

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: P243781

Luminaire Tested: **S125RDR-H1090D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243781
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-H1090D840-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: 4080.6 lumens
Efficiency: N/A
Efficacy: 129.5 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

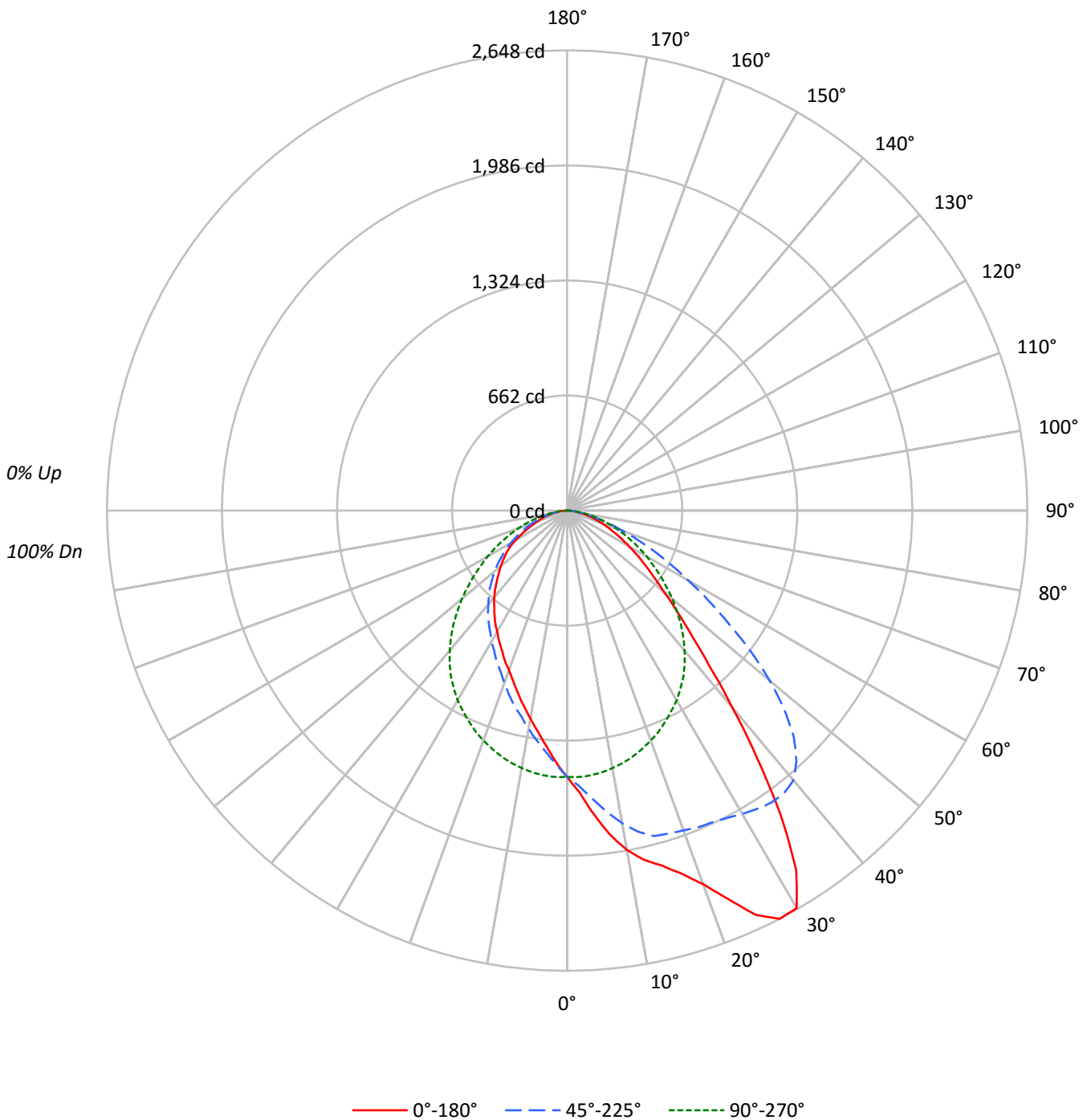
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				
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°	10898	10898	10898
5°	12510	10913	9707
10°	14313	10859	8775
15°	15567	10772	8025
20°	17299	10650	7394
25°	20129	10498	6961
30°	21674	10343	6606
35°	18621	10112	6319
40°	13718	9747	6059
45°	10132	9294	5744
50°	8026	8740	5512
55°	6781	8099	5303
60°	5842	7501	4908
65°	5072	6830	4273
70°	4447	6253	3740
75°	3773	5476	3540
80°	2935	4580	2935
85°	2577	3670	2675



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.6	3.6
10°-20°	436.6	10.7
20°-30°	696.4	17.1
30°-40°	845.6	20.7
40°-50°	762.0	18.7
50°-60°	585.9	14.4
60°-70°	380.2	9.3
70°-80°	183.0	4.5
80°-90°	43.3	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°	1280.7	31.4
0°-40°	2126.3	52.1
0°-60°	3474.2	85.1
0°-90°	4080.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4080.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1533	1533	1533	1533	1533	
5°	1753	1666	1530	1395	1361	174
15°	2116	1939	1464	1166	1091	607
25°	2567	1978	1339	959	888	1174
35°	2146	2051	1166	787	728	1313
45°	1008	1845	925	627	572	801
55°	547	1134	654	458	428	496
65°	302	551	406	291	254	302
75°	137	187	199	142	129	148
85°	32	33	45	36	33	36
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°	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3
2.5°	1622.1	1628.1	1623.3	1626.3	1621.4	1619.0	1612.9	1603.8	1594.7	1586.2	1585.6
5°	1753.4	1752.2	1747.3	1740.6	1735.7	1723.6	1717.5	1696.8	1682.9	1665.8	1657.3
7.5°	1878.6	1875.6	1868.3	1859.2	1854.9	1839.1	1822.1	1795.9	1774.0	1747.3	1727.2
10°	1983.2	1982.6	1977.1	1971.0	1954.6	1937.0	1920.6	1893.2	1860.4	1826.9	1799.0
12.5°	2059.8	2056.8	2050.1	2039.7	2026.4	2014.2	1992.3	1967.4	1927.3	1893.2	1854.9
15°	2115.7	2114.5	2104.8	2101.1	2075.0	2058.0	2028.8	2003.9	1972.9	1938.8	1897.5
17.5°	2189.9	2192.3	2183.8	2163.1	2139.4	2113.3	2071.9	2031.2	1988.0	1948.5	1915.1
20°	2287.2	2281.1	2266.5	2241.6	2199.0	2166.8	2125.5	2075.0	2016.6	1958.3	1910.2
22.5°	2417.3	2410.6	2387.5	2357.1	2303.6	2244.6	2181.4	2106.0	2039.1	1972.2	1909.0
25°	2566.8	2554.1	2520.0	2487.2	2411.2	2348.6	2254.3	2164.4	2067.1	1978.3	1907.2
27.5°	2648.3	2648.3	2632.5	2596.6	2536.4	2444.0	2348.0	2228.2	2115.7	1994.1	1893.2
30°	2641.0	2636.7	2642.8	2627.6	2588.7	2519.4	2424.0	2298.1	2154.6	2015.4	1894.4
32.5°	2452.5	2454.4	2490.8	2515.8	2535.2	2518.2	2456.2	2342.5	2199.6	2036.1	1889.6
35°	2146.1	2151.0	2215.4	2258.0	2344.9	2394.8	2409.4	2348.0	2219.7	2050.7	1881.0
37.5°	1795.9	1795.9	1870.7	1935.2	2032.4	2155.2	2247.0	2270.1	2207.5	2050.1	1873.8
40°	1478.6	1476.8	1535.7	1614.8	1718.7	1854.3	1991.1	2108.4	2123.6	2026.4	1848.2
42.5°	1209.9	1206.8	1271.3	1315.0	1424.5	1545.5	1727.2	1893.2	1988.0	1952.8	1810.5
45°	1008.0	1005.6	1047.5	1097.4	1174.6	1300.4	1453.0	1637.3	1796.5	1845.2	1740.0
47.5°	856.0	857.2	879.7	921.7	987.3	1077.3	1214.1	1384.9	1581.9	1694.4	1651.2
50°	725.9	730.2	747.2	778.8	826.8	899.2	1016.5	1170.9	1373.4	1522.3	1531.5
52.5°	628.6	634.7	653.0	670.0	710.1	761.2	852.4	986.1	1153.3	1332.1	1395.9
55°	547.2	550.2	560.5	578.8	608.6	651.1	717.4	819.5	974.6	1133.9	1246.3
57.5°	479.1	479.1	485.8	498.5	522.2	560.5	604.9	689.4	820.1	964.2	1084.0
60°	411.0	413.4	418.3	432.3	448.1	477.3	520.4	573.9	687.0	807.4	936.3
62.5°	353.8	358.1	363.0	369.6	384.2	404.9	435.3	484.5	560.5	671.8	786.7
65°	301.6	305.8	306.4	314.3	324.0	341.1	364.2	400.0	463.3	550.8	645.7
67.5°	255.3	257.2	259.0	265.1	274.2	285.1	300.3	327.1	376.9	435.9	528.3
70°	214.0	215.2	215.8	222.5	226.8	236.5	244.4	261.4	293.0	338.6	410.4
72.5°	175.1	173.3	172.7	178.1	180.0	187.9	197.6	209.7	226.8	259.0	312.5
75°	137.4	138.0	138.6	141.7	142.3	145.9	152.0	159.9	167.8	186.6	220.7
77.5°	105.8	103.4	103.4	107.0	108.2	108.8	113.1	117.3	121.6	132.5	145.9
80°	71.7	73.0	73.0	73.0	73.6	74.8	77.2	80.9	83.9	90.6	93.0
82.5°	51.1	51.1	50.5	51.7	52.3	52.9	52.9	52.9	54.7	56.5	59.0
85°	31.6	32.2	30.4	31.6	32.2	32.2	32.2	32.2	34.0	33.4	34.0
87.5°	13.4	14.0	14.0	14.6	14.6	15.2	14.6	15.2	14.6	14.6	15.2
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°	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3
2.5°	1583.8	1576.5	1572.8	1565.5	1555.8	1549.7	1543.6	1535.1	1528.4	1518.1	1509.0
5°	1642.1	1627.5	1614.2	1595.9	1578.3	1563.1	1547.3	1529.6	1513.8	1496.2	1477.4
7.5°	1707.2	1684.1	1656.1	1623.9	1596.5	1572.8	1546.1	1519.9	1496.2	1468.2	1442.7
10°	1769.8	1732.7	1695.6	1652.5	1612.3	1577.1	1541.2	1504.7	1473.7	1439.1	1407.4
12.5°	1818.4	1783.2	1727.8	1674.3	1622.1	1576.5	1531.5	1487.1	1446.4	1408.1	1370.4
15°	1861.0	1802.6	1755.8	1697.4	1633.6	1571.6	1515.7	1464.0	1414.7	1369.7	1331.4
17.5°	1873.1	1820.9	1769.8	1701.7	1633.0	1562.5	1498.0	1436.6	1381.9	1332.1	1288.9
20°	1871.9	1819.0	1763.7	1698.7	1625.7	1548.5	1476.8	1408.1	1346.0	1288.9	1242.7
22.5°	1853.7	1802.6	1746.7	1681.0	1606.9	1527.2	1451.8	1375.8	1308.3	1248.8	1201.3
25°	1834.2	1769.8	1711.4	1645.2	1574.6	1501.1	1420.8	1338.7	1268.2	1206.2	1152.7
27.5°	1817.2	1740.0	1668.3	1603.2	1530.9	1464.6	1384.9	1299.2	1226.9	1161.8	1106.5
30°	1789.9	1708.4	1621.4	1550.3	1480.4	1411.1	1338.1	1260.3	1181.3	1115.0	1059.7
32.5°	1766.1	1663.4	1569.2	1488.9	1419.0	1358.2	1288.3	1213.5	1136.3	1073.1	1013.5
35°	1740.0	1617.2	1518.7	1424.5	1354.5	1288.3	1233.0	1165.5	1088.9	1022.0	968.5
37.5°	1709.0	1569.8	1456.7	1360.6	1288.3	1220.2	1170.3	1110.1	1040.8	974.6	921.7
40°	1674.3	1521.1	1391.0	1291.9	1214.1	1146.0	1104.1	1050.6	991.6	925.9	876.7
42.5°	1630.6	1469.5	1331.4	1223.2	1136.9	1075.5	1033.5	989.2	935.1	877.9	824.4
45°	1575.2	1405.0	1260.3	1146.0	1060.9	1001.3	957.5	924.7	881.6	828.1	777.6
47.5°	1507.8	1337.5	1187.4	1068.8	986.7	929.6	888.8	856.0	823.2	777.0	729.0
50°	1418.4	1260.3	1116.2	995.2	908.3	853.0	816.5	790.4	760.6	722.9	679.1
52.5°	1319.9	1173.4	1032.3	919.2	835.3	780.0	742.3	720.4	697.9	666.9	629.2
55°	1205.6	1086.4	952.1	841.4	759.3	704.6	674.8	653.6	634.7	611.0	579.4
57.5°	1084.6	980.0	863.3	761.2	684.0	632.3	606.1	588.5	572.7	555.7	529.5
60°	957.5	883.4	772.7	679.1	611.6	569.1	544.1	527.7	513.1	499.1	479.7
62.5°	825.0	763.6	680.9	601.3	541.1	501.0	482.7	468.7	453.5	441.4	427.4
65°	690.6	655.4	598.2	523.5	468.1	435.3	417.7	406.1	398.8	384.8	373.9
67.5°	568.4	549.0	500.4	449.9	407.3	377.5	361.1	352.6	344.7	338.0	325.9
70°	452.3	438.3	410.4	374.5	341.1	315.5	303.4	300.9	290.0	283.3	277.2
72.5°	344.7	341.1	318.0	302.2	283.3	263.2	254.1	249.3	242.0	235.9	233.5
75°	245.0	250.5	243.2	235.3	226.2	209.7	201.8	199.4	192.7	190.9	187.9
77.5°	167.2	175.1	177.5	173.9	169.6	164.2	158.7	156.2	149.6	148.3	146.5
80°	105.2	116.7	121.0	120.4	118.6	119.2	112.5	111.9	108.8	107.0	108.8
82.5°	63.8	69.9	77.8	79.6	77.2	78.4	76.6	74.2	74.2	75.4	73.0
85°	34.7	35.3	38.9	41.3	44.4	46.8	44.4	45.0	44.4	44.4	42.6
87.5°	15.2	15.8	15.8	15.2	16.4	17.6	20.1	21.3	20.7	18.8	16.4
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°	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3	1533.3
2.5°	1501.7	1497.4	1490.1	1484.0	1470.1	1460.3	1459.1	1459.7	1458.5	1457.3	1456.7
5°	1465.2	1451.2	1437.8	1426.3	1410.5	1394.7	1387.4	1384.3	1383.1	1376.4	1380.1
7.5°	1426.3	1405.0	1389.2	1367.3	1348.5	1335.1	1322.3	1316.2	1315.0	1305.9	1303.5
10°	1384.9	1359.4	1335.7	1313.8	1295.0	1276.1	1260.9	1255.5	1248.2	1240.9	1229.9
12.5°	1344.2	1312.6	1286.5	1262.1	1236.6	1215.3	1203.2	1195.3	1186.1	1179.5	1175.8
15°	1295.6	1268.8	1236.6	1210.5	1184.3	1165.5	1149.1	1134.5	1126.0	1120.5	1105.3
17.5°	1251.8	1216.5	1186.1	1161.2	1132.6	1111.4	1094.3	1082.2	1067.6	1056.6	1046.9
20°	1205.0	1168.5	1140.5	1110.8	1081.6	1055.4	1034.2	1024.4	1014.1	1003.8	998.3
22.5°	1154.5	1122.9	1091.3	1060.3	1029.3	1001.3	987.9	974.0	964.8	954.5	947.2
25°	1110.8	1076.1	1044.5	1009.8	975.8	959.4	941.1	927.1	919.9	909.5	901.6
27.5°	1063.9	1030.5	992.8	956.9	936.9	908.9	896.8	885.8	876.1	865.7	860.3
30°	1020.2	981.3	943.6	915.6	889.5	869.4	857.8	844.5	831.1	826.2	818.9
32.5°	974.0	932.0	899.2	871.2	849.3	825.0	814.1	803.1	790.4	784.3	777.6
35°	925.9	885.2	853.0	827.4	804.9	786.7	774.5	763.0	755.1	746.0	741.1
37.5°	875.5	840.2	809.2	783.7	763.0	748.4	733.2	724.1	713.1	704.6	701.0
40°	827.4	795.8	766.0	742.3	723.5	705.8	692.5	680.9	674.2	666.9	660.9
42.5°	784.3	751.4	725.9	701.0	684.0	666.9	653.6	645.1	633.5	630.5	621.9
45°	738.1	707.7	682.1	659.0	641.4	627.4	611.6	601.3	594.0	586.7	583.6
47.5°	691.3	663.3	639.6	618.3	600.1	584.3	572.1	561.2	553.2	546.6	542.9
50°	645.7	621.3	597.6	577.0	558.1	546.6	532.0	519.8	513.7	506.4	502.2
52.5°	597.6	577.6	552.0	534.4	516.8	501.6	487.0	479.1	473.0	466.9	463.9
55°	552.6	531.4	509.5	490.6	473.6	457.8	446.2	440.2	432.3	428.6	428.0
57.5°	506.4	484.5	466.3	449.3	429.8	417.7	407.3	400.0	393.4	390.3	390.3
60°	456.0	438.3	421.3	402.5	388.5	374.5	363.6	358.7	352.0	350.8	346.5
62.5°	409.8	393.4	376.9	359.3	346.5	332.6	324.7	318.0	314.3	309.5	304.6
65°	361.7	347.1	331.3	316.1	305.8	290.6	283.3	275.4	271.2	265.7	259.6
67.5°	315.5	301.6	287.0	273.0	264.5	249.9	245.0	235.3	232.2	226.2	220.7
70°	266.9	257.2	245.6	231.6	224.3	212.8	207.9	198.8	193.9	190.3	187.3
72.5°	224.9	215.8	202.5	193.3	184.2	176.9	169.0	164.8	160.5	157.5	156.9
75°	183.6	172.1	164.2	155.6	149.6	142.3	138.6	135.6	133.8	131.9	130.1
77.5°	140.4	135.6	127.7	119.2	114.3	111.3	108.8	107.6	105.8	105.2	103.4
80°	104.6	97.9	93.0	90.0	86.3	83.9	82.1	77.8	75.4	74.2	73.0
82.5°	69.3	67.5	63.8	60.8	57.8	57.1	55.3	54.1	53.5	53.5	52.9
85°	41.9	37.1	37.1	36.5	36.5	35.9	34.7	34.7	33.4	35.3	35.3
87.5°	17.0	17.0	15.8	15.8	16.4	15.2	14.6	14.6	14.6	14.0	14.6
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: P243781

CATALOG NUMBER: S125RDR-H1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1533.3	1533.3	1533.3	1533.3
2.5°	1456.7	1453.6	1454.3	1450.6
5°	1373.4	1371.6	1365.5	1360.6
7.5°	1297.4	1289.5	1288.9	1284.0
10°	1226.3	1219.0	1215.3	1215.9
12.5°	1164.3	1156.4	1156.4	1151.5
15°	1098.0	1090.1	1091.3	1090.7
17.5°	1043.3	1037.8	1033.5	1029.9
20°	989.8	983.1	980.6	977.6
22.5°	940.5	935.7	936.3	936.3
25°	893.7	894.3	888.8	887.6
27.5°	852.4	851.2	849.9	847.5
30°	813.5	808.6	807.4	804.9
32.5°	773.3	772.7	767.9	769.7
35°	732.6	730.8	729.6	728.3
37.5°	694.9	691.3	690.6	689.4
40°	656.6	655.4	649.9	653.0
42.5°	615.3	612.8	612.8	612.8
45°	580.6	573.9	573.9	571.5
47.5°	541.7	539.3	538.1	533.8
50°	503.4	499.7	498.5	498.5
52.5°	463.9	463.3	464.5	462.1
55°	429.2	429.8	429.2	428.0
57.5°	391.5	388.5	388.5	389.1
60°	346.5	346.5	347.8	345.3
62.5°	303.4	302.2	297.9	296.7
65°	259.0	254.1	253.5	254.1
67.5°	219.5	217.7	214.6	215.2
70°	185.4	184.8	181.8	180.0
72.5°	155.0	155.0	153.2	153.2
75°	129.5	128.3	127.7	128.9
77.5°	99.7	96.7	97.9	96.1
80°	72.3	73.6	72.3	71.7
82.5°	53.5	52.3	52.9	52.3
85°	34.0	32.8	33.4	32.8
87.5°	14.0	14.6	14.6	13.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)