

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: P188239

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188239
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-LD4-2LO-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: 2184.7 lumens
Efficiency: N/A
Efficacy: 88.4 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

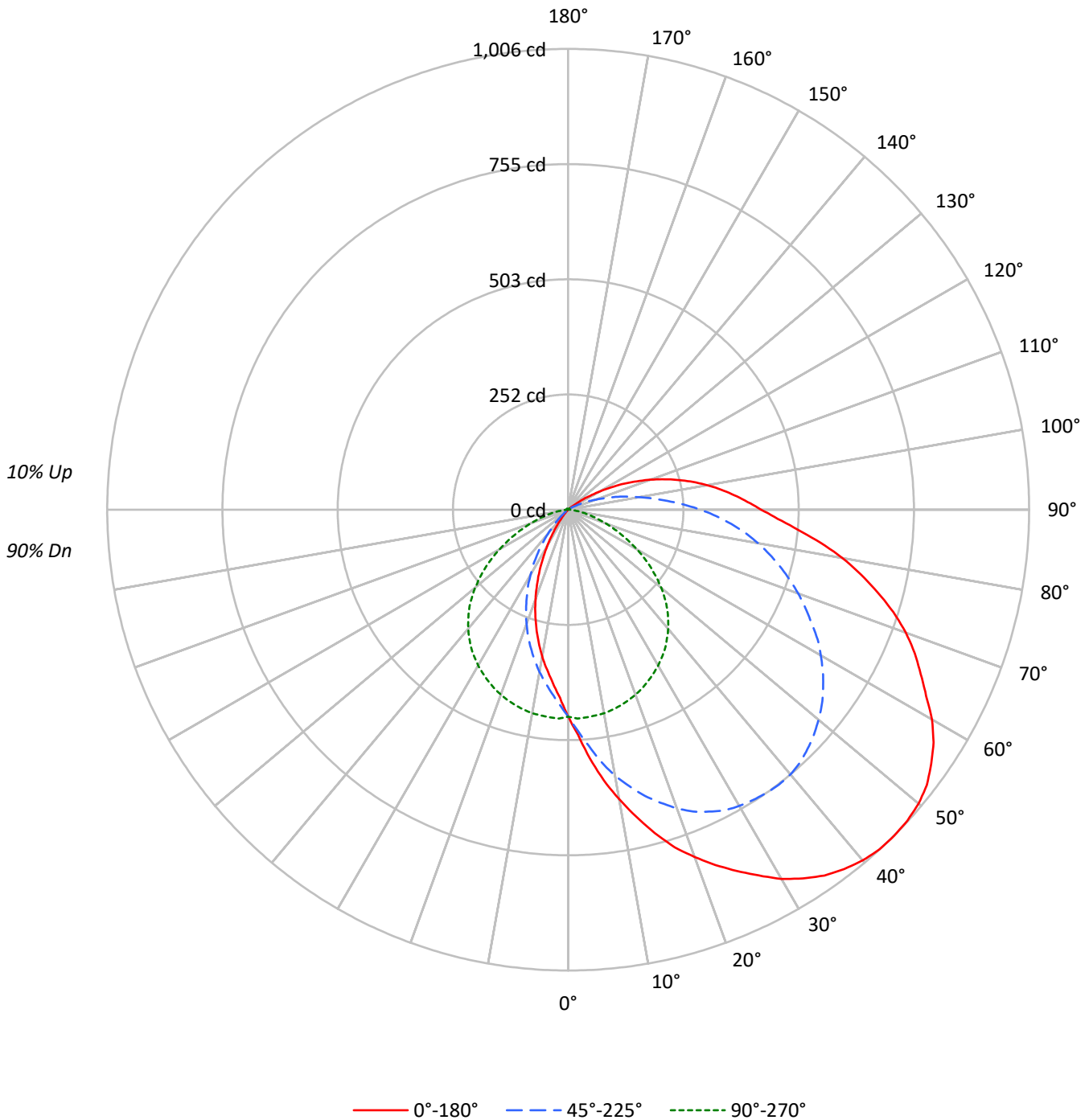
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	6765	6765	6765
5°	7308	6683	5098
10°	7841	6546	3986
15°	8256	6394	3030
20°	8540	6232	2204
25°	8726	6057	1485
30°	8933	5874	877
35°	9036	5668	414
40°	9025	5406	126
45°	8921	5089	0
50°	8759	4662	0
55°	8462	4142	6
60°	8063	3519	6
65°	7560	2852	12
70°	7128	2158	12
75°	6550	1514	12
80°	5906	906	13
85°	5123	418	13



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.2	2.0
10°-20°	134.7	6.2
20°-30°	215.7	9.9
30°-40°	274.0	12.5
40°-50°	304.6	13.9
50°-60°	309.1	14.1
60°-70°	284.5	13.0
70°-80°	237.4	10.9
80°-90°	171.6	7.9
90°-100°	109.5	5.0
100°-110°	62.7	2.9
110°-120°	27.5	1.3
120°-130°	7.3	0.3
130°-140°	1.7	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°	394.6	18.1
0°-40°	668.6	30.6
0°-60°	1282.4	58.7
0°-90°	1975.8	90.4
90°-120°	199.7	9.1
90°-150°	208.9	9.6
90°-180°	209.0	9.6
0°-180°	2184.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	452	452	452	452	452	
5°	545	518	455	403	380	55
15°	731	647	442	314	268	209
25°	870	727	413	214	148	404
35°	975	755	369	115	45	611
45°	1006	739	306	34	0	777
55°	967	679	220	2	1	864
65°	849	586	127	2	1	843
75°	700	478	53	3	1	738
85°	503	357	10	3	1	433
90°	421	289	3	3	1	232
95°	364	218	3	3	1	286
105°	250	107	3	3	1	265
115°	134	31	3	3	1	134
125°	37	1	3	3	1	37
135°	0	1	3	3	1	2
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°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	491.8	489.1	489.1	487.8	487.8	487.8	487.1	489.1	484.4	485.8	483.1
5°	545.2	543.2	542.5	543.2	537.8	537.2	535.1	534.5	529.1	524.5	517.8
7.5°	595.9	595.2	593.9	592.5	587.2	585.9	582.5	579.2	571.2	564.5	555.8
10°	641.9	639.2	639.9	635.9	629.9	627.9	624.6	619.2	609.9	601.2	589.9
12.5°	686.6	683.3	681.9	676.6	670.6	667.3	663.3	655.9	644.6	633.2	618.6
15°	730.7	728.7	727.3	721.3	711.3	707.3	702.0	692.0	677.3	663.3	646.6
17.5°	772.7	768.7	767.4	760.0	750.7	746.0	740.0	726.7	710.0	692.0	670.6
20°	806.7	804.1	800.7	794.0	783.4	778.0	770.7	756.7	738.7	717.3	694.0
22.5°	839.4	837.4	833.4	824.7	814.1	806.1	798.1	781.4	762.7	739.3	713.3
25°	870.1	868.1	863.4	853.4	840.8	832.1	824.1	804.1	782.0	756.0	727.3
27.5°	900.1	898.1	893.5	882.1	866.1	856.8	847.4	824.7	799.4	770.7	740.0
30°	930.8	928.8	921.5	908.8	891.5	880.1	868.8	842.1	812.7	781.4	746.7
32.5°	954.2	951.5	944.2	931.5	912.2	900.8	888.1	859.4	825.4	790.0	751.3
35°	974.9	970.2	962.9	948.2	927.5	914.2	902.1	871.5	835.4	796.7	754.7
37.5°	988.9	985.6	975.5	958.9	938.2	923.5	910.8	878.8	841.4	801.4	756.0
40°	999.6	995.6	984.9	966.9	943.5	930.8	918.2	888.1	847.4	801.4	754.7
42.5°	1005.6	1000.9	988.9	969.5	944.2	931.5	916.2	887.5	845.4	796.7	748.7
45°	1006.2	1001.6	990.2	967.5	940.2	925.5	908.2	872.8	834.1	790.0	738.7
47.5°	1004.2	999.6	985.6	962.9	934.2	917.5	900.8	863.4	823.4	778.7	727.3
50°	998.2	992.9	979.5	956.2	926.8	908.8	891.5	852.8	811.4	764.0	713.3
52.5°	986.9	980.9	967.5	944.9	914.2	897.5	880.8	840.1	796.7	748.0	698.0
55°	966.9	963.5	950.2	928.2	898.8	882.1	864.1	824.7	779.4	730.0	679.3
57.5°	945.5	940.8	930.8	908.2	878.1	862.8	844.1	804.7	757.3	709.3	659.3
60°	916.8	912.2	901.5	880.8	853.4	836.1	818.7	779.4	732.0	685.3	636.6
62.5°	880.8	880.1	870.8	852.1	824.7	808.7	792.0	752.0	708.0	660.6	613.9
65°	848.8	845.4	838.1	820.1	793.4	777.4	760.7	724.0	678.6	635.2	585.9
67.5°	818.7	814.7	806.1	787.4	762.7	746.7	732.0	694.0	651.3	607.9	560.5
70°	784.0	781.4	773.4	758.0	732.7	716.0	703.3	663.3	623.2	580.5	533.8
72.5°	744.0	741.3	733.3	720.6	697.3	684.6	669.9	633.9	594.5	552.5	506.5
75°	700.0	696.6	690.6	676.6	657.9	644.6	634.6	601.2	565.8	522.5	478.4
77.5°	654.6	651.9	644.6	632.6	615.9	606.5	595.2	565.8	533.1	493.8	449.7
80°	607.9	605.9	597.2	587.2	574.5	564.5	554.5	528.5	498.4	461.7	420.4
82.5°	555.8	555.8	548.5	540.5	530.5	522.5	511.8	488.4	462.4	427.7	390.4
85°	503.1	502.5	497.1	490.4	479.8	475.1	466.4	447.7	424.4	392.4	357.0
87.5°	457.7	456.4	450.4	443.1	434.4	428.4	419.7	403.0	383.7	355.7	323.6
90°	421.0	420.4	413.7	405.7	393.7	388.4	379.7	361.7	342.3	317.0	288.9
92.5°	391.7	390.4	383.0	375.0	363.0	355.7	345.6	326.3	303.6	277.6	252.9
95°	363.7	362.3	355.7	347.0	334.3	326.3	316.3	296.3	271.6	243.6	218.2
97.5°	336.3	335.0	328.3	319.0	306.9	298.3	288.9	267.6	242.2	214.2	186.2
100°	308.3	306.3	300.3	290.9	279.6	270.2	260.9	239.5	214.9	186.2	157.5
102.5°	279.6	278.3	272.9	263.6	250.9	242.9	232.9	212.9	187.5	159.5	132.1
105°	250.2	248.9	242.9	234.9	222.2	214.2	204.9	184.8	160.8	133.5	107.4
107.5°	220.9	220.2	215.5	206.2	194.2	186.2	177.5	158.1	134.8	110.1	84.7
110°	191.5	190.2	186.2	177.5	165.5	158.1	149.5	131.5	110.1	86.1	64.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	162.1	161.5	155.5	148.8	138.1	130.8	122.8	106.1	86.7	64.7	46.7
115°	134.1	132.8	127.4	120.8	110.8	104.1	96.8	81.4	64.7	46.0	31.4
117.5°	106.1	105.4	100.1	94.1	84.7	79.4	72.1	59.4	45.4	31.4	20.0
120°	80.1	79.4	75.4	70.1	61.4	56.7	50.7	40.7	29.4	19.4	12.0
122.5°	56.7	56.1	52.7	47.4	41.4	37.4	33.4	25.4	17.3	11.3	7.3
125°	36.7	36.7	33.4	30.7	25.4	22.7	19.4	14.7	10.0	6.7	1.3
127.5°	21.4	21.4	19.4	17.3	14.0	12.7	11.3	8.7	6.0	1.3	1.3
130°	11.3	11.3	10.0	9.3	8.0	6.7	6.0	2.0	0.7	1.3	1.3
132.5°	6.0	6.0	6.0	4.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3
135°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3
137.5°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3
140°	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3
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°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	479.8	478.4	475.1	472.4	470.4	469.8	466.4	463.1	459.7	456.4	453.1
5°	511.1	505.8	497.8	490.4	486.4	483.8	476.4	469.1	462.4	455.1	448.4
7.5°	544.5	535.1	523.1	511.1	504.5	498.4	486.4	475.1	463.8	453.1	443.1
10°	575.9	562.5	547.2	531.1	521.8	513.8	496.4	480.4	465.1	451.1	437.7
12.5°	603.2	586.5	569.2	549.2	538.5	528.5	507.1	485.8	465.8	447.1	431.1
15°	627.2	607.9	586.5	565.2	552.5	540.5	515.1	489.8	464.4	442.4	422.4
17.5°	648.6	625.9	601.2	577.2	563.8	550.5	521.8	492.4	463.8	436.4	413.7
20°	668.6	641.2	613.9	586.5	571.8	557.2	526.5	493.8	461.1	429.7	403.7
22.5°	685.3	655.3	623.9	592.5	577.9	561.8	528.5	493.8	456.4	421.7	392.4
25°	698.0	666.6	632.6	597.9	579.9	563.2	527.8	491.1	451.7	413.0	380.3
27.5°	706.0	673.3	637.2	599.9	581.2	561.8	524.5	487.1	446.4	403.0	367.0
30°	711.3	675.3	637.2	599.2	579.9	559.8	519.1	479.8	437.1	393.0	353.0
32.5°	713.3	674.6	634.6	594.5	575.2	554.5	512.5	471.1	429.1	381.0	338.3
35°	712.0	670.6	629.2	587.9	567.8	546.5	503.8	460.4	417.0	369.0	322.3
37.5°	708.6	663.9	621.2	579.2	558.5	536.5	492.4	447.7	403.0	354.3	306.3
40°	703.3	656.6	611.9	568.5	546.5	523.8	478.4	433.7	388.4	339.6	290.3
42.5°	696.0	647.9	601.2	554.5	532.5	509.8	463.8	417.7	371.7	323.0	272.9
45°	687.3	637.2	588.5	539.8	517.1	493.8	447.7	400.4	353.0	305.6	254.2
47.5°	676.6	625.2	574.5	525.8	502.5	477.1	429.7	381.0	333.6	285.6	235.5
50°	662.6	611.2	559.8	509.8	484.4	459.1	409.7	361.0	312.9	264.9	216.2
52.5°	646.6	594.5	543.2	491.8	467.1	440.4	389.0	339.0	290.9	242.2	194.8
55°	627.9	577.2	525.8	473.8	448.4	420.4	368.3	317.0	268.2	220.2	173.5
57.5°	608.5	557.8	506.5	453.7	427.7	400.4	346.3	292.9	244.2	196.8	150.8
60°	586.5	536.5	484.4	433.7	407.7	378.3	324.3	269.6	218.9	172.8	128.8
62.5°	565.2	515.1	463.1	412.4	387.0	357.7	302.3	246.9	195.5	149.5	108.1
65°	539.8	491.1	440.4	390.4	363.7	336.3	280.3	224.2	172.8	127.4	86.7
67.5°	515.1	465.8	416.4	367.0	341.6	312.9	258.2	202.2	150.1	106.1	69.4
70°	487.8	439.7	391.0	341.6	317.6	290.9	235.5	180.2	128.8	86.1	52.7
72.5°	460.4	411.7	363.0	315.6	291.6	265.6	211.5	158.8	109.4	68.7	38.0
75°	431.7	383.0	334.3	287.6	264.2	239.5	187.5	138.8	90.1	52.7	26.7
77.5°	403.7	353.7	304.9	258.2	236.2	212.2	162.1	116.8	72.1	38.7	17.3
80°	375.0	325.0	275.6	229.5	206.9	184.8	137.5	95.4	55.4	26.7	10.7
82.5°	345.6	298.3	248.9	200.2	178.8	156.1	112.8	74.7	40.7	16.7	6.7
85°	315.0	268.2	220.2	172.2	150.8	130.1	89.4	56.1	27.4	10.0	4.0
87.5°	284.3	240.2	192.8	146.1	125.4	105.4	68.1	39.4	16.7	5.3	3.3
90°	252.2	210.9	165.5	121.4	101.4	83.4	49.4	25.4	9.3	3.3	3.3
92.5°	220.2	182.2	140.1	98.1	80.1	63.4	34.0	16.0	5.3	3.3	3.3
95°	188.2	152.1	115.4	77.4	61.4	46.0	22.7	9.3	3.3	2.7	3.3
97.5°	156.8	126.1	92.1	58.7	44.7	32.7	14.0	5.3	2.7	2.7	3.3
100°	128.1	99.4	70.1	42.0	30.7	20.7	8.7	3.3	2.7	2.7	3.3
102.5°	102.8	75.4	50.7	28.0	19.4	12.7	5.3	2.7	2.7	2.7	2.7
105°	80.7	54.7	34.0	17.3	12.0	8.0	2.7	2.7	2.7	2.7	2.7
107.5°	60.7	39.4	22.7	10.7	7.3	4.7	2.7	2.7	2.7	2.7	2.7
110°	43.4	26.0	13.3	6.7	4.0	2.7	2.7	2.7	2.7	2.7	2.7



TEST NUMBER: P188239

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	29.4	16.0	8.7	2.7	2.0	2.7	2.7	2.7	2.7	2.7	2.7
115°	18.7	10.0	5.3	2.0	2.7	2.7	2.7	2.7	2.7	2.7	3.3
117.5°	11.3	6.7	2.0	2.0	2.7	2.7	2.7	2.7	2.7	3.3	3.3
120°	7.3	2.0	2.0	2.0	2.7	2.7	2.7	2.7	2.7	3.3	3.3
122.5°	2.0	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3	3.3
125°	1.3	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3	3.3
127.5°	1.3	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	2.7	3.3
130°	1.3	2.0	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3
132.5°	1.3	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	2.7	3.3
135°	1.3	2.0	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3
137.5°	1.3	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3	3.3
140°	1.3	2.0	2.0	2.0	2.0	2.0	2.7	2.7	2.7	2.7	3.3
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: P188239

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	449.1	445.7	441.7	440.4	438.4	435.7	431.7	429.7	425.7	423.0	420.4
5°	441.1	435.1	428.4	425.7	423.0	418.4	412.4	408.4	403.0	399.0	395.0
7.5°	433.7	424.4	415.0	411.7	407.7	399.7	393.0	388.4	381.0	376.3	371.0
10°	425.0	413.7	402.4	397.7	393.0	383.7	375.0	368.3	359.7	353.0	347.0
12.5°	415.7	401.7	389.0	383.7	377.0	366.3	355.7	347.0	337.0	330.3	322.3
15°	404.4	388.4	373.7	366.3	360.3	347.6	335.6	325.6	313.6	304.9	296.9
17.5°	392.4	374.3	357.0	351.0	342.3	328.3	315.0	302.9	290.3	280.9	270.2
20°	380.3	360.3	341.0	333.0	323.0	307.6	293.6	280.3	265.6	253.6	242.9
22.5°	366.3	344.3	323.6	315.0	304.3	286.9	270.2	254.9	240.2	226.2	215.5
25°	351.7	327.6	304.9	295.6	284.9	265.6	247.6	230.9	214.2	201.5	188.8
27.5°	335.6	309.6	285.6	275.6	264.9	242.9	224.2	206.9	190.8	176.2	161.5
30°	319.6	291.6	265.6	254.9	243.6	220.9	200.8	182.2	164.1	149.5	135.5
32.5°	302.9	272.2	246.2	234.2	220.9	197.5	176.8	157.5	140.1	123.4	110.1
35°	284.9	252.2	224.9	212.2	198.8	174.2	152.8	133.5	115.4	98.8	85.4
37.5°	266.2	231.5	201.5	189.5	176.2	150.8	129.5	109.4	92.1	76.1	63.4
40°	246.2	211.5	180.2	167.5	153.5	128.1	106.8	86.7	68.7	55.4	44.0
42.5°	227.5	190.2	158.1	144.8	131.5	105.4	84.7	66.1	50.0	37.4	28.0
45°	208.2	169.5	136.8	122.8	109.4	84.7	64.7	47.4	34.0	23.4	16.0
47.5°	188.8	148.8	115.4	101.4	88.7	65.4	46.7	32.0	20.7	13.3	8.7
50°	169.5	128.1	95.4	82.1	70.1	48.0	32.0	20.0	12.0	8.0	4.7
52.5°	149.5	108.8	76.7	64.1	52.7	33.4	20.0	12.0	7.3	2.7	1.3
55°	129.5	89.4	59.4	47.4	38.0	22.0	12.7	7.3	2.0	2.0	2.0
57.5°	110.1	72.1	44.0	34.0	26.0	14.0	8.0	2.7	2.0	2.0	2.0
60°	90.7	56.1	31.4	23.4	16.7	8.7	4.0	2.0	2.0	2.0	2.0
62.5°	72.1	41.4	21.4	15.3	10.7	6.0	2.7	2.7	2.0	2.0	2.0
65°	54.7	29.4	14.0	9.3	7.3	2.7	2.7	2.7	2.0	2.0	2.0
67.5°	40.0	19.4	8.7	6.7	3.3	3.3	2.7	2.7	2.7	2.7	2.0
70°	27.4	12.0	6.0	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
72.5°	18.0	7.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
75°	11.3	4.7	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7
77.5°	7.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7
80°	4.7	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7
85°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7
90°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
92.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
95°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
97.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
100°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
102.5°	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.0
105°	3.3	3.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.0
107.5°	2.7	3.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.0
110°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.0	2.0



TEST NUMBER: P188239

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	2.7	3.3	2.7	2.7	3.3	2.7	2.7	2.7	2.7	2.0	2.0
115°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
117.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
120°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
122.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
125°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
127.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
130°	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.7	2.0
132.5°	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.7	2.0
135°	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0	2.0
137.5°	3.3	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0
140°	3.3	3.3	3.3	3.3	3.3	2.7	2.7	2.7	2.7	2.0	2.0
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: P188239

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	451.7	451.7	451.7	451.7	451.7	451.7	451.7	451.7
2.5°	418.4	415.7	415.0	413.7	411.7	410.4	410.4	411.0
5°	392.4	389.0	387.7	386.3	384.3	382.3	381.7	380.3
7.5°	367.0	363.0	361.7	359.7	357.7	355.7	354.3	352.3
10°	341.6	336.3	335.0	332.3	330.3	327.0	325.0	326.3
12.5°	315.6	309.6	306.9	304.3	300.3	298.9	296.3	296.9
15°	288.9	282.3	279.6	276.9	272.2	268.2	267.6	268.2
17.5°	261.6	254.2	251.6	248.2	242.9	240.2	237.5	238.9
20°	233.5	225.5	222.2	218.9	212.9	209.5	207.5	208.2
22.5°	205.5	195.5	192.8	188.2	182.8	179.5	177.5	178.2
25°	177.5	167.5	164.1	159.5	153.5	150.1	148.1	148.1
27.5°	150.1	139.5	136.1	131.5	124.8	121.4	119.4	118.8
30°	122.8	112.1	108.8	104.1	97.4	94.1	92.1	91.4
32.5°	96.8	87.4	82.7	79.4	72.7	68.7	66.7	66.7
35°	72.7	64.1	60.1	56.7	50.0	46.7	44.7	44.7
37.5°	51.4	44.0	40.0	37.4	31.4	28.7	27.4	26.7
40°	34.0	27.4	24.0	22.0	17.3	15.3	14.7	14.0
42.5°	20.0	14.7	12.7	11.3	9.3	7.3	7.3	6.7
45°	10.7	8.0	6.7	6.0	4.7	2.7	0.7	0.0
47.5°	6.0	2.7	1.3	1.3	0.7	0.7	0.7	0.0
50°	1.3	1.3	1.3	1.3	0.7	0.7	0.7	0.0
52.5°	1.3	1.3	1.3	1.3	0.7	0.7	0.7	0.7
55°	1.3	1.3	1.3	1.3	0.7	0.7	0.7	0.7
57.5°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.7
60°	1.3	1.3	1.3	1.3	1.3	0.7	0.7	0.7
62.5°	2.0	1.3	1.3	1.3	1.3	0.7	0.7	0.7
65°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
67.5°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
70°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
72.5°	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3
75°	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.3
77.5°	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.3
80°	2.7	2.0	2.0	2.0	2.0	2.0	1.3	1.3
82.5°	2.0	2.0	2.0	2.0	2.0	1.3	1.3	1.3
85°	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3
87.5°	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3
90°	2.0	2.0	2.0	2.0	1.3	1.3	1.3	1.3
92.5°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
95°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
97.5°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
100°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
102.5°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
105°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
107.5°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
110°	2.0	1.3	1.3	1.3	1.3	1.3	0.7	0.7



TEST NUMBER: P188239

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	0.7
115°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
117.5°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
120°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
122.5°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
125°	2.0	2.0	2.0	1.3	1.3	1.3	1.3	1.3
127.5°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
130°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
132.5°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
135°	2.0	1.3	1.3	1.3	1.3	1.3	1.3	1.3
137.5°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
140°	2.0	2.0	1.3	1.3	1.3	1.3	1.3	1.3
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)