

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: P893155

Luminaire Tested: 4MB-10HL-AOL-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893155
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-077-19)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-10HL-AOL-UNV-L840
Description: 10000 Lumen 4FT MICROBAY LINEAR BAY with AISLE OPTICS WITH CLEAR LENS NO UPLIGHT, 4000K CCT
Light Source: -
Ballast/Driver: -

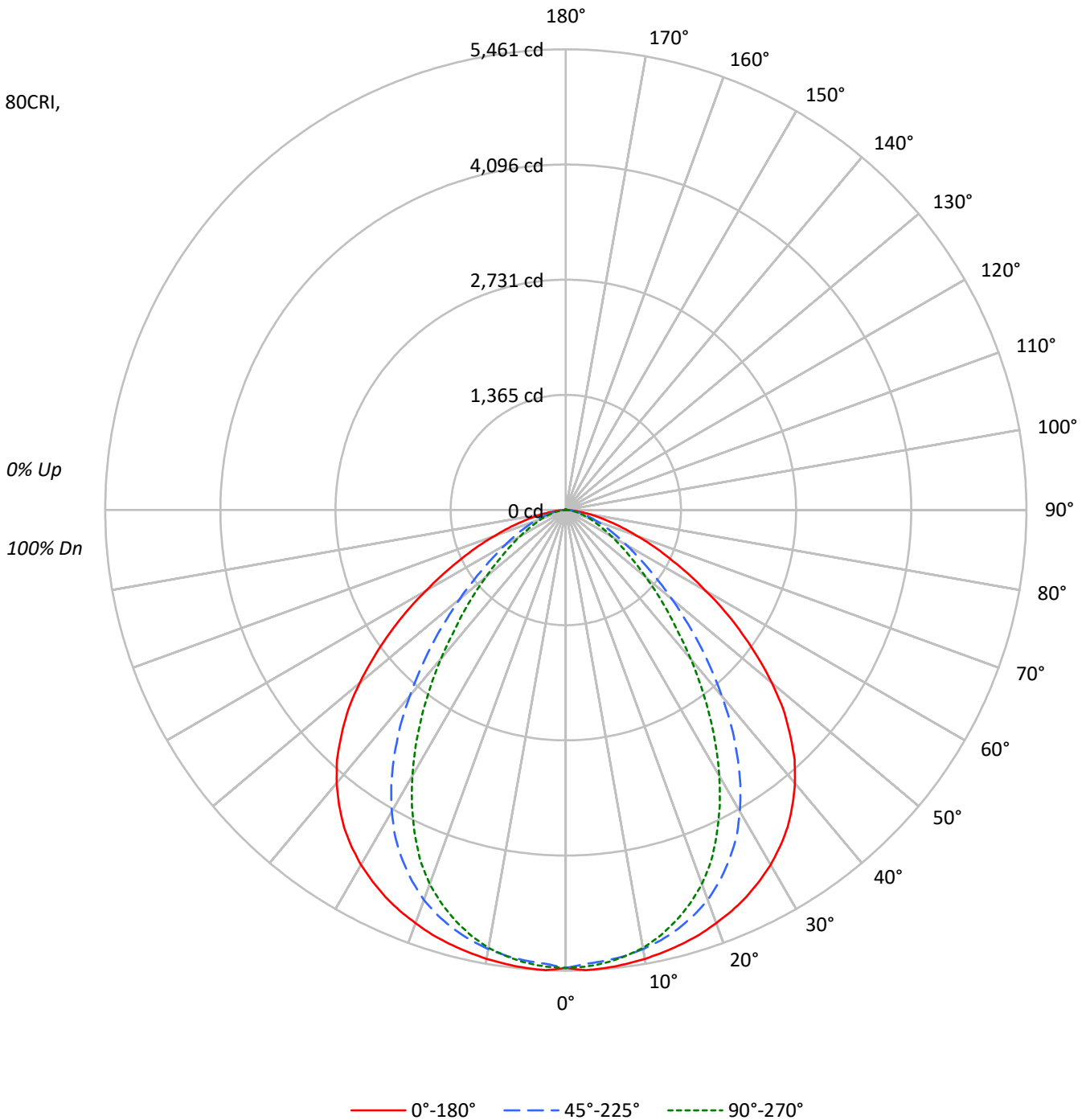
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10730.0 lumens
Efficiency: N/A
Efficacy: 142.1 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.05 / 1.16
Luminous Opening: Rectangular (W 0.27' x L: 3.98' x H: 0')
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				
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	89	89	89	87
2	102	95	90	85	100	93	88	84	90	86	82	87	83	80	84	81	78	78	78	78	76
3	95	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68	68	68	68	67
4	87	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	61	61	61	59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	54	54	54	52
6	76	64	56	50	74	63	55	50	61	54	49	59	53	49	58	52	48	48	48	48	46
7	70	58	50	45	69	57	50	45	56	49	44	55	48	44	53	48	44	44	44	44	42
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	40	40	40	38
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	36	36	36	34
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	33	33	33	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	55283	55283	55283
5°	55714	54845	55087
10°	55869	54656	54511
15°	56144	54192	53171
20°	56475	53314	51133
25°	56874	51480	47610
30°	57115	48522	42802
35°	57025	44033	36955
40°	56185	38258	30647
45°	54141	32101	24676
50°	50556	26036	19591
55°	45288	20790	15687
60°	38953	16967	12824
65°	32703	14107	10608
70°	26695	11857	9100
75°	21174	10038	7748
80°	16474	8586	6692
85°	12702	7665	5784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 54141 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	513.5	4.8
10°-20°	1457.6	13.6
20°-30°	2121.1	19.8
30°-40°	2280.3	21.3
40°-50°	1904.3	17.7
50°-60°	1279.1	11.9
60°-70°	726.7	6.8
70°-80°	331.0	3.1
80°-90°	84.5	0.8
90°-100°	9.4	0.1
100°-110°	6.8	0.1
110°-120°	4.0	0.0
120°-130°	2.8	0.0
130°-140°	2.4	0.0
140°-150°	2.3	0.0
150°-160°	2.0	0.0
160°-170°	1.5	0.0
170°-180°	0.6	0.0
0°-30°	4092.2	38.1
0°-40°	6372.5	59.4
0°-60°	9555.9	89.1
0°-90°	10698.1	99.7
90°-120°	20.3	0.2
90°-150°	27.8	0.3
90°-180°	32.0	0.3
0°-180°	10730.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5428	5428	5428	5428	5428	
5°	5450	5435	5365	5408	5388	519
15°	5325	5282	5140	5099	5043	1505
25°	5061	4915	4581	4344	4237	2333
35°	4587	4219	3542	3118	2972	2862
45°	3759	3100	2229	1823	1713	2889
55°	2551	1834	1171	938	884	2280
65°	1357	933	585	469	440	1363
75°	538	388	255	208	197	592
85°	109	88	66	53	50	124
90°	14	12	9	8	6	13
95°	17	12	8	4	4	14
105°	13	10	5	3	2	13
115°	6	5	3	2	2	7
125°	4	3	3	2	2	4
135°	3	3	3	3	3	2
145°	3	3	4	4	3	2
155°	3	4	4	4	4	2
165°	4	4	5	6	6	1
175°	4	5	6	6	6	0
180°	6	6	6	6	6	



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CATALOG NUMBER: 4MB-10HL-AOL-UNV-L840

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5428.3	5428.3	5428.3	5428.3	5428.3
2.5°	5460.6	5445.5	5384.2	5431.5	5418.6
5°	5449.8	5434.7	5364.8	5407.8	5388.5
7.5°	5429.4	5414.3	5332.5	5363.7	5337.9
10°	5402.5	5380.9	5285.2	5293.8	5271.2
12.5°	5366.9	5334.7	5221.7	5206.6	5171.1
15°	5325.0	5281.9	5139.9	5099.0	5043.0
17.5°	5276.5	5214.1	5040.9	4954.8	4893.4
20°	5210.9	5131.3	4919.3	4782.6	4718.0
22.5°	5143.1	5034.4	4762.1	4581.3	4503.8
25°	5061.3	4914.9	4581.3	4343.5	4236.9
27.5°	4963.4	4780.4	4377.9	4078.7	3951.8
30°	4856.8	4622.2	4126.1	3781.7	3639.7
32.5°	4728.8	4436.0	3850.6	3456.7	3309.3
35°	4586.7	4218.7	3541.7	3117.7	2972.4
37.5°	4414.5	3966.8	3221.0	2771.2	2631.3
40°	4226.2	3707.5	2877.7	2426.8	2305.2
42.5°	4014.2	3408.3	2544.1	2110.4	1979.1
45°	3759.1	3100.5	2228.8	1823.1	1713.3
47.5°	3498.7	2760.4	1914.5	1546.5	1467.9
50°	3190.9	2440.8	1643.3	1317.3	1236.5
52.5°	2871.3	2126.5	1390.4	1118.2	1046.1
55°	2550.6	1833.8	1170.9	938.4	883.5
57.5°	2238.5	1564.8	984.7	793.1	745.8
60°	1912.4	1328.0	833.0	668.3	629.6
62.5°	1632.6	1122.5	699.5	562.8	530.6
65°	1357.1	933.1	585.4	469.2	440.2
67.5°	1125.7	770.5	485.4	389.6	364.8
70°	896.5	627.4	398.2	321.8	305.6
72.5°	714.6	500.4	322.9	261.5	245.4
75°	538.1	388.5	255.1	207.7	196.9
77.5°	404.6	294.9	196.9	161.4	149.6
80°	280.9	210.9	146.4	119.5	114.1
82.5°	179.7	145.3	101.2	85.0	78.6
85°	108.7	88.2	65.6	52.7	49.5
87.5°	51.7	43.0	33.4	25.8	23.7
90°	14.0	11.8	8.6	7.5	6.5
92.5°	16.1	11.8	7.5	5.4	4.3
95°	17.2	11.8	7.5	4.3	4.3
97.5°	17.2	12.9	6.5	4.3	3.2
100°	16.1	11.8	6.5	4.3	3.2
102.5°	14.0	10.8	5.4	3.2	3.2
105°	12.9	9.7	5.4	3.2	2.2
107.5°	10.8	8.6	4.3	3.2	2.2
110°	9.7	7.5	4.3	3.2	2.2



TEST NUMBER: P893155
 CATALOG NUMBER: 4MB-10HL-AOL-UNV-L840

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	7.5	6.5	4.3	3.2	2.2
115°	6.5	5.4	3.2	2.2	2.2
117.5°	5.4	4.3	3.2	2.2	2.2
120°	5.4	4.3	3.2	2.2	2.2
122.5°	4.3	4.3	3.2	2.2	2.2
125°	4.3	3.2	3.2	2.2	2.2
127.5°	3.2	3.2	3.2	2.2	2.2
130°	3.2	3.2	3.2	3.2	2.2
132.5°	3.2	3.2	3.2	3.2	2.2
135°	3.2	3.2	3.2	3.2	3.2
137.5°	3.2	3.2	3.2	3.2	3.2
140°	3.2	3.2	3.2	3.2	3.2
142.5°	3.2	3.2	4.3	3.2	3.2
145°	3.2	3.2	4.3	4.3	3.2
147.5°	3.2	3.2	4.3	4.3	4.3
150°	3.2	3.2	4.3	4.3	4.3
152.5°	3.2	4.3	4.3	4.3	4.3
155°	3.2	4.3	4.3	4.3	4.3
157.5°	4.3	4.3	4.3	5.4	5.4
160°	4.3	4.3	5.4	5.4	5.4
162.5°	4.3	4.3	5.4	5.4	5.4
165°	4.3	4.3	5.4	6.5	6.5
167.5°	4.3	5.4	5.4	6.5	6.5
170°	4.3	5.4	5.4	6.5	6.5
172.5°	4.3	5.4	6.5	6.5	6.5
175°	4.3	5.4	6.5	6.5	6.5
177.5°	5.4	5.4	6.5	6.5	6.5
180°	6.5	6.5	6.5	6.5	6.5



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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	24.24	25.68	24.61	26.00	26.32	18.92	20.35	19.29	20.67	21.00
	3H	25.56	26.84	25.94	27.17	27.54	19.93	21.21	20.31	21.54	21.91
	4H	25.97	27.17	26.38	27.53	27.91	20.27	21.47	20.68	21.82	22.21
	6H	26.24	27.34	26.65	27.71	28.11	20.50	21.60	20.92	21.98	22.38
	8H	26.30	27.34	26.73	27.74	28.15	20.57	21.61	21.00	22.01	22.42
	12H	26.33	27.33	26.77	27.72	28.16	20.61	21.61	21.04	22.00	22.43
4H	2H	24.24	25.43	24.64	25.79	26.17	19.56	20.76	19.97	21.12	21.50
	3H	25.71	26.69	26.12	27.10	27.51	20.76	21.74	21.17	22.15	22.56
	4H	26.22	27.10	26.66	27.52	27.97	21.18	22.06	21.62	22.48	22.93
	6H	26.59	27.35	27.05	27.80	28.27	21.49	22.25	21.96	22.70	23.17
	8H	26.69	27.40	27.16	27.85	28.33	21.58	22.30	22.06	22.75	23.22
	12H	26.75	27.39	27.24	27.87	28.35	21.65	22.29	22.14	22.77	23.25
8H	4H	26.20	26.91	26.67	27.36	27.84	21.52	22.23	21.99	22.68	23.16
	6H	26.62	27.20	27.12	27.70	28.19	21.91	22.50	22.42	23.00	23.49
	8H	26.76	27.28	27.28	27.80	28.30	22.05	22.58	22.58	23.10	23.60
	12H	26.88	27.34	27.39	27.84	28.41	22.17	22.64	22.69	23.14	23.71
12H	4H	26.17	26.80	26.66	27.29	27.77	21.56	22.20	22.05	22.68	23.16
	6H	26.58	27.11	27.10	27.63	28.12	21.98	22.51	22.50	23.02	23.52
	8H	26.76	27.22	27.27	27.72	28.30	22.17	22.64	22.69	23.13	23.71