

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: P242832

Luminaire Tested: **S125DR-S850D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242832  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125DR-S850D940-X4F0-XX-UDD-A-W  
Description: DEFINE 5 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2964.2 lumens  
Efficiency: N/A  
Efficacy: 112.3 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.23 / 1.53  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct

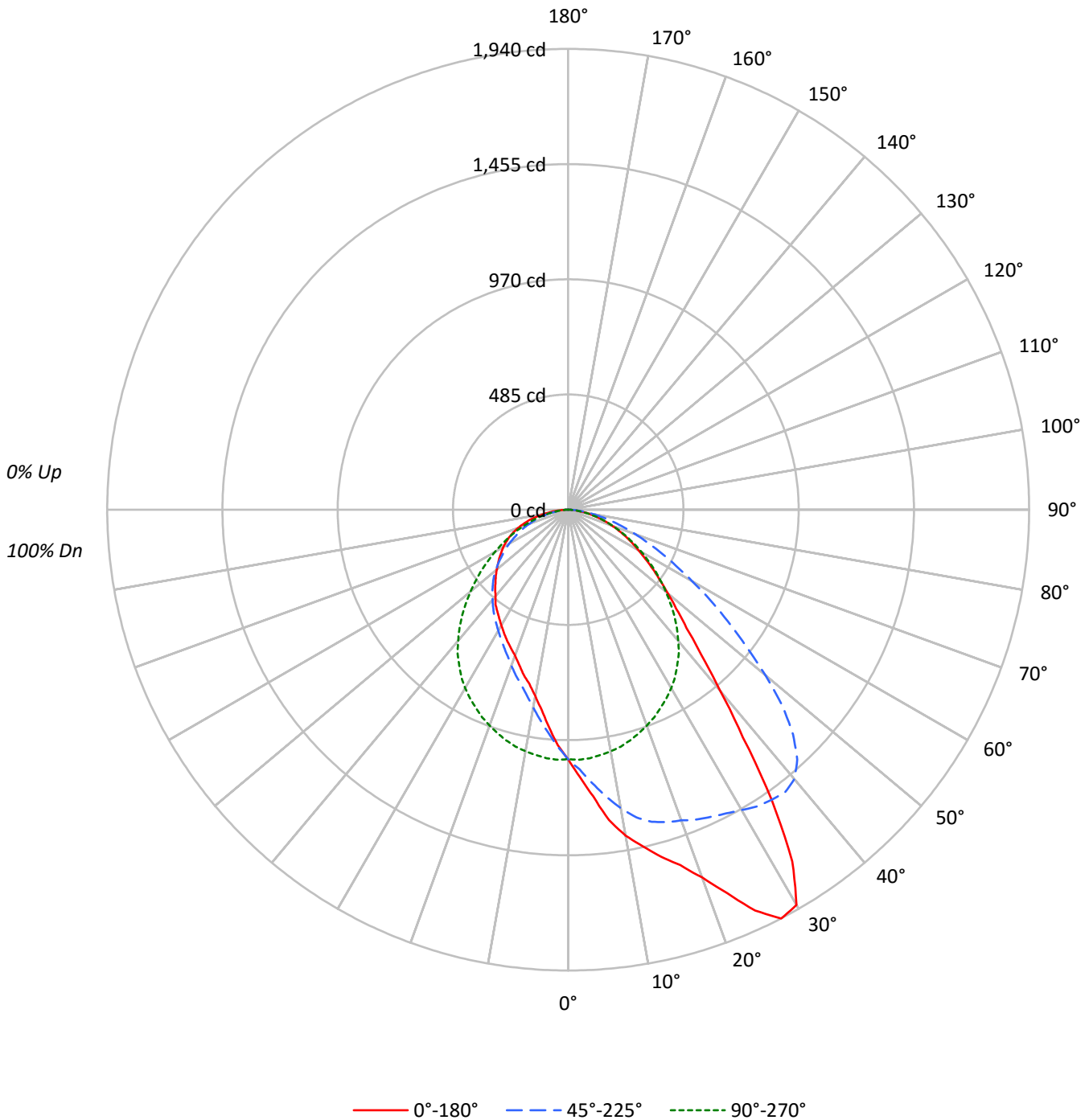
Input Watts (W): 26.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	105	101	97	107	103	99	96	99	96	93		95	92	90		91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78		84	80	76		81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66		74	69	65		72	67	64	61
4	84	73	64	58	82	71	63	57	69	62	57		67	61	56		64	59	55	53
5	78	65	56	50	76	64	56	50	62	55	49		60	54	49		58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43		54	48	43		53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39		50	43	38		48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34		46	39	34		44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31		42	36	31		41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28		39	33	28		38	32	28	26

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

	0°	90°	180°
0°	7466	7466	7466
5°	8646	7491	6559
10°	10058	7452	5747
15°	11134	7398	5301
20°	12463	7311	4943
25°	14600	7213	4769
30°	15769	7116	4617
35°	12966	6936	4518
40°	9216	6685	4410
45°	7080	6345	4347
50°	6044	5925	4338
55°	5380	5513	4375
60°	4854	5063	4488
65°	4484	4611	4603
70°	4077	4142	4669
75°	3600	3650	4627
80°	3029	2976	4232
85°	2398	2145	3417



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.1	3.4
10°-20°	301.1	10.2
20°-30°	489.1	16.5
30°-40°	597.8	20.2
40°-50°	542.3	18.3
50°-60°	431.9	14.6
60°-70°	300.8	10.1
70°-80°	160.3	5.4
80°-90°	39.7	1.3
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°	891.3	30.1
0°-40°	1489.1	50.2
0°-60°	2463.3	83.1
0°-90°	2964.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2964.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1050	1050	1050	1050	1050	
5°	1212	1154	1050	944	919	122
15°	1513	1360	1005	762	720	433
25°	1862	1426	920	639	608	853
35°	1494	1491	799	542	521	917
45°	704	1338	631	448	432	560
55°	434	820	445	342	353	390
65°	267	435	274	230	274	264
75°	131	194	133	121	168	141
85°	29	39	26	28	42	34
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°	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4
2.5°	1126.2	1124.4	1122.6	1119.0	1121.7	1114.1	1110.6	1104.3	1096.8	1094.1	1091.0
5°	1211.8	1214.0	1216.2	1206.9	1207.8	1201.5	1187.3	1175.7	1166.3	1154.3	1145.8
7.5°	1317.9	1311.2	1311.6	1305.8	1295.6	1287.1	1273.3	1254.1	1236.7	1217.1	1200.2
10°	1393.7	1394.1	1390.1	1383.0	1371.8	1363.8	1344.2	1325.5	1302.7	1276.0	1256.8
12.5°	1450.7	1453.0	1447.6	1437.4	1433.4	1412.8	1398.6	1375.4	1347.3	1327.2	1295.6
15°	1513.2	1508.3	1504.7	1492.7	1483.3	1464.6	1440.0	1416.9	1387.4	1360.2	1333.0
17.5°	1568.4	1572.5	1566.7	1557.7	1530.1	1508.3	1477.9	1448.5	1413.3	1379.4	1347.8
20°	1647.8	1651.4	1641.1	1621.9	1587.2	1565.3	1522.1	1481.1	1438.7	1391.9	1356.2
22.5°	1746.8	1742.3	1727.6	1696.0	1667.0	1621.9	1574.2	1522.1	1466.3	1412.0	1361.6
25°	1861.8	1843.1	1834.6	1798.5	1758.8	1699.5	1635.3	1562.2	1496.2	1426.2	1365.6
27.5°	1940.3	1932.7	1920.7	1891.2	1845.8	1778.4	1702.6	1615.3	1526.5	1440.9	1364.7
30°	1921.5	1922.4	1923.3	1915.3	1888.6	1840.9	1765.5	1669.7	1559.1	1459.7	1367.8
32.5°	1755.7	1775.8	1794.9	1819.9	1835.9	1836.4	1796.3	1712.0	1597.4	1481.1	1366.0
35°	1494.4	1499.3	1549.7	1599.7	1667.4	1720.0	1755.3	1716.9	1621.1	1491.3	1364.7
37.5°	1208.2	1232.7	1270.6	1326.8	1428.5	1511.4	1620.2	1657.6	1612.6	1499.8	1364.3
40°	993.3	1015.6	1038.3	1095.9	1178.3	1284.4	1412.4	1521.6	1547.0	1481.1	1350.9
42.5°	827.5	844.0	869.8	909.5	975.0	1066.0	1186.8	1337.9	1441.4	1426.7	1322.8
45°	704.4	715.6	735.2	769.5	819.4	893.0	1000.9	1156.9	1292.9	1337.9	1275.1
47.5°	617.0	617.5	633.5	658.1	695.9	763.7	844.4	972.8	1119.5	1223.4	1208.7
50°	546.6	544.4	556.4	576.9	605.4	646.9	723.1	820.8	960.3	1082.0	1115.9
52.5°	486.0	486.9	493.1	506.9	529.7	563.5	615.7	701.3	815.4	941.2	1012.5
55°	434.2	432.5	440.9	451.2	468.6	491.8	532.8	600.1	696.8	819.9	902.8
57.5°	384.3	389.2	392.8	399.9	415.1	431.1	467.7	519.4	599.2	708.4	796.3
60°	341.5	346.4	349.1	356.2	367.8	381.2	407.9	448.1	512.7	603.7	690.6
62.5°	303.2	306.7	307.2	313.4	322.3	335.3	354.9	387.0	434.7	511.4	596.1
65°	266.6	266.6	268.4	275.1	279.5	291.1	307.2	331.7	372.7	434.7	507.4
67.5°	230.9	233.2	232.7	235.8	239.9	249.7	261.7	282.2	314.8	361.6	421.8
70°	196.2	198.0	197.5	199.7	204.2	210.0	219.4	238.5	260.4	299.2	349.1
72.5°	165.0	165.4	164.1	167.2	169.4	174.3	185.0	193.0	213.1	244.3	283.1
75°	131.1	132.0	132.9	134.6	137.3	140.0	145.3	155.6	169.0	193.5	219.8
77.5°	104.3	102.1	104.8	104.3	105.7	107.9	112.8	118.6	130.2	146.7	168.5
80°	74.0	74.5	74.5	74.9	77.1	78.5	82.5	86.5	95.0	106.6	120.8
82.5°	49.0	50.4	49.5	50.4	52.2	53.1	54.8	58.0	62.0	70.4	79.8
85°	29.4	27.2	28.1	29.0	29.0	29.4	31.2	32.5	35.2	38.8	42.8
87.5°	10.7	11.6	12.0	12.0	12.5	12.5	14.3	14.3	15.6	16.9	18.7
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°	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4
2.5°	1088.3	1085.2	1081.6	1075.4	1067.8	1063.8	1057.5	1053.5	1045.5	1038.8	1031.7
5°	1135.5	1123.9	1113.2	1099.4	1084.3	1074.5	1062.9	1049.9	1036.6	1022.7	1007.6
7.5°	1182.8	1163.6	1142.7	1120.8	1099.4	1079.4	1060.6	1041.5	1024.1	1002.2	984.0
10°	1230.5	1204.6	1177.0	1144.5	1112.8	1085.2	1057.1	1032.6	1007.6	980.8	957.2
12.5°	1278.2	1241.6	1199.7	1163.2	1123.5	1088.7	1054.4	1021.4	988.4	958.1	929.6
15°	1295.6	1265.3	1229.2	1178.3	1135.5	1089.6	1045.9	1005.4	967.5	934.5	899.7
17.5°	1312.5	1273.7	1235.4	1186.4	1130.6	1081.1	1031.7	987.5	945.6	904.2	872.5
20°	1316.5	1276.4	1235.9	1188.1	1130.6	1071.8	1022.3	966.6	920.6	877.4	836.4
22.5°	1315.2	1268.4	1223.4	1173.9	1118.2	1065.1	1002.7	945.6	894.8	852.4	809.2
25°	1305.4	1256.8	1201.5	1152.0	1096.8	1039.2	978.6	919.8	868.9	820.3	778.0
27.5°	1299.6	1238.1	1177.4	1120.4	1067.3	1014.3	955.4	894.8	839.1	789.6	750.3
30°	1286.7	1217.6	1147.1	1086.9	1032.1	980.8	926.0	867.1	808.3	760.1	717.3
32.5°	1275.1	1191.7	1116.4	1049.5	990.6	941.2	891.7	836.4	778.9	729.8	687.0
35°	1259.5	1166.3	1081.1	1007.1	945.2	893.9	851.5	799.4	746.3	699.1	658.1
37.5°	1241.2	1133.3	1043.3	966.1	898.8	845.3	805.2	764.6	711.6	665.2	628.6
40°	1218.9	1097.6	1000.9	921.5	851.1	794.9	758.4	720.5	678.1	635.8	596.5
42.5°	1190.8	1065.5	958.1	871.2	801.6	747.2	708.4	677.7	641.6	602.8	567.1
45°	1155.2	1025.4	911.3	819.4	749.0	695.1	655.4	631.3	603.2	565.8	535.0
47.5°	1107.9	979.9	862.2	767.3	694.6	644.7	606.8	583.2	562.6	533.2	504.2
50°	1040.6	927.8	808.3	714.2	641.6	591.2	556.8	535.9	519.0	497.6	473.9
52.5°	965.2	862.2	755.2	662.5	590.7	541.2	507.8	490.0	476.6	462.8	439.6
55°	884.5	795.4	693.7	605.4	539.0	490.4	461.0	444.9	433.4	421.8	407.5
57.5°	797.6	725.4	632.2	549.7	488.2	442.7	415.1	398.6	389.2	383.0	374.1
60°	704.9	645.1	567.5	494.0	434.2	395.0	368.3	356.2	348.6	343.7	337.5
62.5°	618.8	572.5	502.0	436.5	386.1	349.5	326.4	314.8	307.6	305.8	300.9
65°	534.6	496.7	437.4	381.6	337.1	305.4	285.3	274.2	269.7	267.1	267.5
67.5°	449.8	425.3	375.8	326.8	290.2	262.2	245.7	237.2	235.0	230.9	230.9
70°	373.6	356.2	316.1	274.6	243.0	222.5	208.2	199.3	197.1	195.3	194.8
72.5°	306.3	291.6	258.1	226.9	199.3	181.9	170.8	166.3	162.3	161.4	161.4
75°	240.3	231.8	204.2	177.9	158.3	145.8	137.8	132.9	130.2	129.7	130.2
77.5°	181.5	173.4	154.3	134.6	121.7	111.9	104.3	103.0	99.4	99.9	99.0
80°	128.4	123.5	112.4	97.6	87.4	79.4	75.8	72.7	71.8	70.4	71.8
82.5°	84.3	78.9	72.2	64.2	56.2	52.2	48.6	48.2	47.7	47.3	47.3
85°	45.9	46.4	41.9	34.8	31.2	28.5	26.3	26.3	25.9	25.4	25.9
87.5°	19.6	18.7	16.9	15.6	13.4	12.0	11.6	12.0	10.7	10.3	10.7
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4	1050.4
2.5°	1027.6	1022.7	1018.7	1009.8	1004.9	998.2	992.9	998.7	992.4	995.1	991.1
5°	1000.0	987.5	978.6	965.7	954.5	944.3	936.7	935.4	931.8	930.0	924.7
7.5°	967.0	952.7	938.0	922.0	908.6	894.3	885.9	877.8	872.9	866.7	861.8
10°	938.5	917.5	899.7	879.2	861.4	845.7	833.3	827.0	821.2	812.8	809.6
12.5°	903.3	881.4	858.7	836.4	819.4	801.6	791.4	781.1	777.5	767.7	767.3
15°	876.5	844.0	822.6	800.3	776.6	762.4	753.5	743.2	738.7	732.1	727.2
17.5°	843.5	814.1	787.3	764.6	743.2	731.6	720.0	712.9	705.3	700.4	692.4
20°	807.0	779.3	752.6	728.0	712.4	698.6	689.7	683.0	675.0	672.8	664.7
22.5°	776.2	745.0	719.6	700.0	682.6	666.5	656.7	652.7	647.8	639.8	639.8
25°	742.3	710.7	688.8	668.3	653.1	638.9	632.2	626.4	621.0	616.1	614.4
27.5°	713.8	685.7	658.9	640.2	627.3	613.9	608.1	600.5	596.5	592.5	587.2
30°	683.5	654.5	631.7	613.9	599.6	588.1	581.8	576.9	573.3	569.8	567.1
32.5°	652.3	626.0	604.1	586.7	572.5	564.4	559.1	556.0	551.9	547.5	543.9
35°	625.5	596.1	574.7	559.5	548.4	541.7	535.4	532.3	527.9	527.9	524.3
37.5°	593.9	568.0	548.8	535.0	525.2	519.0	511.8	510.0	506.9	505.1	503.8
40°	566.2	542.6	524.7	510.9	500.2	495.3	490.0	486.4	484.6	482.4	481.5
42.5°	537.7	515.4	498.4	486.0	477.0	473.0	468.1	465.9	461.9	458.8	458.3
45°	508.7	486.9	471.2	461.0	453.0	448.1	444.9	439.6	437.8	434.2	433.8
47.5°	481.9	460.5	444.9	436.5	429.3	425.8	420.9	415.1	412.8	410.6	410.2
50°	451.2	432.0	417.7	409.7	403.0	397.2	392.3	388.8	387.4	387.4	388.3
52.5°	420.0	404.4	392.8	382.5	376.3	370.0	365.6	363.8	361.6	364.2	366.0
55°	389.7	373.2	364.2	354.9	348.6	341.5	339.3	338.4	337.1	340.6	342.4
57.5°	357.1	346.0	335.3	325.5	320.1	315.7	312.1	311.6	314.3	315.2	320.6
60°	326.4	313.0	303.6	296.5	289.8	287.1	286.2	285.3	287.1	292.0	299.6
62.5°	292.5	282.2	272.0	267.1	262.6	257.7	257.7	258.6	262.6	268.4	276.0
65°	259.5	250.1	243.4	237.2	233.2	230.5	231.4	233.2	237.2	244.8	253.2
67.5°	225.6	219.4	213.1	207.3	203.3	203.7	204.2	206.4	211.3	220.2	228.3
70°	193.0	185.9	181.0	178.8	175.7	173.9	176.6	181.0	185.0	193.0	199.7
72.5°	160.5	154.7	151.1	149.8	148.9	147.6	148.0	152.9	158.7	166.7	174.8
75°	128.4	126.2	123.5	121.7	120.4	121.3	122.2	126.6	131.1	139.5	148.5
77.5°	99.4	96.7	95.0	94.5	93.6	94.1	96.3	99.9	104.3	110.6	117.7
80°	70.9	70.0	69.1	68.7	68.7	69.1	72.7	74.9	78.9	84.7	90.1
82.5°	46.8	46.4	46.4	46.4	46.8	46.8	48.6	51.7	54.8	58.9	63.3
85°	27.2	26.3	27.6	28.1	27.2	28.5	29.4	31.2	32.5	34.8	37.0
87.5°	11.1	12.0	11.6	12.0	12.0	12.9	12.5	14.3	15.2	16.1	15.6
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: P242832

CATALOG NUMBER: S125DR-S850D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1050.4	1050.4	1050.4	1050.4
2.5°	988.4	991.5	988.9	992.4
5°	922.4	918.4	921.1	919.3
7.5°	861.4	857.8	852.4	850.7
10°	804.7	799.8	799.4	796.3
12.5°	763.3	758.8	752.6	751.7
15°	724.5	720.9	717.8	720.5
17.5°	691.5	688.4	687.5	684.8
20°	660.7	658.5	659.4	653.6
22.5°	636.2	631.3	630.4	630.4
25°	610.3	608.1	605.9	608.1
27.5°	587.6	585.4	584.5	584.9
30°	567.1	562.6	563.1	562.6
32.5°	544.8	542.1	541.2	540.4
35°	523.0	523.0	520.7	520.7
37.5°	502.9	502.5	501.1	502.0
40°	479.7	479.3	477.9	475.3
42.5°	457.4	455.6	455.2	454.8
45°	433.8	433.8	432.9	432.5
47.5°	410.6	411.5	413.3	412.8
50°	390.1	390.6	391.9	392.3
52.5°	367.4	370.5	372.3	371.8
55°	346.4	349.5	352.7	353.1
57.5°	325.5	329.5	332.6	333.5
60°	304.1	309.9	313.9	315.7
62.5°	283.6	290.2	294.3	294.3
65°	260.8	267.5	271.1	273.7
67.5°	237.2	243.9	247.4	249.7
70°	210.9	217.6	222.9	224.7
72.5°	185.0	190.8	194.8	197.1
75°	154.3	162.3	166.3	168.5
77.5°	124.8	132.9	135.1	136.4
80°	95.4	99.9	103.0	103.4
82.5°	67.8	71.3	71.8	73.1
85°	40.1	41.9	42.4	41.9
87.5°	16.5	16.1	16.1	16.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)