

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: P685843

Luminaire Tested: **4CZL-16-UNV-W-LVR-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685843  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-16-UNV-W-LVR-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH WIDE LENS @80 CRI and 3500K  
Light Source: (588) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

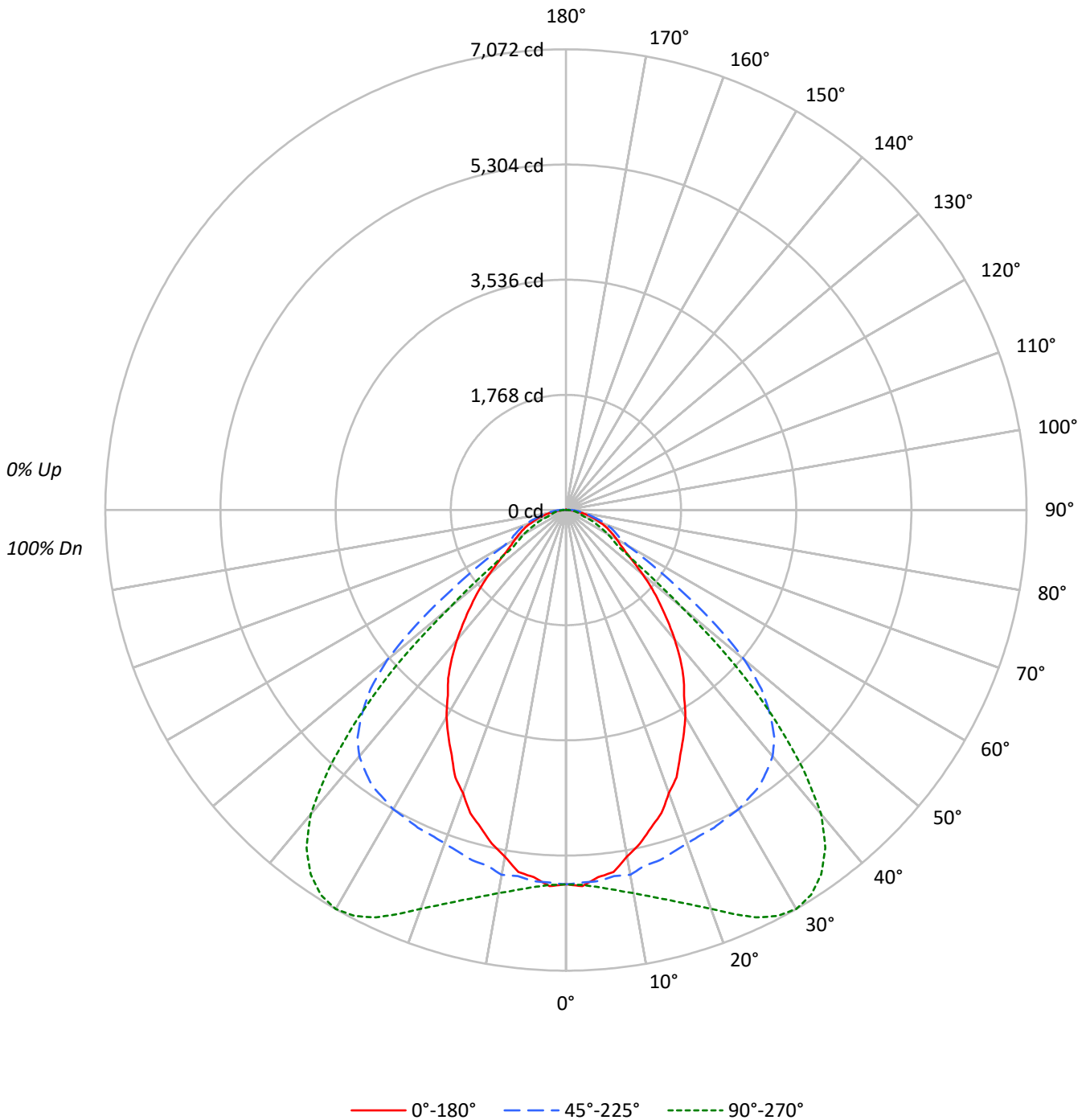
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13669.5 lumens  
Efficiency: N/A  
Efficacy: 132.7 lumens/watt  
Spacing Criteria (0/90/45): 1 / 1.64 / 1.46  
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<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	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	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	89	89	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	77	77	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	68	68	68	66
4	87	76	68	62	85	75	68	62	72	66	61	70	65	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	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	47	47	47	45
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	42	42	42	40
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	38	38	38	36
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	34	34	34	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	35	31	31	31	31	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	18553	18553	18553
5°	18341	18531	18835
10°	17708	18644	19584
15°	16875	18608	20736
20°	15884	18710	22382
25°	14789	19170	24582
30°	13672	19776	26369
35°	12422	20416	26922
40°	10952	20802	25686
45°	9335	20233	20592
50°	7737	17992	11685
55°	6302	12156	5590
60°	5818	7069	4828
65°	5609	6502	3925
70°	5293	6380	2805
75°	4926	5823	2726
80°	4491	5720	2994
85°	3446	6854	3301



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	546.3	4.0
10°-20°	1585.8	11.6
20°-30°	2516.6	18.4
30°-40°	3143.2	23.0
40°-50°	2886.9	21.1
50°-60°	1540.7	11.3
60°-70°	793.0	5.8
70°-80°	436.0	3.2
80°-90°	179.9	1.3
90°-100°	34.7	0.3
100°-110°	1.9	0.0
110°-120°	0.5	0.0
120°-130°	0.6	0.0
130°-140°	1.1	0.0
140°-150°	0.9	0.0
150°-160°	0.7	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	4648.7	34.0
0°-40°	7791.9	57.0
0°-60°	12219.5	89.4
0°-90°	13628.3	99.7
90°-120°	37.1	0.3
90°-150°	39.7	0.3
90°-180°	41.0	0.3
0°-180°	13669.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5745	5745	5745	5745	5745	
5°	5658	5673	5717	5805	5811	535
15°	5048	5213	5566	6020	6203	1419
25°	4151	4541	5380	6366	6899	1912
35°	3151	3733	5179	6309	6829	1956
45°	2044	2947	4431	4592	4509	1582
55°	1119	2007	2159	1210	993	1034
65°	734	962	851	694	514	725
75°	395	438	467	415	218	419
85°	93	122	185	243	89	107
90°	0	34	91	148	19	4
95°	0	4	34	68	9	0
105°	0	1	1	1	0	0
115°	0	1	1	0	0	0
125°	0	1	1	0	0	1
135°	1	2	2	1	1	1
145°	1	2	2	1	1	1
155°	2	2	2	1	1	1
165°	2	3	2	1	1	1
175°	3	3	2	1	1	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5745.4	5745.4	5745.4	5745.4	5745.4
2.5°	5779.0	5766.5	5725.3	5762.7	5759.8
5°	5658.2	5672.6	5716.7	5804.9	5810.6
7.5°	5604.6	5643.9	5668.8	5859.5	5884.4
10°	5400.4	5461.8	5686.0	5884.4	5972.6
12.5°	5247.1	5370.7	5588.3	5924.7	6078.0
15°	5047.7	5212.6	5566.2	6019.5	6202.6
17.5°	4878.1	5046.8	5499.1	6091.4	6347.3
20°	4622.2	4928.0	5444.5	6166.2	6513.1
22.5°	4439.2	4748.7	5402.3	6232.3	6709.6
25°	4150.7	4540.8	5380.3	6365.5	6899.3
27.5°	3909.2	4365.4	5331.4	6450.8	7024.9
30°	3666.7	4150.7	5303.6	6466.1	7071.8
32.5°	3374.4	3976.3	5233.7	6430.7	7004.7
35°	3151.1	3732.9	5179.0	6309.0	6829.4
37.5°	2879.0	3541.2	5059.2	6088.5	6541.9
40°	2598.1	3363.9	4934.7	5744.5	6093.3
42.5°	2314.5	3164.5	4735.3	5285.4	5391.8
45°	2044.2	2947.0	4430.6	4591.6	4509.1
47.5°	1801.7	2713.2	4070.2	3721.4	3527.8
50°	1540.1	2475.5	3581.4	2832.9	2326.0
52.5°	1304.3	2277.1	2908.7	1918.7	1447.1
55°	1119.4	2006.8	2159.2	1209.5	992.9
57.5°	988.1	1799.8	1558.3	956.5	850.1
60°	900.9	1541.1	1094.5	877.9	747.5
62.5°	814.6	1219.0	936.3	800.2	628.7
65°	734.1	962.2	851.0	693.9	513.7
67.5°	650.7	781.1	768.6	629.7	428.4
70°	560.6	642.1	675.7	527.1	297.1
72.5°	480.1	538.6	575.0	450.4	252.1
75°	394.8	438.0	466.7	415.0	218.5
77.5°	313.4	352.7	380.5	375.7	191.7
80°	241.5	267.4	307.6	336.4	161.0
82.5°	164.8	184.0	242.5	290.4	125.5
85°	93.0	121.7	185.0	243.4	89.1
87.5°	26.8	71.9	134.2	195.5	51.8
90°	0.0	34.5	91.0	147.6	19.2
92.5°	0.0	13.4	59.4	103.5	13.4
95°	0.0	3.8	34.5	68.0	8.6
97.5°	0.0	1.0	16.3	40.3	3.8
100°	0.0	1.0	5.8	19.2	1.0
102.5°	0.0	1.0	1.9	6.7	0.0
105°	0.0	1.0	1.0	1.0	0.0
107.5°	0.0	1.0	1.0	0.0	0.0
110°	0.0	1.0	1.0	0.0	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°	0.0	1.0	1.0	0.0	0.0
117.5°	0.0	1.0	1.0	0.0	0.0
120°	0.0	1.0	1.0	0.0	0.0
122.5°	0.0	1.0	1.0	0.0	0.0
125°	0.0	1.0	1.0	0.0	0.0
127.5°	1.0	1.0	1.0	1.0	0.0
130°	1.0	1.9	1.9	1.0	0.0
132.5°	1.0	1.9	1.9	1.0	0.0
135°	1.0	1.9	1.9	1.0	1.0
137.5°	1.0	1.9	1.9	1.0	1.0
140°	1.0	1.9	1.9	1.0	1.0
142.5°	1.0	1.9	1.9	1.0	1.0
145°	1.0	1.9	1.9	1.0	1.0
147.5°	1.0	1.9	1.9	1.0	1.0
150°	1.0	1.9	1.9	1.0	1.0
152.5°	1.9	1.9	1.9	1.0	1.0
155°	1.9	1.9	1.9	1.0	1.0
157.5°	1.9	1.9	1.9	1.0	1.0
160°	1.9	1.9	1.9	1.0	1.0
162.5°	1.9	2.9	1.9	1.0	1.0
165°	1.9	2.9	1.9	1.0	1.0
167.5°	1.9	2.9	1.9	1.0	1.0
170°	1.9	2.9	1.9	1.0	1.0
172.5°	1.9	2.9	1.9	1.0	1.0
175°	2.9	2.9	1.9	1.0	1.0
177.5°	2.9	2.9	1.9	1.9	1.9
180°	1.9	1.9	1.9	1.9	1.9

(END OF REPORT)