

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: P243790

Luminaire Tested: **S125RDR-H850D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243790  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-71)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S125RDR-H850D935-X4F0-XX-UDD-A-W  
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

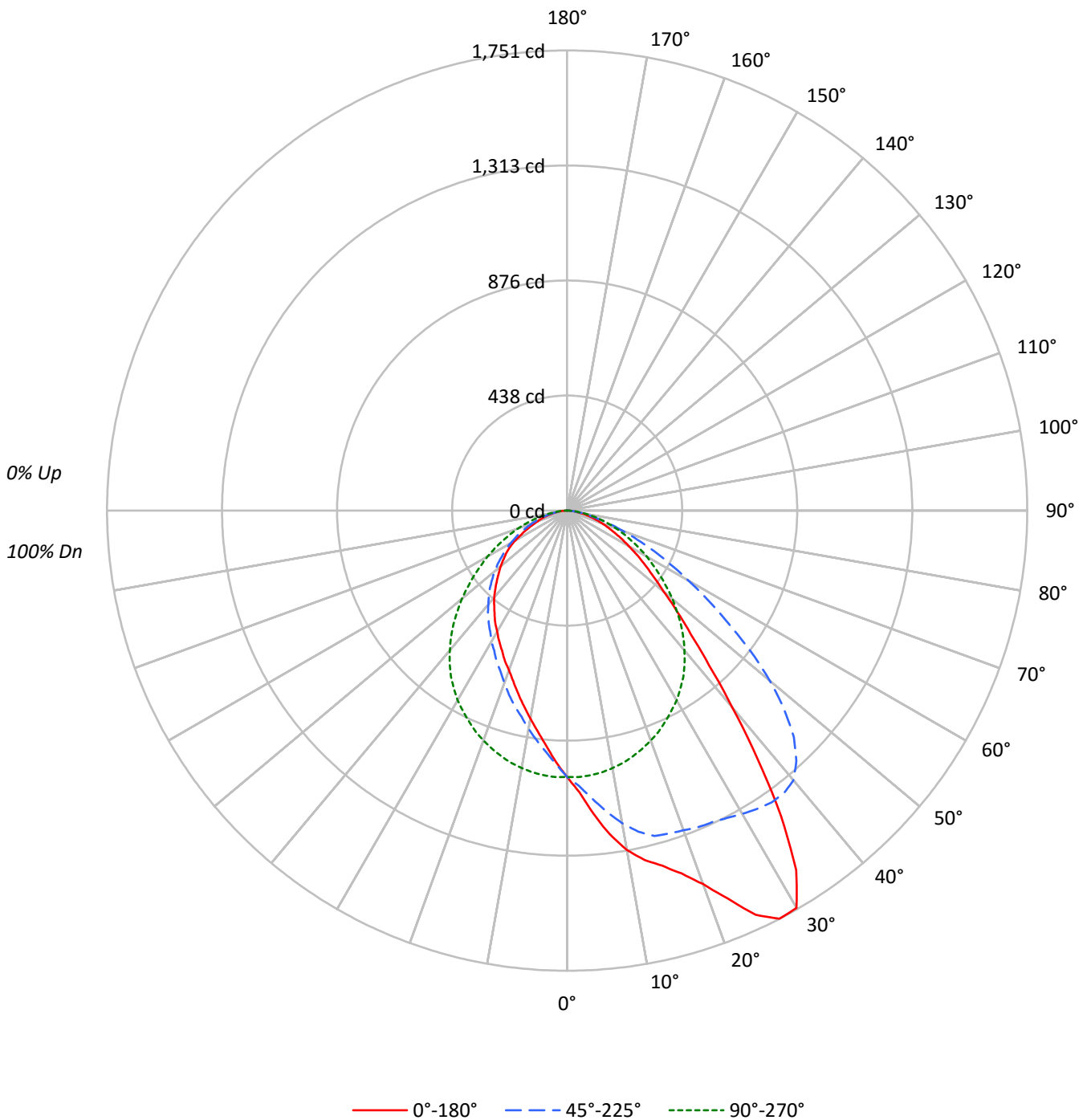
Lumens per Lamp: N/A  
Luminaire Lumens: 2697.8 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.42 / 1.22 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
Input Voltage (V): 120  
Input Current (Ain): 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	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			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73					73			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63					63			
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	66	61	56	54					54			
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	48					48			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42					42			
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35	33					33			
9	59	46	38	32	57	45	38	32	44	37	32	43	37	32	42	36	32	30					30			
10	55	42	35	29	54	42	34	29	41	34	29	40	34	29	39	33	29	27					27			

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

	0°	90°	180°
0°	7205	7205	7205
5°	8270	7215	6417
10°	9462	7179	5802
15°	10292	7122	5306
20°	11437	7041	4888
25°	13308	6941	4602
30°	14329	6838	4368
35°	12310	6685	4178
40°	9069	6444	4005
45°	6698	6144	3797
50°	5306	5777	3644
55°	4482	5354	3507
60°	3862	4960	3245
65°	3353	4515	2825
70°	2940	4135	2473
75°	2493	3619	2340
80°	1940	3029	1940
85°	1704	2422	1770



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.6	3.6
10°-20°	288.7	10.7
20°-30°	460.4	17.1
30°-40°	559.0	20.7
40°-50°	503.7	18.7
50°-60°	387.4	14.4
60°-70°	251.4	9.3
70°-80°	121.0	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°	846.7	31.4
0°-40°	1405.7	52.1
0°-60°	2296.8	85.1
0°-90°	2697.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2697.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1014	1014	1014	1014	1014	
5°	1159	1101	1011	922	900	115
15°	1399	1282	968	770	721	401
25°	1697	1308	885	634	587	776
35°	1419	1356	770	520	482	868
45°	666	1220	611	415	378	529
55°	362	750	432	303	283	328
65°	199	364	268	192	168	200
75°	91	123	132	94	85	98
85°	21	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°	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7
2.5°	1072.4	1076.4	1073.2	1075.2	1072.0	1070.4	1066.3	1060.3	1054.3	1048.6	1048.2
5°	1159.2	1158.4	1155.2	1150.7	1147.5	1139.5	1135.5	1121.8	1112.6	1101.3	1095.7
7.5°	1242.0	1240.0	1235.1	1229.1	1226.3	1215.9	1204.6	1187.3	1172.8	1155.2	1141.9
10°	1311.1	1310.7	1307.1	1303.1	1292.2	1280.6	1269.7	1251.6	1229.9	1207.8	1189.3
12.5°	1361.8	1359.7	1355.3	1348.5	1339.6	1331.6	1317.1	1300.7	1274.1	1251.6	1226.3
15°	1398.7	1397.9	1391.5	1389.1	1371.8	1360.5	1341.3	1324.8	1304.3	1281.8	1254.4
17.5°	1447.8	1449.4	1443.7	1430.1	1414.4	1397.1	1369.8	1342.9	1314.3	1288.2	1266.1
20°	1512.1	1508.1	1498.4	1481.9	1453.8	1432.5	1405.2	1371.8	1333.2	1294.6	1262.9
22.5°	1598.1	1593.7	1578.4	1558.3	1522.9	1483.9	1442.1	1392.3	1348.1	1303.9	1262.1
25°	1697.0	1688.5	1666.0	1644.3	1594.1	1552.7	1490.4	1430.9	1366.6	1307.9	1260.9
27.5°	1750.8	1750.8	1740.4	1716.7	1676.9	1615.8	1552.3	1473.1	1398.7	1318.3	1251.6
30°	1746.0	1743.2	1747.2	1737.2	1711.4	1665.6	1602.5	1519.3	1424.5	1332.4	1252.4
32.5°	1621.4	1622.6	1646.7	1663.2	1676.1	1664.8	1623.8	1548.7	1454.2	1346.1	1249.2
35°	1418.8	1422.0	1464.6	1492.8	1550.3	1583.2	1592.9	1552.3	1467.5	1355.7	1243.6
37.5°	1187.3	1187.3	1236.8	1279.4	1343.7	1424.9	1485.5	1500.8	1459.4	1355.3	1238.8
40°	977.5	976.3	1015.3	1067.5	1136.3	1225.9	1316.3	1393.9	1404.0	1339.6	1221.9
42.5°	799.8	797.8	840.4	869.4	941.7	1021.7	1141.9	1251.6	1314.3	1291.0	1197.0
45°	666.4	664.8	692.5	725.5	776.5	859.7	960.6	1082.4	1187.7	1219.9	1150.3
47.5°	565.9	566.7	581.6	609.3	652.7	712.2	802.7	915.6	1045.8	1120.2	1091.7
50°	479.9	482.7	494.0	514.9	546.6	594.5	672.0	774.1	908.0	1006.4	1012.5
52.5°	415.6	419.6	431.7	442.9	469.5	503.2	563.5	651.9	762.5	880.6	922.8
55°	361.7	363.8	370.6	382.6	402.3	430.5	474.3	541.8	644.3	749.6	824.0
57.5°	316.7	316.7	321.1	329.6	345.3	370.6	399.9	455.8	542.2	637.5	716.6
60°	271.7	273.3	276.5	285.8	296.2	315.5	344.1	379.4	454.2	533.8	619.0
62.5°	233.9	236.7	240.0	244.4	254.0	267.7	287.8	320.3	370.6	444.1	520.1
65°	199.4	202.2	202.6	207.8	214.2	225.5	240.8	264.5	306.3	364.2	426.9
67.5°	168.8	170.0	171.2	175.2	181.3	188.5	198.6	216.2	249.2	288.2	349.3
70°	141.5	142.3	142.7	147.1	149.9	156.4	161.6	172.8	193.7	223.9	271.3
72.5°	115.8	114.6	114.1	117.8	119.0	124.2	130.6	138.7	149.9	171.2	206.6
75°	90.8	91.2	91.6	93.7	94.1	96.5	100.5	105.7	110.9	123.4	145.9
77.5°	69.9	68.3	68.3	70.7	71.5	71.9	74.8	77.6	80.4	87.6	96.5
80°	47.4	48.2	48.2	48.2	48.6	49.4	51.0	53.5	55.5	59.9	61.5
82.5°	33.8	33.8	33.4	34.2	34.6	35.0	35.0	35.0	36.2	37.4	39.0
85°	20.9	21.3	20.1	20.9	21.3	21.3	21.3	21.3	22.5	22.1	22.5
87.5°	8.8	9.2	9.2	9.6	9.6	10.0	9.6	10.0	9.6	9.6	10.0
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°	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7
2.5°	1047.0	1042.2	1039.8	1035.0	1028.6	1024.5	1020.5	1014.9	1010.5	1003.6	997.6
5°	1085.6	1076.0	1067.1	1055.1	1043.4	1033.4	1022.9	1011.3	1000.8	989.2	976.7
7.5°	1128.6	1113.4	1094.9	1073.6	1055.5	1039.8	1022.1	1004.8	989.2	970.7	953.8
10°	1170.0	1145.5	1121.0	1092.5	1065.9	1042.6	1018.9	994.8	974.3	951.4	930.5
12.5°	1202.2	1178.9	1142.3	1106.9	1072.4	1042.2	1012.5	983.1	956.2	930.9	906.0
15°	1230.3	1191.7	1160.8	1122.2	1080.0	1039.0	1002.0	967.9	935.3	905.6	880.2
17.5°	1238.4	1203.8	1170.0	1125.0	1079.6	1033.0	990.4	949.8	913.6	880.6	852.1
20°	1237.6	1202.6	1166.0	1123.0	1074.8	1023.7	976.3	930.9	889.9	852.1	821.6
22.5°	1225.5	1191.7	1154.8	1111.3	1062.3	1009.7	959.8	909.6	865.0	825.6	794.2
25°	1212.6	1170.0	1131.4	1087.6	1041.0	992.4	939.3	885.1	838.4	797.4	762.1
27.5°	1201.4	1150.3	1102.9	1059.9	1012.1	968.3	915.6	858.9	811.1	768.1	731.5
30°	1183.3	1129.4	1072.0	1024.9	978.7	932.9	884.7	833.2	781.0	737.1	700.6
32.5°	1167.6	1099.7	1037.4	984.3	938.1	897.9	851.7	802.3	751.2	709.4	670.0
35°	1150.3	1069.1	1004.0	941.7	895.5	851.7	815.1	770.5	719.9	675.7	640.3
37.5°	1129.8	1037.8	963.0	899.5	851.7	806.7	773.7	733.9	688.1	644.3	609.3
40°	1106.9	1005.6	919.6	854.1	802.7	757.6	729.9	694.5	655.6	612.1	579.6
42.5°	1078.0	971.5	880.2	808.7	751.6	711.0	683.3	653.9	618.2	580.4	545.0
45°	1041.4	928.9	833.2	757.6	701.4	662.0	633.0	611.3	582.8	547.4	514.1
47.5°	996.8	884.3	785.0	706.6	652.3	614.6	587.6	565.9	544.2	513.7	481.9
50°	937.7	833.2	738.0	658.0	600.5	563.9	539.8	522.5	502.8	477.9	449.0
52.5°	872.6	775.7	682.5	607.7	552.3	515.7	490.8	476.3	461.4	440.9	416.0
55°	797.0	718.3	629.4	556.3	502.0	465.8	446.1	432.1	419.6	403.9	383.0
57.5°	717.1	647.9	570.7	503.2	452.2	418.0	400.7	389.1	378.6	367.4	350.1
60°	633.0	584.0	510.9	449.0	404.3	376.2	359.7	348.9	339.2	330.0	317.1
62.5°	545.4	504.8	450.2	397.5	357.7	331.2	319.1	309.9	299.8	291.8	282.6
65°	456.6	433.3	395.5	346.1	309.5	287.8	276.1	268.5	263.7	254.4	247.2
67.5°	375.8	362.9	330.8	297.4	269.3	249.6	238.7	233.1	227.9	223.5	215.4
70°	299.0	289.8	271.3	247.6	225.5	208.6	200.6	199.0	191.7	187.3	183.3
72.5°	227.9	225.5	210.2	199.8	187.3	174.0	168.0	164.8	160.0	156.0	154.3
75°	162.0	165.6	160.8	155.5	149.5	138.7	133.4	131.8	127.4	126.2	124.2
77.5°	110.5	115.8	117.4	115.0	112.1	108.5	104.9	103.3	98.9	98.1	96.9
80°	69.5	77.2	80.0	79.6	78.4	78.8	74.4	74.0	71.9	70.7	71.9
82.5°	42.2	46.2	51.4	52.7	51.0	51.8	50.6	49.0	49.0	49.8	48.2
85°	22.9	23.3	25.7	27.3	29.3	30.9	29.3	29.7	29.3	29.3	28.1
87.5°	10.0	10.5	10.5	10.0	10.9	11.7	13.3	14.1	13.7	12.5	10.9
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°	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7	1013.7
2.5°	992.8	990.0	985.1	981.1	971.9	965.4	964.6	965.0	964.2	963.4	963.0
5°	968.7	959.4	950.6	942.9	932.5	922.0	917.2	915.2	914.4	910.0	912.4
7.5°	942.9	928.9	918.4	904.0	891.5	882.6	874.2	870.2	869.4	863.4	861.7
10°	915.6	898.7	883.0	868.6	856.1	843.7	833.6	830.0	825.2	820.3	813.1
12.5°	888.7	867.8	850.5	834.4	817.5	803.5	795.4	790.2	784.2	779.8	777.3
15°	856.5	838.8	817.5	800.3	783.0	770.5	759.7	750.0	744.4	740.8	730.7
17.5°	827.6	804.3	784.2	767.7	748.8	734.7	723.5	715.4	705.8	698.6	692.1
20°	796.6	772.5	754.0	734.3	715.0	697.8	683.7	677.3	670.4	663.6	660.0
22.5°	763.3	742.4	721.5	701.0	680.5	662.0	653.1	643.9	637.9	631.0	626.2
25°	734.3	711.4	690.5	667.6	645.1	634.3	622.2	612.9	608.1	601.3	596.1
27.5°	703.4	681.3	656.4	632.6	619.4	600.9	592.9	585.6	579.2	572.4	568.7
30°	674.4	648.7	623.8	605.3	588.0	574.8	567.1	558.3	549.4	546.2	541.4
32.5°	643.9	616.2	594.5	576.0	561.5	545.4	538.2	531.0	522.5	518.5	514.1
35°	612.1	585.2	563.9	547.0	532.2	520.1	512.1	504.4	499.2	493.2	490.0
37.5°	578.8	555.5	535.0	518.1	504.4	494.8	484.7	478.7	471.5	465.8	463.4
40°	547.0	526.1	506.4	490.8	478.3	466.6	457.8	450.2	445.7	440.9	436.9
42.5°	518.5	496.8	479.9	463.4	452.2	440.9	432.1	426.5	418.8	416.8	411.2
45°	487.9	467.9	451.0	435.7	424.0	414.8	404.3	397.5	392.7	387.9	385.9
47.5°	457.0	438.5	422.8	408.8	396.7	386.3	378.2	371.0	365.8	361.3	358.9
50°	426.9	410.8	395.1	381.4	369.0	361.3	351.7	343.7	339.6	334.8	332.0
52.5°	395.1	381.8	365.0	353.3	341.6	331.6	321.9	316.7	312.7	308.7	306.7
55°	365.4	351.3	336.8	324.4	313.1	302.7	295.0	291.0	285.8	283.4	283.0
57.5°	334.8	320.3	308.3	297.0	284.2	276.1	269.3	264.5	260.1	258.0	258.0
60°	301.5	289.8	278.5	266.1	256.8	247.6	240.4	237.1	232.7	231.9	229.1
62.5°	270.9	260.1	249.2	237.5	229.1	219.9	214.6	210.2	207.8	204.6	201.4
65°	239.2	229.5	219.1	209.0	202.2	192.1	187.3	182.1	179.3	175.6	171.6
67.5°	208.6	199.4	189.7	180.5	174.8	165.2	162.0	155.5	153.5	149.5	145.9
70°	176.4	170.0	162.4	153.1	148.3	140.7	137.5	131.4	128.2	125.8	123.8
72.5°	148.7	142.7	133.8	127.8	121.8	117.0	111.7	108.9	106.1	104.1	103.7
75°	121.4	113.7	108.5	102.9	98.9	94.1	91.6	89.6	88.4	87.2	86.0
77.5°	92.8	89.6	84.4	78.8	75.6	73.6	71.9	71.1	69.9	69.5	68.3
80°	69.1	64.7	61.5	59.5	57.1	55.5	54.3	51.4	49.8	49.0	48.2
82.5°	45.8	44.6	42.2	40.2	38.2	37.8	36.6	35.8	35.4	35.4	35.0
85°	27.7	24.5	24.5	24.1	24.1	23.7	22.9	22.9	22.1	23.3	23.3
87.5°	11.3	11.3	10.5	10.5	10.9	10.0	9.6	9.6	9.6	9.2	9.6
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: P243790

CATALOG NUMBER: S125RDR-H850D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1013.7	1013.7	1013.7	1013.7
2.5°	963.0	961.0	961.4	959.0
5°	908.0	906.8	902.7	899.5
7.5°	857.7	852.5	852.1	848.9
10°	810.7	805.9	803.5	803.9
12.5°	769.7	764.5	764.5	761.3
15°	725.9	720.7	721.5	721.1
17.5°	689.7	686.1	683.3	680.9
20°	654.3	649.9	648.3	646.3
22.5°	621.8	618.6	619.0	619.0
25°	590.8	591.2	587.6	586.8
27.5°	563.5	562.7	561.9	560.3
30°	537.8	534.6	533.8	532.2
32.5°	511.3	510.9	507.6	508.8
35°	484.3	483.1	482.3	481.5
37.5°	459.4	457.0	456.6	455.8
40°	434.1	433.3	429.7	431.7
42.5°	406.8	405.1	405.1	405.1
45°	383.8	379.4	379.4	377.8
47.5°	358.1	356.5	355.7	352.9
50°	332.8	330.4	329.6	329.6
52.5°	306.7	306.3	307.1	305.5
55°	283.8	284.2	283.8	283.0
57.5°	258.8	256.8	256.8	257.2
60°	229.1	229.1	229.9	228.3
62.5°	200.6	199.8	196.9	196.1
65°	171.2	168.0	167.6	168.0
67.5°	145.1	143.9	141.9	142.3
70°	122.6	122.2	120.2	119.0
72.5°	102.5	102.5	101.3	101.3
75°	85.6	84.8	84.4	85.2
77.5°	65.9	63.9	64.7	63.5
80°	47.8	48.6	47.8	47.4
82.5°	35.4	34.6	35.0	34.6
85°	22.5	21.7	22.1	21.7
87.5°	9.2	9.6	9.6	8.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)