

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: P893275

Luminaire Tested: 4MB-2SL-ASYMR-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P893275
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2410-248-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-2SL-ASYMR-UNV-L840
Description: 2000 Lumen 4FT MICROBAY LINEAR BAY with ASYMMERIC REFLECTOR, 80CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

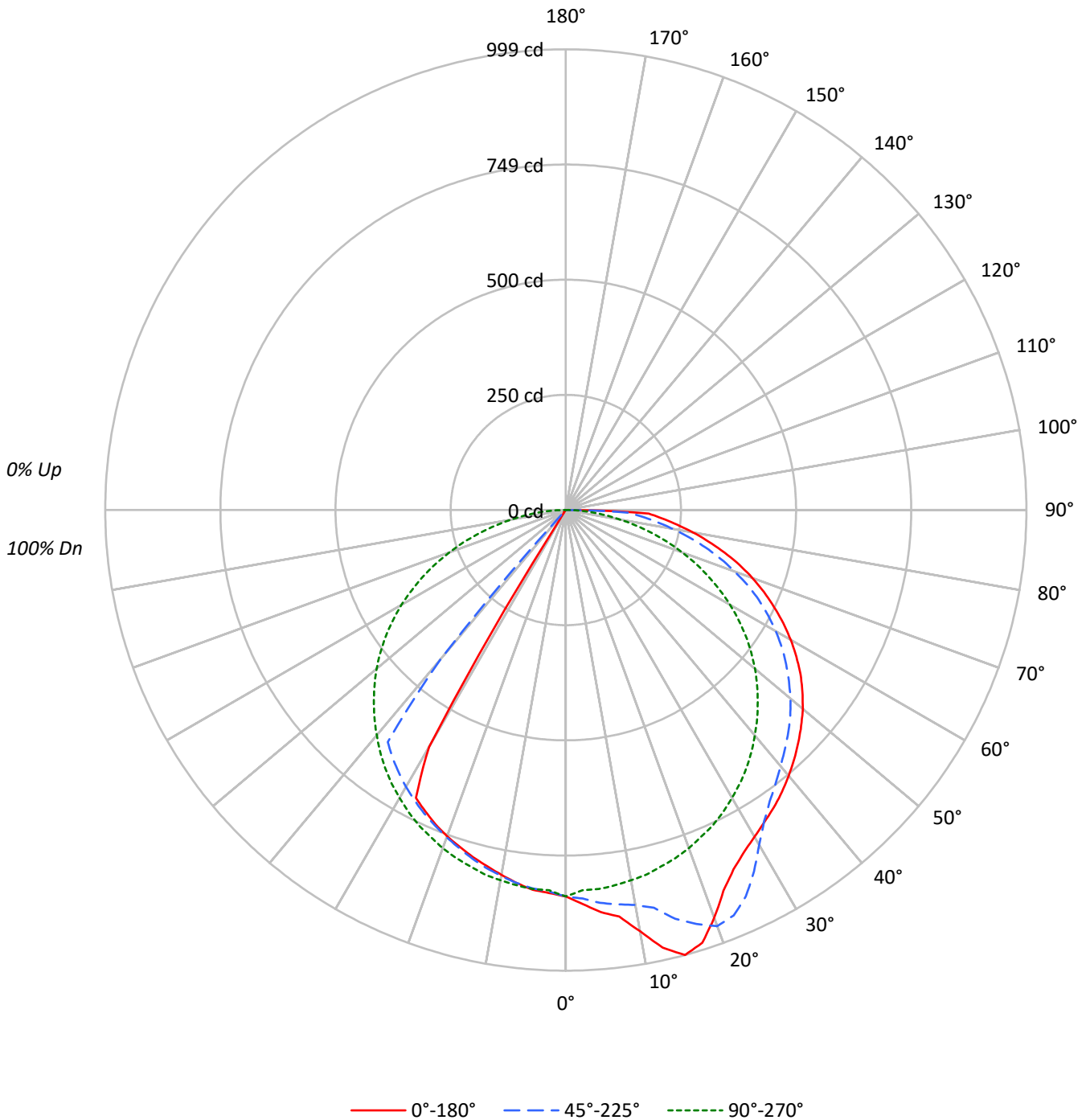
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2267.0 lumens
Efficiency: N/A
Efficacy: 164.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.28 / 1.25
Luminous Opening: Rectangular (W 0.21' x L: 3.98' x H: 0')
CIE Type: Direct

Input Watts (W): 13.8
Input Voltage (V):
Input Current (A_{in}): 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	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83	83	83	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69	69	69	69
3	90	79	71	65	88	78	70	64	75	68	63	72	67	62	70	65	61	59	59	59	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	50	50	50	50
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44	44	44	44
6	71	57	48	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39	39	39	39
7	66	52	44	37	64	51	43	37	50	42	37	48	42	37	47	41	36	35	35	35	35
8	61	48	39	34	60	47	39	33	46	38	33	45	38	33	43	37	33	31	31	31	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28	28	28	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26	26	26	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	10880	10880	10880	10880	10880
5°	11409	11147	10752	10734	10772
10°	12224	11466	10750	10623	10592
15°	13431	12335	10755	10522	10471
20°	13005	13270	10783	10437	10404
25°	12322	13243	10809	10403	10327
30°	12268	12571	10808	10391	8893
35°	12475	12225	10825	10391	122
40°	12747	12283	10811	7167	81
45°	13095	12531	10813	132	53
50°	13553	12846	10820	97	20
55°	14070	13210	10787	66	11
60°	14632	13660	10692	26	13
65°	15320	14198	10499	31	31
70°	16344	14795	10167	38	38
75°	17891	15743	9728	95	50
80°	20990	17618	9011	142	75
85°	31243	24732	8433	209	149

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 87.5°
 Luminance: 53584 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.3	3.5
10°-20°	239.7	10.6
20°-30°	368.5	16.3
30°-40°	394.9	17.4
40°-50°	358.7	15.8
50°-60°	327.2	14.4
60°-70°	243.4	10.7
70°-80°	171.3	7.6
80°-90°	83.0	3.7
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°	688.5	30.4
0°-40°	1083.5	47.8
0°-60°	1769.3	78.0
0°-90°	2267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2267.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	838	838	838	838	838	
5°	875	855	825	824	826	85
15°	999	918	800	783	779	276
25°	860	924	754	726	721	400
35°	787	771	683	656	8	493
45°	713	682	589	7	3	551
55°	622	584	476	3	0	555
65°	499	462	342	1	1	494
75°	357	314	194	2	1	376
85°	210	166	57	1	1	211
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9	837.9
2.5°	855.2	845.6	843.2	849.9	825.4	841.7	828.3	831.2	831.2
5°	875.3	861.9	855.2	853.2	824.9	836.0	823.5	823.5	826.4
7.5°	889.2	874.4	862.4	857.6	820.6	830.2	815.8	815.8	815.8
10°	927.1	899.3	869.6	860.9	815.3	822.5	805.7	806.7	803.3
12.5°	971.8	946.8	883.5	859.5	809.6	812.9	795.2	794.7	790.9
15°	999.1	980.4	917.6	857.6	800.0	802.9	782.7	781.3	778.9
17.5°	983.8	980.9	941.1	856.1	791.3	788.9	768.8	767.3	765.4
20°	941.1	948.3	960.3	853.2	780.3	775.5	755.3	754.4	752.9
22.5°	893.6	900.8	951.6	858.0	766.9	761.1	741.0	740.0	738.1
25°	860.0	860.0	924.3	869.6	754.4	743.8	726.1	724.6	720.8
27.5°	836.4	832.1	883.5	882.5	738.6	726.6	710.2	708.8	704.0
30°	818.2	811.0	838.4	888.8	720.8	707.8	693.0	691.5	593.1
32.5°	801.9	794.2	800.5	894.0	703.0	687.7	674.7	481.3	21.1
35°	787.0	778.4	771.2	890.2	682.9	667.5	655.5	13.9	7.7
37.5°	770.2	763.5	747.2	870.0	661.3	645.9	634.4	7.7	6.7
40°	752.0	745.7	724.6	840.3	637.8	624.8	422.8	6.7	4.8
42.5°	733.3	728.5	703.5	797.1	614.3	601.3	13.4	5.3	3.8
45°	713.1	708.8	682.4	744.8	588.8	576.8	7.2	3.8	2.9
47.5°	692.5	686.2	660.3	688.6	562.9	550.9	6.2	2.9	1.9
50°	670.9	664.2	635.9	639.2	535.6	523.6	4.8	1.9	1.0
52.5°	646.9	638.7	609.9	594.6	506.8	495.7	3.8	1.0	0.5
55°	621.5	612.3	583.5	555.7	476.5	464.1	2.9	1.0	0.5
57.5°	593.1	583.1	555.7	518.8	444.4	313.8	1.9	1.0	0.5
60°	563.4	553.3	526.0	484.2	411.7	21.6	1.0	1.0	0.5
62.5°	531.7	521.2	494.8	449.2	376.7	17.8	1.0	1.0	1.0
65°	498.6	486.1	462.1	413.2	341.7	14.9	1.0	1.0	1.0
67.5°	465.5	449.7	427.1	376.2	305.7	12.5	1.0	1.0	1.0
70°	430.5	413.2	389.7	338.8	267.8	10.1	1.0	1.0	1.0
72.5°	394.5	377.7	352.2	300.9	232.3	7.7	1.0	1.0	1.0
75°	356.6	341.2	313.8	263.0	193.9	5.8	1.9	1.0	1.0
77.5°	317.2	305.2	274.5	224.1	156.4	3.8	1.9	1.0	1.0
80°	280.7	267.3	235.6	184.8	120.5	2.9	1.9	1.4	1.0
82.5°	243.3	231.3	199.6	148.8	86.4	2.4	1.9	1.4	1.0
85°	209.7	198.2	166.0	116.1	56.6	1.9	1.4	1.4	1.0
87.5°	180.0	169.4	137.7	84.9	32.2	1.4	1.4	1.4	1.0
90°	0.0	0.0	0.0	0.0	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	22.82	24.44	23.19	24.75	25.07	18.26	19.87	18.62	20.19	20.50
	3H	25.27	26.74	25.65	27.06	27.42	18.90	20.36	19.28	20.69	21.05
	4H	26.40	27.78	26.79	28.13	28.50	19.04	20.43	19.44	20.77	21.15
	6H	27.49	28.77	27.90	29.14	29.53	19.09	20.37	19.50	20.73	21.12
	8H	28.02	29.25	28.44	29.64	30.03	19.07	20.30	19.50	20.69	21.09
	12H	28.59	29.76	29.02	30.15	30.57	19.06	20.23	19.48	20.61	21.04
4H	2H	23.48	24.86	23.88	25.21	25.59	19.38	20.77	19.78	21.11	21.49
	3H	26.17	27.34	26.58	27.74	28.14	20.73	21.90	21.14	22.29	22.69
	4H	27.47	28.53	27.90	28.94	29.38	21.26	22.32	21.69	22.74	23.17
	6H	28.75	29.68	29.20	30.12	30.58	21.54	22.47	21.99	22.91	23.37
	8H	29.37	30.25	29.83	30.69	31.16	21.58	22.45	22.03	22.89	23.36
	12H	30.06	30.85	30.54	31.33	31.80	21.59	22.38	22.07	22.85	23.32
8H	4H	27.83	28.71	28.29	29.15	29.61	22.21	23.09	22.67	23.53	23.99
	6H	29.31	30.05	29.80	30.54	31.01	22.80	23.54	23.29	24.02	24.50
	8H	30.10	30.76	30.60	31.26	31.75	22.98	23.64	23.48	24.15	24.63
	12H	30.99	31.58	31.49	32.07	32.63	23.08	23.67	23.58	24.16	24.72
12H	4H	27.87	28.66	28.35	29.14	29.61	22.43	23.22	22.91	23.69	24.16
	6H	29.40	30.07	29.91	30.57	31.06	23.15	23.82	23.66	24.32	24.81
	8H	30.28	30.87	30.79	31.36	31.92	23.46	24.05	23.97	24.54	25.10