

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: P893589

Luminaire Tested: 4MB-5SL-AOL-UNV-L930

Issue Date: 11/11/2024

**Test Information**

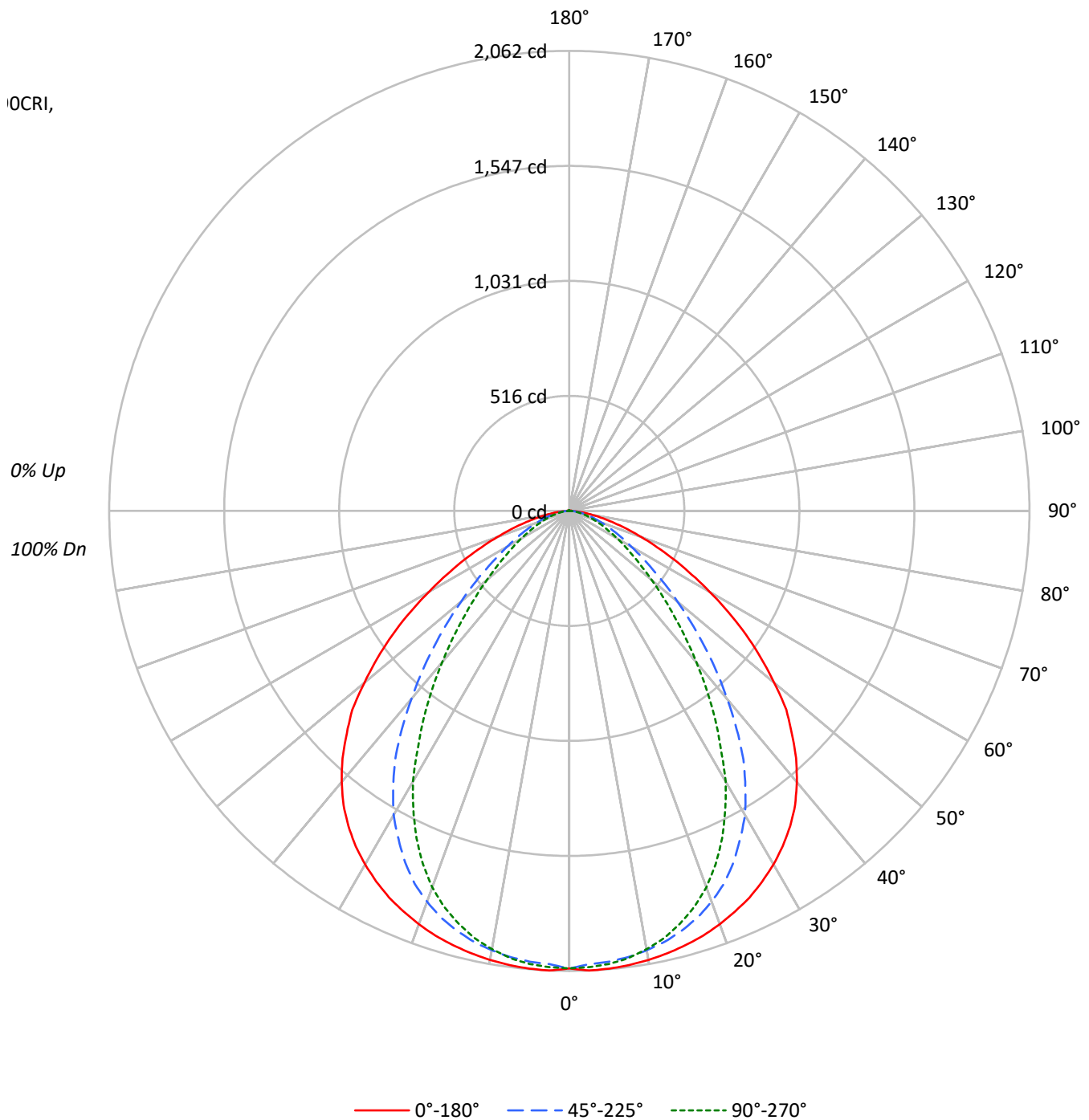
Test Method: LM-79-2019  
Report Number: P893589  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-5SL-AOL-UNV-L930  
Description: 5000 Lumen 4FT 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: 4096.1 lumens  
Efficiency: N/A  
Efficacy: 117.0 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): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.995  
Total Harmonic Distortion (THDi): 9.55  
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	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°	20883	20883	20883
5°	21052	20733	20842
10°	21138	20682	20627
15°	21247	20533	20193
20°	21362	20202	19456
25°	21481	19545	18196
30°	21519	18517	16477
35°	21449	16915	14172
40°	21090	14639	11776
45°	20306	12301	9530
50°	19001	10018	7632
55°	17170	8052	6120
60°	14808	6553	5068
65°	12531	5458	4167
70°	10228	4642	3537
75°	8192	3911	3010
80°	6381	3349	2586
85°	4954	2956	2337

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20306 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	194.2	4.7
10°-20°	552.5	13.5
20°-30°	805.4	19.7
30°-40°	868.1	21.2
40°-50°	727.8	17.8
50°-60°	492.7	12.0
60°-70°	281.0	6.9
70°-80°	128.5	3.1
80°-90°	33.6	0.8
90°-100°	4.2	0.1
100°-110°	2.8	0.1
110°-120°	1.6	0.0
120°-130°	0.9	0.0
130°-140°	0.9	0.0
140°-150°	0.8	0.0
150°-160°	0.6	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	1552.1	37.9
0°-40°	2420.2	59.1
0°-60°	3640.6	88.9
0°-90°	4083.7	99.7
90°-120°	8.5	0.2
90°-150°	11.1	0.3
90°-180°	12.0	0.3
0°-180°	4096.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2050	2050	2050	2050	2050	
5°	2059	2053	2028	2045	2039	196
15°	2015	1998	1948	1935	1915	569
25°	1912	1861	1739	1659	1619	881
35°	1725	1595	1360	1194	1140	1077
45°	1410	1176	854	704	662	1085
55°	967	708	454	368	345	861
65°	520	362	226	184	173	519
75°	208	153	99	81	76	227
85°	42	36	25	21	20	49
90°	6	6	4	3	2	6
95°	9	5	3	2	2	7
105°	6	4	2	1	1	6
115°	3	2	1	1	1	3
125°	1	1	1	1	1	1
135°	1	1	1	1	1	1
145°	1	1	1	1	1	1
155°	1	1	1	2	2	1
165°	1	2	2	2	2	0
175°	2	2	2	2	2	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2050.5	2050.5	2050.5	2050.5	2050.5
2.5°	2062.2	2056.9	2033.4	2052.8	2046.9
5°	2059.3	2052.8	2028.1	2044.6	2038.7
7.5°	2053.4	2045.2	2017.5	2029.9	2022.2
10°	2044.0	2034.0	1999.9	2006.9	1994.6
12.5°	2031.0	2018.7	1978.1	1976.3	1961.6
15°	2015.2	1997.5	1947.5	1934.6	1915.2
17.5°	1995.8	1973.4	1911.1	1885.2	1861.6
20°	1971.1	1942.2	1864.0	1822.8	1795.2
22.5°	1942.8	1904.0	1809.3	1743.4	1713.4
25°	1911.6	1861.1	1739.3	1659.3	1619.3
27.5°	1872.8	1809.3	1658.1	1554.6	1513.4
30°	1829.9	1749.3	1574.6	1442.3	1401.1
32.5°	1781.1	1680.5	1468.1	1321.1	1263.5
35°	1725.2	1595.2	1360.5	1194.0	1139.9
37.5°	1662.2	1506.4	1231.7	1065.8	1011.1
40°	1586.4	1401.1	1101.1	937.0	885.8
42.5°	1504.6	1294.0	975.8	814.7	770.5
45°	1409.9	1176.4	854.1	704.1	661.7
47.5°	1318.7	1057.6	740.0	602.9	568.2
50°	1199.3	931.1	632.3	510.6	481.7
52.5°	1082.9	814.1	540.6	436.4	409.4
55°	967.0	707.6	453.5	367.6	344.7
57.5°	844.7	603.5	381.7	311.2	295.9
60°	727.0	513.5	321.7	261.2	248.8
62.5°	619.4	430.6	272.3	220.6	208.8
65°	520.0	361.7	226.5	183.5	172.9
67.5°	425.9	297.6	188.8	152.9	145.3
70°	343.5	241.2	155.9	125.9	118.8
72.5°	272.3	192.9	124.7	102.9	95.3
75°	208.2	152.9	99.4	81.2	76.5
77.5°	155.3	115.3	76.5	62.3	58.8
80°	108.8	83.5	57.1	47.1	44.1
82.5°	74.1	57.6	40.0	32.9	31.2
85°	42.4	35.9	25.3	21.2	20.0
87.5°	21.8	18.8	13.5	10.0	8.8
90°	5.9	5.9	3.5	2.9	2.4
92.5°	9.4	5.3	3.5	2.4	1.8
95°	8.8	5.3	2.9	1.8	1.8
97.5°	8.2	5.3	2.4	1.8	1.2
100°	7.6	4.7	2.4	1.2	1.2
102.5°	7.1	4.7	2.4	1.2	1.2
105°	5.9	4.1	1.8	1.2	0.6
107.5°	5.3	3.5	1.8	1.2	0.6
110°	4.1	2.9	1.8	1.2	0.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	3.5	2.9	1.2	1.2	0.6
115°	2.9	2.4	1.2	0.6	0.6
117.5°	2.4	1.8	1.2	0.6	0.6
120°	1.8	1.8	1.2	0.6	0.6
122.5°	1.8	1.2	1.2	0.6	0.6
125°	1.2	1.2	1.2	0.6	0.6
127.5°	1.2	1.2	1.2	0.6	0.6
130°	1.2	1.2	1.2	0.6	0.6
132.5°	1.2	1.2	1.2	1.2	0.6
135°	0.6	1.2	1.2	1.2	0.6
137.5°	1.2	1.2	1.2	1.2	1.2
140°	1.2	1.2	1.2	1.2	1.2
142.5°	1.2	1.2	1.2	1.2	1.2
145°	1.2	1.2	1.2	1.2	1.2
147.5°	1.2	1.2	1.2	1.2	1.2
150°	1.2	1.2	1.2	1.2	1.2
152.5°	1.2	1.2	1.2	1.2	1.2
155°	1.2	1.2	1.2	1.8	1.8
157.5°	1.2	1.2	1.8	1.8	1.8
160°	1.2	1.2	1.8	1.8	1.8
162.5°	1.2	1.2	1.8	1.8	1.8
165°	1.2	1.8	1.8	1.8	1.8
167.5°	1.2	1.8	1.8	1.8	2.4
170°	1.2	1.8	1.8	2.4	2.4
172.5°	1.2	1.8	1.8	2.4	2.4
175°	1.8	1.8	1.8	2.4	2.4
177.5°	1.8	1.8	1.8	2.4	2.4
180°	1.8	1.8	1.8	1.8	1.8



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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	20.93	22.37	21.30	22.69	23.01	15.77	17.21	16.14	17.53	17.85
	3H	22.24	23.52	22.62	23.85	24.22	16.78	18.06	17.17	18.40	18.77
	4H	22.66	23.86	23.07	24.21	24.60	17.12	18.32	17.52	18.67	19.06
	6H	22.93	24.03	23.34	24.40	24.81	17.34	18.45	17.76	18.82	19.22
	8H	23.00	24.05	23.43	24.44	24.85	17.41	18.46	17.84	18.86	19.27
	12H	23.04	24.04	23.47	24.43	24.87	17.45	18.46	17.89	18.85	19.28
4H	2H	20.92	22.12	21.33	22.48	22.87	16.39	17.59	16.80	17.95	18.34
	3H	22.39	23.38	22.81	23.79	24.20	17.59	18.58	18.01	18.99	19.40
	4H	22.92	23.80	23.35	24.22	24.67	18.01	18.89	18.45	19.31	19.76
	6H	23.29	24.06	23.76	24.51	24.98	18.32	19.08	18.78	19.53	20.00
	8H	23.40	24.12	23.88	24.57	25.05	18.41	19.13	18.88	19.58	20.05
	12H	23.48	24.12	23.97	24.60	25.08	18.48	19.12	18.97	19.61	20.08
8H	4H	22.90	23.61	23.37	24.06	24.54	18.34	19.06	18.81	19.51	19.98
	6H	23.33	23.92	23.83	24.42	24.90	18.73	19.32	19.24	19.82	20.31
	8H	23.48	24.01	24.01	24.53	25.03	18.87	19.40	19.40	19.92	20.42
	12H	23.61	24.08	24.13	24.58	25.16	19.00	19.47	19.51	19.96	20.54
12H	4H	22.87	23.51	23.36	23.99	24.47	18.39	19.02	18.88	19.51	19.99
	6H	23.30	23.83	23.82	24.34	24.84	18.80	19.33	19.32	19.85	20.35
	8H	23.49	23.95	24.00	24.45	25.03	18.99	19.46	19.51	19.96	20.53