

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: P273758

Luminaire Tested: **4RCG-4-78D-L835-A**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P273758  
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-4-78D-L835-A  
Description: RCG SERIES DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC FLUSH LENS  
Light Source: (168) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

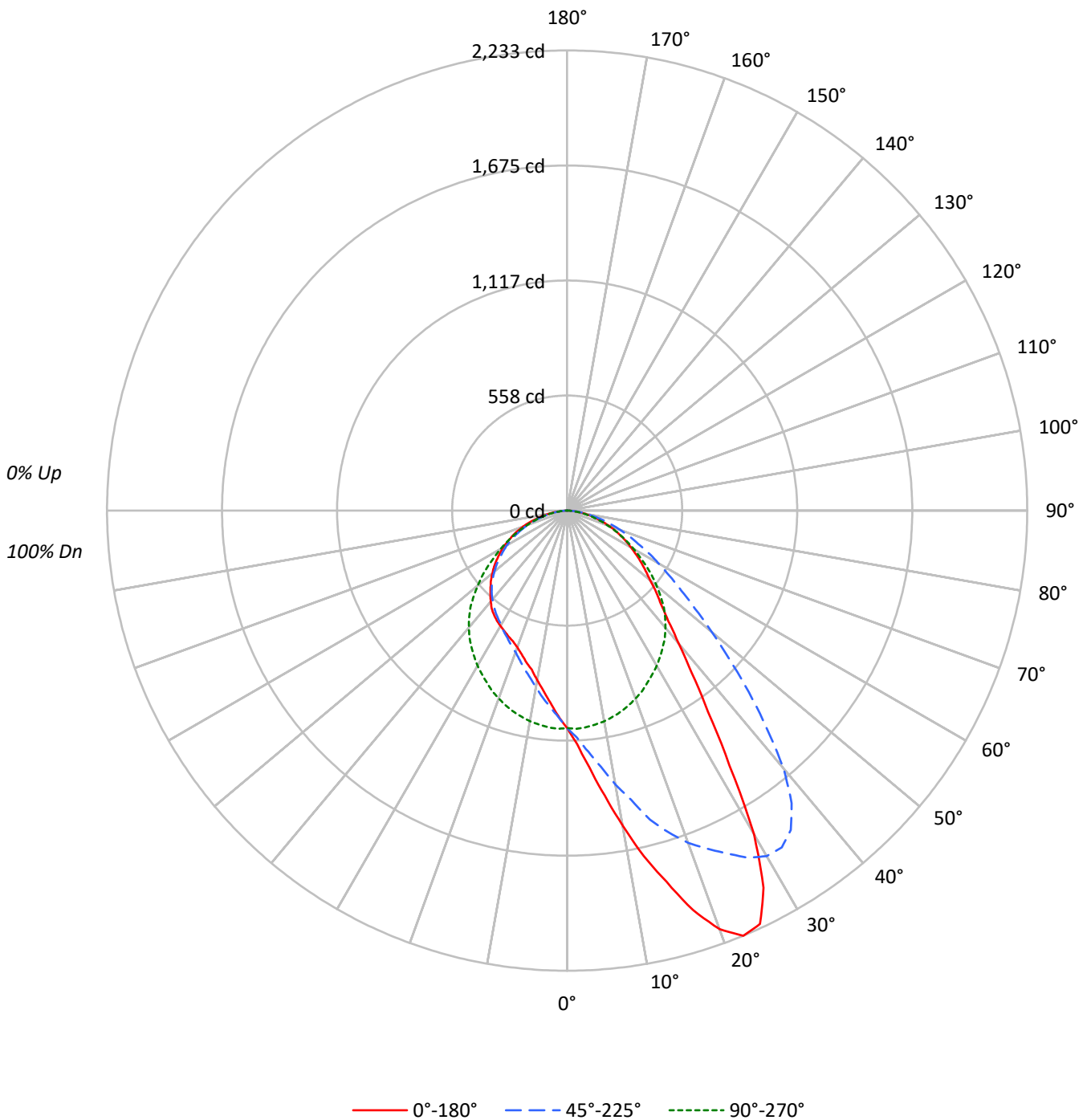
Lumens per Lamp: N/A  
Luminaire Lumens: 3183.9 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5  
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')  
CIE Type: Direct

Input Watts (W): 26  
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	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			
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°	12787	12787	12787
5°	15248	12842	11380
10°	19085	12776	10279
15°	23409	12673	9568
20°	27887	12512	9111
25°	29611	12318	9009
30°	25380	12175	9056
35°	17652	11971	9151
40°	13295	11734	9122
45°	11039	11381	9006
50°	9889	10660	8925
55°	9246	9882	8812
60°	8674	9069	8722
65°	8151	8266	8444
70°	7644	7354	8041
75°	6847	6440	7371
80°	5996	5277	6352
85°	4687	3838	4270



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.7	3.3
10°-20°	333.2	10.5
20°-30°	560.7	17.6
30°-40°	633.7	19.9
40°-50°	567.6	17.8
50°-60°	458.1	14.4
60°-70°	319.2	10.0
70°-80°	167.6	5.3
80°-90°	40.1	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°	997.6	31.3
0°-40°	1631.3	51.2
0°-60°	2657.0	83.5
0°-90°	3183.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3183.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1055	1055	1055	1055	1055	
5°	1253	1174	1055	956	935	129
15°	1865	1553	1010	796	762	538
25°	2214	1835	921	684	674	979
35°	1193	1892	809	605	618	770
45°	644	1247	664	517	525	508
55°	438	677	468	400	417	393
65°	284	380	288	271	294	283
75°	146	180	138	136	157	156
85°	34	39	28	27	31	41
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°	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9
2.5°	1135.6	1134.6	1132.0	1134.1	1130.0	1124.4	1123.9	1118.8	1103.9	1102.9	1098.8
5°	1253.2	1249.1	1248.6	1248.1	1240.9	1231.2	1212.8	1211.3	1186.7	1174.5	1159.6
7.5°	1395.2	1393.7	1389.6	1385.0	1361.0	1349.2	1331.9	1309.4	1280.8	1253.2	1235.8
10°	1550.6	1567.5	1546.5	1532.2	1518.9	1493.9	1464.8	1428.5	1392.2	1349.8	1317.6
12.5°	1717.2	1723.4	1723.4	1710.1	1687.6	1646.2	1588.9	1548.1	1515.3	1437.7	1410.1
15°	1865.4	1896.6	1876.7	1830.7	1831.7	1795.4	1728.0	1653.8	1614.5	1552.7	1468.3
17.5°	2033.1	2038.7	2032.6	1989.6	1968.7	1916.0	1855.2	1786.2	1712.1	1637.0	1549.6
20°	2161.9	2158.8	2140.9	2121.0	2077.0	2038.2	1970.2	1891.0	1788.8	1715.2	1617.6
22.5°	2233.4	2227.8	2221.7	2205.8	2171.1	2128.6	2069.4	1980.9	1884.9	1776.5	1660.0
25°	2214.0	2220.6	2221.7	2217.1	2204.3	2179.2	2131.2	2062.2	1965.1	1834.8	1717.2
27.5°	2063.7	2080.6	2102.1	2116.4	2139.4	2154.7	2139.4	2095.9	2016.2	1899.7	1755.0
30°	1813.3	1792.9	1843.5	1907.3	1950.8	2027.4	2070.4	2072.9	2032.6	1936.0	1795.9
32.5°	1465.8	1499.0	1514.3	1596.6	1704.4	1792.9	1888.9	1974.3	1994.2	1938.0	1820.0
35°	1192.9	1221.0	1261.9	1302.7	1405.0	1492.9	1643.1	1774.0	1878.2	1892.0	1816.9
37.5°	991.5	1007.8	1032.9	1076.3	1146.3	1255.2	1374.3	1544.5	1688.1	1789.3	1779.1
40°	840.2	844.3	873.4	904.6	958.8	1044.6	1149.4	1295.6	1476.5	1633.4	1698.8
42.5°	726.8	737.0	745.2	774.8	815.2	874.5	970.0	1084.5	1246.5	1433.1	1576.7
45°	644.0	654.2	661.8	681.8	712.4	755.9	823.9	934.3	1060.5	1247.0	1419.3
47.5°	586.7	585.7	592.3	608.2	630.2	664.9	715.0	788.6	909.7	1065.6	1246.0
50°	524.4	532.5	534.6	546.3	562.7	586.7	626.6	686.9	782.0	914.8	1077.4
52.5°	480.4	481.4	488.1	495.7	509.5	526.9	560.1	604.1	673.6	782.0	928.1
55°	437.5	437.5	443.1	449.7	457.9	474.8	497.8	532.5	589.3	677.2	800.9
57.5°	397.6	399.7	404.8	406.3	413.5	425.2	445.1	472.7	516.2	587.2	689.4
60°	357.8	362.4	361.8	365.9	372.1	380.8	397.1	418.6	456.4	510.6	593.4
62.5°	323.0	321.5	321.5	326.6	332.7	340.9	350.1	368.0	398.6	445.1	512.6
65°	284.2	283.1	286.7	289.8	291.8	298.0	306.1	322.5	344.0	379.7	434.4
67.5°	250.4	247.4	249.9	250.9	254.5	259.6	267.8	278.0	295.4	325.6	369.5
70°	215.7	213.1	212.6	213.6	216.7	220.3	225.9	235.6	251.5	274.4	304.6
72.5°	179.9	178.4	178.4	180.9	181.9	184.0	187.6	196.3	208.0	223.9	251.5
75°	146.2	146.2	146.2	146.7	148.2	150.3	153.3	157.9	167.6	179.9	198.8
77.5°	115.5	116.0	115.0	114.5	117.0	118.1	118.6	123.7	129.3	138.5	153.3
80°	85.9	83.3	84.3	85.9	86.9	87.4	88.9	89.9	94.5	99.1	108.9
82.5°	58.3	56.2	56.2	58.8	58.8	59.3	60.8	62.4	63.4	67.5	71.6
85°	33.7	33.7	34.2	34.2	34.8	34.2	35.8	36.3	36.3	38.8	41.9
87.5°	15.3	14.3	14.8	15.3	14.8	15.3	15.8	16.4	16.9	17.4	17.9
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°	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9
2.5°	1095.8	1091.7	1087.6	1080.4	1074.3	1065.6	1063.0	1060.0	1050.8	1042.6	1036.5
5°	1154.0	1141.7	1123.9	1107.5	1094.2	1076.3	1066.1	1055.4	1040.0	1026.2	1015.0
7.5°	1209.7	1188.3	1163.2	1136.1	1110.1	1085.0	1065.1	1047.2	1027.3	1007.8	993.0
10°	1278.7	1244.0	1205.1	1163.2	1127.4	1092.7	1063.6	1038.0	1010.4	986.4	966.4
12.5°	1357.4	1301.7	1244.5	1191.3	1147.4	1095.8	1059.0	1024.7	992.5	962.4	939.4
15°	1416.2	1350.8	1287.4	1217.4	1153.0	1092.7	1050.8	1009.9	973.6	944.0	915.3
17.5°	1474.5	1402.9	1322.2	1237.8	1162.2	1092.7	1035.4	991.5	947.0	911.3	883.7
20°	1522.5	1438.2	1343.6	1255.2	1169.3	1089.6	1025.2	970.0	921.0	882.6	850.4
22.5°	1563.9	1461.7	1363.0	1267.0	1168.8	1081.4	1006.3	949.1	894.9	857.6	822.8
25°	1590.0	1471.9	1373.8	1262.9	1156.1	1067.1	985.4	921.0	867.8	823.9	788.6
27.5°	1614.5	1470.4	1359.5	1239.9	1140.7	1052.3	964.4	895.4	839.7	792.2	755.9
30°	1639.0	1472.9	1334.4	1216.4	1116.2	1024.2	939.4	869.9	810.6	762.0	728.3
32.5°	1654.4	1471.4	1311.4	1183.7	1077.4	998.6	912.3	839.7	778.4	730.8	698.6
35°	1658.4	1462.7	1284.3	1136.1	1034.9	955.7	883.7	809.0	745.2	700.7	663.9
37.5°	1649.8	1446.9	1254.7	1093.2	983.8	905.1	842.3	778.4	717.0	667.5	635.3
40°	1621.7	1431.5	1218.9	1047.2	930.7	855.5	803.9	741.6	681.3	634.8	605.1
42.5°	1568.0	1400.4	1179.6	996.1	875.5	800.3	753.8	704.3	648.0	605.1	575.5
45°	1474.0	1352.3	1140.2	945.0	821.3	743.6	701.7	663.9	612.3	569.9	544.3
47.5°	1353.8	1287.4	1083.5	891.3	764.6	689.4	645.5	614.3	573.9	539.7	514.7
50°	1227.6	1203.6	1025.7	836.1	707.8	634.8	592.9	565.3	538.2	503.9	481.4
52.5°	1082.0	1106.5	958.3	778.9	650.1	578.5	539.7	519.3	495.2	468.7	449.7
55°	947.0	1000.7	878.5	713.5	592.9	524.4	487.1	467.6	453.3	432.4	415.5
57.5°	816.2	884.7	795.7	647.5	536.6	476.8	440.0	418.1	408.9	397.1	383.3
60°	702.2	769.7	705.8	581.1	479.9	423.7	392.0	374.1	364.9	357.2	346.0
62.5°	600.5	669.0	617.9	513.6	424.2	373.1	346.5	329.1	322.5	319.4	310.2
65°	509.0	567.8	532.0	443.1	371.6	325.6	300.5	288.2	281.6	280.1	273.9
67.5°	429.8	475.3	447.7	380.8	322.5	280.6	258.6	247.9	242.3	241.7	236.6
70°	352.1	394.0	374.1	314.8	266.3	235.1	216.7	207.5	204.4	203.9	201.4
72.5°	291.8	317.9	303.1	256.1	221.3	193.7	181.4	171.7	168.1	169.2	167.6
75°	224.9	246.9	237.7	203.4	173.3	154.9	143.6	137.5	134.4	135.9	133.9
77.5°	171.7	187.1	177.9	151.8	132.4	118.6	109.9	105.8	102.7	102.7	101.7
80°	122.1	130.3	125.7	111.4	96.1	84.8	78.2	75.6	74.1	73.6	73.1
82.5°	78.2	84.8	79.2	70.5	61.3	55.7	52.6	49.1	48.0	48.6	48.0
85°	44.0	46.5	44.5	38.3	34.2	31.2	29.1	27.6	26.6	27.1	26.1
87.5°	18.9	19.4	17.9	15.8	14.8	13.3	13.3	12.3	11.2	11.2	10.7
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9	1054.9
2.5°	1032.9	1029.3	1024.2	1016.5	1010.4	1000.7	1000.7	1002.2	1002.2	1001.7	1000.7
5°	1005.8	998.1	988.9	978.2	967.0	955.7	953.7	949.6	946.5	944.5	941.9
7.5°	978.2	965.4	952.7	937.8	925.1	914.3	906.7	900.0	895.9	891.3	887.7
10°	950.1	933.2	917.4	901.5	884.2	870.4	861.7	855.5	850.9	846.9	844.8
12.5°	916.9	896.9	879.1	864.2	844.8	830.5	822.3	820.3	814.7	804.9	799.8
15°	884.7	866.8	845.8	822.8	813.6	796.3	786.5	782.0	778.9	772.2	770.2
17.5°	858.1	834.1	810.1	793.2	776.3	762.5	756.9	750.8	746.7	740.6	739.0
20°	824.9	803.9	782.5	764.1	746.2	730.8	726.2	722.2	718.1	715.5	713.5
22.5°	791.1	770.2	753.3	736.5	717.0	708.4	703.2	698.6	696.1	694.6	692.5
25°	760.0	741.6	721.6	706.3	691.0	684.3	681.3	678.7	676.7	674.1	673.6
27.5°	732.4	711.9	695.1	680.2	669.0	663.4	659.8	658.3	658.3	659.3	659.8
30°	700.7	682.3	669.0	656.7	646.5	641.4	640.9	640.9	642.9	643.4	644.5
32.5°	671.6	657.2	644.0	632.2	625.0	622.0	624.5	624.5	626.1	627.6	629.6
35°	643.4	630.2	619.9	609.7	603.1	604.6	605.6	606.7	609.2	612.3	614.3
37.5°	616.9	604.6	593.9	585.7	581.6	584.7	587.2	589.3	592.3	594.9	596.9
40°	587.7	579.1	568.8	561.7	562.7	564.2	566.3	568.8	571.4	572.9	575.0
42.5°	560.7	551.5	544.3	538.7	540.2	542.3	543.3	544.3	547.4	550.4	551.5
45°	533.1	525.9	518.7	515.2	516.2	517.2	518.2	519.8	522.3	524.4	524.9
47.5°	501.9	496.8	492.2	488.1	490.1	489.6	491.1	494.2	495.2	496.3	499.3
50°	472.2	467.6	462.0	461.0	461.0	461.0	461.5	465.6	465.6	467.6	469.7
52.5°	439.5	437.0	433.9	431.9	430.8	430.8	433.4	434.9	435.9	439.0	441.1
55°	407.3	404.3	401.2	399.7	398.6	399.7	403.8	404.8	407.3	408.9	410.4
57.5°	373.6	371.6	369.0	368.0	368.0	368.5	371.6	374.1	374.6	379.7	381.8
60°	340.4	336.8	334.8	334.8	333.7	338.3	337.3	342.4	343.4	346.5	350.1
62.5°	306.1	301.0	300.5	300.5	302.6	303.1	305.1	306.6	309.7	313.8	316.4
65°	268.8	266.3	269.8	269.3	268.3	271.4	271.4	273.9	277.0	280.6	286.2
67.5°	234.1	232.0	233.1	232.5	234.1	236.1	237.7	239.7	243.3	247.4	250.9
70°	198.8	200.3	197.8	199.8	201.4	201.9	202.9	206.0	210.1	212.6	216.7
72.5°	164.6	164.1	165.1	165.6	167.1	168.1	169.2	172.7	177.3	179.4	182.5
75°	131.9	131.3	132.9	132.9	135.4	136.5	137.5	139.0	143.1	146.2	148.7
77.5°	102.2	102.7	102.2	104.3	103.2	103.7	106.8	108.3	108.9	115.5	116.5
80°	72.6	73.6	74.1	74.6	75.1	74.1	77.7	79.2	79.2	82.8	85.4
82.5°	47.0	47.5	49.1	49.6	49.6	51.1	50.6	51.6	53.2	54.2	57.8
85°	26.1	27.6	28.1	27.6	28.1	27.1	28.6	29.1	29.6	29.6	29.6
87.5°	10.2	10.7	10.2	10.7	10.2	10.7	10.7	9.7	9.7	11.2	9.2
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: P273758

CATALOG NUMBER: 4RCG-4-78D-L835-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1054.9	1054.9	1054.9	1054.9
2.5°	997.1	996.6	1000.2	997.6
5°	938.9	940.4	935.3	935.3
7.5°	886.2	884.2	884.7	881.1
10°	838.7	835.6	834.6	835.1
12.5°	799.3	799.3	791.1	791.1
15°	770.2	760.5	759.5	762.5
17.5°	738.0	732.4	732.9	731.9
20°	713.5	710.4	709.9	706.3
22.5°	691.0	690.5	691.0	686.9
25°	673.1	675.6	673.6	673.6
27.5°	660.8	660.8	659.3	659.3
30°	646.5	646.0	647.0	647.0
32.5°	632.2	633.2	633.2	633.7
35°	617.4	617.9	619.4	618.4
37.5°	598.0	600.5	600.0	601.0
40°	575.5	577.0	576.5	576.5
42.5°	552.5	553.5	552.0	550.9
45°	526.9	525.9	527.4	525.4
47.5°	498.8	499.3	499.8	501.9
50°	470.7	473.8	473.8	473.3
52.5°	443.1	444.1	446.7	446.7
55°	414.5	415.5	416.5	417.0
57.5°	385.4	384.8	386.9	387.4
60°	354.2	354.2	358.3	359.8
62.5°	321.0	323.0	327.1	324.0
65°	288.8	292.8	292.3	294.4
67.5°	255.0	257.6	261.7	261.7
70°	220.8	223.3	225.4	226.9
72.5°	187.6	188.6	194.2	191.1
75°	152.3	155.9	158.9	157.4
77.5°	118.6	123.2	124.2	122.7
80°	88.9	88.4	91.5	91.0
82.5°	59.3	58.8	59.8	60.3
85°	31.7	33.2	31.2	30.7
87.5°	9.2	9.2	8.7	8.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)