

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: P236332

Luminaire Tested: **4SWLED-78HL-LN-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236332  
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-78HL-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**

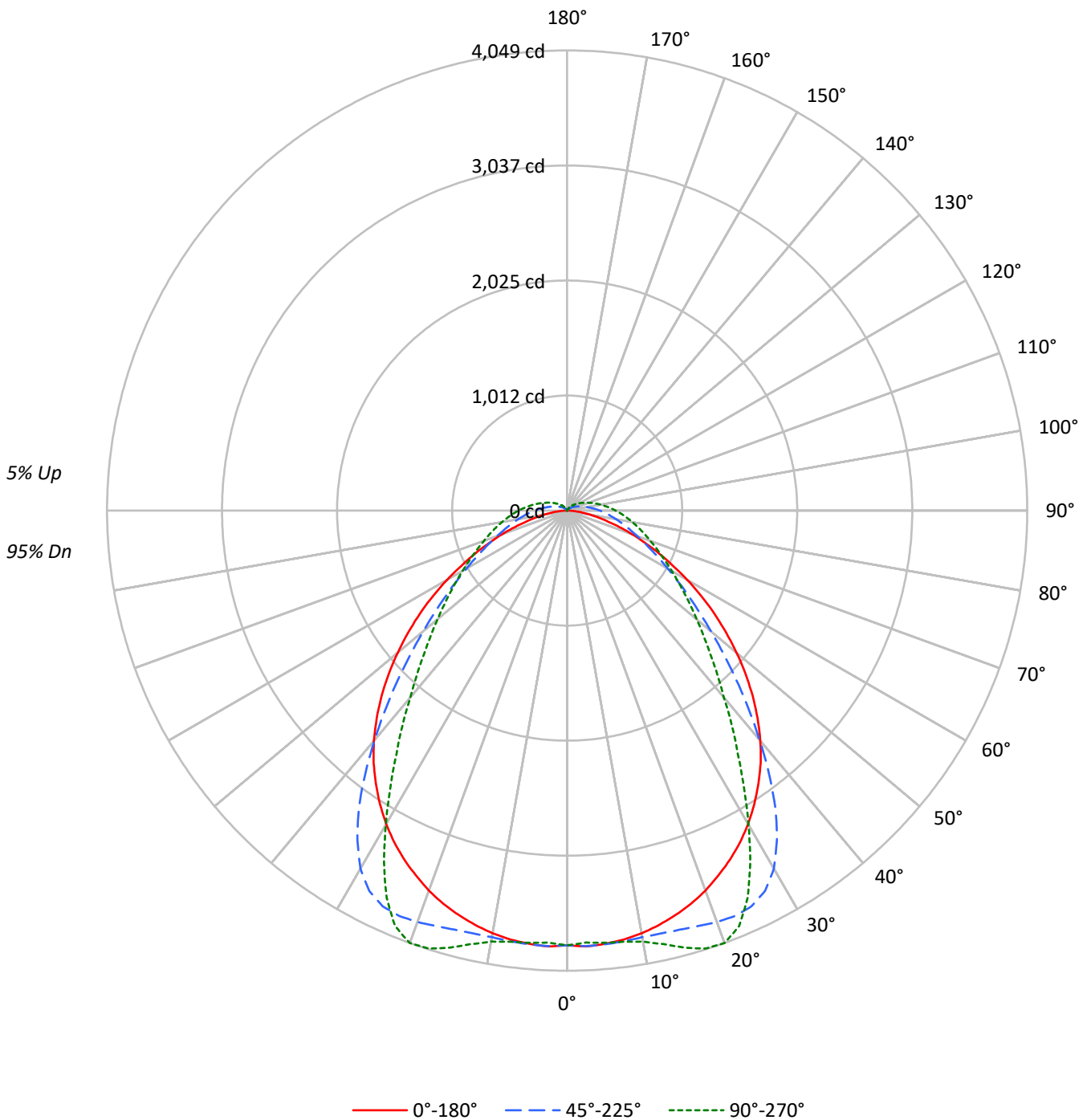
Lumens per Lamp: N/A  
Luminaire Lumens: 10220.9 lumens  
Efficiency: N/A  
Efficacy: 128.7 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.21 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.38' x L: 4' x H: 0.15')  
CIE Type: Direct

Input Watts (W): 79.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

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### Luminous Intensity Polar Plot





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**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	0
RCR																		
0	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79
2	98	90	84	78	95	88	82	77	84	79	74	80	76	72	76	73	70	67
3	90	80	72	66	87	78	71	65	75	68	63	71	66	62	68	64	60	58
4	83	72	63	57	80	70	62	56	67	60	55	64	58	54	61	56	52	50
5	77	64	56	50	74	63	55	49	60	53	48	58	52	47	56	50	46	44
6	71	58	50	44	69	57	49	43	55	48	43	53	47	42	51	45	41	39
7	66	53	45	39	64	52	44	39	50	43	38	48	42	37	47	41	37	35
8	62	49	41	35	60	48	40	35	46	39	34	44	38	34	43	37	33	31
9	58	45	37	32	56	44	37	31	43	36	31	41	35	31	40	34	30	28
10	54	41	34	29	53	41	33	29	39	33	28	38	32	28	37	32	28	26

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

	0°	45°	90°
0°	27444	27444	27444
5°	27482	26883	26595
10°	27344	26376	26257
15°	27108	26252	26783
20°	26816	26517	27085
25°	26393	26671	25189
30°	25840	25690	21592
35°	25058	23125	18036
40°	24040	19703	15153
45°	22614	16412	13006
50°	20833	13558	11348
55°	18822	11344	10082
60°	16514	9646	9116
65°	14062	8425	8384
70°	11599	7535	7905
75°	9081	6981	7615
80°	6787	6677	7516
85°	4463	6616	7582



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	363.9	3.6
10°-20°	1081.4	10.6
20°-30°	1684.8	16.5
30°-40°	1857.9	18.2
40°-50°	1645.2	16.1
50°-60°	1259.5	12.3
60°-70°	873.2	8.5
70°-80°	570.0	5.6
80°-90°	359.9	3.5
90°-100°	225.0	2.2
100°-110°	137.8	1.3
110°-120°	81.4	0.8
120°-130°	45.9	0.4
130°-140°	23.2	0.2
140°-150°	9.3	0.1
150°-160°	2.3	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-30°	3130.2	30.6
0°-40°	4988.1	48.8
0°-60°	7892.9	77.2
0°-90°	9695.9	94.9
90°-120°	444.2	4.3
90°-150°	522.6	5.1
90°-180°	525.0	5.1
0°-180°	10220.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3824	3824	3824	3824	3824	
5°	3827	3801	3830	3817	3818	364
15°	3684	3687	3818	3928	3981	1040
25°	3390	3502	3841	3826	3758	1561
35°	2933	3209	3196	2739	2620	1832
45°	2310	2564	2104	1810	1780	1777
55°	1583	1657	1296	1232	1253	1413
65°	893	906	816	872	906	889
75°	372	436	534	639	673	405
85°	77	191	357	467	501	88
90°	1	127	288	396	426	5
95°	0	83	226	327	360	0
105°	0	38	136	217	248	0
115°	0	20	82	140	163	0
125°	0	11	50	88	104	0
135°	1	4	29	53	63	1
145°	1	1	13	27	33	1
155°	2	1	2	8	12	1
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3824.4	3824.4	3824.4	3824.4	3824.4
2.5°	3838.9	3809.8	3836.0	3821.5	3804.9
5°	3827.3	3801.1	3830.2	3816.6	3817.6
7.5°	3806.9	3783.6	3822.4	3817.6	3826.3
10°	3776.8	3756.4	3811.7	3835.1	3850.6
12.5°	3735.0	3722.3	3810.8	3867.1	3907.0
15°	3684.5	3687.4	3818.5	3928.3	3980.8
17.5°	3626.2	3644.6	3833.1	3982.7	4041.0
20°	3558.1	3601.9	3852.5	4006.1	4048.8
22.5°	3475.6	3553.3	3860.3	3962.3	3956.5
25°	3390.0	3501.8	3840.9	3826.3	3758.3
27.5°	3292.9	3444.5	3771.9	3603.8	3490.1
30°	3184.1	3379.4	3638.8	3324.9	3190.9
32.5°	3064.6	3301.6	3435.7	3027.6	2895.5
35°	2933.4	3209.3	3195.7	2739.1	2619.5
37.5°	2797.3	3081.1	2917.8	2468.9	2379.5
40°	2644.8	2936.3	2634.1	2223.1	2145.4
42.5°	2480.6	2767.2	2361.1	2003.5	1954.9
45°	2309.6	2564.2	2103.6	1810.2	1780.0
47.5°	2129.8	2338.7	1864.6	1637.2	1625.6
50°	1947.2	2112.3	1649.8	1485.6	1487.6
52.5°	1761.6	1874.3	1461.3	1352.5	1364.2
55°	1582.8	1656.6	1296.2	1232.0	1253.4
57.5°	1398.2	1445.8	1151.4	1126.1	1153.3
60°	1223.3	1249.5	1022.2	1031.9	1063.0
62.5°	1046.5	1067.8	913.3	946.4	979.4
65°	892.9	906.5	816.2	871.6	905.6
67.5°	743.3	766.6	730.7	804.5	839.5
70°	608.2	640.3	655.9	745.2	779.3
72.5°	481.0	529.5	591.7	690.8	724.8
75°	372.1	436.3	534.4	639.3	673.3
77.5°	281.8	356.6	482.9	593.7	626.7
80°	198.2	290.5	437.2	549.9	583.0
82.5°	129.2	237.1	394.5	507.2	539.3
85°	76.8	191.4	356.6	467.4	501.4
87.5°	35.0	155.5	320.6	431.4	463.5
90°	1.0	127.3	287.6	395.5	426.5
92.5°	0.0	103.0	256.5	361.4	392.5
95°	0.0	82.6	226.4	327.4	359.5
97.5°	0.0	67.0	199.2	297.3	328.4
100°	0.0	55.4	175.9	269.1	300.2
102.5°	0.0	45.7	154.5	242.9	273.0
105°	0.0	37.9	136.0	216.7	247.8
107.5°	0.0	32.1	119.5	194.3	223.5
110°	0.0	27.2	104.9	173.9	201.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	24.3	92.3	156.4	181.7
115°	0.0	20.4	81.6	139.9	163.2
117.5°	0.0	18.5	71.9	125.3	146.7
120°	0.0	15.5	64.1	111.7	131.2
122.5°	0.0	13.6	56.4	99.1	116.6
125°	0.0	10.7	50.5	88.4	104.0
127.5°	0.0	8.7	44.7	78.7	92.3
130°	1.0	6.8	39.8	69.0	81.6
132.5°	1.0	4.9	34.0	61.2	70.9
135°	1.0	3.9	29.1	53.4	63.2
137.5°	1.0	1.9	24.3	46.6	54.4
140°	1.0	1.0	19.4	39.8	46.6
142.5°	1.0	1.0	15.5	34.0	39.8
145°	1.0	1.0	12.6	27.2	33.0
147.5°	1.0	1.0	8.7	21.4	27.2
150°	1.9	1.0	5.8	16.5	21.4
152.5°	1.9	1.0	3.9	11.7	16.5
155°	1.9	1.0	1.9	7.8	11.7
157.5°	1.9	1.9	1.0	4.9	6.8
160°	1.9	1.9	1.0	1.9	3.9
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)