

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: P894005

Luminaire Tested: 4MB-9HL-AOL-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894005
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-19)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-AOL-UNV-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 9
3000K CCT
Light Source: -
Ballast/Driver: -

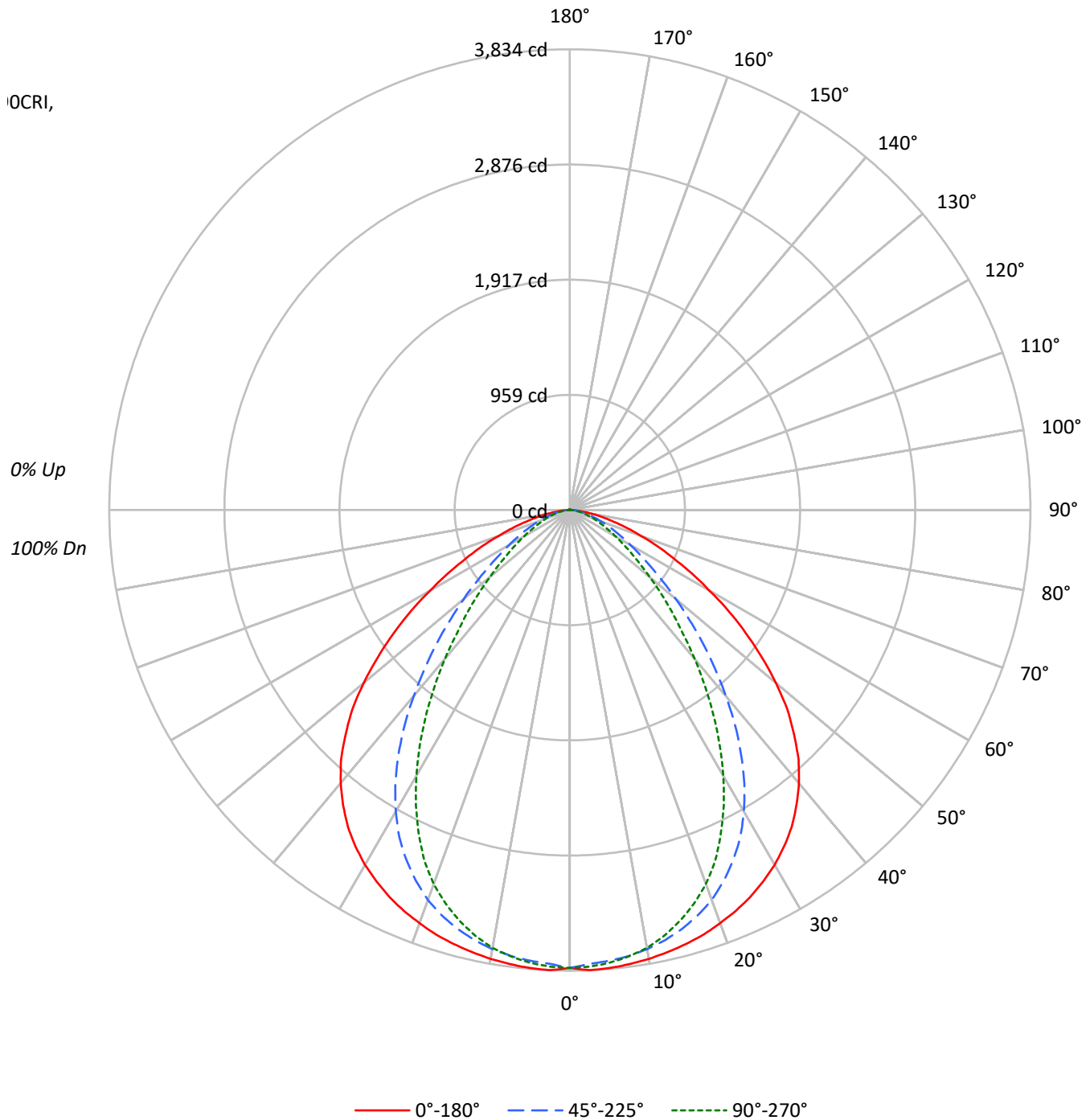
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7533.0 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.16
Luminous Opening: Rectangular (W 0.27' 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	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	78	78	78	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68	68	68	68	67
4	87	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	61	61	61	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	54	54	54	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	45	56	49	44	55	48	44	53	48	44	44	44	44	42
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	40	40	40	38
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	36	36	36	34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	33	33	33	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	38811	38811	38811
5°	39114	38504	38674
10°	39223	38370	38269
15°	39416	38045	37328
20°	39648	37429	35898
25°	39929	36142	33426
30°	40097	34064	30048
35°	40034	30914	25944
40°	39445	26859	21516
45°	38010	22536	17324
50°	35493	18279	13754
55°	31793	14595	11014
60°	27347	11911	9003
65°	22958	9904	7446
70°	18741	8323	6390
75°	14866	7047	5442
80°	11565	6029	4698
85°	8916	5387	4066

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 38010 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.5	4.8
10°-20°	1023.3	13.6
20°-30°	1489.1	19.8
30°-40°	1600.9	21.3
40°-50°	1336.9	17.7
50°-60°	898.0	11.9
60°-70°	510.1	6.8
70°-80°	232.4	3.1
80°-90°	59.3	0.8
90°-100°	6.6	0.1
100°-110°	4.8	0.1
110°-120°	2.8	0.0
120°-130°	1.9	0.0
130°-140°	1.8	0.0
140°-150°	1.6	0.0
150°-160°	1.4	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	2872.9	38.1
0°-40°	4473.8	59.4
0°-60°	6708.7	89.1
0°-90°	7510.6	99.7
90°-120°	14.3	0.2
90°-150°	19.6	0.3
90°-180°	22.0	0.3
0°-180°	7533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3811	3811	3811	3811	3811	
5°	3826	3816	3766	3797	3783	364
15°	3738	3708	3608	3580	3540	1057
25°	3553	3450	3216	3049	2975	1638
35°	3220	2962	2486	2189	2087	2009
45°	2639	2177	1565	1280	1203	2029
55°	1791	1287	822	659	620	1600
65°	953	655	411	329	309	957
75°	378	273	179	146	138	415
85°	76	62	46	37	35	87
90°	10	8	6	5	4	9
95°	12	8	5	3	3	10
105°	9	7	4	2	2	9
115°	4	4	2	2	2	5
125°	3	2	2	2	2	3
135°	2	2	2	2	2	2
145°	2	2	3	3	2	1
155°	2	3	3	3	3	1
165°	3	3	4	4	4	1
175°	3	4	4	4	4	0
180°	4	4	4	4	4	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3810.9	3810.9	3810.9	3810.9	3810.9
2.5°	3833.6	3823.0	3780.0	3813.2	3804.1
5°	3826.0	3815.5	3766.4	3796.6	3783.0
7.5°	3811.7	3801.1	3743.7	3765.6	3747.5
10°	3792.8	3777.7	3710.4	3716.5	3700.6
12.5°	3767.9	3745.2	3665.9	3655.3	3630.4
15°	3738.4	3708.2	3608.4	3579.7	3540.4
17.5°	3704.4	3660.6	3538.9	3478.5	3435.4
20°	3658.3	3602.4	3453.6	3357.6	3312.3
22.5°	3610.7	3534.4	3343.3	3216.3	3161.9
25°	3553.3	3450.5	3216.3	3049.3	2974.6
27.5°	3484.5	3356.1	3073.5	2863.5	2774.3
30°	3409.7	3245.0	2896.7	2655.0	2555.2
32.5°	3319.8	3114.3	2703.3	2426.8	2323.3
35°	3220.1	2961.7	2486.5	2188.8	2086.8
37.5°	3099.2	2784.9	2261.3	1945.5	1847.3
40°	2967.0	2602.8	2020.3	1703.7	1618.4
42.5°	2818.2	2392.8	1786.1	1481.6	1389.4
45°	2639.1	2176.7	1564.7	1279.9	1202.8
47.5°	2456.3	1938.0	1344.1	1085.7	1030.6
50°	2240.2	1713.6	1153.7	924.8	868.1
52.5°	2015.8	1492.9	976.2	785.0	734.4
55°	1790.6	1287.4	822.0	658.8	620.3
57.5°	1571.5	1098.6	691.3	556.8	523.6
60°	1342.6	932.3	584.8	469.2	442.0
62.5°	1146.2	788.0	491.1	395.1	372.5
65°	952.7	655.1	411.0	329.4	309.0
67.5°	790.3	541.0	340.7	273.5	256.1
70°	629.4	440.5	279.5	225.9	214.6
72.5°	501.7	351.3	226.7	183.6	172.3
75°	377.8	272.7	179.1	145.8	138.3
77.5°	284.1	207.0	138.3	113.3	105.0
80°	197.2	148.1	102.8	83.9	80.1
82.5°	126.2	102.0	71.0	59.7	55.2
85°	76.3	62.0	46.1	37.0	34.8
87.5°	36.3	30.2	23.4	18.1	16.6
90°	9.8	8.3	6.0	5.3	4.5
92.5°	11.3	8.3	5.3	3.8	3.0
95°	12.1	8.3	5.3	3.0	3.0
97.5°	12.1	9.1	4.5	3.0	2.3
100°	11.3	8.3	4.5	3.0	2.3
102.5°	9.8	7.6	3.8	2.3	2.3
105°	9.1	6.8	3.8	2.3	1.5
107.5°	7.6	6.0	3.0	2.3	1.5
110°	6.8	5.3	3.0	2.3	1.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.3	4.5	3.0	2.3	1.5
115°	4.5	3.8	2.3	1.5	1.5
117.5°	3.8	3.0	2.3	1.5	1.5
120°	3.8	3.0	2.3	1.5	1.5
122.5°	3.0	3.0	2.3	1.5	1.5
125°	3.0	2.3	2.3	1.5	1.5
127.5°	2.3	2.3	2.3	1.5	1.5
130°	2.3	2.3	2.3	2.3	1.5
132.5°	2.3	2.3	2.3	2.3	1.5
135°	2.3	2.3	2.3	2.3	2.3
137.5°	2.3	2.3	2.3	2.3	2.3
140°	2.3	2.3	2.3	2.3	2.3
142.5°	2.3	2.3	3.0	2.3	2.3
145°	2.3	2.3	3.0	3.0	2.3
147.5°	2.3	2.3	3.0	3.0	3.0
150°	2.3	2.3	3.0	3.0	3.0
152.5°	2.3	3.0	3.0	3.0	3.0
155°	2.3	3.0	3.0	3.0	3.0
157.5°	3.0	3.0	3.0	3.8	3.8
160°	3.0	3.0	3.8	3.8	3.8
162.5°	3.0	3.0	3.8	3.8	3.8
165°	3.0	3.0	3.8	4.5	4.5
167.5°	3.0	3.8	3.8	4.5	4.5
170°	3.0	3.8	3.8	4.5	4.5
172.5°	3.0	3.8	4.5	4.5	4.5
175°	3.0	3.8	4.5	4.5	4.5
177.5°	3.8	3.8	4.5	4.5	4.5
180°	4.5	4.5	4.5	4.5	4.5



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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	23.01	24.45	23.38	24.77	25.09	17.69	19.12	18.06	19.44	19.77
	3H	24.33	25.61	24.71	25.94	26.31	18.70	19.98	19.08	20.31	20.69
	4H	24.75	25.94	25.15	26.30	26.69	19.04	20.24	19.45	20.59	20.98
	6H	25.01	26.11	25.43	26.48	26.88	19.27	20.37	19.69	20.75	21.15
	8H	25.07	26.12	25.50	26.51	26.92	19.34	20.38	19.77	20.78	21.19
	12H	25.10	26.10	25.54	26.49	26.93	19.38	20.38	19.82	20.77	21.20
4H	2H	23.01	24.20	23.41	24.56	24.95	18.34	19.53	18.74	19.89	20.27
	3H	24.48	25.46	24.90	25.87	26.28	19.53	20.51	19.95	20.92	21.33
	4H	24.99	25.87	25.43	26.29	26.74	19.95	20.83	20.39	21.25	21.70
	6H	25.36	26.12	25.82	26.57	27.04	20.26	21.03	20.73	21.48	21.95
	8H	25.46	26.17	25.93	26.62	27.10	20.35	21.07	20.83	21.52	22.00
	12H	25.52	26.16	26.01	26.65	27.12	20.42	21.06	20.91	21.54	22.02
8H	4H	24.97	25.68	25.44	26.13	26.61	20.29	21.00	20.76	21.45	21.93
	6H	25.39	25.97	25.89	26.47	26.96	20.68	21.27	21.19	21.77	22.26
	8H	25.53	26.06	26.05	26.57	27.07	20.82	21.35	21.35	21.87	22.37
	12H	25.65	26.11	26.16	26.61	27.19	20.94	21.41	21.46	21.91	22.48
12H	4H	24.94	25.57	25.43	26.06	26.54	20.33	20.97	20.82	21.46	21.93
	6H	25.35	25.88	25.88	26.40	26.90	20.75	21.28	21.27	21.80	22.29
	8H	25.53	25.99	26.04	26.49	27.07	20.94	21.41	21.46	21.91	22.48