

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: P243276

Luminaire Tested: **S122RDR-H1005D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243276  
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-H1005D935-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

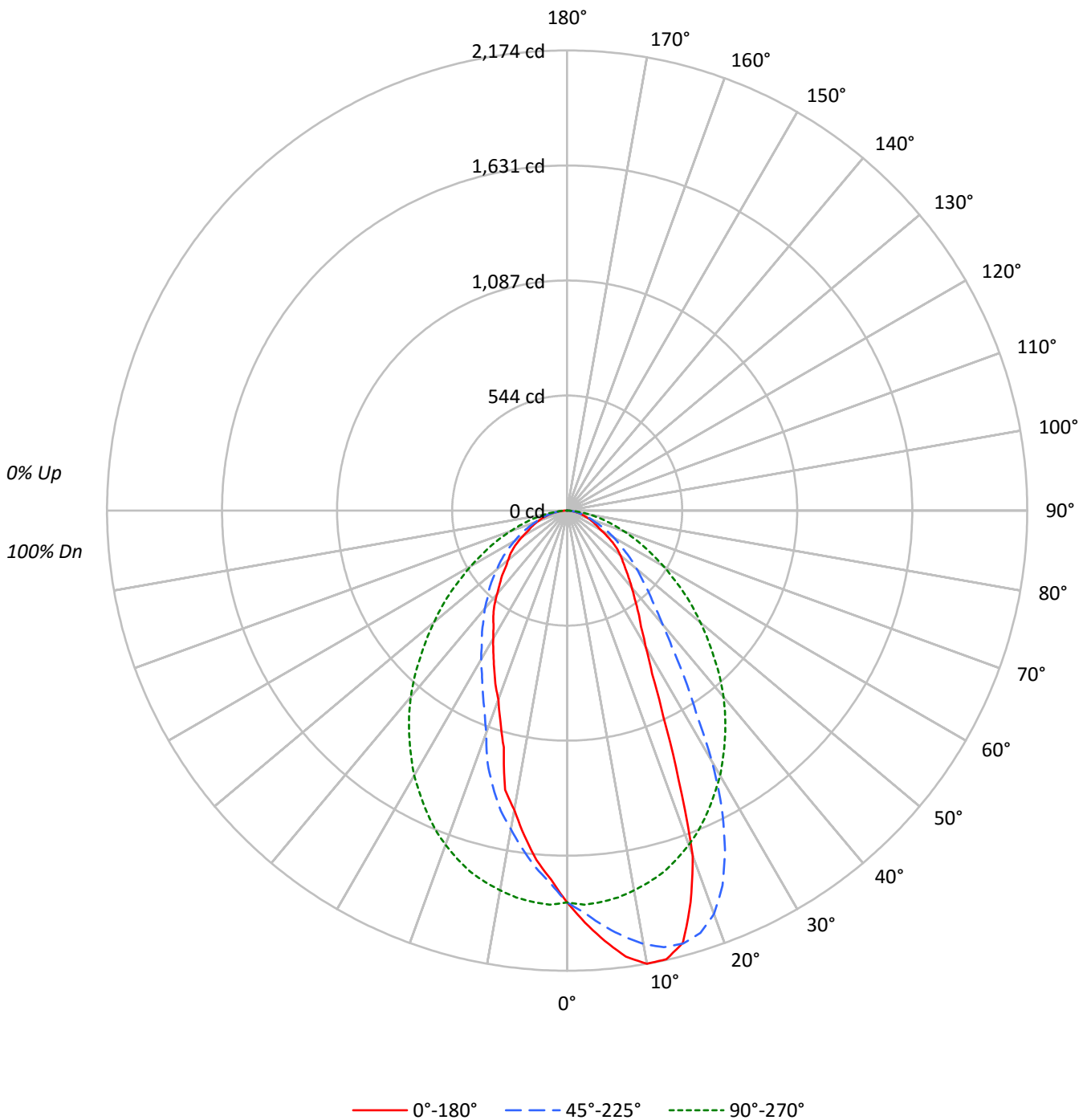
Lumens per Lamp: N/A  
Luminaire Lumens: 3118.9 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	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°	35250	35250	35250
5°	39021	35490	31679
10°	42049	35244	27782
15°	41675	34833	22833
20°	35157	34064	19271
25°	22604	33013	17156
30°	16329	31793	15370
35°	13603	30261	14138
40°	11806	28580	12798
45°	10538	26442	11712
50°	9726	24352	10766
55°	8727	22243	10255
60°	6968	20023	9227
65°	6387	17988	8514
70°	5870	15883	8092
75°	5350	13902	7669
80°	4651	11561	7174
85°	3715	9266	6622



TEST NUMBER: P243276

CATALOG NUMBER: S122RDR-H1005D935-X4F0-XX-UDD-A-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.2	5.6
10°-20°	479.3	15.4
20°-30°	604.2	19.4
30°-40°	580.0	18.6
40°-50°	499.6	16.0
50°-60°	381.9	12.2
60°-70°	243.0	7.8
70°-80°	123.2	3.9
80°-90°	32.5	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°	1258.7	40.4
0°-40°	1838.7	59.0
0°-60°	2720.2	87.2
0°-90°	3118.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3118.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1851	1851	1851	1851	1851	
5°	2041	1969	1856	1694	1657	199
15°	2113	2118	1766	1353	1158	573
25°	1076	1765	1571	944	816	514
35°	585	968	1301	701	608	369
45°	391	543	982	520	435	305
55°	263	331	670	361	309	232
65°	142	182	399	222	189	141
75°	73	82	189	114	104	77
85°	17	20	42	32	30	20
90°	0	0	0	0	0	



TEST NUMBER: P243276

CATALOG NUMBER: S122RDR-H1005D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6
2.5°	1948.7	1951.1	1952.4	1949.3	1942.7	1943.3	1937.2	1926.9	1914.2	1902.7	1909.4
5°	2040.8	2043.8	2043.2	2037.7	2031.1	2025.0	2014.7	2000.2	1985.1	1969.3	1966.3
7.5°	2125.6	2132.2	2130.4	2120.1	2115.3	2106.8	2089.2	2072.9	2049.9	2027.5	2018.4
10°	2174.0	2179.4	2176.4	2174.0	2168.5	2160.1	2144.3	2128.6	2103.1	2079.5	2066.2
12.5°	2170.4	2175.2	2177.6	2180.1	2178.2	2175.2	2168.5	2155.2	2134.6	2112.8	2095.9
15°	2113.4	2105.6	2100.1	2115.3	2120.7	2141.3	2146.1	2148.0	2134.0	2117.7	2113.4
17.5°	1940.2	1942.7	1984.5	1977.8	1986.9	2037.1	2057.1	2084.4	2095.9	2092.2	2099.5
20°	1734.4	1705.9	1726.5	1756.8	1785.2	1858.5	1906.9	1949.9	1999.6	2027.5	2054.1
22.5°	1375.9	1376.5	1426.1	1475.8	1540.0	1619.3	1693.2	1775.5	1863.9	1917.8	1980.2
25°	1075.5	1104.6	1126.4	1148.2	1241.4	1317.7	1440.7	1540.6	1662.3	1764.6	1869.4
27.5°	869.6	899.9	903.5	952.6	1007.7	1069.4	1150.0	1307.4	1432.2	1582.4	1711.9
30°	742.4	748.5	761.2	773.9	814.5	872.0	958.6	1057.3	1196.0	1367.4	1541.2
32.5°	650.4	649.2	661.9	681.9	704.3	743.0	792.1	873.8	999.2	1135.4	1338.3
35°	585.0	583.2	592.2	599.5	612.8	644.3	688.5	742.4	832.7	968.3	1125.8
37.5°	523.2	526.8	532.3	540.2	557.7	577.7	607.4	652.2	723.7	813.3	964.1
40°	474.8	479.0	485.1	490.5	503.8	520.2	540.2	575.9	623.7	701.9	817.5
42.5°	431.2	433.0	437.8	445.7	455.4	469.9	489.3	516.6	556.5	611.0	712.2
45°	391.2	391.2	396.6	403.9	410.0	423.9	439.0	465.1	496.0	542.6	614.7
47.5°	357.3	357.9	360.9	362.1	368.8	381.5	397.9	418.4	443.9	479.6	546.8
50°	328.2	330.6	331.9	333.7	336.1	342.8	354.3	370.0	397.9	429.3	474.2
52.5°	297.9	301.0	303.4	307.0	310.7	311.3	319.7	330.0	349.4	382.1	418.4
55°	262.8	265.2	270.1	273.1	278.0	282.2	288.9	296.1	308.8	330.6	368.2
57.5°	222.8	223.5	228.3	231.3	241.0	250.7	256.8	264.6	273.7	288.9	317.3
60°	182.9	184.7	185.3	187.7	196.2	206.5	218.6	230.7	240.4	253.7	273.7
62.5°	161.1	161.7	163.5	165.9	166.5	171.4	175.0	189.5	206.5	219.8	233.1
65°	141.7	142.3	142.3	144.1	146.5	149.0	150.8	156.2	163.5	182.3	198.6
67.5°	123.5	122.9	124.1	126.0	126.6	128.4	131.4	134.4	139.3	144.7	161.7
70°	105.4	105.4	104.8	106.6	108.4	109.0	110.8	113.8	116.9	121.7	127.2
72.5°	87.2	88.4	88.4	89.6	90.2	92.7	93.9	95.1	99.3	101.7	106.0
75°	72.7	72.1	73.9	73.3	74.5	75.1	76.9	78.7	79.9	82.4	86.0
77.5°	58.1	56.9	58.1	57.5	58.7	60.0	60.0	61.8	63.0	65.4	67.2
80°	42.4	42.4	43.0	44.2	44.2	44.8	46.0	45.4	47.8	48.4	50.3
82.5°	29.1	29.7	29.7	30.3	30.3	30.3	31.5	31.5	32.1	33.3	33.9
85°	17.0	16.4	17.0	17.0	17.0	17.6	18.2	17.6	18.8	20.0	20.0
87.5°	4.8	4.8	5.5	6.1	6.1	6.7	6.7	6.7	7.3	7.3	7.9
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: P243276

CATALOG NUMBER: S122RDR-H1005D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6
2.5°	1909.4	1906.3	1898.5	1891.2	1877.9	1867.0	1863.3	1863.9	1847.6	1830.6	1825.8
5°	1962.0	1951.1	1935.4	1919.1	1899.1	1879.1	1866.4	1856.1	1830.6	1805.2	1790.7
7.5°	2005.6	1988.1	1965.1	1939.0	1913.0	1883.3	1862.7	1843.4	1808.2	1773.7	1754.9
10°	2045.6	2020.8	1989.3	1955.4	1920.9	1882.1	1852.4	1822.2	1778.0	1739.2	1707.1
12.5°	2083.8	2044.4	2012.3	1963.3	1925.1	1872.4	1831.9	1796.7	1744.6	1696.2	1660.5
15°	2087.4	2059.5	2016.5	1965.7	1907.5	1858.5	1807.6	1766.4	1707.1	1653.2	1592.0
17.5°	2086.8	2065.0	2020.2	1968.1	1898.5	1834.3	1779.2	1725.3	1657.4	1594.5	1541.8
20°	2065.0	2049.9	2011.1	1949.3	1879.1	1805.2	1744.0	1680.5	1601.1	1536.3	1478.8
22.5°	2013.5	2017.2	1986.9	1931.8	1856.1	1773.7	1702.9	1629.6	1548.4	1474.0	1401.3
25°	1926.3	1965.1	1956.0	1904.5	1824.0	1733.7	1653.2	1570.8	1483.6	1404.3	1337.1
27.5°	1817.9	1890.6	1906.3	1866.4	1789.5	1688.3	1596.9	1507.3	1418.2	1332.9	1263.8
30°	1689.5	1797.9	1837.9	1816.1	1745.3	1639.3	1533.3	1445.5	1348.0	1257.2	1184.5
32.5°	1527.9	1679.9	1750.1	1756.8	1698.6	1584.8	1467.3	1372.8	1272.9	1186.9	1108.8
35°	1347.4	1533.9	1648.4	1679.2	1637.5	1524.8	1401.3	1301.4	1194.8	1108.2	1029.5
37.5°	1165.7	1384.9	1535.1	1595.1	1567.2	1458.2	1327.4	1226.3	1120.9	1032.5	958.6
40°	998.6	1206.9	1401.9	1495.8	1487.3	1386.2	1254.1	1149.4	1042.2	960.4	879.3
42.5°	849.0	1050.1	1264.4	1390.4	1397.1	1308.6	1173.6	1068.2	965.3	884.1	799.4
45°	730.9	907.8	1120.3	1270.5	1299.6	1226.9	1090.0	981.6	887.8	811.5	726.7
47.5°	636.5	773.9	971.3	1147.6	1199.0	1135.4	1004.6	901.7	813.3	747.9	667.9
50°	554.7	683.7	851.4	1014.3	1090.0	1042.2	919.9	821.8	741.8	678.8	608.6
52.5°	482.0	582.0	727.3	883.5	985.3	941.7	837.5	747.3	672.2	613.4	554.7
55°	422.1	505.7	634.0	773.3	867.2	843.0	750.3	669.8	603.8	548.0	500.2
57.5°	360.3	430.6	534.1	658.3	750.3	746.7	670.4	592.9	540.8	488.1	453.6
60°	306.4	363.3	447.5	552.9	645.5	646.1	586.8	525.6	480.8	435.4	402.7
62.5°	258.6	304.0	377.3	462.1	535.9	554.7	510.5	457.2	420.9	385.7	357.9
65°	217.4	251.3	306.4	383.3	441.5	466.9	437.8	399.1	368.8	337.3	312.5
67.5°	179.2	204.1	244.7	305.2	363.3	382.1	370.0	340.3	318.5	292.5	273.7
70°	141.1	162.3	190.8	236.2	284.0	310.1	306.4	285.2	267.1	248.3	230.7
72.5°	112.0	124.1	145.9	178.6	216.8	245.9	247.1	236.2	221.0	205.3	193.8
75°	90.2	95.7	106.0	131.4	161.7	185.9	194.4	188.9	176.8	167.1	159.3
77.5°	69.6	74.5	81.1	93.3	116.9	135.6	145.9	146.5	139.3	130.8	124.7
80°	52.1	53.9	58.7	64.8	76.9	93.3	105.4	105.4	101.1	96.9	93.3
82.5°	35.7	37.5	40.0	43.0	49.1	58.7	69.6	71.5	69.0	67.8	63.0
85°	20.0	21.8	23.0	24.8	27.3	32.1	40.0	42.4	43.0	39.4	36.9
87.5°	7.9	7.9	8.5	9.1	9.7	11.5	14.5	18.2	18.2	16.4	15.7
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: P243276

CATALOG NUMBER: S122RDR-H1005D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6	1850.6
2.5°	1819.7	1811.3	1800.4	1790.7	1777.3	1764.0	1761.6	1766.4	1767.7	1761.6	1763.4
5°	1776.7	1761.0	1747.7	1725.9	1711.9	1693.8	1681.7	1681.7	1681.7	1672.6	1664.1
7.5°	1731.9	1710.7	1685.3	1664.7	1636.3	1612.6	1601.1	1595.7	1584.8	1575.7	1565.4
10°	1679.9	1650.2	1618.7	1586.6	1561.8	1529.1	1509.7	1497.6	1478.8	1470.9	1455.8
12.5°	1618.7	1589.0	1550.9	1498.8	1491.5	1451.6	1424.3	1401.9	1378.9	1360.1	1353.5
15°	1569.6	1518.2	1467.3	1430.4	1376.5	1352.8	1312.9	1309.2	1290.5	1235.4	1192.4
17.5°	1490.3	1444.3	1388.0	1346.8	1303.8	1251.1	1208.7	1166.9	1127.0	1088.2	1087.0
20°	1420.1	1366.2	1312.9	1268.1	1193.0	1117.9	1091.8	1053.7	1030.1	999.2	990.1
22.5°	1343.2	1286.8	1220.2	1154.8	1067.0	1019.8	991.3	961.0	937.4	923.5	909.6
25°	1265.6	1209.3	1120.9	1040.4	980.4	943.5	919.3	886.6	869.6	857.5	839.3
27.5°	1189.9	1118.5	1025.2	961.0	912.6	870.8	849.0	822.4	803.6	787.8	776.3
30°	1114.9	1016.8	937.4	887.8	838.1	812.1	783.6	763.6	749.7	735.2	716.4
32.5°	1032.5	929.6	878.1	816.9	787.8	750.3	729.7	709.1	691.0	680.7	674.0
35°	936.8	853.9	807.8	763.0	726.1	701.3	672.2	659.5	649.8	629.8	621.3
37.5°	855.7	795.7	747.3	707.3	673.4	646.7	633.4	611.6	597.7	591.0	582.0
40°	788.5	735.2	693.4	652.8	624.3	605.0	581.3	569.8	551.7	545.0	537.7
42.5°	730.3	681.3	637.7	606.8	582.0	555.3	543.2	523.8	515.9	499.6	493.5
45°	671.6	628.0	589.8	559.5	535.9	519.6	497.8	485.7	471.7	463.3	446.9
47.5°	612.8	574.1	542.6	517.2	496.6	476.6	458.4	448.1	430.6	421.5	413.0
50°	567.4	529.9	500.2	474.8	453.6	433.6	422.1	405.1	389.4	379.1	376.1
52.5°	513.5	480.8	453.6	434.2	413.0	398.5	382.7	363.9	356.1	345.8	343.4
55°	465.7	439.0	416.0	395.4	377.3	360.9	342.8	329.4	323.4	318.5	314.9
57.5°	420.9	395.4	374.2	355.5	339.7	322.8	307.6	299.8	294.3	288.9	285.2
60°	376.7	353.7	334.3	318.5	302.2	285.8	274.9	268.3	264.0	256.2	253.7
62.5°	337.3	316.1	296.1	281.6	266.5	253.7	244.7	235.6	228.9	222.8	210.1
65°	294.3	275.5	260.4	245.9	231.3	221.6	211.3	201.0	192.6	192.6	192.6
67.5°	256.2	239.8	224.1	211.3	198.6	187.1	176.8	176.2	173.2	172.0	170.2
70°	217.4	205.9	191.4	177.4	164.7	159.3	157.4	154.4	150.8	150.2	147.8
72.5°	182.3	169.0	155.6	143.5	141.1	138.7	135.0	132.0	129.6	127.8	126.6
75°	149.0	135.6	124.7	121.7	118.7	114.5	111.4	109.0	107.8	107.8	107.2
77.5°	113.8	106.0	101.1	96.3	93.9	91.4	89.6	88.4	86.6	87.2	86.0
80°	83.6	81.1	76.9	73.9	72.7	70.2	69.0	68.4	67.2	67.2	66.6
82.5°	60.0	55.7	53.9	52.1	50.9	49.7	50.3	49.7	49.1	48.4	49.1
85°	34.5	33.9	32.7	32.7	32.7	32.1	32.1	32.1	31.5	30.9	30.9
87.5°	15.1	15.7	15.7	14.5	16.4	16.4	15.7	15.7	15.1	16.4	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





TEST NUMBER: P243276

CATALOG NUMBER: S122RDR-H1005D935-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1850.6	1850.6	1850.6	1850.6
2.5°	1755.5	1754.9	1751.3	1745.3
5°	1660.5	1658.1	1652.0	1656.8
7.5°	1558.7	1552.1	1546.0	1549.0
10°	1449.7	1447.3	1443.7	1436.4
12.5°	1329.2	1338.9	1328.6	1351.6
15°	1150.6	1193.6	1139.7	1157.9
17.5°	1061.6	1062.2	1054.9	1046.4
20°	978.0	956.8	964.7	950.7
22.5°	897.5	892.6	890.2	885.3
25°	825.4	816.3	813.3	816.3
27.5°	772.1	767.9	756.4	754.5
30°	705.5	703.7	700.0	698.8
32.5°	663.7	655.8	654.0	646.7
35°	617.1	612.8	609.8	608.0
37.5°	570.4	568.0	562.6	565.6
40°	532.3	520.2	515.3	514.7
42.5°	490.5	483.9	474.2	471.1
45°	442.1	439.0	436.0	434.8
47.5°	399.7	397.9	394.2	392.4
50°	369.4	364.6	363.9	363.3
52.5°	340.3	338.5	336.7	339.1
55°	313.1	310.7	308.8	308.8
57.5°	283.4	279.2	275.5	276.1
60°	248.9	246.5	243.4	242.2
62.5°	208.9	208.9	208.3	208.3
65°	190.1	188.9	188.3	188.9
67.5°	169.6	168.3	166.5	167.1
70°	145.9	145.3	145.9	145.3
72.5°	124.7	124.1	124.7	126.0
75°	105.4	104.8	104.2	104.2
77.5°	85.4	84.8	83.6	84.8
80°	66.6	66.0	65.4	65.4
82.5°	47.2	47.8	47.2	47.2
85°	30.9	31.5	30.9	30.3
87.5°	15.7	16.4	15.1	14.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)