

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: P243776

Luminaire Tested: **S125RDR-H1090D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243776
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-H1090D835-X4F0-XX-UDD-A-W
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4040.8 lumens
Efficiency: N/A
Efficacy: 128.3 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

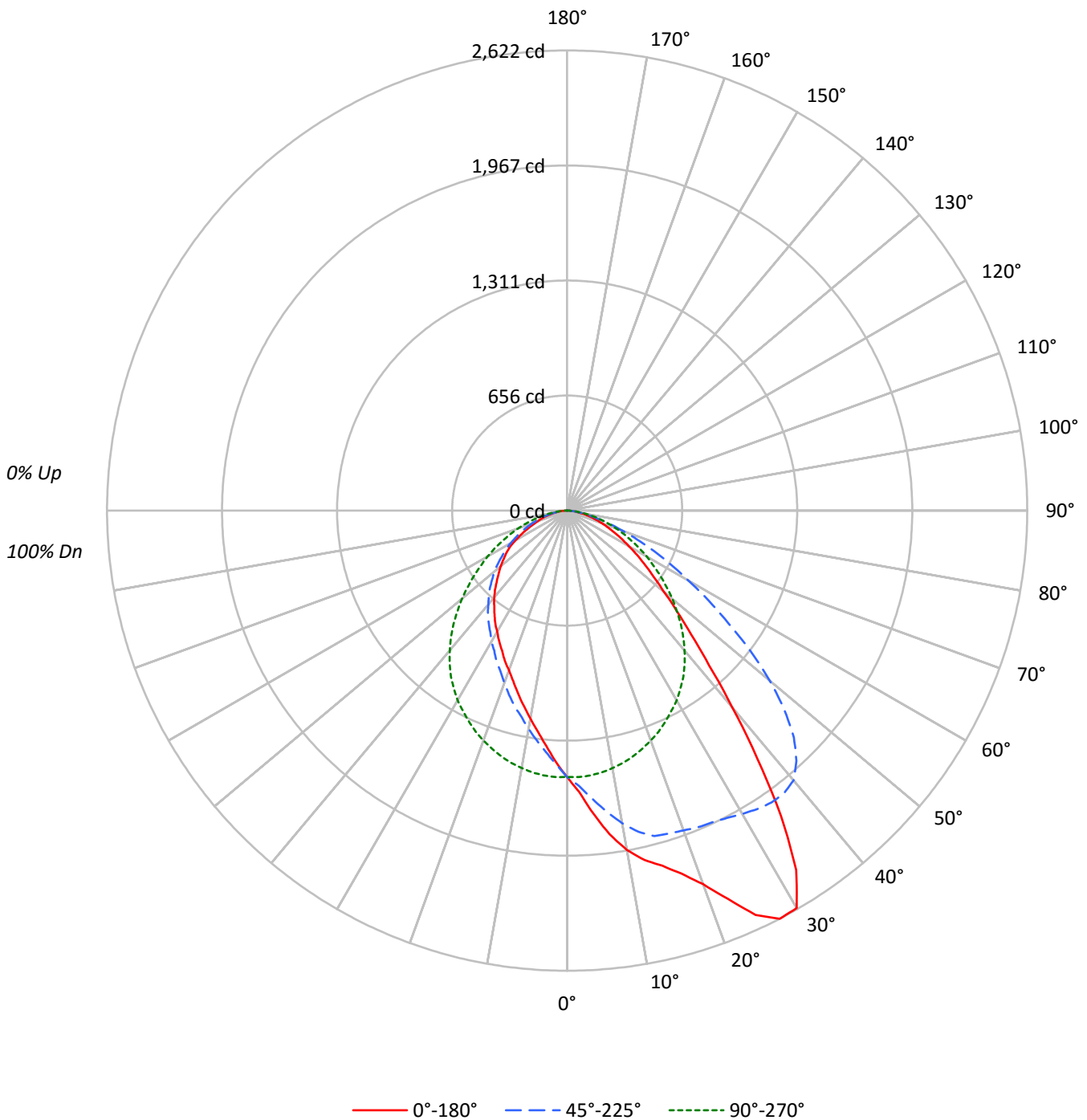
Input Watts (W): 31.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	10791	10791	10791
5°	12387	10807	9612
10°	14173	10753	8690
15°	15416	10667	7947
20°	17130	10546	7322
25°	19933	10396	6893
30°	21463	10242	6542
35°	18439	10014	6257
40°	13584	9652	5999
45°	10033	9204	5688
50°	7948	8653	5459
55°	6714	8020	5251
60°	5785	7429	4861
65°	5022	6764	4231
70°	4403	6193	3703
75°	3737	5423	3504
80°	2906	4535	2906
85°	2552	3637	2650



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.1	3.6
10°-20°	432.4	10.7
20°-30°	689.6	17.1
30°-40°	837.3	20.7
40°-50°	754.5	18.7
50°-60°	580.2	14.4
60°-70°	376.5	9.3
70°-80°	181.2	4.5
80°-90°	42.9	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°	1268.1	31.4
0°-40°	2105.5	52.1
0°-60°	3440.2	85.1
0°-90°	4040.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4040.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1518	1518	1518	1518	1518	
5°	1736	1650	1515	1381	1347	173
15°	2095	1920	1450	1154	1080	601
25°	2542	1959	1326	950	879	1162
35°	2125	2031	1154	779	721	1300
45°	998	1827	916	621	566	793
55°	542	1123	647	453	424	491
65°	299	545	402	288	252	299
75°	136	185	198	141	128	146
85°	31	33	45	36	32	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°	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3
2.5°	1606.2	1612.2	1607.4	1610.4	1605.6	1603.2	1597.2	1588.1	1579.1	1570.7	1570.1
5°	1736.2	1735.0	1730.2	1723.6	1718.8	1706.7	1700.7	1680.3	1666.4	1649.6	1641.1
7.5°	1860.3	1857.3	1850.0	1841.0	1836.8	1821.1	1804.3	1778.4	1756.7	1730.2	1710.4
10°	1963.8	1963.2	1957.8	1951.8	1935.5	1918.1	1901.8	1874.7	1842.2	1809.1	1781.4
12.5°	2039.7	2036.7	2030.0	2019.8	2006.6	1994.5	1972.8	1948.2	1908.4	1874.7	1836.8
15°	2095.1	2093.9	2084.2	2080.6	2054.7	2037.9	2009.0	1984.3	1953.6	1919.9	1878.9
17.5°	2168.5	2170.9	2162.5	2142.0	2118.5	2092.6	2051.7	2011.4	1968.6	1929.5	1896.4
20°	2264.8	2258.8	2244.4	2219.7	2177.5	2145.6	2104.7	2054.7	1996.9	1939.1	1891.6
22.5°	2393.7	2387.0	2364.2	2334.1	2281.1	2222.7	2160.1	2085.4	2019.2	1953.0	1890.4
25°	2541.8	2529.1	2495.4	2462.9	2387.6	2325.6	2232.3	2143.2	2046.9	1959.0	1888.6
27.5°	2622.4	2622.4	2606.8	2571.3	2511.7	2420.1	2325.0	2206.4	2095.1	1974.6	1874.7
30°	2615.2	2611.0	2617.0	2602.0	2563.4	2494.8	2400.3	2275.7	2133.6	1995.7	1875.9
32.5°	2428.6	2430.4	2466.5	2491.2	2510.5	2493.6	2432.2	2319.6	2178.1	2016.2	1871.1
35°	2125.2	2130.0	2193.8	2235.9	2322.0	2371.4	2385.8	2325.0	2198.0	2030.6	1862.7
37.5°	1778.4	1778.4	1852.4	1916.3	2012.6	2134.2	2225.1	2248.0	2186.0	2030.0	1855.4
40°	1464.1	1462.3	1520.7	1599.0	1701.9	1836.2	1971.6	2087.8	2102.9	2006.6	1830.2
42.5°	1198.0	1195.0	1258.8	1302.2	1410.6	1530.4	1710.4	1874.7	1968.6	1933.7	1792.8
45°	998.2	995.8	1037.3	1086.7	1163.1	1287.7	1438.8	1621.3	1779.0	1827.2	1723.0
47.5°	847.7	848.9	871.1	912.7	977.7	1066.8	1202.2	1371.4	1566.5	1677.9	1635.1
50°	718.8	723.0	739.9	771.2	818.8	890.4	1006.6	1159.5	1360.0	1507.5	1516.5
52.5°	622.5	628.5	646.6	663.4	703.2	753.7	844.0	976.5	1142.0	1319.0	1382.3
55°	541.8	544.8	555.1	573.1	602.6	644.8	710.4	811.5	965.0	1122.8	1234.2
57.5°	474.4	474.4	481.0	493.7	517.1	555.1	599.0	682.7	812.1	954.8	1073.4
60°	407.0	409.4	414.2	428.0	443.7	472.6	515.3	568.3	680.3	799.5	927.1
62.5°	350.4	354.6	359.4	366.0	380.5	401.0	431.1	479.8	555.1	665.2	779.0
65°	298.6	302.8	303.4	311.2	320.9	337.7	360.6	396.1	458.7	545.4	639.4
67.5°	252.9	254.7	256.5	262.5	271.5	282.4	297.4	323.9	373.3	431.7	523.2
70°	211.9	213.1	213.7	220.3	224.6	234.2	242.0	258.9	290.2	335.3	406.4
72.5°	173.4	171.6	171.0	176.4	178.2	186.0	195.7	207.7	224.6	256.5	309.4
75°	136.1	136.7	137.3	140.3	140.9	144.5	150.5	158.3	166.2	184.8	218.5
77.5°	104.8	102.3	102.3	106.0	107.2	107.8	112.0	116.2	120.4	131.2	144.5
80°	71.0	72.2	72.2	72.2	72.8	74.0	76.5	80.1	83.1	89.7	92.1
82.5°	50.6	50.6	50.0	51.2	51.8	52.4	52.4	52.4	54.2	56.0	58.4
85°	31.3	31.9	30.1	31.3	31.9	31.9	31.9	31.9	33.7	33.1	33.7
87.5°	13.2	13.8	13.8	14.4	14.4	15.1	14.4	15.1	14.4	14.4	15.1
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°	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3
2.5°	1568.3	1561.1	1557.4	1550.2	1540.6	1534.6	1528.5	1520.1	1513.5	1503.3	1494.2
5°	1626.1	1611.6	1598.4	1580.3	1562.9	1547.8	1532.2	1514.7	1499.0	1481.6	1462.9
7.5°	1690.5	1667.6	1639.9	1608.0	1580.9	1557.4	1531.0	1505.1	1481.6	1453.9	1428.6
10°	1752.5	1715.8	1679.1	1636.3	1596.6	1561.7	1526.1	1490.0	1459.3	1425.0	1393.7
12.5°	1800.7	1765.7	1711.0	1658.0	1606.2	1561.1	1516.5	1472.6	1432.2	1394.3	1357.0
15°	1842.8	1785.0	1738.7	1680.9	1617.6	1556.2	1500.9	1449.7	1400.9	1356.4	1318.4
17.5°	1854.8	1803.1	1752.5	1685.1	1617.0	1547.2	1483.4	1422.6	1368.4	1319.0	1276.3
20°	1853.6	1801.3	1746.5	1682.1	1609.8	1533.4	1462.3	1394.3	1332.9	1276.3	1230.5
22.5°	1835.6	1785.0	1729.6	1664.6	1591.2	1512.3	1437.6	1362.4	1295.6	1236.6	1189.6
25°	1816.3	1752.5	1694.7	1629.1	1559.3	1486.4	1406.9	1325.7	1255.8	1194.4	1141.4
27.5°	1799.5	1723.0	1652.0	1587.5	1515.9	1450.3	1371.4	1286.5	1214.9	1150.5	1095.7
30°	1772.4	1691.7	1605.6	1535.2	1465.9	1397.3	1325.1	1248.0	1169.7	1104.1	1049.3
32.5°	1748.9	1647.1	1553.8	1474.4	1405.1	1344.9	1275.7	1201.6	1125.2	1062.6	1003.6
35°	1723.0	1601.4	1503.9	1410.6	1341.3	1275.7	1220.9	1154.1	1078.2	1012.0	959.0
37.5°	1692.3	1554.4	1442.5	1347.3	1275.7	1208.3	1158.9	1099.3	1030.7	965.0	912.7
40°	1658.0	1506.3	1377.4	1279.3	1202.2	1134.8	1093.3	1040.3	981.9	916.9	868.1
42.5°	1614.6	1455.1	1318.4	1211.3	1125.8	1065.0	1023.4	979.5	925.9	869.3	816.3
45°	1559.9	1391.3	1248.0	1134.8	1050.5	991.5	948.2	915.7	872.9	820.0	770.0
47.5°	1493.0	1324.5	1175.8	1058.4	977.1	920.5	880.2	847.7	815.1	769.4	721.8
50°	1404.5	1248.0	1105.3	985.5	899.4	844.6	808.5	782.6	753.1	715.8	672.5
52.5°	1307.0	1161.9	1022.2	910.3	827.2	772.4	735.1	713.4	691.1	660.4	623.1
55°	1193.8	1075.8	942.8	833.2	751.9	697.7	668.3	647.2	628.5	605.0	573.7
57.5°	1074.0	970.5	854.9	753.7	677.3	626.1	600.2	582.8	567.1	550.3	524.4
60°	948.2	874.7	765.2	672.5	605.6	563.5	538.8	522.6	508.1	494.3	475.0
62.5°	817.0	756.1	674.3	595.4	535.8	496.1	478.0	464.2	449.1	437.1	423.2
65°	683.9	649.0	592.4	518.3	463.6	431.1	413.6	402.2	394.9	381.1	370.2
67.5°	562.9	543.6	495.5	445.5	403.4	373.9	357.6	349.2	341.3	334.7	322.7
70°	447.9	434.1	406.4	370.8	337.7	312.5	300.4	298.0	287.2	280.5	274.5
72.5°	341.3	337.7	314.9	299.2	280.5	260.7	251.6	246.8	239.6	233.6	231.2
75°	242.6	248.0	240.8	233.0	224.0	207.7	199.9	197.5	190.8	189.0	186.0
77.5°	165.6	173.4	175.8	172.2	168.0	162.5	157.1	154.7	148.1	146.9	145.1
80°	104.2	115.6	119.8	119.2	117.4	118.0	111.4	110.8	107.8	106.0	107.8
82.5°	63.2	69.2	77.1	78.9	76.5	77.7	75.9	73.4	73.4	74.7	72.2
85°	34.3	34.9	38.5	40.9	43.9	46.4	43.9	44.6	43.9	43.9	42.1
87.5°	15.1	15.7	15.7	15.1	16.3	17.5	19.9	21.1	20.5	18.7	16.3
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°	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3	1518.3
2.5°	1487.0	1482.8	1475.6	1469.5	1455.7	1446.1	1444.9	1445.5	1444.3	1443.1	1442.5
5°	1450.9	1437.0	1423.8	1412.4	1396.7	1381.1	1373.8	1370.8	1369.6	1363.0	1366.6
7.5°	1412.4	1391.3	1375.6	1354.0	1335.3	1322.1	1309.4	1303.4	1302.2	1293.2	1290.7
10°	1371.4	1346.1	1322.7	1301.0	1282.3	1263.7	1248.6	1243.2	1236.0	1228.7	1217.9
12.5°	1331.1	1299.8	1273.9	1249.8	1224.5	1203.5	1191.4	1183.6	1174.6	1167.9	1164.3
15°	1282.9	1256.4	1224.5	1198.6	1172.7	1154.1	1137.8	1123.4	1115.0	1109.5	1094.5
17.5°	1239.6	1204.7	1174.6	1149.9	1121.6	1100.5	1083.6	1071.6	1057.2	1046.3	1036.7
20°	1193.2	1157.1	1129.4	1099.9	1071.0	1045.1	1024.0	1014.4	1004.2	993.9	988.5
22.5°	1143.2	1111.9	1080.6	1049.9	1019.2	991.5	978.3	964.4	955.4	945.2	938.0
25°	1099.9	1065.6	1034.3	1000.0	966.3	950.0	931.9	918.1	910.9	900.6	892.8
27.5°	1053.5	1020.4	983.1	947.6	927.7	900.0	888.0	877.2	867.5	857.3	851.9
30°	1010.2	971.7	934.3	906.7	880.8	860.9	849.5	836.2	823.0	818.2	810.9
32.5°	964.4	922.9	890.4	862.7	841.0	817.0	806.1	795.3	782.6	776.6	770.0
35°	916.9	876.6	844.6	819.4	797.1	779.0	767.0	755.5	747.7	738.7	733.9
37.5°	866.9	832.0	801.3	776.0	755.5	741.1	726.0	717.0	706.2	697.7	694.1
40°	819.4	788.1	758.6	735.1	716.4	699.0	685.7	674.3	667.6	660.4	654.4
42.5°	776.6	744.1	718.8	694.1	677.3	660.4	647.2	638.8	627.3	624.3	615.9
45°	730.9	700.8	675.5	652.6	635.1	621.3	605.6	595.4	588.2	581.0	577.9
47.5°	684.5	656.8	633.3	612.3	594.2	578.5	566.5	555.7	547.8	541.2	537.6
50°	639.4	615.3	591.8	571.3	552.7	541.2	526.8	514.7	508.7	501.5	497.3
52.5°	591.8	571.9	546.6	529.2	511.7	496.7	482.2	474.4	468.4	462.4	459.3
55°	547.2	526.2	504.5	485.8	469.0	453.3	441.9	435.9	428.0	424.4	423.8
57.5°	501.5	479.8	461.8	444.9	425.6	413.6	403.4	396.1	389.5	386.5	386.5
60°	451.5	434.1	417.2	398.5	384.7	370.8	360.0	355.2	348.6	347.4	343.2
62.5°	405.8	389.5	373.3	355.8	343.2	329.3	321.5	314.9	311.2	306.4	301.6
65°	358.2	343.8	328.1	313.1	302.8	287.8	280.5	272.7	268.5	263.1	257.1
67.5°	312.5	298.6	284.2	270.3	261.9	247.4	242.6	233.0	230.0	224.0	218.5
70°	264.3	254.7	243.2	229.4	222.1	210.7	205.9	196.9	192.0	188.4	185.4
72.5°	222.8	213.7	200.5	191.4	182.4	175.2	167.4	163.1	158.9	155.9	155.3
75°	181.8	170.4	162.5	154.1	148.1	140.9	137.3	134.3	132.4	130.6	128.8
77.5°	139.1	134.3	126.4	118.0	113.2	110.2	107.8	106.6	104.8	104.2	102.3
80°	103.5	96.9	92.1	89.1	85.5	83.1	81.3	77.1	74.7	73.4	72.2
82.5°	68.6	66.8	63.2	60.2	57.2	56.6	54.8	53.6	53.0	53.0	52.4
85°	41.5	36.7	36.7	36.1	36.1	35.5	34.3	34.3	33.1	34.9	34.9
87.5°	16.9	16.9	15.7	15.7	16.3	15.1	14.4	14.4	14.4	13.8	14.4
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: P243776

CATALOG NUMBER: S125RDR-H1090D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1518.3	1518.3	1518.3	1518.3
2.5°	1442.5	1439.4	1440.0	1436.4
5°	1360.0	1358.2	1352.2	1347.3
7.5°	1284.7	1276.9	1276.3	1271.5
10°	1214.3	1207.1	1203.5	1204.1
12.5°	1152.9	1145.1	1145.1	1140.2
15°	1087.3	1079.4	1080.6	1080.0
17.5°	1033.1	1027.7	1023.4	1019.8
20°	980.1	973.5	971.1	968.1
22.5°	931.3	926.5	927.1	927.1
25°	885.0	885.6	880.2	879.0
27.5°	844.0	842.8	841.6	839.2
30°	805.5	800.7	799.5	797.1
32.5°	765.8	765.2	760.4	762.2
35°	725.4	723.6	722.4	721.2
37.5°	688.1	684.5	683.9	682.7
40°	650.2	649.0	643.6	646.6
42.5°	609.3	606.8	606.8	606.8
45°	574.9	568.3	568.3	565.9
47.5°	536.4	534.0	532.8	528.6
50°	498.5	494.9	493.7	493.7
52.5°	459.3	458.7	459.9	457.5
55°	425.0	425.6	425.0	423.8
57.5°	387.7	384.7	384.7	385.3
60°	343.2	343.2	344.4	342.0
62.5°	300.4	299.2	295.0	293.8
65°	256.5	251.6	251.0	251.6
67.5°	217.3	215.5	212.5	213.1
70°	183.6	183.0	180.0	178.2
72.5°	153.5	153.5	151.7	151.7
75°	128.2	127.0	126.4	127.6
77.5°	98.7	95.7	96.9	95.1
80°	71.6	72.8	71.6	71.0
82.5°	53.0	51.8	52.4	51.8
85°	33.7	32.5	33.1	32.5
87.5°	13.8	14.4	14.4	13.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)