

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: P188178

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P188178  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27182)  
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-LD4-2UP/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: 1526.0 lumens  
Efficiency: N/A  
Efficacy: 61.8 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular w/ Sides (W: 1.75' x L: 0.29' x H: 0.04')  
CIE Type: Indirect

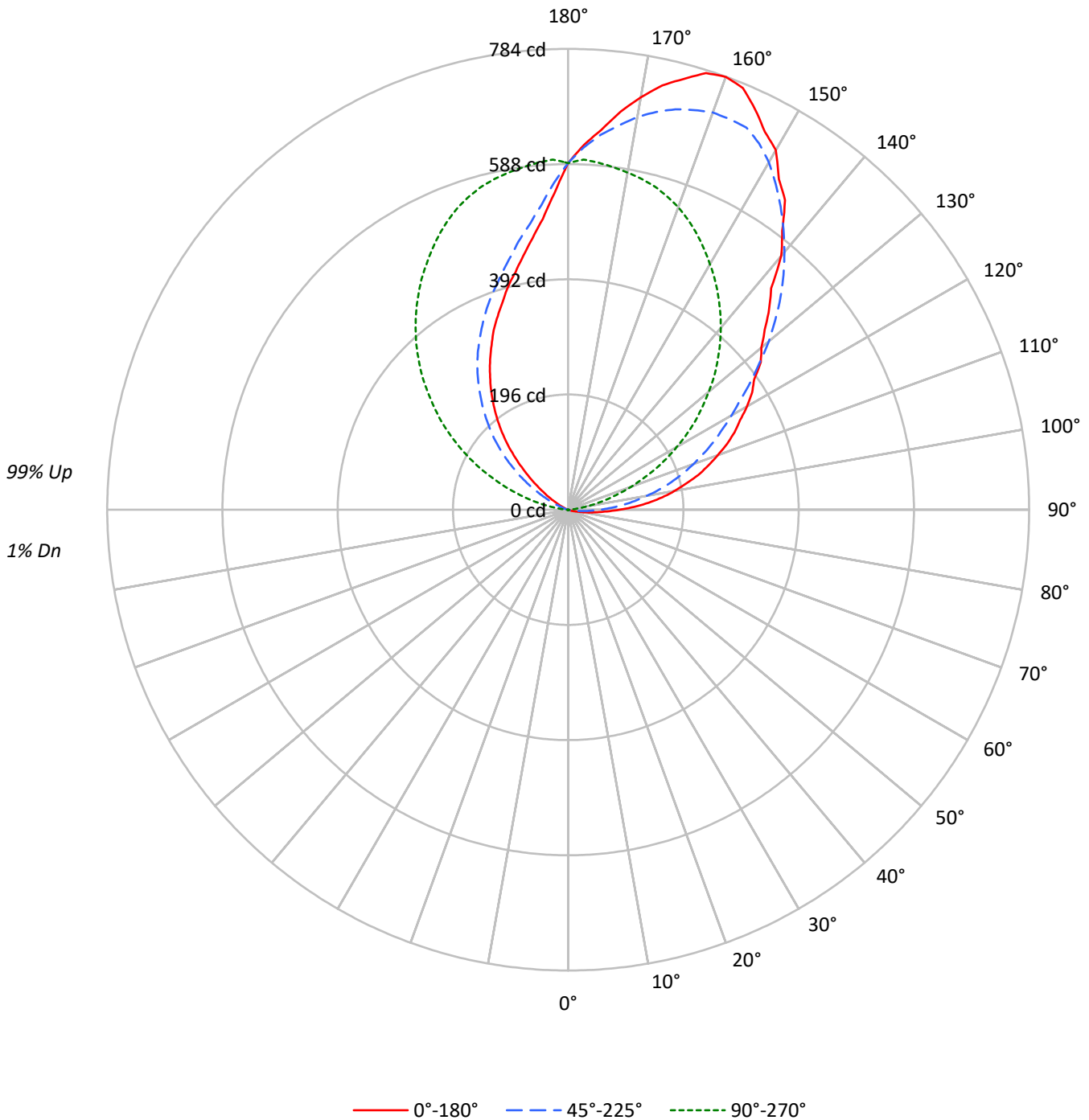
Input Watts (W): 24.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P188178

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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	96	96	96	96	82	82	82	82	56	56	56	33	33	33	11	11	11	1
1	86	82	79	75	74	71	68	65	48	47	45	28	27	26	9	9	9	0
2	79	72	66	61	67	61	57	53	42	39	37	24	23	22	8	8	7	0
3	72	63	56	51	61	54	48	44	37	34	31	22	20	18	7	7	6	0
4	65	55	48	43	56	48	42	37	33	29	26	19	17	15	6	6	5	0
5	60	49	42	36	51	42	36	31	29	25	22	17	15	13	6	5	4	0
6	55	44	36	31	47	38	31	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	16	14	11	10	5	4	3	0
8	46	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	7	4	3	2	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	0	0	0
5°	0	0	0
10°	0	0	0
15°	0	0	0
20°	0	0	0
25°	0	0	0
30°	0	0	0
35°	0	0	0
40°	0	0	0
45°	0	0	0
50°	0	0	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	27	69	27
75°	510	45	32
80°	1610	64	40
85°	4567	114	55



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	0.1	0.0
70°-80°	2.6	0.2
80°-90°	14.9	1.0
90°-100°	47.8	3.1
100°-110°	97.0	6.4
110°-120°	155.4	10.2
120°-130°	214.7	14.1
130°-140°	261.3	17.1
140°-150°	275.5	18.1
150°-160°	241.1	15.8
160°-170°	160.2	10.5
170°-180°	55.4	3.6
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	17.7	1.2
90°-120°	300.1	19.7
90°-150°	1051.6	68.9
90°-180°	1508.0	98.8
0°-180°	1526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	0	0	0	0	0	
5°	0	0	0	0	0	0
15°	0	0	0	0	0	0
25°	0	0	0	0	0	0
35°	0	0	0	0	0	0
45°	0	0	0	0	0	0
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	10	1	1	1	1	12
85°	50	25	1	1	1	35
90°	88	55	1	1	1	48
95°	137	93	8	1	1	121
105°	229	182	68	1	1	241
115°	312	273	163	31	9	308
125°	386	378	264	100	49	349
135°	484	510	360	184	131	375
145°	643	630	445	267	222	398
155°	752	717	518	346	309	346
165°	759	705	569	423	394	215
175°	649	640	593	521	497	64
180°	590	590	590	590	590	



TEST NUMBER: P188178

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
50°	0.0	0.0	0.0	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	0.0	0.0	0.0
55°	0.0	0.0	0.0	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	0.0	0.0	0.0
60°	0.0	0.0	0.0	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	0.0	0.0	0.0
65°	0.0	0.0	0.0	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	0.0	0.0	0.0
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	6.6	6.6	6.0	5.4	4.2	3.0	1.8	0.6	0.6	0.6	0.6
75°	9.6	9.6	9.0	8.4	7.8	7.8	7.2	6.6	4.8	1.8	0.6
77.5°	15.0	15.0	14.4	13.2	12.6	12.0	10.8	9.0	7.8	6.6	5.4
80°	24.0	24.0	23.4	21.6	20.4	19.2	18.6	15.6	13.2	10.2	8.4
82.5°	35.4	36.0	35.4	33.0	31.2	30.6	28.8	25.8	22.2	18.6	14.4
85°	49.7	50.3	49.7	47.3	46.1	44.3	42.5	39.5	35.4	30.0	25.2
87.5°	65.9	66.5	66.5	64.7	63.5	61.7	60.5	56.3	51.5	44.9	38.3
90°	87.5	86.3	86.9	85.1	84.5	82.1	80.9	75.5	69.5	61.7	55.1
92.5°	112.6	110.8	111.4	109.1	107.3	104.3	103.1	96.5	89.9	80.9	73.1
95°	137.2	135.4	136.0	132.4	130.0	127.0	125.2	118.0	110.8	101.3	92.9
97.5°	161.2	158.8	158.8	155.8	152.8	149.8	147.4	140.2	132.4	122.8	114.4
100°	183.3	181.6	180.4	178.6	175.6	172.0	170.2	163.0	154.6	145.0	136.0
102.5°	205.5	204.3	203.1	201.3	198.3	194.7	192.9	185.1	176.8	167.2	158.8
105°	228.9	227.7	224.7	223.5	219.3	216.9	213.9	206.7	198.9	189.9	181.6
107.5°	249.9	249.3	246.9	245.7	241.5	237.9	235.5	228.3	221.1	212.1	203.7
110°	270.2	270.2	267.8	266.6	261.8	258.8	255.8	249.3	242.1	234.3	226.5



TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	292.4	291.2	288.2	285.8	281.6	278.6	276.2	269.0	263.0	255.3	248.7
115°	312.2	312.8	309.2	306.2	301.4	297.8	296.0	290.6	284.0	277.4	272.6
117.5°	329.5	330.1	326.6	325.4	321.2	317.6	314.6	311.0	305.6	299.6	295.4
120°	351.1	349.3	345.1	342.7	340.3	338.5	336.7	331.3	327.2	322.4	320.6
122.5°	370.9	370.9	367.3	364.3	358.9	357.1	355.3	353.5	349.9	348.7	346.9
125°	385.9	385.9	382.9	385.3	381.7	379.3	377.5	375.7	375.1	373.9	378.1
127.5°	412.8	411.0	407.4	403.2	400.9	402.0	402.0	402.0	402.0	403.8	410.4
130°	429.0	429.6	429.0	431.4	428.4	427.2	427.2	431.4	433.2	441.0	445.2
132.5°	453.6	454.2	451.2	453.0	455.4	458.4	459.0	461.4	472.8	476.3	477.5
135°	483.5	482.9	485.9	487.1	485.3	486.5	491.9	505.7	508.7	511.7	510.5
137.5°	511.1	510.5	510.5	517.7	529.1	536.3	537.5	538.7	546.5	544.1	541.7
140°	563.8	563.2	568.0	571.6	571.0	570.4	571.6	578.8	575.2	575.2	572.2
142.5°	598.0	597.4	598.0	602.2	610.0	611.2	611.8	605.8	610.6	604.0	601.6
145°	642.9	643.5	642.3	641.1	636.3	637.5	638.1	641.7	635.7	635.1	629.7
147.5°	666.9	664.5	667.5	672.9	674.7	675.9	672.3	665.7	667.5	661.5	656.7
150°	706.4	704.0	702.8	698.6	696.2	698.6	698.0	698.0	692.7	689.7	682.5
152.5°	724.4	727.4	728.6	730.4	729.2	726.8	722.0	718.4	717.8	710.6	702.8
155°	752.0	752.0	749.6	747.8	747.2	748.4	746.6	744.2	737.0	731.6	717.2
157.5°	776.5	777.1	775.3	773.5	768.1	766.3	763.4	759.8	751.4	735.8	719.0
160°	783.7	784.9	784.3	781.3	779.5	777.1	772.9	761.0	747.8	734.6	719.0
162.5°	778.9	781.9	778.3	771.7	765.8	761.0	757.4	747.2	737.6	724.4	713.0
165°	758.6	759.8	756.8	752.6	747.2	743.6	741.2	733.4	725.6	716.0	705.2
167.5°	739.4	738.2	735.8	732.8	729.2	726.8	725.0	719.0	711.8	702.8	693.2
170°	712.4	712.4	711.2	708.2	705.2	702.8	701.6	696.8	692.1	686.1	678.3
172.5°	683.1	682.5	681.3	680.1	678.3	676.5	676.5	672.9	669.9	665.1	659.1
175°	648.9	648.9	647.7	648.3	647.7	647.1	647.7	647.7	645.9	643.5	640.5
177.5°	621.3	621.3	621.3	620.7	621.3	621.9	621.9	621.9	620.7	619.6	617.2
180°	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6



TEST NUMBER: P188178

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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
50°	0.0	0.0	0.0	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	0.0	0.0	0.0
55°	0.0	0.0	0.0	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	0.0	0.0	0.0
60°	0.0	0.0	0.0	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	0.0	0.0	0.0
65°	0.0	0.0	0.0	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	0.0	0.0	0.0
70°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.2	0.6	1.2	1.2
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	6.0	4.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	10.8	7.8	5.4	3.0	1.2	0.6	0.6	0.6	0.6	0.6	0.6
85°	19.2	14.4	10.2	6.6	4.8	3.6	1.8	0.6	0.6	0.6	0.6
87.5°	31.2	24.6	18.0	12.6	10.2	7.8	4.2	1.8	0.6	0.6	0.6
90°	45.5	37.1	29.4	21.6	18.6	15.0	10.2	5.4	2.4	0.6	0.6
92.5°	62.9	53.9	44.3	34.2	30.0	26.4	18.6	12.0	6.6	3.0	1.2
95°	82.1	71.9	61.1	49.7	44.9	40.7	31.2	22.8	15.0	8.4	4.2
97.5°	103.1	92.3	80.3	68.3	63.5	58.1	47.3	37.7	27.6	18.6	10.8
100°	125.2	113.2	101.3	89.3	83.3	78.5	67.1	56.3	43.7	31.8	21.0
102.5°	147.4	136.0	124.0	111.4	106.1	100.7	88.7	77.3	63.5	48.5	34.8
105°	170.8	159.4	148.0	136.6	130.0	124.0	113.2	100.7	85.7	68.3	51.5
107.5°	193.5	183.3	172.6	161.2	155.8	149.8	139.6	126.4	109.1	89.9	70.7
110°	217.5	207.3	198.3	189.3	182.2	177.4	166.6	152.8	134.2	113.8	91.7





TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	241.5	232.5	225.3	216.3	210.3	204.9	194.7	179.8	160.0	136.6	114.4
115°	265.4	260.0	253.5	244.5	238.5	233.7	222.3	206.7	185.7	163.0	137.8
117.5°	290.6	287.6	282.2	273.8	267.2	261.8	250.5	233.7	210.9	188.1	163.0
120°	318.8	317.6	311.6	303.2	296.6	292.4	278.6	260.6	238.5	213.3	186.9
122.5°	348.1	347.5	341.5	332.5	326.6	321.2	306.8	287.6	263.6	239.1	213.3
125°	381.1	377.5	371.5	361.3	355.3	348.7	333.7	314.0	288.8	264.2	236.7
127.5°	412.2	408.0	400.9	390.1	383.5	376.3	360.7	339.1	314.6	287.6	261.2
130°	442.2	438.6	431.4	418.8	411.6	403.8	387.1	365.5	339.1	312.2	285.2
132.5°	473.4	468.6	460.2	446.4	438.0	430.8	412.2	390.1	363.1	336.7	308.6
135°	505.7	499.1	488.9	474.0	465.0	457.2	436.8	412.8	385.3	359.5	330.7
137.5°	533.9	527.9	515.9	498.5	490.7	481.7	462.0	436.8	408.0	382.3	352.9
140°	563.8	556.6	542.3	524.9	515.9	505.1	484.1	458.4	429.0	403.8	373.3
142.5°	592.6	582.4	567.4	549.4	538.1	526.7	503.9	478.7	450.6	424.8	393.7
145°	621.3	610.6	594.4	572.2	561.4	550.0	525.5	497.9	470.4	444.6	412.8
147.5°	646.5	633.9	615.4	593.2	581.2	568.0	543.5	517.1	490.7	464.4	432.6
150°	671.7	655.5	634.5	611.2	598.6	586.0	562.0	534.5	509.3	482.3	450.6
152.5°	686.7	666.3	645.3	623.1	610.6	599.2	576.4	551.2	527.3	500.3	469.2
155°	697.4	676.5	655.5	634.5	623.7	613.0	590.2	567.4	544.1	517.7	486.5
157.5°	701.6	681.9	662.7	642.3	632.1	621.3	601.6	580.6	558.4	533.3	503.3
160°	702.2	684.9	666.9	647.7	638.7	629.1	611.2	591.4	571.0	547.6	520.1
162.5°	699.8	684.9	668.7	651.3	642.9	634.5	619.0	601.0	581.8	559.0	534.5
165°	693.2	680.1	666.3	651.9	644.1	637.5	623.1	607.6	589.6	569.2	547.0
167.5°	684.9	673.5	662.1	649.5	642.9	636.3	623.7	610.0	593.8	576.4	557.8
170°	672.9	663.9	654.9	644.7	639.9	635.1	624.3	611.8	598.0	582.4	567.4
172.5°	656.1	651.9	645.9	640.5	637.5	633.3	624.3	614.2	601.6	587.8	575.2
175°	639.3	634.5	631.5	627.9	626.1	624.3	619.0	611.8	604.6	592.6	582.4
177.5°	617.8	614.2	611.8	608.8	607.6	607.6	605.2	605.2	602.2	596.2	589.6
180°	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6



TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
50°	0.0	0.0	0.0	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	0.0	0.0	0.0
55°	0.0	0.0	0.0	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	0.0	0.0	0.0
60°	0.0	0.0	0.0	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	0.0	0.0	0.0
65°	0.0	0.0	0.0	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	0.0	0.0	0.0
70°	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	1.2	1.2	1.2	0.6	1.2	0.6	0.6	0.6	0.6	0.6	0.6
75°	0.6	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	0.6	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	0.6
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	0.6
95°	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
97.5°	6.0	3.6	1.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
100°	12.6	7.8	4.8	3.6	3.0	0.6	0.6	0.6	0.6	0.6	0.6
102.5°	23.4	15.6	10.2	7.8	6.6	4.2	2.4	0.6	0.6	0.6	0.6
105°	37.1	26.4	18.6	15.0	12.6	8.4	6.0	4.2	1.2	0.6	0.6
107.5°	53.3	40.7	30.6	25.8	21.6	15.6	11.4	7.8	6.0	4.8	2.4
110°	72.5	57.5	44.9	38.9	34.2	26.4	19.8	14.4	10.8	8.4	6.6



TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	92.9	76.1	62.3	55.7	49.7	40.1	31.8	24.0	19.2	14.4	11.4
115°	115.0	96.5	80.9	73.7	67.1	55.7	46.7	37.1	30.6	24.0	19.8
117.5°	138.4	118.6	103.1	93.5	86.3	74.3	63.5	52.1	44.3	37.1	31.2
120°	161.2	140.8	124.0	115.0	107.9	93.5	82.1	70.1	61.1	52.7	45.5
122.5°	185.7	163.6	146.2	136.6	129.4	114.4	102.5	88.7	79.7	70.1	62.3
125°	209.1	185.1	167.2	158.8	151.0	135.4	122.8	108.5	99.5	89.9	80.9
127.5°	231.9	207.9	189.3	181.0	173.2	157.6	144.4	129.4	119.2	109.1	100.7
130°	255.3	230.7	212.1	203.7	195.3	179.8	166.0	151.0	141.4	130.6	121.6
132.5°	278.0	252.9	233.7	225.9	217.5	201.3	188.1	172.6	162.4	152.8	143.2
135°	300.2	273.2	254.7	246.3	237.9	222.9	209.1	194.1	183.9	174.4	165.4
137.5°	320.6	294.8	275.0	267.2	258.2	243.3	230.1	215.7	203.7	194.7	186.3
140°	340.9	314.6	295.4	286.4	278.0	263.6	250.5	236.1	225.3	216.9	207.9
142.5°	360.7	334.3	314.0	305.6	297.8	282.8	270.2	257.6	245.7	237.9	229.5
145°	379.3	352.9	333.1	325.4	317.6	303.2	290.6	277.4	266.6	258.8	250.5
147.5°	399.1	373.3	352.9	345.1	336.7	322.4	311.0	298.4	287.6	279.8	271.4
150°	418.8	391.3	371.5	363.1	355.3	340.9	330.1	317.6	307.4	300.2	291.2
152.5°	437.4	409.8	390.7	381.1	373.9	359.5	348.7	336.1	326.0	318.2	310.4
155°	455.4	429.0	409.8	401.4	392.5	378.1	367.3	355.9	345.7	338.5	330.7
157.5°	472.8	447.0	428.4	420.0	411.0	396.7	385.9	374.5	365.5	358.3	350.5
160°	491.3	465.6	447.0	438.6	430.2	415.2	404.4	393.1	384.7	378.1	370.3
162.5°	508.7	484.1	466.2	457.2	449.4	434.4	423.6	412.2	402.6	395.5	388.9
165°	524.3	502.1	484.1	476.3	469.2	454.8	444.0	432.0	423.0	415.8	409.2
167.5°	538.7	518.9	502.1	493.7	487.7	475.1	464.4	453.0	444.0	437.4	431.4
170°	551.8	535.7	521.3	513.5	507.5	494.9	486.5	476.9	468.6	462.6	454.8
172.5°	563.8	551.8	540.5	533.9	529.1	517.1	508.7	499.1	491.9	486.5	481.1
175°	574.0	567.4	560.2	555.4	551.8	542.9	536.3	527.3	520.7	515.9	509.9
177.5°	584.8	581.8	578.8	575.8	574.6	569.2	566.8	560.8	556.6	554.2	550.0
180°	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6



TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
72.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
80°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	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
90°	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
95°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
97.5°	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
102.5°	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
107.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
110°	6.0	4.8	4.8	3.6	1.2	0.6	0.6	0.6



TEST NUMBER: P188178

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

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	9.6	7.8	7.2	7.2	6.6	6.0	6.0	6.0
115°	16.2	13.2	12.6	11.4	10.2	9.6	9.0	9.0
117.5°	26.4	22.2	20.4	19.2	17.4	15.6	15.0	14.4
120°	39.5	34.2	31.2	30.0	27.6	25.2	24.0	23.4
122.5°	55.7	47.9	46.1	43.1	39.5	36.5	36.0	34.8
125°	73.7	65.3	61.7	59.3	55.1	51.5	49.7	49.1
127.5°	93.5	83.9	80.3	77.9	73.1	68.9	67.1	65.9
130°	114.4	104.3	101.9	97.1	93.5	88.7	86.9	85.7
132.5°	136.0	126.4	122.2	119.8	115.0	110.8	108.5	107.3
135°	158.2	148.6	145.0	142.6	138.4	133.6	131.2	130.6
137.5°	179.8	170.8	167.8	164.2	160.0	155.8	155.2	154.6
140°	201.3	193.5	189.3	187.5	183.9	179.8	178.6	178.0
142.5°	222.3	213.9	210.9	207.9	204.9	200.7	200.7	200.1
145°	243.9	235.5	232.5	230.1	226.5	224.1	222.9	222.3
147.5°	266.0	258.8	254.7	252.3	248.1	246.3	244.5	244.5
150°	285.8	279.8	276.2	273.2	269.6	268.4	266.0	266.0
152.5°	305.6	298.4	296.0	293.6	290.6	288.8	288.2	287.6
155°	326.0	318.8	317.0	314.6	311.6	310.4	309.2	308.6
157.5°	345.1	339.7	337.3	334.9	331.9	331.9	330.1	330.7
160°	366.1	359.5	357.7	355.9	352.9	352.9	351.7	350.5
162.5°	385.9	379.9	377.5	375.1	372.7	372.1	370.3	370.9
165°	405.6	399.7	397.9	396.1	394.9	393.7	393.7	393.7
167.5°	428.4	421.8	420.0	418.2	416.4	415.2	414.0	414.0
170°	452.4	445.2	443.4	441.0	439.8	439.2	439.2	438.6
172.5°	477.5	472.2	470.4	468.6	467.4	465.0	464.4	465.6
175°	507.5	502.1	500.3	498.5	498.5	496.1	495.5	496.7
177.5°	549.4	544.7	544.1	542.3	543.5	540.5	541.7	538.7
180°	589.6	589.6	589.6	589.6	589.6	589.6	589.6	589.6

(END OF REPORT)