

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: P178713

Luminaire Tested: **24ALNG-LD4-31-UNV-EL14W-L850-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P178713  
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-L850-CD1-U  
Description: METALUX ARCLINE 2X4 TROFFER  
  
Light Source: EATON LED 5000K  
Ballast/Driver: OSRAM ELECTRONIC DRIVER

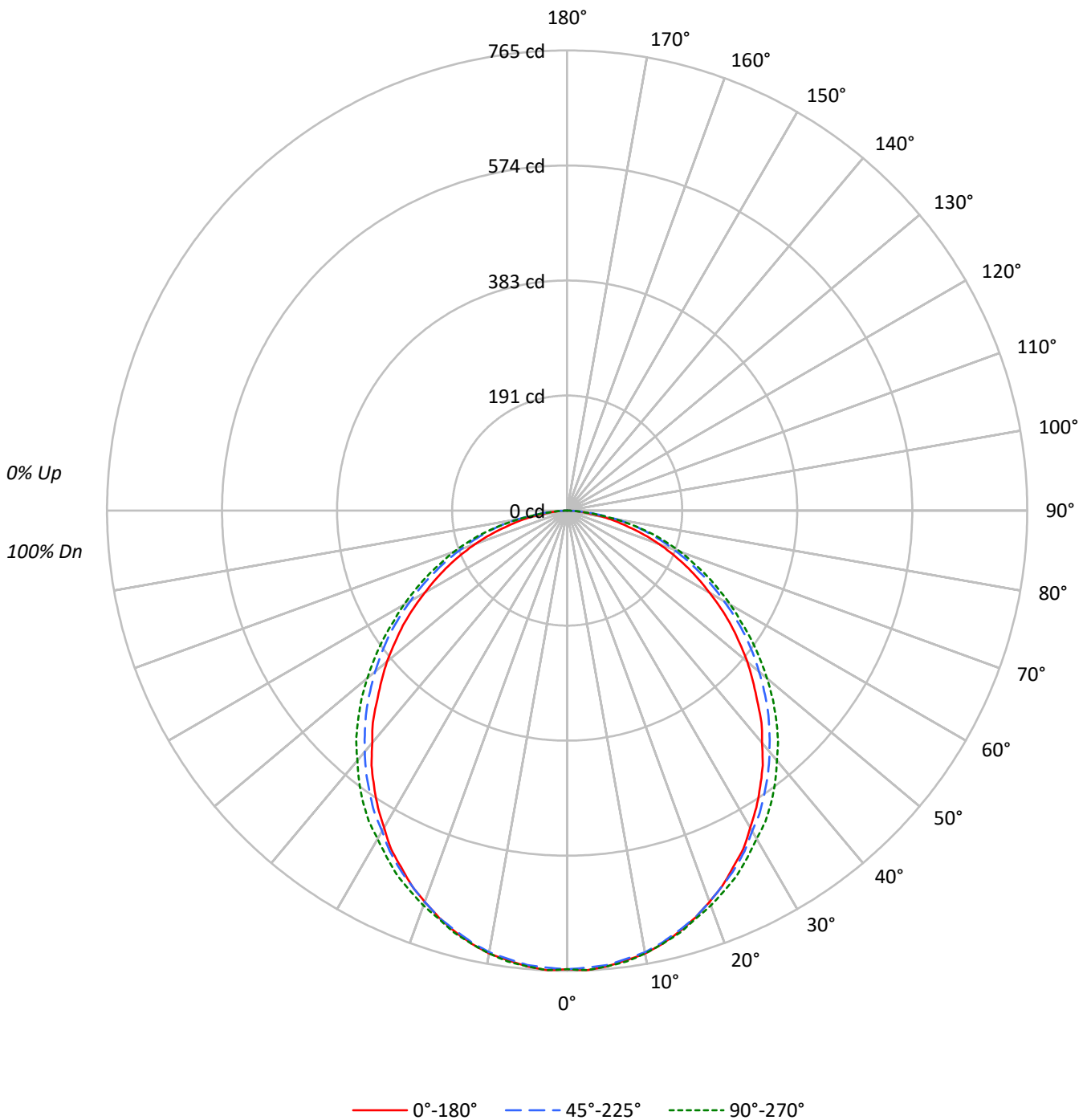
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2030.0 lumens  
Efficiency: N/A  
Efficacy: 158.6 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 (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	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°	1026	1026	1026
5°	1027	1024	1027
10°	1021	1019	1021
15°	1009	1006	1012
20°	991	991	1000
25°	970	977	993
30°	946	956	979
35°	919	940	972
40°	885	919	953
45°	850	898	935
50°	818	872	908
55°	782	847	877
60°	736	811	845
65°	694	775	816
70°	638	740	790
75°	555	711	744
80°	463	645	612
85°	363	429	330



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.1	3.6
10°-20°	204.1	10.1
20°-30°	303.8	15.0
30°-40°	358.9	17.7
40°-50°	363.3	17.9
50°-60°	318.8	15.7
60°-70°	238.1	11.7
70°-80°	138.3	6.8
80°-90°	32.7	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°	579.9	28.6
0°-40°	938.8	46.2
0°-60°	1620.9	79.8
0°-90°	2030.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2030.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	763	763	763	763	763	
5°	760	760	758	760	760	72
15°	724	724	722	724	726	204
25°	654	656	658	664	669	301
35°	560	562	572	587	592	350
45°	446	455	472	487	491	346
55°	333	342	361	372	374	297
65°	218	226	244	252	256	216
75°	107	122	137	143	143	115
85°	24	30	28	24	21	27
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°	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
2.5°	764.7	764.7	764.7	762.6	762.6	762.6	762.6	762.6	762.6	760.5	760.5
5°	760.5	760.5	760.5	760.5	760.5	760.5	760.5	758.3	758.3	758.3	758.3
7.5°	754.1	754.1	756.2	756.2	754.1	754.1	754.1	754.1	754.1	751.9	751.9
10°	747.6	747.6	747.6	747.6	747.6	747.6	747.6	745.5	745.5	745.5	745.5
12.5°	737.0	737.0	737.0	737.0	737.0	737.0	737.0	734.8	734.8	734.8	734.8
15°	724.1	724.1	724.1	724.1	724.1	724.1	724.1	722.0	722.0	722.0	722.0
17.5°	709.2	709.2	709.2	709.2	709.2	709.2	709.2	707.1	709.2	707.1	709.2
20°	692.1	692.1	692.1	692.1	692.1	692.1	692.1	692.1	692.1	692.1	692.1
22.5°	675.0	675.0	675.0	675.0	675.0	675.0	675.0	675.0	675.0	675.0	675.0
25°	653.7	655.8	655.8	655.8	653.7	655.8	655.8	655.8	655.8	655.8	657.9
27.5°	634.4	632.3	632.3	632.3	632.3	634.4	634.4	634.4	636.6	636.6	638.7
30°	608.8	608.8	608.8	608.8	608.8	610.9	610.9	613.1	613.1	615.2	615.2
32.5°	585.3	585.3	585.3	587.4	587.4	587.4	587.4	589.6	591.7	593.8	596.0
35°	559.7	559.7	559.7	559.7	561.8	561.8	563.9	566.1	568.2	570.3	572.5
37.5°	534.0	531.9	534.0	534.0	534.0	536.2	538.3	540.4	542.6	544.7	549.0
40°	504.1	504.1	506.3	506.3	508.4	508.4	510.5	512.7	516.9	519.1	523.4
42.5°	478.5	476.4	478.5	480.6	482.8	482.8	484.9	487.0	489.2	493.4	497.7
45°	446.5	448.6	450.7	452.9	452.9	455.0	457.1	459.3	463.5	467.8	472.1
47.5°	418.7	420.8	423.0	423.0	427.2	427.2	429.4	433.6	435.8	440.0	444.3
50°	390.9	390.9	390.9	393.0	395.2	399.5	399.5	403.7	408.0	412.3	416.5
52.5°	361.0	363.1	363.1	365.3	367.4	369.6	371.7	376.0	380.2	384.5	388.8
55°	333.2	333.2	333.2	337.5	339.6	341.8	343.9	348.2	352.5	356.7	361.0
57.5°	303.3	303.3	305.5	307.6	309.7	311.9	314.0	318.3	322.6	326.8	331.1
60°	273.4	275.6	275.6	277.7	282.0	284.1	286.2	290.5	294.8	299.1	301.2
62.5°	245.7	245.7	247.8	249.9	254.2	256.3	258.5	262.7	267.0	269.2	273.4
65°	217.9	217.9	220.0	222.2	226.4	226.4	230.7	235.0	239.2	241.4	243.5
67.5°	190.1	190.1	192.3	192.3	198.7	200.8	202.9	205.1	209.3	211.5	215.7
70°	162.3	162.3	164.5	166.6	170.9	173.0	175.2	179.4	183.7	185.8	188.0
72.5°	134.6	134.6	136.7	138.8	145.3	147.4	149.5	151.7	155.9	158.1	162.3
75°	106.8	108.9	111.1	115.4	119.6	121.8	121.8	126.0	130.3	134.6	136.7
77.5°	83.3	83.3	87.6	91.9	96.1	96.1	98.3	102.5	104.7	108.9	111.1
80°	59.8	59.8	64.1	68.4	70.5	72.6	74.8	79.0	81.2	83.3	83.3
82.5°	38.5	40.6	42.7	44.9	49.1	51.3	53.4	55.5	55.5	55.5	53.4
85°	23.5	23.5	25.6	27.8	29.9	29.9	29.9	29.9	29.9	27.8	27.8
87.5°	8.5	8.5	10.7	10.7	10.7	8.5	8.5	8.5	6.4	6.4	6.4
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°	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6	762.6
2.5°	760.5	760.5	762.6	762.6	762.6	762.6	762.6	764.7	764.7	764.7
5°	756.2	758.3	758.3	758.3	760.5	760.5	760.5	760.5	760.5	760.5
7.5°	751.9	751.9	754.1	754.1	754.1	754.1	754.1	754.1	754.1	756.2
10°	745.5	745.5	747.6	747.6	747.6	747.6	747.6	747.6	747.6	747.6
12.5°	734.8	734.8	734.8	737.0	737.0	737.0	737.0	737.0	737.0	737.0
15°	722.0	722.0	724.1	724.1	724.1	726.3	726.3	726.3	724.1	726.3
17.5°	709.2	709.2	711.3	711.3	711.3	711.3	711.3	711.3	713.5	711.3
20°	692.1	694.2	694.2	696.4	696.4	696.4	696.4	696.4	698.5	698.5
22.5°	677.2	679.3	681.4	681.4	681.4	681.4	683.6	683.6	683.6	683.6
25°	660.1	660.1	662.2	664.3	664.3	666.5	666.5	666.5	666.5	668.6
27.5°	640.8	643.0	645.1	647.2	647.2	647.2	649.4	649.4	649.4	649.4
30°	619.5	621.6	623.8	625.9	628.0	628.0	630.2	630.2	630.2	630.2
32.5°	598.1	602.4	604.5	606.7	606.7	608.8	610.9	610.9	613.1	613.1
35°	576.8	578.9	583.2	585.3	587.4	587.4	589.6	589.6	589.6	591.7
37.5°	551.1	555.4	559.7	561.8	563.9	563.9	563.9	566.1	568.2	568.2
40°	527.6	531.9	534.0	538.3	538.3	540.4	542.6	542.6	542.6	542.6
42.5°	502.0	506.3	510.5	512.7	514.8	514.8	516.9	516.9	519.1	519.1
45°	476.4	480.6	484.9	487.0	487.0	489.2	489.2	491.3	491.3	491.3
47.5°	448.6	455.0	455.0	459.3	459.3	459.3	461.4	463.5	465.7	463.5
50°	420.8	425.1	427.2	431.5	431.5	431.5	433.6	433.6	435.8	433.6
52.5°	393.0	395.2	399.5	399.5	401.6	401.6	403.7	403.7	403.7	403.7
55°	365.3	367.4	369.6	371.7	371.7	371.7	373.8	371.7	373.8	373.8
57.5°	335.4	337.5	339.6	341.8	341.8	341.8	341.8	343.9	343.9	341.8
60°	305.5	307.6	309.7	309.7	311.9	311.9	311.9	311.9	314.0	314.0
62.5°	275.6	277.7	279.8	279.8	282.0	282.0	284.1	284.1	284.1	284.1
65°	245.7	247.8	252.1	252.1	252.1	254.2	254.2	254.2	256.3	256.3
67.5°	217.9	220.0	222.2	222.2	224.3	224.3	226.4	226.4	226.4	226.4
70°	192.3	192.3	194.4	196.5	196.5	196.5	198.7	198.7	198.7	200.8
72.5°	164.5	166.6	168.8	170.9	170.9	170.9	170.9	170.9	170.9	170.9
75°	138.8	141.0	141.0	143.1	143.1	143.1	143.1	143.1	143.1	143.1
77.5°	113.2	113.2	115.4	113.2	113.2	113.2	111.1	111.1	111.1	111.1
80°	83.3	81.2	81.2	81.2	79.0	79.0	79.0	79.0	76.9	79.0
82.5°	53.4	53.4	51.3	49.1	49.1	49.1	49.1	49.1	49.1	49.1
85°	25.6	25.6	23.5	23.5	23.5	21.4	21.4	21.4	21.4	21.4
87.5°	6.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)