

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: P188177

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188177
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27181)
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-LD4-2DN/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: 2067.0 lumens
Efficiency: N/A
Efficacy: 59.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.2 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.75' x L: 0.29' x H: 0.04')
CIE Type: Direct

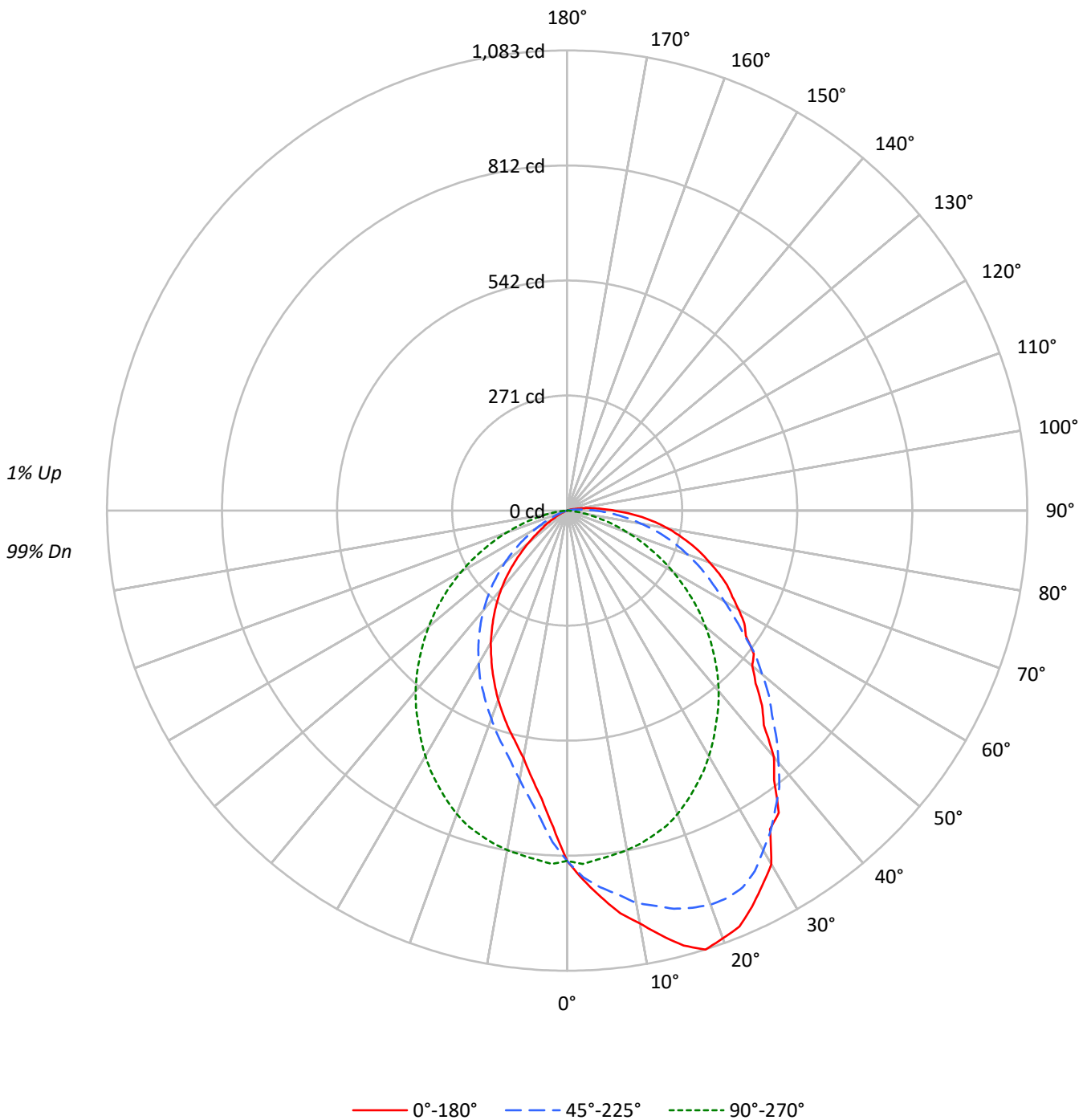
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	99	96	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	65	62	59
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	56	49	75	63	55	49	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	42	39
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	47	42	37	35
8	62	48	40	34	60	48	40	34	46	39	34	45	38	34	44	38	33	32
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	30	29
10	54	41	33	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	17385	17385	17385
5°	19093	17415	14255
10°	20606	17303	12353
15°	22285	17143	11168
20°	22852	16909	10114
25°	22446	16477	9082
30°	21623	16027	8080
35°	20323	15472	7016
40°	18604	14974	5927
45°	16920	14309	4676
50°	15941	13565	3333
55°	15671	12687	2113
60°	15756	11613	1129
65°	15871	10326	562
70°	15799	8814	0
75°	15933	6892	0
80°	16121	4622	0
85°	16248	2168	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	3.7
10°-20°	220.5	10.7
20°-30°	329.1	15.9
30°-40°	374.2	18.1
40°-50°	354.4	17.1
50°-60°	290.8	14.1
60°-70°	209.5	10.1
70°-80°	128.6	6.2
80°-90°	61.6	3.0
90°-100°	18.3	0.9
100°-110°	2.9	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°	626.6	30.3
0°-40°	1000.8	48.4
0°-60°	1646.0	79.6
0°-90°	2045.7	99.0
90°-120°	21.3	1.0
90°-150°	21.3	1.0
90°-180°	21.0	1.0
0°-180°	2067.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	824	824	824	824	824	
5°	913	890	824	727	682	89
15°	1060	970	790	577	531	299
25°	1029	978	716	468	416	473
35°	868	854	611	362	300	534
45°	648	682	491	249	179	501
55°	513	507	357	136	69	465
65°	416	362	218	42	15	409
75°	300	240	92	1	0	316
85°	177	117	11	1	0	157
90°	111	68	1	1	0	62
95°	63	30	1	1	0	45
105°	11	1	1	1	0	14
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°	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4
2.5°	870.0	871.6	870.0	869.2	870.0	868.4	867.6	869.2	867.6	866.7	863.5
5°	913.2	911.6	909.1	907.5	905.8	903.4	901.8	900.1	896.9	893.6	889.6
7.5°	955.5	954.7	953.1	949.8	946.6	942.5	939.2	936.0	928.7	920.5	910.7
10°	986.5	987.3	984.1	978.3	973.5	968.6	966.1	961.2	956.4	948.2	937.6
12.5°	1024.0	1023.2	1021.5	1015.8	1010.1	1005.2	1002.0	992.2	981.6	966.9	952.3
15°	1059.8	1060.6	1056.6	1049.2	1040.3	1036.2	1028.9	1015.0	1002.0	988.9	970.2
17.5°	1083.4	1081.8	1078.5	1070.4	1059.0	1054.9	1050.0	1038.6	1021.5	1000.3	980.0
20°	1071.2	1070.4	1067.1	1068.0	1065.5	1063.1	1059.8	1046.8	1028.0	1010.1	987.3
22.5°	1059.8	1059.8	1057.4	1054.1	1046.0	1040.3	1036.2	1033.7	1027.2	1009.3	986.5
25°	1028.9	1028.0	1022.3	1015.8	1015.8	1015.8	1019.1	1013.4	998.7	993.0	978.3
27.5°	994.6	995.5	999.5	1001.2	998.7	992.2	984.1	976.7	975.9	964.5	956.4
30°	961.2	962.1	958.8	950.7	947.4	949.0	955.5	956.4	940.9	934.4	923.0
32.5°	888.7	892.0	896.9	905.0	921.3	919.7	914.8	906.7	911.6	898.5	892.0
35°	868.4	865.9	865.9	859.4	851.3	851.3	860.2	874.9	865.1	866.7	854.5
37.5°	799.9	799.9	803.2	806.5	825.2	829.3	824.4	811.4	824.4	821.1	820.3
40°	756.8	766.5	769.8	774.7	768.2	765.7	765.7	782.8	772.3	782.0	773.9
42.5°	685.1	683.5	686.7	693.2	719.3	730.7	734.8	725.8	738.0	728.3	729.9
45°	648.4	651.7	658.2	658.2	654.9	654.1	656.6	687.5	686.7	692.4	681.8
47.5°	602.0	600.4	597.1	601.2	615.0	621.5	621.5	617.5	641.9	644.4	644.4
50°	568.6	572.7	575.9	576.7	570.2	564.5	567.0	584.9	578.4	600.4	598.7
52.5°	553.9	551.5	544.2	536.0	536.8	540.1	540.1	531.9	546.6	540.9	558.8
55°	513.2	515.6	513.2	520.5	514.8	507.5	500.2	505.1	498.5	505.9	506.7
57.5°	494.5	498.5	495.3	488.0	479.0	479.0	479.8	471.7	468.4	463.5	466.0
60°	466.0	464.3	460.3	457.0	458.6	455.4	449.7	443.1	437.4	431.7	427.7
62.5°	438.3	439.1	439.1	437.4	428.5	423.6	419.5	416.3	408.9	400.8	393.5
65°	415.5	417.1	413.0	406.5	400.8	399.2	396.7	385.3	380.4	372.3	362.5
67.5°	386.9	386.9	383.7	378.8	376.4	371.5	366.6	360.1	349.5	342.1	332.4
70°	356.8	357.6	357.6	352.7	347.8	343.0	340.5	330.7	321.0	311.2	300.6
72.5°	329.1	329.9	328.3	325.0	319.3	315.3	312.0	301.4	290.0	281.9	271.3
75°	299.8	299.8	298.1	294.1	288.4	285.1	282.7	272.1	261.5	249.3	240.3
77.5°	269.6	267.2	268.0	263.1	259.0	255.0	251.7	241.9	231.3	219.9	208.5
80°	240.3	237.9	236.2	234.6	228.1	224.8	222.4	211.8	201.2	189.8	176.8
82.5°	209.4	206.1	206.1	203.7	197.1	195.5	192.2	182.5	171.1	158.8	145.8
85°	176.8	175.1	174.3	172.7	166.2	165.4	160.5	153.1	141.7	130.3	117.3
87.5°	143.4	140.9	139.3	140.1	135.2	134.4	131.2	123.8	114.0	103.5	90.4
90°	110.8	109.2	108.3	108.3	105.1	104.3	101.8	96.1	86.3	79.0	67.6
92.5°	83.9	83.1	83.1	81.5	78.2	77.4	74.9	70.9	62.7	56.2	46.4
95°	62.7	61.1	60.3	59.5	56.2	55.4	52.9	48.9	42.4	37.5	30.1
97.5°	44.0	43.2	41.5	40.7	38.3	36.7	35.0	31.8	26.9	22.8	17.1
100°	29.3	28.5	26.9	26.1	24.4	22.8	22.0	18.7	15.5	13.0	9.8
102.5°	17.9	17.9	17.1	16.3	14.7	13.8	13.0	11.4	9.8	8.1	5.7
105°	11.4	11.4	11.4	10.6	9.8	9.8	9.0	7.3	3.3	0.8	0.8
107.5°	8.1	7.3	6.5	4.1	2.4	1.6	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



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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°	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4
2.5°	861.9	857.8	852.9	849.6	849.6	848.8	845.6	843.1	838.2	832.5	827.6
5°	886.3	881.4	877.3	870.8	868.4	864.3	855.3	845.6	835.0	824.4	816.2
7.5°	902.6	894.4	888.7	882.2	879.0	874.9	862.7	848.0	832.5	817.9	804.8
10°	927.0	914.8	900.1	887.9	883.0	879.0	866.7	848.8	830.1	811.4	795.1
12.5°	940.1	927.8	912.4	893.6	884.7	876.5	862.7	846.4	826.0	802.4	782.8
15°	950.7	932.7	915.6	896.9	886.3	874.9	854.5	839.1	817.1	790.2	765.7
17.5°	960.4	939.2	914.0	892.0	882.2	870.8	846.4	826.8	805.7	778.0	748.6
20°	961.2	939.2	914.0	886.3	873.3	862.7	838.2	812.2	789.4	760.0	726.6
22.5°	962.9	935.2	907.5	879.0	864.3	849.6	824.4	795.9	769.8	738.9	703.8
25°	952.3	927.0	896.9	868.4	853.7	836.6	806.5	778.0	748.6	716.0	680.2
27.5°	940.1	914.0	884.7	852.1	835.8	820.3	785.3	756.0	723.4	693.2	654.9
30°	912.4	892.0	865.1	835.0	817.1	800.8	764.9	731.5	697.3	667.2	628.1
32.5°	877.3	863.5	838.2	810.5	794.2	777.1	741.3	706.3	671.2	640.3	602.0
35°	844.8	829.3	806.5	780.4	766.5	752.7	715.2	678.6	644.4	611.0	574.3
37.5°	807.3	794.2	773.1	747.8	734.8	721.7	687.5	650.9	616.7	584.1	547.4
40°	770.6	756.8	735.6	714.4	701.4	691.6	659.0	624.0	588.1	554.8	518.1
42.5°	726.6	717.7	700.6	680.2	668.8	657.4	628.9	594.7	557.2	523.8	488.0
45°	681.0	676.1	663.9	645.2	633.8	623.2	597.1	561.3	526.2	491.2	457.0
47.5°	637.0	632.1	628.1	610.1	600.4	586.5	561.3	528.7	493.7	458.6	425.2
50°	596.3	589.8	584.1	571.9	563.7	551.5	526.2	496.1	461.1	425.2	391.8
52.5°	556.4	547.4	541.7	533.6	526.2	514.8	491.2	461.9	426.0	391.8	357.6
55°	515.6	509.1	496.9	492.8	488.0	477.4	453.7	427.7	391.8	356.8	322.6
57.5°	474.1	470.0	458.6	448.9	446.4	439.1	417.1	391.8	358.4	321.8	288.4
60°	427.7	430.1	420.3	406.5	404.0	398.3	377.2	355.2	320.1	286.7	253.3
62.5°	390.2	391.0	382.9	366.6	362.5	357.6	339.7	318.5	287.6	253.3	219.1
65°	353.5	349.5	343.8	327.5	322.6	315.3	303.0	281.0	251.7	217.5	185.7
67.5°	321.0	312.0	306.3	289.2	283.5	274.5	263.1	244.4	217.5	184.9	153.1
70°	290.0	277.0	267.2	251.7	245.2	236.2	224.0	207.7	182.5	152.3	123.8
72.5°	258.2	243.6	229.7	215.9	209.4	199.6	187.4	171.1	148.3	121.4	95.3
75°	226.5	211.8	195.5	180.8	174.3	164.6	149.9	136.9	115.7	92.1	69.2
77.5°	194.7	181.7	163.7	149.1	141.7	132.0	118.9	105.1	85.5	65.2	46.4
80°	163.7	150.7	134.4	116.5	110.8	101.8	88.8	74.9	59.5	43.2	28.5
82.5°	133.6	121.4	106.7	90.4	82.3	74.9	62.7	49.7	36.7	24.4	14.7
85°	105.1	94.5	80.6	65.2	58.7	52.9	40.7	30.1	19.6	11.4	5.7
87.5°	79.8	69.2	57.8	44.8	39.1	32.6	23.6	15.5	8.1	3.3	1.6
90°	57.8	47.2	37.5	27.7	23.6	19.6	12.2	6.5	2.4	0.8	0.8
92.5°	37.5	30.1	22.8	15.5	12.2	9.8	4.9	1.6	0.8	0.8	0.8
95°	23.6	17.1	12.2	7.3	5.7	4.1	0.8	0.8	0.8	0.8	0.8
97.5°	13.0	9.0	6.5	3.3	0.8	0.8	0.8	0.8	0.8	0.8	0.8
100°	7.3	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: P188177

CATALOG NUMBER: FMB-N-2-LD4-2DN/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: P188177

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

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4
2.5°	820.3	812.2	806.5	804.8	803.2	797.5	791.8	785.3	781.2	776.3	768.2
5°	805.7	795.1	784.5	779.6	774.7	762.5	749.4	736.4	726.6	717.7	707.1
7.5°	791.8	775.5	757.6	747.8	740.5	720.9	704.6	690.8	681.0	672.1	661.5
10°	776.3	752.7	727.4	716.0	706.3	685.1	670.4	654.9	643.5	632.1	621.5
12.5°	759.2	727.4	698.9	685.1	673.7	653.3	637.0	619.1	606.9	597.1	589.0
15°	736.4	700.6	668.8	654.9	644.4	621.5	604.4	588.1	576.7	568.6	558.8
17.5°	713.6	672.1	641.1	627.3	615.0	592.2	575.9	560.5	549.9	538.5	530.3
20°	688.3	644.4	612.6	598.7	585.7	564.5	548.2	532.8	521.4	512.4	502.6
22.5°	661.5	615.8	585.7	571.9	558.8	538.5	522.2	506.7	495.3	484.7	474.9
25°	635.4	589.0	558.0	544.2	531.9	511.6	496.1	480.6	468.4	458.6	447.2
27.5°	607.7	561.3	530.3	517.3	506.7	486.3	470.8	456.2	444.0	431.7	421.2
30°	580.0	535.2	505.1	492.0	481.4	461.1	444.8	429.3	415.5	404.0	393.5
32.5°	553.9	507.5	479.0	466.8	455.4	435.8	418.7	403.2	389.4	376.4	366.6
35°	526.2	481.4	452.9	441.5	430.1	409.7	391.8	376.4	361.7	349.5	338.1
37.5°	499.4	456.2	427.7	415.5	403.2	384.5	364.9	348.7	334.0	321.8	311.2
40°	472.5	428.5	401.6	389.4	378.0	357.6	337.2	321.0	306.3	292.4	282.7
42.5°	444.0	401.6	375.5	362.5	351.1	329.9	309.6	292.4	277.8	264.7	254.2
45°	413.8	373.9	347.0	334.8	323.4	302.2	281.0	264.7	249.3	234.6	224.0
47.5°	383.7	344.6	319.3	306.3	294.9	273.7	251.7	235.4	219.9	206.9	195.5
50°	352.7	314.4	290.8	277.8	266.4	244.4	223.2	206.9	191.4	178.4	167.0
52.5°	321.0	285.1	260.7	248.5	237.1	215.1	193.9	177.6	163.7	153.1	139.3
55°	288.4	253.3	230.5	218.3	208.5	186.5	165.4	149.9	136.0	123.0	112.4
57.5°	255.0	223.2	199.6	188.2	178.4	158.0	136.9	123.0	109.2	100.2	88.0
60°	221.6	191.4	169.4	158.0	149.1	128.7	110.8	96.9	84.7	75.8	65.2
62.5°	189.0	162.1	140.1	131.2	121.4	101.8	85.5	73.3	63.5	53.8	45.6
65°	157.2	132.8	112.4	101.8	95.3	77.4	62.7	52.1	42.4	36.7	29.3
67.5°	126.3	103.5	86.3	78.2	70.9	56.2	44.0	35.0	27.7	22.8	17.9
70°	97.8	76.6	62.7	55.4	49.7	37.5	27.7	21.2	16.3	13.0	10.6
72.5°	71.7	55.4	42.4	36.7	32.6	22.8	16.3	12.2	9.8	6.5	0.8
75°	49.7	36.7	26.1	22.8	18.7	12.2	9.0	6.5	0.8	0.8	0.8
77.5°	31.8	22.0	13.8	12.2	9.8	6.5	1.6	0.8	0.8	0.8	0.8
80°	17.9	11.4	7.3	6.5	4.9	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	8.1	4.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	3.3	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	0.0
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	0.0
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	0.8
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	0.8	0.0	0.0
105°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0
107.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0
110°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0



TEST NUMBER: P188177

CATALOG NUMBER: FMB-N-2-LD4-2DN/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: P188177

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	824.4	824.4	824.4	824.4	824.4	824.4	824.4	824.4
2.5°	765.7	760.0	757.6	758.4	752.7	749.4	751.1	746.2
5°	703.0	696.5	694.0	693.2	688.3	684.3	685.1	681.8
7.5°	655.8	649.2	646.8	646.0	641.1	637.0	637.8	634.6
10°	613.4	606.9	604.4	601.2	597.1	593.9	594.7	591.4
12.5°	580.8	574.3	571.0	569.4	563.7	560.5	560.5	558.8
15°	550.7	543.3	541.7	540.1	535.2	532.8	532.8	531.1
17.5°	523.0	515.6	513.2	511.6	505.9	504.2	503.4	502.6
20°	493.7	487.1	485.5	483.9	479.0	475.7	474.9	474.1
22.5°	466.8	459.4	457.0	454.6	449.7	447.2	445.6	444.8
25°	438.3	431.7	430.1	427.7	421.2	417.9	416.3	416.3
27.5°	411.4	404.0	401.6	399.2	393.5	391.0	388.6	386.9
30°	384.5	377.2	374.7	372.3	364.9	362.5	360.1	359.2
32.5°	356.0	347.8	345.4	343.0	335.6	332.4	330.7	329.1
35°	328.3	320.1	316.9	312.0	307.1	303.9	301.4	299.8
37.5°	299.0	291.6	287.6	283.5	277.8	274.5	272.1	270.5
40°	270.5	263.1	259.0	255.0	247.6	244.4	241.1	241.1
42.5°	242.8	233.8	229.7	225.6	219.1	215.1	211.8	211.0
45°	213.4	204.5	200.4	195.5	189.0	184.1	180.8	179.2
47.5°	184.9	175.1	171.1	166.2	158.8	154.0	149.9	149.1
50°	156.4	145.8	141.7	136.9	129.5	124.6	120.6	118.9
52.5°	127.9	118.1	114.9	109.2	101.8	97.8	93.7	92.1
55°	101.8	92.1	88.8	83.9	77.4	74.1	70.1	69.2
57.5°	77.4	68.4	66.0	61.1	56.2	53.8	51.3	51.3
60°	56.2	48.1	46.4	42.4	39.1	35.8	35.0	33.4
62.5°	38.3	32.6	30.1	28.5	25.3	23.6	22.8	22.8
65°	23.6	20.4	18.7	17.9	16.3	15.5	14.7	14.7
67.5°	14.7	13.0	12.2	11.4	9.8	9.0	9.0	9.0
70°	9.0	5.7	3.3	1.6	0.0	0.0	0.0	0.0
72.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
75°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
77.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
80°	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0
82.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.8	0.8	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: P188177

CATALOG NUMBER: FMB-N-2-LD4-2DN/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)