

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: P894046

Luminaire Tested: 4MB-9HL-LVRA-UNV-L935

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894046
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-L935
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 90CRI, 3500K CCT
Light Source: -
Ballast/Driver: -

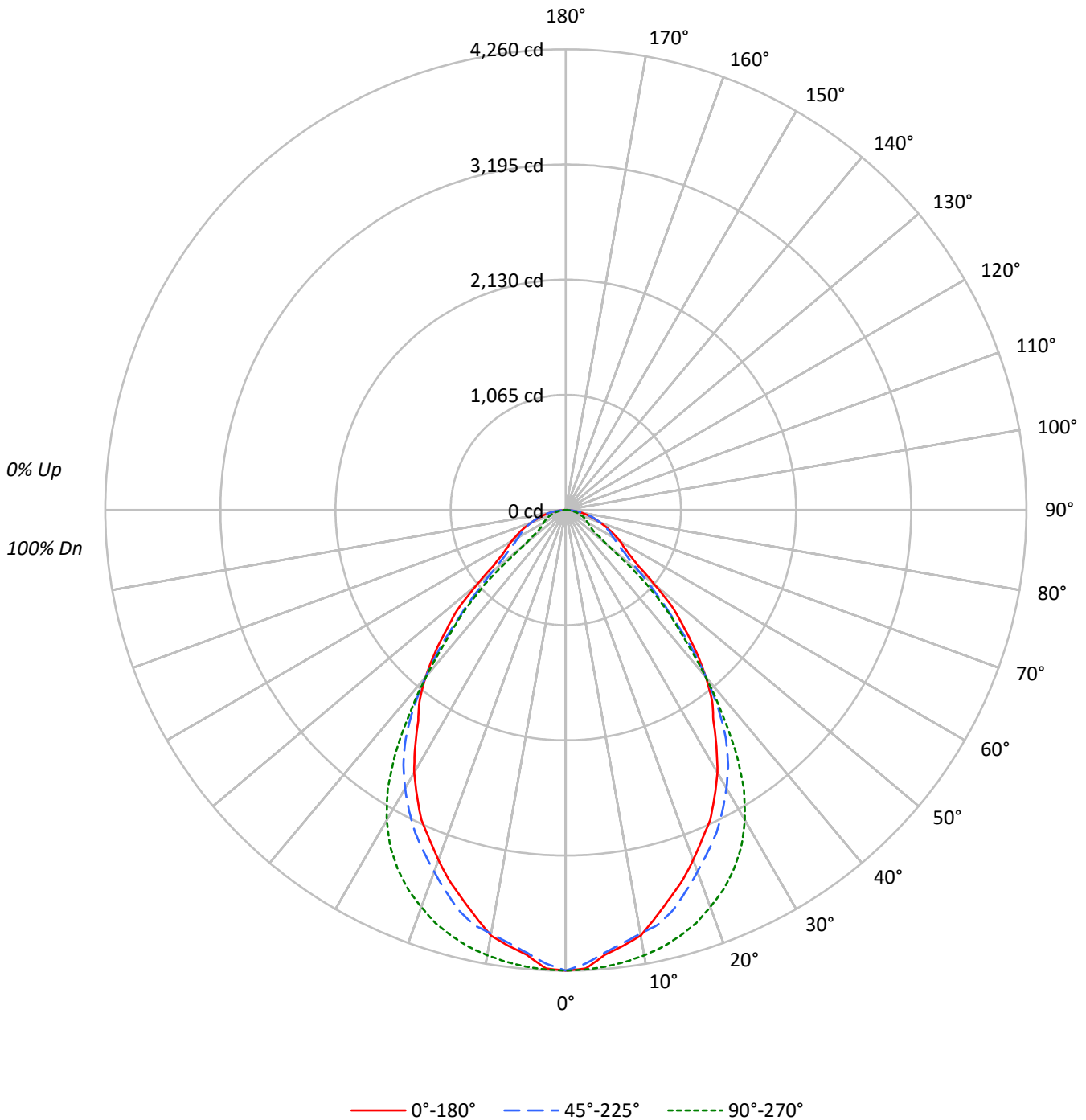
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6913.0 lumens
Efficiency: N/A
Efficacy: 107.3 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_{in}): 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	100	
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	90	88	
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	80	78	
3	96	87	80	75	94	86	80	75	83	78	73	80	76	72	78	74	71	71	69	
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	63	62	
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58	66	61	57	57	55	
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	52	50	
7	73	61	54	48	71	60	53	48	59	52	48	58	52	47	56	51	47	47	45	
8	68	57	49	44	67	56	49	44	55	48	44	53	48	43	52	47	43	43	41	
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	40	38	
10	61	49	42	37	60	48	42	37	47	41	37	47	41	37	46	40	37	37	35	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	30306	30306	30306
5°	29489	29356	30273
10°	28862	28736	30203
15°	27373	28214	30033
20°	26075	26956	29575
25°	24804	25864	28820
30°	23044	24415	27211
35°	20664	22436	23867
40°	18721	18762	18660
45°	15653	13863	13520
50°	11824	9757	5529
55°	8893	7803	3486
60°	8263	7186	3358
65°	7689	7170	3364
70°	7033	7033	3312
75°	6669	6851	3200
80°	6162	6478	3282
85°	5380	5649	3584

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 16017 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.5	5.7
10°-20°	1084.1	15.7
20°-30°	1537.3	22.2
30°-40°	1583.8	22.9
40°-50°	1106.2	16.0
50°-60°	530.8	7.7
60°-70°	372.4	5.4
70°-80°	232.8	3.4
80°-90°	72.0	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°	3014.9	43.6
0°-40°	4598.7	66.5
0°-60°	6235.7	90.2
0°-90°	6913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6913.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4260	4260	4260	4260	4260	
5°	4129	4123	4110	4218	4239	391
15°	3716	3744	3830	3940	4077	1046
25°	3160	3191	3294	3517	3671	1445
35°	2379	2444	2583	2637	2748	1499
45°	1556	1592	1378	1308	1344	1199
55°	717	682	629	403	281	672
65°	457	427	426	324	200	452
75°	243	239	249	215	116	255
85°	66	66	69	68	44	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4259.5	4259.5	4259.5	4259.5	4259.5
2.5°	4243.0	4229.9	4198.0	4256.2	4251.8
5°	4128.9	4123.4	4110.2	4217.8	4238.6
7.5°	4064.1	4053.1	4037.7	4156.3	4214.5
10°	3994.9	4008.1	3977.4	4086.0	4180.5
12.5°	3852.2	3887.3	3929.1	4013.6	4138.7
15°	3716.1	3743.5	3830.3	3940.0	4077.3
17.5°	3588.7	3620.6	3695.2	3859.9	4005.9
20°	3443.8	3487.7	3560.2	3771.0	3906.0
22.5°	3294.5	3335.1	3426.3	3652.4	3802.8
25°	3159.5	3191.3	3294.5	3517.4	3671.1
27.5°	2980.5	3039.8	3137.5	3352.7	3514.1
30°	2804.9	2855.4	2971.8	3152.9	3312.1
32.5°	2593.0	2666.6	2795.0	2933.3	3066.2
35°	2379.0	2443.7	2583.1	2636.9	2747.8
37.5°	2223.1	2240.6	2319.7	2313.1	2375.7
40°	2015.6	2050.7	2020.0	1937.6	2009.0
42.5°	1791.6	1833.3	1709.3	1613.8	1639.0
45°	1555.6	1591.8	1377.7	1307.5	1343.7
47.5°	1351.4	1348.1	1111.0	1063.8	1013.3
50°	1068.2	1103.3	881.5	793.7	499.5
52.5°	834.3	847.5	726.7	507.2	328.2
55°	716.9	681.7	629.0	402.9	281.0
57.5°	636.7	592.8	557.7	374.4	256.9
60°	580.7	531.3	505.0	355.7	236.0
62.5°	517.1	478.6	468.8	339.2	217.4
65°	456.7	427.0	425.9	323.9	199.8
67.5°	396.3	379.8	384.2	305.2	180.0
70°	338.1	334.8	338.1	281.0	159.2
72.5°	288.7	285.4	294.2	250.3	136.1
75°	242.6	239.3	249.2	215.2	116.4
77.5°	193.2	195.4	202.0	178.9	97.7
80°	150.4	150.4	158.1	140.5	80.1
82.5°	107.6	108.7	113.1	103.2	62.6
85°	65.9	65.9	69.2	68.1	43.9
87.5°	22.0	25.2	29.6	31.8	22.0
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	17.50	18.85	17.86	19.17	19.48	13.83	15.19	14.20	15.50	15.81
	3H	19.24	20.44	19.62	20.77	21.14	15.81	17.01	16.19	17.34	17.71
	4H	19.91	21.04	20.31	21.39	21.77	16.51	17.64	16.91	17.99	18.37
	6H	20.42	21.45	20.83	21.82	22.22	17.03	18.07	17.45	18.44	18.84
	8H	20.59	21.57	21.02	21.96	22.37	17.22	18.21	17.65	18.60	19.00
	12H	20.70	21.64	21.13	22.02	22.45	17.36	18.30	17.79	18.68	19.11
4H	2H	18.03	19.16	18.43	19.51	19.89	15.45	16.58	15.86	16.93	17.31
	3H	20.01	20.94	20.42	21.34	21.74	17.63	18.56	18.04	18.96	19.37
	4H	20.81	21.64	21.24	22.06	22.50	18.51	19.35	18.95	19.77	20.21
	6H	21.45	22.18	21.91	22.62	23.09	19.15	19.88	19.62	20.32	20.79
	8H	21.67	22.35	22.14	22.79	23.26	19.36	20.04	19.83	20.49	20.96
	12H	21.83	22.43	22.31	22.91	23.38	19.52	20.12	20.01	20.60	21.08
8H	4H	21.09	21.77	21.56	22.22	22.69	19.16	19.84	19.63	20.28	20.75
	6H	21.88	22.43	22.38	22.93	23.41	20.02	20.58	20.52	21.07	21.55
	8H	22.18	22.68	22.70	23.19	23.68	20.35	20.85	20.87	21.36	21.85
	12H	22.41	22.85	22.93	23.35	23.92	20.61	21.05	21.13	21.55	22.12
12H	4H	21.11	21.71	21.59	22.19	22.66	19.23	19.83	19.72	20.31	20.79
	6H	21.93	22.43	22.45	22.94	23.43	20.16	20.66	20.68	21.17	21.66
	8H	22.29	22.73	22.81	23.23	23.80	20.57	21.01	21.09	21.51	22.08