

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: P588652

Luminaire Tested: **FM19WSCCR-5000K**

Issue Date: 12/1/2021

Test Information

Test Method: LM-79-08
Report Number: P588652
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (MXL1052-19A)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 12/1/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: FM19WSCCR-5000K
Description: FM WS CCT SELECT
Light Source: (1) 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

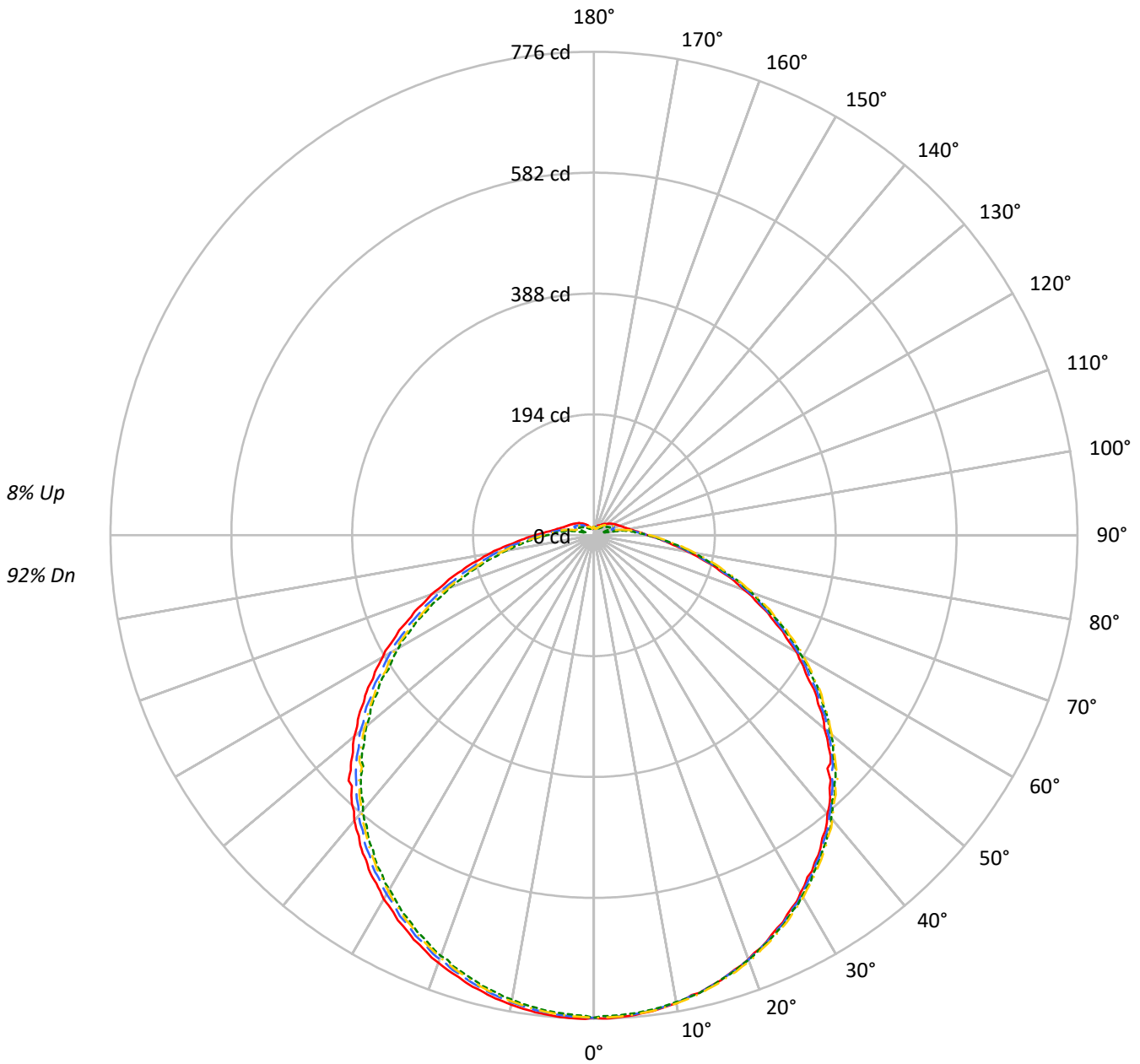
Lumens per Lamp: N/A
Luminaire Lumens: 2676.0 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 1.58m x L: 1.58m x H: 0.38m)
CIE Type: Direct

Input Watts (W): 31.6
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



TEST NUMBER: P588652
CATALOG NUMBER: FM19WSCCR-5000K

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	95	95	95	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	63	63	63	60
3	87	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	67	57	50	76	65	56	50	61	54	48	58	52	47	55	49	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	64	52	43	37	49	42	36	47	40	35	44	39	34	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	24	24	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	310	310	310	310
5°	304	303	305	302
10°	298	297	299	295
15°	290	291	292	288
20°	284	284	286	281
25°	276	278	279	274
30°	269	271	274	266
35°	262	265	266	258
40°	253	258	260	251
45°	242	250	254	239
50°	234	240	243	230
55°	224	230	233	218
60°	212	216	221	204
65°	196	204	208	188
70°	180	190	195	173
75°	166	171	178	153
80°	148	156	165	139
85°	141	146	154	130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.3	2.7
10°-20°	210.5	7.9
20°-30°	321.7	12.0
30°-40°	393.7	14.7
40°-50°	417.2	15.6
50°-60°	388.6	14.5
60°-70°	316.5	11.8
70°-80°	219.1	8.2
80°-90°	128.9	4.8
90°-100°	72.2	2.7
100°-110°	37.7	1.4
110°-120°	32.9	1.2
120°-130°	25.1	0.9
130°-140°	17.2	0.6
140°-150°	10.7	0.4
150°-160°	6.4	0.2
160°-170°	3.3	0.1
170°-180°	1.2	0.0
0°-30°	605.5	22.6
0°-40°	999.2	37.3
0°-60°	1805.0	67.5
0°-90°	2469.5	92.3
90°-120°	142.8	5.3
90°-150°	195.7	7.3
90°-180°	207.0	7.7
0°-180°	2676.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	774	774	774	774	774	
5°	772	770	774	768	772	73
15°	746	746	750	740	746	211
25°	696	700	704	689	696	321
35°	627	634	637	618	627	392
45°	530	548	557	524	530	414
55°	431	444	448	421	431	384
65°	314	326	333	302	314	312
75°	204	211	219	189	204	216
85°	115	120	126	106	115	102
90°	86	85	94	76	86	48
95°	69	64	72	57	69	54
105°	50	16	50	15	50	53
115°	40	29	41	28	40	40
125°	32	24	34	22	32	29
135°	26	18	27	17	26	20
145°	20	13	20	13	20	13
155°	17	12	14	11	17	8
165°	13	11	11	11	13	4
175°	13	13	11	13	13	1
180°	13	13	13	13	13	



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CANDELA DISTRIBUTION (FULL):

	0°	90°	180°	270°	360°
0°	774.5	774.5	774.5	774.5	774.5
1°	776.0	772.1	776.5	771.4	776.0
2°	775.6	772.0	776.2	771.0	775.6
3°	774.5	771.4	775.7	769.9	774.5
4°	773.8	770.4	775.2	769.1	773.8
5°	772.4	769.9	773.8	767.9	772.4
6°	770.6	768.4	772.7	766.3	770.6
7°	769.6	767.0	771.4	764.2	769.6
8°	767.0	765.3	769.2	762.5	767.0
9°	764.7	762.9	767.5	759.7	764.7
10°	762.8	760.6	765.4	756.8	762.8
11°	759.2	758.8	762.3	754.9	759.2
12°	754.6	756.3	760.2	750.7	754.6
13°	753.7	753.8	757.1	747.7	753.7
14°	749.3	749.8	752.9	744.8	749.3
15°	745.6	746.3	750.5	739.8	745.6
16°	742.5	741.7	746.7	735.9	742.5
17°	737.1	738.7	741.9	731.6	737.1
18°	732.8	734.6	738.8	728.1	732.8
19°	729.5	729.3	734.5	721.0	729.5
20°	724.5	725.6	729.9	718.5	724.5
21°	718.3	720.7	726.4	713.4	718.3
22°	714.4	714.5	720.1	707.0	714.4
23°	708.9	710.7	714.8	701.3	708.9
24°	701.7	705.2	710.7	696.9	701.7
25°	695.8	699.7	703.8	689.4	695.8
26°	691.3	695.2	698.1	683.3	691.3
27°	683.4	687.7	693.7	678.4	683.4
28°	676.9	681.4	685.8	670.2	676.9
29°	671.9	676.6	679.4	663.1	671.9
30°	663.1	668.4	674.4	656.2	663.1
31°	656.0	661.5	666.3	650.9	656.0
32°	646.9	656.2	659.1	641.6	646.9
33°	643.0	647.0	653.8	635.8	643.0
34°	633.4	639.7	646.5	627.9	633.4
35°	627.4	634.3	636.9	617.7	627.4
36°	619.4	624.3	631.1	611.5	619.4
37°	608.9	618.0	623.2	603.0	608.9
38°	602.8	609.6	612.7	592.2	602.8
39°	593.9	603.4	606.4	586.0	593.9
40°	582.9	592.6	598.0	576.8	582.9
41°	575.8	583.7	587.1	565.4	575.8
42°	566.4	571.9	580.3	558.2	566.4
43°	554.6	567.4	570.8	548.5	554.6
44°	547.1	555.8	559.3	538.9	547.1



TEST NUMBER: P588652

CATALOG NUMBER: FM19WSCCR-5000K

CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
45°	529.7	548.5	557.1	523.9	529.7
46°	527.4	539.0	542.6	518.8	527.4
47°	519.6	526.6	532.8	508.5	519.6
48°	506.8	516.4	520.3	495.3	506.8
49°	496.2	508.8	512.7	487.4	496.2
50°	483.1	495.6	502.2	476.6	483.1
51°	475.0	484.9	489.1	463.1	475.0
52°	464.3	476.8	480.9	454.9	464.3
53°	450.6	463.1	470.2	443.9	450.6
54°	442.3	452.0	456.4	429.5	442.3
55°	430.9	443.5	448.3	421.0	430.9
56°	416.5	432.3	437.1	409.4	416.5
57°	404.8	418.0	422.8	391.9	404.8
58°	396.3	409.2	414.5	383.0	396.3
59°	384.8	397.6	402.9	374.0	384.8
60°	376.2	383.3	391.6	362.2	376.2
61°	361.3	374.4	382.8	353.3	361.3
62°	349.5	362.4	368.3	338.6	349.5
63°	340.5	347.6	356.6	326.2	340.5
64°	325.8	338.6	347.7	317.2	325.8
65°	314.0	326.4	332.8	302.2	314.0
66°	305.3	311.2	321.1	290.3	305.3
67°	290.7	302.5	312.3	281.2	290.7
68°	279.4	290.3	297.6	266.5	279.4
69°	270.7	278.6	286.4	254.9	270.7
70°	256.5	269.7	277.6	246.1	256.5
71°	245.3	255.2	263.2	234.9	245.3
72°	236.9	246.7	252.2	220.6	236.9
73°	225.9	235.3	243.4	212.5	225.9
74°	212.1	221.3	232.5	201.8	212.1
75°	204.2	210.6	219.1	188.7	204.2
76°	193.8	202.6	211.0	181.0	193.8
77°	181.3	189.6	200.3	171.2	181.3
78°	173.7	179.6	187.3	159.4	173.7
79°	164.2	171.9	179.8	152.6	164.2
80°	152.4	160.1	169.8	143.5	152.4
81°	146.0	151.0	162.8	132.6	146.0
82°	137.9	144.4	151.2	128.7	137.9
83°	127.9	135.8	142.6	119.0	127.9
84°	122.4	125.8	132.2	111.6	122.4
85°	115.4	119.9	126.2	106.5	115.4
86°	109.0	112.5	118.8	98.0	109.0
87°	104.1	103.8	112.0	91.8	104.1
88°	97.0	99.0	107.2	87.6	97.0
89°	91.8	92.7	99.4	80.5	91.8



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
90°	85.9	85.2	93.9	75.6	85.9
91°	82.7	81.3	89.7	70.0	82.7
92°	78.7	76.3	83.7	66.8	78.7
93°	76.1	70.6	79.8	63.0	76.1
94°	72.2	66.5	76.8	60.5	72.2
95°	69.1	63.7	72.5	57.2	69.1
96°	65.6	59.7	69.0	53.3	65.6
97°	63.8	55.2	66.5	50.8	63.8
98°	61.5	51.9	63.3	48.3	61.5
99°	59.0	46.4	61.1	44.3	59.0
100°	57.5	38.6	59.4	39.6	57.5
101°	55.5	34.3	57.3	35.5	55.5
102°	53.7	28.2	54.8	29.0	53.7
103°	52.6	21.6	53.6	24.0	52.6
104°	50.9	18.5	52.0	20.3	50.9
105°	49.6	15.7	50.4	15.3	49.6
106°	48.9	13.6	49.1	12.8	48.9
107°	47.3	13.5	48.0	11.9	47.3
108°	46.1	15.0	46.8	11.8	46.1
109°	45.5	18.0	46.2	13.6	45.5
110°	44.0	20.7	45.1	16.0	44.0
111°	43.0	24.4	44.0	19.2	43.0
112°	42.5	26.5	43.4	23.0	42.5
113°	41.8	28.7	42.2	25.4	41.8
114°	40.5	29.4	41.5	26.8	40.5
115°	40.0	28.9	40.8	27.5	40.0
116°	39.4	28.6	39.7	26.9	39.4
117°	38.3	27.8	39.1	26.4	38.3
118°	37.8	27.2	38.4	25.7	37.8
119°	36.9	26.8	37.5	25.4	36.9
120°	35.8	26.1	36.8	24.7	35.8
121°	35.3	25.5	36.2	24.4	35.3
122°	34.7	25.4	35.5	24.0	34.7
123°	33.9	24.4	34.7	23.5	33.9
124°	33.2	23.9	34.4	22.8	33.2
125°	32.5	23.6	33.6	22.1	32.5
126°	31.6	23.0	32.9	21.9	31.6
127°	30.8	22.2	32.1	21.4	30.8
128°	30.3	21.9	31.6	21.0	30.3
129°	29.2	21.4	30.7	20.3	29.2
130°	28.7	20.7	30.5	19.8	28.7
131°	27.8	20.4	29.8	19.3	27.8
132°	27.6	20.0	28.7	18.6	27.6
133°	27.1	19.2	28.2	18.2	27.1
134°	26.5	18.6	27.5	17.9	26.5



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
135°	26.0	18.2	26.8	17.4	26.0
136°	25.4	17.6	25.8	16.8	25.4
137°	24.8	17.4	25.5	16.5	24.8
138°	24.2	16.6	24.8	16.0	24.2
139°	23.7	16.4	24.0	15.4	23.7
140°	23.2	15.7	23.5	15.1	23.2
141°	22.4	15.0	22.8	14.7	22.4
142°	21.9	14.7	22.2	14.0	21.9
143°	21.1	14.3	21.8	13.7	21.1
144°	20.4	13.7	21.1	13.3	20.4
145°	20.3	13.3	20.1	13.0	20.3
146°	19.8	13.2	19.7	12.5	19.8
147°	19.2	13.0	19.0	12.4	19.2
148°	19.0	12.8	18.5	12.5	19.0
149°	18.6	12.8	17.5	12.2	18.6
150°	18.5	12.5	16.8	11.7	18.5
151°	18.0	12.2	16.5	11.5	18.0
152°	17.6	12.4	15.6	11.7	17.6
153°	17.6	12.1	15.0	11.4	17.6
154°	17.5	11.9	14.6	11.5	17.5
155°	17.2	11.8	14.2	11.4	17.2
156°	17.2	12.1	13.5	11.2	17.2
157°	17.2	11.9	13.3	11.4	17.2
158°	16.9	11.8	12.9	11.4	16.9
159°	16.8	11.9	12.4	11.5	16.8
160°	16.0	11.9	12.4	11.4	16.0
161°	15.0	11.8	12.1	10.8	15.0
162°	14.0	11.5	11.7	10.6	14.0
163°	13.7	10.8	11.2	10.4	13.7
164°	13.2	10.7	11.1	10.6	13.2
165°	12.9	10.7	10.6	10.6	12.9
166°	12.5	10.7	10.4	10.4	12.5
167°	12.4	10.8	10.6	10.7	12.4
168°	12.1	10.8	10.4	10.6	12.1
169°	11.9	10.7	10.6	10.8	11.9
170°	11.8	11.1	10.6	10.8	11.8
171°	12.1	10.8	10.6	11.1	12.1
172°	12.5	12.2	10.8	12.4	12.5
173°	13.0	12.9	11.1	13.2	13.0
174°	12.9	13.2	11.2	13.2	12.9
175°	13.0	13.2	11.4	13.2	13.0
176°	12.8	13.5	11.4	13.3	12.8
177°	12.4	13.3	11.7	13.2	12.4
178°	12.5	13.3	12.1	13.5	12.5
179°	12.5	13.3	11.9	13.6	12.5



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CANDELA DISTRIBUTION (continued):

	0°	90°	180°	270°	360°
180°	12.6	12.6	12.6	12.6	12.6

(END OF REPORT)