

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: P242411

Luminaire Tested: **S122RDR-S1005D930-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242411  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-29)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDR-S1005D930-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3004.9 lumens  
Efficiency: N/A  
Efficacy: 73.1 lumens/watt  
Spacing Criteria (0/90/45): 0.85 / 1.16 / 1.02  
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')  
CIE Type: Direct

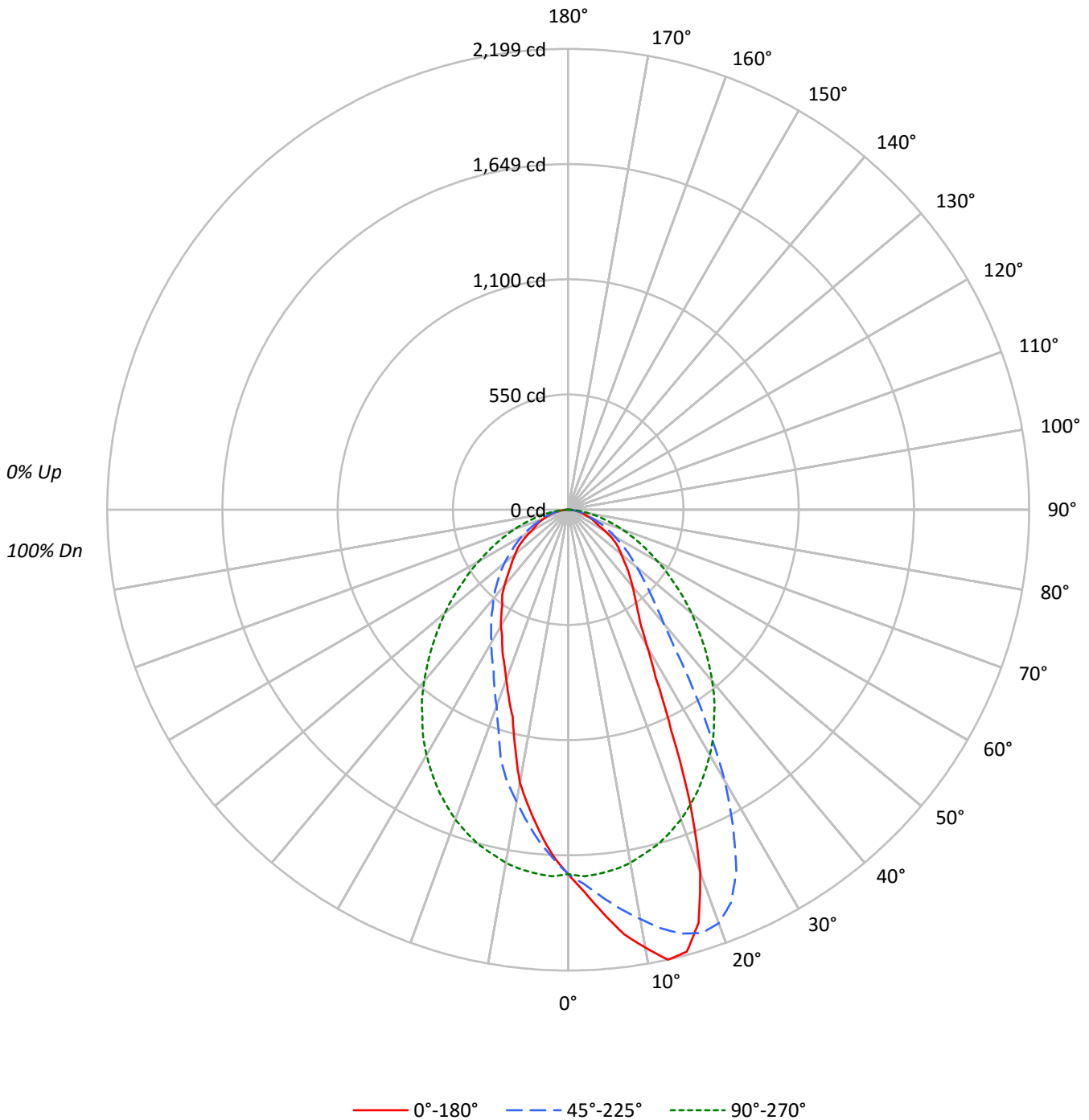
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	111	106	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89	87	87	87	87	87	87	87		
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76	76	76	76	76	76	76		
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66	66	66	66	66	66	66		
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59	59	59	59	59	59	59		
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52	52	52	52	52	52	52		
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47	47	47	47		
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42	42	42	42	42	42	42		
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	39	39	39	39	39	39	39		
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	41	37	35	35	35	35	35	35	35		
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33	33	33	33	33	33	33		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	33122	33122	33122
5°	36992	33329	29551
10°	41043	33095	25616
15°	43060	32610	20183
20°	37330	31891	17465
25°	24482	30907	15594
30°	16478	29714	14114
35°	13347	28210	12729
40°	11868	26576	11779
45°	10743	24659	10514
50°	9776	22755	9740
55°	9189	20646	9069
60°	7688	18712	7596
65°	6481	16992	7351
70°	5987	15176	6934
75°	5601	13203	6403
80°	5166	10870	5704
85°	4764	8589	5027



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.9	5.5
10°-20°	460.4	15.3
20°-30°	592.5	19.7
30°-40°	562.1	18.7
40°-50°	481.6	16.0
50°-60°	366.9	12.2
60°-70°	231.4	7.7
70°-80°	115.5	3.8
80°-90°	29.7	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°	1217.8	40.5
0°-40°	1779.8	59.2
0°-60°	2628.3	87.5
0°-90°	3004.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3004.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1739	1739	1739	1739	1739	
5°	1935	1855	1743	1588	1546	191
15°	2184	2094	1654	1238	1024	594
25°	1165	1898	1471	842	742	550
35°	574	1031	1213	639	547	365
45°	399	544	915	472	390	308
55°	277	338	622	320	273	244
65°	144	193	377	192	163	145
75°	76	85	179	98	87	81
85°	22	22	39	23	23	24
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°	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9
2.5°	1827.1	1828.9	1830.7	1826.5	1826.5	1822.9	1815.0	1809.0	1792.1	1789.6	1789.6
5°	1934.7	1933.4	1935.9	1928.0	1917.1	1914.7	1903.2	1888.1	1872.4	1854.9	1851.3
7.5°	2043.4	2036.2	2033.1	2036.8	2025.3	2009.6	1990.2	1972.1	1944.9	1922.6	1908.7
10°	2122.0	2141.9	2129.8	2108.7	2112.9	2084.5	2069.4	2043.4	2021.7	1983.6	1975.1
12.5°	2199.3	2204.1	2202.3	2192.6	2184.8	2167.3	2145.5	2123.8	2079.1	2045.8	2010.8
15°	2183.6	2195.1	2198.1	2194.5	2197.5	2196.3	2185.4	2166.7	2131.6	2094.2	2061.5
17.5°	2067.6	2080.9	2091.7	2101.4	2116.5	2146.1	2155.2	2158.8	2144.3	2117.7	2090.5
20°	1841.6	1828.3	1883.9	1912.3	1936.5	1996.9	2048.8	2068.8	2100.8	2100.2	2094.2
22.5°	1521.4	1528.6	1580.6	1615.6	1697.8	1758.2	1819.2	1908.1	1977.5	2028.9	2060.3
25°	1164.9	1187.9	1240.4	1286.3	1364.9	1477.3	1579.4	1697.8	1809.6	1897.8	1981.8
27.5°	906.3	909.3	957.1	1003.6	1051.9	1149.2	1285.7	1427.7	1587.2	1702.0	1847.0
30°	749.2	745.6	763.1	789.1	829.0	900.3	996.9	1135.9	1294.8	1493.0	1669.4
32.5°	638.0	639.2	651.3	668.9	700.3	742.6	801.2	907.5	1055.5	1249.5	1464.0
35°	574.0	573.4	583.1	597.0	610.8	641.7	687.0	746.2	849.5	1031.4	1242.8
37.5°	520.8	523.8	528.1	537.1	554.1	572.2	600.6	642.3	720.8	833.8	1023.5
40°	477.3	478.5	485.2	492.4	501.5	514.8	537.1	569.2	622.9	708.7	838.6
42.5°	437.4	438.6	442.9	449.5	456.2	469.5	487.0	513.6	554.7	616.9	718.4
45°	398.8	398.8	403.0	406.0	413.9	426.0	441.1	464.0	494.2	543.8	615.1
47.5°	361.3	361.3	364.3	369.8	375.2	384.9	400.6	419.9	441.7	482.2	545.6
50°	329.9	330.5	332.3	336.5	339.6	348.0	359.5	375.8	398.8	428.4	479.1
52.5°	304.5	303.9	306.3	307.5	309.4	314.8	322.6	336.5	356.5	381.3	421.1
55°	276.7	274.3	277.9	281.0	282.8	285.2	290.0	299.1	316.6	338.4	369.8
57.5°	244.1	242.9	244.7	247.7	253.2	259.2	262.2	268.3	277.3	294.2	327.5
60°	201.8	201.8	207.2	209.1	215.7	224.2	232.6	237.5	246.5	256.8	279.7
62.5°	164.3	164.9	166.8	168.6	171.6	182.5	195.2	207.2	215.7	225.4	238.7
65°	143.8	145.0	145.0	146.2	148.6	151.1	155.9	164.3	179.4	193.3	204.8
67.5°	125.7	125.7	126.3	127.5	128.1	131.1	132.9	137.2	140.2	155.9	171.6
70°	107.5	109.4	108.8	110.0	110.6	111.8	114.2	116.0	121.4	124.5	132.9
72.5°	90.6	91.8	91.8	92.4	94.3	94.3	96.1	97.9	100.9	103.3	106.9
75°	76.1	75.5	76.1	77.3	77.9	78.5	78.5	81.0	82.8	85.2	88.2
77.5°	61.6	62.2	62.2	62.2	62.2	63.4	63.4	64.6	66.5	67.7	69.5
80°	47.1	47.7	47.1	47.7	48.3	48.9	48.3	48.9	50.8	52.0	52.0
82.5°	33.8	33.8	34.4	34.4	34.4	34.4	35.6	35.6	36.9	36.3	36.9
85°	21.8	21.1	21.1	21.1	21.8	22.4	21.8	21.8	22.4	22.4	22.4
87.5°	9.7	10.3	10.3	10.3	10.3	10.3	10.3	10.9	10.3	10.9	10.3
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9
2.5°	1790.9	1786.0	1781.8	1770.9	1765.5	1753.4	1751.6	1751.0	1735.3	1720.2	1715.9
5°	1841.6	1831.9	1817.4	1800.5	1783.0	1764.9	1752.8	1743.1	1719.0	1696.0	1682.7
7.5°	1891.8	1874.2	1851.3	1822.3	1797.5	1768.5	1748.6	1730.4	1697.2	1667.0	1647.1
10°	1949.2	1915.3	1882.1	1838.0	1803.5	1769.7	1738.3	1711.1	1672.4	1628.9	1598.1
12.5°	1984.8	1946.7	1897.8	1854.9	1807.8	1762.5	1717.7	1680.9	1633.8	1588.4	1550.4
15°	2016.2	1976.3	1920.8	1859.1	1801.7	1745.5	1697.2	1653.7	1594.5	1540.7	1496.0
17.5°	2045.2	1990.2	1932.8	1861.5	1798.1	1729.8	1668.8	1614.4	1549.8	1486.3	1435.6
20°	2057.9	2003.5	1934.7	1863.4	1784.8	1700.8	1633.8	1573.3	1502.6	1432.0	1371.5
22.5°	2050.1	2010.8	1932.2	1843.4	1762.5	1673.6	1595.7	1523.2	1442.8	1370.3	1297.8
25°	2009.0	1994.5	1922.0	1828.9	1737.1	1635.0	1547.4	1470.6	1381.2	1303.9	1227.7
27.5°	1933.4	1954.6	1903.2	1802.3	1703.2	1593.3	1497.8	1411.4	1320.2	1233.8	1157.6
30°	1813.8	1885.7	1866.4	1774.5	1660.3	1552.8	1442.2	1351.0	1251.9	1162.5	1087.6
32.5°	1650.1	1780.6	1809.0	1735.9	1616.8	1496.0	1378.8	1288.2	1183.6	1088.2	1015.7
35°	1474.3	1651.9	1733.5	1684.5	1566.1	1438.6	1319.0	1213.2	1109.3	1016.3	943.8
37.5°	1265.8	1502.6	1628.3	1622.9	1509.9	1380.0	1250.1	1145.6	1038.6	946.8	871.3
40°	1064.0	1326.2	1503.3	1542.5	1450.7	1307.5	1175.8	1068.8	964.9	875.5	785.5
42.5°	882.7	1143.8	1371.5	1447.1	1378.8	1236.8	1104.5	991.5	891.2	807.8	715.4
45°	743.2	971.6	1211.4	1333.5	1293.0	1161.3	1021.7	915.4	820.5	747.4	659.2
47.5°	643.5	809.6	1050.7	1210.2	1205.4	1080.3	941.3	839.2	749.8	682.1	607.2
50°	560.7	700.9	897.2	1084.5	1100.2	999.3	868.8	767.9	685.8	613.9	556.5
52.5°	486.4	595.7	767.3	945.0	996.9	912.9	787.3	696.0	616.9	552.2	505.1
55°	423.5	513.0	647.1	815.1	882.7	821.1	708.7	621.7	557.1	501.5	459.2
57.5°	368.6	438.6	550.4	691.2	767.9	726.2	630.2	558.3	500.9	448.9	415.1
60°	317.2	372.2	463.4	576.4	663.4	636.2	557.1	491.2	444.1	400.6	369.2
62.5°	268.9	314.2	389.1	475.5	553.4	546.2	485.2	432.6	392.7	354.1	328.7
65°	224.2	258.6	319.6	391.5	455.6	461.0	414.5	377.0	340.2	308.7	285.2
67.5°	185.5	209.1	255.0	318.4	367.4	384.3	352.9	322.6	292.4	267.1	245.9
70°	150.4	168.6	200.0	248.9	293.0	311.2	294.9	272.5	247.1	227.2	209.7
72.5°	114.8	132.3	153.5	186.1	222.3	242.3	239.3	224.8	205.4	189.7	173.4
75°	91.8	97.3	113.0	137.2	166.8	183.7	187.9	179.4	163.1	150.4	140.8
77.5°	71.3	74.9	83.4	97.9	118.4	133.5	140.2	139.0	126.9	118.4	109.4
80°	54.4	56.2	59.8	65.3	79.8	94.9	99.1	99.1	91.2	88.2	79.2
82.5°	38.1	39.3	41.1	43.5	48.3	61.0	65.9	67.1	62.8	58.6	52.0
85°	23.6	23.0	24.2	26.0	27.2	30.8	38.1	39.3	38.1	33.2	31.4
87.5°	10.3	10.9	10.9	10.3	10.9	11.5	14.5	17.5	15.1	13.3	12.1
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9	1738.9
2.5°	1708.1	1703.8	1696.0	1683.9	1676.7	1664.0	1655.5	1660.3	1661.6	1660.3	1659.1
5°	1668.2	1655.5	1638.0	1621.1	1605.4	1588.4	1578.8	1574.5	1566.1	1561.3	1558.8
7.5°	1622.9	1604.2	1579.4	1552.2	1526.8	1502.6	1491.8	1483.3	1467.6	1459.1	1451.3
10°	1570.9	1536.5	1511.7	1473.0	1449.5	1415.0	1391.5	1392.1	1368.5	1355.2	1345.6
12.5°	1513.5	1474.9	1429.5	1395.7	1360.7	1334.7	1305.1	1290.6	1265.2	1252.5	1222.3
15°	1448.9	1404.8	1361.3	1314.1	1280.9	1238.0	1196.9	1146.8	1106.3	1071.2	1061.6
17.5°	1380.0	1325.6	1282.7	1234.4	1182.4	1104.5	1053.7	1022.9	998.7	980.6	966.1
20°	1308.7	1253.1	1206.6	1123.2	1046.5	997.5	962.5	940.1	914.8	894.8	883.9
22.5°	1233.8	1175.2	1107.5	1012.0	956.5	919.6	889.4	862.8	847.7	833.2	823.5
25°	1163.7	1100.2	995.7	931.7	883.3	842.3	820.5	804.8	786.7	765.5	755.9
27.5°	1090.6	989.7	910.5	864.0	814.5	788.5	769.8	743.8	727.5	719.6	708.7
30°	1006.6	905.7	847.1	795.1	762.5	732.9	709.9	696.6	680.9	664.6	658.0
32.5°	912.9	837.4	781.8	740.8	707.5	683.4	666.4	642.9	632.6	624.1	608.4
35°	838.6	777.6	726.2	691.2	659.8	639.2	618.1	605.4	584.9	576.4	571.0
37.5°	771.0	717.8	679.1	640.5	616.3	592.1	580.0	558.9	551.0	537.7	526.9
40°	715.4	663.4	626.6	596.3	568.6	551.6	535.3	519.0	505.7	500.3	486.4
42.5°	658.6	618.7	581.8	548.0	531.7	513.6	491.8	480.9	467.0	457.4	450.1
45°	607.2	569.8	538.3	511.2	490.6	471.9	458.6	438.6	430.8	413.3	406.0
47.5°	561.9	525.7	495.4	468.9	448.3	437.4	418.1	400.6	389.7	377.6	367.4
50°	513.0	484.0	455.0	432.0	413.9	396.4	376.4	368.6	349.2	343.8	338.4
52.5°	468.3	441.1	415.1	392.7	374.6	357.7	340.8	329.9	318.4	313.0	309.4
55°	427.2	400.6	375.2	355.3	337.1	319.6	308.7	296.1	290.0	285.8	281.0
57.5°	384.9	360.7	340.8	320.2	302.1	287.6	274.3	267.1	261.0	256.2	249.5
60°	345.0	322.0	304.5	285.8	267.1	255.6	245.9	236.8	229.6	221.1	218.7
62.5°	302.7	283.4	267.7	249.5	233.8	223.6	214.5	206.0	197.0	183.7	180.1
65°	264.6	248.9	232.0	216.9	202.4	192.1	178.8	169.2	165.6	164.3	163.7
67.5°	229.6	214.5	200.0	184.3	171.0	159.5	151.7	150.4	148.0	147.4	145.6
70°	194.6	180.7	166.2	151.7	139.0	137.2	134.7	132.3	129.3	128.1	126.9
72.5°	163.1	148.6	134.1	123.3	119.6	117.2	114.8	112.4	110.6	109.4	108.8
75°	129.9	116.6	106.9	102.7	99.7	97.9	94.3	92.4	91.2	89.4	88.8
77.5°	99.1	90.6	85.8	83.4	79.8	77.9	75.5	73.7	71.9	71.9	70.7
80°	71.3	67.7	64.6	61.0	59.8	57.4	56.8	55.0	55.6	53.8	53.8
82.5°	51.4	46.5	44.1	42.9	41.7	39.9	39.3	38.7	38.7	37.5	37.5
85°	28.4	27.2	26.0	24.8	24.8	23.0	23.6	23.0	23.0	21.8	21.1
87.5°	11.5	10.9	9.7	9.7	9.7	9.1	9.1	8.5	8.5	8.5	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: P242411

CATALOG NUMBER: S122RDR-S1005D930-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1738.9	1738.9	1738.9	1738.9
2.5°	1652.5	1653.7	1651.9	1653.1
5°	1555.8	1548.6	1547.4	1545.5
7.5°	1441.6	1441.0	1437.4	1433.2
10°	1332.3	1329.2	1328.6	1324.4
12.5°	1204.2	1180.6	1178.2	1166.1
15°	1047.1	1043.5	1031.4	1023.5
17.5°	959.5	947.4	943.2	941.3
20°	875.5	864.6	862.8	861.6
22.5°	817.5	806.0	800.6	796.3
25°	749.8	745.6	743.2	742.0
27.5°	696.6	685.8	684.6	681.5
30°	652.5	649.5	645.3	641.7
32.5°	600.6	598.2	594.5	593.3
35°	564.9	556.5	552.8	547.4
37.5°	525.7	520.8	514.8	517.2
40°	478.5	475.5	474.3	473.7
42.5°	441.1	431.4	427.8	427.8
45°	403.0	395.1	389.7	390.3
47.5°	361.9	362.5	358.9	360.1
50°	334.1	330.5	328.1	328.7
52.5°	307.5	304.5	302.7	305.7
55°	277.9	274.3	273.7	273.1
57.5°	245.9	244.1	241.1	239.3
60°	210.9	206.0	200.0	199.4
62.5°	178.8	178.8	178.8	178.8
65°	162.5	161.9	162.5	163.1
67.5°	145.6	144.4	143.2	143.8
70°	125.7	125.1	124.5	124.5
72.5°	106.3	106.3	105.7	105.1
75°	88.2	87.0	87.0	87.0
77.5°	70.7	70.1	69.5	68.9
80°	53.2	52.6	52.0	52.0
82.5°	37.5	36.9	36.9	36.3
85°	21.8	22.4	21.8	23.0
87.5°	7.9	7.3	7.9	7.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)