

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: P893322

Luminaire Tested: 4MB-2SL-RFLW-UNV-L835

Issue Date: 11/11/2024

**Test Information**

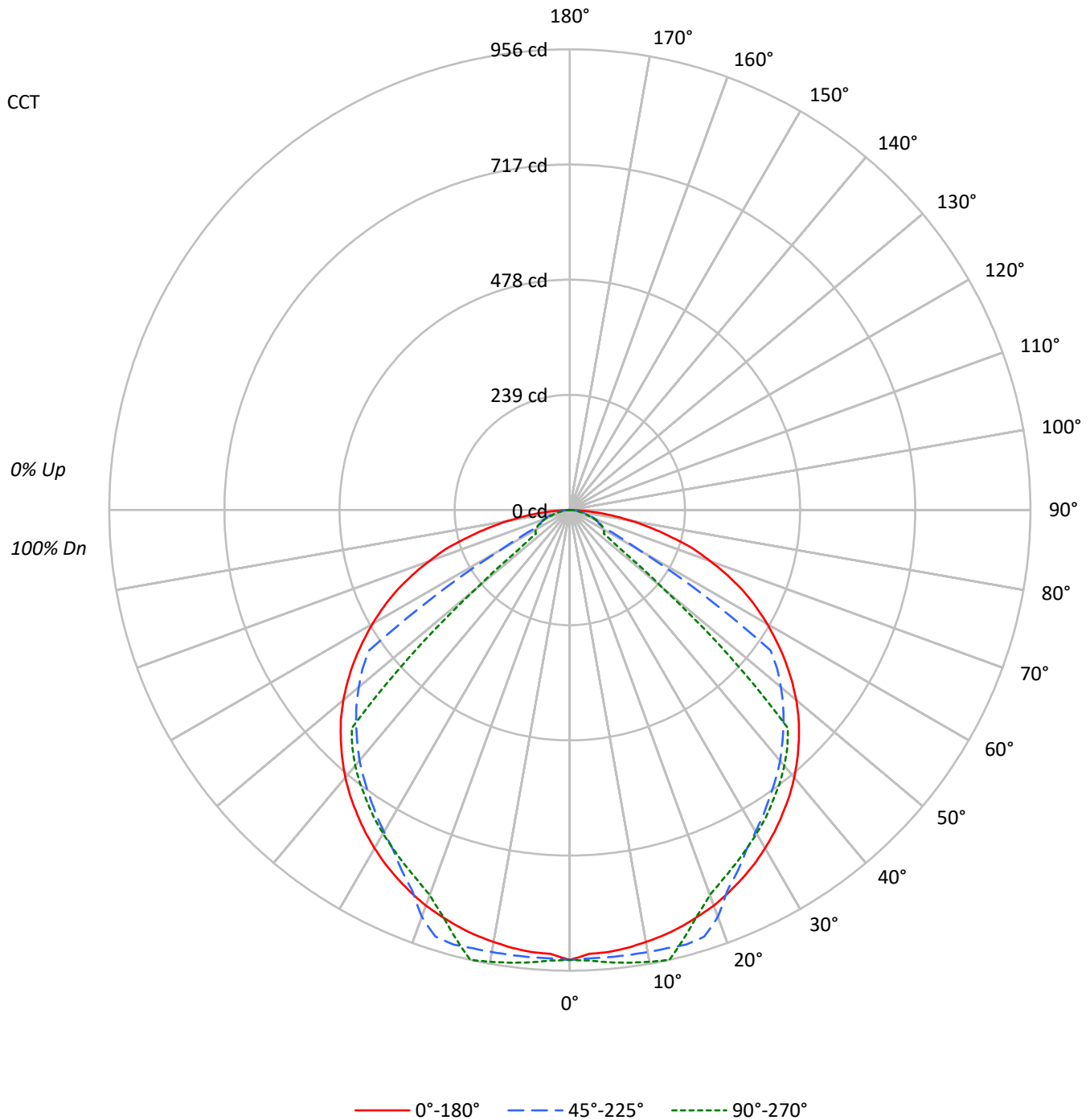
Test Method: LM-79-2019  
Report Number: P893322  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2408-210-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 4MB-2SL-RFLW-UNV-L835  
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with REFLECTOR WITH WHITE FINISH, 80CRI, 3500K  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2277.0 lumens  
Efficiency: N/A  
Efficacy: 165.0 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.24 / 1.38  
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.996  
Total Harmonic Distortion (THDi): 5.92  
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	100	100	100	100
1	110	106	102	99	108	104	101	98	100	97	94	96	94	92	92	91	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	76	70	91	82	75	70	79	73	69	77	72	67	74	70	66	64	64	64	64
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56	56	56	56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	51	61	55	51	49	49	49	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43	43	43	43
7	68	55	47	41	67	55	47	41	53	46	41	52	45	41	50	45	40	38	38	38	38
8	64	51	43	37	62	50	42	37	49	42	37	48	41	37	46	41	36	35	35	35	35
9	60	47	39	33	58	46	39	33	45	38	33	44	38	33	43	37	33	31	31	31	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28	28	28	28

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12123	12123	12123
5°	12001	12140	12281
10°	11999	12281	12550
15°	12032	12551	12349
20°	12072	12413	11747
25°	12102	11827	11627
30°	12153	11559	11622
35°	12203	11489	11659
40°	12286	11506	11742
45°	12348	11521	11756
50°	12393	11549	5083
55°	12361	11512	1940
60°	12289	4394	2114
65°	12204	2040	2172
70°	11788	2194	2031
75°	11012	2097	1771
80°	9684	1840	1518
85°	7658	1594	1281

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 50°  
 Luminance: 12393 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.2	3.9
10°-20°	258.9	11.4
20°-30°	386.3	17.0
30°-40°	468.2	20.6
40°-50°	479.4	21.1
50°-60°	318.8	14.0
60°-70°	181.7	8.0
70°-80°	76.3	3.4
80°-90°	18.2	0.8
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°	734.3	32.2
0°-40°	1202.5	52.8
0°-60°	2000.7	87.9
0°-90°	2277.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2277.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	934	934	934	934	934	
5°	921	939	931	934	942	88
15°	895	920	934	930	919	253
25°	845	885	826	807	812	390
35°	770	784	725	728	736	482
45°	672	632	627	635	640	519
55°	546	500	508	111	86	488
65°	397	355	66	71	71	391
75°	220	46	42	36	35	233
85°	51	13	11	9	9	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	933.6	933.6	933.6	933.6	933.6
2.5°	921.8	941.1	931.4	932.5	935.7
5°	920.7	938.9	931.4	933.6	942.2
7.5°	916.5	935.7	931.4	937.9	947.5
10°	910.0	932.5	931.4	942.2	951.8
12.5°	903.6	926.1	931.4	947.5	956.1
15°	895.0	919.7	933.6	930.4	918.6
17.5°	884.3	913.2	928.2	882.2	881.1
20°	873.6	904.7	898.3	854.4	850.1
22.5°	859.7	896.1	854.4	824.4	829.7
25°	844.7	885.4	825.5	807.3	811.5
27.5°	828.7	874.7	794.4	788.0	793.3
30°	810.5	859.7	770.9	768.7	775.1
32.5°	791.2	830.8	748.4	749.4	756.9
35°	769.8	783.7	724.8	728.0	735.5
37.5°	748.4	739.8	702.3	707.7	715.2
40°	724.8	705.5	678.8	684.1	692.7
42.5°	699.1	669.1	653.1	660.6	668.1
45°	672.4	631.7	627.4	634.9	640.2
47.5°	644.5	599.6	600.6	606.0	453.9
50°	613.5	567.4	571.7	396.1	251.6
52.5°	580.3	534.2	542.8	220.5	127.4
55°	546.0	500.0	508.5	111.3	85.7
57.5°	509.6	465.7	331.9	80.3	84.6
60°	473.2	429.3	169.2	79.2	81.4
62.5°	435.7	392.9	80.3	76.0	77.1
65°	397.2	355.4	66.4	70.7	70.7
67.5°	354.4	315.8	63.2	63.2	62.1
70°	310.5	262.3	57.8	54.6	53.5
72.5°	269.8	100.6	50.3	45.0	43.9
75°	219.5	46.0	41.8	36.4	35.3
77.5°	174.5	38.5	33.2	28.9	27.8
80°	129.5	30.0	24.6	21.4	20.3
82.5°	89.9	20.3	17.1	13.9	13.9
85°	51.4	12.8	10.7	8.6	8.6
87.5°	20.3	6.4	5.4	3.2	3.2
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	21.59	23.12	21.96	23.43	23.74	9.36	10.88	9.73	11.20	11.51
	3H	23.61	24.97	23.99	25.30	25.66	11.68	13.03	12.05	13.36	13.72
	4H	24.08	25.35	24.48	25.70	26.08	12.39	13.66	12.79	14.01	14.39
	6H	24.48	25.66	24.90	26.02	26.42	12.87	14.04	13.28	14.41	14.80
	8H	24.63	25.75	25.06	26.14	26.54	13.01	14.12	13.43	14.51	14.91
	12H	24.73	25.80	25.16	26.18	26.61	13.09	14.16	13.53	14.54	14.97
4H	2H	21.44	22.71	21.84	23.06	23.43	10.16	11.43	10.56	11.78	12.16
	3H	23.64	24.69	24.05	25.09	25.49	12.67	13.72	13.08	14.12	14.52
	4H	24.09	25.03	24.52	25.44	25.88	13.49	14.43	13.92	14.84	15.28
	6H	24.55	25.37	25.01	25.81	26.27	14.08	14.90	14.54	15.34	15.80
	8H	24.74	25.50	25.21	25.95	26.42	14.25	15.01	14.71	15.46	15.92
	12H	24.90	25.57	25.38	26.05	26.52	14.37	15.05	14.85	15.53	16.00
8H	4H	24.01	24.77	24.47	25.21	25.68	14.33	15.09	14.79	15.53	16.00
	6H	24.46	25.09	24.96	25.58	26.06	14.95	15.58	15.45	16.07	16.55
	8H	24.66	25.23	25.18	25.74	26.23	15.15	15.72	15.66	16.23	16.71
	12H	24.85	25.35	25.36	25.84	26.41	15.31	15.81	15.82	16.30	16.87
12H	4H	23.97	24.65	24.46	25.13	25.60	14.40	15.08	14.88	15.56	16.03
	6H	24.42	24.98	24.93	25.49	25.98	15.04	15.61	15.56	16.12	16.61
	8H	24.64	25.14	25.15	25.63	26.20	15.30	15.80	15.81	16.29	16.85