

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: P243780

Luminaire Tested: **S125RDR-H850D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243780
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-H850D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3164.2 lumens
Efficiency: N/A
Efficacy: 134.1 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

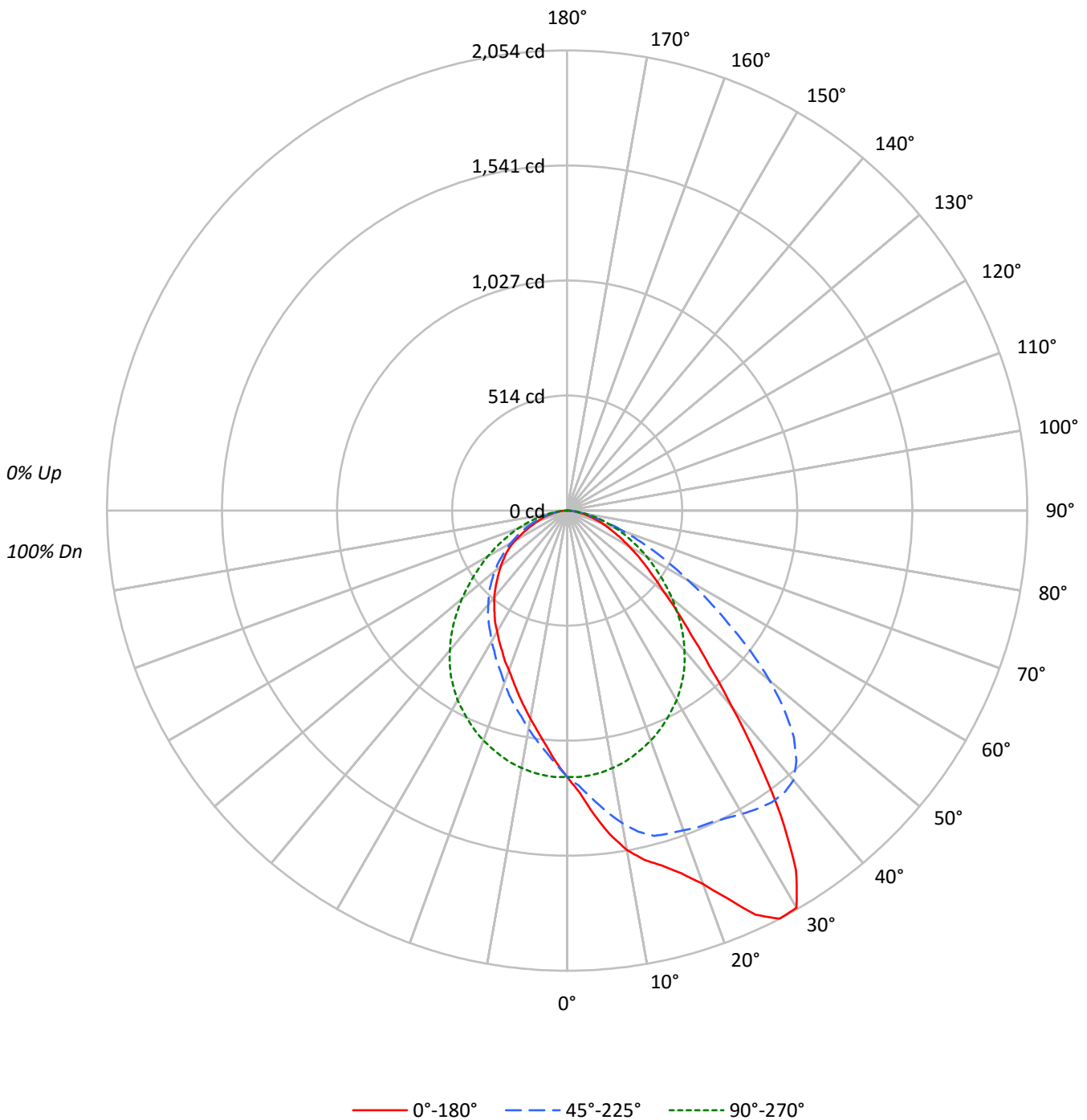
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	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°	8450	8450	8450
5°	9700	8462	7528
10°	11098	8421	6805
15°	12072	8353	6223
20°	13414	8258	5734
25°	15609	8141	5398
30°	16807	8021	5123
35°	14439	7841	4900
40°	10637	7558	4697
45°	7856	7207	4454
50°	6224	6777	4275
55°	5258	6280	4113
60°	4530	5817	3807
65°	3932	5296	3315
70°	3447	4850	2899
75°	2925	4245	2743
80°	2276	3549	2276
85°	1998	2846	2079



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.4	3.6
10°-20°	338.6	10.7
20°-30°	540.0	17.1
30°-40°	655.7	20.7
40°-50°	590.8	18.7
50°-60°	454.3	14.4
60°-70°	294.8	9.3
70°-80°	141.9	4.5
80°-90°	33.6	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°	993.0	31.4
0°-40°	1648.7	52.1
0°-60°	2693.9	85.1
0°-90°	3164.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3164.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1189	1189	1189	1189	1189	
5°	1360	1292	1186	1082	1055	135
15°	1641	1503	1135	904	846	470
25°	1990	1534	1038	744	688	910
35°	1664	1590	904	610	565	1018
45°	782	1431	717	486	443	621
55°	424	879	507	355	332	385
65°	234	427	315	225	197	234
75°	106	145	155	110	100	115
85°	24	26	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°	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9
2.5°	1257.8	1262.5	1258.7	1261.1	1257.3	1255.4	1250.7	1243.6	1236.6	1230.0	1229.5
5°	1359.6	1358.7	1354.9	1349.7	1345.9	1336.5	1331.8	1315.8	1304.9	1291.7	1285.1
7.5°	1456.7	1454.4	1448.7	1441.6	1438.3	1426.1	1412.9	1392.6	1375.6	1354.9	1339.3
10°	1537.8	1537.3	1533.1	1528.4	1515.6	1502.0	1489.2	1468.0	1442.6	1416.6	1395.0
12.5°	1597.2	1594.8	1589.7	1581.6	1571.3	1561.8	1544.9	1525.5	1494.4	1468.0	1438.3
15°	1640.6	1639.6	1632.1	1629.3	1609.0	1595.8	1573.2	1553.8	1529.8	1503.4	1471.3
17.5°	1698.1	1700.0	1693.4	1677.3	1659.0	1638.7	1606.6	1575.0	1541.6	1510.9	1485.0
20°	1773.5	1768.8	1757.5	1738.2	1705.2	1680.2	1648.1	1609.0	1563.7	1518.5	1481.2
22.5°	1874.4	1869.2	1851.3	1827.7	1786.2	1740.5	1691.5	1633.0	1581.2	1529.3	1480.3
25°	1990.4	1980.5	1954.1	1928.6	1869.7	1821.1	1748.1	1678.3	1602.9	1534.0	1478.9
27.5°	2053.5	2053.5	2041.3	2013.5	1966.8	1895.1	1820.7	1727.8	1640.6	1546.3	1468.0
30°	2047.9	2044.6	2049.3	2037.5	2007.3	1953.6	1879.6	1782.0	1670.7	1562.8	1469.0
32.5°	1901.7	1903.2	1931.4	1950.8	1965.9	1952.7	1904.6	1816.4	1705.6	1578.8	1465.2
35°	1664.1	1667.9	1717.9	1750.9	1818.3	1857.0	1868.3	1820.7	1721.2	1590.1	1458.6
37.5°	1392.6	1392.6	1450.6	1500.6	1576.0	1671.2	1742.4	1760.3	1711.8	1589.7	1452.9
40°	1146.5	1145.1	1190.8	1252.1	1332.7	1437.9	1543.9	1634.9	1646.7	1571.3	1433.1
42.5°	938.1	935.8	985.8	1019.7	1104.6	1198.4	1339.3	1468.0	1541.6	1514.2	1403.9
45°	781.6	779.7	812.3	850.9	910.8	1008.4	1126.7	1269.6	1393.1	1430.8	1349.2
47.5°	663.8	664.7	682.2	714.7	765.6	835.4	941.4	1073.9	1226.7	1313.9	1280.4
50°	562.9	566.2	579.4	603.9	641.1	697.2	788.2	908.0	1065.0	1180.5	1187.5
52.5°	487.5	492.2	506.3	519.5	550.6	590.2	660.9	764.7	894.3	1032.9	1082.4
55°	424.3	426.6	434.7	448.8	471.9	504.9	556.3	635.5	755.7	879.2	966.4
57.5°	371.5	371.5	376.7	386.6	405.0	434.7	469.1	534.6	636.0	747.7	840.6
60°	318.7	320.6	324.3	335.2	347.4	370.1	403.5	445.0	532.7	626.1	726.0
62.5°	274.4	277.7	281.4	286.6	297.9	314.0	337.5	375.7	434.7	520.9	610.0
65°	233.8	237.1	237.6	243.7	251.3	264.5	282.4	310.2	359.2	427.1	500.7
67.5°	198.0	199.4	200.8	205.5	212.6	221.1	232.9	253.6	292.3	338.0	409.7
70°	165.9	166.9	167.4	172.5	175.8	183.4	189.5	202.7	227.2	262.6	318.2
72.5°	135.8	134.4	133.9	138.1	139.5	145.7	153.2	162.6	175.8	200.8	242.3
75°	106.5	107.0	107.5	109.8	110.3	113.1	117.9	124.0	130.1	144.7	171.1
77.5°	82.0	80.1	80.1	83.0	83.9	84.4	87.7	91.0	94.3	102.8	113.1
80°	55.6	56.6	56.6	56.6	57.0	58.0	59.9	62.7	65.1	70.2	72.1
82.5°	39.6	39.6	39.1	40.1	40.5	41.0	41.0	41.0	42.4	43.8	45.7
85°	24.5	25.0	23.6	24.5	25.0	25.0	25.0	25.0	26.4	25.9	26.4
87.5°	10.4	10.8	10.8	11.3	11.3	11.8	11.3	11.8	11.3	11.3	11.8
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°	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9
2.5°	1228.1	1222.4	1219.6	1213.9	1206.4	1201.7	1197.0	1190.4	1185.2	1177.2	1170.1
5°	1273.3	1262.0	1251.6	1237.5	1223.8	1212.0	1199.8	1186.1	1173.9	1160.2	1145.6
7.5°	1323.8	1305.9	1284.2	1259.2	1238.0	1219.6	1198.8	1178.6	1160.2	1138.5	1118.7
10°	1372.3	1343.6	1314.8	1281.3	1250.2	1222.9	1195.1	1166.8	1142.7	1115.9	1091.4
12.5°	1410.0	1382.7	1339.8	1298.3	1257.8	1222.4	1187.5	1153.1	1121.5	1091.8	1062.6
15°	1443.0	1397.8	1361.5	1316.2	1266.7	1218.6	1175.3	1135.2	1097.0	1062.1	1032.4
17.5°	1452.5	1411.9	1372.3	1319.5	1266.3	1211.6	1161.6	1114.0	1071.6	1032.9	999.4
20°	1451.5	1410.5	1367.6	1317.2	1260.6	1200.7	1145.1	1091.8	1043.7	999.4	963.6
22.5°	1437.4	1397.8	1354.4	1303.5	1246.0	1184.2	1125.8	1066.8	1014.5	968.3	931.5
25°	1422.3	1372.3	1327.1	1275.7	1221.0	1164.0	1101.7	1038.1	983.4	935.3	893.8
27.5°	1409.1	1349.2	1293.6	1243.2	1187.1	1135.7	1073.9	1007.4	951.3	900.9	858.0
30°	1387.9	1324.7	1257.3	1202.1	1147.9	1094.2	1037.6	977.3	916.0	864.6	821.7
32.5°	1369.5	1289.8	1216.8	1154.5	1100.3	1053.2	999.0	941.0	881.1	832.1	785.9
35°	1349.2	1254.0	1177.6	1104.6	1050.3	999.0	956.1	903.7	844.3	792.5	751.0
37.5°	1325.2	1217.2	1129.5	1055.1	999.0	946.2	907.5	860.8	807.1	755.7	714.7
40°	1298.3	1179.5	1078.6	1001.8	941.4	888.6	856.1	814.6	768.9	718.0	679.8
42.5°	1264.4	1139.4	1032.4	948.5	881.6	834.0	801.4	767.0	725.1	680.7	639.3
45°	1221.5	1089.5	977.3	888.6	822.6	776.4	742.5	717.0	683.6	642.1	603.0
47.5°	1169.1	1037.1	920.7	828.8	765.1	720.8	689.2	663.8	638.3	602.5	565.2
50°	1099.8	977.3	865.5	771.7	704.3	661.4	633.1	612.9	589.8	560.5	526.6
52.5°	1023.5	909.9	800.5	712.8	647.7	604.8	575.6	558.6	541.2	517.2	487.9
55°	934.8	842.4	738.3	652.5	588.8	546.4	523.3	506.8	492.2	473.8	449.3
57.5°	841.0	759.9	669.4	590.2	530.4	490.3	470.0	456.3	444.1	430.9	410.6
60°	742.5	685.0	599.2	526.6	474.3	441.3	421.9	409.2	397.9	387.0	372.0
62.5°	639.7	592.1	528.0	466.2	419.6	388.5	374.3	363.5	351.7	342.3	331.4
65°	535.5	508.2	463.9	405.9	363.0	337.5	323.9	314.9	309.3	298.4	289.9
67.5°	440.8	425.7	388.0	348.9	315.9	292.8	280.0	273.4	267.3	262.1	252.7
70°	350.7	339.9	318.2	290.4	264.5	244.7	235.2	233.4	224.9	219.7	215.0
72.5°	267.3	264.5	246.6	234.3	219.7	204.1	197.1	193.3	187.6	182.9	181.0
75°	190.0	194.2	188.6	182.4	175.4	162.6	156.5	154.6	149.4	148.0	145.7
77.5°	129.6	135.8	137.7	134.8	131.5	127.3	123.0	121.2	116.0	115.0	113.6
80°	81.6	90.5	93.8	93.3	91.9	92.4	87.2	86.7	84.4	83.0	84.4
82.5°	49.5	54.2	60.3	61.8	59.9	60.8	59.4	57.5	57.5	58.5	56.6
85°	26.9	27.3	30.2	32.1	34.4	36.3	34.4	34.9	34.4	34.4	33.0
87.5°	11.8	12.3	12.3	11.8	12.7	13.7	15.6	16.5	16.0	14.6	12.7
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°	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9	1188.9
2.5°	1164.4	1161.1	1155.5	1150.8	1139.9	1132.4	1131.4	1131.9	1131.0	1130.0	1129.5
5°	1136.1	1125.3	1114.9	1106.0	1093.7	1081.5	1075.8	1073.4	1072.5	1067.3	1070.1
7.5°	1106.0	1089.5	1077.2	1060.2	1045.6	1035.3	1025.4	1020.6	1019.7	1012.6	1010.7
10°	1073.9	1054.1	1035.7	1018.8	1004.1	989.5	977.7	973.5	967.8	962.2	953.7
12.5°	1042.3	1017.8	997.5	978.7	958.9	942.4	933.0	926.8	919.8	914.6	911.7
15°	1004.6	983.9	958.9	938.6	918.3	903.7	891.0	879.7	873.1	868.8	857.1
17.5°	970.7	943.3	919.8	900.4	878.3	861.8	848.6	839.1	827.8	819.3	811.8
20°	934.4	906.1	884.4	861.3	838.7	818.4	801.9	794.4	786.3	778.3	774.1
22.5°	895.2	870.7	846.2	822.2	798.1	776.4	766.1	755.2	748.2	740.1	734.5
25°	861.3	834.4	809.9	783.0	756.6	743.9	729.8	718.9	713.3	705.3	699.1
27.5°	825.0	799.1	769.8	742.0	726.5	704.8	695.4	686.9	679.3	671.3	667.1
30°	791.1	760.9	731.7	710.0	689.7	674.1	665.2	654.8	644.4	640.7	635.0
32.5°	755.2	722.7	697.2	675.6	658.6	639.7	631.2	622.8	612.9	608.1	603.0
35°	718.0	686.4	661.4	641.6	624.2	610.0	600.6	591.6	585.5	578.4	574.7
37.5°	678.9	651.5	627.5	607.7	591.6	580.3	568.5	561.5	553.0	546.4	543.6
40°	641.6	617.1	594.0	575.6	561.0	547.3	537.0	528.0	522.8	517.2	512.4
42.5°	608.1	582.7	562.9	543.6	530.4	517.2	506.8	500.2	491.2	488.9	482.3
45°	572.3	548.7	528.9	511.0	497.4	486.5	474.3	466.2	460.6	454.9	452.6
47.5°	536.0	514.3	495.9	479.4	465.3	453.0	443.6	435.1	429.0	423.8	421.0
50°	500.7	481.8	463.4	447.4	432.8	423.8	412.5	403.1	398.4	392.7	389.4
52.5°	463.4	447.9	428.1	414.4	400.7	388.9	377.6	371.5	366.8	362.1	359.7
55°	428.5	412.0	395.1	380.4	367.2	355.0	346.0	341.3	335.2	332.4	331.9
57.5°	392.7	375.7	361.6	348.4	333.3	323.9	315.9	310.2	305.0	302.7	302.7
60°	353.6	339.9	326.7	312.1	301.2	290.4	281.9	278.1	273.0	272.0	268.7
62.5°	317.7	305.0	292.3	278.6	268.7	257.9	251.7	246.6	243.7	240.0	236.2
65°	280.5	269.2	256.9	245.1	237.1	225.3	219.7	213.6	210.3	206.0	201.3
67.5°	244.7	233.8	222.5	211.7	205.1	193.8	190.0	182.4	180.1	175.4	171.1
70°	207.0	199.4	190.5	179.6	174.0	165.0	161.2	154.2	150.4	147.6	145.2
72.5°	174.4	167.4	157.0	149.9	142.8	137.2	131.1	127.8	124.5	122.1	121.6
75°	142.4	133.4	127.3	120.7	116.0	110.3	107.5	105.1	103.7	102.3	100.9
77.5°	108.9	105.1	99.0	92.4	88.6	86.3	84.4	83.4	82.0	81.6	80.1
80°	81.1	75.9	72.1	69.8	66.9	65.1	63.6	60.3	58.5	57.5	56.6
82.5°	53.7	52.3	49.5	47.1	44.8	44.3	42.9	42.0	41.5	41.5	41.0
85°	32.5	28.8	28.8	28.3	28.3	27.8	26.9	26.9	25.9	27.3	27.3
87.5°	13.2	13.2	12.3	12.3	12.7	11.8	11.3	11.3	11.3	10.8	11.3
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: P243780

CATALOG NUMBER: S125RDR-H850D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1188.9	1188.9	1188.9	1188.9
2.5°	1129.5	1127.2	1127.7	1124.8
5°	1065.0	1063.5	1058.8	1055.1
7.5°	1006.0	999.9	999.4	995.7
10°	950.9	945.2	942.4	942.9
12.5°	902.8	896.7	896.7	892.9
15°	851.4	845.3	846.2	845.7
17.5°	809.0	804.7	801.4	798.6
20°	767.5	762.3	760.4	758.1
22.5°	729.3	725.5	726.0	726.0
25°	693.0	693.5	689.2	688.3
27.5°	660.9	660.0	659.1	657.2
30°	630.8	627.0	626.1	624.2
32.5°	599.7	599.2	595.4	596.8
35°	568.1	566.7	565.7	564.8
37.5°	538.8	536.0	535.5	534.6
40°	509.1	508.2	504.0	506.3
42.5°	477.1	475.2	475.2	475.2
45°	450.2	445.0	445.0	443.1
47.5°	420.0	418.2	417.2	413.9
50°	390.3	387.5	386.6	386.6
52.5°	359.7	359.2	360.2	358.3
55°	332.8	333.3	332.8	331.9
57.5°	303.6	301.2	301.2	301.7
60°	268.7	268.7	269.7	267.8
62.5°	235.2	234.3	231.0	230.1
65°	200.8	197.1	196.6	197.1
67.5°	170.2	168.8	166.4	166.9
70°	143.8	143.3	141.0	139.5
72.5°	120.2	120.2	118.8	118.8
75°	100.4	99.5	99.0	99.9
77.5°	77.3	75.0	75.9	74.5
80°	56.1	57.0	56.1	55.6
82.5°	41.5	40.5	41.0	40.5
85°	26.4	25.5	25.9	25.5
87.5°	10.8	11.3	11.3	10.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)