

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P588649

Luminaire Tested: **FM19WRCCR-5000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1053-19A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM19WRCCR-5000K
Description: FM WR CCT SELECT
Light Source: (1) 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

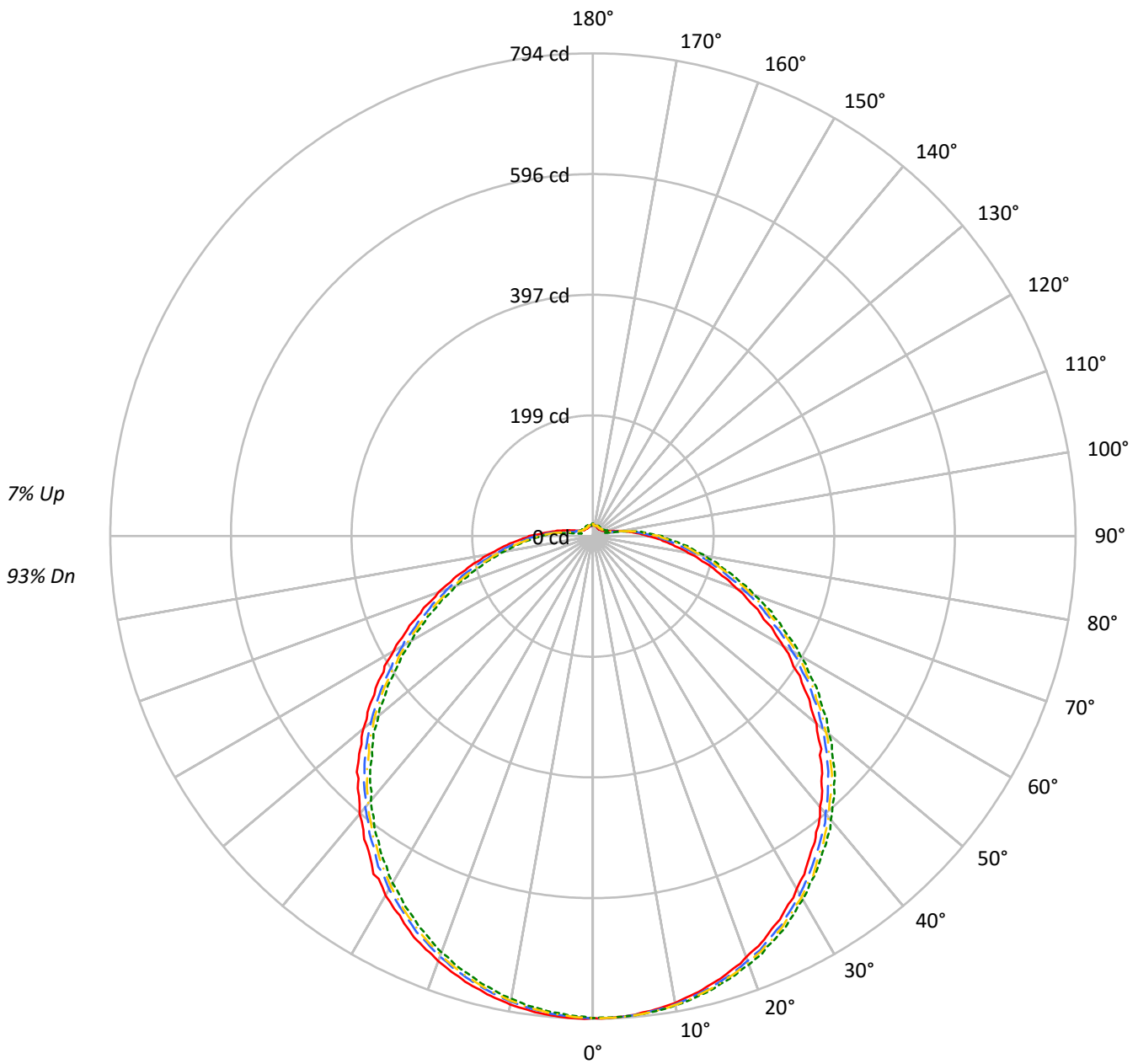
Lumens per Lamp: N/A
Luminaire Lumens: 2676.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.58m x H: 0.38m)
CIE Type: Direct

Input Watts (W): 30.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	96
1	105	100	95	91	102	97	93	88	91	88	84	86	83	81	82	79	77	77	77	77	74
2	95	86	79	73	92	84	77	71	79	73	69	75	70	66	71	67	63	63	63	63	61
3	87	75	67	60	83	73	65	59	69	62	57	66	60	55	62	57	53	53	53	53	51
4	79	67	57	50	76	65	56	50	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	43	55	47	41	52	46	40	50	44	39	39	39	39	37
6	67	53	44	38	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	31	31	31	31	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	31	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	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	404	404	404	404
5°	394	394	394	392
10°	383	385	384	379
15°	371	376	374	367
20°	360	366	363	356
25°	348	356	352	342
30°	335	345	341	329
35°	322	334	328	314
40°	307	322	316	300
45°	293	310	303	283
50°	278	294	286	267
55°	259	280	269	248
60°	240	262	252	229
65°	221	247	233	210
70°	203	227	218	193
75°	188	214	199	174
80°	170	202	187	160
85°	159	187	176	149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.1	2.8
10°-20°	215.3	8.0
20°-30°	327.4	12.2
30°-40°	397.0	14.8
40°-50°	415.7	15.5
50°-60°	382.7	14.3
60°-70°	311.5	11.6
70°-80°	224.6	8.4
80°-90°	142.3	5.3
90°-100°	75.0	2.8
100°-110°	31.7	1.2
110°-120°	21.7	0.8
120°-130°	16.7	0.6
130°-140°	13.5	0.5
140°-150°	10.7	0.4
150°-160°	8.2	0.3
160°-170°	5.1	0.2
170°-180°	1.7	0.1
0°-30°	617.8	23.1
0°-40°	1014.8	37.9
0°-60°	1813.2	67.8
0°-90°	2491.7	93.1
90°-120°	128.4	4.8
90°-150°	169.3	6.3
90°-180°	184.0	6.9
0°-180°	2676.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	793	793	793	793	793	
5°	790	791	791	786	790	75
15°	762	770	766	753	762	215
25°	707	723	715	695	707	326
35°	628	652	640	614	628	394
45°	532	563	549	513	532	410
55°	419	454	436	402	419	376
65°	305	340	321	289	305	303
75°	205	234	218	190	205	216
85°	123	144	136	115	123	108
90°	90	114	105	84	90	50
95°	67	80	73	54	67	51
105°	34	21	37	21	34	36
115°	20	22	21	22	20	20
125°	17	20	17	20	17	15
135°	15	18	16	19	15	12
145°	15	19	16	19	15	9
155°	16	19	16	20	16	7
165°	17	19	16	19	17	5
175°	19	19	19	20	19	2
180°	20	20	20	20	20	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	793.0	793.0	793.0	793.0	793.0
1°	793.8	792.0	794.4	790.7	793.8
2°	793.4	792.3	793.8	790.3	793.4
3°	792.3	792.1	793.4	788.8	792.3
4°	791.5	791.8	792.5	786.8	791.5
5°	790.3	791.2	791.2	786.0	790.3
6°	787.8	790.3	790.2	783.5	787.8
7°	786.7	788.9	788.8	781.1	786.7
8°	784.4	787.7	786.3	779.4	784.4
9°	781.9	786.1	784.7	775.6	781.9
10°	780.0	783.7	782.3	772.4	780.0
11°	776.1	781.9	779.0	770.0	776.1
12°	772.7	779.4	776.5	765.6	772.7
13°	770.0	775.9	773.4	761.5	770.0
14°	765.4	773.7	769.2	758.4	765.4
15°	761.5	770.3	766.3	753.0	761.5
16°	758.0	765.8	762.6	748.2	758.0
17°	752.8	762.9	757.0	744.4	752.8
18°	747.9	759.0	753.5	739.6	747.9
19°	744.0	753.5	748.6	732.7	744.0
20°	737.2	750.2	743.9	728.6	737.2
21°	731.6	745.3	737.5	722.5	731.6
22°	727.2	741.5	733.4	714.9	727.2
23°	721.2	733.4	727.4	708.6	721.2
24°	713.5	729.3	722.8	703.3	713.5
25°	706.7	723.3	715.2	694.9	706.7
26°	701.8	719.0	708.8	687.9	701.8
27°	693.0	710.7	700.2	682.3	693.0
28°	685.7	704.3	695.2	672.8	685.7
29°	680.1	695.8	688.1	665.3	680.1
30°	670.5	690.5	682.5	659.1	670.5
31°	662.3	683.2	672.8	651.0	662.3
32°	656.2	673.7	665.0	640.7	656.2
33°	645.8	667.8	663.0	634.1	645.8
34°	637.0	659.9	650.7	625.2	637.0
35°	628.3	651.7	640.1	613.9	628.3
36°	621.6	642.6	631.6	607.2	621.6
37°	610.2	636.3	624.9	597.6	610.2
38°	603.1	627.4	613.5	585.7	603.1
39°	593.6	620.5	604.0	578.3	593.6
40°	581.2	609.2	596.9	568.2	581.2
41°	573.8	599.8	584.7	555.5	573.8
42°	563.8	590.2	575.1	547.8	563.8
43°	550.9	583.0	567.4	537.5	550.9
44°	543.0	570.6	554.7	526.8	543.0



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	532.4	563.2	549.4	513.3	532.4
46°	518.8	553.0	536.5	505.0	518.8
47°	513.7	539.8	525.8	494.2	513.7
48°	499.7	529.3	512.4	485.7	499.7
49°	488.4	520.9	504.2	471.5	488.4
50°	480.0	507.4	493.0	460.2	480.0
51°	465.9	496.6	478.9	451.3	465.9
52°	454.4	488.1	470.6	437.0	454.4
53°	445.8	474.1	459.1	425.3	445.8
54°	431.3	462.9	444.9	416.8	431.3
55°	419.4	454.3	436.3	402.1	419.4
56°	410.8	443.0	424.7	390.3	410.8
57°	393.3	428.6	410.3	378.9	393.3
58°	384.4	417.3	404.4	370.0	384.4
59°	375.6	408.4	390.2	355.6	375.6
60°	361.5	394.1	378.4	344.3	361.5
61°	349.9	385.4	369.8	336.1	349.9
62°	338.4	373.8	355.5	321.7	338.4
63°	329.9	359.6	344.0	310.5	329.9
64°	313.1	348.1	335.5	302.5	313.1
65°	305.0	339.7	321.2	288.8	305.0
66°	296.8	325.5	310.1	278.2	296.8
67°	283.2	320.0	302.1	270.3	283.2
68°	272.7	306.0	288.4	257.2	272.7
69°	264.5	295.1	277.7	247.1	264.5
70°	251.9	281.8	269.9	239.6	251.9
71°	241.7	273.8	259.4	229.8	241.7
72°	234.0	263.5	246.7	217.6	234.0
73°	221.9	250.6	239.3	210.5	221.9
74°	212.3	243.2	229.6	201.0	212.3
75°	205.3	233.5	217.5	189.8	205.3
76°	196.2	221.2	210.5	183.1	196.2
77°	184.7	214.1	201.4	174.5	184.7
78°	178.2	207.1	189.9	164.1	178.2
79°	169.6	193.3	183.4	157.7	169.6
80°	159.2	188.8	174.7	149.8	159.2
81°	153.1	177.7	164.2	140.3	153.1
82°	145.3	168.8	157.9	134.8	145.3
83°	135.9	162.6	149.8	127.4	135.9
84°	130.4	156.5	142.2	120.8	130.4
85°	123.3	144.5	136.5	115.4	123.3
86°	115.0	138.7	127.1	107.6	115.0
87°	111.7	129.4	120.4	101.1	111.7
88°	103.8	122.2	115.2	96.9	103.8
89°	97.6	116.9	107.0	89.8	97.6



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	90.3	113.7	105.3	84.5	90.3
91°	86.2	101.8	96.1	80.4	86.2
92°	80.7	97.3	88.7	74.0	80.7
93°	77.0	89.9	83.4	68.7	77.0
94°	71.5	84.3	79.4	63.9	71.5
95°	66.7	80.1	73.3	54.4	66.7
96°	63.6	73.6	68.4	46.3	63.6
97°	58.6	62.9	63.9	40.7	58.6
98°	54.6	56.4	61.0	34.0	54.6
99°	51.9	47.8	58.0	27.4	51.9
100°	48.2	41.7	52.2	24.6	48.2
101°	44.2	33.6	49.4	22.1	44.2
102°	41.8	28.2	45.3	19.6	41.8
103°	38.7	24.3	42.2	19.2	38.7
104°	35.5	22.2	40.0	19.0	35.5
105°	33.7	20.6	36.6	21.2	33.7
106°	31.3	20.3	34.8	22.5	31.3
107°	28.8	21.2	32.3	23.9	28.8
108°	27.3	23.6	29.7	24.8	27.3
109°	25.9	24.9	28.1	24.9	25.9
110°	24.2	25.5	26.7	24.2	24.2
111°	23.5	25.9	25.2	23.5	23.5
112°	22.2	24.8	24.5	23.1	22.2
113°	21.4	24.2	23.5	22.7	21.4
114°	20.8	23.3	22.0	21.8	20.8
115°	20.0	22.5	21.1	21.8	20.0
116°	19.2	22.2	20.6	21.4	19.2
117°	18.9	21.8	20.0	21.2	18.9
118°	18.4	21.5	19.7	21.1	18.4
119°	18.1	21.0	19.4	20.8	18.1
120°	17.8	20.6	18.9	20.8	17.8
121°	17.6	20.3	18.4	20.4	17.6
122°	17.5	20.3	18.1	20.4	17.5
123°	17.2	20.0	17.6	20.3	17.2
124°	17.2	19.9	17.8	20.0	17.2
125°	17.1	19.7	17.3	20.0	17.1
126°	16.8	19.4	17.3	20.0	16.8
127°	16.6	19.2	17.3	19.9	16.6
128°	16.6	19.2	17.2	19.7	16.6
129°	16.5	19.0	17.1	19.7	16.5
130°	16.2	19.2	16.9	19.4	16.2
131°	16.1	18.9	16.8	19.3	16.1
132°	15.8	18.6	16.6	19.2	15.8
133°	15.5	18.9	16.5	19.3	15.5
134°	15.3	18.7	16.5	19.2	15.3



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	15.0	18.4	16.3	19.2	15.0
136°	15.0	18.6	16.3	19.2	15.0
137°	15.1	18.6	16.2	19.2	15.1
138°	15.1	18.4	16.2	19.0	15.1
139°	15.0	18.4	16.1	19.0	15.0
140°	14.8	18.2	16.2	19.0	14.8
141°	14.8	18.4	16.2	19.0	14.8
142°	14.8	18.4	15.8	19.2	14.8
143°	14.8	18.4	15.7	19.2	14.8
144°	14.7	18.6	15.5	19.0	14.7
145°	14.8	18.6	15.5	19.2	14.8
146°	14.8	18.6	15.8	19.2	14.8
147°	15.0	18.7	15.7	19.3	15.0
148°	15.1	18.7	15.7	19.3	15.1
149°	15.3	18.9	15.7	19.4	15.3
150°	15.3	18.9	15.8	19.2	15.3
151°	15.1	19.0	15.7	19.6	15.1
152°	15.5	19.0	15.8	19.4	15.5
153°	15.7	18.9	16.1	19.4	15.7
154°	15.8	19.0	16.2	19.4	15.8
155°	16.3	19.2	16.3	19.7	16.3
156°	16.5	19.3	16.6	19.9	16.5
157°	16.5	19.4	16.6	19.6	16.5
158°	16.9	19.6	16.8	19.7	16.9
159°	17.1	19.7	16.9	20.0	17.1
160°	17.1	19.6	16.9	19.7	17.1
161°	16.9	19.9	16.9	19.7	16.9
162°	17.2	19.4	16.8	19.6	17.2
163°	17.3	19.3	16.6	19.0	17.3
164°	17.2	19.2	16.5	19.0	17.2
165°	16.9	18.7	16.3	18.7	16.9
166°	17.1	18.6	16.3	18.4	17.1
167°	17.2	18.4	16.5	18.1	17.2
168°	17.2	17.8	16.2	17.9	17.2
169°	17.3	17.6	16.2	17.6	17.3
170°	17.1	17.5	16.1	17.5	17.1
171°	17.5	17.1	16.2	17.6	17.5
172°	17.8	16.9	16.3	18.2	17.8
173°	18.4	17.5	16.9	18.6	18.4
174°	19.2	17.9	17.8	19.0	19.2
175°	19.2	18.6	18.6	19.6	19.2
176°	19.4	18.9	18.7	19.9	19.4
177°	19.9	19.3	19.0	20.2	19.9
178°	19.9	19.7	19.3	20.4	19.9
179°	19.7	20.0	19.6	20.4	19.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	19.8	19.8	19.8	19.8	19.8

(END OF REPORT)