

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: P188183

Luminaire Tested: **FMB-N-4-LD4-1UP/STD-40-UNV-80/86**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188183
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27214)
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-LD4-1UP/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: 2568.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular w/ Sides (W: 3.67' x L: 0.29' x H: 0.04')
CIE Type: Indirect

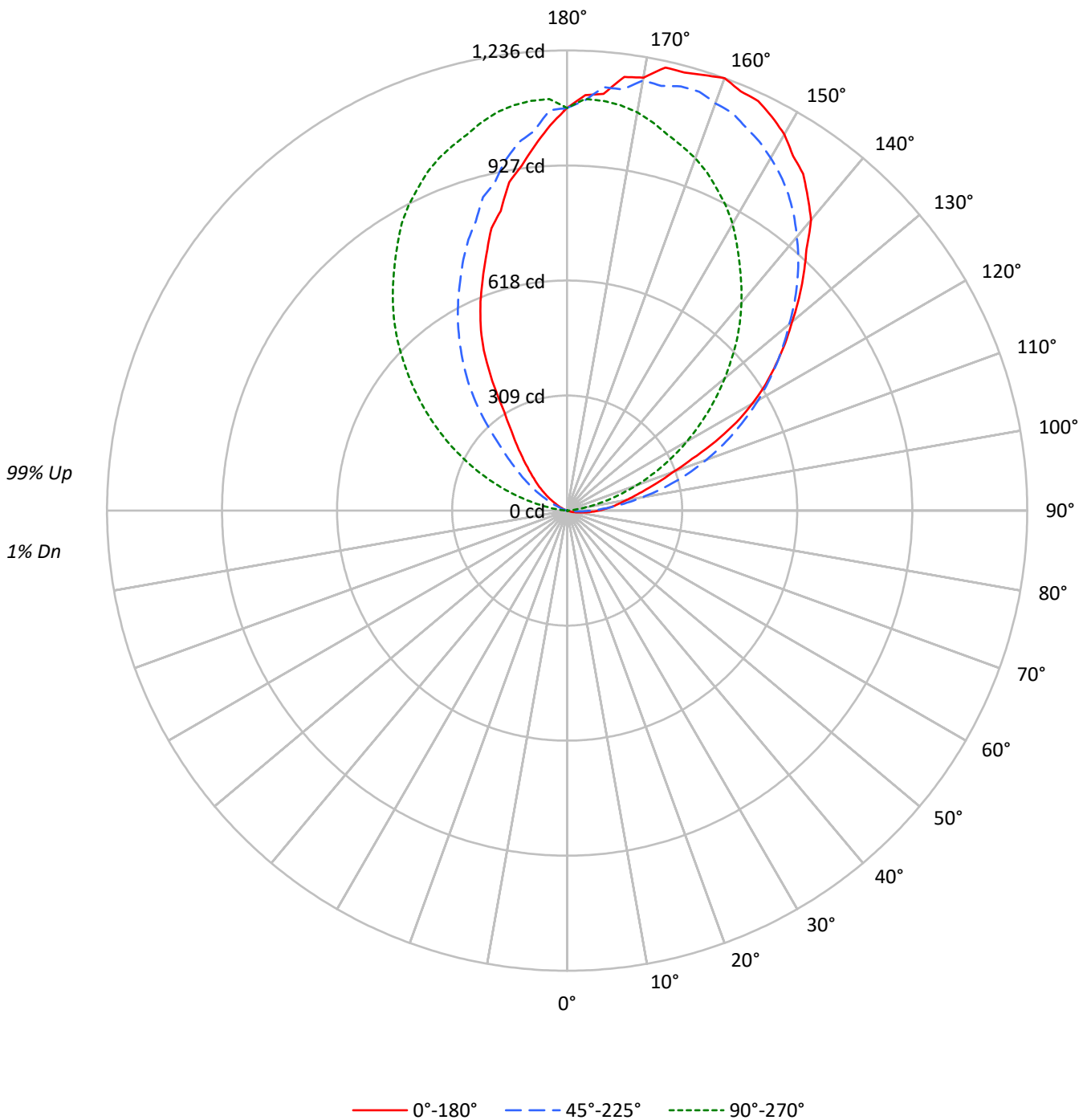
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	95	95	95	82	82	82	82	56	56	56	32	32	32	11	11	11	1
1	87	82	79	75	74	71	68	65	48	47	45	28	27	26	9	9	9	0
2	79	72	66	61	67	62	57	53	42	39	37	24	23	22	8	8	7	0
3	72	63	56	51	61	54	49	44	37	34	31	22	20	18	7	6	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	4	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	8	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°	0	46	17
75°	353	30	20
80°	887	44	26
85°	2325	82	0



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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°	3.2	0.1
80°-90°	15.9	0.6
90°-100°	55.4	2.2
100°-110°	138.4	5.4
110°-120°	259.3	10.1
120°-130°	371.5	14.5
130°-140°	446.3	17.4
140°-150°	468.8	18.3
150°-160°	418.9	16.3
160°-170°	287.8	11.2
170°-180°	102.4	4.0
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	19.2	0.7
90°-120°	453.0	17.6
90°-150°	1739.6	67.7
90°-180°	2549.0	99.3
0°-180°	2568.0	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°	14	1	1	1	1	14
85°	53	27	1	0	0	38
90°	85	64	0	0	0	47
95°	121	125	12	0	0	107
105°	219	301	118	2	0	237
115°	440	494	283	38	16	434
125°	684	687	462	129	60	612
135°	899	874	644	270	133	694
145°	1105	1036	807	488	261	687
155°	1214	1136	952	680	550	558
165°	1218	1180	1044	872	785	346
175°	1124	1141	1105	1022	985	110
180°	1081	1081	1081	1081	1081	



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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°	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
72.5°	5.7	5.7	4.9	3.3	1.6	0.8	0.8	0.0	0.8	0.8	0.8
75°	13.9	13.9	13.9	13.0	12.2	11.4	10.6	7.3	3.3	0.8	0.8
77.5°	19.6	19.6	18.7	17.9	16.3	15.5	14.7	13.0	11.4	9.8	5.7
80°	27.7	27.7	26.9	26.1	24.4	22.8	22.0	18.7	16.3	13.9	11.4
82.5°	39.1	39.1	38.3	36.7	34.2	33.4	31.8	28.5	24.4	21.2	17.1
85°	53.0	52.1	51.3	50.5	47.3	45.6	44.0	39.9	35.8	31.0	26.9
87.5°	68.4	68.4	66.8	65.2	62.7	61.9	60.3	55.4	51.3	46.4	43.2
90°	84.7	84.7	83.9	82.3	80.7	78.2	77.4	74.1	70.1	66.8	64.4
92.5°	102.7	102.7	101.8	99.4	99.4	97.8	97.0	95.3	93.7	92.1	92.1
95°	120.6	121.4	120.6	119.8	119.8	118.9	119.8	120.6	121.4	123.0	124.7
97.5°	140.1	140.9	140.9	140.1	142.6	143.4	145.0	148.3	154.0	158.1	162.1
100°	161.3	162.1	162.9	164.6	170.3	171.9	175.2	184.1	193.1	197.2	204.5
102.5°	187.4	189.0	190.6	193.9	202.9	205.3	211.0	223.2	233.8	242.8	251.7
105°	219.2	221.6	224.9	230.6	241.2	244.4	250.9	264.0	283.5	292.5	300.6
107.5°	259.1	261.5	265.6	271.3	284.3	290.9	299.8	317.7	338.9	346.3	349.5
110°	303.9	306.3	312.0	321.8	341.4	349.5	360.1	377.2	394.3	396.8	397.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	363.4	368.3	378.0	389.4	409.0	415.5	423.7	436.7	447.3	445.7	446.5
115°	439.9	444.0	452.2	460.3	475.0	479.9	483.9	491.3	497.0	494.5	494.5
117.5°	512.5	514.1	520.6	526.3	534.5	536.1	539.3	545.0	546.7	544.2	543.4
120°	574.4	576.8	580.1	583.3	589.9	592.3	593.9	598.0	594.7	593.9	592.3
122.5°	633.0	632.2	636.3	637.1	642.0	644.4	645.3	647.7	645.3	643.6	639.6
125°	684.4	685.2	690.1	691.7	695.0	694.1	694.1	699.0	695.8	695.0	686.8
127.5°	738.1	739.0	740.6	739.8	743.0	744.7	749.5	747.9	746.3	743.0	733.2
130°	788.6	791.9	794.4	795.2	795.2	793.5	798.4	800.1	795.2	791.9	778.9
132.5°	844.9	844.1	842.4	844.1	847.3	848.9	851.4	848.9	847.3	840.0	828.6
135°	898.6	898.6	901.9	901.9	899.5	898.6	902.7	905.2	897.0	890.5	874.2
137.5°	951.6	954.0	952.4	957.3	960.6	960.6	963.8	956.5	950.8	937.7	919.8
140°	1019.2	1022.5	1020.0	1020.8	1013.5	1010.3	1009.4	1007.0	991.5	979.3	959.7
142.5°	1061.6	1063.2	1061.6	1061.6	1058.3	1055.1	1051.8	1041.2	1030.6	1013.5	1000.5
145°	1104.8	1104.8	1101.5	1095.0	1087.7	1083.6	1081.9	1077.1	1064.0	1046.9	1036.3
147.5°	1129.2	1130.0	1127.6	1127.6	1124.3	1121.1	1118.6	1106.4	1095.0	1078.7	1067.3
150°	1166.7	1169.1	1164.2	1156.1	1151.2	1147.9	1145.5	1135.7	1121.1	1103.9	1093.4
152.5°	1191.9	1191.9	1188.7	1182.2	1174.8	1170.8	1166.7	1156.1	1143.1	1126.8	1117.8
155°	1213.9	1213.1	1207.4	1200.1	1194.4	1189.5	1184.6	1173.2	1163.4	1151.2	1135.7
157.5°	1218.8	1218.0	1213.9	1209.9	1207.4	1205.8	1205.0	1195.2	1177.3	1162.6	1156.9
160°	1235.9	1233.5	1227.0	1216.4	1207.4	1205.0	1201.7	1195.2	1190.3	1182.2	1164.2
162.5°	1226.2	1227.8	1223.7	1220.5	1220.5	1220.5	1217.2	1205.8	1187.9	1178.9	1179.7
165°	1218.0	1215.6	1210.7	1201.7	1199.3	1199.3	1199.3	1198.5	1198.5	1196.8	1179.7
167.5°	1218.8	1218.8	1216.4	1211.5	1209.0	1209.0	1205.0	1193.6	1178.1	1169.9	1168.3
170°	1180.5	1180.5	1175.6	1169.9	1171.6	1172.4	1174.0	1177.3	1180.5	1182.2	1173.2
172.5°	1174.8	1174.0	1172.4	1167.5	1166.7	1168.3	1165.9	1161.0	1151.2	1149.6	1140.6
175°	1123.5	1125.1	1124.3	1123.5	1128.4	1130.8	1131.6	1134.1	1135.7	1141.4	1141.4
177.5°	1117.0	1117.0	1113.7	1107.2	1112.9	1111.3	1111.3	1110.5	1107.2	1104.8	1103.1
180°	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1



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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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	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°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	9.0	5.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	13.0	9.8	7.3	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	22.0	17.9	12.2	8.1	6.5	4.9	0.8	0.8	0.8	0.8	0.8
87.5°	37.5	31.8	24.4	16.3	13.0	9.8	4.9	1.6	0.8	0.8	0.8
90°	58.7	52.1	43.2	31.8	26.1	21.2	13.0	6.5	1.6	0.0	0.0
92.5°	86.4	80.7	68.4	53.0	44.8	39.1	26.9	17.9	9.0	2.4	0.0
95°	120.6	113.2	98.6	79.8	71.7	63.5	48.9	36.7	23.6	12.2	5.7
97.5°	158.9	150.7	133.6	112.4	102.7	93.7	76.6	62.7	44.8	29.3	17.9
100°	202.1	191.5	175.2	149.1	138.5	128.7	112.4	94.5	74.1	53.8	35.8
102.5°	247.7	235.5	216.7	189.8	179.2	169.5	151.5	132.0	108.4	83.9	60.3
105°	293.3	280.3	260.7	233.0	223.2	212.6	194.7	173.5	147.5	118.1	91.2
107.5°	340.6	324.3	304.7	279.4	269.7	259.1	240.3	218.3	189.8	156.4	123.8
110°	387.8	370.7	351.1	326.7	316.1	305.5	286.8	263.2	233.0	197.2	161.3



TEST NUMBER: P188183

CATALOG NUMBER: FMB-N-4-LD4-1UP/STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	435.1	418.0	399.2	374.0	364.2	352.8	331.6	309.6	279.4	239.5	201.2
115°	483.1	466.8	447.3	421.2	411.4	400.8	378.8	355.2	323.4	282.7	243.6
117.5°	531.2	514.9	494.5	469.3	457.1	449.7	426.9	401.7	367.4	326.7	287.6
120°	579.3	562.2	541.0	517.3	507.6	497.0	473.4	448.1	412.2	371.5	332.4
122.5°	625.7	608.6	588.2	563.0	554.0	543.4	519.0	492.9	457.1	416.3	382.1
125°	671.3	654.2	635.5	609.4	599.6	589.0	562.2	537.7	501.9	461.9	429.4
127.5°	717.0	699.8	681.1	655.0	643.6	633.0	607.8	580.1	546.7	507.6	475.8
130°	763.4	746.3	725.1	697.4	687.6	676.2	651.0	624.1	589.9	552.4	521.4
132.5°	811.5	791.9	769.1	739.0	730.0	719.4	693.3	664.8	635.5	597.2	567.0
135°	857.9	837.5	811.5	778.9	769.9	759.3	734.9	710.4	678.7	643.6	611.9
137.5°	901.1	875.0	849.8	818.0	811.5	800.9	776.4	750.4	719.4	686.8	655.9
140°	941.0	915.7	885.6	858.7	851.4	840.0	818.0	791.1	760.9	728.4	697.4
142.5°	979.3	951.6	923.1	897.8	889.7	879.9	857.9	831.8	802.5	768.3	735.7
145°	1015.1	986.6	958.9	933.7	928.8	919.0	897.0	870.9	841.6	807.4	774.0
147.5°	1044.5	1016.0	990.7	969.5	965.4	955.7	935.3	908.4	879.1	848.1	813.9
150°	1070.5	1043.7	1019.2	1007.0	997.2	989.9	972.0	947.5	915.7	888.9	854.6
152.5°	1097.4	1067.3	1051.8	1033.1	1029.0	1024.1	1002.1	980.1	950.8	923.1	890.5
155°	1114.5	1092.5	1071.4	1064.0	1058.3	1047.7	1034.7	1011.9	981.7	952.4	926.3
157.5°	1137.4	1106.4	1098.2	1086.8	1077.1	1069.7	1061.6	1033.9	1015.1	982.6	958.9
160°	1143.1	1130.0	1112.9	1099.1	1097.4	1097.4	1079.5	1054.2	1039.6	1007.0	989.9
162.5°	1165.9	1137.4	1117.0	1121.1	1120.2	1112.1	1088.5	1079.5	1060.0	1026.5	1017.6
165°	1153.6	1137.4	1139.8	1129.2	1119.4	1111.3	1104.8	1098.2	1071.4	1044.5	1039.6
167.5°	1163.4	1152.8	1134.9	1121.1	1117.8	1118.6	1122.7	1108.0	1080.3	1067.3	1058.3
170°	1150.4	1130.0	1121.1	1125.9	1130.8	1133.3	1129.2	1108.0	1086.0	1086.0	1074.6
172.5°	1129.2	1124.3	1132.5	1135.7	1135.7	1133.3	1121.9	1103.9	1091.7	1098.2	1089.3
175°	1135.7	1135.7	1125.1	1119.4	1117.0	1115.4	1110.5	1101.5	1098.2	1104.8	1103.9
177.5°	1091.7	1085.2	1086.8	1100.7	1103.9	1105.6	1104.8	1100.7	1098.2	1106.4	1109.6
180°	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1



TEST NUMBER: P188183

CATALOG NUMBER: FMB-N-4-LD4-1UP/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	0.8	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	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°	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	0.0	0.0	0.0
87.5°	0.8	0.8	0.8	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	0.0	0.0	0.0
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	9.0	4.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	22.8	13.0	7.3	5.7	4.1	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	42.4	27.7	17.1	13.9	10.6	7.3	3.3	0.0	0.0	0.0	0.0
105°	67.6	47.3	33.4	27.7	22.0	13.9	9.8	8.1	2.4	0.0	0.0
107.5°	98.6	73.3	56.2	48.1	39.9	26.9	17.1	13.0	10.6	9.8	4.9
110°	132.8	104.3	83.1	74.1	62.7	44.8	30.1	21.2	16.3	13.9	12.2



TEST NUMBER: P188183

CATALOG NUMBER: FMB-N-4-LD4-1UP/STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	170.3	139.3	114.1	103.5	92.1	67.6	47.3	34.2	25.3	20.4	17.1
115°	211.8	178.4	150.7	137.7	125.5	95.3	69.3	52.1	38.3	31.0	26.1
117.5°	255.8	220.8	189.8	175.2	162.1	128.7	95.3	74.1	56.2	45.6	38.3
120°	299.8	264.8	231.4	215.9	201.2	165.4	125.5	98.6	78.2	63.5	53.8
122.5°	343.0	309.6	274.6	257.5	242.0	205.3	158.9	126.3	102.7	83.9	71.7
125°	390.3	355.2	319.4	300.6	284.3	248.5	197.2	156.4	128.7	107.5	92.1
127.5°	435.9	400.8	364.2	344.6	326.7	290.9	240.3	190.6	158.1	133.6	114.9
130°	482.3	446.5	409.0	390.3	370.7	334.9	284.3	230.6	189.0	161.3	140.9
132.5°	527.9	492.1	453.8	435.1	415.5	377.2	331.6	278.6	225.7	192.3	169.5
135°	571.9	535.3	497.8	480.7	461.1	421.2	378.0	330.8	269.7	227.3	198.0
137.5°	614.3	578.5	539.3	521.4	504.3	464.4	421.2	382.1	325.9	270.5	233.8
140°	657.5	619.2	580.9	563.8	546.7	506.8	465.2	430.2	383.7	329.1	277.0
142.5°	698.2	659.9	622.4	605.3	588.2	553.2	510.0	476.6	438.3	396.0	340.6
145°	737.3	699.8	663.2	646.9	631.4	598.8	554.8	523.1	488.0	455.4	413.1
147.5°	775.6	739.0	703.1	686.8	672.1	640.4	602.1	570.3	536.9	509.2	475.8
150°	814.7	778.1	743.0	727.5	712.1	682.7	646.1	617.6	587.4	559.7	530.4
152.5°	851.4	817.2	778.1	766.7	751.2	725.9	691.7	664.8	633.9	608.6	582.5
155°	888.0	851.4	817.2	801.7	791.1	765.0	734.1	709.6	679.5	659.9	631.4
157.5°	921.4	884.8	857.1	840.0	825.3	809.8	774.8	756.1	729.2	708.0	689.3
160°	954.9	914.9	894.6	879.1	861.2	845.7	820.4	791.9	774.8	760.9	734.9
162.5°	986.6	946.7	928.0	919.0	902.7	879.1	864.4	844.1	814.7	802.5	791.1
165°	1014.3	974.4	954.9	950.8	942.6	923.1	894.6	884.0	871.8	857.9	829.4
167.5°	1039.6	1004.6	978.5	972.8	969.5	965.4	942.6	918.2	901.1	899.5	890.5
170°	1060.8	1034.7	1008.6	998.8	991.5	989.9	985.0	974.4	954.9	942.6	923.1
172.5°	1075.4	1059.1	1040.4	1030.6	1020.0	1012.7	1002.9	998.8	997.2	997.2	988.3
175°	1088.5	1077.1	1068.1	1064.8	1059.1	1055.1	1042.8	1033.1	1022.5	1020.0	1012.7
177.5°	1098.2	1084.4	1078.7	1077.1	1077.9	1081.9	1081.9	1078.7	1076.2	1073.8	1069.7
180°	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1



TEST NUMBER: P188183

CATALOG NUMBER: FMB-N-4-LD4-1UP/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	0.0	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°	11.4	9.8	8.1	6.5	2.4	0.0	0.0	0.0



TEST NUMBER: P188183

CATALOG NUMBER: FMB-N-4-LD4-1UP/STD-40-UNV-80/86

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	14.7	13.9	13.0	13.0	12.2	12.2	12.2	11.4
115°	22.0	20.4	19.6	17.9	17.1	16.3	16.3	15.5
117.5°	33.4	30.1	28.5	27.7	25.3	24.4	23.6	23.6
120°	46.4	42.4	40.7	39.1	36.7	35.0	34.2	33.4
122.5°	62.7	57.0	54.6	53.0	49.7	48.1	47.3	46.4
125°	80.7	74.1	70.9	68.4	64.4	62.7	61.9	60.3
127.5°	101.0	92.1	88.0	85.5	81.5	79.0	78.2	76.6
130°	123.8	112.4	108.4	104.3	99.4	97.0	95.3	94.5
132.5°	150.7	136.1	131.2	127.1	119.8	116.5	114.1	112.4
135°	179.2	163.8	158.1	152.4	141.8	137.7	135.2	132.8
137.5°	210.2	193.1	187.4	181.7	169.5	163.8	159.7	157.2
140°	246.9	227.3	219.2	213.5	200.4	193.9	189.8	186.6
142.5°	296.6	268.9	259.1	249.3	237.1	228.9	224.9	221.6
145°	367.4	326.7	312.0	299.0	280.3	271.3	265.6	260.7
147.5°	444.0	410.6	393.5	375.6	346.3	332.4	321.8	314.5
150°	505.9	478.2	469.3	459.5	438.3	425.3	418.8	401.7
152.5°	558.1	536.1	530.4	524.7	510.8	500.2	493.7	485.6
155°	610.2	593.1	588.2	580.9	567.9	559.7	554.8	549.9
157.5°	668.1	646.1	640.4	634.7	624.9	620.8	616.7	607.8
160°	716.1	703.9	701.5	697.4	686.8	679.5	673.0	662.4
162.5°	774.8	754.4	750.4	745.5	734.1	728.4	725.9	721.0
165°	813.1	804.9	803.3	802.5	800.1	797.6	791.9	785.4
167.5°	875.8	862.8	857.1	850.6	841.6	835.9	830.2	824.5
170°	910.0	901.9	901.9	901.9	902.7	900.3	897.8	895.4
172.5°	975.2	964.6	961.4	955.7	950.0	945.9	941.0	934.5
175°	1004.6	998.8	998.8	998.0	998.0	992.3	987.4	985.0
177.5°	1060.8	1053.4	1054.2	1050.2	1049.4	1046.9	1042.0	1036.3
180°	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1	1081.1

(END OF REPORT)