

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: P188184

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188184
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27215)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMB-N-4-LD4-1DN/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: 1850.0 lumens
Efficiency: N/A
Efficacy: 74.9 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.2 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 3.67' x L: 0.29' x H: 0.04')
CIE Type: Direct

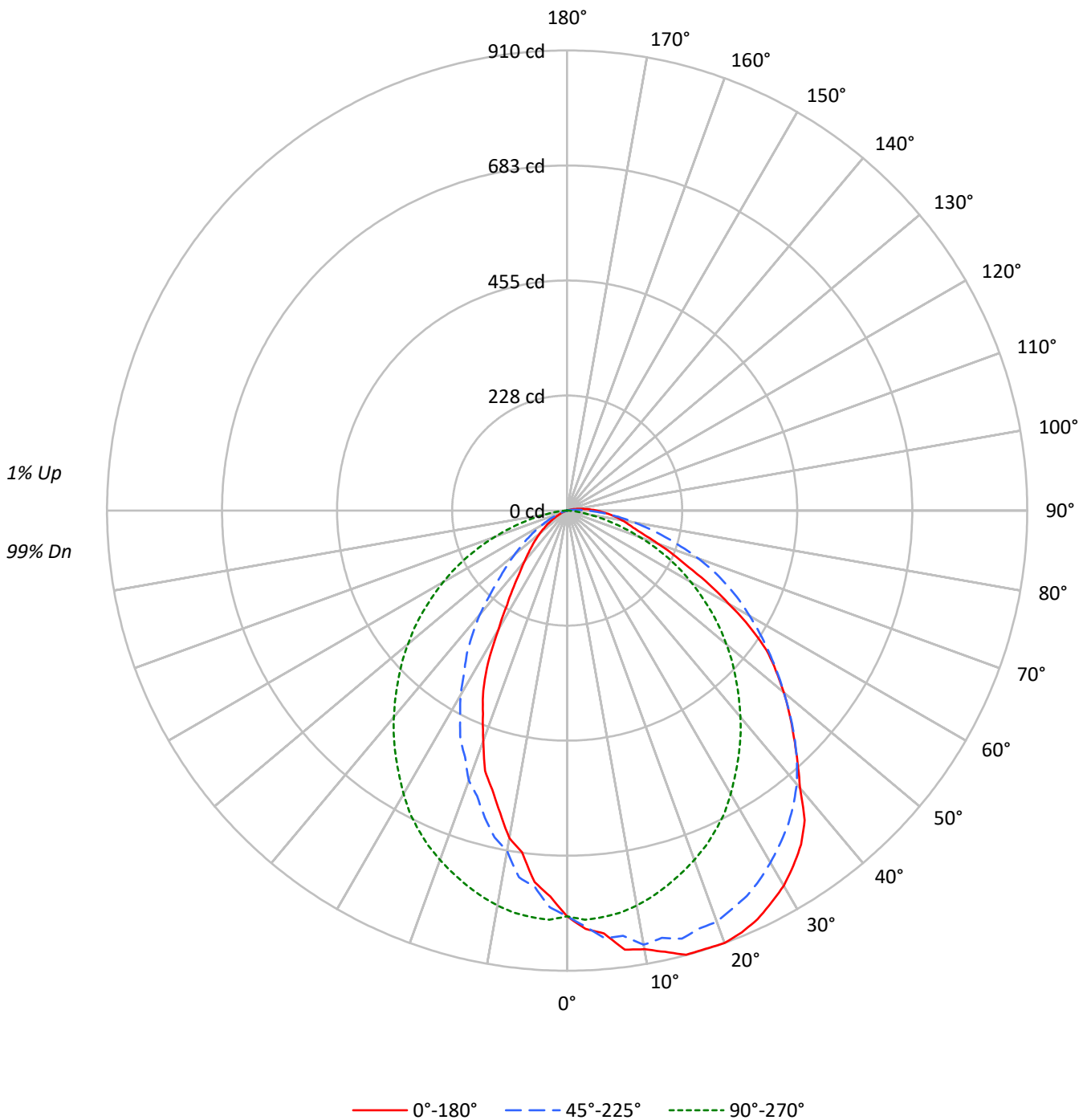
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188184

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

Luminous Intensity Polar Plot





TEST NUMBER: P188184

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

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	105	101	97	106	102	99	95	98	95	92	94	92	89	90	88	86	84
2	100	92	86	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	63	61
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	64	59	55	53
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	45	70	58	50	44	57	49	44	55	48	43	53	48	43	41
7	67	54	46	40	65	53	45	40	52	44	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	47	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8074	8074	8074
5°	8375	8145	7359
10°	8779	8090	6558
15°	9127	7972	5735
20°	9265	7841	4934
25°	9281	7690	4092
30°	9198	7470	2920
35°	9007	7208	2054
40°	8406	6939	1532
45°	7901	6644	1216
50°	7486	6350	946
55°	7020	6000	689
60°	5964	5583	455
65°	4827	5071	273
70°	4039	4360	89
75°	3510	3443	0
80°	3529	2347	0
85°	3654	1165	0



TEST NUMBER: P188184

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.4	4.1
10°-20°	211.2	11.4
20°-30°	305.4	16.5
30°-40°	340.0	18.4
40°-50°	321.7	17.4
50°-60°	267.9	14.5
60°-70°	182.1	9.8
70°-80°	95.1	5.1
80°-90°	38.2	2.1
90°-100°	11.0	0.6
100°-110°	2.0	0.1
110°-120°	0.0	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°	592.0	32.0
0°-40°	932.0	50.4
0°-60°	1521.6	82.2
0°-90°	1837.0	99.3
90°-120°	13.1	0.7
90°-150°	13.1	0.7
90°-180°	13.0	0.7
0°-180°	1850.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	802	802	802	802	802	
5°	839	849	807	746	738	82
15°	909	876	767	628	572	256
25°	891	841	696	500	393	410
35°	806	761	591	346	184	501
45°	634	636	472	189	98	491
55°	482	486	348	94	47	423
65°	265	349	218	32	15	269
75°	138	200	92	5	0	151
85°	83	82	11	0	0	74
90°	59	42	1	1	0	32
95°	36	19	1	1	0	26
105°	9	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



TEST NUMBER: P188184

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2
2.5°	827.9	829.1	830.3	832.1	830.9	830.9	831.5	831.5	828.5	830.3	823.1
5°	839.3	839.9	842.3	842.9	841.7	842.3	843.5	845.3	847.7	851.3	848.9
7.5°	875.8	877.0	878.2	878.2	873.4	872.2	871.7	868.1	863.9	859.1	848.3
10°	880.6	881.8	881.8	879.4	874.6	873.4	873.4	872.8	873.4	877.6	871.7
12.5°	893.8	896.2	896.8	896.8	895.0	895.6	894.4	891.4	884.2	877.0	865.7
15°	909.4	910.6	909.4	906.4	899.2	895.0	892.0	886.6	884.2	885.4	876.4
17.5°	908.8	908.2	905.8	904.0	902.2	902.2	900.4	895.6	889.6	878.8	866.9
20°	910.0	911.2	908.2	905.8	901.0	898.6	895.6	885.4	879.4	875.8	865.1
22.5°	902.8	904.6	901.6	896.8	890.2	887.8	884.8	877.6	872.8	864.5	852.5
25°	891.4	893.2	890.2	884.8	878.8	877.0	874.6	866.9	857.3	850.1	841.1
27.5°	874.0	875.8	873.4	869.9	865.7	864.5	859.7	850.7	841.7	835.7	823.7
30°	856.7	857.9	857.3	853.1	845.9	841.7	838.7	832.1	824.9	814.7	804.0
32.5°	832.7	834.5	832.1	827.9	823.1	821.3	820.7	811.1	802.2	792.6	782.4
35°	806.4	807.5	808.7	807.0	801.0	799.2	796.2	786.6	781.2	770.4	760.8
37.5°	771.6	774.0	775.2	772.8	769.2	768.6	768.6	763.2	754.2	744.6	734.5
40°	716.5	719.5	723.1	725.5	726.1	727.9	729.7	726.7	725.5	714.7	706.3
42.5°	674.0	677.6	677.6	678.1	678.7	677.6	681.1	683.5	684.7	679.9	672.8
45°	634.4	636.2	636.2	636.2	636.2	637.4	639.8	639.8	642.8	639.8	636.2
47.5°	596.7	599.1	599.7	600.3	598.5	597.3	599.7	600.9	602.7	600.9	597.9
50°	559.5	564.3	564.3	563.1	561.9	561.9	563.1	563.1	566.1	563.1	559.5
52.5°	520.6	524.2	526.0	527.2	528.4	527.2	527.8	527.8	528.4	527.8	523.0
55°	481.7	483.5	487.6	490.0	490.6	490.0	491.2	492.4	493.6	491.2	486.4
57.5°	428.3	434.3	437.9	445.7	451.1	451.1	454.1	455.9	458.3	455.9	451.7
60°	369.6	375.0	381.6	391.2	402.0	405.0	411.6	418.2	422.3	421.1	417.0
62.5°	317.5	316.9	325.9	336.7	348.1	353.5	359.4	373.8	384.6	386.4	383.4
65°	264.8	264.2	272.0	282.2	294.7	304.3	309.1	324.1	342.1	349.9	348.7
67.5°	227.0	227.0	233.0	237.2	248.0	255.8	260.6	278.0	295.9	308.5	313.3
70°	191.1	191.7	196.5	203.7	212.7	218.1	221.1	235.4	251.0	265.4	275.0
72.5°	159.4	161.2	163.5	170.1	178.5	184.5	189.9	200.1	213.9	225.3	236.0
75°	138.4	139.6	140.8	143.2	148.6	154.0	157.6	168.9	180.9	189.3	199.5
77.5°	123.4	124.0	124.0	124.6	126.4	128.8	131.2	139.6	151.0	159.4	165.3
80°	110.2	110.8	110.2	110.2	110.2	110.8	111.4	114.4	122.8	130.0	134.2
82.5°	97.0	97.0	96.5	95.9	95.3	95.9	95.3	96.5	97.6	103.0	107.2
85°	83.3	83.3	82.7	82.1	80.9	80.9	80.3	79.1	79.1	79.1	81.5
87.5°	70.7	70.7	69.5	68.9	67.7	66.5	65.3	63.5	62.9	60.5	59.3
90°	58.7	58.7	57.5	56.9	55.1	53.9	52.7	50.3	47.9	44.9	41.9
92.5°	46.7	46.7	46.1	44.9	43.7	42.5	41.3	38.3	35.9	31.8	28.2
95°	35.9	35.9	35.3	34.1	32.9	31.8	30.6	27.6	25.2	21.6	18.6
97.5°	27.0	27.0	26.4	25.2	24.0	22.8	21.6	19.2	17.4	13.8	12.0
100°	19.2	18.6	18.6	17.4	16.2	15.6	15.0	13.2	11.4	9.0	7.8
102.5°	13.2	12.6	12.6	12.0	10.8	10.2	10.2	9.0	7.8	6.0	3.6
105°	9.0	9.0	9.0	8.4	7.8	7.2	6.6	4.8	1.8	0.6	0.6
107.5°	4.2	3.6	3.0	1.8	1.2	0.6	0.6	0.0	0.6	0.6	0.6
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6



TEST NUMBER: P188184

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

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



TEST NUMBER: P188184

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2
2.5°	816.5	814.1	809.9	805.2	802.8	801.6	800.4	803.4	808.7	809.9	809.3
5°	844.1	842.3	836.3	825.5	820.7	815.3	806.4	804.0	805.8	807.0	807.0
7.5°	837.5	836.3	836.9	835.1	832.7	828.5	815.9	805.2	802.8	802.2	801.6
10°	858.5	845.3	832.7	827.3	826.7	826.7	821.9	809.3	797.4	793.2	790.8
12.5°	857.3	856.7	845.9	826.7	819.5	815.3	815.3	809.3	792.0	781.2	778.2
15°	857.9	844.7	841.1	832.7	823.1	811.1	800.4	801.6	786.0	767.4	760.2
17.5°	856.7	845.9	829.1	819.5	817.7	811.1	790.2	785.4	777.6	751.8	742.3
20°	845.3	833.9	825.5	806.4	800.4	796.8	783.0	766.2	763.2	735.1	722.5
22.5°	838.7	823.1	809.3	798.0	789.6	780.0	769.8	750.0	744.0	717.1	698.5
25°	822.5	808.7	794.4	778.2	773.4	765.6	748.2	733.3	721.9	696.1	673.4
27.5°	807.0	790.8	777.0	759.6	751.8	745.2	726.1	712.3	694.3	674.0	647.0
30°	787.2	771.6	754.2	738.7	730.9	721.9	704.5	687.1	668.6	647.0	618.2
32.5°	765.6	749.4	732.1	713.5	705.7	697.9	678.1	658.4	642.8	618.8	590.1
35°	741.7	724.9	706.9	688.9	679.3	672.2	651.2	632.0	615.2	591.3	561.9
37.5°	716.5	699.7	681.1	662.0	651.2	642.8	622.4	605.7	585.9	563.1	535.0
40°	688.3	671.6	652.4	632.6	622.4	614.6	594.9	575.1	556.5	533.2	503.8
42.5°	657.8	641.6	623.0	603.9	593.7	584.7	566.1	547.0	526.6	502.6	475.7
45°	623.6	609.3	593.1	574.5	564.3	555.3	537.4	516.4	496.6	472.1	445.1
47.5°	588.9	576.3	562.5	545.2	533.8	526.6	506.8	487.6	466.7	442.7	414.6
50°	554.7	542.8	530.2	512.2	503.2	494.2	476.3	455.3	436.1	411.0	383.4
52.5°	518.8	508.6	497.2	481.1	472.1	462.5	444.5	425.9	405.6	380.4	350.5
55°	482.9	475.1	463.1	447.5	438.5	429.5	412.8	394.8	373.8	347.5	318.7
57.5°	446.3	437.9	428.3	414.0	407.4	396.6	380.4	362.4	341.5	314.5	285.8
60°	411.6	402.6	393.6	379.8	372.0	363.6	347.5	330.7	309.1	282.8	251.6
62.5°	378.6	368.4	357.0	345.1	339.1	330.1	313.9	297.1	276.2	251.6	219.3
65°	341.5	331.9	321.1	309.1	303.1	294.7	279.8	263.6	242.6	218.1	186.9
67.5°	308.5	297.7	285.8	272.6	267.8	260.0	245.6	229.4	209.1	185.1	155.2
70°	275.0	263.0	250.4	237.2	231.2	225.3	210.3	195.9	176.1	152.8	124.6
72.5°	239.0	230.0	216.3	201.9	195.9	189.3	176.1	162.3	142.6	121.0	97.6
75°	201.9	196.5	182.7	168.9	162.3	155.8	144.4	129.4	111.4	92.3	71.3
77.5°	167.1	163.5	151.6	137.2	132.4	124.0	110.8	99.4	82.7	65.9	48.5
80°	135.4	130.6	120.4	109.0	103.0	94.7	82.7	72.5	56.9	43.1	30.0
82.5°	106.6	102.4	92.3	82.1	76.7	70.1	57.5	48.5	35.9	24.6	15.6
85°	80.9	75.5	67.7	58.1	52.7	47.3	37.1	28.8	19.2	11.4	6.0
87.5°	57.5	52.7	46.7	37.7	33.5	28.8	21.0	14.4	7.8	3.0	1.8
90°	39.5	34.1	28.2	22.2	19.2	15.6	10.2	5.4	2.4	0.6	0.6
92.5°	25.2	21.0	16.2	11.4	9.6	7.2	4.2	1.8	0.6	0.6	0.6
95°	15.0	11.4	8.4	5.4	4.8	3.6	0.6	0.6	0.6	0.6	0.6
97.5°	9.0	7.2	4.8	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6
100°	6.0	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: P188184

CATALOG NUMBER: FMB-N-4-LD4-1DN/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: P188184

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2
2.5°	809.9	805.8	801.0	798.0	796.2	790.2	784.8	785.4	785.4	786.6	778.8
5°	804.6	795.6	785.4	778.2	772.2	757.8	748.2	744.6	745.8	747.0	742.3
7.5°	795.0	777.6	759.6	749.4	742.8	731.5	729.1	730.9	731.5	726.7	713.5
10°	778.2	751.8	732.1	726.7	724.9	720.1	711.1	696.1	683.5	677.0	671.6
12.5°	760.2	729.7	715.3	713.5	710.5	690.1	669.8	659.0	662.0	661.4	644.6
15°	738.1	708.1	699.1	693.1	681.7	652.4	644.6	642.2	628.4	611.7	603.3
17.5°	715.3	690.1	677.6	662.6	645.8	630.8	623.0	600.9	591.9	591.3	576.3
20°	691.9	669.2	648.2	629.6	620.0	609.3	584.1	575.7	568.5	548.2	535.0
22.5°	666.2	647.6	617.6	604.5	599.7	575.1	557.7	547.6	527.2	520.0	497.8
25°	641.6	622.4	590.1	582.3	573.9	544.0	532.6	511.0	499.6	475.1	457.1
27.5°	615.8	594.9	564.9	557.1	541.0	520.6	497.2	484.1	458.3	439.7	412.8
30°	588.3	566.1	539.8	526.6	511.0	490.0	467.9	444.5	421.1	394.8	373.2
32.5°	561.3	536.2	511.0	494.8	483.5	457.1	436.7	408.6	378.6	357.6	331.3
35°	535.0	507.4	481.7	466.1	455.9	428.9	400.8	372.0	345.7	316.9	285.8
37.5°	508.0	478.7	451.1	439.1	426.5	397.8	367.8	336.1	306.7	272.6	234.2
40°	477.5	451.1	422.3	408.6	396.0	364.2	333.7	303.1	269.0	228.2	195.9
42.5°	450.5	421.7	393.0	378.6	365.4	332.5	300.1	266.6	225.9	191.1	165.9
45°	419.9	390.6	362.4	347.5	333.1	300.1	269.0	231.8	189.3	162.3	140.8
47.5°	388.8	359.4	330.1	317.5	301.3	268.4	236.0	194.1	161.2	137.2	119.2
50°	357.0	327.1	298.9	284.0	269.0	237.2	203.1	164.1	136.6	115.6	100.6
52.5°	324.7	295.3	266.6	251.6	237.8	207.3	171.3	137.8	113.2	96.5	84.5
55°	291.1	262.4	234.2	220.5	206.1	177.3	142.0	114.4	93.5	79.1	68.9
57.5°	258.2	230.0	203.7	189.3	176.1	147.4	116.2	93.5	74.9	63.5	55.1
60°	225.9	197.7	171.3	159.4	147.4	119.8	93.5	73.7	58.7	49.7	42.5
62.5°	193.5	166.5	142.6	131.8	119.8	94.1	72.5	56.3	44.9	37.1	31.8
65°	162.3	136.6	112.6	104.2	93.5	71.3	53.3	40.7	32.3	27.0	23.4
67.5°	130.6	107.2	88.1	79.7	70.1	51.5	37.7	28.2	22.2	18.6	16.2
70°	103.0	81.5	64.7	56.9	49.1	34.1	24.6	18.6	15.0	12.6	11.4
72.5°	77.3	58.1	44.3	37.7	31.8	21.0	15.0	11.4	10.2	9.0	7.2
75°	53.9	38.9	27.6	22.8	18.6	12.6	9.0	7.8	5.4	1.2	0.0
77.5°	34.7	23.4	15.6	12.0	9.6	6.6	5.4	1.2	0.0	0.0	0.0
80°	19.8	12.0	7.2	6.0	4.8	1.2	0.6	0.6	0.6	0.0	0.0
82.5°	9.6	5.4	3.0	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.0
85°	3.6	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
87.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
90°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
92.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	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	0.0
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	0.0	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0
107.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
110°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0



TEST NUMBER: P188184

CATALOG NUMBER: FMB-N-4-LD4-1DN/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: P188184

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	802.2	802.2	802.2	802.2	802.2	802.2	802.2	802.2
2.5°	770.4	773.4	768.6	764.4	762.0	762.0	762.0	763.8
5°	739.9	739.3	738.7	737.5	735.1	736.9	737.5	737.5
7.5°	697.9	693.1	690.1	684.7	681.1	681.1	681.7	681.7
10°	669.2	668.0	666.2	663.2	659.6	657.8	657.2	657.8
12.5°	629.6	618.2	615.2	611.7	610.5	611.7	611.7	612.3
15°	602.1	598.5	593.1	587.7	579.3	575.7	570.3	571.5
17.5°	558.9	550.5	547.6	545.8	541.6	542.2	539.2	539.8
20°	528.4	516.4	505.6	499.6	488.2	485.8	484.6	484.6
22.5°	478.7	469.1	463.1	457.1	446.3	438.5	434.9	434.9
25°	439.1	421.1	413.4	408.0	400.8	394.8	391.8	393.0
27.5°	396.6	381.6	373.2	364.2	351.7	346.3	341.5	338.5
30°	351.7	334.9	324.7	316.9	296.5	284.0	276.2	272.0
32.5°	306.7	278.6	265.4	252.8	237.2	228.2	223.5	221.1
35°	252.8	226.4	217.5	208.5	196.5	189.3	185.7	183.9
37.5°	209.1	188.7	181.5	173.7	163.5	157.6	155.2	153.4
40°	176.1	158.8	152.8	146.8	138.4	134.2	131.8	130.6
42.5°	149.2	134.8	130.0	125.2	119.2	115.6	113.8	112.6
45°	126.4	115.0	111.4	107.2	102.4	99.4	98.8	97.6
47.5°	107.8	97.6	94.7	92.3	88.1	85.7	84.5	83.9
50°	91.1	82.7	80.3	77.9	74.3	71.9	71.3	70.7
52.5°	75.5	69.5	67.1	64.1	61.7	59.9	58.7	58.1
55°	62.3	56.3	54.5	52.7	50.3	48.5	47.9	47.3
57.5°	49.1	44.9	43.1	42.5	39.5	38.3	37.1	37.1
60°	38.3	34.7	32.9	32.3	30.0	29.4	28.8	28.2
62.5°	28.2	25.8	24.6	24.0	22.2	21.6	21.0	20.4
65°	19.8	18.6	17.4	17.4	16.2	15.6	15.6	15.0
67.5°	14.4	13.2	12.6	12.6	12.0	11.4	11.4	11.4
70°	10.2	9.6	9.0	9.0	6.0	4.8	4.2	4.2
72.5°	3.0	1.2	0.6	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: P188184

CATALOG NUMBER: FMB-N-4-LD4-1DN/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)