

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: P893145

Luminaire Tested: 4MB-10HL-ACL-UNV-L830

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893145
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-10HL-ACL-UNV-L830
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS, 80CRI, 3000K
Light Source: -
Ballast/Driver: -

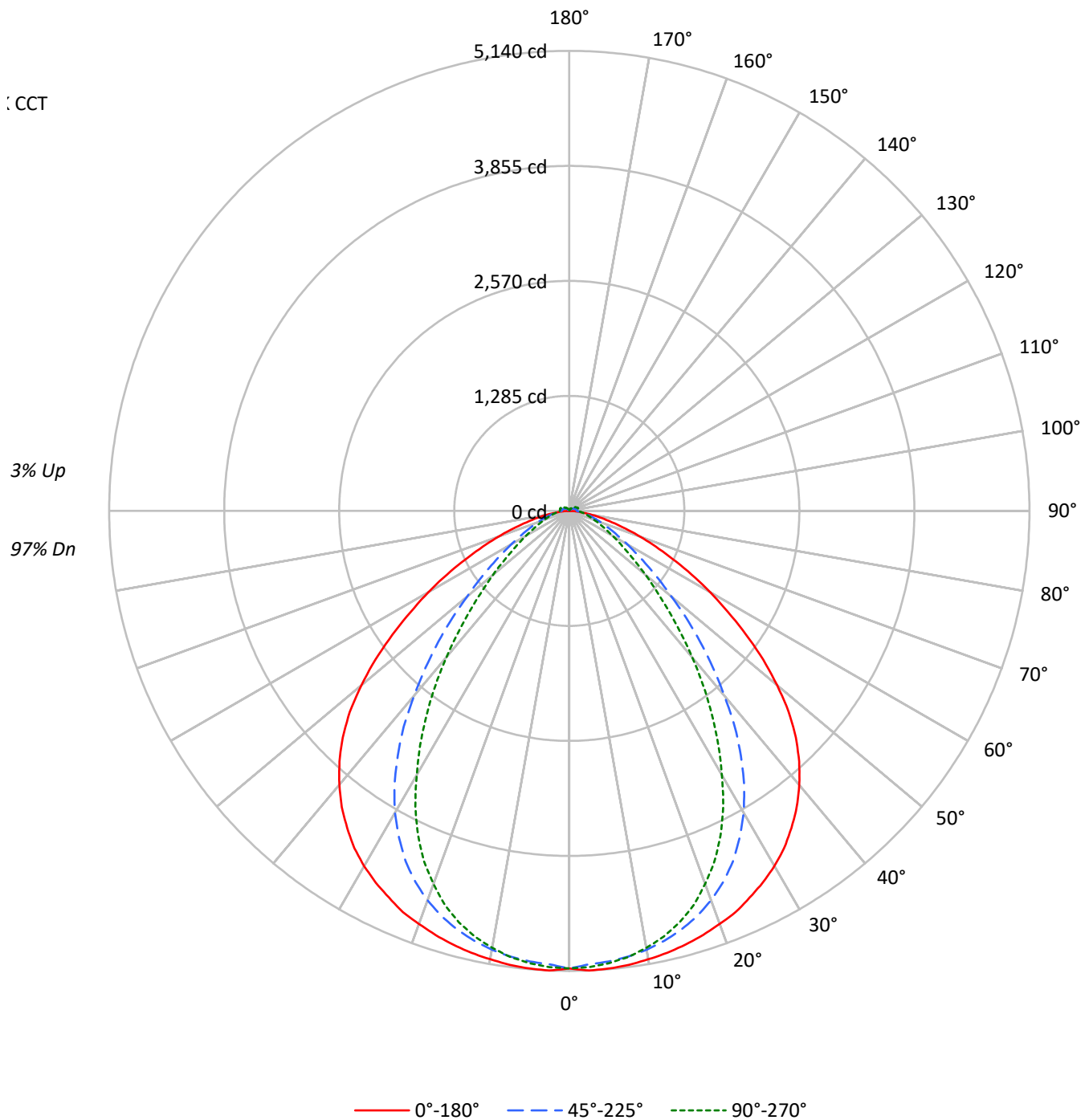
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10369.0 lumens
Efficiency: N/A
Efficacy: 137.3 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): 75.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.45
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				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°	52059	52059	52059
5°	52372	50611	50474
10°	52414	49419	48581
15°	52592	48002	46288
20°	52813	46197	43134
25°	53052	43754	39187
30°	53243	40295	33945
35°	52997	35628	28298
40°	52210	29879	22496
45°	50487	24069	17010
50°	46820	18400	12830
55°	41564	14095	9557
60°	35667	10844	7395
65°	29425	8497	5851
70°	23767	6809	4786
75°	18084	5565	4083
80°	13531	4559	3603
85°	9212	3858	3275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 50487 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	483.5	4.7
10°-20°	1373.1	13.2
20°-30°	1998.6	19.3
30°-40°	2144.8	20.7
40°-50°	1774.7	17.1
50°-60°	1176.3	11.3
60°-70°	670.2	6.5
70°-80°	332.3	3.2
80°-90°	134.4	1.3
90°-100°	79.0	0.8
100°-110°	70.3	0.7
110°-120°	53.0	0.5
120°-130°	35.2	0.3
130°-140°	21.6	0.2
140°-150°	12.3	0.1
150°-160°	6.3	0.1
160°-170°	2.7	0.0
170°-180°	0.6	0.0
0°-30°	3855.2	37.2
0°-40°	6000.0	57.9
0°-60°	8951.0	86.3
0°-90°	10087.9	97.3
90°-120°	202.2	2.0
90°-150°	271.4	2.6
90°-180°	281.0	2.7
0°-180°	10369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5112	5112	5112	5112	5112	
5°	5132	5119	5053	5091	5073	488
15°	5016	4976	4841	4797	4759	1418
25°	4767	4643	4323	4088	3997	2200
35°	4325	3982	3340	2903	2776	2703
45°	3579	2906	2066	1664	1551	2742
55°	2411	1705	1062	840	779	2157
65°	1276	855	532	429	406	1281
75°	496	369	266	232	225	547
85°	98	105	122	130	128	113
90°	13	43	83	102	105	12
95°	15	45	84	102	105	13
105°	12	34	76	98	103	13
115°	7	23	59	83	90	7
125°	4	15	42	62	69	4
135°	3	12	29	43	48	2
145°	4	9	20	30	34	3
155°	4	8	13	18	24	2
165°	5	6	9	11	14	1
175°	5	6	7	7	6	0
180°	6	6	6	6	6	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5111.7	5111.7	5111.7	5111.7	5111.7
2.5°	5140.5	5129.2	5070.6	5114.8	5101.5
5°	5132.3	5118.9	5053.1	5091.2	5072.7
7.5°	5114.8	5098.4	5024.3	5050.0	5027.4
10°	5087.1	5066.5	4978.1	4983.2	4957.5
12.5°	5057.2	5025.4	4917.4	4903.0	4871.2
15°	5016.1	4976.0	4841.3	4797.1	4759.1
17.5°	4968.8	4913.3	4746.8	4668.6	4619.3
20°	4910.2	4836.2	4629.6	4510.3	4434.2
22.5°	4853.7	4744.7	4489.7	4319.1	4238.9
25°	4767.3	4642.9	4323.2	4087.7	3997.3
27.5°	4682.0	4514.4	4118.6	3829.7	3724.8
30°	4582.3	4362.2	3894.5	3538.7	3409.2
32.5°	4467.1	4195.7	3634.3	3236.5	3098.7
35°	4325.2	3981.8	3340.3	2903.4	2775.9
37.5°	4173.1	3746.4	3037.0	2586.7	2455.1
40°	3996.2	3496.6	2693.6	2257.7	2137.4
42.5°	3799.9	3210.8	2374.9	1948.3	1828.0
45°	3578.8	2906.4	2066.5	1664.5	1551.4
47.5°	3324.9	2594.9	1768.3	1408.5	1313.9
50°	3028.8	2283.4	1488.7	1182.3	1112.4
52.5°	2730.6	1990.4	1263.5	1002.4	927.3
55°	2410.9	1704.6	1062.0	840.0	779.3
57.5°	2101.4	1451.7	887.3	704.3	662.1
60°	1814.6	1225.5	750.5	594.2	560.3
62.5°	1539.1	1033.2	628.2	502.7	472.9
65°	1275.9	855.4	531.5	428.7	406.1
67.5°	1044.6	714.5	448.3	366.0	348.5
70°	844.1	577.8	377.3	313.6	299.2
72.5°	657.0	463.7	316.7	271.4	259.1
75°	495.5	369.1	266.3	232.4	225.2
77.5°	373.2	286.8	220.0	200.5	195.3
80°	258.1	213.8	182.0	173.7	170.7
82.5°	164.5	153.2	149.1	149.1	149.1
85°	97.7	104.9	122.3	129.5	128.5
87.5°	46.3	68.9	98.7	112.1	114.1
90°	13.4	43.2	83.3	101.8	104.9
92.5°	15.4	44.2	83.3	101.8	104.9
95°	15.4	45.2	84.3	101.8	104.9
97.5°	15.4	43.2	83.3	102.8	105.9
100°	15.4	42.2	82.2	101.8	105.9
102.5°	13.4	39.1	79.2	100.8	104.9
105°	12.3	33.9	76.1	97.7	102.8
107.5°	10.3	30.8	73.0	94.6	100.8
110°	9.3	27.8	68.9	91.5	98.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	8.2	24.7	63.7	88.4	94.6
115°	7.2	22.6	58.6	83.3	90.5
117.5°	6.2	20.6	53.5	78.1	86.4
120°	5.1	18.5	49.3	73.0	80.2
122.5°	5.1	17.5	45.2	66.8	75.1
125°	4.1	15.4	42.2	61.7	68.9
127.5°	4.1	14.4	38.0	56.5	62.7
130°	3.1	14.4	35.0	52.4	58.6
132.5°	3.1	13.4	30.8	47.3	53.5
135°	3.1	12.3	28.8	43.2	48.3
137.5°	3.1	12.3	25.7	40.1	45.2
140°	4.1	11.3	22.6	36.0	41.1
142.5°	4.1	10.3	21.6	32.9	37.0
145°	4.1	9.3	19.5	29.8	33.9
147.5°	4.1	9.3	17.5	26.7	30.8
150°	4.1	8.2	16.4	23.6	27.8
152.5°	4.1	8.2	15.4	20.6	25.7
155°	4.1	8.2	13.4	18.5	23.6
157.5°	4.1	7.2	12.3	16.4	20.6
160°	5.1	7.2	11.3	14.4	18.5
162.5°	5.1	7.2	10.3	13.4	16.4
165°	5.1	6.2	9.3	11.3	14.4
167.5°	5.1	6.2	9.3	10.3	12.3
170°	5.1	6.2	8.2	8.2	9.3
172.5°	5.1	6.2	7.2	8.2	6.2
175°	5.1	6.2	7.2	7.2	6.2
177.5°	5.1	6.2	6.2	7.2	6.2
180°	6.2	6.2	6.2	6.2	6.2



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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	22.40	23.78	22.81	24.16	24.54	17.52	18.90	17.93	19.28	19.66
	3H	23.49	24.73	23.92	25.12	25.55	18.66	19.90	19.09	20.29	20.72
	4H	23.79	24.94	24.23	25.35	25.80	19.16	20.32	19.61	20.73	21.18
	6H	23.93	25.00	24.39	25.42	25.88	19.67	20.74	20.13	21.16	21.62
	8H	23.95	24.96	24.42	25.41	25.87	19.94	20.95	20.41	21.40	21.87
	12H	23.94	24.91	24.41	25.35	25.84	20.23	21.20	20.71	21.64	22.14
4H	2H	22.37	23.53	22.82	23.93	24.38	18.02	19.18	18.47	19.58	20.03
	3H	23.61	24.56	24.06	25.02	25.49	19.34	20.29	19.80	20.75	21.22
	4H	23.98	24.84	24.46	25.31	25.81	19.93	20.79	20.41	21.26	21.77
	6H	24.21	24.95	24.71	25.45	25.97	20.56	21.31	21.07	21.80	22.33
	8H	24.24	24.94	24.75	25.44	25.97	20.89	21.59	21.40	22.08	22.61
	12H	24.25	24.87	24.78	25.40	25.94	21.26	21.88	21.79	22.41	22.95
8H	4H	23.96	24.66	24.47	25.16	25.69	20.18	20.88	20.69	21.37	21.91
	6H	24.23	24.81	24.78	25.35	25.89	20.91	21.49	21.45	22.03	22.57
	8H	24.30	24.82	24.86	25.37	25.93	21.32	21.84	21.88	22.40	22.95
	12H	24.34	24.80	24.89	25.34	25.96	21.81	22.27	22.37	22.81	23.44
12H	4H	23.94	24.56	24.47	25.09	25.63	20.19	20.82	20.72	21.35	21.88
	6H	24.21	24.73	24.77	25.29	25.84	20.95	21.47	21.51	22.02	22.58
	8H	24.31	24.77	24.86	25.31	25.94	21.41	21.87	21.97	22.41	23.04