

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: P893253

Luminaire Tested: 4MB-2SL-AOL-UNV-L930

Issue Date: 11/11/2024

**Test Information**

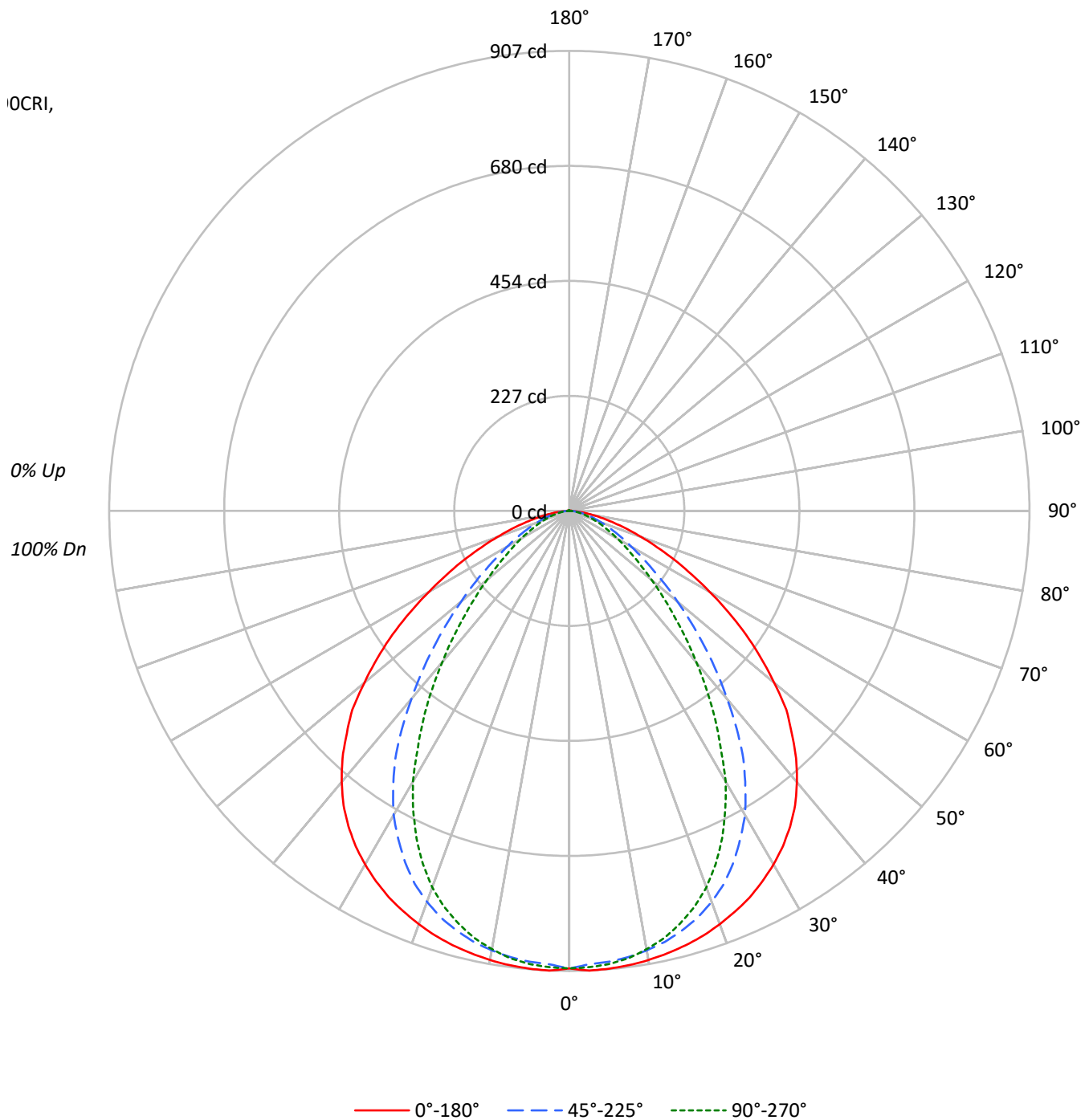
Test Method: LM-79-2019  
Report Number: P893253  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-AOL-UNV-L930  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9  
3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1802.0 lumens  
Efficiency: N/A  
Efficacy: 130.6 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.06 / 1.16  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	89	85	100	93	88	84	90	85	82	87	83	80	84	81	78	78	78	78	76
3	94	85	78	73	92	84	77	72	81	75	71	78	73	70	76	72	68	68	68	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	60	60	60	58
5	81	70	62	56	79	69	61	55	66	60	55	65	59	54	63	58	54	54	54	54	52
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	43	43	43	43	42
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	39	39	39	38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	36	36	36	34
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	37	33	33	33	33	31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9187	9187	9187
5°	9262	9121	9169
10°	9299	9098	9075
15°	9348	9034	8884
20°	9397	8888	8560
25°	9450	8599	8005
30°	9467	8146	7249
35°	9436	7441	6235
40°	9278	6440	5181
45°	8934	5411	4193
50°	8359	4408	3357
55°	7553	3542	2692
60°	6514	2882	2230
65°	5514	2400	1834
70°	4499	2043	1557
75°	3604	1720	1322
80°	2809	1472	1138
85°	2173	1297	1028

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8934 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.4	4.7
10°-20°	243.1	13.5
20°-30°	354.3	19.7
30°-40°	381.9	21.2
40°-50°	320.2	17.8
50°-60°	216.7	12.0
60°-70°	123.6	6.9
70°-80°	56.5	3.1
80°-90°	14.8	0.8
90°-100°	1.8	0.1
100°-110°	1.2	0.1
110°-120°	0.7	0.0
120°-130°	0.4	0.0
130°-140°	0.4	0.0
140°-150°	0.3	0.0
150°-160°	0.3	0.0
160°-170°	0.2	0.0
170°-180°	0.1	0.0
<b>0°-30°</b>	<b>682.8</b>	<b>37.9</b>
<b>0°-40°</b>	<b>1064.7</b>	<b>59.1</b>
<b>0°-60°</b>	<b>1601.6</b>	<b>88.9</b>
<b>0°-90°</b>	<b>1796.6</b>	<b>99.7</b>
90°-120°	3.7	0.2
90°-150°	4.8	0.3
<b>90°-180°</b>	<b>5.0</b>	<b>0.3</b>
<b>0°-180°</b>	<b>1802.0</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	902	902	902	902	902	
5°	906	903	892	900	897	86
15°	887	879	857	851	843	250
25°	841	819	765	730	712	387
35°	759	702	598	525	502	474
45°	620	518	376	310	291	477
55°	425	311	200	162	152	379
65°	229	159	100	81	76	228
75°	92	67	44	36	34	100
85°	19	16	11	9	9	22
90°	3	3	2	1	1	3
95°	4	2	1	1	1	3
105°	3	2	1	0	0	3
115°	1	1	0	0	0	1
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	1	1	0
165°	0	1	1	1	1	0
175°	1	1	1	1	1	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	902.1	902.1	902.1	902.1	902.1
2.5°	907.3	904.9	894.6	903.1	900.5
5°	906.0	903.1	892.2	899.5	896.9
7.5°	903.4	899.8	887.6	893.0	889.7
10°	899.2	894.8	879.8	882.9	877.5
12.5°	893.5	888.1	870.3	869.5	863.0
15°	886.6	878.8	856.8	851.1	842.6
17.5°	878.0	868.2	840.8	829.4	819.0
20°	867.1	854.5	820.1	801.9	789.8
22.5°	854.7	837.6	796.0	767.0	753.8
25°	841.0	818.8	765.2	730.0	712.4
27.5°	823.9	796.0	729.5	683.9	665.8
30°	805.0	769.6	692.7	634.5	616.4
32.5°	783.6	739.3	645.9	581.2	555.8
35°	759.0	701.8	598.5	525.3	501.5
37.5°	731.3	662.7	541.9	468.9	444.8
40°	697.9	616.4	484.4	412.2	389.7
42.5°	661.9	569.3	429.3	358.4	339.0
45°	620.3	517.5	375.7	309.8	291.1
47.5°	580.2	465.3	325.5	265.2	250.0
50°	527.6	409.6	278.2	224.6	211.9
52.5°	476.4	358.1	237.8	192.0	180.1
55°	425.4	311.3	199.5	161.7	151.6
57.5°	371.6	265.5	167.9	136.9	130.2
60°	319.8	225.9	141.5	114.9	109.5
62.5°	272.5	189.4	119.8	97.0	91.9
65°	228.8	159.1	99.6	80.7	76.1
67.5°	187.4	130.9	83.1	67.3	63.9
70°	151.1	106.1	68.6	55.4	52.3
72.5°	119.8	84.9	54.9	45.3	41.9
75°	91.6	67.3	43.7	35.7	33.6
77.5°	68.3	50.7	33.6	27.4	25.9
80°	47.9	36.7	25.1	20.7	19.4
82.5°	32.6	25.4	17.6	14.5	13.7
85°	18.6	15.8	11.1	9.3	8.8
87.5°	9.6	8.3	6.0	4.4	3.9
90°	2.6	2.6	1.6	1.3	1.0
92.5°	4.1	2.3	1.6	1.0	0.8
95°	3.9	2.3	1.3	0.8	0.8
97.5°	3.6	2.3	1.0	0.8	0.5
100°	3.4	2.1	1.0	0.5	0.5
102.5°	3.1	2.1	1.0	0.5	0.5
105°	2.6	1.8	0.8	0.5	0.3
107.5°	2.3	1.6	0.8	0.5	0.3
110°	1.8	1.3	0.8	0.5	0.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	1.3	0.5	0.5	0.3
115°	1.3	1.0	0.5	0.3	0.3
117.5°	1.0	0.8	0.5	0.3	0.3
120°	0.8	0.8	0.5	0.3	0.3
122.5°	0.8	0.5	0.5	0.3	0.3
125°	0.5	0.5	0.5	0.3	0.3
127.5°	0.5	0.5	0.5	0.3	0.3
130°	0.5	0.5	0.5	0.3	0.3
132.5°	0.5	0.5	0.5	0.5	0.3
135°	0.3	0.5	0.5	0.5	0.3
137.5°	0.5	0.5	0.5	0.5	0.5
140°	0.5	0.5	0.5	0.5	0.5
142.5°	0.5	0.5	0.5	0.5	0.5
145°	0.5	0.5	0.5	0.5	0.5
147.5°	0.5	0.5	0.5	0.5	0.5
150°	0.5	0.5	0.5	0.5	0.5
152.5°	0.5	0.5	0.5	0.5	0.5
155°	0.5	0.5	0.5	0.8	0.8
157.5°	0.5	0.5	0.8	0.8	0.8
160°	0.5	0.5	0.8	0.8	0.8
162.5°	0.5	0.5	0.8	0.8	0.8
165°	0.5	0.8	0.8	0.8	0.8
167.5°	0.5	0.8	0.8	0.8	1.0
170°	0.5	0.8	0.8	1.0	1.0
172.5°	0.5	0.8	0.8	1.0	1.0
175°	0.8	0.8	0.8	1.0	1.0
177.5°	0.8	0.8	0.8	1.0	1.0
180°	0.8	0.8	0.8	0.8	0.8



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**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	18.07	19.51	18.45	19.83	20.16	12.92	14.36	13.29	14.68	15.00
	3H	19.38	20.66	19.77	21.00	21.37	13.93	15.21	14.31	15.55	15.92
	4H	19.81	21.01	20.21	21.36	21.75	14.26	15.46	14.67	15.82	16.21
	6H	20.07	21.18	20.49	21.55	21.95	14.49	15.59	14.91	15.97	16.37
	8H	20.15	21.19	20.58	21.59	22.00	14.56	15.61	14.99	16.00	16.41
	12H	20.18	21.19	20.62	21.58	22.01	14.60	15.60	15.04	15.99	16.43
4H	2H	18.07	19.27	18.48	19.63	20.01	13.54	14.74	13.95	15.10	15.48
	3H	19.54	20.53	19.96	20.93	21.34	14.74	15.73	15.16	16.13	16.54
	4H	20.06	20.95	20.50	21.37	21.82	15.15	16.04	15.59	16.46	16.91
	6H	20.44	21.21	20.90	21.66	22.13	15.46	16.23	15.93	16.68	17.15
	8H	20.55	21.27	21.02	21.72	22.20	15.56	16.27	16.03	16.72	17.20
	12H	20.63	21.27	21.12	21.75	22.23	15.63	16.27	16.12	16.75	17.23
8H	4H	20.04	20.76	20.52	21.21	21.69	15.49	16.20	15.96	16.65	17.13
	6H	20.48	21.07	20.98	21.56	22.05	15.88	16.47	16.38	16.97	17.45
	8H	20.63	21.16	21.15	21.68	22.18	16.02	16.55	16.54	17.07	17.57
	12H	20.76	21.23	21.28	21.73	22.30	16.14	16.61	16.66	17.11	17.69
12H	4H	20.02	20.65	20.51	21.14	21.62	15.53	16.17	16.02	16.66	17.14
	6H	20.44	20.97	20.97	21.49	21.99	15.95	16.48	16.47	16.99	17.49
	8H	20.63	21.10	21.15	21.60	22.17	16.14	16.61	16.65	17.10	17.68