

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number: P893260

Luminaire Tested: 4MB-2SL-ASMF-UNV-L850

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893260
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-185-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-2SL-ASMF-UNV-L850
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 80CRI, 5000K CCT
Light Source: -
Ballast/Driver: -

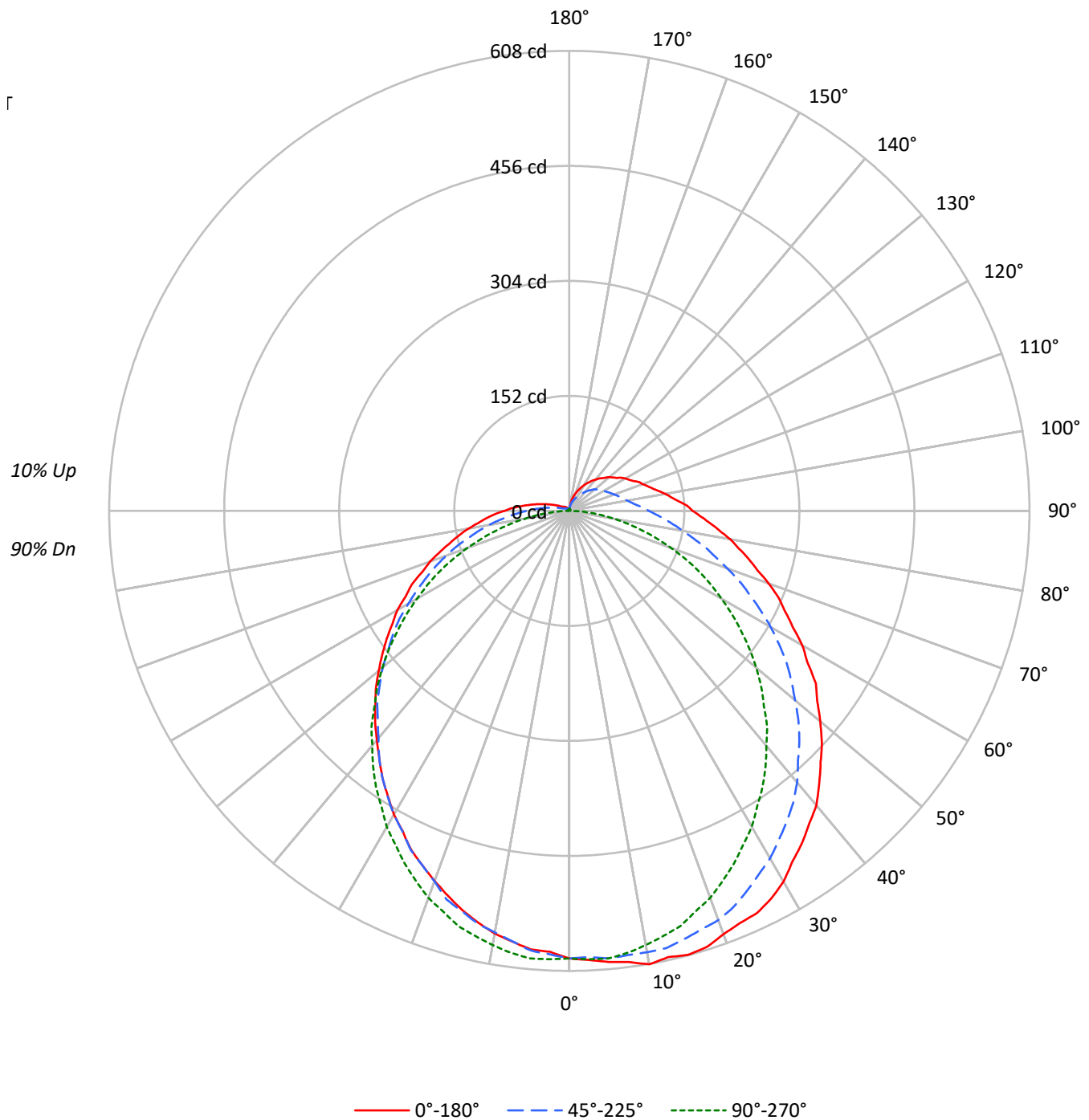
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2034.0 lumens
Efficiency: N/A
Efficacy: 147.4 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.21 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.12')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 5.92
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P893260
CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

Luminous Intensity Polar Plot





TEST NUMBER: P893260
 CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

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	50	30	10	0
RCR																					
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	93	93	93	90
1	105	99	95	90	101	96	92	88	90	87	83	85	82	79	79	77	75	75	75	75	72
2	95	86	79	72	91	83	76	71	78	72	68	73	69	65	69	65	62	62	62	62	59
3	86	75	66	60	83	73	65	58	68	62	56	64	59	54	60	56	52	52	52	52	49
4	79	66	57	50	76	64	56	49	60	53	48	57	51	46	54	49	44	44	44	44	42
5	72	59	50	43	69	57	49	42	54	47	41	51	45	40	48	43	38	38	38	38	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	34	34	34	31
7	62	48	39	33	59	47	38	32	44	37	32	42	36	31	40	34	30	30	30	30	28
8	57	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	24	24	24	22
10	50	37	29	24	49	36	29	23	34	28	23	33	27	22	31	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6025	6025	6025	6025	6025
5°	6101	5887	5829	5784	5932
10°	6258	5763	5564	5505	5832
15°	6350	5642	5317	5274	5710
20°	6380	5524	5036	4999	5575
25°	6496	5347	4740	4771	5474
30°	6536	5176	4459	4524	5350
35°	6520	4990	4163	4286	5236
40°	6579	4797	3860	4017	5123
45°	6559	4569	3560	3814	5061
50°	6610	4334	3273	3580	5018
55°	6757	4130	2944	3346	5001
60°	6869	3876	2606	3097	5069
65°	7105	3603	2263	2849	5181
70°	7686	3341	1856	2612	5359
75°	8636	3150	1419	2337	5730
80°	10732	2964	951	2096	6730
85°	16052	2925	476	1846	9432

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 90°
 Luminance: 52842 cd/sqm



TEST NUMBER: P893260
 CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.1	2.8
10°-20°	160.9	7.9
20°-30°	242.6	11.9
30°-40°	291.2	14.3
40°-50°	303.2	14.9
50°-60°	281.1	13.8
60°-70°	231.5	11.4
70°-80°	167.0	8.2
80°-90°	106.0	5.2
90°-100°	65.3	3.2
100°-110°	43.6	2.1
110°-120°	31.0	1.5
120°-130°	22.7	1.1
130°-140°	15.6	0.8
140°-150°	9.5	0.5
150°-160°	4.7	0.2
160°-170°	1.7	0.1
170°-180°	0.3	0.0
0°-30°	459.6	22.6
0°-40°	750.8	36.9
0°-60°	1335.0	65.6
0°-90°	1839.4	90.4
90°-120°	139.9	6.9
90°-150°	187.8	9.2
90°-180°	195.0	9.6
0°-180°	2034.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	592	592	592	592	592	
5°	598	594	594	583	582	57
15°	607	586	568	548	546	171
25°	587	555	514	495	494	270
35°	536	501	445	430	430	336
45°	470	430	364	359	362	363
55°	398	350	277	284	294	353
65°	315	263	189	208	230	313
75°	245	186	99	138	163	260
85°	187	127	26	80	110	158
90°	163	105	2	57	86	90
95°	145	89	2	38	66	115
105°	114	70	2	16	35	122
115°	94	58	2	7	17	94
125°	76	48	2	6	10	69
135°	61	38	2	4	7	48
145°	47	27	2	3	5	30
155°	32	18	2	2	3	15
165°	19	10	2	2	2	5
175°	3	4	3	1	0	1
180°	2	2	2	2	2	



TEST NUMBER: P893260
 CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6	591.6
2.5°	594.0	595.7	590.1	593.7	593.1	593.7	586.6	592.5	583.3
5°	598.4	599.3	593.7	595.7	593.7	588.6	583.3	581.3	581.8
7.5°	601.4	606.1	592.2	592.8	589.2	583.9	573.9	575.6	574.4
10°	608.5	603.1	592.2	589.5	582.7	577.1	565.6	566.5	567.1
12.5°	604.0	602.8	591.9	582.1	575.3	570.6	558.8	555.8	557.3
15°	607.3	602.3	586.0	578.3	567.9	559.7	547.8	545.8	546.1
17.5°	604.3	600.2	580.1	569.4	554.9	549.9	538.7	535.1	533.3
20°	595.4	593.4	575.6	557.3	544.3	534.5	520.9	518.8	520.3
22.5°	589.5	584.5	566.8	548.4	529.5	520.9	507.3	507.0	507.3
25°	586.6	580.1	554.6	535.4	514.4	506.7	494.9	490.4	494.3
27.5°	577.7	571.8	541.9	520.9	497.5	487.2	477.4	476.5	477.1
30°	565.9	554.3	530.4	504.6	482.2	471.5	463.5	457.6	463.2
32.5°	549.0	542.5	515.3	487.2	462.3	454.9	447.0	446.4	446.4
35°	536.0	531.3	501.1	471.8	445.2	435.1	430.4	428.3	430.4
37.5°	520.9	513.8	486.0	453.2	426.0	417.4	412.6	410.9	412.3
40°	507.9	494.9	468.3	433.9	405.0	397.3	392.2	394.0	395.5
42.5°	488.7	481.3	447.3	414.4	386.9	378.6	374.5	376.0	379.5
45°	469.7	462.9	429.8	394.0	363.5	359.1	358.8	357.9	362.4
47.5°	452.6	442.8	410.6	373.9	344.0	339.0	339.6	342.5	346.4
50°	432.8	421.2	389.3	352.3	322.4	319.2	321.5	323.6	328.6
52.5°	412.9	403.8	369.8	331.9	300.5	298.2	301.4	308.2	311.2
55°	397.6	381.0	350.5	307.9	277.2	277.5	284.0	287.8	294.3
57.5°	373.0	360.6	328.6	286.6	255.3	257.3	266.2	272.7	276.9
60°	355.6	339.9	307.3	263.9	232.2	235.5	245.5	255.3	262.4
62.5°	333.1	319.5	285.2	241.4	210.9	215.6	226.9	238.4	243.4
65°	314.7	299.4	263.3	218.9	188.7	194.3	208.2	221.3	229.5
67.5°	299.1	283.1	243.7	198.2	166.2	174.5	190.8	203.5	210.0
70°	280.4	261.8	221.6	175.1	142.9	152.6	173.3	188.1	195.5
72.5°	260.6	245.5	202.3	153.8	121.3	133.1	155.9	171.3	178.4
75°	245.2	228.4	186.1	132.5	99.4	113.6	138.1	155.6	162.7
77.5°	229.5	214.2	167.7	113.0	79.9	95.8	122.5	141.7	149.1
80°	215.6	197.9	152.3	97.0	59.5	78.4	107.7	126.6	135.2
82.5°	200.3	184.9	139.0	80.2	42.3	62.4	93.2	113.9	121.0
85°	186.7	170.7	126.6	66.9	26.0	48.2	79.9	101.2	109.7
87.5°	174.2	160.9	115.1	56.8	13.0	36.7	67.1	88.7	98.5
90°	163.0	147.9	105.3	47.6	2.4	26.6	56.8	78.1	85.5
92.5°	155.9	137.8	97.3	41.7	1.5	18.9	47.3	68.3	76.9
95°	145.2	129.3	89.0	37.3	1.5	12.7	38.2	58.6	66.0
97.5°	136.1	121.3	83.1	34.6	1.2	8.6	31.4	49.1	56.8
100°	129.0	115.1	77.8	32.2	1.5	6.2	24.8	41.7	48.5
102.5°	121.0	108.3	73.7	30.8	1.5	4.4	19.5	35.2	41.4
105°	113.9	102.6	69.8	29.3	1.5	3.8	15.7	29.0	34.6
107.5°	108.6	96.7	66.6	28.4	1.5	3.8	12.4	23.7	28.4
110°	103.2	92.0	63.3	27.5	1.5	3.5	9.8	19.5	23.7



TEST NUMBER: P893260
 CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	99.7	87.6	60.3	26.6	1.8	3.5	8.0	16.3	19.5
115°	93.5	83.7	57.7	26.3	1.8	3.3	7.4	13.3	16.6
117.5°	89.0	80.2	55.0	25.4	1.8	3.3	7.1	10.9	13.3
120°	85.8	76.0	52.7	24.6	1.8	3.0	6.5	9.8	11.2
122.5°	81.6	72.2	50.6	24.0	1.8	3.0	6.2	9.2	10.1
125°	76.0	68.6	48.2	22.8	2.1	3.0	5.9	8.6	9.5
127.5°	72.5	65.4	46.4	21.3	2.1	2.7	5.6	8.0	8.9
130°	69.5	61.8	44.4	19.8	2.1	2.7	5.3	7.4	8.3
132.5°	65.1	58.3	41.4	18.6	2.1	2.4	4.7	6.8	7.7
135°	60.9	55.3	38.5	17.5	2.1	2.4	4.4	6.5	7.1
137.5°	58.3	52.4	35.8	16.3	2.1	2.1	4.1	5.9	6.5
140°	53.8	49.1	32.8	15.1	2.1	2.1	3.8	5.6	5.9
142.5°	50.6	45.8	30.2	13.9	2.1	2.1	3.5	5.0	5.6
145°	46.7	42.6	27.2	12.7	2.1	1.8	3.3	4.7	5.0
147.5°	43.2	38.8	24.8	11.8	2.1	1.8	3.0	4.1	4.4
150°	39.6	34.9	22.5	10.9	2.1	1.8	2.7	3.5	4.1
152.5°	35.8	30.2	20.1	10.1	2.1	1.8	2.4	3.3	3.5
155°	31.9	26.3	18.0	9.2	2.4	1.8	2.1	2.7	3.3
157.5°	28.7	22.8	16.0	8.3	2.4	1.5	2.1	2.4	2.7
160°	24.8	19.5	14.2	7.4	2.4	1.5	1.8	2.1	2.4
162.5°	21.9	16.3	12.4	6.8	2.4	1.5	1.8	1.8	2.1
165°	18.6	13.6	10.4	6.2	2.4	1.5	1.5	1.5	1.8
167.5°	15.1	10.6	8.6	5.6	2.4	1.5	1.5	1.2	1.5
170°	11.2	8.0	7.1	5.0	2.4	1.5	1.2	0.9	1.2
172.5°	5.0	6.2	5.6	4.4	2.7	1.5	1.2	0.9	0.6
175°	2.7	4.4	4.4	3.8	2.7	1.5	1.2	0.9	0.3
177.5°	2.1	2.7	3.3	3.3	2.7	1.8	1.2	0.6	0.3
180°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8



TEST NUMBER: P893260
 CATALOG NUMBER: 4MB-2SL-ASMF-UNV-L850

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.60	18.08	17.11	18.58	19.13	15.57	17.05	16.08	17.55	18.10
	3H	18.69	20.04	19.21	20.55	21.13	17.45	18.79	17.96	19.30	19.89
	4H	19.63	20.91	20.17	21.44	22.03	18.19	19.47	18.73	20.00	20.59
	6H	20.55	21.74	21.10	22.28	22.89	18.82	20.01	19.38	20.55	21.17
	8H	20.98	22.12	21.55	22.68	23.30	19.08	20.22	19.64	20.78	21.40
	12H	21.40	22.49	21.97	23.05	23.70	19.31	20.40	19.88	20.96	21.61
4H	2H	17.10	18.37	17.64	18.90	19.50	16.14	17.41	16.68	17.94	18.54
	3H	19.41	20.50	19.96	21.07	21.69	18.20	19.28	18.75	19.85	20.47
	4H	20.52	21.52	21.10	22.10	22.75	19.05	20.05	19.62	20.62	21.27
	6H	21.63	22.51	22.22	23.11	23.77	19.81	20.68	20.40	21.29	21.95
	8H	22.16	22.98	22.75	23.59	24.26	20.12	20.95	20.72	21.55	22.23
	12H	22.68	23.43	23.30	24.07	24.75	20.41	21.16	21.03	21.79	22.48
8H	4H	20.78	21.61	21.38	22.21	22.88	19.39	20.21	19.99	20.82	21.49
	6H	22.06	22.76	22.69	23.41	24.09	20.27	20.97	20.90	21.62	22.30
	8H	22.73	23.36	23.37	24.02	24.71	20.67	21.30	21.31	21.96	22.65
	12H	23.44	24.00	24.08	24.64	25.40	21.06	21.62	21.70	22.27	23.02
12H	4H	20.80	21.55	21.42	22.18	22.86	19.45	20.20	20.07	20.83	21.51
	6H	22.12	22.75	22.76	23.40	24.10	20.38	21.01	21.02	21.67	22.36
	8H	22.86	23.42	23.50	24.07	24.82	20.85	21.41	21.49	22.05	22.81