29.7	27.3	26.4	25.9	25.0	25.9	25.4	25.0	24.5	24.0	24.5
87.5°	11.8	11.8	11.3	12.3	10.8	11.3	11.3	10.8	10.8	10.8	10.4
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: P242910

CATALOG NUMBER: S125RDR-S850D830-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1147.9	1147.9	1147.9	1147.9
2.5°	1087.6	1082.4	1081.0	1082.9
5°	1014.6	1009.9	1012.2	1011.3
7.5°	952.9	946.7	939.7	941.5
10°	887.4	882.6	879.8	882.2
12.5°	832.2	829.9	827.5	825.6
15°	783.2	777.6	775.2	769.1
17.5°	736.1	734.2	728.1	723.8
20°	695.1	693.2	687.1	690.8
22.5°	661.2	656.4	655.5	653.1
25°	629.6	623.5	621.1	618.3
27.5°	597.5	594.2	590.9	590.0
30°	566.4	563.1	560.8	560.8
32.5°	538.6	536.3	533.9	533.4
35°	511.8	508.0	507.1	504.2
37.5°	483.5	480.2	480.2	480.7
40°	456.6	454.3	453.8	450.5
42.5°	427.9	426.9	425.1	424.1
45°	402.4	399.1	399.1	396.8
47.5°	375.6	372.8	373.2	370.4
50°	348.7	347.3	346.8	345.9
52.5°	321.9	321.4	323.7	321.4
55°	298.3	296.9	299.7	296.9
57.5°	270.5	269.6	272.4	270.5
60°	243.2	240.3	241.7	242.2
62.5°	210.6	209.2	210.2	207.3
65°	180.5	179.1	177.2	176.2
67.5°	156.9	152.7	152.7	153.6
70°	130.5	130.5	130.1	130.1
72.5°	112.2	111.7	110.7	110.3
75°	93.3	93.8	92.8	92.4
77.5°	73.0	70.7	71.6	70.7
80°	52.3	51.8	53.3	51.8
82.5°	38.6	38.2	38.6	37.7
85°	25.0	24.5	24.0	24.5
87.5°	10.8	10.4	10.4	10.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)