

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: **4RCG-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: 4RCG-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

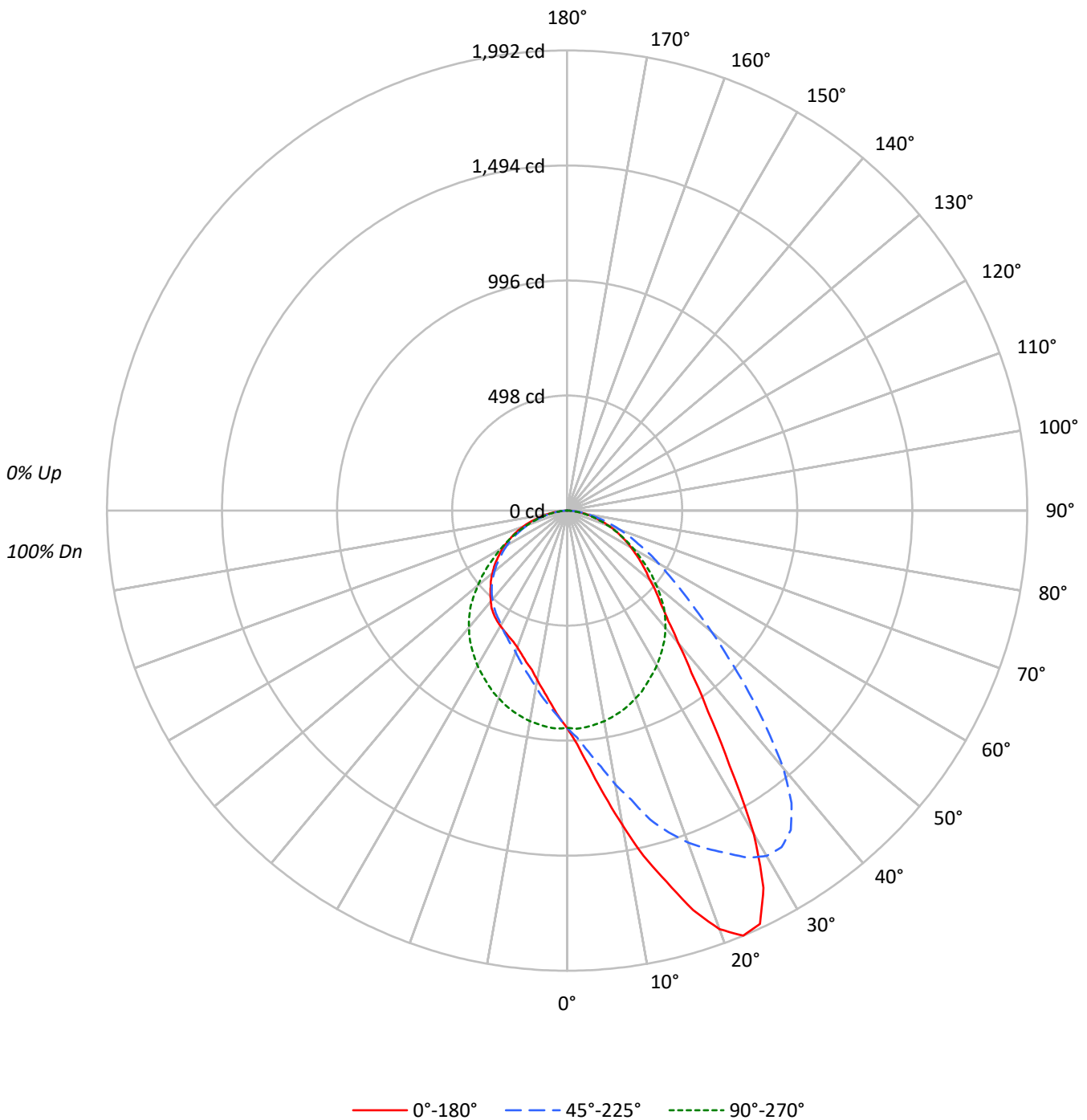
Lumens per Lamp: N/A
Luminaire Lumens: 2839.1 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 1.23 / 1.5
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

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	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°	11401	11401	11401
5°	13597	11451	10148
10°	17019	11392	9166
15°	20874	11300	8533
20°	24867	11158	8124
25°	26404	10983	8034
30°	22631	10857	8076
35°	15740	10675	8159
40°	11855	10464	8135
45°	9843	10148	8031
50°	8818	9504	7958
55°	8244	8812	7859
60°	7733	8087	7777
65°	7268	7371	7529
70°	6815	6556	7170
75°	6102	5742	6575
80°	5347	4705	5661
85°	4186	3421	3797



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	3.3
10°-20°	297.1	10.5
20°-30°	500.0	17.6
30°-40°	565.0	19.9
40°-50°	506.1	17.8
50°-60°	408.5	14.4
60°-70°	284.6	10.0
70°-80°	149.4	5.3
80°-90°	35.8	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°	889.6	31.3
0°-40°	1454.6	51.2
0°-60°	2369.3	83.5
0°-90°	2839.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2839.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	941	941	941	941	941	
5°	1118	1047	941	852	834	115
15°	1663	1384	900	710	680	480
25°	1974	1636	821	610	601	873
35°	1064	1687	721	539	551	686
45°	574	1112	592	461	468	453
55°	390	604	417	356	372	350
65°	253	339	257	242	262	252
75°	130	160	123	122	140	139
85°	30	35	25	24	27	36
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°	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6
2.5°	1012.6	1011.7	1009.5	1011.3	1007.6	1002.6	1002.2	997.6	984.4	983.5	979.8
5°	1117.5	1113.8	1113.4	1112.9	1106.5	1097.9	1081.5	1080.1	1058.2	1047.3	1034.1
7.5°	1244.2	1242.8	1239.1	1235.0	1213.6	1203.1	1187.6	1167.6	1142.1	1117.5	1102.0
10°	1382.7	1397.7	1379.1	1366.3	1354.4	1332.1	1306.1	1273.8	1241.4	1203.6	1174.9
12.5°	1531.3	1536.7	1536.7	1524.9	1504.8	1467.9	1416.9	1380.4	1351.3	1282.0	1257.4
15°	1663.4	1691.2	1673.5	1632.4	1633.4	1601.0	1540.8	1474.8	1439.7	1384.5	1309.3
17.5°	1812.9	1817.9	1812.5	1774.2	1755.5	1708.5	1654.3	1592.8	1526.7	1459.7	1381.8
20°	1927.8	1925.0	1909.1	1891.3	1852.1	1817.5	1756.9	1686.2	1595.1	1529.4	1442.4
22.5°	1991.6	1986.5	1981.1	1966.9	1936.0	1898.1	1845.3	1766.4	1680.7	1584.1	1480.2
25°	1974.2	1980.2	1981.1	1977.0	1965.6	1943.3	1900.4	1838.9	1752.3	1636.1	1531.3
27.5°	1840.3	1855.3	1874.4	1887.2	1907.7	1921.4	1907.7	1869.0	1797.9	1694.0	1565.0
30°	1616.9	1598.7	1643.8	1700.8	1739.5	1807.9	1846.2	1848.5	1812.5	1726.3	1601.4
32.5°	1307.0	1336.7	1350.3	1423.7	1519.9	1598.7	1684.4	1760.5	1778.3	1728.1	1622.9
35°	1063.7	1088.7	1125.2	1161.7	1252.8	1331.2	1465.2	1581.9	1674.8	1687.1	1620.1
37.5°	884.1	898.7	921.0	959.8	1022.2	1119.3	1225.5	1377.2	1505.3	1595.5	1586.4
40°	749.2	752.9	778.8	806.6	855.0	931.5	1024.9	1155.3	1316.6	1456.5	1514.9
42.5°	648.1	657.2	664.5	690.9	726.9	779.8	865.0	967.1	1111.5	1277.9	1405.9
45°	574.2	583.3	590.2	607.9	635.3	674.0	734.6	833.1	945.6	1112.0	1265.6
47.5°	523.2	522.3	528.2	542.3	561.9	592.9	637.6	703.2	811.2	950.2	1111.1
50°	467.6	474.9	476.7	487.2	501.8	523.2	558.7	612.5	697.3	815.8	960.7
52.5°	428.4	429.3	435.2	442.1	454.4	469.9	499.5	538.7	600.7	697.3	827.6
55°	390.1	390.1	395.1	401.0	408.3	423.4	443.9	474.9	525.5	603.8	714.1
57.5°	354.6	356.4	360.9	362.3	368.7	379.2	396.9	421.6	460.3	523.6	614.8
60°	319.0	323.1	322.7	326.3	331.8	339.5	354.1	373.2	407.0	455.3	529.1
62.5°	288.0	286.7	286.7	291.2	296.7	304.0	312.2	328.1	355.5	396.9	457.1
65°	253.4	252.5	255.7	258.4	260.2	265.7	273.0	287.6	306.7	338.6	387.4
67.5°	223.3	220.6	222.9	223.8	227.0	231.5	238.8	247.9	263.4	290.3	329.5
70°	192.3	190.0	189.6	190.5	193.2	196.4	201.4	210.1	224.2	244.7	271.6
72.5°	160.4	159.1	159.1	161.3	162.2	164.1	167.3	175.0	185.5	199.6	224.2
75°	130.3	130.3	130.3	130.8	132.2	134.0	136.7	140.8	149.5	160.4	177.3
77.5°	103.0	103.5	102.5	102.1	104.4	105.3	105.7	110.3	115.3	123.5	136.7
80°	76.6	74.3	75.2	76.6	77.5	77.9	79.3	80.2	84.3	88.4	97.1
82.5°	52.0	50.1	50.1	52.4	52.4	52.9	54.2	55.6	56.5	60.2	63.8
85°	30.1	30.1	30.5	30.5	31.0	30.5	31.9	32.4	32.4	34.6	37.4
87.5°	13.7	12.8	13.2	13.7	13.2	13.7	14.1	14.6	15.0	15.5	16.0
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°	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6
2.5°	977.1	973.4	969.8	963.4	958.0	950.2	947.9	945.2	937.0	929.7	924.2
5°	1029.0	1018.1	1002.2	987.6	975.7	959.8	950.7	941.1	927.4	915.1	905.1
7.5°	1078.7	1059.6	1037.3	1013.1	989.9	967.5	949.8	933.8	916.0	898.7	885.5
10°	1140.2	1109.3	1074.6	1037.3	1005.3	974.4	948.4	925.6	901.0	879.6	861.8
12.5°	1210.4	1160.8	1109.7	1062.3	1023.1	977.1	944.3	913.7	885.0	858.1	837.6
15°	1262.8	1204.5	1148.0	1085.6	1028.1	974.4	937.0	900.5	868.2	841.7	816.2
17.5°	1314.8	1251.0	1179.0	1103.8	1036.3	974.4	923.3	884.1	844.5	812.6	788.0
20°	1357.6	1282.4	1198.1	1119.3	1042.7	971.6	914.2	865.0	821.2	787.1	758.3
22.5°	1394.5	1303.4	1215.4	1129.8	1042.3	964.3	897.3	846.3	798.0	764.7	733.7
25°	1417.8	1312.5	1225.0	1126.1	1030.9	951.6	878.7	821.2	773.8	734.6	703.2
27.5°	1439.7	1311.1	1212.3	1105.6	1017.2	938.4	860.0	798.4	748.8	706.4	674.0
30°	1461.5	1313.4	1189.9	1084.6	995.3	913.3	837.6	775.7	722.8	679.5	649.4
32.5°	1475.2	1312.1	1169.4	1055.5	960.7	890.5	813.5	748.8	694.1	651.7	623.0
35°	1478.9	1304.3	1145.3	1013.1	922.9	852.2	788.0	721.4	664.5	624.8	592.0
37.5°	1471.1	1290.2	1118.8	974.8	877.3	807.1	751.0	694.1	639.4	595.2	566.5
40°	1446.0	1276.5	1086.9	933.8	829.9	762.9	716.9	661.3	607.5	566.0	539.6
42.5°	1398.2	1248.7	1051.8	888.2	780.7	713.7	672.2	628.0	577.9	539.6	513.2
45°	1314.3	1205.9	1016.7	842.7	732.4	663.1	625.7	592.0	546.0	508.1	485.4
47.5°	1207.2	1148.0	966.2	794.8	681.8	614.8	575.6	547.8	511.8	481.3	458.9
50°	1094.7	1073.3	914.7	745.6	631.2	566.0	528.7	504.0	479.9	449.4	429.3
52.5°	964.8	986.7	854.5	694.5	579.7	515.9	481.3	463.0	441.6	417.9	401.0
55°	844.5	892.3	783.4	636.2	528.7	467.6	434.3	417.0	404.2	385.6	370.5
57.5°	727.8	788.9	709.6	577.4	478.5	425.2	392.4	372.8	364.6	354.1	341.8
60°	626.2	686.3	629.4	518.2	427.9	377.8	349.5	333.6	325.4	318.6	308.5
62.5°	535.5	596.6	551.0	458.0	378.3	332.7	309.0	293.5	287.6	284.8	276.6
65°	453.9	506.3	474.4	395.1	331.3	290.3	268.0	257.0	251.1	249.7	244.3
67.5°	383.3	423.8	399.2	339.5	287.6	250.2	230.6	221.0	216.0	215.6	211.0
70°	314.0	351.4	333.6	280.7	237.4	209.6	193.2	185.0	182.3	181.8	179.6
72.5°	260.2	283.5	270.3	228.3	197.3	172.7	161.8	153.1	149.9	150.8	149.5
75°	200.5	220.1	211.9	181.4	154.5	138.1	128.1	122.6	119.9	121.2	119.4
77.5°	153.1	166.8	158.6	135.4	118.0	105.7	98.0	94.3	91.6	91.6	90.7
80°	108.9	116.2	112.1	99.4	85.7	75.7	69.7	67.4	66.1	65.6	65.2
82.5°	69.7	75.7	70.6	62.9	54.7	49.7	46.9	43.8	42.8	43.3	42.8
85°	39.2	41.5	39.6	34.2	30.5	27.8	26.0	24.6	23.7	24.2	23.2
87.5°	16.9	17.3	16.0	14.1	13.2	11.8	11.8	10.9	10.0	10.0	9.6
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6	940.6
2.5°	921.0	917.8	913.3	906.5	901.0	892.3	892.3	893.7	893.7	893.2	892.3
5°	896.9	890.0	881.8	872.3	862.2	852.2	850.4	846.8	844.0	842.2	839.9
7.5°	872.3	860.9	849.5	836.3	824.9	815.3	808.5	802.5	798.9	794.8	791.6
10°	847.2	832.2	818.0	803.9	788.4	776.1	768.4	762.9	758.8	755.2	753.3
12.5°	817.6	799.8	783.9	770.6	753.3	740.6	733.3	731.5	726.4	717.8	713.2
15°	788.9	772.9	754.2	733.7	725.5	710.0	701.4	697.3	694.5	688.6	686.8
17.5°	765.2	743.8	722.3	707.3	692.3	680.0	674.9	669.5	665.8	660.4	659.0
20°	735.6	716.9	697.7	681.3	665.4	651.7	647.6	644.0	640.3	638.0	636.2
22.5°	705.5	686.8	671.8	656.7	639.4	631.6	627.1	623.0	620.7	619.3	617.5
25°	677.7	661.3	643.5	629.8	616.2	610.2	607.5	605.2	603.4	601.1	600.7
27.5°	653.1	634.8	619.8	606.6	596.6	591.5	588.4	587.0	587.0	587.9	588.4
30°	624.8	608.4	596.6	585.6	576.5	571.9	571.5	571.5	573.3	573.8	574.7
32.5°	598.8	586.1	574.2	563.7	557.4	554.6	556.9	556.9	558.3	559.6	561.5
35°	573.8	561.9	552.8	543.7	537.8	539.1	540.0	541.0	543.2	546.0	547.8
37.5°	550.1	539.1	529.6	522.3	518.6	521.4	523.6	525.5	528.2	530.5	532.3
40°	524.1	516.3	507.2	500.9	501.8	503.1	505.0	507.2	509.5	510.9	512.7
42.5°	499.9	491.7	485.4	480.3	481.7	483.5	484.4	485.4	488.1	490.8	491.7
45°	475.3	469.0	462.6	459.4	460.3	461.2	462.1	463.5	465.8	467.6	468.0
47.5°	447.5	443.0	438.9	435.2	437.0	436.6	438.0	440.7	441.6	442.5	445.3
50°	421.1	417.0	412.0	411.1	411.1	411.1	411.5	415.2	415.2	417.0	418.8
52.5°	391.9	389.7	386.9	385.1	384.2	384.2	386.5	387.8	388.7	391.5	393.3
55°	363.2	360.5	357.8	356.4	355.5	356.4	360.0	360.9	363.2	364.6	366.0
57.5°	333.1	331.3	329.0	328.1	328.1	328.6	331.3	333.6	334.1	338.6	340.4
60°	303.5	300.3	298.5	298.5	297.6	301.7	300.8	305.3	306.3	309.0	312.2
62.5°	273.0	268.4	268.0	268.0	269.8	270.3	272.1	273.4	276.2	279.8	282.1
65°	239.7	237.4	240.6	240.2	239.3	242.0	242.0	244.3	247.0	250.2	255.2
67.5°	208.7	206.9	207.8	207.4	208.7	210.5	211.9	213.7	216.9	220.6	223.8
70°	177.3	178.6	176.4	178.2	179.6	180.0	180.9	183.7	187.3	189.6	193.2
72.5°	146.7	146.3	147.2	147.7	149.0	149.9	150.8	154.0	158.1	160.0	162.7
75°	117.6	117.1	118.5	118.5	120.8	121.7	122.6	124.0	127.6	130.3	132.6
77.5°	91.1	91.6	91.1	93.0	92.1	92.5	95.2	96.6	97.1	103.0	103.9
80°	64.7	65.6	66.1	66.5	67.0	66.1	69.3	70.6	70.6	73.8	76.1
82.5°	41.9	42.4	43.8	44.2	44.2	45.6	45.1	46.0	47.4	48.3	51.5
85°	23.2	24.6	25.1	24.6	25.1	24.2	25.5	26.0	26.4	26.4	26.4
87.5°	9.1	9.6	9.1	9.6	9.1	9.6	9.6	8.7	8.7	10.0	8.2
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: P273773

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

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	940.6	940.6	940.6	940.6
2.5°	889.1	888.7	891.9	889.6
5°	837.2	838.6	834.0	834.0
7.5°	790.2	788.4	788.9	785.7
10°	747.9	745.1	744.2	744.7
12.5°	712.8	712.8	705.5	705.5
15°	686.8	678.1	677.2	680.0
17.5°	658.1	653.1	653.5	652.6
20°	636.2	633.5	633.0	629.8
22.5°	616.2	615.7	616.2	612.5
25°	600.2	602.5	600.7	600.7
27.5°	589.3	589.3	587.9	587.9
30°	576.5	576.0	577.0	577.0
32.5°	563.7	564.7	564.7	565.1
35°	550.5	551.0	552.3	551.4
37.5°	533.2	535.5	535.0	535.9
40°	513.2	514.5	514.1	514.1
42.5°	492.6	493.6	492.2	491.3
45°	469.9	469.0	470.3	468.5
47.5°	444.8	445.3	445.7	447.5
50°	419.7	422.5	422.5	422.0
52.5°	395.1	396.0	398.3	398.3
55°	369.6	370.5	371.4	371.9
57.5°	343.6	343.2	345.0	345.4
60°	315.8	315.8	319.5	320.8
62.5°	286.2	288.0	291.7	288.9
65°	257.5	261.1	260.7	262.5
67.5°	227.4	229.7	233.3	233.3
70°	196.9	199.2	201.0	202.3
72.5°	167.3	168.2	173.2	170.4
75°	135.8	139.0	141.7	140.4
77.5°	105.7	109.8	110.7	109.4
80°	79.3	78.8	81.6	81.1
82.5°	52.9	52.4	53.3	53.8
85°	28.3	29.6	27.8	27.3
87.5°	8.2	8.2	7.7	7.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)