

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: P894008

Luminaire Tested: 4MB-9HL-AOL-UNV-L950

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894008
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-L950
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 95000K CCT
Light Source: -
Ballast/Driver: -

Summary

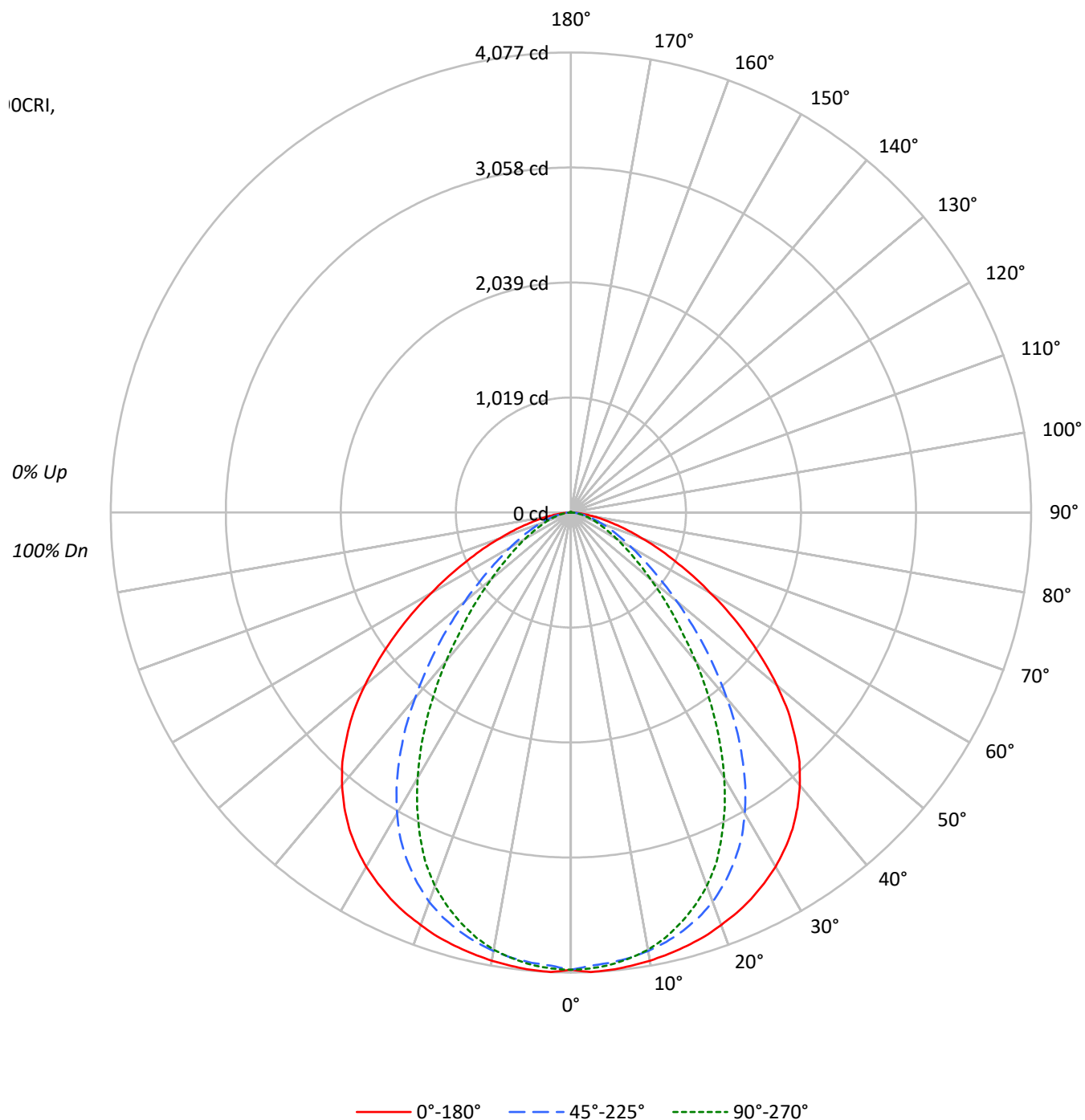
Lumens per Lamp: N/A
Luminaire Lumens: 8010.9 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.16
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')
CIE Type: Direct

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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95		96	94	92		93	91	89	88
2	102	95	90	85	100	93	88	84	90	86	82		87	83	80		84	81	78	76
3	95	85	78	73	92	84	77	72	81	75	71		78	74	70		76	72	68	67
4	87	77	69	63	85	76	69	63	73	67	62		71	66	61		69	64	61	59
5	81	70	62	56	79	69	61	56	67	60	55		65	59	54		63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49		59	53	49		58	52	48	46
7	70	58	50	45	69	57	50	45	56	49	44		55	48	44		53	48	44	42
8	66	54	46	40	64	53	45	40	52	45	40		50	44	40		49	44	40	38
9	62	49	42	37	61	49	42	37	48	41	37		47	41	36		46	40	36	34
10	58	46	39	34	57	45	38	34	44	38	33		44	38	33		43	37	33	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	41275	41275	41275
5°	41596	40947	41128
10°	41712	40806	40697
15°	41917	40460	39697
20°	42163	39804	38176
25°	42463	38435	35546
30°	42642	36226	31956
35°	42574	32876	27590
40°	41948	28563	22881
45°	40422	23966	18422
50°	37745	19439	14627
55°	33810	15522	11713
60°	29082	12667	9573
65°	24416	10533	7919
70°	19930	8853	6795
75°	15806	7492	5784
80°	12299	6410	4997
85°	9488	5726	4323

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 40422 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.4	4.8
10°-20°	1088.3	13.6
20°-30°	1583.6	19.8
30°-40°	1702.4	21.3
40°-50°	1421.8	17.7
50°-60°	955.0	11.9
60°-70°	542.5	6.8
70°-80°	247.1	3.1
80°-90°	63.1	0.8
90°-100°	7.0	0.1
100°-110°	5.1	0.1
110°-120°	3.0	0.0
120°-130°	2.0	0.0
130°-140°	1.8	0.0
140°-150°	1.7	0.0
150°-160°	1.5	0.0
160°-170°	1.1	0.0
170°-180°	0.4	0.0
0°-30°	3055.2	38.1
0°-40°	4757.7	59.4
0°-60°	7134.4	89.1
0°-90°	7987.2	99.7
90°-120°	15.1	0.2
90°-150°	20.7	0.3
90°-180°	24.0	0.3
0°-180°	8010.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4053	4053	4053	4053	4053	
5°	4069	4058	4005	4038	4023	387
15°	3976	3944	3837	3807	3765	1124
25°	3779	3670	3420	3243	3163	1742
35°	3424	3150	2644	2328	2219	2137
45°	2807	2315	1664	1361	1279	2157
55°	1904	1369	874	701	660	1702
65°	1013	697	437	350	329	1018
75°	402	290	190	155	147	442
85°	81	66	49	39	37	92
90°	10	9	6	6	5	10
95°	13	9	6	3	3	10
105°	10	7	4	2	2	10
115°	5	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	2
155°	2	3	3	3	3	1
165°	3	3	4	5	5	1
175°	3	4	5	5	5	0
180°	5	5	5	5	5	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4052.8	4052.8	4052.8	4052.8	4052.8
2.5°	4076.9	4065.6	4019.8	4055.2	4045.5
5°	4068.8	4057.6	4005.3	4037.5	4023.0
7.5°	4053.6	4042.3	3981.2	4004.5	3985.3
10°	4033.5	4017.4	3945.9	3952.3	3935.4
12.5°	4007.0	3982.8	3898.5	3887.2	3860.7
15°	3975.6	3943.5	3837.4	3806.9	3765.1
17.5°	3939.5	3892.9	3763.5	3699.2	3653.4
20°	3890.4	3831.0	3672.7	3570.7	3522.5
22.5°	3839.8	3758.7	3555.4	3420.4	3362.6
25°	3778.8	3669.5	3420.4	3242.8	3163.3
27.5°	3705.6	3569.1	3268.6	3045.2	2950.4
30°	3626.1	3450.9	3080.5	2823.4	2717.4
32.5°	3530.5	3311.9	2874.8	2580.8	2470.7
35°	3424.4	3149.6	2644.3	2327.7	2219.2
37.5°	3295.9	2961.6	2404.8	2069.0	1964.5
40°	3155.3	2768.0	2148.5	1811.8	1721.1
42.5°	2997.0	2544.6	1899.4	1575.6	1477.6
45°	2806.6	2314.8	1664.0	1361.1	1279.1
47.5°	2612.1	2060.9	1429.4	1154.6	1095.9
50°	2382.3	1822.3	1226.9	983.5	923.2
52.5°	2143.7	1587.7	1038.1	834.8	781.0
55°	1904.2	1369.1	874.2	700.6	659.7
57.5°	1671.2	1168.3	735.2	592.2	556.8
60°	1427.8	991.5	621.9	499.0	470.0
62.5°	1218.9	838.0	522.3	420.2	396.1
65°	1013.2	696.6	437.1	350.3	328.6
67.5°	840.4	575.3	362.4	290.9	272.4
70°	669.3	468.4	297.3	240.2	228.2
72.5°	533.5	373.6	241.0	195.2	183.2
75°	401.7	290.1	190.4	155.1	147.0
77.5°	302.1	220.2	147.0	120.5	111.7
80°	209.7	157.5	109.3	89.2	85.2
82.5°	134.2	108.5	75.5	63.5	58.7
85°	81.2	65.9	49.0	39.4	37.0
87.5°	38.6	32.1	24.9	19.3	17.7
90°	10.4	8.8	6.4	5.6	4.8
92.5°	12.1	8.8	5.6	4.0	3.2
95°	12.9	8.8	5.6	3.2	3.2
97.5°	12.9	9.6	4.8	3.2	2.4
100°	12.1	8.8	4.8	3.2	2.4
102.5°	10.4	8.0	4.0	2.4	2.4
105°	9.6	7.2	4.0	2.4	1.6
107.5°	8.0	6.4	3.2	2.4	1.6
110°	7.2	5.6	3.2	2.4	1.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.6	4.8	3.2	2.4	1.6
115°	4.8	4.0	2.4	1.6	1.6
117.5°	4.0	3.2	2.4	1.6	1.6
120°	4.0	3.2	2.4	1.6	1.6
122.5°	3.2	3.2	2.4	1.6	1.6
125°	3.2	2.4	2.4	1.6	1.6
127.5°	2.4	2.4	2.4	1.6	1.6
130°	2.4	2.4	2.4	2.4	1.6
132.5°	2.4	2.4	2.4	2.4	1.6
135°	2.4	2.4	2.4	2.4	2.4
137.5°	2.4	2.4	2.4	2.4	2.4
140°	2.4	2.4	2.4	2.4	2.4
142.5°	2.4	2.4	3.2	2.4	2.4
145°	2.4	2.4	3.2	3.2	2.4
147.5°	2.4	2.4	3.2	3.2	3.2
150°	2.4	2.4	3.2	3.2	3.2
152.5°	2.4	3.2	3.2	3.2	3.2
155°	2.4	3.2	3.2	3.2	3.2
157.5°	3.2	3.2	3.2	4.0	4.0
160°	3.2	3.2	4.0	4.0	4.0
162.5°	3.2	3.2	4.0	4.0	4.0
165°	3.2	3.2	4.0	4.8	4.8
167.5°	3.2	4.0	4.0	4.8	4.8
170°	3.2	4.0	4.0	4.8	4.8
172.5°	3.2	4.0	4.8	4.8	4.8
175°	3.2	4.0	4.8	4.8	4.8
177.5°	4.0	4.0	4.8	4.8	4.8
180°	4.8	4.8	4.8	4.8	4.8

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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	23.23	24.66	23.60	24.98	25.30	17.91	19.34	18.28	19.66	19.98
	3H	24.54	25.82	24.93	26.16	26.53	18.92	20.19	19.30	20.53	20.90
	4H	24.96	26.15	25.37	26.51	26.90	19.26	20.45	19.66	20.81	21.20
	6H	25.22	26.32	25.64	26.70	27.10	19.49	20.59	19.90	20.96	21.36
	8H	25.28	26.33	25.72	26.73	27.14	19.55	20.60	19.99	21.00	21.41
	12H	25.32	26.32	25.75	26.70	27.14	19.59	20.59	20.03	20.98	21.42
4H	2H	23.22	24.42	23.63	24.77	25.16	18.55	19.75	18.96	20.10	20.49
	3H	24.69	25.68	25.11	26.08	26.49	19.74	20.73	20.16	21.13	21.54
	4H	25.20	26.09	25.64	26.51	26.96	20.16	21.04	20.60	21.47	21.92
	6H	25.57	26.34	26.04	26.79	27.26	20.48	21.24	20.94	21.69	22.16
	8H	25.67	26.38	26.14	26.84	27.31	20.57	21.28	21.04	21.73	22.21
	12H	25.74	26.37	26.23	26.86	27.34	20.64	21.27	21.13	21.76	22.24
8H	4H	25.18	25.90	25.65	26.35	26.82	20.50	21.22	20.97	21.67	22.14
	6H	25.60	26.19	26.11	26.69	27.17	20.90	21.48	21.40	21.98	22.47
	8H	25.74	26.27	26.26	26.79	27.28	21.04	21.57	21.56	22.08	22.58
	12H	25.86	26.33	26.38	26.83	27.40	21.16	21.62	21.67	22.12	22.70
12H	4H	25.15	25.79	25.64	26.27	26.75	20.55	21.18	21.04	21.67	22.15
	6H	25.57	26.10	26.09	26.61	27.11	20.96	21.49	21.49	22.01	22.51
	8H	25.74	26.21	26.26	26.71	27.28	21.15	21.62	21.67	22.12	22.69

END OF REPORT