

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: P188185

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188185
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/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: 2516.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

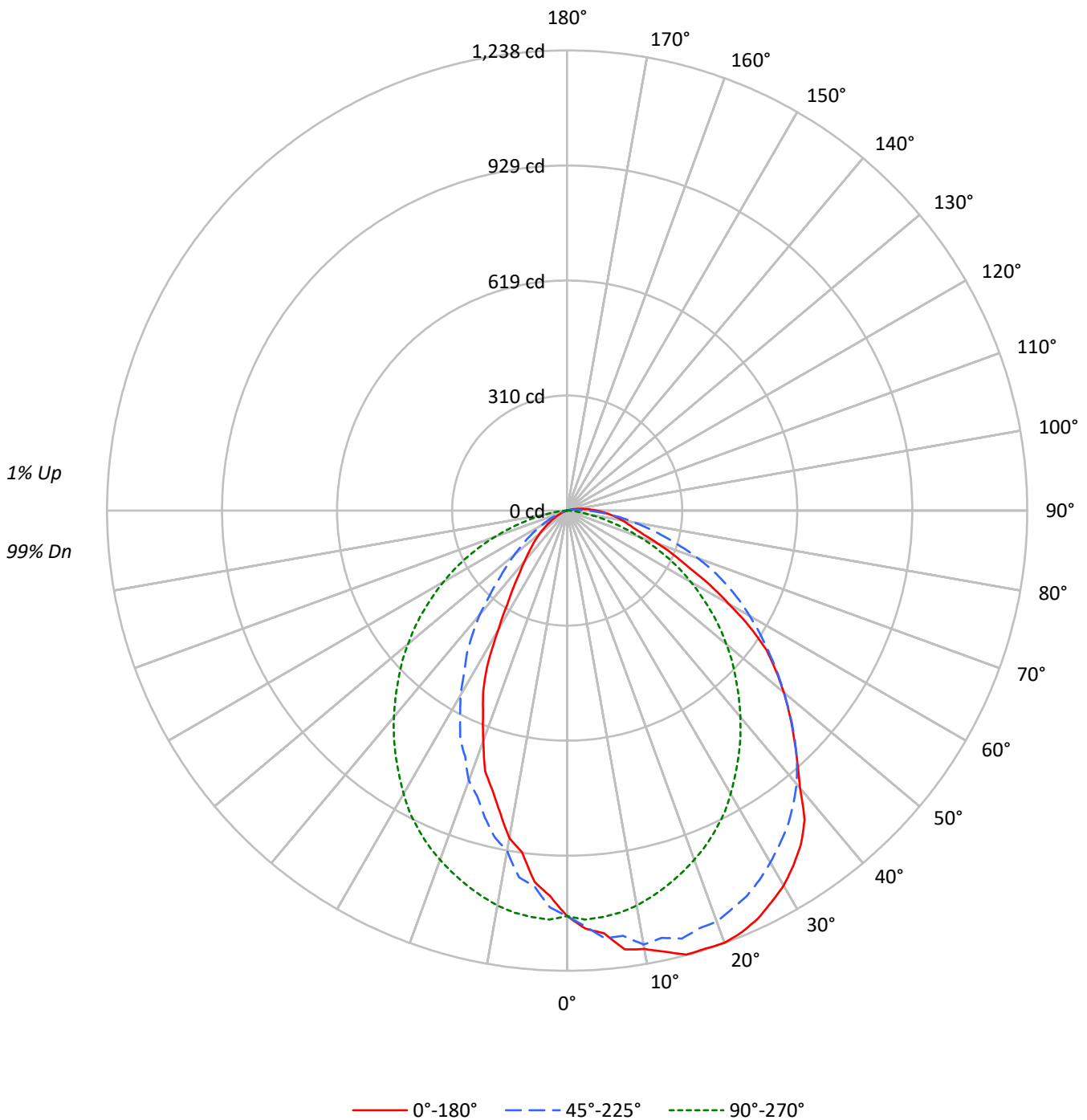
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	10980	10980	10980
5°	11390	11077	10008
10°	11940	11003	8918
15°	12412	10842	7801
20°	12601	10664	6711
25°	12622	10458	5565
30°	12509	10160	3971
35°	12249	9802	2794
40°	11432	9437	2084
45°	10746	9036	1654
50°	10182	8634	1286
55°	9546	8159	939
60°	8112	7593	618
65°	6565	6896	372
70°	5493	5930	120
75°	4774	4682	0
80°	4800	3196	0
85°	4965	1584	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	4.1
10°-20°	287.3	11.4
20°-30°	415.3	16.5
30°-40°	462.4	18.4
40°-50°	437.5	17.4
50°-60°	364.3	14.5
60°-70°	247.6	9.8
70°-80°	129.3	5.1
80°-90°	51.9	2.1
90°-100°	14.9	0.6
100°-110°	2.8	0.1
110°-120°	0.1	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°	805.1	32.0
0°-40°	1267.5	50.4
0°-60°	2069.4	82.3
0°-90°	2498.3	99.3
90°-120°	17.7	0.7
90°-150°	17.7	0.7
90°-180°	18.0	0.7
0°-180°	2516.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1091	1091	1091	1091	1091	
5°	1141	1154	1098	1014	1003	112
15°	1237	1192	1044	855	777	348
25°	1212	1144	947	680	534	558
35°	1097	1035	804	470	250	681
45°	863	865	642	258	133	667
55°	655	662	472	127	64	576
65°	360	474	297	44	20	366
75°	188	271	126	7	0	205
85°	113	111	16	0	0	100
90°	80	57	1	1	0	44
95°	49	25	1	1	0	36
105°	12	1	1	1	0	13
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



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9
2.5°	1126.0	1127.6	1129.2	1131.7	1130.0	1130.0	1130.9	1130.9	1126.8	1129.2	1119.5
5°	1141.4	1142.3	1145.5	1146.3	1144.7	1145.5	1147.2	1149.6	1152.9	1157.7	1154.5
7.5°	1191.1	1192.8	1194.4	1194.4	1187.9	1186.3	1185.4	1180.6	1174.9	1168.3	1153.7
10°	1197.7	1199.3	1199.3	1196.0	1189.5	1187.9	1187.9	1187.1	1187.9	1193.6	1185.4
12.5°	1215.6	1218.8	1219.7	1219.7	1217.2	1218.0	1216.4	1212.3	1202.6	1192.8	1177.3
15°	1236.8	1238.4	1236.8	1232.7	1222.9	1217.2	1213.1	1205.8	1202.6	1204.2	1192.0
17.5°	1236.0	1235.1	1231.9	1229.4	1227.0	1227.0	1224.6	1218.0	1209.9	1195.2	1178.9
20°	1237.6	1239.2	1235.1	1231.9	1225.4	1222.1	1218.0	1204.2	1196.0	1191.1	1176.5
22.5°	1227.8	1230.3	1226.2	1219.7	1210.7	1207.4	1203.4	1193.6	1187.1	1175.7	1159.4
25°	1212.3	1214.8	1210.7	1203.4	1195.2	1192.8	1189.5	1178.9	1165.9	1156.1	1143.9
27.5°	1188.7	1191.1	1187.9	1183.0	1177.3	1175.7	1169.1	1156.9	1144.7	1136.6	1120.3
30°	1165.1	1166.7	1165.9	1160.2	1150.4	1144.7	1140.6	1131.7	1121.9	1108.0	1093.4
32.5°	1132.5	1134.9	1131.7	1126.0	1119.5	1117.0	1116.2	1103.2	1090.9	1077.9	1064.0
35°	1096.6	1098.3	1099.9	1097.5	1089.3	1086.9	1082.8	1069.8	1062.4	1047.8	1034.7
37.5°	1049.4	1052.6	1054.3	1051.0	1046.1	1045.3	1045.3	1038.0	1025.8	1012.7	998.9
40°	974.4	978.5	983.4	986.6	987.5	989.9	992.4	988.3	986.6	972.0	960.6
42.5°	916.6	921.5	921.5	922.3	923.1	921.5	926.4	929.6	931.2	924.7	915.0
45°	862.8	865.3	865.3	865.3	865.3	866.9	870.1	870.1	874.2	870.1	865.3
47.5°	811.5	814.7	815.6	816.4	813.9	812.3	815.6	817.2	819.6	817.2	813.1
50°	761.0	767.5	767.5	765.9	764.2	764.2	765.9	765.9	769.9	765.9	761.0
52.5°	708.0	712.9	715.3	717.0	718.6	717.0	717.8	717.8	718.6	717.8	711.3
55°	655.0	657.5	663.2	666.5	667.3	666.5	668.1	669.7	671.3	668.1	661.6
57.5°	582.5	590.7	595.6	606.2	613.5	613.5	617.6	620.0	623.3	620.0	614.3
60°	502.7	510.0	519.0	532.0	546.7	550.8	559.7	568.7	574.4	572.8	567.1
62.5°	431.8	431.0	443.2	457.9	473.4	480.7	488.8	508.4	523.1	525.5	521.4
65°	360.1	359.3	369.9	383.7	400.9	413.9	420.4	440.8	465.2	475.8	474.2
67.5°	308.8	308.8	316.9	322.6	337.3	347.9	354.4	378.0	402.5	419.6	426.1
70°	259.9	260.7	267.2	277.0	289.2	296.6	300.6	320.2	341.4	360.9	374.0
72.5°	216.7	219.2	222.4	231.4	242.8	250.9	258.3	272.1	290.9	306.3	321.0
75°	188.2	189.8	191.5	194.7	202.1	209.4	214.3	229.8	246.1	257.5	271.3
77.5°	167.8	168.7	168.7	169.5	171.9	175.2	178.4	189.8	205.3	216.7	224.9
80°	149.9	150.7	149.9	149.9	149.9	150.7	151.5	155.6	167.0	176.8	182.5
82.5°	132.0	132.0	131.2	130.4	129.5	130.4	129.5	131.2	132.8	140.1	145.8
85°	113.2	113.2	112.4	111.6	110.0	110.0	109.2	107.5	107.5	107.5	110.8
87.5°	96.1	96.1	94.5	93.7	92.1	90.4	88.8	86.4	85.5	82.3	80.7
90°	79.8	79.8	78.2	77.4	75.0	73.3	71.7	68.4	65.2	61.1	57.0
92.5°	63.5	63.5	62.7	61.1	59.5	57.8	56.2	52.1	48.9	43.2	38.3
95°	48.9	48.9	48.1	46.4	44.8	43.2	41.6	37.5	34.2	29.3	25.3
97.5°	36.7	36.7	35.8	34.2	32.6	31.0	29.3	26.1	23.6	18.7	16.3
100°	26.1	25.3	25.3	23.6	22.0	21.2	20.4	17.9	15.5	12.2	10.6
102.5°	17.9	17.1	17.1	16.3	14.7	13.9	13.9	12.2	10.6	8.1	4.9
105°	12.2	12.2	12.2	11.4	10.6	9.8	9.0	6.5	2.4	0.8	0.8
107.5°	5.7	4.9	4.1	2.4	1.6	0.8	0.8	0.0	0.8	0.8	0.8
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8



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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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9
2.5°	1110.5	1107.2	1101.5	1095.0	1091.7	1090.1	1088.5	1092.6	1099.9	1101.5	1100.7
5°	1148.0	1145.5	1137.4	1122.7	1116.2	1108.9	1096.6	1093.4	1095.8	1097.5	1097.5
7.5°	1139.0	1137.4	1138.2	1135.7	1132.5	1126.8	1109.7	1095.0	1091.7	1090.9	1090.1
10°	1167.5	1149.6	1132.5	1125.2	1124.3	1124.3	1117.8	1100.7	1084.4	1078.7	1075.5
12.5°	1165.9	1165.1	1150.4	1124.3	1114.6	1108.9	1108.9	1100.7	1077.1	1062.4	1058.3
15°	1166.7	1148.8	1143.9	1132.5	1119.5	1103.2	1088.5	1090.1	1068.9	1043.7	1033.9
17.5°	1165.1	1150.4	1127.6	1114.6	1112.1	1103.2	1074.6	1068.1	1057.5	1022.5	1009.5
20°	1149.6	1134.1	1122.7	1096.6	1088.5	1083.6	1064.9	1042.1	1038.0	999.7	982.6
22.5°	1140.6	1119.5	1100.7	1085.2	1073.8	1060.8	1046.9	1020.1	1011.9	975.2	950.0
25°	1118.6	1099.9	1080.3	1058.3	1051.8	1041.2	1017.6	997.2	981.8	946.7	915.8
27.5°	1097.5	1075.5	1056.7	1033.1	1022.5	1013.5	987.5	968.7	944.3	916.6	879.9
30°	1070.6	1049.4	1025.8	1004.6	994.0	981.8	958.1	934.5	909.2	879.9	840.8
32.5°	1041.2	1019.2	995.6	970.4	959.8	949.2	922.3	895.4	874.2	841.6	802.5
35°	1008.6	985.8	961.4	936.9	923.9	914.1	885.6	859.5	836.7	804.1	764.2
37.5°	974.4	951.6	926.4	900.3	885.6	874.2	846.5	823.7	796.8	765.9	727.6
40°	936.1	913.3	887.3	860.4	846.5	835.9	809.0	782.1	756.9	725.1	685.2
42.5°	894.6	872.6	847.3	821.3	807.4	795.2	769.9	743.9	716.2	683.6	646.9
45°	848.1	828.6	806.6	781.3	767.5	755.3	730.8	702.3	675.4	642.0	605.4
47.5°	800.9	783.8	765.0	741.4	725.9	716.2	689.3	663.2	634.7	602.1	563.8
50°	754.4	738.2	721.0	696.6	684.4	672.2	647.7	619.2	593.1	558.9	521.4
52.5°	705.6	691.7	676.2	654.2	642.0	629.0	604.5	579.3	551.6	517.4	476.6
55°	656.7	646.1	629.8	608.6	596.4	584.2	561.4	536.9	508.4	472.5	433.4
57.5°	607.0	595.6	582.5	563.0	554.0	539.4	517.4	492.9	464.4	427.7	388.6
60°	559.7	547.5	535.3	516.5	506.0	494.5	472.5	449.7	420.4	384.6	342.2
62.5°	514.9	501.1	485.6	469.3	461.1	448.9	426.9	404.1	375.6	342.2	298.2
65°	464.4	451.4	436.7	420.4	412.3	400.9	380.5	358.5	330.0	296.6	254.2
67.5°	419.6	404.9	388.6	370.7	364.2	353.6	334.0	312.0	284.3	251.8	211.0
70°	374.0	357.7	340.6	322.6	314.5	306.3	286.0	266.4	239.5	207.8	169.5
72.5°	325.1	312.9	294.1	274.6	266.4	257.5	239.5	220.8	193.9	164.6	132.8
75°	274.6	267.2	248.5	229.8	220.8	211.8	196.4	176.0	151.5	125.5	97.0
77.5°	227.3	222.4	206.1	186.6	180.1	168.7	150.7	135.2	112.4	89.6	66.0
80°	184.1	177.6	163.8	148.3	140.1	128.7	112.4	98.6	77.4	58.7	40.7
82.5°	145.0	139.3	125.5	111.6	104.3	95.3	78.2	66.0	48.9	33.4	21.2
85°	110.0	102.7	92.1	79.0	71.7	64.4	50.5	39.1	26.1	15.5	8.1
87.5°	78.2	71.7	63.5	51.3	45.6	39.1	28.5	19.6	10.6	4.1	2.4
90°	53.8	46.4	38.3	30.1	26.1	21.2	13.9	7.3	3.3	0.8	0.8
92.5°	34.2	28.5	22.0	15.5	13.0	9.8	5.7	2.4	0.8	0.8	0.8
95°	20.4	15.5	11.4	7.3	6.5	4.9	0.8	0.8	0.8	0.8	0.8
97.5°	12.2	9.8	6.5	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100°	8.1	4.9	0.8	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	0.8	0.8	0.8
105°	0.8	0.8	0.8	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	0.8	0.8	0.8
110°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8



TEST NUMBER: P188185

CATALOG NUMBER: FMB-N-4-LD4-1DN/STD-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: P188185

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9
2.5°	1101.5	1095.8	1089.3	1085.2	1082.8	1074.6	1067.3	1068.1	1068.1	1069.8	1059.2
5°	1094.2	1082.0	1068.1	1058.3	1050.2	1030.6	1017.6	1012.7	1014.3	1016.0	1009.5
7.5°	1081.2	1057.5	1033.1	1019.2	1010.3	994.8	991.5	994.0	994.8	988.3	970.4
10°	1058.3	1022.5	995.6	988.3	985.8	979.3	967.1	946.7	929.6	920.7	913.3
12.5°	1033.9	992.4	972.8	970.4	966.3	938.6	910.9	896.2	900.3	899.5	876.7
15°	1003.8	963.0	950.8	942.7	927.2	887.3	876.7	873.4	854.7	831.8	820.4
17.5°	972.8	938.6	921.5	901.1	878.3	857.9	847.3	817.2	805.0	804.1	783.8
20°	941.0	910.1	881.5	856.3	843.3	828.6	794.4	783.0	773.2	745.5	727.6
22.5°	906.0	880.7	840.0	822.1	815.6	782.1	758.5	744.7	717.0	707.2	677.0
25°	872.6	846.5	802.5	791.9	780.5	739.8	724.3	695.0	679.5	646.1	621.6
27.5°	837.6	809.0	768.3	757.7	735.7	708.0	676.2	658.3	623.3	598.0	561.4
30°	800.1	769.9	734.1	716.2	695.0	666.5	636.3	604.5	572.8	536.9	507.6
32.5°	763.4	729.2	695.0	673.0	657.5	621.6	593.9	555.7	514.9	486.4	450.6
35°	727.6	690.1	655.0	633.9	620.0	583.4	545.1	506.0	470.1	431.0	388.6
37.5°	690.9	651.0	613.5	597.2	580.1	541.0	500.2	457.1	417.1	370.7	318.6
40°	649.3	613.5	574.4	555.7	538.5	495.4	453.8	412.3	365.8	310.4	266.4
42.5°	612.7	573.6	534.5	514.9	497.0	452.2	408.2	362.6	307.2	259.9	225.7
45°	571.1	531.2	492.9	472.5	453.0	408.2	365.8	315.3	257.5	220.8	191.5
47.5°	528.8	488.8	448.9	431.8	409.8	365.0	321.0	264.0	219.2	186.6	162.1
50°	485.6	444.8	406.6	386.2	365.8	322.6	276.2	223.2	185.8	157.2	136.9
52.5°	441.6	401.7	362.6	342.2	323.5	281.9	233.0	187.4	154.0	131.2	114.9
55°	396.0	356.9	318.6	299.8	280.3	241.2	193.1	155.6	127.1	107.5	93.7
57.5°	351.2	312.9	277.0	257.5	239.5	200.4	158.1	127.1	101.8	86.4	75.0
60°	307.2	268.9	233.0	216.7	200.4	162.9	127.1	100.2	79.8	67.6	57.8
62.5°	263.2	226.5	193.9	179.2	162.9	127.9	98.6	76.6	61.1	50.5	43.2
65°	220.8	185.8	153.2	141.8	127.1	97.0	72.5	55.4	44.0	36.7	31.8
67.5°	177.6	145.8	119.8	108.4	95.3	70.1	51.3	38.3	30.1	25.3	22.0
70°	140.1	110.8	88.0	77.4	66.8	46.4	33.4	25.3	20.4	17.1	15.5
72.5°	105.1	79.0	60.3	51.3	43.2	28.5	20.4	15.5	13.9	12.2	9.8
75°	73.3	53.0	37.5	31.0	25.3	17.1	12.2	10.6	7.3	1.6	0.0
77.5°	47.3	31.8	21.2	16.3	13.0	9.0	7.3	1.6	0.0	0.0	0.0
80°	26.9	16.3	9.8	8.1	6.5	1.6	0.8	0.8	0.8	0.0	0.0
82.5°	13.0	7.3	4.1	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.0
85°	4.9	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
90°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
92.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
95°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
97.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
100°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
102.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0
105°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
107.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
110°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0



TEST NUMBER: P188185

CATALOG NUMBER: FMB-N-4-LD4-1DN/STD-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: P188185

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9	1090.9
2.5°	1047.8	1051.8	1045.3	1039.6	1036.3	1036.3	1036.3	1038.8
5°	1006.2	1005.4	1004.6	1002.9	999.7	1002.1	1002.9	1002.9
7.5°	949.2	942.7	938.6	931.2	926.4	926.4	927.2	927.2
10°	910.1	908.4	906.0	901.9	897.0	894.6	893.8	894.6
12.5°	856.3	840.8	836.7	831.8	830.2	831.8	831.8	832.7
15°	818.8	813.9	806.6	799.3	787.9	783.0	775.6	777.3
17.5°	760.2	748.7	744.7	742.2	736.5	737.3	733.3	734.1
20°	718.6	702.3	687.6	679.5	664.0	660.8	659.1	659.1
22.5°	651.0	637.9	629.8	621.6	607.0	596.4	591.5	591.5
25°	597.2	572.8	562.2	554.8	545.1	536.9	532.8	534.5
27.5°	539.4	519.0	507.6	495.4	478.3	470.9	464.4	460.3
30°	478.3	455.4	441.6	431.0	403.3	386.2	375.6	369.9
32.5°	417.1	378.9	360.9	343.8	322.6	310.4	303.9	300.6
35°	343.8	308.0	295.8	283.5	267.2	257.5	252.6	250.1
37.5°	284.3	256.6	246.9	236.3	222.4	214.3	211.0	208.6
40°	239.5	215.9	207.8	199.6	188.2	182.5	179.2	177.6
42.5°	202.9	183.3	176.8	170.3	162.1	157.2	154.8	153.2
45°	171.9	156.4	151.5	145.8	139.3	135.2	134.4	132.8
47.5°	146.7	132.8	128.7	125.5	119.8	116.5	114.9	114.1
50°	123.8	112.4	109.2	105.9	101.0	97.8	97.0	96.1
52.5°	102.7	94.5	91.3	87.2	83.9	81.5	79.8	79.0
55°	84.7	76.6	74.1	71.7	68.4	66.0	65.2	64.4
57.5°	66.8	61.1	58.7	57.8	53.8	52.1	50.5	50.5
60°	52.1	47.3	44.8	44.0	40.7	39.9	39.1	38.3
62.5°	38.3	35.0	33.4	32.6	30.1	29.3	28.5	27.7
65°	26.9	25.3	23.6	23.6	22.0	21.2	21.2	20.4
67.5°	19.6	17.9	17.1	17.1	16.3	15.5	15.5	15.5
70°	13.9	13.0	12.2	12.2	8.1	6.5	5.7	5.7
72.5°	4.1	1.6	0.8	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: P188185

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