

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: P893487

Luminaire Tested: 4MB-4SL-ASMF-UNV-L940

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893487  
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-4SL-ASMF-UNV-L940  
Description: 4000 Lumen 4FT MICROBAY LINEAR BAY with FROSTED ASYMMETRIC LENS, 90CRI, 4000K CCT  
Light Source: -  
Ballast/Driver: -

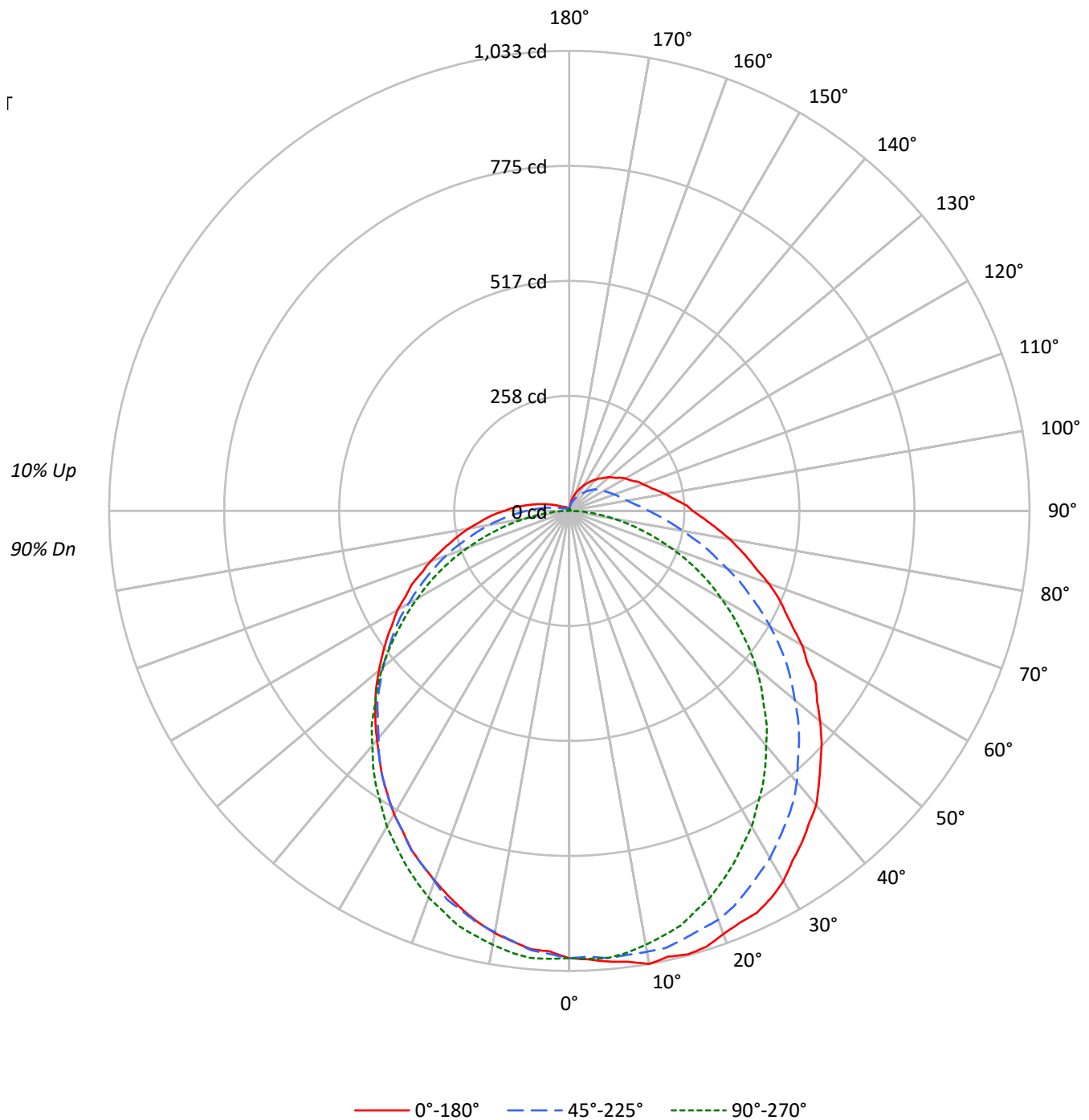
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3453.0 lumens  
Efficiency: N/A  
Efficacy: 115.9 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): 29.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5.5  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P893487  
CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

### Luminous Intensity Polar Plot





TEST NUMBER: P893487  
 CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

**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	61	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°	10228	10228	10228	10228	10228
5°	10357	9993	9895	9819	10071
10°	10624	9784	9447	9344	9901
15°	10779	9578	9028	8954	9692
20°	10832	9379	8550	8487	9465
25°	11028	9078	8047	8100	9293
30°	11095	8788	7569	7680	9083
35°	11069	8471	7068	7276	8889
40°	11168	8143	6553	6821	8697
45°	11135	7755	6045	6474	8591
50°	11220	7357	5557	6078	8520
55°	11469	7012	4996	5680	8492
60°	11660	6580	4424	5257	8604
65°	12063	6115	3843	4837	8798
70°	13050	5670	3149	4436	9098
75°	14662	5347	2408	3969	9728
80°	18224	5033	1613	3558	11424
85°	27246	4965	810	3133	16018

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 89702 cd/sqm



TEST NUMBER: P893487  
 CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.3	2.8
10°-20°	273.1	7.9
20°-30°	411.8	11.9
30°-40°	494.3	14.3
40°-50°	514.7	14.9
50°-60°	477.1	13.8
60°-70°	392.9	11.4
70°-80°	283.4	8.2
80°-90°	179.9	5.2
90°-100°	110.9	3.2
100°-110°	74.0	2.1
110°-120°	52.7	1.5
120°-130°	38.6	1.1
130°-140°	26.5	0.8
140°-150°	16.1	0.5
150°-160°	8.0	0.2
160°-170°	2.9	0.1
170°-180°	0.5	0.0
0°-30°	780.2	22.6
0°-40°	1274.6	36.9
0°-60°	2266.4	65.6
0°-90°	3122.7	90.4
90°-120°	237.6	6.9
90°-150°	318.8	9.2
90°-180°	330.0	9.6
0°-180°	3453.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1004	1004	1004	1004	1004	
5°	1016	1008	1008	990	988	97
15°	1031	995	964	930	927	291
25°	996	942	873	840	839	458
35°	910	851	756	731	731	570
45°	797	730	617	609	615	617
55°	675	595	470	482	500	600
65°	534	447	320	354	390	532
75°	416	316	169	234	276	441
85°	317	215	44	136	186	269
90°	277	179	4	96	145	153
95°	247	151	2	65	112	196
105°	193	118	2	27	59	206
115°	159	98	3	13	28	159
125°	129	82	4	10	16	117
135°	103	65	4	8	12	81
145°	79	46	4	6	8	50
155°	54	31	4	4	6	26
165°	32	18	4	2	3	9
175°	4	8	4	2	0	1
180°	3	3	3	3	3	



TEST NUMBER: P893487  
 CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3
2.5°	1008.3	1011.4	1001.8	1007.8	1006.8	1007.8	995.8	1005.8	990.3
5°	1015.9	1017.4	1007.8	1011.4	1007.8	999.3	990.3	986.8	987.8
7.5°	1020.9	1028.9	1005.3	1006.3	1000.3	991.3	974.2	977.2	975.2
10°	1033.0	1023.9	1005.3	1000.8	989.3	979.7	960.1	961.6	962.7
12.5°	1025.4	1023.4	1004.8	988.3	976.7	968.7	948.6	943.6	946.1
15°	1030.9	1022.4	994.8	981.7	964.2	950.1	930.0	926.5	927.0
17.5°	1025.9	1018.9	984.7	966.7	942.1	933.5	914.4	908.4	905.4
20°	1010.9	1007.3	977.2	946.1	924.0	907.4	884.3	880.8	883.3
22.5°	1000.8	992.3	962.1	931.0	898.9	884.3	861.2	860.7	861.2
25°	995.8	984.7	941.6	908.9	873.3	860.2	840.1	832.6	839.1
27.5°	980.7	970.7	920.0	884.3	844.6	827.1	810.5	809.0	810.0
30°	960.6	941.1	900.4	856.7	818.5	800.5	786.9	776.8	786.4
32.5°	932.0	921.0	874.8	827.1	784.9	772.3	758.8	757.8	757.8
35°	909.9	901.9	850.7	801.0	755.8	738.7	730.7	727.1	730.7
37.5°	884.3	872.3	825.1	769.3	723.1	708.6	700.5	697.5	700.0
40°	862.2	840.1	794.9	736.7	687.5	674.4	665.9	668.9	671.4
42.5°	829.6	817.0	759.3	703.5	656.8	642.8	635.7	638.3	644.3
45°	797.4	785.9	729.6	668.9	617.2	609.6	609.1	607.6	615.2
47.5°	768.3	751.7	697.0	634.7	584.0	575.5	576.5	581.5	588.0
50°	734.7	715.1	660.8	598.1	547.4	541.8	545.9	549.4	557.9
52.5°	701.0	685.5	627.7	563.4	510.2	506.2	511.7	523.3	528.3
55°	674.9	646.8	595.1	522.8	470.5	471.0	482.1	488.6	499.7
57.5°	633.2	612.1	557.9	486.6	433.4	436.9	451.9	463.0	470.0
60°	603.6	577.0	521.7	447.9	394.2	399.7	416.8	433.4	445.4
62.5°	565.4	542.3	484.1	409.8	358.0	366.1	385.2	404.7	413.3
65°	534.3	508.2	446.9	371.6	320.4	329.9	353.5	375.6	389.7
67.5°	507.7	480.6	413.8	336.5	282.2	296.3	323.9	345.5	356.5
70°	476.1	444.4	376.1	297.3	242.5	259.1	294.3	319.4	331.9
72.5°	442.4	416.8	343.5	261.1	205.9	226.0	264.6	290.8	302.8
75°	416.3	387.7	315.9	225.0	168.7	192.8	234.5	264.1	276.2
77.5°	389.7	363.6	284.7	191.8	135.6	162.7	207.9	240.5	253.1
80°	366.1	335.9	258.6	164.7	100.9	133.1	182.8	214.9	229.5
82.5°	340.0	313.9	236.0	136.1	71.8	106.0	158.2	193.3	205.4
85°	316.9	289.7	214.9	113.5	44.2	81.9	135.6	171.7	186.3
87.5°	295.8	273.2	195.3	96.4	22.1	62.3	114.0	150.6	167.2
90°	276.7	251.1	178.8	80.8	4.0	45.2	96.4	132.6	145.1
92.5°	264.6	234.0	165.2	70.8	2.5	32.1	80.3	116.0	130.6
95°	246.6	219.4	151.2	63.3	2.5	21.6	64.8	99.4	112.0
97.5°	231.0	205.9	141.1	58.8	2.0	14.6	53.2	83.4	96.4
100°	218.9	195.3	132.1	54.7	2.5	10.5	42.2	70.8	82.4
102.5°	205.4	183.8	125.0	52.2	2.5	7.5	33.1	59.8	70.3
105°	193.3	174.3	118.5	49.7	2.5	6.5	26.6	49.2	58.8
107.5°	184.3	164.2	113.0	48.2	2.5	6.5	21.1	40.2	48.2
110°	175.3	156.2	107.5	46.7	2.5	6.0	16.6	33.1	40.2



TEST NUMBER: P893487  
 CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	169.2	148.6	102.4	45.2	3.0	6.0	13.6	27.6	33.1
115°	158.7	142.1	97.9	44.7	3.0	5.5	12.6	22.6	28.1
117.5°	151.2	136.1	93.4	43.2	3.0	5.5	12.1	18.6	22.6
120°	145.6	129.1	89.4	41.7	3.0	5.0	11.0	16.6	19.1
122.5°	138.6	122.5	85.9	40.7	3.0	5.0	10.5	15.6	17.1
125°	129.1	116.5	81.9	38.7	3.5	5.0	10.0	14.6	16.1
127.5°	123.0	111.0	78.8	36.2	3.5	4.5	9.5	13.6	15.1
130°	118.0	105.0	75.3	33.6	3.5	4.5	9.0	12.6	14.1
132.5°	110.5	98.9	70.3	31.6	3.5	4.0	8.0	11.5	13.1
135°	103.4	93.9	65.3	29.6	3.5	4.0	7.5	11.0	12.1
137.5°	98.9	88.9	60.8	27.6	3.5	3.5	7.0	10.0	11.0
140°	91.4	83.4	55.7	25.6	3.5	3.5	6.5	9.5	10.0
142.5°	85.9	77.8	51.2	23.6	3.5	3.5	6.0	8.5	9.5
145°	79.3	72.3	46.2	21.6	3.5	3.0	5.5	8.0	8.5
147.5°	73.3	65.8	42.2	20.1	3.5	3.0	5.0	7.0	7.5
150°	67.3	59.3	38.2	18.6	3.5	3.0	4.5	6.0	7.0
152.5°	60.8	51.2	34.1	17.1	3.5	3.0	4.0	5.5	6.0
155°	54.2	44.7	30.6	15.6	4.0	3.0	3.5	4.5	5.5
157.5°	48.7	38.7	27.1	14.1	4.0	2.5	3.5	4.0	4.5
160°	42.2	33.1	24.1	12.6	4.0	2.5	3.0	3.5	4.0
162.5°	37.2	27.6	21.1	11.5	4.0	2.5	3.0	3.0	3.5
165°	31.6	23.1	17.6	10.5	4.0	2.5	2.5	2.5	3.0
167.5°	25.6	18.1	14.6	9.5	4.0	2.5	2.5	2.0	2.5
170°	19.1	13.6	12.1	8.5	4.0	2.5	2.0	1.5	2.0
172.5°	8.5	10.5	9.5	7.5	4.5	2.5	2.0	1.5	1.0
175°	4.5	7.5	7.5	6.5	4.5	2.5	2.0	1.5	0.5
177.5°	3.5	4.5	5.5	5.5	4.5	3.0	2.0	1.0	0.5
180°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0



TEST NUMBER: P893487  
 CATALOG NUMBER: 4MB-4SL-ASMF-UNV-L940

**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	18.44	19.92	18.95	20.42	20.97	17.41	18.89	17.92	19.39	19.94
	3H	20.53	21.88	21.05	22.39	22.97	19.28	20.63	19.80	21.14	21.73
	4H	21.47	22.75	22.01	23.28	23.87	20.03	21.31	20.57	21.84	22.43
	6H	22.39	23.58	22.94	24.12	24.73	20.66	21.85	21.22	22.39	23.01
	8H	22.82	23.96	23.38	24.52	25.14	20.92	22.06	21.48	22.62	23.24
	12H	23.24	24.33	23.81	24.89	25.54	21.15	22.24	21.72	22.80	23.45
4H	2H	18.94	20.21	19.48	20.74	21.34	17.98	19.25	18.52	19.78	20.38
	3H	21.25	22.34	21.80	22.91	23.52	20.04	21.12	20.59	21.69	22.31
	4H	22.36	23.36	22.93	23.94	24.59	20.89	21.88	21.46	22.46	23.11
	6H	23.47	24.35	24.06	24.95	25.61	21.65	22.52	22.24	23.13	23.79
	8H	23.99	24.82	24.59	25.42	26.10	21.96	22.79	22.56	23.39	24.06
	12H	24.52	25.27	25.14	25.90	26.58	22.25	23.00	22.87	23.63	24.31
8H	4H	22.62	23.45	23.22	24.05	24.72	21.23	22.05	21.82	22.66	23.33
	6H	23.90	24.60	24.53	25.25	25.93	22.11	22.81	22.74	23.46	24.14
	8H	24.57	25.20	25.21	25.86	26.55	22.51	23.14	23.15	23.80	24.49
	12H	25.27	25.84	25.92	26.48	27.24	22.90	23.46	23.54	24.11	24.86
12H	4H	22.64	23.39	23.26	24.02	24.70	21.29	22.04	21.91	22.67	23.35
	6H	23.96	24.59	24.60	25.24	25.94	22.22	22.85	22.86	23.51	24.20
	8H	24.70	25.26	25.34	25.91	26.66	22.68	23.25	23.33	23.89	24.65