

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: P243261

Luminaire Tested: **S122RDR-H1005D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243261
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H1005D835-X4F0-XX-UDD-A-W
Description: DEFINE 2 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: 3622.4 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

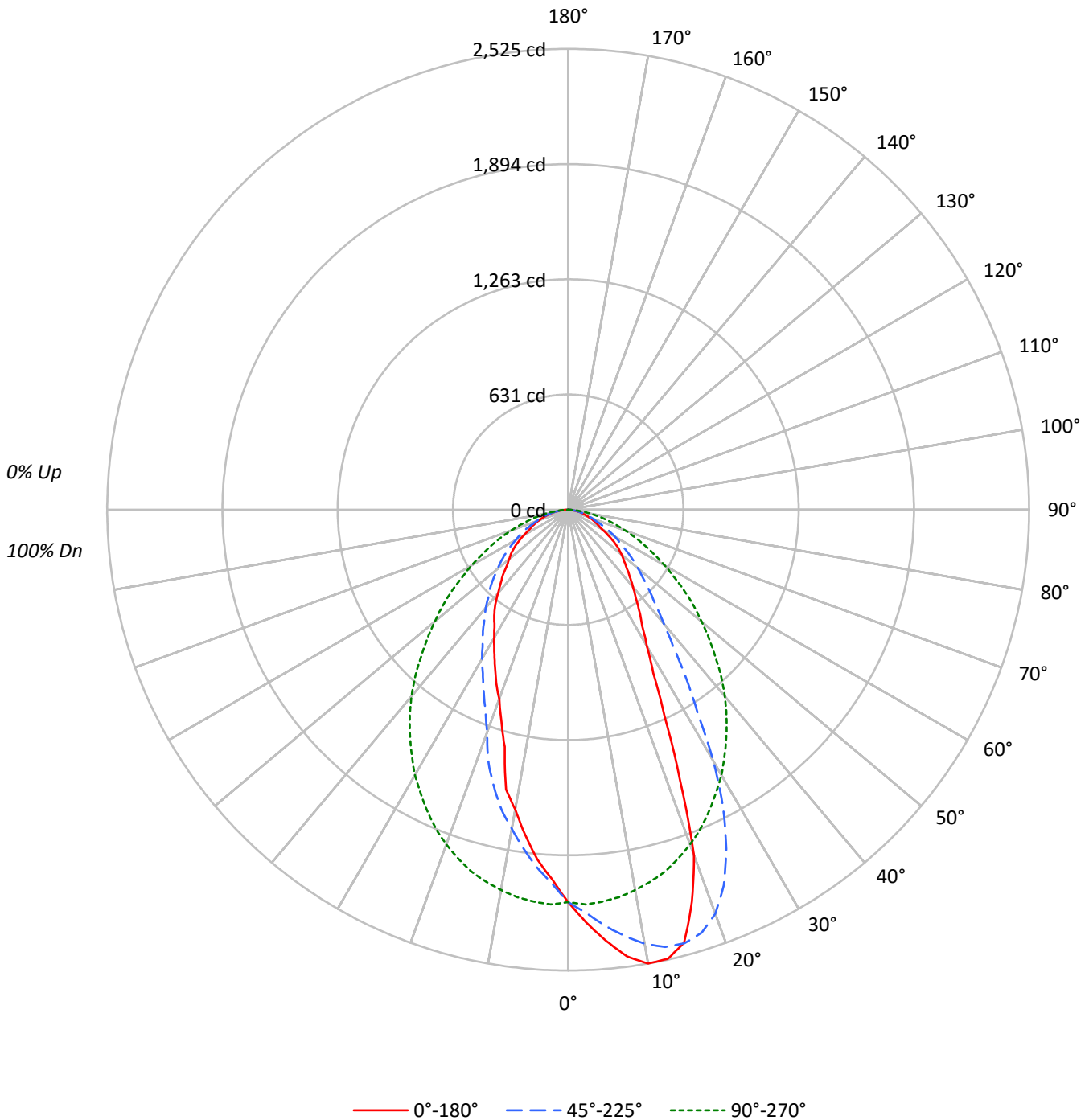
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot





TEST NUMBER: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

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	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	84	80	78					76				
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68					66				
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60					58				
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54					52				
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40					38				
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	40941	40941	40941
5°	45319	41218	36794
10°	48837	40933	32268
15°	48404	40457	26519
20°	40830	39563	22382
25°	26252	38343	19926
30°	18966	36926	17851
35°	15798	35147	16419
40°	13711	33192	14864
45°	12240	30711	13603
50°	11296	28282	12505
55°	10135	25833	11912
60°	8091	23257	10716
65°	7419	20890	9889
70°	6817	18451	9401
75°	6211	16147	8905
80°	5397	13426	8337
85°	4305	10753	7693



TEST NUMBER: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.5	5.6
10°-20°	556.7	15.4
20°-30°	701.7	19.4
30°-40°	673.6	18.6
40°-50°	580.2	16.0
50°-60°	443.6	12.2
60°-70°	282.3	7.8
70°-80°	143.1	3.9
80°-90°	37.8	1.0
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°	1461.9	40.4
0°-40°	2135.5	59.0
0°-60°	3159.3	87.2
0°-90°	3622.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3622.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2149	2149	2149	2149	2149	
5°	2370	2287	2156	1967	1924	231
15°	2455	2460	2052	1571	1345	666
25°	1249	2050	1824	1096	948	597
35°	679	1125	1512	814	706	428
45°	454	630	1140	604	505	354
55°	305	384	778	419	359	269
65°	165	212	464	257	219	164
75°	84	96	219	133	121	89
85°	20	23	49	37	35	23
90°	0	0	0	0	0	



TEST NUMBER: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4
2.5°	2263.3	2266.1	2267.5	2264.0	2256.3	2257.0	2250.0	2238.0	2223.2	2209.9	2217.6
5°	2370.2	2373.8	2373.0	2366.7	2359.0	2351.9	2340.0	2323.1	2305.5	2287.2	2283.7
7.5°	2468.7	2476.4	2474.3	2462.4	2456.7	2446.9	2426.5	2407.5	2380.8	2354.8	2344.2
10°	2525.0	2531.3	2527.8	2525.0	2518.6	2508.8	2490.5	2472.2	2442.7	2415.2	2399.8
12.5°	2520.7	2526.4	2529.2	2532.0	2529.9	2526.4	2518.6	2503.2	2479.3	2453.9	2434.2
15°	2454.6	2445.5	2439.2	2456.7	2463.1	2487.0	2492.6	2494.7	2478.5	2459.6	2454.6
17.5°	2253.5	2256.3	2304.8	2297.1	2307.6	2366.0	2389.2	2420.9	2434.2	2430.0	2438.5
20°	2014.3	1981.3	2005.2	2040.4	2073.4	2158.5	2214.8	2264.7	2322.4	2354.8	2385.7
22.5°	1598.0	1598.7	1656.4	1714.0	1788.6	1880.7	1966.5	2062.2	2164.9	2227.5	2299.9
25°	1249.1	1282.9	1308.2	1333.5	1441.8	1530.5	1673.2	1789.3	1930.7	2049.5	2171.2
27.5°	1010.0	1045.2	1049.4	1106.3	1170.3	1242.1	1335.6	1518.5	1663.4	1837.8	1988.3
30°	862.3	869.3	884.1	898.9	946.0	1012.8	1113.4	1228.0	1389.1	1588.1	1790.0
32.5°	755.4	754.0	768.7	792.0	818.0	863.0	920.0	1014.9	1160.5	1318.8	1554.4
35°	679.4	677.3	687.9	696.3	711.8	748.3	799.7	862.3	967.1	1124.6	1307.5
37.5°	607.7	611.9	618.2	627.4	647.8	671.0	705.4	757.5	840.5	944.6	1119.7
40°	551.4	556.3	563.4	569.7	585.2	604.2	627.4	668.9	724.4	815.2	949.5
42.5°	500.8	502.9	508.5	517.7	528.9	545.8	568.3	599.9	646.4	709.7	827.1
45°	454.4	454.4	460.7	469.1	476.2	492.3	509.9	540.2	576.0	630.2	713.9
47.5°	415.0	415.7	419.2	420.6	428.3	443.1	462.1	486.0	515.5	557.0	635.1
50°	381.2	384.0	385.4	387.5	390.4	398.1	411.5	429.7	462.1	498.7	550.7
52.5°	346.0	349.6	352.4	356.6	360.8	361.5	371.4	383.3	405.8	443.8	486.0
55°	305.2	308.1	313.7	317.2	322.8	327.8	335.5	343.9	358.7	384.0	427.6
57.5°	258.8	259.5	265.2	268.7	279.9	291.2	298.2	307.4	317.9	335.5	368.5
60°	212.4	214.5	215.2	218.0	227.9	239.8	253.9	268.0	279.2	294.7	317.9
62.5°	187.1	187.8	189.9	192.7	193.4	199.0	203.3	220.1	239.8	255.3	270.8
65°	164.6	165.3	165.3	167.4	170.2	173.0	175.1	181.5	189.9	211.7	230.7
67.5°	143.5	142.8	144.2	146.3	147.0	149.1	152.6	156.1	161.8	168.1	187.8
70°	122.4	122.4	121.7	123.8	125.9	126.6	128.7	132.2	135.7	141.4	147.7
72.5°	101.3	102.7	102.7	104.1	104.8	107.6	109.0	110.4	115.3	118.2	123.1
75°	84.4	83.7	85.8	85.1	86.5	87.2	89.3	91.4	92.8	95.7	99.9
77.5°	67.5	66.1	67.5	66.8	68.2	69.6	69.6	71.7	73.1	76.0	78.1
80°	49.2	49.2	49.9	51.3	51.3	52.0	53.5	52.8	55.6	56.3	58.4
82.5°	33.8	34.5	34.5	35.2	35.2	35.2	36.6	36.6	37.3	38.7	39.4
85°	19.7	19.0	19.7	19.7	19.7	20.4	21.1	20.4	21.8	23.2	23.2
87.5°	5.6	5.6	6.3	7.0	7.0	7.7	7.7	7.7	8.4	8.4	9.1
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: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4
2.5°	2217.6	2214.1	2205.0	2196.5	2181.0	2168.4	2164.2	2164.9	2145.9	2126.2	2120.6
5°	2278.8	2266.1	2247.9	2228.9	2205.7	2182.4	2167.7	2155.7	2126.2	2096.6	2079.8
7.5°	2329.4	2309.0	2282.3	2252.1	2221.8	2187.4	2163.5	2140.9	2100.2	2060.1	2038.3
10°	2375.9	2347.0	2310.5	2271.1	2231.0	2186.0	2151.5	2116.3	2065.0	2020.0	1982.7
12.5°	2420.2	2374.5	2337.2	2280.2	2235.9	2174.7	2127.6	2086.8	2026.3	1970.0	1928.5
15°	2424.4	2392.0	2342.1	2283.0	2215.5	2158.5	2099.5	2051.6	1982.7	1920.1	1849.1
17.5°	2423.7	2398.4	2346.3	2285.8	2205.0	2130.4	2066.4	2003.8	1925.0	1851.9	1790.7
20°	2398.4	2380.8	2335.8	2264.0	2182.4	2096.6	2025.6	1951.8	1859.6	1784.4	1717.5
22.5°	2338.6	2342.8	2307.6	2243.6	2155.7	2060.1	1977.8	1892.7	1798.4	1711.9	1627.5
25°	2237.3	2282.3	2271.8	2212.0	2118.4	2013.6	1920.1	1824.4	1723.2	1631.0	1553.0
27.5°	2111.4	2195.8	2214.1	2167.7	2078.4	1960.9	1854.7	1750.6	1647.2	1548.0	1467.9
30°	1962.3	2088.2	2134.6	2109.3	2027.0	1903.9	1780.8	1678.9	1565.6	1460.1	1375.7
32.5°	1774.5	1951.0	2032.6	2040.4	1972.9	1840.6	1704.2	1594.5	1478.4	1378.5	1287.8
35°	1564.9	1781.5	1914.5	1950.3	1901.8	1771.0	1627.5	1511.5	1387.7	1287.1	1195.7
37.5°	1353.9	1608.5	1783.0	1852.6	1820.2	1693.6	1541.7	1424.3	1301.9	1199.2	1113.4
40°	1159.8	1401.7	1628.2	1737.2	1727.4	1609.9	1456.6	1334.9	1210.4	1115.5	1021.2
42.5°	986.1	1219.6	1468.6	1614.9	1622.6	1519.9	1363.1	1240.7	1121.1	1026.9	928.4
45°	848.9	1054.3	1301.2	1475.6	1509.4	1425.0	1266.0	1140.1	1031.1	942.5	844.0
47.5°	739.2	898.9	1128.1	1332.8	1392.6	1318.8	1166.8	1047.3	944.6	868.6	775.8
50°	644.3	794.1	988.9	1178.1	1266.0	1210.4	1068.4	954.4	861.6	788.4	706.9
52.5°	559.9	675.9	844.7	1026.2	1144.3	1093.7	972.7	867.9	780.7	712.5	644.3
55°	490.2	587.3	736.4	898.2	1007.2	979.0	871.4	777.9	701.2	636.5	581.0
57.5°	418.5	500.1	620.3	764.5	871.4	867.2	778.6	688.6	628.1	566.9	526.8
60°	355.9	422.0	519.8	642.1	749.8	750.5	681.5	610.5	558.4	505.7	467.7
62.5°	300.3	353.1	438.2	536.6	622.5	644.3	592.9	531.0	488.8	448.0	415.7
65°	252.5	291.9	355.9	445.2	512.7	542.3	508.5	463.5	428.3	391.8	362.9
67.5°	208.2	237.0	284.1	354.5	422.0	443.8	429.7	395.3	370.0	339.7	317.9
70°	163.9	188.5	221.6	274.3	329.9	360.1	355.9	331.3	310.2	288.4	268.0
72.5°	130.1	144.2	169.5	207.5	251.8	285.6	287.0	274.3	256.7	238.4	225.1
75°	104.8	111.1	123.1	152.6	187.8	215.9	225.8	219.4	205.4	194.1	185.0
77.5°	80.9	86.5	94.2	108.3	135.7	157.5	169.5	170.2	161.8	151.9	144.9
80°	60.5	62.6	68.2	75.3	89.3	108.3	122.4	122.4	117.5	112.5	108.3
82.5°	41.5	43.6	46.4	49.9	57.0	68.2	80.9	83.0	80.2	78.8	73.1
85°	23.2	25.3	26.7	28.8	31.7	37.3	46.4	49.2	49.9	45.7	42.9
87.5°	9.1	9.1	9.8	10.6	11.3	13.4	16.9	21.1	21.1	19.0	18.3
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: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4	2149.4
2.5°	2113.5	2103.7	2091.0	2079.8	2064.3	2048.8	2046.0	2051.6	2053.0	2046.0	2048.1
5°	2063.6	2045.3	2029.8	2004.5	1988.3	1967.2	1953.2	1953.2	1953.2	1942.6	1932.8
7.5°	2011.5	1986.9	1957.4	1933.5	1900.4	1873.0	1859.6	1853.3	1840.6	1830.1	1818.1
10°	1951.0	1916.6	1880.0	1842.7	1813.9	1775.9	1753.4	1739.3	1717.5	1708.4	1690.8
12.5°	1880.0	1845.5	1801.2	1740.8	1732.3	1685.9	1654.2	1628.2	1601.5	1579.7	1572.0
15°	1823.0	1763.3	1704.2	1661.3	1598.7	1571.2	1524.8	1520.6	1498.8	1434.8	1384.9
17.5°	1730.9	1677.5	1612.0	1564.2	1514.3	1453.1	1403.9	1355.3	1308.9	1263.9	1262.5
20°	1649.3	1586.7	1524.8	1472.8	1385.6	1298.4	1268.1	1223.8	1196.4	1160.5	1150.0
22.5°	1560.0	1494.6	1417.2	1341.3	1239.3	1184.4	1151.4	1116.2	1088.8	1072.6	1056.4
25°	1470.0	1404.6	1301.9	1208.3	1138.7	1095.8	1067.7	1029.7	1010.0	995.9	974.8
27.5°	1382.1	1299.1	1190.7	1116.2	1059.9	1011.4	986.1	955.1	933.3	915.0	901.7
30°	1294.8	1180.9	1088.8	1031.1	973.4	943.2	910.1	886.9	870.7	853.8	832.0
32.5°	1199.2	1079.6	1019.8	948.8	915.0	871.4	847.5	823.6	802.5	790.5	782.8
35°	1088.1	991.7	938.2	886.2	843.3	814.5	780.7	765.9	754.7	731.5	721.6
37.5°	993.8	924.2	867.9	821.5	782.1	751.2	735.7	710.4	694.2	686.5	675.9
40°	915.7	853.8	805.3	758.2	725.1	702.6	675.2	661.8	640.7	633.0	624.6
42.5°	848.2	791.3	740.6	704.7	675.9	645.0	630.9	608.4	599.2	580.3	573.2
45°	780.0	729.4	685.0	649.9	622.5	603.5	578.1	564.1	547.9	538.1	519.1
47.5°	711.8	666.8	630.2	600.6	576.7	553.5	532.4	520.5	500.1	489.5	479.7
50°	659.0	615.4	581.0	551.4	526.8	503.6	490.2	470.5	452.2	440.3	436.8
52.5°	596.4	558.4	526.8	504.3	479.7	462.8	444.5	422.7	413.6	401.6	398.8
55°	540.9	509.9	483.2	459.3	438.2	419.2	398.1	382.6	375.6	370.0	365.7
57.5°	488.8	459.3	434.7	412.9	394.6	374.9	357.3	348.2	341.8	335.5	331.3
60°	437.5	410.7	388.2	370.0	351.0	332.0	319.3	311.6	306.7	297.5	294.7
62.5°	391.8	367.1	343.9	327.1	309.5	294.7	284.1	273.6	265.9	258.8	244.1
65°	341.8	320.0	302.4	285.6	268.7	257.4	245.5	233.5	223.7	223.7	223.7
67.5°	297.5	278.5	260.2	245.5	230.7	217.3	205.4	204.7	201.2	199.7	197.6
70°	252.5	239.1	222.3	206.1	191.3	185.0	182.9	179.4	175.1	174.4	171.6
72.5°	211.7	196.2	180.8	166.7	163.9	161.1	156.8	153.3	150.5	148.4	147.0
75°	173.0	157.5	144.9	141.4	137.9	132.9	129.4	126.6	125.2	125.2	124.5
77.5°	132.2	123.1	117.5	111.8	109.0	106.2	104.1	102.7	100.6	101.3	99.9
80°	97.1	94.2	89.3	85.8	84.4	81.6	80.2	79.5	78.1	78.1	77.4
82.5°	69.6	64.7	62.6	60.5	59.1	57.7	58.4	57.7	57.0	56.3	57.0
85°	40.1	39.4	38.0	38.0	38.0	37.3	37.3	37.3	36.6	35.9	35.9
87.5°	17.6	18.3	18.3	16.9	19.0	19.0	18.3	18.3	17.6	19.0	17.6
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: P243261

CATALOG NUMBER: S122RDR-H1005D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2149.4	2149.4	2149.4	2149.4
2.5°	2039.0	2038.3	2034.0	2027.0
5°	1928.5	1925.7	1918.7	1924.3
7.5°	1810.4	1802.6	1795.6	1799.1
10°	1683.8	1681.0	1676.7	1668.3
12.5°	1543.8	1555.1	1543.1	1569.8
15°	1336.3	1386.3	1323.7	1344.8
17.5°	1232.9	1233.6	1225.2	1215.4
20°	1135.9	1111.3	1120.4	1104.2
22.5°	1042.3	1036.7	1033.9	1028.3
25°	958.6	948.1	944.6	948.1
27.5°	896.8	891.8	878.5	876.4
30°	819.4	817.3	813.1	811.6
32.5°	770.9	761.7	759.6	751.2
35°	716.7	711.8	708.3	706.1
37.5°	662.5	659.7	653.4	656.9
40°	618.2	604.2	598.5	597.8
42.5°	569.7	562.0	550.7	547.2
45°	513.4	509.9	506.4	505.0
47.5°	464.2	462.1	457.9	455.8
50°	429.0	423.4	422.7	422.0
52.5°	395.3	393.2	391.1	393.9
55°	363.6	360.8	358.7	358.7
57.5°	329.2	324.2	320.0	320.7
60°	289.1	286.3	282.7	281.3
62.5°	242.7	242.7	241.9	241.9
65°	220.8	219.4	218.7	219.4
67.5°	196.9	195.5	193.4	194.1
70°	169.5	168.8	169.5	168.8
72.5°	144.9	144.2	144.9	146.3
75°	122.4	121.7	121.0	121.0
77.5°	99.2	98.5	97.1	98.5
80°	77.4	76.7	76.0	76.0
82.5°	54.9	55.6	54.9	54.9
85°	35.9	36.6	35.9	35.2
87.5°	18.3	19.0	17.6	16.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)