

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: P894080

Luminaire Tested: 4MB-9HL-RNDU-UNV-L950

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894080
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-3)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4MB-9HL-RNDU-UNV-L950
Description: 9000 Lumen 4FT MICROBAY LINEAR BAY with ROUND FROSTED LENS WITH UPLIGHT, 90CRI, 5
Light Source: -
Ballast/Driver: -

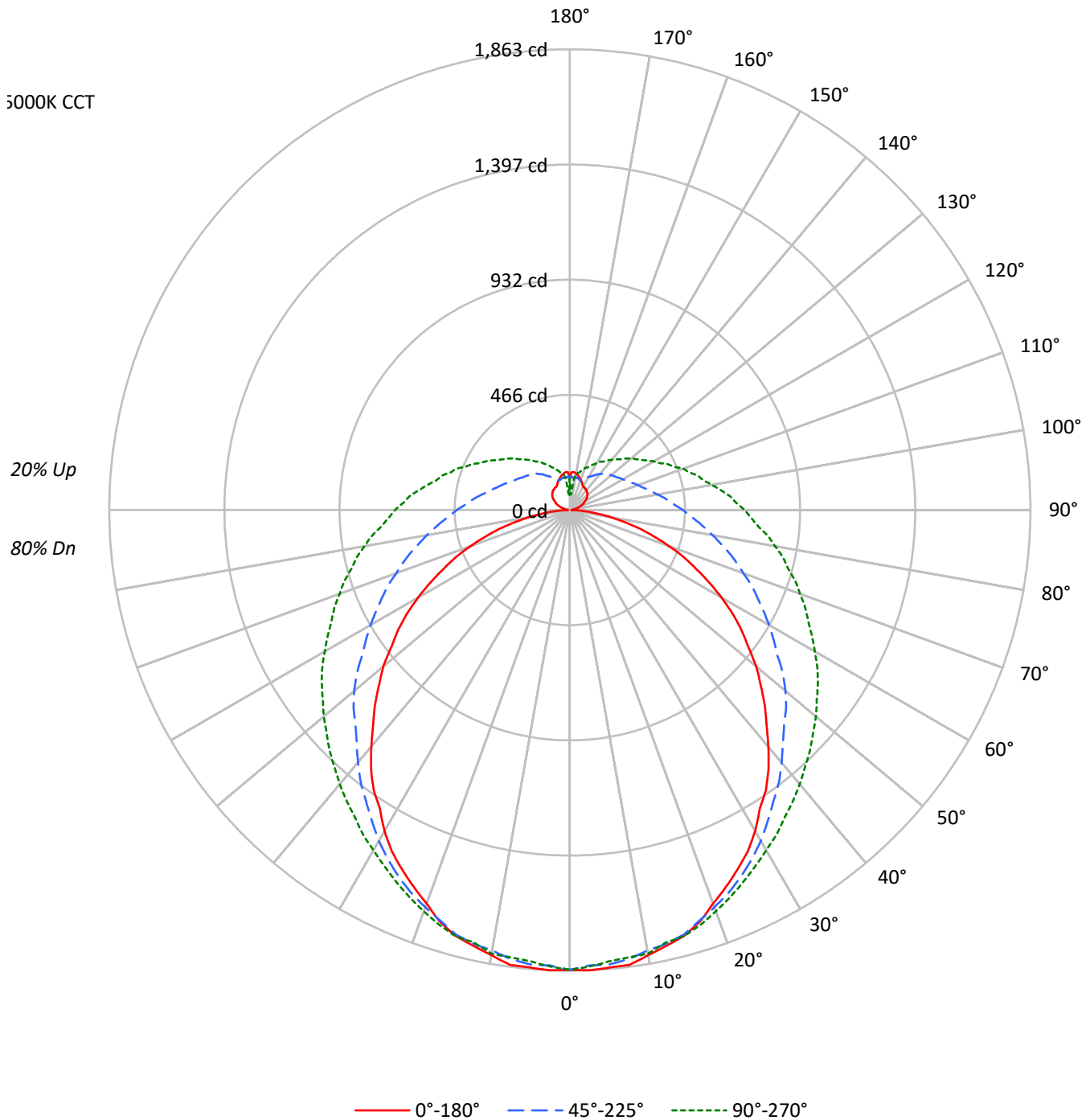
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7814.9 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 3.98' x H: 0.21')
CIE Type: Semi-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	0
RCR																					
0	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	83	83	83	80
1	102	96	91	86	97	92	87	83	84	80	77	76	73	71	69	67	65	65	65	65	61
2	92	82	75	68	87	79	72	66	72	66	61	66	61	57	60	56	53	53	53	53	49
3	83	72	63	56	79	69	61	54	63	56	51	57	52	47	52	48	44	44	44	44	41
4	76	63	54	47	72	60	52	45	55	48	43	51	45	40	46	41	37	37	37	37	34
5	69	56	47	40	66	54	45	39	49	42	37	45	39	34	41	36	32	32	32	32	29
6	64	50	41	35	61	48	40	34	44	37	32	41	35	30	38	32	28	28	28	28	26
7	59	46	37	30	56	44	35	30	40	33	28	37	31	26	34	29	25	25	25	25	23
8	55	41	33	27	52	40	32	26	37	30	25	34	28	24	31	26	22	22	22	22	20
9	51	38	30	24	49	37	29	23	34	27	22	31	25	21	29	24	20	20	20	20	18
10	48	35	27	22	46	34	26	21	31	25	20	29	23	19	27	22	18	18	18	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13227	13227	13227
5°	13202	12702	12486
10°	13085	12160	12001
15°	12953	11759	11459
20°	12584	11210	10902
25°	12294	10725	10376
30°	11956	10195	9915
35°	11586	9621	9516
40°	11110	9129	9209
45°	10657	8659	8935
50°	10258	8369	8702
55°	9792	7918	8523
60°	9237	7631	8357
65°	8546	7377	8233
70°	7771	7169	8227
75°	6766	7090	8251
80°	5320	7052	8411
85°	3504	7208	8601

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10657 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.0	2.3
10°-20°	502.9	6.4
20°-30°	755.1	9.7
30°-40°	906.8	11.6
40°-50°	959.1	12.3
50°-60°	924.3	11.8
60°-70°	820.0	10.5
70°-80°	672.5	8.6
80°-90°	520.5	6.7
90°-100°	406.1	5.2
100°-110°	323.3	4.1
110°-120°	258.3	3.3
120°-130°	203.8	2.6
130°-140°	155.5	2.0
140°-150°	109.3	1.4
150°-160°	69.9	0.9
160°-170°	39.2	0.5
170°-180°	12.4	0.2
0°-30°	1434.0	18.3
0°-40°	2340.7	30.0
0°-60°	4224.1	54.1
0°-90°	6237.1	79.8
90°-120°	987.7	12.6
90°-150°	1456.3	18.6
90°-180°	1578.0	20.2
0°-180°	7814.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1859	1859	1859	1859	1859	
5°	1857	1862	1844	1858	1832	177
15°	1783	1784	1778	1789	1784	501
25°	1604	1630	1636	1665	1659	739
35°	1383	1404	1437	1496	1516	862
45°	1115	1148	1226	1342	1374	860
55°	848	891	1025	1164	1225	757
65°	565	642	837	1011	1064	561
75°	294	423	666	846	914	311
85°	69	258	517	703	765	77
90°	7	205	458	636	707	7
95°	9	170	404	581	650	9
105°	31	137	323	475	536	33
115°	60	134	268	388	438	58
125°	84	136	231	318	352	74
135°	99	132	207	269	290	77
145°	107	122	170	226	239	67
155°	118	125	140	177	198	55
165°	140	137	132	129	160	39
175°	154	149	132	108	69	14
180°	126	126	126	126	126	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1859.0	1859.0	1859.0	1859.0	1859.0
2.5°	1863.2	1869.4	1843.4	1859.0	1847.6
5°	1856.9	1862.1	1844.5	1858.0	1832.0
7.5°	1854.8	1852.8	1830.9	1848.6	1824.7
10°	1827.8	1835.1	1809.1	1833.0	1821.6
12.5°	1804.9	1819.5	1796.6	1815.3	1791.4
15°	1783.1	1784.1	1777.9	1789.3	1784.1
17.5°	1746.7	1756.1	1741.5	1767.5	1758.2
20°	1693.7	1722.8	1709.3	1733.2	1727.0
22.5°	1650.0	1664.6	1676.0	1703.0	1694.7
25°	1604.3	1630.3	1636.5	1664.6	1659.4
27.5°	1557.5	1568.9	1592.8	1623.0	1624.0
30°	1499.3	1511.7	1545.0	1579.3	1588.7
32.5°	1430.6	1470.2	1489.9	1541.9	1556.5
35°	1382.8	1403.6	1436.9	1496.1	1515.9
37.5°	1320.4	1344.3	1389.1	1458.7	1482.6
40°	1248.7	1284.0	1332.9	1419.2	1447.3
42.5°	1177.0	1218.5	1275.7	1376.6	1408.8
45°	1114.6	1147.8	1225.8	1342.3	1374.5
47.5°	1047.0	1087.5	1186.3	1297.6	1334.0
50°	984.6	1026.2	1138.5	1256.0	1299.6
52.5°	909.7	957.6	1086.5	1208.1	1259.1
55°	848.4	891.0	1025.2	1164.5	1224.8
57.5°	780.8	828.7	977.3	1132.2	1187.4
60°	708.0	768.3	930.5	1091.7	1144.7
62.5°	636.3	708.0	882.7	1052.2	1104.2
65°	564.6	642.5	837.0	1010.6	1063.6
67.5°	500.1	584.3	795.4	964.9	1030.4
70°	427.3	528.2	746.5	922.2	990.8
72.5°	358.7	477.2	707.0	887.9	956.5
75°	294.2	423.2	666.5	846.3	913.9
77.5°	229.8	372.2	623.8	808.9	882.7
80°	168.4	330.6	586.4	772.5	843.2
82.5°	116.4	294.2	550.0	742.4	808.9
85°	68.6	257.8	516.7	702.8	765.2
87.5°	31.2	228.7	482.4	672.7	734.0
90°	7.3	204.8	457.5	636.3	707.0
92.5°	7.3	186.1	427.3	609.3	673.7
95°	9.4	169.5	404.4	581.2	649.8
97.5°	12.5	157.0	383.7	555.2	615.5
100°	17.7	148.7	360.8	525.1	584.3
102.5°	23.9	142.4	340.0	498.0	553.1
105°	31.2	137.2	323.4	475.1	536.5
107.5°	38.5	135.2	306.7	453.3	505.3
110°	45.7	134.1	294.2	430.4	488.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	53.0	133.1	280.7	409.6	456.4
115°	60.3	134.1	268.2	387.8	437.7
117.5°	64.5	134.1	256.8	369.1	410.7
120°	70.7	135.2	248.5	349.3	393.0
122.5°	76.9	135.2	240.2	334.8	373.3
125°	84.2	136.2	230.8	318.2	352.5
127.5°	88.4	136.2	225.6	306.7	337.9
130°	92.5	135.2	218.3	292.2	324.4
132.5°	96.7	133.1	214.2	278.6	308.8
135°	98.8	132.0	206.9	269.3	290.1
137.5°	101.9	128.9	199.6	255.8	278.6
140°	105.0	127.9	189.2	245.4	265.1
142.5°	105.0	124.8	181.9	236.0	253.7
145°	107.1	121.6	170.5	225.6	239.1
147.5°	109.2	120.6	162.2	215.2	231.9
150°	109.2	119.6	154.9	203.8	219.4
152.5°	111.2	120.6	147.6	193.4	207.9
155°	118.5	124.8	140.4	176.8	197.5
157.5°	124.8	128.9	133.1	164.3	186.1
160°	130.0	132.0	126.8	151.8	180.9
162.5°	134.1	135.2	127.9	140.4	169.5
165°	140.4	137.2	132.0	128.9	160.1
167.5°	145.6	139.3	134.1	125.8	152.8
170°	149.7	143.5	132.0	118.5	149.7
172.5°	152.8	144.5	133.1	111.2	125.8
175°	153.9	148.7	132.0	108.1	68.6
177.5°	152.8	149.7	136.2	107.1	61.3
180°	125.8	125.8	125.8	125.8	125.8



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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	16.02	17.33	16.66	17.99	18.76	19.42	20.74	20.06	21.40	22.17
	3H	17.47	18.67	18.12	19.34	20.14	22.26	23.46	22.91	24.13	24.93
	4H	17.94	19.08	18.61	19.76	20.58	23.71	24.85	24.38	25.53	26.35
	6H	18.22	19.28	18.90	19.98	20.80	25.27	26.33	25.95	27.03	27.85
	8H	18.28	19.30	18.97	20.01	20.84	26.09	27.11	26.78	27.82	28.65
	12H	18.29	19.27	19.00	19.98	20.84	26.97	27.94	27.67	28.65	29.51
4H	2H	17.15	18.29	17.83	18.98	19.79	19.76	20.90	20.44	21.59	22.40
	3H	18.86	19.84	19.54	20.56	21.39	22.83	23.81	23.52	24.53	25.36
	4H	19.45	20.36	20.16	21.08	21.94	24.47	25.37	25.17	26.09	26.95
	6H	19.86	20.66	20.58	21.41	22.28	26.23	27.03	26.95	27.77	28.64
	8H	19.98	20.73	20.70	21.47	22.36	27.16	27.91	27.88	28.66	29.54
	12H	20.03	20.72	20.78	21.49	22.37	28.17	28.86	28.91	29.62	30.51
8H	4H	20.49	21.24	21.21	21.98	22.86	24.65	25.40	25.37	26.15	27.03
	6H	21.13	21.77	21.88	22.56	23.44	26.59	27.23	27.34	28.02	28.90
	8H	21.36	21.94	22.12	22.72	23.62	27.67	28.25	28.43	29.04	29.93
	12H	21.51	22.03	22.27	22.80	23.76	28.87	29.39	29.64	30.17	31.12
12H	4H	20.81	21.50	21.56	22.27	23.16	24.64	25.33	25.39	26.10	26.99
	6H	21.62	22.20	22.38	22.99	23.88	26.62	27.20	27.38	27.99	28.88
	8H	21.97	22.49	22.74	23.27	24.22	27.77	28.29	28.53	29.06	30.02