

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: P273761

Luminaire Tested: **4RCG-4-78D-L840-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P273761
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-L840-A
Description: RCG SERIES DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC FLUSH LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

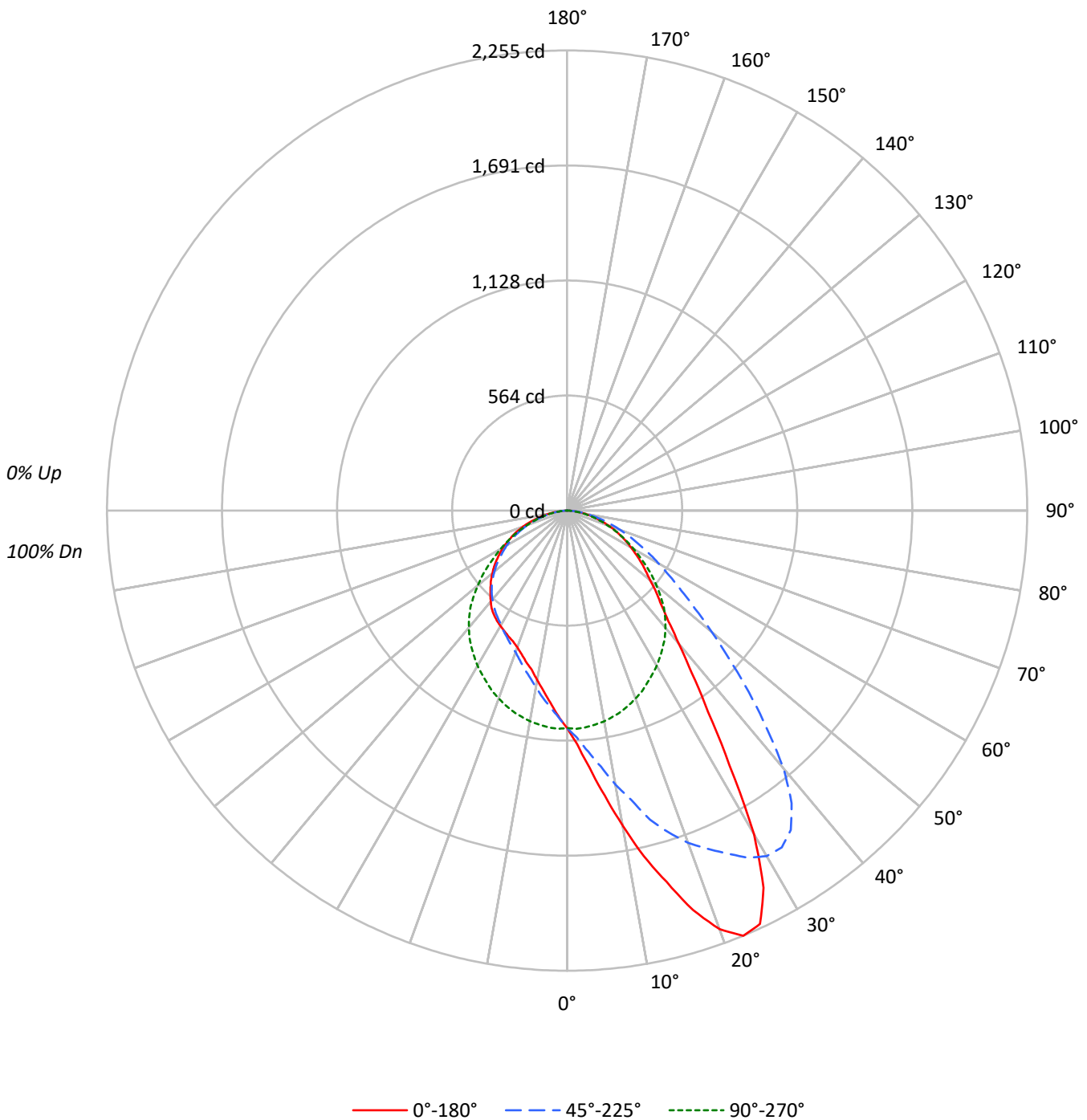
Lumens per Lamp: N/A
Luminaire Lumens: 3215.3 lumens
Efficiency: N/A
Efficacy: 123.7 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

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	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°	12913	12913	12913
5°	15398	12968	11492
10°	19273	12901	10380
15°	23639	12799	9664
20°	28161	12636	9201
25°	29902	12438	9097
30°	25630	12294	9145
35°	17825	12089	9241
40°	13426	11850	9212
45°	11147	11492	9096
50°	9985	10764	9012
55°	9336	9981	8901
60°	8759	9159	8807
65°	8232	8349	8527
70°	7719	7425	8123
75°	6913	6500	7446
80°	6052	5333	6415
85°	4742	3880	4311



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.8	3.3
10°-20°	336.5	10.5
20°-30°	566.2	17.6
30°-40°	639.9	19.9
40°-50°	573.2	17.8
50°-60°	462.6	14.4
60°-70°	322.4	10.0
70°-80°	169.2	5.3
80°-90°	40.5	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°	1007.5	31.3
0°-40°	1647.4	51.2
0°-60°	2683.2	83.5
0°-90°	3215.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3215.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1065	1065	1065	1065	1065	
5°	1266	1186	1066	965	944	130
15°	1884	1568	1020	804	770	544
25°	2236	1853	930	691	680	988
35°	1205	1911	817	611	624	777
45°	650	1259	670	522	531	513
55°	442	684	472	404	421	396
65°	287	384	291	274	297	286
75°	148	182	139	138	159	158
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°	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3
2.5°	1146.8	1145.8	1143.2	1145.3	1141.1	1135.5	1134.9	1129.8	1114.8	1113.8	1109.7
5°	1265.5	1261.4	1260.9	1260.4	1253.1	1243.3	1224.8	1223.2	1198.4	1186.0	1171.1
7.5°	1409.0	1407.5	1403.3	1398.7	1374.4	1362.6	1345.0	1322.3	1293.4	1265.5	1248.0
10°	1565.9	1582.9	1561.8	1547.3	1533.9	1508.6	1479.2	1442.6	1405.9	1363.1	1330.6
12.5°	1734.2	1740.4	1740.4	1726.9	1704.2	1662.4	1604.6	1563.3	1530.3	1451.8	1424.0
15°	1883.8	1915.3	1895.2	1848.7	1849.8	1813.1	1745.0	1670.2	1630.4	1568.0	1482.8
17.5°	2053.1	2058.8	2052.6	2009.3	1988.1	1934.9	1873.5	1803.8	1729.0	1653.1	1564.9
20°	2183.2	2180.1	2162.0	2141.9	2097.5	2058.3	1989.6	1909.6	1806.4	1732.1	1633.5
22.5°	2255.4	2249.8	2243.6	2227.6	2192.5	2149.6	2089.8	2000.5	1903.5	1794.0	1676.4
25°	2235.8	2242.5	2243.6	2238.9	2226.0	2200.7	2152.2	2082.5	1984.5	1852.9	1734.2
27.5°	2084.1	2101.1	2122.8	2137.3	2160.5	2176.0	2160.5	2116.6	2036.1	1918.4	1772.4
30°	1831.2	1810.5	1861.6	1926.2	1970.0	2047.4	2090.8	2093.4	2052.6	1955.1	1813.6
32.5°	1480.2	1513.8	1529.3	1612.4	1721.3	1810.5	1907.6	1993.8	2013.9	1957.1	1837.9
35°	1204.6	1233.0	1274.3	1315.6	1418.8	1507.6	1659.3	1791.5	1896.7	1910.7	1834.8
37.5°	1001.3	1017.8	1043.1	1086.9	1157.7	1267.6	1387.8	1559.7	1704.7	1806.9	1796.6
40°	848.5	852.6	882.0	913.5	968.2	1054.9	1160.8	1308.4	1491.1	1649.5	1715.6
42.5°	733.9	744.2	752.5	782.4	823.2	883.1	979.6	1095.2	1258.8	1447.2	1592.2
45°	650.3	660.6	668.4	688.5	719.5	763.3	832.0	943.5	1070.9	1259.3	1433.3
47.5°	592.5	591.5	598.2	614.2	636.4	671.5	722.1	796.4	918.7	1076.1	1258.3
50°	529.5	537.8	539.9	551.7	568.2	592.5	632.8	693.7	789.7	923.9	1088.0
52.5°	485.2	486.2	492.9	500.6	514.6	532.1	565.7	610.1	680.2	789.7	937.3
55°	441.8	441.8	447.5	454.2	462.4	479.5	502.7	537.8	595.1	683.9	808.8
57.5°	401.5	403.6	408.8	410.3	417.5	429.4	449.5	477.4	521.3	593.0	696.2
60°	361.3	365.9	365.4	369.5	375.7	384.5	401.0	422.7	460.9	515.6	599.2
62.5°	326.2	324.6	324.6	329.8	336.0	344.3	353.5	371.6	402.6	449.5	517.7
65°	287.0	285.9	289.5	292.6	294.7	300.9	309.2	325.7	347.3	383.5	438.7
67.5°	252.9	249.8	252.4	253.4	257.0	262.2	270.4	280.8	298.3	328.8	373.2
70°	217.8	215.2	214.7	215.7	218.8	222.4	228.1	237.9	253.9	277.2	307.6
72.5°	181.7	180.1	180.1	182.7	183.7	185.8	189.4	198.2	210.1	226.1	253.9
75°	147.6	147.6	147.6	148.1	149.7	151.7	154.8	159.5	169.3	181.7	200.8
77.5°	116.6	117.2	116.1	115.6	118.2	119.2	119.7	124.9	130.6	139.9	154.8
80°	86.7	84.1	85.2	86.7	87.7	88.3	89.8	90.8	95.5	100.1	109.9
82.5°	58.8	56.8	56.8	59.4	59.4	59.9	61.4	63.0	64.0	68.1	72.3
85°	34.1	34.1	34.6	34.6	35.1	34.6	36.1	36.6	36.6	39.2	42.3
87.5°	15.5	14.5	15.0	15.5	15.0	15.5	16.0	16.5	17.0	17.5	18.1
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°	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3
2.5°	1106.6	1102.4	1098.3	1091.1	1084.9	1076.1	1073.5	1070.4	1061.1	1052.9	1046.7
5°	1165.4	1153.0	1134.9	1118.4	1105.0	1086.9	1076.6	1065.8	1050.3	1036.4	1025.0
7.5°	1221.7	1200.0	1174.7	1147.3	1121.0	1095.7	1075.6	1057.5	1037.4	1017.8	1002.8
10°	1291.3	1256.2	1217.0	1174.7	1138.6	1103.5	1074.0	1048.2	1020.4	996.1	976.0
12.5°	1370.8	1314.6	1256.8	1203.1	1158.7	1106.6	1069.4	1034.8	1002.3	971.9	948.6
15°	1430.2	1364.1	1300.1	1229.4	1164.4	1103.5	1061.1	1019.9	983.2	953.3	924.4
17.5°	1489.0	1416.8	1335.2	1250.0	1173.7	1103.5	1045.7	1001.3	956.4	920.2	892.4
20°	1537.5	1452.4	1356.9	1267.6	1180.9	1100.4	1035.3	979.6	930.0	891.3	858.8
22.5°	1579.3	1476.1	1376.5	1279.5	1180.4	1092.1	1016.2	958.4	903.7	866.0	831.0
25°	1605.7	1486.4	1387.3	1275.3	1167.5	1077.7	995.1	930.0	876.4	832.0	796.4
27.5°	1630.4	1484.9	1372.9	1252.1	1152.0	1062.7	973.9	904.2	848.0	800.0	763.3
30°	1655.2	1487.5	1347.6	1228.4	1127.2	1034.3	948.6	878.4	818.6	769.5	735.5
32.5°	1670.7	1485.9	1324.4	1195.3	1088.0	1008.5	921.3	848.0	786.1	738.1	705.5
35°	1674.8	1477.1	1297.0	1147.3	1045.1	965.1	892.4	817.0	752.5	707.6	670.4
37.5°	1666.0	1461.1	1267.1	1104.0	993.5	914.0	850.6	786.1	724.1	674.1	641.5
40°	1637.6	1445.7	1230.9	1057.5	939.9	864.0	811.9	748.9	688.0	641.0	611.1
42.5°	1583.5	1414.2	1191.2	1005.9	884.1	808.2	761.3	711.2	654.4	611.1	581.2
45°	1488.5	1365.7	1151.5	954.3	829.4	751.0	708.6	670.4	618.3	575.5	549.7
47.5°	1367.2	1300.1	1094.2	900.1	772.1	696.2	651.9	620.4	579.6	545.0	519.7
50°	1239.7	1215.5	1035.9	844.4	714.8	641.0	598.7	570.8	543.5	508.9	486.2
52.5°	1092.6	1117.4	967.7	786.6	656.5	584.2	545.0	524.4	500.1	473.3	454.2
55°	956.4	1010.6	887.2	720.5	598.7	529.5	491.9	472.3	457.8	436.6	419.6
57.5°	824.2	893.4	803.6	653.9	541.9	481.5	444.4	422.2	412.9	401.0	387.1
60°	709.1	777.3	712.8	586.8	484.6	427.9	395.9	377.8	368.5	360.8	349.4
62.5°	606.4	675.6	624.0	518.7	428.4	376.8	349.9	332.4	325.7	322.6	313.3
65°	514.1	573.4	537.3	447.5	375.2	328.8	303.5	291.1	284.4	282.8	276.6
67.5°	434.1	480.0	452.1	384.5	325.7	283.4	261.2	250.3	244.6	244.1	239.0
70°	355.6	397.9	377.8	317.9	268.9	237.4	218.8	209.5	206.4	205.9	203.4
72.5°	294.7	321.0	306.1	258.6	223.5	195.6	183.2	173.4	169.8	170.8	169.3
75°	227.1	249.3	240.0	205.4	175.0	156.4	145.0	138.8	135.7	137.3	135.2
77.5°	173.4	188.9	179.6	153.3	133.7	119.7	111.0	106.8	103.7	103.7	102.7
80°	123.4	131.6	127.0	112.5	97.0	85.7	79.0	76.4	74.8	74.3	73.8
82.5°	79.0	85.7	80.0	71.2	61.9	56.3	53.2	49.5	48.5	49.0	48.5
85°	44.4	47.0	44.9	38.7	34.6	31.5	29.4	27.9	26.8	27.4	26.3
87.5°	19.1	19.6	18.1	16.0	15.0	13.4	13.4	12.4	11.4	11.4	10.8
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°	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3	1065.3
2.5°	1043.1	1039.5	1034.3	1026.6	1020.4	1010.6	1010.6	1012.1	1012.1	1011.6	1010.6
5°	1015.7	1008.0	998.7	987.9	976.5	965.1	963.1	959.0	955.9	953.8	951.2
7.5°	987.9	975.0	962.0	947.1	934.2	923.3	915.6	908.9	904.8	900.1	896.5
10°	959.5	942.4	926.4	910.4	892.9	879.0	870.2	864.0	859.3	855.2	853.1
12.5°	925.9	905.8	887.7	872.8	853.1	838.7	830.4	828.4	822.7	812.9	807.7
15°	893.4	875.3	854.2	831.0	821.7	804.1	794.3	789.7	786.6	779.9	777.8
17.5°	866.6	842.3	818.1	801.0	784.0	770.1	764.4	758.2	754.1	747.9	746.3
20°	833.0	811.9	790.2	771.6	753.5	738.1	733.4	729.3	725.1	722.6	720.5
22.5°	799.0	777.8	760.8	743.7	724.1	715.3	710.2	705.5	703.0	701.4	699.3
25°	767.5	748.9	728.8	713.3	697.8	691.1	688.0	685.4	683.3	680.8	680.2
27.5°	739.6	719.0	701.9	687.0	675.6	669.9	666.3	664.8	664.8	665.8	666.3
30°	707.6	689.0	675.6	663.2	652.9	647.7	647.2	647.2	649.3	649.8	650.8
32.5°	678.2	663.7	650.3	638.4	631.2	628.1	630.7	630.7	632.2	633.8	635.9
35°	649.8	636.4	626.1	615.7	609.0	610.6	611.6	612.6	615.2	618.3	620.4
37.5°	623.0	610.6	599.7	591.5	587.3	590.4	593.0	595.1	598.2	600.8	602.8
40°	593.5	584.8	574.4	567.2	568.2	569.8	571.9	574.4	577.0	578.6	580.6
42.5°	566.2	556.9	549.7	544.0	545.5	547.6	548.6	549.7	552.8	555.9	556.9
45°	538.3	531.1	523.9	520.2	521.3	522.3	523.3	524.9	527.5	529.5	530.1
47.5°	506.8	501.7	497.0	492.9	495.0	494.4	496.0	499.1	500.1	501.2	504.2
50°	476.9	472.3	466.6	465.5	465.5	465.5	466.1	470.2	470.2	472.3	474.3
52.5°	443.9	441.3	438.2	436.1	435.1	435.1	437.7	439.2	440.3	443.3	445.4
55°	411.3	408.3	405.2	403.6	402.6	403.6	407.7	408.8	411.3	412.9	414.4
57.5°	377.3	375.2	372.6	371.6	371.6	372.1	375.2	377.8	378.3	383.5	385.5
60°	343.7	340.1	338.1	338.1	337.0	341.7	340.6	345.8	346.8	349.9	353.5
62.5°	309.2	304.0	303.5	303.5	305.5	306.1	308.1	309.7	312.8	316.9	319.5
65°	271.5	268.9	272.5	272.0	271.0	274.1	274.1	276.6	279.7	283.4	289.0
67.5°	236.4	234.3	235.4	234.8	236.4	238.4	240.0	242.1	245.7	249.8	253.4
70°	200.8	202.3	199.7	201.8	203.4	203.9	204.9	208.0	212.1	214.7	218.8
72.5°	166.2	165.7	166.7	167.2	168.8	169.8	170.8	174.4	179.1	181.2	184.3
75°	133.2	132.6	134.2	134.2	136.8	137.8	138.8	140.4	144.5	147.6	150.2
77.5°	103.2	103.7	103.2	105.3	104.3	104.8	107.9	109.4	109.9	116.6	117.7
80°	73.3	74.3	74.8	75.4	75.9	74.8	78.5	80.0	80.0	83.6	86.2
82.5°	47.5	48.0	49.5	50.1	50.1	51.6	51.1	52.1	53.7	54.7	58.3
85°	26.3	27.9	28.4	27.9	28.4	27.4	28.9	29.4	29.9	29.9	29.9
87.5°	10.3	10.8	10.3	10.8	10.3	10.8	10.8	9.8	9.8	11.4	9.3
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: P273761

CATALOG NUMBER: 4RCG-4-78D-L840-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1065.3	1065.3	1065.3	1065.3
2.5°	1007.0	1006.4	1010.0	1007.5
5°	948.1	949.7	944.5	944.5
7.5°	895.0	892.9	893.4	889.8
10°	847.0	843.9	842.8	843.3
12.5°	807.2	807.2	799.0	799.0
15°	777.8	768.0	767.0	770.1
17.5°	745.3	739.6	740.1	739.1
20°	720.5	717.4	716.9	713.3
22.5°	697.8	697.3	697.8	693.7
25°	679.7	682.3	680.2	680.2
27.5°	667.3	667.3	665.8	665.8
30°	652.9	652.4	653.4	653.4
32.5°	638.4	639.5	639.5	640.0
35°	623.5	624.0	625.5	624.5
37.5°	603.9	606.4	605.9	607.0
40°	581.2	582.7	582.2	582.2
42.5°	557.9	559.0	557.4	556.4
45°	532.1	531.1	532.6	530.6
47.5°	503.7	504.2	504.8	506.8
50°	475.3	478.4	478.4	477.9
52.5°	447.5	448.5	451.1	451.1
55°	418.6	419.6	420.6	421.2
57.5°	389.2	388.6	390.7	391.2
60°	357.7	357.7	361.8	363.3
62.5°	324.1	326.2	330.3	327.2
65°	291.6	295.7	295.2	297.3
67.5°	257.5	260.1	264.3	264.3
70°	223.0	225.5	227.6	229.2
72.5°	189.4	190.4	196.1	193.0
75°	153.8	157.4	160.5	159.0
77.5°	119.7	124.4	125.4	123.9
80°	89.8	89.3	92.4	91.9
82.5°	59.9	59.4	60.4	60.9
85°	32.0	33.5	31.5	31.0
87.5°	9.3	9.3	8.8	8.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)