

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: P685442

Luminaire Tested: **4CZL-12-UNV-M-L850-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685442
Test Lab: INNOVATION CENTER(G2)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-12-UNV-M-L850-CD-U
Description: METALUX CRUZE LINEAR 4FT MEDIUM LENS MODEL @80 CRI and 5000K
Light Source: (588) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

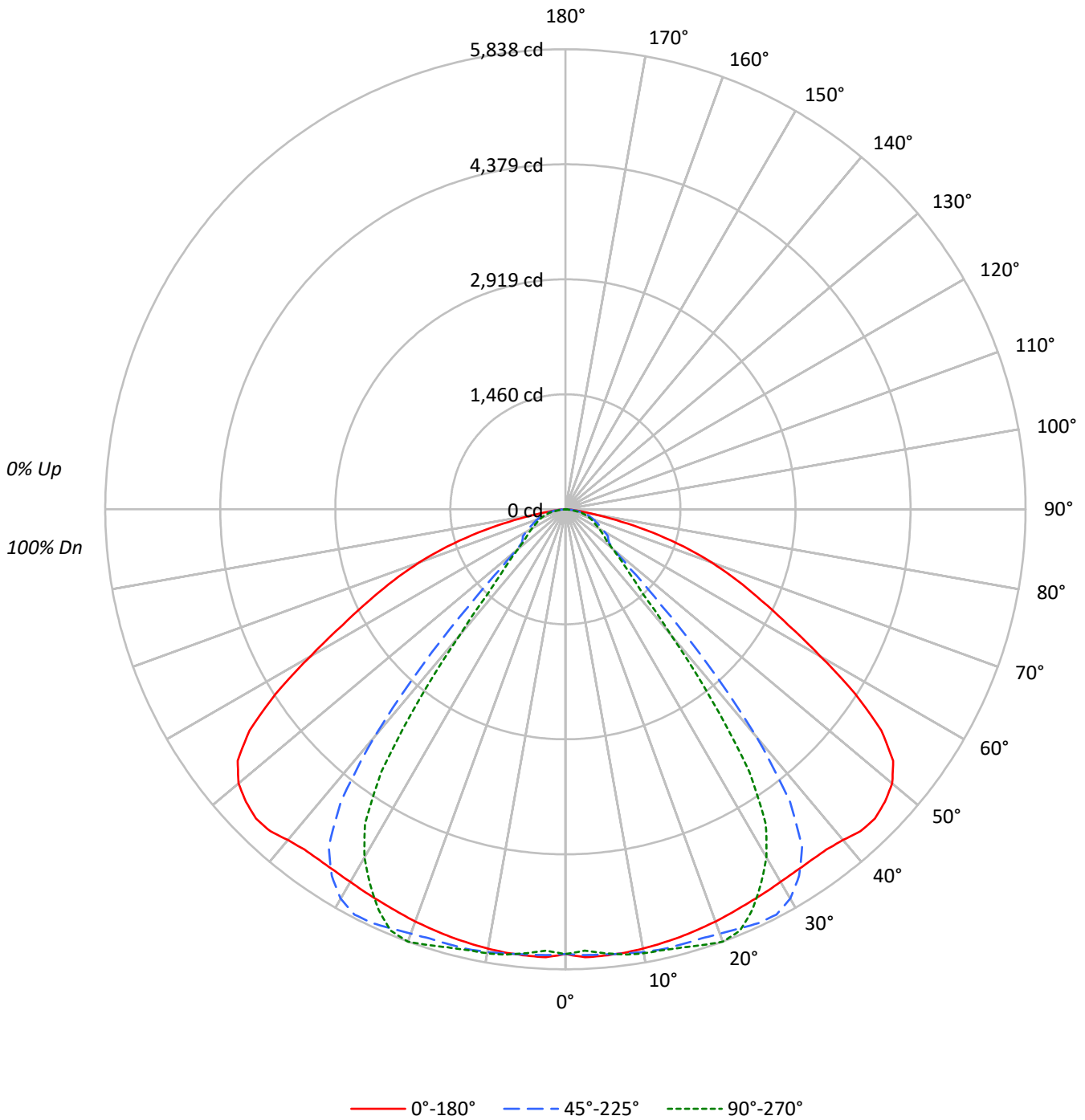
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12194.4 lumens
Efficiency: N/A
Efficacy: 158.4 lumens/watt
Spacing Criteria (0/90/45): 1.48 / 1.28 / 1.22
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 (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				
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	96	90	86	100	94	89	85	91	87	83	88	84	81	85	82	79	79	79	79	77
3	95	86	80	74	93	85	79	73	82	77	72	79	75	71	77	73	70	70	70	70	68
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	62	62	62	60
5	82	71	63	57	80	70	63	57	68	61	56	66	60	56	64	59	55	55	55	55	53
6	76	65	57	51	75	64	56	51	62	55	51	61	55	50	59	54	50	50	50	50	48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	45	45	45	43
8	67	55	47	42	65	54	47	41	53	46	41	51	45	41	50	45	41	41	41	41	39
9	63	50	43	38	61	50	43	38	49	42	38	48	42	37	47	41	37	37	37	37	36
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	34	34	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18227	18227	18227
5°	18431	18379	18327
10°	18565	18709	18762
15°	18785	19106	19241
20°	19130	19690	20062
25°	19620	20649	19987
30°	20359	21271	19014
35°	21429	20633	16056
40°	23095	15913	8782
45°	25356	7823	5248
50°	27188	4088	3913
55°	27534	3732	3378
60°	24147	3719	3185
65°	21012	3574	3084
70°	18647	3621	3103
75°	14304	3718	3152
80°	7280	3777	2609
85°	2871	2130	741



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	540.8	4.4
10°-20°	1611.9	13.2
20°-30°	2601.4	21.3
30°-40°	3046.6	25.0
40°-50°	2074.0	17.0
50°-60°	1200.9	9.8
60°-70°	686.6	5.6
70°-80°	353.4	2.9
80°-90°	78.7	0.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	4754.1	39.0
0°-40°	7800.8	64.0
0°-60°	11075.7	90.8
0°-90°	12194.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12194.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5644	5644	5644	5644	5644	
5°	5686	5630	5670	5663	5654	542
15°	5619	5611	5715	5730	5755	1591
25°	5507	5584	5795	5706	5610	2549
35°	5436	5704	5234	4414	4073	3422
45°	5552	4131	1713	1154	1149	4265
55°	4891	1418	663	617	600	4261
65°	2750	506	468	413	404	2757
75°	1146	312	298	260	253	1219
85°	78	95	58	27	20	131
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4	5644.4
2.5°	5689.8	5673.8	5641.7	5628.3	5628.3	5663.1	5668.4	5647.0	5643.0	5624.3	5607.0
5°	5685.8	5669.8	5639.0	5627.0	5631.0	5669.8	5679.1	5661.7	5667.1	5661.7	5653.7
7.5°	5677.8	5660.4	5632.3	5624.3	5636.4	5685.8	5701.8	5692.5	5704.5	5701.8	5699.2
10°	5661.7	5648.4	5621.7	5620.3	5644.4	5705.8	5725.9	5713.9	5717.9	5716.5	5721.9
12.5°	5640.4	5628.3	5605.6	5617.7	5652.4	5717.9	5731.2	5712.5	5717.9	5719.2	5728.6
15°	5619.0	5604.3	5589.6	5617.7	5653.7	5715.2	5728.6	5725.9	5741.9	5743.3	5755.3
17.5°	5592.3	5582.9	5578.9	5616.3	5644.4	5712.5	5743.3	5759.3	5780.7	5786.0	5798.0
20°	5566.9	5558.9	5568.2	5609.6	5640.4	5729.9	5772.7	5796.7	5819.4	5826.1	5838.1
22.5°	5536.1	5530.8	5556.2	5600.3	5647.0	5756.6	5804.7	5807.4	5798.0	5780.7	5788.7
25°	5506.7	5506.7	5544.2	5597.6	5667.1	5795.4	5799.4	5723.2	5655.1	5609.6	5609.6
27.5°	5482.7	5488.0	5534.8	5609.6	5705.8	5798.0	5687.1	5536.1	5435.9	5370.4	5366.4
30°	5460.0	5469.3	5534.8	5643.0	5733.9	5704.5	5489.4	5306.3	5167.3	5104.5	5099.2
32.5°	5443.9	5458.6	5558.9	5693.8	5700.5	5516.1	5235.5	5004.3	4839.9	4746.4	4730.4
35°	5435.9	5453.3	5604.3	5737.9	5565.5	5234.1	4835.9	4479.2	4218.6	4098.3	4072.9
37.5°	5441.3	5472.0	5667.1	5700.5	5227.5	4679.6	4107.7	3595.9	3237.8	3124.2	3045.3
40°	5478.7	5530.8	5716.5	5395.8	4517.9	3774.9	3017.3	2466.7	2219.5	2138.0	2083.2
42.5°	5541.5	5593.6	5586.9	4698.3	3529.1	2681.9	1944.3	1614.2	1493.9	1480.6	1455.2
45°	5552.2	5572.2	5167.3	3785.6	2567.0	1713.1	1252.1	1154.5	1151.9	1161.2	1149.2
47.5°	5496.1	5457.3	4562.0	2895.7	1767.9	1107.8	942.1	958.1	966.1	959.4	950.1
50°	5411.9	5268.9	3883.2	2128.7	1178.6	813.8	821.8	836.5	808.4	789.7	779.0
52.5°	5240.8	4962.9	3129.5	1508.6	815.1	694.9	759.0	716.2	676.1	665.5	664.1
55°	4890.7	4508.6	2407.9	1087.7	622.7	662.8	674.8	620.0	608.0	602.7	600.0
57.5°	4357.6	3943.3	1810.6	785.7	546.5	640.1	586.6	565.2	553.2	549.2	545.2
60°	3738.9	3311.3	1349.6	577.3	530.5	575.9	531.8	511.8	498.4	493.1	493.1
62.5°	3191.0	2740.7	998.2	469.0	526.5	519.8	479.7	458.3	450.3	447.6	445.0
65°	2750.0	2204.8	720.2	434.3	491.7	467.7	428.9	414.2	408.9	403.6	403.6
67.5°	2357.2	1726.5	530.5	426.3	451.7	420.9	391.5	379.5	372.8	371.5	370.1
70°	1975.0	1272.1	403.6	416.9	428.9	383.5	355.4	340.7	332.7	328.7	328.7
72.5°	1572.8	872.6	322.0	383.5	392.9	339.4	311.3	300.7	294.0	290.0	288.6
75°	1146.5	547.9	283.3	322.0	338.1	298.0	269.9	260.6	257.9	253.9	252.6
77.5°	729.6	327.4	241.9	263.2	276.6	251.2	229.8	217.8	216.5	212.5	211.1
80°	391.5	209.8	193.8	207.1	215.1	203.1	177.7	153.7	147.0	141.6	140.3
82.5°	181.7	133.6	144.3	156.3	160.4	129.6	106.9	96.2	89.5	82.8	78.8
85°	77.5	72.2	89.5	96.2	78.8	57.5	37.4	28.1	22.7	21.4	20.0
87.5°	28.1	28.1	33.4	22.7	13.4	10.7	10.7	9.4	8.0	6.7	6.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)