

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: P894052

Luminaire Tested: 4MB-9HL-LVRF-UNV-L850

Issue Date: 11/11/2024

**Test Information**

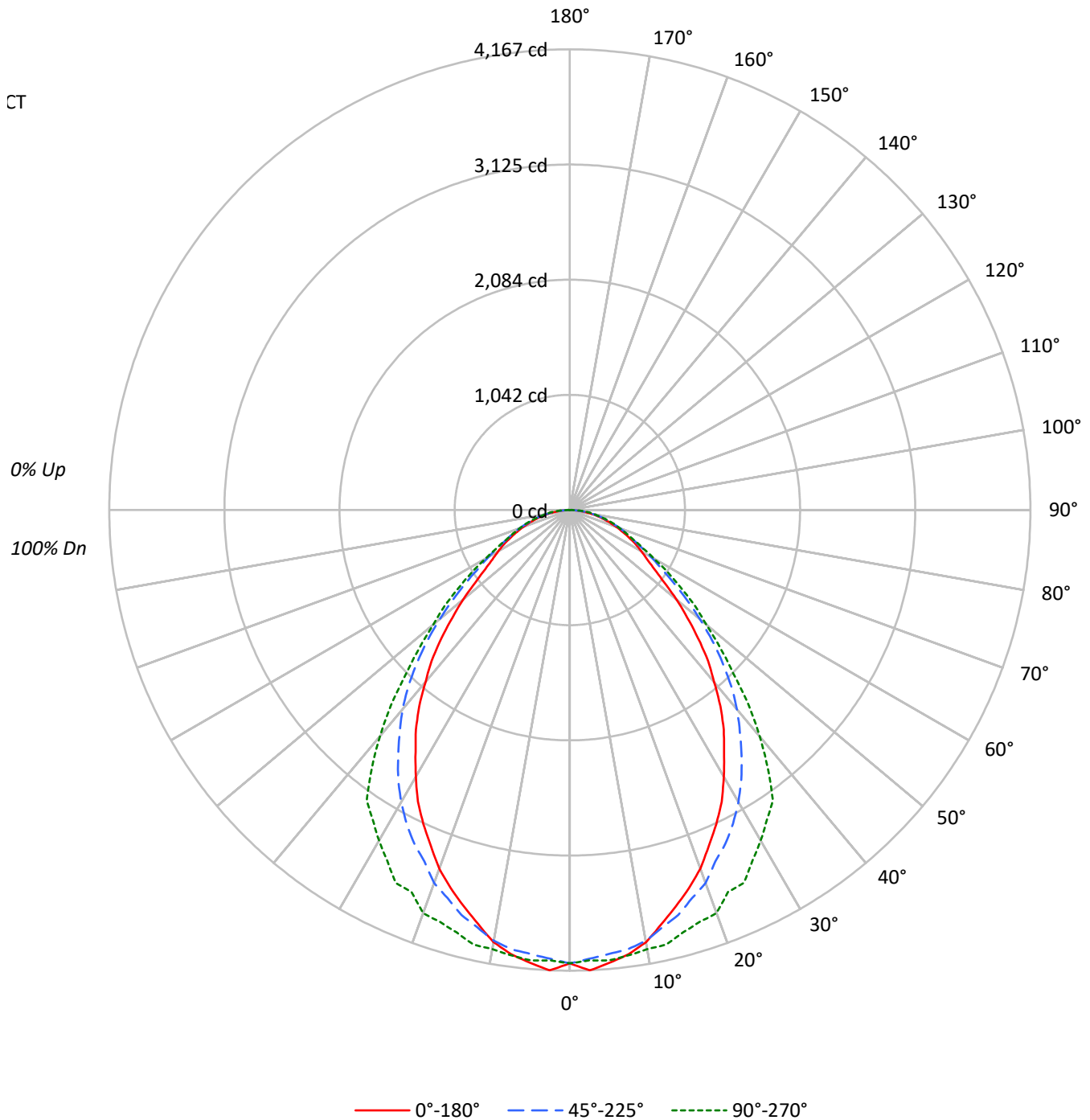
Test Method: LM-79-2019  
Report Number: P894052  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2407-175-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-LVRF-UNV-L850  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH FROSTED INLAY, 80CRI, 5000K C  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8313.0 lumens  
Efficiency: N/A  
Efficacy: 129.1 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.25 / 1.21  
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 8.94  
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	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	89	89	89	87
2	102	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77	77	77	77	75
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	57	52	52	52	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	47	47	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	42	52	46	42	42	42	42	40
8	65	52	44	39	64	52	44	39	50	44	39	49	43	39	48	43	38	38	38	38	37
9	61	48	41	36	60	48	40	35	47	40	35	46	40	35	45	39	35	35	35	35	33
10	57	45	37	33	56	44	37	32	43	37	32	43	36	32	42	36	32	32	32	32	30

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

	0°	45°	90°
0°	29171	29171	29171
5°	29361	28792	29204
10°	28674	28585	29134
15°	27320	27925	29135
20°	26134	27183	29373
25°	24604	26144	29223
30°	22889	25054	28367
35°	21080	23518	27818
40°	18852	21857	24841
45°	16526	19659	21065
50°	13947	16986	17828
55°	11571	14216	15204
60°	10640	12087	12541
65°	9967	10627	10709
70°	9282	10071	9996
75°	8659	9402	9737
80°	8084	8740	9342
85°	6800	7404	10302

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 21065 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	387.0	4.7
10°-20°	1079.5	13.0
20°-30°	1554.6	18.7
30°-40°	1716.3	20.6
40°-50°	1472.7	17.7
50°-60°	1003.3	12.1
60°-70°	631.1	7.6
70°-80°	359.3	4.3
80°-90°	109.2	1.3
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°	3021.1	36.3
0°-40°	4737.4	57.0
0°-60°	7213.3	86.8
0°-90°	8313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8313.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4100	4100	4100	4100	4100	
5°	4111	4095	4031	4116	4089	388
15°	3709	3748	3791	3963	3955	1044
25°	3134	3197	3330	3599	3722	1439
35°	2427	2521	2708	3003	3203	1510
45°	1642	1752	1954	2071	2094	1266
55°	933	990	1146	1201	1226	857
65°	592	602	631	662	636	588
75°	315	318	342	357	354	336
85°	83	86	91	108	126	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4099.9	4099.9	4099.9	4099.9	4099.9
2.5°	4167.4	4124.5	4063.2	4122.0	4076.7
5°	4111.0	4095.0	4031.3	4115.9	4088.9
7.5°	4053.4	4019.1	4008.0	4098.7	4063.2
10°	3968.8	3949.2	3956.5	4073.0	4032.5
12.5°	3835.2	3848.7	3865.8	4014.1	4026.4
15°	3708.9	3748.2	3791.1	3962.7	3955.3
17.5°	3585.2	3639.1	3679.5	3900.2	3906.3
20°	3451.6	3482.2	3590.1	3803.3	3879.3
22.5°	3286.1	3346.1	3439.3	3705.3	3739.6
25°	3134.1	3196.6	3330.2	3598.6	3722.4
27.5°	2974.8	3032.4	3197.8	3472.4	3577.8
30°	2786.0	2863.2	3049.5	3329.0	3452.8
32.5°	2597.2	2710.0	2889.0	3175.8	3319.2
35°	2426.9	2521.3	2707.6	3002.9	3202.7
37.5°	2238.1	2337.4	2526.2	2814.2	2941.7
40°	2029.7	2136.4	2353.3	2586.2	2674.5
42.5°	1850.8	1942.7	2160.9	2325.1	2395.0
45°	1642.4	1751.5	1953.8	2071.4	2093.5
47.5°	1441.4	1566.4	1747.8	1803.0	1845.9
50°	1260.0	1358.1	1534.6	1568.9	1610.6
52.5°	1074.9	1179.1	1333.6	1367.9	1429.2
55°	932.8	990.4	1146.0	1201.2	1225.7
57.5°	828.6	865.3	975.7	1045.5	1052.9
60°	747.7	766.1	849.4	902.1	881.3
62.5°	672.9	687.6	729.3	769.7	742.8
65°	592.0	601.8	631.2	661.9	636.1
67.5°	516.0	527.0	554.0	576.1	554.0
70°	446.2	454.7	484.1	494.0	480.5
72.5°	381.2	384.9	409.4	426.5	418.0
75°	315.0	317.5	342.0	356.7	354.2
77.5°	254.9	258.6	279.5	292.9	285.6
80°	197.3	199.8	213.3	232.9	228.0
82.5°	138.5	143.4	152.0	169.1	182.6
85°	83.3	85.8	90.7	107.9	126.2
87.5°	31.9	34.3	36.8	45.4	60.1
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	19.17	20.65	19.54	20.97	21.28	20.53	22.01	20.90	22.33	22.64
	3H	20.75	22.08	21.13	22.41	22.77	21.82	23.15	22.20	23.47	23.84
	4H	21.36	22.60	21.76	22.95	23.33	22.37	23.62	22.77	23.97	24.34
	6H	21.83	22.98	22.24	23.34	23.74	22.83	23.97	23.24	24.34	24.73
	8H	21.99	23.08	22.41	23.47	23.87	23.01	24.10	23.44	24.49	24.90
	12H	22.08	23.13	22.51	23.51	23.94	23.17	24.21	23.60	24.59	25.02
4H	2H	19.79	21.03	20.19	21.38	21.76	20.90	22.14	21.30	22.49	22.87
	3H	21.59	22.62	22.00	23.02	23.42	22.46	23.49	22.87	23.89	24.29
	4H	22.32	23.24	22.75	23.66	24.10	23.16	24.09	23.60	24.50	24.94
	6H	22.91	23.72	23.37	24.16	24.62	23.77	24.58	24.23	25.02	25.48
	8H	23.11	23.87	23.58	24.31	24.78	24.02	24.77	24.48	25.21	25.68
	12H	23.25	23.92	23.74	24.40	24.88	24.23	24.90	24.71	25.38	25.85
8H	4H	22.64	23.39	23.11	23.84	24.31	23.39	24.15	23.86	24.59	25.06
	6H	23.37	23.99	23.86	24.48	24.96	24.14	24.76	24.64	25.25	25.73
	8H	23.64	24.20	24.16	24.71	25.20	24.47	25.03	24.99	25.54	26.03
	12H	23.85	24.35	24.36	24.84	25.41	24.78	25.27	25.29	25.76	26.33
12H	4H	22.68	23.35	23.16	23.83	24.30	23.41	24.08	23.89	24.56	25.03
	6H	23.43	23.99	23.95	24.50	24.99	24.18	24.74	24.69	25.25	25.74
	8H	23.77	24.27	24.28	24.76	25.32	24.57	25.06	25.08	25.55	26.12