

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: P273767

Luminaire Tested: **4RCG-4-78D-L930-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P273767
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-L930-A
Description: RCG SERIES DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC FLUSH LENS
Light Source: (168) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

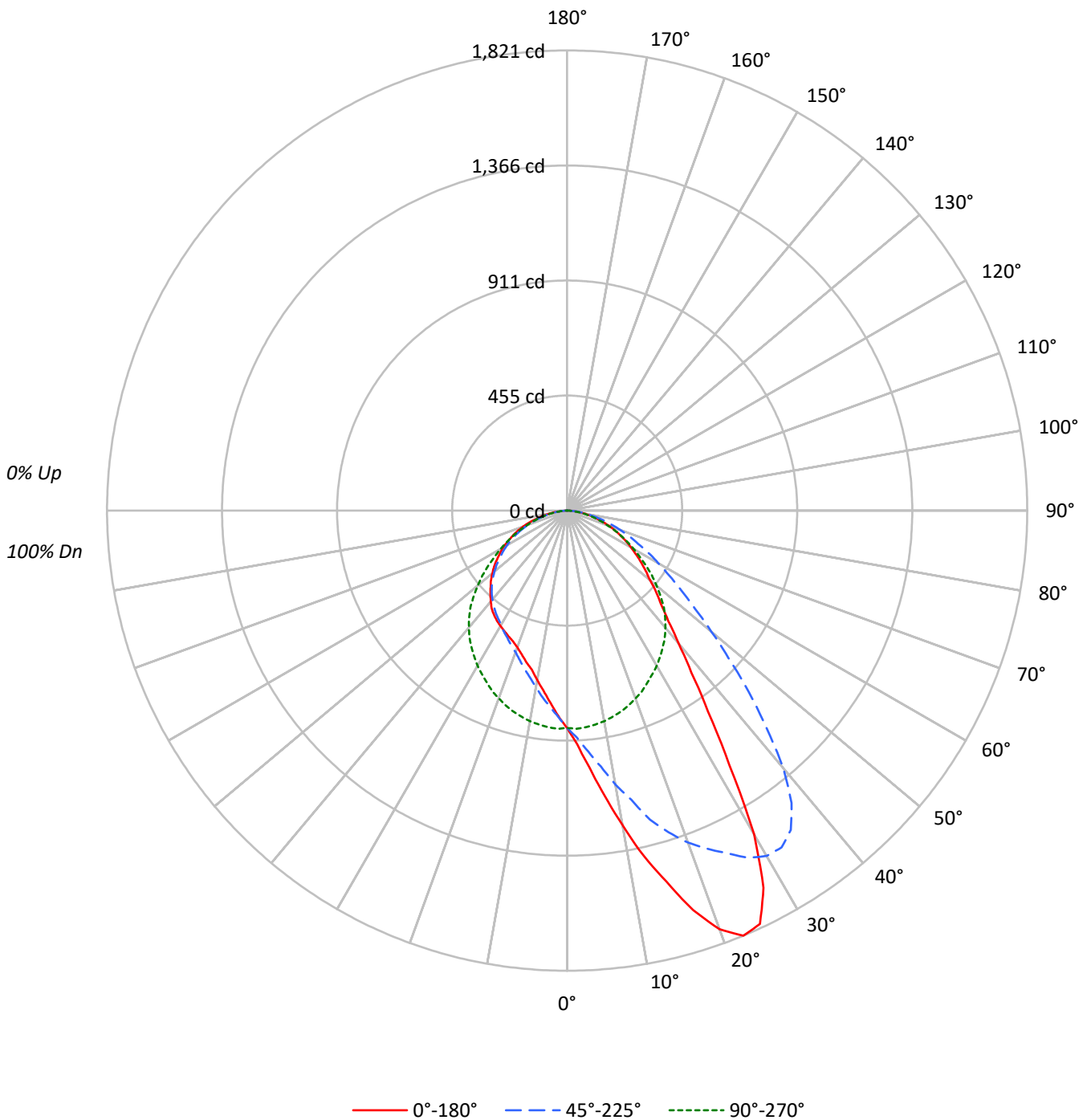
Lumens per Lamp: N/A
Luminaire Lumens: 2595.8 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

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°	10424	10424	10424
5°	12432	10469	9278
10°	15560	10416	8381
15°	19085	10333	7802
20°	22736	10202	7429
25°	24142	10043	7345
30°	20692	9926	7383
35°	14390	9760	7461
40°	10839	9567	7437
45°	9000	9279	7342
50°	8061	8691	7275
55°	7538	8058	7185
60°	7072	7394	7110
65°	6645	6740	6884
70°	6230	5996	6556
75°	5582	5250	6009
80°	4886	4307	5179
85°	3825	3129	3477



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.6	3.3
10°-20°	271.7	10.5
20°-30°	457.1	17.6
30°-40°	516.6	19.9
40°-50°	462.7	17.8
50°-60°	373.5	14.4
60°-70°	260.3	10.0
70°-80°	136.6	5.3
80°-90°	32.7	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°	813.4	31.3
0°-40°	1330.0	51.2
0°-60°	2166.2	83.5
0°-90°	2595.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2595.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	860	860	860	860	860	
5°	1022	958	860	779	762	105
15°	1521	1266	823	649	622	439
25°	1805	1496	751	558	549	798
35°	972	1543	660	493	504	628
45°	525	1017	541	422	428	414
55°	357	552	381	326	340	320
65°	232	310	235	221	240	231
75°	119	147	112	111	128	127
85°	28	32	22	22	25	33
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°	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0
2.5°	925.9	925.0	923.0	924.6	921.3	916.7	916.3	912.1	900.0	899.2	895.9
5°	1021.7	1018.4	1018.0	1017.5	1011.7	1003.8	988.8	987.5	967.5	957.5	945.5
7.5°	1137.5	1136.3	1133.0	1129.2	1109.6	1100.0	1085.9	1067.5	1044.2	1021.7	1007.5
10°	1264.2	1278.0	1260.9	1249.2	1238.4	1218.0	1194.2	1164.6	1135.0	1100.5	1074.2
12.5°	1400.1	1405.1	1405.1	1394.2	1375.9	1342.1	1295.5	1262.1	1235.5	1172.1	1149.6
15°	1520.9	1546.3	1530.1	1492.6	1493.4	1463.8	1408.8	1348.4	1316.3	1265.9	1197.1
17.5°	1657.6	1662.1	1657.1	1622.1	1605.1	1562.1	1512.6	1456.3	1395.9	1334.6	1263.4
20°	1762.6	1760.1	1745.5	1729.2	1693.4	1661.7	1606.3	1541.7	1458.4	1398.4	1318.8
22.5°	1820.9	1816.3	1811.3	1798.4	1770.1	1735.5	1687.1	1615.1	1536.7	1448.4	1353.4
25°	1805.1	1810.5	1811.3	1807.6	1797.1	1776.7	1737.6	1681.3	1602.1	1495.9	1400.1
27.5°	1682.6	1696.3	1713.8	1725.5	1744.2	1756.7	1744.2	1708.8	1643.8	1548.8	1430.9
30°	1478.4	1461.7	1503.0	1555.1	1590.5	1653.0	1688.0	1690.1	1657.1	1578.4	1464.2
32.5°	1195.0	1222.1	1234.6	1301.7	1389.6	1461.7	1540.1	1609.6	1625.9	1580.1	1483.8
35°	972.5	995.5	1028.8	1062.1	1145.5	1217.1	1339.6	1446.3	1531.3	1542.6	1481.3
37.5°	808.4	821.7	842.1	877.5	934.6	1023.4	1120.5	1259.2	1376.3	1458.8	1450.5
40°	685.0	688.4	712.1	737.5	781.7	851.7	937.1	1056.3	1203.8	1331.7	1385.1
42.5°	592.5	600.9	607.5	631.7	664.6	712.9	790.9	884.2	1016.3	1168.4	1285.5
45°	525.0	533.4	539.6	555.9	580.9	616.3	671.7	761.7	864.6	1016.7	1157.1
47.5°	478.4	477.5	482.9	495.9	513.8	542.1	582.9	642.9	741.7	868.8	1015.9
50°	427.5	434.2	435.8	445.4	458.8	478.4	510.9	560.0	637.5	745.9	878.4
52.5°	391.7	392.5	397.9	404.2	415.4	429.6	456.7	492.5	549.2	637.5	756.7
55°	356.7	356.7	361.3	366.7	373.3	387.1	405.8	434.2	480.4	552.1	652.9
57.5°	324.2	325.8	330.0	331.3	337.1	346.7	362.9	385.4	420.8	478.8	562.1
60°	291.7	295.4	295.0	298.3	303.3	310.4	323.8	341.3	372.1	416.3	483.8
62.5°	263.3	262.1	262.1	266.3	271.3	277.9	285.4	300.0	325.0	362.9	417.9
65°	231.7	230.8	233.8	236.3	237.9	242.9	249.6	262.9	280.4	309.6	354.2
67.5°	204.2	201.7	203.8	204.6	207.5	211.7	218.3	226.7	240.8	265.4	301.3
70°	175.8	173.8	173.3	174.2	176.7	179.6	184.2	192.1	205.0	223.8	248.3
72.5°	146.7	145.4	145.4	147.5	148.3	150.0	152.9	160.0	169.6	182.5	205.0
75°	119.2	119.2	119.2	119.6	120.8	122.5	125.0	128.8	136.7	146.7	162.1
77.5°	94.2	94.6	93.8	93.3	95.4	96.3	96.7	100.8	105.4	112.9	125.0
80°	70.0	67.9	68.8	70.0	70.8	71.3	72.5	73.3	77.1	80.8	88.8
82.5°	47.5	45.8	45.8	47.9	47.9	48.3	49.6	50.8	51.7	55.0	58.3
85°	27.5	27.5	27.9	27.9	28.3	27.9	29.2	29.6	29.6	31.7	34.2
87.5°	12.5	11.7	12.1	12.5	12.1	12.5	12.9	13.3	13.8	14.2	14.6
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°	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0
2.5°	893.4	890.0	886.7	880.9	875.9	868.8	866.7	864.2	856.7	850.0	845.0
5°	940.9	930.9	916.3	902.9	892.1	877.5	869.2	860.4	847.9	836.7	827.5
7.5°	986.3	968.8	948.4	926.3	905.0	884.6	868.4	853.8	837.5	821.7	809.6
10°	1042.5	1014.2	982.5	948.4	919.2	890.9	867.1	846.3	823.8	804.2	787.9
12.5°	1106.7	1061.3	1014.6	971.3	935.5	893.4	863.4	835.4	809.2	784.6	765.9
15°	1154.6	1101.3	1049.6	992.5	940.0	890.9	856.7	823.4	793.8	769.6	746.3
17.5°	1202.1	1143.8	1078.0	1009.2	947.5	890.9	844.2	808.4	772.1	742.9	720.4
20°	1241.3	1172.5	1095.5	1023.4	953.4	888.4	835.9	790.9	750.9	719.6	693.4
22.5°	1275.0	1191.7	1111.3	1033.0	953.0	881.7	820.4	773.8	729.6	699.2	670.9
25°	1296.3	1200.0	1120.0	1029.6	942.5	870.0	803.4	750.9	707.5	671.7	642.9
27.5°	1316.3	1198.8	1108.4	1010.9	930.0	857.9	786.3	730.0	684.6	645.9	616.3
30°	1336.3	1200.9	1088.0	991.7	910.0	835.0	765.9	709.2	660.9	621.3	593.8
32.5°	1348.8	1199.6	1069.2	965.0	878.4	814.2	743.8	684.6	634.6	595.9	569.6
35°	1352.1	1192.5	1047.1	926.3	843.8	779.2	720.4	659.6	607.5	571.3	541.3
37.5°	1345.0	1179.6	1023.0	891.3	802.1	737.9	686.7	634.6	584.6	544.2	517.9
40°	1322.1	1167.1	993.8	853.8	758.8	697.5	655.4	604.6	555.4	517.5	493.4
42.5°	1278.4	1141.7	961.7	812.1	713.8	652.5	614.6	574.2	528.4	493.4	469.2
45°	1201.7	1102.5	929.6	770.4	669.6	606.3	572.1	541.3	499.2	464.6	443.8
47.5°	1103.8	1049.6	883.4	726.7	623.4	562.1	526.3	500.9	467.9	440.0	419.6
50°	1000.9	981.3	836.3	681.7	577.1	517.5	483.4	460.9	438.8	410.8	392.5
52.5°	882.1	902.1	781.3	635.0	530.0	471.7	440.0	423.3	403.8	382.1	366.7
55°	772.1	815.9	716.3	581.7	483.4	427.5	397.1	381.3	369.6	352.5	338.8
57.5°	665.4	721.3	648.8	527.9	437.5	388.8	358.8	340.8	333.3	323.8	312.5
60°	572.5	627.5	575.4	473.8	391.3	345.4	319.6	305.0	297.5	291.3	282.1
62.5°	489.6	545.4	503.8	418.8	345.8	304.2	282.5	268.3	262.9	260.4	252.9
65°	415.0	462.9	433.8	361.3	302.9	265.4	245.0	235.0	229.6	228.3	223.3
67.5°	350.4	387.5	365.0	310.4	262.9	228.8	210.8	202.1	197.5	197.1	192.9
70°	287.1	321.3	305.0	256.7	217.1	191.7	176.7	169.2	166.7	166.3	164.2
72.5°	237.9	259.2	247.1	208.8	180.4	157.9	147.9	140.0	137.1	137.9	136.7
75°	183.3	201.3	193.8	165.8	141.3	126.3	117.1	112.1	109.6	110.8	109.2
77.5°	140.0	152.5	145.0	123.8	107.9	96.7	89.6	86.3	83.8	83.8	82.9
80°	99.6	106.3	102.5	90.8	78.3	69.2	63.8	61.7	60.4	60.0	59.6
82.5°	63.8	69.2	64.6	57.5	50.0	45.4	42.9	40.0	39.2	39.6	39.2
85°	35.8	37.9	36.3	31.3	27.9	25.4	23.8	22.5	21.7	22.1	21.3
87.5°	15.4	15.8	14.6	12.9	12.1	10.8	10.8	10.0	9.2	9.2	8.8
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°	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0	860.0
2.5°	842.1	839.2	835.0	828.8	823.8	815.9	815.9	817.1	817.1	816.7	815.9
5°	820.0	813.8	806.3	797.5	788.4	779.2	777.5	774.2	771.7	770.0	767.9
7.5°	797.5	787.1	776.7	764.6	754.2	745.4	739.2	733.8	730.4	726.7	723.8
10°	774.6	760.9	747.9	735.0	720.9	709.6	702.5	697.5	693.8	690.4	688.8
12.5°	747.5	731.3	716.7	704.6	688.8	677.1	670.4	668.8	664.2	656.3	652.1
15°	721.3	706.7	689.6	670.9	663.4	649.2	641.3	637.5	635.0	629.6	627.9
17.5°	699.6	680.0	660.4	646.7	632.9	621.7	617.1	612.1	608.8	603.8	602.5
20°	672.5	655.4	637.9	622.9	608.4	595.9	592.1	588.8	585.4	583.4	581.7
22.5°	645.0	627.9	614.2	600.4	584.6	577.5	573.4	569.6	567.5	566.3	564.6
25°	619.6	604.6	588.4	575.9	563.4	557.9	555.4	553.4	551.7	549.6	549.2
27.5°	597.1	580.4	566.7	554.6	545.4	540.9	537.9	536.7	536.7	537.5	537.9
30°	571.3	556.3	545.4	535.4	527.1	522.9	522.5	522.5	524.2	524.6	525.4
32.5°	547.5	535.9	525.0	515.4	509.6	507.1	509.2	509.2	510.4	511.7	513.4
35°	524.6	513.8	505.4	497.1	491.7	492.9	493.8	494.6	496.7	499.2	500.9
37.5°	502.9	492.9	484.2	477.5	474.2	476.7	478.8	480.4	482.9	485.0	486.7
40°	479.2	472.1	463.8	457.9	458.8	460.0	461.7	463.8	465.9	467.1	468.8
42.5°	457.1	449.6	443.8	439.2	440.4	442.1	442.9	443.8	446.3	448.8	449.6
45°	434.6	428.8	422.9	420.0	420.8	421.7	422.5	423.8	425.8	427.5	427.9
47.5°	409.2	405.0	401.3	397.9	399.6	399.2	400.4	402.9	403.8	404.6	407.1
50°	385.0	381.3	376.7	375.8	375.8	375.8	376.3	379.6	379.6	381.3	382.9
52.5°	358.3	356.3	353.8	352.1	351.3	351.3	353.3	354.6	355.4	357.9	359.6
55°	332.1	329.6	327.1	325.8	325.0	325.8	329.2	330.0	332.1	333.3	334.6
57.5°	304.6	302.9	300.8	300.0	300.0	300.4	302.9	305.0	305.4	309.6	311.3
60°	277.5	274.6	272.9	272.9	272.1	275.8	275.0	279.2	280.0	282.5	285.4
62.5°	249.6	245.4	245.0	245.0	246.7	247.1	248.8	250.0	252.5	255.8	257.9
65°	219.2	217.1	220.0	219.6	218.8	221.3	221.3	223.3	225.8	228.8	233.3
67.5°	190.8	189.2	190.0	189.6	190.8	192.5	193.8	195.4	198.3	201.7	204.6
70°	162.1	163.3	161.3	162.9	164.2	164.6	165.4	167.9	171.3	173.3	176.7
72.5°	134.2	133.8	134.6	135.0	136.3	137.1	137.9	140.8	144.6	146.3	148.8
75°	107.5	107.1	108.3	108.3	110.4	111.3	112.1	113.3	116.7	119.2	121.3
77.5°	83.3	83.8	83.3	85.0	84.2	84.6	87.1	88.3	88.8	94.2	95.0
80°	59.2	60.0	60.4	60.8	61.3	60.4	63.3	64.6	64.6	67.5	69.6
82.5°	38.3	38.8	40.0	40.4	40.4	41.7	41.3	42.1	43.3	44.2	47.1
85°	21.3	22.5	22.9	22.5	22.9	22.1	23.3	23.8	24.2	24.2	24.2
87.5°	8.3	8.8	8.3	8.8	8.3	8.8	8.8	7.9	7.9	9.2	7.5
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: P273767

CATALOG NUMBER: 4RCG-4-78D-L930-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	860.0	860.0	860.0	860.0
2.5°	812.9	812.5	815.4	813.4
5°	765.4	766.7	762.5	762.5
7.5°	722.5	720.9	721.3	718.4
10°	683.8	681.3	680.4	680.9
12.5°	651.7	651.7	645.0	645.0
15°	627.9	620.0	619.2	621.7
17.5°	601.7	597.1	597.5	596.7
20°	581.7	579.2	578.8	575.9
22.5°	563.4	562.9	563.4	560.0
25°	548.8	550.9	549.2	549.2
27.5°	538.8	538.8	537.5	537.5
30°	527.1	526.7	527.5	527.5
32.5°	515.4	516.3	516.3	516.7
35°	503.4	503.8	505.0	504.2
37.5°	487.5	489.6	489.2	490.0
40°	469.2	470.4	470.0	470.0
42.5°	450.4	451.3	450.0	449.2
45°	429.6	428.8	430.0	428.3
47.5°	406.7	407.1	407.5	409.2
50°	383.8	386.3	386.3	385.8
52.5°	361.3	362.1	364.2	364.2
55°	337.9	338.8	339.6	340.0
57.5°	314.2	313.8	315.4	315.8
60°	288.8	288.8	292.1	293.3
62.5°	261.7	263.3	266.7	264.2
65°	235.4	238.8	238.3	240.0
67.5°	207.9	210.0	213.3	213.3
70°	180.0	182.1	183.8	185.0
72.5°	152.9	153.8	158.3	155.8
75°	124.2	127.1	129.6	128.3
77.5°	96.7	100.4	101.3	100.0
80°	72.5	72.1	74.6	74.2
82.5°	48.3	47.9	48.8	49.2
85°	25.8	27.1	25.4	25.0
87.5°	7.5	7.5	7.1	6.7
90°	0.0	0.0	0.0	0.0

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