

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: P242920

Luminaire Tested: **S125RDR-S850D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242920  
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-S850D840-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3186.7 lumens  
Efficiency: N/A  
Efficacy: 120.7 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

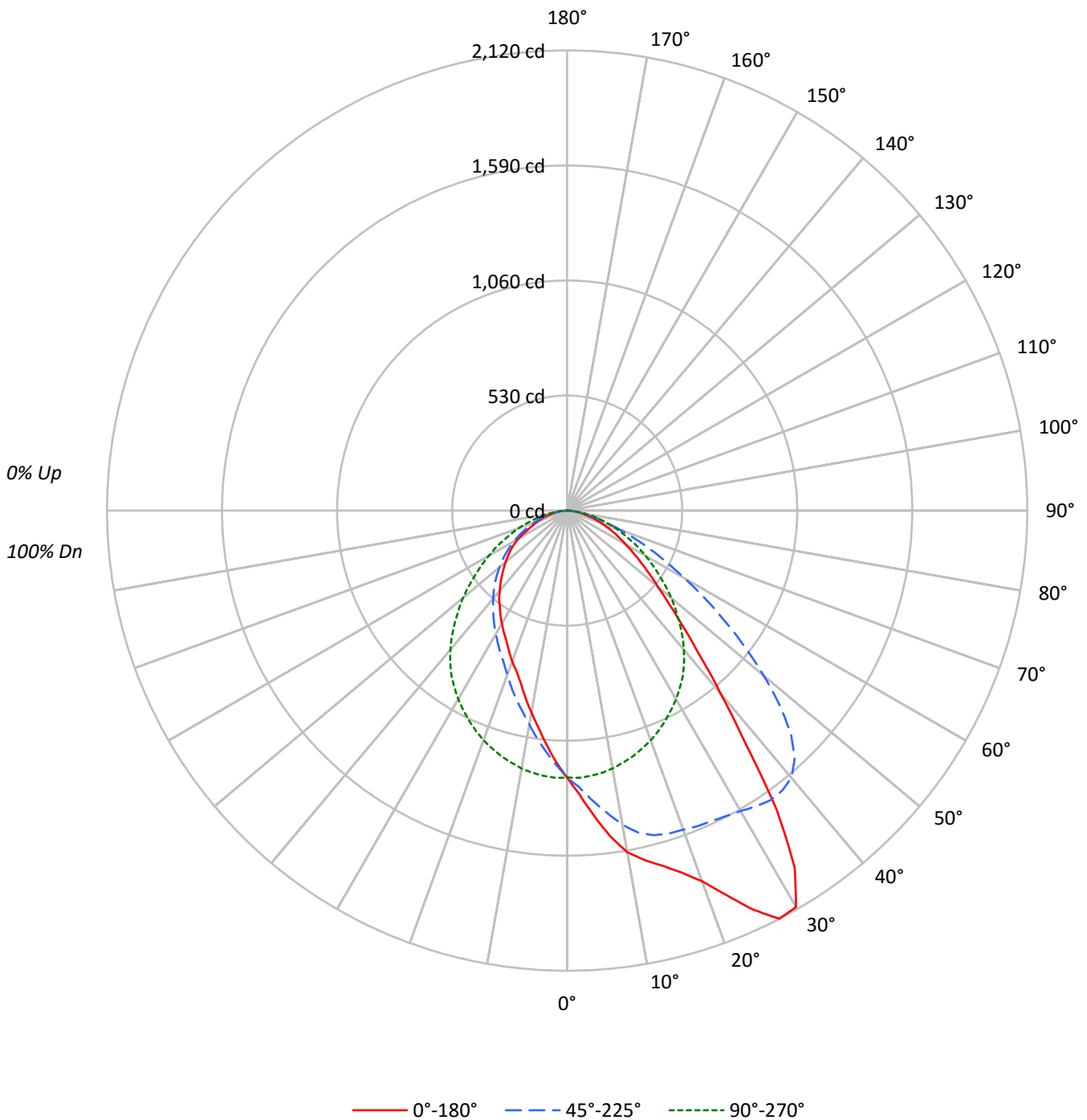
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	8741	8741	8741
5°	10057	8753	7730
10°	11536	8709	6821
15°	12460	8619	6063
20°	13740	8516	5598
25°	15901	8378	5195
30°	17304	8233	4931
35°	14596	8065	4687
40°	10194	7762	4478
45°	7562	7354	4273
50°	6029	6928	4098
55°	5118	6400	3942
60°	4421	5928	3689
65°	3940	5417	3175
70°	3462	4962	2897
75°	2996	4298	2719
80°	2272	3618	2272
85°	1892	2838	2145



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.9	3.7
10°-20°	345.8	10.9
20°-30°	548.3	17.2
30°-40°	662.5	20.8
40°-50°	590.0	18.5
50°-60°	452.4	14.2
60°-70°	293.8	9.2
70°-80°	142.6	4.5
80°-90°	33.5	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°	1012.0	31.8
0°-40°	1674.5	52.5
0°-60°	2716.9	85.3
0°-90°	3186.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3186.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1230	1230	1230	1230	1230	
5°	1410	1340	1227	1115	1084	140
15°	1693	1548	1171	902	824	485
25°	2028	1578	1068	727	662	933
35°	1682	1630	930	592	540	1020
45°	752	1459	732	469	425	597
55°	413	886	516	344	318	374
65°	234	422	322	221	189	233
75°	109	148	156	109	99	116
85°	23	25	35	28	26	28
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°	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9
2.5°	1309.7	1308.7	1310.7	1305.2	1305.7	1297.1	1297.1	1290.5	1281.9	1275.4	1272.4
5°	1409.7	1410.7	1408.7	1401.1	1396.1	1388.5	1379.9	1364.8	1352.1	1340.0	1330.4
7.5°	1511.7	1512.7	1506.1	1504.6	1491.5	1483.4	1464.2	1444.5	1427.4	1404.6	1388.5
10°	1598.5	1598.0	1590.9	1585.4	1574.3	1560.1	1541.5	1517.2	1494.5	1469.3	1445.0
12.5°	1649.0	1647.5	1646.5	1639.4	1629.3	1617.2	1602.1	1578.3	1549.0	1520.8	1491.5
15°	1693.4	1689.9	1683.3	1674.8	1660.1	1645.5	1627.8	1606.6	1579.8	1548.5	1522.3
17.5°	1747.0	1747.5	1737.4	1728.3	1709.1	1684.9	1658.6	1626.3	1592.0	1560.1	1533.9
20°	1816.6	1815.1	1805.0	1781.8	1759.1	1726.8	1695.5	1653.6	1609.1	1564.2	1529.3
22.5°	1916.6	1912.1	1901.5	1869.1	1830.8	1786.8	1734.8	1681.3	1625.3	1572.8	1524.3
25°	2027.7	2024.7	2004.0	1968.6	1919.1	1855.0	1792.4	1722.2	1645.0	1577.8	1522.3
27.5°	2119.6	2113.5	2094.8	2061.5	2013.0	1943.9	1857.5	1766.7	1674.8	1586.4	1510.2
30°	2108.5	2116.0	2114.0	2100.4	2066.1	2005.5	1927.2	1821.7	1707.1	1598.5	1503.1
32.5°	1949.9	1956.5	1979.2	2016.1	2027.2	2012.0	1958.5	1863.1	1743.4	1616.2	1497.5
35°	1682.3	1691.4	1725.8	1779.8	1850.5	1909.5	1921.7	1869.1	1762.6	1629.8	1492.0
37.5°	1342.0	1401.1	1424.3	1479.4	1590.4	1698.0	1791.4	1812.6	1755.0	1626.8	1485.4
40°	1098.7	1110.8	1162.3	1226.4	1316.3	1429.4	1578.3	1685.9	1689.4	1606.6	1464.2
42.5°	900.7	916.9	948.2	996.2	1069.9	1183.0	1338.0	1488.5	1569.7	1551.1	1436.4
45°	752.3	763.9	789.7	829.0	888.1	981.5	1113.8	1277.9	1408.2	1459.2	1382.4
47.5°	636.2	642.2	666.0	697.8	743.2	813.9	921.4	1069.9	1224.9	1328.4	1308.2
50°	545.3	552.4	569.5	592.3	629.1	686.7	768.5	887.1	1048.2	1182.0	1208.7
52.5°	474.6	480.2	489.3	510.5	539.2	580.1	642.2	746.8	887.6	1032.0	1102.7
55°	413.0	417.0	425.6	437.8	462.0	493.8	550.8	625.1	742.2	885.6	976.5
57.5°	360.5	362.5	367.6	379.7	397.4	421.1	464.5	532.2	617.0	751.8	851.8
60°	311.0	313.0	320.1	327.7	340.8	362.0	394.3	438.3	519.0	625.6	727.1
62.5°	271.6	272.6	274.7	282.2	293.3	308.5	332.2	366.1	426.1	516.5	610.9
65°	234.3	234.8	235.8	241.8	248.9	261.0	277.7	302.9	351.4	422.1	506.9
67.5°	196.9	197.9	201.5	203.5	212.1	218.1	228.7	248.9	286.3	336.8	405.4
70°	166.6	166.1	169.6	172.2	174.7	182.3	188.8	204.5	225.7	262.0	317.1
72.5°	138.3	136.8	137.8	138.3	141.9	146.4	153.0	161.1	176.2	198.4	237.3
75°	109.1	109.6	109.6	110.6	113.1	115.1	117.1	122.2	131.3	147.9	170.7
77.5°	81.8	80.8	83.3	83.3	85.3	87.9	89.4	91.4	94.9	102.5	116.1
80°	55.5	55.5	56.0	57.6	57.1	58.1	60.6	62.6	67.2	71.2	75.2
82.5°	39.4	38.9	39.4	39.4	39.4	40.4	40.9	40.9	41.9	43.4	45.9
85°	23.2	23.2	23.7	23.7	24.2	24.2	24.7	24.7	24.7	25.2	25.8
87.5°	11.1	10.6	10.1	10.1	10.6	11.6	11.1	10.6	10.6	10.6	11.1
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°	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9
2.5°	1272.4	1268.8	1262.3	1256.2	1248.6	1242.1	1237.5	1232.0	1224.9	1216.3	1209.2
5°	1319.8	1308.7	1294.1	1281.4	1265.3	1252.7	1239.5	1226.9	1214.3	1198.1	1184.0
7.5°	1372.3	1350.6	1330.4	1304.2	1280.4	1259.7	1239.5	1218.8	1199.1	1176.9	1156.2
10°	1419.8	1392.0	1361.2	1325.9	1293.6	1262.8	1234.5	1206.7	1177.4	1151.7	1123.9
12.5°	1464.2	1426.3	1390.0	1343.0	1302.6	1263.3	1225.4	1189.0	1157.2	1121.9	1091.6
15°	1487.4	1452.1	1412.7	1358.2	1304.2	1258.7	1216.3	1171.4	1132.5	1095.1	1061.8
17.5°	1501.1	1463.7	1418.3	1365.3	1307.2	1250.6	1197.1	1149.2	1104.7	1061.8	1025.0
20°	1495.0	1459.2	1412.2	1362.2	1299.1	1239.5	1180.5	1125.9	1074.9	1029.0	989.1
22.5°	1480.4	1443.0	1398.1	1344.6	1285.5	1221.4	1157.2	1098.2	1044.1	996.2	951.7
25°	1465.7	1415.2	1368.8	1317.3	1260.2	1197.6	1132.5	1068.4	1011.3	962.8	915.4
27.5°	1451.6	1390.5	1332.9	1283.5	1222.4	1165.8	1102.2	1036.1	976.5	927.5	879.0
30°	1430.9	1360.2	1295.1	1237.0	1180.0	1126.9	1067.4	1003.2	941.6	890.6	841.2
32.5°	1405.1	1328.9	1255.7	1186.5	1132.0	1079.5	1027.0	966.4	906.8	853.8	803.3
35°	1384.4	1288.5	1210.8	1139.6	1078.5	1027.5	979.0	929.5	869.4	814.9	765.9
37.5°	1355.7	1250.1	1162.3	1084.5	1020.9	970.4	931.5	884.6	828.5	775.5	730.1
40°	1329.9	1207.7	1109.3	1032.5	964.9	910.8	875.0	836.6	786.6	737.7	692.2
42.5°	1295.6	1168.8	1055.8	975.0	906.8	855.3	819.0	786.6	746.8	701.3	651.8
45°	1248.6	1116.3	1000.7	914.9	846.2	795.2	761.4	731.6	699.8	657.4	615.0
47.5°	1192.6	1066.4	944.7	850.3	784.1	736.1	702.8	678.1	654.9	618.0	575.1
50°	1122.4	1001.7	883.6	792.7	721.0	676.1	645.3	626.6	605.9	573.1	538.7
52.5°	1039.6	935.1	820.0	726.6	659.9	618.5	589.2	570.5	554.4	529.1	496.8
55°	951.7	857.3	751.3	667.0	604.9	562.5	534.2	516.5	506.4	483.7	457.9
57.5°	852.3	779.6	683.6	601.3	545.3	502.9	481.7	466.0	454.4	437.8	418.6
60°	747.3	699.8	616.0	538.7	488.2	448.4	429.7	417.0	406.4	392.8	378.7
62.5°	640.7	609.4	539.2	475.6	430.2	398.4	381.2	370.1	357.5	349.4	335.8
65°	547.8	517.0	466.5	414.5	371.6	344.8	332.2	322.1	314.6	304.5	294.9
67.5°	444.8	430.7	393.3	354.4	323.1	297.4	286.3	278.2	269.6	263.6	256.5
70°	351.4	345.4	320.6	296.9	268.1	251.9	241.8	238.8	227.7	221.7	217.1
72.5°	268.6	266.6	255.0	240.3	222.2	208.5	199.4	195.9	189.8	185.3	182.8
75°	195.4	196.4	193.9	183.3	175.7	166.6	158.5	156.5	151.5	147.4	144.9
77.5°	133.3	138.3	137.3	136.8	133.3	126.7	123.2	121.7	116.1	114.6	114.1
80°	84.8	90.4	95.4	94.9	93.9	92.4	89.9	88.4	85.8	84.3	83.3
82.5°	49.5	54.5	58.6	62.1	62.1	60.6	59.1	58.6	58.6	57.6	57.6
85°	26.8	27.8	29.3	32.8	35.3	35.8	35.3	34.8	33.3	33.8	34.3
87.5°	11.6	11.6	12.1	12.1	11.6	14.1	15.7	16.2	15.1	14.1	13.1
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9	1229.9
2.5°	1204.2	1197.1	1192.1	1182.0	1174.9	1171.9	1166.3	1164.8	1170.4	1166.3	1165.8
5°	1173.4	1158.8	1147.1	1135.5	1122.9	1114.8	1102.7	1100.7	1097.7	1093.1	1092.1
7.5°	1137.5	1119.4	1105.7	1086.5	1070.9	1058.3	1043.1	1037.1	1034.0	1028.5	1019.4
10°	1101.2	1078.5	1058.3	1039.1	1018.4	1001.7	986.6	975.0	967.4	960.3	957.3
12.5°	1065.3	1042.1	1014.9	990.6	966.9	947.7	930.5	924.0	915.4	906.8	898.7
15°	1028.0	997.2	968.9	942.1	922.5	902.3	886.1	875.0	862.4	858.8	845.2
17.5°	988.1	959.3	926.0	897.2	875.0	853.8	836.1	823.0	813.4	799.8	793.2
20°	951.2	915.4	883.1	857.3	832.1	805.8	787.6	777.0	768.0	757.4	752.3
22.5°	911.9	877.0	843.7	812.4	786.6	760.9	749.3	738.2	727.6	718.0	710.9
25°	873.5	838.1	803.3	772.0	745.2	726.6	711.4	698.8	693.2	683.6	676.6
27.5°	835.1	797.7	762.4	729.6	708.9	690.2	678.1	668.0	657.4	648.8	642.2
30°	798.3	759.9	720.5	695.8	673.5	655.9	642.2	632.6	625.1	617.5	613.0
32.5°	761.4	721.5	687.7	660.4	639.7	625.1	610.9	601.8	593.8	585.2	579.6
35°	721.5	681.1	652.8	626.6	605.9	591.7	582.2	569.0	562.5	556.4	550.8
37.5°	685.7	647.3	616.0	593.3	574.1	560.4	547.8	541.3	532.7	527.6	523.1
40°	645.3	610.9	583.2	558.9	545.8	530.1	518.5	509.4	503.4	496.3	491.3
42.5°	608.9	577.6	550.8	529.6	512.5	499.9	488.7	479.7	471.6	467.0	463.0
45°	575.1	543.3	517.0	496.8	481.7	469.1	457.4	452.9	442.8	436.7	434.7
47.5°	539.7	511.0	485.2	466.5	450.9	439.3	428.2	418.1	413.0	407.0	403.9
50°	503.9	476.6	452.9	434.7	419.6	406.4	396.3	390.3	382.7	377.2	373.1
52.5°	468.0	443.3	419.6	402.4	389.8	376.7	365.0	359.0	351.9	348.9	346.4
55°	434.2	407.5	387.3	370.1	356.5	344.3	333.7	327.7	323.1	319.6	318.6
57.5°	395.3	373.6	354.4	339.3	324.7	313.0	303.4	297.9	293.9	293.3	289.8
60°	357.5	338.3	321.1	304.5	292.3	281.7	273.7	267.1	263.1	262.5	261.5
62.5°	319.6	301.4	285.8	271.6	261.0	250.9	243.4	235.8	233.8	230.7	228.2
65°	282.2	265.6	252.5	240.8	229.2	220.6	213.1	208.5	203.0	199.9	194.4
67.5°	245.4	231.8	219.1	209.5	199.9	191.4	184.8	178.2	174.2	171.7	167.1
70°	209.0	198.9	186.3	175.7	168.6	162.1	157.0	149.5	146.9	144.9	142.9
72.5°	174.7	166.1	156.0	147.9	140.9	134.8	128.8	126.2	123.7	121.7	120.7
75°	142.9	134.3	125.2	119.2	114.1	109.1	106.0	103.5	102.5	102.0	100.0
77.5°	111.1	106.0	98.5	92.9	89.4	87.3	84.3	83.3	83.8	81.3	80.8
80°	80.3	77.8	71.7	69.7	67.2	65.1	63.6	61.1	58.6	57.6	56.0
82.5°	54.5	52.0	50.5	47.0	44.9	43.9	42.4	41.9	42.9	41.4	40.9
85°	31.8	29.3	28.3	27.8	26.8	27.8	27.3	26.8	26.3	25.8	26.3
87.5°	12.6	12.6	12.1	13.1	11.6	12.1	12.1	11.6	11.6	11.6	11.1
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: P242920

CATALOG NUMBER: S125RDR-S850D840-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1229.9	1229.9	1229.9	1229.9
2.5°	1165.3	1159.8	1158.2	1160.3
5°	1087.1	1082.0	1084.5	1083.5
7.5°	1020.9	1014.3	1006.8	1008.8
10°	950.7	945.7	942.7	945.2
12.5°	891.7	889.1	886.6	884.6
15°	839.1	833.1	830.6	824.0
17.5°	788.7	786.6	780.1	775.5
20°	744.7	742.7	736.1	740.2
22.5°	708.4	703.3	702.3	699.8
25°	674.5	668.0	665.5	662.4
27.5°	640.2	636.7	633.1	632.1
30°	606.9	603.4	600.8	600.8
32.5°	577.1	574.6	572.1	571.5
35°	548.3	544.3	543.3	540.2
37.5°	518.0	514.5	514.5	515.0
40°	489.3	486.7	486.2	482.7
42.5°	458.5	457.4	455.4	454.4
45°	431.2	427.7	427.7	425.1
47.5°	402.4	399.4	399.9	396.9
50°	373.6	372.1	371.6	370.6
52.5°	344.8	344.3	346.9	344.3
55°	319.6	318.1	321.1	318.1
57.5°	289.8	288.8	291.8	289.8
60°	260.5	257.5	259.0	259.5
62.5°	225.7	224.2	225.2	222.2
65°	193.4	191.9	189.8	188.8
67.5°	168.1	163.6	163.6	164.6
70°	139.9	139.9	139.4	139.4
72.5°	120.2	119.7	118.7	118.1
75°	100.0	100.5	99.5	99.0
77.5°	78.3	75.7	76.7	75.7
80°	56.0	55.5	57.1	55.5
82.5°	41.4	40.9	41.4	40.4
85°	26.8	26.3	25.8	26.3
87.5°	11.6	11.1	11.1	11.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)