

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: P188176

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188176
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27181)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMB-N-2-LD4-2DN/LO-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: 1520.0 lumens
Efficiency: N/A
Efficacy: 61.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.2 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.75' x L: 0.29' x H: 0.04')
CIE Type: Direct

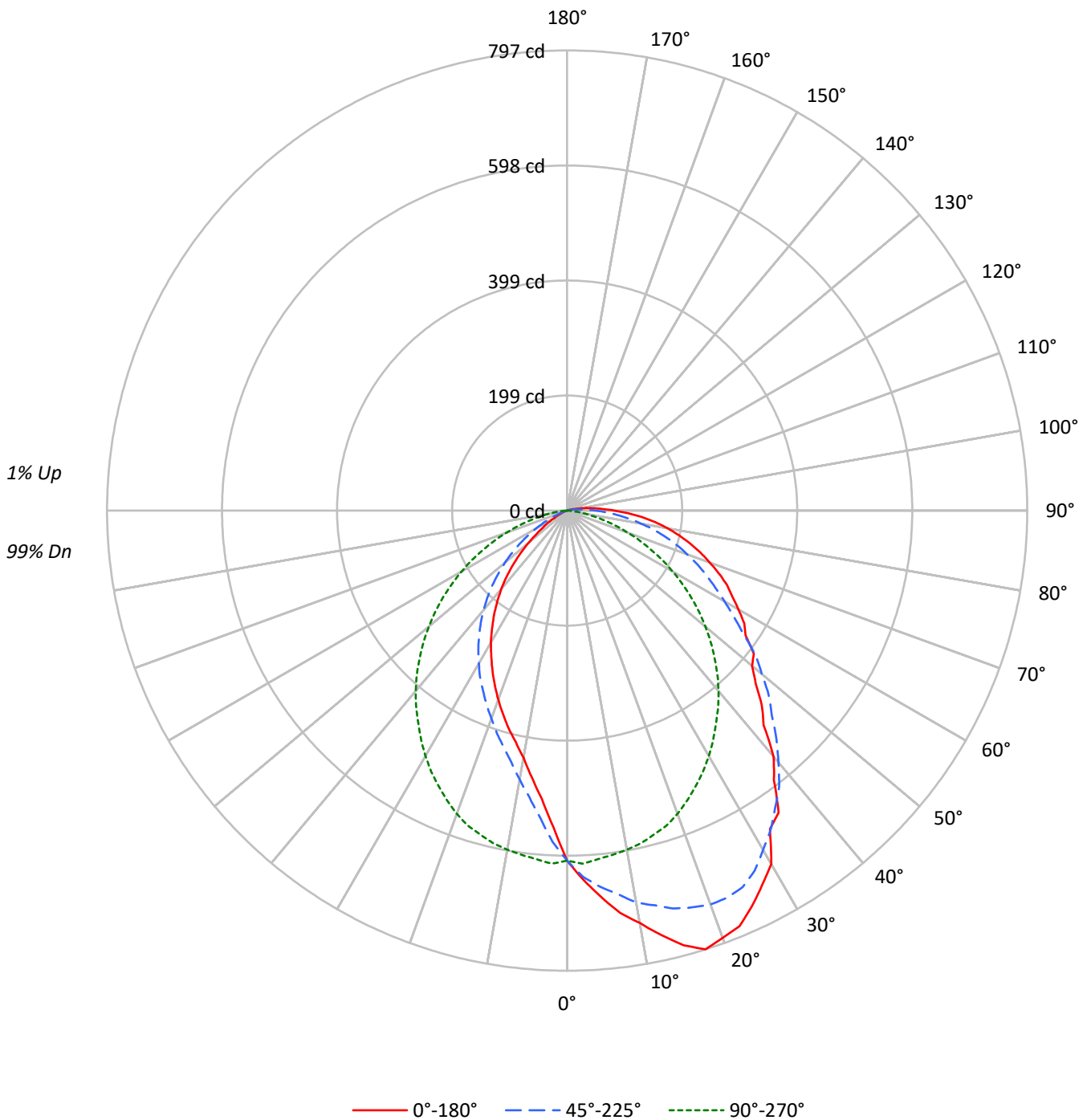
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	109	104	99	96	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	65	62	59
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	56	49	75	63	55	49	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	42	39
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	47	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	44	38	33	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12784	12784	12784
5°	14040	12806	10483
10°	15152	12722	9084
15°	16387	12606	8213
20°	16804	12435	7437
25°	16505	12119	6678
30°	15902	11785	5943
35°	14945	11377	5158
40°	13680	11009	4358
45°	12442	10522	3439
50°	11721	9976	2453
55°	11524	9330	1554
60°	11584	8543	832
65°	11669	7591	413
70°	11619	6482	0
75°	11713	5066	0
80°	11855	3392	0
85°	11947	1598	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.6	3.7
10°-20°	162.2	10.7
20°-30°	242.0	15.9
30°-40°	275.2	18.1
40°-50°	260.6	17.1
50°-60°	213.9	14.1
60°-70°	154.0	10.1
70°-80°	94.6	6.2
80°-90°	45.3	3.0
90°-100°	13.5	0.9
100°-110°	2.1	0.1
110°-120°	0.1	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°	460.7	30.3
0°-40°	735.9	48.4
0°-60°	1210.4	79.6
0°-90°	1504.3	99.0
90°-120°	15.7	1.0
90°-150°	15.7	1.0
90°-180°	16.0	1.1
0°-180°	1520.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	606	606	606	606	606	
5°	672	654	606	534	501	66
15°	779	714	581	424	391	220
25°	757	719	527	344	306	348
35°	639	628	449	266	220	393
45°	477	501	361	183	132	369
55°	377	373	262	100	51	342
65°	306	267	160	31	11	301
75°	220	177	68	1	0	232
85°	130	86	8	1	0	116
90°	82	50	1	1	0	45
95°	46	22	1	1	0	33
105°	8	1	1	1	0	10
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
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°	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2
2.5°	639.8	641.0	639.8	639.2	639.8	638.6	638.0	639.2	638.0	637.4	635.0
5°	671.5	670.3	668.5	667.3	666.1	664.3	663.1	661.9	659.5	657.1	654.1
7.5°	702.7	702.1	700.9	698.5	696.1	693.1	690.7	688.3	682.9	676.9	669.7
10°	725.4	726.0	723.6	719.4	715.8	712.3	710.5	706.9	703.3	697.3	689.5
12.5°	753.0	752.4	751.2	747.0	742.8	739.2	736.8	729.6	721.8	711.1	700.3
15°	779.3	779.9	777.0	771.6	765.0	762.0	756.6	746.4	736.8	727.2	713.5
17.5°	796.7	795.5	793.1	787.1	778.7	775.8	772.2	763.8	751.2	735.6	720.6
20°	787.7	787.1	784.7	785.3	783.5	781.7	779.3	769.8	756.0	742.8	726.0
22.5°	779.3	779.3	777.6	775.2	769.2	765.0	762.0	760.2	755.4	742.2	725.4
25°	756.6	756.0	751.8	747.0	747.0	747.0	749.4	745.2	734.4	730.2	719.4
27.5°	731.4	732.0	735.0	736.2	734.4	729.6	723.6	718.2	717.6	709.3	703.3
30°	706.9	707.5	705.1	699.1	696.7	697.9	702.7	703.3	691.9	687.1	678.7
32.5°	653.5	655.9	659.5	665.5	677.5	676.3	672.7	666.7	670.3	660.7	655.9
35°	638.6	636.8	636.8	632.0	626.0	626.0	632.6	643.4	636.2	637.4	628.4
37.5°	588.3	588.3	590.7	593.0	606.8	609.8	606.2	596.6	606.2	603.8	603.2
40°	556.5	563.7	566.1	569.7	564.9	563.1	563.1	575.7	567.9	575.1	569.1
42.5°	503.8	502.6	505.0	509.8	528.9	537.3	540.3	533.7	542.7	535.5	536.7
45°	476.8	479.2	484.0	484.0	481.6	481.0	482.8	505.6	505.0	509.2	501.4
47.5°	442.7	441.5	439.1	442.1	452.3	457.1	457.1	454.1	472.0	473.8	473.8
50°	418.1	421.1	423.5	424.1	419.3	415.1	416.9	430.1	425.3	441.5	440.3
52.5°	407.3	405.5	400.2	394.2	394.8	397.2	397.2	391.2	402.0	397.8	410.9
55°	377.4	379.2	377.4	382.8	378.6	373.2	367.8	371.4	366.6	372.0	372.6
57.5°	363.6	366.6	364.2	358.8	352.2	352.2	352.8	346.8	344.4	340.9	342.6
60°	342.6	341.5	338.5	336.1	337.3	334.9	330.7	325.9	321.7	317.5	314.5
62.5°	322.3	322.9	322.9	321.7	315.1	311.5	308.5	306.1	300.7	294.7	289.3
65°	305.5	306.7	303.7	298.9	294.7	293.5	291.7	283.3	279.8	273.8	266.6
67.5°	284.5	284.5	282.1	278.6	276.8	273.2	269.6	264.8	257.0	251.6	244.4
70°	262.4	263.0	263.0	259.4	255.8	252.2	250.4	243.2	236.0	228.8	221.0
72.5°	242.0	242.6	241.4	239.0	234.8	231.8	229.4	221.6	213.3	207.3	199.5
75°	220.4	220.4	219.2	216.3	212.1	209.7	207.9	200.1	192.3	183.3	176.7
77.5°	198.3	196.5	197.1	193.5	190.5	187.5	185.1	177.9	170.1	161.7	153.4
80°	176.7	174.9	173.7	172.5	167.7	165.3	163.5	155.7	148.0	139.6	130.0
82.5°	154.0	151.6	151.6	149.8	145.0	143.8	141.4	134.2	125.8	116.8	107.2
85°	130.0	128.8	128.2	127.0	122.2	121.6	118.0	112.6	104.2	95.8	86.3
87.5°	105.4	103.6	102.4	103.0	99.4	98.8	96.4	91.1	83.9	76.1	66.5
90°	81.5	80.3	79.7	79.7	77.3	76.7	74.9	70.7	63.5	58.1	49.7
92.5°	61.7	61.1	61.1	59.9	57.5	56.9	55.1	52.1	46.1	41.3	34.1
95°	46.1	44.9	44.3	43.7	41.3	40.7	38.9	35.9	31.1	27.6	22.2
97.5°	32.3	31.7	30.6	30.0	28.2	27.0	25.8	23.4	19.8	16.8	12.6
100°	21.6	21.0	19.8	19.2	18.0	16.8	16.2	13.8	11.4	9.6	7.2
102.5°	13.2	13.2	12.6	12.0	10.8	10.2	9.6	8.4	7.2	6.0	4.2
105°	8.4	8.4	8.4	7.8	7.2	7.2	6.6	5.4	2.4	0.6	0.6
107.5°	6.0	5.4	4.8	3.0	1.8	1.2	0.6	0.6	0.6	0.6	0.6
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2
2.5°	633.8	630.8	627.2	624.8	624.8	624.2	621.8	620.0	616.4	612.2	608.6
5°	651.8	648.2	645.2	640.4	638.6	635.6	629.0	621.8	614.0	606.2	600.2
7.5°	663.7	657.7	653.5	648.8	646.4	643.4	634.4	623.6	612.2	601.4	591.8
10°	681.7	672.7	661.9	653.0	649.4	646.4	637.4	624.2	610.4	596.6	584.7
12.5°	691.3	682.3	670.9	657.1	650.6	644.6	634.4	622.4	607.4	590.1	575.7
15°	699.1	685.9	673.3	659.5	651.8	643.4	628.4	617.0	600.8	581.1	563.1
17.5°	706.3	690.7	672.1	655.9	648.8	640.4	622.4	608.0	592.4	572.1	550.5
20°	706.9	690.7	672.1	651.8	642.2	634.4	616.4	597.2	580.5	558.9	534.3
22.5°	708.1	687.7	667.3	646.4	635.6	624.8	606.2	585.3	566.1	543.3	517.6
25°	700.3	681.7	659.5	638.6	627.8	615.2	593.0	572.1	550.5	526.6	500.2
27.5°	691.3	672.1	650.6	626.6	614.6	603.2	577.5	555.9	531.9	509.8	481.6
30°	670.9	655.9	636.2	614.0	600.8	588.9	562.5	537.9	512.8	490.6	461.9
32.5°	645.2	635.0	616.4	596.0	584.1	571.5	545.1	519.4	493.6	470.8	442.7
35°	621.2	609.8	593.0	573.9	563.7	553.5	526.0	499.0	473.8	449.3	422.3
37.5°	593.6	584.1	568.5	549.9	540.3	530.7	505.6	478.6	453.5	429.5	402.6
40°	566.7	556.5	540.9	525.4	515.8	508.6	484.6	458.9	432.5	407.9	381.0
42.5°	534.3	527.8	515.2	500.2	491.8	483.4	462.5	437.3	409.7	385.2	358.8
45°	500.8	497.2	488.2	474.4	466.1	458.3	439.1	412.7	387.0	361.2	336.1
47.5°	468.4	464.9	461.9	448.7	441.5	431.3	412.7	388.8	363.0	337.3	312.7
50°	438.5	433.7	429.5	420.5	414.5	405.5	387.0	364.8	339.1	312.7	288.1
52.5°	409.1	402.6	398.4	392.4	387.0	378.6	361.2	339.7	313.3	288.1	263.0
55°	379.2	374.4	365.4	362.4	358.8	351.0	333.7	314.5	288.1	262.4	237.2
57.5°	348.6	345.6	337.3	330.1	328.3	322.9	306.7	288.1	263.6	236.6	212.1
60°	314.5	316.3	309.1	298.9	297.1	292.9	277.4	261.2	235.4	210.9	186.3
62.5°	286.9	287.5	281.5	269.6	266.6	263.0	249.8	234.2	211.5	186.3	161.1
65°	260.0	257.0	252.8	240.8	237.2	231.8	222.8	206.7	185.1	159.9	136.6
67.5°	236.0	229.4	225.2	212.7	208.5	201.9	193.5	179.7	159.9	136.0	112.6
70°	213.3	203.7	196.5	185.1	180.3	173.7	164.7	152.8	134.2	112.0	91.1
72.5°	189.9	179.1	168.9	158.7	154.0	146.8	137.8	125.8	109.0	89.3	70.1
75°	166.5	155.7	143.8	133.0	128.2	121.0	110.2	100.6	85.1	67.7	50.9
77.5°	143.2	133.6	120.4	109.6	104.2	97.0	87.5	77.3	62.9	47.9	34.1
80°	120.4	110.8	98.8	85.7	81.5	74.9	65.3	55.1	43.7	31.7	21.0
82.5°	98.2	89.3	78.5	66.5	60.5	55.1	46.1	36.5	27.0	18.0	10.8
85°	77.3	69.5	59.3	47.9	43.1	38.9	30.0	22.2	14.4	8.4	4.2
87.5°	58.7	50.9	42.5	32.9	28.8	24.0	17.4	11.4	6.0	2.4	1.2
90°	42.5	34.7	27.6	20.4	17.4	14.4	9.0	4.8	1.8	0.6	0.6
92.5°	27.6	22.2	16.8	11.4	9.0	7.2	3.6	1.2	0.6	0.6	0.6
95°	17.4	12.6	9.0	5.4	4.2	3.0	0.6	0.6	0.6	0.6	0.6
97.5°	9.6	6.6	4.8	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6
100°	5.4	3.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
102.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
105°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
107.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6



TEST NUMBER: P188176

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P188176

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2
2.5°	603.2	597.2	593.0	591.8	590.7	586.5	582.3	577.5	574.5	570.9	564.9
5°	592.4	584.7	576.9	573.3	569.7	560.7	551.1	541.5	534.3	527.8	520.0
7.5°	582.3	570.3	557.1	549.9	544.5	530.1	518.2	508.0	500.8	494.2	486.4
10°	570.9	553.5	534.9	526.6	519.4	503.8	493.0	481.6	473.2	464.9	457.1
12.5°	558.3	534.9	514.0	503.8	495.4	480.4	468.4	455.3	446.3	439.1	433.1
15°	541.5	515.2	491.8	481.6	473.8	457.1	444.5	432.5	424.1	418.1	410.9
17.5°	524.8	494.2	471.4	461.3	452.3	435.5	423.5	412.1	404.4	396.0	390.0
20°	506.2	473.8	450.5	440.3	430.7	415.1	403.2	391.8	383.4	376.8	369.6
22.5°	486.4	452.9	430.7	420.5	410.9	396.0	384.0	372.6	364.2	356.4	349.2
25°	467.2	433.1	410.3	400.2	391.2	376.2	364.8	353.4	344.4	337.3	328.9
27.5°	446.9	412.7	390.0	380.4	372.6	357.6	346.2	335.5	326.5	317.5	309.7
30°	426.5	393.6	371.4	361.8	354.0	339.1	327.1	315.7	305.5	297.1	289.3
32.5°	407.3	373.2	352.2	343.2	334.9	320.5	307.9	296.5	286.3	276.8	269.6
35°	387.0	354.0	333.1	324.7	316.3	301.3	288.1	276.8	266.0	257.0	248.6
37.5°	367.2	335.5	314.5	305.5	296.5	282.7	268.4	256.4	245.6	236.6	228.8
40°	347.4	315.1	295.3	286.3	278.0	263.0	248.0	236.0	225.2	215.1	207.9
42.5°	326.5	295.3	276.2	266.6	258.2	242.6	227.6	215.1	204.3	194.7	186.9
45°	304.3	275.0	255.2	246.2	237.8	222.2	206.7	194.7	183.3	172.5	164.7
47.5°	282.1	253.4	234.8	225.2	216.9	201.3	185.1	173.1	161.7	152.2	143.8
50°	259.4	231.2	213.9	204.3	195.9	179.7	164.1	152.2	140.8	131.2	122.8
52.5°	236.0	209.7	191.7	182.7	174.3	158.1	142.6	130.6	120.4	112.6	102.4
55°	212.1	186.3	169.5	160.5	153.4	137.2	121.6	110.2	100.0	90.5	82.7
57.5°	187.5	164.1	146.8	138.4	131.2	116.2	100.6	90.5	80.3	73.7	64.7
60°	162.9	140.8	124.6	116.2	109.6	94.6	81.5	71.3	62.3	55.7	47.9
62.5°	139.0	119.2	103.0	96.4	89.3	74.9	62.9	53.9	46.7	39.5	33.5
65°	115.6	97.6	82.7	74.9	70.1	56.9	46.1	38.3	31.1	27.0	21.6
67.5°	92.9	76.1	63.5	57.5	52.1	41.3	32.3	25.8	20.4	16.8	13.2
70°	71.9	56.3	46.1	40.7	36.5	27.6	20.4	15.6	12.0	9.6	7.8
72.5°	52.7	40.7	31.1	27.0	24.0	16.8	12.0	9.0	7.2	4.8	0.6
75°	36.5	27.0	19.2	16.8	13.8	9.0	6.6	4.8	0.6	0.6	0.6
77.5°	23.4	16.2	10.2	9.0	7.2	4.8	1.2	0.6	0.6	0.6	0.6
80°	13.2	8.4	5.4	4.8	3.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	6.0	3.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
90°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
92.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
95°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
97.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
100°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
102.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
107.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0



TEST NUMBER: P188176

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P188176

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	606.2	606.2	606.2	606.2	606.2	606.2	606.2	606.2
2.5°	563.1	558.9	557.1	557.7	553.5	551.1	552.3	548.7
5°	517.0	512.2	510.4	509.8	506.2	503.2	503.8	501.4
7.5°	482.2	477.4	475.6	475.0	471.4	468.4	469.0	466.7
10°	451.1	446.3	444.5	442.1	439.1	436.7	437.3	434.9
12.5°	427.1	422.3	419.9	418.7	414.5	412.1	412.1	410.9
15°	404.9	399.6	398.4	397.2	393.6	391.8	391.8	390.6
17.5°	384.6	379.2	377.4	376.2	372.0	370.8	370.2	369.6
20°	363.0	358.2	357.0	355.8	352.2	349.8	349.2	348.6
22.5°	343.2	337.9	336.1	334.3	330.7	328.9	327.7	327.1
25°	322.3	317.5	316.3	314.5	309.7	307.3	306.1	306.1
27.5°	302.5	297.1	295.3	293.5	289.3	287.5	285.7	284.5
30°	282.7	277.4	275.6	273.8	268.4	266.6	264.8	264.2
32.5°	261.8	255.8	254.0	252.2	246.8	244.4	243.2	242.0
35°	241.4	235.4	233.0	229.4	225.8	223.4	221.6	220.4
37.5°	219.8	214.5	211.5	208.5	204.3	201.9	200.1	198.9
40°	198.9	193.5	190.5	187.5	182.1	179.7	177.3	177.3
42.5°	178.5	171.9	168.9	165.9	161.1	158.1	155.7	155.2
45°	156.9	150.4	147.4	143.8	139.0	135.4	133.0	131.8
47.5°	136.0	128.8	125.8	122.2	116.8	113.2	110.2	109.6
50°	115.0	107.2	104.2	100.6	95.2	91.7	88.7	87.5
52.5°	94.0	86.9	84.5	80.3	74.9	71.9	68.9	67.7
55°	74.9	67.7	65.3	61.7	56.9	54.5	51.5	50.9
57.5°	56.9	50.3	48.5	44.9	41.3	39.5	37.7	37.7
60°	41.3	35.3	34.1	31.1	28.8	26.4	25.8	24.6
62.5°	28.2	24.0	22.2	21.0	18.6	17.4	16.8	16.8
65°	17.4	15.0	13.8	13.2	12.0	11.4	10.8	10.8
67.5°	10.8	9.6	9.0	8.4	7.2	6.6	6.6	6.6
70°	6.6	4.2	2.4	1.2	0.0	0.0	0.0	0.0
72.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
75°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
77.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
80°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
82.5°	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.6	0.6	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: P188176

CATALOG NUMBER: FMB-N-2-LD4-2DN/LO-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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)