

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: P242921

Luminaire Tested: **S125RDR-S1090D840-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242921
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-32)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S125RDR-S1090D840-X4F0-XX-UDD-A-W
Description: DEFINE 5 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4063.9 lumens
Efficiency: N/A
Efficacy: 116.8 lumens/watt
Spacing Criteria (0/90/45): 1.4 / 1.21 / 1.48
Luminous Opening: Rectangular (W 3.88' x L: 0.39' x H: 0')
CIE Type: Direct

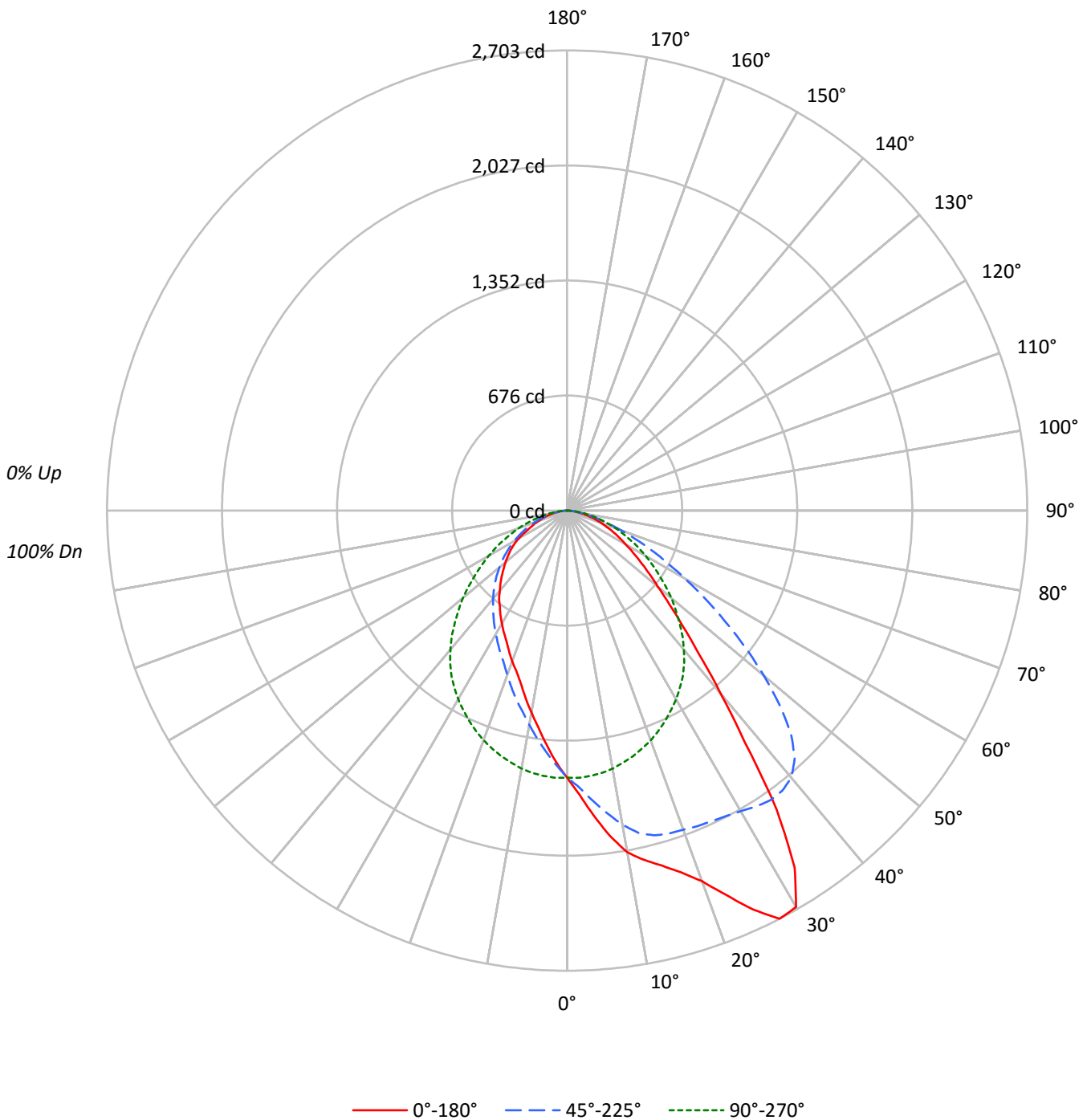
Input Watts (W): 34.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	100		
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	86	86	86	86	86		
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73	73	73	73	73	73	73		
3	92	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63	63	63	63	63	63	63		
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55	55	55	55	55	55	55		
5	79	66	58	52	77	65	57	51	63	56	51	61	55	50	60	54	50	48	48	48	48	48	48	48		
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	49	44	42	42	42	42	42	42	42		
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37	37	37	37	37	37	37		
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34	34	34	34	34	34	34		
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30	30	30	30	30	30	30		
10	55	42	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28	28	28	28	28	28	28		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	11148	11148	11148
5°	12826	11163	9858
10°	14712	11106	8699
15°	15890	10991	7732
20°	17522	10860	7139
25°	20278	10684	6625
30°	22067	10500	6288
35°	18614	10285	5977
40°	12999	9899	5711
45°	9643	9378	5449
50°	7689	8835	5226
55°	6526	8162	5026
60°	5638	7559	4705
65°	5025	6909	4050
70°	4416	6330	3693
75°	3820	5481	3466
80°	2898	4613	2898
85°	2414	3621	2732



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.4	3.7
10°-20°	441.0	10.9
20°-30°	699.2	17.2
30°-40°	844.9	20.8
40°-50°	752.4	18.5
50°-60°	576.9	14.2
60°-70°	374.6	9.2
70°-80°	181.8	4.5
80°-90°	42.7	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°	1290.6	31.8
0°-40°	2135.4	52.5
0°-60°	3464.7	85.3
0°-90°	4063.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4063.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1568	1568	1568	1568	1568	
5°	1798	1709	1565	1422	1382	179
15°	2160	1975	1494	1151	1051	618
25°	2586	2012	1362	926	845	1190
35°	2145	2078	1185	755	689	1300
45°	959	1861	933	598	542	761
55°	527	1129	659	439	406	477
65°	299	538	411	281	241	297
75°	139	189	200	139	126	148
85°	30	32	44	35	34	35
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°	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5
2.5°	1670.2	1668.9	1671.5	1664.4	1665.1	1654.1	1654.1	1645.7	1634.8	1626.4	1622.6
5°	1797.7	1799.0	1796.4	1786.8	1780.3	1770.7	1759.7	1740.4	1724.3	1708.8	1696.6
7.5°	1927.8	1929.0	1920.7	1918.7	1902.0	1891.7	1867.2	1842.1	1820.2	1791.3	1770.7
10°	2038.5	2037.9	2028.8	2021.8	2007.6	1989.6	1965.7	1934.8	1905.9	1873.7	1842.8
12.5°	2102.9	2101.0	2099.7	2090.7	2077.8	2062.3	2043.0	2012.8	1975.4	1939.4	1902.0
15°	2159.6	2155.0	2146.7	2135.7	2117.1	2098.4	2075.9	2048.8	2014.7	1974.8	1941.3
17.5°	2227.8	2228.5	2215.6	2204.0	2179.5	2148.6	2115.1	2073.9	2030.1	1989.6	1956.1
20°	2316.7	2314.7	2301.9	2272.2	2243.3	2202.1	2162.1	2108.7	2052.0	1994.7	1950.3
22.5°	2444.1	2438.4	2424.8	2383.6	2334.7	2278.7	2212.4	2144.1	2072.6	2005.7	1943.9
25°	2585.8	2581.9	2555.5	2510.5	2447.4	2365.6	2285.8	2196.3	2097.7	2012.1	1941.3
27.5°	2703.0	2695.3	2671.4	2628.9	2567.1	2478.9	2368.8	2252.9	2135.7	2023.1	1925.8
30°	2688.8	2698.5	2695.9	2678.5	2634.7	2557.5	2457.7	2323.1	2176.9	2038.5	1916.8
32.5°	2486.6	2495.0	2524.0	2571.0	2585.2	2565.8	2497.6	2375.9	2223.3	2061.0	1909.7
35°	2145.4	2157.0	2200.8	2269.7	2359.8	2435.1	2450.6	2383.6	2247.8	2078.4	1902.6
37.5°	1711.4	1786.8	1816.4	1886.6	2028.2	2165.4	2284.5	2311.5	2238.1	2074.6	1894.3
40°	1401.1	1416.5	1482.2	1564.0	1678.6	1822.8	2012.8	2149.9	2154.4	2048.8	1867.2
42.5°	1148.7	1169.3	1209.2	1270.4	1364.4	1508.6	1706.3	1898.1	2001.8	1978.0	1831.8
45°	959.4	974.2	1007.0	1057.2	1132.6	1251.7	1420.4	1629.6	1795.8	1860.8	1762.9
47.5°	811.3	819.0	849.3	889.8	947.8	1037.9	1175.1	1364.4	1562.0	1694.0	1668.3
50°	695.4	704.4	726.3	755.3	802.3	875.7	980.0	1131.3	1336.7	1507.3	1541.4
52.5°	605.2	612.3	623.9	651.0	687.7	739.8	819.0	952.3	1131.9	1316.1	1406.2
55°	526.7	531.8	542.8	558.2	589.1	629.7	702.5	797.1	946.5	1129.4	1245.3
57.5°	459.7	462.3	468.7	484.2	506.7	537.0	592.4	678.6	786.8	958.7	1086.2
60°	396.6	399.2	408.2	417.9	434.6	461.7	502.9	558.9	661.9	797.8	927.2
62.5°	346.4	347.7	350.3	359.9	374.1	393.4	423.7	466.8	543.4	658.7	779.1
65°	298.8	299.4	300.7	308.4	317.4	332.9	354.1	386.3	448.1	538.3	646.5
67.5°	251.1	252.4	256.9	259.5	270.4	278.2	291.7	317.4	365.1	429.5	517.0
70°	212.5	211.8	216.3	219.6	222.8	232.4	240.8	260.8	287.8	334.2	404.4
72.5°	176.4	174.5	175.8	176.4	180.9	186.7	195.1	205.4	224.7	253.0	302.6
75°	139.1	139.7	139.7	141.0	144.2	146.8	149.4	155.8	167.4	188.7	217.6
77.5°	104.3	103.0	106.2	106.2	108.8	112.0	114.0	116.5	121.0	130.7	148.1
80°	70.8	70.8	71.5	73.4	72.8	74.0	77.3	79.8	85.6	90.8	95.9
82.5°	50.2	49.6	50.2	50.2	50.2	51.5	52.2	52.2	53.4	55.4	58.6
85°	29.6	29.6	30.3	30.3	30.9	30.9	31.5	31.5	31.5	32.2	32.8
87.5°	14.2	13.5	12.9	12.9	13.5	14.8	14.2	13.5	13.5	13.5	14.2
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°	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5
2.5°	1622.6	1618.1	1609.7	1602.0	1592.3	1583.9	1578.1	1571.1	1562.0	1551.1	1542.1
5°	1683.1	1668.9	1650.3	1634.2	1613.6	1597.5	1580.7	1564.6	1548.5	1527.9	1509.9
7.5°	1750.1	1722.4	1696.6	1663.1	1632.9	1606.5	1580.7	1554.3	1529.2	1500.9	1474.5
10°	1810.6	1775.2	1735.9	1690.8	1649.6	1610.3	1574.3	1538.9	1501.5	1468.7	1433.3
12.5°	1867.2	1818.9	1772.6	1712.7	1661.2	1611.0	1562.7	1516.3	1475.8	1430.7	1392.1
15°	1896.9	1851.8	1801.6	1732.0	1663.1	1605.2	1551.1	1493.8	1444.2	1396.6	1354.1
17.5°	1914.2	1866.6	1808.6	1741.0	1667.0	1594.9	1526.6	1465.5	1408.8	1354.1	1307.1
20°	1906.5	1860.8	1800.9	1737.2	1656.7	1580.7	1505.4	1435.8	1370.8	1312.2	1261.4
22.5°	1887.8	1840.2	1782.9	1714.6	1639.3	1557.5	1475.8	1400.4	1331.5	1270.4	1213.7
25°	1869.2	1804.8	1745.5	1679.9	1607.1	1527.3	1444.2	1362.4	1289.7	1227.9	1167.3
27.5°	1851.1	1773.2	1699.8	1636.7	1558.8	1486.7	1405.6	1321.2	1245.3	1182.8	1121.0
30°	1824.7	1734.6	1651.5	1577.5	1504.7	1437.1	1361.2	1279.4	1200.8	1135.8	1072.7
32.5°	1791.9	1694.7	1601.3	1513.1	1443.6	1376.6	1309.6	1232.4	1156.4	1088.8	1024.4
35°	1765.5	1643.2	1544.0	1453.2	1375.3	1310.3	1248.5	1185.4	1108.8	1039.2	976.8
37.5°	1728.8	1594.2	1482.2	1383.0	1301.9	1237.5	1187.9	1128.1	1056.6	989.0	931.0
40°	1696.0	1540.1	1414.6	1316.7	1230.4	1161.6	1115.8	1066.9	1003.2	940.7	882.8
42.5°	1652.2	1490.6	1346.3	1243.3	1156.4	1090.7	1044.4	1003.2	952.3	894.3	831.2
45°	1592.3	1423.6	1276.2	1166.7	1079.1	1014.1	971.0	933.0	892.4	838.3	784.2
47.5°	1520.8	1359.9	1204.7	1084.3	999.9	938.8	896.3	864.7	835.1	788.1	733.4
50°	1431.3	1277.4	1126.8	1010.9	919.5	862.1	822.9	799.0	772.6	730.8	687.0
52.5°	1325.7	1192.5	1045.7	926.5	841.5	788.7	751.4	727.6	707.0	674.8	633.6
55°	1213.7	1093.3	958.1	850.6	771.4	717.3	681.2	658.7	645.8	616.8	584.0
57.5°	1086.9	994.1	871.8	766.9	695.4	641.3	614.3	594.3	579.5	558.2	533.8
60°	952.9	892.4	785.5	687.0	622.6	571.8	547.9	531.8	518.3	500.9	482.9
62.5°	817.1	777.2	687.7	606.5	548.6	508.0	486.1	472.0	455.9	445.6	428.2
65°	698.6	659.3	594.9	528.6	473.9	439.8	423.7	410.8	401.1	388.3	376.0
67.5°	567.3	549.2	501.6	452.0	412.1	379.2	365.1	354.8	343.8	336.1	327.1
70°	448.1	440.4	408.9	378.6	341.9	321.3	308.4	304.6	290.4	282.7	276.9
72.5°	342.5	340.0	325.2	306.5	283.3	265.9	254.3	249.8	242.1	236.3	233.1
75°	249.2	250.5	247.2	233.7	224.1	212.5	202.2	199.6	193.2	188.0	184.8
77.5°	170.0	176.4	175.1	174.5	170.0	161.6	157.1	155.2	148.1	146.2	145.5
80°	108.2	115.3	121.7	121.0	119.8	117.8	114.6	112.7	109.5	107.5	106.2
82.5°	63.1	69.5	74.7	79.2	79.2	77.3	75.3	74.7	74.7	73.4	73.4
85°	34.1	35.4	37.3	41.9	45.1	45.7	45.1	44.4	42.5	43.1	43.8
87.5°	14.8	14.8	15.5	15.5	14.8	18.0	20.0	20.6	19.3	18.0	16.7
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°	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5	1568.5
2.5°	1535.6	1526.6	1520.2	1507.3	1498.3	1494.4	1487.4	1485.4	1492.5	1487.4	1486.7
5°	1496.4	1477.7	1462.9	1448.1	1432.0	1421.7	1406.2	1403.6	1399.8	1394.0	1392.7
7.5°	1450.6	1427.5	1410.1	1385.6	1365.7	1349.6	1330.2	1322.5	1318.7	1311.6	1300.0
10°	1404.3	1375.3	1349.6	1325.1	1298.7	1277.4	1258.1	1243.3	1233.7	1224.6	1220.8
12.5°	1358.6	1329.0	1294.2	1263.3	1233.0	1208.6	1186.7	1178.3	1167.3	1156.4	1146.1
15°	1310.9	1271.7	1235.6	1201.5	1176.4	1150.6	1130.0	1115.8	1099.7	1095.2	1077.8
17.5°	1260.1	1223.4	1180.9	1144.2	1115.8	1088.8	1066.3	1049.5	1037.3	1019.9	1011.5
20°	1213.1	1167.3	1126.1	1093.3	1061.1	1027.6	1004.4	990.9	979.3	965.8	959.4
22.5°	1162.8	1118.4	1075.9	1036.0	1003.2	970.3	955.5	941.3	927.8	915.6	906.6
25°	1113.9	1068.8	1024.4	984.5	950.4	926.5	907.2	891.1	884.0	871.8	862.8
27.5°	1065.0	1017.3	972.3	930.4	904.0	880.2	864.7	851.8	838.3	827.4	819.0
30°	1018.0	969.0	918.8	887.3	858.9	836.4	819.0	806.8	797.1	787.5	781.7
32.5°	971.0	920.1	877.0	842.2	815.8	797.1	779.1	767.5	757.2	746.3	739.2
35°	920.1	868.6	832.5	799.0	772.6	754.6	742.4	725.6	717.3	709.5	702.5
37.5°	874.4	825.4	785.5	756.6	732.1	714.7	698.6	690.2	679.3	672.8	667.1
40°	822.9	779.1	743.7	712.8	696.0	676.1	661.3	649.7	641.9	632.9	626.5
42.5°	776.5	736.6	702.5	675.4	653.5	637.4	623.3	611.7	601.4	595.6	590.4
45°	733.4	692.8	659.3	633.6	614.3	598.2	583.4	577.6	564.7	557.0	554.4
47.5°	688.3	651.6	618.8	594.9	575.0	560.2	546.0	533.1	526.7	519.0	515.1
50°	642.6	607.8	577.6	554.4	535.1	518.3	505.4	497.7	488.1	481.0	475.8
52.5°	596.9	565.3	535.1	513.2	497.1	480.3	465.5	457.8	448.8	444.9	441.7
55°	553.7	519.6	493.9	472.0	454.6	439.1	425.6	417.9	412.1	407.6	406.3
57.5°	504.2	476.5	452.0	432.7	414.0	399.2	387.0	379.9	374.7	374.1	369.6
60°	455.9	431.4	409.5	388.3	372.8	359.3	349.0	340.6	335.5	334.8	333.5
62.5°	407.6	384.4	364.4	346.4	332.9	320.0	310.3	300.7	298.1	294.3	291.0
65°	359.9	338.7	321.9	307.1	292.3	281.4	271.7	265.9	258.8	255.0	247.9
67.5°	312.9	295.5	279.4	267.2	255.0	244.0	235.7	227.3	222.1	218.9	213.1
70°	266.6	253.7	237.6	224.1	215.1	206.7	200.2	190.6	187.4	184.8	182.2
72.5°	222.8	211.8	199.0	188.7	179.6	171.9	164.2	161.0	157.7	155.2	153.9
75°	182.2	171.3	159.7	152.0	145.5	139.1	135.2	132.0	130.7	130.1	127.5
77.5°	141.7	135.2	125.6	118.5	114.0	111.4	107.5	106.2	106.9	103.7	103.0
80°	102.4	99.2	91.4	88.9	85.6	83.1	81.1	77.9	74.7	73.4	71.5
82.5°	69.5	66.3	64.4	59.9	57.3	56.0	54.1	53.4	54.7	52.8	52.2
85°	40.6	37.3	36.1	35.4	34.1	35.4	34.8	34.1	33.5	32.8	33.5
87.5°	16.1	16.1	15.5	16.7	14.8	15.5	15.5	14.8	14.8	14.8	14.2
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: P242921

CATALOG NUMBER: S125RDR-S1090D840-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1568.5	1568.5	1568.5	1568.5
2.5°	1486.1	1479.0	1477.0	1479.6
5°	1386.3	1379.8	1383.0	1381.8
7.5°	1301.9	1293.5	1283.9	1286.5
10°	1212.4	1206.0	1202.1	1205.3
12.5°	1137.1	1133.9	1130.6	1128.1
15°	1070.1	1062.4	1059.2	1050.8
17.5°	1005.7	1003.2	994.8	989.0
20°	949.7	947.1	938.8	943.9
22.5°	903.4	896.9	895.6	892.4
25°	860.2	851.8	848.6	844.8
27.5°	816.4	811.9	807.4	806.1
30°	773.9	769.4	766.2	766.2
32.5°	735.9	732.7	729.5	728.9
35°	699.2	694.1	692.8	688.9
37.5°	660.6	656.1	656.1	656.8
40°	623.9	620.7	620.1	615.5
42.5°	584.6	583.4	580.8	579.5
45°	549.9	545.4	545.4	542.1
47.5°	513.2	509.3	509.9	506.1
50°	476.5	474.5	473.9	472.6
52.5°	439.8	439.1	442.3	439.1
55°	407.6	405.6	409.5	405.6
57.5°	369.6	368.3	372.2	369.6
60°	332.2	328.4	330.3	331.0
62.5°	287.8	285.9	287.2	283.3
65°	246.6	244.7	242.1	240.8
67.5°	214.4	208.6	208.6	209.9
70°	178.4	178.4	177.7	177.7
72.5°	153.2	152.6	151.3	150.7
75°	127.5	128.1	126.8	126.2
77.5°	99.8	96.6	97.9	96.6
80°	71.5	70.8	72.8	70.8
82.5°	52.8	52.2	52.8	51.5
85°	34.1	33.5	32.8	33.5
87.5°	14.8	14.2	14.2	14.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)