

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: P893141

Luminaire Tested: 4MB-10HL-A-UNV-L930

Issue Date: 11/11/2024

**Test Information**

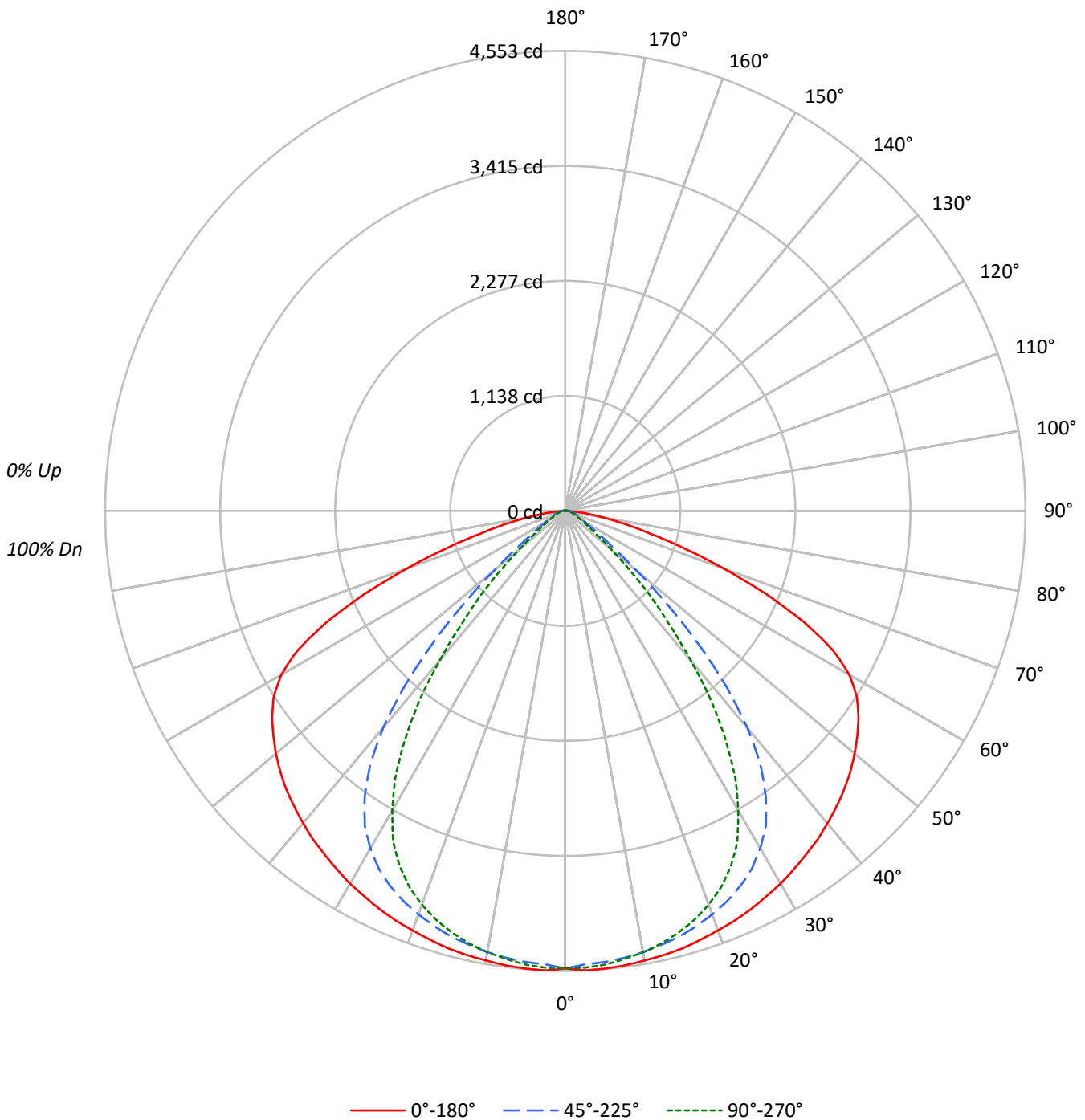
Test Method: LM-79-2019  
Report Number: P893141  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-A-UNV-L930  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTIC, 90CRI, 3000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9172.0 lumens  
Efficiency: N/A  
Efficacy: 121.5 lumens/watt  
Spacing Criteria (0/90/45): 1.41 / 1.14 / 1.22  
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 75.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 7.45  
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	104	101	108	105	102	99	101	98	96	97	95	93	93	91	90	90	90	90	88
2	103	96	90	86	100	94	89	85	91	86	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	50	60	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	43	38	34	34	34	34	32

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

	0°	45°	90°
0°	46129	46129	46129
5°	46489	45824	46087
10°	46734	45858	45867
15°	47251	45968	45572
20°	47874	46055	44951
25°	48849	46039	43566
30°	50083	45351	40246
35°	51619	43017	34353
40°	53638	37257	25692
45°	56196	26809	17105
50°	59215	14692	9375
55°	62880	7221	5398
60°	66132	4762	3731
65°	62768	3899	2950
70°	49411	3543	2728
75°	34265	3502	2593
80°	22544	3513	3214
85°	12912	5399	5504

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 60°  
 Luminance: 66132 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	429.6	4.7
10°-20°	1239.8	13.5
20°-30°	1888.8	20.6
30°-40°	2145.0	23.4
40°-50°	1722.4	18.8
50°-60°	923.9	10.1
60°-70°	488.7	5.3
70°-80°	221.5	2.4
80°-90°	70.6	0.8
90°-100°	21.8	0.2
100°-110°	7.9	0.1
110°-120°	2.4	0.0
120°-130°	1.8	0.0
130°-140°	1.9	0.0
140°-150°	2.0	0.0
150°-160°	1.9	0.0
160°-170°	1.4	0.0
170°-180°	0.5	0.0
0°-30°	3558.2	38.8
0°-40°	5703.2	62.2
0°-60°	8349.6	91.0
0°-90°	9130.4	99.5
90°-120°	32.1	0.4
90°-150°	37.9	0.4
90°-180°	42.0	0.5
0°-180°	9172.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4530	4530	4530	4530	4530	
5°	4547	4538	4482	4520	4508	433
15°	4482	4453	4360	4348	4322	1267
25°	4347	4278	4097	3954	3877	2008
35°	4152	3976	3460	2958	2763	2605
45°	3902	3302	1861	1295	1188	3014
55°	3541	1321	407	318	304	3157
65°	2605	307	162	131	122	2519
75°	871	176	89	70	66	985
85°	110	66	46	46	47	151
90°	4	30	33	38	37	7
95°	4	12	26	23	22	4
105°	3	2	5	12	15	3
115°	2	2	2	3	3	2
125°	2	2	2	3	2	2
135°	3	2	3	3	3	2
145°	3	3	3	3	3	2
155°	3	3	4	5	4	1
165°	3	4	5	6	5	1
175°	4	4	6	7	6	0
180°	6	6	6	6	6	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4529.5	4529.5	4529.5	4529.5	4529.5
2.5°	4552.6	4544.0	4492.6	4535.5	4524.3
5°	4547.4	4538.0	4482.4	4520.0	4508.1
7.5°	4536.3	4524.3	4461.8	4492.6	4473.8
10°	4519.2	4507.2	4434.4	4455.8	4435.3
12.5°	4502.1	4481.5	4398.5	4405.3	4385.6
15°	4481.5	4453.3	4359.9	4347.9	4322.3
17.5°	4449.8	4418.2	4309.4	4281.2	4245.2
20°	4417.3	4374.5	4249.5	4192.1	4147.6
22.5°	4387.3	4328.2	4181.0	4089.4	4029.4
25°	4347.1	4277.7	4097.1	3954.1	3877.0
27.5°	4303.4	4218.6	3993.5	3779.4	3687.8
30°	4258.9	4147.6	3856.5	3560.2	3422.4
32.5°	4206.7	4069.7	3692.1	3294.8	3132.1
35°	4151.9	3975.5	3460.0	2958.3	2763.1
37.5°	4099.6	3866.7	3174.0	2549.9	2376.9
40°	4034.6	3740.0	2802.4	2111.5	1932.5
42.5°	3970.3	3544.8	2357.2	1691.1	1519.8
45°	3901.8	3301.6	1861.4	1294.6	1187.6
47.5°	3823.9	2968.6	1362.3	942.7	850.2
50°	3737.4	2489.1	927.3	642.2	591.7
52.5°	3642.4	1928.2	602.8	442.7	413.6
55°	3541.4	1321.2	406.7	317.7	304.0
57.5°	3419.8	828.0	301.4	238.9	231.2
60°	3246.8	536.9	233.8	192.7	183.2
62.5°	2986.5	384.4	196.1	157.5	149.8
65°	2604.7	307.4	161.8	131.0	122.4
67.5°	2147.4	262.9	138.7	112.2	106.2
70°	1659.4	231.2	119.0	97.6	91.6
72.5°	1238.1	202.1	102.7	84.8	77.1
75°	870.8	175.5	89.0	70.2	65.9
77.5°	612.2	151.6	73.6	59.9	59.1
80°	384.4	125.9	59.9	55.7	54.8
82.5°	233.8	99.3	52.2	51.4	50.5
85°	110.5	65.9	46.2	46.2	47.1
87.5°	36.0	43.7	39.4	41.1	41.1
90°	4.3	30.0	33.4	38.5	36.8
92.5°	4.3	21.4	30.8	30.8	24.8
95°	4.3	12.0	26.5	23.1	22.3
97.5°	4.3	6.0	19.7	22.3	21.4
100°	4.3	3.4	14.6	19.7	21.4
102.5°	3.4	2.6	9.4	16.3	18.0
105°	2.6	1.7	5.1	12.0	14.6
107.5°	1.7	1.7	3.4	8.6	10.3
110°	1.7	0.9	2.6	6.0	6.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	0.9	2.6	4.3	4.3
115°	1.7	1.7	1.7	3.4	3.4
117.5°	1.7	1.7	1.7	2.6	2.6
120°	1.7	1.7	1.7	2.6	1.7
122.5°	1.7	1.7	1.7	2.6	1.7
125°	1.7	1.7	1.7	2.6	1.7
127.5°	1.7	1.7	2.6	2.6	1.7
130°	1.7	1.7	2.6	2.6	1.7
132.5°	1.7	1.7	2.6	2.6	2.6
135°	2.6	1.7	2.6	2.6	2.6
137.5°	2.6	2.6	2.6	3.4	2.6
140°	2.6	2.6	3.4	3.4	2.6
142.5°	2.6	2.6	3.4	3.4	3.4
145°	2.6	2.6	3.4	3.4	3.4
147.5°	2.6	2.6	3.4	4.3	3.4
150°	2.6	3.4	4.3	4.3	3.4
152.5°	2.6	3.4	4.3	4.3	4.3
155°	3.4	3.4	4.3	5.1	4.3
157.5°	3.4	3.4	4.3	5.1	4.3
160°	3.4	3.4	5.1	5.1	5.1
162.5°	3.4	4.3	5.1	6.0	5.1
165°	3.4	4.3	5.1	6.0	5.1
167.5°	3.4	4.3	5.1	6.0	6.0
170°	3.4	4.3	6.0	6.0	6.0
172.5°	4.3	4.3	6.0	6.8	6.0
175°	4.3	4.3	6.0	6.8	6.0
177.5°	4.3	4.3	6.0	6.8	6.0
180°	6.0	6.0	6.0	6.0	6.0



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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	22.98	24.37	23.35	24.69	25.02	11.19	12.58	11.56	12.90	13.23
	3H	25.88	27.11	26.26	27.45	27.82	12.15	13.38	12.53	13.72	14.10
	4H	26.66	27.81	27.07	28.17	28.56	12.57	13.72	12.98	14.08	14.47
	6H	27.10	28.16	27.52	28.53	28.94	13.05	14.11	13.47	14.48	14.89
	8H	27.20	28.20	27.63	28.60	29.02	13.36	14.36	13.79	14.76	15.18
	12H	27.23	28.19	27.67	28.59	29.03	13.76	14.72	14.20	15.11	15.55
4H	2H	22.79	23.94	23.20	24.30	24.69	11.71	12.86	12.12	13.22	13.61
	3H	25.71	26.65	26.13	27.06	27.48	12.92	13.86	13.34	14.27	14.68
	4H	26.50	27.35	26.94	27.77	28.23	13.45	14.30	13.89	14.72	15.18
	6H	27.03	27.76	27.50	28.21	28.69	14.09	14.82	14.56	15.27	15.75
	8H	27.17	27.86	27.65	28.31	28.79	14.49	15.17	14.97	15.63	16.11
	12H	27.25	27.86	27.74	28.35	28.83	15.02	15.63	15.51	16.12	16.60
8H	4H	26.39	27.07	26.86	27.53	28.01	14.02	14.70	14.49	15.15	15.63
	6H	26.92	27.48	27.43	27.98	28.47	14.79	15.35	15.30	15.85	16.34
	8H	27.08	27.59	27.61	28.11	28.61	15.31	15.81	15.84	16.34	16.84
	12H	27.20	27.65	27.72	28.15	28.73	16.01	16.46	16.53	16.96	17.54
12H	4H	26.35	26.95	26.84	27.44	27.93	14.26	14.87	14.76	15.36	15.84
	6H	26.86	27.37	27.39	27.89	28.39	15.06	15.57	15.59	16.09	16.59
	8H	27.06	27.50	27.58	28.01	28.58	15.66	16.10	16.18	16.61	17.19