

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P188238

Luminaire Tested: **FCC-N-2-LD4-2STD-40-UNV-80/86**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188238
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27011)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCC-N-2-LD4-2STD-40-UNV-80/86
Description:
Light Source: (84) NICHIA ELM 4000K LED
2UT217042A8404A
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2968.2 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.69 / 1.29 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 1.92' x L: 0.38' x H: 0.52')
CIE Type: Direct

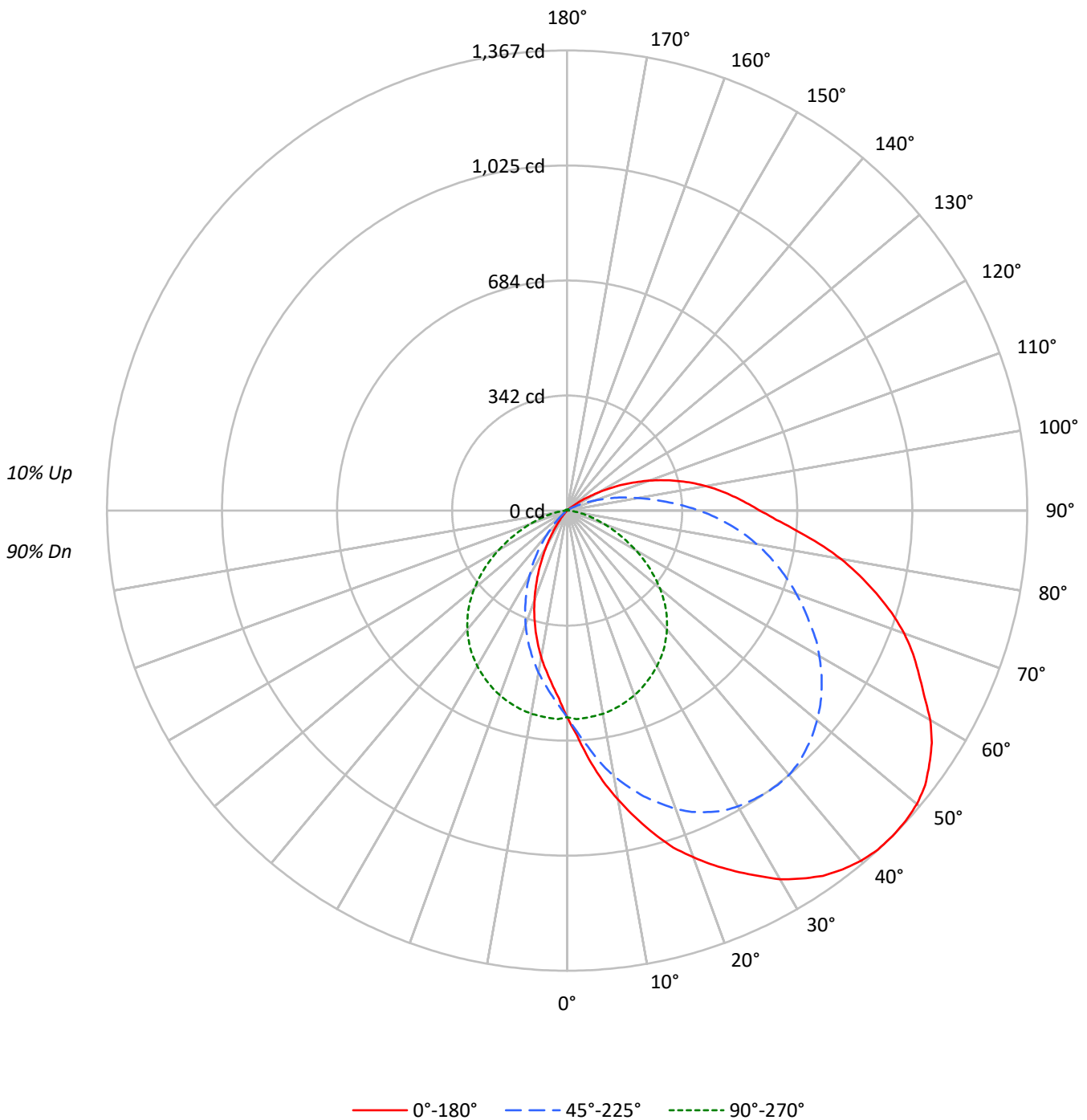
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	117	117	117	117	113	113	113	113	106	106	106		99	99	99		93	93	93	90
1	103	97	91	86	99	94	89	84	88	83	80		82	79	75		77	74	72	69
2	92	83	74	68	89	80	72	66	75	68	63		70	65	60		65	61	57	54
3	83	71	62	55	80	69	60	53	65	57	51		60	54	49		57	51	47	44
4	76	63	53	45	73	60	51	44	57	49	43		53	46	41		50	44	39	37
5	69	55	46	38	66	54	44	38	50	42	36		47	40	35		44	39	34	31
6	64	50	40	33	61	48	39	32	45	37	31		43	36	30		40	34	29	27
7	59	45	35	29	57	43	35	28	41	33	27		39	32	27		36	30	26	23
8	55	41	32	25	53	39	31	25	37	30	24		35	28	24		33	27	23	21
9	51	37	28	23	49	36	28	22	34	27	22		32	26	21		31	25	20	18
10	48	34	26	20	46	33	25	20	31	24	19		30	23	19		28	23	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9192	9192	9192
5°	9929	9079	6927
10°	10654	8894	5415
15°	11217	8687	4119
20°	11603	8468	2995
25°	11856	8230	2019
30°	12137	7982	1192
35°	12277	7701	563
40°	12261	7347	172
45°	12121	6915	0
50°	11901	6334	0
55°	11497	5628	8
60°	10956	4782	8
65°	10271	3878	16
70°	9686	2933	16
75°	8899	2057	17
80°	8024	1232	17
85°	6961	569	18



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.1	2.0
10°-20°	183.0	6.2
20°-30°	293.0	9.9
30°-40°	372.3	12.5
40°-50°	413.9	13.9
50°-60°	420.0	14.1
60°-70°	386.5	13.0
70°-80°	322.6	10.9
80°-90°	233.1	7.9
90°-100°	148.8	5.0
100°-110°	85.2	2.9
110°-120°	37.3	1.3
120°-130°	9.9	0.3
130°-140°	2.3	0.1
140°-150°	0.2	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	536.1	18.1
0°-40°	908.4	30.6
0°-60°	1742.3	58.7
0°-90°	2684.5	90.4
90°-120°	271.3	9.1
90°-150°	283.7	9.6
90°-180°	284.0	9.6
0°-180°	2968.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	614	614	614	614	614	
5°	741	704	618	548	517	75
15°	993	878	601	426	364	284
25°	1182	988	561	291	201	549
35°	1325	1025	501	157	61	830
45°	1367	1004	415	46	0	1056
55°	1314	923	299	3	1	1174
65°	1153	796	173	3	2	1145
75°	951	650	72	4	2	1003
85°	684	485	14	4	2	589
90°	572	393	4	4	2	315
95°	494	296	4	4	2	389
105°	340	146	4	4	2	360
115°	182	43	4	4	2	182
125°	50	2	4	4	2	50
135°	0	2	4	4	2	3
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P188238

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8
2.5°	668.2	664.5	664.5	662.7	662.7	662.7	661.8	664.5	658.2	660.0	656.4
5°	740.7	738.0	737.1	738.0	730.7	729.8	727.1	726.2	718.9	712.6	703.5
7.5°	809.6	808.7	806.9	805.1	797.8	796.0	791.5	786.9	776.1	767.0	755.2
10°	872.2	868.5	869.4	864.0	855.8	853.1	848.6	841.3	828.6	816.9	801.4
12.5°	932.9	928.4	926.6	919.3	911.1	906.6	901.2	891.2	875.8	860.4	840.4
15°	992.7	990.0	988.2	980.0	966.4	961.0	953.8	940.2	920.2	901.2	878.5
17.5°	1049.9	1044.4	1042.6	1032.6	1019.9	1013.6	1005.4	987.3	964.6	940.2	911.1
20°	1096.1	1092.5	1087.9	1078.9	1064.4	1057.1	1047.1	1028.1	1003.6	974.6	942.9
22.5°	1140.5	1137.8	1132.4	1120.6	1106.1	1095.2	1084.3	1061.6	1036.3	1004.5	969.2
25°	1182.2	1179.5	1173.2	1159.6	1142.3	1130.5	1119.7	1092.5	1062.5	1027.2	988.2
27.5°	1223.0	1220.3	1213.9	1198.5	1176.8	1164.1	1151.4	1120.6	1086.1	1047.1	1005.4
30°	1264.7	1262.0	1252.0	1234.8	1211.2	1195.8	1180.4	1144.1	1104.2	1061.6	1014.5
32.5°	1296.4	1292.8	1282.8	1265.6	1239.3	1223.9	1206.7	1167.7	1121.5	1073.4	1020.8
35°	1324.6	1318.2	1308.2	1288.3	1260.2	1242.1	1225.7	1184.0	1135.1	1082.5	1025.4
37.5°	1343.6	1339.1	1325.5	1302.8	1274.7	1254.7	1237.5	1194.0	1143.2	1088.8	1027.2
40°	1358.1	1352.7	1338.2	1313.7	1281.9	1264.7	1247.5	1206.7	1151.4	1088.8	1025.4
42.5°	1366.3	1359.9	1343.6	1317.3	1282.8	1265.6	1244.8	1205.8	1148.7	1082.5	1017.2
45°	1367.2	1360.8	1345.4	1314.6	1277.4	1257.5	1233.9	1185.8	1133.3	1073.4	1003.6
47.5°	1364.4	1358.1	1339.1	1308.2	1269.3	1246.6	1223.9	1173.2	1118.8	1058.0	988.2
50°	1356.3	1349.0	1330.9	1299.2	1259.3	1234.8	1211.2	1158.6	1102.4	1038.1	969.2
52.5°	1340.9	1332.7	1314.6	1283.8	1242.1	1219.4	1196.7	1141.4	1082.5	1016.3	948.3
55°	1313.7	1309.1	1291.0	1261.1	1221.2	1198.5	1174.1	1120.6	1058.9	991.8	922.9
57.5°	1284.7	1278.3	1264.7	1233.9	1193.1	1172.2	1146.9	1093.4	1029.0	963.7	895.7
60°	1245.7	1239.3	1224.8	1196.7	1159.6	1136.0	1112.4	1058.9	994.5	931.1	864.9
62.5°	1196.7	1195.8	1183.1	1157.7	1120.6	1098.8	1076.1	1021.7	961.9	897.5	834.1
65°	1153.2	1148.7	1138.7	1114.2	1078.0	1056.2	1033.5	983.7	922.0	863.1	796.0
67.5°	1112.4	1107.0	1095.2	1069.8	1036.3	1014.5	994.5	942.9	884.8	825.9	761.6
70°	1065.3	1061.6	1050.8	1029.9	995.5	972.8	955.6	901.2	846.8	788.7	725.3
72.5°	1010.9	1007.2	996.4	979.1	947.4	930.2	910.2	861.3	807.8	750.7	688.1
75°	951.0	946.5	938.3	919.3	893.9	875.8	862.2	816.9	768.8	709.9	650.0
77.5°	889.4	885.8	875.8	859.5	836.8	824.1	808.7	768.8	724.4	670.9	611.1
80°	825.9	823.2	811.4	797.8	780.6	767.0	753.4	718.0	677.2	627.4	571.2
82.5°	755.2	755.2	745.2	734.4	720.8	709.9	695.4	663.6	628.3	581.1	530.4
85°	683.6	682.7	675.4	666.4	651.9	645.5	633.7	608.3	576.6	533.1	485.0
87.5°	621.9	620.1	612.0	602.0	590.2	582.0	570.3	547.6	521.3	483.2	439.7
90°	572.1	571.2	562.1	551.2	534.9	527.6	515.9	491.4	465.1	430.6	392.6
92.5°	532.2	530.4	520.4	509.5	493.2	483.2	469.6	443.3	412.5	377.1	343.6
95°	494.1	492.3	483.2	471.4	454.2	443.3	429.7	402.5	369.0	330.9	296.5
97.5°	456.9	455.1	446.1	433.4	417.0	405.3	392.6	363.5	329.1	291.0	252.9
100°	418.9	416.1	408.0	395.3	379.9	367.2	354.5	325.5	291.9	252.9	214.0
102.5°	379.9	378.1	370.8	358.1	340.9	330.0	316.4	289.2	254.8	216.7	179.5
105°	340.0	338.2	330.0	319.1	301.9	291.0	278.3	251.1	218.5	181.3	146.0
107.5°	300.1	299.2	292.8	280.1	263.8	252.9	241.2	214.9	183.1	149.6	115.1
110°	260.2	258.4	252.9	241.2	224.8	214.9	203.1	178.6	149.6	117.0	87.9



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	220.3	219.4	211.2	202.2	187.7	177.7	166.8	144.2	117.9	87.9	63.5
115°	182.2	180.4	173.2	164.1	150.5	141.4	131.5	110.6	87.9	62.6	42.6
117.5°	144.2	143.2	136.0	127.8	115.1	107.9	97.9	80.7	61.6	42.6	27.2
120°	108.8	107.9	102.4	95.2	83.4	77.1	68.9	55.3	39.9	26.3	16.3
122.5°	77.1	76.2	71.6	64.4	56.2	50.8	45.3	34.5	23.6	15.4	10.0
125°	49.9	49.9	45.3	41.7	34.5	30.8	26.3	19.9	13.6	9.1	1.8
127.5°	29.0	29.0	26.3	23.6	19.0	17.2	15.4	11.8	8.2	1.8	1.8
130°	15.4	15.4	13.6	12.7	10.9	9.1	8.2	2.7	0.9	1.8	1.8
132.5°	8.2	8.2	8.2	6.3	0.9	0.9	0.9	0.9	0.9	1.8	1.8
135°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
137.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
140°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8
2.5°	651.9	650.0	645.5	641.9	639.2	638.3	633.7	629.2	624.7	620.1	615.6
5°	694.5	687.2	676.3	666.4	660.9	657.3	647.3	637.3	628.3	618.3	609.2
7.5°	739.8	727.1	710.8	694.5	685.4	677.2	660.9	645.5	630.1	615.6	602.0
10°	782.4	764.3	743.4	721.7	709.0	698.1	674.5	652.8	631.9	612.9	594.7
12.5°	819.6	796.9	773.3	746.1	731.6	718.0	689.0	660.0	632.8	607.4	585.7
15°	852.2	825.9	796.9	767.9	750.7	734.4	699.9	665.4	631.0	601.1	573.9
17.5°	881.2	850.4	816.9	784.2	766.1	748.0	709.0	669.1	630.1	592.9	562.1
20°	908.4	871.2	834.1	796.9	777.0	757.0	715.3	670.9	626.5	583.9	548.5
22.5°	931.1	890.3	847.7	805.1	785.1	763.4	718.0	670.9	620.1	573.0	533.1
25°	948.3	905.7	859.5	812.3	787.8	765.2	717.1	667.3	613.8	561.2	516.8
27.5°	959.2	914.8	865.8	815.0	789.7	763.4	712.6	661.8	606.5	547.6	498.6
30°	966.4	917.5	865.8	814.1	787.8	760.6	705.3	651.9	593.8	534.0	479.6
32.5°	969.2	916.6	862.2	807.8	781.5	753.4	696.3	640.1	582.9	517.7	459.6
35°	967.4	911.1	854.9	798.7	771.5	742.5	684.5	625.6	566.6	501.4	437.9
37.5°	962.8	902.1	844.1	786.9	758.8	728.9	669.1	608.3	547.6	481.4	416.1
40°	955.6	892.1	831.4	772.4	742.5	711.7	650.0	589.3	527.6	461.5	394.4
42.5°	945.6	880.3	816.9	753.4	723.5	692.6	630.1	567.5	505.0	438.8	370.8
45°	933.8	865.8	799.6	733.4	702.6	670.9	608.3	544.0	479.6	415.2	345.4
47.5°	919.3	849.5	780.6	714.4	682.7	648.2	583.9	517.7	453.3	388.0	320.0
50°	900.3	830.5	760.6	692.6	658.2	623.7	556.7	490.5	425.2	359.9	293.7
52.5°	878.5	807.8	738.0	668.2	634.6	598.4	528.6	460.6	395.3	329.1	264.7
55°	853.1	784.2	714.4	643.7	609.2	571.2	500.4	430.6	364.5	299.2	235.7
57.5°	826.8	757.9	688.1	616.5	581.1	544.0	470.5	398.0	331.8	267.4	204.9
60°	796.9	728.9	658.2	589.3	553.9	514.0	440.6	366.3	297.4	234.8	175.0
62.5°	767.9	699.9	629.2	560.3	525.8	485.9	410.7	335.4	265.6	203.1	146.9
65°	733.4	667.3	598.4	530.4	494.1	456.9	380.8	304.6	234.8	173.2	117.9
67.5°	699.9	632.8	565.7	498.6	464.2	425.2	350.9	274.7	204.0	144.2	94.3
70°	662.7	597.5	531.3	464.2	431.5	395.3	320.0	244.8	175.0	117.0	71.6
72.5°	625.6	559.4	493.2	428.8	396.2	360.8	287.4	215.8	148.7	93.4	51.7
75°	586.6	520.4	454.2	390.7	359.0	325.5	254.8	188.6	122.4	71.6	36.3
77.5°	548.5	480.5	414.3	350.9	320.9	288.3	220.3	158.7	97.9	52.6	23.6
80°	509.5	441.5	374.4	311.9	281.0	251.1	186.8	129.6	75.2	36.3	14.5
82.5°	469.6	405.3	338.2	272.0	243.0	212.1	153.2	101.5	55.3	22.7	9.1
85°	427.9	364.5	299.2	233.9	204.9	176.8	121.5	76.2	37.2	13.6	5.4
87.5°	386.2	326.4	262.0	198.5	170.4	143.2	92.5	53.5	22.7	7.3	4.5
90°	342.7	286.5	224.8	165.0	137.8	113.3	67.1	34.5	12.7	4.5	4.5
92.5°	299.2	247.5	190.4	133.3	108.8	86.1	46.2	21.8	7.3	4.5	4.5
95°	255.7	206.7	156.8	105.2	83.4	62.6	30.8	12.7	4.5	3.6	4.5
97.5°	213.1	171.3	125.1	79.8	60.7	44.4	19.0	7.3	3.6	3.6	4.5
100°	174.1	135.1	95.2	57.1	41.7	28.1	11.8	4.5	3.6	3.6	4.5
102.5°	139.6	102.4	68.9	38.1	26.3	17.2	7.3	3.6	3.6	3.6	3.6
105°	109.7	74.3	46.2	23.6	16.3	10.9	3.6	3.6	3.6	3.6	3.6
107.5°	82.5	53.5	30.8	14.5	10.0	6.3	3.6	3.6	3.6	3.6	3.6
110°	58.9	35.4	18.1	9.1	5.4	3.6	3.6	3.6	3.6	3.6	3.6



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	39.9	21.8	11.8	3.6	2.7	3.6	3.6	3.6	3.6	3.6	3.6
115°	25.4	13.6	7.3	2.7	3.6	3.6	3.6	3.6	3.6	3.6	4.5
117.5°	15.4	9.1	2.7	2.7	3.6	3.6	3.6	3.6	3.6	4.5	4.5
120°	10.0	2.7	2.7	2.7	3.6	3.6	3.6	3.6	3.6	4.5	4.5
122.5°	2.7	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5	4.5
125°	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5	4.5
127.5°	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	3.6	4.5
130°	1.8	2.7	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5
132.5°	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	3.6	4.5
135°	1.8	2.7	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5
137.5°	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5	4.5
140°	1.8	2.7	2.7	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8
2.5°	610.1	605.6	600.2	598.4	595.6	592.0	586.6	583.9	578.4	574.8	571.2
5°	599.3	591.1	582.0	578.4	574.8	568.4	560.3	554.8	547.6	542.2	536.7
7.5°	589.3	576.6	563.9	559.4	553.9	543.1	534.0	527.6	517.7	511.3	504.1
10°	577.5	562.1	546.7	540.3	534.0	521.3	509.5	500.4	488.7	479.6	471.4
12.5°	564.8	545.8	528.6	521.3	512.2	497.7	483.2	471.4	457.8	448.8	437.9
15°	549.4	527.6	507.7	497.7	489.6	472.3	456.0	442.4	426.1	414.3	403.4
17.5°	533.1	508.6	485.0	476.9	465.1	446.1	427.9	411.6	394.4	381.7	367.2
20°	516.8	489.6	463.3	452.4	438.8	417.9	398.9	380.8	360.8	344.5	330.0
22.5°	497.7	467.8	439.7	427.9	413.4	389.8	367.2	346.3	326.4	307.3	292.8
25°	477.8	445.1	414.3	401.6	387.1	360.8	336.4	313.7	291.0	273.8	256.6
27.5°	456.0	420.7	388.0	374.4	359.9	330.0	304.6	281.0	259.3	239.3	219.4
30°	434.3	396.2	360.8	346.3	330.9	300.1	272.9	247.5	223.0	203.1	184.0
32.5°	411.6	369.9	334.5	318.2	300.1	268.4	240.3	214.0	190.4	167.7	149.6
35°	387.1	342.7	305.5	288.3	270.2	236.6	207.6	181.3	156.8	134.2	116.0
37.5°	361.7	314.6	273.8	257.5	239.3	204.9	175.9	148.7	125.1	103.4	86.1
40°	334.5	287.4	244.8	227.6	208.5	174.1	145.1	117.9	93.4	75.2	59.8
42.5°	309.2	258.4	214.9	196.7	178.6	143.2	115.1	89.8	68.0	50.8	38.1
45°	282.9	230.3	185.9	166.8	148.7	115.1	87.9	64.4	46.2	31.7	21.8
47.5°	256.6	202.2	156.8	137.8	120.6	88.8	63.5	43.5	28.1	18.1	11.8
50°	230.3	174.1	129.6	111.5	95.2	65.3	43.5	27.2	16.3	10.9	6.3
52.5°	203.1	147.8	104.3	87.0	71.6	45.3	27.2	16.3	10.0	3.6	1.8
55°	175.9	121.5	80.7	64.4	51.7	29.9	17.2	10.0	2.7	2.7	2.7
57.5°	149.6	97.9	59.8	46.2	35.4	19.0	10.9	3.6	2.7	2.7	2.7
60°	123.3	76.2	42.6	31.7	22.7	11.8	5.4	2.7	2.7	2.7	2.7
62.5°	97.9	56.2	29.0	20.9	14.5	8.2	3.6	3.6	2.7	2.7	2.7
65°	74.3	39.9	19.0	12.7	10.0	3.6	3.6	3.6	2.7	2.7	2.7
67.5°	54.4	26.3	11.8	9.1	4.5	4.5	3.6	3.6	3.6	3.6	2.7
70°	37.2	16.3	8.2	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
72.5°	24.5	10.0	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
75°	15.4	6.3	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6
77.5°	10.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6
80°	6.3	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6
85°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
87.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6
90°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
92.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
95°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
97.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
100°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
102.5°	4.5	4.5	4.5	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7
105°	4.5	4.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7
107.5°	3.6	4.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7
110°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	3.6	4.5	3.6	3.6	4.5	3.6	3.6	3.6	3.6	2.7	2.7
115°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
117.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
120°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
122.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
125°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
127.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
130°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	3.6	2.7
132.5°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	3.6	2.7
135°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7	2.7
137.5°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7
140°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6	2.7	2.7
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	613.8	613.8	613.8	613.8	613.8	613.8	613.8	613.8
2.5°	568.4	564.8	563.9	562.1	559.4	557.6	557.6	558.5
5°	533.1	528.6	526.7	524.9	522.2	519.5	518.6	516.8
7.5°	498.6	493.2	491.4	488.7	485.9	483.2	481.4	478.7
10°	464.2	456.9	455.1	451.5	448.8	444.2	441.5	443.3
12.5°	428.8	420.7	417.0	413.4	408.0	406.2	402.5	403.4
15°	392.6	383.5	379.9	376.2	369.9	364.5	363.5	364.5
17.5°	355.4	345.4	341.8	337.3	330.0	326.4	322.8	324.6
20°	317.3	306.4	301.9	297.4	289.2	284.7	282.0	282.9
22.5°	279.2	265.6	262.0	255.7	248.4	243.9	241.2	242.1
25°	241.2	227.6	223.0	216.7	208.5	204.0	201.3	201.3
27.5°	204.0	189.5	184.9	178.6	169.5	165.0	162.3	161.4
30°	166.8	152.3	147.8	141.4	132.4	127.8	125.1	124.2
32.5°	131.5	118.8	112.4	107.9	98.8	93.4	90.7	90.7
35°	98.8	87.0	81.6	77.1	68.0	63.5	60.7	60.7
37.5°	69.8	59.8	54.4	50.8	42.6	39.0	37.2	36.3
40°	46.2	37.2	32.6	29.9	23.6	20.9	19.9	19.0
42.5°	27.2	19.9	17.2	15.4	12.7	10.0	10.0	9.1
45°	14.5	10.9	9.1	8.2	6.3	3.6	0.9	0.0
47.5°	8.2	3.6	1.8	1.8	0.9	0.9	0.9	0.0
50°	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.0
52.5°	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9
55°	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9
57.5°	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9
60°	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9
62.5°	2.7	1.8	1.8	1.8	1.8	0.9	0.9	0.9
65°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
67.5°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
70°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
72.5°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8
75°	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8
77.5°	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8
80°	3.6	2.7	2.7	2.7	2.7	2.7	1.8	1.8
82.5°	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8
85°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8
87.5°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8
90°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8
92.5°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
95°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
97.5°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
100°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
102.5°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
105°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
107.5°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
110°	2.7	1.8	1.8	1.8	1.8	1.8	0.9	0.9



TEST NUMBER: P188238

CATALOG NUMBER: FCC-N-2-LD4-2STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	0.9
115°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
117.5°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
120°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
122.5°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
125°	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8
127.5°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
130°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
132.5°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
135°	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
137.5°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
140°	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)