

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: P894001

Luminaire Tested: 4MB-9HL-AOL-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894001
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-L830
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 8
3000K CCT
Light Source: -
Ballast/Driver: -

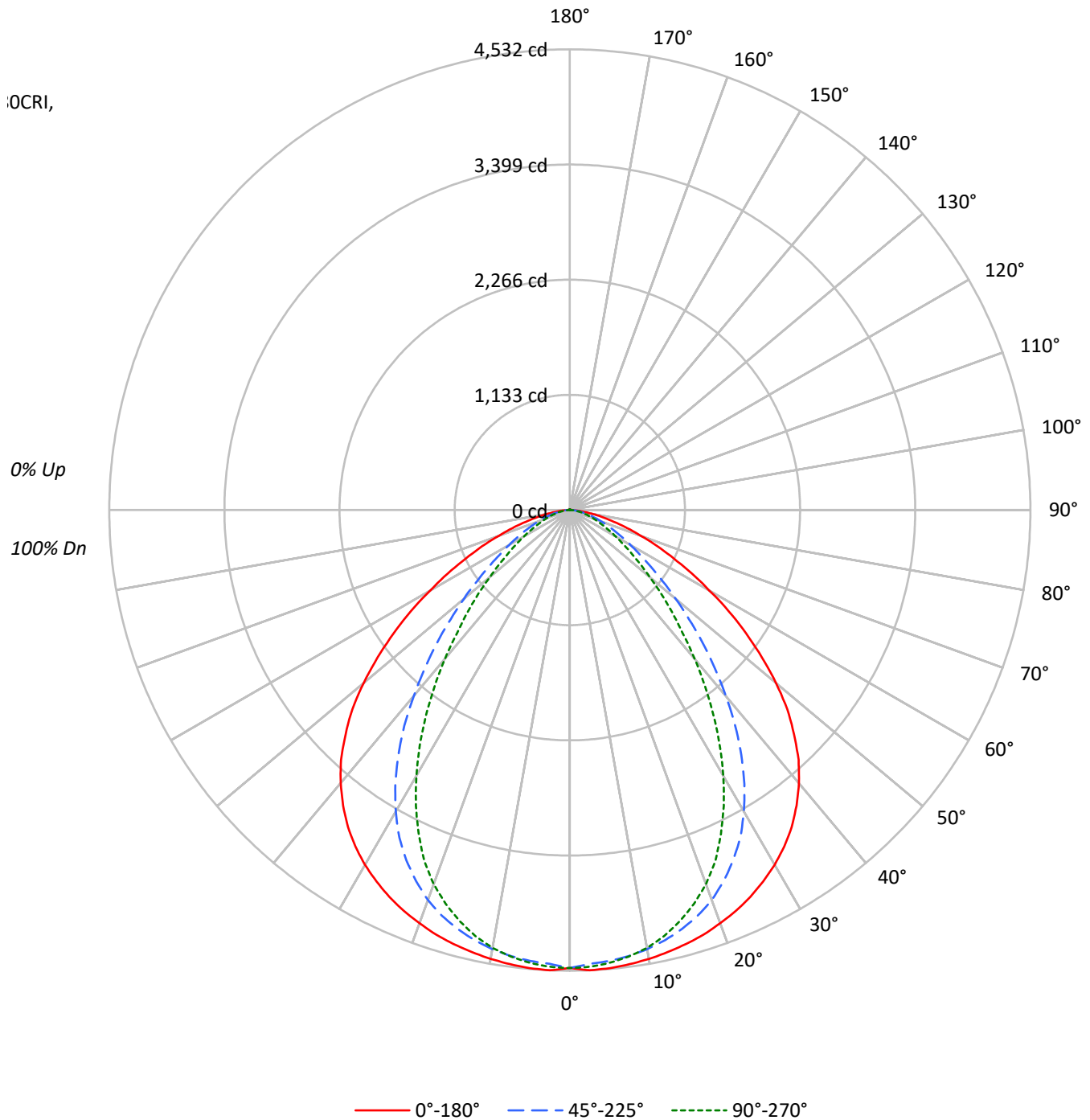
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8906.2 lumens
Efficiency: N/A
Efficacy: 138.3 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°	45885	45885	45885
5°	46243	45521	45723
10°	46372	45364	45244
15°	46600	44980	44132
20°	46875	44251	42441
25°	47206	42729	39517
30°	47406	40273	35526
35°	47331	36548	30673
40°	46635	31754	25436
45°	44938	26643	20481
50°	41962	21611	16261
55°	37589	17257	13022
60°	32331	14083	10643
65°	27144	11709	8803
70°	22157	9841	7554
75°	17573	8330	6434
80°	13671	7126	5554
85°	10540	6368	4803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 44938 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.2	4.8
10°-20°	1209.9	13.6
20°-30°	1760.5	19.8
30°-40°	1892.6	21.3
40°-50°	1580.6	17.7
50°-60°	1061.7	11.9
60°-70°	603.1	6.8
70°-80°	274.8	3.1
80°-90°	70.2	0.8
90°-100°	7.9	0.1
100°-110°	5.7	0.1
110°-120°	3.4	0.0
120°-130°	2.3	0.0
130°-140°	2.1	0.0
140°-150°	1.9	0.0
150°-160°	1.7	0.0
160°-170°	1.3	0.0
170°-180°	0.5	0.0
0°-30°	3396.6	38.1
0°-40°	5289.2	59.4
0°-60°	7931.5	89.1
0°-90°	8879.6	99.7
90°-120°	16.9	0.2
90°-150°	23.2	0.3
90°-180°	27.0	0.3
0°-180°	8906.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4506	4506	4506	4506	4506	
5°	4523	4511	4453	4489	4472	430
15°	4420	4384	4266	4232	4186	1249
25°	4201	4080	3802	3605	3517	1936
35°	3807	3502	2940	2588	2467	2375
45°	3120	2573	1850	1513	1422	2398
55°	2117	1522	972	779	733	1892
65°	1126	774	486	390	365	1132
75°	447	322	212	172	164	491
85°	90	73	54	44	41	103
90°	12	10	7	6	5	11
95°	14	10	6	4	4	11
105°	11	8	4	3	2	11
115°	5	4	3	2	2	6
125°	4	3	3	2	2	3
135°	3	3	3	3	3	2
145°	3	3	4	4	3	2
155°	3	4	4	4	4	1
165°	4	4	4	5	5	1
175°	4	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°	4505.5	4505.5	4505.5	4505.5	4505.5
2.5°	4532.3	4519.8	4468.9	4508.2	4497.5
5°	4523.4	4510.9	4452.8	4488.6	4472.5
7.5°	4506.4	4493.9	4426.0	4451.9	4430.5
10°	4484.1	4466.2	4386.7	4393.9	4375.1
12.5°	4454.6	4427.8	4334.0	4321.5	4292.0
15°	4419.8	4384.0	4266.1	4232.2	4185.7
17.5°	4379.6	4327.8	4184.0	4112.5	4061.6
20°	4325.1	4259.0	4083.0	3969.6	3916.0
22.5°	4268.8	4178.6	3952.6	3802.5	3738.2
25°	4200.9	4079.5	3802.5	3605.1	3516.7
27.5°	4119.6	3967.8	3633.7	3385.4	3280.0
30°	4031.2	3836.5	3424.7	3138.9	3021.0
32.5°	3924.9	3682.0	3196.0	2869.1	2746.7
35°	3807.0	3501.5	2939.7	2587.7	2467.1
37.5°	3664.1	3292.5	2673.5	2300.1	2184.0
40°	3507.8	3077.2	2388.5	2014.3	1913.3
42.5°	3331.8	2828.9	2111.6	1751.7	1642.7
45°	3120.1	2573.4	1849.9	1513.2	1422.0
47.5°	2903.9	2291.2	1589.1	1283.6	1218.4
50°	2648.5	2025.9	1364.0	1093.3	1026.3
52.5°	2383.2	1765.1	1154.1	928.1	868.2
55°	2117.0	1522.1	971.9	778.9	733.4
57.5°	1858.0	1298.8	817.3	658.3	619.0
60°	1587.3	1102.3	691.4	554.7	522.5
62.5°	1355.1	931.7	580.6	467.2	440.4
65°	1126.4	774.4	485.9	389.5	365.3
67.5°	934.3	639.6	402.9	323.4	302.8
70°	744.1	520.8	330.5	267.1	253.7
72.5°	593.1	415.4	268.0	217.1	203.7
75°	446.6	322.5	211.7	172.4	163.5
77.5°	335.9	244.7	163.5	134.0	124.2
80°	233.1	175.1	121.5	99.2	94.7
82.5°	149.2	120.6	84.0	70.6	65.2
85°	90.2	73.2	54.5	43.8	41.1
87.5°	42.9	35.7	27.7	21.4	19.7
90°	11.6	9.8	7.1	6.3	5.4
92.5°	13.4	9.8	6.3	4.5	3.6
95°	14.3	9.8	6.3	3.6	3.6
97.5°	14.3	10.7	5.4	3.6	2.7
100°	13.4	9.8	5.4	3.6	2.7
102.5°	11.6	8.9	4.5	2.7	2.7
105°	10.7	8.0	4.5	2.7	1.8
107.5°	8.9	7.1	3.6	2.7	1.8
110°	8.0	6.3	3.6	2.7	1.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.3	5.4	3.6	2.7	1.8
115°	5.4	4.5	2.7	1.8	1.8
117.5°	4.5	3.6	2.7	1.8	1.8
120°	4.5	3.6	2.7	1.8	1.8
122.5°	3.6	3.6	2.7	1.8	1.8
125°	3.6	2.7	2.7	1.8	1.8
127.5°	2.7	2.7	2.7	1.8	1.8
130°	2.7	2.7	2.7	2.7	1.8
132.5°	2.7	2.7	2.7	2.7	1.8
135°	2.7	2.7	2.7	2.7	2.7
137.5°	2.7	2.7	2.7	2.7	2.7
140°	2.7	2.7	2.7	2.7	2.7
142.5°	2.7	2.7	3.6	2.7	2.7
145°	2.7	2.7	3.6	3.6	2.7
147.5°	2.7	2.7	3.6	3.6	3.6
150°	2.7	2.7	3.6	3.6	3.6
152.5°	2.7	3.6	3.6	3.6	3.6
155°	2.7	3.6	3.6	3.6	3.6
157.5°	3.6	3.6	3.6	4.5	4.5
160°	3.6	3.6	4.5	4.5	4.5
162.5°	3.6	3.6	4.5	4.5	4.5
165°	3.6	3.6	4.5	5.4	5.4
167.5°	3.6	4.5	4.5	5.4	5.4
170°	3.6	4.5	4.5	5.4	5.4
172.5°	3.6	4.5	5.4	5.4	5.4
175°	3.6	4.5	5.4	5.4	5.4
177.5°	4.5	4.5	5.4	5.4	5.4
180°	5.4	5.4	5.4	5.4	5.4



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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	23.59	25.03	23.97	25.35	25.67	18.27	19.71	18.64	20.03	20.35
	3H	24.91	26.19	25.29	26.52	26.90	19.28	20.56	19.67	20.90	21.27
	4H	25.33	26.52	25.73	26.88	27.27	19.62	20.82	20.03	21.18	21.56
	6H	25.59	26.69	26.01	27.06	27.46	19.85	20.95	20.27	21.33	21.73
	8H	25.65	26.70	26.08	27.09	27.50	19.92	20.97	20.35	21.36	21.77
	12H	25.68	26.68	26.12	27.07	27.51	19.96	20.96	20.40	21.35	21.79
4H	2H	23.59	24.78	23.99	25.14	25.53	18.92	20.11	19.32	20.47	20.86
	3H	25.06	26.04	25.48	26.45	26.86	20.11	21.09	20.53	21.50	21.91
	4H	25.57	26.45	26.01	26.88	27.32	20.53	21.41	20.97	21.84	22.28
	6H	25.94	26.70	26.41	27.15	27.62	20.84	21.61	21.31	22.06	22.53
	8H	26.04	26.75	26.51	27.20	27.68	20.94	21.65	21.41	22.10	22.58
	12H	26.11	26.74	26.60	27.23	27.71	21.00	21.64	21.49	22.12	22.60
8H	4H	25.55	26.26	26.02	26.71	27.19	20.87	21.58	21.34	22.04	22.51
	6H	25.97	26.56	26.47	27.06	27.54	21.27	21.85	21.77	22.35	22.84
	8H	26.11	26.64	26.63	27.15	27.65	21.41	21.93	21.93	22.45	22.95
	12H	26.23	26.69	26.74	27.19	27.77	21.52	21.99	22.04	22.49	23.06
12H	4H	25.52	26.16	26.01	26.64	27.12	20.92	21.55	21.41	22.04	22.52
	6H	25.94	26.46	26.46	26.98	27.48	21.33	21.86	21.85	22.38	22.87
	8H	26.11	26.58	26.63	27.07	27.65	21.52	21.99	22.04	22.49	23.06