

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: P178711

Luminaire Tested: **24ALNG-LD4-31-UNV-EL14W-L835-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P178711
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-L835-CD1-U
Description: METALUX ARCLINE 2X4 TROFFER

Light Source: EATON LED 3500K
Ballast/Driver: OSRAM ELECTRONIC DRIVER

Summary

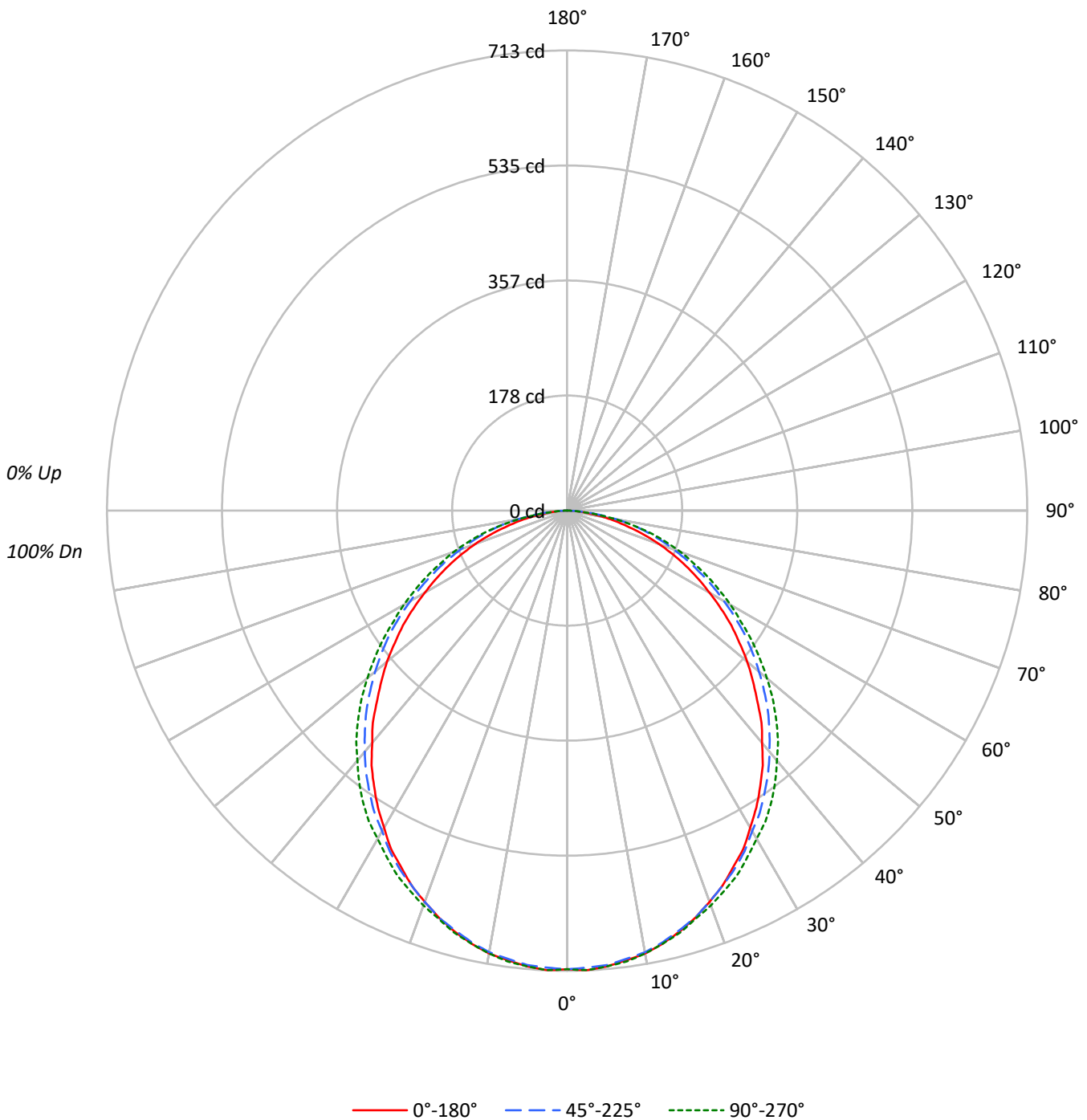
Lumens per Lamp: N/A
Luminaire Lumens: 1892.0 lumens
Efficiency: N/A
Efficacy: 147.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 4' x L: 2' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P178711

CATALOG NUMBER: 24ALNG-LD4-31-UNV-EL14W-L835-CD1-U

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°	956	956	956
5°	957	955	957
10°	952	949	952
15°	940	937	943
20°	924	924	932
25°	904	910	925
30°	882	891	912
35°	857	876	906
40°	825	857	888
45°	792	837	871
50°	763	813	846
55°	729	789	817
60°	686	755	788
65°	647	723	761
70°	595	689	736
75°	517	662	693
80°	432	601	571
85°	338	400	307



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.2	3.6
10°-20°	190.2	10.1
20°-30°	283.1	15.0
30°-40°	334.5	17.7
40°-50°	338.6	17.9
50°-60°	297.1	15.7
60°-70°	221.9	11.7
70°-80°	128.9	6.8
80°-90°	30.5	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°	540.5	28.6
0°-40°	875.0	46.2
0°-60°	1510.7	79.8
0°-90°	1892.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1892.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	709	709	707	709	709	67
15°	675	675	673	675	677	190
25°	609	611	613	619	623	281
35°	522	524	534	548	552	326
45°	416	424	440	454	458	322
55°	311	318	336	346	348	277
65°	203	211	227	235	239	201
75°	100	114	127	133	133	107
85°	22	28	26	22	20	25
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°	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8
2.5°	712.7	712.7	712.7	710.8	710.8	710.8	710.8	710.8	710.8	708.8	708.8
5°	708.8	708.8	708.8	708.8	708.8	708.8	708.8	706.8	706.8	706.8	706.8
7.5°	702.8	702.8	704.8	704.8	702.8	702.8	702.8	702.8	702.8	700.8	700.8
10°	696.8	696.8	696.8	696.8	696.8	696.8	696.8	694.8	694.8	694.8	694.8
12.5°	686.9	686.9	686.9	686.9	686.9	686.9	686.9	684.9	684.9	684.9	684.9
15°	674.9	674.9	674.9	674.9	674.9	674.9	674.9	672.9	672.9	672.9	672.9
17.5°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	659.0	661.0	659.0	661.0
20°	645.1	645.1	645.1	645.1	645.1	645.1	645.1	645.1	645.1	645.1	645.1
22.5°	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1	629.1
25°	609.2	611.2	611.2	611.2	609.2	611.2	611.2	611.2	611.2	611.2	613.2
27.5°	591.3	589.3	589.3	589.3	589.3	591.3	591.3	591.3	593.3	593.3	595.3
30°	567.4	567.4	567.4	567.4	567.4	569.4	569.4	571.4	571.4	573.4	573.4
32.5°	545.5	545.5	545.5	547.5	547.5	547.5	547.5	549.5	551.5	553.5	555.5
35°	521.6	521.6	521.6	521.6	523.6	523.6	525.6	527.6	529.6	531.6	533.6
37.5°	497.7	495.7	497.7	497.7	497.7	499.7	501.7	503.7	505.7	507.7	511.7
40°	469.9	469.9	471.8	471.8	473.8	473.8	475.8	477.8	481.8	483.8	487.8
42.5°	446.0	444.0	446.0	448.0	449.9	449.9	451.9	453.9	455.9	459.9	463.9
45°	416.1	418.1	420.1	422.1	422.1	424.1	426.1	428.0	432.0	436.0	440.0
47.5°	390.2	392.2	394.2	394.2	398.2	398.2	400.2	404.2	406.1	410.1	414.1
50°	364.3	364.3	364.3	366.3	368.3	372.3	372.3	376.3	380.3	384.2	388.2
52.5°	336.5	338.5	338.5	340.4	342.4	344.4	346.4	350.4	354.4	358.4	362.3
55°	310.6	310.6	310.6	314.6	316.6	318.5	320.5	324.5	328.5	332.5	336.5
57.5°	282.7	282.7	284.7	286.7	288.7	290.7	292.7	296.6	300.6	304.6	308.6
60°	254.8	256.8	256.8	258.8	262.8	264.8	266.8	270.8	274.7	278.7	280.7
62.5°	229.0	229.0	230.9	232.9	236.9	238.9	240.9	244.9	248.9	250.9	254.8
65°	203.1	203.1	205.1	207.1	211.0	211.0	215.0	219.0	223.0	225.0	227.0
67.5°	177.2	177.2	179.2	179.2	185.2	187.1	189.1	191.1	195.1	197.1	201.1
70°	151.3	151.3	153.3	155.3	159.3	161.3	163.3	167.2	171.2	173.2	175.2
72.5°	125.4	125.4	127.4	129.4	135.4	137.4	139.4	141.4	145.3	147.3	151.3
75°	99.5	101.5	103.5	107.5	111.5	113.5	113.5	117.5	121.4	125.4	127.4
77.5°	77.6	77.6	81.6	85.6	89.6	89.6	91.6	95.6	97.6	101.5	103.5
80°	55.7	55.7	59.7	63.7	65.7	67.7	69.7	73.7	75.7	77.6	77.6
82.5°	35.8	37.8	39.8	41.8	45.8	47.8	49.8	51.8	51.8	51.8	49.8
85°	21.9	21.9	23.9	25.9	27.9	27.9	27.9	27.9	27.9	25.9	25.9
87.5°	8.0	8.0	10.0	10.0	10.0	8.0	8.0	8.0	6.0	6.0	6.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P178711

CATALOG NUMBER: 24ALNG-LD4-31-UNV-EL14W-L835-CD1-U

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8	710.8
2.5°	708.8	708.8	710.8	710.8	710.8	710.8	710.8	712.7	712.7	712.7
5°	704.8	706.8	706.8	706.8	708.8	708.8	708.8	708.8	708.8	708.8
7.5°	700.8	700.8	702.8	702.8	702.8	702.8	702.8	702.8	702.8	704.8
10°	694.8	694.8	696.8	696.8	696.8	696.8	696.8	696.8	696.8	696.8
12.5°	684.9	684.9	684.9	686.9	686.9	686.9	686.9	686.9	686.9	686.9
15°	672.9	672.9	674.9	674.9	674.9	676.9	676.9	676.9	674.9	676.9
17.5°	661.0	661.0	663.0	663.0	663.0	663.0	663.0	663.0	665.0	663.0
20°	645.1	647.0	647.0	649.0	649.0	649.0	649.0	649.0	651.0	651.0
22.5°	631.1	633.1	635.1	635.1	635.1	635.1	637.1	637.1	637.1	637.1
25°	615.2	615.2	617.2	619.2	619.2	621.2	621.2	621.2	621.2	623.2
27.5°	597.3	599.3	601.3	603.2	603.2	603.2	605.2	605.2	605.2	605.2
30°	577.4	579.4	581.3	583.3	585.3	585.3	587.3	587.3	587.3	587.3
32.5°	557.5	561.4	563.4	565.4	565.4	567.4	569.4	569.4	571.4	571.4
35°	537.5	539.5	543.5	545.5	547.5	547.5	549.5	549.5	549.5	551.5
37.5°	513.7	517.6	521.6	523.6	525.6	525.6	525.6	527.6	529.6	529.6
40°	491.8	495.7	497.7	501.7	501.7	503.7	505.7	505.7	505.7	505.7
42.5°	467.9	471.8	475.8	477.8	479.8	479.8	481.8	481.8	483.8	483.8
45°	444.0	448.0	451.9	453.9	453.9	455.9	455.9	457.9	457.9	457.9
47.5°	418.1	424.1	424.1	428.0	428.0	428.0	430.0	432.0	434.0	432.0
50°	392.2	396.2	398.2	402.2	402.2	402.2	404.2	404.2	406.1	404.2
52.5°	366.3	368.3	372.3	372.3	374.3	374.3	376.3	376.3	376.3	376.3
55°	340.4	342.4	344.4	346.4	346.4	346.4	348.4	346.4	348.4	348.4
57.5°	312.6	314.6	316.6	318.5	318.5	318.5	318.5	320.5	320.5	318.5
60°	284.7	286.7	288.7	288.7	290.7	290.7	290.7	290.7	292.7	292.7
62.5°	256.8	258.8	260.8	260.8	262.8	262.8	264.8	264.8	264.8	264.8
65°	229.0	230.9	234.9	234.9	234.9	236.9	236.9	236.9	238.9	238.9
67.5°	203.1	205.1	207.1	207.1	209.0	209.0	211.0	211.0	211.0	211.0
70°	179.2	179.2	181.2	183.2	183.2	183.2	185.2	185.2	185.2	187.1
72.5°	153.3	155.3	157.3	159.3	159.3	159.3	159.3	159.3	159.3	159.3
75°	129.4	131.4	131.4	133.4	133.4	133.4	133.4	133.4	133.4	133.4
77.5°	105.5	105.5	107.5	105.5	105.5	105.5	103.5	103.5	103.5	103.5
80°	77.6	75.7	75.7	75.7	73.7	73.7	73.7	73.7	71.7	73.7
82.5°	49.8	49.8	47.8	45.8	45.8	45.8	45.8	45.8	45.8	45.8
85°	23.9	23.9	21.9	21.9	21.9	19.9	19.9	19.9	19.9	19.9
87.5°	6.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)