

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: P893213

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

Issue Date: 11/11/2024

**Test Information**

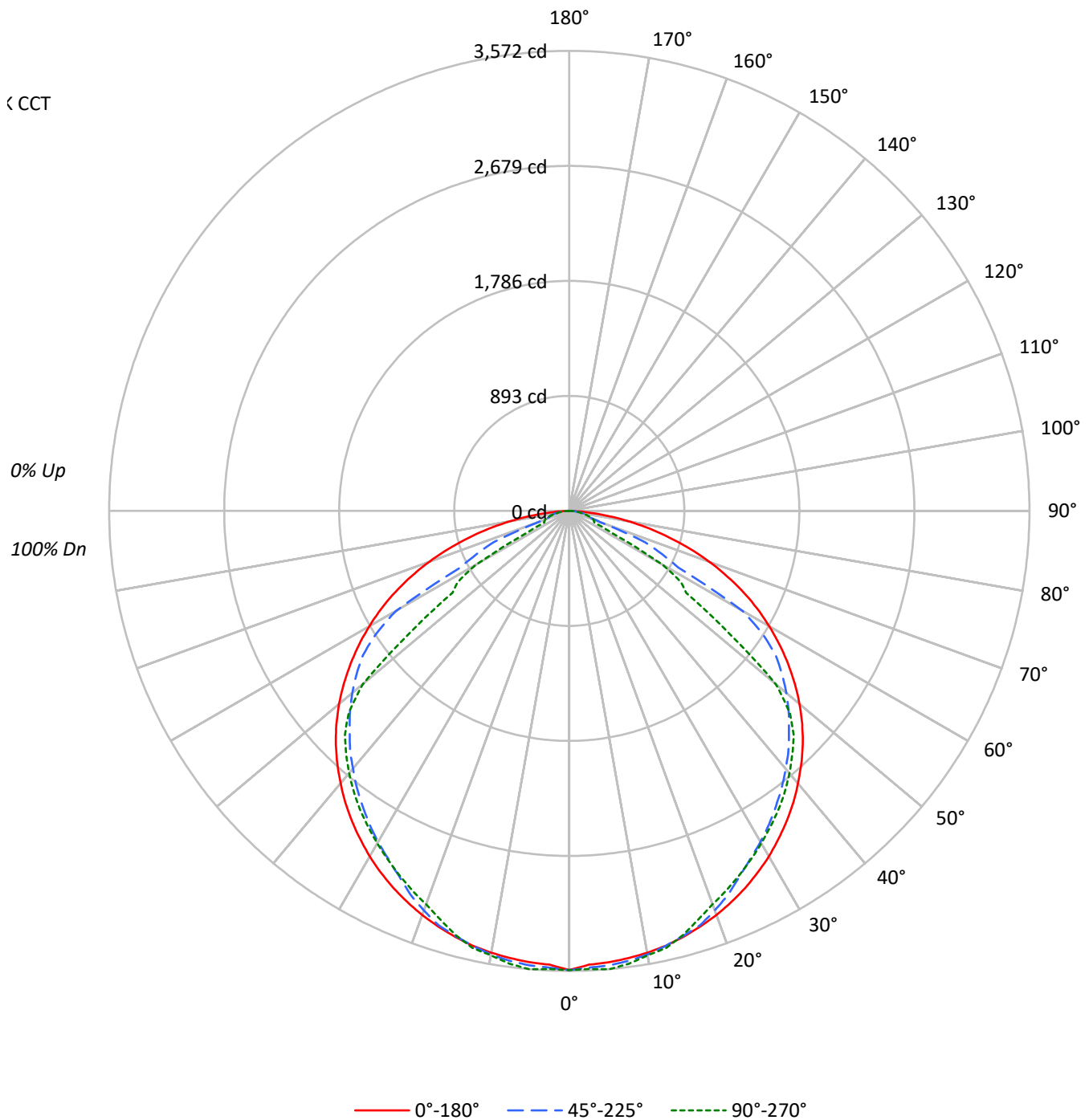
Test Method: LM-79-2019  
Report Number: P893213  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2408-210-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-10HL-RFLW-UNV-L930  
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 90CRI, 3000K  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9294.0 lumens  
Efficiency: N/A  
Efficacy: 123.1 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.25 / 1.38  
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 75.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	100	
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86	86	
2	101	93	87	82	98	91	85	81	88	83	79	85	81	77	82	78	75	73	73	
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62	62	
4	85	73	65	59	82	72	64	58	70	63	57	67	61	57	65	60	56	54	54	
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47	47	
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41	41	
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36	36	
8	62	49	41	35	61	48	40	35	47	40	35	46	39	35	45	39	34	32	32	
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	29	29	
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26	26	

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

	0°	45°	90°
0°	46292	46292	46292
5°	45868	46169	46555
10°	45934	46108	46195
15°	46035	45931	45828
20°	46151	45620	44921
25°	46278	44813	44719
30°	46453	44509	44691
35°	46620	44339	44880
40°	46816	44284	45067
45°	47068	44264	45252
50°	47139	44433	42279
55°	46932	44297	25070
60°	46536	40373	21742
65°	45771	24405	6581
70°	43964	9677	7551
75°	40733	7937	7716
80°	35243	8383	7231
85°	25045	7852	6868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 50°  
 Luminance: 47139 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	337.7	3.6
10°-20°	967.1	10.4
20°-30°	1461.4	15.7
30°-40°	1783.1	19.2
40°-50°	1886.2	20.3
50°-60°	1562.2	16.8
60°-70°	868.5	9.3
70°-80°	352.0	3.8
80°-90°	75.9	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2766.2	29.8
0°-40°	4549.2	48.9
0°-60°	7997.6	86.1
0°-90°	9294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9294.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3565	3565	3565	3565	3565	
5°	3519	3582	3542	3548	3572	335
15°	3424	3477	3417	3414	3409	967
25°	3230	3253	3128	3108	3121	1490
35°	2941	2905	2797	2808	2831	1841
45°	2563	2431	2410	2440	2464	1976
55°	2073	1932	1957	1342	1107	1852
65°	1490	1366	794	267	214	1469
75°	812	453	158	156	154	857
85°	168	56	53	48	46	211
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3565.0	3565.0	3565.0	3565.0	3565.0
2.5°	3526.6	3588.1	3549.7	3557.4	3560.6
5°	3518.9	3581.5	3542.0	3547.5	3571.6
7.5°	3502.4	3566.1	3524.4	3527.7	3546.4
10°	3483.7	3542.0	3496.9	3491.4	3503.5
12.5°	3458.5	3511.2	3458.5	3460.7	3476.1
15°	3424.4	3477.2	3416.7	3414.5	3409.0
17.5°	3383.8	3433.2	3373.9	3338.7	3326.6
20°	3339.8	3378.3	3301.4	3247.5	3250.8
22.5°	3287.1	3320.0	3223.4	3173.9	3188.2
25°	3230.0	3253.0	3127.8	3108.0	3121.2
27.5°	3167.3	3184.9	3045.4	3041.0	3052.0
30°	3098.1	3104.7	2968.5	2966.3	2980.6
32.5°	3021.2	3010.2	2886.1	2888.3	2907.0
35°	2941.0	2904.8	2797.1	2808.1	2831.2
37.5°	2856.4	2791.6	2709.2	2723.5	2748.8
40°	2761.9	2674.1	2612.5	2634.5	2658.7
42.5°	2665.3	2551.0	2519.2	2540.0	2563.1
45°	2563.1	2431.3	2410.4	2440.0	2464.2
47.5°	2452.1	2313.7	2310.4	2333.5	2322.5
50°	2333.5	2191.8	2199.5	2168.7	2092.9
52.5°	2206.0	2065.4	2080.8	1947.9	1574.3
55°	2073.1	1932.5	1956.7	1342.5	1107.4
57.5°	1936.9	1796.3	1780.9	1027.2	1026.1
60°	1791.9	1657.8	1554.6	907.5	837.2
62.5°	1645.7	1513.9	954.7	683.3	384.5
65°	1489.7	1365.6	794.3	267.0	214.2
67.5°	1326.0	1215.1	636.1	201.0	208.7
70°	1158.0	1059.1	254.9	194.5	198.9
72.5°	986.6	817.4	169.2	180.2	180.2
75°	811.9	452.6	158.2	156.0	153.8
77.5°	638.3	303.2	138.4	128.5	125.2
80°	471.3	108.8	112.1	100.0	96.7
82.5°	312.0	84.6	80.2	72.5	70.3
85°	168.1	56.0	52.7	48.3	46.1
87.5°	60.4	28.6	28.6	23.1	20.9
90°	0.0	0.0	0.0	0.0	0.0



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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	26.00	27.57	26.37	27.89	28.20	21.99	23.56	22.36	23.88	24.19
	3H	28.01	29.42	28.39	29.74	30.10	22.12	23.53	22.50	23.86	24.22
	4H	28.62	29.94	29.02	30.29	30.67	22.24	23.56	22.64	23.91	24.29
	6H	29.02	30.24	29.43	30.60	31.00	22.35	23.57	22.76	23.93	24.33
	8H	29.14	30.30	29.57	30.69	31.09	22.38	23.54	22.81	23.93	24.33
	12H	29.21	30.32	29.64	30.70	31.13	22.41	23.52	22.84	23.90	24.33
4H	2H	26.13	27.45	26.53	27.80	28.18	22.72	24.04	23.12	24.38	24.76
	3H	28.29	29.38	28.70	29.78	30.18	22.91	24.00	23.32	24.40	24.80
	4H	28.95	29.92	29.38	30.34	30.78	23.07	24.05	23.50	24.46	24.90
	6H	29.39	30.24	29.85	30.68	31.14	23.24	24.08	23.69	24.53	24.98
	8H	29.53	30.33	30.00	30.77	31.24	23.29	24.08	23.75	24.52	24.99
	12H	29.64	30.35	30.12	30.82	31.29	23.33	24.04	23.82	24.52	24.99
8H	4H	28.88	29.67	29.34	30.12	30.59	23.34	24.13	23.80	24.58	25.05
	6H	29.32	29.98	29.82	30.47	30.95	23.55	24.20	24.04	24.69	25.17
	8H	29.47	30.06	29.99	30.57	31.06	23.63	24.22	24.14	24.73	25.22
	12H	29.60	30.13	30.11	30.62	31.18	23.72	24.24	24.23	24.73	25.30
12H	4H	28.86	29.56	29.34	30.04	30.51	23.36	24.06	23.84	24.54	25.01
	6H	29.28	29.87	29.80	30.38	30.87	23.57	24.16	24.08	24.66	25.15
	8H	29.45	29.98	29.96	30.47	31.03	23.69	24.21	24.20	24.70	25.27