

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: P894927

Luminaire Tested: 8TMB-20HL-RND-UNV-L840

Issue Date: 11/11/2024

Test Information

Test Method: LM-79-2019
Report Number: P894927
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)
Test Lab: INNOVATION CENTER
Issue Date: 11/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 8TMB-20HL-RND-UNV-L840
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 4000K CCT
Light Source: -
Ballast/Driver: -

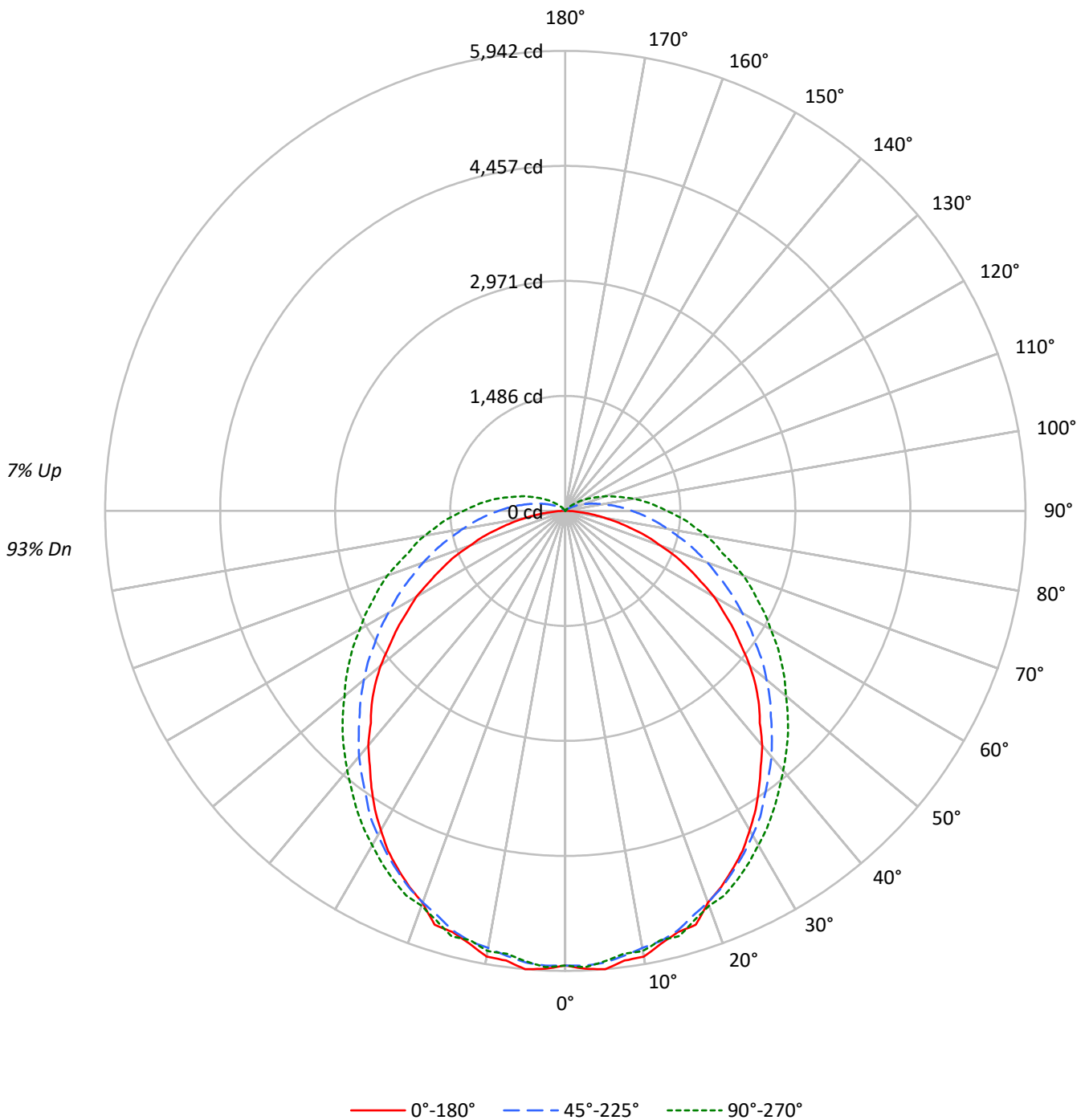
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19341.0 lumens
Efficiency: N/A
Efficacy: 133.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.26 / 1.35
Luminous Opening: Rectangular (W 0.38' x L: 7.98' x H: 0')
CIE Type: Direct

Input Watts (W): 145
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.997
Total Harmonic Distortion (THDi): 7.79
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	86	75	66	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	65	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	33	28	38	32	27	27	27	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	25	25	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	22	22	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20834	20834	20834
5°	21162	20856	20798
10°	21058	20652	20797
15°	20681	20612	20888
20°	20335	20315	20487
25°	20001	20085	20580
30°	19512	19820	20425
35°	18895	19441	20349
40°	18326	19184	20279
45°	17751	18842	20406
50°	17170	18726	20535
55°	16384	18593	21069
60°	15744	18718	21729
65°	14703	19213	23048
70°	13514	20286	25385
75°	12263	22462	28759
80°	10537	27441	37705
85°	8529	44395	64518

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 117110 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	556.7	2.9
10°-20°	1584.8	8.2
20°-30°	2374.9	12.3
30°-40°	2822.2	14.6
40°-50°	2921.8	15.1
50°-60°	2707.6	14.0
60°-70°	2254.2	11.7
70°-80°	1673.1	8.7
80°-90°	1106.6	5.7
90°-100°	673.4	3.5
100°-110°	377.5	2.0
110°-120°	185.9	1.0
120°-130°	75.7	0.4
130°-140°	21.9	0.1
140°-150°	3.2	0.0
150°-160°	0.8	0.0
160°-170°	0.6	0.0
170°-180°	0.2	0.0
0°-30°	4516.4	23.4
0°-40°	7338.6	37.9
0°-60°	12967.9	67.0
0°-90°	18001.8	93.1
90°-120°	1236.8	6.4
90°-150°	1337.5	6.9
90°-180°	1339.0	6.9
0°-180°	19341.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5872	5872	5872	5872	5872	
5°	5942	5877	5856	5885	5840	562
15°	5630	5608	5611	5619	5686	1594
25°	5109	5104	5130	5230	5257	2351
35°	4362	4394	4488	4631	4698	2729
45°	3538	3589	3755	3989	4067	2726
55°	2648	2761	3006	3307	3406	2368
65°	1751	1915	2288	2624	2745	1740
75°	894	1166	1638	1990	2098	957
85°	210	588	1090	1477	1585	235
90°	11	381	862	1206	1314	16
95°	3	236	669	996	1107	2
105°	3	78	363	615	701	3
115°	3	19	169	338	406	3
125°	3	5	62	156	199	2
135°	5	3	16	51	70	3
145°	5	3	0	5	8	3
155°	5	5	0	0	0	2
165°	8	5	0	0	0	2
175°	8	5	0	0	0	1
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5871.8	5871.8	5871.8	5871.8	5871.8
2.5°	5920.1	5890.6	5879.8	5866.4	5898.6
5°	5941.6	5877.1	5855.6	5885.2	5839.5
7.5°	5858.3	5842.2	5796.6	5812.7	5769.7
10°	5844.9	5756.3	5732.1	5785.8	5772.4
12.5°	5724.0	5648.8	5691.8	5729.4	5678.4
15°	5630.0	5608.5	5611.2	5619.3	5686.4
17.5°	5605.8	5509.1	5482.3	5549.4	5544.1
20°	5385.6	5366.8	5380.2	5468.9	5425.9
22.5°	5256.7	5197.6	5270.1	5356.0	5374.8
25°	5108.9	5103.5	5130.4	5229.8	5256.7
27.5°	4953.1	4918.2	4990.7	5106.2	5127.7
30°	4762.4	4749.0	4837.6	4937.0	4985.4
32.5°	4574.4	4582.4	4684.5	4767.8	4851.1
35°	4362.2	4394.4	4488.4	4630.8	4697.9
37.5°	4147.3	4187.6	4313.8	4477.7	4534.1
40°	3956.6	3964.7	4141.9	4308.5	4378.3
42.5°	3717.5	3798.1	3948.5	4168.8	4222.5
45°	3537.6	3588.6	3755.1	3988.8	4066.7
47.5°	3333.4	3392.5	3583.2	3811.5	3894.8
50°	3110.5	3164.2	3392.5	3653.1	3720.2
52.5°	2863.4	2973.5	3212.5	3481.2	3569.8
55°	2648.5	2761.3	3005.7	3306.6	3405.9
57.5°	2417.5	2530.3	2836.5	3115.8	3244.8
60°	2218.7	2326.1	2637.7	2984.2	3062.1
62.5°	1971.6	2124.7	2463.1	2804.3	2914.4
65°	1751.3	1915.2	2288.5	2624.3	2745.2
67.5°	1549.9	1719.1	2108.6	2468.5	2600.1
70°	1302.7	1525.7	1955.5	2310.0	2447.0
72.5°	1120.1	1343.0	1791.6	2143.5	2267.0
75°	894.5	1165.8	1638.5	1990.4	2097.8
77.5°	706.4	999.2	1480.0	1874.9	1982.3
80°	515.7	848.8	1343.0	1721.8	1845.3
82.5°	351.9	709.1	1216.8	1579.4	1697.6
85°	209.5	588.3	1090.5	1477.3	1584.8
87.5°	91.3	480.8	975.0	1329.6	1439.7
90°	10.7	381.4	862.2	1206.0	1313.5
92.5°	2.7	306.2	762.8	1095.9	1200.7
95°	2.7	236.4	668.8	996.5	1106.7
97.5°	2.7	182.7	574.8	894.5	999.2
100°	2.7	139.7	496.9	787.0	899.8
102.5°	2.7	104.8	421.7	698.4	795.1
105°	2.7	77.9	362.6	615.1	701.1
107.5°	2.7	56.4	303.5	537.2	623.2
110°	2.7	40.3	255.2	464.7	550.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	29.5	206.8	400.2	472.7
115°	2.7	18.8	169.2	338.4	405.6
117.5°	2.7	13.4	134.3	284.7	349.2
120°	2.7	10.7	107.4	236.4	292.8
122.5°	2.7	8.1	83.3	193.4	247.1
125°	2.7	5.4	61.8	155.8	198.8
127.5°	2.7	5.4	45.7	123.6	161.2
130°	2.7	2.7	32.2	94.0	126.2
132.5°	2.7	2.7	21.5	69.8	94.0
135°	5.4	2.7	16.1	51.0	69.8
137.5°	5.4	2.7	10.7	34.9	48.3
140°	5.4	2.7	5.4	21.5	29.5
142.5°	5.4	2.7	2.7	10.7	16.1
145°	5.4	2.7	0.0	5.4	8.1
147.5°	5.4	2.7	0.0	2.7	2.7
150°	5.4	2.7	0.0	0.0	0.0
152.5°	5.4	2.7	0.0	0.0	0.0
155°	5.4	5.4	0.0	0.0	0.0
157.5°	5.4	5.4	0.0	0.0	0.0
160°	5.4	5.4	0.0	0.0	0.0
162.5°	5.4	5.4	0.0	0.0	0.0
165°	8.1	5.4	0.0	0.0	0.0
167.5°	8.1	5.4	0.0	0.0	0.0
170°	8.1	5.4	0.0	0.0	0.0
172.5°	8.1	5.4	0.0	0.0	0.0
175°	8.1	5.4	0.0	0.0	0.0
177.5°	8.1	5.4	0.0	0.0	0.0
180°	2.7	2.7	2.7	2.7	2.7



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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	20.78	22.32	21.25	22.77	23.25	22.35	23.89	22.82	24.35	24.83
	3H	22.54	23.95	23.02	24.41	24.93	24.94	26.34	25.42	26.81	27.33
	4H	23.20	24.53	23.70	25.01	25.55	26.20	27.53	26.70	28.01	28.55
	6H	23.68	24.92	24.19	25.41	25.97	27.58	28.82	28.09	29.31	29.87
	8H	23.83	25.02	24.35	25.53	26.09	28.31	29.50	28.84	30.02	30.58
	12H	23.93	25.07	24.46	25.58	26.17	29.15	30.29	29.68	30.80	31.39
4H	2H	21.73	23.07	22.24	23.55	24.09	22.92	24.26	23.43	24.74	25.27
	3H	23.78	24.91	24.29	25.44	26.00	25.79	26.93	26.31	27.45	28.01
	4H	24.59	25.63	25.12	26.16	26.76	27.27	28.31	27.81	28.85	29.44
	6H	25.24	26.16	25.79	26.72	27.33	28.89	29.81	29.44	30.37	30.98
	8H	25.47	26.33	26.02	26.89	27.51	29.75	30.61	30.31	31.17	31.79
	12H	25.63	26.42	26.22	27.01	27.64	30.74	31.53	31.32	32.12	32.74
8H	4H	25.44	26.30	26.00	26.86	27.48	27.64	28.51	28.20	29.07	29.69
	6H	26.36	27.10	26.95	27.70	28.32	29.52	30.26	30.11	30.86	31.48
	8H	26.74	27.41	27.35	28.02	28.66	30.58	31.25	31.18	31.86	32.50
	12H	27.06	27.66	27.67	28.26	28.96	31.84	32.43	32.44	33.03	33.74
12H	4H	25.70	26.49	26.28	27.08	27.70	27.68	28.47	28.27	29.06	29.69
	6H	26.78	27.45	27.39	28.06	28.70	29.63	30.30	30.23	30.91	31.55
	8H	27.32	27.92	27.93	28.52	29.22	30.81	31.40	31.41	32.00	32.71