

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: P685732

Luminaire Tested: **4CZL-12-UNV-N-LVR-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685732
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-UNV-N-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

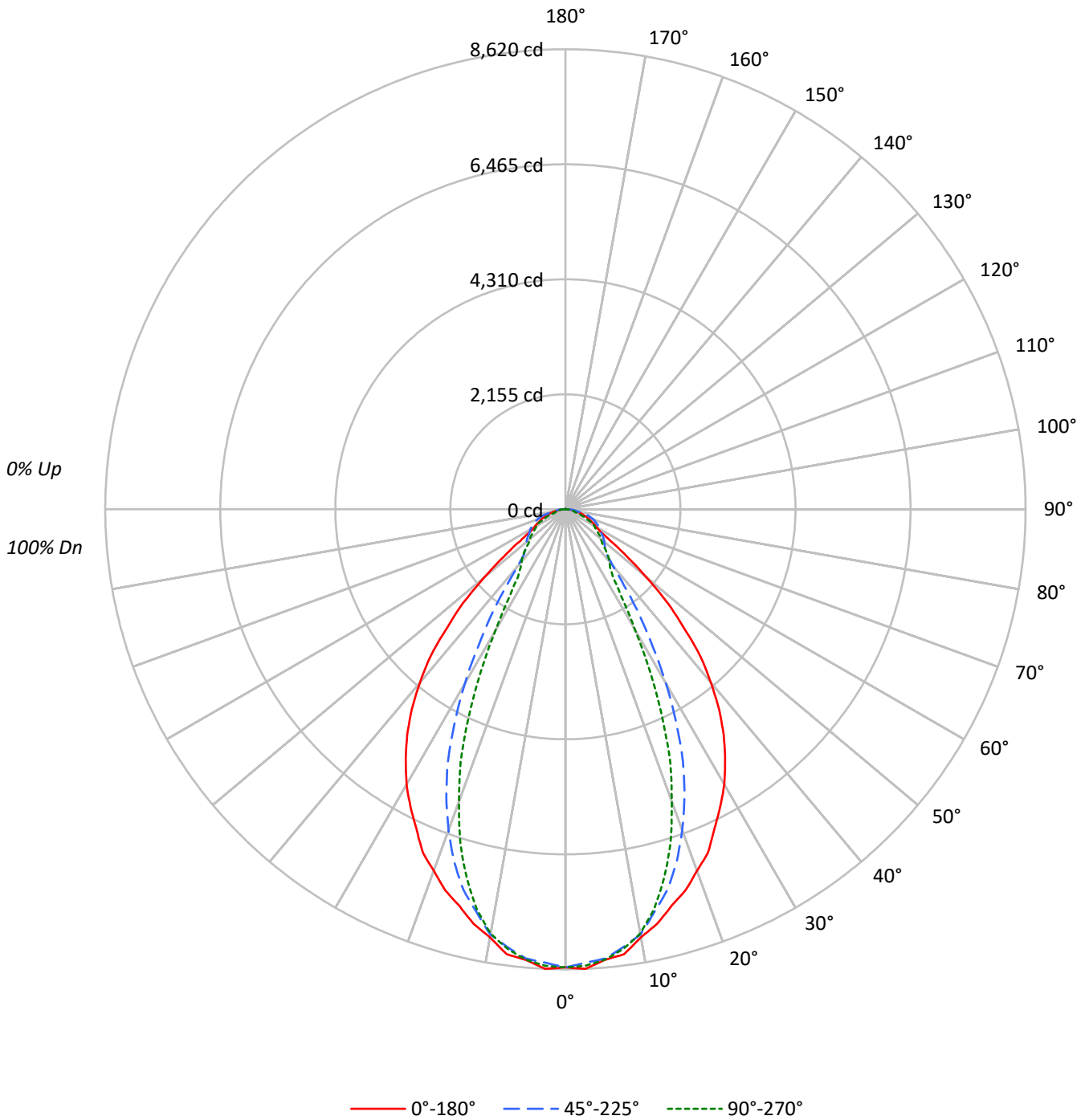
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10162.0 lumens
Efficiency: N/A
Efficacy: 132.0 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 0.8 / 0.85
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 77
Input Voltage (V): 120
Input Current (A_{in}): 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	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	93	92	90	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	86	83	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	79	75	72	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	73	69	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	68	63	59	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	63	58	55	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	52	47	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	49	44	41	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	27716	27716	27716
5°	27471	27393	27463
10°	26696	26532	26467
15°	25706	24680	23897
20°	24759	21985	20014
25°	23528	18564	15261
30°	22193	14043	9750
35°	20370	9520	6126
40°	17865	5800	5373
45°	14313	4832	4815
50°	9896	4775	4347
55°	5830	4733	4094
60°	4344	4917	4044
65°	4112	4951	3556
70°	3955	5280	2684
75°	3729	5299	2296
80°	3463	4394	2596
85°	3072	5335	3205



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	797.3	7.8
10°-20°	2064.4	20.3
20°-30°	2411.7	23.7
30°-40°	1789.2	17.6
40°-50°	1186.1	11.7
50°-60°	786.7	7.7
60°-70°	586.9	5.8
70°-80°	346.4	3.4
80°-90°	145.9	1.4
90°-100°	31.5	0.3
100°-110°	4.3	0.0
110°-120°	2.2	0.0
120°-130°	2.0	0.0
130°-140°	1.9	0.0
140°-150°	2.0	0.0
150°-160°	1.8	0.0
160°-170°	1.3	0.0
170°-180°	0.5	0.0
0°-30°	5273.4	51.9
0°-40°	7062.7	69.5
0°-60°	9035.4	88.9
0°-90°	10114.7	99.5
90°-120°	38.0	0.4
90°-150°	43.8	0.4
90°-180°	47.0	0.5
0°-180°	10162.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8583	8583	8583	8583	8583	
5°	8475	8467	8451	8481	8472	802
15°	7689	7598	7382	7255	7148	2169
25°	6604	6129	5210	4469	4283	3042
35°	5167	3829	2415	1632	1554	3208
45°	3134	1849	1058	1098	1054	2412
55°	1036	910	841	812	727	1019
65°	538	601	648	633	465	537
75°	299	334	425	308	184	315
85°	83	101	144	191	86	89
90°	2	30	72	124	26	5
95°	1	5	28	62	13	1
105°	1	2	3	5	4	1
115°	1	2	2	3	3	1
125°	2	2	2	3	3	1
135°	2	2	2	3	3	1
145°	2	3	3	4	4	1
155°	3	4	4	4	4	1
165°	4	4	4	5	5	1
175°	4	4	5	6	6	0
180°	5	5	5	5	5	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8582.9	8582.9	8582.9	8582.9	8582.9
2.5°	8620.0	8573.5	8506.6	8566.9	8561.8
5°	8474.6	8467.3	8450.6	8481.1	8472.4
7.5°	8409.1	8369.9	8276.8	8348.8	8308.1
10°	8141.5	8095.7	8091.4	8076.8	8071.7
12.5°	7951.7	7896.5	7719.8	7710.3	7671.0
15°	7689.2	7597.6	7382.4	7255.1	7148.2
17.5°	7485.6	7286.4	6927.1	6690.1	6552.6
20°	7204.9	6985.3	6397.7	5984.0	5824.0
22.5°	6973.7	6584.6	5829.1	5243.7	5133.9
25°	6603.5	6128.7	5210.3	4469.3	4283.1
27.5°	6282.1	5626.9	4480.2	3667.2	3438.8
30°	5952.0	5064.8	3766.1	2880.4	2614.9
32.5°	5567.3	4498.3	3030.9	2161.2	1969.2
35°	5167.4	3828.6	2415.0	1632.5	1554.0
37.5°	4726.7	3226.5	1815.0	1363.5	1376.6
40°	4238.0	2701.5	1375.8	1250.0	1274.7
42.5°	3750.8	2259.4	1144.6	1175.9	1183.1
45°	3134.2	1849.2	1058.0	1098.0	1054.4
47.5°	2595.3	1511.1	997.0	992.6	930.8
50°	1969.9	1231.8	950.4	898.1	865.3
52.5°	1458.7	1039.1	906.1	848.6	815.2
55°	1035.5	909.7	840.6	811.5	727.2
57.5°	778.1	818.1	790.4	725.0	666.1
60°	672.6	737.4	761.4	683.6	626.1
62.5°	607.2	668.3	714.1	658.8	573.0
65°	538.1	601.4	647.9	633.4	465.4
67.5°	477.8	548.3	605.7	543.2	380.3
70°	418.9	484.3	559.2	461.0	284.3
72.5°	355.6	405.0	495.2	358.5	207.2
75°	298.9	334.5	424.7	308.3	184.0
77.5°	239.2	269.1	290.9	280.7	162.2
80°	186.2	216.0	236.3	255.2	139.6
82.5°	135.3	154.9	187.6	226.2	116.3
85°	82.9	101.1	144.0	191.2	86.5
87.5°	35.6	61.8	105.4	158.5	56.7
90°	1.5	30.5	72.0	123.6	25.5
92.5°	0.7	13.1	46.5	90.9	16.7
95°	0.7	5.1	28.4	61.8	13.1
97.5°	0.7	2.2	14.5	40.0	9.5
100°	0.7	1.5	8.0	23.3	6.5
102.5°	0.7	1.5	3.6	11.6	5.1
105°	0.7	1.5	2.9	5.1	4.4
107.5°	0.7	1.5	2.2	3.6	3.6
110°	0.7	1.5	2.2	3.6	3.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.5	2.2	3.6	3.6
115°	0.7	1.5	2.2	2.9	2.9
117.5°	0.7	1.5	2.2	2.9	2.9
120°	0.7	1.5	2.2	2.9	2.9
122.5°	0.7	1.5	2.2	2.9	2.9
125°	1.5	1.5	2.2	2.9	2.9
127.5°	1.5	2.2	2.2	2.9	2.9
130°	1.5	2.2	2.2	2.9	2.9
132.5°	1.5	2.2	2.2	2.9	2.9
135°	1.5	2.2	2.2	2.9	2.9
137.5°	1.5	2.2	2.9	2.9	2.9
140°	2.2	2.9	2.9	2.9	2.9
142.5°	2.2	2.9	2.9	3.6	2.9
145°	2.2	2.9	2.9	3.6	3.6
147.5°	2.2	2.9	3.6	3.6	3.6
150°	2.2	2.9	3.6	4.4	4.4
152.5°	2.9	2.9	3.6	4.4	4.4
155°	2.9	3.6	3.6	4.4	4.4
157.5°	2.9	3.6	3.6	4.4	5.1
160°	2.9	3.6	4.4	5.1	5.1
162.5°	2.9	3.6	4.4	5.1	5.1
165°	3.6	4.4	4.4	5.1	5.1
167.5°	3.6	4.4	5.1	5.1	5.8
170°	3.6	4.4	5.1	5.8	5.8
172.5°	3.6	4.4	5.1	5.8	5.8
175°	3.6	4.4	5.1	5.8	6.5
177.5°	3.6	4.4	5.1	5.8	6.5
180°	5.1	5.1	5.1	5.1	5.1

(END OF REPORT)