

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: P188243

Luminaire Tested: **FCC-N-4-LD4-1STD-40-UNV-80/86**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188243
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27012)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCC-N-4-LD4-1STD-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: 3172.3 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.62 / 1.28 / 1.57
Luminous Opening: Rectangular w/ Sides (W: 3.92' x L: 0.38' x H: 0.52')
CIE Type: Semi-Direct

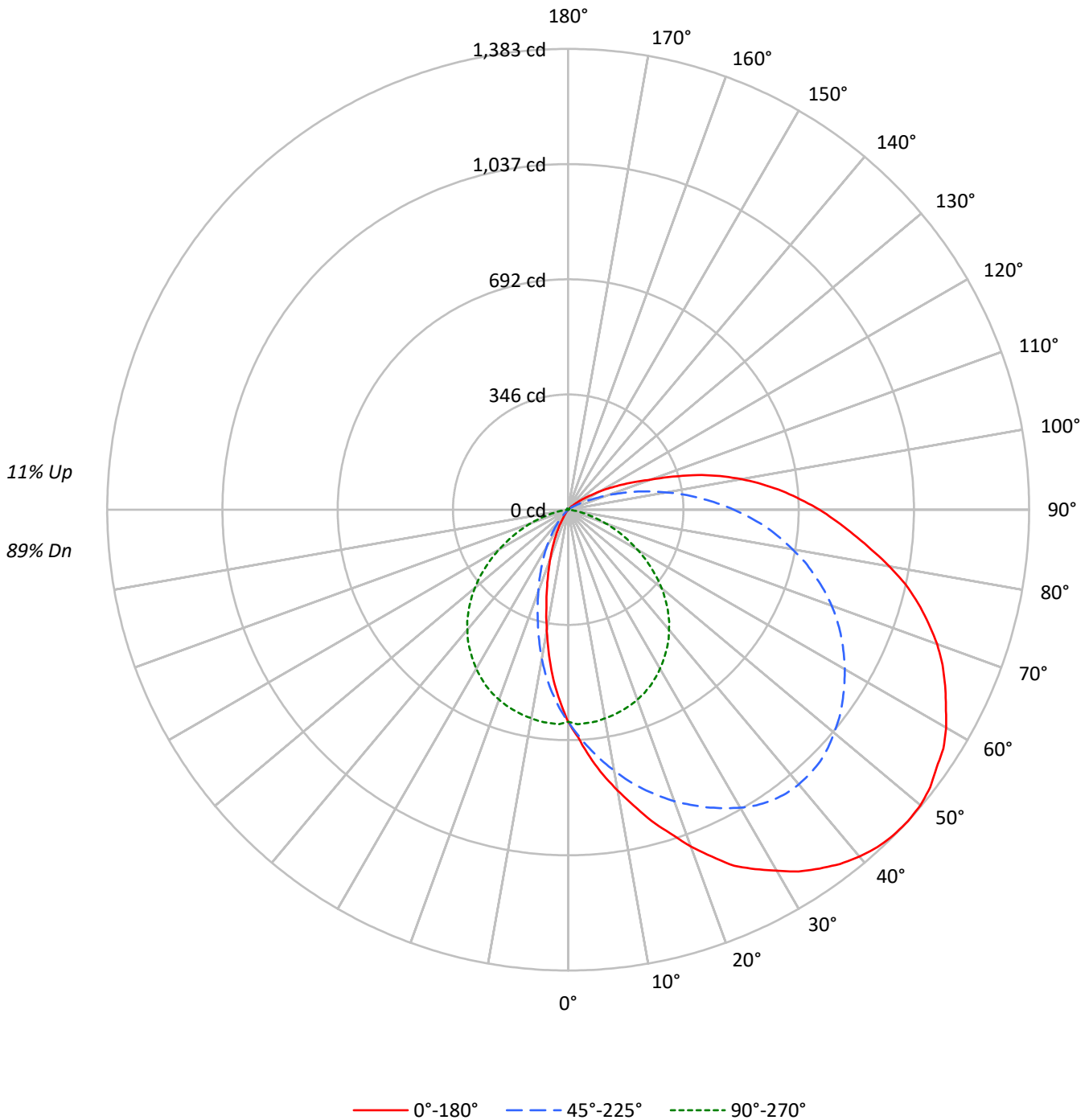
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89
1	102	96	90	85	98	92	87	82	86	81	77	80	76	73	74	71	69	66
2	91	81	73	66	87	78	70	64	73	66	61	67	62	57	63	58	55	51
3	82	70	60	53	78	67	58	51	62	55	49	58	52	47	54	49	44	41
4	75	61	51	43	71	59	50	42	55	47	41	51	44	39	47	42	37	34
5	68	54	44	36	65	52	43	36	49	40	34	45	38	33	42	36	31	29
6	63	48	38	31	60	46	37	31	43	35	29	41	34	28	38	32	27	25
7	58	43	34	27	55	42	33	27	39	31	26	37	30	25	34	28	24	21
8	54	39	30	24	51	38	29	23	36	28	23	34	27	22	32	26	21	19
9	50	36	27	21	48	35	27	21	33	25	20	31	24	19	29	23	19	17
10	47	33	25	19	45	32	24	19	30	23	18	28	22	18	27	21	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4665	4665	4665
5°	4889	4674	3355
10°	5116	4622	2206
15°	5349	4570	1364
20°	5570	4512	808
25°	5789	4439	445
30°	5876	4333	200
35°	5963	4208	62
40°	6005	4050	4
45°	5991	3857	0
50°	5925	3596	0
55°	5778	3261	0
60°	5635	2863	0
65°	5438	2398	0
70°	5240	1864	0
75°	4978	1253	0
80°	4651	654	0
85°	4287	150	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.1	1.9
10°-20°	173.3	5.5
20°-30°	276.5	8.7
30°-40°	363.0	11.4
40°-50°	421.7	13.3
50°-60°	442.3	13.9
60°-70°	424.9	13.4
70°-80°	370.2	11.7
80°-90°	285.8	9.0
90°-100°	193.7	6.1
100°-110°	105.3	3.3
110°-120°	39.8	1.3
120°-130°	12.0	0.4
130°-140°	3.5	0.1
140°-150°	0.3	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	509.9	16.1
0°-40°	872.8	27.5
0°-60°	1736.8	54.7
0°-90°	2817.7	88.8
90°-120°	338.8	10.7
90°-150°	354.6	11.2
90°-180°	355.0	11.2
0°-180°	3172.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	636	636	636	636	636	
5°	745	718	643	551	511	74
15°	967	868	624	352	247	277
25°	1180	986	583	189	91	545
35°	1315	1065	514	77	14	825
45°	1381	1069	422	11	0	1066
55°	1349	1005	304	0	0	1210
65°	1248	904	178	0	0	1236
75°	1087	766	66	0	0	1146
85°	860	596	4	0	0	727
90°	754	497	0	0	0	413
95°	644	397	0	0	0	502
105°	402	208	0	0	0	423
115°	177	64	2	1	0	180
125°	61	13	4	3	1	58
135°	13	2	4	4	2	9
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



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5
2.5°	683.6	686.3	686.3	689.1	689.1	687.3	686.3	688.2	687.3	681.8	677.3
5°	745.3	743.5	742.6	743.5	741.7	738.9	736.2	736.2	732.6	723.5	718.1
7.5°	802.4	801.5	799.7	799.7	795.1	790.6	787.9	785.2	778.8	766.1	757.1
10°	855.9	856.8	855.0	854.1	848.6	844.1	839.6	834.1	825.1	808.7	795.1
12.5°	909.4	910.3	909.4	906.7	898.5	894.0	887.6	881.3	869.5	849.5	833.2
15°	967.4	962.9	961.1	957.4	947.5	942.0	936.6	924.8	910.3	888.5	867.7
17.5°	1018.2	1016.4	1012.7	1007.3	995.5	990.1	981.9	968.3	950.2	923.0	899.4
20°	1075.3	1069.9	1065.3	1057.2	1043.6	1036.3	1028.2	1009.1	987.4	957.4	931.1
22.5°	1127.0	1127.0	1119.7	1112.5	1092.5	1082.6	1069.9	1049.0	1021.8	991.0	958.3
25°	1179.6	1178.7	1169.6	1161.4	1140.6	1129.7	1117.9	1090.7	1059.0	1022.7	985.5
27.5°	1215.8	1214.9	1210.4	1201.3	1183.2	1172.3	1157.8	1131.5	1097.1	1052.6	1010.0
30°	1251.2	1249.4	1241.2	1232.2	1214.9	1203.1	1189.5	1164.2	1127.0	1082.6	1032.7
32.5°	1287.5	1282.9	1275.7	1263.0	1242.1	1228.5	1214.0	1185.0	1149.6	1103.4	1051.7
35°	1314.7	1311.0	1301.1	1286.6	1263.9	1250.3	1235.8	1205.0	1166.9	1119.7	1065.3
37.5°	1340.0	1334.6	1321.9	1305.6	1281.1	1264.8	1249.4	1216.7	1177.8	1130.6	1073.5
40°	1359.1	1353.6	1342.8	1321.0	1293.8	1276.6	1260.3	1224.0	1184.1	1134.2	1076.2
42.5°	1373.6	1367.2	1352.7	1331.9	1301.1	1284.7	1267.5	1232.2	1186.8	1135.1	1074.4
45°	1380.8	1375.4	1360.9	1337.3	1311.0	1294.7	1278.4	1243.9	1192.3	1137.0	1069.0
47.5°	1382.7	1376.3	1362.7	1336.4	1303.8	1285.6	1264.8	1222.2	1176.8	1121.5	1057.2
50°	1379.9	1373.6	1357.3	1331.0	1298.3	1277.5	1257.5	1212.2	1163.2	1106.1	1041.8
52.5°	1369.1	1363.6	1349.1	1325.5	1291.1	1270.2	1247.6	1202.2	1150.6	1091.6	1025.4
55°	1349.1	1346.4	1332.8	1311.0	1275.7	1256.6	1235.8	1187.7	1132.4	1072.6	1004.6
57.5°	1334.6	1328.3	1318.3	1294.7	1259.4	1239.4	1218.6	1168.7	1114.3	1050.8	981.9
60°	1309.2	1304.7	1292.0	1271.1	1241.2	1222.2	1201.3	1147.8	1092.5	1026.3	958.3
62.5°	1277.5	1276.6	1264.8	1246.7	1217.6	1197.7	1176.8	1125.2	1067.1	1001.0	932.1
65°	1247.6	1243.9	1236.7	1219.5	1190.4	1168.7	1148.7	1098.9	1039.0	971.9	903.9
67.5°	1215.8	1212.2	1205.0	1184.1	1156.9	1140.6	1119.7	1066.2	1007.3	942.0	874.0
70°	1177.8	1175.9	1165.1	1146.0	1120.6	1103.4	1082.6	1032.7	972.9	909.4	841.4
72.5°	1133.3	1130.6	1119.7	1105.2	1079.8	1060.8	1039.0	991.9	934.8	873.1	805.1
75°	1087.1	1084.4	1074.4	1056.3	1030.9	1012.7	992.8	947.5	894.0	834.1	766.1
77.5°	1037.2	1033.6	1023.6	1005.5	977.4	962.0	945.7	900.3	850.5	791.5	728.1
80°	978.3	978.3	963.8	947.5	923.9	910.3	894.9	851.4	805.1	748.0	682.7
82.5°	917.5	916.6	903.0	890.3	868.6	855.0	837.8	800.6	756.2	703.6	640.1
85°	860.4	860.4	846.8	835.9	814.2	800.6	786.1	748.9	706.3	654.6	595.7
87.5°	806.0	806.0	796.1	781.5	759.8	746.2	733.5	695.4	653.7	605.7	546.7
90°	754.3	754.3	744.4	729.0	706.3	693.6	681.8	643.7	602.0	554.0	496.9
92.5°	698.1	699.9	690.0	675.5	653.7	641.9	628.3	591.1	550.3	502.3	447.0
95°	643.7	645.5	635.6	621.1	601.1	588.4	575.7	538.6	498.7	450.6	397.1
97.5°	586.6	586.6	578.5	564.9	545.8	534.0	521.3	486.0	447.0	399.8	348.2
100°	527.7	527.7	519.5	507.7	488.7	477.8	466.0	432.5	394.4	349.1	299.2
102.5°	466.9	466.9	459.7	448.8	430.7	424.3	409.8	378.1	342.7	301.0	253.0
105°	401.7	399.8	396.2	385.3	369.0	361.8	350.9	320.1	289.2	252.1	208.5
107.5°	330.0	331.8	325.5	317.3	303.7	298.3	288.3	262.9	235.7	203.1	165.0
110°	263.8	264.7	259.3	253.0	242.1	234.8	229.4	207.6	185.0	157.8	125.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	217.6	214.9	211.3	204.0	194.0	188.6	179.5	162.3	142.3	118.8	90.7
115°	176.8	175.0	172.3	165.0	155.0	150.5	141.4	126.0	107.9	87.0	63.5
117.5°	141.4	139.6	136.9	130.6	121.5	117.0	110.6	95.2	79.8	61.7	42.6
120°	109.7	107.9	106.1	100.6	92.5	88.9	81.6	68.9	55.3	40.8	26.3
122.5°	82.5	81.6	79.8	74.3	68.0	64.4	58.0	48.1	36.3	26.3	16.3
125°	60.7	59.8	57.1	52.6	47.1	44.4	39.9	31.7	23.6	16.3	12.7
127.5°	42.6	41.7	39.9	36.3	31.7	29.0	26.3	20.9	16.3	12.7	4.5
130°	28.1	28.1	26.3	23.6	20.9	19.0	17.2	14.5	11.8	3.6	1.8
132.5°	18.1	18.1	17.2	16.3	14.5	13.6	12.7	10.0	1.8	1.8	1.8
135°	12.7	12.7	12.7	11.8	8.2	5.4	0.9	0.9	1.8	1.8	1.8
137.5°	1.8	0.9	0.0	0.9	0.9	0.9	0.9	1.8	1.8	1.8	2.7
140°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.8	1.8	1.8	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5
2.5°	675.5	673.7	669.1	661.9	658.2	656.4	652.8	650.1	649.2	644.6	640.1
5°	710.8	705.4	696.3	684.5	678.2	674.6	666.4	658.2	651.9	642.8	632.9
7.5°	745.3	736.2	722.6	706.3	698.1	691.8	679.1	667.3	655.5	641.0	624.7
10°	778.8	765.2	748.0	727.1	717.2	708.1	690.0	672.7	655.5	635.6	614.7
12.5°	814.2	794.2	772.5	746.2	733.5	722.6	699.0	676.4	655.5	631.0	604.7
15°	844.1	820.5	795.1	764.3	748.9	734.4	707.2	680.0	653.7	623.8	593.0
17.5°	873.1	845.9	816.0	781.5	763.4	747.1	713.5	681.8	651.0	616.5	581.2
20°	898.5	866.8	834.1	795.1	775.2	756.2	719.0	680.9	644.6	606.6	565.8
22.5°	922.1	886.7	849.5	806.0	784.3	763.4	720.8	679.1	639.2	595.7	551.3
25°	945.7	903.0	862.2	815.1	791.5	768.9	722.6	675.5	630.1	583.0	534.0
27.5°	964.7	916.6	872.2	821.4	795.1	769.8	719.9	670.0	619.3	567.6	515.9
30°	981.9	929.3	880.4	825.1	797.0	769.8	715.4	661.0	607.5	551.3	495.9
32.5°	995.5	938.4	884.9	826.0	797.0	767.0	709.0	651.0	593.0	533.1	476.0
35°	1006.4	943.8	886.7	825.1	793.3	761.6	701.8	640.1	578.5	514.1	453.3
37.5°	1012.7	947.5	884.9	820.5	787.9	755.3	690.9	625.6	561.2	494.1	428.9
40°	1014.6	946.6	880.4	813.3	779.7	745.3	678.2	610.2	541.3	470.6	403.5
42.5°	1011.8	942.0	874.0	805.1	768.9	732.6	662.8	591.1	520.4	447.9	377.2
45°	1002.8	933.9	863.1	791.5	754.3	719.0	644.6	571.2	496.9	421.6	349.1
47.5°	991.0	922.1	848.6	775.2	737.1	700.9	624.7	547.6	471.5	394.4	320.1
50°	975.6	905.8	830.5	756.2	717.2	679.1	601.1	522.2	444.3	365.4	289.2
52.5°	956.5	886.7	810.6	735.3	695.4	656.4	576.6	495.9	415.3	335.5	259.3
55°	934.8	864.1	788.8	710.8	671.8	630.1	547.6	467.8	385.3	303.7	227.6
57.5°	913.0	838.7	763.4	685.4	645.5	602.9	520.4	437.9	353.6	272.0	196.7
60°	885.8	812.4	737.1	657.3	616.5	574.8	490.5	407.1	322.8	240.3	166.8
62.5°	858.6	784.3	708.1	628.3	586.6	545.8	459.7	375.4	291.0	208.5	137.8
65°	830.5	754.3	677.3	595.7	555.8	513.2	427.0	343.6	259.3	177.7	109.7
67.5°	799.7	724.4	645.5	564.9	523.1	481.4	394.4	310.1	225.8	147.8	83.4
70°	767.0	690.0	611.1	530.4	486.9	447.9	359.9	275.6	192.2	118.8	59.8
72.5°	731.7	655.5	576.6	494.1	451.5	412.5	323.7	240.3	160.5	91.6	39.9
75°	694.5	617.4	539.5	456.1	415.3	373.5	287.4	206.7	130.6	66.2	23.6
77.5°	654.6	579.4	501.4	420.7	378.1	337.3	253.0	172.3	101.5	45.3	10.9
80°	612.9	538.6	461.5	380.8	339.1	299.2	216.7	139.6	74.3	27.2	3.6
82.5°	571.2	496.9	419.8	340.9	301.0	260.2	183.1	108.8	50.8	13.6	0.0
85°	525.9	452.4	377.2	300.1	262.0	221.2	147.8	80.7	30.8	4.5	0.0
87.5°	479.6	408.0	333.7	259.3	222.1	184.1	116.1	57.1	15.4	0.0	0.0
90°	432.5	362.7	291.0	219.4	184.1	148.7	87.0	36.3	5.4	0.0	0.0
92.5°	383.5	316.4	248.4	179.5	147.8	115.1	60.7	19.9	0.9	0.0	0.0
95°	335.5	271.1	206.7	143.3	114.2	85.2	39.0	8.2	0.0	0.0	0.0
97.5°	289.2	228.5	167.7	109.7	84.3	58.9	22.7	2.7	0.0	0.0	0.0
100°	243.9	186.8	131.5	80.7	58.0	38.1	10.9	0.9	0.0	0.0	0.0
102.5°	199.5	148.7	98.8	55.3	38.1	21.8	4.5	0.0	0.0	0.0	0.0
105°	159.6	113.3	70.7	35.4	21.8	11.8	1.8	0.0	0.0	0.0	0.0
107.5°	122.4	82.5	47.1	20.9	11.8	6.3	0.0	0.0	0.0	0.0	0.0
110°	88.9	56.2	29.0	10.9	6.3	2.7	0.0	0.0	0.9	0.9	0.9



TEST NUMBER: P188243

CATALOG NUMBER: FCC-N-4-LD4-1STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	60.7	35.4	16.3	7.3	3.6	0.0	0.9	0.9	0.9	0.9	0.9
115°	39.0	20.9	10.0	2.7	0.9	0.9	0.9	0.9	1.8	1.8	1.8
117.5°	24.5	12.7	6.3	0.9	0.9	0.9	1.8	1.8	1.8	1.8	2.7
120°	15.4	10.0	0.9	1.8	1.8	1.8	1.8	2.7	2.7	2.7	2.7
122.5°	10.9	2.7	1.8	1.8	2.7	2.7	2.7	2.7	3.6	3.6	3.6
125°	3.6	1.8	1.8	2.7	2.7	2.7	3.6	3.6	3.6	3.6	4.5
127.5°	1.8	1.8	2.7	2.7	2.7	3.6	3.6	3.6	4.5	4.5	4.5
130°	1.8	2.7	2.7	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5
132.5°	2.7	2.7	2.7	3.6	3.6	3.6	4.5	4.5	4.5	4.5	5.4
135°	2.7	2.7	3.6	3.6	3.6	3.6	4.5	4.5	4.5	4.5	5.4
137.5°	2.7	2.7	3.6	3.6	4.5	4.5	4.5	4.5	5.4	5.4	5.4
140°	2.7	3.6	3.6	3.6	4.5	4.5	4.5	4.5	5.4	5.4	5.4
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: P188243

CATALOG NUMBER: FCC-N-4-LD4-1STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5
2.5°	634.7	628.3	620.2	615.6	612.9	603.8	599.3	595.7	596.6	591.1	586.6
5°	622.0	611.1	597.5	590.2	585.7	572.1	563.9	555.8	551.3	542.2	534.0
7.5°	609.3	593.0	574.8	565.8	558.5	542.2	526.8	514.1	505.0	491.4	477.8
10°	594.8	573.9	551.3	538.6	529.5	505.9	486.9	469.7	454.2	436.1	418.9
12.5°	579.4	553.1	525.9	510.5	498.7	471.5	446.1	423.4	401.7	380.8	359.9
15°	562.1	532.2	497.8	481.4	467.8	432.5	402.6	377.2	351.8	326.4	305.5
17.5°	545.8	509.5	471.5	452.4	435.2	397.1	361.8	332.7	304.6	278.3	258.4
20°	526.8	486.9	442.5	421.6	402.6	359.0	322.8	291.0	262.0	236.6	214.9
22.5°	506.8	462.4	416.2	392.6	370.8	323.7	286.5	253.9	223.9	199.5	177.7
25°	486.0	437.0	385.3	361.8	338.2	290.1	250.2	218.5	188.6	163.2	144.2
27.5°	464.2	411.6	358.1	330.9	306.5	258.4	217.6	185.0	157.8	132.4	115.1
30°	440.6	385.3	327.3	301.0	275.6	227.6	186.8	155.0	128.7	106.1	87.9
32.5°	417.1	359.0	300.1	271.1	245.7	196.7	158.7	126.9	101.5	79.8	63.5
35°	392.6	331.8	271.1	243.0	216.7	168.6	130.6	100.6	77.1	57.1	43.5
37.5°	364.5	301.9	242.1	214.0	187.7	141.4	105.2	77.1	55.3	39.0	27.2
40°	338.2	272.9	213.1	185.9	160.5	115.1	81.6	55.3	36.3	23.6	14.5
42.5°	310.1	243.0	185.0	157.8	132.4	90.7	59.8	37.2	21.8	11.8	6.3
45°	280.2	213.1	155.9	129.7	106.1	68.0	39.9	21.8	10.9	4.5	2.7
47.5°	250.2	183.1	128.7	103.4	81.6	48.1	25.4	10.9	4.5	1.8	0.0
50°	219.4	155.0	102.5	78.9	59.8	30.8	12.7	4.5	1.8	0.0	0.0
52.5°	189.5	126.0	78.0	57.1	40.8	17.2	5.4	1.8	0.0	0.0	0.0
55°	159.6	99.7	56.2	38.1	24.5	8.2	2.7	0.0	0.0	0.0	0.0
57.5°	130.6	76.2	37.2	22.7	12.7	2.7	0.0	0.0	0.0	0.0	0.0
60°	103.4	52.6	21.8	10.9	4.5	1.8	0.0	0.0	0.0	0.0	0.0
62.5°	78.0	35.4	10.0	4.5	2.7	0.0	0.0	0.0	0.0	0.0	0.0
65°	55.3	19.9	3.6	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	35.4	9.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	20.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	10.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0



TEST NUMBER: P188243

CATALOG NUMBER: FCC-N-4-LD4-1STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	0.9	1.8	0.9	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
115°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9
117.5°	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8
120°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.8	1.8	1.8
122.5°	3.6	3.6	3.6	3.6	3.6	3.6	2.7	2.7	2.7	2.7	1.8
125°	4.5	4.5	3.6	3.6	3.6	3.6	3.6	2.7	2.7	2.7	2.7
127.5°	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	2.7	2.7	2.7
130°	4.5	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	2.7	2.7
132.5°	4.5	5.4	4.5	4.5	4.5	4.5	4.5	3.6	3.6	3.6	2.7
135°	5.4	5.4	5.4	4.5	4.5	4.5	4.5	3.6	3.6	3.6	2.7
137.5°	5.4	5.4	5.4	5.4	5.4	4.5	4.5	4.5	3.6	3.6	3.6
140°	5.4	5.4	5.4	5.4	5.4	5.4	4.5	4.5	3.6	3.6	3.6
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: P188243

CATALOG NUMBER: FCC-N-4-LD4-1STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	636.5	636.5	636.5	636.5	636.5	636.5	636.5	636.5
2.5°	583.0	580.3	578.5	575.7	573.0	571.2	570.3	573.9
5°	527.7	520.4	519.5	516.8	512.3	509.5	509.5	511.4
7.5°	468.7	457.0	455.1	451.5	445.2	440.6	438.8	440.6
10°	405.3	392.6	388.1	380.8	375.4	369.0	367.2	369.0
12.5°	348.2	333.7	324.6	318.2	311.0	303.7	302.8	302.8
15°	289.2	278.3	269.3	262.9	254.8	249.3	247.5	246.6
17.5°	242.1	230.3	221.2	214.9	207.6	200.4	198.6	197.7
20°	198.6	185.9	177.7	172.3	165.0	159.6	156.9	155.9
22.5°	161.4	148.7	142.3	136.9	130.6	123.3	122.4	121.5
25°	129.7	117.9	111.5	106.1	98.8	93.4	91.6	90.7
27.5°	100.6	88.9	82.5	78.0	71.6	68.0	65.3	64.4
30°	74.3	64.4	58.9	54.4	49.0	45.3	43.5	42.6
32.5°	51.7	43.5	39.0	35.4	30.8	28.1	26.3	25.4
35°	33.5	26.3	22.7	19.9	17.2	14.5	13.6	13.6
37.5°	19.0	13.6	11.8	10.0	7.3	6.3	5.4	4.5
40°	9.1	5.4	4.5	2.7	1.8	0.9	0.9	0.9
42.5°	2.7	1.8	1.8	0.9	0.0	0.0	0.0	0.0
45°	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P188243

CATALOG NUMBER: FCC-N-4-LD4-1STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0
120°	1.8	0.9	0.9	0.9	0.9	0.9	0.0	0.0
122.5°	1.8	1.8	1.8	0.9	0.9	0.9	0.9	0.0
125°	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9
127.5°	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9
130°	2.7	1.8	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	2.7	1.8	1.8	1.8	1.8	1.8	1.8
137.5°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8
140°	2.7	2.7	2.7	2.7	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)