

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P273773

Luminaire Tested: **8RCG-4-78D-L940-A**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P273773  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 8RCG-4-78D-L940-A  
Description: RCG SERIES DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC FLUSH LENS  
Light Source: (168) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

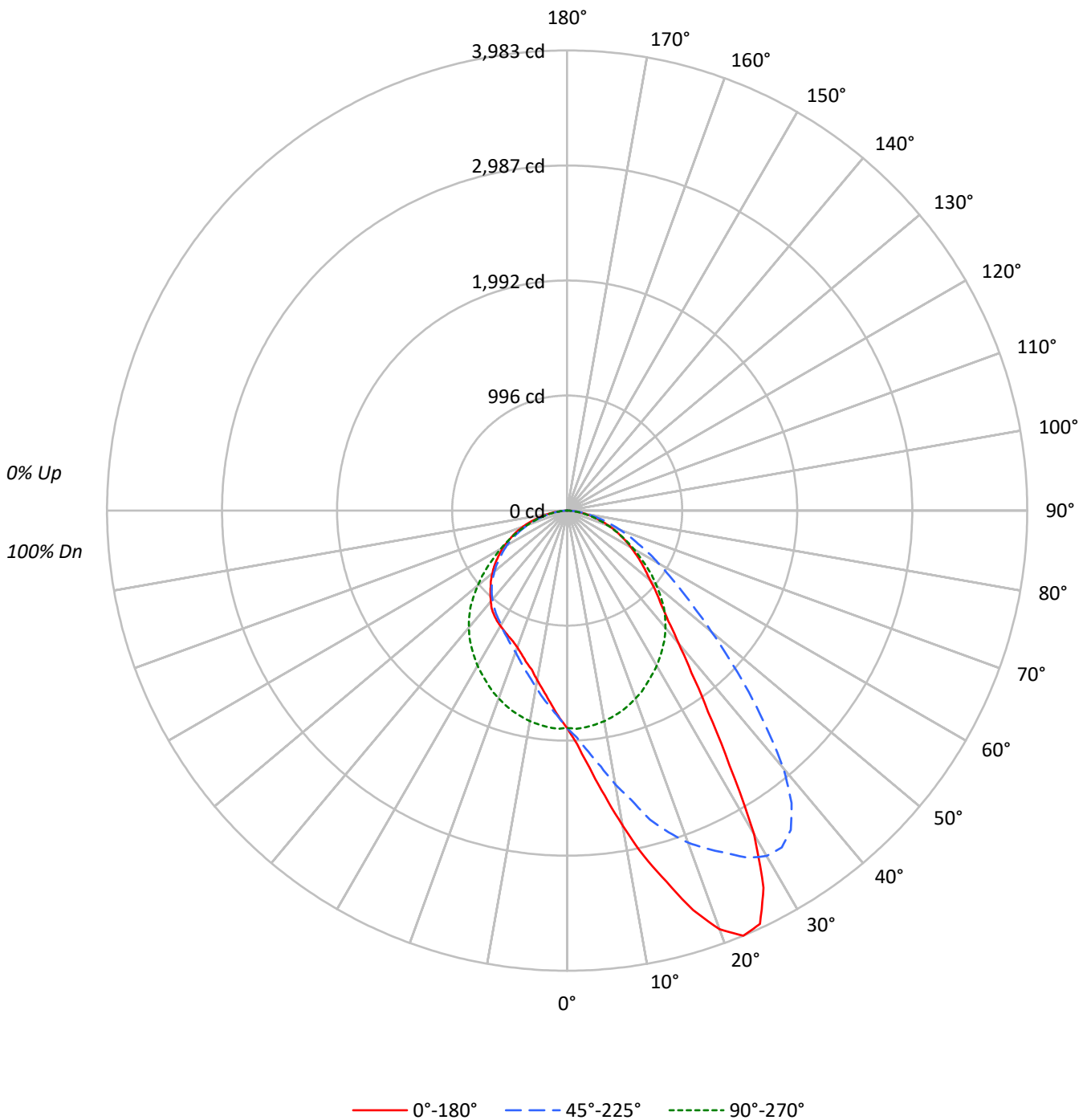
Lumens per Lamp: N/A  
Luminaire Lumens: 5678.2 lumens  
Efficiency: N/A  
Efficacy: 109.2 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5  
Luminous Opening: Rectangular (W 7.88' x L: 0.23' x H: 0')  
CIE Type: Direct

Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (Ain): 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	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	53
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	35	33
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	36	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	33	28	27

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

	0°	90°	180°
0°	11220	11220	11220
5°	13381	11269	9987
10°	16748	11212	9020
15°	20542	11121	8398
20°	24472	10981	7995
25°	25984	10809	7906
30°	22272	10685	7948
35°	15490	10505	8030
40°	11667	10298	8006
45°	9687	9987	7904
50°	8678	9353	7831
55°	8113	8672	7735
60°	7611	7959	7654
65°	7152	7254	7409
70°	6707	6452	7056
75°	6005	5651	6471
80°	5262	4630	5571
85°	4120	3367	3736



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.0	3.3
10°-20°	594.3	10.5
20°-30°	999.9	17.6
30°-40°	1130.1	19.9
40°-50°	1012.2	17.8
50°-60°	817.0	14.4
60°-70°	569.3	10.0
70°-80°	298.8	5.3
80°-90°	71.6	1.3
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°	1779.2	31.3
0°-40°	2909.3	51.2
0°-60°	4738.5	83.5
0°-90°	5678.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5678.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1881	1881	1881	1881	1881	
5°	2235	2095	1882	1704	1668	230
15°	3327	2769	1801	1420	1360	960
25°	3948	3272	1642	1220	1201	1746
35°	2127	3374	1443	1078	1103	1373
45°	1148	2224	1184	922	937	906
55°	780	1208	834	713	744	700
65°	507	677	514	484	525	505
75°	261	321	245	243	281	278
85°	60	69	49	48	55	73
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°	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2
2.5°	2025.2	2023.4	2019.0	2022.6	2015.2	2005.2	2004.4	1995.2	1968.8	1967.0	1959.6
5°	2235.0	2227.6	2226.8	2225.8	2213.0	2195.8	2163.0	2160.2	2116.4	2094.6	2068.2
7.5°	2488.4	2485.6	2478.2	2470.0	2427.2	2406.2	2375.2	2335.2	2284.2	2235.0	2204.0
10°	2765.4	2795.4	2758.2	2732.6	2708.8	2664.2	2612.2	2547.6	2482.8	2407.2	2349.8
12.5°	3062.6	3073.4	3073.4	3049.8	3009.6	2935.8	2833.8	2760.8	2702.6	2564.0	2514.8
15°	3326.8	3382.4	3347.0	3264.8	3266.8	3202.0	3081.6	2949.6	2879.4	2769.0	2618.6
17.5°	3625.8	3635.8	3625.0	3548.4	3511.0	3417.0	3308.6	3185.6	3053.4	2919.4	2763.6
20°	3855.6	3850.0	3818.2	3782.6	3704.2	3635.0	3513.8	3372.4	3190.2	3058.8	2884.8
22.5°	3983.2	3973.0	3962.2	3933.8	3872.0	3796.2	3690.6	3532.8	3361.4	3168.2	2960.4
25°	3948.4	3960.4	3962.2	3954.0	3931.2	3886.6	3800.8	3677.8	3504.6	3272.2	3062.6
27.5°	3680.6	3710.6	3748.8	3774.4	3815.4	3842.8	3815.4	3738.0	3595.8	3388.0	3130.0
30°	3233.8	3197.4	3287.6	3401.6	3479.0	3615.8	3692.4	3697.0	3625.0	3452.6	3202.8
32.5°	2614.0	2673.4	2700.6	2847.4	3039.8	3197.4	3368.8	3521.0	3556.6	3456.2	3245.8
35°	2127.4	2177.4	2250.4	2323.4	2505.6	2662.4	2930.4	3163.8	3349.6	3374.2	3240.2
37.5°	1768.2	1797.4	1842.0	1919.6	2044.4	2238.6	2451.0	2754.4	3010.6	3191.0	3172.8
40°	1498.4	1505.8	1557.6	1613.2	1710.0	1863.0	2049.8	2310.6	2633.2	2913.0	3029.8
42.5°	1296.2	1314.4	1329.0	1381.8	1453.8	1559.6	1730.0	1934.2	2223.0	2555.8	2811.8
45°	1148.4	1166.6	1180.4	1215.8	1270.6	1348.0	1469.2	1666.2	1891.2	2224.0	2531.2
47.5°	1046.4	1044.6	1056.4	1084.6	1123.8	1185.8	1275.2	1406.4	1622.4	1900.4	2222.2
50°	935.2	949.8	953.4	974.4	1003.6	1046.4	1117.4	1225.0	1394.6	1631.6	1921.4
52.5°	856.8	858.6	870.4	884.2	908.8	939.8	999.0	1077.4	1201.4	1394.6	1655.2
55°	780.2	780.2	790.2	802.0	816.6	846.8	887.8	949.8	1051.0	1207.6	1428.2
57.5°	709.2	712.8	721.8	724.6	737.4	758.4	793.8	843.2	920.6	1047.2	1229.6
60°	638.0	646.2	645.4	652.6	663.6	679.0	708.2	746.4	814.0	910.6	1058.2
62.5°	576.0	573.4	573.4	582.4	593.4	608.0	624.4	656.2	711.0	793.8	914.2
65°	506.8	505.0	511.4	516.8	520.4	531.4	546.0	575.2	613.4	677.2	774.8
67.5°	446.6	441.2	445.8	447.6	454.0	463.0	477.6	495.8	526.8	580.6	659.0
70°	384.6	380.0	379.2	381.0	386.4	392.8	402.8	420.2	448.4	489.4	543.2
72.5°	320.8	318.2	318.2	322.6	324.4	328.2	334.6	350.0	371.0	399.2	448.4
75°	260.6	260.6	260.6	261.6	264.4	268.0	273.4	281.6	299.0	320.8	354.6
77.5°	206.0	207.0	205.0	204.2	208.8	210.6	211.4	220.6	230.6	247.0	273.4
80°	153.2	148.6	150.4	153.2	155.0	155.8	158.6	160.4	168.6	176.8	194.2
82.5°	104.0	100.2	100.2	104.8	104.8	105.8	108.4	111.2	113.0	120.4	127.6
85°	60.2	60.2	61.0	61.0	62.0	61.0	63.8	64.8	64.8	69.2	74.8
87.5°	27.4	25.6	26.4	27.4	26.4	27.4	28.2	29.2	30.0	31.0	32.0
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°	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2
2.5°	1954.2	1946.8	1939.6	1926.8	1916.0	1900.4	1895.8	1890.4	1874.0	1859.4	1848.4
5°	2058.0	2036.2	2004.4	1975.2	1951.4	1919.6	1901.4	1882.2	1854.8	1830.2	1810.2
7.5°	2157.4	2119.2	2074.6	2026.2	1979.8	1935.0	1899.6	1867.6	1832.0	1797.4	1771.0
10°	2280.4	2218.6	2149.2	2074.6	2010.6	1948.8	1896.8	1851.2	1802.0	1759.2	1723.6
12.5°	2420.8	2321.6	2219.4	2124.6	2046.2	1954.2	1888.6	1827.4	1770.0	1716.2	1675.2
15°	2525.6	2409.0	2296.0	2171.2	2056.2	1948.8	1874.0	1801.0	1736.4	1683.4	1632.4
17.5°	2629.6	2502.0	2358.0	2207.6	2072.6	1948.8	1846.6	1768.2	1689.0	1625.2	1576.0
20°	2715.2	2564.8	2396.2	2238.6	2085.4	1943.2	1828.4	1730.0	1642.4	1574.2	1516.6
22.5°	2789.0	2606.8	2430.8	2259.6	2084.6	1928.6	1794.6	1692.6	1596.0	1529.4	1467.4
25°	2835.6	2625.0	2450.0	2252.2	2061.8	1903.2	1757.4	1642.4	1547.6	1469.2	1406.4
27.5°	2879.4	2622.2	2424.6	2211.2	2034.4	1876.8	1720.0	1596.8	1497.6	1412.8	1348.0
30°	2923.0	2626.8	2379.8	2169.2	1990.6	1826.6	1675.2	1551.4	1445.6	1359.0	1298.8
32.5°	2950.4	2624.2	2338.8	2111.0	1921.4	1781.0	1627.0	1497.6	1388.2	1303.4	1246.0
35°	2957.8	2608.6	2290.6	2026.2	1845.8	1704.4	1576.0	1442.8	1329.0	1249.6	1184.0
37.5°	2942.2	2580.4	2237.6	1949.6	1754.6	1614.2	1502.0	1388.2	1278.8	1190.4	1133.0
40°	2892.0	2553.0	2173.8	1867.6	1659.8	1525.8	1433.8	1322.6	1215.0	1132.0	1079.2
42.5°	2796.4	2497.4	2103.6	1776.4	1561.4	1427.4	1344.4	1256.0	1155.8	1079.2	1026.4
45°	2628.6	2411.8	2033.4	1685.4	1464.8	1326.2	1251.4	1184.0	1092.0	1016.2	970.8
47.5°	2414.4	2296.0	1932.4	1589.6	1363.6	1229.6	1151.2	1095.6	1023.6	962.6	917.8
50°	2189.4	2146.6	1829.4	1491.2	1262.4	1132.0	1057.4	1008.0	959.8	898.8	858.6
52.5°	1929.6	1973.4	1709.0	1389.0	1159.4	1031.8	962.6	926.0	883.2	835.8	802.0
55°	1689.0	1784.6	1566.8	1272.4	1057.4	935.2	868.6	834.0	808.4	771.2	741.0
57.5°	1455.6	1577.8	1419.2	1154.8	957.0	850.4	784.8	745.6	729.2	708.2	683.6
60°	1252.4	1372.6	1258.8	1036.4	855.8	755.6	699.0	667.2	650.8	637.2	617.0
62.5°	1071.0	1193.2	1102.0	916.0	756.6	665.4	618.0	587.0	575.2	569.6	553.2
65°	907.8	1012.6	948.8	790.2	662.6	580.6	536.0	514.0	502.2	499.4	488.6
67.5°	766.6	847.6	798.4	679.0	575.2	500.4	461.2	442.0	432.0	431.2	422.0
70°	628.0	702.8	667.2	561.4	474.8	419.2	386.4	370.0	364.6	363.6	359.2
72.5°	520.4	567.0	540.6	456.6	394.6	345.4	323.6	306.2	299.8	301.6	299.0
75°	401.0	440.2	423.8	362.8	309.0	276.2	256.2	245.2	239.8	242.4	238.8
77.5°	306.2	333.6	317.2	270.8	236.0	211.4	196.0	188.6	183.2	183.2	181.4
80°	217.8	232.4	224.2	198.8	171.4	151.4	139.4	134.8	132.2	131.2	130.4
82.5°	139.4	151.4	141.2	125.8	109.4	99.4	93.8	87.6	85.6	86.6	85.6
85°	78.4	83.0	79.2	68.4	61.0	55.6	52.0	49.2	47.4	48.4	46.4
87.5°	33.8	34.6	32.0	28.2	26.4	23.6	23.6	21.8	20.0	20.0	19.2
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°	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2	1881.2
2.5°	1842.0	1835.6	1826.6	1813.0	1802.0	1784.6	1784.6	1787.4	1787.4	1786.4	1784.6
5°	1793.8	1780.0	1763.6	1744.6	1724.4	1704.4	1700.8	1693.6	1688.0	1684.4	1679.8
7.5°	1744.6	1721.8	1699.0	1672.6	1649.8	1630.6	1617.0	1605.0	1597.8	1589.6	1583.2
10°	1694.4	1664.4	1636.0	1607.8	1576.8	1552.2	1536.8	1525.8	1517.6	1510.4	1506.6
12.5°	1635.2	1599.6	1567.8	1541.2	1506.6	1481.2	1466.6	1463.0	1452.8	1435.6	1426.4
15°	1577.8	1545.8	1508.4	1467.4	1451.0	1420.0	1402.8	1394.6	1389.0	1377.2	1373.6
17.5°	1530.4	1487.6	1444.6	1414.6	1384.6	1360.0	1349.8	1339.0	1331.6	1320.8	1318.0
20°	1471.2	1433.8	1395.4	1362.6	1330.8	1303.4	1295.2	1288.0	1280.6	1276.0	1272.4
22.5°	1411.0	1373.6	1343.6	1313.4	1278.8	1263.2	1254.2	1246.0	1241.4	1238.6	1235.0
25°	1355.4	1322.6	1287.0	1259.6	1232.4	1220.4	1215.0	1210.4	1206.8	1202.2	1201.4
27.5°	1306.2	1269.6	1239.6	1213.2	1193.2	1183.0	1176.8	1174.0	1174.0	1175.8	1176.8
30°	1249.6	1216.8	1193.2	1171.2	1153.0	1143.8	1143.0	1143.0	1146.6	1147.6	1149.4
32.5°	1197.6	1172.2	1148.4	1127.4	1114.8	1109.2	1113.8	1113.8	1116.6	1119.2	1123.0
35°	1147.6	1123.8	1105.6	1087.4	1075.6	1078.2	1080.0	1082.0	1086.4	1092.0	1095.6
37.5°	1100.2	1078.2	1059.2	1044.6	1037.2	1042.8	1047.2	1051.0	1056.4	1061.0	1064.6
40°	1048.2	1032.6	1014.4	1001.8	1003.6	1006.2	1010.0	1014.4	1019.0	1021.8	1025.4
42.5°	999.8	983.4	970.8	960.6	963.4	967.0	968.8	970.8	976.2	981.6	983.4
45°	950.6	938.0	925.2	918.8	920.6	922.4	924.2	927.0	931.6	935.2	936.0
47.5°	895.0	886.0	877.8	870.4	874.0	873.2	876.0	881.4	883.2	885.0	890.6
50°	842.2	834.0	824.0	822.2	822.2	822.2	823.0	830.4	830.4	834.0	837.6
52.5°	783.8	779.4	773.8	770.2	768.4	768.4	773.0	775.6	777.4	783.0	786.6
55°	726.4	721.0	715.6	712.8	711.0	712.8	720.0	721.8	726.4	729.2	732.0
57.5°	666.2	662.6	658.0	656.2	656.2	657.2	662.6	667.2	668.2	677.2	680.8
60°	607.0	600.6	597.0	597.0	595.2	603.4	601.6	610.6	612.6	618.0	624.4
62.5°	546.0	536.8	536.0	536.0	539.6	540.6	544.2	546.8	552.4	559.6	564.2
65°	479.4	474.8	481.2	480.4	478.6	484.0	484.0	488.6	494.0	500.4	510.4
67.5°	417.4	413.8	415.6	414.8	417.4	421.0	423.8	427.4	433.8	441.2	447.6
70°	354.6	357.2	352.8	356.4	359.2	360.0	361.8	367.4	374.6	379.2	386.4
72.5°	293.4	292.6	294.4	295.4	298.0	299.8	301.6	308.0	316.2	320.0	325.4
75°	235.2	234.2	237.0	237.0	241.6	243.4	245.2	248.0	255.2	260.6	265.2
77.5°	182.2	183.2	182.2	186.0	184.2	185.0	190.4	193.2	194.2	206.0	207.8
80°	129.4	131.2	132.2	133.0	134.0	132.2	138.6	141.2	141.2	147.6	152.2
82.5°	83.8	84.8	87.6	88.4	88.4	91.2	90.2	92.0	94.8	96.6	103.0
85°	46.4	49.2	50.2	49.2	50.2	48.4	51.0	52.0	52.8	52.8	52.8
87.5°	18.2	19.2	18.2	19.2	18.2	19.2	19.2	17.4	17.4	20.0	16.4
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: P273773

CATALOG NUMBER: 8RCG-4-78D-L940-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1881.2	1881.2	1881.2	1881.2
2.5°	1778.2	1777.4	1783.8	1779.2
5°	1674.4	1677.2	1668.0	1668.0
7.5°	1580.4	1576.8	1577.8	1571.4
10°	1495.8	1490.2	1488.4	1489.4
12.5°	1425.6	1425.6	1411.0	1411.0
15°	1373.6	1356.2	1354.4	1360.0
17.5°	1316.2	1306.2	1307.0	1305.2
20°	1272.4	1267.0	1266.0	1259.6
22.5°	1232.4	1231.4	1232.4	1225.0
25°	1200.4	1205.0	1201.4	1201.4
27.5°	1178.6	1178.6	1175.8	1175.8
30°	1153.0	1152.0	1154.0	1154.0
32.5°	1127.4	1129.4	1129.4	1130.2
35°	1101.0	1102.0	1104.6	1102.8
37.5°	1066.4	1071.0	1070.0	1071.8
40°	1026.4	1029.0	1028.2	1028.2
42.5°	985.2	987.2	984.4	982.6
45°	939.8	938.0	940.6	937.0
47.5°	889.6	890.6	891.4	895.0
50°	839.4	845.0	845.0	844.0
52.5°	790.2	792.0	796.6	796.6
55°	739.2	741.0	742.8	743.8
57.5°	687.2	686.4	690.0	690.8
60°	631.6	631.6	639.0	641.6
62.5°	572.4	576.0	583.4	577.8
65°	515.0	522.2	521.4	525.0
67.5°	454.8	459.4	466.6	466.6
70°	393.8	398.4	402.0	404.6
72.5°	334.6	336.4	346.4	340.8
75°	271.6	278.0	283.4	280.8
77.5°	211.4	219.6	221.4	218.8
80°	158.6	157.6	163.2	162.2
82.5°	105.8	104.8	106.6	107.6
85°	56.6	59.2	55.6	54.6
87.5°	16.4	16.4	15.4	14.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)