

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: P685902

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685902
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-UNV-LVRF-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH FROSTED LAY-IN @80 CRI
and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

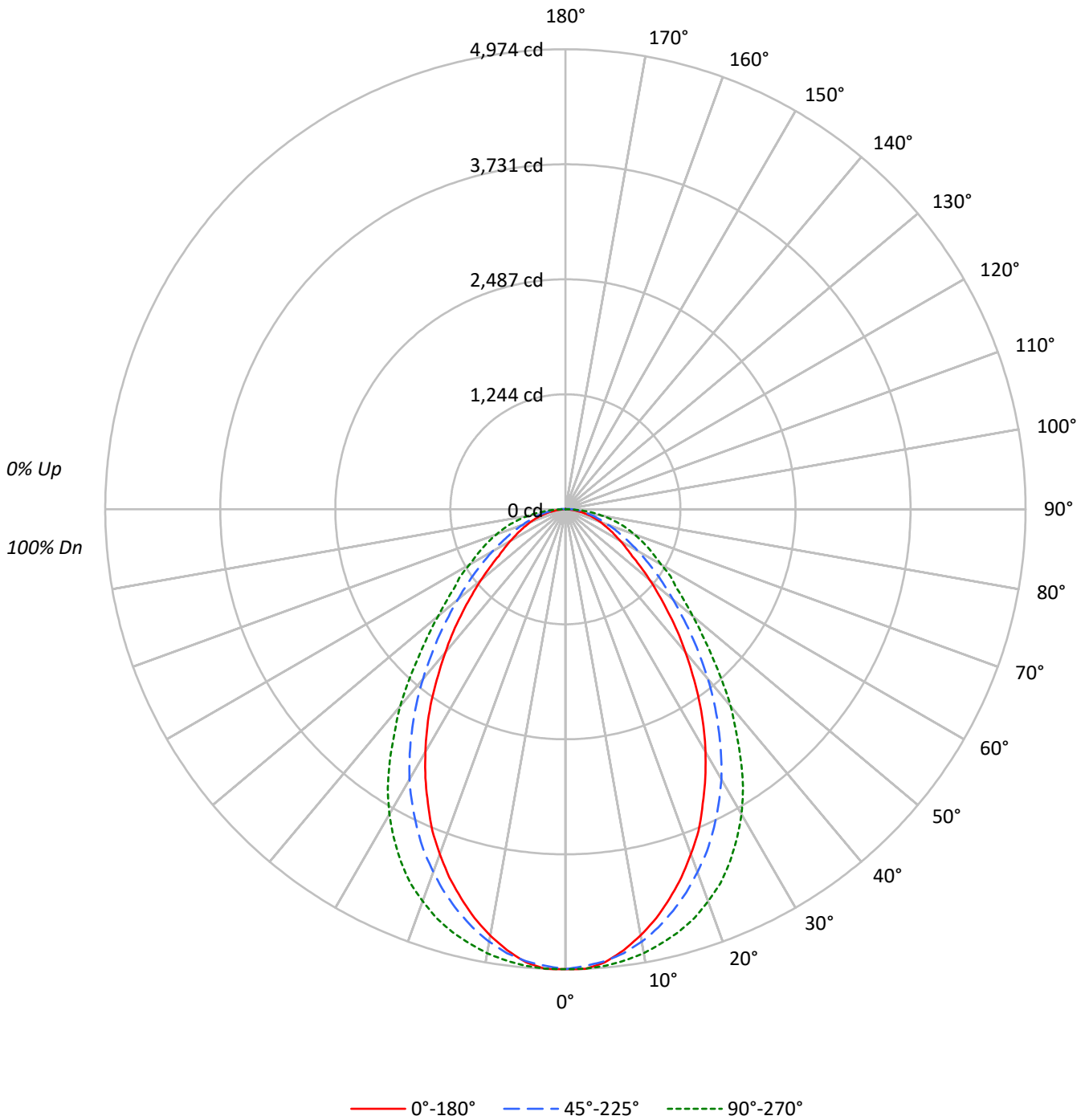
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9170.9 lumens
Efficiency: N/A
Efficacy: 119.1 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): 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	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°	16054	16054	16054
5°	15937	15900	16060
10°	15341	15568	15981
15°	14557	15025	15813
20°	13632	14340	15498
25°	12518	13528	14985
30°	11283	12573	14190
35°	9937	11371	13033
40°	8506	10096	11720
45°	7166	8800	10207
50°	5984	7628	9024
55°	4952	6702	8182
60°	4462	5875	7716
65°	4057	5170	7545
70°	3778	4641	7488
75°	3503	4333	7639
80°	3176	4292	7654
85°	2727	5031	7573



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	465.2	5.1
10°-20°	1271.3	13.9
20°-30°	1756.5	19.2
30°-40°	1807.0	19.7
40°-50°	1481.4	16.2
50°-60°	1063.0	11.6
60°-70°	715.0	7.8
70°-80°	417.3	4.6
80°-90°	160.8	1.8
90°-100°	27.9	0.3
100°-110°	2.4	0.0
110°-120°	0.4	0.0
120°-130°	0.4	0.0
130°-140°	0.6	0.0
140°-150°	0.7	0.0
150°-160°	0.6	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	3493.0	38.1
0°-40°	5300.0	57.8
0°-60°	7844.3	85.5
0°-90°	9137.4	99.6
90°-120°	30.7	0.3
90°-150°	32.3	0.4
90°-180°	34.0	0.4
0°-180°	9170.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4972	4972	4972	4972	4972	
5°	4917	4920	4905	4951	4954	461
15°	4354	4398	4494	4669	4730	1221
25°	3513	3595	3797	4061	4206	1613
35°	2521	2637	2884	3155	3306	1571
45°	1569	1691	1927	2116	2235	1218
55°	880	985	1190	1353	1453	810
65°	531	562	677	869	988	529
75°	281	291	347	482	612	298
85°	74	92	136	203	204	80
90°	1	31	69	106	22	4
95°	1	5	29	51	9	0
105°	0	1	1	3	1	0
115°	1	1	1	0	0	1
125°	1	1	1	0	0	1
135°	1	1	1	1	0	1
145°	1	1	1	1	1	1
155°	1	2	1	1	1	1
165°	2	2	2	1	1	1
175°	2	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°	4971.6	4971.6	4971.6	4971.6	4971.6
2.5°	4973.7	4969.4	4941.6	4973.7	4972.3
5°	4916.6	4920.1	4905.1	4950.9	4954.4
7.5°	4810.1	4824.4	4840.8	4908.0	4920.1
10°	4678.6	4700.1	4747.9	4848.0	4873.7
12.5°	4530.7	4554.3	4632.2	4770.1	4805.8
15°	4354.2	4398.5	4494.3	4668.6	4730.1
17.5°	4172.0	4226.3	4345.0	4551.4	4634.3
20°	3967.0	4021.3	4172.8	4402.8	4510.0
22.5°	3761.2	3814.1	3999.1	4244.2	4377.8
25°	3513.3	3595.4	3796.9	4061.3	4205.6
27.5°	3276.0	3363.2	3587.6	3871.2	4014.8
30°	3026.0	3128.1	3371.8	3642.6	3805.5
32.5°	2778.0	2881.6	3130.3	3412.5	3574.0
35°	2520.8	2637.3	2884.5	3154.6	3306.1
37.5°	2260.0	2387.2	2641.6	2907.4	3029.5
40°	2017.8	2142.8	2395.0	2633.0	2780.2
42.5°	1794.1	1917.0	2150.7	2366.5	2498.7
45°	1569.1	1691.3	1927.0	2116.4	2235.0
47.5°	1367.6	1492.6	1712.0	1903.5	2002.8
50°	1191.1	1304.7	1518.3	1692.0	1796.3
52.5°	1029.6	1133.2	1344.7	1513.3	1614.1
55°	879.6	984.6	1190.4	1353.3	1453.3
57.5°	778.8	853.8	1038.9	1219.7	1348.3
60°	690.9	737.4	909.6	1123.9	1194.7
62.5°	601.6	643.8	785.2	973.9	1083.9
65°	530.9	562.3	676.6	868.8	987.5
67.5°	460.9	484.4	582.3	767.4	887.4
70°	400.1	415.1	491.6	667.4	793.1
72.5°	342.3	350.1	418.7	575.9	700.9
75°	280.8	290.8	347.3	482.3	612.3
77.5°	222.2	236.5	286.5	402.3	510.9
80°	170.8	182.2	230.8	330.8	411.6
82.5°	118.6	134.3	180.1	261.5	315.1
85°	73.6	91.5	135.8	202.9	204.4
87.5°	30.7	57.2	99.3	150.0	104.3
90°	0.7	30.7	69.3	105.7	22.1
92.5°	0.0	14.3	47.2	75.7	12.9
95°	0.7	5.0	29.3	50.7	9.3
97.5°	0.0	1.4	15.7	32.2	5.7
100°	0.0	0.7	6.4	17.9	3.6
102.5°	0.0	0.7	2.9	7.9	2.1
105°	0.0	0.7	1.4	2.9	1.4
107.5°	0.0	0.7	0.7	0.7	0.7
110°	0.7	0.7	0.7	0.7	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.7	0.7	0.0	0.0
115°	0.7	0.7	0.7	0.0	0.0
117.5°	0.7	0.7	0.7	0.0	0.0
120°	0.7	0.7	0.7	0.0	0.0
122.5°	0.7	0.7	0.7	0.0	0.0
125°	0.7	0.7	0.7	0.0	0.0
127.5°	0.7	0.7	0.7	0.0	0.0
130°	0.7	0.7	0.7	0.0	0.0
132.5°	0.7	1.4	0.7	0.7	0.0
135°	0.7	1.4	0.7	0.7	0.0
137.5°	0.7	1.4	0.7	0.7	0.0
140°	0.7	1.4	0.7	0.7	0.7
142.5°	1.4	1.4	1.4	0.7	0.7
145°	1.4	1.4	1.4	0.7	0.7
147.5°	1.4	1.4	1.4	0.7	0.7
150°	1.4	1.4	1.4	0.7	0.7
152.5°	1.4	2.1	1.4	0.7	0.7
155°	1.4	2.1	1.4	0.7	0.7
157.5°	1.4	2.1	1.4	0.7	0.7
160°	1.4	2.1	1.4	0.7	0.7
162.5°	2.1	2.1	1.4	1.4	0.7
165°	2.1	2.1	2.1	1.4	0.7
167.5°	2.1	2.1	2.1	1.4	0.7
170°	2.1	2.1	2.1	1.4	1.4
172.5°	2.1	2.1	2.1	1.4	1.4
175°	2.1	2.9	2.1	1.4	1.4
177.5°	2.1	2.9	2.1	1.4	1.4
180°	2.1	2.1	2.1	2.1	2.1

(END OF REPORT)