

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: P685693

Luminaire Tested: **4CZL-16-UNV-LVR-L935-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685693
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-LVR-L935-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL @90 CRI and 3500K
Light Source: (588) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

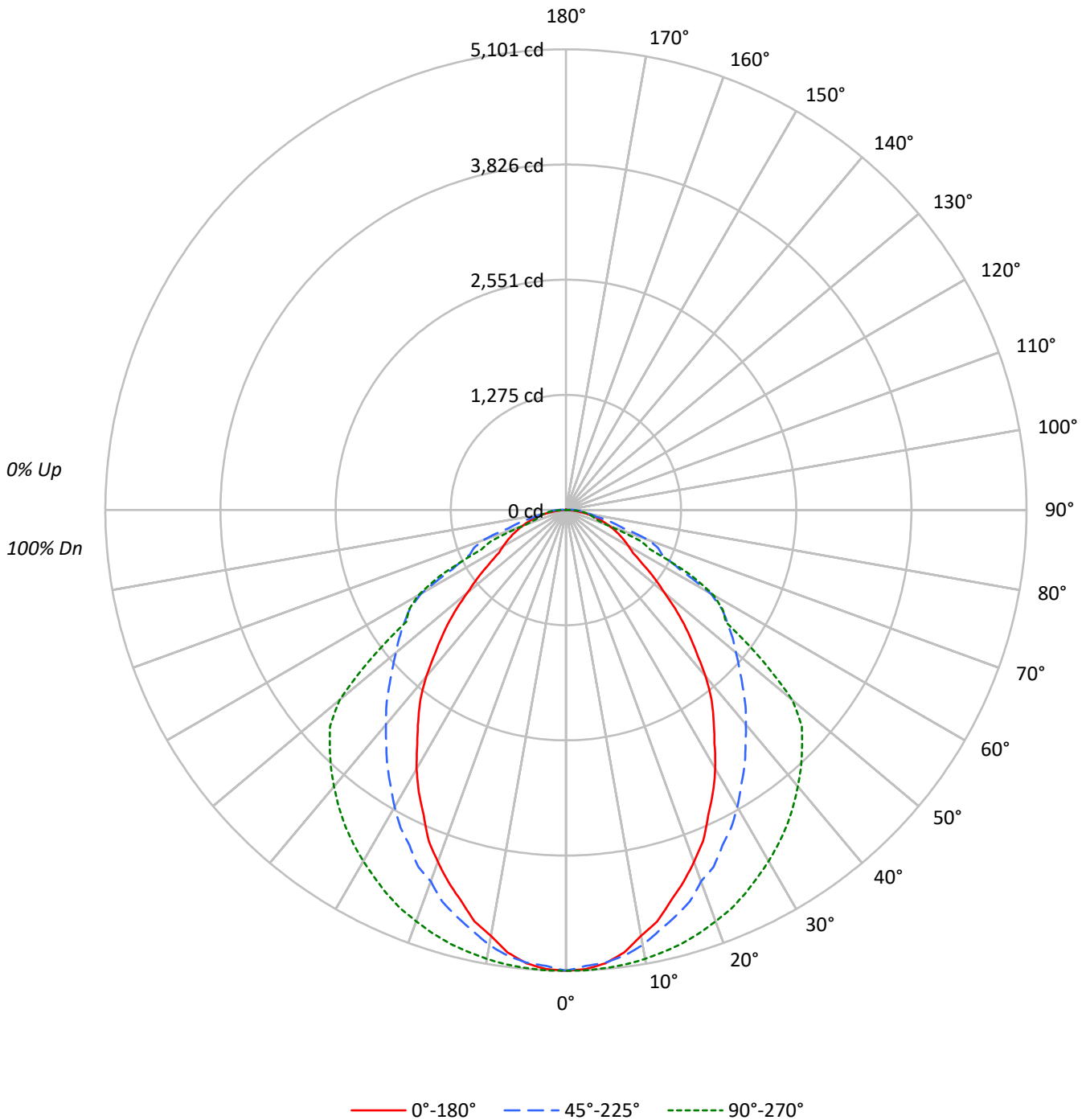
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11551.1 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.31 / 1.26
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 (Ain): 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				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	100	100	100	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	88	85	85	85	85
2	101	93	87	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73	73	73	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63	63	63	63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	60	56	54	54	54	54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	49	47	47	47	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42	42	42	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37	37	37	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34	34	34	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30	30	30	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28	28	28	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16471	16471	16471
5°	16328	16305	16500
10°	15694	16039	16548
15°	14981	15590	16615
20°	14245	15037	16654
25°	13285	14603	16708
30°	12335	14154	16735
35°	11245	13599	16813
40°	10144	13069	16843
45°	8725	12650	16887
50°	7131	12352	16443
55°	5807	12304	12162
60°	5177	11961	12201
65°	5006	8976	7869
70°	4809	9199	4472
75°	4635	6483	3993
80°	4227	5274	4759
85°	3787	6573	5928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	477.8	4.1
10°-20°	1324.4	11.5
20°-30°	1916.1	16.6
30°-40°	2187.0	18.9
40°-50°	2148.9	18.6
50°-60°	1714.1	14.8
60°-70°	1079.7	9.3
70°-80°	478.3	4.1
80°-90°	183.4	1.6
90°-100°	36.4	0.3
100°-110°	2.4	0.0
110°-120°	0.3	0.0
120°-130°	0.4	0.0
130°-140°	0.6	0.0
140°-150°	0.5	0.0
150°-160°	0.4	0.0
160°-170°	0.4	0.0
170°-180°	0.2	0.0
0°-30°	3718.3	32.2
0°-40°	5905.3	51.1
0°-60°	9768.3	84.6
0°-90°	11509.6	99.6
90°-120°	39.1	0.3
90°-150°	40.5	0.4
90°-180°	41.0	0.4
0°-180°	11551.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5101	5101	5101	5101	5101	
5°	5037	5048	5030	5072	5090	473
15°	4481	4526	4663	4882	4970	1262
25°	3729	3849	4098	4474	4689	1718
35°	2852	3025	3450	3958	4265	1783
45°	1911	2189	2770	3390	3698	1468
55°	1031	1396	2186	2357	2160	948
65°	655	892	1175	1252	1030	649
75°	372	429	520	394	320	389
85°	102	124	177	229	160	108
90°	1	43	94	136	26	6
95°	1	6	39	66	9	1
105°	1	1	1	2	0	1
115°	1	1	0	0	0	1
125°	1	2	0	0	0	1
135°	1	2	1	0	0	1
145°	2	2	1	0	0	1
155°	2	2	1	0	0	1
165°	2	2	2	1	0	1
175°	2	2	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°	5100.6	5100.6	5100.6	5100.6	5100.6
2.5°	5087.1	5083.9	5053.0	5096.6	5101.3
5°	5037.2	5048.3	5030.1	5072.0	5090.3
7.5°	4941.3	4953.2	4974.6	5051.4	5073.6
10°	4786.1	4816.2	4891.4	4999.2	5046.7
12.5°	4667.3	4704.5	4771.8	4954.8	5009.5
15°	4481.1	4525.5	4663.3	4881.9	4969.9
17.5°	4322.7	4403.5	4550.0	4790.0	4912.8
20°	4145.2	4210.2	4375.8	4699.7	4846.3
22.5°	3967.8	4050.2	4275.9	4579.3	4778.9
25°	3728.6	3849.0	4098.5	4474.0	4689.4
27.5°	3525.8	3677.9	3964.6	4349.6	4589.6
30°	3308.0	3426.0	3795.9	4222.9	4488.2
32.5°	3062.4	3247.8	3613.7	4077.9	4382.1
35°	2852.5	3025.2	3449.7	3958.3	4264.9
37.5°	2649.7	2812.1	3268.3	3822.8	4134.9
40°	2406.5	2620.4	3100.4	3668.4	3995.5
42.5°	2137.2	2399.4	2944.4	3522.6	3853.7
45°	1910.6	2188.7	2770.1	3390.3	3697.7
47.5°	1675.4	1968.5	2606.9	3229.5	3543.2
50°	1419.5	1776.0	2458.8	3080.6	3273.1
52.5°	1232.6	1575.6	2325.7	2811.3	2759.0
55°	1031.4	1396.5	2185.5	2356.6	2160.2
57.5°	878.5	1234.9	2054.0	1850.4	2061.9
60°	801.6	1105.8	1852.0	1761.7	1889.2
62.5°	729.6	992.5	1416.3	1652.4	1554.2
65°	655.1	891.9	1174.7	1251.6	1029.8
67.5°	583.0	804.8	1107.4	934.7	896.7
70°	509.3	737.5	974.3	796.9	473.7
72.5°	439.6	659.8	666.2	441.2	351.7
75°	371.5	429.3	519.6	393.7	320.0
77.5°	297.1	368.3	347.7	352.5	289.9
80°	227.3	253.5	283.6	315.3	255.9
82.5°	160.8	188.5	229.7	275.7	209.9
85°	102.2	124.4	177.4	228.9	160.0
87.5°	40.4	78.4	132.3	184.6	94.3
90°	0.8	42.8	93.5	136.2	26.1
92.5°	0.8	19.8	62.6	99.8	13.5
95°	0.8	6.3	38.8	66.5	8.7
97.5°	0.8	2.4	20.6	41.2	4.8
100°	0.8	0.8	8.7	22.2	2.4
102.5°	0.8	0.8	3.2	8.7	0.8
105°	0.8	0.8	0.8	2.4	0.0
107.5°	0.8	0.8	0.0	0.0	0.0
110°	0.8	0.8	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	0.8	0.0	0.0	0.0
115°	0.8	0.8	0.0	0.0	0.0
117.5°	0.8	0.8	0.0	0.0	0.0
120°	0.8	0.8	0.0	0.0	0.0
122.5°	0.8	0.8	0.0	0.0	0.0
125°	0.8	1.6	0.0	0.0	0.0
127.5°	0.8	0.8	0.0	0.0	0.0
130°	0.8	1.6	0.8	0.0	0.0
132.5°	0.8	1.6	0.8	0.0	0.0
135°	0.8	1.6	0.8	0.0	0.0
137.5°	0.8	1.6	0.8	0.0	0.0
140°	1.6	1.6	0.8	0.0	0.0
142.5°	1.6	1.6	0.8	0.0	0.0
145°	1.6	1.6	0.8	0.0	0.0
147.5°	1.6	1.6	0.8	0.0	0.0
150°	1.6	1.6	0.8	0.0	0.0
152.5°	1.6	1.6	0.8	0.0	0.0
155°	1.6	1.6	0.8	0.0	0.0
157.5°	1.6	2.4	0.8	0.0	0.0
160°	2.4	2.4	0.8	0.0	0.0
162.5°	2.4	2.4	1.6	0.8	0.0
165°	2.4	2.4	1.6	0.8	0.0
167.5°	2.4	2.4	1.6	0.8	0.0
170°	2.4	2.4	1.6	0.8	0.8
172.5°	2.4	2.4	1.6	0.8	0.8
175°	2.4	2.4	1.6	0.8	0.8
177.5°	2.4	2.4	1.6	0.8	0.8
180°	1.6	1.6	1.6	1.6	1.6

(END OF REPORT)