

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: P188179

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188179
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/STD-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: 2075.0 lumens
Efficiency: N/A
Efficacy: 60.0 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

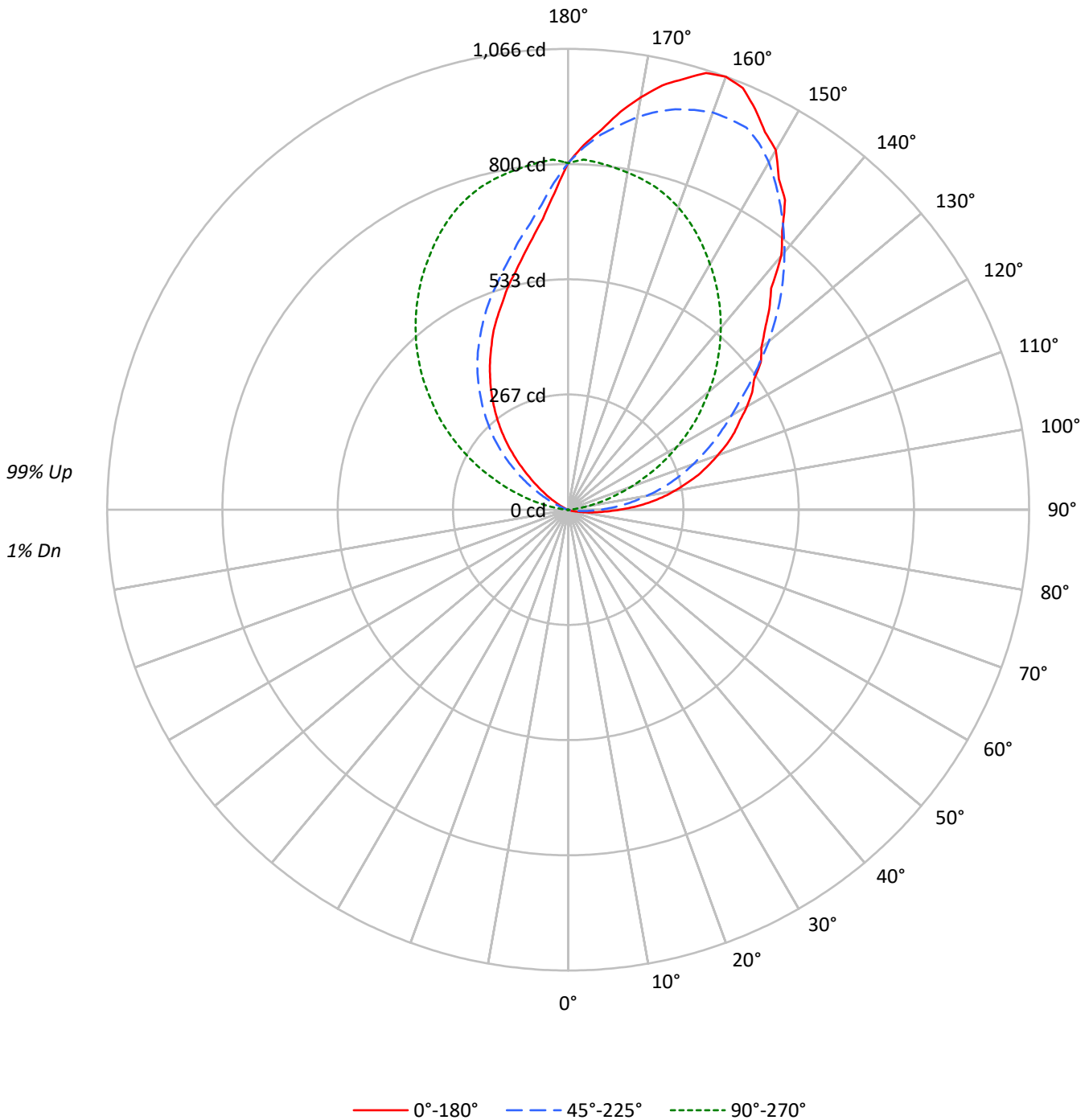
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P188179

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

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°	35	93	35
75°	691	60	43
80°	2187	86	54
85°	6212	152	74



TEST NUMBER: P188179

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

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°	3.5	0.2
80°-90°	20.3	1.0
90°-100°	64.9	3.1
100°-110°	131.8	6.4
110°-120°	211.4	10.2
120°-130°	292.0	14.1
130°-140°	355.3	17.1
140°-150°	374.6	18.1
150°-160°	327.8	15.8
160°-170°	217.9	10.5
170°-180°	75.4	3.6
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	24.0	1.2
90°-120°	408.1	19.7
90°-150°	1429.9	68.9
90°-180°	2051.0	98.8
0°-180°	2075.0	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°	13	1	1	1	1	16
85°	68	34	1	1	1	48
90°	119	75	1	1	1	66
95°	187	126	11	1	1	165
105°	311	247	93	2	1	327
115°	424	371	222	42	12	419
125°	525	514	359	135	67	475
135°	658	694	489	250	178	510
145°	874	856	604	363	302	541
155°	1022	975	704	470	420	470
165°	1032	959	774	575	535	293
175°	882	871	806	708	675	87
180°	802	802	802	802	802	



TEST NUMBER: P188179

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

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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	9.0	9.0	8.1	7.3	5.7	4.1	2.4	0.8	0.8	0.8	0.8
75°	13.0	13.0	12.2	11.4	10.6	10.6	9.8	9.0	6.5	2.4	0.8
77.5°	20.4	20.4	19.6	17.9	17.1	16.3	14.7	12.2	10.6	9.0	7.3
80°	32.6	32.6	31.8	29.3	27.7	26.1	25.3	21.2	17.9	13.9	11.4
82.5°	48.1	48.9	48.1	44.8	42.4	41.6	39.1	35.0	30.1	25.3	19.6
85°	67.6	68.4	67.6	64.4	62.7	60.3	57.8	53.8	48.1	40.7	34.2
87.5°	89.6	90.4	90.4	88.0	86.4	83.9	82.3	76.6	70.1	61.1	52.1
90°	119.0	117.3	118.1	115.7	114.9	111.6	110.0	102.7	94.5	83.9	75.0
92.5°	153.2	150.7	151.5	148.3	145.8	141.8	140.1	131.2	122.2	110.0	99.4
95°	186.6	184.1	184.9	180.1	176.8	172.7	170.3	160.5	150.7	137.7	126.3
97.5°	219.2	215.9	215.9	211.8	207.8	203.7	200.4	190.6	180.1	167.0	155.6
100°	249.3	246.9	245.2	242.8	238.7	233.8	231.4	221.6	210.2	197.2	184.9
102.5°	279.5	277.8	276.2	273.8	269.7	264.8	262.3	251.8	240.3	227.3	215.9
105°	311.2	309.6	305.5	303.9	298.2	294.9	290.9	281.1	270.5	258.3	246.9
107.5°	339.7	338.9	335.7	334.0	328.3	323.5	320.2	310.4	300.6	288.4	277.0
110°	367.4	367.4	364.2	362.6	356.0	352.0	347.9	338.9	329.2	318.6	308.0



TEST NUMBER: P188179

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	397.6	396.0	391.9	388.6	382.9	378.9	375.6	365.8	357.7	347.1	338.1
115°	424.5	425.3	420.4	416.3	409.8	404.9	402.5	395.1	386.2	377.2	370.7
117.5°	448.1	448.9	444.0	442.4	436.7	431.8	427.7	422.9	415.5	407.4	401.7
120°	477.4	475.0	469.3	466.0	462.8	460.3	457.9	450.6	444.8	438.3	435.9
122.5°	504.3	504.3	499.4	495.4	488.0	485.6	483.1	480.7	475.8	474.2	471.7
125°	524.7	524.7	520.6	523.9	519.0	515.7	513.3	510.8	510.0	508.4	514.1
127.5°	561.4	558.9	554.0	548.3	545.1	546.7	546.7	546.7	546.7	549.1	558.1
130°	583.4	584.2	583.4	586.6	582.5	580.9	580.9	586.6	589.1	599.6	605.4
132.5°	616.8	617.6	613.5	615.9	619.2	623.3	624.1	627.4	642.8	647.7	649.3
135°	657.5	656.7	660.8	662.4	659.9	661.6	668.9	687.6	691.7	695.8	694.2
137.5°	695.0	694.2	694.2	703.9	719.4	729.2	730.8	732.5	743.0	739.8	736.5
140°	766.7	765.9	772.4	777.3	776.4	775.6	777.3	787.0	782.2	782.2	778.1
142.5°	813.1	812.3	813.1	818.8	829.4	831.0	831.9	823.7	830.2	821.3	818.0
145°	874.2	875.0	873.4	871.8	865.3	866.9	867.7	872.6	864.4	863.6	856.3
147.5°	906.8	903.5	907.6	915.0	917.4	919.0	914.1	905.2	907.6	899.5	893.0
150°	960.6	957.3	955.7	950.0	946.7	950.0	949.2	949.2	941.8	937.8	928.0
152.5°	985.0	989.1	990.7	993.2	991.5	988.3	981.8	976.9	976.1	966.3	955.7
155°	1022.5	1022.5	1019.2	1016.8	1016.0	1017.6	1015.2	1011.9	1002.1	994.8	975.2
157.5°	1055.9	1056.7	1054.3	1051.8	1044.5	1042.1	1038.0	1033.1	1021.7	1000.5	977.7
160°	1065.7	1067.3	1066.5	1062.4	1060.0	1056.7	1051.0	1034.7	1016.8	998.9	977.7
162.5°	1059.2	1063.2	1058.3	1049.4	1041.2	1034.7	1029.8	1016.0	1002.9	985.0	969.5
165°	1031.5	1033.1	1029.0	1023.3	1016.0	1011.1	1007.8	997.2	986.7	973.6	959.0
167.5°	1005.4	1003.8	1000.5	996.4	991.5	988.3	985.8	977.7	967.9	955.7	942.7
170°	968.7	968.7	967.1	963.0	959.0	955.7	954.1	947.5	941.0	932.9	922.3
172.5°	928.8	928.0	926.4	924.7	922.3	919.8	919.8	915.0	910.9	904.4	896.2
175°	882.4	882.4	880.7	881.6	880.7	879.9	880.7	880.7	878.3	875.0	871.0
177.5°	844.9	844.9	844.9	844.1	844.9	845.7	845.7	845.7	844.1	842.4	839.2
180°	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7



TEST NUMBER: P188179

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

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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	0.8	1.6	1.6
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	8.1	5.7	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	14.7	10.6	7.3	4.1	1.6	0.8	0.8	0.8	0.8	0.8	0.8
85°	26.1	19.6	13.9	9.0	6.5	4.9	2.4	0.8	0.8	0.8	0.8
87.5°	42.4	33.4	24.4	17.1	13.9	10.6	5.7	2.4	0.8	0.8	0.8
90°	61.9	50.5	39.9	29.3	25.3	20.4	13.9	7.3	3.3	0.8	0.8
92.5°	85.5	73.3	60.3	46.4	40.7	35.8	25.3	16.3	9.0	4.1	1.6
95°	111.6	97.8	83.1	67.6	61.1	55.4	42.4	31.0	20.4	11.4	5.7
97.5°	140.1	125.5	109.2	92.9	86.4	79.0	64.4	51.3	37.5	25.3	14.7
100°	170.3	154.0	137.7	121.4	113.2	106.7	91.3	76.6	59.5	43.2	28.5
102.5°	200.4	184.9	168.7	151.5	144.2	136.9	120.6	105.1	86.4	66.0	47.3
105°	232.2	216.7	201.2	185.8	176.8	168.7	154.0	136.9	116.5	92.9	70.1
107.5°	263.2	249.3	234.6	219.2	211.8	203.7	189.8	171.9	148.3	122.2	96.1
110°	295.8	281.9	269.7	257.5	247.7	241.2	226.5	207.8	182.5	154.8	124.7



TEST NUMBER: P188179

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	328.3	316.1	306.3	294.1	286.0	278.6	264.8	244.4	217.5	185.8	155.6
115°	360.9	353.6	344.6	332.4	324.3	317.7	302.3	281.1	252.6	221.6	187.4
117.5°	395.1	391.1	383.7	372.3	363.4	356.0	340.6	317.7	286.8	255.8	221.6
120°	433.4	431.8	423.7	412.3	403.3	397.6	378.9	354.4	324.3	290.0	254.2
122.5°	473.4	472.5	464.4	452.2	444.0	436.7	417.1	391.1	358.5	325.1	290.0
125°	518.2	513.3	505.1	491.3	483.1	474.2	453.8	426.9	392.7	359.3	321.8
127.5°	560.5	554.8	545.1	530.4	521.4	511.7	490.5	461.1	427.7	391.1	355.2
130°	601.3	596.4	586.6	569.5	559.7	549.1	526.3	497.0	461.1	424.5	387.8
132.5°	643.6	637.1	625.7	607.0	595.6	585.8	560.5	530.4	493.7	457.9	419.6
135°	687.6	678.7	664.8	644.5	632.2	621.6	593.9	561.4	523.9	488.8	449.7
137.5°	725.9	717.8	701.5	677.9	667.3	655.1	628.2	593.9	554.8	519.8	479.9
140°	766.7	756.9	737.3	713.7	701.5	686.8	658.3	623.3	583.4	549.1	507.6
142.5°	805.8	791.9	771.6	747.1	731.6	716.2	685.2	651.0	612.7	577.7	535.3
145°	844.9	830.2	808.2	778.1	763.4	747.9	714.5	677.1	639.6	604.5	561.4
147.5°	879.1	862.0	836.7	806.6	790.3	772.4	739.0	703.1	667.3	631.4	588.2
150°	913.3	891.3	862.8	831.0	813.9	796.8	764.2	726.7	692.5	655.9	612.7
152.5°	933.7	906.0	877.5	847.3	830.2	814.7	783.8	749.6	717.0	680.3	637.9
155°	948.4	919.8	891.3	862.8	848.1	833.5	802.5	771.6	739.8	703.9	661.6
157.5°	954.1	927.2	901.1	873.4	859.6	844.9	818.0	789.5	759.3	725.1	684.4
160°	954.9	931.2	906.8	880.7	868.5	855.5	831.0	804.1	776.4	744.7	707.2
162.5°	951.6	931.2	909.3	885.6	874.2	862.8	841.6	817.2	791.1	760.2	726.7
165°	942.7	924.7	906.0	886.4	875.8	866.9	847.3	826.1	801.7	774.0	743.9
167.5°	931.2	915.8	900.3	883.2	874.2	865.3	848.1	829.4	807.4	783.8	758.5
170°	915.0	902.7	890.5	876.7	870.1	863.6	849.0	831.9	813.1	791.9	771.6
172.5°	892.1	886.4	878.3	871.0	866.9	861.2	849.0	835.1	818.0	799.3	782.2
175°	869.3	862.8	858.7	853.8	851.4	849.0	841.6	831.9	822.1	805.8	791.9
177.5°	840.0	835.1	831.9	827.8	826.1	826.1	822.9	822.9	818.8	810.7	801.7
180°	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7



TEST NUMBER: P188179

CATALOG NUMBER: FMB-N-2-LD4-2UP/STD-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°	1.6	1.6	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	1.6	1.6	1.6	0.8	1.6	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
90°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
92.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
95°	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
97.5°	8.1	4.9	2.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100°	17.1	10.6	6.5	4.9	4.1	0.8	0.8	0.8	0.8	0.8	0.8
102.5°	31.8	21.2	13.9	10.6	9.0	5.7	3.3	0.8	0.8	0.8	0.8
105°	50.5	35.8	25.3	20.4	17.1	11.4	8.1	5.7	1.6	0.8	0.8
107.5°	72.5	55.4	41.6	35.0	29.3	21.2	15.5	10.6	8.1	6.5	3.3
110°	98.6	78.2	61.1	53.0	46.4	35.8	26.9	19.6	14.7	11.4	9.0



TEST NUMBER: P188179

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	126.3	103.5	84.7	75.8	67.6	54.6	43.2	32.6	26.1	19.6	15.5
115°	156.4	131.2	110.0	100.2	91.3	75.8	63.5	50.5	41.6	32.6	26.9
117.5°	188.2	161.3	140.1	127.1	117.3	101.0	86.4	70.9	60.3	50.5	42.4
120°	219.2	191.5	168.7	156.4	146.7	127.1	111.6	95.3	83.1	71.7	61.9
122.5°	252.6	222.4	198.8	185.8	176.0	155.6	139.3	120.6	108.4	95.3	84.7
125°	284.3	251.8	227.3	215.9	205.3	184.1	167.0	147.5	135.2	122.2	110.0
127.5°	315.3	282.7	257.5	246.1	235.5	214.3	196.4	176.0	162.1	148.3	136.9
130°	347.1	313.7	288.4	277.0	265.6	244.4	225.7	205.3	192.3	177.6	165.4
132.5°	378.0	343.8	317.7	307.2	295.8	273.8	255.8	234.6	220.8	207.8	194.7
135°	408.2	371.5	346.3	334.9	323.5	303.1	284.3	264.0	250.1	237.1	224.9
137.5°	435.9	400.9	374.0	363.4	351.2	330.8	312.9	293.3	277.0	264.8	253.4
140°	463.6	427.7	401.7	389.4	378.0	358.5	340.6	321.0	306.3	294.9	282.7
142.5°	490.5	454.6	426.9	415.5	404.9	384.6	367.4	350.3	334.0	323.5	312.0
145°	515.7	479.9	453.0	442.4	431.8	412.3	395.1	377.2	362.6	352.0	340.6
147.5°	542.6	507.6	479.9	469.3	457.9	438.3	422.9	405.7	391.1	380.5	369.1
150°	569.5	532.0	505.1	493.7	483.1	463.6	448.9	431.8	418.0	408.2	396.0
152.5°	594.8	557.3	531.2	518.2	508.4	488.8	474.2	457.1	443.2	432.6	422.0
155°	619.2	583.4	557.3	545.9	533.7	514.1	499.4	484.0	470.1	460.3	449.7
157.5°	642.8	607.8	582.5	571.1	558.9	539.4	524.7	509.2	497.0	487.2	476.6
160°	668.1	633.1	607.8	596.4	585.0	564.6	550.0	534.5	523.1	514.1	503.5
162.5°	691.7	658.3	633.9	621.6	611.1	590.7	576.0	560.5	547.5	537.7	528.8
165°	712.9	682.8	658.3	647.7	637.9	618.4	603.7	587.4	575.2	565.4	556.5
167.5°	732.5	705.6	682.8	671.3	663.2	646.1	631.4	615.9	603.7	594.8	586.6
170°	750.4	728.4	708.8	698.2	690.1	673.0	661.6	648.5	637.1	629.0	618.4
172.5°	766.7	750.4	734.9	725.9	719.4	703.1	691.7	678.7	668.9	661.6	654.2
175°	780.5	771.6	761.8	755.3	750.4	738.2	729.2	717.0	708.0	701.5	693.3
177.5°	795.2	791.1	787.0	783.0	781.3	774.0	770.7	762.6	756.9	753.6	747.9
180°	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7



TEST NUMBER: P188179

CATALOG NUMBER: FMB-N-2-LD4-2UP/STD-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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
90°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
92.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
95°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
97.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
102.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
105°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
107.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
110°	8.1	6.5	6.5	4.9	1.6	0.8	0.8	0.8



TEST NUMBER: P188179

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	13.0	10.6	9.8	9.8	9.0	8.1	8.1	8.1
115°	22.0	17.9	17.1	15.5	13.9	13.0	12.2	12.2
117.5°	35.8	30.1	27.7	26.1	23.6	21.2	20.4	19.6
120°	53.8	46.4	42.4	40.7	37.5	34.2	32.6	31.8
122.5°	75.8	65.2	62.7	58.7	53.8	49.7	48.9	47.3
125°	100.2	88.8	83.9	80.7	75.0	70.1	67.6	66.8
127.5°	127.1	114.1	109.2	105.9	99.4	93.7	91.3	89.6
130°	155.6	141.8	138.5	132.0	127.1	120.6	118.1	116.5
132.5°	184.9	171.9	166.2	162.9	156.4	150.7	147.5	145.8
135°	215.1	202.1	197.2	193.9	188.2	181.7	178.4	177.6
137.5°	244.4	232.2	228.1	223.2	217.5	211.8	211.0	210.2
140°	273.8	263.2	257.5	255.0	250.1	244.4	242.8	242.0
142.5°	302.3	290.9	286.8	282.7	278.6	272.9	272.9	272.1
145°	331.6	320.2	316.1	312.9	308.0	304.7	303.1	302.3
147.5°	361.7	352.0	346.3	343.0	337.3	334.9	332.4	332.4
150°	388.6	380.5	375.6	371.5	366.6	365.0	361.7	361.7
152.5°	415.5	405.7	402.5	399.2	395.1	392.7	391.9	391.1
155°	443.2	433.4	431.0	427.7	423.7	422.0	420.4	419.6
157.5°	469.3	462.0	458.7	455.4	451.4	451.4	448.9	449.7
160°	497.8	488.8	486.4	484.0	479.9	479.9	478.3	476.6
162.5°	524.7	516.5	513.3	510.0	506.8	506.0	503.5	504.3
165°	551.6	543.4	541.0	538.5	536.9	535.3	535.3	535.3
167.5°	582.5	573.6	571.1	568.7	566.2	564.6	563.0	563.0
170°	615.1	605.4	602.9	599.6	598.0	597.2	597.2	596.4
172.5°	649.3	642.0	639.6	637.1	635.5	632.2	631.4	633.1
175°	690.1	682.8	680.3	677.9	677.9	674.6	673.8	675.4
177.5°	747.1	740.6	739.8	737.3	739.0	734.9	736.5	732.5
180°	801.7	801.7	801.7	801.7	801.7	801.7	801.7	801.7

(END OF REPORT)