

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: P273776

Luminaire Tested: **4RCG-4-100D-L830-A**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P273776  
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: 4RCG-4-100D-L830-A  
Description: RCG SERIES DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC FLUSH LENS  
Light Source: (168) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3856.4 lumens  
Efficiency: N/A  
Efficacy: 112.1 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')  
CIE Type: Direct

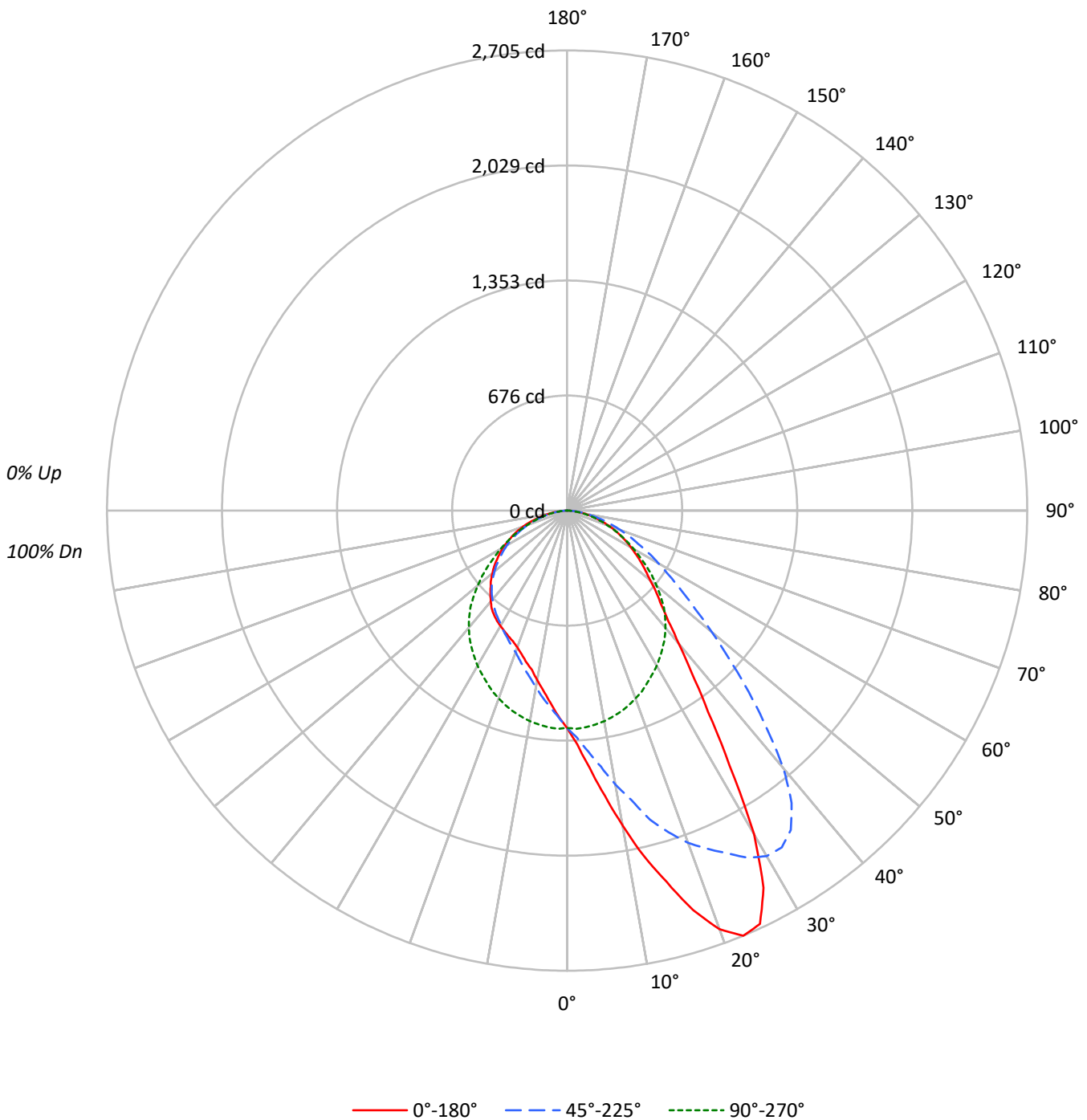
Input Watts (W): 34.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	15487	15487	15487
5°	18469	15554	13783
10°	23116	15474	12450
15°	28354	15350	11590
20°	33776	15155	11035
25°	35864	14919	10912
30°	30740	14747	10969
35°	21379	14500	11083
40°	16103	14212	11049
45°	13371	13784	10909
50°	11976	12910	10809
55°	11198	11970	10674
60°	10504	10984	10565
65°	9872	10013	10228
70°	9257	8906	9739
75°	8289	7798	8931
80°	7260	6394	7692
85°	5688	4645	5160



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.7	3.3
10°-20°	403.6	10.5
20°-30°	679.1	17.6
30°-40°	767.5	19.9
40°-50°	687.4	17.8
50°-60°	554.9	14.4
60°-70°	386.6	10.0
70°-80°	202.9	5.3
80°-90°	48.6	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°	1208.3	31.3
0°-40°	1975.9	51.2
0°-60°	3218.2	83.5
0°-90°	3856.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3856.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1278	1278	1278	1278	1278	
5°	1518	1422	1278	1158	1133	156
15°	2260	1881	1223	964	924	652
25°	2682	2222	1116	829	816	1186
35°	1445	2292	980	732	749	932
45°	780	1510	804	626	636	615
55°	530	820	566	484	505	475
65°	344	460	349	329	357	343
75°	177	218	166	165	191	189
85°	41	47	33	33	37	50
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°	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7
2.5°	1375.5	1374.2	1371.1	1373.6	1368.7	1361.9	1361.2	1355.1	1337.1	1335.9	1330.9
5°	1517.9	1512.9	1512.3	1511.7	1503.0	1491.2	1469.0	1467.1	1437.4	1422.5	1404.6
7.5°	1689.9	1688.1	1683.1	1677.6	1648.5	1634.2	1613.2	1586.0	1551.3	1517.9	1496.8
10°	1878.1	1898.6	1873.2	1855.8	1839.8	1809.4	1774.1	1730.2	1686.2	1634.9	1595.9
12.5°	2079.9	2087.4	2087.4	2071.3	2044.0	1993.9	1924.6	1875.0	1835.4	1741.3	1707.9
15°	2259.5	2297.2	2273.1	2217.4	2218.6	2174.6	2092.9	2003.2	1955.5	1880.6	1778.5
17.5°	2462.5	2469.3	2461.9	2409.9	2384.5	2320.7	2247.1	2163.5	2073.7	1982.7	1876.9
20°	2618.5	2614.8	2593.1	2569.0	2515.7	2468.7	2386.4	2290.4	2166.6	2077.5	1959.2
22.5°	2705.2	2698.3	2690.9	2671.7	2629.6	2578.3	2506.4	2399.4	2283.0	2151.7	2010.6
25°	2681.6	2689.7	2690.9	2685.3	2669.9	2639.5	2581.3	2497.8	2380.2	2222.3	2079.9
27.5°	2499.6	2520.1	2546.1	2563.4	2591.3	2609.8	2591.3	2538.6	2442.1	2300.9	2125.7
30°	2196.3	2171.6	2232.8	2310.2	2362.8	2455.7	2507.7	2510.8	2461.9	2344.9	2175.3
32.5°	1775.4	1815.6	1834.2	1933.8	2064.5	2171.6	2287.9	2391.3	2415.5	2347.4	2204.4
35°	1444.8	1478.9	1528.4	1577.9	1701.7	1808.2	1990.2	2148.6	2274.9	2291.6	2200.6
37.5°	1200.9	1220.7	1251.1	1303.7	1388.5	1520.3	1664.6	1870.7	2044.7	2167.2	2154.8
40°	1017.7	1022.6	1057.9	1095.7	1161.3	1265.3	1392.2	1569.2	1788.4	1978.4	2057.7
42.5°	880.3	892.6	902.5	938.4	987.4	1059.2	1174.9	1313.6	1509.8	1735.8	1909.7
45°	780.0	792.4	801.6	825.8	862.9	915.5	997.9	1131.6	1284.5	1510.4	1719.0
47.5°	710.6	709.4	717.5	736.6	763.3	805.4	866.0	955.2	1101.9	1290.7	1509.2
50°	635.1	645.0	647.5	661.7	681.6	710.6	758.9	832.0	947.1	1108.1	1304.9
52.5°	581.9	583.1	591.2	600.5	617.2	638.2	678.5	731.7	815.9	947.1	1124.2
55°	529.9	529.9	536.7	544.7	554.6	575.1	602.9	645.0	713.7	820.2	970.0
57.5°	481.6	484.1	490.3	492.1	500.8	515.0	539.2	572.6	625.2	711.3	835.1
60°	433.3	438.9	438.3	443.2	450.7	461.2	481.0	507.0	552.8	618.4	718.7
62.5°	391.2	389.4	389.4	395.6	403.0	412.9	424.0	445.7	482.8	539.2	620.9
65°	344.2	342.9	347.3	351.0	353.5	360.9	370.8	390.6	416.6	459.9	526.2
67.5°	303.3	299.6	302.7	303.9	308.3	314.5	324.4	336.8	357.8	394.3	447.6
70°	261.2	258.1	257.5	258.8	262.5	266.8	273.6	285.4	304.6	332.4	368.9
72.5°	217.9	216.0	216.0	219.1	220.4	222.9	227.2	237.7	251.9	271.1	304.6
75°	177.0	177.0	177.0	177.7	179.5	182.0	185.7	191.3	203.0	217.9	240.8
77.5°	139.9	140.5	139.3	138.7	141.8	143.0	143.6	149.8	156.6	167.8	185.7
80°	104.0	100.9	102.1	104.0	105.2	105.9	107.7	108.9	114.5	120.1	131.9
82.5°	70.6	68.1	68.1	71.2	71.2	71.8	73.7	75.5	76.8	81.7	86.7
85°	40.9	40.9	41.5	41.5	42.1	41.5	43.3	44.0	44.0	47.0	50.8
87.5°	18.6	17.3	18.0	18.6	18.0	18.6	19.2	19.8	20.4	21.0	21.7
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°	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7
2.5°	1327.2	1322.2	1317.3	1308.6	1301.2	1290.7	1287.6	1283.9	1272.7	1262.8	1255.4
5°	1397.8	1382.9	1361.2	1341.4	1325.3	1303.7	1291.3	1278.3	1259.7	1243.0	1229.4
7.5°	1465.2	1439.2	1408.9	1376.1	1344.5	1314.2	1290.1	1268.4	1244.2	1220.7	1202.8
10°	1548.8	1506.7	1459.7	1408.9	1365.6	1323.5	1288.2	1257.2	1223.8	1194.7	1170.6
12.5°	1644.1	1576.7	1507.3	1443.0	1389.7	1327.2	1282.6	1241.2	1202.2	1165.6	1137.8
15°	1715.3	1636.1	1559.3	1474.5	1396.5	1323.5	1272.7	1223.2	1179.2	1143.3	1108.7
17.5°	1785.9	1699.2	1601.4	1499.3	1407.7	1323.5	1254.2	1200.9	1147.1	1103.7	1070.3
20°	1844.1	1741.9	1627.4	1520.3	1416.3	1319.8	1241.8	1174.9	1115.5	1069.1	1030.1
22.5°	1894.2	1770.4	1650.9	1534.6	1415.7	1309.9	1218.9	1149.5	1083.9	1038.7	996.6
25°	1925.8	1782.8	1663.9	1529.6	1400.2	1292.5	1193.5	1115.5	1051.1	997.9	955.2
27.5°	1955.5	1780.9	1646.6	1501.8	1381.7	1274.6	1168.1	1084.5	1017.1	959.5	915.5
30°	1985.2	1784.0	1616.3	1473.3	1352.0	1240.5	1137.8	1053.6	981.8	923.0	882.1
32.5°	2003.8	1782.2	1588.4	1433.7	1304.9	1209.6	1105.0	1017.1	942.8	885.2	846.2
35°	2008.7	1771.7	1555.6	1376.1	1253.5	1157.6	1070.3	979.9	902.5	848.7	804.1
37.5°	1998.2	1752.5	1519.7	1324.1	1191.6	1096.3	1020.2	942.8	868.5	808.5	769.5
40°	1964.2	1733.9	1476.4	1268.4	1127.3	1036.3	973.7	898.2	825.2	768.8	732.9
42.5°	1899.2	1696.1	1428.7	1206.5	1060.4	969.4	913.1	853.0	784.9	732.9	697.0
45°	1785.3	1638.0	1381.1	1144.6	994.8	900.7	849.9	804.1	741.6	690.2	659.3
47.5°	1639.8	1559.3	1312.3	1079.6	926.1	835.1	781.8	744.1	695.2	653.7	623.4
50°	1486.9	1457.8	1242.4	1012.7	857.4	768.8	718.1	684.6	651.8	610.4	583.1
52.5°	1310.5	1340.2	1160.7	943.4	787.4	700.7	653.7	628.9	599.8	567.6	544.7
55°	1147.1	1212.1	1064.1	864.2	718.1	635.1	589.9	566.4	549.1	523.7	503.3
57.5°	988.6	1071.5	963.8	784.3	650.0	577.6	533.0	506.4	495.2	481.0	464.3
60°	850.5	932.3	854.9	703.8	581.3	513.2	474.8	453.1	442.0	432.7	419.1
62.5°	727.4	810.3	748.4	622.1	513.8	451.9	419.7	398.7	390.6	386.9	375.8
65°	616.6	687.7	644.4	536.7	450.0	394.3	364.0	349.1	341.1	339.2	331.8
67.5°	520.6	575.7	542.3	461.2	390.6	339.8	313.2	300.2	293.4	292.8	286.6
70°	426.5	477.3	453.1	381.3	322.5	284.8	262.5	251.3	247.6	247.0	243.9
72.5°	353.5	385.0	367.1	310.1	268.0	234.6	219.8	208.0	203.7	204.9	203.0
75°	272.4	299.0	287.8	246.4	209.9	187.6	173.9	166.5	162.8	164.7	162.2
77.5°	208.0	226.6	215.4	183.9	160.3	143.6	133.1	128.1	124.4	124.4	123.2
80°	147.9	157.9	152.3	134.9	116.4	102.8	94.7	91.6	89.8	89.1	88.5
82.5°	94.7	102.8	95.9	85.4	74.3	67.5	63.8	59.4	58.2	58.8	58.2
85°	53.2	56.3	53.9	46.4	41.5	37.8	35.3	33.4	32.2	32.8	31.6
87.5°	22.9	23.5	21.7	19.2	18.0	16.1	16.1	14.9	13.6	13.6	13.0
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7	1277.7
2.5°	1251.1	1246.7	1240.5	1231.2	1223.8	1212.1	1212.1	1213.9	1213.9	1213.3	1212.1
5°	1218.2	1209.0	1197.8	1184.8	1171.2	1157.6	1155.1	1150.2	1146.4	1144.0	1140.9
7.5°	1184.8	1169.3	1153.9	1135.9	1120.4	1107.4	1098.2	1090.1	1085.2	1079.6	1075.3
10°	1150.8	1130.3	1111.2	1092.0	1070.9	1054.2	1043.7	1036.3	1030.7	1025.7	1023.3
12.5°	1110.5	1086.4	1064.7	1046.8	1023.3	1005.9	996.0	993.5	986.7	975.0	968.8
15°	1071.5	1049.9	1024.5	996.6	985.5	964.4	952.7	947.1	943.4	935.4	932.9
17.5°	1039.3	1010.3	981.2	960.7	940.3	923.6	916.8	909.4	904.4	897.0	895.1
20°	999.1	973.7	947.7	925.4	903.8	885.2	879.6	874.7	869.7	866.6	864.2
22.5°	958.3	932.9	912.4	892.0	868.5	858.0	851.8	846.2	843.1	841.3	838.8
25°	920.5	898.2	874.1	855.5	836.9	828.9	825.2	822.1	819.6	816.5	815.9
27.5°	887.1	862.3	841.9	823.9	810.3	803.5	799.2	797.3	797.3	798.5	799.2
30°	848.7	826.4	810.3	795.5	783.1	776.9	776.3	776.3	778.7	779.4	780.6
32.5°	813.4	796.1	780.0	765.7	757.1	753.4	756.5	756.5	758.3	760.2	762.6
35°	779.4	763.3	750.9	738.5	730.5	732.3	733.5	734.8	737.9	741.6	744.1
37.5°	747.2	732.3	719.3	709.4	704.5	708.2	711.3	713.7	717.5	720.5	723.0
40°	711.9	701.4	689.0	680.3	681.6	683.4	685.9	689.0	692.1	693.9	696.4
42.5°	679.1	667.9	659.3	652.5	654.3	656.8	658.0	659.3	663.0	666.7	667.9
45°	645.6	637.0	628.3	624.0	625.2	626.5	627.7	629.6	632.6	635.1	635.7
47.5°	607.9	601.7	596.1	591.2	593.6	593.0	594.9	598.6	599.8	601.1	604.8
50°	572.0	566.4	559.6	558.4	558.4	558.4	559.0	563.9	563.9	566.4	568.9
52.5°	532.4	529.3	525.6	523.1	521.8	521.8	524.9	526.8	528.0	531.7	534.2
55°	493.4	489.7	485.9	484.1	482.8	484.1	489.0	490.3	493.4	495.2	497.1
57.5°	452.5	450.0	446.9	445.7	445.7	446.3	450.0	453.1	453.7	459.9	462.4
60°	412.3	407.9	405.5	405.5	404.2	409.8	408.6	414.7	416.0	419.7	424.0
62.5°	370.8	364.6	364.0	364.0	366.5	367.1	369.6	371.4	375.1	380.1	383.2
65°	325.6	322.5	326.8	326.2	325.0	328.7	328.7	331.8	335.5	339.8	346.7
67.5°	283.5	281.0	282.3	281.7	283.5	286.0	287.8	290.3	294.7	299.6	303.9
70°	240.8	242.7	239.6	242.0	243.9	244.5	245.8	249.5	254.4	257.5	262.5
72.5°	199.3	198.7	199.9	200.6	202.4	203.7	204.9	209.2	214.8	217.3	221.0
75°	159.7	159.1	160.9	160.9	164.0	165.3	166.5	168.4	173.3	177.0	180.1
77.5°	123.8	124.4	123.8	126.3	125.0	125.7	129.4	131.2	131.9	139.9	141.1
80°	87.9	89.1	89.8	90.4	91.0	89.8	94.1	95.9	95.9	100.3	103.4
82.5°	57.0	57.6	59.4	60.0	60.0	61.9	61.3	62.5	64.4	65.6	70.0
85°	31.6	33.4	34.0	33.4	34.0	32.8	34.7	35.3	35.9	35.9	35.9
87.5°	12.4	13.0	12.4	13.0	12.4	13.0	13.0	11.8	11.8	13.6	11.1
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: P273776

CATALOG NUMBER: 4RCG-4-100D-L830-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1277.7	1277.7	1277.7	1277.7
2.5°	1207.7	1207.1	1211.4	1208.3
5°	1137.2	1139.0	1132.8	1132.8
7.5°	1073.4	1070.9	1071.5	1067.2
10°	1015.8	1012.1	1010.9	1011.5
12.5°	968.2	968.2	958.3	958.3
15°	932.9	921.1	919.9	923.6
17.5°	893.9	887.1	887.7	886.4
20°	864.2	860.4	859.8	855.5
22.5°	836.9	836.3	836.9	832.0
25°	815.3	818.4	815.9	815.9
27.5°	800.4	800.4	798.5	798.5
30°	783.1	782.5	783.7	783.7
32.5°	765.7	767.0	767.0	767.6
35°	747.8	748.4	750.3	749.0
37.5°	724.3	727.4	726.7	728.0
40°	697.0	698.9	698.3	698.3
42.5°	669.2	670.4	668.6	667.3
45°	638.2	637.0	638.8	636.4
47.5°	604.2	604.8	605.4	607.9
50°	570.1	573.8	573.8	573.2
52.5°	536.7	537.9	541.0	541.0
55°	502.0	503.3	504.5	505.1
57.5°	466.7	466.1	468.6	469.2
60°	429.0	429.0	433.9	435.8
62.5°	388.8	391.2	396.2	392.5
65°	349.8	354.7	354.1	356.6
67.5°	308.9	312.0	316.9	316.9
70°	267.4	270.5	273.0	274.8
72.5°	227.2	228.4	235.2	231.5
75°	184.5	188.8	192.5	190.7
77.5°	143.6	149.2	150.4	148.6
80°	107.7	107.1	110.8	110.2
82.5°	71.8	71.2	72.4	73.0
85°	38.4	40.2	37.8	37.1
87.5°	11.1	11.1	10.5	9.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)