

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: P188174

Luminaire Tested: **FMB-N-2-LD4-1LO/1LO-40-UNV-80/86**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188174
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27161)
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-LD4-1LO/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: 1775.0 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.14 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 2' x H: 0.67')
CIE Type: General Diffuse

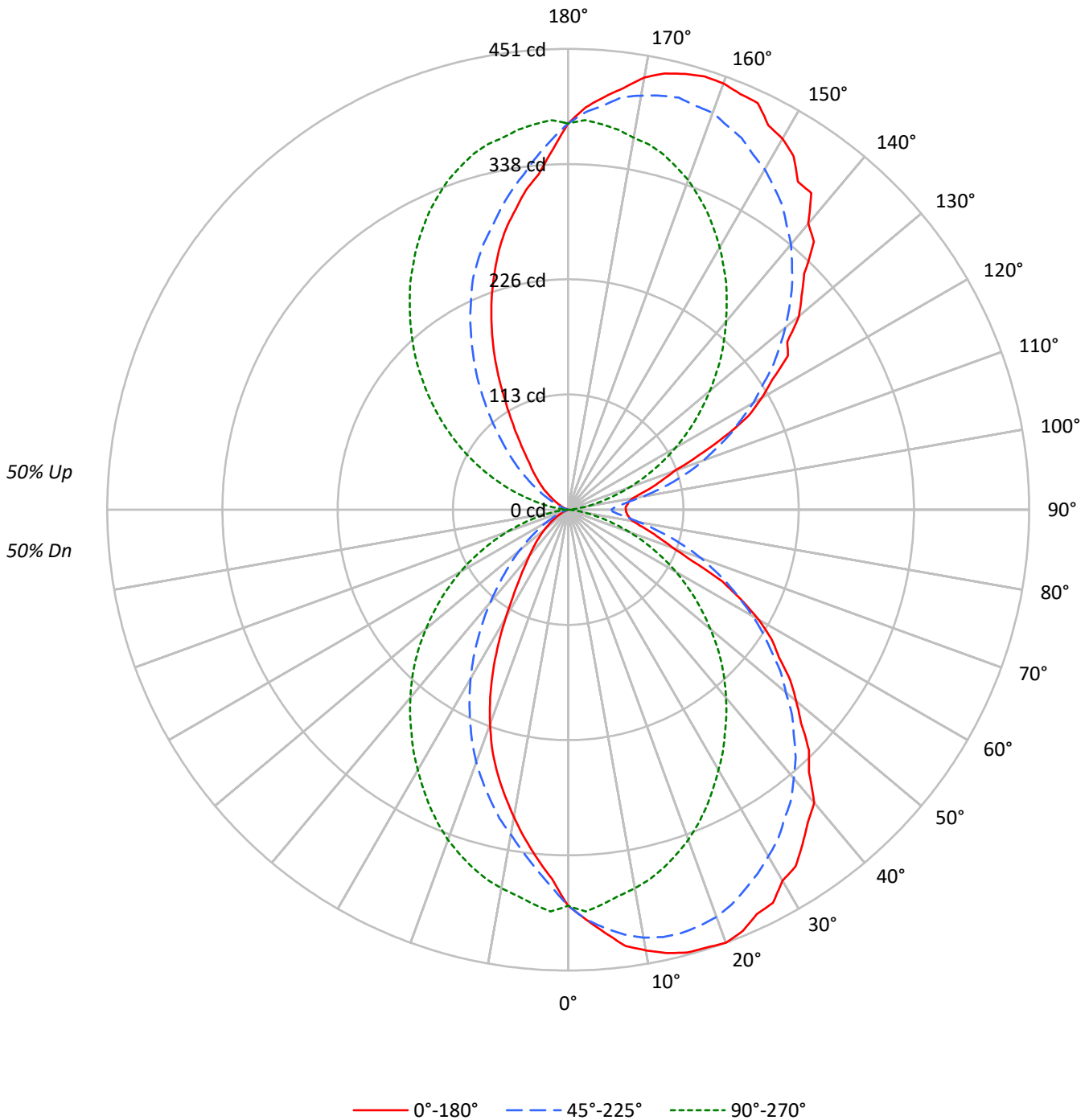
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50									50																			
1	98	94	90	86	90	86	83	80	73	71	69	61	59	58	50	49	48	42									42																			
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40	36									36																			
3	82	72	65	59	75	67	61	56	57	52	48	48	44	41	39	37	35	31									31																			
4	75	64	56	50	69	60	53	47	51	46	41	43	39	36	35	32	30	26									26																			
5	69	57	49	43	63	53	46	41	46	40	36	39	34	31	32	29	26	23									23																			
6	63	51	43	38	58	48	41	36	41	36	31	35	31	27	29	26	23	20									20																			
7	59	47	39	33	54	43	36	31	37	32	28	32	28	24	27	23	21	18									18																			
8	55	42	35	29	50	40	33	28	34	29	25	29	25	22	24	21	19	16									16																			
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	23	19	17	15									15																			
10	47	36	28	24	44	33	27	22	29	24	20	25	21	18	21	18	16	14									14																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2086	2086	2086
5°	2182	1979	1802
10°	2260	1840	1577
15°	2295	1713	1367
20°	2304	1585	1141
25°	2244	1452	893
30°	2185	1320	637
35°	2129	1197	444
40°	2055	1082	326
45°	1901	969	246
50°	1744	847	180
55°	1599	729	122
60°	1468	607	70
65°	1236	481	36
70°	895	353	0
75°	772	225	0
80°	687	109	6
85°	746	30	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.3	2.0
10°-20°	101.5	5.7
20°-30°	145.4	8.2
30°-40°	161.6	9.1
40°-50°	154.8	8.7
50°-60°	128.8	7.3
60°-70°	89.5	5.0
70°-80°	47.6	2.7
80°-90°	23.7	1.3
90°-100°	24.0	1.4
100°-110°	48.4	2.7
110°-120°	90.7	5.1
120°-130°	128.9	7.3
130°-140°	154.0	8.7
140°-150°	160.6	9.1
150°-160°	143.9	8.1
160°-170°	99.7	5.6
170°-180°	35.4	2.0
0°-30°	283.2	16.0
0°-40°	444.9	25.1
0°-60°	728.4	41.0
0°-90°	889.2	50.1
90°-120°	163.2	9.2
90°-150°	606.7	34.2
90°-180°	886.0	49.9
0°-180°	1775.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	388	388	388	388	388	
5°	416	411	388	353	343	40
15°	449	429	362	294	267	127
25°	437	410	320	227	174	202
35°	400	369	267	154	83	250
45°	333	312	212	88	43	255
55°	252	243	152	41	19	227
65°	166	172	92	11	5	161
75°	83	102	38	1	0	89
85°	58	49	4	1	0	49
90°	56	42	1	1	0	31
95°	58	51	4	1	0	49
105°	85	107	38	1	0	90
115°	168	175	92	13	5	165
125°	262	244	151	42	19	229
135°	326	310	212	88	43	255
145°	392	365	270	153	84	248
155°	439	401	322	225	172	200
165°	442	418	360	287	262	125
175°	406	397	379	347	330	39
180°	378	378	378	378	378	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6
2.5°	401.4	401.4	401.4	402.6	403.1	403.1	403.1	403.7	402.6	402.6	401.4
5°	415.7	416.3	415.7	416.3	416.3	415.1	415.1	415.1	413.3	412.1	410.9
7.5°	430.7	430.1	429.5	429.5	428.9	428.9	427.7	427.1	424.7	422.3	419.3
10°	437.9	438.5	437.9	437.3	436.7	436.1	435.5	433.7	431.3	428.9	425.3
12.5°	444.5	443.9	443.9	443.3	441.5	441.5	440.9	438.5	435.5	432.5	428.3
15°	448.7	449.3	448.7	446.9	445.1	444.5	443.9	442.1	437.3	433.7	428.9
17.5°	449.3	448.7	449.3	448.7	447.5	446.3	445.7	442.7	437.9	432.5	427.1
20°	451.1	451.1	450.5	449.3	446.3	444.5	442.1	439.1	435.5	430.1	424.1
22.5°	446.3	446.3	443.9	442.1	441.5	440.3	439.7	435.5	430.1	422.9	418.1
25°	436.7	437.9	437.9	438.5	436.7	434.3	432.5	427.7	423.5	416.9	409.7
27.5°	433.7	433.1	432.5	428.9	425.3	424.7	424.7	422.3	416.3	407.3	401.4
30°	419.3	419.3	418.7	419.3	420.5	419.3	418.1	410.3	406.1	399.6	391.8
32.5°	413.9	412.1	412.7	412.1	407.9	405.5	404.3	402.0	397.2	388.2	382.2
35°	399.6	399.6	397.8	395.4	396.6	397.8	396.0	390.6	384.0	376.8	369.0
37.5°	385.2	387.0	385.8	388.2	385.8	384.0	379.8	377.4	373.2	364.8	358.2
40°	374.4	373.2	372.0	369.0	368.4	368.4	367.8	364.8	358.2	350.4	343.2
42.5°	348.6	349.8	351.0	352.2	354.6	352.8	350.4	346.8	343.8	336.7	329.5
45°	333.1	334.9	333.1	332.5	329.5	329.5	330.7	331.3	326.5	319.3	312.1
47.5°	309.1	308.5	307.9	310.9	312.1	312.7	310.9	309.1	307.3	303.1	297.1
50°	291.1	290.5	292.3	292.9	290.5	289.3	288.7	291.1	288.7	283.9	278.0
52.5°	273.8	273.2	270.2	271.4	270.8	272.0	272.6	270.2	269.0	266.6	262.4
55°	251.6	252.8	253.4	255.8	254.6	252.2	251.6	252.2	251.6	247.4	243.2
57.5°	236.0	236.6	236.6	234.8	234.2	233.6	234.8	233.6	232.4	230.0	226.4
60°	215.1	214.5	213.9	216.3	216.8	217.4	216.8	215.7	213.3	211.5	208.5
62.5°	190.5	189.9	192.9	194.7	195.9	195.9	197.1	197.7	195.3	192.9	189.9
65°	166.5	165.3	167.7	170.7	173.7	174.9	177.9	178.5	177.3	175.5	172.5
67.5°	131.2	130.6	135.4	141.4	149.2	149.8	154.6	158.7	159.3	158.1	154.6
70°	109.0	107.8	109.6	113.2	118.6	121.6	128.2	134.8	139.0	140.2	137.8
72.5°	94.6	94.0	95.2	96.4	98.2	99.4	103.0	110.8	117.4	121.0	120.4
75°	83.3	83.3	84.5	85.7	87.5	87.5	89.3	91.7	95.8	100.6	102.4
77.5°	71.9	71.3	73.1	74.3	76.1	76.1	77.9	79.7	80.9	83.9	85.7
80°	64.1	64.1	64.7	64.7	65.9	67.1	67.7	68.3	68.9	68.9	70.7
82.5°	60.5	59.9	59.9	59.3	58.7	59.3	59.3	59.9	59.3	58.7	58.1
85°	58.1	57.5	56.9	56.3	55.1	54.5	53.9	52.7	52.7	50.9	49.1
87.5°	56.9	56.3	55.7	54.5	52.7	52.1	50.9	49.1	47.3	46.1	43.7
90°	56.3	55.7	55.1	53.9	52.7	51.5	50.3	48.5	46.1	43.7	42.5
92.5°	56.3	56.3	55.7	54.5	53.3	52.1	51.5	49.7	47.9	46.7	44.9
95°	58.1	57.5	56.9	56.3	55.1	54.5	54.5	53.3	53.3	52.7	50.9
97.5°	59.9	59.9	59.3	59.3	59.3	59.3	59.9	60.5	61.1	60.5	59.9
100°	64.1	63.5	64.1	65.3	67.1	67.1	68.3	69.5	70.1	71.3	74.3
102.5°	72.5	72.5	73.1	74.9	76.1	76.7	78.5	80.3	82.7	86.9	89.9
105°	85.1	85.1	85.1	86.9	88.7	88.7	90.5	92.9	98.2	104.8	107.2
107.5°	96.4	95.8	96.4	97.6	99.4	101.2	104.2	114.4	121.6	124.6	124.6
110°	110.2	110.2	110.8	115.6	123.4	127.0	131.8	139.6	143.2	143.2	140.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	137.2	137.2	141.4	148.0	152.2	155.1	158.1	161.7	162.3	159.9	156.9
115°	168.3	167.7	169.5	175.5	179.7	180.3	180.9	182.7	179.7	177.9	174.9
117.5°	198.9	198.3	197.7	197.1	198.9	201.9	203.1	199.5	198.3	195.3	190.5
120°	218.6	217.4	219.8	222.2	218.6	218.0	219.8	218.6	213.9	210.9	209.1
122.5°	236.6	235.4	234.8	237.8	240.2	237.8	234.8	234.8	231.8	230.0	224.6
125°	262.4	261.8	259.4	253.4	251.0	254.0	257.0	250.4	251.6	245.0	243.8
127.5°	270.2	270.2	272.0	277.4	273.8	270.2	267.8	273.8	265.4	266.6	260.6
130°	294.7	292.9	289.3	285.7	291.1	293.5	294.1	285.1	289.3	280.9	277.4
132.5°	309.7	312.1	315.7	315.1	307.9	304.3	307.3	313.3	302.5	302.5	293.5
135°	326.5	325.9	324.7	327.1	334.9	335.5	332.5	325.9	327.1	315.7	309.7
137.5°	355.8	358.2	357.6	353.4	346.2	344.4	349.2	348.0	336.7	334.3	324.1
140°	365.4	364.2	365.4	370.8	372.0	369.6	363.6	358.2	355.8	345.6	339.1
142.5°	390.6	390.0	387.0	380.4	375.6	377.4	380.4	375.6	364.2	361.2	351.0
145°	391.8	394.2	396.0	400.8	397.2	392.4	388.2	383.4	381.0	370.2	364.8
147.5°	410.3	409.7	406.1	402.6	401.4	403.1	405.5	396.0	387.6	384.0	374.4
150°	419.3	420.5	421.7	421.1	414.5	410.3	406.7	404.3	399.6	390.6	384.6
152.5°	424.1	424.1	422.3	422.3	421.7	421.1	419.9	411.5	405.5	400.8	391.8
155°	439.1	439.1	437.3	433.7	427.7	424.7	424.1	421.7	414.5	406.7	401.4
157.5°	440.3	439.7	439.1	440.3	437.9	434.3	430.7	424.1	419.9	413.9	406.7
160°	443.9	443.3	442.1	438.5	436.1	434.3	433.7	428.9	422.9	417.5	413.3
162.5°	444.5	444.5	443.3	440.9	437.3	434.3	431.9	428.9	425.9	421.1	414.5
165°	441.5	440.9	440.9	439.7	437.9	436.7	434.9	429.5	424.1	420.5	417.5
167.5°	437.3	436.7	435.5	433.1	431.3	430.1	429.5	427.1	423.5	418.7	415.1
170°	429.5	428.9	428.9	426.5	424.1	422.9	422.3	418.7	416.9	413.9	411.5
172.5°	416.3	415.7	415.7	415.1	414.5	413.9	413.9	412.1	410.9	409.1	407.3
175°	405.5	404.9	404.9	403.7	403.1	402.0	402.0	400.2	399.0	398.4	397.2
177.5°	394.2	393.0	393.6	393.0	391.8	391.8	391.8	390.6	390.6	390.0	389.4
180°	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6
2.5°	400.2	399.0	399.0	399.0	398.4	397.8	397.8	398.4	397.2	393.6	389.4
5°	408.5	407.9	406.1	404.9	403.7	403.1	402.0	400.2	394.8	387.6	382.2
7.5°	416.3	414.5	411.5	407.9	406.1	403.7	400.2	396.0	390.0	381.0	376.8
10°	421.7	417.5	413.3	407.3	404.3	402.0	396.6	391.8	384.0	376.2	370.2
12.5°	424.7	419.9	413.9	407.3	403.7	400.8	394.2	388.2	379.2	370.2	362.4
15°	423.5	418.7	412.1	404.9	400.8	397.2	388.8	382.2	373.2	362.4	354.0
17.5°	421.7	415.1	407.9	401.4	396.6	392.4	384.0	375.6	365.4	353.4	343.8
20°	416.9	410.3	403.1	394.2	389.4	385.2	376.2	368.4	357.0	343.8	333.1
22.5°	410.9	403.1	396.0	385.8	381.0	377.4	367.8	358.2	345.6	332.5	321.7
25°	402.0	394.2	385.8	376.2	371.4	366.6	357.0	345.6	334.3	320.5	309.1
27.5°	392.4	384.6	375.6	365.4	360.6	355.2	345.0	333.7	321.1	307.3	295.3
30°	383.4	374.4	364.8	354.0	349.2	343.2	332.5	321.1	307.9	294.1	282.7
32.5°	372.0	362.4	352.8	342.0	336.1	330.1	319.3	307.3	294.7	281.5	269.0
35°	361.2	351.6	340.8	328.9	322.9	316.9	306.1	293.5	280.9	267.2	255.8
37.5°	347.4	337.3	327.1	314.5	307.9	303.1	292.3	279.7	267.8	254.0	242.6
40°	334.3	324.1	312.7	300.7	295.3	289.3	278.0	265.4	254.0	240.2	227.6
42.5°	319.9	309.1	298.9	287.5	281.5	276.2	264.8	252.2	239.6	226.4	213.9
45°	303.7	294.7	283.9	273.8	267.8	261.2	250.4	237.2	225.8	212.1	198.3
47.5°	288.1	279.1	269.6	259.4	252.8	246.8	236.0	222.8	210.9	197.1	183.3
50°	271.4	264.2	254.6	242.6	238.4	231.8	221.0	208.5	195.9	181.5	168.3
52.5°	254.6	246.8	237.8	227.6	222.8	216.8	206.1	193.5	180.9	166.5	152.8
55°	238.4	231.2	222.2	212.1	207.3	201.3	190.5	178.5	165.9	151.6	137.2
57.5°	220.4	213.3	204.9	196.5	190.5	185.1	174.9	162.9	150.4	136.6	124.0
60°	203.1	196.5	188.1	179.7	174.9	168.9	159.3	147.4	135.4	121.6	107.8
62.5°	185.7	179.1	171.9	162.9	157.5	153.4	143.2	131.8	119.8	107.2	94.0
65°	168.3	161.1	154.6	146.2	141.4	136.6	127.0	116.2	104.2	91.7	79.1
67.5°	150.4	143.8	136.6	128.8	124.6	120.4	110.8	100.6	89.3	77.9	65.3
70°	133.0	126.4	119.2	112.0	107.8	103.6	95.2	85.1	74.3	63.5	52.1
72.5°	116.2	109.6	102.4	95.8	91.7	87.5	79.7	70.1	60.5	49.7	39.5
75°	100.6	94.0	86.3	79.7	75.5	71.9	64.7	55.7	46.7	37.7	28.2
77.5°	83.9	79.1	71.9	64.7	60.5	56.9	49.7	42.5	34.1	26.4	18.6
80°	70.1	65.3	58.1	50.9	46.7	43.7	37.1	30.6	23.4	16.8	10.8
82.5°	56.9	52.7	46.7	38.9	35.3	32.3	26.4	20.4	14.4	9.6	5.4
85°	46.1	42.5	36.5	30.0	26.4	22.8	16.8	12.0	7.8	4.2	2.4
87.5°	40.1	35.9	30.0	23.4	19.8	16.8	10.8	6.6	3.0	1.8	0.6
90°	38.9	34.1	28.2	21.0	18.0	14.4	9.0	4.8	1.8	0.6	0.6
92.5°	41.3	36.5	30.6	24.0	20.4	17.4	11.4	6.6	3.6	1.8	0.6
95°	47.9	43.7	37.7	30.6	27.0	24.0	17.4	12.6	7.8	4.2	2.4
97.5°	58.7	55.1	47.3	38.9	35.3	32.3	26.4	21.0	15.0	9.6	6.0
100°	73.1	67.1	58.7	50.9	47.3	43.7	38.3	31.1	24.0	17.4	11.4
102.5°	86.9	80.3	72.5	64.7	61.1	57.5	50.9	43.1	34.7	27.0	19.2
105°	103.0	95.2	87.5	79.1	76.1	72.5	65.3	56.9	47.9	37.7	28.8
107.5°	119.2	110.8	102.4	94.6	91.7	87.5	80.3	71.3	61.1	50.3	39.5
110°	134.8	127.0	118.6	111.4	107.8	103.6	96.4	86.9	75.5	63.5	51.5



TEST NUMBER: P188174

CATALOG NUMBER: FMB-N-2-LD4-1LO/1LO-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	151.0	143.2	135.4	127.6	124.0	119.2	112.0	101.8	90.5	77.3	64.7
115°	168.3	160.5	152.8	143.8	140.2	136.6	127.6	117.4	104.8	91.7	78.5
117.5°	184.5	177.3	169.5	160.5	156.9	152.8	143.8	132.4	119.8	106.6	92.9
120°	203.7	195.3	186.3	176.7	173.1	168.9	159.3	148.0	134.8	121.0	107.8
122.5°	219.8	211.5	201.9	193.5	188.7	184.5	174.3	162.9	150.4	136.0	122.8
125°	237.8	228.2	218.0	209.1	204.9	200.7	189.9	177.9	164.7	151.0	137.2
127.5°	252.8	243.2	234.2	224.6	219.8	215.1	204.3	192.3	180.3	165.9	152.2
130°	269.6	260.6	249.8	239.6	234.8	230.6	219.2	207.3	194.7	180.9	168.3
132.5°	283.9	275.0	265.4	254.6	250.4	245.0	233.0	222.2	209.7	195.9	183.3
135°	300.7	289.9	279.1	269.6	264.2	260.0	248.6	236.0	224.6	211.5	199.5
137.5°	313.9	304.3	293.5	282.7	278.0	273.2	262.4	251.0	238.4	225.8	212.7
140°	328.9	318.1	307.3	296.5	292.3	287.5	276.8	265.4	253.4	240.2	227.6
142.5°	342.0	331.9	321.7	310.9	306.1	300.7	290.5	279.7	267.8	254.6	242.0
145°	354.6	344.4	334.9	325.3	320.5	316.3	304.9	294.1	281.5	269.6	255.8
147.5°	366.0	356.4	348.6	337.9	333.1	329.5	318.7	307.3	296.5	282.7	269.6
150°	375.0	368.4	359.4	351.6	346.8	342.6	333.7	321.1	309.7	296.5	282.7
152.5°	385.2	377.4	369.6	361.8	358.2	354.6	345.6	334.9	321.7	309.1	295.9
155°	393.0	386.4	379.2	372.6	369.6	365.4	356.4	347.4	334.3	321.7	307.9
157.5°	401.4	394.2	387.6	381.0	378.0	373.8	366.6	357.0	345.0	332.5	318.7
160°	406.7	400.8	394.8	388.2	384.6	381.6	376.2	366.6	355.2	343.2	330.1
162.5°	410.3	405.5	399.6	393.6	391.2	388.8	382.8	373.8	364.2	351.6	339.1
165°	412.7	407.3	402.0	397.8	396.0	393.6	386.4	379.2	371.4	360.0	348.0
167.5°	410.9	407.9	404.9	400.8	397.8	394.8	390.0	384.0	375.6	366.0	356.4
170°	410.3	408.5	405.5	402.0	399.6	397.8	393.0	386.4	378.6	369.6	361.8
172.5°	405.5	402.6	401.4	399.6	399.0	397.8	394.8	390.6	385.2	375.0	367.2
175°	396.0	396.6	397.2	397.8	397.2	397.2	396.6	395.4	387.6	378.6	372.6
177.5°	389.4	388.8	388.8	389.4	391.8	393.0	392.4	391.8	388.8	381.6	377.4
180°	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0



TEST NUMBER: P188174

CATALOG NUMBER: FMB-N-2-LD4-1LO/1LO-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6
2.5°	385.8	383.4	380.4	379.2	378.0	376.2	373.8	372.0	369.6	367.2	365.4
5°	379.2	375.6	370.8	368.4	367.2	363.6	359.4	356.4	353.4	350.4	348.0
7.5°	372.0	366.6	360.6	357.6	355.2	350.4	345.6	341.4	337.9	334.3	331.3
10°	363.6	357.0	349.2	346.2	343.2	337.9	332.5	327.7	322.9	318.7	315.7
12.5°	354.0	346.2	339.7	335.5	332.5	325.3	319.3	314.5	309.7	304.3	299.5
15°	345.0	336.7	327.7	323.5	319.9	312.7	305.5	298.9	294.1	287.5	282.7
17.5°	334.3	324.7	315.7	310.9	307.3	300.1	292.3	285.1	278.6	273.2	266.0
20°	323.5	313.3	303.7	297.7	294.7	286.3	278.0	270.2	263.0	255.8	247.4
22.5°	310.9	300.7	289.9	285.1	280.9	272.0	261.8	254.0	245.6	236.6	227.0
25°	297.7	287.5	277.4	271.4	267.2	257.6	248.0	237.2	227.0	217.4	207.3
27.5°	284.5	274.4	264.2	257.0	252.2	242.6	231.8	219.8	209.1	198.3	186.9
30°	271.4	260.0	249.2	243.2	237.8	227.6	215.7	202.5	191.1	178.5	165.9
32.5°	258.2	246.2	235.4	228.8	223.4	211.5	198.3	184.5	172.5	158.7	147.4
35°	243.8	233.0	221.0	214.5	209.1	195.9	182.1	167.7	154.0	139.6	126.4
37.5°	230.6	219.2	206.7	200.1	193.5	180.3	165.9	151.0	136.0	121.0	107.8
40°	215.7	204.9	192.3	185.1	179.1	164.1	149.8	134.2	118.6	103.6	91.1
42.5°	201.3	189.9	177.9	170.7	163.5	149.2	134.2	118.0	101.8	88.7	77.9
45°	186.3	174.9	162.9	155.1	148.6	134.2	119.2	102.4	87.5	75.5	65.3
47.5°	171.3	159.3	148.0	139.6	133.0	118.6	104.2	88.1	74.3	63.5	54.5
50°	155.7	144.4	132.4	124.0	118.6	104.2	89.3	74.9	62.3	51.5	45.5
52.5°	140.2	128.8	116.8	109.0	103.6	89.9	76.1	62.3	50.9	41.9	36.5
55°	125.2	113.8	101.8	94.0	88.7	76.7	62.9	50.9	40.7	34.1	29.4
57.5°	110.2	97.6	86.9	79.7	74.9	63.5	50.9	40.1	32.3	26.4	22.8
60°	95.2	83.3	72.5	65.9	61.7	50.9	39.5	31.1	24.0	19.2	16.8
62.5°	80.3	68.9	58.7	52.7	47.9	39.5	30.0	22.8	17.4	13.8	12.0
65°	66.5	55.1	45.5	40.7	37.1	28.8	21.0	15.6	11.4	9.6	8.4
67.5°	53.3	43.1	34.1	29.4	27.0	19.8	14.4	10.2	7.8	6.6	5.4
70°	40.7	31.7	24.0	20.4	18.0	12.6	9.0	6.6	5.4	4.2	3.6
72.5°	30.0	22.2	16.2	12.6	10.8	7.8	5.4	4.2	3.6	1.8	0.6
75°	20.4	13.8	9.6	7.2	6.0	4.2	3.0	2.4	0.6	0.6	0.6
77.5°	12.6	7.8	4.8	4.2	3.0	2.4	0.6	0.6	0.6	0.6	0.6
80°	6.6	4.2	3.0	2.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82.5°	3.0	1.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
85°	1.2	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°	1.2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
97.5°	3.0	1.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
100°	7.2	4.2	3.0	2.4	1.2	0.6	0.6	0.6	0.6	0.6	0.6
102.5°	12.6	8.4	5.4	4.2	3.6	2.4	0.6	0.6	0.6	0.6	0.6
105°	20.4	14.4	10.2	8.4	6.6	4.8	3.6	1.8	0.6	0.6	0.6
107.5°	30.0	22.2	16.2	14.4	11.4	8.4	6.0	4.2	3.6	1.8	0.6
110°	40.7	31.7	25.2	22.2	19.2	13.8	9.6	7.2	5.4	4.8	4.2



TEST NUMBER: P188174

CATALOG NUMBER: FMB-N-2-LD4-1LO/1LO-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	52.7	43.1	34.7	31.7	27.6	21.0	15.6	10.8	8.4	7.2	6.0
115°	65.9	55.7	46.7	43.1	38.9	30.0	22.8	16.2	12.6	10.2	9.0
117.5°	79.7	68.9	59.9	55.1	49.7	40.7	31.7	23.4	18.0	15.0	13.2
120°	94.0	83.3	73.7	68.3	62.9	52.1	41.9	32.3	25.2	20.4	18.0
122.5°	109.0	97.6	87.5	82.1	76.1	64.7	52.7	41.9	32.9	27.0	23.4
125°	124.0	112.6	102.4	97.0	89.9	77.3	64.7	52.7	41.9	34.1	30.0
127.5°	139.0	127.6	117.4	112.0	104.2	91.1	77.3	64.1	52.1	42.5	37.1
130°	154.6	143.2	132.4	127.0	119.2	104.8	90.5	76.1	63.5	52.7	44.9
132.5°	170.7	158.7	147.4	142.0	134.2	119.8	104.2	89.3	75.5	63.5	54.5
135°	185.7	174.3	162.3	156.9	149.8	134.2	119.2	103.0	88.1	75.5	65.3
137.5°	200.7	188.7	177.3	171.3	164.1	148.6	133.6	118.0	102.4	88.7	77.9
140°	215.1	203.7	191.7	186.3	179.1	164.1	149.8	134.2	118.6	103.6	91.7
142.5°	229.4	217.4	206.1	200.7	193.5	179.7	165.3	150.4	135.4	121.0	107.8
145°	243.8	231.8	220.4	215.1	208.5	196.5	182.1	167.7	153.4	139.0	127.0
147.5°	257.6	245.6	234.2	228.8	223.4	211.5	198.9	185.1	171.3	158.7	146.8
150°	270.8	259.4	248.6	243.2	237.2	226.4	215.1	202.5	188.7	177.9	167.1
152.5°	283.9	272.0	262.4	257.0	251.0	240.8	230.6	219.8	207.3	196.5	186.3
155°	296.5	285.1	275.0	270.2	264.2	254.6	245.0	236.0	225.2	215.7	206.7
157.5°	307.9	295.9	287.5	283.3	277.4	267.8	260.0	251.6	243.8	235.4	227.0
160°	319.3	308.5	299.5	295.9	291.1	280.9	272.6	266.0	258.8	252.8	246.8
162.5°	329.5	319.3	310.3	307.3	303.1	295.3	286.3	279.7	273.8	268.4	263.0
165°	339.1	330.1	320.5	318.1	313.9	307.9	300.7	292.9	286.9	283.3	280.3
167.5°	347.4	339.1	332.5	330.1	325.9	319.3	313.9	309.1	302.5	298.3	294.1
170°	354.6	348.0	342.0	340.8	337.3	331.3	325.9	322.3	317.5	314.5	311.5
172.5°	361.2	355.8	351.6	351.0	348.6	344.4	339.7	335.5	331.3	328.3	325.9
175°	368.4	364.2	360.6	360.0	358.8	356.4	354.0	351.0	347.4	345.6	343.8
177.5°	373.8	370.2	369.0	369.6	368.4	367.8	366.6	365.4	363.0	361.8	360.0
180°	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0



TEST NUMBER: P188174

CATALOG NUMBER: FMB-N-2-LD4-1LO/1LO-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	387.6	387.6	387.6	387.6	387.6	387.6	387.6	387.6
2.5°	364.8	363.0	362.4	362.4	361.8	361.2	360.6	361.8
5°	346.2	345.0	343.8	343.8	343.2	342.0	342.0	343.2
7.5°	328.9	327.1	326.5	326.5	325.3	324.1	324.1	324.7
10°	312.7	309.7	309.1	308.5	306.7	305.5	304.9	305.5
12.5°	295.9	292.9	291.7	290.5	288.1	286.9	285.7	286.3
15°	279.7	275.6	274.4	273.2	270.2	267.8	266.6	267.2
17.5°	261.2	256.4	254.0	251.6	248.6	246.2	245.0	246.8
20°	242.0	235.4	233.0	230.6	226.4	223.4	222.2	223.4
22.5°	220.4	213.9	211.5	210.3	203.7	200.1	198.3	199.5
25°	199.5	191.7	188.7	186.3	179.7	175.5	173.1	173.7
27.5°	177.9	168.9	165.9	162.9	154.6	149.2	146.8	147.4
30°	156.3	145.0	141.4	137.8	129.4	124.0	121.0	122.2
32.5°	133.6	122.8	118.6	115.0	107.8	102.4	100.6	100.0
35°	112.6	102.4	98.8	95.2	89.9	85.1	83.9	83.3
37.5°	95.2	86.3	82.7	79.7	74.9	71.9	70.1	69.5
40°	80.3	72.5	69.5	67.1	63.5	61.1	59.9	59.3
42.5°	67.7	61.1	58.7	56.9	53.9	52.1	51.5	50.9
45°	56.9	52.1	49.7	48.5	46.1	44.3	43.7	43.1
47.5°	47.9	43.7	41.9	40.7	38.9	37.7	36.5	36.5
50°	39.5	36.5	35.3	33.5	32.3	31.1	30.6	30.0
52.5°	32.9	29.4	28.8	27.6	26.4	25.2	24.6	24.0
55°	25.8	23.4	22.8	21.6	20.4	19.8	19.2	19.2
57.5°	20.4	18.0	17.4	16.8	15.6	15.0	14.4	14.4
60°	14.4	13.2	12.6	12.0	11.4	10.8	10.2	10.2
62.5°	10.2	9.6	9.0	8.4	7.8	7.2	7.2	7.2
65°	7.2	6.6	6.0	6.0	5.4	5.4	4.8	4.8
67.5°	4.8	4.8	4.2	4.2	3.6	3.6	3.0	3.0
70°	3.0	1.8	0.6	0.0	0.0	0.0	0.0	0.0
72.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
75°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
77.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
80°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.6
82.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
85°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
87.5°	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.6	0.0	0.6	0.0	0.0	0.0	0.0	0.0
92.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
95°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
97.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
100°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
102.5°	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
105°	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
107.5°	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0
110°	3.0	1.2	0.6	0.6	0.6	0.0	0.0	0.0



TEST NUMBER: P188174

CATALOG NUMBER: FMB-N-2-LD4-1LO/1LO-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	5.4	4.8	4.8	4.2	4.2	3.6	3.6	3.0
115°	7.8	7.2	7.2	6.6	6.6	6.0	6.0	5.4
117.5°	10.8	10.2	9.6	9.0	9.0	8.4	7.8	7.8
120°	15.6	13.8	13.2	12.6	12.0	11.4	10.8	10.8
122.5°	20.4	18.6	18.0	17.4	16.2	15.6	15.0	15.0
125°	26.4	24.0	23.4	22.2	21.6	20.4	19.8	19.2
127.5°	32.9	30.0	29.4	28.2	27.0	25.8	25.2	24.6
130°	40.1	37.1	35.9	34.1	32.9	31.7	31.1	30.6
132.5°	47.9	44.3	42.5	41.3	39.5	38.3	37.1	37.1
135°	56.9	52.1	50.3	48.5	46.7	44.9	43.7	43.1
137.5°	67.7	61.7	59.3	56.9	54.5	52.1	50.9	50.9
140°	80.9	73.7	70.7	67.1	64.1	61.1	59.3	58.7
142.5°	95.2	87.5	83.9	80.9	76.7	73.1	70.7	69.5
145°	113.2	104.2	100.6	96.4	91.7	88.1	85.1	84.5
147.5°	134.8	125.2	120.4	116.2	110.2	105.4	103.0	101.8
150°	155.1	146.8	142.6	139.0	133.6	127.6	124.6	122.8
152.5°	176.1	168.9	164.7	161.7	156.9	151.6	149.8	148.0
155°	196.5	190.5	187.5	184.5	180.3	176.1	173.7	172.5
157.5°	217.4	212.1	209.1	206.7	203.1	199.5	197.1	195.9
160°	238.4	233.6	230.6	228.2	224.6	221.6	220.4	219.2
162.5°	256.4	253.4	251.0	249.2	246.8	243.2	242.6	240.8
165°	274.4	270.2	268.4	266.6	264.8	263.0	263.0	262.4
167.5°	290.5	288.1	286.3	285.1	283.9	282.1	282.1	281.5
170°	306.1	303.7	301.9	300.7	299.5	297.7	298.3	297.7
172.5°	322.9	321.1	319.9	318.7	317.5	315.7	315.7	315.7
175°	339.7	337.3	335.5	334.3	333.1	331.3	330.1	329.5
177.5°	358.2	356.4	355.8	354.6	355.2	353.4	352.8	352.2
180°	378.0	378.0	378.0	378.0	378.0	378.0	378.0	378.0

(END OF REPORT)