

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: P893993

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893993
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-20)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-ACL-UNV-L830
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 3000K (C)
Light Source: -
Ballast/Driver: -

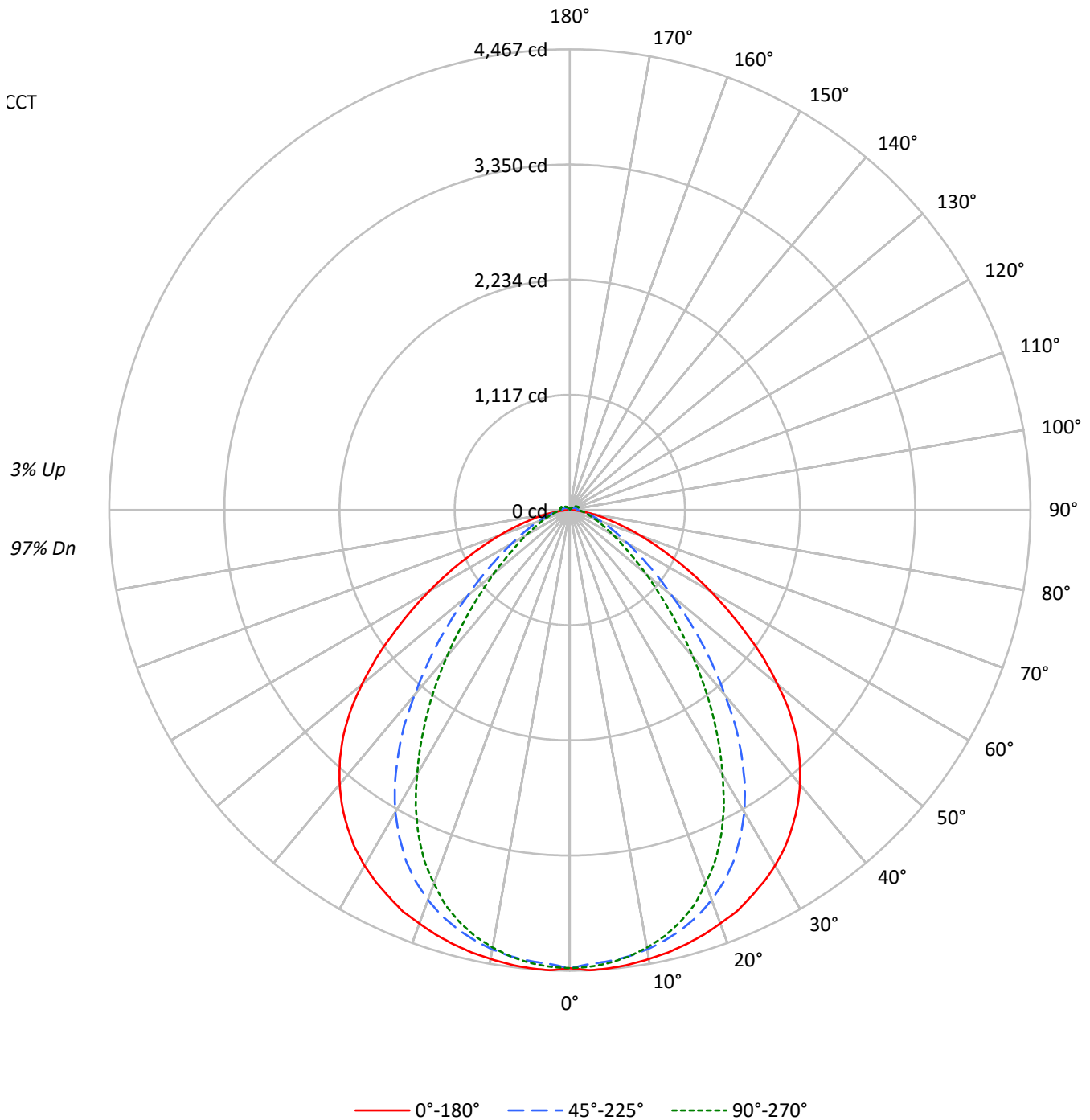
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9010.0 lumens
Efficiency: N/A
Efficacy: 139.9 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.15
Luminous Opening: Rectangular w/ Sides (W: 0.27' x L: 3.98' x H: 0.08')
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	0
RCR																					
0	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	100	100	100	97
1	110	106	102	99	107	103	100	97	99	96	94	94	92	90	90	89	87	87	87	87	85
2	101	94	89	84	99	92	87	83	88	84	80	85	81	78	82	79	76	76	76	76	74
3	94	85	78	72	91	83	76	71	80	74	70	77	72	68	74	70	67	67	67	67	65
4	87	76	69	63	84	75	68	62	72	66	61	70	64	60	67	63	59	59	59	59	57
5	81	69	61	55	78	68	60	55	66	59	54	63	58	53	61	56	52	52	52	52	50
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	47	47	47	45
7	70	58	50	44	68	57	49	44	55	48	43	53	47	43	52	47	42	42	42	42	41
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	35	35	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	32	32	32	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	45236	45236	45236
5°	45508	43978	43858
10°	45544	42941	42214
15°	45699	41710	40221
20°	45892	40142	37480
25°	46099	38019	34051
30°	46264	35013	29496
35°	46052	30958	24589
40°	45368	25964	19548
45°	43871	20914	14781
50°	40683	15988	11148
55°	36116	12247	8305
60°	30993	9423	6427
65°	25569	7385	5085
70°	20650	5918	4159
75°	15716	4836	3546
80°	11754	3960	3130
85°	8005	3354	2847

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 43871 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	420.2	4.7
10°-20°	1193.1	13.2
20°-30°	1736.7	19.3
30°-40°	1863.7	20.7
40°-50°	1542.1	17.1
50°-60°	1022.1	11.3
60°-70°	582.3	6.5
70°-80°	288.8	3.2
80°-90°	116.8	1.3
90°-100°	68.6	0.8
100°-110°	61.0	0.7
110°-120°	46.1	0.5
120°-130°	30.6	0.3
130°-140°	18.8	0.2
140°-150°	10.7	0.1
150°-160°	5.5	0.1
160°-170°	2.4	0.0
170°-180°	0.6	0.0
0°-30°	3349.9	37.2
0°-40°	5213.7	57.9
0°-60°	7777.9	86.3
0°-90°	8765.8	97.3
90°-120°	175.7	1.9
90°-150°	235.8	2.6
90°-180°	244.0	2.7
0°-180°	9010.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4442	4442	4442	4442	4442	
5°	4460	4448	4391	4424	4408	424
15°	4359	4324	4207	4168	4135	1232
25°	4142	4034	3757	3552	3473	1911
35°	3758	3460	2902	2523	2412	2348
45°	3110	2526	1796	1446	1348	2383
55°	2095	1481	923	730	677	1874
65°	1109	743	462	372	353	1114
75°	431	321	231	202	196	475
85°	85	91	106	113	112	98
90°	12	38	72	88	91	11
95°	13	39	73	88	91	11
105°	11	30	66	85	89	11
115°	6	20	51	72	79	6
125°	4	13	37	54	60	3
135°	3	11	25	38	42	2
145°	4	8	17	26	30	2
155°	4	7	12	16	20	2
165°	4	5	8	10	12	1
175°	4	5	6	6	5	0
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4441.8	4441.8	4441.8	4441.8	4441.8
2.5°	4466.8	4457.0	4406.0	4444.4	4432.8
5°	4459.6	4448.0	4390.8	4423.9	4407.8
7.5°	4444.4	4430.2	4365.8	4388.2	4368.5
10°	4420.3	4402.5	4325.6	4330.1	4307.8
12.5°	4394.4	4366.7	4272.9	4260.4	4232.7
15°	4358.7	4323.8	4206.8	4168.4	4135.3
17.5°	4317.6	4269.4	4124.6	4056.7	4013.9
20°	4266.7	4202.3	4022.8	3919.2	3853.0
22.5°	4217.5	4122.8	3901.3	3753.0	3683.3
25°	4142.5	4034.4	3756.6	3552.0	3473.4
27.5°	4068.3	3922.7	3578.8	3327.8	3236.6
30°	3981.7	3790.5	3384.0	3074.9	2962.4
32.5°	3881.6	3645.8	3158.0	2812.3	2692.6
35°	3758.4	3460.0	2902.5	2522.8	2412.1
37.5°	3626.1	3255.4	2639.0	2247.7	2133.3
40°	3472.5	3038.3	2340.6	1961.8	1857.3
42.5°	3301.8	2790.0	2063.7	1692.9	1588.4
45°	3109.8	2525.5	1795.6	1446.3	1348.1
47.5°	2889.1	2254.8	1536.6	1223.9	1141.7
50°	2631.8	1984.1	1293.6	1027.4	966.6
52.5°	2372.8	1729.5	1097.9	871.0	805.8
55°	2094.9	1481.2	922.8	729.9	677.2
57.5°	1826.0	1261.4	771.0	611.9	575.3
60°	1576.8	1064.9	652.2	516.4	486.9
62.5°	1337.4	897.8	545.8	436.9	410.9
65°	1108.7	743.3	461.9	372.5	352.9
67.5°	907.7	620.9	389.5	318.0	302.8
70°	733.4	502.1	327.9	272.5	260.0
72.5°	570.9	402.9	275.2	235.8	225.1
75°	430.6	320.7	231.4	201.9	195.6
77.5°	324.3	249.2	191.2	174.2	169.7
80°	224.2	185.8	158.1	151.0	148.3
82.5°	142.9	133.1	129.5	129.5	129.5
85°	84.9	91.1	106.3	112.6	111.7
87.5°	40.2	59.9	85.8	97.4	99.2
90°	11.6	37.5	72.4	88.4	91.1
92.5°	13.4	38.4	72.4	88.4	91.1
95°	13.4	39.3	73.3	88.4	91.1
97.5°	13.4	37.5	72.4	89.3	92.0
100°	13.4	36.6	71.5	88.4	92.0
102.5°	11.6	33.9	68.8	87.5	91.1
105°	10.7	29.5	66.1	84.9	89.3
107.5°	8.9	26.8	63.4	82.2	87.5
110°	8.0	24.1	59.9	79.5	85.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.1	21.4	55.4	76.8	82.2
115°	6.3	19.7	50.9	72.4	78.6
117.5°	5.4	17.9	46.5	67.9	75.0
120°	4.5	16.1	42.9	63.4	69.7
122.5°	4.5	15.2	39.3	58.1	65.2
125°	3.6	13.4	36.6	53.6	59.9
127.5°	3.6	12.5	33.1	49.1	54.5
130°	2.7	12.5	30.4	45.6	50.9
132.5°	2.7	11.6	26.8	41.1	46.5
135°	2.7	10.7	25.0	37.5	42.0
137.5°	2.7	10.7	22.3	34.8	39.3
140°	3.6	9.8	19.7	31.3	35.7
142.5°	3.6	8.9	18.8	28.6	32.2
145°	3.6	8.0	17.0	25.9	29.5
147.5°	3.6	8.0	15.2	23.2	26.8
150°	3.6	7.1	14.3	20.5	24.1
152.5°	3.6	7.1	13.4	17.9	22.3
155°	3.6	7.1	11.6	16.1	20.5
157.5°	3.6	6.3	10.7	14.3	17.9
160°	4.5	6.3	9.8	12.5	16.1
162.5°	4.5	6.3	8.9	11.6	14.3
165°	4.5	5.4	8.0	9.8	12.5
167.5°	4.5	5.4	8.0	8.9	10.7
170°	4.5	5.4	7.1	7.1	8.0
172.5°	4.5	5.4	6.3	7.1	5.4
175°	4.5	5.4	6.3	6.3	5.4
177.5°	4.5	5.4	5.4	6.3	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	21.91	23.30	22.32	23.67	24.05	17.03	18.41	17.44	18.79	19.17
	3H	23.00	24.24	23.43	24.63	25.06	18.17	19.41	18.60	19.80	20.23
	4H	23.30	24.46	23.75	24.86	25.31	18.68	19.83	19.12	20.24	20.69
	6H	23.44	24.51	23.90	24.94	25.40	19.18	20.25	19.64	20.67	21.13
	8H	23.46	24.47	23.93	24.92	25.39	19.45	20.46	19.92	20.91	21.38
	12H	23.45	24.42	23.93	24.86	25.35	19.74	20.71	20.22	21.15	21.65
4H	2H	21.88	23.04	22.33	23.45	23.89	17.53	18.69	17.98	19.09	19.54
	3H	23.12	24.07	23.58	24.53	25.00	18.85	19.81	19.31	20.26	20.73
	4H	23.49	24.35	23.97	24.82	25.32	19.45	20.31	19.93	20.77	21.28
	6H	23.72	24.47	24.22	24.96	25.49	20.07	20.82	20.58	21.32	21.84
	8H	23.75	24.45	24.26	24.95	25.48	20.40	21.10	20.91	21.59	22.12
	12H	23.76	24.38	24.29	24.91	25.45	20.77	21.40	21.30	21.93	22.46
8H	4H	23.47	24.17	23.98	24.67	25.20	19.69	20.39	20.20	20.88	21.42
	6H	23.75	24.32	24.29	24.86	25.41	20.42	21.00	20.97	21.54	22.08
	8H	23.81	24.33	24.37	24.89	25.44	20.83	21.35	21.39	21.91	22.46
	12H	23.85	24.31	24.40	24.85	25.48	21.32	21.78	21.88	22.32	22.95
12H	4H	23.45	24.07	23.98	24.60	25.14	19.71	20.33	20.23	20.86	21.39
	6H	23.72	24.24	24.28	24.80	25.35	20.46	20.98	21.02	21.54	22.09
	8H	23.82	24.28	24.38	24.82	25.45	20.92	21.38	21.48	21.92	22.55