

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: P685752

Luminaire Tested: **4CZL-12-UNV-N-LVR-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685752
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-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @90 CRI and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

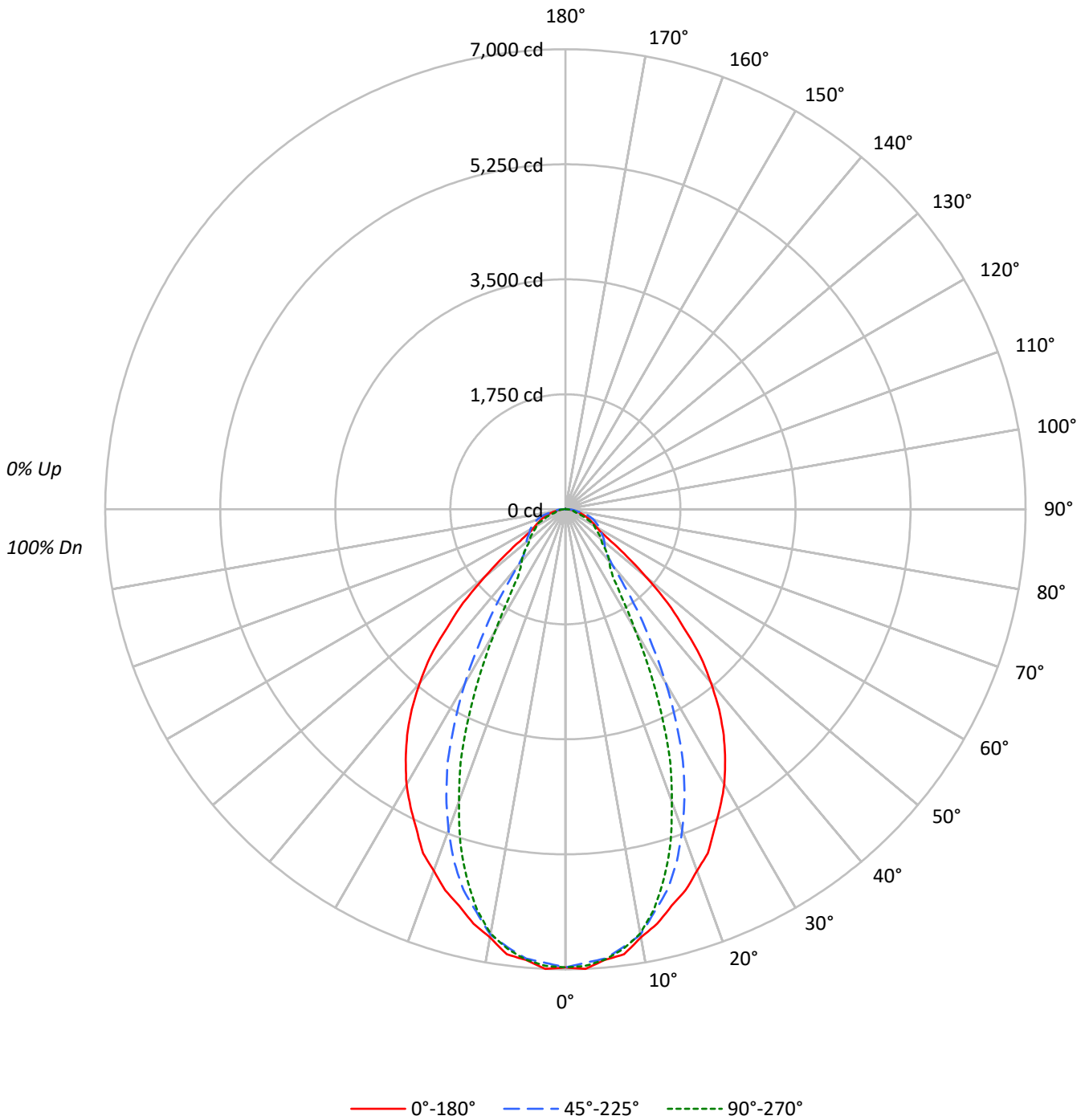
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8252.7 lumens
Efficiency: N/A
Efficacy: 107.2 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°	22508	22508	22508
5°	22309	22246	22303
10°	21680	21546	21494
15°	20876	20043	19407
20°	20107	17854	16253
25°	19107	15076	12393
30°	18023	11404	7918
35°	16543	7731	4975
40°	14508	4710	4364
45°	11623	3924	3911
50°	8037	3877	3530
55°	4734	3844	3324
60°	3528	3993	3284
65°	3339	4021	2887
70°	3212	4287	2180
75°	3028	4303	1864
80°	2812	3569	2109
85°	2494	4331	2605



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	647.5	7.8
10°-20°	1676.5	20.3
20°-30°	1958.5	23.7
30°-40°	1453.0	17.6
40°-50°	963.3	11.7
50°-60°	638.8	7.7
60°-70°	476.6	5.8
70°-80°	281.3	3.4
80°-90°	118.5	1.4
90°-100°	25.6	0.3
100°-110°	3.5	0.0
110°-120°	1.8	0.0
120°-130°	1.6	0.0
130°-140°	1.6	0.0
140°-150°	1.6	0.0
150°-160°	1.4	0.0
160°-170°	1.0	0.0
170°-180°	0.4	0.0
0°-30°	4282.5	51.9
0°-40°	5735.6	69.5
0°-60°	7337.7	88.9
0°-90°	8214.1	99.5
90°-120°	30.9	0.4
90°-150°	35.7	0.4
90°-180°	39.0	0.5
0°-180°	8252.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6970	6970	6970	6970	6970	
5°	6882	6876	6863	6888	6880	651
15°	6244	6170	5995	5892	5805	1762
25°	5363	4977	4231	3630	3478	2470
35°	4196	3109	1961	1326	1262	2605
45°	2545	1502	859	892	856	1959
55°	841	739	683	659	590	827
65°	437	488	526	514	378	436
75°	243	272	345	250	149	256
85°	67	82	117	155	70	73
90°	1	25	58	100	21	4
95°	1	4	23	50	11	0
105°	1	1	2	4	4	1
115°	1	1	2	2	2	1
125°	1	1	2	2	2	1
135°	1	2	2	2	2	1
145°	2	2	2	3	3	1
155°	2	3	3	4	4	1
165°	3	4	4	4	4	1
175°	3	4	4	5	5	0
180°	4	4	4	4	4	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6970.2	6970.2	6970.2	6970.2	6970.2
2.5°	7000.3	6962.5	6908.2	6957.2	6953.1
5°	6882.2	6876.3	6862.7	6887.5	6880.4
7.5°	6829.1	6797.2	6721.6	6780.0	6747.0
10°	6611.7	6574.5	6571.0	6559.2	6555.0
12.5°	6457.6	6412.7	6269.2	6261.5	6229.7
15°	6244.4	6170.0	5995.2	5891.9	5805.1
17.5°	6079.1	5917.3	5625.5	5433.0	5321.4
20°	5851.1	5672.8	5195.6	4859.6	4729.7
22.5°	5663.3	5347.4	4733.8	4258.4	4169.2
25°	5362.7	4977.1	4231.3	3629.5	3478.3
27.5°	5101.7	4569.6	3638.3	2978.1	2792.7
30°	4833.6	4113.1	3058.4	2339.1	2123.6
32.5°	4521.2	3653.1	2461.4	1755.1	1599.2
35°	4196.4	3109.2	1961.2	1325.8	1262.0
37.5°	3838.5	2620.2	1474.0	1107.3	1117.9
40°	3441.7	2193.9	1117.3	1015.1	1035.2
42.5°	3046.0	1834.8	929.5	954.9	960.8
45°	2545.2	1501.8	859.2	891.7	856.3
47.5°	2107.7	1227.2	809.6	806.1	755.9
50°	1599.8	1000.4	771.8	729.3	702.7
52.5°	1184.6	843.9	735.8	689.2	662.0
55°	840.9	738.8	682.7	659.0	590.5
57.5°	631.9	664.4	641.9	588.8	540.9
60°	546.3	598.8	618.3	555.1	508.5
62.5°	493.1	542.7	579.9	535.0	465.3
65°	437.0	488.4	526.2	514.4	377.9
67.5°	388.0	445.3	491.9	441.1	308.9
70°	340.2	393.3	454.1	374.4	230.9
72.5°	288.8	328.9	402.2	291.1	168.3
75°	242.7	271.7	344.9	250.4	149.4
77.5°	194.3	218.5	236.2	228.0	131.7
80°	151.2	175.4	191.9	207.3	113.4
82.5°	109.8	125.8	152.4	183.7	94.5
85°	67.3	82.1	116.9	155.3	70.3
87.5°	28.9	50.2	85.6	128.7	46.1
90°	1.2	24.8	58.5	100.4	20.7
92.5°	0.6	10.6	37.8	73.8	13.6
95°	0.6	4.1	23.0	50.2	10.6
97.5°	0.6	1.8	11.8	32.5	7.7
100°	0.6	1.2	6.5	18.9	5.3
102.5°	0.6	1.2	3.0	9.4	4.1
105°	0.6	1.2	2.4	4.1	3.5
107.5°	0.6	1.2	1.8	3.0	3.0
110°	0.6	1.2	1.8	3.0	3.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.2	1.8	3.0	3.0
115°	0.6	1.2	1.8	2.4	2.4
117.5°	0.6	1.2	1.8	2.4	2.4
120°	0.6	1.2	1.8	2.4	2.4
122.5°	0.6	1.2	1.8	2.4	2.4
125°	1.2	1.2	1.8	2.4	2.4
127.5°	1.2	1.8	1.8	2.4	2.4
130°	1.2	1.8	1.8	2.4	2.4
132.5°	1.2	1.8	1.8	2.4	2.4
135°	1.2	1.8	1.8	2.4	2.4
137.5°	1.2	1.8	2.4	2.4	2.4
140°	1.8	2.4	2.4	2.4	2.4
142.5°	1.8	2.4	2.4	3.0	2.4
145°	1.8	2.4	2.4	3.0	3.0
147.5°	1.8	2.4	3.0	3.0	3.0
150°	1.8	2.4	3.0	3.5	3.5
152.5°	2.4	2.4	3.0	3.5	3.5
155°	2.4	3.0	3.0	3.5	3.5
157.5°	2.4	3.0	3.0	3.5	4.1
160°	2.4	3.0	3.5	4.1	4.1
162.5°	2.4	3.0	3.5	4.1	4.1
165°	3.0	3.5	3.5	4.1	4.1
167.5°	3.0	3.5	4.1	4.1	4.7
170°	3.0	3.5	4.1	4.7	4.7
172.5°	3.0	3.5	4.1	4.7	4.7
175°	3.0	3.5	4.1	4.7	5.3
177.5°	3.0	3.5	4.1	4.7	5.3
180°	4.1	4.1	4.1	4.1	4.1

(END OF REPORT)