

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: P685913

Luminaire Tested: **4CZL-16-UNV-LVRF-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685913
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-LVRF-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI and 4000K
Light Source: (588) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

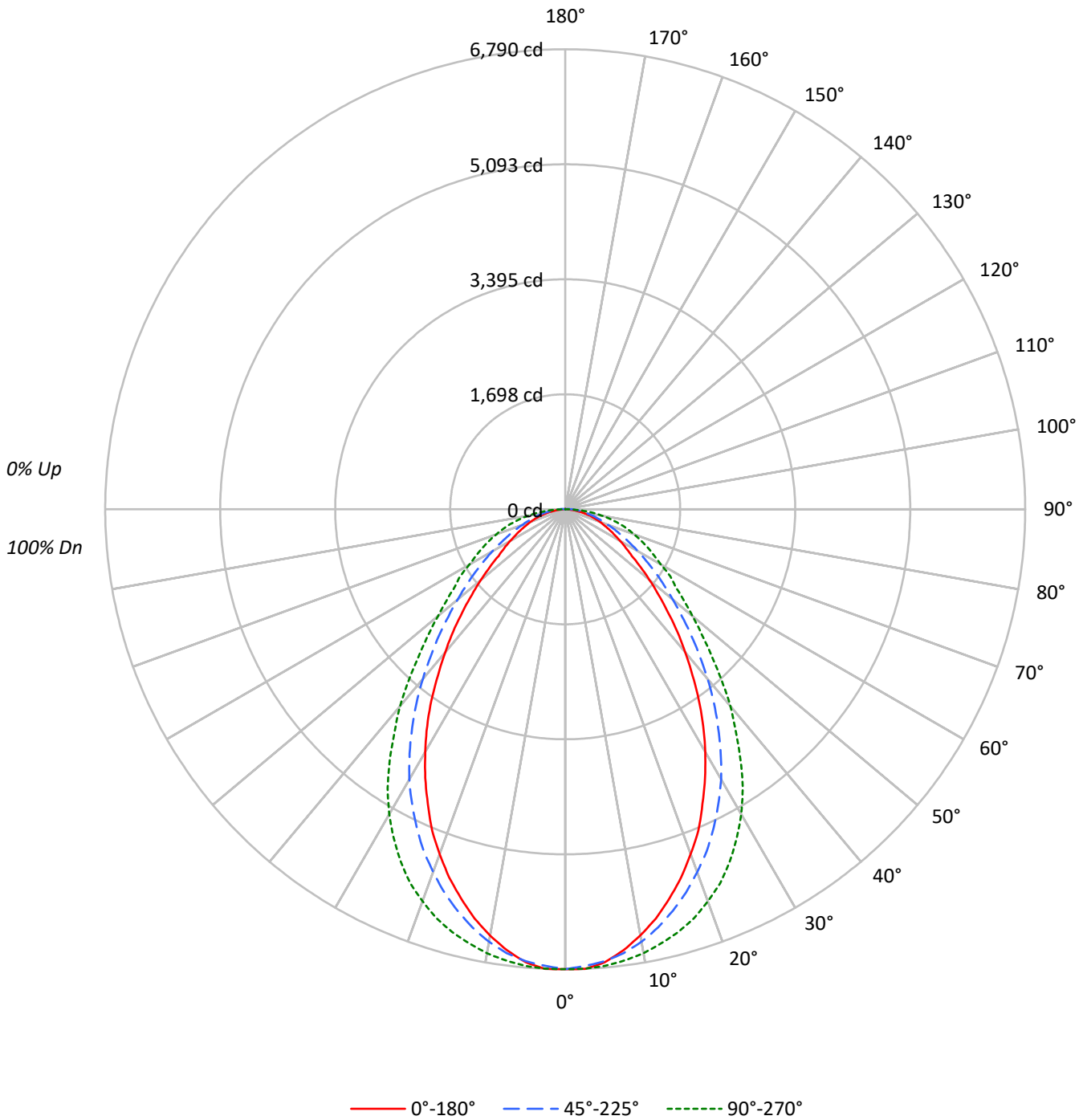
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12519.8 lumens
Efficiency: N/A
Efficacy: 121.6 lumens/watt
Spacing Criteria (0/90/45): 0.97 / 1.15 / 1.12
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 103
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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	88	88	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	82	79	76	76	76	76	74
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	74	70	67	67	67	67	65
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	59	59	59	57
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	53	53	53	51
6	75	63	55	49	73	62	54	48	60	53	48	58	52	48	57	51	47	47	47	47	45
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	43	43	43	41
8	65	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	39	39	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	36	36	36	34
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	33	33	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21916	21916	21916
5°	21756	21706	21924
10°	20943	21253	21816
15°	19872	20511	21587
20°	18610	19575	21157
25°	17089	18468	20456
30°	15403	17163	19371
35°	13566	15523	17792
40°	11612	13783	15999
45°	9782	12014	13934
50°	8169	10413	12319
55°	6760	9149	11170
60°	6092	8019	10533
65°	5537	7058	10300
70°	5157	6336	10222
75°	4782	5914	10429
80°	4335	5860	10447
85°	3724	6866	10337



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	635.0	5.1
10°-20°	1735.5	13.9
20°-30°	2397.9	19.2
30°-40°	2466.7	19.7
40°-50°	2022.3	16.2
50°-60°	1451.1	11.6
60°-70°	976.0	7.8
70°-80°	569.7	4.6
80°-90°	219.5	1.8
90°-100°	38.1	0.3
100°-110°	3.2	0.0
110°-120°	0.6	0.0
120°-130°	0.6	0.0
130°-140°	0.8	0.0
140°-150°	1.0	0.0
150°-160°	0.8	0.0
160°-170°	0.6	0.0
170°-180°	0.3	0.0
0°-30°	4768.4	38.1
0°-40°	7235.2	57.8
0°-60°	10708.6	85.5
0°-90°	12473.8	99.6
90°-120°	41.9	0.3
90°-150°	44.3	0.4
90°-180°	46.0	0.4
0°-180°	12519.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6787	6787	6787	6787	6787	
5°	6712	6717	6696	6759	6764	630
15°	5944	6005	6135	6373	6457	1667
25°	4796	4908	5183	5544	5741	2201
35°	3441	3600	3938	4306	4513	2144
45°	2142	2309	2631	2889	3051	1662
55°	1201	1344	1625	1847	1984	1105
65°	725	768	924	1186	1348	722
75°	383	397	474	658	836	407
85°	100	125	185	277	279	109
90°	1	42	95	144	30	6
95°	1	7	40	69	13	0
105°	0	1	2	4	2	0
115°	1	1	1	0	0	1
125°	1	1	1	0	0	1
135°	1	2	1	1	0	1
145°	2	2	2	1	1	1
155°	2	3	2	1	1	1
165°	3	3	3	2	1	1
175°	3	4	3	2	2	0
180°	3	3	3	3	3	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6786.9	6786.9	6786.9	6786.9	6786.9
2.5°	6789.8	6784.0	6745.9	6789.8	6787.9
5°	6711.8	6716.7	6696.2	6758.6	6763.5
7.5°	6566.5	6586.0	6608.4	6700.1	6716.7
10°	6387.0	6416.3	6481.6	6618.2	6653.3
12.5°	6185.1	6217.3	6323.6	6511.8	6560.6
15°	5944.2	6004.6	6135.3	6373.3	6457.2
17.5°	5695.4	5769.6	5931.5	6213.4	6326.5
20°	5415.5	5489.6	5696.4	6010.5	6156.8
22.5°	5134.6	5206.7	5459.4	5793.9	5976.3
25°	4796.1	4908.3	5183.3	5544.2	5741.3
27.5°	4472.3	4591.3	4897.5	5284.8	5480.8
30°	4130.9	4270.3	4603.0	4972.6	5195.0
32.5°	3792.4	3933.8	4273.3	4658.6	4879.0
35°	3441.2	3600.2	3937.7	4306.4	4513.2
37.5°	3085.2	3258.8	3606.1	3968.9	4135.7
40°	2754.6	2925.3	3269.6	3594.4	3795.3
42.5°	2449.3	2617.0	2936.0	3230.6	3411.0
45°	2142.0	2308.8	2630.7	2889.2	3051.1
47.5°	1866.9	2037.6	2337.1	2598.5	2734.1
50°	1626.0	1781.1	2072.7	2309.8	2452.2
52.5°	1405.6	1547.0	1835.7	2065.9	2203.5
55°	1200.7	1344.1	1625.0	1847.4	1984.0
57.5°	1063.2	1165.6	1418.2	1665.0	1840.6
60°	943.2	1006.6	1241.7	1534.3	1630.9
62.5°	821.3	878.8	1072.0	1329.5	1479.7
65°	724.7	767.6	923.7	1186.1	1348.0
67.5°	629.1	661.3	795.0	1047.6	1211.5
70°	546.2	566.7	671.1	911.0	1082.7
72.5°	467.2	478.0	571.6	786.2	956.9
75°	383.3	397.0	474.0	658.4	835.9
77.5°	303.4	322.9	391.1	549.2	697.4
80°	233.1	248.7	315.1	451.6	561.8
82.5°	161.9	183.4	245.8	357.0	430.2
85°	100.5	124.9	185.3	277.0	279.0
87.5°	41.9	78.0	135.6	204.8	142.4
90°	1.0	41.9	94.6	144.4	30.2
92.5°	0.0	19.5	64.4	103.4	17.6
95°	1.0	6.8	40.0	69.3	12.7
97.5°	0.0	2.0	21.5	43.9	7.8
100°	0.0	1.0	8.8	24.4	4.9
102.5°	0.0	1.0	3.9	10.7	2.9
105°	0.0	1.0	2.0	3.9	2.0
107.5°	0.0	1.0	1.0	1.0	1.0
110°	1.0	1.0	1.0	1.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.0	1.0	0.0	0.0
115°	1.0	1.0	1.0	0.0	0.0
117.5°	1.0	1.0	1.0	0.0	0.0
120°	1.0	1.0	1.0	0.0	0.0
122.5°	1.0	1.0	1.0	0.0	0.0
125°	1.0	1.0	1.0	0.0	0.0
127.5°	1.0	1.0	1.0	0.0	0.0
130°	1.0	1.0	1.0	0.0	0.0
132.5°	1.0	2.0	1.0	1.0	0.0
135°	1.0	2.0	1.0	1.0	0.0
137.5°	1.0	2.0	1.0	1.0	0.0
140°	1.0	2.0	1.0	1.0	1.0
142.5°	2.0	2.0	2.0	1.0	1.0
145°	2.0	2.0	2.0	1.0	1.0
147.5°	2.0	2.0	2.0	1.0	1.0
150°	2.0	2.0	2.0	1.0	1.0
152.5°	2.0	2.9	2.0	1.0	1.0
155°	2.0	2.9	2.0	1.0	1.0
157.5°	2.0	2.9	2.0	1.0	1.0
160°	2.0	2.9	2.0	1.0	1.0
162.5°	2.9	2.9	2.0	2.0	1.0
165°	2.9	2.9	2.9	2.0	1.0
167.5°	2.9	2.9	2.9	2.0	1.0
170°	2.9	2.9	2.9	2.0	2.0
172.5°	2.9	2.9	2.9	2.0	2.0
175°	2.9	3.9	2.9	2.0	2.0
177.5°	2.9	3.9	2.9	2.0	2.0
180°	2.9	2.9	2.9	2.9	2.9

(END OF REPORT)