

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: P178712

Luminaire Tested: **24ALNG-LD4-31-UNV-EL14W-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P178712  
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-EL14W-L840-CD1-U  
Description: METALUX ARCLINE 2X4 TROFFER  
  
Light Source: EATON LED 4000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

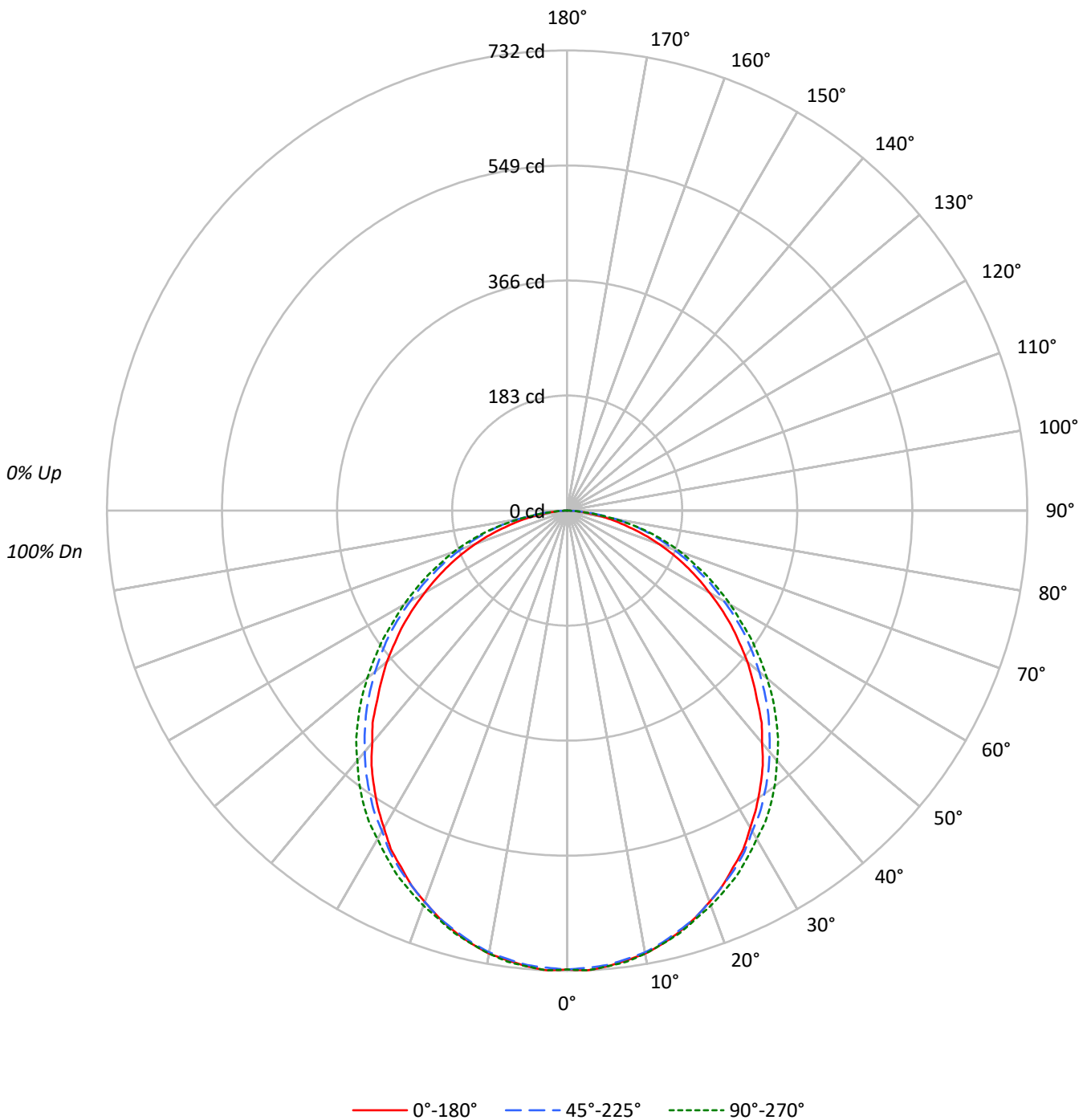
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1943.0 lumens  
Efficiency: N/A  
Efficacy: 151.8 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): 12.8  
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			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
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84	84	
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70	70	
3	90	80	72	65	88	78	71	65	75	69	64	73	67	63	70	66	62	59	59	
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	51	51	
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44	44	
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39	39	
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34	34	
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31	31	
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28	28	
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25	25	

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

	0°	45°	90°
0°	982	982	982
5°	983	980	983
10°	978	975	978
15°	965	963	968
20°	948	948	957
25°	929	935	950
30°	905	915	937
35°	880	900	930
40°	847	880	912
45°	813	860	895
50°	783	835	869
55°	748	810	839
60°	704	776	809
65°	664	742	781
70°	611	708	756
75°	531	680	712
80°	443	618	586
85°	347	411	315



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.0	3.6
10°-20°	195.3	10.1
20°-30°	290.8	15.0
30°-40°	343.5	17.7
40°-50°	347.7	17.9
50°-60°	305.1	15.7
60°-70°	227.9	11.7
70°-80°	132.3	6.8
80°-90°	31.3	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°	555.1	28.6
0°-40°	898.6	46.2
0°-60°	1551.5	79.8
0°-90°	1943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1943.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	730	730	730	730	730	
5°	728	728	726	728	728	69
15°	693	693	691	693	695	195
25°	626	628	630	636	640	288
35°	536	538	548	562	566	335
45°	427	436	452	466	470	331
55°	319	327	346	356	358	285
65°	208	217	233	241	245	206
75°	102	116	131	137	137	110
85°	22	29	27	22	20	26
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°	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9
2.5°	732.0	732.0	732.0	729.9	729.9	729.9	729.9	729.9	729.9	727.9	727.9
5°	727.9	727.9	727.9	727.9	727.9	727.9	727.9	725.8	725.8	725.8	725.8
7.5°	721.7	721.7	723.8	723.8	721.7	721.7	721.7	721.7	721.7	719.7	719.7
10°	715.6	715.6	715.6	715.6	715.6	715.6	715.6	713.6	713.6	713.6	713.6
12.5°	705.4	705.4	705.4	705.4	705.4	705.4	705.4	703.3	703.3	703.3	703.3
15°	693.1	693.1	693.1	693.1	693.1	693.1	693.1	691.1	691.1	691.1	691.1
17.5°	678.8	678.8	678.8	678.8	678.8	678.8	678.8	676.8	678.8	676.8	678.8
20°	662.4	662.4	662.4	662.4	662.4	662.4	662.4	662.4	662.4	662.4	662.4
22.5°	646.1	646.1	646.1	646.1	646.1	646.1	646.1	646.1	646.1	646.1	646.1
25°	625.6	627.7	627.7	627.7	625.6	627.7	627.7	627.7	627.7	627.7	629.7
27.5°	607.2	605.2	605.2	605.2	605.2	607.2	607.2	607.2	609.3	609.3	611.3
30°	582.7	582.7	582.7	582.7	582.7	584.8	584.8	586.8	586.8	588.8	588.8
32.5°	560.2	560.2	560.2	562.3	562.3	562.3	562.3	564.3	566.3	568.4	570.4
35°	535.7	535.7	535.7	535.7	537.7	537.7	539.8	541.8	543.9	545.9	547.9
37.5°	511.1	509.1	511.1	511.1	511.1	513.2	515.2	517.3	519.3	521.4	525.5
40°	482.5	482.5	484.6	484.6	486.6	486.6	488.7	490.7	494.8	496.8	500.9
42.5°	458.0	455.9	458.0	460.0	462.1	462.1	464.1	466.2	468.2	472.3	476.4
45°	427.3	429.4	431.4	433.5	433.5	435.5	437.5	439.6	443.7	447.8	451.9
47.5°	400.7	402.8	404.8	404.8	408.9	408.9	411.0	415.1	417.1	421.2	425.3
50°	374.2	374.2	374.2	376.2	378.2	382.3	382.3	386.4	390.5	394.6	398.7
52.5°	345.5	347.6	347.6	349.6	351.7	353.7	355.8	359.8	363.9	368.0	372.1
55°	319.0	319.0	319.0	323.0	325.1	327.1	329.2	333.3	337.4	341.4	345.5
57.5°	290.3	290.3	292.4	294.4	296.5	298.5	300.6	304.6	308.7	312.8	316.9
60°	261.7	263.8	263.8	265.8	269.9	271.9	274.0	278.1	282.2	286.2	288.3
62.5°	235.1	235.1	237.2	239.2	243.3	245.4	247.4	251.5	255.6	257.6	261.7
65°	208.5	208.5	210.6	212.6	216.7	216.7	220.8	224.9	229.0	231.0	233.1
67.5°	182.0	182.0	184.0	184.0	190.1	192.2	194.2	196.3	200.4	202.4	206.5
70°	155.4	155.4	157.4	159.5	163.6	165.6	167.7	171.7	175.8	177.9	179.9
72.5°	128.8	128.8	130.9	132.9	139.0	141.1	143.1	145.2	149.3	151.3	155.4
75°	102.2	104.3	106.3	110.4	114.5	116.5	116.5	120.6	124.7	128.8	130.9
77.5°	79.7	79.7	83.8	87.9	92.0	92.0	94.1	98.1	100.2	104.3	106.3
80°	57.2	57.2	61.3	65.4	67.5	69.5	71.6	75.6	77.7	79.7	79.7
82.5°	36.8	38.8	40.9	42.9	47.0	49.1	51.1	53.2	53.2	53.2	51.1
85°	22.5	22.5	24.5	26.6	28.6	28.6	28.6	28.6	28.6	26.6	26.6
87.5°	8.2	8.2	10.2	10.2	10.2	8.2	8.2	8.2	6.1	6.1	6.1
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°	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9	729.9
2.5°	727.9	727.9	729.9	729.9	729.9	729.9	729.9	732.0	732.0	732.0
5°	723.8	725.8	725.8	725.8	727.9	727.9	727.9	727.9	727.9	727.9
7.5°	719.7	719.7	721.7	721.7	721.7	721.7	721.7	721.7	721.7	723.8
10°	713.6	713.6	715.6	715.6	715.6	715.6	715.6	715.6	715.6	715.6
12.5°	703.3	703.3	703.3	705.4	705.4	705.4	705.4	705.4	705.4	705.4
15°	691.1	691.1	693.1	693.1	693.1	695.2	695.2	695.2	693.1	695.2
17.5°	678.8	678.8	680.8	680.8	680.8	680.8	680.8	680.8	682.9	680.8
20°	662.4	664.5	664.5	666.5	666.5	666.5	666.5	666.5	668.6	668.6
22.5°	648.1	650.2	652.2	652.2	652.2	652.2	654.3	654.3	654.3	654.3
25°	631.8	631.8	633.8	635.9	635.9	637.9	637.9	637.9	637.9	640.0
27.5°	613.4	615.4	617.5	619.5	619.5	619.5	621.6	621.6	621.6	621.6
30°	592.9	595.0	597.0	599.1	601.1	601.1	603.2	603.2	603.2	603.2
32.5°	572.5	576.6	578.6	580.7	580.7	582.7	584.8	584.8	586.8	586.8
35°	552.0	554.1	558.2	560.2	562.3	562.3	564.3	564.3	564.3	566.3
37.5°	527.5	531.6	535.7	537.7	539.8	539.8	539.8	541.8	543.9	543.9
40°	505.0	509.1	511.1	515.2	515.2	517.3	519.3	519.3	519.3	519.3
42.5°	480.5	484.6	488.7	490.7	492.7	492.7	494.8	494.8	496.8	496.8
45°	455.9	460.0	464.1	466.2	466.2	468.2	468.2	470.3	470.3	470.3
47.5°	429.4	435.5	435.5	439.6	439.6	439.6	441.6	443.7	445.7	443.7
50°	402.8	406.9	408.9	413.0	413.0	413.0	415.1	415.1	417.1	415.1
52.5°	376.2	378.2	382.3	382.3	384.4	384.4	386.4	386.4	386.4	386.4
55°	349.6	351.7	353.7	355.8	355.8	355.8	357.8	355.8	357.8	357.8
57.5°	321.0	323.0	325.1	327.1	327.1	327.1	327.1	329.2	329.2	327.1
60°	292.4	294.4	296.5	296.5	298.5	298.5	298.5	298.5	300.6	300.6
62.5°	263.8	265.8	267.8	267.8	269.9	269.9	271.9	271.9	271.9	271.9
65°	235.1	237.2	241.3	241.3	241.3	243.3	243.3	243.3	245.4	245.4
67.5°	208.5	210.6	212.6	212.6	214.7	214.7	216.7	216.7	216.7	216.7
70°	184.0	184.0	186.1	188.1	188.1	188.1	190.1	190.1	190.1	192.2
72.5°	157.4	159.5	161.5	163.6	163.6	163.6	163.6	163.6	163.6	163.6
75°	132.9	134.9	134.9	137.0	137.0	137.0	137.0	137.0	137.0	137.0
77.5°	108.4	108.4	110.4	108.4	108.4	108.4	106.3	106.3	106.3	106.3
80°	79.7	77.7	77.7	77.7	75.6	75.6	75.6	75.6	73.6	75.6
82.5°	51.1	51.1	49.1	47.0	47.0	47.0	47.0	47.0	47.0	47.0
85°	24.5	24.5	22.5	22.5	22.5	20.4	20.4	20.4	20.4	20.4
87.5°	6.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)