

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: P893995

Luminaire Tested: 4MB-9HL-ACL-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893995
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-L840
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 4000K (C)
Light Source: -
Ballast/Driver: -

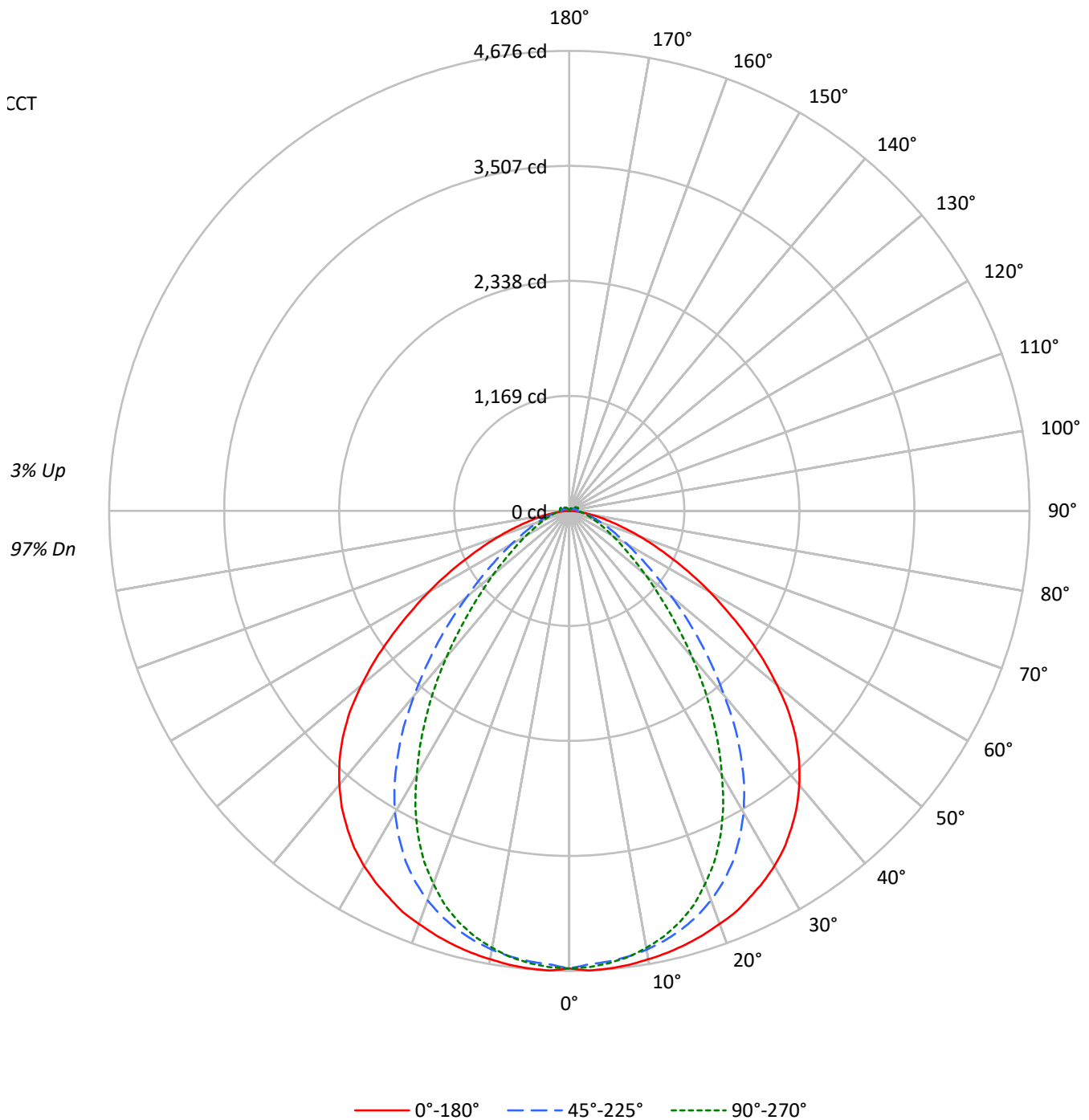
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9433.0 lumens
Efficiency: N/A
Efficacy: 146.5 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	97			
1	110	106	102	99	107	103	100	97	99	96	94	94	92	90	90	89	87	85			
2	101	94	89	84	99	92	87	83	88	84	80	85	81	78	82	79	76	74			
3	94	85	78	72	91	83	76	71	80	74	70	77	72	68	74	70	67	65			
4	87	76	69	63	84	75	68	62	72	66	61	70	64	60	67	63	59	57			
5	81	69	61	55	78	68	60	55	66	59	54	63	58	53	61	56	52	50			
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	45			
7	70	58	50	44	68	57	49	44	55	48	43	53	47	43	52	47	42	41			
8	65	53	45	40	64	52	45	40	51	44	39	49	43	39	48	43	39	37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	36	32	31			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	47360	47360	47360
5°	47644	46043	45918
10°	47683	44958	44196
15°	47845	43669	42110
20°	48046	42026	39240
25°	48264	39804	35649
30°	48436	36657	30880
35°	48213	32412	25743
40°	47498	27183	20466
45°	45931	21896	15475
50°	42593	16739	11672
55°	37813	12823	8695
60°	32448	9865	6728
65°	26769	7730	5322
70°	21622	6196	4354
75°	16453	5062	3713
80°	12309	4145	3278
85°	8382	3511	2980

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 45931 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.9	4.7
10°-20°	1249.1	13.2
20°-30°	1818.2	19.3
30°-40°	1951.2	20.7
40°-50°	1614.5	17.1
50°-60°	1070.1	11.3
60°-70°	609.7	6.5
70°-80°	302.3	3.2
80°-90°	122.3	1.3
90°-100°	71.8	0.8
100°-110°	63.9	0.7
110°-120°	48.2	0.5
120°-130°	32.0	0.3
130°-140°	19.7	0.2
140°-150°	11.2	0.1
150°-160°	5.7	0.1
160°-170°	2.5	0.0
170°-180°	0.6	0.0
0°-30°	3507.2	37.2
0°-40°	5458.4	57.9
0°-60°	8143.0	86.3
0°-90°	9177.3	97.3
90°-120°	184.0	2.0
90°-150°	246.9	2.6
90°-180°	256.0	2.7
0°-180°	9433.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4650	4650	4650	4650	4650	
5°	4669	4657	4597	4632	4615	444
15°	4563	4527	4404	4364	4330	1290
25°	4337	4224	3933	3719	3636	2001
35°	3935	3622	3039	2641	2525	2459
45°	3256	2644	1880	1514	1411	2495
55°	2193	1551	966	764	709	1962
65°	1161	778	484	390	369	1166
75°	451	336	242	211	205	498
85°	89	95	111	118	117	102
90°	12	39	76	93	95	11
95°	14	41	77	93	95	11
105°	11	31	69	89	94	12
115°	6	21	53	76	82	7
125°	4	14	38	56	63	4
135°	3	11	26	39	44	2
145°	4	8	18	27	31	2
155°	4	8	12	17	22	2
165°	5	6	8	10	13	1
175°	5	6	6	6	6	0
180°	6	6	6	6	6	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4650.3	4650.3	4650.3	4650.3	4650.3
2.5°	4676.5	4666.2	4612.9	4653.1	4640.9
5°	4669.0	4656.8	4597.0	4631.6	4614.8
7.5°	4653.1	4638.1	4570.8	4594.2	4573.6
10°	4627.9	4609.1	4528.7	4533.4	4510.0
12.5°	4600.7	4571.7	4473.5	4460.4	4431.4
15°	4563.3	4526.8	4404.3	4364.1	4329.5
17.5°	4520.3	4469.8	4318.3	4247.2	4202.3
20°	4467.0	4399.6	4211.6	4103.2	4033.9
22.5°	4415.5	4316.4	4084.4	3929.2	3856.2
25°	4337.0	4223.8	3932.9	3718.7	3636.4
27.5°	4259.3	4106.9	3746.8	3484.0	3388.6
30°	4168.6	3968.5	3542.9	3219.3	3101.4
32.5°	4063.9	3817.0	3306.3	2944.3	2819.0
35°	3934.8	3622.4	3038.8	2641.3	2525.3
37.5°	3796.4	3408.2	2762.9	2353.2	2233.5
40°	3635.5	3180.9	2450.5	2053.9	1944.5
42.5°	3456.9	2920.9	2160.5	1772.4	1663.0
45°	3255.8	2644.1	1879.9	1514.2	1411.4
47.5°	3024.8	2360.7	1608.7	1281.4	1195.3
50°	2755.4	2077.3	1354.3	1075.6	1012.0
52.5°	2484.2	1810.7	1149.5	911.9	843.6
55°	2193.3	1550.7	966.2	764.1	709.0
57.5°	1911.7	1320.6	807.2	640.7	602.3
60°	1650.8	1114.9	682.8	540.6	509.7
62.5°	1400.1	940.0	571.5	457.4	430.2
65°	1160.7	778.2	483.5	390.0	369.4
67.5°	950.3	650.0	407.8	333.0	317.1
70°	767.9	525.6	343.3	285.3	272.2
72.5°	597.7	421.8	288.1	246.9	235.7
75°	450.8	335.8	242.2	211.4	204.8
77.5°	339.5	260.9	200.2	182.4	177.7
80°	234.8	194.5	165.5	158.1	155.3
82.5°	149.6	139.4	135.6	135.6	135.6
85°	88.9	95.4	111.3	117.8	116.9
87.5°	42.1	62.7	89.8	101.9	103.8
90°	12.2	39.3	75.8	92.6	95.4
92.5°	14.0	40.2	75.8	92.6	95.4
95°	14.0	41.2	76.7	92.6	95.4
97.5°	14.0	39.3	75.8	93.5	96.3
100°	14.0	38.3	74.8	92.6	96.3
102.5°	12.2	35.5	72.0	91.7	95.4
105°	11.2	30.9	69.2	88.9	93.5
107.5°	9.4	28.1	66.4	86.0	91.7
110°	8.4	25.3	62.7	83.2	89.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.5	22.4	58.0	80.4	86.0
115°	6.5	20.6	53.3	75.8	82.3
117.5°	5.6	18.7	48.6	71.1	78.6
120°	4.7	16.8	44.9	66.4	73.0
122.5°	4.7	15.9	41.2	60.8	68.3
125°	3.7	14.0	38.3	56.1	62.7
127.5°	3.7	13.1	34.6	51.4	57.1
130°	2.8	13.1	31.8	47.7	53.3
132.5°	2.8	12.2	28.1	43.0	48.6
135°	2.8	11.2	26.2	39.3	44.0
137.5°	2.8	11.2	23.4	36.5	41.2
140°	3.7	10.3	20.6	32.7	37.4
142.5°	3.7	9.4	19.6	29.9	33.7
145°	3.7	8.4	17.8	27.1	30.9
147.5°	3.7	8.4	15.9	24.3	28.1
150°	3.7	7.5	15.0	21.5	25.3
152.5°	3.7	7.5	14.0	18.7	23.4
155°	3.7	7.5	12.2	16.8	21.5
157.5°	3.7	6.5	11.2	15.0	18.7
160°	4.7	6.5	10.3	13.1	16.8
162.5°	4.7	6.5	9.4	12.2	15.0
165°	4.7	5.6	8.4	10.3	13.1
167.5°	4.7	5.6	8.4	9.4	11.2
170°	4.7	5.6	7.5	7.5	8.4
172.5°	4.7	5.6	6.5	7.5	5.6
175°	4.7	5.6	6.5	6.5	5.6
177.5°	4.7	5.6	5.6	6.5	5.6
180°	5.6	5.6	5.6	5.6	5.6



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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	22.07	23.45	22.48	23.83	24.21	17.19	18.57	17.60	18.95	19.33
	3H	23.16	24.40	23.59	24.79	25.22	18.33	19.57	18.76	19.96	20.39
	4H	23.46	24.62	23.90	25.02	25.47	18.84	19.99	19.28	20.40	20.85
	6H	23.60	24.67	24.06	25.09	25.55	19.34	20.41	19.80	20.83	21.29
	8H	23.62	24.63	24.09	25.08	25.55	19.61	20.62	20.08	21.07	21.54
	12H	23.61	24.58	24.09	25.02	25.51	19.90	20.87	20.38	21.31	21.81
4H	2H	22.04	23.20	22.49	23.61	24.05	17.69	18.85	18.14	19.25	19.70
	3H	23.28	24.23	23.74	24.69	25.16	19.01	19.97	19.47	20.42	20.89
	4H	23.65	24.51	24.13	24.98	25.48	19.61	20.47	20.09	20.93	21.44
	6H	23.88	24.62	24.38	25.12	25.65	20.23	20.98	20.74	21.48	22.00
	8H	23.91	24.61	24.42	25.11	25.64	20.56	21.26	21.07	21.75	22.28
	12H	23.92	24.54	24.45	25.07	25.61	20.93	21.56	21.46	22.08	22.62
8H	4H	23.63	24.33	24.14	24.83	25.36	19.85	20.55	20.36	21.04	21.58
	6H	23.91	24.48	24.45	25.02	25.57	20.58	21.16	21.13	21.70	22.24
	8H	23.97	24.49	24.53	25.05	25.60	20.99	21.51	21.55	22.07	22.62
	12H	24.01	24.47	24.56	25.01	25.64	21.48	21.94	22.04	22.48	23.11
12H	4H	23.61	24.23	24.14	24.76	25.30	19.87	20.49	20.39	21.02	21.55
	6H	23.88	24.40	24.44	24.96	25.51	20.62	21.14	21.18	21.70	22.25
	8H	23.98	24.44	24.54	24.98	25.61	21.08	21.54	21.64	22.08	22.71