

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: P894045

Luminaire Tested: 4MB-9HL-LVRA-UNV-L930

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894045
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-L930
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 90CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

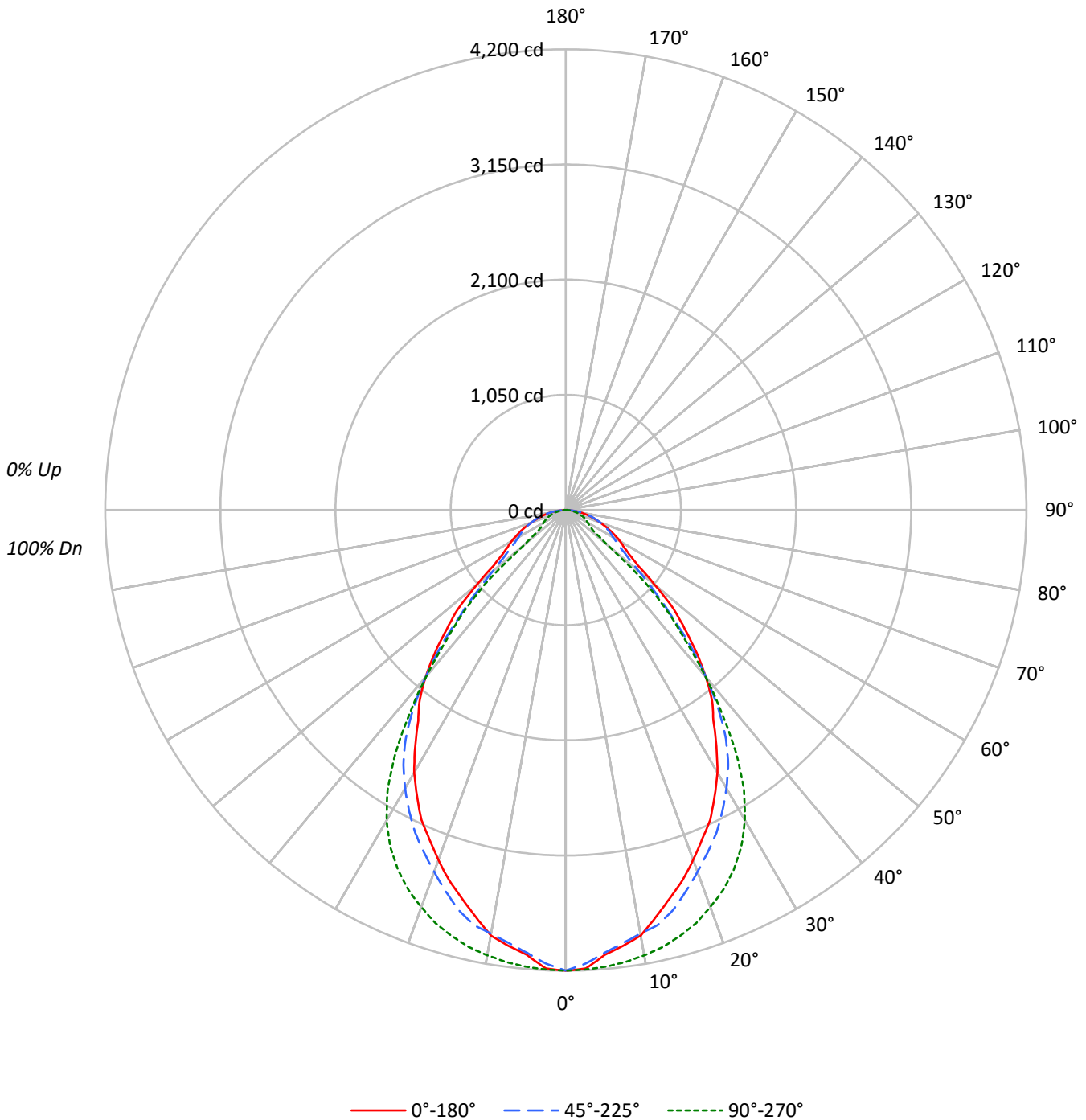
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6816.0 lumens
Efficiency: N/A
Efficacy: 105.8 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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	29881	29881	29881
5°	29075	28944	29849
10°	28458	28333	29779
15°	26988	27818	29612
20°	25709	26578	29160
25°	24456	25501	28416
30°	22720	24073	26829
35°	20373	22122	23532
40°	18458	18498	18398
45°	15433	13668	13331
50°	11658	9621	5451
55°	8768	7693	3437
60°	8148	7085	3311
65°	7581	7071	3317
70°	6936	6936	3264
75°	6576	6754	3153
80°	6076	6388	3237
85°	5298	5568	3535

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 15793 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.9	5.7
10°-20°	1068.9	15.7
20°-30°	1515.8	22.2
30°-40°	1561.6	22.9
40°-50°	1090.7	16.0
50°-60°	523.4	7.7
60°-70°	367.2	5.4
70°-80°	229.6	3.4
80°-90°	71.0	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°	2972.6	43.6
0°-40°	4534.2	66.5
0°-60°	6148.2	90.2
0°-90°	6816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6816.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4200	4200	4200	4200	4200	
5°	4071	4066	4052	4159	4179	385
15°	3664	3691	3776	3885	4020	1032
25°	3115	3146	3248	3468	3620	1424
35°	2346	2409	2547	2600	2709	1478
45°	1534	1570	1358	1289	1325	1182
55°	707	672	620	397	277	662
65°	450	421	420	319	197	446
75°	239	236	246	212	115	252
85°	65	65	68	67	43	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4199.7	4199.7	4199.7	4199.7	4199.7
2.5°	4183.5	4170.5	4139.1	4196.5	4192.2
5°	4070.9	4065.5	4052.5	4158.6	4179.2
7.5°	4007.1	3996.2	3981.1	4098.0	4155.4
10°	3938.9	3951.9	3921.6	4028.7	4121.8
12.5°	3798.2	3832.8	3873.9	3957.3	4080.7
15°	3663.9	3691.0	3776.5	3884.7	4020.1
17.5°	3538.4	3569.8	3643.4	3805.7	3949.7
20°	3395.5	3438.8	3510.2	3718.1	3851.2
22.5°	3248.3	3288.3	3378.2	3601.2	3749.4
25°	3115.2	3146.5	3248.3	3468.0	3619.6
27.5°	2938.7	2997.2	3093.5	3305.7	3464.8
30°	2765.5	2815.3	2930.1	3108.7	3265.6
32.5°	2556.6	2629.2	2755.8	2892.2	3023.2
35°	2345.6	2409.4	2546.9	2599.9	2709.3
37.5°	2191.9	2209.2	2287.1	2280.6	2342.3
40°	1987.3	2021.9	1991.6	1910.4	1980.8
42.5°	1766.5	1807.6	1685.3	1591.1	1616.0
45°	1533.8	1569.5	1358.4	1289.1	1324.9
47.5°	1332.4	1329.2	1095.4	1048.8	999.1
50°	1053.2	1087.8	869.2	782.6	492.5
52.5°	822.6	835.6	716.6	500.1	323.6
55°	706.8	672.2	620.2	397.2	277.1
57.5°	627.8	584.5	549.9	369.1	253.3
60°	572.6	523.9	497.9	350.7	232.7
62.5°	509.8	471.9	462.2	334.5	214.3
65°	450.3	421.1	420.0	319.3	197.0
67.5°	390.7	374.5	378.8	300.9	177.5
70°	333.4	330.1	333.4	277.1	156.9
72.5°	284.7	281.4	290.1	246.8	134.2
75°	239.2	236.0	245.7	212.2	114.7
77.5°	190.5	192.7	199.2	176.4	96.3
80°	148.3	148.3	155.9	138.5	79.0
82.5°	106.1	107.2	111.5	101.7	61.7
85°	64.9	64.9	68.2	67.1	43.3
87.5°	21.6	24.9	29.2	31.4	21.6
90°	0.0	0.0	0.0	0.0	0.0



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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	17.45	18.80	17.82	19.12	19.43	13.78	15.14	14.15	15.45	15.76
	3H	19.19	20.40	19.57	20.72	21.09	15.76	16.96	16.14	17.29	17.66
	4H	19.86	20.99	20.26	21.34	21.72	16.46	17.59	16.86	17.94	18.32
	6H	20.37	21.41	20.78	21.77	22.17	16.99	18.02	17.40	18.39	18.79
	8H	20.54	21.52	20.97	21.91	22.32	17.17	18.16	17.60	18.55	18.95
	12H	20.65	21.59	21.08	21.97	22.40	17.31	18.25	17.74	18.63	19.06
4H	2H	17.98	19.11	18.38	19.46	19.84	15.40	16.53	15.81	16.88	17.26
	3H	19.96	20.89	20.37	21.29	21.69	17.58	18.51	17.99	18.92	19.32
	4H	20.76	21.60	21.19	22.01	22.46	18.46	19.30	18.90	19.72	20.16
	6H	21.40	22.13	21.86	22.57	23.04	19.11	19.83	19.57	20.27	20.74
	8H	21.62	22.30	22.09	22.75	23.22	19.31	19.99	19.78	20.44	20.91
	12H	21.78	22.38	22.26	22.86	23.33	19.47	20.07	19.96	20.55	21.03
8H	4H	21.04	21.72	21.51	22.17	22.64	19.11	19.79	19.58	20.23	20.70
	6H	21.83	22.38	22.33	22.88	23.36	19.97	20.53	20.47	21.02	21.50
	8H	22.13	22.63	22.65	23.14	23.63	20.30	20.80	20.82	21.31	21.80
	12H	22.36	22.80	22.88	23.30	23.87	20.56	21.00	21.08	21.50	22.07
12H	4H	21.06	21.66	21.55	22.14	22.62	19.18	19.78	19.67	20.27	20.74
	6H	21.88	22.38	22.40	22.89	23.38	20.11	20.61	20.63	21.12	21.61
	8H	22.24	22.68	22.76	23.18	23.75	20.52	20.96	21.04	21.46	22.03