

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: P894885

Luminaire Tested: 8TMB-20HL-FLTU-UNV-L830

Issue Date: 11/11/2024

**Test Information**

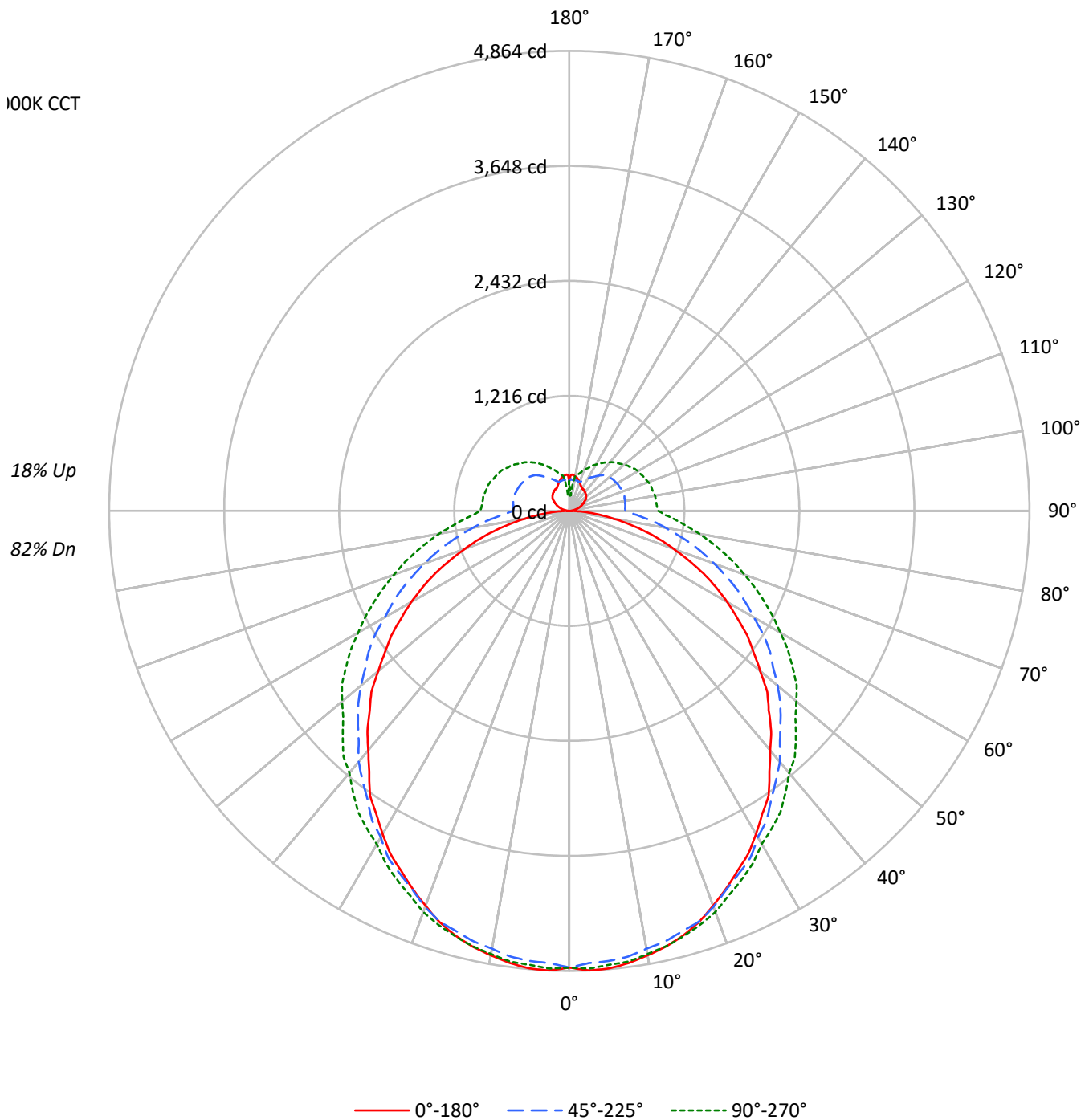
Test Method: LM-79-2019  
Report Number: P894885  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-FLTU-UNV-L830  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with FLAT FROSTED LENS WITH UPLIGHT, 80CRI, 30  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18153.0 lumens  
Efficiency: N/A  
Efficacy: 125.2 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.26 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 7.98' x H: 0.21')  
CIE Type: Semi-Direct  
  
Input Watts (W): 145  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	86	86	86	86	86	86	82
1	103	98	93	89	99	94	90	86	87	83	80	80	77	74	73	71	69	69	69	69	66
2	93	85	77	71	89	81	75	69	75	70	65	69	65	61	63	60	57	57	57	57	54
3	85	74	66	59	81	71	63	57	66	59	54	60	55	51	56	51	48	48	48	48	45
4	78	65	56	49	74	63	55	48	58	51	46	54	48	43	50	45	41	41	41	41	38
5	71	58	49	42	68	56	48	41	52	45	39	48	42	37	44	39	35	35	35	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	31	31	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	37	31	27	27	27	27	25
8	56	43	34	29	54	42	34	28	39	32	27	36	30	26	34	28	24	24	24	24	22
9	53	39	31	26	50	38	30	25	36	29	24	33	27	23	31	26	22	22	22	22	20
10	49	36	28	23	47	35	28	23	33	26	22	31	25	21	29	24	20	20	20	20	18

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

	0°	45°	90°
0°	17132	17132	17132
5°	17259	16431	16376
10°	17114	15803	15628
15°	16958	15249	14915
20°	16621	14661	14207
25°	16255	13935	13424
30°	15927	13225	12665
35°	15628	12548	12176
40°	14978	11967	11470
45°	14579	11272	10978
50°	14106	10690	10461
55°	13694	10137	9999
60°	13099	9376	9379
65°	12423	8764	8794
70°	11375	8003	8159
75°	10288	7245	7554
80°	8447	6414	6943
85°	6355	5612	6371

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14579 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.4	2.5
10°-20°	1306.1	7.2
20°-30°	1961.9	10.8
30°-40°	2351.4	13.0
40°-50°	2465.2	13.6
50°-60°	2312.6	12.7
60°-70°	1920.8	10.6
70°-80°	1373.4	7.6
80°-90°	814.5	4.5
90°-100°	597.5	3.3
100°-110°	588.7	3.2
110°-120°	549.2	3.0
120°-130°	481.8	2.7
130°-140°	388.0	2.1
140°-150°	278.5	1.5
150°-160°	177.0	1.0
160°-170°	98.1	0.5
170°-180°	30.9	0.2
0°-30°	3725.3	20.5
0°-40°	6076.7	33.5
0°-60°	10854.5	59.8
0°-90°	14963.3	82.4
90°-120°	1735.3	9.6
90°-150°	2883.7	15.9
90°-180°	3190.0	17.6
0°-180°	18153.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4828	4828	4828	4828	4828	
5°	4857	4846	4777	4800	4818	461
15°	4649	4621	4603	4636	4657	1309
25°	4202	4241	4233	4282	4305	1939
35°	3674	3687	3720	3828	3890	2280
45°	2981	3066	3158	3366	3387	2306
55°	2296	2371	2589	2799	2881	2043
65°	1562	1680	1952	2214	2278	1540
75°	824	1013	1329	1604	1678	870
85°	203	444	777	1039	1137	223
90°	8	269	593	847	939	17
95°	23	282	593	836	924	24
105°	82	310	603	826	903	87
115°	149	336	590	785	862	147
125°	213	346	572	729	795	187
135°	246	334	531	659	713	191
145°	267	308	436	580	621	168
155°	292	308	357	449	508	135
165°	349	339	328	326	408	98
175°	385	370	331	274	167	36
180°	318	318	318	318	318	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4828.5	4828.5	4828.5	4828.5	4828.5
2.5°	4864.5	4826.0	4784.9	4846.5	4843.9
5°	4856.8	4846.5	4777.2	4800.3	4818.3
7.5°	4820.8	4795.2	4754.1	4810.6	4805.4
10°	4772.1	4741.3	4700.3	4733.6	4756.7
12.5°	4718.2	4692.6	4664.3	4700.3	4715.6
15°	4648.9	4620.7	4602.8	4636.1	4656.6
17.5°	4559.1	4551.4	4554.0	4556.6	4589.9
20°	4443.7	4448.8	4456.5	4502.7	4513.0
22.5°	4325.7	4353.9	4333.4	4405.2	4400.1
25°	4202.5	4241.0	4233.3	4282.1	4305.1
27.5°	4092.2	4094.8	4140.9	4210.2	4202.5
30°	3946.0	3989.6	3984.4	4069.1	4069.1
32.5°	3797.2	3861.3	3881.8	3956.2	3981.9
35°	3674.0	3686.8	3720.2	3827.9	3889.5
37.5°	3473.9	3535.5	3589.3	3730.4	3753.5
40°	3304.5	3366.1	3463.6	3627.8	3615.0
42.5°	3158.3	3222.4	3294.3	3484.1	3530.3
45°	2981.3	3065.9	3158.3	3366.1	3386.6
47.5°	2837.6	2904.3	3024.9	3214.7	3240.4
50°	2634.9	2742.7	2873.5	3094.2	3132.6
52.5°	2455.3	2547.7	2714.4	2942.8	3030.0
55°	2296.2	2370.7	2588.7	2799.1	2881.2
57.5°	2101.3	2203.9	2432.2	2665.7	2740.1
60°	1929.4	2029.4	2250.1	2516.9	2575.9
62.5°	1747.2	1865.2	2103.8	2363.0	2429.7
65°	1562.5	1680.5	1952.5	2214.1	2278.3
67.5°	1362.4	1508.6	1785.7	2057.6	2124.4
70°	1175.1	1334.1	1631.7	1903.7	1970.4
72.5°	1005.7	1177.6	1480.4	1760.0	1831.9
75°	823.6	1013.4	1329.0	1603.5	1677.9
77.5°	646.5	851.8	1172.5	1449.6	1536.8
80°	474.6	700.4	1036.5	1303.3	1395.7
82.5°	333.5	564.4	910.8	1172.5	1257.2
85°	202.7	443.9	777.4	1039.1	1136.6
87.5°	89.8	343.8	672.2	931.3	1018.6
90°	7.7	269.4	592.7	846.7	939.0
92.5°	15.4	274.5	590.1	836.4	928.8
95°	23.1	282.2	592.7	836.4	923.6
97.5°	33.4	292.5	597.8	836.4	921.1
100°	48.7	297.6	600.4	836.4	921.1
102.5°	64.1	305.3	597.8	823.6	910.8
105°	82.1	310.4	602.9	826.1	903.1
107.5°	100.1	315.6	602.9	813.3	900.5
110°	118.0	323.3	597.8	805.6	890.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	133.4	331.0	595.2	790.2	872.3
115°	148.8	336.1	590.1	785.1	862.1
117.5°	164.2	338.7	587.5	772.3	846.7
120°	177.0	343.8	582.4	756.9	839.0
122.5°	192.4	346.4	574.7	741.5	823.6
125°	212.9	346.4	572.1	728.6	795.3
127.5°	223.2	348.9	561.9	713.2	782.5
130°	233.5	341.2	556.7	695.3	762.0
132.5°	241.2	338.7	543.9	677.3	736.3
135°	246.3	333.5	531.1	659.4	713.2
137.5°	254.0	325.8	513.1	646.5	697.9
140°	259.1	320.7	487.5	620.9	672.2
142.5°	264.3	313.0	461.8	597.8	646.5
145°	266.8	307.9	436.2	579.8	620.9
147.5°	274.5	300.2	420.8	556.7	592.7
150°	272.0	295.0	397.7	528.5	564.4
152.5°	279.7	302.7	377.1	490.0	541.4
155°	292.5	307.9	356.6	449.0	508.0
157.5°	305.3	318.1	341.2	413.1	482.3
160°	323.3	323.3	323.3	384.8	461.8
162.5°	333.5	333.5	325.8	351.5	433.6
165°	348.9	338.7	328.4	325.8	407.9
167.5°	364.3	343.8	333.5	315.6	390.0
170°	366.9	351.5	331.0	297.6	377.1
172.5°	377.1	359.2	328.4	282.2	292.5
175°	384.8	369.5	331.0	274.5	166.8
177.5°	382.3	369.5	338.7	274.5	161.6
180°	318.1	318.1	318.1	318.1	318.1



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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	17.62	18.94	18.23	19.57	20.29	20.21	21.53	20.82	22.16	22.88
	3H	19.05	20.25	19.67	20.89	21.64	22.61	23.81	23.23	24.45	25.20
	4H	19.51	20.66	20.16	21.31	22.07	23.75	24.89	24.39	25.54	26.30
	6H	19.78	20.84	20.44	21.50	22.28	24.91	25.97	25.56	26.63	27.41
	8H	19.83	20.85	20.50	21.53	22.31	25.49	26.50	26.16	27.19	27.97
	12H	19.85	20.82	20.52	21.50	22.31	26.12	27.09	26.80	27.77	28.58
4H	2H	18.50	19.65	19.15	20.30	21.06	20.55	21.69	21.20	22.34	23.10
	3H	20.16	21.13	20.82	21.81	22.60	23.16	24.13	23.82	24.82	25.60
	4H	20.74	21.63	21.41	22.32	23.13	24.46	25.35	25.14	26.04	26.85
	6H	21.11	21.89	21.81	22.61	23.43	25.79	26.57	26.48	27.29	28.11
	8H	21.20	21.94	21.90	22.65	23.49	26.47	27.20	27.17	27.92	28.75
	12H	21.24	21.91	21.97	22.65	23.49	27.21	27.87	27.93	28.61	29.45
8H	4H	21.38	22.11	22.08	22.83	23.66	24.61	25.35	25.31	26.06	26.90
	6H	21.91	22.53	22.64	23.29	24.12	26.08	26.70	26.81	27.46	28.30
	8H	22.08	22.64	22.82	23.39	24.25	26.88	27.44	27.62	28.20	29.05
	12H	22.18	22.68	22.93	23.43	24.34	27.78	28.28	28.53	29.03	29.94
12H	4H	21.54	22.21	22.26	22.95	23.79	24.60	25.27	25.32	26.01	26.85
	6H	22.16	22.72	22.91	23.48	24.33	26.10	26.66	26.84	27.42	28.27
	8H	22.41	22.91	23.16	23.66	24.57	26.95	27.45	27.70	28.20	29.11