

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: P685723

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

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685723
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-16-UNV-N-LVR-L835-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 3500K
Light Source: (588) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

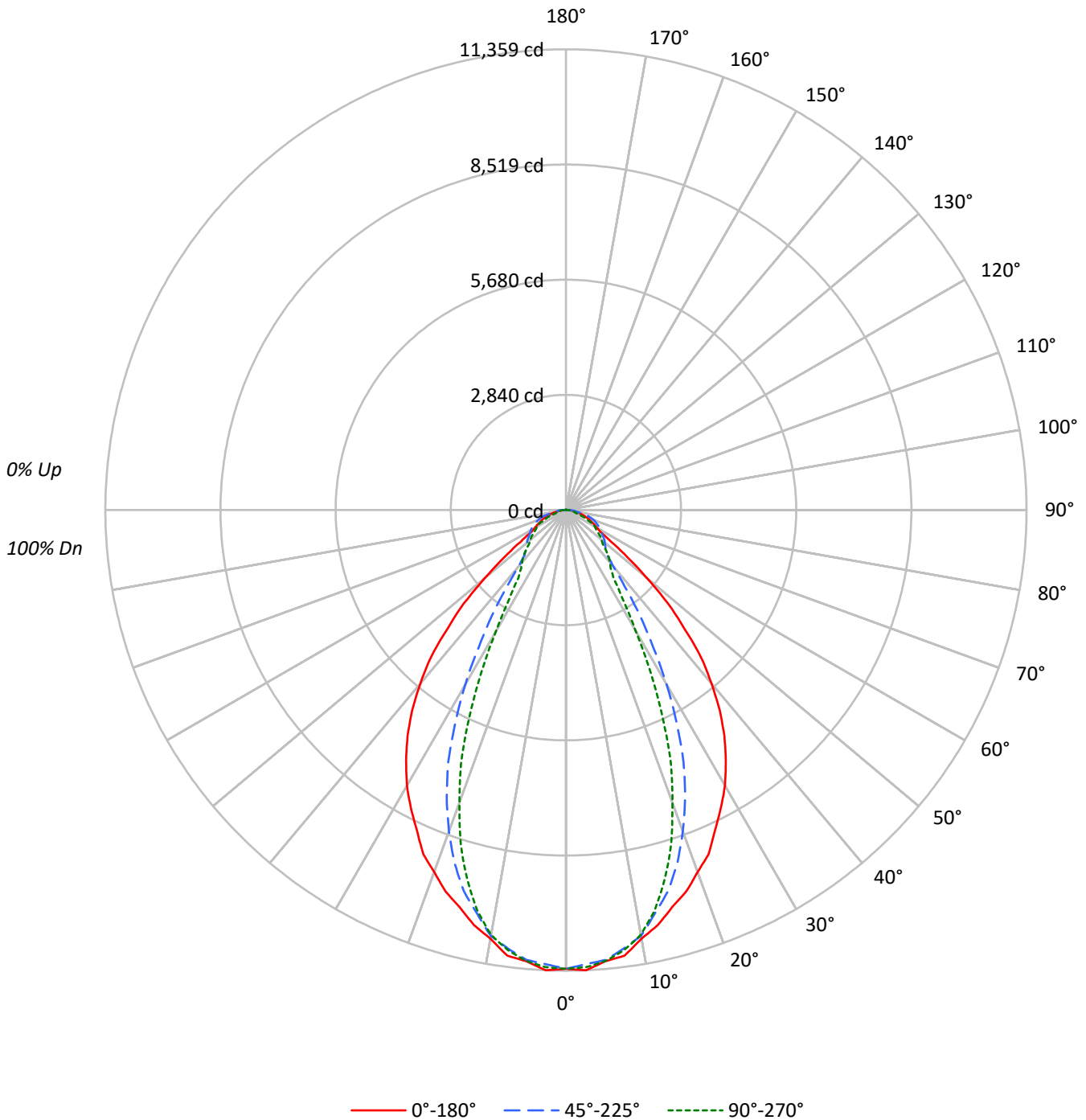
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13391.2 lumens
Efficiency: N/A
Efficacy: 130.0 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): 103
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	90	90	90	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	80	80	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	72	72	72	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	65	65	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	59	59	59	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	55	55	55	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	50	50	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	47	47	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	43	43	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	41	41	41	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	36523	36523	36523
5°	36200	36098	36191
10°	35179	34963	34878
15°	33875	32523	31491
20°	32627	28972	26374
25°	31005	24464	20110
30°	29246	18505	12849
35°	26843	12545	8073
40°	23542	7643	7081
45°	18861	6367	6346
50°	13041	6292	5729
55°	7683	6237	5395
60°	5725	6480	5329
65°	5418	6524	4686
70°	5212	6957	3538
75°	4913	6982	3024
80°	4562	5791	3422
85°	4046	7029	4224



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1050.7	7.8
10°-20°	2720.4	20.3
20°-30°	3178.1	23.7
30°-40°	2357.8	17.6
40°-50°	1563.1	11.7
50°-60°	1036.6	7.7
60°-70°	773.4	5.8
70°-80°	456.5	3.4
80°-90°	192.2	1.4
90°-100°	41.5	0.3
100°-110°	5.6	0.0
110°-120°	2.9	0.0
120°-130°	2.6	0.0
130°-140°	2.5	0.0
140°-150°	2.6	0.0
150°-160°	2.3	0.0
160°-170°	1.7	0.0
170°-180°	0.6	0.0
0°-30°	6949.2	51.9
0°-40°	9307.0	69.5
0°-60°	11906.7	88.9
0°-90°	13328.9	99.5
90°-120°	50.0	0.4
90°-150°	57.7	0.4
90°-180°	62.0	0.5
0°-180°	13391.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11310	11310	11310	11310	11310	
5°	11168	11158	11136	11176	11165	1056
15°	10133	10012	9728	9561	9420	2859
25°	8702	8076	6866	5890	5644	4008
35°	6809	5045	3182	2151	2048	4227
45°	4130	2437	1394	1447	1390	3179
55°	1365	1199	1108	1069	958	1343
65°	709	792	854	835	613	707
75°	394	441	560	406	242	416
85°	109	133	190	252	114	118
90°	2	40	95	163	34	7
95°	1	7	37	82	17	1
105°	1	2	4	7	6	1
115°	1	2	3	4	4	1
125°	2	2	3	4	4	1
135°	2	3	3	4	4	2
145°	3	4	4	5	5	2
155°	4	5	5	6	6	2
165°	5	6	6	7	7	1
175°	5	6	7	8	9	0
180°	7	7	7	7	7	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	11310.4	11310.4	11310.4	11310.4	11310.4
2.5°	11359.3	11297.9	11209.8	11289.3	11282.6
5°	11167.6	11158.0	11136.0	11176.2	11164.7
7.5°	11081.4	11029.6	10907.0	11001.8	10948.2
10°	10728.7	10668.4	10662.6	10643.4	10636.7
12.5°	10478.6	10405.8	10172.9	10160.5	10108.7
15°	10132.7	10012.0	9728.3	9560.6	9419.7
17.5°	9864.4	9601.8	9128.4	8816.0	8634.9
20°	9494.5	9205.1	8430.8	7885.6	7674.7
22.5°	9189.8	8677.1	7681.5	6910.0	6765.4
25°	8702.0	8076.3	6866.0	5889.5	5644.2
27.5°	8278.5	7415.1	5903.9	4832.5	4531.6
30°	7843.4	6674.3	4962.9	3795.7	3445.9
32.5°	7336.5	5927.8	3994.0	2848.0	2595.0
35°	6809.4	5045.3	3182.4	2151.3	2047.8
37.5°	6228.7	4251.8	2391.8	1796.7	1814.0
40°	5584.8	3560.0	1813.0	1647.3	1679.8
42.5°	4942.7	2977.3	1508.3	1549.5	1559.1
45°	4130.1	2436.9	1394.3	1447.0	1389.5
47.5°	3420.0	1991.3	1313.8	1308.0	1226.6
50°	2595.9	1623.3	1252.5	1183.5	1140.3
52.5°	1922.3	1369.4	1194.0	1118.3	1074.2
55°	1364.6	1198.8	1107.8	1069.4	958.3
57.5°	1025.3	1078.0	1041.6	955.4	877.8
60°	886.4	971.7	1003.3	900.8	825.1
62.5°	800.2	880.6	941.0	868.2	755.1
65°	709.1	792.5	853.8	834.6	613.3
67.5°	629.6	722.5	798.2	715.8	501.2
70°	552.0	638.2	736.9	607.5	374.7
72.5°	468.6	533.8	652.6	472.4	273.1
75°	393.8	440.8	559.6	406.3	242.4
77.5°	315.3	354.6	383.3	369.9	213.7
80°	245.3	284.6	311.4	336.4	184.0
82.5°	178.2	204.1	247.2	298.0	153.3
85°	109.2	133.2	189.7	252.0	114.0
87.5°	47.0	81.5	138.9	208.9	74.7
90°	1.9	40.2	94.9	162.9	33.5
92.5°	1.0	17.2	61.3	119.8	22.0
95°	1.0	6.7	37.4	81.5	17.2
97.5°	1.0	2.9	19.2	52.7	12.5
100°	1.0	1.9	10.5	30.7	8.6
102.5°	1.0	1.9	4.8	15.3	6.7
105°	1.0	1.9	3.8	6.7	5.7
107.5°	1.0	1.9	2.9	4.8	4.8
110°	1.0	1.9	2.9	4.8	4.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.9	2.9	4.8	4.8
115°	1.0	1.9	2.9	3.8	3.8
117.5°	1.0	1.9	2.9	3.8	3.8
120°	1.0	1.9	2.9	3.8	3.8
122.5°	1.0	1.9	2.9	3.8	3.8
125°	1.9	1.9	2.9	3.8	3.8
127.5°	1.9	2.9	2.9	3.8	3.8
130°	1.9	2.9	2.9	3.8	3.8
132.5°	1.9	2.9	2.9	3.8	3.8
135°	1.9	2.9	2.9	3.8	3.8
137.5°	1.9	2.9	3.8	3.8	3.8
140°	2.9	3.8	3.8	3.8	3.8
142.5°	2.9	3.8	3.8	4.8	3.8
145°	2.9	3.8	3.8	4.8	4.8
147.5°	2.9	3.8	4.8	4.8	4.8
150°	2.9	3.8	4.8	5.7	5.7
152.5°	3.8	3.8	4.8	5.7	5.7
155°	3.8	4.8	4.8	5.7	5.7
157.5°	3.8	4.8	4.8	5.7	6.7
160°	3.8	4.8	5.7	6.7	6.7
162.5°	3.8	4.8	5.7	6.7	6.7
165°	4.8	5.7	5.7	6.7	6.7
167.5°	4.8	5.7	6.7	6.7	7.7
170°	4.8	5.7	6.7	7.7	7.7
172.5°	4.8	5.7	6.7	7.7	7.7
175°	4.8	5.7	6.7	7.7	8.6
177.5°	4.8	5.7	6.7	7.7	8.6
180°	6.7	6.7	6.7	6.7	6.7

(END OF REPORT)