

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: P188244

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188244
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-LD4-1LO-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: 2116.8 lumens
Efficiency: N/A
Efficacy: 85.7 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

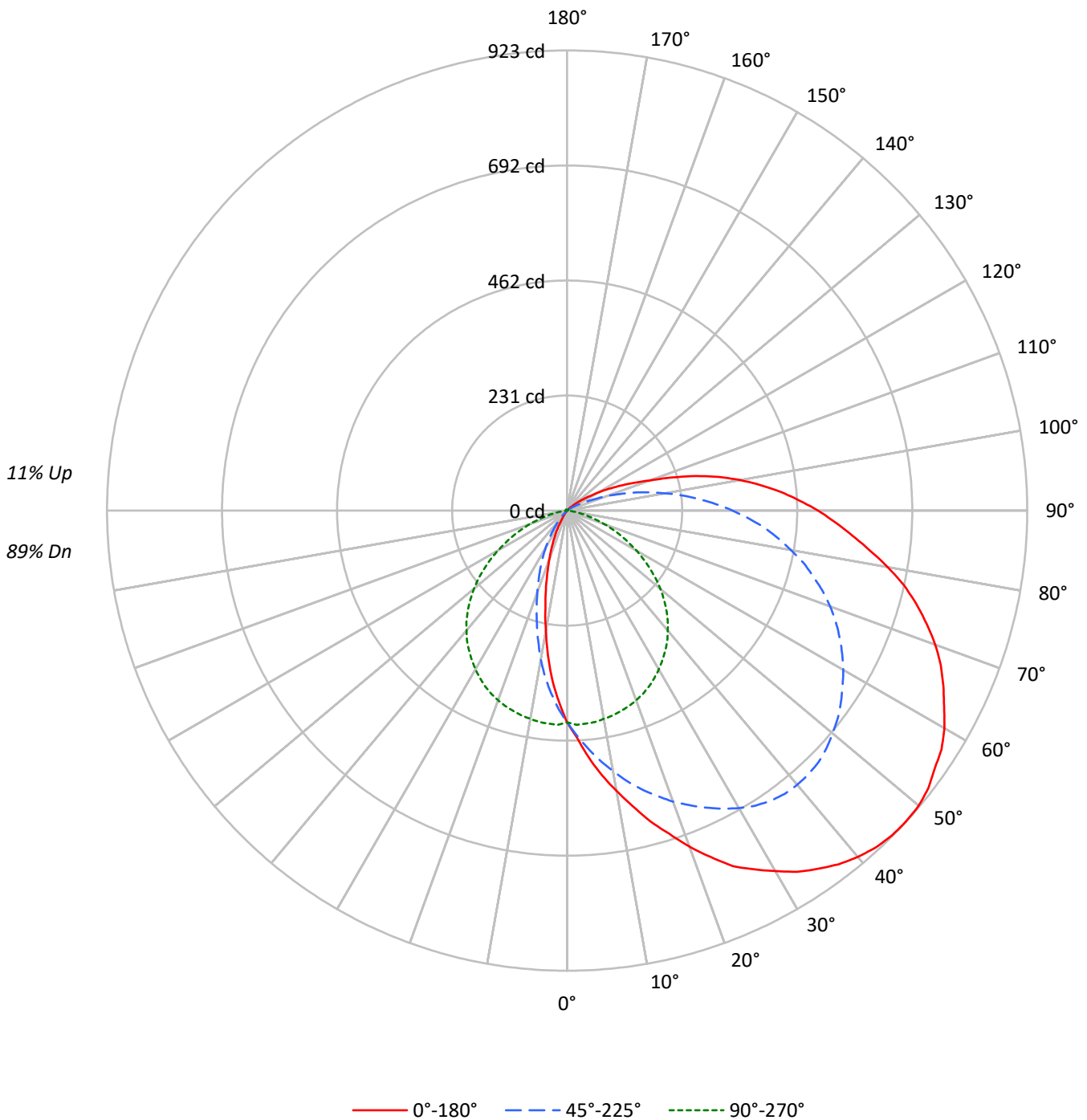
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3112	3112	3112
5°	3262	3120	2238
10°	3414	3084	1472
15°	3569	3049	910
20°	3717	3011	539
25°	3863	2962	297
30°	3921	2891	133
35°	3979	2807	41
40°	4007	2702	3
45°	3998	2573	0
50°	3954	2399	0
55°	3856	2177	0
60°	3760	1910	0
65°	3629	1600	0
70°	3497	1245	0
75°	3322	836	0
80°	3104	438	0
85°	2861	100	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.1	1.9
10°-20°	115.6	5.5
20°-30°	184.5	8.7
30°-40°	242.2	11.4
40°-50°	281.4	13.3
50°-60°	295.1	13.9
60°-70°	283.5	13.4
70°-80°	247.0	11.7
80°-90°	190.7	9.0
90°-100°	129.2	6.1
100°-110°	70.3	3.3
110°-120°	26.6	1.3
120°-130°	8.0	0.4
130°-140°	2.4	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°	340.2	16.1
0°-40°	582.4	27.5
0°-60°	1159.0	54.7
0°-90°	1880.2	88.8
90°-120°	226.1	10.7
90°-150°	236.6	11.2
90°-180°	237.0	11.2
0°-180°	2116.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	425	425	425	425	425	
5°	497	479	429	368	341	50
15°	646	579	416	235	165	185
25°	787	658	389	126	60	363
35°	877	711	343	51	9	551
45°	921	713	281	7	0	712
55°	900	670	203	0	0	807
65°	832	603	119	0	0	825
75°	725	511	44	0	0	765
85°	574	398	3	0	0	485
90°	503	332	0	0	0	276
95°	430	265	0	0	0	335
105°	268	139	0	0	0	282
115°	118	42	1	1	0	120
125°	40	8	2	2	1	39
135°	8	1	3	2	1	6
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°	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7
2.5°	456.2	458.0	458.0	459.8	459.8	458.6	458.0	459.2	458.6	455.0	451.9
5°	497.3	496.1	495.5	496.1	494.9	493.1	491.3	491.3	488.8	482.8	479.2
7.5°	535.4	534.8	533.6	533.6	530.6	527.6	525.8	523.9	519.7	511.2	505.2
10°	571.1	571.7	570.5	569.9	566.3	563.3	560.2	556.6	550.6	539.7	530.6
12.5°	606.8	607.4	606.8	605.0	599.6	596.5	592.3	588.1	580.2	566.9	556.0
15°	645.5	642.5	641.3	638.9	632.2	628.6	625.0	617.1	607.4	592.9	579.0
17.5°	679.4	678.2	675.8	672.2	664.3	660.7	655.2	646.2	634.1	615.9	600.2
20°	717.5	713.9	710.9	705.4	696.4	691.5	686.1	673.4	658.9	638.9	621.3
22.5°	752.0	752.0	747.2	742.3	729.0	722.4	713.9	700.0	681.8	661.3	639.5
25°	787.1	786.5	780.5	775.0	761.1	753.8	746.0	727.8	706.7	682.5	657.6
27.5°	811.3	810.7	807.7	801.6	789.5	782.3	772.6	755.1	732.1	702.4	674.0
30°	834.9	833.7	828.3	822.2	810.7	802.8	793.8	776.8	752.0	722.4	689.1
32.5°	859.1	856.1	851.2	842.8	828.9	819.8	810.1	790.7	767.2	736.3	701.8
35°	877.3	874.8	868.2	858.5	843.4	834.3	824.6	804.1	778.6	747.2	710.9
37.5°	894.2	890.6	882.1	871.2	854.9	844.0	833.7	811.9	785.9	754.4	716.3
40°	906.9	903.3	896.0	881.5	863.4	851.9	841.0	816.8	790.1	756.9	718.1
42.5°	916.6	912.4	902.7	888.8	868.2	857.3	845.8	822.2	792.0	757.5	716.9
45°	921.4	917.8	908.1	892.4	874.8	864.0	853.1	830.1	795.6	758.7	713.3
47.5°	922.6	918.4	909.3	891.8	870.0	857.9	844.0	815.6	785.3	748.4	705.4
50°	920.8	916.6	905.7	888.2	866.4	852.5	839.1	808.9	776.2	738.1	695.2
52.5°	913.6	909.9	900.3	884.5	861.5	847.6	832.5	802.2	767.8	728.4	684.3
55°	900.3	898.4	889.4	874.8	851.2	838.5	824.6	792.6	755.7	715.7	670.4
57.5°	890.6	886.3	879.7	864.0	840.4	827.0	813.1	779.9	743.6	701.2	655.2
60°	873.6	870.6	862.1	848.2	828.3	815.6	801.6	765.9	729.0	684.9	639.5
62.5°	852.5	851.9	844.0	831.9	812.5	799.2	785.3	750.8	712.1	667.9	622.0
65°	832.5	830.1	825.2	813.7	794.4	779.9	766.5	733.3	693.3	648.6	603.2
67.5°	811.3	808.9	804.1	790.1	772.0	761.1	747.2	711.5	672.2	628.6	583.2
70°	785.9	784.7	777.4	764.7	747.8	736.3	722.4	689.1	649.2	606.8	561.4
72.5°	756.3	754.4	747.2	737.5	720.6	707.9	693.3	661.9	623.8	582.6	537.2
75°	725.4	723.6	716.9	704.8	687.9	675.8	662.5	632.2	596.5	556.6	511.2
77.5°	692.1	689.7	683.1	671.0	652.2	641.9	631.0	600.8	567.5	528.2	485.8
80°	652.8	652.8	643.1	632.2	616.5	607.4	597.1	568.1	537.2	499.1	455.6
82.5°	612.3	611.7	602.6	594.1	579.6	570.5	559.0	534.2	504.6	469.5	427.1
85°	574.2	574.2	565.1	557.8	543.3	534.2	524.5	499.7	471.3	436.8	397.5
87.5°	537.9	537.9	531.2	521.5	507.0	497.9	489.5	464.0	436.2	404.1	364.8
90°	503.4	503.4	496.7	486.4	471.3	462.8	455.0	429.6	401.7	369.7	331.5
92.5°	465.9	467.1	460.4	450.7	436.2	428.3	419.3	394.5	367.2	335.2	298.3
95°	429.6	430.8	424.1	414.4	401.1	392.7	384.2	359.4	332.8	300.7	265.0
97.5°	391.4	391.4	386.0	376.9	364.2	356.4	347.9	324.3	298.3	266.8	232.3
100°	352.1	352.1	346.7	338.8	326.1	318.8	311.0	288.6	263.2	232.9	199.7
102.5°	311.6	311.6	306.7	299.5	287.4	283.1	273.5	252.3	228.7	200.9	168.8
105°	268.0	266.8	264.4	257.1	246.2	241.4	234.1	213.6	193.0	168.2	139.2
107.5°	220.2	221.4	217.2	211.8	202.7	199.0	192.4	175.5	157.3	135.5	110.1
110°	176.1	176.7	173.0	168.8	161.5	156.7	153.1	138.5	123.4	105.3	83.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	145.2	143.4	141.0	136.1	129.5	125.8	119.8	108.3	95.0	79.3	60.5
115°	118.0	116.8	115.0	110.1	103.5	100.4	94.4	84.1	72.0	58.1	42.4
117.5°	94.4	93.2	91.4	87.1	81.1	78.0	73.8	63.5	53.2	41.1	28.4
120°	73.2	72.0	70.8	67.2	61.7	59.3	54.5	46.0	36.9	27.2	17.5
122.5°	55.1	54.5	53.2	49.6	45.4	43.0	38.7	32.1	24.2	17.5	10.9
125°	40.5	39.9	38.1	35.1	31.5	29.6	26.6	21.2	15.7	10.9	8.5
127.5°	28.4	27.8	26.6	24.2	21.2	19.4	17.5	13.9	10.9	8.5	3.0
130°	18.8	18.8	17.5	15.7	13.9	12.7	11.5	9.7	7.9	2.4	1.2
132.5°	12.1	12.1	11.5	10.9	9.7	9.1	8.5	6.7	1.2	1.2	1.2
135°	8.5	8.5	8.5	7.9	5.4	3.6	0.6	0.6	1.2	1.2	1.2
137.5°	1.2	0.6	0.0	0.6	0.6	0.6	0.6	1.2	1.2	1.2	1.8
140°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.2	1.2	1.2	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7
2.5°	450.7	449.5	446.5	441.7	439.2	438.0	435.6	433.8	433.2	430.2	427.1
5°	474.3	470.7	464.6	456.8	452.5	450.1	444.7	439.2	435.0	429.0	422.3
7.5°	497.3	491.3	482.2	471.3	465.9	461.6	453.2	445.3	437.4	427.7	416.9
10°	519.7	510.6	499.1	485.2	478.6	472.5	460.4	448.9	437.4	424.1	410.2
12.5°	543.3	530.0	515.5	497.9	489.5	482.2	466.5	451.3	437.4	421.1	403.5
15°	563.3	547.5	530.6	510.0	499.7	490.1	471.9	453.8	436.2	416.2	395.7
17.5°	582.6	564.5	544.5	521.5	509.4	498.5	476.1	455.0	434.4	411.4	387.8
20°	599.6	578.4	556.6	530.6	517.3	504.6	479.8	454.4	430.2	404.8	377.5
22.5°	615.3	591.7	566.9	537.9	523.3	509.4	481.0	453.2	426.5	397.5	367.8
25°	631.0	602.6	575.4	543.9	528.2	513.0	482.2	450.7	420.5	389.0	356.4
27.5°	643.7	611.7	582.0	548.1	530.6	513.7	480.4	447.1	413.2	378.7	344.3
30°	655.2	620.1	587.5	550.6	531.8	513.7	477.4	441.1	405.4	367.8	330.9
32.5°	664.3	626.2	590.5	551.2	531.8	511.8	473.1	434.4	395.7	355.7	317.6
35°	671.6	629.8	591.7	550.6	529.4	508.2	468.3	427.1	386.0	343.0	302.5
37.5°	675.8	632.2	590.5	547.5	525.8	504.0	461.0	417.5	374.5	329.7	286.2
40°	677.0	631.6	587.5	542.7	520.3	497.3	452.5	407.2	361.2	314.0	269.2
42.5°	675.2	628.6	583.2	537.2	513.0	488.8	442.3	394.5	347.3	298.9	251.7
45°	669.1	623.2	576.0	528.2	503.4	479.8	430.2	381.2	331.5	281.3	232.9
47.5°	661.3	615.3	566.3	517.3	491.9	467.7	416.9	365.4	314.6	263.2	213.6
50°	651.0	604.4	554.2	504.6	478.6	453.2	401.1	348.5	296.5	243.8	193.0
52.5°	638.3	591.7	540.9	490.7	464.0	438.0	384.8	330.9	277.1	223.9	173.0
55°	623.8	576.6	526.4	474.3	448.3	420.5	365.4	312.2	257.1	202.7	151.9
57.5°	609.2	559.6	509.4	457.4	430.8	402.3	347.3	292.2	236.0	181.5	131.3
60°	591.1	542.1	491.9	438.6	411.4	383.6	327.3	271.6	215.4	160.3	111.3
62.5°	572.9	523.3	472.5	419.3	391.4	364.2	306.7	250.5	194.2	139.2	92.0
65°	554.2	503.4	451.9	397.5	370.9	342.4	285.0	229.3	173.0	118.6	73.2
67.5°	533.6	483.4	430.8	376.9	349.1	321.3	263.2	206.9	150.6	98.6	55.7
70°	511.8	460.4	407.8	353.9	324.9	298.9	240.2	183.9	128.3	79.3	39.9
72.5°	488.2	437.4	384.8	329.7	301.3	275.3	216.0	160.3	107.1	61.1	26.6
75°	463.4	412.0	360.0	304.3	277.1	249.3	191.8	137.9	87.1	44.2	15.7
77.5°	436.8	386.6	334.6	280.7	252.3	225.1	168.8	115.0	67.8	30.3	7.3
80°	409.0	359.4	308.0	254.1	226.3	199.7	144.6	93.2	49.6	18.2	2.4
82.5°	381.2	331.5	280.1	227.5	200.9	173.6	122.2	72.6	33.9	9.1	0.0
85°	350.9	301.9	251.7	200.3	174.8	147.6	98.6	53.8	20.6	3.0	0.0
87.5°	320.1	272.3	222.6	173.0	148.2	122.8	77.4	38.1	10.3	0.0	0.0
90°	288.6	242.0	194.2	146.4	122.8	99.2	58.1	24.2	3.6	0.0	0.0
92.5°	255.9	211.1	165.8	119.8	98.6	76.8	40.5	13.3	0.6	0.0	0.0
95°	223.9	180.9	137.9	95.6	76.2	56.9	26.0	5.4	0.0	0.0	0.0
97.5°	193.0	152.5	111.9	73.2	56.3	39.3	15.1	1.8	0.0	0.0	0.0
100°	162.7	124.6	87.7	53.8	38.7	25.4	7.3	0.6	0.0	0.0	0.0
102.5°	133.1	99.2	65.9	36.9	25.4	14.5	3.0	0.0	0.0	0.0	0.0
105°	106.5	75.6	47.2	23.6	14.5	7.9	1.2	0.0	0.0	0.0	0.0
107.5°	81.7	55.1	31.5	13.9	7.9	4.2	0.0	0.0	0.0	0.0	0.0
110°	59.3	37.5	19.4	7.3	4.2	1.8	0.0	0.0	0.6	0.6	0.6



TEST NUMBER: P188244

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	40.5	23.6	10.9	4.8	2.4	0.0	0.6	0.6	0.6	0.6	0.6
115°	26.0	13.9	6.7	1.8	0.6	0.6	0.6	0.6	1.2	1.2	1.2
117.5°	16.3	8.5	4.2	0.6	0.6	0.6	1.2	1.2	1.2	1.2	1.8
120°	10.3	6.7	0.6	1.2	1.2	1.2	1.2	1.8	1.8	1.8	1.8
122.5°	7.3	1.8	1.2	1.2	1.8	1.8	1.8	1.8	2.4	2.4	2.4
125°	2.4	1.2	1.2	1.8	1.8	1.8	2.4	2.4	2.4	2.4	3.0
127.5°	1.2	1.2	1.8	1.8	1.8	2.4	2.4	2.4	3.0	3.0	3.0
130°	1.2	1.8	1.8	2.4	2.4	2.4	2.4	3.0	3.0	3.0	3.0
132.5°	1.8	1.8	1.8	2.4	2.4	2.4	3.0	3.0	3.0	3.0	3.6
135°	1.8	1.8	2.4	2.4	2.4	2.4	3.0	3.0	3.0	3.0	3.6
137.5°	1.8	1.8	2.4	2.4	3.0	3.0	3.0	3.0	3.6	3.6	3.6
140°	1.8	2.4	2.4	2.4	3.0	3.0	3.0	3.0	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: P188244

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7
2.5°	423.5	419.3	413.8	410.8	409.0	402.9	399.9	397.5	398.1	394.5	391.4
5°	415.0	407.8	398.7	393.9	390.8	381.8	376.3	370.9	367.8	361.8	356.4
7.5°	406.6	395.7	383.6	377.5	372.7	361.8	351.5	343.0	337.0	327.9	318.8
10°	396.9	383.0	367.8	359.4	353.3	337.6	324.9	313.4	303.1	291.0	279.5
12.5°	386.6	369.1	350.9	340.6	332.8	314.6	297.7	282.5	268.0	254.1	240.2
15°	375.1	355.1	332.2	321.3	312.2	288.6	268.6	251.7	234.7	217.8	203.9
17.5°	364.2	340.0	314.6	301.9	290.4	265.0	241.4	222.0	203.3	185.7	172.4
20°	351.5	324.9	295.2	281.3	268.6	239.6	215.4	194.2	174.8	157.9	143.4
22.5°	338.2	308.6	277.7	262.0	247.4	216.0	191.2	169.4	149.4	133.1	118.6
25°	324.3	291.6	257.1	241.4	225.7	193.6	167.0	145.8	125.8	108.9	96.2
27.5°	309.8	274.7	239.0	220.8	204.5	172.4	145.2	123.4	105.3	88.3	76.8
30°	294.0	257.1	218.4	200.9	183.9	151.9	124.6	103.5	85.9	70.8	58.7
32.5°	278.3	239.6	200.3	180.9	164.0	131.3	105.9	84.7	67.8	53.2	42.4
35°	262.0	221.4	180.9	162.1	144.6	112.5	87.1	67.2	51.4	38.1	29.0
37.5°	243.2	201.5	161.5	142.8	125.2	94.4	70.2	51.4	36.9	26.0	18.2
40°	225.7	182.1	142.2	124.0	107.1	76.8	54.5	36.9	24.2	15.7	9.7
42.5°	206.9	162.1	123.4	105.3	88.3	60.5	39.9	24.8	14.5	7.9	4.2
45°	186.9	142.2	104.1	86.5	70.8	45.4	26.6	14.5	7.3	3.0	1.8
47.5°	167.0	122.2	85.9	69.0	54.5	32.1	16.9	7.3	3.0	1.2	0.0
50°	146.4	103.5	68.4	52.6	39.9	20.6	8.5	3.0	1.2	0.0	0.0
52.5°	126.4	84.1	52.0	38.1	27.2	11.5	3.6	1.2	0.0	0.0	0.0
55°	106.5	66.6	37.5	25.4	16.3	5.4	1.8	0.0	0.0	0.0	0.0
57.5°	87.1	50.8	24.8	15.1	8.5	1.8	0.0	0.0	0.0	0.0	0.0
60°	69.0	35.1	14.5	7.3	3.0	1.2	0.0	0.0	0.0	0.0	0.0
62.5°	52.0	23.6	6.7	3.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
65°	36.9	13.3	2.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	23.6	6.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	13.9	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	6.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.6	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	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0



TEST NUMBER: P188244

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	0.6	1.2	0.6	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6
115°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.6	0.6	0.6
117.5°	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
120°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.2	1.2
122.5°	2.4	2.4	2.4	2.4	2.4	2.4	1.8	1.8	1.8	1.8	1.2
125°	3.0	3.0	2.4	2.4	2.4	2.4	2.4	1.8	1.8	1.8	1.8
127.5°	3.0	3.0	3.0	3.0	3.0	2.4	2.4	2.4	1.8	1.8	1.8
130°	3.0	3.0	3.0	3.0	3.0	3.0	2.4	2.4	2.4	1.8	1.8
132.5°	3.0	3.6	3.0	3.0	3.0	3.0	3.0	2.4	2.4	2.4	1.8
135°	3.6	3.6	3.6	3.0	3.0	3.0	3.0	2.4	2.4	2.4	1.8
137.5°	3.6	3.6	3.6	3.6	3.6	3.0	3.0	3.0	2.4	2.4	2.4
140°	3.6	3.6	3.6	3.6	3.6	3.6	3.0	3.0	2.4	2.4	2.4
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: P188244

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	424.7	424.7	424.7	424.7	424.7	424.7	424.7	424.7
2.5°	389.0	387.2	386.0	384.2	382.4	381.2	380.6	383.0
5°	352.1	347.3	346.7	344.9	341.8	340.0	340.0	341.2
7.5°	312.8	304.9	303.7	301.3	297.1	294.0	292.8	294.0
10°	270.4	262.0	258.9	254.1	250.5	246.2	245.0	246.2
12.5°	232.3	222.6	216.6	212.4	207.5	202.7	202.1	202.1
15°	193.0	185.7	179.7	175.5	170.0	166.4	165.2	164.6
17.5°	161.5	153.7	147.6	143.4	138.5	133.7	132.5	131.9
20°	132.5	124.0	118.6	115.0	110.1	106.5	104.7	104.1
22.5°	107.7	99.2	95.0	91.4	87.1	82.3	81.7	81.1
25°	86.5	78.7	74.4	70.8	65.9	62.3	61.1	60.5
27.5°	67.2	59.3	55.1	52.0	47.8	45.4	43.6	43.0
30°	49.6	43.0	39.3	36.3	32.7	30.3	29.0	28.4
32.5°	34.5	29.0	26.0	23.6	20.6	18.8	17.5	16.9
35°	22.4	17.5	15.1	13.3	11.5	9.7	9.1	9.1
37.5°	12.7	9.1	7.9	6.7	4.8	4.2	3.6	3.0
40°	6.1	3.6	3.0	1.8	1.2	0.6	0.6	0.6
42.5°	1.8	1.2	1.2	0.6	0.0	0.0	0.0	0.0
45°	0.6	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: P188244

CATALOG NUMBER: FCC-N-4-LD4-1LO-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°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
120°	1.2	0.6	0.6	0.6	0.6	0.6	0.0	0.0
122.5°	1.2	1.2	1.2	0.6	0.6	0.6	0.6	0.0
125°	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6
127.5°	1.2	1.2	1.2	1.2	1.2	0.6	0.6	0.6
130°	1.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2
132.5°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
135°	1.8	1.8	1.2	1.2	1.2	1.2	1.2	1.2
137.5°	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2
140°	1.8	1.8	1.8	1.8	1.2	1.2	1.2	1.2
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)