

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: P588647

Luminaire Tested: **FM19WRCCR-3000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588647
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-3000K
Description: FM WR CCT SELECT
Light Source: (1) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

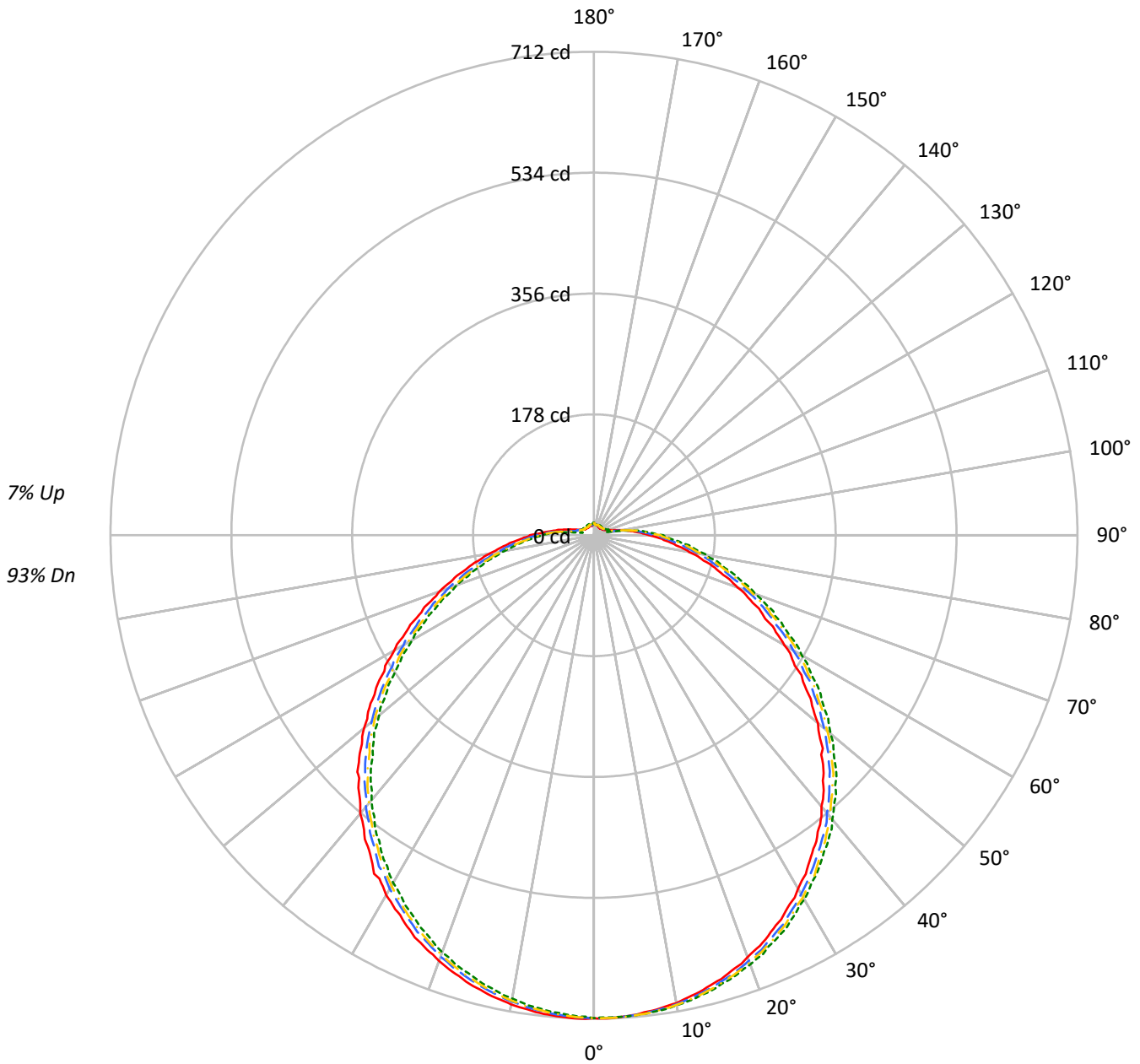
Lumens per Lamp: N/A
Luminaire Lumens: 2400.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39
Luminous Opening: Vertical Cylinder (Dia: 1.58m x H: 0.38m)
CIE Type: Direct

Input Watts (W): 30.5
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	93
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°	363	363	363	363
5°	353	354	354	351
10°	344	345	345	340
15°	333	337	335	329
20°	323	328	326	319
25°	312	319	316	307
30°	301	310	306	295
35°	289	299	294	282
40°	276	289	283	269
45°	263	278	272	254
50°	250	264	257	239
55°	232	251	241	223
60°	216	235	226	205
65°	199	221	209	188
70°	182	204	195	173
75°	169	192	179	156
80°	152	181	167	144
85°	143	168	158	134



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	2.8
10°-20°	193.1	8.0
20°-30°	293.7	12.2
30°-40°	356.1	14.8
40°-50°	372.8	15.5
50°-60°	343.3	14.3
60°-70°	279.4	11.6
70°-80°	201.5	8.4
80°-90°	127.6	5.3
90°-100°	67.3	2.8
100°-110°	28.4	1.2
110°-120°	19.4	0.8
120°-130°	15.0	0.6
130°-140°	12.1	0.5
140°-150°	9.6	0.4
150°-160°	7.4	0.3
160°-170°	4.5	0.2
170°-180°	1.5	0.1
0°-30°	554.1	23.1
0°-40°	910.1	37.9
0°-60°	1626.2	67.8
0°-90°	2234.7	93.1
90°-120°	115.1	4.8
90°-150°	151.8	6.3
90°-180°	165.0	6.9
0°-180°	2400.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	711	711	711	711	711	
5°	709	710	710	705	709	67
15°	683	691	687	675	683	193
25°	634	649	642	623	634	292
35°	564	584	574	551	564	353
45°	478	505	493	460	478	368
55°	376	408	391	361	376	337
65°	274	305	288	259	274	272
75°	184	209	195	170	184	194
85°	110	130	122	104	110	97
90°	81	102	94	76	81	45
95°	60	72	66	49	60	46
105°	30	18	33	19	30	33
115°	18	20	19	20	18	18
125°	15	18	16	18	15	14
135°	14	16	15	17	14	11
145°	13	17	14	17	13	8
155°	15	17	15	18	15	7
165°	15	17	15	17	15	4
175°	17	17	17	18	17	2
180°	18	18	18	18	18	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	711.2	711.2	711.2	711.2	711.2
1°	712.0	710.3	712.4	709.2	712.0
2°	711.6	710.6	712.0	708.8	711.6
3°	710.6	710.4	711.6	707.5	710.6
4°	709.8	710.1	710.8	705.6	709.8
5°	708.8	709.6	709.6	705.0	708.8
6°	706.5	708.8	708.7	702.7	706.5
7°	705.5	707.6	707.5	700.6	705.5
8°	703.5	706.5	705.2	699.0	703.5
9°	701.2	705.1	703.7	695.6	701.2
10°	699.5	702.9	701.6	692.7	699.5
11°	696.1	701.2	698.7	690.6	696.1
12°	693.0	699.0	696.4	686.6	693.0
13°	690.6	695.9	693.6	683.0	690.6
14°	686.4	693.9	689.9	680.2	686.4
15°	683.0	690.8	687.3	675.3	683.0
16°	679.8	686.8	683.9	671.0	679.8
17°	675.1	684.2	679.0	667.6	675.1
18°	670.7	680.7	675.8	663.3	670.7
19°	667.3	675.8	671.4	657.2	667.3
20°	661.2	672.8	667.2	653.4	661.2
21°	656.1	668.4	661.5	648.0	656.1
22°	652.2	665.0	657.7	641.2	652.2
23°	646.8	657.7	652.4	635.5	646.8
24°	639.9	654.1	648.3	630.8	639.9
25°	633.8	648.7	641.5	623.2	633.8
26°	629.4	644.8	635.7	617.0	629.4
27°	621.5	637.4	628.0	611.9	621.5
28°	615.0	631.6	623.5	603.4	615.0
29°	609.9	624.1	617.1	596.7	609.9
30°	601.3	619.3	612.1	591.1	601.3
31°	593.9	612.7	603.4	583.8	593.9
32°	588.5	604.2	596.4	574.6	588.5
33°	579.2	598.9	594.6	568.7	579.2
34°	571.3	591.8	583.6	560.7	571.3
35°	563.5	584.5	574.1	550.6	563.5
36°	557.5	576.4	566.5	544.6	557.5
37°	547.3	570.7	560.5	536.0	547.3
38°	540.9	562.7	550.2	525.3	540.9
39°	532.4	556.5	541.7	518.7	532.4
40°	521.3	546.3	535.3	509.6	521.3
41°	514.6	537.9	524.4	498.2	514.6
42°	505.7	529.3	515.8	491.3	505.7
43°	494.1	522.9	508.8	482.1	494.1
44°	487.0	511.7	497.5	472.5	487.0



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	477.5	505.1	492.8	460.4	477.5
46°	465.3	495.9	481.2	452.9	465.3
47°	460.7	484.2	471.5	443.2	460.7
48°	448.2	474.7	459.6	435.6	448.2
49°	438.1	467.1	452.2	422.9	438.1
50°	430.5	455.1	442.2	412.7	430.5
51°	417.8	445.3	429.5	404.8	417.8
52°	407.6	437.8	422.1	391.9	407.6
53°	399.8	425.2	411.8	381.5	399.8
54°	386.8	415.1	399.1	373.8	386.8
55°	376.1	407.5	391.3	360.6	376.1
56°	368.5	397.3	380.9	350.0	368.5
57°	352.8	384.4	368.0	339.9	352.8
58°	344.7	374.3	362.7	331.8	344.7
59°	336.9	366.3	350.0	318.9	336.9
60°	324.2	353.4	339.4	308.8	324.2
61°	313.9	345.7	331.6	301.4	313.9
62°	303.5	335.3	318.8	288.5	303.5
63°	295.9	322.6	308.5	278.5	295.9
64°	280.8	312.2	300.9	271.3	280.8
65°	273.5	304.7	288.0	259.1	273.5
66°	266.2	292.0	278.1	249.5	266.2
67°	254.0	287.0	270.9	242.4	254.0
68°	244.6	274.5	258.7	230.7	244.6
69°	237.3	264.7	249.0	221.6	237.3
70°	225.9	252.7	242.0	214.9	225.9
71°	216.8	245.6	232.7	206.1	216.8
72°	209.9	236.3	221.3	195.2	209.9
73°	199.0	224.7	214.6	188.8	199.0
74°	190.4	218.1	205.9	180.3	190.4
75°	184.1	209.4	195.1	170.2	184.1
76°	176.0	198.4	188.8	164.2	176.0
77°	165.6	192.0	180.6	156.5	165.6
78°	159.8	185.7	170.3	147.2	159.8
79°	152.1	173.4	164.5	141.4	152.1
80°	142.8	169.4	156.6	134.4	142.8
81°	137.3	159.4	147.3	125.8	137.3
82°	130.3	151.4	141.6	120.9	130.3
83°	121.9	145.8	134.4	114.3	121.9
84°	117.0	140.4	127.6	108.3	117.0
85°	110.5	129.6	122.4	103.5	110.5
86°	103.2	124.4	114.0	96.5	103.2
87°	100.2	116.1	108.0	90.7	100.2
88°	93.1	109.6	103.3	86.9	93.1
89°	87.5	104.8	96.0	80.5	87.5



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	81.0	101.9	94.5	75.8	81.0
91°	77.3	91.3	86.2	72.1	77.3
92°	72.4	87.3	79.6	66.4	72.4
93°	69.0	80.6	74.8	61.6	69.0
94°	64.2	75.6	71.2	57.3	64.2
95°	59.9	71.8	65.7	48.8	59.9
96°	57.0	66.0	61.3	41.5	57.0
97°	52.6	56.4	57.3	36.5	52.6
98°	49.0	50.6	54.7	30.5	49.0
99°	46.6	42.8	52.0	24.6	46.6
100°	43.2	37.4	46.9	22.1	43.2
101°	39.7	30.1	44.3	19.8	39.7
102°	37.5	25.3	40.6	17.6	37.5
103°	34.7	21.8	37.9	17.2	34.7
104°	31.8	19.9	35.9	17.0	31.8
105°	30.2	18.5	32.8	19.0	30.2
106°	28.1	18.2	31.2	20.2	28.1
107°	25.8	19.0	29.0	21.4	25.8
108°	24.5	21.1	26.7	22.3	24.5
109°	23.2	22.4	25.2	22.4	23.2
110°	21.7	22.9	23.9	21.7	21.7
111°	21.0	23.2	22.6	21.0	21.0
112°	19.9	22.3	22.0	20.8	19.9
113°	19.2	21.7	21.0	20.4	19.2
114°	18.6	20.9	19.7	19.5	18.6
115°	18.0	20.2	18.9	19.5	18.0
116°	17.2	19.9	18.5	19.2	17.2
117°	16.9	19.5	18.0	19.0	16.9
118°	16.5	19.3	17.7	18.9	16.5
119°	16.3	18.8	17.4	18.6	16.3
120°	16.0	18.5	16.9	18.6	16.0
121°	15.8	18.2	16.5	18.3	15.8
122°	15.7	18.2	16.3	18.3	15.7
123°	15.4	18.0	15.8	18.2	15.4
124°	15.4	17.9	16.0	18.0	15.4
125°	15.3	17.7	15.5	18.0	15.3
126°	15.1	17.4	15.5	18.0	15.1
127°	14.9	17.2	15.5	17.9	14.9
128°	14.9	17.2	15.4	17.7	14.9
129°	14.8	17.0	15.3	17.7	14.8
130°	14.5	17.2	15.2	17.4	14.5
131°	14.4	16.9	15.1	17.3	14.4
132°	14.2	16.6	14.9	17.2	14.2
133°	13.9	16.9	14.8	17.3	13.9
134°	13.7	16.7	14.8	17.2	13.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	13.5	16.5	14.6	17.2	13.5
136°	13.5	16.6	14.6	17.2	13.5
137°	13.6	16.6	14.5	17.2	13.6
138°	13.6	16.5	14.5	17.0	13.6
139°	13.5	16.5	14.4	17.0	13.5
140°	13.3	16.4	14.5	17.0	13.3
141°	13.3	16.5	14.5	17.0	13.3
142°	13.3	16.5	14.2	17.2	13.3
143°	13.3	16.5	14.1	17.2	13.3
144°	13.2	16.6	13.9	17.0	13.2
145°	13.3	16.6	13.9	17.2	13.3
146°	13.3	16.6	14.2	17.2	13.3
147°	13.5	16.7	14.1	17.3	13.5
148°	13.6	16.7	14.1	17.3	13.6
149°	13.7	16.9	14.1	17.4	13.7
150°	13.7	16.9	14.2	17.2	13.7
151°	13.6	17.0	14.1	17.6	13.6
152°	13.9	17.0	14.2	17.4	13.9
153°	14.1	16.9	14.4	17.4	14.1
154°	14.2	17.0	14.5	17.4	14.2
155°	14.6	17.2	14.6	17.7	14.6
156°	14.8	17.3	14.9	17.9	14.8
157°	14.8	17.4	14.9	17.6	14.8
158°	15.2	17.6	15.1	17.7	15.2
159°	15.3	17.7	15.2	18.0	15.3
160°	15.3	17.6	15.2	17.7	15.3
161°	15.2	17.9	15.2	17.7	15.2
162°	15.4	17.4	15.1	17.6	15.4
163°	15.5	17.3	14.9	17.0	15.5
164°	15.4	17.2	14.8	17.0	15.4
165°	15.2	16.7	14.6	16.7	15.2
166°	15.3	16.6	14.6	16.5	15.3
167°	15.4	16.5	14.8	16.3	15.4
168°	15.4	16.0	14.5	16.1	15.4
169°	15.5	15.8	14.5	15.8	15.5
170°	15.3	15.7	14.4	15.7	15.3
171°	15.7	15.3	14.5	15.8	15.7
172°	16.0	15.2	14.6	16.4	16.0
173°	16.5	15.7	15.2	16.6	16.5
174°	17.2	16.1	16.0	17.0	17.2
175°	17.2	16.6	16.6	17.6	17.2
176°	17.4	16.9	16.7	17.9	17.4
177°	17.9	17.3	17.0	18.1	17.9
178°	17.9	17.7	17.3	18.3	17.9
179°	17.7	18.0	17.6	18.3	17.7



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	17.8	17.8	17.8	17.8	17.8

(END OF REPORT)