

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: P242421

Luminaire Tested: **S122RDR-S1005D940-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242421  
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-S1005D940-X4F0-XX-UDD-A-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3286.5 lumens  
Efficiency: N/A  
Efficacy: 80.0 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

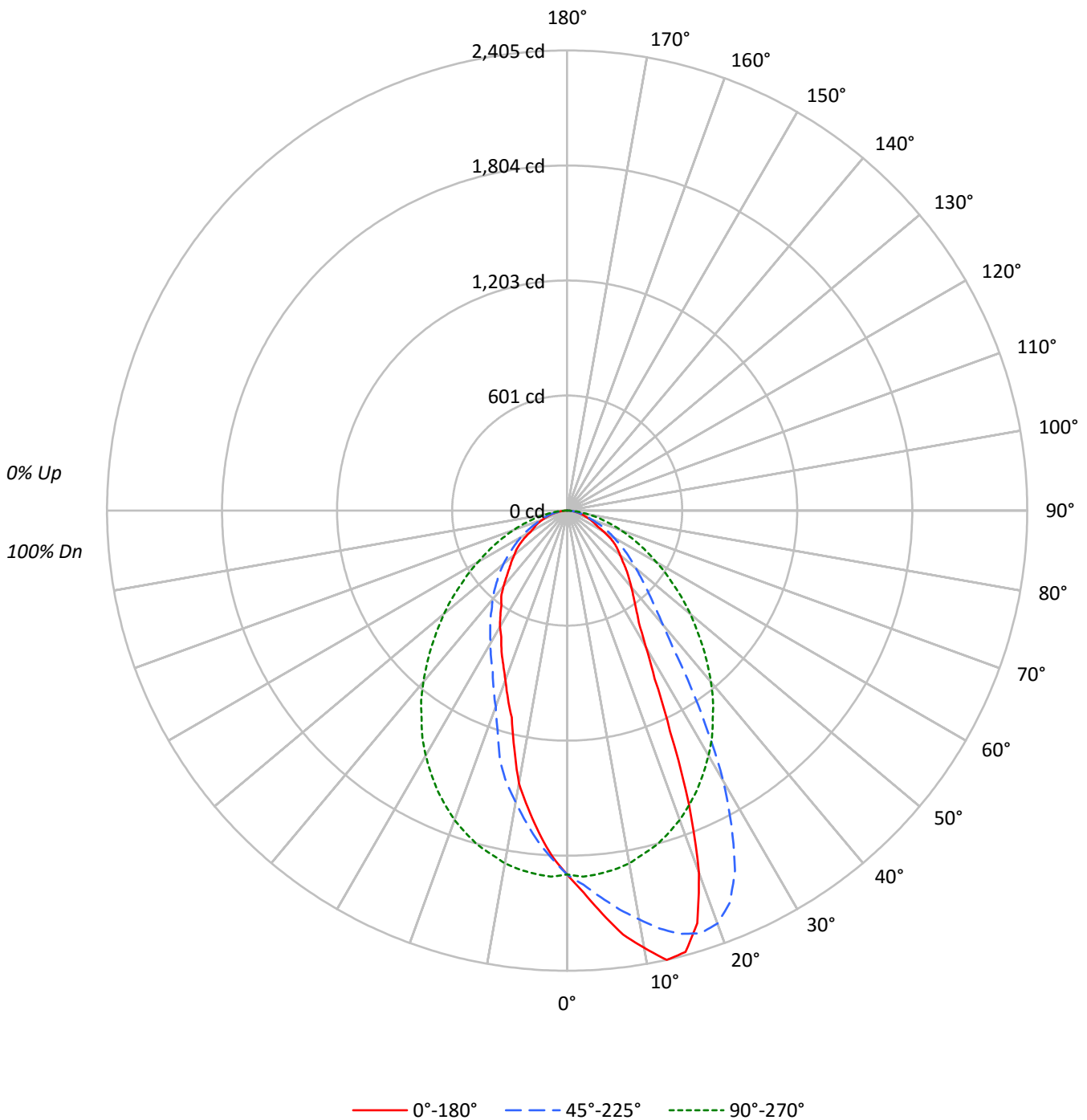
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	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	87	83	80	84	81	78	76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	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	39
9	62	50	43	38	61	50	42	37	49	42	37	47	41	37	47	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°	36227	36227	36227
5°	40459	36453	32321
10°	44888	36198	28016
15°	47094	35667	22074
20°	40828	34881	19101
25°	26778	33806	17055
30°	18022	32499	15436
35°	14598	30854	13922
40°	12982	29067	12883
45°	11747	26970	11500
50°	10692	24889	10653
55°	10052	22582	9919
60°	8408	20469	8309
65°	7090	18587	8041
70°	6549	16596	7580
75°	6130	14447	7006
80°	5649	11891	6230
85°	5201	9398	5486



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.4	5.5
10°-20°	503.5	15.3
20°-30°	648.0	19.7
30°-40°	614.7	18.7
40°-50°	526.8	16.0
50°-60°	401.3	12.2
60°-70°	253.1	7.7
70°-80°	126.3	3.8
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°	1331.9	40.5
0°-40°	1946.6	59.2
0°-60°	2874.7	87.5
0°-90°	3286.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3286.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1902	1902	1902	1902	1902	
5°	2116	2029	1906	1737	1690	208
15°	2388	2290	1809	1354	1119	649
25°	1274	2076	1608	921	812	602
35°	628	1128	1327	699	599	400
45°	436	595	1001	516	427	337
55°	303	370	680	350	299	267
65°	157	212	412	210	178	159
75°	83	93	196	107	95	88
85°	24	24	43	25	25	26
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°	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9
2.5°	1998.3	2000.3	2002.3	1997.7	1997.7	1993.7	1985.1	1978.5	1960.0	1957.4	1957.4
5°	2116.0	2114.6	2117.3	2108.7	2096.8	2094.2	2081.6	2065.1	2047.9	2028.7	2024.8
7.5°	2234.9	2227.0	2223.7	2227.7	2215.1	2197.9	2176.8	2156.9	2127.2	2102.8	2087.6
10°	2320.8	2342.6	2329.4	2306.3	2310.9	2279.9	2263.3	2234.9	2211.1	2169.5	2160.2
12.5°	2405.4	2410.7	2408.7	2398.1	2389.6	2370.4	2346.6	2322.8	2273.9	2237.6	2199.2
15°	2388.2	2400.8	2404.1	2400.1	2403.4	2402.1	2390.2	2369.7	2331.4	2290.4	2254.7
17.5°	2261.4	2275.9	2287.8	2298.4	2314.9	2347.3	2357.2	2361.1	2345.3	2316.2	2286.5
20°	2014.2	1999.7	2060.5	2091.5	2118.0	2184.0	2240.9	2262.7	2297.7	2297.0	2290.4
22.5°	1664.0	1671.9	1728.7	1767.1	1856.9	1923.0	1989.8	2086.9	2162.9	2219.1	2253.4
25°	1274.1	1299.2	1356.7	1406.9	1492.8	1615.7	1727.4	1856.9	1979.2	2075.7	2167.5
27.5°	991.2	994.5	1046.8	1097.6	1150.5	1256.9	1406.2	1561.5	1736.0	1861.6	2020.2
30°	819.4	815.5	834.6	863.0	906.7	984.6	1090.4	1242.4	1416.2	1632.9	1825.9
32.5°	697.8	699.2	712.4	731.5	765.9	812.2	876.3	992.6	1154.5	1366.6	1601.2
35°	627.8	627.1	637.7	652.9	668.1	701.8	751.4	816.1	929.1	1128.0	1359.3
37.5°	569.6	572.9	577.6	587.5	606.0	625.8	656.9	702.5	788.4	911.9	1119.4
40°	522.1	523.4	530.6	538.6	548.5	563.0	587.5	622.5	681.3	775.2	917.2
42.5°	478.4	479.8	484.4	491.7	498.9	513.5	532.6	561.7	606.6	674.7	785.7
45°	436.1	436.1	440.8	444.1	452.7	465.9	482.4	507.5	540.6	594.7	672.7
47.5°	395.2	395.2	398.5	404.4	410.4	420.9	438.1	459.3	483.1	527.3	596.7
50°	360.8	361.5	363.5	368.1	371.4	380.6	393.2	411.0	436.1	468.5	524.0
52.5°	333.1	332.4	335.0	336.4	338.3	344.3	352.9	368.1	389.9	417.0	460.6
55°	302.7	300.0	304.0	307.3	309.3	311.9	317.2	327.1	346.3	370.1	404.4
57.5°	267.0	265.7	267.6	270.9	276.9	283.5	286.8	293.4	303.3	321.8	358.2
60°	220.7	220.7	226.7	228.6	235.9	245.2	254.4	259.7	269.6	280.9	306.0
62.5°	179.7	180.4	182.4	184.4	187.7	199.6	213.4	226.7	235.9	246.5	261.0
65°	157.3	158.6	158.6	159.9	162.6	165.2	170.5	179.7	196.3	211.5	224.0
67.5°	137.5	137.5	138.1	139.4	140.1	143.4	145.4	150.0	153.3	170.5	187.7
70°	117.6	119.6	118.9	120.3	120.9	122.3	124.9	126.9	132.8	136.1	145.4
72.5°	99.1	100.4	100.4	101.1	103.1	103.1	105.1	107.1	110.4	113.0	117.0
75°	83.3	82.6	83.3	84.6	85.2	85.9	85.9	88.6	90.5	93.2	96.5
77.5°	67.4	68.1	68.1	68.1	68.1	69.4	69.4	70.7	72.7	74.0	76.0
80°	51.5	52.2	51.5	52.2	52.9	53.5	52.9	53.5	55.5	56.8	56.8
82.5°	37.0	37.0	37.7	37.7	37.7	37.7	39.0	39.0	40.3	39.6	40.3
85°	23.8	23.1	23.1	23.1	23.8	24.5	23.8	23.8	24.5	24.5	24.5
87.5°	10.6	11.2	11.2	11.2	11.2	11.2	11.2	11.9	11.2	11.9	11.2
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°	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9
2.5°	1958.7	1953.4	1948.8	1936.9	1930.9	1917.7	1915.7	1915.1	1897.9	1881.4	1876.8
5°	2014.2	2003.6	1987.8	1969.3	1950.1	1930.3	1917.1	1906.5	1880.1	1854.9	1840.4
7.5°	2069.1	2049.9	2024.8	1993.1	1966.0	1934.2	1912.4	1892.6	1856.3	1823.2	1801.4
10°	2131.8	2094.8	2058.5	2010.2	1972.6	1935.6	1901.2	1871.5	1829.2	1781.6	1747.9
12.5°	2170.8	2129.2	2075.7	2028.7	1977.2	1927.6	1878.7	1838.4	1786.9	1737.3	1695.7
15°	2205.2	2161.6	2100.8	2033.4	1970.6	1909.1	1856.3	1808.7	1743.9	1685.1	1636.2
17.5°	2236.9	2176.8	2114.0	2036.0	1966.6	1892.0	1825.2	1765.7	1695.0	1625.6	1570.1
20°	2250.8	2191.3	2116.0	2038.0	1952.1	1860.2	1786.9	1720.8	1643.5	1566.2	1500.1
22.5°	2242.2	2199.2	2113.3	2016.2	1927.6	1830.5	1745.2	1665.9	1578.1	1498.8	1419.5
25°	2197.3	2181.4	2102.1	2000.3	1899.9	1788.2	1692.4	1608.5	1510.7	1426.1	1342.8
27.5°	2114.6	2137.8	2081.6	1971.2	1862.9	1742.6	1638.2	1543.7	1443.9	1349.4	1266.1
30°	1983.8	2062.4	2041.3	1940.9	1816.0	1698.3	1577.4	1477.6	1369.2	1271.4	1189.5
32.5°	1804.7	1947.5	1978.5	1898.6	1768.4	1636.2	1508.0	1408.9	1294.6	1190.2	1110.9
35°	1612.4	1806.7	1895.9	1842.4	1712.9	1573.4	1442.6	1326.9	1213.3	1111.5	1032.2
37.5°	1384.4	1643.5	1780.9	1775.0	1651.4	1509.3	1367.3	1252.9	1136.0	1035.5	952.9
40°	1163.7	1450.5	1644.1	1687.1	1586.6	1430.0	1286.0	1169.0	1055.3	957.5	859.1
42.5°	965.5	1250.9	1500.1	1582.7	1508.0	1352.7	1208.0	1084.4	974.7	883.5	782.4
45°	812.8	1062.6	1325.0	1458.4	1414.2	1270.1	1117.5	1001.2	897.4	817.4	721.0
47.5°	703.8	885.5	1149.2	1323.6	1318.4	1181.6	1029.6	917.9	820.1	746.1	664.1
50°	613.2	766.6	981.3	1186.2	1203.4	1093.0	950.3	839.9	750.0	671.4	608.6
52.5°	532.0	651.6	839.3	1033.5	1090.4	998.5	861.1	761.3	674.7	604.0	552.5
55°	463.2	561.0	707.7	891.5	965.5	898.1	775.2	680.0	609.3	548.5	502.2
57.5°	403.1	479.8	602.0	756.0	839.9	794.3	689.2	610.6	547.8	491.0	454.0
60°	346.9	407.1	506.9	630.4	725.6	695.9	609.3	537.3	485.7	438.1	403.8
62.5°	294.1	343.6	425.6	520.1	605.3	597.4	530.6	473.2	429.5	387.2	359.5
65°	245.2	282.8	349.6	428.2	498.3	504.2	453.3	412.4	372.0	337.7	311.9
67.5°	202.9	228.6	278.9	348.3	401.8	420.3	385.9	352.9	319.8	292.1	269.0
70°	164.5	184.4	218.7	272.3	320.5	340.3	322.5	298.0	270.3	248.5	229.3
72.5°	125.6	144.7	167.9	203.5	243.2	265.0	261.7	245.8	224.7	207.5	189.7
75°	100.4	106.4	123.6	150.0	182.4	200.9	205.5	196.3	178.4	164.5	154.0
77.5°	78.0	81.9	91.2	107.1	129.5	146.0	153.3	152.0	138.8	129.5	119.6
80°	59.5	61.5	65.4	71.4	87.2	103.7	108.4	108.4	99.8	96.5	86.6
82.5°	41.6	43.0	44.9	47.6	52.9	66.7	72.0	73.4	68.7	64.1	56.8
85°	25.8	25.1	26.4	28.4	29.7	33.7	41.6	43.0	41.6	36.3	34.4
87.5°	11.2	11.9	11.9	11.2	11.9	12.6	15.9	19.2	16.5	14.5	13.2
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°	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9	1901.9
2.5°	1868.2	1863.5	1854.9	1841.7	1833.8	1819.9	1810.7	1816.0	1817.3	1816.0	1814.6
5°	1824.5	1810.7	1791.5	1773.0	1755.8	1737.3	1726.7	1722.1	1712.9	1707.6	1704.9
7.5°	1775.0	1754.5	1727.4	1697.7	1669.9	1643.5	1631.6	1622.3	1605.2	1595.9	1587.3
10°	1718.2	1680.5	1653.4	1611.1	1585.3	1547.7	1521.9	1522.5	1496.8	1482.2	1471.7
12.5°	1655.4	1613.1	1563.5	1526.5	1488.2	1459.8	1427.4	1411.5	1383.8	1369.9	1336.9
15°	1584.7	1536.4	1488.8	1437.3	1401.0	1354.0	1309.1	1254.3	1210.0	1171.6	1161.1
17.5°	1509.3	1449.9	1402.9	1350.1	1293.2	1208.0	1152.5	1118.8	1092.3	1072.5	1056.7
20°	1431.4	1370.6	1319.7	1228.5	1144.6	1091.0	1052.7	1028.2	1000.5	978.7	966.8
22.5°	1349.4	1285.3	1211.3	1106.9	1046.1	1005.8	972.7	943.7	927.1	911.3	900.7
25°	1272.8	1203.4	1089.0	1019.0	966.1	921.2	897.4	880.2	860.4	837.3	826.7
27.5°	1192.8	1082.4	995.9	945.0	890.8	862.4	841.9	813.5	795.6	787.0	775.2
30°	1100.9	990.6	926.5	869.6	834.0	801.6	776.5	761.9	744.8	726.9	719.6
32.5°	998.5	915.9	855.1	810.2	773.8	747.4	728.9	703.1	691.9	682.6	665.5
35°	917.2	850.5	794.3	756.0	721.6	699.2	676.0	662.1	639.7	630.4	624.5
37.5°	843.2	785.1	742.8	700.5	674.0	647.6	634.4	611.3	602.7	588.1	576.2
40°	782.4	725.6	685.3	652.2	621.8	603.3	585.5	567.7	553.1	547.2	532.0
42.5°	720.3	676.7	636.4	599.4	581.5	561.7	537.9	526.0	510.8	500.2	492.3
45°	664.1	623.2	588.8	559.1	536.6	516.1	501.6	479.8	471.2	452.0	444.1
47.5°	614.6	574.9	541.9	512.8	490.3	478.4	457.3	438.1	426.2	413.0	401.8
50°	561.0	529.3	497.6	472.5	452.7	433.5	411.7	403.1	382.0	376.0	370.1
52.5°	512.1	482.4	454.0	429.5	409.7	391.2	372.7	360.8	348.3	342.3	338.3
55°	467.2	438.1	410.4	388.6	368.7	349.6	337.7	323.8	317.2	312.6	307.3
57.5°	420.9	394.5	372.7	350.2	330.4	314.6	300.0	292.1	285.5	280.2	272.9
60°	377.3	352.2	333.1	312.6	292.1	279.5	269.0	259.0	251.1	241.9	239.2
62.5°	331.1	309.9	292.7	272.9	255.7	244.5	234.6	225.3	215.4	200.9	196.9
65°	289.4	272.3	253.8	237.2	221.4	210.1	195.6	185.0	181.1	179.7	179.1
67.5°	251.1	234.6	218.7	201.6	187.0	174.5	165.9	164.5	161.9	161.2	159.3
70°	212.8	197.6	181.7	165.9	152.0	150.0	147.4	144.7	141.4	140.1	138.8
72.5°	178.4	162.6	146.7	134.8	130.8	128.2	125.6	122.9	120.9	119.6	118.9
75°	142.1	127.5	117.0	112.3	109.0	107.1	103.1	101.1	99.8	97.8	97.1
77.5°	108.4	99.1	93.8	91.2	87.2	85.2	82.6	80.6	78.6	78.6	77.3
80°	78.0	74.0	70.7	66.7	65.4	62.8	62.1	60.1	60.8	58.8	58.8
82.5°	56.2	50.9	48.2	46.9	45.6	43.6	43.0	42.3	42.3	41.0	41.0
85°	31.1	29.7	28.4	27.1	27.1	25.1	25.8	25.1	25.1	23.8	23.1
87.5°	12.6	11.9	10.6	10.6	10.6	9.9	9.9	9.3	9.3	9.3	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





TEST NUMBER: P242421

CATALOG NUMBER: S122RDR-S1005D940-X4F0-XX-UDD-A-W

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1901.9	1901.9	1901.9	1901.9
2.5°	1807.4	1808.7	1806.7	1808.0
5°	1701.6	1693.7	1692.4	1690.4
7.5°	1576.7	1576.1	1572.1	1567.5
10°	1457.1	1453.8	1453.2	1448.5
12.5°	1317.0	1291.3	1288.6	1275.4
15°	1145.2	1141.2	1128.0	1119.4
17.5°	1049.4	1036.2	1031.6	1029.6
20°	957.5	945.6	943.7	942.3
22.5°	894.1	881.5	875.6	871.0
25°	820.1	815.5	812.8	811.5
27.5°	761.9	750.0	748.7	745.4
30°	713.7	710.4	705.8	701.8
32.5°	656.9	654.2	650.3	648.9
35°	617.9	608.6	604.7	598.7
37.5°	574.9	569.6	563.0	565.7
40°	523.4	520.1	518.7	518.1
42.5°	482.4	471.8	467.9	467.9
45°	440.8	432.2	426.2	426.9
47.5°	395.8	396.5	392.5	393.9
50°	365.4	361.5	358.8	359.5
52.5°	336.4	333.1	331.1	334.4
55°	304.0	300.0	299.4	298.7
57.5°	269.0	267.0	263.7	261.7
60°	230.6	225.3	218.7	218.1
62.5°	195.6	195.6	195.6	195.6
65°	177.8	177.1	177.8	178.4
67.5°	159.3	157.9	156.6	157.3
70°	137.5	136.8	136.1	136.1
72.5°	116.3	116.3	115.6	115.0
75°	96.5	95.2	95.2	95.2
77.5°	77.3	76.7	76.0	75.3
80°	58.2	57.5	56.8	56.8
82.5°	41.0	40.3	40.3	39.6
85°	23.8	24.5	23.8	25.1
87.5°	8.6	7.9	8.6	7.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)