

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: P894043

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-26)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-LVRA-UNV-L840
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 80CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

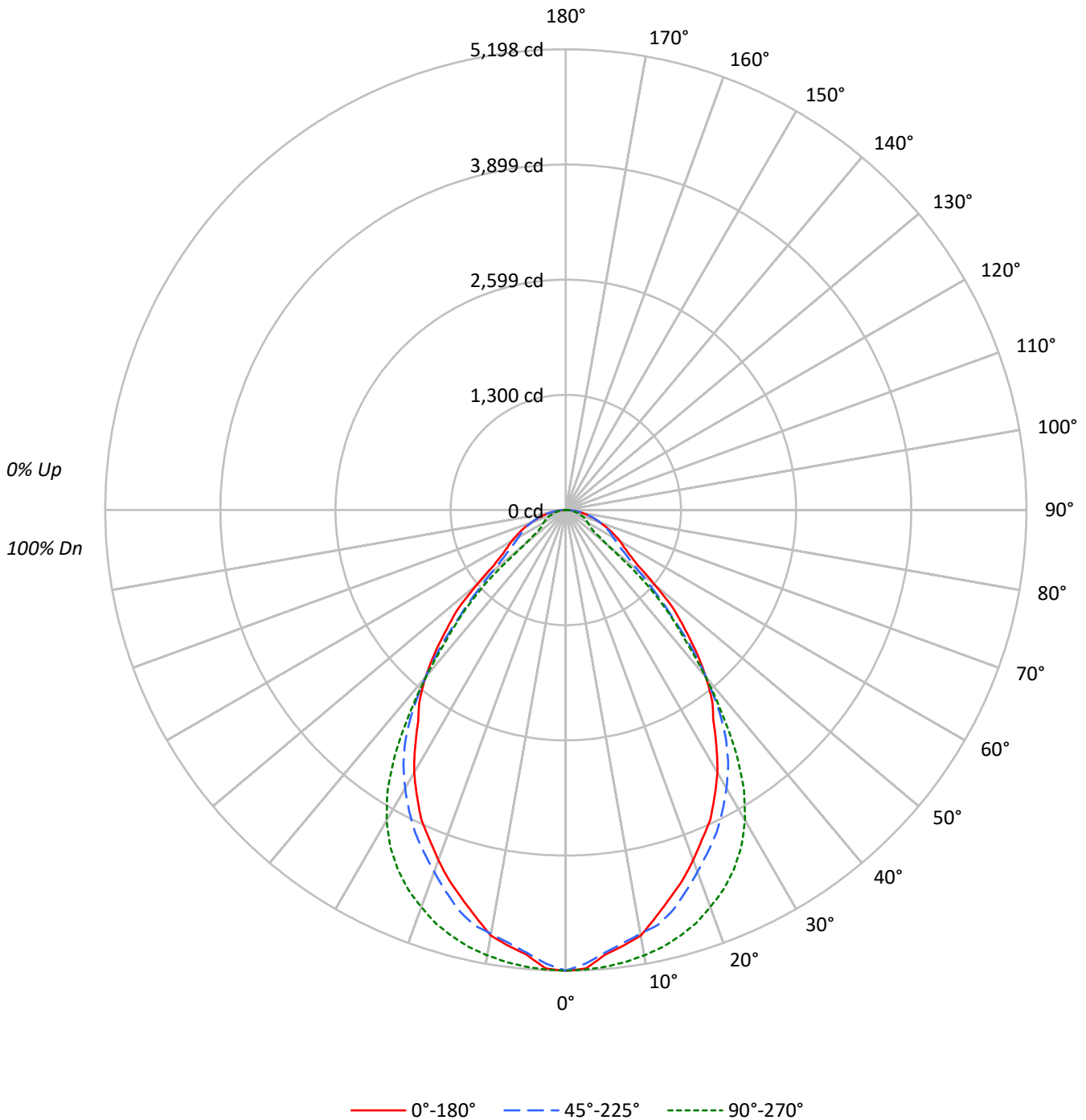
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8436.0 lumens
Efficiency: N/A
Efficacy: 131.0 lumens/watt
Spacing Criteria (0/90/45): 1.02 / 1.16 / 1.12
Luminous Opening: Rectangular (W 0.38' x L: 3.98' x H: 0')
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

TEST NUMBER: P894043
CATALOG NUMBER: 4MB-9HL-LVRA-UNV-L840

Luminous Intensity Polar Plot





TEST NUMBER: P894043

CATALOG NUMBER: 4MB-9HL-LVRA-UNV-L840

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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	90	90	88
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	80	80	78
3	96	87	80	75	94	86	80	75	83	78	73	80	76	72	78	74	71	71	71	69
4	89	79	72	66	87	78	71	66	76	70	65	73	68	64	71	67	63	63	63	62
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58	66	61	57	57	57	55
6	78	66	59	53	76	65	58	53	64	57	53	62	57	52	61	56	52	52	52	50
7	73	61	54	48	71	60	53	48	59	52	48	58	52	47	56	51	47	47	47	45
8	68	57	49	44	67	56	49	44	55	48	44	53	48	43	52	47	43	43	43	41
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	40	40	38
10	61	49	42	37	60	48	42	37	47	41	37	47	41	37	46	40	37	37	37	35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	36983	36983	36983
5°	35986	35823	36943
10°	35221	35066	36856
15°	33403	34429	36649
20°	31820	32895	36090
25°	30269	31561	35169
30°	28121	29794	33206
35°	25216	27379	29125
40°	22845	22895	22770
45°	19101	16917	16500
50°	14428	11908	6747
55°	10852	9522	4255
60°	10085	8769	4098
65°	9382	8751	4104
70°	8583	8583	4042
75°	8140	8360	3904
80°	7519	7904	4007
85°	6563	6890	4376

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 19546 cd/sqm



TEST NUMBER: P894043
 CATALOG NUMBER: 4MB-9HL-LVRA-UNV-L840

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	480.1	5.7
10°-20°	1323.0	15.7
20°-30°	1876.0	22.2
30°-40°	1932.7	22.9
40°-50°	1349.9	16.0
50°-60°	647.8	7.7
60°-70°	454.4	5.4
70°-80°	284.1	3.4
80°-90°	87.9	1.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3679.1	43.6
0°-40°	5611.9	66.5
0°-60°	7609.5	90.2
0°-90°	8436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8436.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5198	5198	5198	5198	5198	
5°	5038	5032	5016	5147	5172	477
15°	4535	4568	4674	4808	4976	1277
25°	3856	3894	4020	4292	4480	1763
35°	2903	2982	3152	3218	3353	1829
45°	1898	1942	1681	1596	1640	1463
55°	875	832	768	492	343	820
65°	557	521	520	395	244	552
75°	296	292	304	263	142	312
85°	80	80	84	83	54	90
90°	0	0	0	0	0	



TEST NUMBER: P894043

CATALOG NUMBER: 4MB-9HL-LVRA-UNV-L840

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5197.9	5197.9	5197.9	5197.9	5197.9
2.5°	5177.8	5161.7	5122.9	5193.9	5188.5
5°	5038.5	5031.8	5015.7	5147.0	5172.5
7.5°	4959.4	4946.0	4927.3	5072.0	5143.0
10°	4875.0	4891.1	4853.6	4986.2	5101.4
12.5°	4700.9	4743.8	4794.7	4897.8	5050.5
15°	4534.8	4568.3	4674.1	4808.1	4975.5
17.5°	4379.4	4418.2	4509.3	4710.3	4888.4
20°	4202.5	4256.1	4344.5	4601.8	4766.5
22.5°	4020.3	4069.9	4181.1	4457.1	4640.6
25°	3855.6	3894.4	4020.3	4292.3	4479.8
27.5°	3637.2	3709.5	3828.8	4091.3	4288.3
30°	3422.8	3484.5	3626.5	3847.5	4041.8
32.5°	3164.3	3254.0	3410.8	3579.6	3741.7
35°	2903.1	2982.1	3152.2	3217.9	3353.2
37.5°	2712.8	2734.3	2830.7	2822.7	2899.0
40°	2459.6	2502.5	2465.0	2364.5	2451.6
42.5°	2186.3	2237.2	2085.9	1969.3	2000.1
45°	1898.3	1942.5	1681.3	1595.5	1639.8
47.5°	1649.1	1645.1	1355.7	1298.1	1236.5
50°	1303.5	1346.4	1075.8	968.6	609.5
52.5°	1018.1	1034.2	886.9	618.9	400.6
55°	874.8	831.9	767.6	491.7	343.0
57.5°	777.0	723.4	680.6	456.8	313.5
60°	708.7	648.4	616.2	434.1	288.0
62.5°	631.0	584.1	572.0	414.0	265.3
65°	557.3	521.1	519.8	395.2	243.8
67.5°	483.6	463.5	468.9	372.4	219.7
70°	412.6	408.6	412.6	343.0	194.3
72.5°	352.3	348.3	359.0	305.4	166.1
75°	296.1	292.0	304.1	262.6	142.0
77.5°	235.8	238.5	246.5	218.4	119.2
80°	183.5	183.5	192.9	171.5	97.8
82.5°	131.3	132.6	138.0	125.9	76.4
85°	80.4	80.4	84.4	83.1	53.6
87.5°	26.8	30.8	36.2	38.9	26.8
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P894043
 CATALOG NUMBER: 4MB-9HL-LVRA-UNV-L840

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	18.19	19.54	18.56	19.86	20.17	14.52	15.88	14.89	16.19	16.50
	3H	19.93	21.14	20.31	21.47	21.83	16.50	17.71	16.88	18.04	18.40
	4H	20.60	21.73	21.00	22.08	22.46	17.20	18.33	17.61	18.68	19.06
	6H	21.11	22.15	21.52	22.52	22.91	17.73	18.76	18.14	19.13	19.53
	8H	21.28	22.26	21.71	22.65	23.06	17.91	18.90	18.34	19.29	19.69
	12H	21.39	22.33	21.82	22.71	23.14	18.05	18.99	18.48	19.38	19.81
4H	2H	18.72	19.85	19.12	20.20	20.58	16.14	17.27	16.55	17.62	18.01
	3H	20.70	21.63	21.11	22.03	22.43	18.32	19.25	18.74	19.66	20.06
	4H	21.50	22.34	21.93	22.75	23.20	19.20	20.04	19.64	20.46	20.90
	6H	22.14	22.87	22.61	23.31	23.78	19.85	20.57	20.31	21.02	21.48
	8H	22.36	23.04	22.83	23.49	23.96	20.05	20.73	20.52	21.18	21.65
	12H	22.52	23.12	23.00	23.60	24.07	20.21	20.81	20.70	21.29	21.77
8H	4H	21.78	22.46	22.25	22.91	23.38	19.85	20.53	20.32	20.97	21.44
	6H	22.57	23.12	23.07	23.62	24.10	20.71	21.27	21.21	21.76	22.24
	8H	22.87	23.37	23.39	23.88	24.37	21.04	21.54	21.56	22.05	22.54
	12H	23.10	23.54	23.62	24.04	24.61	21.30	21.75	21.82	22.24	22.81
12H	4H	21.80	22.40	22.29	22.88	23.36	19.92	20.52	20.41	21.01	21.48
	6H	22.62	23.12	23.14	23.63	24.12	20.85	21.35	21.37	21.86	22.35
	8H	22.98	23.42	23.50	23.92	24.49	21.26	21.70	21.78	22.20	22.77