

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: P894928

Luminaire Tested: 8TMB-20HL-RND-UNV-L850

Issue Date: 11/11/2024

**Test Information**

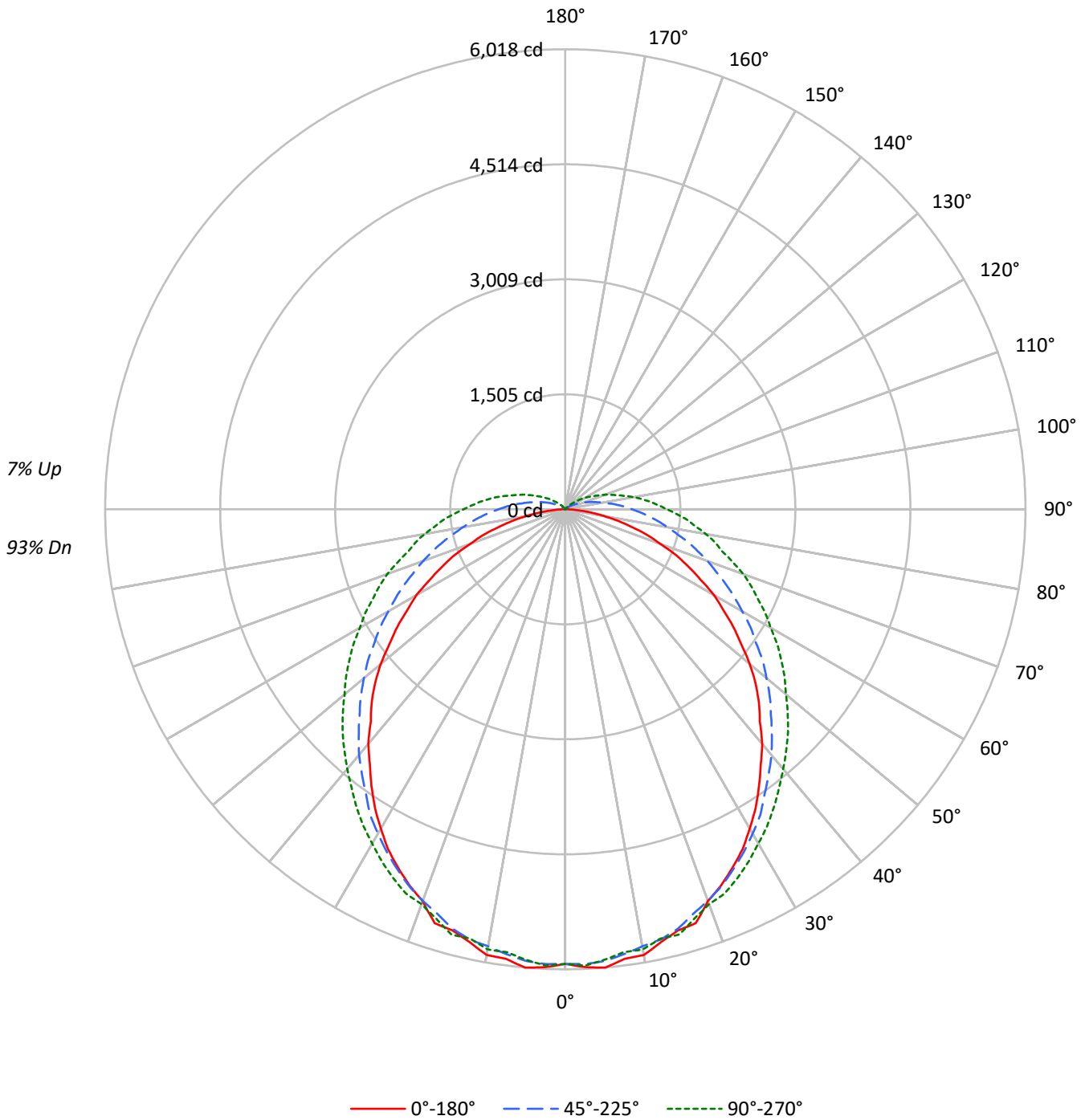
Test Method: LM-79-2019  
Report Number: P894928  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2403-334-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 11/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 8TMB-20HL-RND-UNV-L850  
Description: 20000 Lumen 8FT MICROBAY LINEAR BAY with ROUND FROSTED LENS, 80CRI, 5000K CCT  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19587.9 lumens  
Efficiency: N/A  
Efficacy: 135.1 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<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

TEST NUMBER: P894928  
CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

### Luminous Intensity Polar Plot





TEST NUMBER: P894928

CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

**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°	21100	21100	21100
5°	21432	21122	21064
10°	21327	20916	21063
15°	20945	20875	21155
20°	20595	20574	20749
25°	20257	20342	20842
30°	19761	20073	20686
35°	19136	19690	20609
40°	18560	19429	20538
45°	17977	19083	20667
50°	17389	18965	20797
55°	16593	18831	21338
60°	15945	18957	22007
65°	14891	19459	23341
70°	13688	20545	25710
75°	12419	22749	29126
80°	10672	27793	38187
85°	8639	44965	65340

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 87.5°  
 Luminance: 118606 cd/sqm



TEST NUMBER: P894928  
 CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	563.8	2.9
10°-20°	1605.0	8.2
20°-30°	2405.2	12.3
30°-40°	2858.2	14.6
40°-50°	2959.1	15.1
50°-60°	2742.2	14.0
60°-70°	2283.0	11.7
70°-80°	1694.4	8.7
80°-90°	1120.7	5.7
90°-100°	682.0	3.5
100°-110°	382.3	2.0
110°-120°	188.3	1.0
120°-130°	76.6	0.4
130°-140°	22.2	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°	4574.1	23.4
0°-40°	7432.3	37.9
0°-60°	13133.6	67.0
0°-90°	18231.7	93.1
90°-120°	1252.6	6.4
90°-150°	1354.6	6.9
90°-180°	1356.0	6.9
0°-180°	19587.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5947	5947	5947	5947	5947	
5°	6018	5952	5930	5960	5914	569
15°	5702	5680	5683	5691	5759	1615
25°	5174	5169	5196	5297	5324	2381
35°	4418	4450	4546	4690	4758	2764
45°	3583	3634	3803	4040	4119	2760
55°	2682	2797	3044	3349	3449	2399
65°	1774	1940	2318	2658	2780	1762
75°	906	1181	1659	2016	2125	969
85°	212	596	1104	1496	1605	238
90°	11	386	873	1222	1330	16
95°	3	239	677	1009	1121	2
105°	3	79	367	623	710	3
115°	3	19	171	343	411	3
125°	3	5	63	158	201	2
135°	5	3	16	52	71	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	



TEST NUMBER: P894928

CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5946.8	5946.8	5946.8	5946.8	5946.8
2.5°	5995.7	5965.8	5954.9	5941.3	5974.0
5°	6017.5	5952.2	5930.4	5960.4	5914.1
7.5°	5933.2	5916.8	5870.6	5886.9	5843.4
10°	5919.5	5829.8	5805.3	5859.7	5846.1
12.5°	5797.1	5721.0	5764.5	5802.6	5750.9
15°	5701.9	5680.2	5682.9	5691.0	5759.0
17.5°	5677.4	5579.5	5552.3	5620.3	5614.9
20°	5454.4	5435.3	5448.9	5538.7	5495.2
22.5°	5323.8	5263.9	5337.4	5424.4	5443.5
25°	5174.2	5168.7	5195.9	5296.6	5323.8
27.5°	5016.4	4981.0	5054.5	5171.4	5193.2
30°	4823.2	4809.6	4899.4	5000.1	5049.0
32.5°	4632.8	4641.0	4744.3	4828.7	4913.0
35°	4417.9	4450.5	4545.8	4689.9	4757.9
37.5°	4200.3	4241.1	4368.9	4534.9	4592.0
40°	4007.1	4015.3	4194.8	4363.5	4434.2
42.5°	3765.0	3846.6	3999.0	4222.0	4276.4
45°	3582.7	3634.4	3803.1	4039.8	4118.7
47.5°	3376.0	3435.8	3629.0	3860.2	3944.6
50°	3150.2	3204.6	3435.8	3699.7	3767.7
52.5°	2899.9	3011.5	3253.6	3525.6	3615.4
55°	2682.3	2796.6	3044.1	3348.8	3449.4
57.5°	2448.3	2562.6	2872.7	3155.6	3286.2
60°	2247.0	2355.8	2671.4	3022.3	3101.2
62.5°	1996.8	2151.8	2494.6	2840.1	2951.6
65°	1773.7	1939.6	2317.8	2657.8	2780.2
67.5°	1569.7	1741.0	2135.5	2500.0	2633.3
70°	1319.4	1545.2	1980.4	2339.5	2478.3
72.5°	1134.4	1360.2	1814.5	2170.9	2296.0
75°	905.9	1180.6	1659.4	2015.8	2124.6
77.5°	715.5	1012.0	1498.9	1898.8	2007.6
80°	522.3	859.6	1360.2	1743.8	1868.9
82.5°	356.4	718.2	1232.3	1599.6	1719.3
85°	212.2	595.8	1104.5	1496.2	1605.0
87.5°	92.5	486.9	987.5	1346.6	1458.1
90°	10.9	386.3	873.2	1221.5	1330.3
92.5°	2.7	310.1	772.6	1109.9	1216.0
95°	2.7	239.4	677.4	1009.3	1120.8
97.5°	2.7	185.0	582.2	905.9	1012.0
100°	2.7	141.5	503.3	797.1	911.3
102.5°	2.7	106.1	427.1	707.3	805.2
105°	2.7	78.9	367.3	623.0	710.0
107.5°	2.7	57.1	307.4	544.1	631.1
110°	2.7	40.8	258.4	470.6	557.7



TEST NUMBER: P894928

CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	2.7	29.9	209.5	405.3	478.8
115°	2.7	19.0	171.4	342.8	410.8
117.5°	2.7	13.6	136.0	288.4	353.6
120°	2.7	10.9	108.8	239.4	296.5
122.5°	2.7	8.2	84.3	195.9	250.3
125°	2.7	5.4	62.6	157.8	201.3
127.5°	2.7	5.4	46.2	125.1	163.2
130°	2.7	2.7	32.6	95.2	127.9
132.5°	2.7	2.7	21.8	70.7	95.2
135°	5.4	2.7	16.3	51.7	70.7
137.5°	5.4	2.7	10.9	35.4	49.0
140°	5.4	2.7	5.4	21.8	29.9
142.5°	5.4	2.7	2.7	10.9	16.3
145°	5.4	2.7	0.0	5.4	8.2
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°	8.2	5.4	0.0	0.0	0.0
167.5°	8.2	5.4	0.0	0.0	0.0
170°	8.2	5.4	0.0	0.0	0.0
172.5°	8.2	5.4	0.0	0.0	0.0
175°	8.2	5.4	0.0	0.0	0.0
177.5°	8.2	5.4	0.0	0.0	0.0
180°	2.7	2.7	2.7	2.7	2.7



TEST NUMBER: P894928  
 CATALOG NUMBER: 8TMB-20HL-RND-UNV-L850

**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	20.82	22.36	21.29	22.82	23.30	22.40	23.93	22.87	24.39	24.87
	3H	22.59	23.99	23.07	24.46	24.98	24.98	26.39	25.46	26.85	27.37
	4H	23.24	24.57	23.75	25.06	25.59	26.24	27.57	26.74	28.05	28.59
	6H	23.72	24.96	24.24	25.46	26.01	27.62	28.86	28.14	29.36	29.91
	8H	23.87	25.06	24.40	25.58	26.14	28.35	29.54	28.88	30.06	30.62
	12H	23.97	25.11	24.50	25.62	26.21	29.20	30.34	29.73	30.85	31.44
4H	2H	21.78	23.11	22.28	23.59	24.13	22.97	24.30	23.47	24.78	25.32
	3H	23.82	24.96	24.33	25.48	26.04	25.84	26.97	26.35	27.50	28.06
	4H	24.63	25.67	25.17	26.21	26.80	27.31	28.36	27.85	28.89	29.48
	6H	25.28	26.20	25.84	26.76	27.37	28.93	29.85	29.49	30.42	31.02
	8H	25.51	26.38	26.07	26.94	27.56	29.79	30.66	30.35	31.22	31.84
	12H	25.68	26.47	26.26	27.06	27.68	30.78	31.57	31.36	32.16	32.78
8H	4H	25.48	26.35	26.04	26.91	27.53	27.69	28.55	28.25	29.11	29.73
	6H	26.40	27.14	27.00	27.74	28.37	29.56	30.30	30.16	30.90	31.53
	8H	26.79	27.45	27.39	28.07	28.70	30.62	31.29	31.23	31.90	32.54
	12H	27.11	27.70	27.71	28.31	29.01	31.88	32.48	32.49	33.08	33.78
12H	4H	25.74	26.53	26.32	27.12	27.74	27.73	28.52	28.31	29.11	29.73
	6H	26.83	27.49	27.43	28.11	28.75	29.67	30.34	30.28	30.96	31.59
	8H	27.37	27.96	27.97	28.57	29.27	30.85	31.44	31.45	32.05	32.75