

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: P178708

Luminaire Tested: **24ALNG-LD4-31-UNV-EL7W-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P178708  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P34286)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24ALNG-LD4-31-UNV-EL7W-L840-CD1-U  
Description: METALUX ARCLINE 2X4 TROFFER  
  
Light Source: EATON LED 4000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

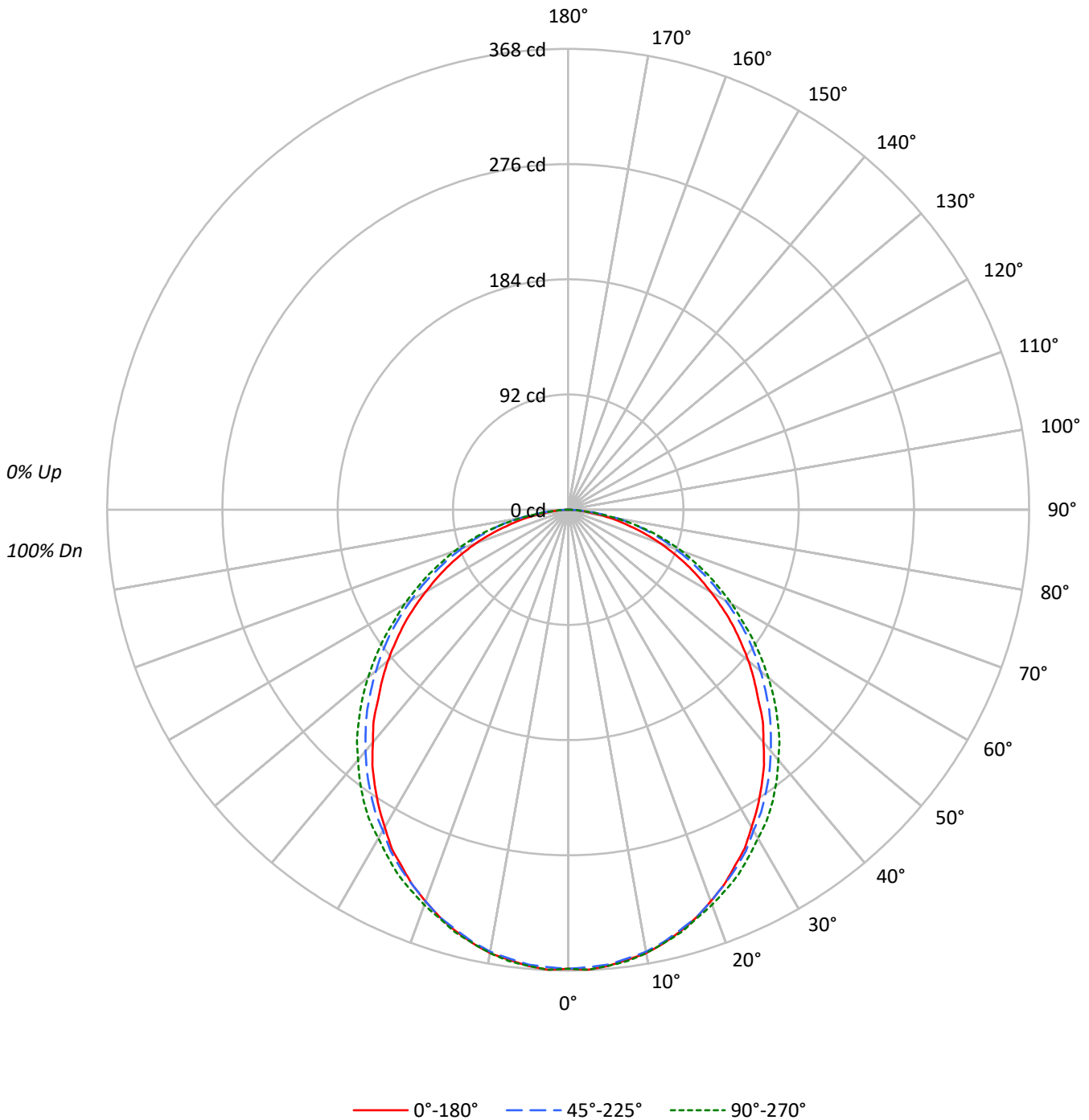
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 976.0 lumens  
Efficiency: N/A  
Efficacy: 157.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 4' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 6.2  
Input Voltage (V): NR  
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

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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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

	0°	45°	90°
0°	493	493	493
5°	494	492	494
10°	491	490	491
15°	485	483	486
20°	477	477	481
25°	467	470	477
30°	455	460	471
35°	442	452	467
40°	426	442	458
45°	408	432	449
50°	393	419	436
55°	376	407	422
60°	354	390	406
65°	334	373	392
70°	307	356	380
75°	267	342	358
80°	223	311	294
85°	174	207	159



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.7	3.6
10°-20°	98.1	10.1
20°-30°	146.1	15.0
30°-40°	172.6	17.7
40°-50°	174.7	17.9
50°-60°	153.3	15.7
60°-70°	114.5	11.7
70°-80°	66.5	6.8
80°-90°	15.7	1.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	278.8	28.6
0°-40°	451.4	46.2
0°-60°	779.3	79.8
0°-90°	976.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	976.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	367	367	367	367	367	
5°	366	366	365	366	366	35
15°	348	348	347	348	349	98
25°	314	315	316	319	322	145
35°	269	270	275	282	284	168
45°	215	219	227	234	236	166
55°	160	164	174	179	180	143
65°	105	109	117	121	123	104
75°	51	58	66	69	69	55
85°	11	14	13	11	10	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6
2.5°	367.7	367.7	367.7	366.6	366.6	366.6	366.6	366.6	366.6	365.6	365.6
5°	365.6	365.6	365.6	365.6	365.6	365.6	365.6	364.6	364.6	364.6	364.6
7.5°	362.5	362.5	363.6	363.6	362.5	362.5	362.5	362.5	362.5	361.5	361.5
10°	359.5	359.5	359.5	359.5	359.5	359.5	359.5	358.4	358.4	358.4	358.4
12.5°	354.3	354.3	354.3	354.3	354.3	354.3	354.3	353.3	353.3	353.3	353.3
15°	348.2	348.2	348.2	348.2	348.2	348.2	348.2	347.1	347.1	347.1	347.1
17.5°	341.0	341.0	341.0	341.0	341.0	341.0	341.0	339.9	341.0	339.9	341.0
20°	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8	332.8
22.5°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5
25°	314.3	315.3	315.3	315.3	314.3	315.3	315.3	315.3	315.3	315.3	316.3
27.5°	305.0	304.0	304.0	304.0	304.0	305.0	305.0	305.0	306.1	306.1	307.1
30°	292.7	292.7	292.7	292.7	292.7	293.7	293.7	294.8	294.8	295.8	295.8
32.5°	281.4	281.4	281.4	282.4	282.4	282.4	282.4	283.5	284.5	285.5	286.5
35°	269.1	269.1	269.1	269.1	270.1	270.1	271.1	272.2	273.2	274.2	275.2
37.5°	256.8	255.7	256.8	256.8	256.8	257.8	258.8	259.8	260.9	261.9	263.9
40°	242.4	242.4	243.4	243.4	244.4	244.4	245.5	246.5	248.5	249.6	251.6
42.5°	230.1	229.0	230.1	231.1	232.1	232.1	233.1	234.2	235.2	237.2	239.3
45°	214.6	215.7	216.7	217.7	217.7	218.8	219.8	220.8	222.9	224.9	227.0
47.5°	201.3	202.3	203.4	203.4	205.4	205.4	206.4	208.5	209.5	211.6	213.6
50°	187.9	187.9	187.9	189.0	190.0	192.1	192.1	194.1	196.2	198.2	200.3
52.5°	173.6	174.6	174.6	175.6	176.6	177.7	178.7	180.8	182.8	184.9	186.9
55°	160.2	160.2	160.2	162.3	163.3	164.3	165.4	167.4	169.5	171.5	173.6
57.5°	145.8	145.8	146.9	147.9	148.9	149.9	151.0	153.0	155.1	157.1	159.2
60°	131.5	132.5	132.5	133.5	135.6	136.6	137.6	139.7	141.7	143.8	144.8
62.5°	118.1	118.1	119.1	120.2	122.2	123.2	124.3	126.3	128.4	129.4	131.5
65°	104.8	104.8	105.8	106.8	108.9	108.9	110.9	113.0	115.0	116.1	117.1
67.5°	91.4	91.4	92.4	92.4	95.5	96.5	97.6	98.6	100.6	101.7	103.7
70°	78.1	78.1	79.1	80.1	82.2	83.2	84.2	86.3	88.3	89.4	90.4
72.5°	64.7	64.7	65.7	66.8	69.8	70.9	71.9	72.9	75.0	76.0	78.1
75°	51.4	52.4	53.4	55.5	57.5	58.5	58.5	60.6	62.6	64.7	65.7
77.5°	40.1	40.1	42.1	44.2	46.2	46.2	47.2	49.3	50.3	52.4	53.4
80°	28.8	28.8	30.8	32.9	33.9	34.9	35.9	38.0	39.0	40.1	40.1
82.5°	18.5	19.5	20.5	21.6	23.6	24.6	25.7	26.7	26.7	26.7	25.7
85°	11.3	11.3	12.3	13.4	14.4	14.4	14.4	14.4	14.4	13.4	13.4
87.5°	4.1	4.1	5.1	5.1	5.1	4.1	4.1	4.1	3.1	3.1	3.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6	366.6
2.5°	365.6	365.6	366.6	366.6	366.6	366.6	366.6	367.7	367.7	367.7
5°	363.6	364.6	364.6	364.6	365.6	365.6	365.6	365.6	365.6	365.6
7.5°	361.5	361.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	363.6
10°	358.4	358.4	359.5	359.5	359.5	359.5	359.5	359.5	359.5	359.5
12.5°	353.3	353.3	353.3	354.3	354.3	354.3	354.3	354.3	354.3	354.3
15°	347.1	347.1	348.2	348.2	348.2	349.2	349.2	349.2	348.2	349.2
17.5°	341.0	341.0	342.0	342.0	342.0	342.0	342.0	342.0	343.0	342.0
20°	332.8	333.8	333.8	334.8	334.8	334.8	334.8	334.8	335.8	335.8
22.5°	325.6	326.6	327.6	327.6	327.6	327.6	328.6	328.6	328.6	328.6
25°	317.4	317.4	318.4	319.4	319.4	320.4	320.4	320.4	320.4	321.5
27.5°	308.1	309.1	310.2	311.2	311.2	311.2	312.2	312.2	312.2	312.2
30°	297.8	298.9	299.9	300.9	301.9	301.9	303.0	303.0	303.0	303.0
32.5°	287.6	289.6	290.6	291.7	291.7	292.7	293.7	293.7	294.8	294.8
35°	277.3	278.3	280.4	281.4	282.4	282.4	283.5	283.5	283.5	284.5
37.5°	265.0	267.0	269.1	270.1	271.1	271.1	271.1	272.2	273.2	273.2
40°	253.7	255.7	256.8	258.8	258.8	259.8	260.9	260.9	260.9	260.9
42.5°	241.4	243.4	245.5	246.5	247.5	247.5	248.5	248.5	249.6	249.6
45°	229.0	231.1	233.1	234.2	234.2	235.2	235.2	236.2	236.2	236.2
47.5°	215.7	218.8	218.8	220.8	220.8	220.8	221.8	222.9	223.9	222.9
50°	202.3	204.4	205.4	207.5	207.5	207.5	208.5	208.5	209.5	208.5
52.5°	189.0	190.0	192.1	192.1	193.1	193.1	194.1	194.1	194.1	194.1
55°	175.6	176.6	177.7	178.7	178.7	178.7	179.7	178.7	179.7	179.7
57.5°	161.2	162.3	163.3	164.3	164.3	164.3	164.3	165.4	165.4	164.3
60°	146.9	147.9	148.9	148.9	149.9	149.9	149.9	149.9	151.0	151.0
62.5°	132.5	133.5	134.5	134.5	135.6	135.6	136.6	136.6	136.6	136.6
65°	118.1	119.1	121.2	121.2	121.2	122.2	122.2	122.2	123.2	123.2
67.5°	104.8	105.8	106.8	106.8	107.8	107.8	108.9	108.9	108.9	108.9
70°	92.4	92.4	93.5	94.5	94.5	94.5	95.5	95.5	95.5	96.5
72.5°	79.1	80.1	81.1	82.2	82.2	82.2	82.2	82.2	82.2	82.2
75°	66.8	67.8	67.8	68.8	68.8	68.8	68.8	68.8	68.8	68.8
77.5°	54.4	54.4	55.5	54.4	54.4	54.4	53.4	53.4	53.4	53.4
80°	40.1	39.0	39.0	39.0	38.0	38.0	38.0	38.0	37.0	38.0
82.5°	25.7	25.7	24.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
85°	12.3	12.3	11.3	11.3	11.3	10.3	10.3	10.3	10.3	10.3
87.5°	3.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)