

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: P188217

Luminaire Tested: **MPBL-2-LD4-UNV-2UP-LO-40**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P188217
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27358)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MPBL-2-LD4-UNV-2UP-LO-40
Description:
Light Source: (84) NICHIA ELM 4000K LED
2UT217042A8404A
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2497.0 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): - / - / -
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.42' x H: 0.29')
CIE Type: Indirect

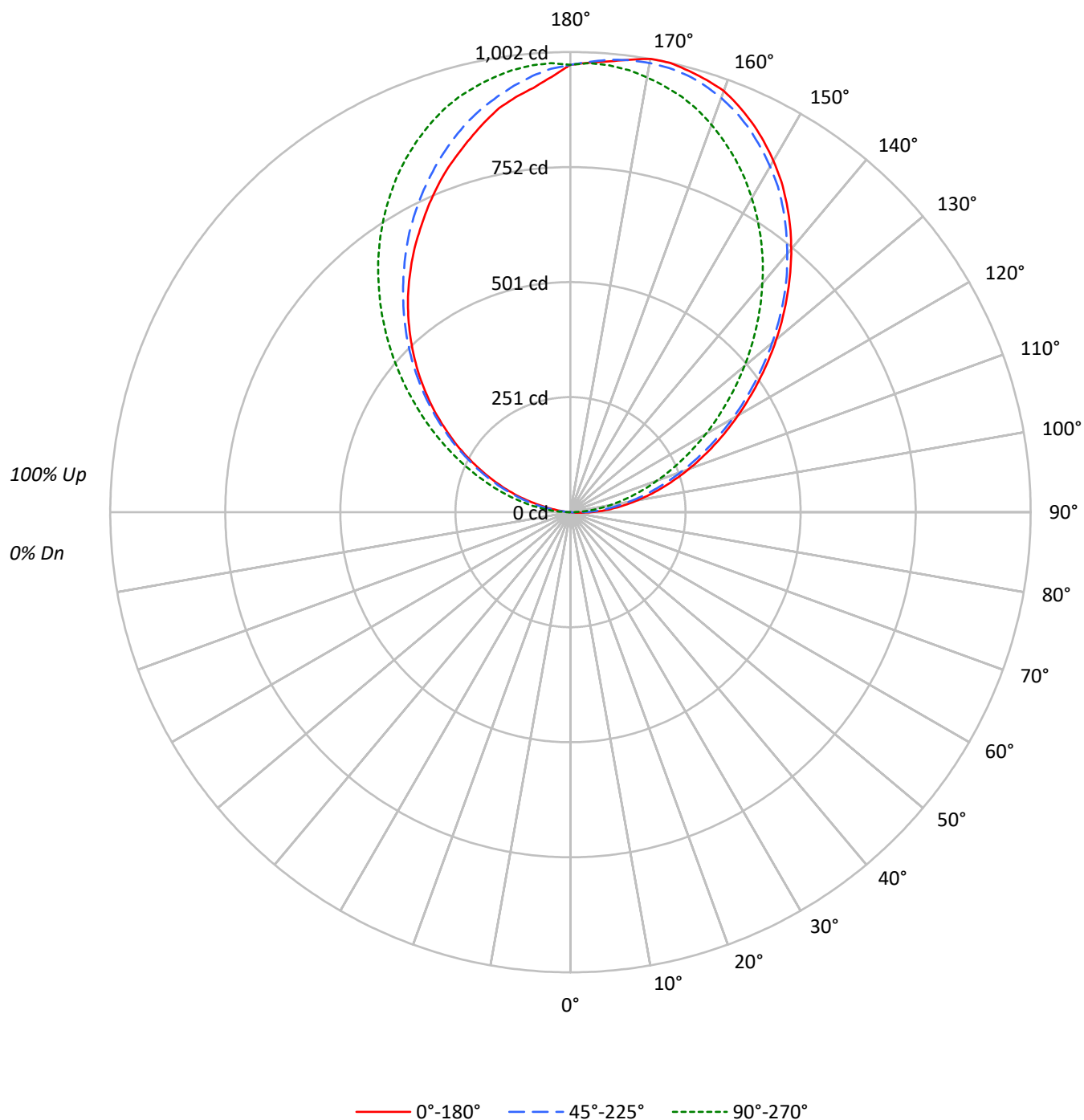
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2

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	0	0
75°	0	0	0
80°	0	0	0
85°	130	33	10



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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°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	4.2	0.2
90°-100°	52.2	2.1
100°-110°	155.8	6.2
110°-120°	272.6	10.9
120°-130°	376.7	15.1
130°-140°	443.5	17.8
140°-150°	450.2	18.0
150°-160°	387.8	15.5
160°-170°	261.9	10.5
170°-180°	92.1	3.7
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	4.2	0.2
90°-120°	480.5	19.2
90°-150°	1751.0	70.1
90°-180°	2493.0	99.8
0°-180°	2497.0	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°	0	0	0	0	0	0
85°	8	1	1	1	1	5
90°	45	30	1	3	4	25
95°	93	76	41	12	6	87
105°	208	189	140	107	93	220
115°	345	329	267	223	214	342
125°	501	489	415	355	346	449
135°	668	657	573	495	482	515
145°	821	807	723	633	613	513
155°	936	921	849	765	733	431
165°	995	985	936	877	843	281
175°	985	989	976	953	927	95
180°	974	974	974	974	974	



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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	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	7.9	8.5	7.9	7.2	6.6	6.0	5.4	4.2	3.0	1.8	1.2
87.5°	23.6	24.2	23.6	22.4	21.1	19.9	19.3	16.9	15.1	12.7	10.3
90°	45.3	45.9	45.3	44.1	42.9	41.7	41.1	38.1	35.6	32.6	29.6
92.5°	68.9	69.5	68.3	67.7	65.9	64.6	64.0	61.0	58.0	55.0	52.0
95°	93.0	94.2	93.0	91.8	90.6	88.8	88.2	85.2	82.2	79.1	76.1
97.5°	119.6	120.2	119.6	118.4	116.6	115.4	114.2	111.2	108.1	104.5	101.5
100°	147.4	148.6	147.4	146.2	144.4	143.2	140.8	139.0	135.9	132.3	128.7
102.5°	176.4	177.6	176.4	175.8	174.0	172.2	171.6	168.0	164.9	161.9	158.3
105°	207.8	209.0	207.2	204.8	204.8	203.6	201.2	198.8	195.7	192.7	189.1
107.5°	239.8	241.1	241.1	238.6	237.4	236.2	233.8	233.2	230.2	225.3	221.7
110°	273.7	274.9	274.9	271.9	271.3	270.1	267.6	267.0	264.0	259.2	256.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	308.7	309.9	309.9	307.5	306.9	305.7	303.3	302.7	299.7	294.8	291.8
115°	345.0	346.8	346.8	343.8	343.8	342.6	340.1	339.5	336.5	332.3	329.3
117.5°	382.4	383.6	383.6	381.2	381.2	380.0	377.6	377.6	374.6	370.3	367.3
120°	421.1	422.9	422.9	421.1	420.5	419.3	417.5	417.5	414.4	410.8	407.2
122.5°	461.0	460.4	463.4	461.0	460.4	459.8	457.3	457.9	454.9	450.7	447.7
125°	501.4	503.3	502.6	502.0	501.4	500.8	498.4	497.2	496.6	491.8	488.8
127.5°	543.1	544.9	544.3	544.3	543.1	542.5	540.1	539.5	538.9	535.3	531.0
130°	584.8	588.4	586.6	586.6	584.8	584.8	583.6	581.8	578.8	577.6	573.3
132.5°	626.5	630.1	628.3	627.7	628.3	626.5	624.7	623.5	621.1	618.6	615.0
135°	667.6	671.8	669.4	669.4	669.4	667.6	666.4	665.2	662.1	660.3	656.7
137.5°	708.7	709.9	710.5	709.9	709.9	708.1	706.9	704.4	702.6	700.2	696.6
140°	747.9	751.0	749.1	749.1	748.5	746.7	744.9	743.1	740.1	737.7	734.0
142.5°	785.4	786.6	787.2	786.6	786.0	784.2	782.4	780.6	777.5	775.1	771.5
145°	821.0	824.1	822.2	822.2	819.8	821.0	818.0	816.2	813.8	811.4	807.1
147.5°	854.3	856.1	856.1	855.5	853.7	854.3	851.8	849.4	847.0	844.6	840.4
150°	883.9	885.7	885.7	883.9	883.3	883.3	881.4	879.0	876.6	874.2	869.4
152.5°	911.1	912.9	912.9	911.1	909.8	909.8	908.0	905.6	903.2	900.8	895.9
155°	935.8	938.2	937.6	935.8	935.2	934.6	932.8	931.0	928.6	926.2	921.3
157.5°	957.6	960.0	959.4	958.2	957.0	955.8	954.6	952.7	950.3	947.3	942.5
160°	976.3	976.3	976.3	974.5	973.3	972.7	970.9	969.0	967.2	964.2	960.0
162.5°	986.6	987.8	986.6	986.0	984.8	984.8	982.9	981.7	980.5	977.5	973.9
165°	995.0	996.8	996.2	995.6	994.4	993.8	992.6	992.0	990.2	987.8	984.8
167.5°	1002.3	1003.5	1002.9	1001.7	1000.5	999.9	998.7	997.4	995.6	993.2	990.8
170°	1002.3	1002.9	1002.3	1001.7	1000.5	999.9	999.3	998.0	996.8	994.4	993.2
172.5°	993.8	994.4	994.4	995.0	994.4	993.8	993.8	993.8	993.8	992.6	992.6
175°	985.4	986.0	986.6	987.2	987.2	987.2	987.8	988.4	989.0	988.4	989.0
177.5°	979.9	980.5	980.5	980.5	979.9	979.9	979.9	980.5	981.1	981.1	981.7
180°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9



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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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	7.2	5.4	3.0	1.8	1.2	0.6	0.6	0.6	0.6	0.6	0.6
90°	26.0	24.2	19.9	16.3	15.1	12.7	9.7	5.4	1.8	0.6	0.6
92.5°	48.3	45.3	41.7	38.1	36.2	34.4	30.2	26.6	23.0	19.9	15.7
95°	71.3	68.9	64.0	60.4	58.6	56.2	52.0	47.7	44.1	41.1	36.2
97.5°	96.7	93.6	88.8	84.6	82.8	80.4	76.1	71.3	66.5	63.4	58.6
100°	123.8	120.8	115.4	111.2	108.7	105.7	100.9	97.3	90.6	87.0	81.6
102.5°	152.8	148.0	143.8	139.0	136.5	133.5	128.1	122.6	117.2	113.0	106.9
105°	183.7	178.8	174.6	169.8	166.7	163.7	155.9	151.0	145.0	140.2	133.5
107.5°	216.3	210.2	207.8	201.2	198.8	195.1	189.7	181.2	175.2	169.8	162.5
110°	250.1	244.1	241.7	235.0	232.0	228.4	220.5	213.3	206.6	200.6	192.7



TEST NUMBER: P188217

CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
112.5°	286.4	280.3	277.3	270.1	267.0	263.4	254.9	247.1	239.8	233.2	224.7
115°	323.2	319.0	314.2	306.9	303.9	299.7	293.0	282.1	274.9	267.0	258.0
117.5°	361.3	357.1	352.2	345.0	341.3	337.1	328.1	318.4	310.5	302.7	292.4
120°	401.2	395.1	392.7	384.2	380.6	376.4	367.3	357.1	348.0	339.5	328.7
122.5°	442.2	435.6	430.8	424.7	420.5	416.3	406.6	395.7	386.0	377.0	365.5
125°	483.3	477.3	472.4	465.2	461.6	456.7	447.1	435.6	424.7	415.0	403.0
127.5°	525.0	519.0	514.1	506.3	502.6	497.8	488.1	476.1	464.6	454.3	441.6
130°	568.5	561.3	554.0	548.0	544.3	540.7	529.8	517.1	506.3	494.2	482.1
132.5°	610.2	603.5	595.7	591.5	586.0	582.4	569.1	558.2	546.1	534.1	521.4
135°	651.9	645.2	639.8	632.5	627.1	623.5	609.6	598.1	586.0	573.3	560.0
137.5°	691.7	684.5	677.2	672.4	667.0	662.7	649.5	637.4	625.3	612.0	598.7
140°	729.2	722.6	715.3	710.5	705.6	700.8	687.5	675.4	663.4	650.1	636.2
142.5°	766.7	760.0	752.8	747.9	743.1	738.9	724.4	713.5	700.8	687.5	673.6
145°	802.3	796.3	789.0	781.8	778.1	774.5	760.0	749.1	736.5	723.2	709.9
147.5°	835.5	829.5	822.2	815.6	812.0	807.7	793.8	783.0	770.9	757.6	744.9
150°	865.1	859.7	852.4	845.8	842.2	838.6	825.3	814.4	802.9	789.6	777.5
152.5°	892.9	886.9	880.8	874.8	870.6	865.7	854.9	844.0	833.1	820.4	807.7
155°	918.3	912.3	906.2	900.2	896.6	892.3	880.8	871.8	861.5	848.8	837.3
157.5°	939.4	933.4	928.0	922.5	918.9	914.1	903.8	895.3	884.5	874.2	863.3
160°	957.0	952.1	946.7	941.9	937.6	934.0	924.3	916.5	906.8	897.8	887.5
162.5°	971.5	967.8	963.0	958.8	955.2	951.5	942.5	935.8	927.4	918.9	909.8
165°	982.9	979.3	975.7	971.5	968.4	965.4	957.0	951.5	944.3	936.4	929.8
167.5°	989.0	986.0	982.9	979.3	976.9	973.9	967.2	962.4	956.4	949.7	944.3
170°	992.0	990.2	987.8	984.8	982.9	980.5	975.1	971.5	966.6	961.2	956.4
172.5°	992.0	991.4	990.2	988.4	986.6	984.8	980.5	978.1	974.5	970.9	966.6
175°	989.6	989.6	989.0	988.4	987.2	985.4	982.9	981.1	979.3	976.3	973.9
177.5°	983.5	984.2	984.8	984.8	984.2	983.5	981.7	981.1	979.9	978.7	977.5
180°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9



TEST NUMBER: P188217

CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	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	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.6	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°	1.2	1.2	1.8	1.8	1.8	1.8	2.4	2.4	3.0	3.0	3.0
92.5°	12.7	9.7	6.0	4.2	3.6	3.0	3.0	3.0	3.6	3.6	4.2
95°	33.8	30.8	26.6	24.2	22.4	17.5	15.7	12.7	11.5	9.7	7.9
97.5°	55.6	52.6	48.3	45.9	45.3	40.5	38.1	33.2	30.2	27.8	24.8
100°	78.5	74.9	71.3	68.9	67.7	64.6	62.2	58.0	55.0	52.0	49.5
102.5°	103.3	99.1	95.5	93.0	91.8	88.8	86.4	83.4	81.0	78.5	75.5
105°	128.1	125.1	120.8	118.4	117.8	114.2	111.8	108.7	106.9	105.1	102.7
107.5°	157.7	152.2	148.6	145.6	144.4	140.8	139.0	135.9	134.1	131.7	129.9
110°	186.7	181.8	177.6	174.6	173.4	169.2	166.7	164.3	162.5	160.7	158.3



TEST NUMBER: P188217

CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
112.5°	218.1	212.7	207.8	204.2	203.6	199.4	197.0	195.7	192.1	190.3	188.5
115°	251.3	244.7	239.8	236.8	235.0	230.2	227.8	226.0	222.9	221.1	219.3
117.5°	285.2	278.5	272.5	268.8	267.6	262.2	257.4	258.0	253.1	253.1	250.7
120°	320.8	313.6	307.5	303.3	301.5	295.4	293.0	291.2	287.0	285.2	283.3
122.5°	357.1	349.2	342.6	338.3	337.7	330.5	326.8	324.4	320.2	318.4	316.6
125°	394.5	386.0	380.0	374.0	371.5	365.5	361.3	358.9	354.6	352.2	351.0
127.5°	433.2	423.5	416.3	410.2	409.6	401.2	395.1	393.3	389.1	386.7	384.8
130°	471.2	461.6	453.1	447.1	445.9	437.4	431.4	428.3	424.7	420.5	419.9
132.5°	510.5	499.6	490.6	484.5	482.7	474.3	467.6	463.4	459.8	456.7	454.3
135°	549.2	537.7	528.0	522.0	520.2	511.7	503.9	499.6	494.8	491.8	488.8
137.5°	587.2	575.8	565.5	558.8	557.0	548.0	540.1	535.3	529.8	526.8	523.2
140°	624.7	612.6	601.7	595.7	593.3	583.6	575.1	569.7	564.3	560.0	557.0
142.5°	662.1	648.2	638.6	631.9	629.5	619.9	610.8	605.4	598.7	594.5	590.9
145°	698.4	683.9	674.2	667.0	665.2	655.5	645.8	639.8	633.1	628.3	624.1
147.5°	731.6	718.9	709.3	702.0	700.2	690.5	680.9	674.8	667.6	660.9	657.9
150°	764.8	754.6	742.5	737.1	733.4	723.8	714.7	707.5	702.0	693.6	689.3
152.5°	796.9	785.4	775.1	769.7	765.5	756.4	746.7	740.1	733.4	724.4	720.1
155°	826.5	816.8	805.9	801.1	796.9	787.8	778.1	771.5	764.8	756.4	752.2
157.5°	853.7	844.6	833.7	828.3	823.5	816.8	808.3	801.7	794.5	786.6	782.4
160°	878.4	870.6	860.3	856.1	850.6	844.6	836.7	830.1	823.5	815.6	811.4
162.5°	901.4	893.5	884.5	880.8	876.6	870.6	863.3	857.9	850.6	843.4	838.6
165°	921.3	915.3	906.8	903.2	899.0	894.1	887.5	882.1	876.6	869.4	864.5
167.5°	937.0	931.6	924.3	920.1	917.7	913.5	908.0	903.8	899.0	892.9	888.7
170°	950.9	946.1	939.4	935.8	934.0	931.0	926.8	923.1	918.3	914.1	910.4
172.5°	962.4	958.8	953.9	950.3	949.1	947.3	943.7	940.7	937.0	932.8	929.2
175°	970.9	968.4	964.2	961.8	961.2	960.0	958.2	956.4	953.3	949.7	946.1
177.5°	975.7	974.5	971.5	969.7	969.7	969.7	969.0	968.4	966.6	964.2	961.8
180°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9



TEST NUMBER: P188217

CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

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°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	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°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
87.5°	1.2	1.2	1.2	1.2	1.2	1.8	1.8	2.4
90°	3.6	3.6	3.6	3.6	4.2	4.2	4.2	4.2
92.5°	4.2	4.2	4.2	4.8	4.8	4.8	4.8	4.8
95°	7.9	7.2	6.6	6.0	6.0	6.0	5.4	6.0
97.5°	24.2	23.0	22.4	21.1	21.1	20.5	19.9	19.9
100°	46.5	44.1	42.9	41.7	41.1	40.5	39.3	39.9
102.5°	73.1	70.7	70.1	68.3	67.7	66.5	64.6	65.9
105°	102.1	99.1	97.9	96.1	96.7	95.5	92.4	93.0
107.5°	129.3	128.7	126.3	125.1	125.7	125.1	122.0	123.2
110°	158.3	157.7	155.3	154.1	154.7	154.1	151.6	152.8



TEST NUMBER: P188217

CATALOG NUMBER: MPBL-2-LD4-UNV-2UP-LO-40

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
112.5°	187.9	187.3	184.9	184.3	184.3	184.3	181.8	182.5
115°	218.7	218.7	216.3	215.1	215.7	215.1	214.5	213.9
117.5°	250.7	250.7	248.3	247.7	247.7	245.9	245.3	245.9
120°	283.9	283.3	281.5	280.3	280.9	279.1	279.7	279.1
122.5°	317.2	316.6	314.2	312.9	314.2	312.3	312.9	312.3
125°	351.0	350.4	348.0	346.8	348.0	346.2	346.8	346.2
127.5°	383.6	384.2	382.4	382.4	382.4	380.6	380.6	380.6
130°	418.1	418.1	416.3	415.7	416.9	414.4	414.4	414.4
132.5°	452.5	451.9	450.1	450.1	450.7	448.9	448.3	448.9
135°	486.3	485.7	483.9	483.3	484.5	482.1	481.5	482.1
137.5°	520.8	517.8	517.8	517.1	517.8	515.9	515.3	515.3
140°	554.0	552.2	551.0	549.8	551.0	548.6	548.0	548.6
142.5°	587.2	585.4	583.6	583.0	583.6	581.2	580.0	581.2
145°	620.5	618.0	615.6	615.0	615.0	613.2	611.4	612.6
147.5°	653.7	651.3	648.2	647.6	647.6	644.6	643.4	644.0
150°	685.1	682.1	679.1	678.5	676.6	675.4	674.2	674.2
152.5°	715.9	712.3	710.5	708.7	706.2	705.0	703.8	703.2
155°	746.7	743.7	741.3	739.5	738.3	735.2	733.4	733.4
157.5°	775.7	773.9	771.5	769.7	767.3	765.5	763.6	763.0
160°	806.5	802.9	800.5	798.7	796.9	793.8	792.6	791.4
162.5°	831.9	829.5	826.5	824.7	823.5	819.8	818.0	816.8
165°	859.1	855.5	853.1	851.2	849.4	845.8	844.0	842.8
167.5°	882.7	880.8	879.0	877.2	875.4	872.4	870.6	868.8
170°	906.2	903.8	901.4	900.2	899.0	895.9	894.7	893.5
172.5°	924.9	922.5	920.1	918.9	917.1	914.7	912.9	911.7
175°	942.5	940.1	937.6	937.0	934.0	930.4	929.2	927.4
177.5°	958.2	957.6	955.8	955.8	952.7	951.5	950.3	948.5
180°	973.9	973.9	973.9	973.9	973.9	973.9	973.9	973.9

(END OF REPORT)