

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: P243256

Luminaire Tested: **S122RDR-H1005D830-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243256
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-H1005D830-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3414.3 lumens
Efficiency: N/A
Efficacy: 90.6 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

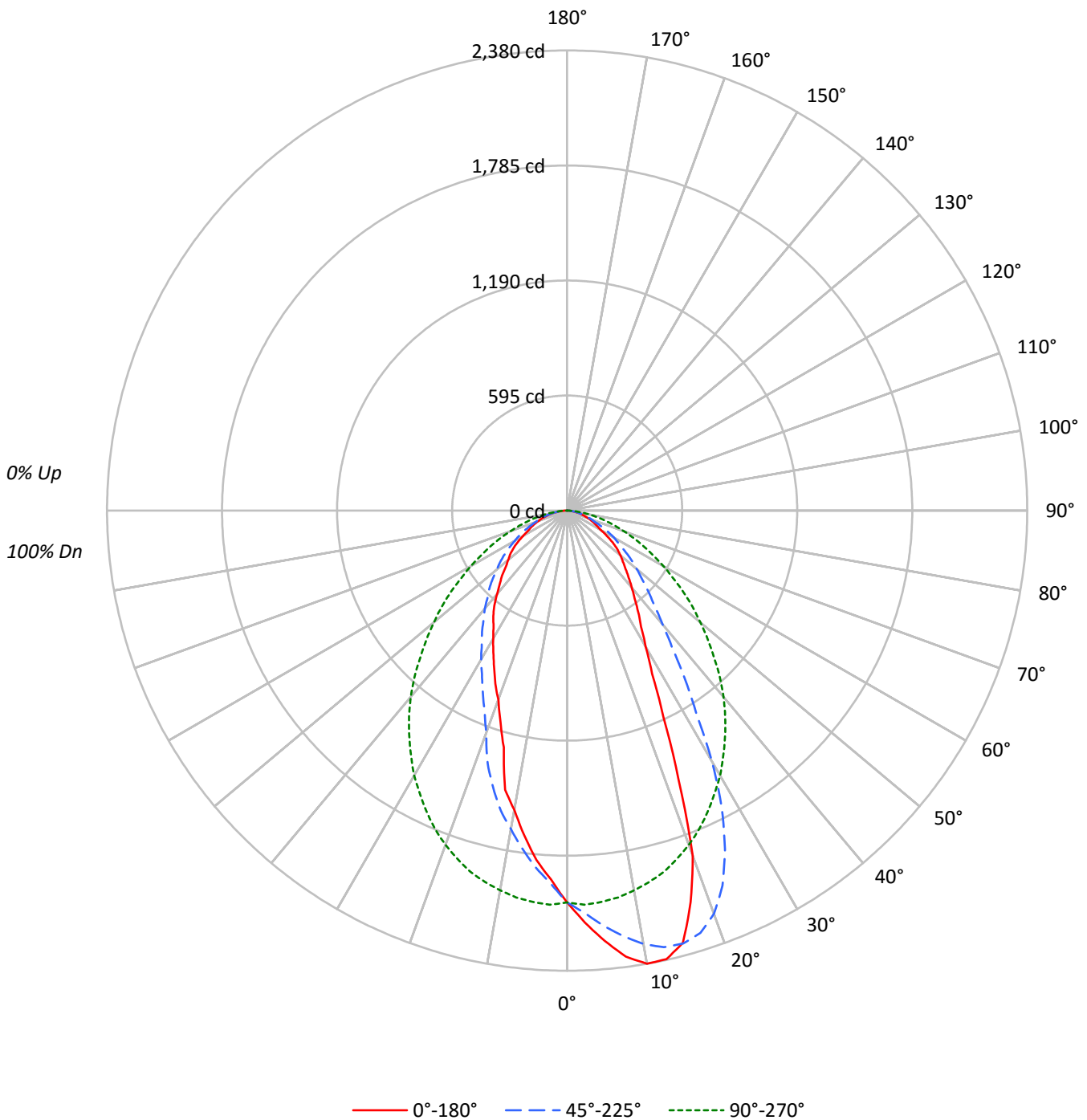
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	38589	38589	38589
5°	42715	38851	34681
10°	46031	38581	30415
15°	45623	38132	24995
20°	38485	37289	21097
25°	24743	36141	18781
30°	17875	34804	16826
35°	14891	33126	15477
40°	12922	31285	14011
45°	11535	28947	12822
50°	10647	26658	11788
55°	9554	24349	11228
60°	7627	21920	10103
65°	6990	19691	9321
70°	6421	17387	8861
75°	5858	15219	8390
80°	5090	12647	7854
85°	4065	10141	7234



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.8	5.6
10°-20°	524.7	15.4
20°-30°	661.4	19.4
30°-40°	634.9	18.6
40°-50°	546.9	16.0
50°-60°	418.1	12.2
60°-70°	266.1	7.8
70°-80°	134.8	3.9
80°-90°	35.6	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°	1377.9	40.4
0°-40°	2012.8	59.0
0°-60°	2977.8	87.2
0°-90°	3414.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3414.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2026	2026	2026	2026	2026	
5°	2234	2156	2032	1854	1814	218
15°	2314	2318	1934	1481	1268	627
25°	1177	1932	1720	1033	894	563
35°	640	1060	1425	768	666	403
45°	428	594	1075	569	476	333
55°	288	362	733	395	338	254
65°	155	200	437	243	207	154
75°	80	90	207	125	114	84
85°	19	22	46	35	33	21
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°	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9
2.5°	2133.3	2135.9	2137.3	2133.9	2126.7	2127.3	2120.7	2109.4	2095.5	2082.9	2090.2
5°	2234.0	2237.4	2236.7	2230.7	2223.4	2216.8	2205.5	2189.6	2173.1	2155.8	2152.5
7.5°	2326.9	2334.1	2332.2	2320.9	2315.6	2306.3	2287.1	2269.2	2244.0	2219.5	2209.5
10°	2379.9	2385.9	2382.5	2379.9	2373.9	2364.6	2347.4	2330.2	2302.3	2276.5	2261.9
12.5°	2375.9	2381.2	2383.9	2386.5	2384.5	2381.2	2373.9	2359.3	2336.8	2312.9	2294.4
15°	2313.6	2305.0	2299.0	2315.6	2321.6	2344.1	2349.4	2351.4	2336.1	2318.2	2313.6
17.5°	2124.0	2126.7	2172.4	2165.1	2175.0	2230.1	2251.9	2281.8	2294.4	2290.4	2298.4
20°	1898.6	1867.5	1890.0	1923.1	1954.3	2034.5	2087.5	2134.6	2189.0	2219.5	2248.6
22.5°	1506.2	1506.8	1561.2	1615.5	1685.8	1772.7	1853.5	1943.7	2040.5	2099.5	2167.8
25°	1177.3	1209.2	1233.0	1256.9	1359.0	1442.5	1577.1	1686.5	1819.7	1931.8	2046.4
27.5°	952.0	985.1	989.1	1042.8	1103.1	1170.7	1258.9	1431.2	1567.8	1732.2	1874.1
30°	812.7	819.4	833.3	847.2	891.6	954.6	1049.4	1157.5	1309.3	1496.9	1687.1
32.5°	712.0	710.7	724.6	746.5	771.0	813.4	867.1	956.6	1093.8	1243.0	1465.1
35°	640.4	638.4	648.3	656.3	670.9	705.3	753.7	812.7	911.5	1060.0	1232.4
37.5°	572.8	576.7	582.7	591.3	610.6	632.4	664.9	714.0	792.2	890.3	1055.4
40°	519.7	524.4	531.0	537.0	551.6	569.5	591.3	630.4	682.8	768.3	894.9
42.5°	472.0	474.0	479.3	487.9	498.5	514.4	535.6	565.5	609.2	668.9	779.6
45°	428.2	428.2	434.2	442.2	448.8	464.0	480.6	509.1	542.9	594.0	672.9
47.5°	391.1	391.8	395.1	396.4	403.7	417.6	435.5	458.1	485.9	525.0	598.6
50°	359.3	362.0	363.3	365.3	367.9	375.2	387.8	405.0	435.5	470.0	519.1
52.5°	326.2	329.5	332.1	336.1	340.1	340.7	350.0	361.3	382.5	418.3	458.1
55°	287.7	290.4	295.7	299.0	304.3	308.9	316.2	324.2	338.1	362.0	403.1
57.5°	244.0	244.6	249.9	253.2	263.8	274.4	281.1	289.7	299.6	316.2	347.4
60°	200.2	202.2	202.9	205.5	214.8	226.1	239.3	252.6	263.2	277.8	299.6
62.5°	176.3	177.0	179.0	181.6	182.3	187.6	191.6	207.5	226.1	240.6	255.2
65°	155.1	155.8	155.8	157.8	160.4	163.1	165.1	171.0	179.0	199.5	217.4
67.5°	135.2	134.6	135.9	137.9	138.6	140.5	143.9	147.2	152.5	158.4	177.0
70°	115.3	115.3	114.7	116.7	118.7	119.3	121.3	124.6	127.9	133.2	139.2
72.5°	95.5	96.8	96.8	98.1	98.8	101.4	102.8	104.1	108.7	111.4	116.0
75°	79.6	78.9	80.9	80.2	81.5	82.2	84.2	86.2	87.5	90.2	94.1
77.5°	63.6	62.3	63.6	63.0	64.3	65.6	65.6	67.6	68.9	71.6	73.6
80°	46.4	46.4	47.1	48.4	48.4	49.1	50.4	49.7	52.4	53.0	55.0
82.5°	31.8	32.5	32.5	33.1	33.1	33.1	34.5	34.5	35.1	36.5	37.1
85°	18.6	17.9	18.6	18.6	18.6	19.2	19.9	19.2	20.6	21.9	21.9
87.5°	5.3	5.3	6.0	6.6	6.6	7.3	7.3	7.3	8.0	8.0	8.6
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°	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9
2.5°	2090.2	2086.9	2078.3	2070.3	2055.7	2043.8	2039.8	2040.5	2022.6	2004.0	1998.7
5°	2147.9	2135.9	2118.7	2100.8	2078.9	2057.0	2043.1	2031.9	2004.0	1976.2	1960.3
7.5°	2195.6	2176.4	2151.2	2122.7	2094.2	2061.7	2039.1	2017.9	1979.5	1941.7	1921.1
10°	2239.4	2212.2	2177.7	2140.6	2102.8	2060.4	2027.9	1994.7	1946.3	1903.9	1868.8
12.5°	2281.1	2238.0	2202.9	2149.2	2107.4	2049.8	2005.3	1966.9	1909.9	1856.8	1817.7
15°	2285.1	2254.6	2207.5	2151.8	2088.2	2034.5	1978.8	1933.7	1868.8	1809.8	1742.8
17.5°	2284.4	2260.6	2211.5	2154.5	2078.3	2008.0	1947.7	1888.7	1814.4	1745.5	1687.8
20°	2260.6	2244.0	2201.6	2133.9	2057.0	1976.2	1909.2	1839.6	1752.8	1681.8	1618.9
22.5°	2204.2	2208.2	2175.0	2114.7	2031.9	1941.7	1864.1	1783.9	1695.1	1613.6	1534.0
25°	2108.8	2151.2	2141.2	2084.9	1996.7	1897.9	1809.8	1719.6	1624.2	1537.3	1463.7
27.5°	1990.1	2069.6	2086.9	2043.1	1958.9	1848.2	1748.1	1650.0	1552.6	1459.1	1383.5
30°	1849.6	1968.2	2012.0	1988.1	1910.5	1794.5	1678.5	1582.4	1475.7	1376.2	1296.7
32.5°	1672.6	1838.9	1915.8	1923.1	1859.5	1734.9	1606.3	1502.8	1393.5	1299.3	1213.8
35°	1475.0	1679.2	1804.5	1838.3	1792.5	1669.2	1534.0	1424.6	1307.9	1213.1	1127.0
37.5°	1276.1	1516.1	1680.5	1746.1	1715.6	1596.3	1453.1	1342.4	1227.1	1130.3	1049.4
40°	1093.2	1321.2	1534.7	1637.4	1628.1	1517.4	1372.9	1258.2	1140.9	1051.4	962.6
42.5°	929.4	1149.5	1384.2	1522.1	1529.4	1432.6	1284.7	1169.4	1056.7	967.9	875.1
45°	800.1	993.7	1226.4	1390.8	1422.6	1343.1	1193.3	1074.6	971.8	888.3	795.5
47.5°	696.7	847.2	1063.3	1256.2	1312.6	1243.0	1099.8	987.1	890.3	818.7	731.2
50°	607.2	748.4	932.1	1110.4	1193.3	1140.9	1007.0	899.6	812.1	743.1	666.2
52.5°	527.7	637.1	796.2	967.2	1078.6	1030.8	916.8	818.0	735.8	671.5	607.2
55°	462.1	553.5	694.1	846.6	949.3	922.8	821.4	733.2	660.9	599.9	547.6
57.5°	394.4	471.3	584.7	720.6	821.4	817.4	733.9	649.0	592.0	534.3	496.5
60°	335.4	397.8	489.9	605.2	706.7	707.3	642.4	575.4	526.4	476.6	440.8
62.5°	283.1	332.8	413.0	505.8	586.7	607.2	558.8	500.5	460.7	422.3	391.8
65°	238.0	275.1	335.4	419.6	483.3	511.1	479.3	436.9	403.7	369.2	342.1
67.5°	196.2	223.4	267.8	334.1	397.8	418.3	405.0	372.6	348.7	320.2	299.6
70°	154.5	177.7	208.8	258.5	310.9	339.4	335.4	312.2	292.3	271.8	252.6
72.5°	122.6	135.9	159.8	195.6	237.3	269.1	270.5	258.5	242.0	224.7	212.1
75°	98.8	104.7	116.0	143.9	177.0	203.5	212.8	206.8	193.6	183.0	174.3
77.5°	76.2	81.5	88.8	102.1	127.9	148.5	159.8	160.4	152.5	143.2	136.6
80°	57.0	59.0	64.3	70.9	84.2	102.1	115.3	115.3	110.7	106.1	102.1
82.5°	39.1	41.1	43.8	47.1	53.7	64.3	76.2	78.2	75.6	74.2	68.9
85°	21.9	23.9	25.2	27.2	29.8	35.1	43.8	46.4	47.1	43.1	40.4
87.5°	8.6	8.6	9.3	9.9	10.6	12.6	15.9	19.9	19.9	17.9	17.2
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9	2025.9
2.5°	1992.1	1982.8	1970.9	1960.3	1945.7	1931.1	1928.4	1933.7	1935.1	1928.4	1930.4
5°	1945.0	1927.8	1913.2	1889.3	1874.1	1854.2	1840.9	1840.9	1840.9	1831.0	1821.7
7.5°	1896.0	1872.8	1844.9	1822.4	1791.2	1765.4	1752.8	1746.8	1734.9	1724.9	1713.7
10°	1838.9	1806.5	1772.0	1736.9	1709.7	1673.9	1652.7	1639.4	1618.9	1610.2	1593.7
12.5°	1772.0	1739.5	1697.7	1640.7	1632.8	1589.0	1559.2	1534.7	1509.5	1488.9	1481.6
15°	1718.3	1661.9	1606.3	1565.8	1506.8	1481.0	1437.2	1433.2	1412.7	1352.4	1305.3
17.5°	1631.5	1581.1	1519.4	1474.3	1427.3	1369.6	1323.2	1277.5	1233.7	1191.3	1189.9
20°	1554.6	1495.6	1437.2	1388.2	1306.0	1223.8	1195.2	1153.5	1127.6	1093.8	1083.9
22.5°	1470.4	1408.7	1335.8	1264.2	1168.1	1116.4	1085.2	1052.1	1026.2	1011.0	995.7
25°	1385.5	1323.9	1227.1	1138.9	1073.3	1032.8	1006.3	970.5	952.0	938.7	918.8
27.5°	1302.6	1224.4	1122.3	1052.1	999.0	953.3	929.4	900.2	879.7	862.5	849.9
30°	1220.4	1113.0	1026.2	971.8	917.5	889.0	857.8	835.9	820.7	804.8	784.2
32.5°	1130.3	1017.6	961.2	894.3	862.5	821.4	798.8	776.3	756.4	745.1	737.8
35°	1025.5	934.7	884.3	835.3	794.8	767.7	735.8	721.9	711.3	689.4	680.2
37.5°	936.7	871.1	818.0	774.3	737.2	708.0	693.4	669.6	654.3	647.0	637.1
40°	863.1	804.8	759.0	714.6	683.5	662.3	636.4	623.8	603.9	596.6	588.7
42.5°	799.5	745.8	698.1	664.2	637.1	607.9	594.6	573.4	564.8	546.9	540.3
45°	735.2	687.5	645.7	612.5	586.7	568.8	544.9	531.7	516.4	507.1	489.2
47.5°	670.9	628.5	594.0	566.1	543.6	521.7	501.8	490.6	471.3	461.4	452.1
50°	621.2	580.1	547.6	519.7	496.5	474.7	462.1	443.5	426.3	415.0	411.7
52.5°	562.2	526.4	496.5	475.3	452.1	436.2	419.0	398.4	389.8	378.5	375.9
55°	509.8	480.6	455.4	432.9	413.0	395.1	375.2	360.6	354.0	348.7	344.7
57.5°	460.7	432.9	409.7	389.1	371.9	353.3	336.8	328.1	322.2	316.2	312.2
60°	412.3	387.1	365.9	348.7	330.8	312.9	301.0	293.7	289.0	280.4	277.8
62.5°	369.2	346.0	324.2	308.3	291.7	277.8	267.8	257.9	250.6	244.0	230.0
65°	322.2	301.6	285.1	269.1	253.2	242.6	231.4	220.1	210.8	210.8	210.8
67.5°	280.4	262.5	245.3	231.4	217.4	204.8	193.6	192.9	189.6	188.3	186.3
70°	238.0	225.4	209.5	194.2	180.3	174.3	172.4	169.0	165.1	164.4	161.8
72.5°	199.5	185.0	170.4	157.1	154.5	151.8	147.8	144.5	141.9	139.9	138.6
75°	163.1	148.5	136.6	133.2	129.9	125.3	122.0	119.3	118.0	118.0	117.3
77.5°	124.6	116.0	110.7	105.4	102.8	100.1	98.1	96.8	94.8	95.5	94.1
80°	91.5	88.8	84.2	80.9	79.6	76.9	75.6	74.9	73.6	73.6	72.9
82.5°	65.6	61.0	59.0	57.0	55.7	54.4	55.0	54.4	53.7	53.0	53.7
85°	37.8	37.1	35.8	35.8	35.8	35.1	35.1	35.1	34.5	33.8	33.8
87.5°	16.6	17.2	17.2	15.9	17.9	17.9	17.2	17.2	16.6	17.9	16.6
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: P243256

CATALOG NUMBER: S122RDR-H1005D830-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2025.9	2025.9	2025.9	2025.9
2.5°	1921.8	1921.1	1917.2	1910.5
5°	1817.7	1815.1	1808.5	1813.8
7.5°	1706.4	1699.1	1692.4	1695.8
10°	1587.0	1584.4	1580.4	1572.5
12.5°	1455.1	1465.7	1454.5	1479.6
15°	1259.6	1306.6	1247.6	1267.5
17.5°	1162.1	1162.8	1154.8	1145.5
20°	1070.6	1047.4	1056.0	1040.8
22.5°	982.5	977.1	974.5	969.2
25°	903.6	893.6	890.3	893.6
27.5°	845.2	840.6	828.0	826.0
30°	772.3	770.3	766.3	765.0
32.5°	726.6	717.9	716.0	708.0
35°	675.5	670.9	667.6	665.6
37.5°	624.5	621.8	615.9	619.2
40°	582.7	569.5	564.1	563.5
42.5°	537.0	529.7	519.1	515.8
45°	483.9	480.6	477.3	476.0
47.5°	437.5	435.5	431.6	429.6
50°	404.4	399.1	398.4	397.8
52.5°	372.6	370.6	368.6	371.2
55°	342.7	340.1	338.1	338.1
57.5°	310.2	305.6	301.6	302.3
60°	272.5	269.8	266.5	265.2
62.5°	228.7	228.7	228.0	228.0
65°	208.2	206.8	206.2	206.8
67.5°	185.6	184.3	182.3	183.0
70°	159.8	159.1	159.8	159.1
72.5°	136.6	135.9	136.6	137.9
75°	115.3	114.7	114.0	114.0
77.5°	93.5	92.8	91.5	92.8
80°	72.9	72.3	71.6	71.6
82.5°	51.7	52.4	51.7	51.7
85°	33.8	34.5	33.8	33.1
87.5°	17.2	17.9	16.6	15.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)