

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: P685782

Luminaire Tested: **4CZL-12-UNV-M-LVR-L835-CD-U**

Issue Date: 05/10/2023



**Test Information**

Test Method: LM-79-08  
Report Number: P685782  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 05/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 4CZL-12-UNV-M-LVR-L835-CD-U  
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH MEDIUM LENS @80 CRI and 3500K  
Light Source: (588) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

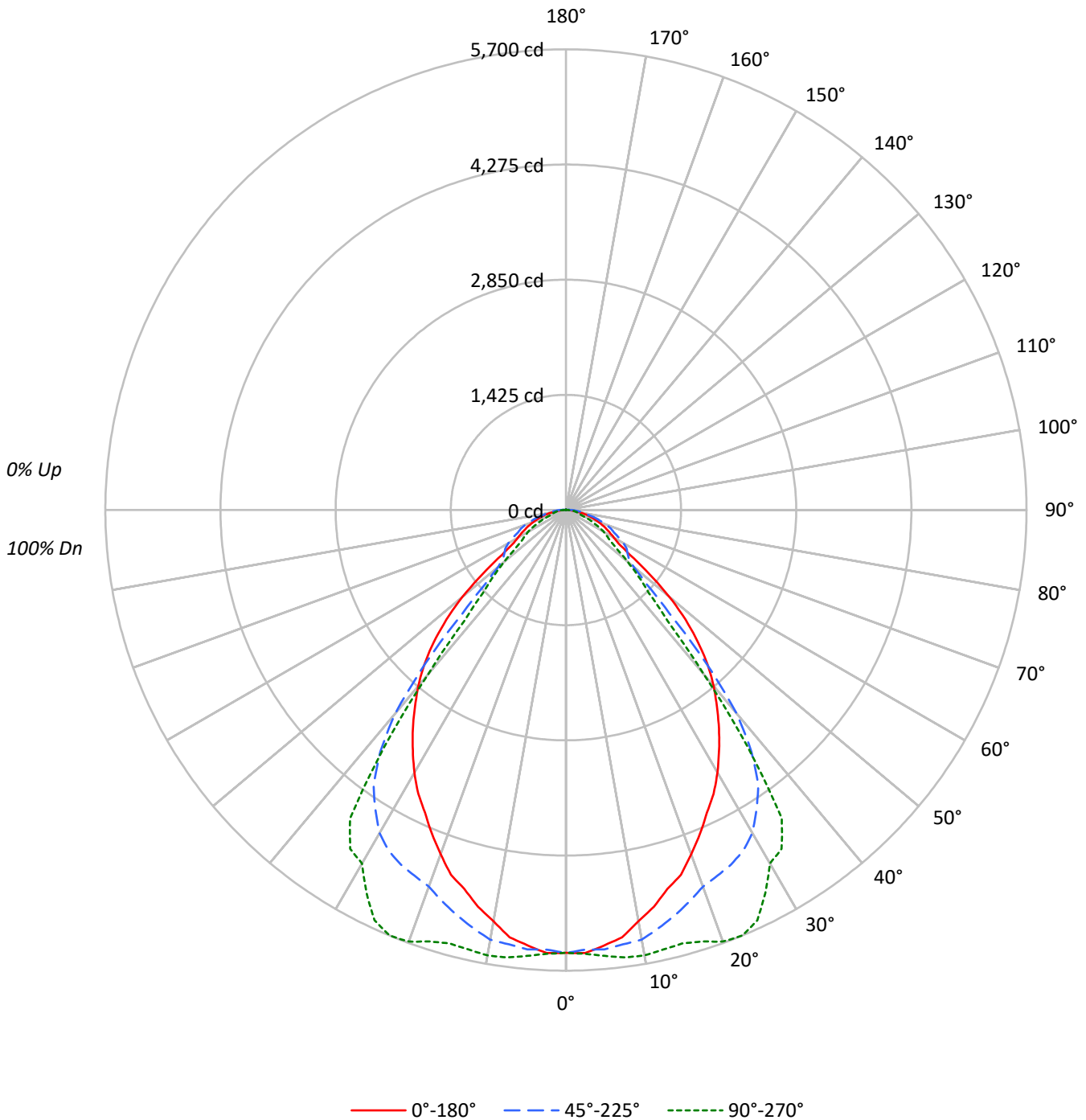
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10136.1 lumens  
Efficiency: N/A  
Efficacy: 131.6 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.34 / 1.2  
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<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

TEST NUMBER: P685782  
CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L835-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P685782

CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L835-CD-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	103	100	108	104	101	98	100	98	95	96	94	92	93	91	90	90	90	90	88
2	103	96	90	86	100	94	89	84	91	86	83	87	84	81	84	81	79	79	79	79	77
3	95	87	80	74	93	85	79	74	82	77	72	79	75	71	77	73	70	70	70	70	68
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	70	66	62	62	62	62	60
5	83	72	64	58	81	70	63	58	68	62	57	67	61	57	65	60	56	56	56	56	54
6	77	65	58	52	75	65	57	52	63	56	51	61	55	51	60	55	51	51	51	51	49
7	72	60	53	47	70	59	52	47	58	51	47	57	51	46	55	50	46	46	46	46	44
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	42	42	42	40
9	64	52	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	39	39	39	37
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	35	35	35	34

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

	0°	45°	90°
0°	17694	17694	17694
5°	17530	17688	17952
10°	16936	17698	18344
15°	16224	17368	18560
20°	15569	17037	19525
25°	14710	17240	19959
30°	13982	17203	18825
35°	13018	16359	18356
40°	11984	13867	11186
45°	10559	8265	6630
50°	8382	5488	5004
55°	5427	5221	3797
60°	4430	5307	3489
65°	4220	5001	2850
70°	4007	5019	2253
75°	3807	4697	2095
80°	3520	4437	2352
85°	3149	5428	2886



TEST NUMBER: P685782  
 CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L835-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	520.0	5.1
10°-20°	1474.9	14.6
20°-30°	2224.1	21.9
30°-40°	2457.5	24.2
40°-50°	1540.9	15.2
50°-60°	829.6	8.2
60°-70°	563.4	5.6
70°-80°	336.5	3.3
80°-90°	146.2	1.4
90°-100°	32.0	0.3
100°-110°	3.7	0.0
110°-120°	1.3	0.0
120°-130°	1.2	0.0
130°-140°	1.4	0.0
140°-150°	1.3	0.0
150°-160°	1.0	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	4219.0	41.6
0°-40°	6676.5	65.9
0°-60°	9046.9	89.3
0°-90°	10093.1	99.6
90°-120°	37.0	0.4
90°-150°	40.9	0.4
90°-180°	43.0	0.4
0°-180°	10136.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5480	5480	5480	5480	5480	
5°	5408	5417	5457	5521	5538	510
15°	4853	5023	5195	5447	5552	1370
25°	4128	4379	4839	5354	5602	1906
35°	3302	3690	4150	4464	4656	2061
45°	2312	2517	1810	1475	1452	1764
55°	964	1008	927	802	674	936
65°	552	607	654	532	373	546
75°	305	339	376	309	168	322
85°	85	104	146	193	78	92
90°	2	32	74	124	23	6
95°	1	5	29	64	11	1
105°	1	1	2	5	2	1
115°	1	1	1	1	1	1
125°	1	1	1	1	1	1
135°	1	1	2	2	2	1
145°	1	2	2	2	3	1
155°	2	2	2	2	2	1
165°	2	3	3	3	3	1
175°	3	3	3	4	4	0
180°	4	4	4	4	4	



TEST NUMBER: P685782

CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L835-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5479.5	5479.5	5479.5	5479.5	5479.5
2.5°	5486.7	5471.7	5443.8	5493.8	5494.5
5°	5408.1	5417.4	5456.6	5521.0	5538.1
7.5°	5331.6	5367.3	5420.2	5575.3	5583.1
10°	5165.1	5239.4	5397.3	5546.7	5594.5
12.5°	5026.5	5136.6	5299.5	5495.9	5570.3
15°	4852.9	5022.9	5195.1	5446.6	5551.7
17.5°	4731.4	4867.9	5078.7	5423.8	5596.0
20°	4530.7	4722.9	4957.9	5439.5	5681.7
22.5°	4335.6	4569.2	4897.2	5445.2	5699.6
25°	4128.4	4379.2	4838.6	5354.5	5601.7
27.5°	3956.9	4167.0	4751.4	5165.1	5343.8
30°	3749.7	3996.9	4613.5	4875.8	5048.7
32.5°	3526.8	3840.4	4389.9	4654.3	4968.6
35°	3302.4	3690.4	4149.8	4464.2	4656.4
37.5°	3068.1	3566.8	3772.6	3823.3	3691.8
40°	2843.0	3394.6	3289.6	2798.7	2653.7
42.5°	2597.2	3024.5	2565.8	1925.6	1860.6
45°	2312.1	2517.2	1809.8	1475.4	1451.9
47.5°	2008.5	1949.2	1349.7	1233.2	1219.7
50°	1668.4	1558.3	1092.5	1088.2	996.0
52.5°	1300.4	1237.5	979.6	943.9	797.4
55°	963.9	1008.2	927.4	802.4	674.5
57.5°	771.7	874.6	891.0	700.9	603.0
60°	685.9	765.2	821.7	644.5	540.2
62.5°	615.2	678.1	735.9	598.0	465.9
65°	552.3	607.3	654.5	531.6	373.0
67.5°	485.9	543.0	600.9	456.6	317.2
70°	424.4	485.1	531.6	405.1	238.6
72.5°	360.8	423.7	444.4	338.7	190.8
75°	305.1	339.4	376.5	309.4	167.9
77.5°	246.5	275.8	290.8	283.7	147.9
80°	189.3	212.9	238.6	257.9	126.5
82.5°	138.6	155.8	190.8	227.2	101.5
85°	85.0	104.3	146.5	192.9	77.9
87.5°	37.9	62.2	107.9	159.3	50.0
90°	2.1	32.2	74.3	123.6	22.9
92.5°	0.7	14.3	48.6	91.5	15.7
95°	0.7	5.0	29.3	63.6	11.4
97.5°	0.7	2.1	16.4	40.7	7.1
100°	0.7	1.4	7.9	23.6	5.0
102.5°	0.7	1.4	3.6	11.4	3.6
105°	0.7	1.4	2.1	5.0	2.1
107.5°	0.7	1.4	1.4	2.1	1.4
110°	0.7	1.4	1.4	1.4	1.4



TEST NUMBER: P685782  
CATALOG NUMBER: 4CZL-12-UNV-M-LVR-L835-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.4	1.4	1.4	1.4
115°	0.7	1.4	1.4	1.4	1.4
117.5°	0.7	1.4	1.4	1.4	1.4
120°	0.7	1.4	1.4	1.4	1.4
122.5°	0.7	1.4	1.4	1.4	1.4
125°	0.7	1.4	1.4	1.4	1.4
127.5°	0.7	1.4	1.4	1.4	1.4
130°	0.7	1.4	1.4	1.4	1.4
132.5°	1.4	1.4	2.1	2.1	2.1
135°	1.4	1.4	2.1	2.1	2.1
137.5°	1.4	2.1	2.1	2.1	2.1
140°	1.4	2.1	2.1	2.1	2.1
142.5°	1.4	2.1	2.1	2.1	2.1
145°	1.4	2.1	2.1	2.1	2.9
147.5°	1.4	2.1	2.1	2.1	2.9
150°	1.4	2.1	2.1	2.1	2.1
152.5°	2.1	2.1	2.1	2.1	2.1
155°	2.1	2.1	2.1	2.1	2.1
157.5°	2.1	2.1	2.1	2.9	2.9
160°	2.1	2.9	2.9	2.9	2.9
162.5°	2.1	2.9	2.9	2.9	2.9
165°	2.1	2.9	2.9	2.9	2.9
167.5°	2.1	2.9	2.9	2.9	3.6
170°	2.9	2.9	2.9	3.6	3.6
172.5°	2.9	2.9	2.9	3.6	3.6
175°	2.9	2.9	2.9	3.6	3.6
177.5°	2.9	3.6	2.9	3.6	4.3
180°	3.6	3.6	3.6	3.6	3.6

(END OF REPORT)