

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: P243770

Luminaire Tested: **S125RDR-H850D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243770
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-H850D830-X4F0-XX-UDD-A-W
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2953.3 lumens
Efficiency: N/A
Efficacy: 125.1 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

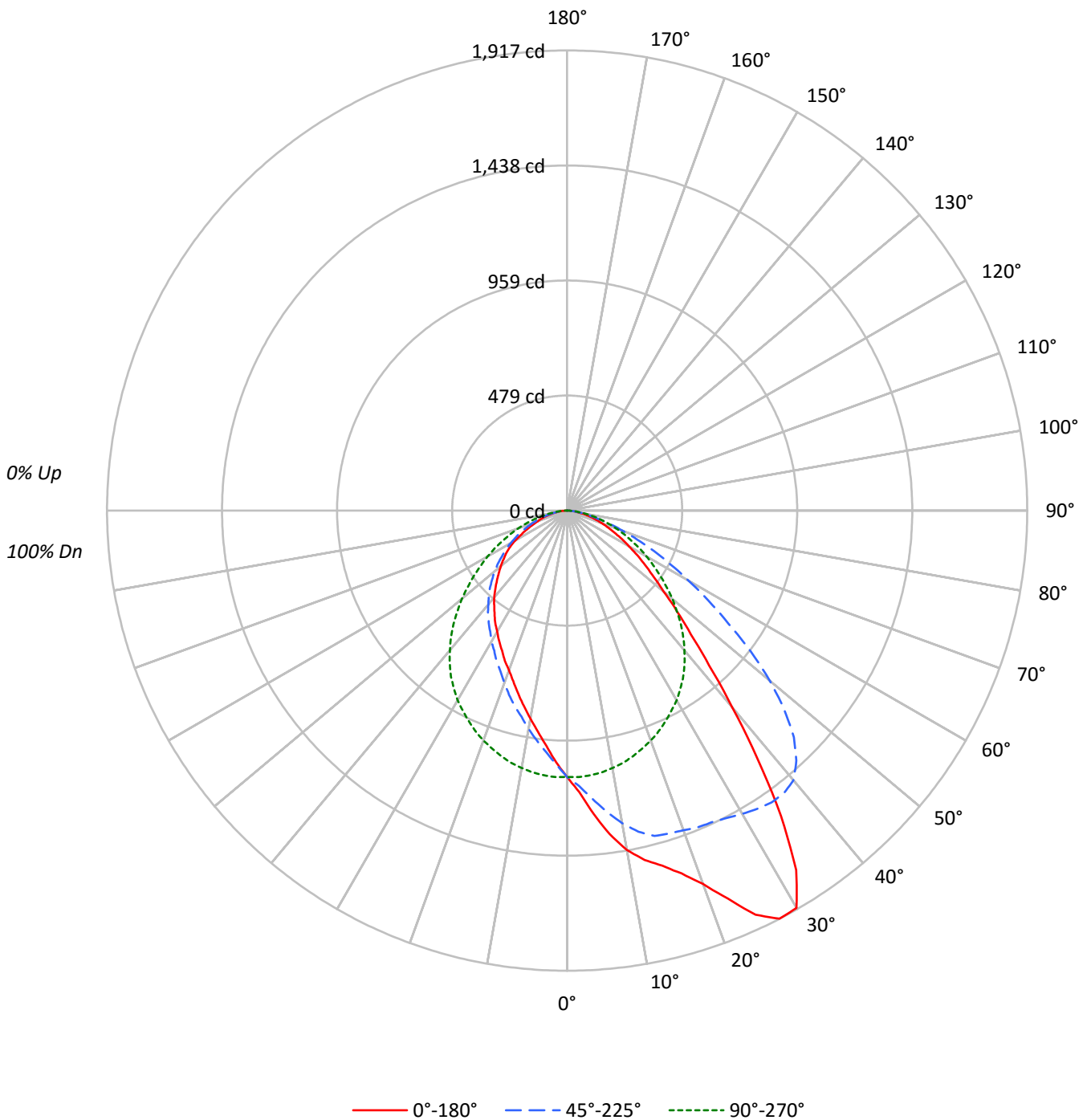
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				
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	68	78	72	67	75	70	66	73	69	65					63				
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	66	61	56					54				
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50					48				
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44					42				
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39					37				
8	63	50	42	36	61	49	41	36	48	41	36	47	40	35	45	40	35					33				
9	59	46	38	32	57	45	38	32	44	37	32	43	37	32	42	36	32					30				
10	55	42	35	29	54	42	34	29	41	34	29	40	34	29	39	33	29					27				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	7887	7887	7887
5°	9054	7898	7025
10°	10359	7859	6351
15°	11267	7796	5808
20°	12520	7707	5351
25°	14568	7598	5038
30°	15687	7485	4781
35°	13476	7319	4573
40°	9928	7054	4385
45°	7332	6726	4157
50°	5809	6325	3989
55°	4907	5861	3839
60°	4227	5429	3552
65°	3670	4943	3093
70°	3219	4526	2706
75°	2730	3963	2562
80°	2124	3315	2124
85°	1867	2658	1941



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.8	3.6
10°-20°	316.0	10.7
20°-30°	504.0	17.1
30°-40°	612.0	20.7
40°-50°	551.5	18.7
50°-60°	424.1	14.4
60°-70°	275.2	9.3
70°-80°	132.4	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°	926.8	31.4
0°-40°	1538.8	52.1
0°-60°	2514.3	85.1
0°-90°	2953.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2953.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1110	1110	1110	1110	1110	
5°	1269	1206	1107	1009	985	126
15°	1531	1403	1060	844	789	439
25°	1858	1432	969	694	642	849
35°	1553	1484	844	569	527	950
45°	730	1335	669	454	414	580
55°	396	821	473	331	310	359
65°	218	399	294	210	184	219
75°	99	135	144	103	93	107
85°	23	24	33	26	24	26
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°	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7
2.5°	1173.9	1178.3	1174.8	1177.0	1173.5	1171.7	1167.3	1160.7	1154.1	1148.0	1147.5
5°	1269.0	1268.1	1264.6	1259.7	1256.2	1247.4	1243.0	1228.0	1217.9	1205.6	1199.4
7.5°	1359.6	1357.4	1352.1	1345.5	1342.4	1331.0	1318.7	1299.8	1283.9	1264.6	1250.0
10°	1435.3	1434.8	1430.9	1426.5	1414.6	1401.8	1390.0	1370.2	1346.4	1322.2	1302.0
12.5°	1490.7	1488.5	1483.7	1476.2	1466.5	1457.7	1441.9	1423.8	1394.8	1370.2	1342.4
15°	1531.2	1530.3	1523.3	1520.6	1501.7	1489.4	1468.3	1450.2	1427.8	1403.2	1373.2
17.5°	1584.9	1586.6	1580.5	1565.5	1548.4	1529.4	1499.5	1470.0	1438.8	1410.2	1386.0
20°	1655.3	1650.9	1640.3	1622.3	1591.5	1568.2	1538.2	1501.7	1459.5	1417.2	1382.5
22.5°	1749.4	1744.6	1727.9	1705.9	1667.2	1624.5	1578.7	1524.2	1475.8	1427.4	1381.6
25°	1857.7	1848.4	1823.8	1800.0	1745.0	1699.7	1631.5	1566.4	1496.0	1431.8	1380.3
27.5°	1916.6	1916.6	1905.2	1879.2	1835.7	1768.8	1699.3	1612.6	1531.2	1443.2	1370.2
30°	1911.4	1908.3	1912.7	1901.7	1873.5	1823.4	1754.3	1663.2	1559.4	1458.6	1371.0
32.5°	1775.0	1776.3	1802.7	1820.7	1834.8	1822.5	1777.6	1695.3	1591.9	1473.6	1367.5
35°	1553.2	1556.7	1603.4	1634.2	1697.1	1733.2	1743.7	1699.3	1606.4	1484.1	1361.4
37.5°	1299.8	1299.8	1353.9	1400.5	1470.9	1559.8	1626.2	1643.0	1597.6	1483.7	1356.1
40°	1070.1	1068.8	1111.4	1168.6	1243.9	1342.0	1441.0	1525.9	1536.9	1466.5	1337.6
42.5°	875.6	873.4	920.0	951.7	1030.9	1118.5	1250.0	1370.2	1438.8	1413.3	1310.3
45°	729.5	727.8	758.1	794.2	850.1	941.2	1051.6	1184.9	1300.2	1335.4	1259.3
47.5°	619.5	620.4	636.7	667.0	714.6	779.7	878.7	1002.3	1144.9	1226.3	1195.0
50°	525.4	528.4	540.8	563.6	598.4	650.8	735.7	847.4	994.0	1101.8	1108.4
52.5°	455.0	459.4	472.6	484.9	513.9	550.9	616.9	713.7	834.7	964.0	1010.2
55°	396.0	398.2	405.7	418.9	440.4	471.2	519.2	593.1	705.3	820.6	902.0
57.5°	346.7	346.7	351.6	360.8	378.0	405.7	437.8	499.0	593.6	697.8	784.5
60°	297.4	299.2	302.7	312.8	324.3	345.4	376.6	415.4	497.2	584.3	677.6
62.5°	256.1	259.2	262.7	267.5	278.1	293.0	315.0	350.7	405.7	486.2	569.4
65°	218.2	221.3	221.8	227.5	234.5	246.8	263.6	289.5	335.3	398.6	467.3
67.5°	184.8	186.1	187.4	191.8	198.4	206.4	217.4	236.7	272.8	315.5	382.4
70°	154.9	155.8	156.2	161.0	164.1	171.2	176.9	189.2	212.1	245.1	297.0
72.5°	126.7	125.4	125.0	128.9	130.2	136.0	143.0	151.8	164.1	187.4	226.2
75°	99.4	99.9	100.3	102.5	103.0	105.6	110.0	115.7	121.4	135.1	159.7
77.5°	76.6	74.8	74.8	77.4	78.3	78.8	81.8	84.9	88.0	95.9	105.6
80°	51.9	52.8	52.8	52.8	53.2	54.1	55.9	58.5	60.7	65.6	67.3
82.5°	37.0	37.0	36.5	37.4	37.8	38.3	38.3	38.3	39.6	40.9	42.7
85°	22.9	23.3	22.0	22.9	23.3	23.3	23.3	23.3	24.6	24.2	24.6
87.5°	9.7	10.1	10.1	10.6	10.6	11.0	10.6	11.0	10.6	10.6	11.0
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°	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7
2.5°	1146.2	1140.9	1138.3	1133.0	1126.0	1121.6	1117.2	1111.0	1106.2	1098.7	1092.1
5°	1188.4	1177.9	1168.2	1155.0	1142.2	1131.2	1119.8	1107.0	1095.6	1082.8	1069.2
7.5°	1235.5	1218.8	1198.6	1175.2	1155.4	1138.3	1118.9	1100.0	1082.8	1062.6	1044.1
10°	1280.8	1254.0	1227.2	1195.9	1166.9	1141.4	1115.4	1089.0	1066.6	1041.5	1018.6
12.5°	1316.0	1290.5	1250.5	1211.8	1173.9	1140.9	1108.4	1076.2	1046.8	1019.0	991.8
15°	1346.8	1304.6	1270.7	1228.5	1182.3	1137.4	1096.9	1059.5	1023.9	991.3	963.6
17.5°	1355.6	1317.8	1280.8	1231.6	1181.8	1130.8	1084.2	1039.7	1000.1	964.0	932.8
20°	1354.8	1316.5	1276.4	1229.4	1176.6	1120.7	1068.8	1019.0	974.2	932.8	899.4
22.5°	1341.6	1304.6	1264.1	1216.6	1162.9	1105.3	1050.7	995.7	946.9	903.8	869.4
25°	1327.5	1280.8	1238.6	1190.6	1139.6	1086.4	1028.3	968.9	917.8	873.0	834.2
27.5°	1315.2	1259.3	1207.4	1160.3	1107.9	1060.0	1002.3	940.3	887.9	840.8	800.8
30°	1295.4	1236.4	1173.5	1122.0	1071.4	1021.2	968.4	912.1	854.9	807.0	766.9
32.5°	1278.2	1203.8	1135.6	1077.6	1027.0	983.0	932.4	878.2	822.4	776.6	733.5
35°	1259.3	1170.4	1099.1	1030.9	980.3	932.4	892.3	843.5	788.0	739.6	700.9
37.5°	1236.8	1136.1	1054.2	984.7	932.4	883.1	847.0	803.4	753.3	705.3	667.0
40°	1211.8	1100.9	1006.7	935.0	878.7	829.4	799.0	760.3	717.6	670.1	634.5
42.5°	1180.1	1063.5	963.6	885.3	822.8	778.4	748.0	715.9	676.7	635.4	596.6
45°	1140.0	1016.8	912.1	829.4	767.8	724.7	693.0	669.2	638.0	599.3	562.8
47.5°	1091.2	968.0	859.3	773.5	714.1	672.8	643.3	619.5	595.8	562.3	527.6
50°	1026.5	912.1	807.8	720.3	657.4	617.3	590.9	572.0	550.4	523.2	491.5
52.5°	955.2	849.2	747.1	665.3	604.6	564.5	537.2	521.4	505.1	482.7	455.4
55°	872.5	786.3	689.0	609.0	549.6	510.0	488.4	473.0	459.4	442.2	419.3
57.5°	785.0	709.3	624.8	550.9	495.0	457.6	438.7	425.9	414.5	402.2	383.2
60°	693.0	639.3	559.2	491.5	442.6	411.8	393.8	381.9	371.4	361.2	347.2
62.5°	597.1	552.6	492.8	435.2	391.6	362.6	349.4	339.2	328.2	319.4	309.3
65°	499.8	474.3	433.0	378.8	338.8	315.0	302.3	293.9	288.6	278.5	270.6
67.5°	411.4	397.3	362.1	325.6	294.8	273.2	261.4	255.2	249.5	244.6	235.8
70°	327.4	317.2	297.0	271.0	246.8	228.4	219.6	217.8	209.9	205.0	200.6
72.5°	249.5	246.8	230.1	218.7	205.0	190.5	183.9	180.4	175.1	170.7	169.0
75°	177.3	181.3	176.0	170.3	163.7	151.8	146.1	144.3	139.5	138.2	136.0
77.5°	121.0	126.7	128.5	125.8	122.8	118.8	114.8	113.1	108.2	107.4	106.0
80°	76.1	84.5	87.6	87.1	85.8	86.2	81.4	81.0	78.8	77.4	78.8
82.5°	46.2	50.6	56.3	57.6	55.9	56.8	55.4	53.7	53.7	54.6	52.8
85°	25.1	25.5	28.2	29.9	32.1	33.9	32.1	32.6	32.1	32.1	30.8
87.5°	11.0	11.4	11.4	11.0	11.9	12.8	14.5	15.4	15.0	13.6	11.9
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°	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7	1109.7
2.5°	1086.8	1083.7	1078.4	1074.0	1063.9	1056.9	1056.0	1056.4	1055.6	1054.7	1054.2
5°	1060.4	1050.3	1040.6	1032.2	1020.8	1009.4	1004.1	1001.9	1001.0	996.2	998.8
7.5°	1032.2	1016.8	1005.4	989.6	975.9	966.2	957.0	952.6	951.7	945.1	943.4
10°	1002.3	983.8	966.7	950.8	937.2	923.6	912.6	908.6	903.3	898.0	890.1
12.5°	972.8	950.0	931.0	913.4	895.0	879.6	870.8	865.0	858.4	853.6	851.0
15°	937.6	918.3	895.0	876.0	857.1	843.5	831.6	821.0	814.9	810.9	799.9
17.5°	906.0	880.4	858.4	840.4	819.7	804.3	792.0	783.2	772.6	764.7	757.7
20°	872.1	845.7	825.4	803.9	782.8	763.8	748.4	741.4	733.9	726.4	722.5
22.5°	835.6	812.7	789.8	767.4	744.9	724.7	715.0	704.9	698.3	690.8	685.5
25°	803.9	778.8	755.9	730.8	706.2	694.3	681.1	671.0	665.7	658.2	652.5
27.5°	770.0	745.8	718.5	692.6	678.0	657.8	649.0	641.1	634.0	626.6	622.6
30°	738.3	710.2	682.9	662.6	643.7	629.2	620.8	611.2	601.5	598.0	592.7
32.5°	704.9	674.5	650.8	630.5	614.7	597.1	589.2	581.2	572.0	567.6	562.8
35°	670.1	640.6	617.3	598.8	582.6	569.4	560.6	552.2	546.5	539.9	536.4
37.5°	633.6	608.1	585.6	567.2	552.2	541.6	530.6	524.0	516.1	510.0	507.3
40°	598.8	576.0	554.4	537.2	523.6	510.8	501.2	492.8	488.0	482.7	478.3
42.5°	567.6	543.8	525.4	507.3	495.0	482.7	473.0	466.8	458.5	456.3	450.1
45°	534.2	512.2	493.7	477.0	464.2	454.1	442.6	435.2	429.9	424.6	422.4
47.5°	500.3	480.0	462.9	447.5	434.3	422.8	414.0	406.1	400.4	395.6	392.9
50°	467.3	449.7	432.5	417.6	403.9	395.6	385.0	376.2	371.8	366.5	363.4
52.5°	432.5	418.0	399.5	386.8	374.0	363.0	352.4	346.7	342.3	337.9	335.7
55°	400.0	384.6	368.7	355.1	342.8	331.3	323.0	318.6	312.8	310.2	309.8
57.5°	366.5	350.7	337.5	325.2	311.1	302.3	294.8	289.5	284.7	282.5	282.5
60°	330.0	317.2	304.9	291.3	281.2	271.0	263.1	259.6	254.8	253.9	250.8
62.5°	296.6	284.7	272.8	260.0	250.8	240.7	235.0	230.1	227.5	224.0	220.4
65°	261.8	251.2	239.8	228.8	221.3	210.3	205.0	199.3	196.2	192.3	187.9
67.5°	228.4	218.2	207.7	197.6	191.4	180.8	177.3	170.3	168.1	163.7	159.7
70°	193.2	186.1	177.8	167.6	162.4	154.0	150.5	143.9	140.4	137.7	135.5
72.5°	162.8	156.2	146.5	139.9	133.3	128.0	122.3	119.2	116.2	114.0	113.5
75°	132.9	124.5	118.8	112.6	108.2	103.0	100.3	98.1	96.8	95.5	94.2
77.5°	101.6	98.1	92.4	86.2	82.7	80.5	78.8	77.9	76.6	76.1	74.8
80°	75.7	70.8	67.3	65.1	62.5	60.7	59.4	56.3	54.6	53.7	52.8
82.5°	50.2	48.8	46.2	44.0	41.8	41.4	40.0	39.2	38.7	38.7	38.3
85°	30.4	26.8	26.8	26.4	26.4	26.0	25.1	25.1	24.2	25.5	25.5
87.5°	12.3	12.3	11.4	11.4	11.9	11.0	10.6	10.6	10.6	10.1	10.6
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: P243770

CATALOG NUMBER: S125RDR-H850D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1109.7	1109.7	1109.7	1109.7
2.5°	1054.2	1052.0	1052.5	1049.8
5°	994.0	992.6	988.2	984.7
7.5°	939.0	933.2	932.8	929.3
10°	887.5	882.2	879.6	880.0
12.5°	842.6	836.9	836.9	833.4
15°	794.6	788.9	789.8	789.4
17.5°	755.0	751.1	748.0	745.4
20°	716.3	711.5	709.7	707.5
22.5°	680.7	677.2	677.6	677.6
25°	646.8	647.2	643.3	642.4
27.5°	616.9	616.0	615.1	613.4
30°	588.7	585.2	584.3	582.6
32.5°	559.7	559.2	555.7	557.0
35°	530.2	528.9	528.0	527.1
37.5°	502.9	500.3	499.8	499.0
40°	475.2	474.3	470.4	472.6
42.5°	445.3	443.5	443.5	443.5
45°	420.2	415.4	415.4	413.6
47.5°	392.0	390.3	389.4	386.3
50°	364.3	361.7	360.8	360.8
52.5°	335.7	335.3	336.2	334.4
55°	310.6	311.1	310.6	309.8
57.5°	283.4	281.2	281.2	281.6
60°	250.8	250.8	251.7	249.9
62.5°	219.6	218.7	215.6	214.7
65°	187.4	183.9	183.5	183.9
67.5°	158.8	157.5	155.3	155.8
70°	134.2	133.8	131.6	130.2
72.5°	112.2	112.2	110.9	110.9
75°	93.7	92.8	92.4	93.3
77.5°	72.2	70.0	70.8	69.5
80°	52.4	53.2	52.4	51.9
82.5°	38.7	37.8	38.3	37.8
85°	24.6	23.8	24.2	23.8
87.5°	10.1	10.6	10.6	9.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)