

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: P894044

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

Issue Date: 11/11/2024

**Test Information**

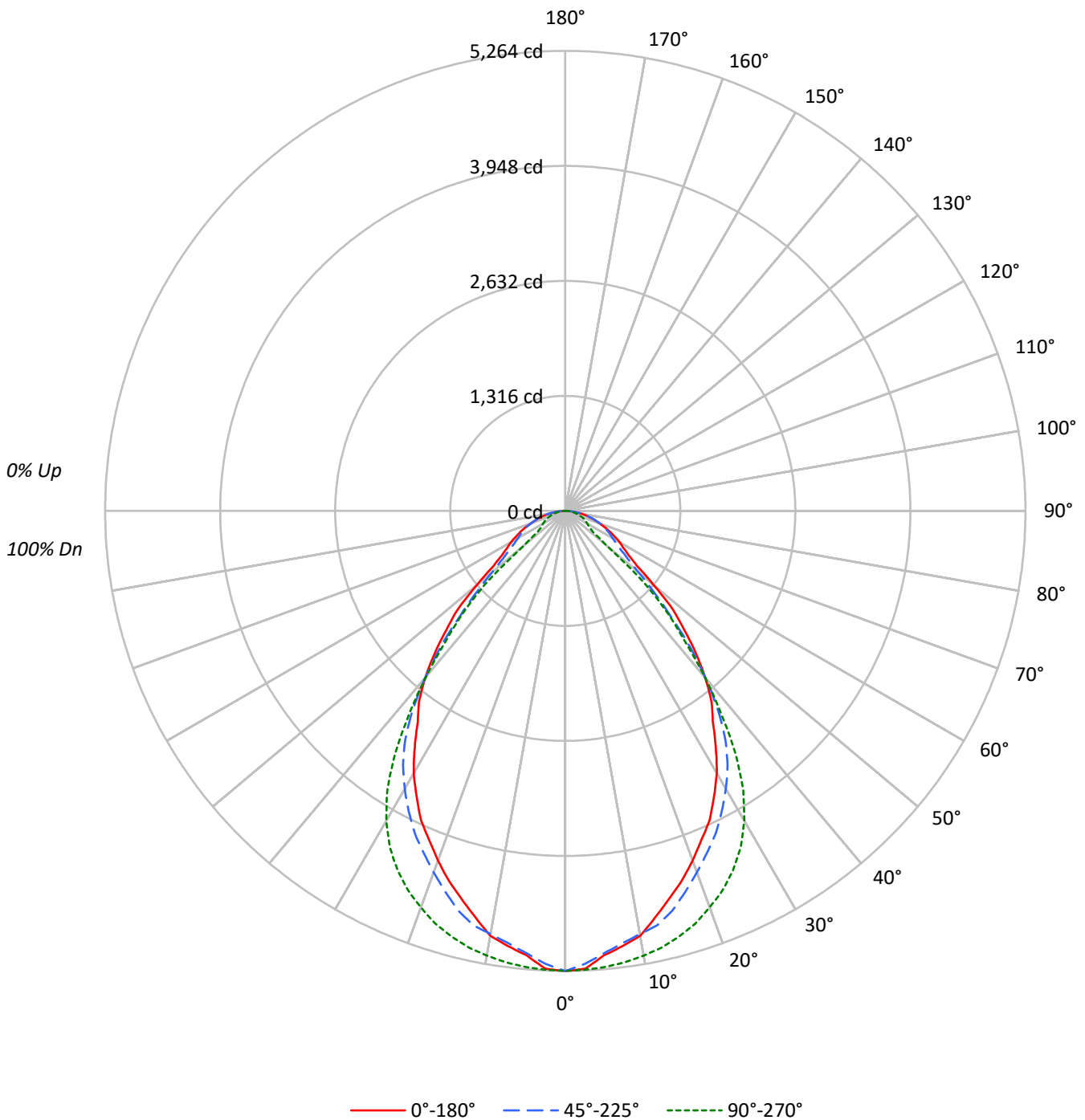
Test Method: LM-79-2019  
Report Number: P894044  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-9HL-LVRA-UNV-L850  
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8544.0 lumens  
Efficiency: N/A  
Efficacy: 132.7 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.16 / 1.12  
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 (A<sub>in</sub>): 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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	90	90	88
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	80	80	78
3	96	87	80	75	94	86	80	75	83	78	73	80	76	72	78	74	71	71	71	69
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	63	63	62
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58	66	61	57	57	57	55
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	52	52	50
7	73	61	54	48	71	60	53	48	59	52	48	58	52	47	56	51	47	47	47	45
8	68	57	49	44	67	56	49	44	55	48	44	53	48	43	52	47	43	43	43	41
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	40	40	38
10	61	49	42	37	60	48	42	37	47	41	37	47	41	37	46	40	37	37	37	35

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

	0°	45°	90°
0°	37456	37456	37456
5°	36447	36282	37416
10°	35672	35515	37329
15°	33831	34870	37119
20°	32227	33317	36553
25°	30656	31966	35619
30°	28481	30175	33631
35°	25538	27730	29498
40°	23137	23187	23062
45°	19345	17134	16710
50°	14613	12060	6834
55°	10990	9645	4308
60°	10214	8881	4151
65°	9502	8862	4157
70°	8694	8694	4092
75°	8244	8467	3953
80°	7617	8006	4056
85°	6645	6980	4433

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 19796 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	486.3	5.7
10°-20°	1339.9	15.7
20°-30°	1900.0	22.2
30°-40°	1957.5	22.9
40°-50°	1367.2	16.0
50°-60°	656.1	7.7
60°-70°	460.3	5.4
70°-80°	287.8	3.4
80°-90°	89.0	1.0
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°	3726.2	43.6
0°-40°	5683.7	66.5
0°-60°	7707.0	90.2
0°-90°	8544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8544.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5264	5264	5264	5264	5264	
5°	5103	5096	5080	5213	5239	483
15°	4593	4627	4734	4870	5039	1293
25°	3905	3944	4072	4347	4537	1786
35°	2940	3020	3193	3259	3396	1853
45°	1923	1967	1703	1616	1661	1481
55°	886	843	778	498	347	830
65°	564	528	526	400	247	559
75°	300	296	308	266	144	316
85°	81	81	86	84	54	91
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5264.4	5264.4	5264.4	5264.4	5264.4
2.5°	5244.1	5227.8	5188.5	5260.4	5255.0
5°	5103.0	5096.2	5079.9	5212.9	5238.7
7.5°	5022.9	5009.4	4990.4	5136.9	5208.8
10°	4937.5	4953.7	4915.7	5050.1	5166.8
12.5°	4761.1	4804.5	4856.0	4960.5	5115.2
15°	4592.8	4626.7	4733.9	4869.6	5039.2
17.5°	4435.4	4474.8	4567.0	4770.6	4951.0
20°	4256.3	4310.6	4400.2	4660.7	4827.6
22.5°	4071.8	4122.0	4234.6	4514.1	4700.0
25°	3904.9	3944.3	4071.8	4347.2	4537.2
27.5°	3683.8	3757.0	3877.8	4143.7	4343.2
30°	3466.7	3529.1	3672.9	3896.8	4093.5
32.5°	3204.8	3295.7	3454.5	3625.4	3789.6
35°	2940.2	3020.3	3192.6	3259.1	3396.1
37.5°	2747.6	2769.3	2867.0	2858.8	2936.2
40°	2491.1	2534.5	2496.5	2394.8	2483.0
42.5°	2214.3	2265.9	2112.6	1994.5	2025.7
45°	1922.6	1967.4	1702.8	1616.0	1660.7
47.5°	1670.2	1666.2	1373.1	1314.8	1252.3
50°	1320.2	1363.6	1089.5	981.0	617.4
52.5°	1031.2	1047.5	898.2	626.8	405.7
55°	886.0	842.6	777.5	498.0	347.3
57.5°	787.0	732.7	689.3	462.7	317.5
60°	717.8	656.7	624.1	439.6	291.7
62.5°	639.1	591.6	579.4	419.3	268.6
65°	564.4	527.8	526.4	400.3	246.9
67.5°	489.8	469.5	474.9	377.2	222.5
70°	417.9	413.8	417.9	347.3	196.7
72.5°	356.8	352.8	363.6	309.4	168.2
75°	299.9	295.8	308.0	265.9	143.8
77.5°	238.8	241.5	249.7	221.2	120.8
80°	185.9	185.9	195.4	173.7	99.0
82.5°	133.0	134.3	139.8	127.5	77.3
85°	81.4	81.4	85.5	84.1	54.3
87.5°	27.1	31.2	36.6	39.3	27.1
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	18.24	19.59	18.60	19.90	20.22	14.57	15.92	14.93	16.23	16.55
	3H	19.97	21.18	20.35	21.51	21.87	16.54	17.75	16.92	18.08	18.44
	4H	20.65	21.77	21.05	22.12	22.51	17.25	18.37	17.65	18.73	19.11
	6H	21.15	22.19	21.57	22.56	22.95	17.77	18.81	18.18	19.18	19.57
	8H	21.32	22.31	21.75	22.70	23.10	17.96	18.94	18.39	19.33	19.74
	12H	21.43	22.38	21.86	22.76	23.19	18.10	19.04	18.53	19.42	19.85
4H	2H	18.77	19.89	19.17	20.24	20.63	16.19	17.32	16.59	17.67	18.05
	3H	20.74	21.67	21.15	22.08	22.48	18.37	19.30	18.78	19.70	20.10
	4H	21.54	22.38	21.98	22.80	23.24	19.25	20.08	19.68	20.50	20.94
	6H	22.19	22.91	22.65	23.36	23.82	19.89	20.61	20.35	21.06	21.52
	8H	22.41	23.08	22.88	23.53	24.00	20.10	20.78	20.57	21.22	21.69
	12H	22.56	23.16	23.05	23.64	24.12	20.26	20.86	20.74	21.34	21.81
8H	4H	21.83	22.51	22.30	22.95	23.42	19.90	20.57	20.36	21.02	21.49
	6H	22.61	23.17	23.11	23.66	24.14	20.76	21.31	21.26	21.81	22.29
	8H	22.91	23.41	23.43	23.93	24.42	21.08	21.58	21.60	22.10	22.59
	12H	23.15	23.59	23.66	24.08	24.65	21.35	21.79	21.86	22.28	22.85
12H	4H	21.85	22.45	22.33	22.93	23.40	19.97	20.57	20.45	21.05	21.52
	6H	22.66	23.16	23.18	23.68	24.17	20.89	21.39	21.41	21.91	22.40
	8H	23.03	23.47	23.54	23.96	24.53	21.31	21.75	21.82	22.24	22.81