

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: P894041

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

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894041
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-L830
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with LOUVER WITH AISLE OPTIC, 80CRI, 3000K CCT
Light Source: -
Ballast/Driver: -

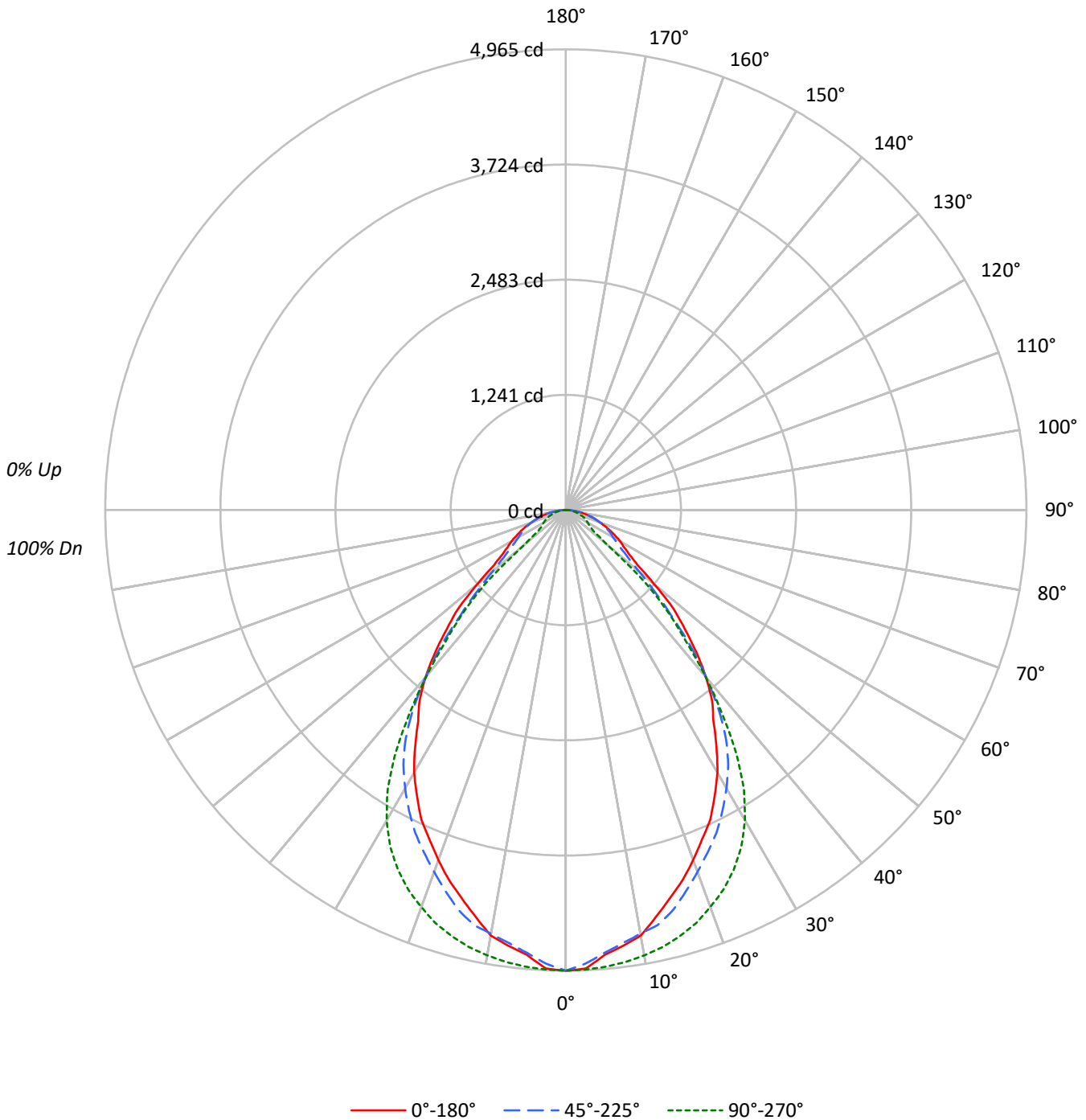
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8058.0 lumens
Efficiency: N/A
Efficacy: 125.1 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		0
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°	35326	35326	35326
5°	34373	34218	35287
10°	33643	33495	35206
15°	31907	32887	35008
20°	30394	31421	34474
25°	28912	30148	33593
30°	26861	28459	31718
35°	24086	26153	27820
40°	21821	21869	21750
45°	18245	16159	15760
50°	13782	11373	6444
55°	10365	9095	4064
60°	9632	8376	3915
65°	8962	8359	3921
70°	8198	8198	3859
75°	7774	7986	3728
80°	7183	7551	3827
85°	6270	6580	4180

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 18670 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	458.6	5.7
10°-20°	1263.7	15.7
20°-30°	1792.0	22.2
30°-40°	1846.1	22.9
40°-50°	1289.4	16.0
50°-60°	618.7	7.7
60°-70°	434.1	5.4
70°-80°	271.4	3.4
80°-90°	83.9	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°	3514.3	43.6
0°-40°	5360.4	66.5
0°-60°	7268.6	90.2
0°-90°	8058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8058.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4965	4965	4965	4965	4965	
5°	4813	4806	4791	4916	4941	455
15°	4332	4364	4465	4593	4753	1220
25°	3683	3720	3840	4100	4279	1684
35°	2773	2848	3011	3074	3203	1747
45°	1813	1856	1606	1524	1566	1397
55°	836	795	733	470	328	783
65°	532	498	496	378	233	527
75°	283	279	290	251	136	298
85°	77	77	81	79	51	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4965.0	4965.0	4965.0	4965.0	4965.0
2.5°	4945.8	4930.4	4893.3	4961.2	4956.0
5°	4812.7	4806.3	4791.0	4916.4	4940.7
7.5°	4737.2	4724.4	4706.5	4844.7	4912.5
10°	4656.6	4672.0	4636.1	4762.8	4872.9
12.5°	4490.3	4531.2	4579.8	4678.4	4824.2
15°	4331.6	4363.6	4464.7	4592.6	4752.6
17.5°	4183.1	4220.2	4307.3	4499.2	4669.4
20°	4014.2	4065.4	4149.9	4395.6	4553.0
22.5°	3840.2	3887.5	3993.8	4257.4	4432.7
25°	3682.8	3719.9	3840.2	4100.0	4279.1
27.5°	3474.2	3543.3	3657.2	3908.0	4096.1
30°	3269.5	3328.3	3464.0	3675.1	3860.7
32.5°	3022.5	3108.2	3258.0	3419.2	3574.0
35°	2773.0	2848.5	3011.0	3073.7	3202.9
37.5°	2591.3	2611.7	2703.9	2696.2	2769.1
40°	2349.4	2390.4	2354.5	2258.6	2341.7
42.5°	2088.4	2137.0	1992.4	1881.1	1910.5
45°	1813.2	1855.5	1605.9	1524.0	1566.3
47.5°	1575.2	1571.4	1295.0	1240.0	1181.1
50°	1245.1	1286.0	1027.5	925.2	582.2
52.5°	972.5	987.9	847.1	591.2	382.6
55°	835.6	794.7	733.2	469.6	327.6
57.5°	742.2	691.0	650.1	436.4	299.4
60°	676.9	619.3	588.6	414.6	275.1
62.5°	602.7	557.9	546.4	395.4	253.4
65°	532.3	497.8	496.5	377.5	232.9
67.5°	461.9	442.8	447.9	355.7	209.9
70°	394.1	390.3	394.1	327.6	185.5
72.5°	336.5	332.7	342.9	291.8	158.7
75°	282.8	279.0	290.5	250.8	135.6
77.5°	225.2	227.8	235.5	208.6	113.9
80°	175.3	175.3	184.3	163.8	93.4
82.5°	125.4	126.7	131.8	120.3	72.9
85°	76.8	76.8	80.6	79.3	51.2
87.5°	25.6	29.4	34.6	37.1	25.6
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	18.03	19.39	18.40	19.70	20.01	14.36	15.72	14.73	16.03	16.35
	3H	19.77	20.98	20.15	21.31	21.67	16.34	17.55	16.72	17.88	18.24
	4H	20.44	21.57	20.84	21.92	22.30	17.04	18.17	17.45	18.52	18.90
	6H	20.95	21.99	21.36	22.36	22.75	17.57	18.61	17.98	18.98	19.37
	8H	21.12	22.10	21.55	22.50	22.90	17.75	18.74	18.18	19.13	19.53
	12H	21.23	22.17	21.66	22.55	22.98	17.89	18.83	18.32	19.22	19.65
4H	2H	18.56	19.69	18.96	20.04	20.42	15.99	17.11	16.39	17.46	17.85
	3H	20.54	21.47	20.95	21.87	22.28	18.16	19.09	18.58	19.50	19.90
	4H	21.34	22.18	21.78	22.60	23.04	19.04	19.88	19.48	20.30	20.74
	6H	21.98	22.71	22.45	23.15	23.62	19.69	20.41	20.15	20.86	21.32
	8H	22.20	22.88	22.67	23.33	23.80	19.90	20.57	20.36	21.02	21.49
	12H	22.36	22.96	22.84	23.44	23.91	20.05	20.65	20.54	21.14	21.61
8H	4H	21.63	22.30	22.09	22.75	23.22	19.69	20.37	20.16	20.82	21.29
	6H	22.41	22.96	22.91	23.46	23.94	20.55	21.11	21.05	21.60	22.08
	8H	22.71	23.21	23.23	23.72	24.21	20.88	21.38	21.40	21.89	22.39
	12H	22.95	23.39	23.46	23.88	24.45	21.15	21.59	21.66	22.08	22.65
12H	4H	21.64	22.24	22.13	22.72	23.20	19.77	20.37	20.25	20.85	21.32
	6H	22.46	22.96	22.98	23.47	23.97	20.69	21.19	21.21	21.70	22.20
	8H	22.83	23.27	23.34	23.76	24.33	21.10	21.55	21.62	22.04	22.61