

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: P236311

Luminaire Tested: **4SWLED-48HL-LN-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236311  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1709-316-29)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4SWLED-48HL-LN-UNV-L840-CD1-U  
Description: METALUX SWLED LINEAR LUMINAIRE  
4FT FIXTURE WITH 2 ROW LED, NARROW LENS  
Light Source: (224) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

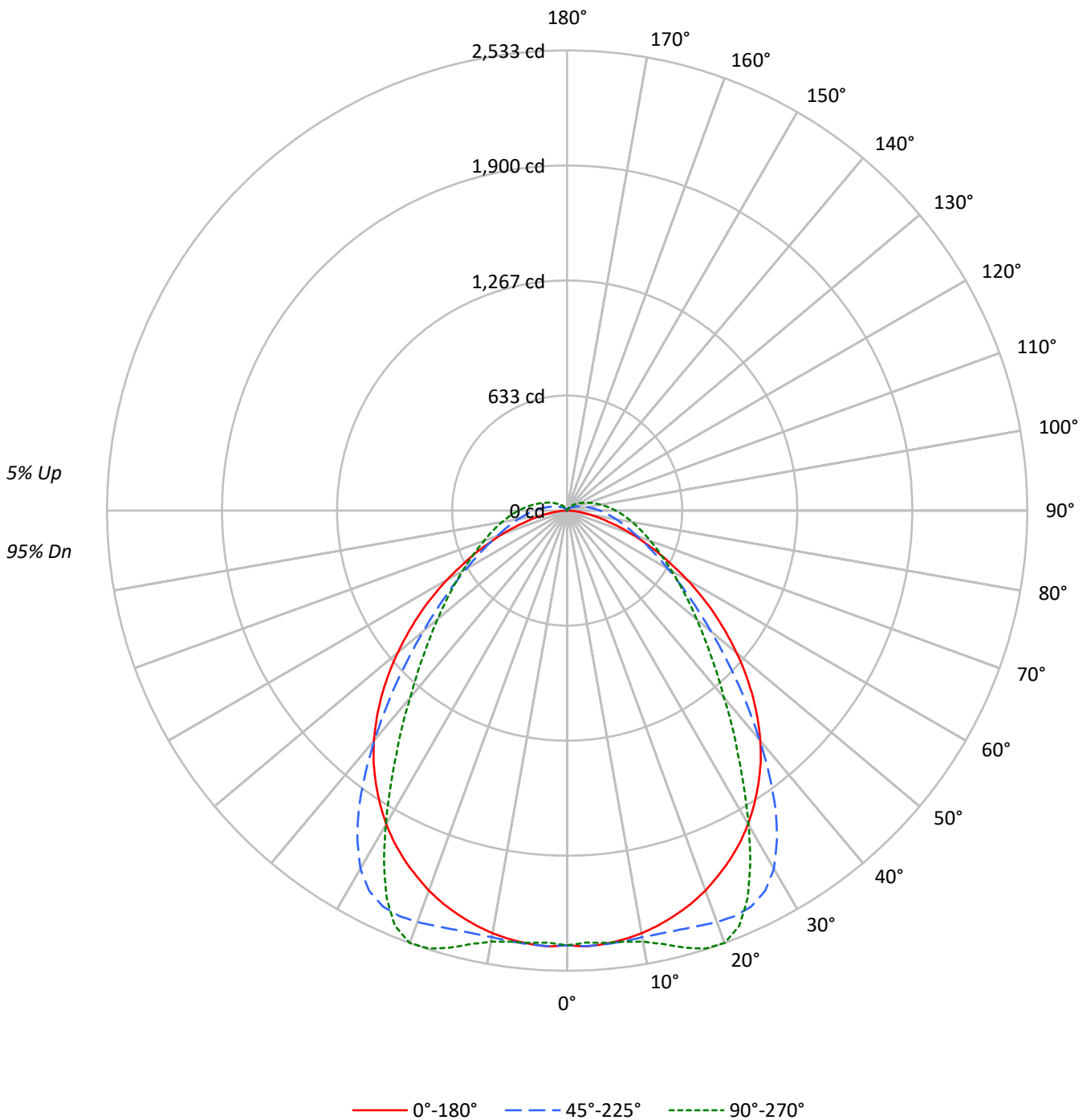
Lumens per Lamp: N/A  
Luminaire Lumens: 6394.0 lumens  
Efficiency: N/A  
Efficacy: 143.4 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.21 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 44.6  
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: 25 FT

TEST NUMBER: P236311

CATALOG NUMBER: 4SWLED-48HL-LN-UNV-L840-CD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P236311

CATALOG NUMBER: 4SWLED-48HL-LN-UNV-L840-CD1-U

**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	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95				95
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79				79
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	67				67
3	90	80	72	66	87	78	71	65	75	68	63	71	66	62	68	64	60	58				58
4	83	72	63	57	80	70	62	56	67	60	55	64	58	54	61	56	52	50				50
5	77	64	56	50	74	63	55	49	60	53	48	58	52	47	56	50	46	44				44
6	71	58	50	44	69	57	49	43	55	48	43	53	47	42	51	45	41	39				39
7	66	53	45	39	64	52	44	39	50	43	38	48	42	37	47	41	37	35				35
8	62	49	41	35	60	48	40	35	46	39	34	44	38	34	43	37	33	31				31
9	58	45	37	32	56	44	37	31	43	36	31	41	35	31	40	34	30	28				28
10	54	41	34	29	53	41	33	29	39	33	28	38	32	28	37	32	28	26				26

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

	0°	45°	90°
0°	17168	17168	17168
5°	17192	16817	16637
10°	17105	16500	16426
15°	16958	16423	16755
20°	16775	16589	16943
25°	16511	16685	15758
30°	16165	16071	13507
35°	15675	14467	11283
40°	15039	12325	9479
45°	14147	10267	8137
50°	13032	8482	7099
55°	11775	7096	6307
60°	10331	6034	5703
65°	8797	5270	5245
70°	7256	4714	4945
75°	5681	4367	4764
80°	4246	4177	4702
85°	2790	4139	4742



TEST NUMBER: P236311

CATALOG NUMBER: 4SWLED-48HL-LN-UNV-L840-CD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	227.7	3.6
10°-20°	676.5	10.6
20°-30°	1054.0	16.5
30°-40°	1162.2	18.2
40°-50°	1029.2	16.1
50°-60°	788.0	12.3
60°-70°	546.2	8.5
70°-80°	356.6	5.6
80°-90°	225.1	3.5
90°-100°	140.8	2.2
100°-110°	86.2	1.3
110°-120°	50.9	0.8
120°-130°	28.7	0.4
130°-140°	14.5	0.2
140°-150°	5.8	0.1
150°-160°	1.4	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	1958.2	30.6
0°-40°	3120.4	48.8
0°-60°	4937.6	77.2
0°-90°	6065.6	94.9
90°-120°	277.9	4.3
90°-150°	326.9	5.1
90°-180°	328.0	5.1
0°-180°	6394.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2392	2392	2392	2392	2392	
5°	2394	2378	2396	2388	2388	228
15°	2305	2307	2389	2458	2490	650
25°	2121	2191	2403	2394	2351	976
35°	1835	2008	1999	1714	1639	1146
45°	1445	1604	1316	1132	1114	1112
55°	990	1036	811	771	784	884
65°	559	567	511	545	566	556
75°	233	273	334	400	421	254
85°	48	120	223	292	314	55
90°	1	80	180	247	267	3
95°	0	52	142	205	225	0
105°	0	24	85	136	155	0
115°	0	13	51	88	102	0
125°	0	7	32	55	65	0
135°	1	2	18	33	40	0
145°	1	1	8	17	21	0
155°	1	1	1	5	7	1
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P236311

CATALOG NUMBER: 4SWLED-48HL-LN-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2392.4	2392.4	2392.4	2392.4	2392.4
2.5°	2401.5	2383.3	2399.7	2390.6	2380.3
5°	2394.3	2377.8	2396.1	2387.6	2388.2
7.5°	2381.5	2366.9	2391.2	2388.2	2393.6
10°	2362.6	2349.9	2384.5	2399.1	2408.8
12.5°	2336.5	2328.6	2383.9	2419.2	2444.1
15°	2304.9	2306.7	2388.8	2457.5	2490.3
17.5°	2268.4	2280.0	2397.9	2491.5	2528.0
20°	2225.9	2253.2	2410.1	2506.1	2532.8
22.5°	2174.2	2222.8	2414.9	2478.7	2475.1
25°	2120.7	2190.6	2402.8	2393.6	2351.1
27.5°	2059.9	2154.8	2359.6	2254.5	2183.3
30°	1991.9	2114.0	2276.3	2080.0	1996.1
32.5°	1917.1	2065.4	2149.3	1894.0	1811.3
35°	1835.0	2007.7	1999.2	1713.5	1638.7
37.5°	1750.0	1927.4	1825.3	1544.5	1488.6
40°	1654.5	1836.9	1647.8	1390.7	1342.1
42.5°	1551.8	1731.1	1477.0	1253.4	1223.0
45°	1444.8	1604.1	1316.0	1132.4	1113.6
47.5°	1332.4	1463.1	1166.4	1024.2	1016.9
50°	1218.1	1321.4	1032.1	929.4	930.6
52.5°	1102.0	1172.5	914.2	846.1	853.4
55°	990.2	1036.4	810.8	770.7	784.1
57.5°	874.7	904.5	720.3	704.5	721.5
60°	765.3	781.7	639.4	645.5	665.0
62.5°	654.6	668.0	571.4	592.0	612.7
65°	558.6	567.1	510.6	545.2	566.5
67.5°	465.0	479.6	457.1	503.3	525.2
70°	380.5	400.6	410.3	466.2	487.5
72.5°	300.9	331.3	370.2	432.2	453.4
75°	232.8	272.9	334.3	400.0	421.2
77.5°	176.3	223.1	302.1	371.4	392.1
80°	124.0	181.7	273.5	344.0	364.7
82.5°	80.8	148.3	246.8	317.3	337.3
85°	48.0	119.7	223.1	292.4	313.6
87.5°	21.9	97.3	200.6	269.9	289.9
90°	0.6	79.6	179.9	247.4	266.8
92.5°	0.0	64.4	160.5	226.1	245.6
95°	0.0	51.7	141.6	204.8	224.9
97.5°	0.0	41.9	124.6	186.0	205.4
100°	0.0	34.6	110.0	168.4	187.8
102.5°	0.0	28.6	96.6	152.0	170.8
105°	0.0	23.7	85.1	135.5	155.0
107.5°	0.0	20.1	74.8	121.6	139.8
110°	0.0	17.0	65.6	108.8	125.8



TEST NUMBER: P236311

CATALOG NUMBER: 4SWLED-48HL-LN-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	15.2	57.7	97.9	113.7
115°	0.0	12.8	51.1	87.5	102.1
117.5°	0.0	11.5	45.0	78.4	91.8
120°	0.0	9.7	40.1	69.9	82.1
122.5°	0.0	8.5	35.3	62.0	72.9
125°	0.0	6.7	31.6	55.3	65.0
127.5°	0.0	5.5	28.0	49.2	57.7
130°	0.6	4.3	24.9	43.2	51.1
132.5°	0.6	3.0	21.3	38.3	44.4
135°	0.6	2.4	18.2	33.4	39.5
137.5°	0.6	1.2	15.2	29.2	34.0
140°	0.6	0.6	12.2	24.9	29.2
142.5°	0.6	0.6	9.7	21.3	24.9
145°	0.6	0.6	7.9	17.0	20.7
147.5°	0.6	0.6	5.5	13.4	17.0
150°	1.2	0.6	3.6	10.3	13.4
152.5°	1.2	0.6	2.4	7.3	10.3
155°	1.2	0.6	1.2	4.9	7.3
157.5°	1.2	1.2	0.6	3.0	4.3
160°	1.2	1.2	0.6	1.2	2.4
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)