

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: P893241

Luminaire Tested: 4MB-2SL-ACL-UNV-L830

Issue Date: 11/11/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P893241  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-ACL-UNV-L830  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 3000K (C)  
Light Source: -  
Ballast/Driver: -

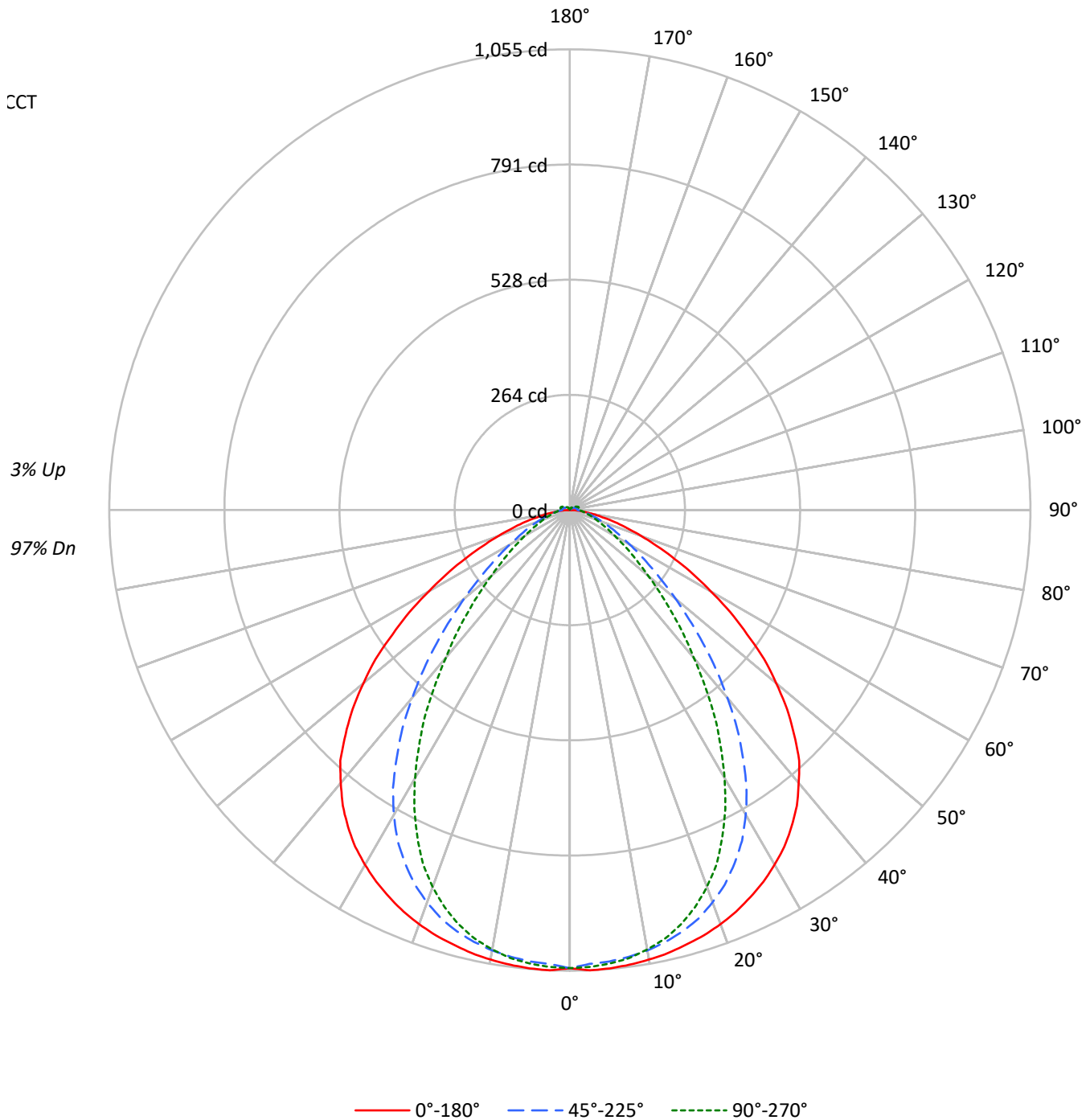
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2152.0 lumens  
Efficiency: N/A  
Efficacy: 155.9 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.06 / 1.16  
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')  
CIE Type: Direct

Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (Ain): 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				
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	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97			97
1	110	106	102	99	107	103	100	97	99	96	93	94	92	90	90	89	87	85			85
2	101	94	88	84	99	92	87	82	88	84	80	85	81	78	82	79	76	74			74
3	94	85	77	72	91	83	76	71	80	74	69	77	72	68	74	70	66	64			64
4	87	76	68	62	84	75	67	62	72	66	61	69	64	60	67	63	59	57			57
5	80	69	61	55	78	68	60	55	65	59	54	63	58	53	61	56	52	50			50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	47	56	51	47	45			45
7	70	57	50	44	68	57	49	44	55	48	43	53	47	43	52	46	42	40			40
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	42	38	37			37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33			33
10	58	45	38	33	56	45	38	33	44	37	33	43	37	32	42	36	32	31			31

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

	0°	45°	90°
0°	10683	10683	10683
5°	10751	10393	10377
10°	10771	10168	10013
15°	10803	9904	9557
20°	10856	9540	8934
25°	10888	9035	8104
30°	10899	8340	7060
35°	10851	7370	5905
40°	10660	6225	4648
45°	10249	5026	3604
50°	9541	3899	2703
55°	8543	2985	2068
60°	7337	2294	1575
65°	6118	1810	1252
70°	4894	1453	1024
75°	3898	1170	870
80°	2857	967	762
85°	1961	820	701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10249 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.4	4.6
10°-20°	283.1	13.2
20°-30°	412.7	19.2
30°-40°	443.4	20.6
40°-50°	369.0	17.1
50°-60°	246.8	11.5
60°-70°	141.3	6.6
70°-80°	70.2	3.3
80°-90°	28.7	1.3
90°-100°	16.7	0.8
100°-110°	14.7	0.7
110°-120°	10.8	0.5
120°-130°	7.0	0.3
130°-140°	4.1	0.2
140°-150°	2.3	0.1
150°-160°	1.2	0.1
160°-170°	0.5	0.0
170°-180°	0.1	0.0
0°-30°	795.1	36.9
0°-40°	1238.5	57.6
0°-60°	1854.3	86.2
0°-90°	2094.6	97.3
90°-120°	42.2	2.0
90°-150°	55.6	2.6
90°-180°	57.0	2.6
0°-180°	2152.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1054	1050	1038	1046	1043	100
15°	1030	1023	999	992	983	291
25°	978	955	893	848	827	451
35°	886	821	691	606	579	553
45°	726	604	432	349	329	559
55°	496	357	225	178	169	444
65°	265	180	113	92	87	265
75°	107	78	56	50	48	115
85°	21	23	26	27	28	24
90°	3	10	18	21	22	3
95°	5	10	17	21	22	4
105°	3	8	16	20	21	3
115°	2	5	12	17	18	1
125°	1	3	8	12	14	1
135°	1	2	6	8	9	0
145°	1	2	4	6	6	0
155°	1	2	2	3	4	0
165°	1	1	2	2	3	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°	1049.0	1049.0	1049.0	1049.0	1049.0
2.5°	1055.2	1052.4	1040.5	1050.0	1047.2
5°	1053.6	1050.3	1037.7	1046.3	1042.9
7.5°	1050.3	1046.6	1032.2	1038.9	1035.3
10°	1045.4	1040.8	1024.3	1027.6	1021.8
12.5°	1039.3	1033.4	1012.9	1012.0	1005.6
15°	1030.4	1023.3	998.9	991.5	982.6
17.5°	1021.2	1010.8	980.8	965.8	953.6
20°	1009.3	995.5	956.0	933.7	918.4
22.5°	995.5	976.8	928.2	893.9	878.0
25°	978.4	955.1	892.7	847.7	826.6
27.5°	960.0	929.1	854.1	795.0	770.9
30°	938.0	899.7	806.1	735.1	709.1
32.5°	914.7	862.4	753.4	672.0	643.6
35°	885.6	821.4	691.0	605.9	579.3
37.5°	854.1	772.4	629.2	538.3	508.3
40°	815.9	720.7	561.2	471.3	441.6
42.5°	777.9	664.4	496.1	410.7	385.0
45°	726.5	603.8	431.5	349.2	328.7
47.5°	674.8	538.9	369.7	299.3	279.1
50°	617.2	475.3	315.5	251.2	234.4
52.5°	561.2	415.9	266.2	212.4	198.0
55°	495.5	357.4	224.9	177.8	168.6
57.5°	436.1	303.3	189.7	150.6	142.0
60°	373.3	257.1	158.8	127.3	119.3
62.5°	318.3	216.1	133.7	108.0	102.5
65°	265.3	179.9	113.2	91.8	86.9
67.5°	216.7	150.3	95.5	78.3	74.4
70°	173.8	121.8	80.5	66.7	64.0
72.5°	136.8	97.9	67.0	57.5	55.1
75°	106.8	77.7	56.0	49.6	48.0
77.5°	77.1	60.6	46.8	42.5	41.6
80°	54.5	45.9	38.6	36.7	36.1
82.5°	36.1	33.4	31.8	31.8	31.5
85°	20.8	23.3	26.0	27.2	27.5
87.5°	10.7	15.6	20.8	23.3	23.6
90°	3.1	9.8	17.7	21.1	21.7
92.5°	4.6	9.8	17.4	21.1	21.7
95°	4.6	9.8	17.4	21.1	21.7
97.5°	4.3	9.5	17.4	21.1	21.7
100°	4.0	8.9	17.1	21.1	21.7
102.5°	3.4	8.6	16.5	20.8	21.7
105°	3.1	8.0	15.6	20.5	21.4
107.5°	2.8	6.7	14.7	19.6	20.8
110°	2.1	5.8	14.1	18.7	20.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	5.2	13.2	17.7	19.3
115°	1.5	4.6	12.2	16.8	18.4
117.5°	1.2	4.3	11.0	15.6	17.1
120°	0.9	4.0	10.1	14.7	15.9
122.5°	0.9	3.7	8.9	13.5	14.7
125°	0.9	3.1	8.3	12.2	13.5
127.5°	0.6	2.8	7.3	11.0	12.2
130°	0.6	2.8	6.7	10.1	11.0
132.5°	0.6	2.4	6.1	9.2	10.1
135°	0.6	2.4	5.5	8.3	9.2
137.5°	0.6	2.1	4.9	7.7	8.6
140°	0.6	2.1	4.6	6.7	7.7
142.5°	0.6	1.8	4.0	6.4	7.0
145°	0.6	1.8	3.7	5.5	6.4
147.5°	0.6	1.8	3.4	5.2	5.8
150°	0.6	1.5	3.1	4.3	5.2
152.5°	0.6	1.5	2.8	4.0	4.9
155°	0.6	1.5	2.4	3.4	4.3
157.5°	0.6	1.5	2.4	3.1	3.7
160°	0.9	1.2	2.1	2.8	3.4
162.5°	0.9	1.2	1.8	2.4	3.1
165°	0.9	1.2	1.8	2.1	2.8
167.5°	0.9	1.2	1.5	1.8	2.1
170°	0.9	0.9	1.5	1.5	1.5
172.5°	0.9	0.9	1.2	1.5	1.2
175°	0.9	0.9	1.2	1.2	1.2
177.5°	0.9	0.9	1.2	1.2	1.2
180°	0.9	0.9	0.9	0.9	0.9



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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	16.97	18.36	17.38	18.73	19.11	12.26	13.65	12.67	14.02	14.41
	3H	18.06	19.30	18.48	19.69	20.12	13.40	14.64	13.83	15.03	15.46
	4H	18.36	19.53	18.81	19.93	20.38	13.90	15.06	14.35	15.47	15.92
	6H	18.51	19.58	18.97	20.01	20.46	14.40	15.47	14.86	15.90	16.36
	8H	18.53	19.55	19.00	19.99	20.46	14.66	15.68	15.13	16.12	16.59
	12H	18.52	19.50	19.00	19.93	20.43	14.95	15.93	15.43	16.37	16.86
4H	2H	16.95	18.11	17.39	18.52	18.96	12.76	13.92	13.20	14.33	14.77
	3H	18.18	19.14	18.64	19.60	20.07	14.07	15.03	14.53	15.49	15.95
	4H	18.57	19.43	19.05	19.90	20.40	14.66	15.53	15.14	16.00	16.50
	6H	18.80	19.55	19.30	20.04	20.57	15.28	16.03	15.79	16.53	17.05
	8H	18.84	19.54	19.35	20.04	20.57	15.61	16.31	16.12	16.80	17.33
	12H	18.85	19.48	19.38	20.01	20.54	15.98	16.60	16.51	17.13	17.67
8H	4H	18.55	19.26	19.06	19.75	20.28	14.90	15.61	15.41	16.10	16.63
	6H	18.83	19.41	19.37	19.95	20.49	15.63	16.21	16.17	16.75	17.29
	8H	18.90	19.43	19.46	19.98	20.54	16.03	16.55	16.59	17.11	17.66
	12H	18.95	19.41	19.51	19.95	20.58	16.52	16.98	17.08	17.52	18.15
12H	4H	18.53	19.16	19.06	19.69	20.22	14.92	15.54	15.45	16.07	16.61
	6H	18.81	19.33	19.37	19.89	20.44	15.66	16.19	16.22	16.74	17.29
	8H	18.92	19.38	19.47	19.92	20.55	16.12	16.59	16.68	17.13	17.75